

ICONES ORCHIDACEARUM

Fascicle 8

THE GENUS EPIDENDRUM

Part 5

“Species New & Old in Epidendrum”

Eric Hágsater

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**Herbario
AMO**

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ICONES ORCHIDACEARUM

Fascicle 8, plates 801 to 900

THE GENUS *EPIDENDRUM*
Part 5

"Species New & Old in *Epidendrum*"

Reference Map

TROPICAL AMERICA

(numbers refer to the portions of the map used in individual plates)



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THE GENUS *EPIDENDRUM*

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“Species New* & Old in *Epidendrum*”

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THE GENUS *EPIDENDRUM*
Part 5

Species New & Old in *Epidendrum*
Foreword

With this fifth part of The Genus *Epidendrum*, we present a further 31 new species, as well as 69 known species which have been critical in understanding undescribed species, and which have long been requested by our readers. Some will be of particular interest, as *Epidendrum difforme* which has a narrow distribution in the Windward Antilles, and has rarely been seen in cultivation outside its range of distribution. Though we had a previous illustration prepared from a cultivated plant, we have preferred to have a new illustration made from what we consider a good, wild-collected specimen, thus avoiding distortions we often find in recently collected plants in cultivation, or those cultivated without optimum conditions. This species in particular will help understand the great variety of vegetative and floral traits which characterize the Difforme Group, and which gave rise to the impression, especially among herbarium botanists, that this was one highly variable species.

Many of the species included in this volume have been studied in preparation for the Flora of Mesoamerica, and we have tried to include as many species of a few Groups, so that amateurs and botanists may have a better understanding of the how we currently understand each Group and its diversity. Thus the Difforme, Arbuscula, Diothonea and Oerstedella groups are particularly well represented among the previously published species. When these species are compared to illustrations of new species published in the previous four parts of Icones Orchidacearum, the Groups are particularly well represented.

We also include three new species illustrated by Benjamín Collantes from Peru. We are very pleased to work closely with young and talented botanists from South America, and look forward to continue doing so. *E. dejeaniae* of the Difforme Group, illustrated and brought to our attention by Guy Chiron from the French Guiana is also included. Roberto Vásquez has provided the illustration for the Bolivian *Epidendrum vasquezii*.

On the other hand, it is increasingly difficult to find new species from Ecuador, where we have worked for some 25 years with Dr. Calaway H. Dodson, a few are still in preparation. We will, however, continue to publish illustrations and texts of previously known species, as we now have much better information on their status and distribution. In this volume we include *E. opiranthizon*, where we originally only had a poor illustration. *Epidendrum coxianum* had been a long lost species which we now found to be doing well in cultivation in several collections in Cuenca, Ecuador.

Finally, due to the additional synonyms, and especially the long lists of specimens seen and other records, we have been obliged to transfer them in many cases to an Appendix. We feel it will be helpful for curators and botanists to have a full understanding of the material which we have seen and identified, though the citations are short, do not include full citation of the locality, and only refer to the first collector, we do include the various duplicate collections.

Eric Hágsater
Mexico City, March, 2006

EPIDENDRUM ABERRANS Schltr.

OTHER SPECIMENS: MEXICO: Oaxaca: San Miguel Chimalapa, N de San Pedro Tapanatepec, 1880 m, 21 XII 1985, *Ishiki* 1277, MEXU! **Chiapas:** Reserva de la Biosfera "El Triunfo", near Campamento, 2000 m, 29 X 1996, *Castillo* 832, AMO! **HONDURAS: Comayagua:** Peña Blanca peak, on the Cordillera de Montecillos Biological Reserve, 2000 m, 3 VIII 1991, *Thomas* 1, MO! **Francisco Morazán:** San Juancito, Aguacatal, 5250 ft, 23 X 1931, *Edwards* 104, AMES! *Ibid.* 7500 ft, 1 VIII 1960, *Pfeifer* 1922, US! Cerro de Uyuca, 1650-2000 m, 23 XII 1950, *Sauer* 1548, WIS! San Juancito, 7500 ft, 1 VIII 1960, *Williams* 1912, MEXU! *Ibid.* *Williams* 1917, US! **Intibuca:** Sequetepeche and La Esperanza, 4000-6000 ft, 18 X 1980, *Dey* 219, MO! **EL SALVADOR: Santa Ana:** Cerro Montecristo, NE of Metapán, 2100 m, 31 VII 1977, *Croat* 42433, MO! *Ibid.* 2100 m, 3 III 1970, *Hamer* 170, AMES! **NICARAGUA: Estelí:** Cerro Quiabú (Cerro Las Brisas), 1550-1600 m, 24 XI 1979, *Douglas* 16282, MO! *Ibid.* NE de Estelí, 1500-1600 m, 19 X 1979, *Grijalva* 689, MO! *Ibid.* 2 XI 1976, *Neill* 1231, MO! **Jinotega:** Macizos de Peñas Blancas, 1350-1650 m, 14 I 1979, *Douglas* 11335, MO! Volcán Yalí, 1500 m, 9 IV 1981, *Moreno* 7963, MO! **Madriz:** Cerro Volcán Somoto, 25 IX 1980, *Moreno* 2906, MO! **COSTA RICA:** Without locality, 1 IV 1910, *Worthen* s.n., AMO! **Alajuela:** Reserva Monteverde, Sendero Pantano, 1500 m, 3 I 1990, *Bello* 1675, INB! Palma de San Ramón, 1300 m, 7 XII 1928, *Brenes* (89) 1570, AMES! R. B. de Monteverde, Cordillera de Tilarán, 1550-1580 m, 30 X 1976, *Dryer* 916, CR! *Ibid.* 1600 m, 27 X 1985, *Haber* 3227, MO! *Ibid.* 1500 m, 11 X 1985, *Haber* 3278, MO! *Ibid.* 1500 m, 30 XI 1985, *Haber* 3650, MO! *Ibid.* Peñas Blancas, 1450 m, 7 I 1987, *Haber* 6543, MO! **Cartago:** Cartago, W 6387! Villa Mills, 2700 m, 12 I 1990, *Merz* 650, CR! Agua Caliente, *Pittier* 1159, BR! **Heredia:** La Palma, San Jerónimo de Moravia, 1500 m, 20 XII 1982, *Hágsater* 6978, AMO! *Ibid.* pressed 4 IX 1983, AMO! (Illustration voucher) *Ibid.* pressed 2 I 1985, AMO! *Ibid.* pressed 17 I 1985, AMO! *Ibid.* pressed 25 I 1985, AMO! *Ibid.* pressed 8 II 1985, AMO! *Ibid.* pressed 8 V 1985, AMO! x4! INB! US! La Palma, 1 XI 1910, *Jiménez* 102, CR! La Palma to La Hondura, 1500-1700 m, *Maxon* 8107, AMES! US! La Palma, 1 IX 1896, *Pittier* 10183, BR! US! *Ibid.* 1450 m, 1 IX 1898, *Tonduz* 12667, US! **Limón:** Valle de Silencio, N of Cerro Hoffman, 2350-2450 m, 8 IX 1948, *Davidse* 28646, MO! **Puntarenas:** Monteverde, Peñas Blancas, ca. 1600 m, 13 III 1989, *Atwood* 89-64, SEL! Monteverde Reserve, 1775 m, 11 X 1985, *Bello* 3052, MO! *Ibid.* 1450-1650 m, 31 X 1975, *Burger* 9774, F! *Ibid.* 1600 m, 27 X 1985, *Haber* 3227, MO! *Ibid.* 1600-1700 m, 10 X 1985, *Haber* 3379, MO! *Ibid.* 1500 m, 30 XI 1985, *Haber* 3656, AMO! *Ibid.* 1600 m, 14 XII 1985, *Haber* 3967, MO! x2! *Ibid.* 1450 m, 7 I 1987, *Haber* 6543, MO! *Ibid.* La Ventana, 1530 m, 25 I 1988, *Hágsater* 9436, AMO! x2! *Ibid.* Senderos Chomogo y Pantanoso, 2 XII 1984, *Johnston* 1314, US! **San José:** La Hondura de San José, 4 XI 1932, *Brenes* 171, AMES! F! Entre San Jerónimo y Parque Braulio Carrillo, 13 X 1984, *Dressler* 85, US! Zurquí, 1800 m, 28 X 1969, *Gómez* 2419, F! MO! Parque Braulio Carrillo, Alto La Palma, 1550 m, 20 IX 1990, *Ingram* 543, MO! Above Río Hondura, Alto La Palma, 1600 m, 1 X 1967, *Lent* 1333, F! U! Mountains E of San José, 28 XI 1960, *Palmer* s.n., NY! La Palma, ca. 1600 m, 3 II 1924, *Standley* 33133, AMES! US! La Palma de San José, 1400-1500 m, 12 VIII 1979, *Todzia* 681, CR! Túnel Zurquí, 1650 m, 3 VIII 1994, *Vargas* 430, MO! **PANAMA: Chiriquí:** Vicinity of Cerro Colorado, above San Félix, 1450 m, 6 VII 1988, *McPherson* 12684, MO!

OTHER RECORDS: GUATEMALA: Zacapa: Cerro de Monos, 2175 m, *Dix* s.n., spirit, AMO! **EL SALVADOR: Santa Ana:** Cerro Montecristo, 2100 m, 3 III 1970, *Hamer* 170, illustration, xerox AMO! **NICARAGUA: Jinotega:** Between Finca Harmonia and Santa María de Ostumas, 1350 m, *Heller* 8819, illustration, description, SEL! xerox AMO! **COSTA RICA: San José:** Alto La Palma, *Saenz* s.n., illustration by R. L. Rodríguez, xerox AMO!

EPIDENDRUM ARBUSCULA Lindl.

OTHER SPECIMENS: MÉXICO: Chiapas: Tacaná, ca. 2000-4038 [?] m, 1 VIII 1939, *Matuda* 2385, MEXU! Volcán Tacaná West, 2800 m, 30 III 1939, *Matuda* 2927, AMES! MEXU! Niquihuil-Motozintla, 2300 m, 13 II 1911, *Quarles* 322, U x2! **GUATEMALA:** Without locality, 1866, *Bernoulli* 268, W! Without locality, pressed 26 IV 1980, *Hágsater* 5372, AMO! Without locality, *Hartweg* s.n., K x2! Without locality, *Savage* 1846, P! **Chimaltenango:** Volcán Acatenango, *Dix* s.n., AMO! Acatenango #3, pressed 1 IV 1978, *Hágsater* 5355, AMO! (Illustration) Acatenango, pressed 21 II 1986, *Hágsater* 5357, AMO! *Ibid.* 12 IV 1989, AMO! x2! Volcán Acatenango, 8500 ft, 16 II 1937, *Hunnell* 14671, AMES! *Ibid.* 14676, AMES! San Mateo Sac., 15 III 1939, *Johnston* 1419, AMES! SE de Tecpan o en el Poblado de Patzicía, 2000 m, 4 IV 1978, *Téllez* 558, MEXU! **Guatemala:** Without locality, *Savage* s.n., P! Puerta Parada, *Dix* s.n., AMO! Las Nubes, pressed 7 III 1982, *Hágsater* 5337, AMO! x2! (Illustration) *Ibid.* pressed 30 III 1984, AMO! *Ibid.* pressed 1 IV 1986, AMO! San José Pinula pressed 1 II 1983, *Hágsater* 5759, AMO! Las Nubes, pressed 19 XII 1981, *Hágsater* 5761, AMO! *Ibid.* pressed 7 IV 1983, AMO! *Ibid.* pressed 27 II 1988, AMO! (Illustration) Las Nubes, pressed 30 III 1984, *Hágsater* 5763, AMO! *Ibid.* pressed 23 II 1989, AMO! x2! (Illustration) San José Pinula, pressed 15 III 1982, *Hágsater* 5768, AMO! San José Pinula, ca. 2000 m, pressed 7 IV 1983, *Hágsater* 5772, AMO! x3! *Ibid.* pressed 3 IV 1984, AMO! *Ibid.* pressed 10 IV 1984, AMO! x2! *Ibid.* pressed 8 V 1986, AMO! *Ibid.* pressed 28 IV 1988, AMO! (Illustration voucher) *Ibid.* pressed 30 V 1988, AMO! *Ibid.* pressed 4 V 1989, AMO! **Sacatepéquez:** Comprada en Antigua, pressed 12 IV 1989, *Hágsater* 5773, AMO! San Lucas, IV 1890, *Smith* 2244, AMES! BR! US! x2! Volcán Fuego, 2300 m, 1 V 1892, *Smith* 2635, AMES! x2! BR! US! San Lucas Sacatepéquez, 2000 m, 25 III 1993, *Véliz* 93.2766, MEXU! **Sololá:** San Lucas Tolimán, III 1985, *Hágsater* 7896-A, AMO! x3! San Lucas Tolimán, 1800 m, pressed 17 IV 1988, *Hágsater* 7896, AMO! Volcán Atitlán, 1700-3800 m, 11 VI 1942, *Steyermark* 47388, AMES! F! **EL SALVADOR: Chalatenango:** Cerro El Pital, 2300 m, 4 III 1971, *Hamer* 79, AMES! Los Esesmilés, 2700 m, III 1942, *Lewy van Severen* 170, AMES! San José Calderas, 2100 m, 11 III 1999, *Véliz* 99.6980, MEXU! **Santa Ana:** Volcán Chingo, 1750 m, 16 IV 1970, *Hamer* 79A, AMO! SEL! *Ibid.* 79B, AMO! Volcán Chingo, 1777 m, 2 III 1968, *Molina* 21888, NY!

OTHER RECORDS: GUATEMALA: Without locality, *Hágsater* 9566, (slide, spirit, flower card and illustration), AMO! **Guatemala:** ca. Guatemala, 26 III 1979, *McCullough* s.n., (flower card), AMO! [**Sacatepéquez:**] Duenas [Duenas], *Fraser* 186, (photo) K! **EL SALVADOR: San Salvador:** Volcán Chingo, 1750 m, 16 IV 1970, *Hamer* 79A, (color photo), AMO!

EPIDENDRUM AREVALOI (Schltr.) Hágsater

OTHER SPECIMENS: COLOMBIA: Antioquia: above Yarumal, 2790 m, 12 IX 1984, *Dodson* 15279, RPSC! **Caquetá:** Florencia, cerca de Alto de Gabinetes, 2200 m, 22 VI 1971, *P. Ortiz* V. 473, HPUJ! **Cauca:** Timbío to Veinte de Julio, 2500 m, 14 X 1974, *Mass* 2058, AMES! **Nariño:** East side of Laguna Cocha, 2750 m, 23 VII 1989, *Dodson* 18123, AMO! **Putumayo:** Entre San Francisco y el Pepino, 1900-2400 m, 2 VIII 1961, *Fernández* 5847, COL! San Francisco, 2600 m, 23 VI 1963, *Guzmán* 344, COL! East of San Francisco toward Mocca, ca. 2200 m, 2 VIII 1978, *Luer* 3128, SEL! Between La Cocha and Sibundoy, 2700 m, 30 VII 1978, *Luer* 6031, SEL! **ECUADOR: Carchi:** Playón de San Francisco to El Carmelo, 3200 m, 12 IV 1979, *Lejtnant* 12298, AAU! **Sucumbios:** Santa Bárbara on road Tulcán-La Bonita, 2300-2600 m, 1 VII 1982, *Dodson* 13059, MO! QCA! SEL! Tulcán-La Bonita, Beyond Sta. Bárbara, 2860 m, 8 VII 1990, *Dodson* 18445, QCNE! RPSC!

OTHER RECORDS: Colombia: without locality: Hort. Colomborquídeas, 15 November 1988, *Múnera y Escobar 332*, (color slide) AMO! published as *Colomborquídeas s.n.*, **Orquídeas Nativas de Colombia 2:** 170, 1991. **Caquetá:** Florencia, cerca de Alto de Gabinetes, 2200 m, 22 VI 1971, *P. Ortiz V. 473*, illustration, HPUJ! xerox AMO!

EPIDENDRUM BARBEYANUM Kraenzl.

OTHER SPECIMENS: NICARAGUA: without locality, [possibly cultivated?], *Heller 6509*, SEL! **COSTA RICA:** Without locality, *Endres s.n.*, W! Ibid. *Endres 219*, W x2! Ibid. *Endres 255*, W x4! Ibid. 14 XII 1977, *Henderson, s.n.*, SEL! **Alajuela:** La Verbena, 1168 m, 30 VIII 1925, *Alfaro 183*, US! San Ramón, Río de San Ramón, 850 m, 1 XI 1921, *Brenes 97*, CR! San Ramón, San Pedro de San Ramón, 1025 m, 10 XI 1926, *Brenes (77) 1558*, F! Ca. 10 Km of San Ramón along Hwy 3, 24 XII 1985, *Catling C2.6*, AMO! Piedades Norte, San Ramón, *Hágsater 5643*, AMO! (Illustration voucher) San Ramón campus de la sede de Occidente, Univ. de Costa Rica, 1100 m, 5 IX 1999, *Morales 1364*, USJ! San Ramón Puntarenas, 4 km W Atenas, 6 IX 1971, *Opler s.n.*, USJ! La Verbena, 13 I 1935, *Solis 104*, F! Saie d'un paturage près San Juan, 28 IX 1889, *Tonduz 1339*, CR! Between Naranjo and Palmares, ca. 1170 m, 3 IX 1961, *Weber 6142*, AMES! **Heredia:** Barva, Monte Barba, 1 VIII 1889, *Bolley 1339*, US! Above Santo Domingo del Roble, 9 IX 1936, *George 10483*, MO! **Heredia/San José:** Along Río Virilla, 4 Km N of Center of San José, 1100 m, 22 IX 1971, *Lent 2152*, CR! F! NY! **San José:** In Barrio Escalante of San José, 20 VIII 1963, *Dodson 2517*, SEL! San José, San Isidro de Coronado, 1 I 1947, *Echeverría 985*, CR! Montes de Oca San Jos, 8 VI 1984, *Hágsater 6730*, AMO x2! CR! Meseta Central, vertiente del Pacífico alrededores de San José, Río Titiriti entre San Francisco de Dos Ríos Colina y Curridabat, 1150 m, *Hágsater 6924*, AMO x3! Vertiente Pacífico de la Meseta Central, orillas del río Damas por San Antonio de Desamparados, 1150 m, *Hágsater 6996*, AMO! Desamparados, Cerros de Escazu, 1500 m, 7 I 1990, *Merz 571*, CR! Puriscal Z. P. La Cangreja. Santa Rosa de Puriscal, 500 m, 6 I 1993, *Morales 1042*, INB! San José, *Pittier 18*, CR! Dota Camino a Copey, 1550 m, 12 VIII 1997, *Pupulin 405*, USJ! Desamparados, Vicinity of La Verbena, ca. 1200 m, 9 I 1924, *Standley 32287*, AMES! US! San Pedro de Montes de Oca, ca. 1200 m, 29 I 1924, *Standley 36110*, F! US! San Pedro, El Bosquecito, 1200 m, 12 IX 1978, *Todzia 429*, CR (x3)! El Copey, 1800 m, 9 IX 1979, *Todzia 688*, CR! **PANAMA:** **Chiriquí:** Las Lagunas near Volcan, ca. 1200 m, 21 X 1977, *Folsom 6000*, MO!

EPIDENDRUM BISULCATUM Ames

OTHER SPECIMENS: COSTA RICA: Alajuela: Palmira?, *Brenes 1156*, NY! Volcán Poás-Varablanca, 2 X 1982, *Hágsater 6803*, AMO! Alfaro Ruiz, Palmira, 2100 m, 27 X 1938, *Smith 41297*, AMES! **Heredia:** Barva, NW of Porrosatí, 2000-2050 m, 5 X 1990, *Ingram 588*, AMO! SEL! **San José:** Camino a Guayabo, 17 IX 1991, *Dressler s.n.*, USJ! Santa María de Dota, 2240 m, 23 VII 1983, *Escobar 3074*, CR! SEL! El Cañón Guarco, 2400-2500 m, 12 III 1981, *Hágsater 6457*, AMO! (Illustration voucher) Ibid. pressed 25 IX 1983, AMO! Ibid. pressed 12 XI 1984, INB! Ibid. pressed 3 X 1991, PMA! Ibid. pressed 26 II 1993, USJ! Cerro El Cedral, 1800-2400 m, *Horich s.n.*, pressed 9 XI 1960, MO! Ibid. pressed 10 X 1961, MO! Ibid. pressed 24 V 1962, MO! **PANAMA:** **Chiriquí:** Cerro Punta, Bajo Chorro, 6000 ft, 14 I 1938, *Davidson 122*, F! MO! US! La Popa above Boquete, 1500-2500 m, 21 III 1977, *D'Arcy 10856*, MO! Bajo Chorro, 24 III 1977, *D'Arcy 11087*, MO! La Fortuna [dam], 20 III 1978, *Hammel 2062*, MO! Palo-alto Hill, 6000 ft, *Powell 281*, AMES!

EPIDENDRUM BRENESII Schltr.

OTHER SPECIMENS: COSTA RICA: [Alajuela]: Sarapiquí, 8 II 1966, *Lankester s.n. sub Rodriguez 366*, USJ! (testigo de dibujo) La Palma de San Ramón, 1250 m, 14 XI 1922, *Brenes 449(154)*, CR! US! Ibid. 8 III 1930, *Brenes 11909a*, NY! **Cartago:** Paraíso, Finca Kiri, camino a la Reserva Natural de Tapantí, 1300-1400 m, 25 IX 1996, *Sánchez 401*, AMO! Ibid. pressed 19 V 1997, AMO! **Heredia:** Montaña Azul, entre Vara Blanca y Cariblanco, 23 I 1983, *Hágsater 6822*, AMO! Ibid. pressed 22 II 1983, *Hágsater 6824*, AMO! (Illustration voucher) Vara Blanca de Sarapiquí, between Poás and Barva volcanoes, 1770 m, II 1938, *Skutch 3510*, AMES! Ibid. 1950 m, II 1938, *Skutch 3526*, AMES! K! MO! Yerba Buena, NE of San Isidro, 2000 m, 22 II 1926, *Standley 49987*, AMES! US! Vara Blanca, 1400-1700 m, 27 VI 1978, *Todzia 332*, CR! **San José:** La Hondura, 1300-1700 m, 2 III 1924, *Standley 36573*, AMES! MO!

OTHER RECORDS: COSTA RICA: [Alajuela]: Sarapiquí, 11 II 1966, *Lankester s.n. sub Rodriguez 366*, xerox of illustration, AMO! **Cartago:** Orosí valley road above El Muñeco, 1500 m, 6 VII 1983, *Barringer 4167*, slide and xerox of illustration, AMO! **Heredia:** Montaña Azul, entre Vara Blanca y Cariblanco, 23 I 1983, *Hágsater 6824*, flower card, spirit and slide, AMO!

EPIDENDRUM CALIGARIUM Rchb.f.

OTHER SPECIMENS: PANAMÁ: **Chiriquí:** lowlands near Costarican border, shown at Orchid Exposition in San José, Costa Rica, 12 III 1983, *Fonseca ACO-1983-154*, (Flower in spirit.) AMO! (Illustration voucher) **Veraguas:** San Juan, 1200 ft, II 1924, *Powell 380*, AMES! MO! (illustration of flower and photo, AMO!)

EPIDENDRUM CENTROPETALUM Rchb.f.

OTHER SPECIMENS: Without data, W 15105! St. Albans, 1 II 1890, *Leichmy 2*, K! **NICARAGUA: Boaco:** NW of Camoapa, La Vieja, 31 XII 1973, *Neill 6949*, MO! **Estelí:** Portillo Matasanos and El Colorado, ca. 1000 m, 23 I 1981, *Douglas 18999*, MO! **Matagalpa:** Camino al Sanatorio de Aranjuez, 1000-1400 m, 21 II 1980, *Araquistain 1448*, MO! SE de la ciudad, 1100 m, 9 I 1981, *Guzmán 1618b*, MO! Ibid. *Guzmán 1618c*, MO! Disparate de Potter and Aranjuez, 1300 m, 12 I 1963, *Williams 23726*, G! LL! US! **COSTA RICA:** Without locality, *Endres 293*, W x2! (tracing at AMES!) US! **Alajuela:** San Ramón, 1 I 1920, *Brenes s.n.*, NY! San Pedro de San Ramón, 7 V 1924, *Brenes 800*, NY! Colinas de San Pedro de San Ramón, 2 I 1933, *Brenes (7)16828*, F! Santa María National Park, 800-900 m, 26 I 1970, *Liesner 4557*, MO! Ibid. 30 I 1978, *Liesner 4728*, MO! Los Angeles de San Ramón, 1100 m, 21 XII 1926, *Solis 498*, F! MO! **Cartago:** La Fuente, 1200 m, 29 XII 1925, *Alfaro 242*, AMES! El Alto road Cartago, 1550 m, 1 XII 1937, *Allen 664*, AMES! F! Cartago, *Cooper 198*, US! Ibid. 1300 m, 1 XII 1887, *Cooper 5970*, AMES x2! US! Between Cartago and Cerro Grande, Tuis, *Endres s.n.*, W 31384! Beyond Cartago towards Cerro Grande, *Endres s.n.*, W 31385! Aguacaliente, 10 II 1922, *Greenman 5532*, MO! Cartago-San Isidro, pressed 3 III 1990, *Hágsater 6665*, AMO x10! Las Concavas, cerca de Cartago, 4750 ft, 1 I 1923, *Lankester 551*, AMES x2! Las Concavas, 8 XII 1926, *Lankester 1142*, AMES! Turrialba, 800-2000 m, 5 I 1882, *Lehmann 1083*, G x2! Cartago, 5 II 1882, *Lehmann 1754*, BM! G! LE! Río Tambor, 2.5 km E of Cachi, 1250 m, 16 XII 1972, *Lent 3127*, F! Monte Irazú, 7000 ft, *Oersted 627*, W! Paraiso, 4500 ft, 3 IV 1968, *Smith 2204*, FLAS! Cartago, 1425 m, 1 II 1924, *Standley 33340*, AMES! US! El Muñeco, S of Navarro, 1400 m, 8 II 1924, *Standley 33705*, MICH! US! Ibid. *Standley 33751*, AMES! Cartago, ca. 1425 m, 1 II 1924, *Standley 35454*, AMES! Dulce Nombre, ca. 1400 m, 27 II 1924, *Standley 35780*, AMES! F! US! Ibid. *Standley 35806*, AMES! Finca Las Concavas, 1200-1300 m, *Standley 41442*, AMES! Río Reventado, N of Cartago, 1460-1650 m, 26 II 1926, *Standley 49524*, AMES! S of Cartago, 4600 ft, 28 II 1928, *Stork 1067*, AMES! El Alto, 5200 ft, 29 II 1928, *Stork 1079*, AMES! MO! SE of Cartago, 4200 ft, 18 III 1928, *Stork 1227*, MO! Agua Caliente, 4500 ft, 13 IV 1928, *Stork 1478*, MO! Río Reventado, N of Cartago, 1450-1650 m, 28 II 1936, *Valerio 49639*, AMES! US! **Guanacaste:** P. N. Guanacaste, Estación Cacao, 1100 m, 8 II 1995, *Angulo 33*, MO! Parque Nacional Rincon de la Vieja, the SE slopes of Volcan Santa María, above Estación Hacienda Santa María, 900-1200 m, 27 I 1983, *Davidse 23330*, MO! Hacienda Santamaría, 720-850 m, 17 I 1930, *Dodge 6314*, AMES! Las Delicias, below Hacienda Santamaría, 380-400 m, 18 I 1930, *Dodge 6326*, AMES!

APPENDIX

OTHER SPECIMENS AND OTHER RECORDS

THE GENUS *EPIDENDRUM* Part 5

ICONES ORCHIDACEARUM 8. 2006

Hacienda Santamaria, 720-850 m, 17 I 1930, *Dodge* 6438, AMES! Cerro San José de Libano, 500-960 m, 13 II 1930, *Dodge* 7898, AMES! Hacienda Santamaria, and source of Río Liberia, 650-780 m, 21 I 1930, *Dodge* 7902, AMES! Estación Cacao, Parque Nacional Guanacaste, 1100 m, 21 XI 1990, *Espinoza* 3, MO! Monte Verde, 1370 m, 28 XI 1972, *Feinsinger* s.n., CR! P. N. Rincón de La Vieja, ca. 800 m, 17 XII 1978, *Gómez* 4272, US! base del Volcán Santa María, 800-940 m, 26 I 1986, *Grayum* 6268, MO! 10°25' N 84°53' W, 1200 m, 10 XI 1986, *Haber* 6344, MO! Sta. Elena-Quebrada Grande, 1000 m, 26 I 1988, *Hagsater* 9459, AMO! CR! UAMÍZ! *Ibid.* *Hagsater* 9460, AMO! Tilarán-El Arenal, 590 m, 26 I 1988, *Hagsater* 9822, AMO! Liberia, 30 XII 1979, *Ocampo* 2509, CR! Tilarán, 500-600 m, 10 I 1926, *Standley* 44185, AMES! *Ibid.* *Standley* 44203, AMES! US! *Ibid.* *Standley* 44328, AMES! *Ibid.* *Standley* 44398, AMES! US! El Silencio, near Tilarán, ca. 750 m, 13 I 1926, *Standley* 44711, AMES! US! Quebrada Serena, S of Tilarán, ca. 700 m, 27 I 1926, *Standley* 46264, AMES! US! **Heredia:** San Isidro Coronado, 12 II 1924, *Alfaro* 34015, US! Volcán Irazu and Volcán Barba, 22 IV 1969, *Davidse* 1697, MO! **Puntarenas:** Monte Verde, 1350-1400 m, *Ibid.* 10 XII 1984, *Haber* 1145, MO! 29 XI 1985, *Haber* 3580, MO! *Ibid.* 1200-1300 m, 12 XII 1985, *Haber* 3702, MO! *Ibid.* 1300 m, pressed 8 II 1984, *Hagsater* 7064, AMO! **San José:** Río Tirribí, near San José, *Alfaro* 34527, AMES! Zurquí, 2000-2500 m, 13 II 1926, *Valerio* 48313, AMES! US! **PANAMA:** Chiriquí: El Volcán, pressed 6 III 1982, *Hagsater* 6442, AMO x 2! (Illustration voucher) Chiriquí Volcano, 1350-1400 m, 29 X 1911, *Hitchcock* 9202, US! Chiriquí, 4000 ft, *Powell* 139, AMES x 2! K! Río Chiriquí Viejo, 16 III 1938, *White* 37, MO!

OTHER RECORDS: Without locality, *Lehmann* 242, color illustration, K! **COSTA RICA:** Without locality, 15 I 1962, *R. L. Rodríguez* s.n., color illustration, slide AMO! *Ibid.* 24 XI 1962, *R. L. Rodríguez* s.n., color illustration, slide AMO! **PANAMA:** Without data, illustration, W 50040!

EPIDENDRUM CRESCENTILOBUM Ames

OTHER SPECIMENS: **COSTA RICA:** Río Sucio, 17 III 1882, *Lehmann* 1266, BM! G x 2! LE! **Alajuela:** Volcán Barba, 2100 m, 1 I 1909, *Brade* s.n., AMES! Poás, 6500 ft, 6 II 1940, *Hunnewell* 16582, AMES! Palmira, 2200 m, 2 III 1938, *Smith* 376, AMES! K! Palmira de Zarcero, 25 XI 1937, *Smith* 639, F! Palmira, 6100 ft, 15 XII 1937, *Smith* 699, F! Alfaro Ruiz, Palmira, 2400 m, 4 I 1939, *Smith* 1406, F! Viento Fresco, 1600-1900 m, 13 II 1926, *Standley* 48021, AMES! **Cartago:** above Río Grande de Orosí, 1500 m, 13 III 1973, *Burger* 8514, F! Tapantí, 1400 m, 29 I 1983, *Chacón* 267, MO! *Ibid.* 1300-1700 m, 26 X 1983, *Chacón* 1547, CR! MO! South of Tapantí and Río Macho, 1500 m, 26 XII 1974, *Cochrane* 6332, AMES! I. C. E. Tapantí, 1300-1800 m, 1 XI 1982, *Gómez* 18807, AMO x 2! (Illustration voucher) MO! Tapantí, Río Grande de Orosí ca. 1500-1800 m, 24 XI 1984, *Grayum* 4566, MO! US! La Estrella de Cartago, 9 II 1923, *Lankester* 433, AMES! Santa Clara de Cartago, 13 XII 1923, *Lankester* 561, AMES! Tapantí, 1 XI 1969, *León* s.n., US! Santa Cruz, NW of Turrialba, 1500 m, 19 I 1972, *Maas* 817, U! Paraiso, Reserva Nacional Tapantí, 1300-1500 m, 25 IX 1996, *Sánchez* 435, AMO x 2! *Ibid.* *Sánchez* 438, AMO x 3! Alto de la Estrella, 26 III 1924, *Standley* 39568, AMES! US! *Ibid.* *Standley* 39577, AMES! I. C. E. Tapantí, 1300 m, 17 XI 1978, *Todzia* 541, CR x 2! La Sierra, about 25 km S of Cartago, 2000 m, 23 I 1965, *Williams* 28101, F! **Heredia:** Los Angeles de Heredia, *Brenes* s.n., NY! Cerros de Zurquí, 17 X 1932, *Brenes* 162, AMES! Cerro de las Caricias, N of San Isidro, 2000-2400 m, 11 III 1926, *Standley* 52155, AMES! *Ibid.* *Standley* 52383, AMES! Vara Blanca de Sarapiquí, between Poás and Barba volcanoes, 1830 m, 1 I 1938, *Skutch* 3435, K! Río Las Vuletas, NE of Heredia, 2000 m, 27 XII 1974, *Taylor* 17673, F! **Puntarenas:** R. B. de Monte Verde, Cordillera de Tilarán, 1560-1600 m, 10 VI 1976, *Dryer* 803, CR! F! Cerro Pittier y Cerro Shurivo, 2900, 18 IX 1996, *Morales* 5808, MO! **San José:** La Palma, 1250 m, 24 X 1922, *Brenes* 338, AMES! Piedades de San Antonio, La Palma, 1275-1300 m, 26 X 1922, *Brenes* 347, AMES! P. N. Braulio Carrillo, Zurquí, 1630-2000 m, 11 XII 1990, *Ingram* 777, CR! Cascajal, 5500 ft, *Lankester* 359, K! *Ibid.* 6000 ft, *Lankester* 367, K! Zurquí, 2000-2500 m, 13 II 1926, *Standley* 48056, AMES! *Ibid.* *Standley* 48192, AMES! *Ibid.* *Standley* 48225, AMES! Cerro Gallito, 2000 m, 20 XII 1927, *Valerio* 69, AMES! *Ibid.* 2000 m, 3 II 1935, *Valerio* 1078, F!

OTHER RECORDS: **COSTA RICA:** **Cartago:** Tapantí, 26 I 1967, *Rodríguez* 464, slide and xerox of watercolor illustration, AMO! Reserva Nacional Tapantí, 1300-1500 m, 17 I 1996, *Sánchez* 438, illustration, slides, AMO! **San José:** La Lucha, *Hagsater* 8434, slide, AMO! El Empalme, 19 XII 1964, illustration, by *Rodríguez* 284, xerox and photo, AMO!

EPIDENDRUM DIFFORME Jacq.

OTHER SPECIMENS: **MONTSERRAT:** Lower slopes Chances Mountain, 450 m, 16 IV 1977, *Adams* 16, A! Along upper course of the Balham River, 500-900 ft., 28 I 1959, *Proctor* 18922, J! 1 I 1907, *Shafer* 26092, NY! Windward road, 23 I 1907, *Shafer* 154, NY! Above 1500 ft., 2 II 1907, *Shafer* 372, CM! F! US! West of the Saurfium, 18 II 1907, *Shafer* 691, F! US! **GUADALOUPE:** 300-800 m, *Duss* 3362, NY! Hort. Serres du Museum National D'Histoire Naturelle, Paris, *Jeremie* s.n., AMO! 1 I 1870, *Jolis* s.n., G! *Bleaupertus* s.n., P! St. Claude, 600 m, 1 III 1932, *Quentin* 547, P! Bains Jaunes, 600 m, 6 IX 1938, *Questel* 2092, US! P! Basse Terre, Vicinity of Matouba, 550-630, 11 XII 1959, *Proctor* 20398, A! AMES! Gambeyro, 21 VI 1934, *Rodríguez* 2601, P! Saint Claude, 8 V 1934, *Rodríguez* 2974, P! *Ibid.* 25 May 1934, *Rodríguez* 3176, P! Valemaer, 27 IV 1936, *Rodríguez* 6856, P! Gombeyu, 8 XII 1934, *Stehlé* 300, P! Hamelmont, 425 m, 8 XII 1934, *Stehlé* 300BIS, P! Yugominier, 650 m, 4 IX 1935, *Stehlé* 1018, P! Yugominier, 400 m, 29 IX 1936, *Stehlé* 3021, NY! **DOMINICA:** South Chiltern, Between Pointe Michel and Suoufriere Bay, ca. 1500 fr., 16 IV 1964, *Ernst* 1119, BM! Lisdara, 457 m, 27-31 VIII 1937, *Hodge* 380, GH! US! Massacre River, between Sylvania and Mt. Joy, 500 m, 9 II 1940, *Hodge* 1034, AMES! x 2 GH! Mt Joy to abandoned L'Imprevue Estate, 400 m, 19 II 1940, *Hodge* 1260, GH! about Chiltern Estate, 500 m, 27 II 1940, *Hodge* 1473, AMES! In Valley of Hampstead River, ca. 2 miles from mouth La Chaudiere, ca. 100 m, 10 V 1940, *Hodge* 3543, AMES! St. Paul Parish, along trail atop Morne Cole Anglais ridge, 2300 ft., 24 XI 1965, *Lellinger* 629, US! Northwest slope of Morne Diablotins, Syndicate State, 650 m, 11 IX 1983, *Whitefoord* 3556, BM! *Ibid.* 15 IX 1983, *Whitefoord* 3642, BM! Windward near Syndicate, road through Pond Hunte State, 550 m, 5 X 1983, *Whitefoord* 3895, BM! *Ibid.* 7 X 1984, *Whitefoord* 4372, BM! St. Peter, Syndicate State, 21 III 1987, *Whitefoord* 5574, BM! **MARTINIQUE:** Without locality, *Duss* 1048, MO! NY! *Ibid.* *Plez* s.n., P x 2! *Ibid.* *Plez* 466, P! Bois du Plat Lancher, 18 XI 1956, *Privault* 135, P! 1 I 1830, *Rivoire* s.n., P x 2! 300 m, 15 IV 1946, *Stehlé* 6470, US! 1 I 1839, *Stinhell* s.n., P! Deux Choux (La Trace), ca. 400 m, 16 VII 1986, *Hagsater* 8708, AMO! x 2 press. 24 VII 1987 AMO! (Illustration). Deux Choux (La Trace), ca. 400 m, coll. 16 VII 1986, press. 17 IX 1988, *Hagsater* 8710, AMO! (Illustration) Morne Balisier, ca. 600, coll. 16 VII 1986, press. 21 I 1993, *Hagsater* 8727, AMO! St. Pierre, 1 II 1868, *Hahn* 86, G x 2! I! P! *Ibid.* 1 I 1871 P! *Ibid.* 1 II 1871 K! *Ibid.* 1 III 1873, 1337, BR! G! (Illustration voucher) Between Fond St. Denis and Balata, 19-26 V 1950, *Howard* 11707, AMES! x 2 Trace des Jesuites, 600 m, 14 VI 1978, *Jeremie* 647, P! Hb. Venetan, *Lam* 253, G! Fond St. Denis, 800 m, 28 XI 1976, *Larsen* 35472, AAU! Deux Choux, 20 V 1975, *Sastré* 4217, AMES! Pitons de Cabet, 1000 m, 19 XII 1942, *Stehlé* 6006, US! P! Roi de Vambre, Tirola a Babetta, 19 XII 1942, *Stehlé* 6154, US! **STA. LUCIA:** Ravine Poisson, St. Lucia, 8 XI 1984, *JnPierre* 28, A! AMES! GH! SW of Piton Flore, 300-1000 ft., 4 IV 1958, *Proctor* 17614, AMES! BM! East of Piton Troumassée, 1300-1400 ft., 22 XI 1960, *Proctor* 21616, J! east of Piton Troumassée, 1300-1400 ft., 22 XI 1960, *Proctor* 31616, BM! Morne, 800 ft., 1 I 1968, *Sturock* 400, AMES! Shores of Marigot Lagoon, west coast, 30-200 m, 21 III 1956, *Smith* 10187, US! **ST. VINCENT:** St. Andrew, Lower Western slope of Grand Bonhomme Mountain, 10 II 1962, *Cooley* 8361, AMES! St. Patrick Parish, 22 II 1962, *Cooley* 8441, AMES! St. Ambrows, XII 1889, *Eggers* 6671, P! US! Vicinity of Kingstown, 9 IV 1947, *Morton* 4883, US! **TRINIDAD AND TOBAGO:** Trinidad, without collector 374, W! Trinidad, *Sieber* 379, P! W!

OTHER RECORDS: MARTINIQUE: Morne Rouge, Route de found St. Denis proche du croisement de Deux Choux (La Trace), ca. 400 m, 16 VII 1986, *Hágsater 8708*, AMO (flowers in spirit)! *Ibid.* 8710, AMO (flowers in spirit)!

EPIDENDRUM DIOTHONAEOIDES Schltr.

OTHER SPECIMENS: COLOMBIA: Cauca: Minas Inzá, *Lehmann 245*, AMES x2! NY! W! **Tolima:** "La Línea", Cajamarca, 14 VI 1969, *Ortiz 40*, HPUJ! **ECUADOR:** Carchi: Maldonado west of Tulcan, ca. 1700-2000 m, 21 II 1978, *Luer 2675*, SEL! Between Tulcan and Maldonado, 2800 m, 9 XI 1982, *Luer 8326*, SEL! *Ibid.* 2900-3100 m, 5 X 1981, *Werling 273*, F! QCA! **Imbabura:** Cuicocha to Selva Alegre, 2950 m, 6 XII 1986, *Hágsater 8997*, AMO! Between Otavalo and Apuela, 2000-2500 m, 8 II 1979, *Luer 3905*, SEL! **Napo:** Papallacta a Baeza, 2370 m, 13 May 1986, *Huttel 752*, QCNE! **Pichincha:** Santo Domingo to Quito, 6-20 km E of Tandapi, 1500-2000 m, I 1979, *Besse 1329*, AAU! SEL! Parroquia Calacali. Reserva Geobotánica Pulumahua, 2500-2700 m, 11 II 1989, *Cerón 6158*, MO! QCNE! Between Quito and Chiriboga, 2400-2800 m, 12 III 1963, *Dodson 2370* AMO! SEL! Quito to Santo Domingo, 2600 m, 21 I 1981, *Dodson 10576*, SEL! (Illustration voucher) *Ibid.* 2800 m, 3 II 1983, *Dodson 13641*, MO! QCA! SEL! *Ibid.* 3150 m, *Dodson 15512*, MO x2! QCA! QCNE! RPSC! *Ibid.* 2600 m, 1 II 1985, *Dodson 15563*, MO! QCA! QCNE! RPSC! La Iberia, km 4-6, Calacali-Hacienda Gallopellado, 2800 m, 4 IV 1985, *Dodson 15757*, MO x2! Lloa to Mindo, 2950 m, 16 I 1987, *Dodson 16760*, QCNE! RPSC! Between Tambillo and La Palma, 26 XII 1974, *Dressler 4913*, AMO! Quito-Mindo, near Nono, 2600 m, 6 III 1972, *Harling 11140*, GB! Manuel Cornejo Astorga (Tandapi), 2000 m, XII 1983, *Hirtz 1391*, AMO x2! Between Alog and Cornejo Astorga (Tandapi), 3150 m, 29 V 1979, *Løitnant 13954*, AAU! Quito to Santo Domingo, 2700 m, 13 III 1976, *Luer 845*, QCA! SEL! San José de Niebli, (13 road km N of Calacali), 2450 m, 1 V 1985, *Stein 2660*, MO!

OTHER RECORDS: Quito to Santo Domingo, 2600 m, 1 II 1985, *Dodson 15563* (illustration, Icon. Pl. Trop. pl. 466, 1989.)

EPIDENDRUM DOLICHOCHLAMYS Hágsater & E.Santiago

OTHER SPECIMENS: COSTA RICA: San José: El Empalme to Villa Mills, 2700 m, 12 VII 1960, *Cruz 58*, AMES! F! FLAS! Cartago: Km 66.5 south of Cartago, 7 VII 1986, *Atwood 86-20*, MO! SEL!

EPIDENDRUM EXASPERATUM Rchb.f.

OTHER SPECIMENS: COSTA RICA: Sitio Ortíz, Without collector data, W 14715! Without locality, *Endres s.n.* W, 13812! *Ibid.* *Endres s.n.*, W 43581! *Ibid.* 1862, *Endres 19*, W! Without locality, *Klaboch s.n.*, W 50048! *Ibid.* 18 I 1882, *Lehmann 1792*, BM! G! La Palma, 1450 m, 8 IX 1898, *Tonduz 12538*, NY! US x3! **Alajuela:** NW from San Ramón, 1100 m, 16 VI 1983, *Barringer 3191*, MEXU! Reserva Monteverde, 850 m, 5 VII 1989, *Bello 1026*, INB! Collines Santiago, San Ramón, 1300 m, 2 VI 1991, *Brenes 14289*, G! US x2! La Palma, N San Jerónimo, 1500 m, 27 V 1968, *Burger 5371*, F! *Ibid.* *Burger 5393*, F! NY! Reserva Monteverde, 1450-1650 m, 31 X 1975, *Burger 9692A*, F! Cerros de Santiago, San Ramón, 1100 m, 29 IV 1982, *Carvajal 212*, AMO! San Ramón, 700-1000 m, 2 VII 1986, *Chacón 1973*, CR! Cordillera de Tilarón, Cerca de la Reserva, 1520-1560 m, 28 X 1976, *Dryer 894*, F! Volcan Barba, 2000 m, 1 XI 1972, *Gómez s.n.*, CR! Monteverde, Río Peñas Blancas, 1300 m, 20 III 1985, *Haber 1509*, AMO! San Jerónimo-La Hondura, pressed 3 VII 1982, *Hágsater 6656*, AMO x2! San Jerónimo, pressed 22 II 1983, *Hágsater 6748*, AMO x2! San Jerónimo-La Hondura, 1500-2100 m, 17 III 1982, pressed 23 VII 1984, *Hágsater 6749*, AMO x3! *Ibid.* pressed 15 XI 1985, AMO! *Ibid.* pressed 26 VI 1986, AMO x2! *Ibid.* pressed 17 VII 1986, AMO x3! Caña Chica entre El Alto de Villegas y Angeles N de San Ramón, 1250-1550 m, pressed 26 VI 1986, *Hágsater 7154*, AMO! Volcan Barba, 1900 m, 16 VIII 1940, *León 26634*, CR! Above Poasito on Volcan Poas, ca. 2000 m, 12 IX 1979, *Luer 4129*, F! San Ramón, 850 m, 17 VI 1972, *Lent 2592*, F! Alfaro Ruiz, Región de Zarcero, 6000 ft, 1 IX 1937, *Smith 283*, F! Palmira, 1 IX 1937, *Smith 290*, F! Alfaro Ruiz, La Peña de Zarcero, 4000 ft, 13 XII 1937, *Smith 697*, F! *Ibid.* 4500 ft, 17 XII 1937, *Smith 721*, F! Poasito, 2000 m, 12 IX 1979, *Todzia 695*, CR! Collines Tremedal, San Ramón, 1500-1600 m, V 1913, *Tonduz 17622*, AMES! F! G! LE! US! W! N of San Ramón, 1100-1200 m, 27 VI 1972, *Utley 391*, MICH! **Cartago:** El Salvaje, Candelaria, 2000 m, 29 VI 1925, *Alfaro 136*, US! Río Grande de Orosí, 1400-1600 m, 3 XII 1975, *Barker 196*, CR! F! U! Navarro del Socorro, Paraíso, 24 V 1986, *Berrocá 156*, CR x3! Cerro Grande, 6000-8000 ft, *Endres s.n.* W 5515! Cerros del Pozon. S. Rn., *Endres 147*, W x2! Sierra de Talamanca, *Gerlach 850*, AMO! San Gerardo, NW crater Irazú, 2000 m, 1 II 1983, *Gómez 19884*, MO! U! XAL! Km 38 Rt. 2 de Cartago, pressed 17 VII 1986, *Hágsater 6682*, AMO! S de La Cangreja, 1950 m, 17 V 1964, *Jiménez 1961*, F! Tablazo, 1800-2200 m, 24 XII 1881, *Lehmann 1225*, G! LE! US! S of Tejar, 2000 m, 30 I 1965, *Lent 259*, F! MO! Río Grande de Orosí, SE of Tapantí, 1300 m, 21 V 1967, *Lent 997*, CR! F! MO! NW of Turrialba, 1800 m, 18 I 1972, *Maas 792*, U x2! Río Grande de Orosí, 4000-5000 ft, 16 VI 1971, *Proctor 32398*, F! LL! Cerro de La Carpintera, 1500-1850 m, 1 II 1924, *Standley 34464*, US! Alto de La Estrella, 26 III 1924, *Standley 39302*, US! S of Cartago, 6400 ft, 10 IV 1968, *Smith 2281*, FLAS! *Ibid.* 18 III 1982, *Thurston s.n.*, AMO! NE Río Grande de Orosí at Tapantí, 1300 m, 27 V 1976, *Utley 5045*, CR! F! MO! El Retiro, Santa Cruz de Turrialba, 1400 m, 1 I 1941, *Valerio 1365*, F! Panamerican Highway, Cordillera de Talamanca, 2000 m, 25 VIII 1961, *Weber 6058*, AMES x3! SW of Cartago, 5300 ft, 15 VII 1962, *Webster 12357*, AMES! F x2! S El Tejar, 1750-1850 m, 1 II 1963, *Williams 24185*, F! U! La Sierra, S of Cartago, 2000 m, 23 I 1965, *Williams 28130*, CR! F! S of Cartago, 2000 m, 23 I 1965, *Williams 28147*, F! **Guanacaste:** Monteverde, N of Santa Elena to Las Nubes, 1500 m, 14 VIII 1988, *Haber 8560*, AMO! Santa Elena, border of Monteverde Reserve, 1550 m, 20 XI 1988, *Haber 8813*, AMO! **Heredia:** Near Sacramento, 2000-2100 m, 26 VII 1971, *Burger 7709*, CR! F! Sarapiquí above Cariblanco, 20 VIII 1963, *Dodson 2457*, MO! Vara Blanca, 6000 ft, 9 VII 1940, *Chrysler 4956*, MICH! San Isidro, between Volcan Barba and Volcan Irazú, 2200 m, 3 II 1965, *Godfrey 66137A*, MO! P. N. Braulio Carrillo, 2000-2100 m, 4 XI 1990, *Ingram 672*, AMO! MO! Vara Blanca, 2000 m, 27 XII 1931, *Kupper 299*, M! Cerro Chompipe, N of San Rafael, 2000 m, 29 VIII 1964, *Lems s.n.*, NY! *Ibid.* *Lems 5327*, F! Vara Blanca, between Poás and Barba volcanoes, 1600-1700 m, 22 VII 1923, *Maxon 8352*, US! Carretera Heredia-Vara Blanca, 1800 m, *Ospina 1384*, AMO! Las Lajas de San Isidro de Heredia, 1500 m, 1 X 1900, *Pittier 14050*, US! Vara Blanca de Sarapiquí, 1500-1750 m, 1 VII 1937, *Skutch 3226*, MO! US! Vara Blanca, 31 XII 1973, *Utley 574*, CR! NW of Cariblanco, 1000 m, 16 X 1974, *Utley 1356*, CR! Braulio Carrillo, San Jerónimo de Moravia, 30 V 1987, *Vargas 8*, US! Cariblanco, near Vara Blanca, ca. 1800 m, 15 IX 1979, *Walter 4181*, F! Vara Blanca, Atlantic slope of Volcan Barba, 14 VIII 1964, *Woodruff s.n.*, FLAS! **Limón:** NE of Chitaria, 21 VIII 1964, *Woodruff s.n.*, FLAS! **Puntarenas:** Monteverde Nature Reserve, 1450-1650 m, 31 X 1971, *Burger 9692*, CR! *Ibid.* 4 XI 1984, *Dressler 137*, USJ! *Ibid.* 1500 m, 1 XII 1984, *Haber 1106*, MO! *Ibid.* *Haber 1107*, MO! *Ibid.* *Haber 1110*, MO! *Ibid.* *Haber 1111*, MEXU! *Ibid.* 1600-1700 m, 10 X 1985, *Haber 3384*, MO! San Luis, Monteverde, 900-1000 m, 14 VII 1988, *Haber 8510*, AMO! Cerro Chomogo, 1600 m, pressed 25 III 1983, *Hágsater 7076B*, AMO x2! Monteverde, 1500 m, 18 X 1963, *Jiménez 1251*, F! Río Grande de Orosí, Tapantí, 4000-5000 ft, 16 VI 1971, *Proctor 32398*, MO! **San José:** Cascajal to San Isidro de Coronado, 5200 ft, 22 II 1981, *Almeda 4520*, CAS! Colinas de San Pedro de San Ramón, 1050 m, 3 V 1925, *Brenes (6)1218*, F! *Ibid.* *Brenes (7)1220*, F! *Ibid.* 24 V 1925, *Brenes (15)1228*, F! *Ibid.* 24 X 1925, *Brenes (19)1228*, CR! Aserri, Cerro Daser, 2000 m, 30 VIII 1971, *Burger 8180*, F! San Cristobal Sur, 1800 m, 30 I 1984, *Chase 84107*, CR x2! Cerro de la Muerte, ca. 2000 m, 27 II 1976, *Croat 32838*, AMO! MEXU! Entre San Jerónimo y Parque Braulio Carrillo, 13 X 1984, *Dressler 86*, USJ! Zurquí, 1800 m, 28 X 1969, *Gómez 2423*, F! MO! U! 1 km S de Casa Mata, 1950 m, pressed 8 II 1984, *Hágsater 6318*, AMO! *Ibid.* pressed 25 IX 1984, AMO x2! *Ibid.* pressed 2 I 1985, AMO! *Ibid.* pressed 22 X 1984, *Hágsater 6319*, AMO! *Ibid.* 25 III 1981, pressed 10 X 1988, *Hágsater 6324*, AMO x3! *Ibid.* pressed 1 X 1989, AMO! *Ibid.* pressed 29 III 1984, *Hágsater 6328*, AMO! *Ibid.* pressed 18 II 1985, AMO! El Empalme-Santa María de Dota, 2000 m, 10 III 1986, *Hágsater 8332*, AMO x3! Fila de la Cordillera de Talamanca, 1800 m, 10 III 1986, *Hágsater 8387*, AMO x2! Cerro Cedral, 1800-2400 m, 1 V 1963, *Horich s.n.*, UC! La Hondura, 1100-1200 m, 6 X 1976, *Keeney 3812*, F! Casa Mata, carretera a San Cristobal, 2000 m, 10 III 1994, *Lépez 200*, INB! La Palma road to La Hondura, 1500-

THE GENUS *EPIDENDRUM* Part 5

ICONES ORCHIDACEARUM 8. 2006

1700 m, 17 VII 1923, *Maxon 8108*, US! Mountains E of San José, 28 XI 1960, *Palmer s.n.*, NY! Between Aserri and Tarbaca, 1600-1900 m, 12 II 1924, *Standley 34162*, US! Las Nubes, ca. 1500-1900 m, 20 III 1924, *Standley 38675*, US! Ibid. *Standley 38898*, US! Zurquí, 2000-2500 m, 13 II 1926, *Standley 48032*, US! Ibid. 2000-2500 m, 13 II 1926, *Standley 48116*, US! La Hondura, 1200-1500 m, 9 III 1926, *Standley 51789*, US! Tarbaca, 1860-1880 m, 7 IX 1979, *Stevens 14060*, MO! Las Nubes E of San Isidro de Coronado, 26 XII 1955, *Stork 4730*, UC! LL! MICH! El Tejar, 2000 m, 20 VIII 1967, *Taylor 4623*, MO! Cascajal, 30 VII 1972, *Taylor 11267*, MO! Cascajal to Alto La Palma, 1600-1800 m, 23 VIII 1975, *Uttley 2922*, CR! F! Tablazo, 1800 m, 27 VII 1927, *Valerio 21*, US! Alto La Palma, NE of San Jerónimo, 1400-1500 m, 11 VII 1976, *Wilbur 20259*, F! PANAMA: **Bocas del Toro**: Cerro Colorado, 9.2 mi W of Chame, 1450-1480 m, 6 VII 1988, *Croat 69025*, AMO! MEXU! MO! **Chiriquí**: Monte Azul, E slopes of Cerro Punta, 2250 m, 22 XI 1979, *Antonio 2699*, MO! Fortuna Dam area, 1200 m, 16 VI 1984, *Churchill 5512*, MO! Cerro Colorado, 1390 m, 15 VII 1976, *Croat 37255*, MO! Monte Azul, slopes of Cerro Punta, 2250 m, 25 XI 1979, *Croat 48617*, MO! NY! Fortuna, in valley of río Chiriquí, 1200-1300 m, 20 VI 1987, *Croat 66518*, AMO x2! Cerro Colorado near San Félix, 1390 m, 15 VII 1976, *Croat 37267*, AMO! Fortuna Dam Area, 23 VI 1994, *Croat 76294*, AMO! Cerro Punta, above Guadalupe, 1800 m, 21 X 1980, *Dressler 5935*, U! above Cerro Punta, 6000-7000 ft, 22 X 1977, *Folsom 6023*, MO! Cerro Punta, Volcán Barú, 2000-3000 m, 15 III 1981, pressed 1 V 1982, *Hágsater 6491*, AMO! (Illustration voucher) Ibid. pressed 29 III 1984, AMO! above Quebrada Arena, 1150-1200 m, 19 VI 1982, *Knapp 5635*, AMO! Cerro Colorado, ca. 1600 m, 1 VI 1986, *Luther 1062*, AMO x2! Fortuna Dam region, 1250 m, 29 VI 1987, *McPherson 11141*, MO! Ibid. *McPherson 11141^a*, MO! Cerro Punta, near Paso de Respingo, ca. 2300 m, 22 IV 1975, *Mori 5726*, MO! Cerro Colorado, 1390 m, 15 VII 1976, *Sullivan 354*, MO! N of Las Nubes, Cerro Punta, 2000-2300 m, 24 XII 1971, *Wilbur 15190*, MICH! MO! NW of Boquete, 28 XII 1971, *Wilbur 15451*, MO!

OTHER RECORDS: COSTA RICA: Without locality data, *Foster s.n.* digital photo, [light-colored form] AMO! Ibid. 20 V 1963, illustration, *R. L. Rodriguez 125A*, xerox, AMO! Ibid. 28 VII 1967, illustration, *R. L. Rodriguez 543*, xerox, AMO! **Alajuela**: Vulcanus Poas, 2400 m, 26 IV 1930, *Cufodonti 713*, W! 40 km from San José on Volcán Poas, 7600 ft, 27 XI 1970, *McCullough 1673*, flower card, AMO!

EPIDENDRUM FOLSOMII Hágsater & E.Santiago

OTHER SPECIMENS: PANAMA: Coclé: Alto Calvario, 5.5 N of El Copé, 850 m, 13 IX 1987, *Croat 67544*, MO! El Copé, from old Riviera sawmill, 600-800 m, *Croat 77208*, AMO! MO! Rivera Sawmill 7 km N of El Copé, Alto Calvario, 750-850 m, 2 VII 1977, *Folsom 4104*, MO! Ibid. 5 VII 1977, *Folsom 4151*, AMO! MO! 7 km N of El Copé, 700-850 m, 3 X 1977, *Folsom 5730*, MO! Sawmill above El Copé, 2300 ft, 27 VII 1978, *Hammel 4115*, MO! Sawmill, 8 km N from El Copé, *Maa 2752*, MO! U! Sawmill above El Copé, ca. 1000 m, 25 VII 1983, *Miller 827*, AMO! MO! **Veraguas**: Near the Continental divide above Santa Fé, 700 m, 5 IX 1976, *Luer 1148*, SEL!

OTHER RECORDS: PANAMÁ: **Veraguas**: Near the Continental divide above Santa Fé, 700 m, 5 IX 1976, *Luer 1148*, slide by Dressler, AMO!

EPIDENDRUM GASTROCHILUM Kraenzl.

OTHER SPECIMENS: PERU: Amazonas: Chachapoyas; Balsas-Leimebamba km 394, 3 VI 1977, *Boeke 1901*, SEL! Cerros Calla Calla, 3100 m, 1 IV 1964, *Hutchison & Bennett 4858*, UC! Upper slopes of the Puma-urcu, 2700-3000 m, 1 VI 1962, *Wurdack 711*, US! **Cajamarca**: Chota; Chota-Tacabamba km 14, 2800 m, 19 II 1983, *Smith 3588*, MO! NY! (Illustration voucher). Cuzco: Paucartambo; Pillahuata, de Cuzco hacia Pilcopta, 2000 m, 4 IV 1987, *Núñez 7760*, MO!

OTHER RECORDS: PERU: Amazonas: Chachapoyas; Balsas-Leimebamba km 394, 3 VI 1977, *Boeke 1901*, SEL! (Illustration, AMO!)

EPIDENDRUM GASTROPODIUM Rchb.f.

OTHER SPECIMENS: COLOMBIA: Cauca: San Sebastián-Valencia, 3200 m, 23 X 1958, *Barclay 5723-A*, AMES! Páramo del Puracé, 3400-3450 m, 22 VII 1943, *Cuatrecasas 14681*, AMES! San Marcos, entre Jardín y San Rafael, 2700-2900 m, 25 VII 1943, *Cuatrecasas 14785*, AMES! Parque Nacional del Puracé, Laguna San Rafael, 3300 m, 6 X 1984, *Lozano 4704*, COL! WIS! Coconuco-Paletará, 3150 m, 25 VIII 1961, *Uribe 3809*, COL! P! US! Volcán Puracé, 3000 m, 7 XI 1948, *Yepes Agredo 126* US! **Nariño**: Volcán Doña Juana, 3200 m, 16 XII 1944, *Ewan 16621*, AMES! US! (Illustration voucher: the specimen mounted on the left.) **Putumayo**: Sibundoy, 2700 m, 18 IV 1963, *Bristol 805*, AMES! **Valle del Cauca**: Río Bugalagrande, 3350-3400 m, 10 IV 1946, *Cuatrecasas 20560*, AMES! F! US! Barragán, 3050 m, 1 VI 1992, *Colomborquídeas Escobar 5155*, AMO! **ECUADOR**: Carchi: Tulcán-Santa Bárbara, 3500 m, 21 VI 1983, *Bohlin 605*, GB! Tulcán-El Carmelo, 3100-3200 m, 24 II 1974, *Harling 12240*, AMES! GB! Ibid. 2650-3200 m, 6 IV 1985, *Hirtz 2469*, MO! Tulcán-Maldonado, 3150-3250 m, 17 V 1973, *Holm-Nielsen 5612*, AAU! Julio Andrade-El Carmelo-Tulcán, 2900-3200 m, 7 VIII 1989, *Van der Werff 10968*, MO! QCNE! **Imbabura**: Otavalo-Apueta, 2400 m, 5 XII 1976, *Davis 313*, AMES! S! **Sucumbios**: Playón de San Francisco, 3300-3700 m, 28 XII 1980, *Holm-Nielsen 29868*, AAU!

OTHER RECORDS: COLOMBIA: Quindío: Barragán, 1200 m, *Duque 1517*, photo, AMO!

EPIDENDRUM GRATISSIMUM (Rchb.f.) Hágsater & Dodson

OTHER SPECIMENS: COLOMBIA: Tolima: Ruiz, 3000 m, *Schmidtchen s.n.*, W 11164! Manizales and Fresno, 2400 m, 9 IV 1956, *Renzi 8641*, RENZ! **Nariño**: Tuquerrés, 3000-3600 m, *Lehmann 6839*, AMES! NY! Pasto, 2600 m, 1851, *Triana 585*, P! Puruguai, 2600 [m], VI 1850, *Triana 1371* (pro parte, this collection number includes several specimens which correspond to various species, dates and localities) W! Tracing AMES 38326! Encano, 11.000 ft, 1 XI 1946, *Foster 2059*, AMES x2! **ECUADOR**: **Azuay**: Chiquintad-La Labrada, 3000 m, 7 VIII 1986, *Betancourt 383*, QCA! Sayausí, 3200 m, 3 III 1985, *Harling 22701*, GB! **Cañar**: Molobog a Molon-Ventana, 3200-3400 m, 14 VIII 1987, *Zak 2441*, QCA! **Carchi**: Tulcán-Maldonado, 2900-3100 m, 2 III 1974, *Harling 12401*, GB! **Imbabura**: Cuicocha, 3150 m, 4 V 1980, *Holm-Nielsen 23252*, AAU! Cuicocha, 3000-3200 m, 29 II 1992, *Peñafiel 959*, QCNE! MO! **Loja**: Loja-Saraguro, 3500 m, 12 III 1989, *Freire 1314*, QCA! NY! S of Saraguro, 3400 m, 12 III 1989, *Øllgaard 91027*, QCA! QCNE! **Morona Santiago**: Gualaceo-Limón, 2800-3300 m, 2 IV 1974, *Harling 13116*, AMES! GB! E of Gualaceo, ca. 3000 m, 3 III 1977, *Luer 1505*, SEL! Napo: Oyacachi, 3110 m, 27 IV 1996, *Báez 64*, QCA! (Illustration AMO!) Papallacta, 2700 m, 17 VI 1983, *Dodson 13979*, MO! SEL! Ibid. 3100-3300 m, 16 VI 1968, *Harling 10338*, AMES! GB! Cordillera Guacamayo, 2000 m, V 1984, *Hirtz 1776*, MO! Papallacta, 3200 m, 5 VI 1973, *Holm-Nielsen 6797*, AAU! Papallacta, 2370 m, 13 V 1986, *Huttel 755*, QCA! QCNE! Papallacta, *Mille 109*, AMO! (Illustration voucher) QPLS! Oyacachi, 3150 m, 25 IV 1996, *Ståhl 2331*, QCA! **Pichincha**: Pichincha, 27 III 1930, *Benoist 2459*, P! Quito-Santo Domingo, 3200 m, 8 III 1985, *Dodson 15659*, QCA! QCNE! RPSC! Pasachoa, I 1984, *Hirtz 1513*, AMO! Quito-Santo Domingo, 3000 m, 10 III 1976, *Luer 803*, SEL! **Tungurahua**: Pataté to Llanganates, 3000 m, 12 IV 1985, *Hirtz 2496*, MO! S of Baños, 9000 ft, 24 IV 1985, *McCook 1121*, QCA! QCNE!

OTHER RECORDS: COLOMBIA: Caldas: cerca de Manizales, 3100 m, 01 XI 1974, *Escobar 1319A*, color slide at AMO!

EPIDENDRUM HUNTERIANUM Schltr.

OTHER RECORDS: COSTA RICA: Tilarán, *Villalobos s.n.*, watercolor # 763 by R. L. Rodriguez, slide & xerox AMO! **Alajuela:** Nuevo Arenal-San Rafael Guatusos, Km 13.8 pasando Cabanga, 300 m, 26 I 1988, *Hágsater 9484*, (flowers in spirit AMO)! Ibid. 9485 (Illustration voucher, flowers in spirit AMO)! Nuevo Arenal-San Rafael Guatusos, km 13.8 pasando Cabanga, 300 m, *Hágsater 11435* (flowers in spirit AMO)! 3.5 km W of Fortuna, 2.5 Km NW of New Volcan Arenal along its sloping base, 1500 m, *Taylor 11535*, (Illustration of flower, AMO)!

EPIDENDRUM INCOMPTUM Rchb.f.

OTHER SPECIMENS: MÉXICO: Chiapas: Ocosingo, near Laguna Ocotol Grande, 950 m, 20 VIII 1954, *Dressler 1445*, AMES! MEXU! MICH! NY! US! E of Comitán, Lake Tziscaco, 1350 m, 20 VIII 1937, *Nagel sub Oestlund 6737*, AMES! SE de la Laguna Ocotol Grande, 1100 m, col. 18 VII 1989, pressed 16 VII 1990, *Soto 5703*, AMO! E de Tziscaco camino a Bonampak, 1360-1390 m, col. 23 VII 1989, pressed 28 VI 1992, *Soto 5769*, AMO! Las Margaritas, Cerca de Nuevo Momón, 1500-1600 m, col. 9 VIII 1992, pressed 26 II 1999, *Soto 7194*, AMO! **GUATEMALA: Alta Verapaz:** Cobán, 1862, *Salvin 410*, K! **COSTA RICA: Alajuela:** San Pedro de San Ramón, 1050-1075 m, 19 VII 1925, *Brenes (149)1350*, AMES! Ibid. 12 XI 1926, *Brenes (59)1540*, AMES! La Palma de San Ramón, 1050-1100 m, 17 IV 1927, *Brenes (3)1589*, AMES! Poás-Vara Blanca, pressed 17 XI 1982, *Hágsater 6801*, AMO! Ibid. pressed 2 I 1985, AMO x2! Ibid. pressed 22 XII 1985, AMO! Ibid. pressed 7 X 1982, *Hágsater 6802*, AMO! Poasito, 22 XI 1971, *Valerio s.n.*, USJ! **Cartago:** Rt. #2, Km 32.5, 1500-2100 m, col. 18 III 1982, pressed II 1983, *Hágsater 6679*, AMO! Río Birricito y Río Parrúas, 1450 m, I 1936, *Skutch 2431*, AMES! 1983, *Hágsater 6710*, AMO! Las Concavas, 14 XII 1946, *Lankester s.n.*, SEL! La Estrella, *Lankester 425*, AMES! **Heredia:** Los Cartagos, 2000 m, 28 XII 1931, *Kupper 389*, M! Vara Blanca, 2000 m, 17 XI 1992, *Morales 587*, USJ! Vara Blanca de Sarapiquí, between Poas and Barba volcanoes, 1950 m, II 1938, *Skutch 3525*, AMES! S! US! **Puntarenas:** Osa, Cerro Anguciana, 950-1150 m, 10 XII 1993, *Grayum 10656*, INB! **San José:** El General, 880 m, I 1936, *Skutch 2431*, AMES! **PANAMA: Chiriquí:** Area round the Lakes, Volcán, 1300 m, 26 XII 1977, *Folsom 7201*, MO! Cuesta de Piedra-Finca Milagro, pressed 3 VII 1981, *Hágsater 6506*, AMO! Cerro Punta to Boquete, 19 IV 1979, *Hamel 7085*, AMO! MO! Cuesta de Piedra, 20 III 1978, *Robt. sub OIC 2040*, SEL! Bugaba, Santa Clara, 28 II 1985, *van der Werff 7278*, AMO x2! **Coclé:** Valle de Antón, Cerro Gaital, pressed 3 II 1983, *Hágsater 6367*, AMO! (Illustration voucher; Xerox MÉXU!) San Felix at Chiriquí-Bocas del Toro, on Cerro Colorado, 5000-5500 ft, 3 V 1975, *Mori 5806*, MO!

OTHER RECORDS: MÉXICO: Chiapas: Without locality, 2 X 1977, *Rodriguez sub Portillo s.n.*, illustration and spirit, AMO! Comitán de Dominguez, Chacalcoacán, 1800 m, 24 X 2004, *Cisco s.n.*, digital photo, AMO! SE de la Laguna Ocotol Grande, 1100 m, col. 18 VII 1989, pressed 16 VII 1990, *Soto 5703*, flower card, spirit and illustration, AMO! E de Tziscaco camino a Bonampak, 1360-1390 m, col. 23 VII 1989, pressed 28 VI 1992, *Soto 5769*, flower card, slide and illustration, AMO! Las Margaritas, Cerca de Nuevo Momón, 1500-1600 m, pressed 26 II 1999, *Soto 7194*, spirit, AMO! **GUATEMALA: Alta Verapaz:** Cobán, 1862, *Salvin 410*, photo, AMES! **COSTA RICA: Alajuela:** Poás-Varablanca, *Hágsater 6801*, slide, AMO! Ibid. pressed 4 XI 1982, *Hágsater 6802*, flower card, slide, spirit and illustration, AMO! **Cartago:** Rt. #2, Km 32.5, 1500-2100 m, col. 18 III 1982, pressed II 1983, *Hágsater 6679*, slide, AMO! **PANAMA: Chiriquí:** Cuesta de Piedra-Finca Milagro, pressed 3 VII 1981, *Hágsater 6506*, slide, AMO! **Coclé:** Valle de Antón, Cerro Gaital, 1000 m, 30 I 1983, *Hágsater 6367*, flower card, slide and spirit, AMO!

EPIDENDRUM INTERMIXTUM Ames & C.Schweinf.

OTHER SPECIMENS: COSTA RICA: Two miles SW of Agua Caliente, 5400 ft, 1 IV 1928, *Stork 1320*, AMES! **Alajuela:** Río Toro, 1550 m, 3 IX 1972, *Lent 2818*, F! Carrizal de Alajuela, 3 X 1935, *Valerio 1049*, CR! **Cartago:** La Fuente, 1200 m, 22 XI 1925, *Alfaro s.n.*, US! Ibid. 2 XI 1925, *Alfaro 218*, US! Río Grande de Oroquí at Tapantí, 1400-1600 m, 5 XII 1975, *Baker 195*, F! Tapantí, 1300-1700 m, 23 X 1983, *Chacón 1555*, CR! Cerro Grande, *Endres s.n.*, W 5506! Ibid. *Endres 576*, W! Reserva de Tapantí, 1300-1800 m, 1 XI 1982, *Gómez 18797*, AMO! MEXU! MO! P. N. Tapantí, 1300 m, 20 VII 1994, *Jiménez 1594*, AMO! Valle del Reventazón, 1440 m, 21 VII 1994, *Lépez 506*, INB! **Guanacaste:** 3 km de Santa Elena hacia Las Nubes, 1370 m, pressed 8 XII 1988, *Hágsater 9449*, AMO! **Heredia:** Cuesta Montaña Azul, 1600 m, 10 VIII 1975, *Uttley 2870*, F! 15 km N de Varablanca, 30 VIII 1967, *L. Rodríguez 1091*, USJ! **San José:** Desamparados, San Cristobal Sur, 1850 m, 26 IX 1996, *García-Cruz 930*, AMO! Ibid. *García-Cruz 934*, AMO x5! Filo de la Cordillera de Talamanca, 1 km al Sur de Casa Mata, 1950 m, pressed 13 X 1983, *Hágsater 6315*, AMO! (Illustration voucher).

OTHER RECORDS: COSTA RICA: Without locality, 17 XI 1962, colored illustration, *Rodríguez 27*, xerox, AMO! **Heredia:** 15 km N de Varablanca, 30 VIII 1967, based on R. L. Rodríguez 1091, colored illustration *Rodríguez 553*, xerox, AMO!

EPIDENDRUM IONOPHYLLUM Ortiz

OTHER SPECIMENS: ECUADOR: without locality, Hort. Ecuagenera, collected by Hugo Medina Troyani, *Hágsater 13840*, AMO! (Illustration voucher).

OTHER RECORDS: COLOMBIA: Valle del Cauca: Anchicayá, *P. Ortiz V. s.n.*, a slide, HPUJ! Duplicate: AMO!

EPIDENDRUM LACTEUM Dressler

OTHER SPECIMENS: PANAMÁ: Veraguas: Escuela Agrícola Alto Piedra above Santa Fé to Continental Divide; 900-1100 m, 15 V 1981, *Sytsma 4724*, MO! (Illustration voucher)

EPIDENDRUM LLOENSE (Lindl.) Hágsater & Dodson

OTHER SPECIMENS: ECUADOR: Imbabura: Slopes of Volcan de Cotacachi, 3060 m, 3 IX 1944, *Drew E-92*, AMES! Road to Intag valley above Apuela, 2800 m, 4 V 1980, *Holm-Nielsen 23280*, AAU! Between Otavalo and Apuela, 2000-2500 m, 8 II 1979, *Luer 3904*, SEL! **Pichincha:** Km 25-35, between Quito and Chiriboga, 2400-2800 m, 14 III 1963, *Dodson 2374*, RPSC! SEL! Km 65 Quito to Santo Domingo on old road near Chiriboga, 1600 m, 3 VII 1967, *Dodson 3814*, SEL! Ibid. 26 VII 1967, 3839, SEL! Ibid. 3130 m, 15 V 1981, *Dodson 10852*, QCA! RPSC! SEL! (Illustration voucher). Road Quito-Chiriboga, near San Juan, ca. 3300 m, 5 III 1972, *Hartling 11128*, GB! Ibid. 11129, GB! Ibid. Road Quito-Mindo, near Nono, ca. 2700 m, 6 III 1972, 11137, AMES! GB! Near Quito, *Hartweg 1421*, G! Andes, August 1864, *Jameson s.n.*, E! Ibid. Quitensian Andes, 1855, 22, AMES! Valle Lloensi, propé urban Quito, 21 I 1856, *Jameson 50*, AMES! E! G! Ibid. VI 1857, 297, QPLS! Ibid. Pichincha, 9000 ft (3000 m), 786, E! LE! W! Vía San Juan Chiriboga, 2760-3210 m, 9 VI 1979, *Jaramillo 7098*, AAU! QCA! QCNE! Río Saloya (between Volcán Atacaso and Volcán Pichincha), 1830-2430 m, 22 IV 1943, *Steyermark 52528*, AMES! F! Saloya Road, 6 III 1942, *Spinosa 29*, AMES!

THE GENUS *EPIDENDRUM* Part 5

ICONES ORCHIDACEARUM 8. 2006

OTHER RECORDS: ECUADOR: Rolfe, R. A., 1915. *Diothonea lloensis*, in *Icones Plantarum* ser. 5, 1: pl. 3012. An illustration and description, with no data as to what specimen the illustration is based on.

EPIDENDRUM MACDOUGALLII (Hágsater) Hágsater

OTHER SPECIMENS: MEXICO: Oaxaca: NE de San Antonio, Chimalapa, 1300 m, 8 IV 2001, *Gallardo 2498*, MEXU! Santa Lucía Mecaltepec, 27 II 1954, *MacDougall s.n.*, MEXU! Santa María Chimalapa, Chocomanantlán, NNE de San Pedro Tapanatepec, 1100 m, 14 III 1985, *Maya 1357*, AMO! MEXU! MO! N del Cerro de la División, ca. de la Frontera con Chiapas, 1400 m, 5 III 1986, *Maya 2969*, MEXU! San Miguel Chimalapa, NNE de San Pedro Tapanatepec, 1100 m, 2 IV 1986, *Maya 3074*, MEXU! Camino Benito Juárez-Chocomanantlán, 1200 m, 2 V 1986, *Maya 3274*, MEXU! San Miguel Chimalapa, 17 II 1987, *Maya 4182*, MEXU! MO! Ibid. *Maya 4183*, MEXU! MO! Baul area, 4400 ft, 29 III 1973, *Pollard 1-190-26*, MEXU! Colonia Baul, 4400 ft, 4 III 1970, *Rowley 1-190-76*, MEXU! "Quebrachal" 8 km al NE del Rancho La Gloria, pie de Cerro Baúl, 1425 m, 27 III 1984, *Torres 4853*, AMO! MEXU! SEL! Santiago Lachiguirí, NO de Lachiviza, 31 III 1991, *Torres 13914*, AMO x2! MEXU! Cintalapa, SE de Colonia Rodolfo Figueroa, 23 V 1985, *Villaseñor 797*, MEXU! **Chiapas:** Cintalapa, SE of Cerro Baul on the borders with State of Oaxaca, 1600 m, 21 IV 1972, *Breedlove 24705*, CAS! Ocozocoautla de Espinoza, Laguna Bélgica, 800 m, 15 V 1987, *Cabrera 44*, AMO! CAS! N of Ocozocoautla road to Apipac, 900 m, 8 VII 1977, *Croat 40525*, CAS! MEXU! MO! Mirador La Coyota, 26 III 1952, *Enriquez 7491*, MEXU! Ocozocoautla, pressed 8 V 1985, *Hágsater 7908*, AMES! AMO! (illustration) K! Near Monserrate, 1700 m, 6 III 1952, *Matuda 26068*, MEXU! Parque Educativo Laguna Bélgica, NW de Ocozocoautla, 950 m, 4 VII 1978, *Montufar s.n.*, AMO x2! Km 2 del Camino Ocozocoautla-Laguna Bélgica, detrás del INI, 900 m, 19 IV 1989, pressed 16 VI 1989, *Soto 5428*, AMO! Ibid. pressed 5 VI 1989, *Soto 5436*, AMO! Ibid. pressed 28 VII 1989, *Soto 5437*, AMO x2! Ibid. pressed 26 I 1992, *Soto 5437*, AMO! Ibid. pressed 30 VI 1989, *Soto 5439*, AMO! Ibid. *Soto 5442*, AMO x2! Ibid. *Soto 5444*, AMO! Ocozocoautla, Rancho la Ensenada, 850 m, III 1986, *Zepeda s.n.*, AMO x2!

OTHER RECORDS: MEXICO: Oaxaca: Colonia Baúl, IV 1966, *Rowley s.n.*, Pollard Notes, AMO! **Chiapas:** Km 5, Mal paso road, V 1971, *McDougall s.n.*, Pollard Notes, AMO!

EPIDENDRUM MYRIANTHUM Lindl.

OTHER SPECIMENS: Without data, Hort. SEL, *Hágsater 5085*, AMO x4! (illustration) **MEXICO: Chiapas:** Reserva El Triunfo, Polígono 1, 2100 m, 21 XI 1990, *Heath 1323*, AMO! Ibid. 1900 m, 22 XI 1990, *Heath 1350*, AMO! Mt. Ovando near Escuintla, 16 VII 1940, *Matuda s.n.*, MICH! Mirador La Coyota, 26 III 1952, *Miranda 7491*, MEXU! **GUATEMALA:** Without data, K! Without locality, 10 IX 1977, *Hágsater 5378*, AMO x3! Without locality, *Lindley s.n.*, W 49557! **Alta Verapaz:** Tactic, 1 VIII 1977, *Hágsater 5370*, AMO x2! Ibid. *Hágsater 10875*, AMO x2! (Illustration voucher) Tactic, Santa Cruz, 1 I 1978, *Tuerckheim 46*, W! **Baja Verapaz:** W of San Miguel Chicaj, 15 VII 1970, *Harmon 3190*, ENCB! MO! **Chiquimula:** Río Grande (Río Concepción) on Socorro Mountain, SE of Concepción de las Minas, 1200-1700 m, 4 XI 1939, *Steyermark 31141*, F! **Guatemala:** Guatemala, 1500 m, 11 VIII 1948, *Renz 4824*, RENZ x2! **Santa Rosa:** Volcan Jumaytepeque, 2000 m, 1 VIII 1892, *Heyde 3852*, US! **EL SALVADOR: San Salvador:** La Palma, Refugio Río Nonuapa, 1000 m, 3 IV 1969, *Hamer 80*, MO! Cerro Montecristo-Los Planes, 2000 m, 25 VI 1976, *Hamer 574*, SEL! **HONDURAS: Comayagua:** Tegucigalpa highway, 4500 ft, 17 IX 1932, *Edwards 246*, K! **Francisco Morazán:** Cerro Grande, 7 VIII 1947, *Molina 477*, F x2! Barranco de Zambrano, 1300 m, 29 VIII 1955, *Molina 5801*, F! El Zamorano, bought in Tegucigalpa market, 780-900 m, 3 VIII 1947, *Standley 11811*, F! Zamorano, 800 m, 14 VI 1954, *Valerio 3092*, F! Tegucigalpa, 936 m, 29 VII 1945, *Valerio 3157*, F x2! **Intibucá:** N of Marcala, 1640 m, 21 VI 1994, *Davidse 35190*, AMO! **Ocoatepeque:** Between El Agua Caliente and Machuca, 2000 m, 4 IX 1975, *Molina 31085*, F! MO!

EPIDENDRUM NEOVIRIDIFLORUM Hágsater

OTHER SPECIMENS: ECUADOR: Bolívar: Guaranda-Facundo Vela, 3000 m, III 1984, *Hirtz 1570*, MO! Ibid. 3200 m, 19 II 1991, *Whitten 91070*, QCNE! **Cotopaxi:** Km 80 Quevedo-Latacunga, 3110 m, 9 V 1981, *Dodson 10677*, QCA! RPSC! SEL! Camino Quevedo-Latacunga, km 96, flores morado borgoña, 3240 m, 11 VI 1983, *Hágsater 7606*, AMO! (Illustration voucher) Ibid. flores amarillo ocre, 3300 m, 7609, AMO! **Imbabura:** Reserva Ecológica Cotacachi-Cayapas, Laguna de Cuicocha, 3350-3400 m, 1 II 1992, *Peñafiel 943*, MO! **Pichincha:** Saloya y Santo Domingo, 1800 m, 4 II 1949, *Acosta 12061*, F! ca. Km 30 Quito-Santo Domingo, 2900 m, 5 III 1974, *Dodson 5410*, SEL! (Illustration at AMO!) Monte Coturco, *Mille s.n.*, QPLS [Paratype]! Río Saloya Valley, 5 km SW of (below) San Juan, 3300 m, 3 II 1985, *Molau 1124*, GB! QCA!

EPIDENDRUM PACHYTEPALUM Hágsater & E.Santiago

OTHER SPECIMENS: COSTA RICA: Cartago: P. N. Chirripó, 2400-3200 m, 29 VII 1996, *Alfaro 618*, MO! Between Cerro de la Muerte and El General, 7000 ft, 28 VI 1932, *Stork 3057*, AMES! **Limón:** Talamanca, Sabanas de Dúrika, Río Kuk y Cerro Karo, 2450 m, 19 X 1989, *Chacón 580*, USJ! **San José:** Cuericí, 2200-2700 m, 18 IX 1995, *Gamboa 301*, MO! P. N. Chirripó, 2600 m, 18 VIII 1995, *Picado 253*, MO! **PANAMA: Chiriquí:** NW of Cerro Punta, 7200 ft, 11 II 1978, *Hammel 1429*, MO! Cerro Punta, 2200, 26 I 1985, *van der Werff 6431*, MO!

OTHER RECORDS: COSTA RICA: Without locality, at 10000 ft, *L. Glicenstein #5*, color photographs, AMO!

EPIDENDRUM PANSAMALAE Schltr.

OTHER SPECIMENS: MEXICO: Chiapas: La Trinitaria, Montebello National Park, 1300 m, 16 XI 1972, *Breedlove 29646*, CAS! La Independencia, 12 km from Laguna Tziscaco on road to Ixtcan, 19 X 1974, *Breedlove 38938*, AMO! La Trinitaria, Dos Lagos above Santa Elena, 1170 m, 14 X 1970, *Breedlove 53483*, CAS! Ibid. 15 XII 1981, *Breedlove 56174*, CAS! (Illustration voucher) **NICARAGUA: Boaco:** San José de los Remates, 1100-1140 m, 4 X 1984, *Moreno 24930*, MO! **Granada:** Volcán Mombacho, 950-1150 m, 1 X 1977, *Douglas 4359*, Ibid. 1100-1220 m, 14 XI 1978, *Douglas 10808*, MO! Ibid. 800-1000 m, 26 IX 1976, *Neill 885*, MO! **Jinotega:** Bocaycito, 28 XII 1973, *Atwood 6910*, MO! **Matagalpa:** La Carlota, carretera Matagalpa-Tuma, 1400-1500 m, 1 X 1975, *Gómez 6274*, CR! Cerro Carlota, 1250-1300 m, 23 X 1982, *Moreno 18167*, AMO! MO! La Verona, 900-1000 m, 23 X 1982, *Moreno 18222*, MO! San Luis, 1100-1200 m, 23 X 1982, *Moreno 18253*, MO! **COSTA RICA: Alajuela:** Monteverde, Río Peñas Blancas, 800 m, 23 X 1988, *Bello 472*, CR! Reserva de San Ramón, 19 X 1984, *Dressler 101*, USJ! Monteverde, Estación Eladio's, 820 m, 2 X 1990, *Obando 189*, MO! Region of Zarcero, 4500 ft, 18 XI 1937, *Smith 498*, F! **Cartago:** La Fuente, 1200 m, 2 XI 1925, *Alfaro 217*, US! **Puntarenas:** San Vito, camino a Cerro Paraguas, 1100 m, 2 X 1996, *Sánchez 462*, AMO! **San José:** Río Clara Valley (bajo La Hondura) below La Palma NE of San Jerónimo, 1000-1200 m, 23 X 1975, *Burger 9368*, F! U! Braulio Carrillo; Zurquí Station, 1550 m, 20 IX 1990, *Ingram 543-A*, SEL! Alto de la Palma, 31 X 1969, *Robinson s.n.*, USJ! **PANAMA: Chiriquí:** Chiriquí, *Zahn/Veitch 29*, W!

OTHER RECORDS: GUATEMALA: Izabal: Cerro San Gil, ca. 700 m, 29 X 1994, *Dix 7476*, spirit, AMO!

EPIDENDRUM PARVIEXASPERATUM (Hágsater) Hágsater

OTHER SPECIMENS: COSTA RICA: Without locality, 8000 ft, *Endres 366*, W! **Cartago:** E of Villa Mills, Cordillera de Talamanca, 2600-2750 m, 18 II 1986, *Grayum 6551*, MO! Cañon del Guarco, 2400-2500 m, 18 II 1985, *Hágsater 6359*, AMO! CR! MO! SEL! *Ibid.* 2200 m, 7 III 1986, *Hágsater 8173*, AMES! AMO x4! F! K! M! MEXU! NY! *Ibid.* *Hágsater 8174*, AMO! P! US! Santa Clara, *Torres 176*, F! **Guanacaste:** Monteverde, N Las Nubes, 1300 m, 19 I 1989, *Haber 8986*, AMO! **PANAMA:** **Chiriquí:** Las Cumbres near Cerro Punta, 20 II 1971, *Croat 13691*, MO! Boquete to Volcán Barú, 2600 m, 18 V 1976, *Croat 34831*, MO! S of Cerro Respingo, 1500-2500 m, 18 III 1977, *D'Arcy 10800*, AMO! Cerro Respingo and Cerro Pavón-Fila Pavón, 8400-10,000 ft, 2 IV 1979, *D'Arcy 12902*, MO! Alto Boquete, 7400-8600 ft, 9 IV 1979, *Hammel 13121*, MO! E slope of Volcán Barú, 10,200 ft, 15 III 1979, *Hammel 6441*, MO! N of Volcán Barú, 9500 ft, 3 IV 1979, *Hammel 6694*, MO! Chiriquí Volcano, 2450 m, *Killip 3584*, AMES! Boquete, Volcán de Chiriquí, 9500 ft, 13 II 1940, *Leny 1343*, F! Potrero Muleto, Volcán Chiriquí, 3500-4000 m, 13 VII 1940, *Woodson 475*, MO!

EPIDENDRUM PENTADACTYLUM Rchb.f.

OTHER SPECIMENS: MÉXICO: Chiapas: La Sepultura, *Reyes 6775*, MEXU! **COSTA RICA:** El Pizote (San Rafael de Tres Ríos), 5 XI 1937, *Aguilar 8*, CR! F! Without locality, 21 II 1924, *Lankester 774*, AMES! Río Virilla, press La Unica, 1100 m, *Pittier 357*, BR! G! San Marcos, 1 III 1993, *Tonduz 7695*, BR! **Alajuela:** Concepción (San Ramón); Naranjo, 1200 m, 1 I 1922, *Brenes 247*, CR! La Palma de San Ramón, 1190 m, 14 XI 1924, *Brenes 2375(376)*, AMES! San Ramón, 3500 ft, 2 II 1940, *Hunnewell 15686*, AMES! Bordes del Río Segundo, Barba, 1150 m, 4 XII 1940, *León 406*, CR! F! Carrizal, 1500 m, 12 III 1950, *León 2318*, USJ! Zarcero, 5500 ft, 6 I 1938, *Smith H23*, AMES! F! *Ibid.* 8200 ft, 24 II 1938, *Smith PC203*, AMES! F! *Ibid.* 2000 m, 23 III 1938, *Smith H530*, AMES! Palmira, 5600 ft, 9 XII 1937, *Smith H674*, AMES! F! MO! San Luis de Zarcero, 1700 m, 4 XI 1938, *Smith H1317*, AMES! Zarcero, 1850 m, 9 XI 1938, *Smith H1349*, AMES! San Ramón, 1500-1600 m, 1 V 1913, *Tonduz 17630*, G! **Cartago:** Tablazo, 1 XII 1908, *Brade 1293*, AMES! Cartago, *Endres s.n.*, W 5533! Santa María, above Cartago, *Endres s.n.*, W 31374! Irazú, 5000-9000 ft, 1893, *Lankester 476*, AMES! Along the Río Reventado, north of Cartago, 1460-1650 m, 26 II 1926, *Standley 49642*, AMES! Naranjo, 5800 ft, 4 V 1928, *Stork 1868*, MO! **Heredia:** Chemin du Desengaño, près Santa Barbara, 21 XII 1889, *Pittier 1676*, BR! US! **San José:** Tarbaca, 1600 m, 17 I 1925, *Alfaro s.n.*, US! Río Tiribi near San José, 10 II 1924, *Alfaro 33977*, US! *Ibid.* 11 II 1924, *Alfaro 33979*, AMES! Cerro San Rafael, 1300 m, 1 III 1888, *Biolley 78*, F! Desamparados, 1145 m, *Biolley 1049*, AMES! BR! US! Guatuso, Patarrá, 1300 m, *Chacón 1823*, AMO! MO! CR! Santa María de Dota, 18 XI 1984, *Dressler 178*, USJ! Cerros de Aserri cerca de Tarbaca, 1800 m, 20 XII 1982, pressed 8 II 1984, pressed 7 IV 1983, *Hágsater 7006*, AMO! *Ibid.* pressed 8 II 1984, *Hágsater 7007*, AMO x3! (Illustration voucher.) CR! USJ! *Ibid.* pressed 18 II 1985, *Hágsater 7007*, AMO x2! Aserri, 5000 ft, 3 II 1940, *Hunnewell 16587*, AMES! Al borde del Río Parrita, entre el Empalme y Santa María Dota, 1880 m, 19 XII 1963, *Jiménez 1427*, CR! San José, 1300 m, 28 XII 1881, *Lehmann 1794*, G x2! US! Río Parrita Chiquita, 5 km N of Santa María de Dota, 2000 m, 10 X 1976, *Lent 3923*, AAU! CR! MEXU! MO! Cerro Pico Blanco, S of Escazú, 1950 m, 12 XII 1974, *Lent 3983*, CR x2! F! Cerros de Escazú, ca. 2000 m, 21 I 1909, *Merz 667*, SEL! Naranjo around Santa María, 5800 ft, 4 V 1928, *Stork 1868*, AMES! Between Aserri and Tarbaca, 1200-1700 m, 6 II 1925, *Standley 41372*, AMES! US! Santa María de Dota, 1500-1800 m, 14 XII 1925, *Standley 41705*, AMES! *Ibid.* *Standley 42107*, AMES! *Ibid.* *Standley 42438*, AMES! *Ibid.* 26 XII 1925, *Standley 43349*, AMES! US! Valley of Copey, 2300 m, 28 XII 1977, *Todzia 128*, CR! SW of El Empalme on road to Santa María de Dota, 2000 m, 14 X 1978, *Todzia 481*, CR! Desamparados, 8 XII 1889, *Tonduz 1498*, BR!

OTHER RECORDS: MEXICO: Chiapas: Sepultura, *Reyes 6775*, illustration, AMO! **COSTA RICA:** Without locality, *R. Lucas Rodríguez, 307*, xerox of illustration, AMO! *Ibid.* *R. Lucas Rodríguez, 439B*, xerox of illustration, AMO! **San José:** Cerros de Aserri, cerca de Tarbaca, 1800 m, 20 XII 1982, *Hágsater 6948*, spirit, AMO!

EPIDENDRUM PINNIFERUM C.Schweinf.

OTHER SPECIMENS: COSTA RICA: Puntarenas: Cordillera Brunqueña, Fila de Sísica, 1150 m, pressed, 6 VI 1983, *Hágsater 6982*, AMO! **San José:** San Isidro del General, camino a Dominical, 16 III 1972, *Lankester 1371*, USJ! **PANAMA:** **Chiriquí:** El Volcán, pressed 9 XI 1982, *Hágsater 6443*, AMO! (Illustration voucher; Xerox copy, MEXU!) Cuesta de Piedra-Finca Milagro, Chiriquí, 800-1000 m, pressed 8 VI 1984, *Hágsater 6502*, AMO! *Ibid.* pressed 2 VIII 1984, AMO!

OTHER RECORDS: Without locality, *Escobar s.n.*, color slide, AMO! **PANAMÁ: Chiriquí:** El Volcán, pressed 9 XI 1982, *Hágsater 6443*, flower card, AMO! Cuesta de Piedra-Finca Milagro, Chiriquí, 800-1000 m, 15 III 1981, *Hágsater 6501*, spirit, AMO! *Ibid.* *Hágsater 6502*, slide, AMO! **Coclé:** Penonomé; Tambo; hort. France, 1 VII 1997, *Nourissat s.n.*, color photo [immaculate, light-colored form], AMO!

EPIDENDRUM PSEUDOSCHUMANNIANUM Fowlie

OTHER SPECIMENS: PANAMÁ: Coclé: Near La Mesa, 11 II 1971, *Croat 13340A*, MO! Road to Coclecito from Penonome, 450 m, 11 X 1978, *D'Arcy 12267*, MO! El Valle bought in market, *Ebinger 974*, ENCB! F! MO! US! La Mesa at El Valle de Antón, 28 IV 1977, *Folsom 2829*, MO! N of El Copé, 700-850 m, 2 X 1977, *Folsom 5701*, MO! Cerro Gaital, Valle de Antón, subiendo por La Mesa, 1100 m, pressed 3 IV 1984, *Hágsater 6403*, AMO! (Illustration voucher.) Mercado del Valle de Antón, 25 III 1981, *Hágsater 6414*, AMO! Above El Valle and beyond La Mesa near base of Cerro Gaital, 900 m, 23 II 1988, *McPherson 12142*, AMO! Cerro Pilón, above El Valle de Antón, 2000 ft, 27 III 1969, *Porter 4368*, MO! UC! Cerro Caracoral, N of El Valle, 2700-3200 ft, 12 III 1981, *Systma 3739*, MO! **Panamá:** El Llano to Carti road, 13.8 km north of the Panamerican Highway, 5 X 1977, *Folsom 5768*, MO!

EPIDENDRUM PTOCHICUM Hágsater

OTHER SPECIMENS: COLOMBIA: Nariño: Reserva Natural La Planada, 1800 m, 3 VIII 1992, *Paz 341*, CUV! **Valle del Cauca:** Bosque La Playa, Madroñal-Córdoba, 700 m, 9 VIII 1996, *Paz 602*, AMO! **ECUADOR: Azuay:** Manta Real, Río Patul, 600-1100 m, 11 VII 1991, *Yáñez 256*, F! **Carchi:** Maldonado-Chical, 1300 m, 30 IV 1993, *Hágsater 11286*, AMO! **Esmeraldas:** Lita, 670 m, 11 VII 1990, *Hágsater 10629*, AMO! *Ibid.* *Hágsater 10735*, (spirit, illustration) AMO! **Los Ríos:** Centinela, crest of ridge of Montañas de Ila, 600 m, 8 XII 1986, *Dodsón 9084*, AMO! QCA! *ibid.* 26 VI 1985, *Dodsón 15868A*, MO! **Pastaza:** Mera, 1100 m, 25 V 1968, *Harling 10140*, GB! **Pichincha:** W of Paso San Juan, 2070 m, 8 XII 1986, *Hágsater 9024*, (spirit, illustration) AMO! **Tungurahua:** Mera-Baños, 18 km arriba de Río Negro, 1270 m, 10 XII 1986, *Hágsater 9102*, AMOx3! MO! **PERU: Amazonas:** Rodríguez de Mendoza, Mariscal Benavides, Michina, 1420-1700 m, 2 IX 1998, *Vásquez 25404*, AMO! USM! **Tumbes:** Zarumilla, Pampas de Hospital, 250-600 m, 20 X 1988, *Díaz 3092*, NY! USM!

OTHER RECORDS: ECUADOR: Zamora-Chinche: Cerro Colorado S of Nambija, *Hirtz 8002*, slide, AMO!

EPIDENDRUM PUMILUM Rolfe

OTHER SPECIMENS: COSTA RICA: Without locality, 12 XI 1925, *Alfaro 222*, US! Without locality, *Endres s.n.*, W13621! Cult. San José, pressed 25 III 1994, *Jiménez sub Hágsater 11455*, AMO! **Alajuela:** Vara Blanca, Volcán Poas, 2100 m, 23 XI 1949, *Allen 5387*, CASI F x2! Palmira de Alfaro Ruiz, 1850 m, 4 VII 1925, *Brenes (122)1326*, CR! Palmira de Zarcero, 4800 ft, 14 VIII 1934, *Smith A146*, F x2! Ibid. 5700 ft, 25 XI 1937, *Smith A637*, F! **Cartago:** Tablazo-Coralillo, *Endres s.n.*, W! Río Grande de Orosí, 9 VIII 1986, *Hágsater 8355* AMO! **Heredia:** Slopes of Volcán Barba, ca. 2300-2500 m, 1 I 1974, *Almeda 2230*, F! El Espino (San José de la Montaña), *Brenes 257*, CR! F! Braulio Carrillo National Park, Barva Station, 2600 m, 26 XI 1994, *Fernández 1431*, MO! Ibid. 2450-2650 m, 11 X 1990, *Ingram 597*, MO! Monte de la Cruz, 1700 m, 30 X 1940, *León 289*, CR! F! Ibid. 15 X 1971, *Robinson 10736*, US! **San José:** Carpintera, 1700 m, 4 IX 1909, *Brade 1087*, AMES! Cerros de la Carpintera, cerca de Tres Ríos, 20 XII 1982, *Hágsater 6970*, AMO! (Illustration voucher). **PANAMA: Bocas del Toro:** Cerro Colorado, above the Copper Mine, ca. 1600 m, VI 1986, *Luther 1063*, MO! **Chiriquí:** Cerro Horqueta above Boquete, 1780-1840 m, 2 I 1975, *Cochrane 6261*, F! MO! WIS! Cerro Hornito, S facing slope approached from Los Planes de Hornito, 1750-1900 m, 22 IX 1987, *Croat 67939*, MO! Near Fortuna Dam, on slopes of Cerro Hornito above Los Planes, 1300 m, 7 XII 1987, *McPherson 11847*, MO!

OTHER RECORDS: COSTA RICA: Without data, *Gleichenstein*, photo, AMO! **Alajuela:** Palmira de Alfaro Ruiz, 9 IX 1966, *Weston s.n.*, illustration *Rodríguez 432*, xerox AMO! **Heredia:** San José de la Montaña, 7 XII 1964, *Mata s.n.*, illustration, *Rodríguez 279*, xerox AMO! **San José:** Cerros de la Carpintera, cerca de Tres Ríos, 31 X 1983, *Hágsater 6970*, spirit and flower card, AMO!

EPIDENDRUM SALPICHLAMYS Hágsater & E.Santiago

OTHER SPECIMENS: COSTA RICA: Alajuela: Monteverde: quebrada El Brillante, 1300-1400 m, 7 VI 1977, *Dryer 1554*, CR! F! Cerro Azahar, 1400-1500 m, 14 V 1983, *Liesner 15564*, CR! MO!

EPIDENDRUM SCABRUM Ruiz & Pavón

OTHER SPECIMENS: ECUADOR: Loja: Loja-Zamora, 2800 m, 1 XI 1961, *Dodson 1476*, SEL! Ibid. 2500 m, 16 VIII 1983, *Jaramillo 5811*, QCA! Loja-Saraguro, Loma del Oro, 2800, 23 VIII 1983, *Jaramillo 5886*, QCA! Saraguro-Loja, towards Fierro Urcu, 3120-3390 m, 07 XII 1994, *Jørgensen 1301*, QCNE! **Tungurahua:** 2 km E of Baños, 2100 m, 2 VI 1985, *Stein 2938*, MO! **Zamora Chinchipe:** Loja-Zamora, at the pass, 2900 m, 12 II 1985, *Harling 21962*, GB! QCA! Loja-Zamora, beyond pass, 2700 m, 30 XII 1981, *Madison 7419*, QCA! RPSC! Parque Nacional Podocarpus, 2900 m, 17 I 1989, *Madsen 85551* QCA! QCNE! **PERU: Huánuco:** Carpish, 2800 m, 17 VII 1964, *Hutchison 5926*, AMES! (Illustration voucher). Ibid. 5927, UC! Huallaga, *Weberbauer 6828*, AMES! **Pasco:** Oxapampa, Huancabamba, Misericordia trail, Lanturachi-Sta. Barbara, 2300-3000 m, 3 VII 1985, *Foster 10549*, SEL!

OTHER RECORDS: PERU: Without locality, *Leon 3015*, xerox illustr., AMO! **Junin:** Satipo; above Calabazas, 2850 m, 19 X 1995, *Bennett 3917*, USM (xerox illustr. AMO!)

EPIDENDRUM SCHWEINFURTHIANUM Correll

OTHER SPECIMENS: EL SALVADOR: San Salvador: Boquerón Interior, 1800 m, 16 XI 1968, *Hamer 180*, JAUM! Cerro Montecristo, 2000 m, 1 VIII 1978, *Hamer 408*, MO! **HONDURAS: Francisco Morazán:** Tegucigalpa, El Hatillo, (col. Dodson, hort. SEL 20-74-29), pressed 4 X 1980, *Hágsater 4351*, AMO! (Illustration voucher) Ibid. pressed 27 IX 1981, AMO! Ibid. pressed 7 XII 1984, AMO x2! Ibid. pressed 20 VIII 1987, AMO! **Lempira:** Parque Nacional de Celaje, 1800 m, 17 XI 1991, *Paul 1147*, MO! Ibid. 1865 m, 10 XI 1991, *Thomas 40*, MO! **Ocatepeque:** Cerro El Capitán, 10 km E de Belén Gualcho, 1500-2000 m, 15 IV 1977, *Nelson 4005*, MO!

OTHER RECORDS: EL SALVADOR: Volcán San Salvador, *Hamer 408*, color photo, AMO! **HONDURAS: Francisco Morazán:** Tegucigalpa, El Hatillo, (col. Dodson, hort. SEL 20-74-29), pressed 1 III 1976, *Hágsater 4351*, flower card, AMO!

EPIDENDRUM STORKII Ames

OTHER SPECIMENS: COSTA RICA: Without locality, *Endres s.n.*, W! Ibid., pressed 5 XII 1982, *Hágsater s.n.*, AMO x5! Ibid. pressed 8 II 1984, AMO! Ibid. *Oersted s.n.*, W! Ibid. *Standley 35791*, F! Comprada a un Campesino, 1 VII 1933, *Viñas 200*, CR! Cultivado en Alajuela, 5 VII 1935, *Valerio 1042*, F! La Palma, on the road to La Hondura, 1500-1700 m, 17-18 VII 1923, *Maxon 8116*, US! **Alajuela:** Alto de la Palma, along road above Bajo La Hondura, 15 I 1983, *Barringer 3150*, SEL! San Pedro, 8 VIII 1924, *Brenes 1021*, NY! La Paz de San Ramón, 29 VI 1925, *Brenes 3316*, NY! San Jerónimo, pressed 9 VI 1982, *Hágsater 6649*, AMO! pressed 3 II 1983, AMO! San Jerónimo-La Hondura, pressed 13 VI 1982, *Hágsater 6653*, AMO! (Illustration voucher) ENCB! Ibid. pressed 18 VI 1982, AMO x2! Ibid. pressed 27 VI 1983, AMO! CR! Entre San Jerónimo y La Hondura, pressed 3 VII 1982, *Hágsater 6668*, AMO! Ibid. pressed 24 IX 1984, AMES! AMO x2! SEL! US! Alfaro Ruiz, San Luis de Zarcero, 1 IV 1938, *Smith 565*, AMES! K! Alfaro Ruiz, Palmira, 2200 m, 10 VIII 1938, *Smith 1090*, AMES! La Palma, 1700-2000 m, VII 1895, *Tonduz 9669*, BR! Road between Zarcero and Quesada, 1000-1400 m, 6 V 1978, *Todzia 255*, CR! **Cartago:** La Fuente, 1200 m, 14 XII 1924, *Alfaro s.n.*, US! 1.5 miles east of Cachi, 10.2 miles NE of Junction at Paraiso, 5 II 1979, *Croat 47070*, MO! SEL! Instituto Interamericano, 29 IV 1977, *DeWolf 206*, AMES! Valle de Estrella, 1 VII 1971, *Gómez 3628*, CR! Río Cariblanco, preparado de materila cultivado 3 VII 1982, *Hágsater 6688*, AMO x3! UAMIZ! Ibid. pressed cult. 24 IX 1984, AMO x4! QNCE! Río Birricito y Río Parruás, 1450 m, pressed 29 III 1985, *Hágsater 6774*, AMO x3! SEL! Vertiente Atlántica Oriental, Río Purisil, 1350 m, *Hágsater 6933*, MEXU! Rt. 2, ca. Km 35, 1750 m, col. 28 enero 1988, *Hágsater 9518*, AMO! Ibid. 9521, AMO! Las Concavas, 5000 ft. (1530 m), *Hunnell 16583*, AMES! 10 km S of Cartago by air, along confluence of Río Empalme and Río Estrella, 1 km S of Palo Verde by road Palo Verde is 1.5 km S of Pan American Hwy on road La Estrella, 1450 m, 21 IV 1983, *Liesner 14550*, MO! Ibid. 14552, MO! Along and beyond the Río Navarro, *Luteyn 658*, AMES! Vicinity of Cartago, 1500 m, 19 IV 1906, *Maxon 73*, NY! US! Turrialba, La Pastora, entre Santa Cruz y Capellades, ca.. 1600 m, 27 XI 1992, *Morales 605*, CR! Turrialba, Santa Rosa, 31 I 1982, *Ocampo 3439*, CR! Turrialba, Crucero a Torito, subiendo desde San Antonio, 1320 m, 18 III 1994, *Salazar 5381*, AMO x7! Vicinity of Cartago, *Standley 33328*, AMES! F! US! Turrialba, ca. 1425 m, *Standley 33341*, AMES! MICH! US! El Muñeco, south of Navarro, ca. 1400 m, 8 II 1924, *Standley 33761*, AMES! Ibid. *Standley 33959*, AMES! Cerro La Carpintera, 1500-1850 m, 1 II 1924, *Standley 34271*, AMES! US! Cerro La Carpintera, 1500-1850 m, 1 II 1924, *Standley 35745*, AMES! F! US! Dulce Nombre, ca. 1400 m, 27 II 1924, *Standley 35791*, AMES! US! Hills near Navarro Valley, 6000 ft (1836 m), 1 V 1928, *Stork 1725*, AMES! MO! La Carpintera, 5000 ft. (1530 m), *Stork 2056*, AMES! Ibid. 6000 ft., *Stork 2117*, AMES! La Carpintera, 5000 ft, *Stork 2121*, AMES x2! Dulce Nombre, 4500 ft, 19 VI 1932, *Stork 2931*, AMES! On Costa Rica Highway # 230, between Trinidad and Cariblanco, 1600-1700 m, 25 VII 1975, *Utlley 2715*, CR! F! El Retiro,

Santa Cruz de Turrialba, 1400 m, I 1941, *Valerio 1289*, CR! F! La Estrella, ca. 12 km south of Cartago, to the east of the Pan Am Hwy, ca. 1500 m, 20 V 1979, *Walter 79098*, CR! *Ibid.*, 79117, CR! Vicinity of La Congreja about 10 km south of El Tejar, Cordillera de Talamanca, 1750-1850 m, 1 II 1963, *Williams 24109*, CR! F! **Heredia**: Volcán Barba, 2000 m, 26 V 1965, *Hatheway 1370*, US! Along upper reaches of Río Manearron, S slopes of Barba Volcane, 1840 m, 3 IV 1969, *Lent 1542*, AMES! CR! F! Vara Blanca, 7 VI 1987, *Rivas 13*, US! San Isidro, Yerba Buena, NE of San Isidro, 2000 m, 22 I 1926, *Standley 49081*, AMES! US! **San José**: La Palma area northeast of San Jeronimo, above de La Hondura valley, 1500 m, 27 V 1968, *Burger 5395*, F! NY! Cerro Daser (Fila Central), 2000 m, 30 VIII 1971, *Burger 8170*, F! MEXU! Zona de Las Nubes de Coronado, 7 VI 1987, *García 19*, US! Desamparados, San Cristobal Sur, ca. de 2 km al O, 1750 m, 26 IX 1996, *García-Cruz 925*, AMO x7! 200 m al S de Casa Mata, ca. 1800 m, 10 III 1986, *Hágsater 8363*, AMO x2! (Illustration) El Copey, Near La Finca La Cima, above Los Lotes, N of El Copey, 2100-2400 m, 21 XII 1925, *Standley 42576*, AMES! US! Zurquí, 2000-2500 m, 13 II 1926, *Standley 48308*, AMES! U! *Ibid.* *Standley 48333*, AMES! US! *Ibid.* *Standley 48337*, AMES! About 0.7 Km N of Tarbaca on road to Aserri, ridge E of road, essentially at divide, 1860-1880 m, 26 VIII 1979, *Stevens 13679*, F! MO x2! About 15 Km SW of El Tejar, 2000 m, 20 VIII 1967, *Taylor 4628*, NY! Santa Rosa du Copey, 1800 m, 1 V 1898, *Tonduz 12213*, G x2! On C.R. 222, ca. 2 Km west of the Interamerican Highway in Talamanca Mountain, 1400-1600 m, 17 IV 1975, *Utley 2213*, SEL! **PANAMA**: **Chiriquí**: Boquete, Volcan de Chiriquí, 7000 ft., 21 VII 1938, *Davidson 885*, AMES! F! US! Gualaca, Camp Hornito, Fortuna dam site, to Cerro Fortuna, 1200-1500 m, 16 VIII 1976, *Dressler 5426*, AMO! Cocle: W slope and summit of C. Valle Chiquito, 700-800 m, 25 VII 1935, *Siebert 514*, AMES! US!

OTHER RECORDS: PANAMÁ: **Chiriquí**: Gualaca, Camp Hornito, Fortuna dam site, to Cerro Fortuna, 1200-1500 m, 16 VIII 1976, *Hágsater 4603*, Illustration AMO! xerox copy ENCB MEXU!

EPIDENDRUM TENUICAULE F. Lehm. & Kraenzl.

OTHER SPECIMENS: ECUADOR: **Azuay**: W of Sayausí, 3200-3400 m, 6 I 1981, *Balslev 1581*, NY! Angas, 3000 m, 28 XII 1976, *Boeke 652*, SEL! Cruz de Carbón, 3500 m, 11 IX 1983, *Boysen 45073*, AAU! QCA! Road Cuenca-Molleturo, 3500-3700 m, 8 VIII 1983, *Bohlin 777*, GB! Páramo de Tinajillas, S of Cuenca, 11000-11500 ft., 17 March 1945, *Camp E-2287*, NY! S! Laguna de Llaviucu, 3100-3200 m, 23 IX 1995, *Clark 1507*, MO! QCNE! *Ibid.* 1508, QCNE! Cuenca-Loja, 3000 m, 18 XII 1957, *Dodson 259*, SEL! Cuenca to Molleturo, 3400 m, 24 VII 1982, *Dodson 13341*, SEL! US! *Ibid.* ca. 2800 m, 21 VII 1985, *Dodson 15936*, AMES! MO! QCNE! (Illustr. AMO!) MO! QCA! Quinpas, 3000-3200 m, 11 VIII 1978, *Jaramillo 513*, AAU! QCA! QCNE! Páramo Culebrillas, 3170-3644 m, 2 XI 1979, *Jaramillo 1426*, QCA! Cuenca-Molleturo, 16 VIII 1987, *Jorgensen 61858*, QCA! Zorrogucho, 3450 m, 16 III 1984, *Luer 9519*, SEL! Gualaceo-Limón, km 13, 3200-3300 m, 4 III 1985, *Harling 22717*, GB! Las Cajas, above Mihuir, 2700-2900 m, 26 IV 1985, *Harling 24618*, GB! QCA! Sayausí, 3600 m, 24 XI 1988, *Harling 26123*, QCA! *Ibid.* 26130 QCA! 10-20 km S of Cumbe, Páramo de Tinajillas, 3000-3100 m, 3 II 1982, *Ibid.* 20100, AMES! GB! Between Jarata and La Paz, 65 km from Cuenca on road to Loja, 3400 m, 6 III 1985, *Ibid.* 22844, GB! QCA! Cajas, 3500 m, 20 XI 1981, *Madsen 36570*, AAU! Sayausí, 3600 m, 2 III 1985, *Molau 1467*, GB! Sayausí, 3000 m, 20 VII 1939, *Pendland 1086*, AMES! QCNE! Río Machangara, 3300-3400 m, 17 IX 1967, *Sparre 18563*, S! (Illustr. AMO!) NW Cuenca, 3000-3100 m, 18 IX 1967, *Ibid.* 18634, S! **Chimborazo**: Tilelac, 22 VI 1939, 3300 m, *Pendland 506*, AMES! E. Cordillera de Riobamba, 3300 m, IX 1935, *Rimbach 600*, AMES! F! NY! **Tungurahua**: Valley of Baños, *Hall s.n.*, K! Mt. Tungurahua, VII 1858, *Spruce 5460*, K x2! **PERU**: **Piura**: Las Hurainjas, 3500 m, 20 II 1981, *Davis 701*, F! Ayabaca, 2000, 20 XII 1968 m, *Stumpfle 2*, AMES!

EPIDENDRUM TETRACEROS Rchb.f.

OTHER SPECIMENS: COSTA RICA: **Cartago**: Cartago, 5 I 1881, without collector, W 15780! Vulcan de Irazú, without collector, W 13133! above Cartago, Irazú, 8000 ft, *Endres s.n.*, W 31381! **Puntarenas**: Cordillera de Talamanca, Río Bella Vista and Sitio Cotón (Cotonsito), 1800-2200 m, 11 III 1984, *Davidse 25549*, AMO! CR! MO! Foothills of the Cordillera de Talamanca, trail between Tres Colinas and Cerro Bekom, 2300 m, 28 III 1984, *Davidse 26180*, AMO! CR! MO! **San José**: Near Quebradillas, about N of Santa María de Dota, 1800 m, 24 XII 1925, *Standley 43063*, AMES x3! US! **PANAMA**: **Chiriquí**: Aguacatal, 1 IV 1971, *Butcher s.n.*, Herb. Dressler! Boquete, Volcán Chiriquí, 7500 ft., 13 VI 1938, *Davidson 949*, F! above Sabana de El Salto, on the trail to Camp Aguacatal, E slope of Chiriquí Volcano, 1500-1750 m, 10 III 1911, *Maxon 5265*, BM! NY! US! Near El Boquete, 10 III 1911, *Piltier 3115*, AMES! US!

OTHER RECORDS: COSTA RICA: cult. J. & L. Orchids, 16 IV 1984, *Hágsater 7694*, spirit, slides (Illustration voucher), AMO!

EPIDENDRUM VERRUCOSUM Sw.

OTHER SPECIMENS: MEXICO: **Chiapas**: La Margaritas road to La Soledad, 1700 m, 15 IX 1974, *Breedlove 3931*, CAS! Pokolum just out of Tenejapa center, 6 VIII 1964, *Breedlove 6975*, AMES! CAS! ENCB! MEXU! Tenejapa, 7500 ft, 13 VII 1965, *Breedlove 10911*, CAS! F! MEXU! US! Lagos de Montebello, NE of La Trinitaria, 1300 m, 23 X 1971, *Breedlove 21224*, CAS! *Ibid.* 4 X 1972, *Breedlove 27566*, CAS! La Trinitaria, Lagunas de Montebello National Park, 1300 m, 31 VIII 1974, *Breedlove 36930*, CAS! La Independencia, Las Margaritas to Campo Alegre, 1600 m, 1 VII 1981, *Breedlove 51288*, CAS! Paraje Yashanal, 1980 m, 13 VII 1989, *Breedlove 57464*, CAS! San Juan Cancun, Ch'enul ich, 5200 ft, 4 VII 1990, *Brett 37*, MO! *Ibid.* 14 VIII 1991, *Brett 295*, CAS! SW de Ocosingo antes de Oxchuc, ca. 2000 m, 2 V 1997, *Carnevali 4408*, AMO! El Cipresal, 1750 m, 3 VIII 1997, *Castillo 1460*, AMO! Oxchuc, 2000 m, 11 VIII 1994, *Chamé 257*, MEXU! La Trinitaria, 1450 m, 8 VIII 1985, *Espejo 1976*, MEXU! Balaxil, N de Oxchuc, 3400 m, 12 VI 1988, *Gómez 224*, CAS! MEXU! MO! Ocosingo, 1765 m, 6 X 1984, *Huít 2350*, MEXU! Mt. Tacaná, 1000-2000 m, 1 VIII 1938, *Matuda 2506*, MEXU! Escuintla, Mt. Ovando, 1250-2370 m, 01 VII 1938, *Matuda 2538*, CAS! F! K! LL! MEXU! MICH! SEL! US x3! US! *Ibid.* *Matuda 2539*, CAS! F! MEXU! US x2! Escuintla, 7 VII 1938, *Matuda 6089*, MEXU! Tenejapa, 1940 m, 11 VII 1995, *Mejía 554*, MEXU! *Ibid.*, Río Yashanal, 1700 m, 10 VII 1982, *Méndez 4419*, MO! Entre Ocosingo y Oxchuc, ca. 1800 m, 26 VI 1996, *Soto 7983*, AMO x2! Camino Las Margaritas-Cruz del Rosario, 1540 m, 19 VII 1999, *Soto 9352*, AMO! Carretera Comitán-La Trinitaria-Lagunas de Montebello, 23 IX 1983, *Téllez 7168*, MEXU! **GUATEMALA**: Santa Cruz, 4800 ft, 1 XII 1888, *Tuerckheim 334*, BR! W! **Alta Verapaz**: Cobán, 1350 m, 1 XI 1907, *Turckheim 1999*, E x2! US! W! **Chiquimula**: Esquipulas, 3500 ft, 2 III 1982, *Behar sub Hágsater 5777*, AMO x3! (Illustration voucher) Montaña Nonojá, E of Camotán, 600-1800 m, 11 XI 1939, *Steyermark 31678*, F! **Huehuetenango**: Cerro Victoria, Sierra de los Cuchumatanes, 800 m, 27 VII 1942, *Steyermark 49611*, F! Between San Andres and San Marcos, Sierra de los Cuchumatanes, 1300-1500 m, 3 IX 1942, *Steyermark 51839*, F! **Quiché**: Nebaj, 5700 ft, 22 XI 1934, [*Schweinfurt*], AMES 45798! **BELIZE**: Toledo: Lower slopes of Richardson Peak, Maya Mountains, 300-620 m, 4 III 1987, *Davidse 31973*, MO! **EL SALVADOR**: Cerro Montecristo-Los Planes, 2000 m, 1 III 1975, *Hamer 455*, F! **HONDURAS**: **Comayagua**: Cerro El Maneadero from San José de Los Planes, 1550-1750 m, 14 III 1993, *Evans 1388*, MO x2! La Cocona, E of Siguatepeque, 1500 m, 11 III 1970, *Molina 25508*, BM! F! US! Siguatepeque, 1080-1400 m, 14 II 1928, *Standley 56192*, F! US! **Francisco Morazán**: San Antonio, ca. 1200 m, 4 XII 1946, *Caceres 12220*, F! MICH! MO! San Antonio de Occidente, 1 VII 1946, *Standley 1015*, F! El Jicarito, se dice traída de Tabla Grande, 900-1300 m, 27 XII 1951, *Standley 29427*, F! Zamorano, 800 m, 16 X 1945, *Valerio 3529*, Fx2! **Lempira**: Don Tomás, Celaque National Park, 1865 m, 10 XI 1991, *Thomas 39*, MO! **El Paraíso**: Between Manzaragua and Lucas, 1400 m, 24 XI 1966, *Molina 18746*, F! G! US! **NICARAGUA**: **Estelí**: Cerro El Fraile, 1200 m, 20 XI 1980, *Douglas 18497*, MO! Cerro Tomabú, 1100-1400 m, 5 X 1982, *Moreno 18503*, MO! **Matagalpa**: El Ocotal, between

THE GENUS *EPIDENDRUM* Part 5

ICONES ORCHIDACEARUM 8. 2006

Matagalpa and Santa María de Ostuma, 1300 m, 9 III 1967, *Molina* 20425, F! Cerro La Piedra del Jicote, 980-1100 m, 22 II 1983, *Moreno* 20446, MO x2! E of Matagalpa, 1000 m, 11 II 1978, *Neill* 3164, MO! Finca Santa María de Ostuma, 1300-1500 m, 30 XI 1973, *Williams* 42741, F! **JAMAICA**: Without locality, *Hooker s.n.*, P x2! Without locality, *Lavallee s.n.*, P! Without locality, *Purdie s.n.*, K! W49710! Without locality, 24 X 1927, *Russell* 5111, UC x2! Without locality, *Wright s.n.*, BM! Catherine's Peak, 3500 ft, 23 I 1888, *Eggers* 3554, E! G x2! LE! P x2! Near Cinchona, 5000 ft, *Harris* 7542, BM! Clydesdale, 20 I 1900, *Harris* 7819, BM! F! Cinchona, Blue Mountains, 2 VI 1915, *Harris* 15101, UC! Ibid. 6 III 1915, *Harris* 15365, ILL! Ibid. 16 III 1915, *Harris* 15506, UC! Blue Mountain Peak, 13 XII 1890, *Hitchcock s.n.*, MO! Cinchona, *H.S.* 25696, WIS! Vicinity of New Haven Gap, 1673 m, *Maxon* 962, AMES! Blue Mountains, Portland, Chart Falls, ca. 2600 m, *Morley* 865, BM! Blue Mountains, 900 m, 21 I 1961, *Renz* 9848, RENZ! Blue Mountains, 3750 ft, 12 XII 1890, *Rothrock* 476, F! Bethany, 1 X 1847, *Wolle s.n.*, CM x2! Royal Mountains, 1 VI 1849, *Wolle s.n.*, CM! Fairfield, *Wullschlaegel* 1089, W 49732! **Manchester**: Bellefield to Banana Ground, 2600 ft, 4 XII 1960, *Adams* 8364, UW! Ibid. 2900 ft, 10 XI 1963, *Adams* 12656, UW! **St. Thomas**: Whitefield Hall, Blue Ridge Mountains, 4200 ft, 20 III 1974, *Burch* 7167, MO! Vicinity of Abbey Green, 4000 ft, 7 I 1956, *Stearn* 80, BM x2! P!

OTHER RECORDS: **JAMAICA**: Without data, 1825, W 49733! (illustration published in Lodd, Bot. Cab. 11: t. 1084. 1825.) **MEXICO**: Chiapas: Tenejapa, 7500 ft, 13 VII 1965, *Breedlove* 10911, cult. G. E. Pollard, 24-VII 1965, flower & photos, AMO! ibid. cult. E. W. Greenwood in Oaxaca 11 V 1975, slide of flower, AMO! **EL SALVADOR**: Santa Ana: Cerro Montecristo, 1900 m, *Hamer* 121, xerox of description and illustration, AMO! **NICARAGUA**: Jinotega: Jinotega, 3950 ft, *Heller* 8651, xerox of illustration and description, AMO!

UNCONFIRMED RECORDS: **COLOMBIA**: "N. Grenada", *Lobb s.n.*, K! tracing of illustration mounted on: W 49731! [Lindley cited *Purdie* from both Jamaica and N. Grenada; we have not located any *Purdie* specimen from N. Grenada. Could Lindley have meant the *Lobb* specimen?] Colombia, cited by Cogniaux, no specimen given. **CUBA**: without data, cited by Acuña. [No specimen was cited, and no other specimen has been recorded.]

EPIDENDRUM VULGOAMPAROANUM Hágsater & LSánchez

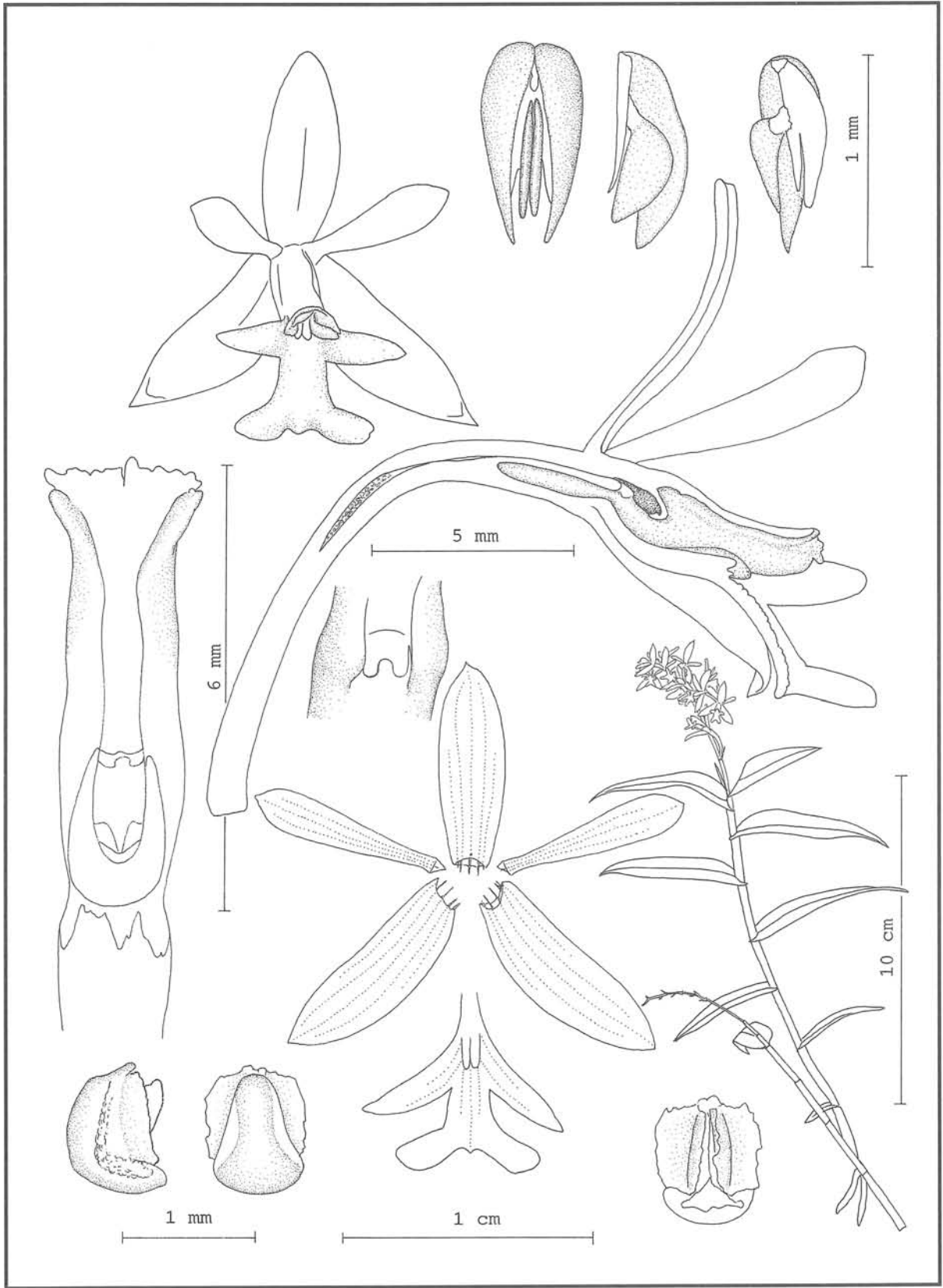
OTHER SPECIMENS: **COSTA RICA**: Without data, *Lucas Rodríguez* 150, USJ! **Alajuela**: San Ramon, Vertiente Pacifica, entre Rio Grande de Atenas y Balsa, 400-485 m, 20 XII 1982, *Hágsater* 6963, AMO x2! El Coyolar, 240 m, 01 IV 1924, *Standley* 40074, F! Balsa de Atenas, ca 3 km SE of Atenas, 400 m, 17 VII 1975, *Utley* 2638, F! **Guanacaste**: San Rafael de Nandayure, 20 V 1992, Without collector, USJ! Nicoya, 360 m, 04 IV 1997, *Zúñiga s.n.*, USJ! Cañas, 21 XII 1969, *Daubenmire* 464, F! **Guanacaste**: Taboga, 16 VI 1977, *McDiarmid s.n.*, SEL! Taboga, 29 VI 1977, *McDiarmid* 956, SEL! Between Liberia and Bagaces, ca. 50 m, 05 IX 1961, *Weber* 6152, AMES! **Puntarenas**: Palmar Norte de Osa, 0 m, 18 I 1958, *Allen* 5795, F! SEL! Puerto Quepos, Jaco (carretera a Pueblo Nuevo), 6 X 1984, *Dressler* 61, USJ! Punta Quepos, 0-80 m, 21 I 1987, *Grayum* 7982, CR! MO! Cascajal 30-100 m, 05 VII 1949, *Holm* 261, DH! Playa Bonita, Burica Peninsula, 5 m, 28 XI 1972, *Lent* 3088, F! Puerto Quepos, Quepos to Manuel Antonio, 30 m, 2 I 1990, *Merz* 567, CR! Sierpe, 0-100 m, 02 VIII 1979, *Todzia* 653, CR (x3)! **San Jose**: Valle del General, San Isidro, ca. 800 m, 09 III 1986, *Hágsater* 8264, AMO (x4)! Pérez Zeledón, Alto San Juan, San Isidro, 600-800 m, 28 XII 1981, *Ocampo* 3428, CR! Entre Punta Salsipuedes y Punta Río Claro, P.N. Concorvado, *Soto* 3457, CR! **PANAMA**: Cult. Coronado, 06 IX 1981, *Hágsater* 6390, AMO! (Illustration voucher, flowers in spirit). **Chiriquí**: Camino Volcán Concepción, Finca Hato Rey, 11 III 1982, *Hágsater* 6450, AMO! David-Santiago, Km 362 (San Felix), 50 m, 23 VIII 1982, *Hágsater* 6451, AMO! Cuesta de Piedra, Between Concepción and Volcán, 1000 m, 9 IX 1976, *Luer* 1161, SEL! Foot hills east of city, 0 m, *Powell* 249, AMES! MO! Vicinity of Rio Tinta, along main highway, 11 VIII 1937, *Woodson* 408, MO! **Panama**: Chepo, 1 XII 1933, *Paul* 352, US! "La Chorrera" West of the Canal, 0 m, *Powell* 304, AMES! **Veraguas**: Isla de Coiba, road to hot springs from main camp, 100 ft [30 m], 20 X 1979, *Antonio* 2218, MO! Rio Trinidad, 01 VII 1961, *Dwyer* 1322, MO! Isla de Coiba, 17 VIII 1961, *Dwyer* 1603, MO! Road to Santa Fe, 15 km from Santiago, 150 m, 17 VII 1976, *Sullivan* 432, MO!

OTHER RECORDS: **COSTA RICA**: Without data, *Lucas Rodríguez* 150 (Illustration, xerox, AMO!) **Puntarenas**: Cantón de Aguirre, Parque Nacional Manuel Antonio, unos kilometros al sur del pueblo de Quepos, *Pupulin*, plate 50 (Illustration, xerox copy AMO!).

EPIDENDRUM WALLISII Rchb.f.

OTHER SPECIMENS: Without locality, *Wallis s.n.*, W 3792! Ibid. *Wallis s.n.*, W 3794! Ibid. *Wallis* 197, W 50042! Ibid. *Wallis s.n.*, W 50043! **COSTA RICA**: Without locality, 3000 ft, 1867, *Endres s.n.*, W x3! **Alajuela**: Reserva Biológica Monteverde, Río Peñas Blancas, 800 m, 30 III 1989, *Bello* 776, CR! MO! Ibid. 850-900 m, 28 II 1990, *Bello* 1963, MO! SW San Isidro, Río Peñas Blancas, 600-650 m, 25 III 1985, *Haber* 1482, MO! Upala, Bijagua, El Pílon, 700 m, 17 XI 1987, *Herrera* 1327, CR! Cariblanco, 800 m, 15 III 1950, *León* 2364, CR! Laguna María Aguilar, 780 m, 28 III 1969, *Lent* 1523, F! **Heredia**: Sarapiquí, seguramente de Puerto Bajo, 4 V 1959, *Without collector*, CR! Cariblanco, R. Jenny, pressed 28 VI 1986, *Hágsater* 8427, AMO! (Illustration voucher.) Puerto Viejo de Sarapiquí, 500 m, *Horich s.n.*, MO! Ibid. 24 VI 1962, *Horich s.n.*, UC! Ibid. 1 VI 1964, *Horich s.n.*, UC! Ibid. 1 VII 1964, *Horich s.n.*, UC! San Miguel, Sarapiquí, 1 III 1967, *Weston s.n.*, USJ! **Limón**: San Rafael de la Marina de San Carlos, 2 IV 1972, *Ocampo s.n.*, USJ! **PANAMA**: **Darién**: Cerro Sapo, 2500 ft, 3 II 1978, *Hammel* 1281, MO! Parque Nacional Darién, Serranía del Cerro Sapo, 400-800 m, 25 XI 1990, *Herrera* 783, MO! **Panamá**: Top of Cerro Jefe, 9 VI 1977, *Folsom* 3619, MO! Cerro Jefe, 7 VII 1977, *Folsom* 4182, MO! Cerro Jefe, Altos de Pacora, E of Cerro Azul, 800-1000 m, 5 I 1975, *Gentry* 13440, MO! Cerro Campana, 850 m, 11 III 1973, *Liesner* 624, MO! Cerro Jefe, 900 m, 30 XII 1987, *McPherson* 11926, MO! Cerro Jefe to Altos de Pacora, 23 X 1974, *Mori* 2757, MO! Cerro Jefe, 1000 m, 18 XII 1974, *Mori* 3748, MO! Cerro Jefe, 850-900 m, 7 X 1980, *Sytsma* 1400, MO! Cerro Jefe, 850-900 m, 22 XI 1980, *Sytsma* 2321, MO! Top of Cerro Jefe, 2700-3000 ft, 9 VII 1966, *Tyson* 4402, MO! Cerro Jefe, Altos de Pacora, 29 IX 1975, *Witherspoon* 8572, AMO! **COLOMBIA**: Without locality, cult. *Colomborquideas* 37, AMO! Ibid. *Wallis* 197, W 4996! **Antioquia**: Frontino road to Pontón, La Virgen, 1730 m, 13 V 1983, *Escobar* 2577A, SEL! Ibid. *Escobar* 2577B, SEL! Frontino, 1500-1800 m, 30 X 1884, *Lehmann* 8190, AMES! K! Frontino, *Wallis s.n.*, W 50044! **Chocó**: Río Sucio, Zona de Urabá, cerros del Cuchillo, 500-540 m, 27 VI 1988, *Cardenas* 2184, JAUM!

OTHER RECORDS: Without data, note and illustrations, W 50045! Without locality, *Lehmann* H657, illustration, K 4027! Without locality, Hort. Kew, photo by E. J. Wallis, K! **COSTA RICA**: Without locality, *Endres* 40, illustration, W 43559! San Miguel, Sarapiquí, 1 III 1967, *Weston s.n.*, sub R. *Lucas Rodríguez*, 477, illustration, xerox AMO! **Heredia**: Cariblanco, 18 III 1982, *Hágsater* 6687, spirit, AMO! Cariblanco, pressed 28 VI 1986, R. Jenny sub *Hágsater* 8427, flower card, AMO! Cariblanco, 21 VI 1986, *Hágsater* 8427, spirit, AMO! **COLOMBIA**: Without locality, hort. *Colomborquideas* 37, slide, AMO! **Antioquia**: Frontino, 2000 m, 21 IV 1983, *Hágsater* 7233, spirit and slide, AMO! Frontino, *Kennedy* 1622, slide, AMO! **Valle del Cauca**: Río debajo de Queremal, 800 m, 23 IV 1983, *Hágsater* 7348, spirit, AMO! Ibid. *Hágsater* 7349, spirit, AMO! Carretera Cali-Buenaventura, ca. 750 m, 16 VI 1969, *Ortiz* 214, illustration, HPUJ! xerox AMO! **ECUADOR**: **Imbabura**: Lita, 800-1400 m, *Hirtz* 7619, photo, Native Ecuadorian Orchids, 3: 637, fig. 1446. 2002.



EPIDENDRUM ABERRANS Schltr.

THE GENUS EPIDENDRUM PART 5

Plate 801

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM ABERRANS Schltr. Repert. Spec. Nov. Regni Veg. 15: 206. 1918.

Type: GUATEMALA: December 1865, *Bernoulli & Cario* Holotype: B, destroyed. Lectotype, here designated: December 1875, *Bernoulli & Cario 456*, tracing, AMES 24109! (Photograph: AMO! Xerox AMO!)

Synonyms: *Epidendrum leprosum* Schltr. Fedde Repert. Spec. Nov. Regni Veg. 19: 38. 1923. Type: COSTA RICA: La Palma, C. *Wercklé 38; 82*. Holotype: B, destroyed. Lectotype: here designated, tracing, AMES 31585! (Photograph, AMO! Xerox AMO!). *Oerstedella aberrans* (Schltr.) Hamer, Icon. Pl. Trop. 9: pl. 891. 1982.

Hierba epífita, simpodial, cespitosa; ca. 15-60 cm de alto. **Raíces** basales, carnosas, delgadas, blancas; 1-2 mm de grosor. **Tallos** sencillos, tipo caña, teretes, delgados, erectos, rectos; ocasionalmente produciendo keikis sucesivos en los entrenudos apicales; 15-50 x 0.1-0.4 cm. **Hojas** 8-16, distribuidas a lo largo del tallo, articuladas, alternas, extendidas; vaina tubular, fuertemente verrugosa; 5-40 x 1-4 mm; lámina lanceolada, ápice agudo, margen entero; 3-7.5 x 0.5-1.7 cm. **Bráctea espatácea** ausente. **Inflorescencia** apical, (del tallo maduro y de los keikis) florece una sola vez, racemosa a incipientemente paniculada, ligeramente arqueada, densa; 3-9 cm de largo; pedúnculo terete, delgado, recto; 1-3 cm de largo; ocasionalmente provisto de 1 a 2 brácteas lineares lanceoladas, acuminadas; 6-9 mm de largo; raquis terete, delgado, recto. **Brácteas florales** más cortas que el ovario, angostamente triangulares, acuminadas, gradualmente más pequeñas; 2-5 mm de largo. **Flores** 4-15, simultáneas, resupinadas, sépalos y pétalos rosados, el ápice de la columna y labelo blanco algo teñido de rosado, callo amarillo; aromáticas. **Ovario** terete, delgado, no inflado, no ornamentado, generalmente arqueado en la mitad apical; 10-16 mm de largo. **Sépalos** extendidos, libres, oblongo-elípticos, redondeados, diminutamente apiculados, 5-nervados, margen entero, 7-10 x 2.5-3 mm; los laterales ligeramente oblicuos. **Pétalos** entreabiertos, libres, linear-oblancoleados, redondeados, diminutamente apiculados, 3-nervados, margen entero; 7-9 x 1.7-2.3 mm. **Labelo** unido a la columna, 3-lobado, base truncada, margen entero; 5-6 x 8-9 mm; bicallose, los callos cortos, delgados, internamente fusionados entre sí a todo lo largo; disco desprovisto de quillas; labelo algo más ancho entre los lóbulos laterales que entre los lóbulos apicales del lóbulo medio; lóbulos laterales extendidos a 45°, rectos, oblongos, agudos, con el margen interior ligeramente oblicuo; 4 x 1.5 mm; lóbulo medio formando un istmo angosto y corto en la base, bilobado arriba, los lóbulos divaricados, subrectangulares, el ápice algo oblicuo, con un apículo diminuto en el seno; 4 x 6 mm. **Columna** corta, gruesa, ligeramente arqueada, oculta por el clinandrio largo; 6 mm de largo incluyendo el clinandrio. **Clinandrio** prominente, semitubular, sobrepasando el cuerpo de la columna, ligeramente emarginado, margen eroso. **Antera** subovoidea, con un par de alas laterales laminares, con el margen eroso, 4-locular. **Polinios** 4, tipo ala de pájaro, desiguales, el par interior de la mitad de largo que el par exterior, planos; caudículas triangulares, cortas, laminares, delgadas, lisas; sin viscidio. **Rostelo** perpendicular con respecto al eje de la columna, formando un seno amplio. **Lóbulos laterales del estigma** obsoletos. **Nectario** penetrando 1/5 del ovario, angosto, no inflado, liso. **Cápsula** no vista.

Epiphytic, sympodial, caespitose **herb.** **Roots** basal, fleshy, thin. **Stems** simple, cane-like, terete, thin, erect, straight, occasionally producing successive keikis from the apical internodes. **Leaves** 8-16, distributed throughout the stems, articulate, alternate, and spreading; sheath tubular, strongly verrucose; blade lanceolate, apex acute, margin entire. **Inflorescence** apical (from the mature stems and keikis), flowering only once, racemose to slightly paniculate, slightly arching, dense; peduncle terete, thin, straight; occasionally provided with 1-2 linear-lanceolate, acuminate bracts; rachis terete, thin, straight. **Floral bracts** shorter than the ovary, narrowly triangular, acuminate, amplexicaul, progressively smaller. **Flowers** 4-15, simultaneous, resupinate, sepals and petals pink, lip and apex of the column white somewhat tinged with pink, callus yellow; fragrant. **Ovary** terete, thin, not inflated, smooth, generally arched at the apical half. **Sepals** spreading, free, oblong-elliptic, rounded, minutely apiculate, 5-veined, margin entire; the lateral ones slightly oblique. **Petals** partly spreading, free, linear-oblancoleate, rounded, minutely apiculate, 3-veined, margin entire. **Lip** united to the column, 3-lobed, base truncate, margin entire; bicallose, the calli short, thin, fused to each other throughout; disc without keels; the lip somewhat wider between the lateral lobes than between the apical lobes; lateral lobes spreading at 45°, straight, oblong, acute, the inner margin somewhat oblique; midlobe forming a narrow, short, basal isthmus, bilobed above, the lobes spreading, subrectangular, the apex oblique, with a minute apicule in the sinus. **Column** short, thick, hidden by the very long, clinandrium-hood. **Rostellum** transverse to the axis of the column, forming a wide sinus. **Clinandrium-hood** prominent, semi-tubular, much longer than the column proper, the apex slightly emarginate, margin erose. **Anther** subobovoid, with a pair of lateral, laminar wings, margin of the wings erose; 4-celled. **Pollinia** 4, bird-wing type, unequal, the inner pair small, half as long, flat; caudicles triangular, short, laminar, thin, smooth; viscidium lacking. **Nectary** penetrating 1/5 of the ovary, narrow, smooth.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Widespread from Mexico (eastern Oaxaca and Chiapas) through Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica and Chiriquí, in Panamá. Epiphyte, 1300-2700 m altitude. Flowering from July to January.

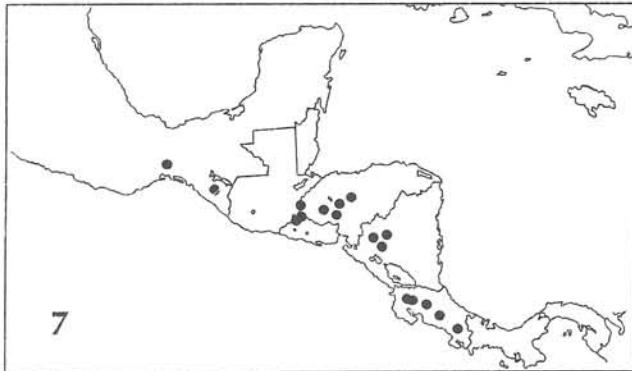
RECOGNITION: *Epidendrum aberrans* belongs to the *Oerstedella* Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is perpendicular to the axis of the column instead of parallel, forming a wide, open sinus, and without a viscidium, and the *Aberrans* Subgroup, which has small, membranaceous flowers with a prominent clinandrium-hood, unequal, bird-wing type pollinia, the inner pair much smaller than the outer pair, and the pollinia very flat and translucent. The species is recognized by the pink flowers, the white lip, with the lateral lobes oblong, acute, straight, the clinandrium-hood tubular, elongate and the bicallose callus, fused to each other throughout, with the pollinia laterally compressed, bird-wing type. *Epidendrum crescentilobum* Ames is very similar but has the lateral lobes of the lip arched upwards, and the clinandrium-hood erose, slightly emarginate; that species usually grows along the summit of the cordilleras Central and Talamanca in Costa Rica. *Epidendrum pansamalae* Schltr. has purple flowers, oblong, truncate to rounded lateral lobes perpendicular to the axis of the lip, the midlobe fan-shaped, about twice as wide as the lateral lobes, with a very short isthmus, and an apicule at the apex; margin of the clinandrium-hood limbiate.

NOTES: *Epidendrum aberrans* has been known under the name *Epidendrum centropetalum* Rchb.f. However, that name corresponds to what has been generally known as *Epidendrum centradenia* Rchb.f. (Hágsater et al., 2005). That species has very short inflorescences, pink flowers with a white spot at the base of the lip, the lateral lobes of the lip small, triangular, the midlobe two-lobed, like an inverted "V", the callus tridentate and the pollinia obovoid, subequal and laterally compressed but not acicpitose.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: Latin for deviating, abnormal, probably in reference to the very long clinandrium.

REFERENCES: Dressler R. L., 1993, *Field guide to the Orchids of Costa Rica and Panama*, Cornell University Press, p. 90. Hágsater, E., in Hammel et al., 2003, *Manual de Plantas de Costa Rica*, Missouri Botanical Garden, 3: 349. Hágsater, E., & M. A. Soto Arenas, 2005, *Transfers to Epidendrum L. From Oerstedella Rchb.f., Lankesteriana 5(1): 73*. Hamer, F., 1990, *Orchids of Central America* an illustrated field guide, *Selbyana 11 (Suppl.): pl. 537, 539*.

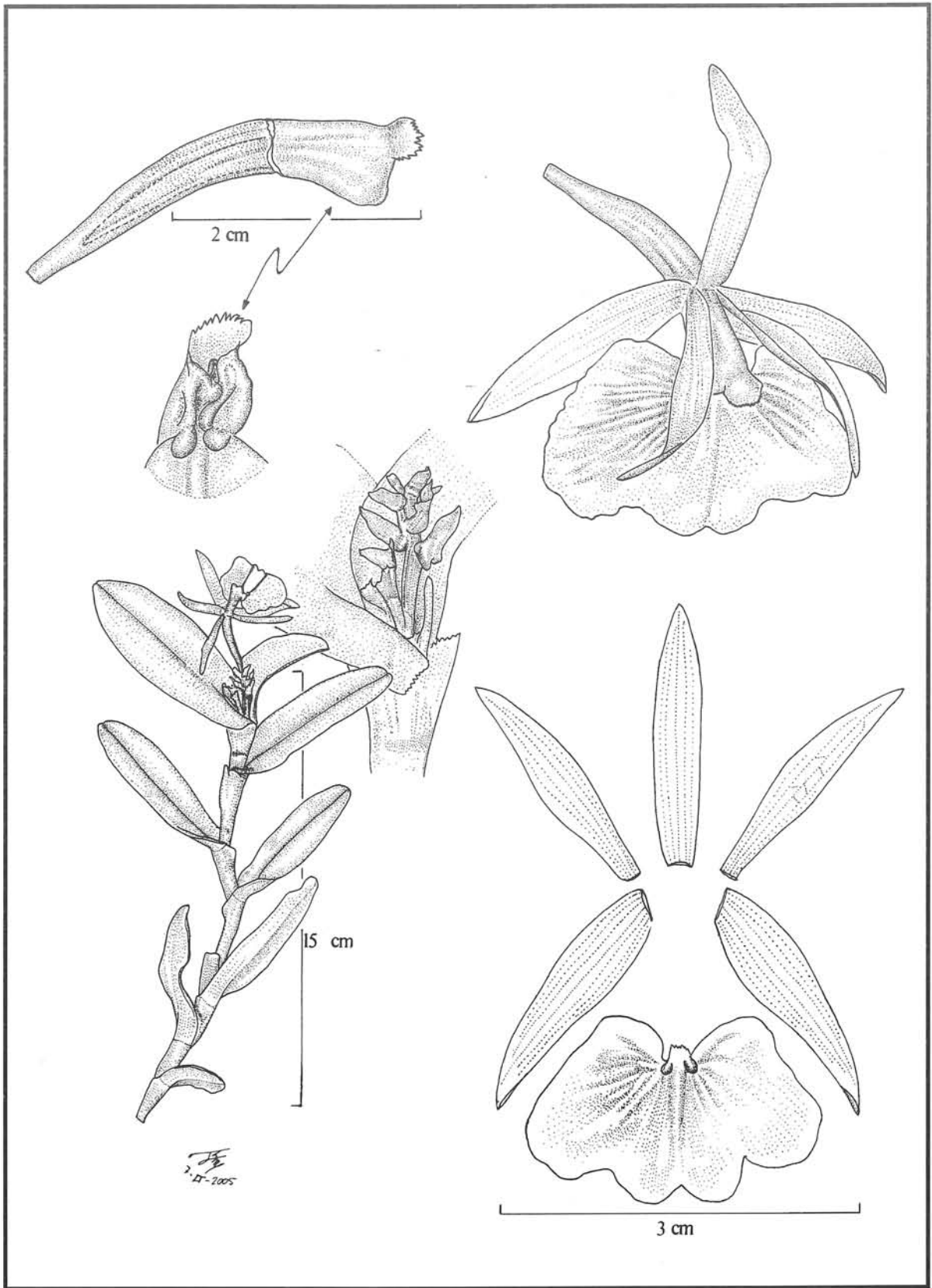


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EPIDENDRUM ACROAMPAROANUM Hágsater & L.Sánchez
THE GENUS EPIDENDRUM PART 5

EPIDENDRUM ACROAMPAROANUM Hágsater et L.Sánchez, *sp. nov.*

Type: COSTA RICA: San José: Cantón de Dota: Cordillera de Talamanca, Copey, Cerro Vueltas, 9°37'40"N 83°51'10"W, 3150 m, 21 March 1995, *J. Francisco Morales 4737*. Holotype: MO! (Illustration voucher).

Epidendrum vulgoamparoano Hágsater & L.Sánchez simile sed caulibus lateraliter compressis, sepalis petalisque 5-nervatis, labello trapezoidale manifeste trilobato, lobulis lateralibus subrectangularibus, lobulo medio bilobato, differt.

Hierba epífita, simpodial, cespitosa, 20-22 cm de alto. **Raíces** basales, carnosas delgadas. **Tallos** sencillos, tipo caña, teretes en la base, algo lateralmente comprimidos hacia el ápice, 16 x 0.25-0.30 cm. **Hojas** 9, equidistantes a lo largo del tallo; vaina foliar lateralmente comprimida, no ornamentada, 1.3-2.3 cm de largo; lámina elíptica a ovada, ápice asimétricamente bilobado, no ornamentada, carina dorsal baja, margen entero, verde, 4.5-8 x 1.5-2.5 cm. **Bráctea espátacea** ausente. **Inflorescencia** apical, en el tallo maduro, florece una sola vez, cortamente pedunculada, pedúnculo terete, liso, 7 mm de largo. **Bráctea floral** mucho más pequeña que el ovario, triangular, aguda, 8-10 x 3-3.5 mm. **Flores** 5-6, simultáneas, resupinadas, verdes claro; fragancia no registrada. **Ovario** inflado, terete, no ornamentado, 22 x 3.2 mm. **Sépalos** libres, extendidos, glabros, subcoriáceos, angostamente oblongo elípticos, ápice redondeado, 5-nervados, margen entero, extendido; el **dorsal** 28 x 5 mm; los **laterales** oblicuos, 28.5 x 5.5 mm. **Pétalos** entreabiertos, angostamente rómbicos, agudos, 5-nervados, margen entero, extendido, 25.5 x 4.5 mm. **Labelo** unido a la columna, trapezoide, trilobado, base profundamente cordada, margen ligeramente ondulado, 21 x 32 mm; bicalloso, los callos pequeños, subglobosos, disco con numerosas venas radiales engrosadas en la base y una central más gruesa la cual se prolonga hasta cerca del ápice; lóbulos laterales subrectangulares; lóbulo medio corto, ancho, bilobado, los lóbulos semiorbiculares. **Columna** recta, gruesa, 12.3 mm de largo. **Clinandrio** prominente, entero, margen dentado. **Antera** no vista. **Polinios** no vistos. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** no vistos. **Nectario** penetrando 2/3 de la longitud del ovario, no inflado, no ornamentado. **Cápsula** no vista.

Epiphytic, sympodial, caespitose herb. **Roots** basal, fleshy, thin. **Stems** simple, cane-like, terete at the base, somewhat laterally compressed above. **Leaves** 9, distributed throughout the stem, sheath laterally compressed, smooth; blade elliptic to ovate, apex unequally bilobed, smooth, dorsal keel low, margin entire. **Inflorescence** apical, from the mature stem, flowering only once, peduncle short, terete, smooth. **Floral bracts** much shorter than the ovary, triangular, acute. **Flowers** 5-6, simultaneous, resupinate, light green. **Ovary** inflated, terete, smooth. **Sepals** free, spreading, glabrous, subcoriaceous, narrowly oblong-elliptic, rounded, 5-veined, margin entire, spreading, the lateral sepals oblique. **Petals** partly spreading, narrowly rhombic, acute, 5-veined, margin entire, spreading. **Lip** united to the column, trapezoid, 3-lobed, base deeply cordate, margin slightly undulate; bicallose, the calli small, subglobose, disc with numerous thickened, radiating veins at the base, and a thickened central keel prolonged nearly to the apical sinus; lateral lobes subrectangular; midlobe short, wide, bilobed, the lobes semiorbicular. **Column** straight, thick. **Clinandrium**-hood prominent, entire, margin dentate. **Rostellum** apical, slit. **Nectary** penetrating 2/3 the perianth, not inflated, unornamented.

OTHER SPECIMENS: None seen.

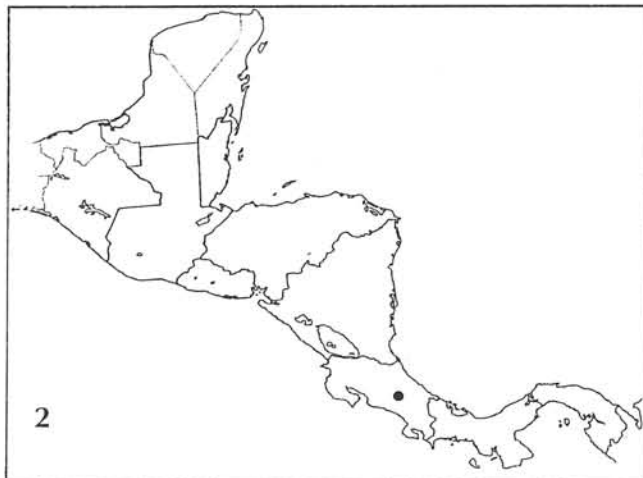
DISTRIBUTION AND ECOLOGY: Known only from higher elevations on the Cordillera de Talamanca, in elfin forest. Epiphyte at 3150 m. Flowering in March.

RECOGNITION: *Epidendrum acroamparoanum* belongs to the Difforme Group which is characterized by the caespitose, sympodial plants, fleshy, pale green to glaucous leaves, apical inflorescence, sessile, rarely with a short peduncle, one-flowered to corymbose, without spathaceous bracts, fleshy, green to yellowish-green rarely white flowers. The species has pale green flowers, oblong-elliptic, 5-veined sepals, narrowly rhombic, 5-veined petals, a clearly 3-lobed, trapezoid, bicallose lip, the disc with basally thickened, radiating veins, the lateral lobes of the lip subrectangular with the margin undulate, the midlobe bilobed, the lobes semiorbicular. It is similar to *Epidendrum vulgoamparoanum* which grows in dry, Pacific lowland forests in Costa Rica and Panama, from sea level to 500 m altitude, and has 7-veined sepals, 3-veined petals, and the lip obscurely 3-lobed, the lateral lobes semiorbicular, and the midlobe obscurely bilobed. *Epidendrum yojoaense* Hágsater & L.Sánchez grows in wet rainforests of the Atlantic slope in Honduras at 600-700 m altitude, and has glaucous-green leaves and flowers, 7-veined-sepals, 3-veined petals, and a reniform lip. *Epidendrum barbayanum* Kraenzl. grows in seasonally dry forests in Costa Rica and Panama (Chiriquí) at 800-1800 m altitude and has ancipitose stems, 7-veined sepals, 3-veined petals, flabelliform lateral lobes of the lip, with the midlobe shorter than the lateral lobes and separated by deep sinuses, and forms two divergent triangular to subrectangular, acute to rounded lobes, and a reduced, entire clinandrium-

hood. *Epidendrum romero-castenedae* Hágsater & L.Sánchez grows on the inland slopes along the Gulf of Darien in eastern Panama and northern Colombia, from 10 to 700 m altitude, and has 7-veined sepals, narrowly elliptic, 3-veined petals, and the lateral lobes of the lip semiorbicular, the midlobe short, emarginate, forming two small lobes with a central mucro.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Greek ακρος, summit, and *amparoanum*, in reference to the similarity of this species with *E. vulgoamparoanum*, the species previous known as *E. amparoanum*, and the fact that it is the species of that group which is found at the highest elevation in Costa Rica, at the edge of paramos.

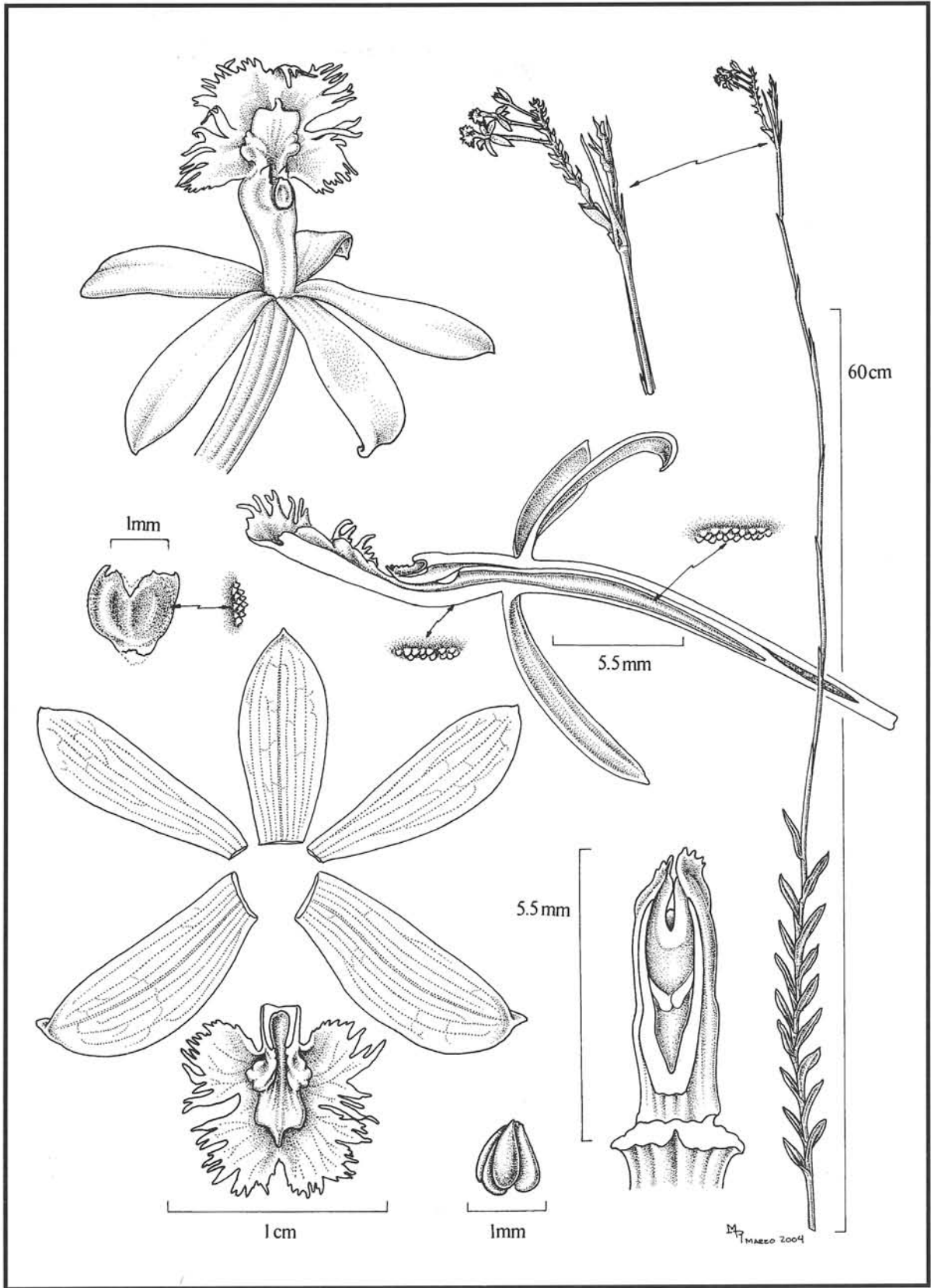


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EPIDENDRUM ACROSCOPEUM Hágsater & Dodson
 THE GENUS *EPIDENDRUM* PART 5

EPIDENDRUM ACROSCOPEUM Hágsater et Dodson, *sp. nov.*

TYPE: ECUADOR: Morona-Santiago: Gualaquiza: Campamento Achupaya, Cordillera del Cóndor, 15 km east of Gualaquiza, 3°27'S 78°22'W, 2100 m, 22 July 1993, *Al Gentry 80327*. Holotype: QCNE! (Illustration voucher).

Epidendro jamiesonis Rchb.f. simile sed foliis minoribus angustioribusque suberectis, petalis oblanceolatis, labello minore et compactiore, isthmo brevi et lato, lobulo medio lato, callo ex tuberculis binis parvis trilobatis constanti et massam apicalem instar suggestus lati longique et in carinam brevem terminati ferenti.

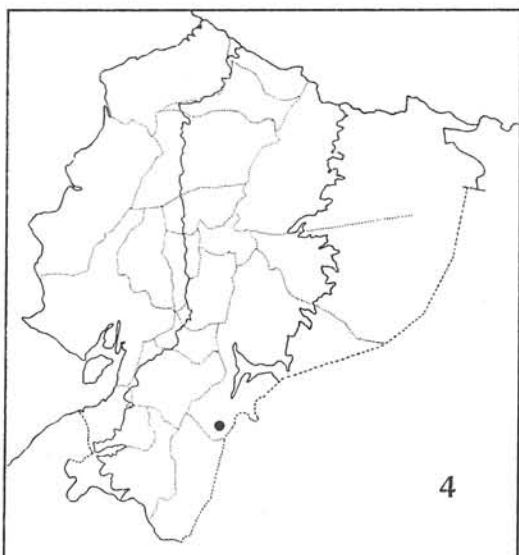
Hierba terrestre, caespitosa, erecta, de más de 70 cm de alto. Raíces no vistas. Tallos sencillos, tipo caña, teretes, delgados, rectos, de más de 24 x 0.3-0.4 cm. Hojas 17 o más, alternas, dísticas, distribuidas a lo largo del tallo, semejantes en cuanto a tamaño, pequeñas para el grupo, suberectas, conduplicadas en la base; vaina tubular, finamente estriada, 1.2-2.2 x 0.3-0.4 cm; lámina lanceolada, ápice subagudo, coriácea, margen entero, 2.7-4.0 x 0.6-0.8 cm. Bráctea espatácea ausente. Inflorescencia apical, racemosa, produce nuevos racimos con el tiempo; pedúnculo alargado, terete, 51 cm de largo, cubierto totalmente por 8 vainas tubulares, agudas, finamente estriadas, 4-8 cm de largo. Flores 21, sucesivas, algunas abiertas de manera simultánea, no resupinadas, color magenta; sin datos de fragancia. Brácteas florales más cortas que el ovario, triangulares, acuminadas, gradualmente más pequeñas hacia el ápice del raquis, 3-15 mm de largo. Ovario terete, delgado, no inflado, no ornamentado, 13-20 mm de largo. Sépalos extendidos, libres, obovados, con una quilla dorsal diminuta, 7-nervados, margen extendido y entero, glabros, 9.7-11.5 x 4.2-4.4 mm; los laterales oblicuos. Pétalos extendidos, libres, oblanceolados, redondeados, diminutamente apiculados, 3-nervados, las nervaduras muy ramificadas, dando la apariencia de ser 6-nervados, margen extendido y entero, 11.5 x 3.5 mm. Labelo unido a la columna, trilobado, base cordada, margen fimbriado, 7.7 x 8.8 mm; el callo masivo, formado por dos tubérculos basales, pequeños, 3-lobados y una masa apical en forma de una plataforma ancha, larga y terminada en una quilla corta que se desvanece antes de llegar al seno apical; lóbulos laterales dolabriformes, 4.2 x 4.2 mm; lóbulo medio ligeramente flabeliforme, ápice profundamente emarginado, 4.6 x 8.2 mm. Columna corta, recta, delgada, con el margen apical lateral dentado, 5.5 mm de largo. Clinandrio reducido, margen entero, la antera totalmente expuesta. Antera ovada, papilosa, 4-locular. Polinios 4, obovoides, alargados, lateralmente comprimidos. Rostelo apical, hendido. Lóbulos laterales del estigma de 1/3 del largo de la cavidad estigmática. Nectario penetrando 2/3 partes del ovario, papiloso. Cápsula no vista.

Terrestrial, caespitose, erect herb. Stems simple, cane-like, terete, thin, straight. Leaves 17 or more, alternate, distichous, distributed throughout the upper part of the stem, similar in size, small for the group, suberect, conduplicate at the base; sheath tubular, minutely striated; blade lanceolate, apex subacute, coriaceous, margin entire. Inflorescence apical, racemose, producing new racemes with time; peduncle elongate, terete, totally covered by tubular, acute, minutely striated sheaths. Flowers 21, successive, several open at one time, non-resupinate, magenta. Floral bracts shorter than the ovary, triangular, acuminate, gradually shorter towards the apex of the rachis. Ovary terete, thin, smooth. Sepals spreading, free, obovate, with a minute dorsal keel, glabrous, 7-veined, margin entire and spreading; the laterals oblique. Petals spreading, free, oblanceolate, rounded, minutely apiculate, 3-veined, the veins much branched and appear 6-veined, margin entire and spreading. Lip united to the column, 3-lobed, base cordate, margin fimbriate; callus massive, formed by two basal, 3-lobed tubercles, and an apical mass in the form of a wide, long platform terminating in a short keel; lateral lobes dolabriform; midlobe somewhat flabelliform, apex deeply emarginate. Column short, straight, thin, the apical lateral margin dentate. Clinandrium-hood reduced, entire, the anther totally exposed. Rostellum apical, slit. Anther ovate, papillose, 4-celled. Pollinia 4, obovoid, elongate, laterally compressed. Nectary penetrating 2/3 of the ovary, papillose.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from the Cordillera del Condor, on the border between Ecuador and Peru, at 2100 m altitude, on a tepui-like bromeliad sward with scattered trees. Flowering in July.

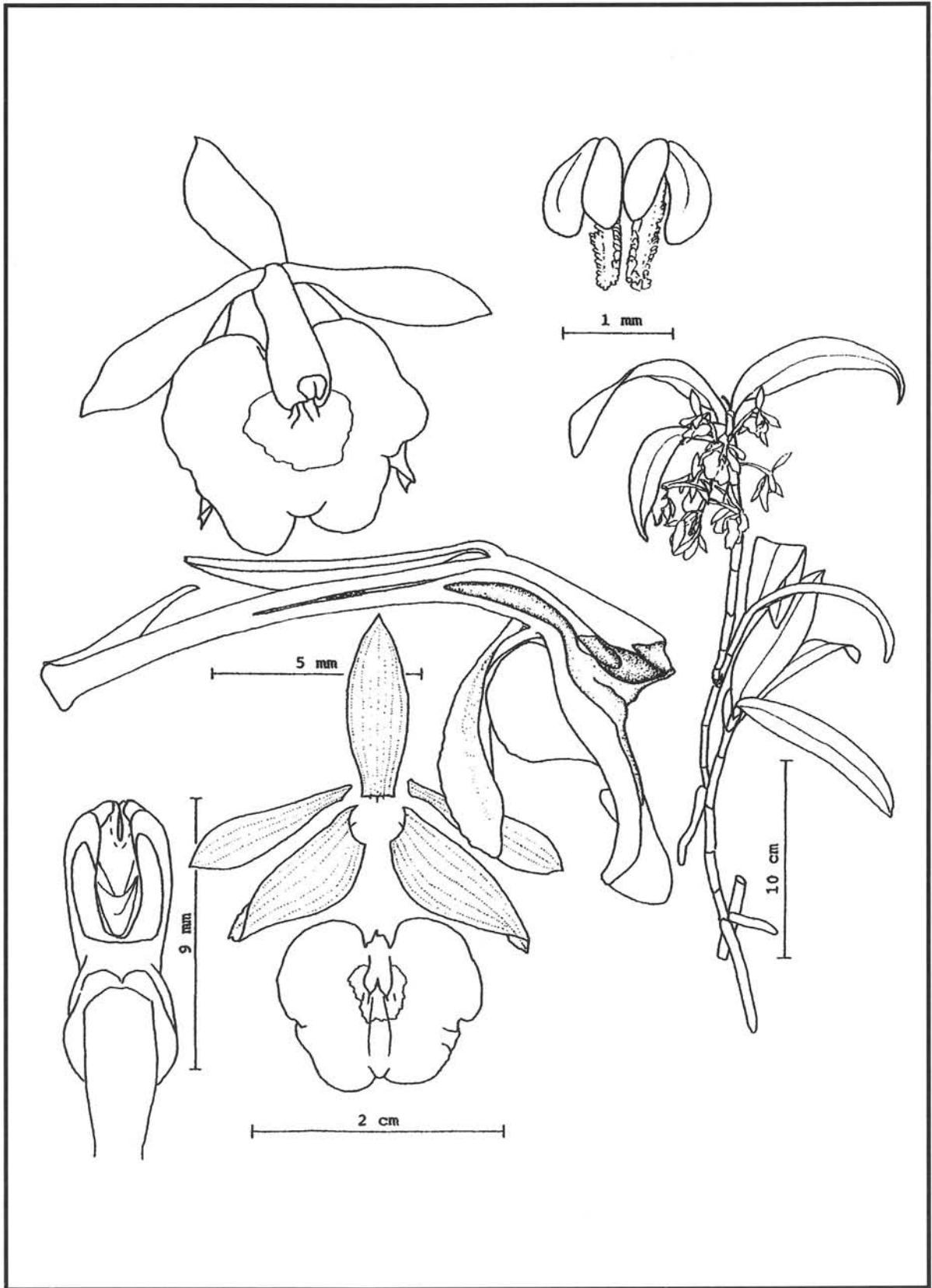
RECOGNITION: *Epidendrum acroscopeum* belongs to the Elongatum Subgroup of the Secundum Group which is characterized by the caespitose habit, simple, terete stems, numerous, oblong-elliptic, bilobed leaves, a mostly elongate inflorescence, with a raceme of successive, non-resupinate flowers, the lip with a complicated, fleshy callus. The species is



recognized by the stems with short, thick, suberect leaves and the magenta colored flowers with a massive callus, formed by two basal, 3-lobed tubercles, and an apical mass in the form of a wide, long platform terminating in a short keel. *Epidendrum jamiesonis* Rchb.f. (Syn. *E. evectum* Hook., *E. quitensium* Rchb.f.) also has magenta-colored flowers, with thick, brittle stems, and large, spreading leaves; the deeply cordate to retrorse lateral lobes of the lip and the large, 9-tuberculate callus covering part of the long narrow isthmus of the deeply bilobed, narrow midlobe. The flowers are somewhat similar to those of *Epidendrum arachnoglossum* André which grows around Bogotá, and has large, spreading leaves, deep rose-colored flowers with a massive yellow and white callus formed by numerous tubercles forming a wide circle.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Greek *αγορῶ* looking or facing towards, and *αχρῶς*, the apex, thus oriented towards the apex, in reference to the short, stocky leaves which are oriented upwards, characteristic of this species.



EPIDENDRUM ALTICOLA Ames & Correll

THE GENUS EPIDENDRUM PART 5

Plate 804

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM ALTICOLA Ames & Correll, Bot. Mus. Leaflet 10 (4): 80. pl. 8. 1942.

Type: GUATEMALA: Chimaltenango: Calderas on Volcán Acatenango, 8000 ft., 29 May 1939, *J. R. Johnston 1472*. Holotype: AMES! (Illustration at K!)

Hierba epífita, simpodial, erecta, cada tallo nuevo se origina de un entrenudo intermedio del tallo anterior, de 30-60 cm de alto. **Raíces** basales, tanto en la base de la planta como en la base de los tallos superiores, carnosas, gruesas, 5.0 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, 10-15 x 0.3-0.5 cm. **Hojas** 2-4, agrupadas hacia el ápice de los tallos, alternas, articuladas; vainas tubulares, lisas, escariosas, 0.8-1.5 x 0.3-0.5 cm; lámina angostamente elíptica, obtusa a subaguda, subcoriácea, lisa, verde, margen entero, 8.0-13 x 1.7-3.0 cm. **Bráctea espatácea** ausente. **Inflorescencia** apical, florece una sola vez, racemosa, arqueada, 7.0-12.5 cm de largo; pedúnculo delgado, lateralmente aplanado, 3.0-4.0 cm de largo; ocasionalmente provisto en la parte media de una bráctea linear lanceolada, acuminada, abrazadora, 12-14 mm de largo. **Brácteas florales** de más de la mitad del largo del ovario, linear lanceoladas, acuminadas, abrazadoras, 8.0-23 mm de largo. **Flores** 3-10, sucesivas, aunque la mayoría llegan a estar abiertas de manera simultánea, resupinadas; sépalos y pétalos blancos o cremas, ligeramente teñidos de verde; labelo blanco con el disco y los callos amarillos; columna blanca en el ápice y verdosa en la base; fragancia ausente. **Ovario** terete, delgado, no inflado, no ornamentado, 25 mm de largo. **Sépalos** libres, agudos, 6-7-nervados, glabros, membranáceos, margen extendido y entero, 15-18 x 4.5-6.5 mm; el **dorsal** reflexo, elíptico; los **laterales** elípticos obovados, oblicuos, con una quilla dorsal conspicua, margen eroso. **Pétalos** extendidos, libres, angostamente oblanceolados, obtusos, 3-nervados, margen extendido y entero, 14-17 x 4.0-5.0 mm. **Labelo** unido a la columna, subentero, base profundamente cordada, suborbicular a subróbico en aspecto general, formado por 4 lóbulos semiorbiculares, el par apical algo más pequeño, ápice emarginado, margen entero, 14-16 x 16-18 mm; bicalloso, los callos delgados, cortos; con una carina intercallosa roma y dos laterales muy cortas. **Columna** recta, delgada en la base, gradualmente más ancha hacia el ápice, 9.0-10 mm de largo. **Clinandrio** corto, margen entero. **Antera** reniforme, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales, caudículas suaves y granulosa, más largas que los polinios. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** de 1/3 del largo de la cavidad estigmática. **Nectario** apenas penetrando el ovario, no inflado, liso. **Cápsula** no vista.

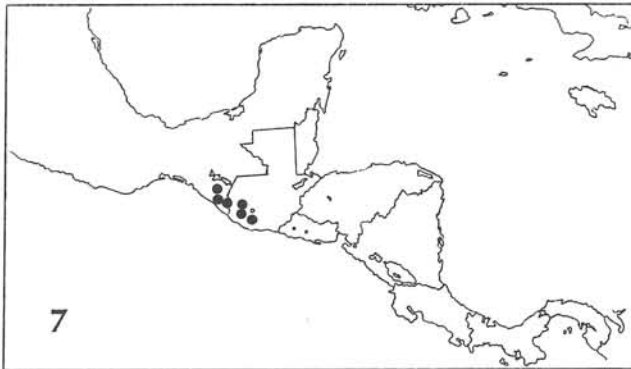
Epiphytic, simpodial, erect **herb** the new stem originates from a middle internode of the previous stem. **Roots** basal, from the base of the plant as well as from the upper stems, fleshy, thick. **Stems** simple, cane-like, terete, straight. **Leaves** 2-4, aggregate towards the apex of the stems, alternate, articulate; sheaths tubular, smooth, scarious; blade narrowly elliptic, obtuse to subacute, subcoriaceous, smooth, green, margin entire. **Inflorescence** apical, flowering only once, racemose, arching; peduncle thin, laterally compressed, occasionally provided with a bract on the middle, linear-lanceolate, acuminate. **Floral bracts** more than half the length of the ovary, linear-lanceolate, acuminate. **Flowers** 3-10, successive, though most will be open at any given time, resupinate; sepals and petals white or cream colored, slightly tinted green; lip white with the disc and calli yellow; column white at the apex, greenish towards the base; lacking any fragrance. **Ovary** terete, thin, not inflated, unornamented. **Sepals** free, acute, 6-7-veined, glabrous, membranaceous, margin spreading, entire; **dorsal sepal** reflexed, elliptic; the **lateral sepals** elliptic-obovate, oblique, with a conspicuous dorsal keel, margin erose. **Petals** spreading, free, narrowly oblanceolate, obtuse, 3-veined, margin spreading and entire. **Lip** united to the column, subentire, base deeply cordate, suborbicular to subrhombic, formed by 4 semiorbicular lobes, the apical pair somewhat smaller; apex emarginate, margin entire; bicallose, the calli thin, short, with a low middle keel and two very short lateral keels. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, laterally compressed, subequal, caudicles soft and granulate, longer than the pollinia. **Rostellum** apical, slit. **Nectary** barely penetrating the ovary, not inflated, smooth.

OTHER SPECIMENS: MÉXICO: Chiapas: Rodeo Siltepec, 2800 m, 1 VIII 1941, *Matuda 4567*, MEXU! MO! Motozintla de Mendoza, Boquerón, 2540 m, 4 V 1945, *Matuda 28548*, MEXU! W of Buenos Aires, 2000 m, 2 IV 1983, *Méndez 5789*, MEXU! Talquian subida al Volcán Tacaná, 1900 m, 15 IX 1985, *Soto 1872*, AMO! Ibid. 1874, AMO! (Illustration voucher.) Ibid. 1875, AMO! GUATEMALA: Chimaltenango: San Martín, 20 IV 1939, *Johnston 1466*, AMES! Calderas, 8000 ft., 25 VI 1938, *Porter 8*, AMES! Volcán Acatenango, 22 V 1993, *Véliz 93.3047*, MEXU! **Escuintla:** Volcano Pacaya, 2200 m, 23 VIII 1970, *Harmon 4177*, ENCB!

OTHER RECORDS: MEXICO: Chiapas: Talquian subida al Volcán Tacaná, 1900 m, 15 IX 1985, *Soto 1872*, (color slide) AMO!

DISTRIBUTION AND ECOLOGY: Restricted to the southern border area between Guatemala and Mexico, Pacific slope cordillera, from the Tacaná volcano to the Pacaya volcano in Escuintla. Epiphyte in humid wet mountain forest, at 1900-2800 m. Flowering from April to September.

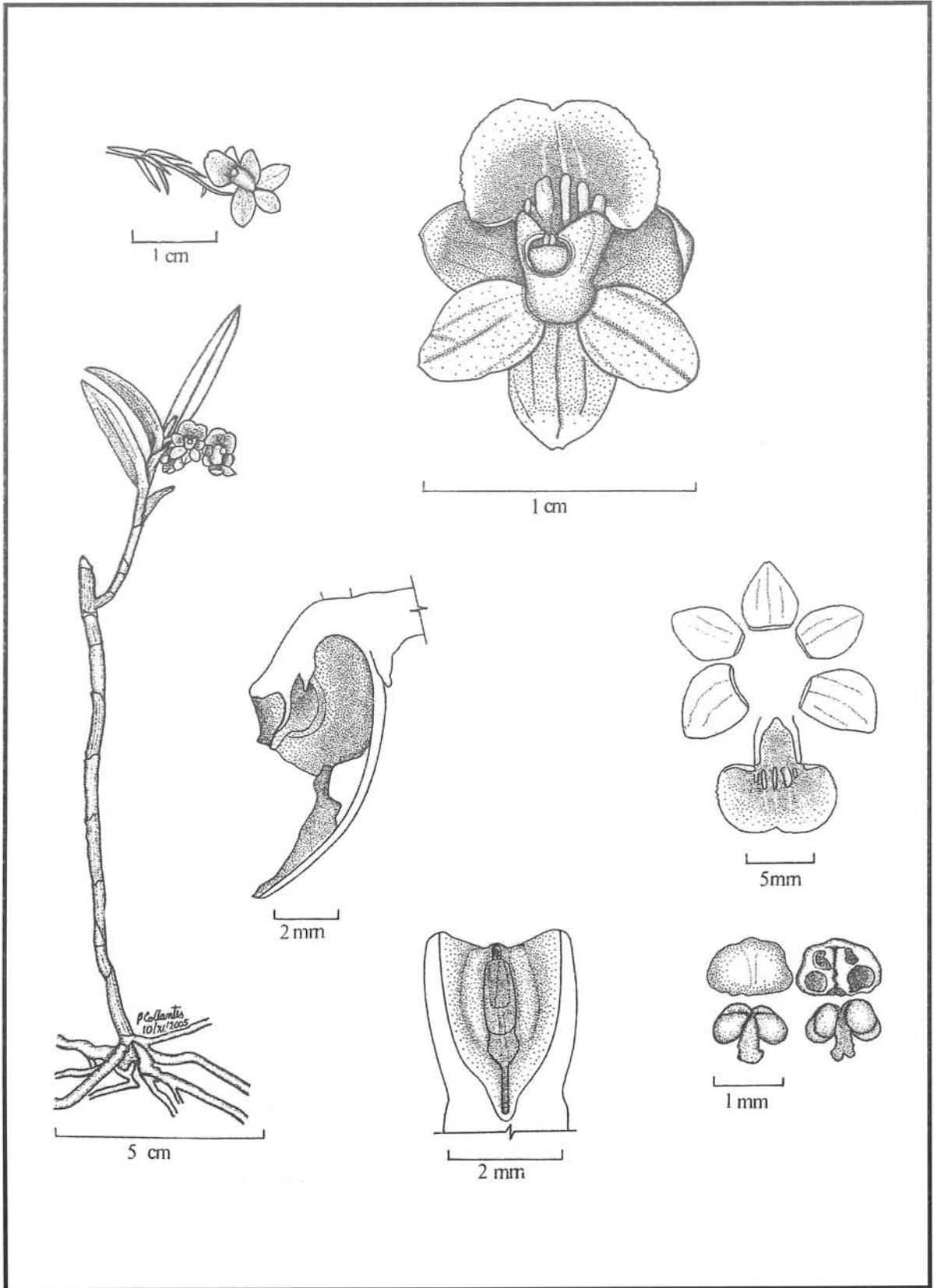
RECOGNITION: *Epidendrum alticola* belongs to the Arbuscula Group, Arbuscula Subgroup which is characterized by the successive lateral growths produced from the middle of the previous growth, few leaves aggregate towards the apex of the stems, arching, apical inflorescence with membranaceous, colorful flowers, the lip bicallose. The species is recognized by the few-flowered inflorescence, white to greenish white flowers with a yellow disk, the entire lip is subentire, subrhombic-suborbicular. *Epidendrum alabastratum* Pollard ex Hágsater, from the Oaxaca-Chiapas border has a subquadrate lip with four suborbicular lobes, the lip being similarly wide between the basal and apical lobes, the sepals and petals are greenish yellow, the ovary longer, 25-60 mm long. *Epidendrum arbuscula* Lindl. from around Guatemala City has a dense inflorescence of up to 45, greenish creamy flowers which turn yellowish brown with time, the lip is clearly 3-lobed with 3 evident, elongate keels that reach the middle of the lip.



CONSERVATION STATUS: DD. Data deficient. Apparently highly local and scarce.

ETYMOLOGY: The Latin name *alticola* refers to the ecological preference of this species which inhabits high-altitude volcanoes.

REFERENCES: Hágsater, E. 1987. Nuevas especies del grupo *Epidendrum arbuscula* de México y Centroamérica. *Orquídea (Mexico City)* 10(2): 337-353.



EPIDENDRUM AMARUËNSE Hągsater, Collantes & E.Santiago

EPIDENDRUM AMARUËNSE Hágsater, Collantes et E.Santiago, *sp. nov.*

Type: PERU: Huancavelica: Prov. Tayacaja, Dist. Huachocolpa: Bosque de Amaru, 2450 m, 22 febrero 2005, *Benjamín Collantes 1001*. Holotype: USM! (Illustration voucher.) Isotype: MOL!

Epidendro jativae Dodson simile sed foliis brevioribus, floribus luteis usque viridi-ochraceis, petalis latioribus ovatis, labello reniformi bilobato, recedit.

Hierba epífita, monopodial, ramificada, 17-20 cm de alto. **Raíces** de la base del tallo inicial, carnosas, delgadas, blancas, 1-2 mm de grosor. **Tallos** sencillos, donde cada tallo nuevo se origina de los entrenudos apicales del tallo anterior, tipo caña, terete, delgados, erectos, rectos; el principal 10-11.5 x 0.3 cm, los secundarios 4.5-5.7 x 0.25 cm. **Hojas** 8 en el tallo principal, 4 en las ramificaciones, distribuidas hacia la mitad apical del tallo, alternas, articuladas, suberectas; vaina tubular, 9-14 x 2-3 mm; lámina linear lanceolada, redondeada, bilobada y apiculada, margen entero, 2.5-4 x 0.3-0.4 cm. **Bráctea** espátacea ausente. **Inflorescencia** apical, racemosa, arqueada, corta, florece una sola vez, 1 cm de largo; pedúnculo corto, terete, delgado, recto, 4 mm de largo; raquis terete, delgado, recto, 6 mm de largo. **Bráctea floral** ca. de la mitad del largo del ovario, linear triangulares, acuminadas, 4 mm de largo. **Flores** 4-8, simultáneas, no resupinadas; color amarillo a verde ocráceo, el margen de los sépalos teñidos de rojo parduzco, dorsalmente cobrizo, antera blanco verdoso; sin fragancia. **Ovario** terete, delgado, no inflado, no ornamentado, 10 mm de largo. **Sépalos** extendidos, libres, romboide ovados, subagudos, 3-nervados, margen entero, dorsalmente lisos; el dorsal 5 x 3 mm; los laterales oblicuos, 4 x 5 mm. **Pétalos** extendidos, libres, ovados, subagudos, 3-nervados, margen entero, 5 x 4 mm. **Labello** unido a la columna, entero, reniforme, bilobado en el ápice, margen diminutamente papiloso; escalo, provisto en la base de 5 quillas carnosas, paralelas, romas, cortas, 5 x 8.5 mm. **Columna** arqueada en la base con respecto al ovario, arriba recta, gruesa, corta, con una cavidad ventral a la cual se accesa por una hendidura larga y angosta; 4 mm de largo; las alas apicales rectas. **Clinandrio** corto, margen entero. **Antera** reniforme, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales; caudículas suaves y granulosas, más largas que los polinios. **Rostelo** apical, hendido. **Nectario** poco profundo, sin penetrar el ovario, amplio, liso. **Cápsula** no vista.

Epiphytic, monopodial, branching herb. **Roots** from the base of the basal stem, fleshy, thin, white. **Stems** simple, the new stems originating from a subapical internode of the previous stem, cane-like, terete, thin, erect, straight. **Leaves** 8, distributed throughout the apical half of the stem, alternate, articulate, suberect; sheath tubular; blade linear-lanceolate, rounded, bilobed, margin entire. **Inflorescence** apical, racemose, arching, short, flowering only once; peduncle short, terete, thin, straight; rachis terete, thin, straight. **Floral bracts** about half the length of the ovary, linear-triangular, acuminate. **Flowers** 4-8, simultaneous, non-resupinate, yellow to ochre-green, the margin of the sepals tinged with brownish-red, dorsally copper-colored. **Ovary** terete, thin, smooth. **Sepals** spreading, free, rhomboid-ovate, subacute, 3-veined, margin entire, dorsally smooth; the lateral sepals oblique. **Petals** spreading, free, ovate, subacute, 3-veined, margin entire. **Lip** united to the column, entire, reniform, apex bilobed, margin minutely papillose; ecallose, provided at the base with 5 fleshy, parallel, rounded, short, keels. **Column** arching at the base with respect to the ovary, then straight, thick, short, with a ventral cavity which is accessed through a long, narrow slit; the apical wings straight. **Clinandrium** hood short, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, laterally compressed, subequal; caudicles soft and granulate, longer than the pollinia. **Rostellum** apical, slit. **Nectary** shallow, without penetrating the ovary, wide, smooth.

OTHER SPECIMENS: PERU: Pasco: Oxapampa, San Alberto, Cordillera de Yanachaga, 2100 m, 6 III 1986, *van der Werff 8483*, MO! Ibid., 2300-2500 m, *van der Werff 8438*, USM!

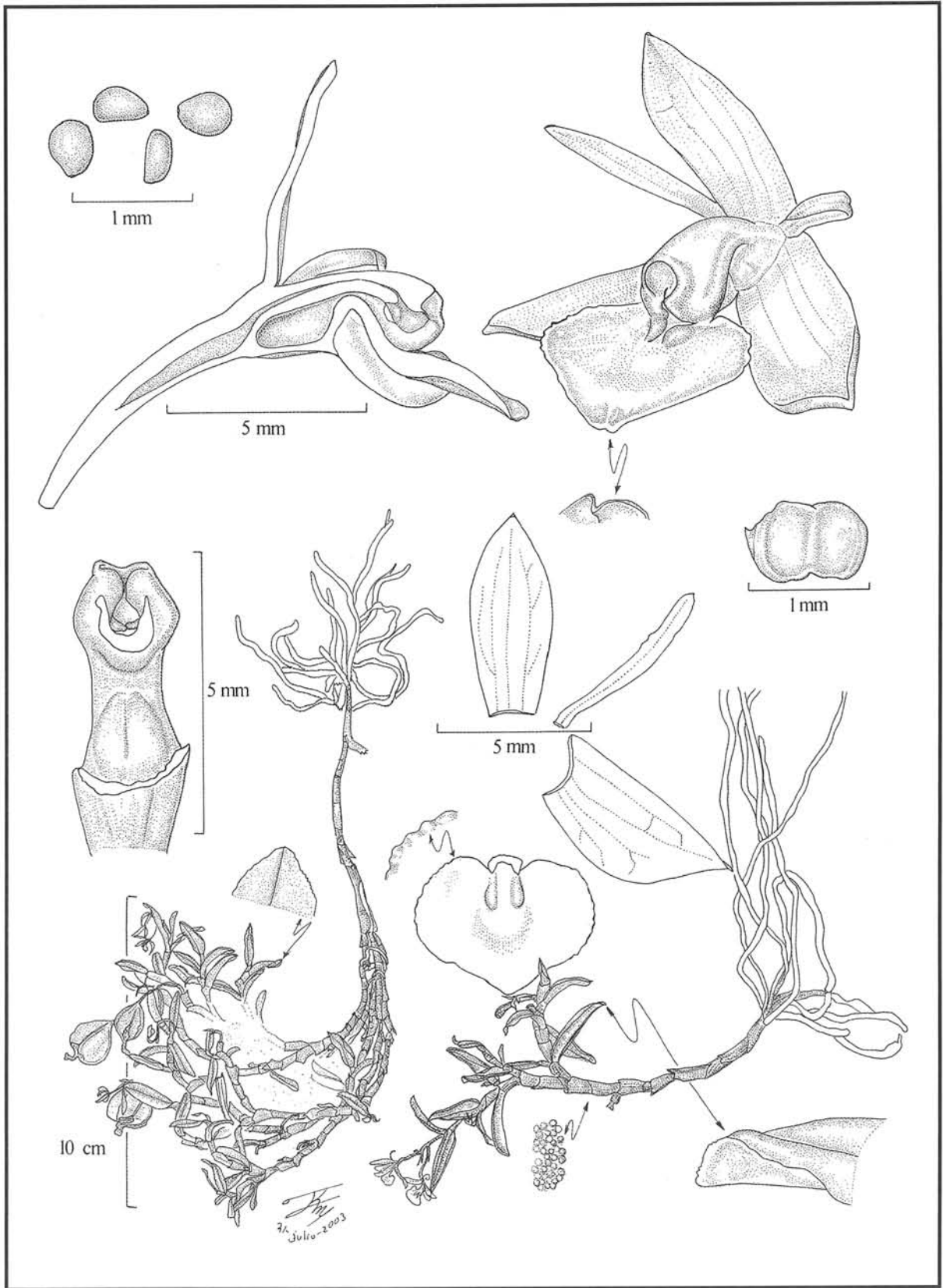
DISTRIBUTION AND ECOLOGY: Known only from the higher cordillera oriental of the Andes in central Peru, in cloud forest, epiphytic at 2100-2450 m altitude. Flowering from February to March.

RECOGNITION: *Epidendrum amaruense* belongs to the Diothonea Group and Subgroup which is characterized by the branching plants, linear-lanceolate to oblong leaves, the apex bilobed, racemose, arching-nutant inflorescence, membranaceous flowers (rarely fleshy), the entire to 3-lobed, ecallose lip with the margin erose and without or with 1-10 thin, smooth to erose keels, the column completely free to obliquely united to the lip, the anther reniform. The species is recognized by the small, non-resupinate, yellow to ochre-green flowers (sepals 4-5 mm long) with wide floral segments, the ovate petals 4 mm wide and the lip reniform, bilobed. It is similar to *Epidendrum jativae* Dodson which shares the non-resupinate flowers, but has longer leaves, up to 10 cm long, 1.5 mm wide, oblong petals, and the 3-keeled lip 3-lobed with the midlobe small and itself bilobed. It is vegetatively similar to *Epidendrum cochabambanum* Dodson & Vásquez which has linear petals 0.8-1.5 mm wide, and a transversely elliptic with the apex slightly 4-lobed, and forming a wide throat with the column. *Epidendrum gastrochilum* Kraenzl., also from Peru, has much larger flowers (sepals 11-13 mm long) and the lip is ovate-orbicular with 6 laminar keels, has a much longer column (9-10 mm long), and shares the curious narrow cavity on the underside of the column which is accessed through a narrow, elongate slit, a feature first described in the Colombian *Epidendrum cléristocoleum* Hágsater & E.Santiago and shared by *Epidendrum cottoniiflorum* (Rchb.f.) Hágsater.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In reference to the grandiose Amaru Forest, where the pretype was collected. The term *amaru* in the Inca language refers to a great serpent, such as the giant *Boa* or *Anaconda* found in the forest. The forest is very rich in orchid species, and has yielded several new species.



EPIDENDRUM ANNABELLAE Nir
 THE GENUS EPIDENDRUM PART 5

EPIDENDRUM ANNABELLAE Nir, Lindleyana 9(3): 147. 1994.

Type: DOMINICAN REPUBLIC: Near La Piramide, Valle Nuevo area, [Constanza], 2300 m, 12 April 1969, A. H. Liogier & E. J. Marcano 14736. Holotype: NY! Isotype: AMES!

Hierba epífita, monopodial ramificada, hasta 22 cm de alto. **Raíces** basales, muy pocas en algunas de las ramas, delgadas. **Tallo** uno solo en la base, hasta de 9 cm de largo, ramificados a partir de la mitad apical, teretes en la base, ligeramente sinuosos, algo lateralmente comprimidos hacia el ápice, completamente cubiertos por vainas infundibuliformes, las ramas cubiertas hacia el ápice por algunas hojas. **Hojas** 3-5 en las ramas, dísticas; vainas tubulares, algo infundibuliformes, estriadas, rugosas; láminas oblongo liguladas, subagudas, apiculadas, margen ondulado escarioso, rígidas, coriáceas, conduplicadas en la base, 1-2 x 0.3-0.6 cm. **Bráctea espátacea** ausente. **Inflorescencia** apical, corta, racemosa, arqueada, florece una sola vez, 1 cm de largo. **Brácteas florales** mucho más pequeñas que el ovario, triangulares, acuminadas, 4 mm de largo. **Flores** 3-5, resupinadas, púrpuras con tintes verdes en el labelo. **Ovario** inflado justo detrás del perianto, terete, no ornamentado, 7-11 mm de largo. **Sépalos** extendidos, ligeramente cóncavos, subcoriáceos; el dorsal oblongo elíptico, agudo, 3-nervados, las nervaduras laterales bifurcadas, 5.1-6.0 x 2.0-2.2 mm; los laterales oblicuamente ovados, acuminados, dorsalmente carinados, 4-nervados, 5.8-6.5 x 2.3-2.5 mm. **Pétalos** linear ligulados, obtusos, arqueados hacia adelante, margen entero, 1-nervados, 4.0-5.5 x 0.2 mm. **Labelo** unido a la columna, plano, entero, anchamente reniforme a anchamente cordiforme, apiculado, margen irregularmente eroso, 3.0-4.0 x 3.8-5.0 mm; bicalloso, los callos subglobosos. **Columna** ligeramente arqueada hacia abajo, constreñida hacia la mitad, corta, 3.5-3.8 mm de largo. **Clinandrio** reducido, entero. **Antera** semiesférica, amarilla, brillante. **Polinios** 4, subglobosos, lateralmente comprimidos. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** cortos, de 1/3 del largo de la cavidad estigmática. **Nectario** poco profundo, penetrando 1/5 del ovario y formando una vesícula prominente a la altura del perianto, liso. **Cápsula** con un pedicelo delgado de 5 mm de largo, cuerpo obovoide, 13 x 10 mm, columna persistente en el ápice.

Epiphytic, monopodial, branching herb. **Stems** single at the base, branching above, terete basally, somewhat compressed distally, completely covered by inflated leaf sheaths on terminal branches, few-leaved. **Leaves** 3-5 on the branches, distichous, rigid, coriaceous, conduplicate at the base, oblong-ligulate, subacute, apiculate with undulate-scarious margins. **Inflorescence** apical, arching, racemose. **Floral bracts** smaller than the ovary, triangular, acuminate, 4 mm long. **Flowers** 3-5, resupinate, purple with green suffusion on lip. **Ovary** inflated at the apex, terete, unornamented. **Sepals** spreading, free, subcoriaceous; dorsal oblong-elliptic, acute, 3-veined, the lateral veins bifurcate; laterals obliquely ovate, acuminate, dorsally carinate, 4-veined. **Petals** linear-ligulate, obtuse, incurved. **Lip** united to the column, entire, reniform to widely cordate, apiculate, margin erose; bicallose. **Column** somewhat arcuate, constricted in the middle, short. **Clinandrium**-hood reduced, entire. **Anther** semispherical, bright yellow. **Nectary** penetrating 1/5 of the ovary and forming a vesicle. **Capsule** obovoid, with a short, thin peduncle.

OTHER SPECIMENS: DOMINICAN REPUBLIC: Valle Nuevo-Cordillera Central, carretera Constanza-S. J. de Ocoa, más allá del Campamento Militar, aprox. 10 km a mano derecha una edificación de piedra, abarcando el empalme de 3 provincias, Dod 74, UC! Valle Nuevo, 7500 ft (2250 m), 01 I 1969, Dod 194, AMES! NY! (Illustration voucher) [Paratypes] Valle Nuevo, Constanza, 2300 m, 03 IV 1971, Liogier 17972, NY!

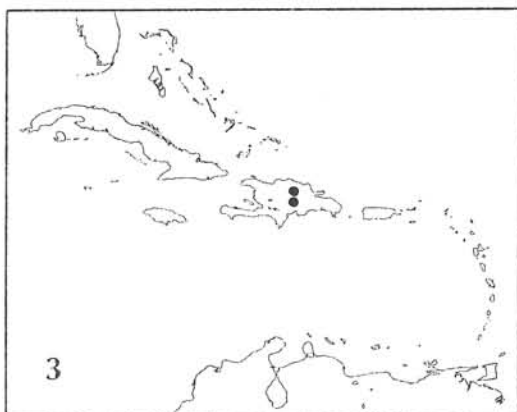
DISTRIBUTION AND ECOLOGY: Endemic in the Dominican Republic. Epiphyte, from 2250 to 2300 m altitude in pine forest. Flowering and fruiting from April to September.

RECOGNITION: *Epidendrum annabellae* belongs to the Cardiophyllum Group, Soratae Subgroup of the Scabrum Group which is characterized by the branching habit starting on a primary stem, infundibuliform, rugose leaf-sheaths, lanceolate, aristate, acute leaves, racemose subcapitate inflorescence on a short, thin peduncle, and the bicallose lip. The species can be recognized by the undulate-scarious margin of the leaves, entire, reniform to broadly cordate, apiculate lip, a short, thick, constricted column. It was confused with *Epidendrum soratae* Rchb.f. from the eastern Cordillera of the Andes in Bolivia and Peru, but that species has a much larger habit, thinner, longer column, the lip wider, deeply cordate and emarginate apex of the somewhat 3-lobed lip.

ETYMOLOGY: In honor of Mrs. Annabelle Stockton (Tudi) Dod, who discovered the species. Tudi is the wife of Dr. Donald D. Dod, longtime student of the orchids of the Dominican Republic.

NOTA: The measurements of the width of the lip and length of the column of the original description do not correspond those shown on the drawing made by the author.

REFERENCES: Nir, Mark A., 1994. Taxonomic changes in Caribbean Orchids. *Lindleyana* 9(3): 147-151. Nir, Mark A., 2000. *Orchidaceae Antillanae*. DAG Media Publishing, Inc., New York. 453 pp.



Author: E. Hágsater

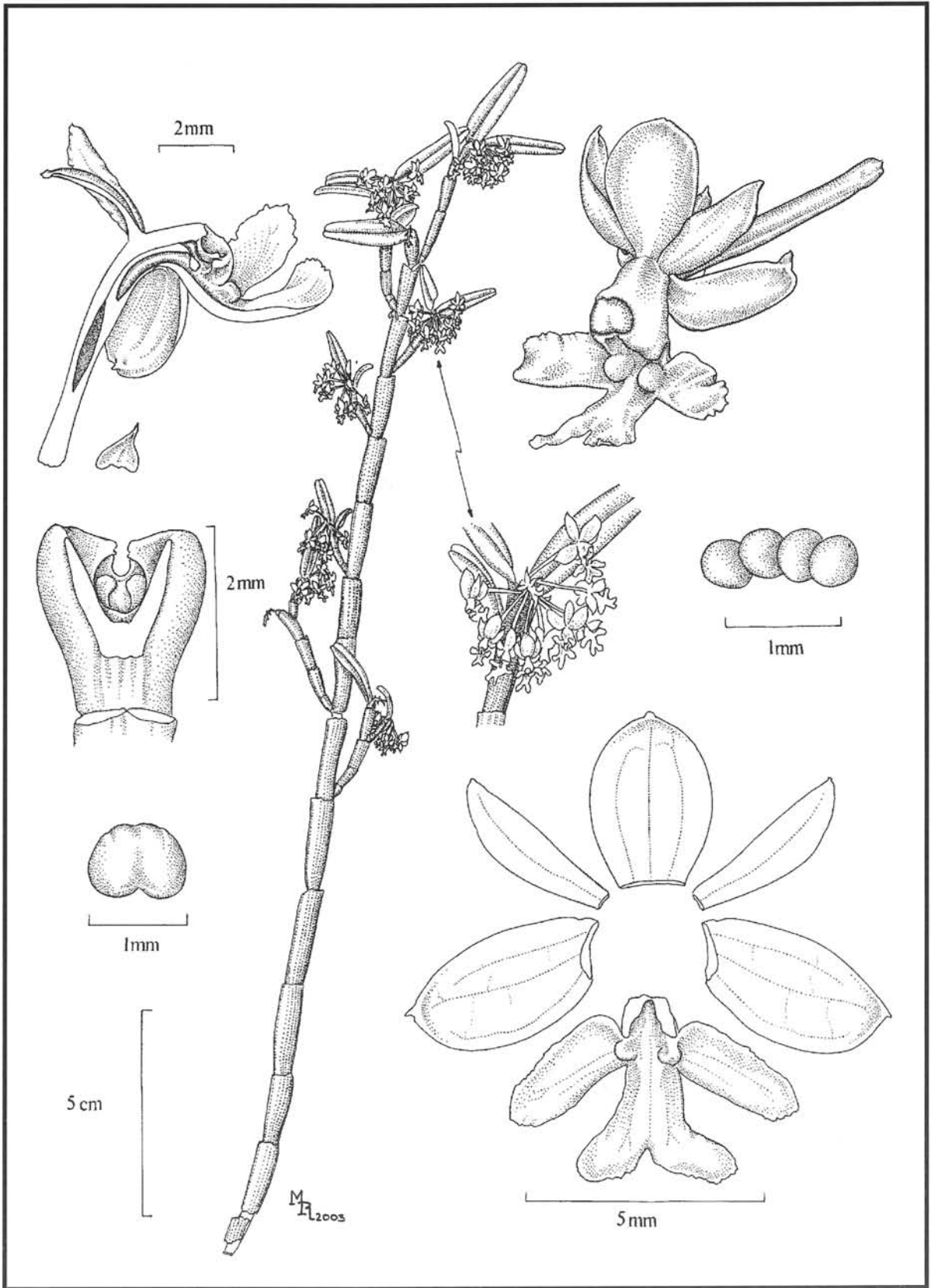
Illustrator: R. Jiménez M.

Editors: E. Hágsater & L. Sánchez S.

Herbario AMO

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ICONES ORCHIDACEARUM 8. 2006. Plate 806



EPIDENDRUM ANTHROPOPHORUM Rchb.f.
THE GENUS EPIDENDRUM PART 5

EPIDENDRUM ANTHROPOPHORUM Rchb.f., Bonpl. 4: 215. 1856.

Type: ECUADOR: de Huayaquil, *Pavón** s.n. Lectotype: BM! here designated: the specimen marked "de Huayaquil." Isolectotype: BM!

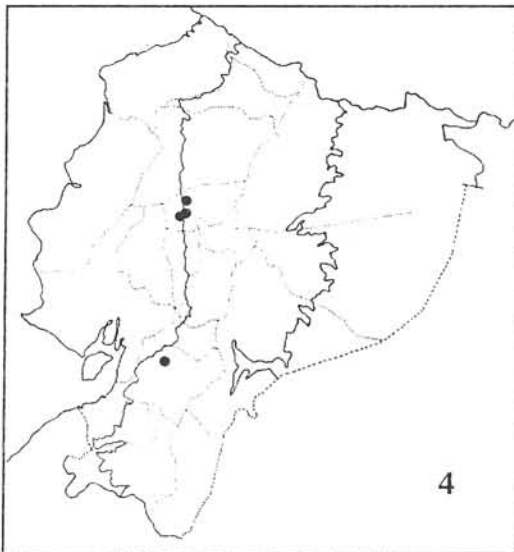
Hierba epífita, raramente terrestre, ramificada, 18-40 cm de alto. **Raíces** abundantes en la base y escasas en algunas ramificaciones, carnosas, delgadas, blancas, 0.4-2 mm de grosor. **Tallos** muy ramificados, las ramificaciones producidas generalmente de los entrenudos apicales de la rama anterior, tipo caña, teretes, rectos; el principal, 18-40 x 0.3-0.4 cm; las ramificaciones cortas, 2-6 x 0.1-0.3 cm. **Hojas** 9-10 en el tallo principal, distribuidas en los 2/3 apicales del mismo, alternas, generalmente no persistentes; 2-4 en las ramas, distribuidas en la zona apical; vaina tubular, finamente estriada, 10-22 x 1-4 mm; lámina oblongo lanceolada, ápice bilobado en ocasiones desigualmente bilobado, con una quilla dorsal baja, margen entero, lisa, las del tallo principal, 3-3.3 x 0.6-0.7 cm; las de las ramificaciones 1.0-2.5 x 0.3-0.5(0.6) cm. **Bráctea espátacea** ausente. **Inflorescencia** apical, corta, racemosa, subglomerulosa, arqueada nutante, florece una sola vez, 1.2-1.5 cm de largo; pedúnculo muy corto, terete, delgado, desprovisto de brácteas, 1 mm de largo; raquis terete, delgado, 5 mm de largo. **Brácteas florales** mucho más cortas que el ovario, triangulares, agudas, abrazadoras, 1 mm de largo. **Ovario** terete, delgado, liso, no inflado, 5-6 mm de largo. **Flores** 7-10, simultáneas, color blanco, tornándose blanco amarillento; sin datos de fragancia. **Sépalos** reflexos, libres, obovado elípticos, ápice redondeado, diminutamente apiculado, 3-nervados, margen entero, 3.5-4.4 x 2.2-2.5 mm; los **laterales** ligeramente oblicuos. **Pétalos** reflexos, libres, angostamente oblanceolados, subagudos, diminutamente apiculados, 1-nervado, margen entero, algo falcados, 3.7 x 1.0 mm. **Labelo** unido totalmente a la columna, de aspecto general antropomorfo, los lóbulos laterales siendo los brazos y los lóbulos apicales los pies; trilobado, margen ligeramente irregular, 3.4 x 6 mm; bicalloso, los callos prominentes, globosos, disco desprovisto de quillas; lóbulos laterales oblicuamente oblongos, redondeados, 3.0 x 1.1 mm; lóbulo medio con un istmo subrectangular, el ápice bilobado, 2.5 x 3.3 mm; los lóbulos oblicuamente oblongos, redondeados, divaricados. **Columna** recta, fuertemente dilatada hacia el ápice, gruesa, corta, 2 mm de largo. **Clinandrio** reducido, entero. **Antera** reniforme, 4-locular. **Polinios** 4, lenticulares. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** pequeños, ocupando 1/3 de la cavidad estigmática. **Nectario** penetrando 1/5 del ovario, delgado, liso. **Cápsula** no vista.

Epiphytic, rarely terrestrial, branching herb. **Roots** abundant at the base, scarce at the base of some branches, fleshy, thin. **Stems** much branched, cane-like, terete, straight. **Leaves** 9-10 from the main stem, distributed along the upper 2/3rd of the stems, 2-4 on the branches, distributed towards the apex; sheath tubular, minutely striated; blade oblong-lanceolate, apex bilobed, sometimes unequally, with a low dorsal keel, margin entire, smooth. **Inflorescence** apical, short, racemose, subglomerulose, arching-nutant, flowering only once; peduncle short, terete, thin, without bracts, rachis terete, thin. **Floral bracts** much shorter than the ovary, triangular, acute. **Ovary** terete, thin, smooth, not inflated. **Flowers** 7-10, simultaneous, white, turning yellowish white. **Sepals** reflexed, free, obovate-elliptic, apex rounded, minutely apiculate, 3-veined, margin entire, the laterals somewhat oblique. **Petals** reflexed, free, narrowly oblanceolate, subacute, minutely apiculate, 1-veined, margin entire, somewhat falcate. **Lip** united to the column, 3-lobed, margin irregular, bicallose, the calli prominent, globose; lateral lobes obliquely oblong, rounded, longer than the apical lobes; midlobe with a subrectangular isthmus, apex bilobed, the apical lobes obliquely oblong, rounded, divaricate; the whole lip appears anthropoid-like, with the lateral lobes representing the arms and the apical lobes the feet. **Column** straight, prominently dilated towards the apex, thick. **Clinandrium**-hood reduced, entire. **Anther** reniform, 4-celled. **Pollinia** 4, lentil-shaped. **Rostellum** apical, slit. **Nectary** penetrating 1/5th of the ovary, narrow, smooth.

OTHER SPECIMENS: ECUADOR: without locality, *Sodiro* s.n. QPLS! **Cotopaxi:** Angamarca & Zumbagua, 2800 m, 18 VII 1959, *Barclay* 8074, AMES! **COL:** WIS! Pilaló, 2400 m, 15 VII 1984, *Dodson* 14309, MO! **QCNE:** Chugchilan, 2450 m, 24 VII 1991, *Gillespie* 75, QCA! Pilaló, 0°57' S 79°02' W, 2400 m, 1 VII 1968, *Holm-Nielsen* 1130 AAU! AMES! F! (Illustration voucher.) NY!

DISTRIBUTION AND ECOLOGY: Endemic from the western slopes of the Andes in central Ecuador, at around 2400-2800 m altitude, growing on westerly exposed banks and on trees in montane forest. Flowering in July.

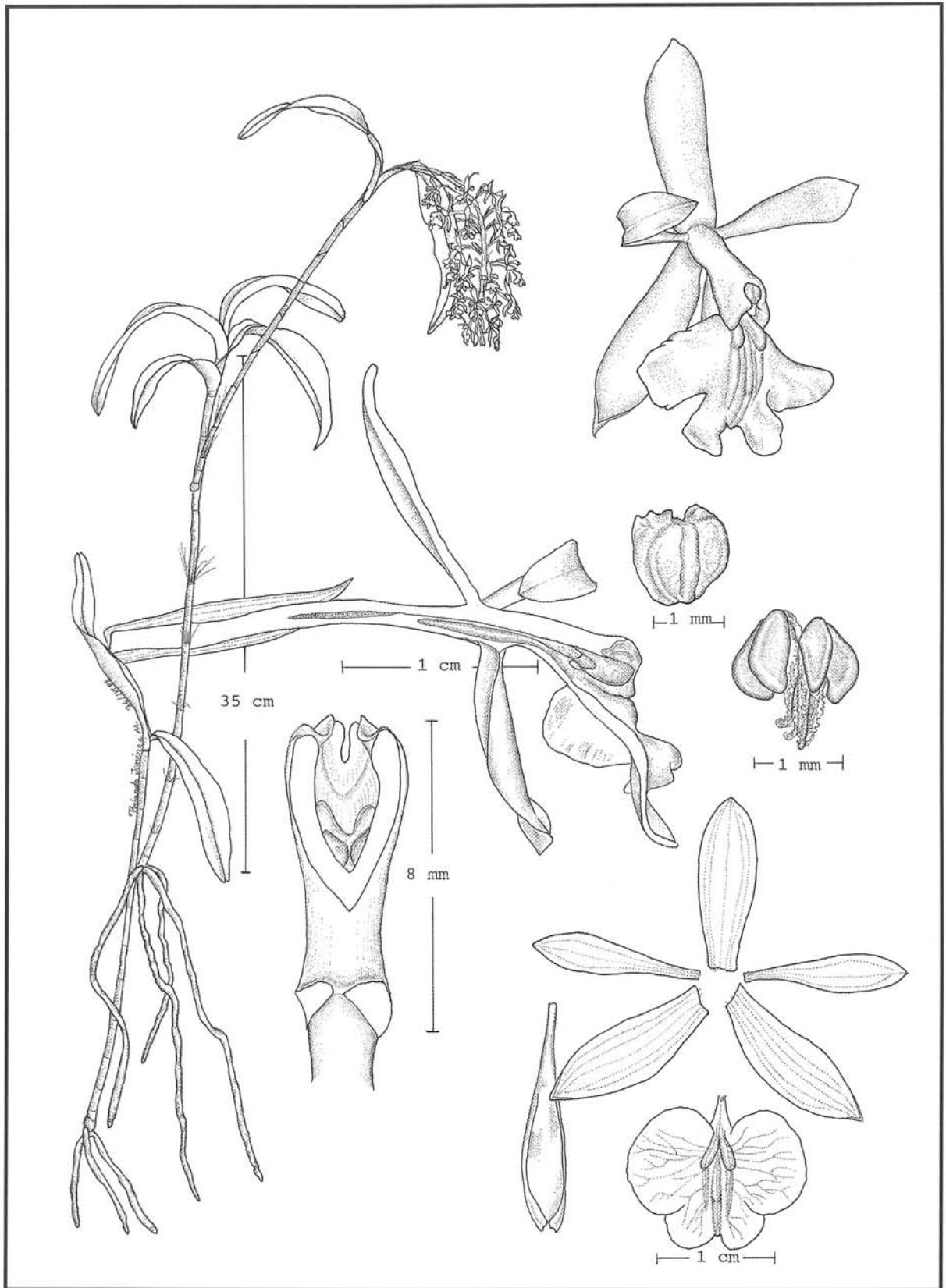
RECOGNITION: *Epidendrum anthropophorum* belongs to the Cernuum Group, Anthropophorum Subgroup, recognized by the branching habit, bilobed leaves, adpressed sheaths and 3-lobed, bicallose lip, and a subglomerulose inflorescence. The species is recognized by the subglomerulose inflorescence on a very short peduncle, white flowers and the lip with long lateral lobes and the bilobed, shorter lobes of the midlobe, which, with the narrow, rectangular isthmus of the lip give it an anthropoid-like appearance. Specimens have been misidentified as *Epidendrum scabrum* Ruiz & Pavón or *E. cuniculatum* Schltr., the former having a long rachis and thus a cylindrical inflorescence, and an entire midlobe of the lip; and *E. globiflorum* F. Lehm. & Kraenzl., which has larger flowers (sepals 6-7 mm long), and an ecallose lip, with an elevated midkeel forming a triangular structure on the disc. *Epidendrum scabrum* has tall plants with much larger leaves and a paniculate inflorescence, the midlobe rectangular. *Epidendrum brachyanthum* Hágsater & Dodson has flowers approximately the same size, but much smaller plants, with a different architecture, the stems short and produced in succession from a subapical internode of the previous stem, and the lateral lobes of the lip suborbicular, the midlobe quadrate and truncate.



CONSERVATION STATUS: DD. Data deficient. Apparently common around Pilaló.

ETYMOLOGY: From the Greek *ανθρωπος* human, and *φορος*, bearing, carrying, in reference to the human-like appearance of the flowers, specifically the lip.

***NOTE:** The type specimens were probably collected by Juan José Tafalla outside Cuenca on the old footpath to Guayaquil via Naranjal, in what is now the province of Azuay, at about 2600 m. José Pavón did not collect personally in Ecuador.



EPIDENDRUM ARBUSCULA Lindl.

THE GENUS EPIDENDRUM PART 5

EPIDENDRUM ARBUSCULA Lindl., in Benth. Pl. Hartweg. 93. 1842 (as "arbusculum")

Type: [GUATEMALA]: San Juan Socotepeque [Sacatepequez], *Hartweg s.n.* Holotype: K! (xerox copy at AMO! tracing at W!) Isotype: LE!

Synonym: *Epidendrum nubium* Rchb.f., Beitr. Orch. Centr. Amer.: 81. 1866. GUATEMALA: Las Nubes, 10 January 1857, *Wendland 332*. Holotype: W 49705! (tracing at AMES 26033!, tracing of flower, AMO!) Isotype: B, destroyed, (tracing at AMES 26034!)

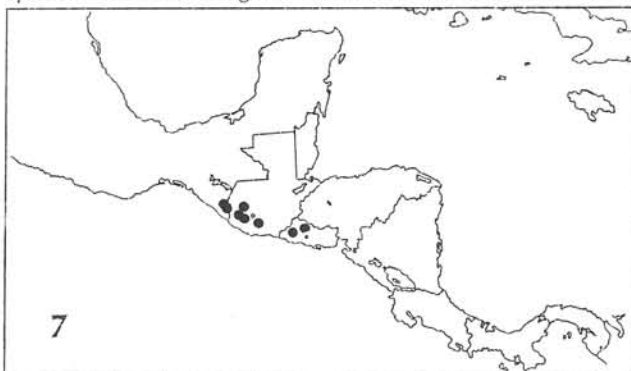
Hierba epífita, raramente litófito, simpodial, erecta, el tallo nuevo se origina de un entrenudo intermedio del tallo anterior, ca. 80 cm de alto. **Raíces** producidas en la base los tallos, carnosas, gruesas, blancas, 1.6-4.0 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, 12.5-50 x 0.15-0.63 cm. **Hojas** 2-4, agrupadas en el ápice de cada tallo, articuladas, alternas; vaina tubular, las apicales infladas en seco, finamente estriada, escariosas, 1.0-2.6 x 0.3-1.0 cm; lámina elíptico lanceolada, aguda, subcoriácea, lisa, verde, margen entero, la hoja inferior generalmente más pequeña, 4-19.5 x 1.3-3.7 cm. **Bráctea espátacea** ausente. **Inflorescencia** apical, florece una sola vez, racemosa, arqueada, densa, 8-17 cm de largo; pedúnculo lateralmente aplanado, delgado, recto, 1.0-4.0 cm de largo; provisto (en la base o en la parte media) de 1 a 2 brácteas, triangulares, acuminadas, abrazadoras, 1.0-3.0 cm de largo; raquis terete, delgado, recto. **Brácteas florales** de la mitad o más cortas del largo del ovario, las apicales gradualmente más pequeñas, triangulares, acuminadas, abrazadoras, algunas escariosas, 6-23 mm de largo. **Flores** hasta 45, simultáneas, resupinadas; sépalos y pétalos crema verdosos tornándose pardo amarillentos con el tiempo; labelo blanco cremoso con los callos cremos o amarillentos; columna blanco cremosa con dos manchas triangulares púrpuras en los lados del ápice; antera levemente teñida de rosado; fragancia diurna, ligera, agradable. **Ovario** terete, delgado, no inflado, lisa, 12-36 mm de largo. **Sépalos** libres, extendidos, ligeramente cóncavos, oblanceolados, agudos, 5-nervados, carnosos, margen entero, 13-16 x 4.0-5.0 mm; los **laterales** ligeramente oblicuos, con una quilla dorsal, prominente. **Pétalos** incurvados, libres, angostamente oblanceolados, unguiculados, agudos, 3-nervados, carnosos, margen entero, 12-14 x 3.0-4.0 mm. **Labelo** unido a la columna, trilobado, base cordada, margen entero, 10-11 x 12-13 mm; bicalloso, los callos cortos, subglobosos; disco tricarinado, las carinas lisas, alargadas hasta la base del lóbulo medio; lóbulos laterales semiovalados, 5.0 x 6.0 mm; lóbulo medio cuneado, bilobado, con un seno apical amplio, 4.0 x 8.0 mm. **Columna** recta, delgada, 9 mm de largo. **Clinandrio** reducido, margen subentero. **Antera** reniforme, con una quilla roma al frente, 4-locular. **Polinios** 4, semiobovoides, lateralmente comprimidos, subiguales; caudículas suaves y granuladas, tan largas como los polinios. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** de ½ del largo de la cavidad estigmática. **Nectario** poco profundo, penetrando ligeramente detrás del perianto, no inflado, liso. **Cápsula** no vista.

Epiphytic, rarely lithophytic, simpodial, erect **herb**, new stem originates from an intermediate internode of previous stem. **Roots** produced from the base of the stems, fleshy, thick, white. **Stems** simple, cane-like, terete, straight. **Leaves** 2-4, aggregate towards the apex of each stem, articulate, alternate; sheath tubular, the apical ones inflated when dry, minutely striated, scarious; blade elliptic-lanceolate, acute, subcoriaceous, smooth, green, margin entire, the lower leaf usually smaller. **Inflorescence** apical, flowering only once, racemose, arching, dense-flowered; peduncle laterally compressed, thin, straight, provided in the middle with 1-2 triangular, acuminate bracts somewhat longer than the floral bracts; rachis terete, thin, straight. **Floral bracts** half as long as the ovary or shorter, the apical ones gradually shorter, triangular, acuminate, somewhat scarious. **Flowers** up to 45, simultaneous, resupinate; sepals and petals greenish cream-colored turning yellowish brown with time, lip creamy white with the calli cream-colored or yellowish, column creamy white with a pair of triangular purple spots at sides of the apex, arther slightly tinged pink; fragrance diurnal, slight, agreeable. **Ovary** terete, thin, not inflated, smooth. **Sepals** free, spreading, slightly concave, oblanceolate, acute, 5-veined, fleshy, margin entire; the **lateral sepals** slightly oblique, with a prominent dorsal keel. **Petals** incurved, free, narrowly oblanceolate, unguiculate, acute, 3-veined, fleshy, margin entire. **Lip** united to the column, 3-lobed, base cordate, margin entire; bicallose, the calli short, subglobose, disc 3-carinate, the keels smooth, elongate, reaching the base of the midlobe; lateral lobes semiovalate, midlobe cuneate, bilobed, with a wide apical sinus. **Column** straight, thin. **Clinandrium-hood** reduced, margin subentire. **Anther** reniform, with a rounded keel in front, 4-celled. **Pollinia** 4, semiobovoid, laterally compressed, subequal; caudicles soft and granulose, as long as the pollinia. **Rostellum** apical, slit. **Nectary** shallow, penetrating slightly behind the perianth, not inflated, smooth.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Common in the high and low mountainous regions from the Volcán Tacaná in Chiapas, Mexico, around Guatemala City, to northern El Salvador. Epiphytic at around 1700-2800 m altitude, on *Yucca* sp. and other supports. Flowering in January to June, August.

RECOGNITION: *Epidendrum arbuscula* belongs to the Arbuscula Group and Subgroup which is characterized by the successive lateral growths produced from the middle of the previous growth, few leaves aggregate towards the apex of the stems, arching, apical inflorescence, colorful flowers, the lip bicallose. The species is recognized by its dense inflorescence of simultaneous, greenish-cream-colored flowers which turn yellowish brown, the spreading sepals slightly concave towards the apical half, the 3-lobed lip with semiovalate lateral lobes. *Epidendrum alticola* Ames & Correll has white, slightly greenish sepals and petals, with a suborbicular to subrhombic, snow-white lip formed by 4 semiorbicular lobes, the callus yellowish. *Epidendrum nelsonii* Hágsater has a dense inflorescence, small flowers (spreading sepals 11-12 mm long), short ovaries (11-

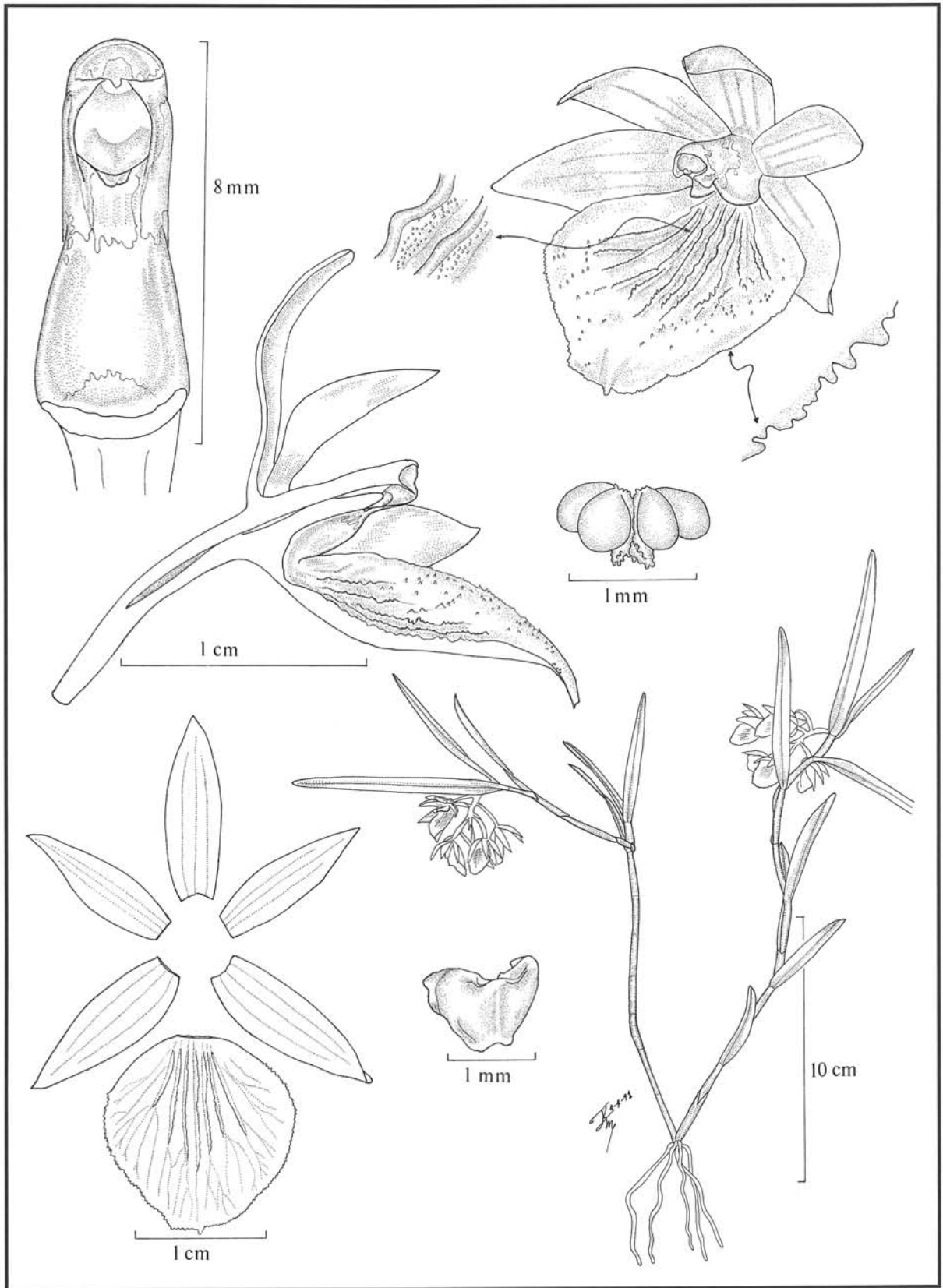


14 mm long), and very prominent floral bracts about as long as the ovary. *Epidendrum badium* Hágsater has successive, pale brown to reddish brown flowers, the lip ivory to slightly yellowish; the dorsal sepal is reflexed, and the laterals have a prominent dorsal keel.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Latin *arbuscula*, a small tree, in reference to the peculiar appearance of the plant where the new stem is produced from the middle of the previous stem, thus giving it a superficially branching appearance.

REFERENCES: Behar, M., & O. Tinschert, 1998, *Guatemala y sus Orquídeas*. pg. 116.



EPIDENDRUM AREVALOI (Schltr.) H&Egsater

THE GENUS EPIDENDRUM PART 5

Plate 809

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM AREVALOI (Schltr.) Hágsater, in R. Escobar, Orq. Nat. Colombia 2: 168. 1991.

Basionym: *Diothonea arevaloi* Schltr., Repert. Spec. Nov. Regni Veg. Beih. 27: 61. 1924. Type: Colombia: Ostkordillere zwischen Pasto und Mocoa, 3300 m, Mai 1921, **W. Hopp 54 & 62**. Holotype: B (destroyed). Neotype: (here designated) ECUADOR: Sucumbios: Km 43.3 desviación de carretera Tulcán-Ibarra hacia La Bonita, después de Sta. Bárbara, 2680 m, 8 July 1990, **E. Hágsater, C. H. Dodson, D. Rubio, N. Revelo 10554**. COL! (flowers in spirit AMO!). Clonotypes: 13 August 1993, AMO! 4 October 1991, RPSC! Ibid., 4 April 1991, **Hágsater et al. 10787**. (Illustration voucher.) MO! QCA!

Hierba epífita, raramente terrestre, erecta, ramificada, hasta 45 cm de largo. **Raíces** basales, escasas en algunas ramificaciones, carnosas, delgadas, blancas, 0.6-1.2 mm de grosor. **Tallos** ramificados en la zona apical del tallo anterior cuando maduros, tipo caña, teretes, delgados, el inicial 20-35 x 0.25-0.4 cm, las ramificaciones 6.5-20 x 0.2-0.3[4] cm. **Hojas** 5-8, distribuidas hacia la mitad apical de los tallos, las del tallo principal caedizas con el tiempo, erectas, alternas, coriáceas; vaina tubular, finamente estriada, 20-34 x 2-4 mm; lámina angostamente lanceolada, ápice desigualmente bilobado, diminutamente apiculada, margen entero, las del tallo principal, 5.5-10.5 x 0.5-0.6[0.9] cm; las de las ramificaciones, 3.7-8.3 x 0.4-0.6 cm. **Bráctea** espátacea ausente. **Inflorescencia** apical, racemosa, arqueada, florece una sola vez, corta, 2-4 cm de largo; pedúnculo corto, delgado, terete, 7-10 mm de largo; ocasionalmente provisto en la parte media de una bráctea, triangular, acuminada, 4 mm de largo. **Brácteas florales** de menos de la mitad de largo del ovario, gradualmente más pequeñas hacia el ápice de la inflorescencia, triangulares, acuminadas, 2-7.5 mm de largo. **Ovario** terete, delgado, no inflado, no ornamentado, 10-20 mm de largo. **Flores** 6-9, simultáneas, resupinadas, membranáceas, pardo amarillentas a rojizas, raramente pardo verdosas, con las nervaduras teñidas de rojizo, fragancia ausente. **Sépalos** extendidos, algo incurvados hacia el ápice, libres, angostamente lanceolado elípticos, agudos, 3-5 hervados, margen entero, [12]15-17 x 4.3-4.6 mm. **Pétalos** extendidos, algo incurvados hacia el ápice, libres, angostamente lanceolados, agudos, 3-nervados, margen entero, 14-16 x 3.6-4 mm. **Lábelo** unido sólo a la base de la columna, entero, ovado, obtuso, margen diminutamente eroso dentado, 15-20 x 12-15 mm; ecaloso, provisto de 9-10 quillas diminutamente serruladas, radiando desde la base hasta el centro del lábelo; la porción apical del mismo fuertemente ornamentado con tricomas ancistrosos. **Columna** recta, delgada, 8 mm de largo; provista ventralmente de un par de alas carnosas en la mitad basal de la misma. **Clinandrium** corto, entero. **Antera** reniforme, 4-locular. **Polinios** 4, obovoides, caudículas suaves y granuladas, ligeramente más largas que los polinios. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** muy reducidos. **Nectario** incipiente, una cámara amplia formada por la base de la columna y el lábelo. **Cápsula** no vista.

Epiphytic and rarely terrestrial, erect, branching **herb**. **Roots** basal, scarce from the branches, fleshy, thin, white. **Stems** branching from the apical area when mature, cane-like, terete, thin. **Leaves** 5-8, distributed throughout the apical half of the stems, erect, coriaceous; sheath tubular, minutely striated; blade narrowly lanceolate, apex unequally bilobed, minutely apiculate, margin entire. **Inflorescence** apical, racemose, arching, flowering only once. **Floral bracts** less than half the length of the ovary, progressively shorter, triangular, acuminate. **Ovary** terete, thin. **Flowers** 6-9, simultaneous, resupinate, membranaceous, yellowish brown to reddish, rarely greenish, with the veins tinged red. **Sepals** spreading, somewhat incurved towards the apex, acute, 3-5 veined, margin entire. **Petals** spreading, somewhat incurved towards the apex, free, narrowly lanceolate, acute, 3-veined, margin entire. **Lip** united to the column only at the base, entire, ovate, obtuse, margin minutely erose-dentate; ecallose, with 9-10 minutely serrulate keels radiating from the base, apical half heavily ornamented with ancistrus trichomes. **Column** straight, thin, provided with a pair of fleshy wings along the basal half. **Clinandrium**-short, entire. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, laterally compressed, caudicles soft and granulose. **Rostellum** apical, slit. **Nectary** a wide, open cavity formed by the base of the column and lip.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

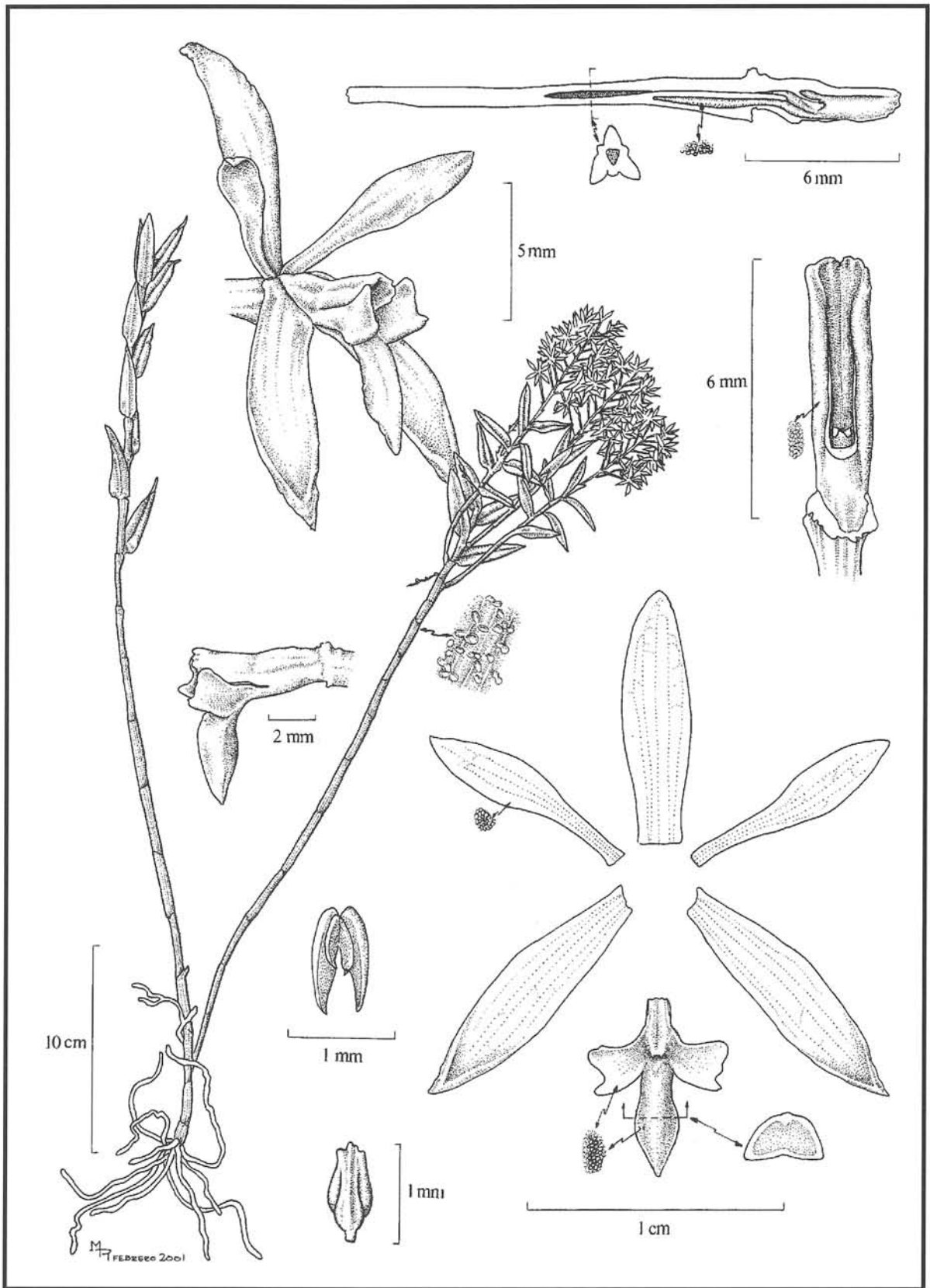
DISTRIBUTION AND ECOLOGY: Eastern slope of the Andes in northern Ecuador, in the provinces of Carchi and Sucumbios, and southern Colombia (Caquetá, Cauca, Nariño and Putumayo), between 1900 and 3200 m altitude. Epiphytic and rarely terrestrial in cloud forest. Flowering from April to October.

RECOGNITION: *Epidendrum arevaloi* belongs to the Diothonea Group and Subgroup which is characterized by the branching plants, linear-lanceolate to oblong leaves, the apex bilobed, racemose, arching-nutant inflorescence, membranaceous flowers (rarely fleshy), the entire to 3-lobed, ecallose lip with the margin erose and without or with 1-10 thin, smooth to erose keels, the column completely free to obliquely united to the lip, the anther reniform. *Epidendrum arevaloi* is recognized by the long stems, several-branched towards the apex, narrowly lanceolate leaves, the short inflorescence with 6-9, yellowish brown flowers with reddish veining, narrowly lanceolate, acute petals, ovate lip with 9-10 minutely serrulate keels, and ornamented with ancistrus trichomes towards the apical half, the free, 8 mm-long column with a pair of rounded wings towards the basal half. *Epidendrum arevaloides* Hágsater & Dodson has a many-flowered inflorescence (up to 17 flowers), these smaller, the narrowly ovate, obtuse petals 6.7-9.5 mm long, the lip with 6-7 erose, inconspicuous keels, and the apex slightly retuse, with the column 5 mm long. *Epidendrum cleistocoleum* Hágsater & E.Santiago has shorter plants, linear-lanceolate petals 8-10.7 mm long, a 3-lobed lip with the midlobe shorter than the lateral lobes, and 5 central keels with multiple lateral, thickened veins bifurcate towards the apex, the column is arched at the base, and the nectary forms a narrow cavity at the base of the column. *Epidendrum megalospathum* (Rchb.f.) Garay & Dunsterv., has a similarly free column, but belongs to a different group with very different plant architecture and a prominent spathaceous bract.



CONSERVATION STATUS: DD. Data deficient. Apparently common on both sides of the border between Colombia and Ecuador on the east side of the Andes. The habitat is however being cut down for agriculture.

ETYMOLOGY: In honor of a Mr. Arévalo, without further information.



EPIDENDRUM ATYPICUM Hágsater & E.Santiago
 THE GENUS *EPIDENDRUM* PART 5

EPIDENDRUM ATYPICUM Hágsater et E.Santiago, sp. nov.

Type: COSTA RICA: San José: Pan-American Highway, Cordillera de Talamanca, ca. 2400 m, on cliff, flowers purple, lower montane wet zone, 25 August 1961, *Claude Weber 6081*. Holotype: AMES 88967! (Illustration voucher).
Isotype: AMES 88923!

Epidendro crescentilobo Ames simile sed floribus majoribus, labelli lobulo medio simplici subulato acuto, ovario triquetro, polliniorum pari interiore in pollinarii parte supera, e latere crassiore polliniorum exteriorum sito, recedit.

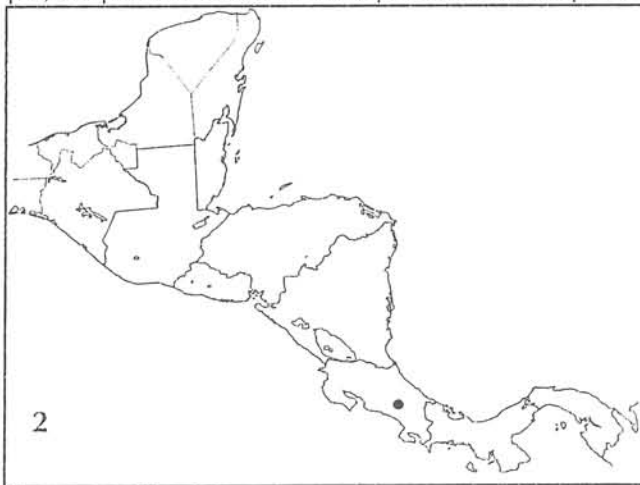
Hierba litófito, simpodial, cespitosa, en ocasiones ramificada arriba; 16-48 cm de alto. **Raíces** basales, carnosas; 1.4-2.3 mm de grosor. **Tallos** tipo caña, teretes, el basal ramificado hacia el ápice cuando maduro (después de florecer); 16-48 x 0.25-0.48 cm; las ramas 7-8 x 0.14-0.22 cm. **Hojas** 11-16 en el tallo basal, 6-7 en las ramas, distribuidas a lo largo de la mitad apical del tallo, alternas, semejantes entre sí; vaina tubular, verrugosa, 5-34 x 1.4-4.8 mm; lámina lanceolada, ápice agudo, lisa, con una quilla dorsal, margen entero; las del tallo principal 3-5.8 x 0.6-1.0 cm; las de las ramificaciones 1.4-2.8 x 0.5-0.7 cm. **Bráctea espátacea** ausente. **Inflorescencia** apical, racemosa, erecta; 4.5-7 cm de largo; pedúnculo corto, terete; 15-18 mm de largo; provisto de 1-2 brácteas semejantes a las florales, triangulares, largamente acuminadas; 5-7 mm de largo. **Brácteas florales** mucho más cortas que el ovario, abrazadoras, triangulares, acuminadas; 2-4 mm de largo. **Flores** 10-19, simultáneas, resupinadas, color púrpura; sin datos de fragancia. **Ovario** triquetro, no inflado, liso; 12-15 mm de largo. **Sépalos** extendidos, libres, oblanceolados, redondeados a agudos, 3-nervados, las nervaduras laterales ramificadas desde la base dando la apariencia de ser 5-nervados, margen entero; 9.5-10.5 x 2.5 mm. **Pétalos** extendidos, libres, angostamente oblanceolado espatulados, ápice subagudo, 3-nervados, margen entero; 8.5 x 1.8 mm. **Labelo** unido a la columna, trilobado, diminutamente papiloso, cuneado en la base; 6.1 x 5.3 mm; callo tridentado, formando un cojín algo depresado al centro; lóbulos laterales cuneados, truncados, la esquina posterior redondeada, la anterior aguda, margen apical sinuado; 2.2 x 1.8 mm; lóbulo medio subulado, agudo, muy caroso; 4.4 x 1.2 mm. **Columna** recta, delgada, 6 mm de largo incluyendo el clinandrio. **Clinandrio** prominente, dos veces más largo que el cuerpo de la columna, el margen apical eroso. **Antera** obovoide, 4-locular. **Polinios** 4, tipo ala de pájaro, desiguales, el par interior de la mitad del largo de los exteriores y ubicados en la parte alta del polinario, del lado más grueso de los polinios exteriores; caudícula laminar; sin viscidio. **Rostelo** perpendicular al eje de la columna, formando un seno amplio. **Nectario** penetrando una cuarta parte del ovario, no inflado, liso. **Cápsula** no vista.

Lithophytic, sympodial, caespitose herb, occasionally branching above. **Roots** basal, fleshy. **Stems** cane-like, terete, mature (after flowering) stems branching above, branches short. **Leaves** distributed along the upper half of the stems, sheaths verrucose, blade lanceolate, acute, margin entire, those of the branches smaller. **Inflorescence** apical, racemose, erect, peduncle short, terete, provided with 1-2 bracts. **Floral bracts** much shorter than the ovary, triangular, acuminate. **Flowers** 10-19, simultaneous, resupinate, purple. **Ovary** triquetrus. **Sepals** spreading, free, oblanceolate, rounded to acute, 3-veined, the lateral veins branching from the base so as to appear 5-veined, margin entire. **Petals** spreading, free, narrowly oblanceolate-spatulate, subacute, 3-veined, margin entire. **Lip** united to the column, 3-lobed, minutely papillate, callus tridentate, forming an elongate cushion, somewhat depressed in the center; lateral lobes cuneate, truncate, posterior corner rounded, front corner acute, midlobe subulate, fleshy, acute. **Column** long, straight, thin. **Clinandrium-hood** prominent, twice as long as the body of the column, margin erose. **Anther** obovoid, 4-celled. **Pollinia** 4, bird-wing type, very flat and translucent, unequal, the inner pair half as long as the outer pair, placed on the upper side of the pollinarium, where the outer pollinia are thicker; viscidium lacking. **Rostellum** perpendicular to the axis of the column, forming a wide sinus. **Nectary** penetrating one fourth of the ovary.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from the type locality near the summit of the Cordillera de Talamanca in central Costa Rica, in wet lower montane forest, on a cliff, at 2400 m altitude. Flowering in August.

RECOGNITION: *Epidendrum atypicum* belongs to the Oerstedella Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is transverse to the column instead of parallel, forming a wide, open sinus, and Aberrans Subgroup which has small, membranaceous flowers with a prominent clinandrium-hood, with unequal, bird-wing type pollinia, the inner pair much smaller than the outer pair, and the pollinia very flat and translucent. The species is recognized by the simple midlobe of the lip, and very prominent clinandrium-hood nearly twice as long as the body of the column, the inner pollinia are placed next to the thicker side of the outer pollinia. It is closely related to *E. crescentilobum* Ames which has somewhat smaller flowers and a 4-lobed lip. *Epidendrum aberrans* Schltr. has a 4-lobed lip, the lobes are inserted at 45° and narrow. *Epidendrum pachyepalum* Hágsater & E.Santiago has somewhat larger flowers, sepals 12-14 mm long, fleshy thickened towards the apex, a two-lobed midlobe, and the inner pair of pollinia nearly ¾ the length of the outer pair, and placed in the middle of the pollinarium. Other species with a three lobed lip and an entire midlobe have shorter clinandria and the pollinia are subequal, obovoid, with long, granulate caudicles and include *Epidendrum fuscinum* (Dressler) Hágsater which has 13-15 mm long sepals, the lateral lobes of the lip 7-10 mm long, and about 2-3 times longer than wide. *Epidendrum intermixtum* Ames, F.T.Hubb. & C.Schweinf. is endemic to central and western Costa Rica, and is recognized by the small pale green and white flowers, sepals 6.0-8.5 mm long, the lip about 3-4.2 mm long, with the lateral lobes oblique, so as to look like a trident, with the three lobes aligned at the apex and all equally wide.



CONSERVATION STATUS: DD. Data deficient. Only known from the type.

ETYMOLOGY: From the Greek, α , without, and $\tau\upsilon\pi\omicron\varsigma$, impression, thus, not the usual appearance of this group of species, referring to the simple midlobe of the lip which does not have the spreading apical lobes of *Epidendrum crescentilobum* or *E. aberrans*.

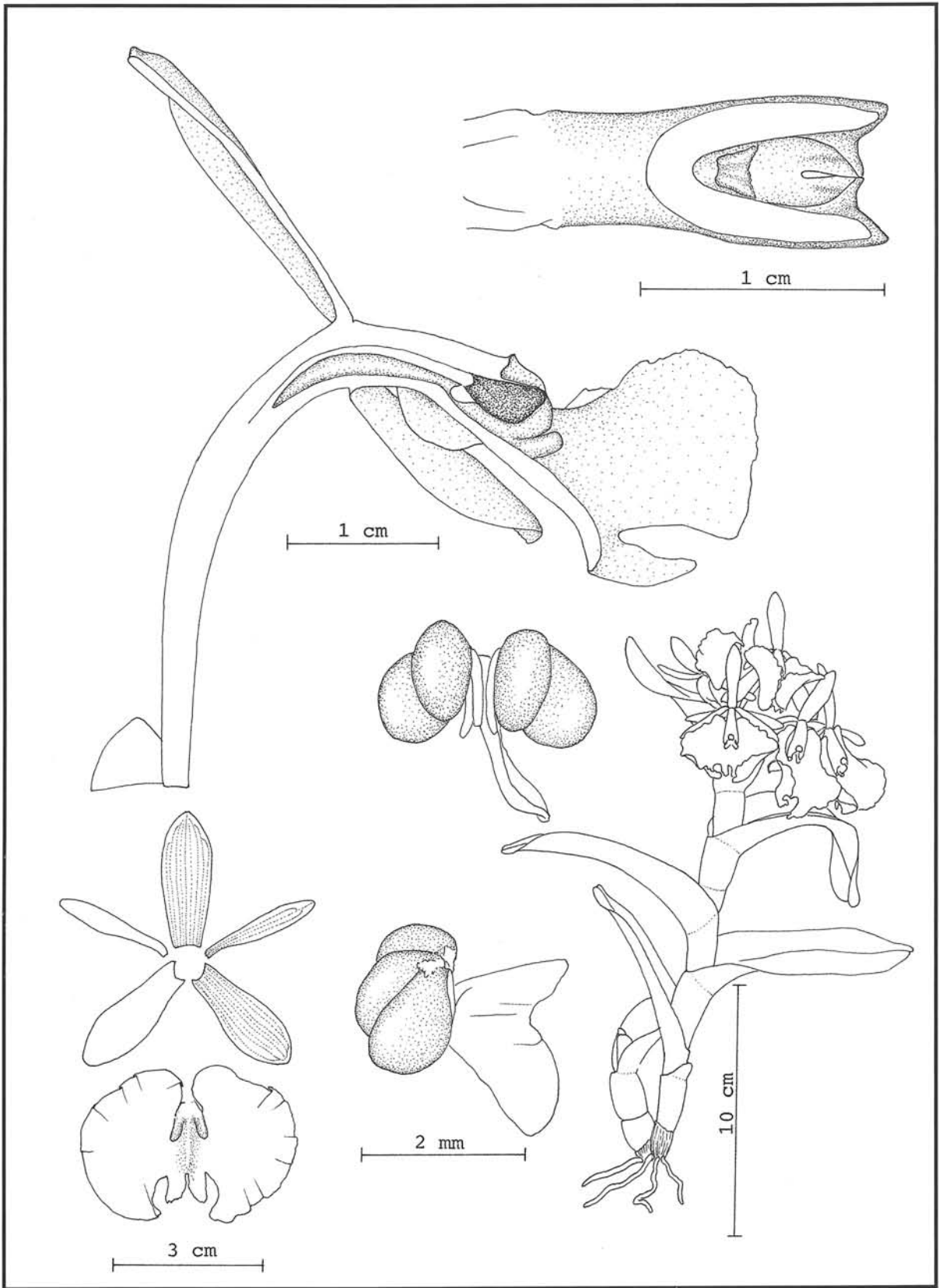
Authors: E. Hágsater & E. Santiago

Illustrator: M. López R.

Editors: E. Hágsater & L. Sánchez S.

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ICONES ORCHIDACEARUM 8. 2006. Plate 810



EPIDENDRUM BARBEYANUM Kraenzl.

THE GENUS EPIDENDRUM PART 5

EPIDENDRUM BARBEYANUM Kraenzl. Herb. Boiss. 3:607, 1895.

Type: COSTA RICA: Without locality, 2 October 1895, *Barbey s.n.* Holotype: G! Photo: F! SEL!

Synonym: *Epidendrum amparoanum* Schltr., Repert. Spec. Nov. Regni Veg. Beih. 19: 34. 1922. Type: COSTA RICA: [Alajuela:] San Jerónimo, c. 1350 m, *C. Wercklé 10*. Holotype: B (apparently destroyed).

Hierba epífita, simpodial, cespitosa, 20-32 cm de alto. **Raíces** basales, carnosas, filiformes a delgadas, 0.7-1.5 mm de grosor. **Tallos** sencillos, tipo caña, lateralmente comprimidos, flexuosos, 12-27 x 0.7-1.4 cm. **Hojas** 4-8, equidistantes a lo largo del tallo; vaina lateralmente comprimida, lisa, hasta 2.3-3.5 cm de largo; lámina lanceolada a elíptica, ápice irregularmente bilobado a obtuso, lisa, coriácea, verde, margen entero, extendido, carina dorsal baja, 5-11 x 1.5-5 cm. **Bráctea espatácea** ausente. **Inflorescencia** apical, en el tallo maduro, florece una sola vez, sésil. **Bráctea floral** mucho más corta que el ovario, ovada, aguda, 3-4 x 1.5-2 mm. **Flores** 5-10, simultáneas, resupinadas, coloración verde claro; fragancia nocturna, débil, metálica. **Ovario** no inflado, terete, no ornamentado, 30-60 x 1.0-1.7 mm. **Sépalos** libres, glabros, extendidos, subcoriáceos, lanceolados, agudos a obtusos, 7-nervados, margen entero, ligeramente revuelto, 23.5-28 x 6.8-8.5 mm. **Pétalos** extendidos, arqueados hacia el frente, membranáceos, linear-oblancoleados, agudos, 3-nervados, margen entero, extendido, 23-25.5 x 2.5-3.5 mm. **Labelo** unido a la columna, base profundamente cordada, transversalmente elíptico, trilobado, membranáceo, bicalloso, los callos angostos, redondeados, 26.7-29 x 37.5-42 mm; lóbulos laterales flabelformes, sinuosos, 16-17.5 x 28-29.5 mm; lóbulo medio separado de los laterales por senos profundos, mucho más corto que los lóbulos laterales que lo sobrepasan, el lóbulo medio con un seno profundo formando dos lóbulos ligeramente divergentes, triangulares a subrectangulares, agudos a redondeados, 2.5-8.3 x 5-11 mm. **Columna** recta, delgada, 13.3-14.5 x 1.5-2.5 mm. **Clinandrio** reducido, entero. **Antera** semiorbicular, 4-locular. **Polinios** 4, subiguales, obovoides, lateralmente comprimidos; caudículas suaves y granuladas, semejantes al largo de los polinios; viscidio viscoso, translúcido. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** penetrando 1/4 de la cavidad estigmática. **Nectario** penetrando 1/4 del ovario, liso. **Cápsula** no vista.

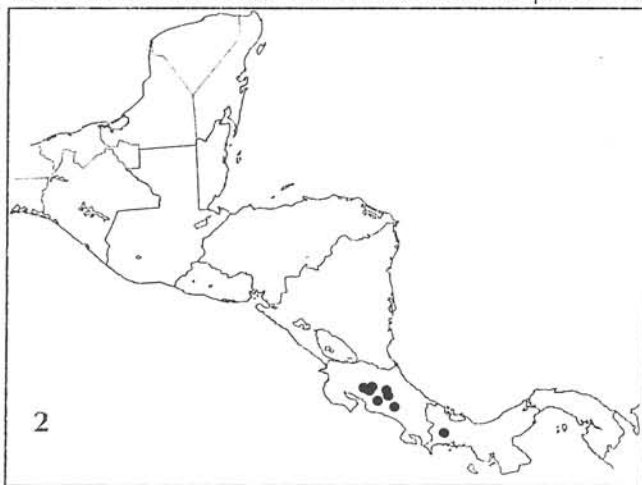
Epiphytic, caespitose, sympodial herb. **Stems** laterally compressed, flexuous. **Leaves** 4-8; sheath laterally compressed; blade lanceolate to elliptic, unequal bilobed to obtuse. **Inflorescence** apical, flowering only once, sessile. **Floral bracts** shorter than the ovary, ovate, acute. **Flowers** 5-10, simultaneous, resupinate, pale green; fragrance nocturnal, weak, metallic. **Ovary** no inflated, terete, glabrous. **Sepals** free, glabrous, spreading, subcoriaceous, lanceolate, acute to obtuse, 7-veined, margin entire, revolute. **Petals** spreading, membranaceous, linear-oblancoleate, acute, 3-veined, margin entire. **Lip** united to the column, transversally elliptic, 3-lobed, base cordate, membranaceous; bicallose, the calli narrow and rounded; lateral lobes flabelliform, undulate; midlobe smaller than the lateral lobes, separated by deep sinii, the midlobe forming two, divergent, triangular to subrectangular, acute to rounded lobes. **Column** straight. **Clinandrium-hood** reduced. **Anther** semiorbicular, 4-celled. **Pollinia** 4, subequal, obovoid, laterally compressed; caudicles soft and granular; viscidium viscoso, translucent. **Rostellum** apical, slit. **Lateral lobes of stigma** penetrating 1/4 of the stigmatic cavity. **Nectary** penetrating 1/4 of the ovary, unornamented.

OTHER SPECIMENS: See appendix.

DISTRIBUTION AND ECOLOGY: Known from Nicaragua[?], Costa Rica and Panama (Chiriquí). Epiphyte, in seasonally dry forest, from 850 to 1800 m altitude. Flowering from May to December. Pollinated by *Amastus acona*, fide Dodson, 1965.

RECOGNITION: *Epidendrum barbeyanum* Kraenzl., belongs to the Difforme Group which is characterized by the caespitose, sympodial plants, fleshy, pale green to glaucous leaves, apical inflorescence, sessile, rarely with a short peduncle, one-flowered to corymbose, without spathaceous bracts, fleshy, green to yellowish-green rarely white flowers. The species can be recognized by its laterally compressed stems, big flowers, flabelliform, undulated lateral lobes of the lip, midlobe much smaller than the lateral lobes, separated from them by deep sinii, forming two, divergent, triangular to subrectangular, acute to rounded lobes, clinandrium-hood reduced, entire. It differs from *Epidendrum althausenii* A.D.Hawkes, an Amazonian species, which has subquadrate lip, semioval lateral lobes, without deep sinii, an emarginated midlobe, and a prominent, dentate-fimbriate clinandrium-hood. *Epidendrum cremersii* Hágsater & L.Sánchez from French Guiana, has trapezoid, 3-lobed lip, with ovate lateral lobes, surpassing the very small midlobe, and a prominent, erose clinandrium-hood. The species has been confused with *Epidendrum latilabrum* Lindl. from Brazil, but its lip is four times broader than long, and curved downwards on each side, with suborbicular to subrectangular, entire lateral lobes, without a deep apical sinus, and an evident, dentate-fimbriate clinandrium-hood. The new species *Epidendrum vulgoamparoanum* Hágsater & L.Sánchez has elliptic to ovate leaves, a widely obovate, obscurely 3-lobed lip, with many thickened veins; the midlobe obscurely bilobed, and a prominent, erose-fimbriate clinandrium-hood.

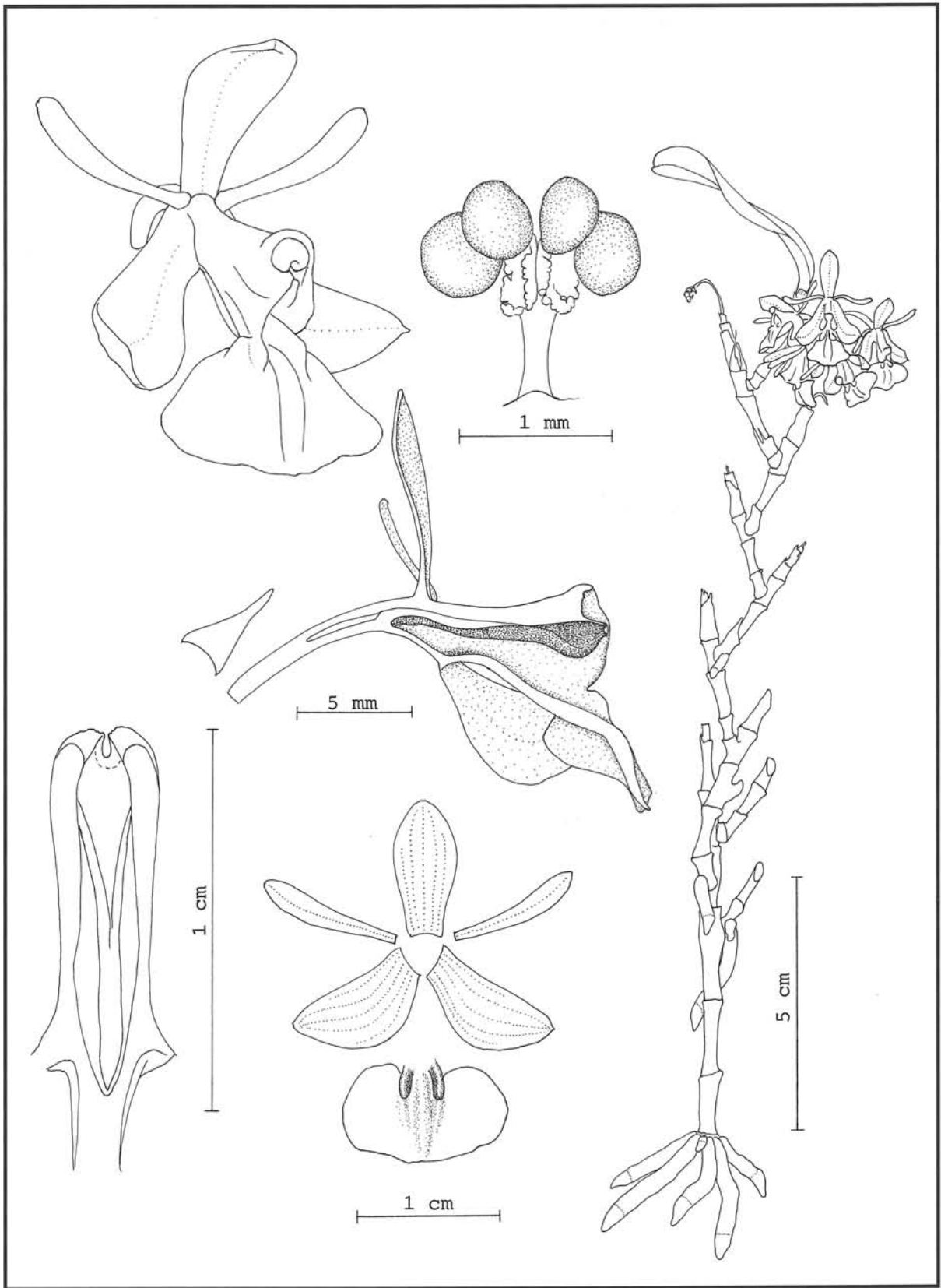
CONSERVATION STATUS: DD. Data deficient. The species is common in the greater metropolitan area of San José, and is common in disturbed metropolitan areas.



ETYMOLOGY: In honor to William Barbey, who cultivated orchids at the Serre de la Pierrière, in Switzerland in the late 19th Century, including plants collected by Adolphe Tonduz in Costa Rica.

NOTE: The name *E. amparoanum* has been traditionally used for a different species from the dry Pacific Lowlands, but though the type was lost, the original description leaves little doubt that it is synonymous with this entity and its very characteristic lip shape. The species traditionally called *E. amparoanum* is described as new elsewhere under the name *E. vulgoamparoanum* Hágsater & L. Sánchez.

REFERENCES: Dodson, C. H. 1965. *Agentes de Polinización, su Influencia sobre la Evolución de la Familia Orchidaceae*. Universidad Nacional de la Amazonica Peruana. Iquitos, Perú. 39.



EPIDENDRUM BISULCATUM Ames

THE GENUS EPIDENDRUM PART 5

Plate 812

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM BISULCATUM Ames, Sched. Orch. 5: 24, t. 5. 1923.

Type: PANAMÁ: Chiriquí: Palo-alto Hill, 6000 feet altitude, February to March 1923, C. W. Powell 280.
Holotype: AMES 25006! Isotypes: AMES 23741! MO! (Illustration of flower, AMO!)

Hierba epífita, simpodial, erecta, cada tallo nuevo se origina de un entrenudo intermedio del tallo anterior, 40-50 cm de alto. **Raíces** basales en el tallo inicial y ocasionalmente en la base de los tallos superiores, gruesas, 3.0-4.0 mm de grosor. **Tallos** sencillos, tipo caña, teretes, delgados, rectos, 3.5-7.0 x 0.12-0.35 cm. **Hojas** 2-4, agrúpadas en el ápice de los tallos, alternas, articuladas, pequeñas y angostas en los tallos superiores; vainas tubulares, ligeramente dilatadas en el ápice en ejemplares prensados, sin llegar a ser infundibuliformes, finamente estriadas, escariosas, 4.0-11 mm de largo; lámina oblonga, aguda, conduplicada en la base, subcoriácea, margen entero; las de los tallos inferiores, 6.0-9.0 x 1.4-2.2 cm, las de los tallos superiores, [1.5]3.0-6.0 x 0.7-1.2 cm. **Bráctea espatácea** ausente. **Inflorescencia** apical, florece una sola vez, racemosa, arqueada, hasta 3.8 cm de largo; pedúnculo delgado, ancipitoso, 1.5-1.9 cm de largo; provisto en el ápice de una bráctea, triangular, acuminada, amplexicaule, semejante a las florales, 6.0-8.0 mm de largo; raquis, corto, terete, 1.2-2.2 cm de largo. **Brácteas florales** más cortas que el ovario, triangulares, acuminadas, abrazadoras, 2.0-6.0 mm de largo. **Flores** 6-9, sucesivas, no resupinadas, sépalos y pétalos verde olivo, labelo verde claro teñido de morado; fragancia nocturna, débil. **Ovario** terete, delgado, ligeramente dilatado en el ápice, no inflado, liso, 10-11 mm de largo. **Sépalos** extendidos, libres, glabros, oblongos, agudos, 3-nervados, las nervaduras laterales ramificadas desde la base dando la apariencia de ser 5-nervados; margen extendido, entero, 12-15 x 6.0-6.5 mm; los **laterales** oblicuos. **Pétalos** extendidos, libres, linear espatulados, agudos a obtusos, 3-nervados, margen extendido y entero, 11-12 x 2.5 mm. **Labelo** unido a la columna, entero, suborbicular, convexo, cordado en la base, retuso, margen eroso, 9.0-10 x 11-12.5 mm; bicalloso, los callos laminares, cortos; disco con 3 quillas, muy bajas, lisas, ubicadas justo al frente de los callos, la central ligeramente más larga. **Columna** ligeramente arqueada hacia arriba, delgada en la base y gradualmente más ancha hacia el ápice, 7.0-8.0 mm de largo. **Clinandrio** reducido, margen entero. **Antera** reniforme, 4-locular. **Polinios** 4, subobovoides, lateralmente comprimidos; caudículas suaves y granulósas, tan largas como los polinios. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** no vistos. **Cápsula** no vista.

Epiphytic, sympodial, erect herb the new stem originates from a middle internode of the previous stem. **Roots** basal and occasionally from the upper stems, thick. **Stems** simple, cane-like, terete, thin, straight. **Leaves** 2-4, aggregate towards the apex of the stems, alternate, articulate, those of the upper stems small and narrow; sheaths tubular, slightly dilated towards the apex in pressed specimens, minutely striated, scariosus; blade oblong, acute, base conduplicate, subcoriaceous, margin entire. **Inflorescence** apical, flowering only once, racemose, arching; peduncle thin, ancipitose, provided with a bract towards the apex, the bract similar to the floral bracts. **Floral bracts** shorter than the ovary, triangular, acuminate. **Flowers** 6-9, successive, non-resupinate, sepals and petals olive-green, lip lighter with a purple cast over it; fragrance nocturnal, weak. **Ovary** terete, thin, slightly dilated towards the apex, smooth. **Sepals** spreading, free, oblong, acute, 3-veined, the lateral veins bifurcate from the base and thus appearing 5-veined, margin spreading, entire; the lateral sepals oblique. **Petals** spreading, free, linear-spathulate, acute to obtuse, 3-veined, margin spreading, entire. **Lip** united to the column, entire, suborbicular, convex, cordate at the base, retuse, margin erose; bicallose, the calli laminar, short, with 3 low keels in front, the central keel running to the apex of the lip, the lateral ones short. **Clinandrium-hood** reduced, margin entire. **Anther** reniform, 4-celled. **Pollinia** subobovoid, laterally compressed; caudicles soft and granulose, as long as the pollinia. **Rostellum** apical, slit.

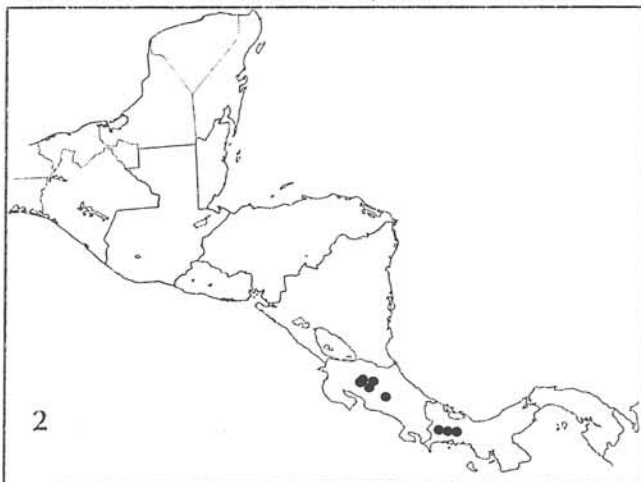
OTHER SPECIMENS: See appendix.

DISTRIBUTION AND ECOLOGY: Endemic to Costa Rica and western Panama. Growing epiphytic at 1500-2500 m altitude, in medium sunny places. Flowering from July, October to March. [Dietrich (1980) cited the species for Guantánamo, Cuba, but probably referred to specimens later identified as *E. jamaicense* Lindl. by Hágsater.]

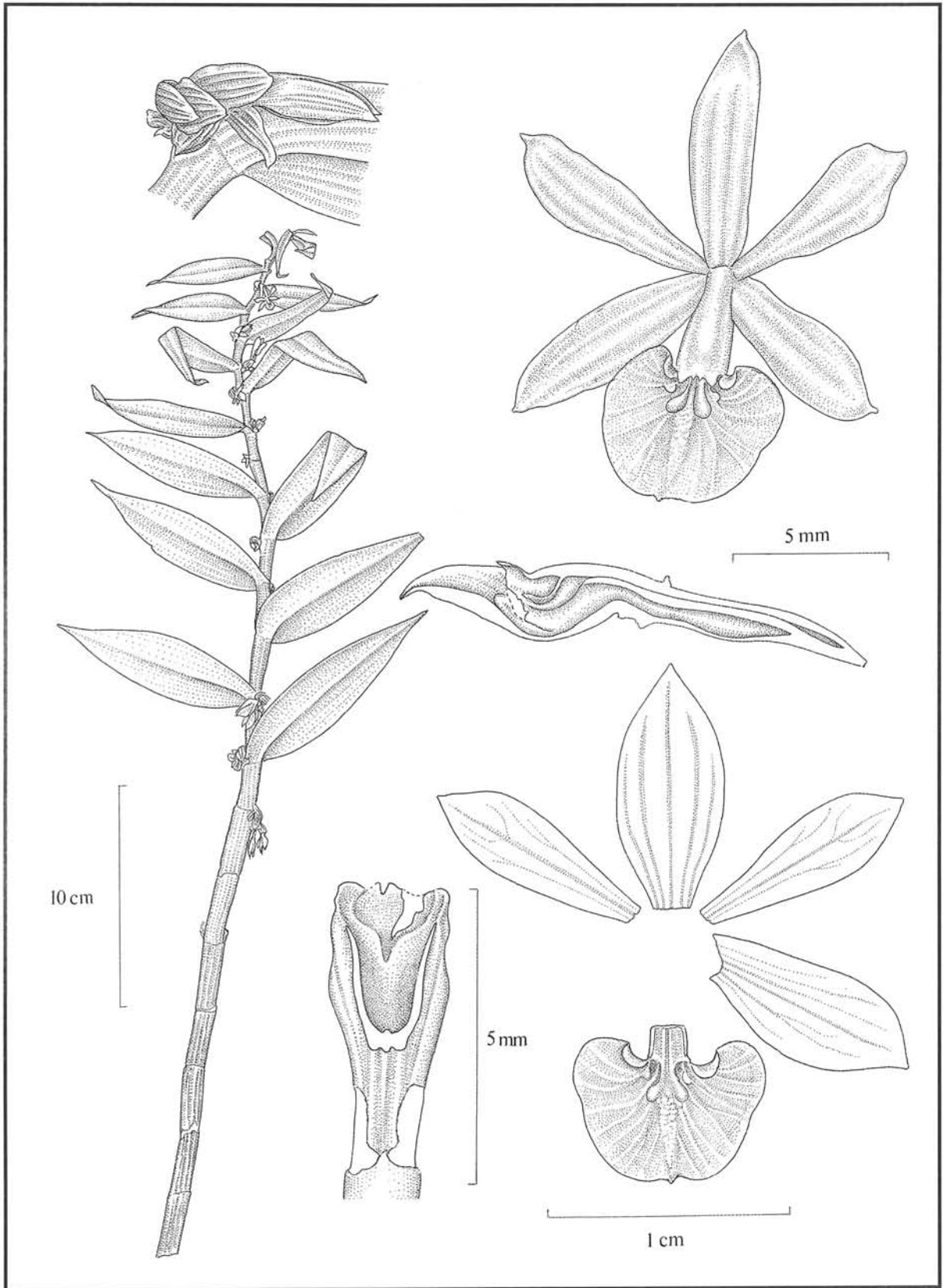
RECOGNITION: *Epidendrum bisulcatum* belongs to the Arbuscula Group, Incomptum Subgroup which is characterized by the successive lateral growths produced from the middle of the previous growth, few leaves aggregate towards the apex of the stems, a short apical inflorescence with fleshy greenish to violet-green flowers with short ovaries, the lip entire to 3-lobed. The species is recognized by the short, thin stems with 2-4 oblong, acute leaves, few-flowered inflorescence with 6-9 successive, olive-green flowers, and the suborbicular lip, 11-12.5 mm wide, with an erose margin. *Epidendrum brenesii* Schltr. has stems 2-5 mm thick, a inflorescence with 8-12[40] violet-green or yellowish green flowers, a reniform lip, 12-19 mm wide, with the apex somewhat 4-lobed. *Epidendrum cerinum* Schltr. has larger, olive green or lavender to black-colored flowers, the sepals 17-24 mm long a widely ovate lip with a fimbriate margin, the lip obliquely united to the column.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In reference to the lip which was described as bisulcate in front of the calli. The lip has three keels and therefore in between the keels it may appear that there are two grooves. The original illustration and description suggest that there is only one keel with short grooves in front of the calli. From the flowers on the raceme it is clear that the lip is 3-keeled.



REFERENCES: Dietrich, H., 1980. Floristische und Taxonomische Notizen zu den Orchideen Cubas 2, Wiss. Zeitschr. Friedrich-Schiller Univ. Jena: Mat. Naturwiss. 29(4): 519-529.



EPIDENDRUM BRACHYBOTRYS Ackerman & Montalvo
THE GENUS EPIDENDRUM PART 5

EPIDENDRUM BRACHYBOTRYS Ackerman & Montalvo, Selbyana 9(1): 129. 1986.

Type: PANAMA: Coclé: N of El Copé, near sawmill, edge of continental divide, 1200-1400 m, windward slope, 22 January 1980, A. M. Montalvo 383. Holotype: SEL!

Hierba epífita, cespitosa, hasta más de 50 cm de alto. **R:** caña, sencillos, teretes, gruesos, de más de 50 x 0.26-0.7 cm. **Hojas** numerosas, distribuidas a todo lo largo del tallo, alternas, gramíneas, desiguales, gradualmente más pequeñas hacia el ápice; vaina tubular, finamente estriada, 11-30 x 2.6-7.5 mm; lámina angostamente elíptica, ápice acuminado, margen entero, ligeramente revoluta, las venas marcadas en el dorso, 5.3-10.5 x 1.1-2.7 cm, las basales caedizas, desprovistas de lámina foliar. **Bráctea espatácea** ausente. **Inflorescencias** numerosas, laterales, pluriracemosas, producen nuevos racimos con el tiempo, 2.0 cm de largo; pedúnculo terete, corto; oculto por brácteas tubulares, imbricadas, de 4-5 mm de largo. **Brácteas florales** casi tan largas como el ovario, anchamente ovadas, redondeadas, abrazadoras, 5.5 x 3 mm. **Flores** 1-2 por racimo, simultáneas, resupinadas, blanco verdosas; sin datos de fragancia. **Ovario** terete, delgado, liso, ventralmente ligeramente inflado en los 2/3 apicales, 6.6 mm de largo. **Sépalos** extendidos, libres, glabros, carnosos, agudos, margen entero; el dorsal elíptico, 5-nervados, 10.2 x 4.5 mm; los laterales oblanceolados, 6-nervados, oblicuos, 9.5 x 4.1 mm. **Pétalos** extendidos, libres, espatulados, subagudos, 3-nervados, las nervaduras ramificadas en el ápice, margen entero, 9.5 x 3.1 mm. **Labelo** unido a la columna, entero, subreniforme, base cordada, ápice cortamente apiculado, margen entero, convexo en posición natural, 6.4 x 7.9 mm; bicalloso, los callos, delgados, redondeados en el ápice, divaricados; provisto de una quilla prominente, muy carnososa en la base, ligeramente verrugosa y múltiples venas engrosadas distribuidas en toda la superficie del labelo. **Columna** delgada, ligeramente arqueada, ventralmente provista de un par de alas que se ensanchan gradualmente de la base hacia el ápice de la misma, no involutas, 5 mm de largo. **Clinandrio** ligeramente alargado, irregularmente dentado, algo en forma de embudo. **Antera** no vista. **Polinios** no vistos. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** no vistos. **Nectario** penetrando los 2/3 apicales del ovario, ligeramente inflado, liso. **Cápsula** no vista.

Epiphytic, caespitose, **herb.** **Stems** cane-like, simple, terete, thick. **Leaves** numerous, distributed throughout the stem, grass-like, unequal, gradually smaller towards the apex; sheath tubular, minutely striated; blade narrowly elliptic, acuminate, margin entire, slightly revolute, the veins marked dorsally. **Inflorescences** numerous, lateral, pluriracemose, produces new racemes with time, peduncle terete, short, hidden by tubular, imbricating bracts. **Floral bracts** nearly as long as the ovary, widely ovate, rounded. **Flowers** 1-2 per raceme, simultaneous, resupinate, greenish white. **Ovary** terete, thin, smooth, ventrally slightly inflated along the apical 2/3rds. **Sepals** spreading, free, glabrous, fleshy, acute, margin entire, dorsal elliptic, 5-veined, laterals oblanceolate, 6-veined, oblique. **Petals** spreading, free, spatulate, subacute, 3-veined, the veins branched near the apex, margin entire. **Lip** united to the column, entire, subreniform, base cordate, apex short-apiculate, margin entire, convex in natural position; bicallose, the calli thin, rounded and divaricate towards the apex, provided with a very fleshy, somewhat verrucose, prominent, keel, and multiple thickened veins throughout the surface. **Column** thin, slightly arching, ventrally with a pair of wings that broaden towards the apex. **Clinandrium-hood** slightly elongate, irregular, dentate, somewhat funnel-shaped. **Rostellum** apical, slit. **Nectary** penetrating 2/3 of the ovary, somewhat inflated, smooth.

OTHER SPECIMENS: PANAMA: Coclé: El Potroso, Alto Calvario, 1 I 1977, Folsom 1535, MO! (Illustration voucher). El Copé to El Limón, 700-850 m, 25 II 1988, Daniel 5471, CAS!

DISTRIBUTION AND ECOLOGY: Known only from the province of Coclé in central Panamá, along the ridge of the continental divide, epiphytic in cloud forest; 700-1400 m altitude. Flowering in January and February.

RECOGNITION: *Epidendrum brachybotrys* belongs to the *Aggregatum* Group, characterized by the caespitose habit, tall canes with numerous short, lateral inflorescences, one to several greenish flowers, each subtended by one bract. The species is characterized by the 1-2 flowers, entire, bicallose lip. *Epidendrum aggregatum* Lindl. has several flowers to each raceme, the flowers larger, sepals about 17 mm long. *Epidendrum dendrobii* Rchb.f. has more numerous flowers, more rounded tepals and a bilobed lip with small, parallel calli. *Epidendrum pileatum* Rchb.f. has flowers smaller than those of *E. dendrobii* the lip also bilobed, the disc is three-keeled, the sepals acute.

CONSERVATION STATUS: DD. Data deficient. The species is apparently highly endemic, and found only along the ridge-top.

ETYMOLOGY: From the Greek, βραχυς- short, and βοτρυς- a bunch of grapes, the inflorescence, in reference to the very abbreviated, few-flowered, inflorescence.

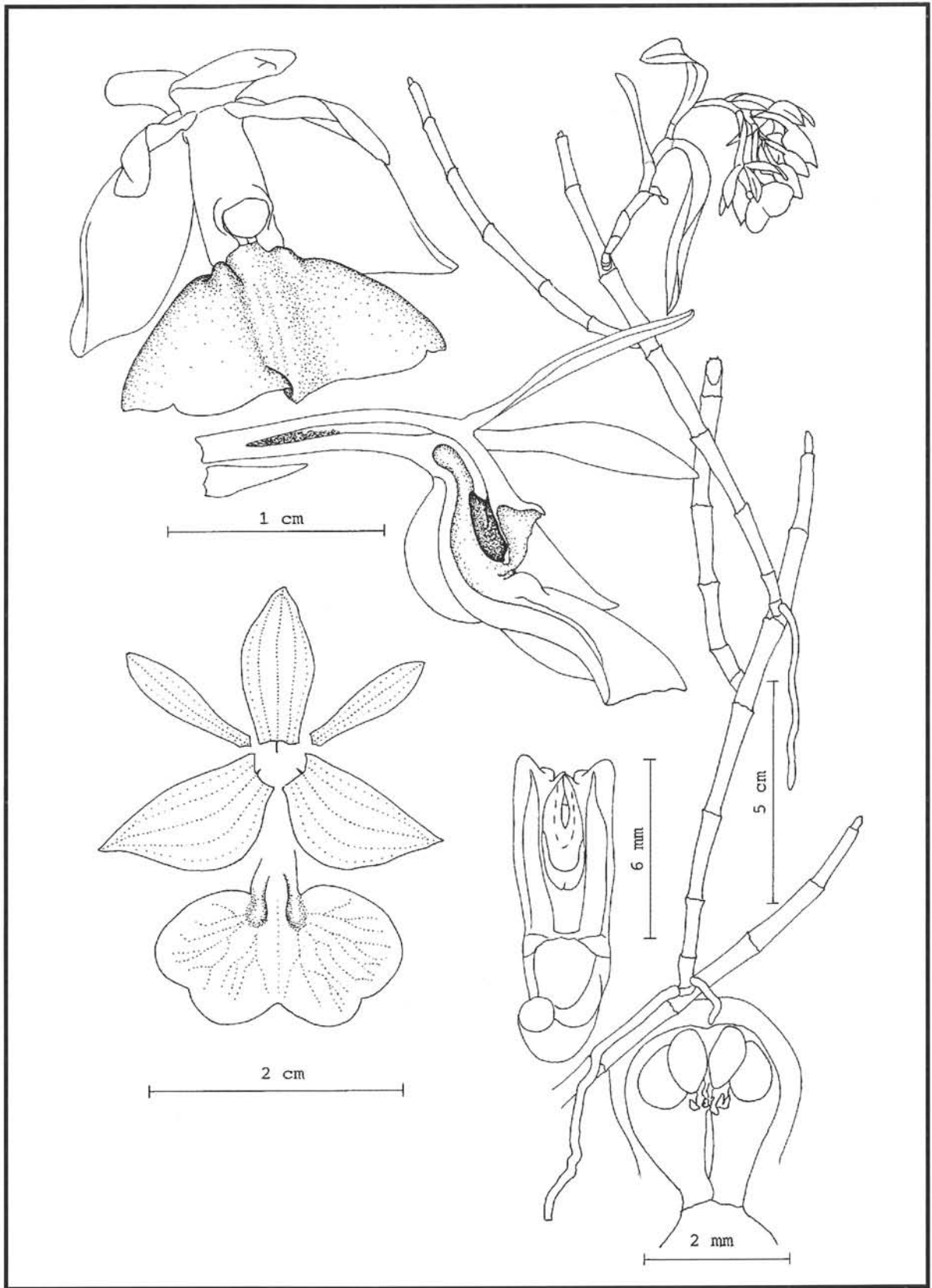


Author: E. Hágsater

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Editors: E. Hágsater & L. Sánchez S.

Herbario AMO Apartado Postal 53-123, 11320 México, D.F., MÉXICO ICONES ORCHIDACEARUM 8. 2006. Plate 813



EPIDENDRUM BRENESII Schltr.

THE GENUS EPIDENDRUM PART 5

Plate 814

ICONES ORCHIDACEARUM 8. 2006

Type: COSTA RICA: Alajuela: San Pedro de San Ramón, 1050 m, November 1921, *A. M. Brenes 118*.
Holotype: B, destroyed. Lectotype, here designated: tracing of the type with floral details, mounted on
Standley 36573, AMES 29339! (Cited by Barringer, 1986.)

Hierba epífita, simpodial, erecta, cada tallo nuevo se origina de un entrenudo intermedio del tallo anterior, 30-70 cm de alto. **Raíces** basales en el tallo inicial y ocasionalmente en la base de los tallos superiores, gruesas, 1.5-3 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, los apicales más delgados, 5.0-30 x 0.2-0.5 cm. **Hojas** 3-5, agrupadas en el ápice de los tallos, alternas, articuladas, erecto extendidas; vainas tubulares, finamente estriadas, fibrosas con el tiempo, 11-17 mm de largo; lámina oblonga, aguda, subcoriácea, margen entero; 4.0-9.5 x 1.3-2.1 cm. **Bráctea espatácea** ausente. **Inflorescencia** apical, florece una sola vez, racemosa a raramente paniculada, arqueada, 3.5-6.5 cm de largo; pedúnculo delgado, ancipitoso, recto, 1-2.5 cm de largo; provisto de una bráctea, lanceolada, aguda, abrazadora, semejante a las florales, 5-7 mm de largo; raquis, corto, terete, delgado, recto, 2.5-4 cm de largo. **Brácteas florales** de la mitad del largo del ovario, triangulares, acuminadas, abrazadoras, las apicales gradualmente más cortas, 3-10 mm de largo. **Flores** 8-12 [40], sucesivas, aunque varias llegan a estar abiertas de manera simultánea, resupinadas, de color pardo violeta con la columna verde a amarilló verdoso; fragancia ligera al atardecer a "cáscara de plátano". **Ovario** terete, delgado, no inflado, liso, 10-18 mm de largo. **Sépalos** entreabiertos, libres, oblongos a angostamente elípticos, agudos, ligeramente cóncavos, glabros, 3-nervados, margen extendido, entero, 12-14 x 5-8 mm; los **laterales** oblicuos. **Pétalos** entreabiertos, libres, linear oblancoleados, agudos, 3-nervados, margen extendido y entero, 12-14 x 2-3 mm. **Labelo** unido a la columna, entero, anchamente reniforme, ligeramente convexo, velutinoso, profundamente emarginado, ápice incipientemente 4-lobado, margen entero, 8-11 x 12-19 mm; bicalloso, los callos formados por un par de engrosamiento cortos, lateralmente aplanados; disco con 1 quilla, ancha, baja, lisa, alargada hasta el ápice de la lámina. **Columna** delgada en la base y gradualmente más ancha hacia el ápice, ligeramente arqueada hacia arriba, 6-8 mm de largo. **Clinandrio** reducido, margen entero. **Antera** no vista. **Polinios** 4, obovoides, lateralmente comprimidos; caudículas suaves y granulosas, tan largas como los polinios. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** no vistos. **Cápsula** no vista.

Epiphytic, sympodial, erect herb, the new stem originates from a middle internode of the previous stem. **Roots** basal from the initial stem and occasionally from the upper stems, thick. **Stems** simple, cane-like, terete, straight, the apical ones thinner. **Leaves** 3-5, aggregate towards the apex of the stems, alternate, articulate, erect-spreading; sheaths tubular, minutely striated, fibrous with time; blade oblong, acute, subcoriaceous, margin entire. **Inflorescence** apical, flowering only once, racemose or rarely paniculate, arching; peduncle thin, ancipitose, straight, provided with a lanceolate, acute bract, similar to the floral bracts; rachis short, terete, thin, straight. **Floral bracts** half as long as the ovaries, triangular, acuminate, the apical ones gradually shorter. **Flores** 8-12 [40], successive, though several are open at one time, resupinate, violet-brown with the column green to greenish yellow; with a weak afternoon fragrance reminiscent of "banana peel". **Ovary** terete, thin, smooth. **Sepals** partly spreading, free, oblong to narrowly elliptic, acute, somewhat concave, glabrous, 3-veined, margin spreading, entire; the **lateral sepals** oblique. **Petals** partly spreading, free, linear-oblancoleate, acute, 3-veined, margin spreading and entire. **Lip** united to the column, entire, widely reniform, somewhat convex, velutinous, deeply emarginate, apex slightly 4-lobed, margin entire; bicallose, the calli formed by short, laterally compressed thickenings with a low, wide, smooth mid-keel reaching near the apex of the lip. **Column** thin at the base, gradually thicker towards the apex, curving upwards. **Clinandrium-hood** reduced, margin entire. **Polinia** 4, obovoid, laterally compressed; caudicles soft and granulose, as long as the pollinia. **Rostellum** apical, slit.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Endemic to central Costa Rica, both slopes of the Cordillera Central, and the Valley of the Río Orosí at 1050-2000 m altitude; epiphytic in disturbed forests and on *Cupressus* sp. Flowering from November to July.

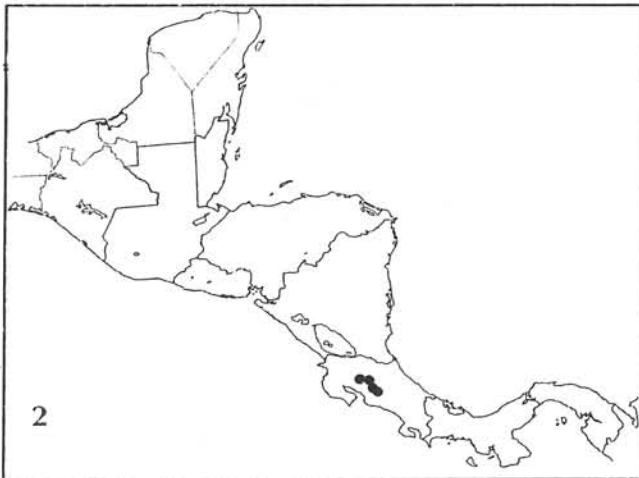
RECOGNITION: *Epidendrum brenesii* belongs to the Arbuscula Group, Incomptum Subgroup which is characterized by the successive lateral growths produced from the middle of the previous growth, few leaves aggregate towards the apex of the stems, a short apical inflorescence with fleshy greenish to violet-green flowers with short ovaries, the lip entire to 3-lobed. The species is recognized by the stems 2-5 mm thick, an inflorescence with 8-12[40] violet-green or yellowish green flowers, a reniform, velutinous, deeply emarginate lip, with the apex somewhat 4-lobed, 12-19 mm wide, and the margin entire. *Epidendrum bisulcatum* Ames has short, thin stems 1.2-3.5 mm thick, a few-flowered inflorescence with 6-9 olive-green flowers, and a suborbicular lip, 11-12.5 mm wide, with an erose margin. *Epidendrum cerinum* Schltr. has larger, olive green or lavender to black-colored flowers, the sepals 17-24 mm long a widely ovate lip with the margin short and irregularly fimbriate, the lip is obliquely united to the column. *Epidendrum incomptum* Rchb.f. has a dense inflorescence with up to 20 flowers, the lip 3-lobed and ecallose with the margin entire.

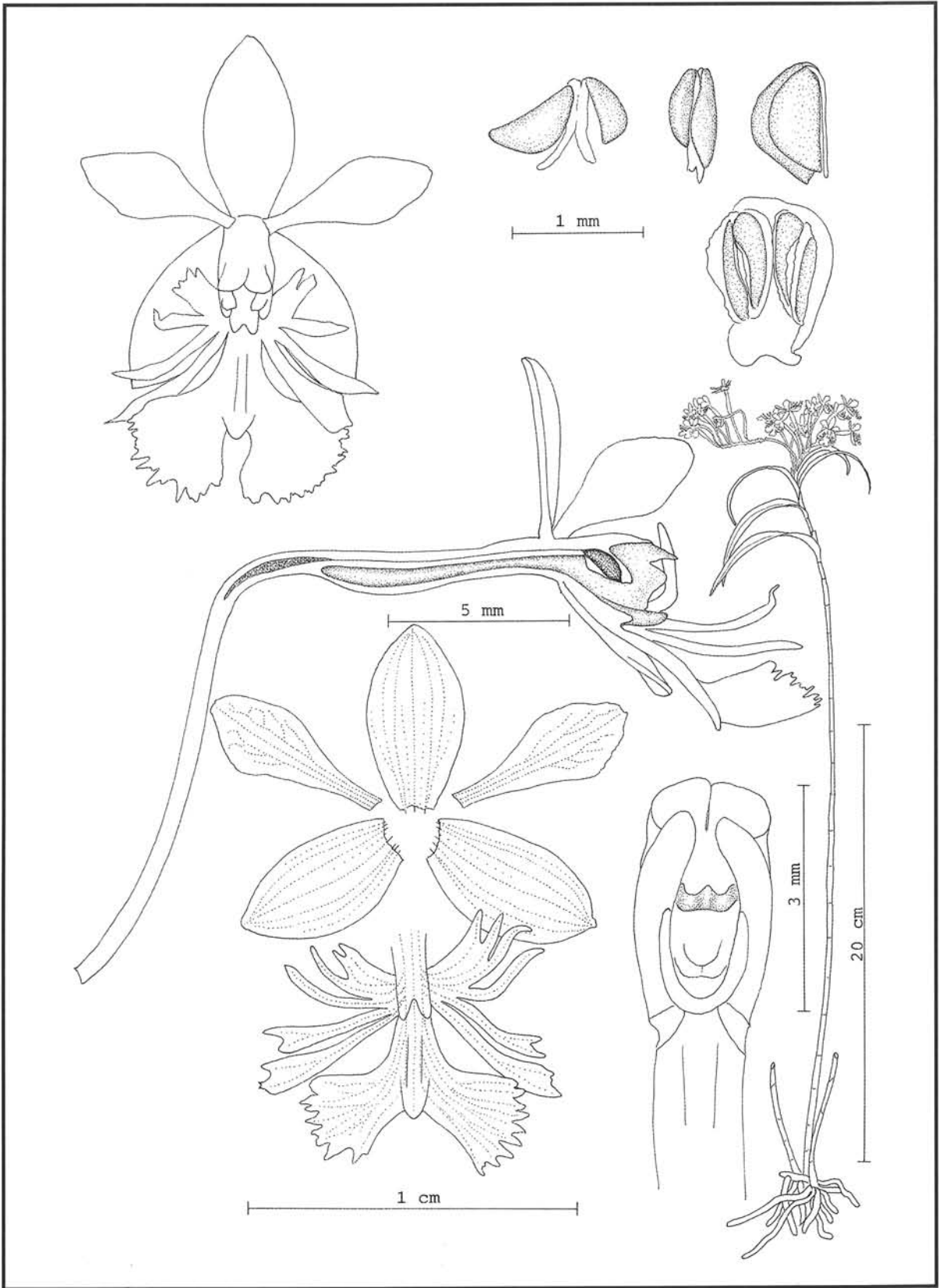
CONSERVATION STATUS: DD. Data deficient. Grows in disturbed areas on *Cupressus* sp.

ETYMOLOGY: In honor of Alberto M. Brenes (1870-1948), Costarican botanist in charge of the herbarium at the Museo Nacional (CR), who sent numerous specimens to Rudolf Schlechter. He collected mainly around San Ramón.

REFERENCES: Barringer, K. 1986. Schlechter's Costa Rican Types. I. *Fieldiana. Bot.* 17: 6-7.

Hammel, B. E., et al. 2003. *Manual de Plantas de Costa Rica Vol. III*. Missouri Botanical Garden Press. pg. 121.





EPIDENDRUM CALIGARIUM Rchb.f.

THE GENUS EPIDENDRUM PART 5

Plate 815

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM CALIGARIUM Rchb.f., Gard. Chron. 1869: 1110. 1869.

Type: Central America (as New Granada*), hort. *Wentworth W. Buller s.n.* Holotype: K, photo at AMES! Isotype: (including illustration of flower) W 49556! Tracing of illustration AMES 24098! Xerox AMO!
Synonym: *Oerstedella caligaria* (Rchb.f.) Hágsater, Orquídea (Mexico City) 8(1): 21. 1981.

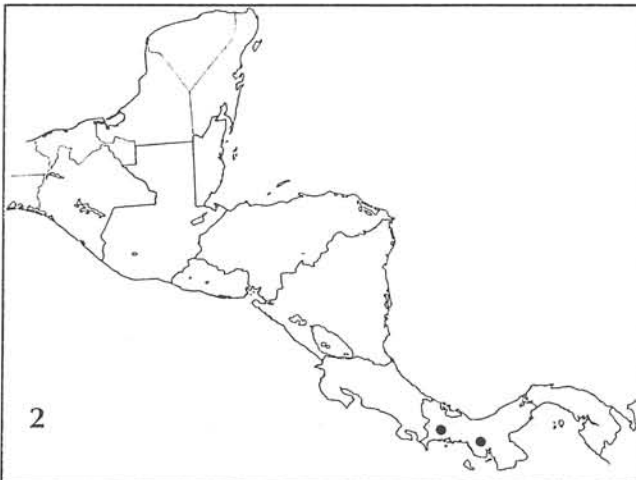
Hierba cespitosa, erecta, recta, de 30-80 cm de alto. **Raíces** basales, carnosas, gruesas, blancas; 4.0-5.0 mm de grosor. **Tallos** sencillos, tipo caña, teretes, delgados, rectos; 30-50 x 0.3-0.5 cm. **Hojas** numerosas durante el desarrollo, 4-6 durante la floración, distribuidas hacia la mitad apical del tallo, alternas, articuladas, gramíneas; vaina tubular, verrugosa; 13-20 x 1.0-2.0 mm; lámina angostamente elíptica o linear lanceolada, aguda, margen entero; 1.5-7.0 x 0.3-0.7 cm. **Bráctea** espátacea ausente. **Inflorescencia** apical, florece una sola vez, racemosa a paniculada, ligeramente arqueada, densa. **Brácteas florales** mucho más cortas que el ovario, triangulares, agudas, abrazadoras, gradualmente más cortas; 2.0-3.0 mm de largo. **Flores** numerosas, simultáneas, resupinadas, erectas sobre el raquis, de color rosado, columna blanca, callo amarillo; sin fragancia. **Ovario** subterete, delgado, ligeramente inflado cerca del tercio apical, liso; 15-20 mm de largo. **Sépalos** extendidos, libres, elípticos, obtusos, diminutamente apiculados, 6-7-nervados, algunas nervaduras ramificadas desde la base, dando la apariencia de ser 8-9 nervados, margen entero, 5.5-6.0 x 3.0-3.2 mm. **Pétalos** extendidos, libres, obtrulados, redondeados, unguiculados, margen eroso en la mitad apical, entero en la mitad basal, 3-nervados, las nervaduras laterales ramificadas en la mitad apical; 6.0 x 2.5 mm. **Labelo** unido a la columna, trilobado; 4.5-8.0 x 6.0-10 mm; bicalloso, los callos delgados, alargados hasta la base del lóbulo medio; con una quilla, delgada, lisa, decurrente, alargada hasta el seno apical; lóbulos laterales oblicuamente ovados, profundamente 4-5-lacinados, algunas lacinias bifurcadas en el ápice; lóbulo medio bilobado, con un istmo largo y delgado, los lobos obcuneados, margen apical dentado. **Columna** recta, dilatada hacia el ápice, de manera que el labelo y el dorso de la columna forman un ángulo de unos 45°; 3.3 mm de largo. **Clinandrio** prominente, bilobado, margen entero. **Antera** obovoide, truncada, 4-localar. **Polinios** 4, tipo ala de pájaro, triangular semicircular, lateralmente comprimidos, planos, desiguales, el par interior más pequeño; caudículas subteretes, granuladas, del largo de los polinios; viscidio ausente. **Rostelo** perpendicular con respecto al eje de la columna, formando un seno amplio. **Nectario** penetrando poco más de 1/3 del ovario, ligeramente inflado, liso. **Cápsula** no vista.

Caespitose, erect **herb.** **Roots** basal, fleshy, thick, white. **Stems** simple, cane-like, terete, thin, straight. **Leaves** numerous, 4-6 at flowering, distributed towards the apex of the stem, alternate, articulate, grass-like; sheaths tubular, verrucose; blade narrowly elliptic to linear-lanceolate, acute, margin entire. **Inflorescence** apical, flowering only once, racemose to paniculate, slightly arching, dense-flowered, secund, the flowers always above the rachis. **Floral bracts** much shorter than the ovary, triangular, acute, gradually shorter apically. **Flowers** numerous, simultaneous, resupinate, rose-pink, the column white, calli yellow. **Ovary** subterete, apically somewhat inflated, smooth. **Sepals** spreading, free, elliptic, obtuse, minutely apiculate, 5-7-veined, some veins branching from the base and thus appearing 7-8 veined, margin entire. **Petals** spreading, free, obtrullate, rounded, unguiculate, slightly longer than the sepals, 3-veined, the lateral veins much branched above distally, apical margin erose, basal margin entire. **Lip** united to the column, 3-lobed; bicallose, the calli thin, elongate, reaching the base of the midlobe; with a narrow, smooth keel running down the midlobe to the apical sinus; lateral lobes obliquely ovate, margin deeply 4-5-laciniate, some lacinia apically bifurcate; midlobe bilobed, with a long, narrow isthmus, the lobes obcuneate, apical margin dentate. **Column** straight, strongly dilated, the lip forming a 45° angle with the back of the column. **Clinandrium-hood** prominent, bilobed, margin entire. **Anther** obovoid, 4-celled. **Pollinia** 4, bird-wing-type, triangular-semicircular, laterally compressed, flat, unequal, the inner pair smaller; caudicles subterete, granulate, slightly longer than the pollinia. **Rostellum** perpendicular to the column forming a wide sinus. **Nectary** penetrating somewhat more than a third of the ovary, smooth.

OTHER SPECIMENS: See appendix.

DISTRIBUTION AND ECOLOGY: Known only from central and western Panama from the provinces of Veraguas and Chiriquí, growing in dry, hot country, on rocks on stream banks, seasonally dry conditions at 360 m altitude. Flowering in February-March.

RECOGNITION: *Epidendrum caligarium* belongs to the *Oerstedella* Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is perpendicular to the axis of the column instead of parallel, forming a wide, open sinus, and without a viscidium, and the Verrucosum Subgroup, recognized by the small to medium sized, membranaceous flowers with sepals and petals immaculate, a bilobed clinandrium-hood slightly surpassing the body of the column, obovoid, subequal pollinia with long granulate caudicles. The species is recognized by the thin stems, rosy purple flowers, the lateral lobes of the lip deeply 4-5-laciniate, with the angle between the lip and column about 45° wide, and the clinandrium-hood deeply slit, margin entire. It is nearly identical to *E. niveocaligarium* Hágsater which has pure white flowers, deeply 5-laciniate lateral lobes of the lip and the column and lip forming a 70° angle. The Mexican (Isthmus of Tehuantepec) *Epidendrum macdougalii* (Hágsater) Hágsater is vegetatively also very similar, but the lobes of the lip are narrow and entire, neither dentate nor deeply laciniate. Though first compared to *E. myrianthum* Lindl., that species has a much more vigorous vegetative habit, a large paniculate inflorescence, and the flowers similar to those of *E. macdougalii*, with the margin of the lobes of the lip entire.

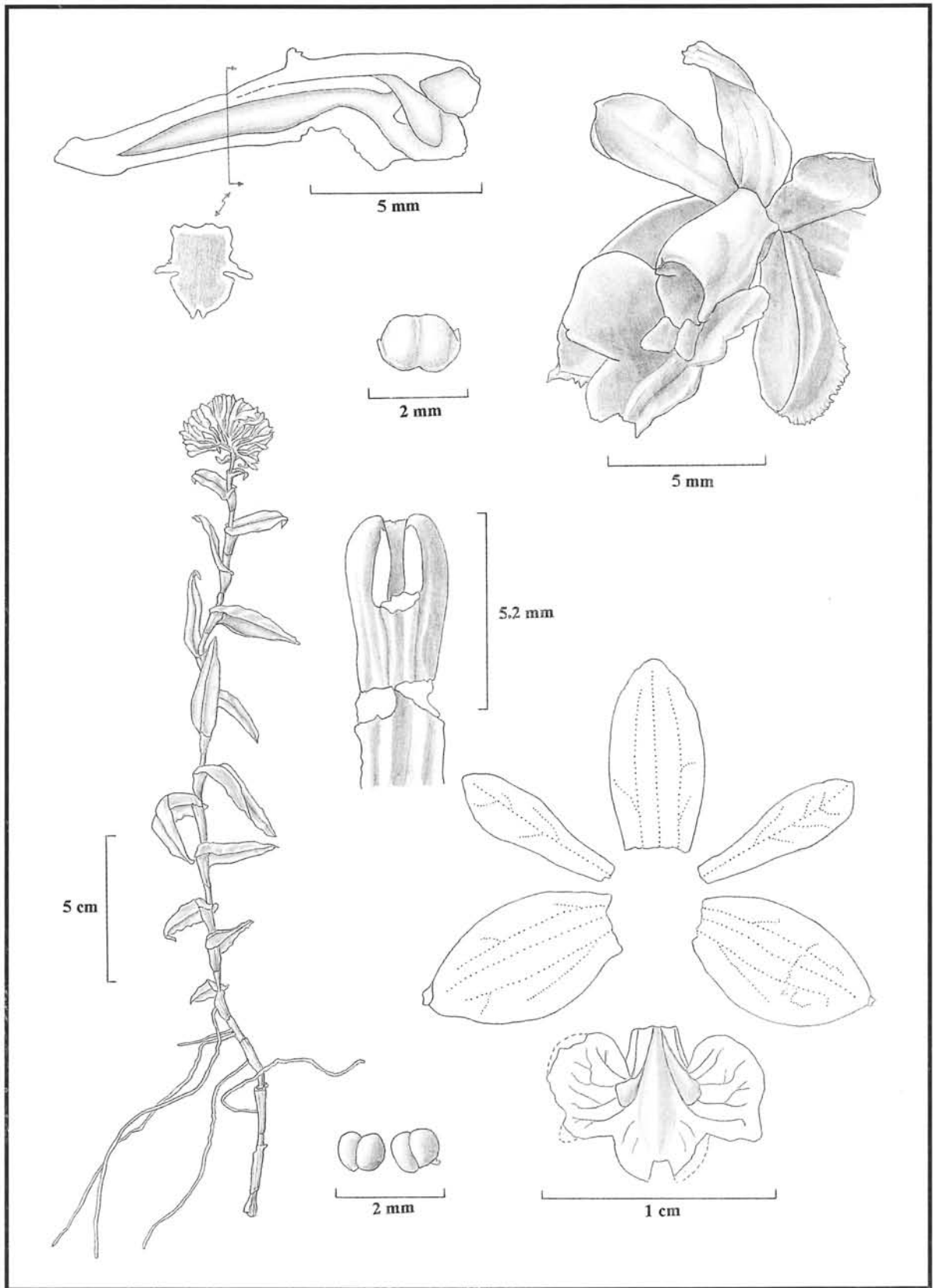


CONSERVATION STATUS: DD. Data deficient. Apparently very local.

ETYMOLOGY: From the Latin *caliga*, the footgear of a Roman soldier, referring to the deeply laciniate lateral lobes of the lip which look like the straps of the *caliga*, thus strapped footgear.

*The *Buller* specimen at K is labeled as New Granada, but Reichenbach cited it as Central America. In 1869, Panama was a part of Colombia, known before its independence from Spain as New Granada.

REFERENCES: Dressler R. L., 1993, *Field guide to the Orchids of Costa Rica and Panama*, Cornell University Press, p. 90. Hágsater, E., & M. A. Soto Arenas, 2005, Transfers to *Epidendrum* L. from *Oerstedella* Rchb.f., *Lankesteriana* 5(1): 73.



EPIDENDRUM CAPITELLATUM C.Schweinf.

THE GENUS EPIDENDRUM PART 5

Plate 816

ICONES ORCHIDACEARUM 8. 2006

Type: PERU: Huánuco: Cani, 7 mi NE of Mito, at about 2600 m, April 16-26, 1923, *J. Francis Macbride* 3463. Holotype: F 534538! Isotypes: AMES 61587! F 1626990!

Hierba epífita, erecta, reptante, 10-25 cm de alto. **Raíces** producidas de la parte rastrera del tallo, carnosas, delgadas, 0.3-0.7 mm de grosor. **Tallos** sencillos, tipo caña, lateralmente comprimidos, rectos, el tallo nuevo producido a unos 3 cm de la base del anterior, 11-23 x 0.11-0.35 cm. **Hojas** 9 a 14, distribuidas a todo lo largo del tallo, alternas; vainas infundibuliformes, ancipitosas, finamente estriadas cuando secas, hasta de 1.0 cm de largo; lámina recta, ovada lanceolada, ápice agudo, margen ligeramente revoluto, succulenta, fuertemente rugosa en seco, algunas recurvadas, la apical reducida, en proporción generalmente 3:1 (largo:ancho), 0.9-5.1 x 0.5-1.6 cm. **Bráctea espátácea** ausente. **Inflorescencia** apical, del tallo maduro, capitada, subglobosa, densa, 2.2 cm de largo, pedúnculo terete, no ornamentado, pedúnculo sin brácteas, 4 mm de largo. **Flores** 11-12, simultáneas, resupinadas, color blanco a verde, sin datos de fragancia. **Brácteas florales** prominentes, triangular ovadas, casi tan largas como el ovario, agudas, anchas, 5-6 x 2-3 mm. **Ovario** dilatado hacia el ápice, ornamentado con quillas laminares prolongadas de las quillas de los sépalos laterales, con presencia de cristales de oxalato en ejemplares secos, 6-7 mm de largo. **Sépalos** extendidos, libres, elípticos, redondeados, margen entero, glabros, 3-nervados, las nervaduras cortamente ramificadas, 7.0-8.8 x 3-5.2 mm; los laterales con una quilla dorsal prominente, erosa hacia el ápice. **Pétalos** extendidos, libres, oblanceolados, redondeados, margen extendido, entero, 1-nervados, 6.1-7.7 x 2.2 mm. **Labelo** unido a la columna, trilobado o subtrilobado, base cordada, margen entero, 4.5-6.8 x 6-9.3 mm; bicalloso, los callos laminares, divergentes; disco provisto de una quilla alargada hasta el seno apical; lóbulos laterales oblicuamente obovados, redondeados excepto el ápice oblicuo obtuso, margen entero, 3.4-4.5 mm; lóbulo medio más pequeño, semicircular, ápice bidentado, margen entero, 2 x 4 mm. **Columna** recta, gruesa, 3.8-5 mm de largo. **Clinandrio** corto, margen ligeramente irregular. **Antera** reniforme, 4-locular. **Polinios** 4, obovoides. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** de 1/3 del largo de la cavidad estigmática. **Nectario** penetrando $\frac{3}{4}$ partes del ovario, ensanchado, no ornamentado. **Cápsula** no vista.

Epiphytic, erect herb. Roots thin, produced from the repent part of the stem. Stem simple, cane-like, straight, laterally compressed. Leaves distributed throughout the erect section of the stem, sheath infundibuliform, ancipitous, striated when dry; blade ovate lanceolate, acute, fleshy, rugose when dry. Spathaceous bract lacking. Inflorescence apical, racemose, capitate or subglobose, peduncle short. Floral bracts prominent, nearly as long as the ovary, wide, acute. Ovary thickened towards the apex, ornamented with laminar keels prolonged from the keels of the sepals, showing oxalate crystals when dry. Flowers simultaneous, resupinate, white or green. Sepals spreading, free, elliptic, rounded, margin entire, 3-veined, lateral veins shortly branching, the laterals prominently keeled, erose towards the apex. Petals spreading, oblanceolate, rounded, margin entire, 1-veined. Lip united to the column, 3-lobed, cordate or subcordate, margin entire, bicallous, the calli laminar, divergent, disc with a prominent keel that runs to the apical sinus; lateral lobes obliquely ovate, rounded except for the obtuse apex; midlobe smaller, semicircular, apex bidentate with a wide sinus. Column straight, thick. Clinandrium-hood short, margin slightly irregular. Anther reniform, 4-celled. Pollinia 4, obovoid. Nectary penetrating $\frac{3}{4}$ of the ovary, widened, unornamented.

OTHER SPECIMENS: PERU: Amazonas: Cerros Calla Calla, 2850 m, 28 III 1964, *Hutchison* 4691, AMES! UC! Cajamarca: Sallique, Lanchal, La Cocha, 2860-2960 m, 24 VI 1998, *Díaz* 9678, USM! El Pargo, 42 km E of Llama, 3000 m, 8 IX 1991, *Gentry* 74581, MO! Hualgayoc, Hacienda Taulis, 2800 m, 3 IX 1964, *Hutchison* 6502, AMES! UC! USM! Chota: Cajamarca, Bosque El Pargo (Entre Llama y Huambos), 3090 m, 14 VIII 1994, *Leiva* 1518, AMO! (Illustration voucher.) F! SEL! Huánuco: Carpish, 2700-2800 m, 9 VIII 1947, *Ferreys* 2391, USM! Carpish, 28 VII 2002, *Trujillo* 30, MHURP!

OTHER RECORDS: PERU: Huánuco: Carpish, 28 VII 2002, *Trujillo* 30, photo AMO!

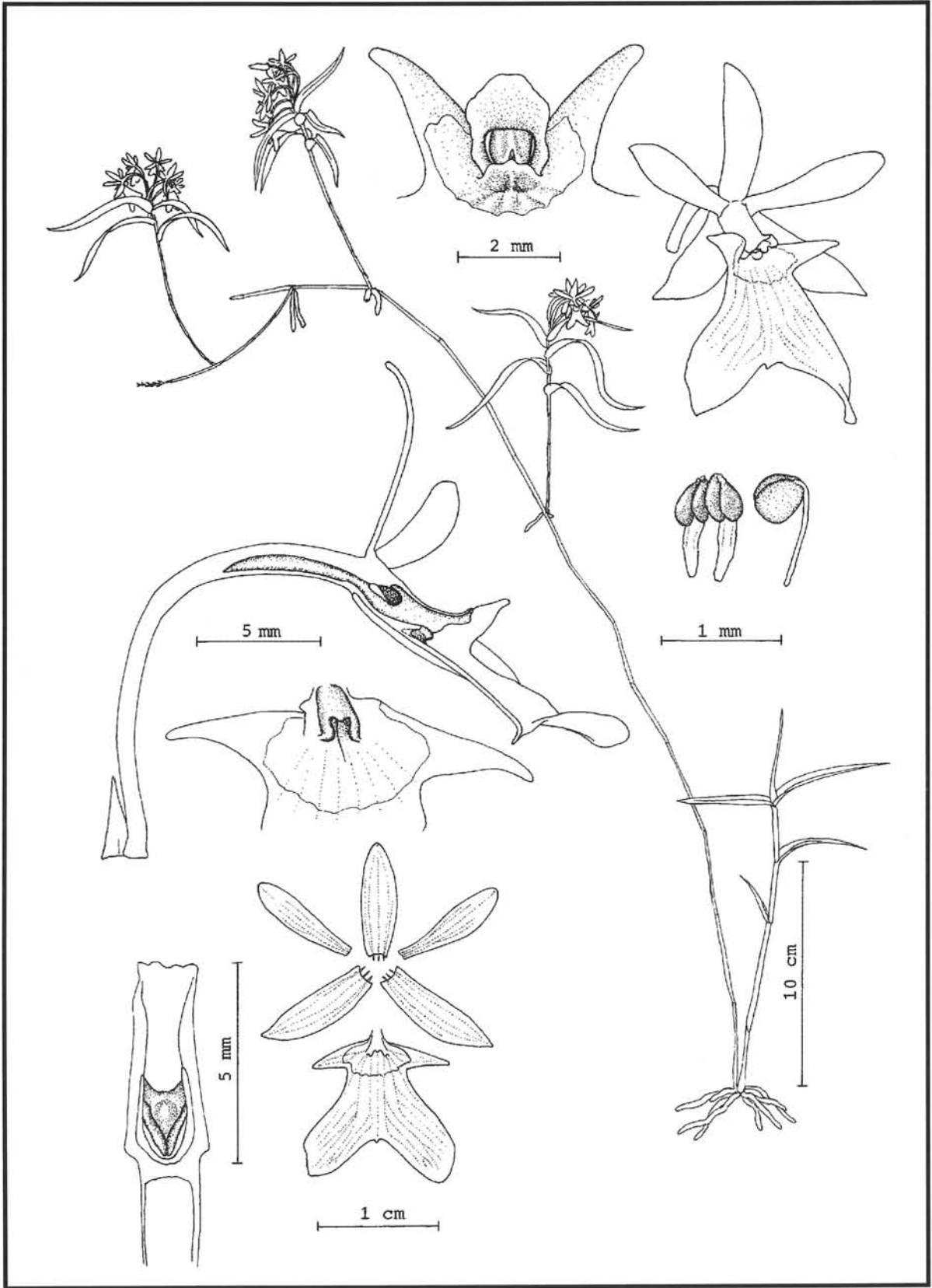
DISTRIBUTION AND ECOLOGY: Known only from northern Peru, at 2800-3090 m on both sides of the Marañón River, south of Tabaconas between Cutervo and Huánuco; epiphytic on *Weinmannia* sp. Flowering in March, July to September.

RECOGNITION: *Epidendrum capitellatum* belongs to the Capitellatum Group which is characterized by the erect, succulent stems with non-articulate leaves, with a spherical head of fleshy greenish flowers, and without any spathaceous bract. The species is recognized by the thin, tall stems produced from a elongate, repent rhizome, succulent straight leaves, not decurved towards the apex, corymbose, spherical inflorescence and the simultaneous white or green flowers with a 3-lobed lip, the smaller midlobe notched and thus bidentate at the apex, the lateral sepals prominently keeled, the laminar keels continuing down the ovary, the margin of the keels erose. It is closely related to *E. pterogastrum* Hágsater, which has a compact, short habit, the fleshy leaves decurved towards the apex, the lip cordate-reniform, with the margin erose, bicallous. The appearance of the stem is somewhat like that of *E. vesicicaule* L.O. Williams but that species has articulate leaves and 2 flowers subtended by semicircular, spathaceous bracts.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Latin *capitellum*, extremity, head, the head of a column, in reference to the capitate, sessile inflorescence.





EPIDENDRUM CENTROPETALUM Rchb.f.

EPIDENDRUM CENTROPETALUM Rchb.f., Bot. Zeit. (Berlin) 10(42): 732. 1852 (October).

Type: PANAMÁ: Chiriquí; [Chiriquí] Vulkan, 4000 ft. **Warszewicz s.n.** Holotype: W 50038!
Oerstedella centropetalata (Rchb.f.) Rchb.f., Bot. Zeit. (Berlin) 10(53): 932. 1852 (December). Not *E. centropetalum* Rchb.f.,
Bonplandia 3(5): 68, 1855 = *E. viridibrunneum* Rchb.f.
Oerstedella centraderia Rchb.f., Bot. Zeit. (Berlin) 10(53): 932. 1852 (December). Type: [Costa Rica: Cartago: Monte
Irazú] Isara in Centralamerika, 7000 ft., **Oersted 627**. Holotype: W 50039! *Epidendrum centraderia* (Rchb.f.) Rchb.f., Walp. Ann. 6:
1163. 1865.
Epidendrum tenuiflorum Schltr. Repert. Spec. Nov. Regni Veg. Beih. 3: 49. 1906. Type: COSTA RICA: [Cartago:] Bei
Aguacaliente, c. 1300 m, 2 January 1888, **Henri Pittier 38**. Holotype: B, destroyed. Lectotype [here designated]: illustration,
Aguacaliente, **Henri Pittier [38]**, AMES 24105! *Oerstedella tenuiflora* (Schltr.) Hágsater, Orquídea (Mexico City) 8(1): 24. 1981. Not
Epidendrum tenuiflorum hort. ex Lindl., Folia Orch. Epid. 88, 1853.

Hierba epífita, simpodial, cespitosa, 10-60 cm de alto. **Raíces** basales, en el tallo principal como en la base de los keikis, carnosas, delgadas, blancas, 1-1.5 mm de grosor. **Tallos** sencillos, tipo caña, teretes, delgados, erectos, rectos; produciendo keikis en los entrenudos subapicales, 10-50 x 0.1-0.3 cm. **Hojas** 5-21, distribuidas a lo largo de casi todo el tallo, alternas, generalmente caedizas; vaina tubular, fuertemente verrucosa, las inferiores no foliosas, 4-30 x 1-3 mm; lámina articulada, lineal lanceolada, subcoriácea, ápice agudo, margen entero, la basal y la apical más pequeñas, 2.5-8 x 0.2-0.6 cm. **Bráctea espatácea** ausente. **Inflorescencia** apical, (del tallo maduro y de los keikis) florece una sola vez, racemosa a incipientemente paniculada, corta, ligeramente arqueada, pauciflora, 1-2 cm de largo; pedúnculo terete, delgado, recto, desprovisto de brácteas, 5-10 mm de largo; raquis terete, delgado, recto, oculto casi en su totalidad por las brácteas florales. **Brácteas florales** mucho más cortas que el ovario, angostamente triangulares, acuminadas, abrazadoras, 2-5 mm de largo. **Flores** 4-13, simultáneas, resupinadas, de color rosado intenso, con una mancha blanca en la base y el callo amarillo; sin fragancia. **Ovario** terete, delgado, no inflado, no ornamentado, 12-18 mm de largo. **Sépalos** extendidos, libres, oblongo elípticos, subagudos, 3-nervados, las nervaduras laterales ramificadas desde la base dando la apariencia de ser 5-nervados, margen entero, 9-10 x 2.5-3 mm; los laterales diminutamente apiculados, oblicuos. **Pétalos** entreabiertos, libres, linear oblanceolados, redondeados, 3-nervados, margen entero, 9 x 2.5 mm. **Labelo** unido a la columna, 3-lobado, base truncada, margen entero, 12.5-14 x 13-16 mm; unicallosó, el callo sublaminar, tridentado en el ápice; disco desprovisto de quillas; lóbulos laterales pequeños, angostamente triangulares, agudos, extendidos, fuertemente divaricados, rectos, con el margen exterior ligeramente oblicuo, 4-5 x 1.5-2 mm; lóbulo medio amplio, en forma de "V" invertida, el istmo cuneado, el ápice dividido en un par de lóbulos anchos, oblongos y redondeados, separados entre sí por un seno profundo y ancho, diminutamente apiculado, 9.5-12 x 12.5-16 mm. **Columna** corta, gruesa, ligeramente arqueada hacia arriba a la altura del clinandrio, 5 mm de largo. **Clinandrio** prominente, semitubular, sobrepasando el cuerpo de la columna, entero, margen eroso. **Antera** ovoideada, con un par de dientes apicales, redondeados, algo divaricados, 4-locular. **Polinios** 4, obovoides, lateralmente aplanados; caudículas más largas que los polinios; sin viscidio. **Rostelo** perpendicular con respecto al eje de la columna, formando un seno amplio. **Lóbulos laterales del estigma** de 1/3 del largo de la cavidad estigmática. **Nectario** penetrando 1/3 del ovario, delgado, no inflado, liso. **Cápsula** no vista.

Epiphytic, sympodial, caespitose herb. Roots basal, from the main stem and from the base of keikies, fleshy, thin, white. **Stems** simple, cane-like, terete, thin, erect; producing keikies from the subapical internodes. **Leaves** 5-21, distributed nearly throughout the stems, alternate, generally deciduous; sheaths tubular, strongly verrucose, the lower ones non-foliaceous; blade articulate, linear-lanceolate, subcoriaceous, apex acute, margin entire, the basal and apical leaves smaller. **Inflorescence** apical, from the mature stem and the keikies, flowering only once, racemose to slightly paniculate, short, slightly arcuate, few-flowered; peduncle terete, thin, straight; rachis terete, thin, straight, nearly totally hidden by the floral bracts. **Floral bracts** much shorter than the ovary, narrowly triangular, acuminate. **Flowers** 4-13, simultaneous, resupinate, of an intense pink color, with a white spot at the base, callus yellow, without odor. **Ovary** terete, thin, not inflated, smooth. **Sepals** spreading, free, oblong-elliptic, subacute, 3-veined, the lateral veins branching from the base so as to appear 5-veined, margin entire; lateral sepals minutely apiculate, oblique. **Petals** partly spreading, free, linear-oblanceolate, rounded, 3-veined, margin entire. **Lip** united to the column, 3-lobed, base truncate, margin entire; callus single, sublaminar, apex tridentate, disc smooth; lateral lobes small, narrowly triangular, acute, spreading, strongly divaricate, straight, the outer margin somewhat oblique; midlobe large, shaped like an inverted "V", isthmus cuneate, apex divided into a pair of wide, oblong, rounded lobes, separated by a deep, wide sinus, minutely apiculate. **Column** short, thick, slightly arching upwards at the clinandrium-hood. **Clinandrium-hood** prominent, semitubular, surpassing the body of the column, entire, margin erose. **Anther** ovoid, with a pair of apical teeth, rounded, somewhat divaricate, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles longer than the pollinia; viscidium lacking. **Rostellum** perpendicular to the axis of the column, forming a wide sinus. **Nectary** penetrating 1/3 of the ovary, thin, not inflated, smooth.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Ranging along the cordilleras in Nicaragua, Costa Rica and western Panama (Chiriquí). Epiphytic, at 400-2500 m altitude. Flowering from November to March.

RECOGNITION: *Epidendrum centropetalum* belongs to the *Oerstedella* Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is perpendicular to the axis of the column instead of parallel, forming a wide, open sinus, and without a viscidium; and the *Centropetalum* Subgroup which has thin stems, producing many keikies, a few-flowered, compact raceme, a semitubular clinandrium-hood which is slightly longer than the body of the column, pink flowers with a wide lip and a single, tunnel-shaped callus, and obovoid, non bird-wing type pollinia. The species is recognized by the very short inflorescence with intense pink flowers, the lateral lobes triangular, and the midlobe large and wide, in the shape of an inverted "V", with a large white spot at the base, the callus tridentate and obovoid pollinia, not bird-wing type. *Epidendrum aberrans* Schltr. has a longer inflorescence with light pink flowers and the lip white to pink, the midlobe forms a basal, narrow isthmus with parallel sides, and the callus is bicallose, the pollinia are bird-wing type. *Epidendrum pansamala* Schltr. has similarly colored flowers, but the lateral lobes are spreading, oblong and the midlobe flabellate, without any apical sinus, the lobes thus formed are shorter and much wider than the lateral lobes, and separated from them by a very short, narrow isthmus, the clinandrium-hood is deeply dentate.

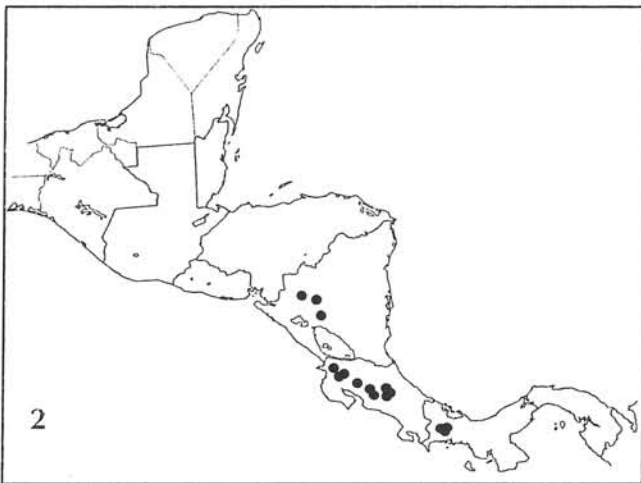
Epidendrum cyclobolum Hágsater & E.Santiago has subsessile inflorescences with 2 pink flowers, a 3-lobed lip, the lateral lobes triangular and rounded, and a wide, orbicular midlobe.

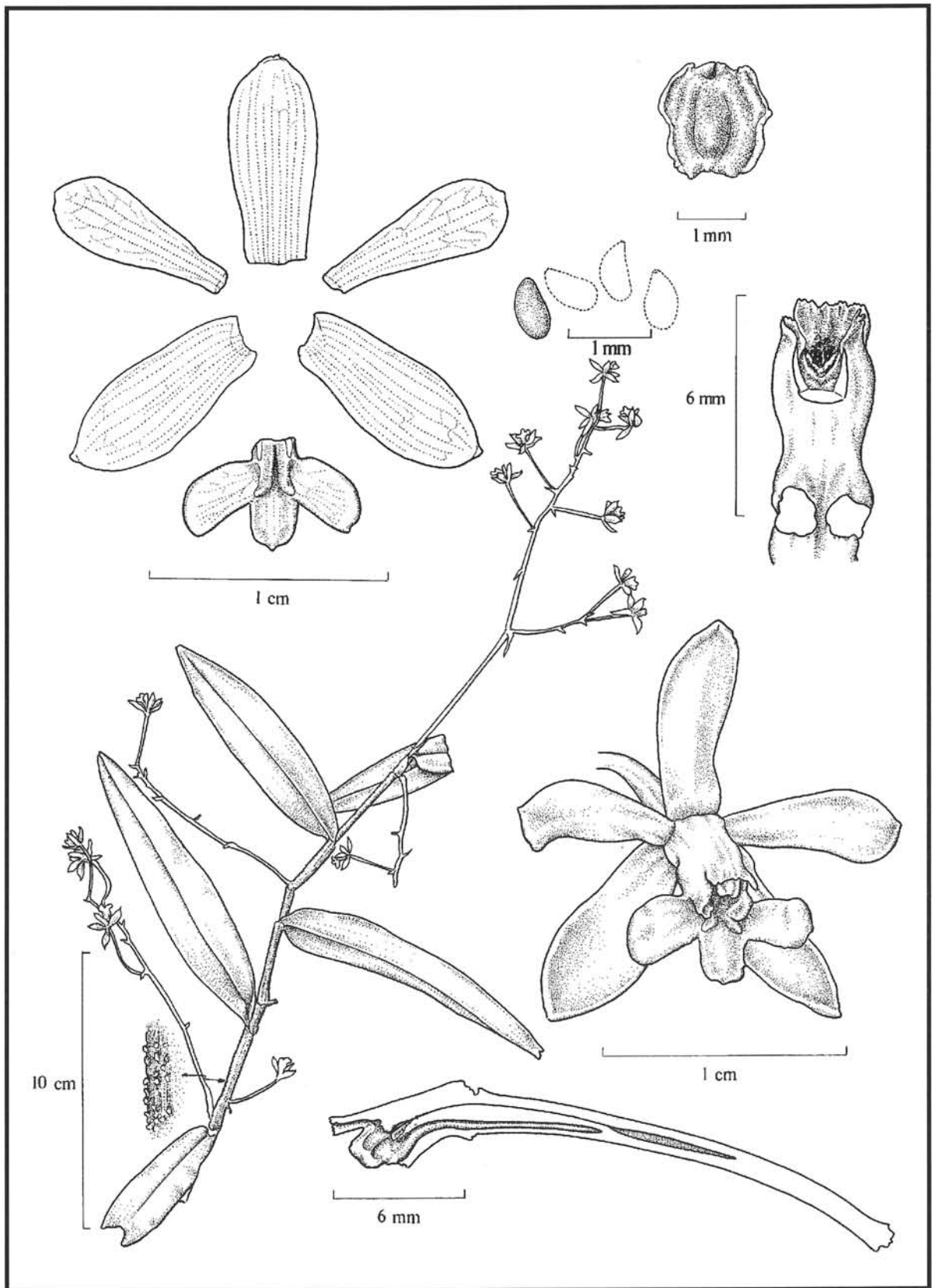
NOTE: This species has been widely known under the name *E. centraderia* (Rchb.f.) Rchb.f., but *E. centropetalum* Rchb.f. was published two months earlier. A careful revision of the types indicates that they are conspecific.

CONSERVATION STATUS: Not threatened. A common epiphyte, at least in the area of the Monteverde Biological Reserve.

ETYMOLOGY: Form the Greek, κεντρον, a sharp point, spur of a cock, and πεταλον, a petal, probably in reference to the lateral lobes of the lip which were originally described as sickle-shaped.

REFERENCES: Dressler R. L., 1993, *Field guide to the Orchids of Costa Rica and Panama*, Cornell University Press, p. 90. Plate 6, fig. 6. Faisthuber, W., 2004, *Oerstedella centraderia* Rchb.f. und *Oerstedella centropetalata* Rchb.f. in Costa Rica, Synonyme oder zwei verschiedene Arten?, *Die Orchidee* 55(1): 060. Hágsater, E., in Hammel et al., 2003, *Manual de Plantas de Costa Rica*, 3: 349, Missouri Botanical Garden. Hágsater, E., & M. A. Soto Arenas, 2005, *Transfers to Epidendrum L. from Oerstedella* Rchb.f., *Lankesteriana* 5(1): 73. Hamer, F., 1990, *Orchids of Central America an illustrated field guide*, Selbyana 11 (Suppl.): pl. 538.





EPIDENDRUM CHALCOCHROMUM Hágsater

EPIDENDRUM CHALCOCHROMUM Hágsater, *sp. nov.*

Type: COSTA RICA: Cartago: Rt. 2 km 36.5, arriba de la Cangrejera, antes de San Cristobal Norte, 1910 m, 28 Junio 1988, *E. Hágsater & Dora Emilia de Retana 9495*. Holotype: INB! (Illustration voucher).
Flowers in spirit, AMO!

Epidendro intermixto Ames & C.Schweinf. simile sed inflorescentiis lateralibus longioribus, floribus brunneo-rubellis aliquantum ad basem viridulis, clinandrio integro, differt.

Hierba epífita, simpodial, cespitosa, de más de 30 cm de alto. **Raíces** carnosas, gruesas. **Tallos** sencillos, tipo caña, teretes, delgados, erectos, de más de 17 x 0.2-0.32 cm. **Hojas** numerosas, distribuidas a lo largo de la mitad apical del tallo, alternas, subcoriáceas; vaina tubular, prominentemente verrucosa; 8-35 x 2.8-3.2 mm; lámina elíptico lanceolada, ápice subagudo, desigualmente bilobado, lisa, margen entero; 8.5-11.5 x 1.5-1.7 cm. **Bráctea** espatácea ausente. **Inflorescencias** apical y laterales, laxas, paucifloras; (la apical, erecta, incipientemente paniculada; 14 cm de largo; las laterales racemosas, subextendidas, alternas, distribuidas a lo largo del tercio apical del tallo, surgiendo a partir de la base de la vaina foliar; 4-9.5 cm de largo) pedúnculo delgado, terete, desprovisto de brácteas. **Bráctea floral** mucho más cortas que el ovario, triangulares, agudas, abrazadoras; 2-5 mm de largo. **Flores** 4-10 por inflorescencia, simultáneas, resupinadas, sépalos y pétalos pardo rojizo sobre verde olivo, columna y lábulo más rojizo, callo amarillo; sin fragancia. **Ovario** terete, delgado, no inflado, no ornamentado; 18-20 mm de largo. **Sépalos** libres, extendidos, obovado oblongos, obtusos, diminutamente apiculados, 8-9-nervados, margen entero, extendido, 9 x 3.7 mm. **Pétalos** libres, extendidos, obovado espatulado, redondeados, diminutamente apiculados, 3-nervados, las nervaduras laterales muy ramificadas a todo lo largo, margen extendido, entero; 8.3 x 3.1 mm. **Lábelo** unido a la columna, trilobado, truncado en el ápice, margen entero; 4 x 7.5 mm; bicalloso, los callos delgados, alargados casi hasta la base del lóbulo medio, divaricados; lóbulos laterales subrectangular oblongos, redondeados, oblicuos; 2.7 x 2 mm; lóbulo medio cortamente oblongo, diminutamente apiculado; 2.2 x 2 mm. **Columna** recta, gruesa, terminada en 3-lóbulos laminares truncados; 6 mm de largo. **Clinandrio** prominente, subcuadrado, truncado, entero, margen eroso, sin sobrepasar el cuerpo de la columna. **Antera** reniforme, plana al frente. **Polinios** no vistos. **Rostelo** perpendicular con respecto al eje de la columna, formando un seno amplio. **Nectario** penetrando ca. de 1/3 del ovario, angosto, liso. **Cápsula** no vista.

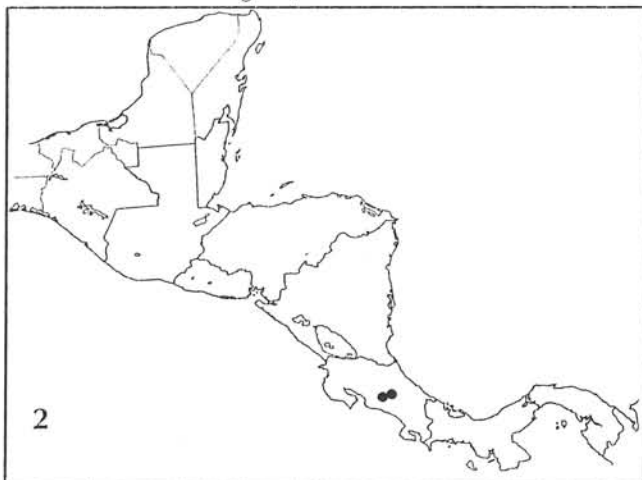
Epiphytic, sympodial, caespitose **herb.** **Roots** fleshy, thick. **Stem** simple, cane-like, terete, thin, erect. **Leaves** numerous, distributed throughout the apical half of the stem, alternate, subcoriaceous; sheath tubular, prominently verrucose; blade elliptic-lanceolate, subacute, unequally bilobed, smooth, margin entire. **Inflorescences** apical and laterals, lax and few-flowered, the apical inflorescence paniculate, peduncle thin, terete; the lateral inflorescences somewhat spreading, alternate, distributed along the apical 1/3 of the stem, from the base of the foliar sheath. **Floral bracts** much shorter than the ovary, triangular, acute. **Flowers** 4-10 per inflorescence, simultaneous, resupinate, sepals and petals reddish brown on olive-green, column and lip somewhat more red, callus yellow; unscented. **Ovary** terete, thin, smooth. **Sepals** free, spreading, obovate-oblong, obtuse, minutely apiculate, 8-9-veined, margin entire, spreading. **Petals** free, spreading, obovate-spathulate, rounded, minutely apiculate, 3-veined, the lateral veins branching throughout, margin spreading, entire. **Lip** united to the column, 3-lobed, apex truncate, margin entire; bicallose, the calli thin, elongate, nearly reaching the base of the midlobe, divaricate; lateral lobes subrectangular-oblong, rounded, oblique; midlobe short-oblong, minutely apiculate. **Column** straight, thick, terminating in three entire, truncate lobes. **Clinandrium**- hood prominent, entire, without surpassing the body of the column, margin erose. **Rostellum** perpendicular to the axis of the column, forming a wide sinus. **Nectary** penetrating 1/3 of the ovary, narrow, smooth.

OTHER SPECIMENS: COSTA RICA: Cartago: arriba de Taus, 11 XII 1984, *Dressler & Biología 312*, USJ!

OTHER RECORDS: COSTA RICA: Without locality, photographs, *Leon Glicenstein #4*, AMO! The flowers are lighter in color, ochre with a white column and lip, the lip with a slight purple tinge on the midlobe.

DISTRIBUTION AND ECOLOGY: Known only from central Costa Rica, at about 1800-1900 m altitude, epiphytic in cloud forest. Flowering from June to December.

RECOGNITION: *Epidendrum chalcochromum* belongs to the Oerstedella Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is transverse to the column instead of parallel, forming a wide, open sinus, Intermixtum Subgroup which has small, membranaceous flowers with a petaloid, usually bifid clinandrium-hood, and obovoid, laterally compressed pollinia with long, granulose caudicles. The new species is recognized by the long lateral inflorescences (4-9.5 cm long), the 3-lobed lip with the midlobe entire and similar in size to the lateral lobes, the flowers reddish brown on olive-green, and the clinandrium-hood entire. It is very similar to *Epidendrum intermixtum* which is nearly identical, but the flowers are a clear pale green, with the lip white and the callus yellow, and the clinandrium-hood bifid, deeply cleft; the shorter lateral inflorescences (1-5 cm long). In Panama there are several species with a 3-lobed lip where the midlobe is entire, and produce apical and lateral inflorescences: *E. folsomii* Hágsater, *E. fortunae* Hágsater & Dressler and *E. fuscinum* (Dressler) Hágsater.



CONSERVATION STATUS: DD. Data deficient. Apparently common locally.

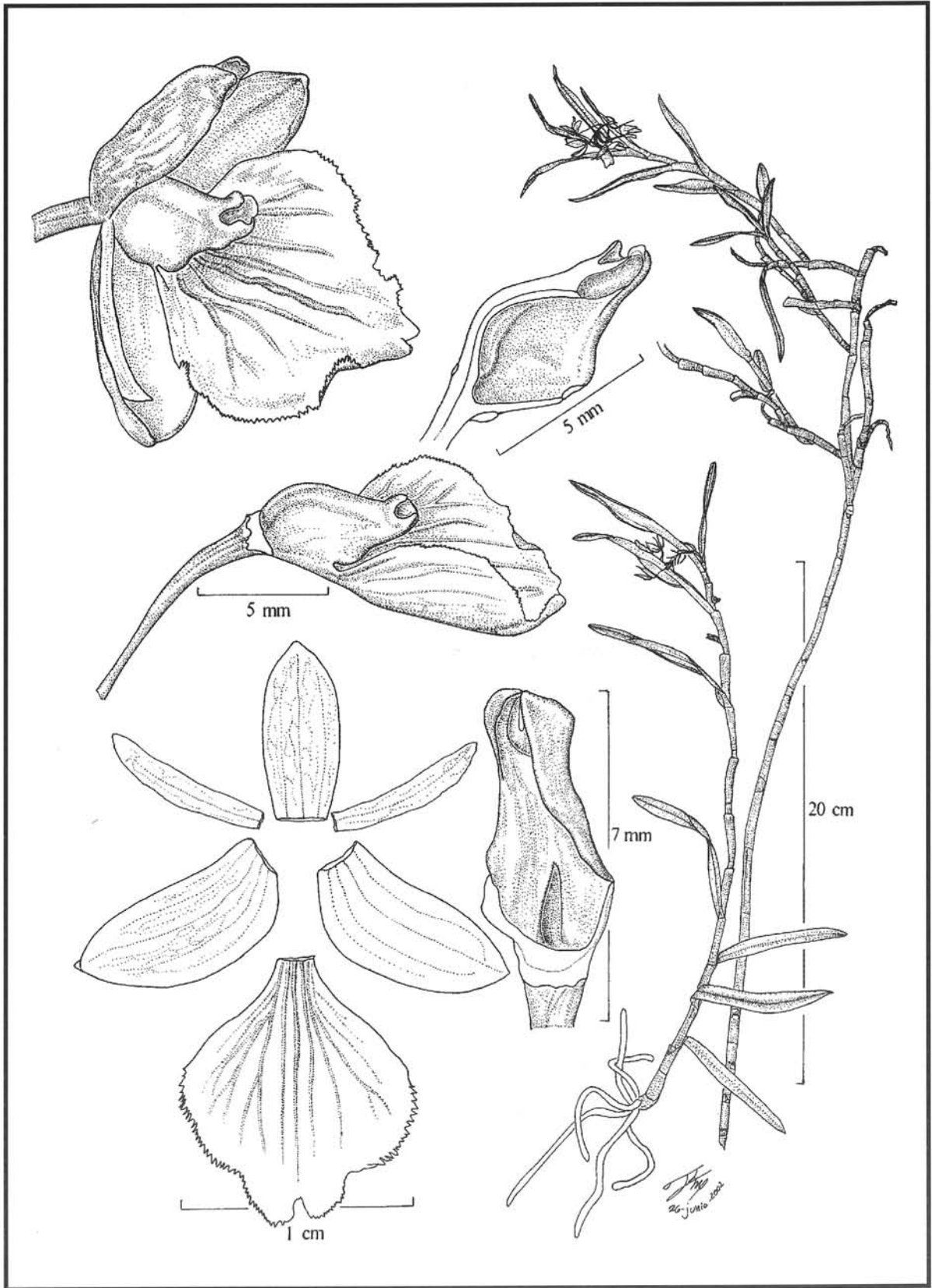
ETYMOLOGY: From the Greek χαλκο, copper and χρομα, color, complexion, in reference to the reddish brown on olive-green color of the flowers which distinguishes this species from other most similar species.

Author: E. Hágsater

Illustrator: M. López R.

Editors: E. Hágsater & L. Sánchez S.

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EPIDENDRUM COTTONIIFLORUM (Rchb.f.) Hágsater

Plate 819

THE GENUS EPIDENDRUM PART 5

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM COTTONIIFLORUM (Rchb.f.) Hágsater, in R. Escobar, Orq. Nat. Colombia 2: 168. 1991.

Basionym: *Diothonea cottoniiflora* Rchb.f., *Linnaea* 41: 39. 1876. [As *D. cottoniaeflora* Rchb.f.]

Type: COLOMBIA: [Norte de Santander], Ocaña, *Bruckmüller s.n.* W-7129! fragment with Sketch W-52001!, copy AMES!

Hierba epífita, erecta, ramificada; de 20-50 cm de alto. **Raíces** solamente en la base del tallo basal, delgadas, carnosas, blancas; 0.8-1.9 mm de grosor. **Tallos** originándose de los entrenudos apicales del tallo anterior, tipo caña, teretes, delgados, rectos; 20-50 x 0.1-0.3 cm, los apicales mucho más cortos. **Hojas** 3-12, distribuidas a lo largo del tallo, las basales caedizas con el tiempo; hasta 6 persistentes hacia la mitad apical del tallo, articuladas, dísticas; vaina tubular, finamente estriada; 10-18 x 1-3 mm; lámina linear lanceolada, ápice desigualmente bilobado, con una quilla dorsal muy baja, margen entero; 2.0-7.0 x 0.3-0.7 cm. **Bráctea espátacea** ausente. **Inflorescencia** apical, racemosa, corta, arqueada nutante, florece una sola vez; 1.5-2.5 cm de largo; pedúnculo corto, terete, delgado; 2-5 mm de largo. **Brácteas florales** más cortas que el ovario, triangulares, acuminadas, gradualmente más pequeñas hacia el ápice; 3-8 mm de largo. **Ovario** terete, delgado, no inflado, liso; 6-12 mm de largo. **Flores** [9]12-14, simultáneas, resupinadas, sépalos y pétalos verdosos con difuminaciones rosadas, labelo amarillento con nervaduras rosadas. **Sépalos** entreabiertos, libres, angostamente elípticos, subagudos, mucronados, margen entero, lisos; el dorsal 3-nervado, 7.7-8.6 x 3.4-4 mm; los laterales ligeramente oblicuos, 4-nervados; 8.7-10.2 x 4.2-5 mm. **Pétalos** entreabiertos, libres, linear a linear lanceolados, subagudos, 1-3 nervados, las nervaduras laterales cortas, margen ligeramente eroso; 7-8.4 x 1.2-2 mm. **Labelo** unido a la parte media de la columna, entero, obovado orbicular, ápice 4-lobado, los lóbulos redondeados, el par externo más corto que el par interno, base cuneada, muy angosta, margen entero; 8-11 x 8-10 mm; ecaloso, disco provisto con 5 quillas centrales prominentes y múltiples venas laterales engrosadas bifurcadas en el ápice, distribuidas en todo el disco. **Columna** unida en la mitad basal al labelo, fuertemente arqueada en esta zona, produciendo un joroba prominente; 6-7 mm de largo, la superficie ventral muy amplia, con una cavidad en la mitad basal a la cual se accesa por una hendidura corta y angosta. **Clinandrio** reducido, entero. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** no vistos. **Antera** no vista. **Polinios** no vistos. **Nectario** semicircular, formando una cavidad amplia y poco profunda en la mitad basal de la columna, sin traspasar el perianto, liso. **Cápsula** no vista.

Epiphytic, branching herb. **Roots** from the base of the basal stem only, thin, fleshy. **Stems** originating from the apical internodes of the previous stem, cane-like, terete, thin, progressively shorter. **Leaves** 3-12, distributed throughout the stems, articulate, distichous, sheath tubular, minutely striated, blade linear-lanceolate, apex unequally bilobed, with a low dorsal keel, margin entire. **Inflorescence** apical, racemose, short, nutant-arching, flowering only once. **Floral bracts** shorter than the ovary, triangular, acuminate, gradually shorter towards the apex. **Ovary** terete, thin, not inflated. **Flowers** [9]12-14, simultaneous, resupinate, sepals and petals suffused with pink, lip yellowish with pink veins. **Sepals** partly spreading, free, narrowly elliptic, subacute, mucronate, margin entire, smooth, 3-4-veined. **Petals** partly spreading, free, linear to linear-lanceolate, subacute, 1-3-veined, lateral veins short, margin slightly erose. **Lip** united to the basal half of the column, entire, obovate orbicular, apically 4-lobed, the lobes rounded, the central pair slightly longer than the lateral pair, margin erose, cuneate base very narrow, ecallose, provided with 5 prominent central keels, and multiple thickened lateral veins bifurcate at the apex. **Column** united to the basal half of the lip, strongly arched along the basal half, producing a prominent hump, the ventral surface wide, with a cavity at the basal half accessed by a short, narrow slit. **Clinandrium-hood** reduced, entire. **Rostellum** apical, slit. **Nectary** semicircular, forming a narrow cavity at the base of the column, without penetrating the ovary.

OTHER SPECIMENS: COLOMBIA: Cauca: Highlands of Popayán, 1600-2000 m, *Lehmann 8371*, AMES x3! G! K! L! NY! (Illustration voucher.) W! Rio Palacé, Huaugobio, 1700-1900 m, *Lehmann sub Bentham Trustees 247*, AMES! K! L! NY! Paispamba and Chapa, 2300-2500 m, 16 XI 1982, *Luer 8459*, SEL! **Cundinamarca:** Soacha: Santandercito, cerca de Bogotá, 2000 m, 30 III 1968, *Ortiz V. 67*, HPUJ! **Nariño:** Meneses-Pasto, 2700 m, 12 XI 1878, *Lehmann s.n.* W! Riacruz, 1800 m, 1 XI 1979, *Luer 4522*, SEL! **Putumayo:** Valle de Sibundoy, 2200 m, 29 IV 1963, *Bristol 906*, AMES! 5 km S Sibundoy, 2200 m, 19 IV 1963, *Chindoy 149*, AMES! *Ibid.* *Ortiz V. s.n.*, HPUJ!

DISTRIBUTION AND ECOLOGY: Known only from Colombia, originally described from the northern end of the Cordillera Oriental. The species has been collected various times in southern Colombia, near Popayán and more recently near Ricaurte, in cloud forest at 1600-2500 m altitude. Flowering from November to April.

RECOGNITION: *Epidendrum cottoniiflorum* belongs to the Diothonea Group and Subgroup which is characterized by the branching plants, linear lanceolate to oblong, bifolbed leaves, racemose, arching-nutant inflorescence, membranaceous flowers (rarely fleshy), the entire to 3-lobed, ecallose lip with the margin erose, without or with 1-10 thin, smooth to erose keels, the column completely to obliquely united to the lip, the anther reniform. The species has tall plants, the inflorescence has [9]12-14 flowers, the sepals narrowly elliptic, 7.7-10.2 mm long, the lip is 8-10 mm wide, narrowly cuneate at the base and united up to half the column; the bottom half of the column is strongly arched forming a prominent hump. It closely resembles *Epidendrum cleistocoleum* Hágsater & E.Santiago which has shorter plants, a fewer flowered inflorescence, larger flowers, the sepals 9-12 mm long, wider lip, 12-14 mm wide, column nearly free, with prominent, rounded, basal wings, the apex of the column rounded, and a deeper cavity in the lower half of the column, to which there is access by a narrow slit which is longer, as long as the ventral surface of the column. *Epidendrum arevaloides* Hágsater & Dodson has wider narrowly ovate petals, 2.4-3[3.8] mm wide, the lip ovate to suborbicular with the surface strongly ornamented with antrous trichomes; the column is thin, straight and free.

CONSERVATION STATUS: DD. Data deficient. No recent collections from northern Colombia have been seen.

ETYMOLOGY: In reference to the flowers, which resemble those of the cotton plant.



Authors: E. Santiago & E. Hágsater

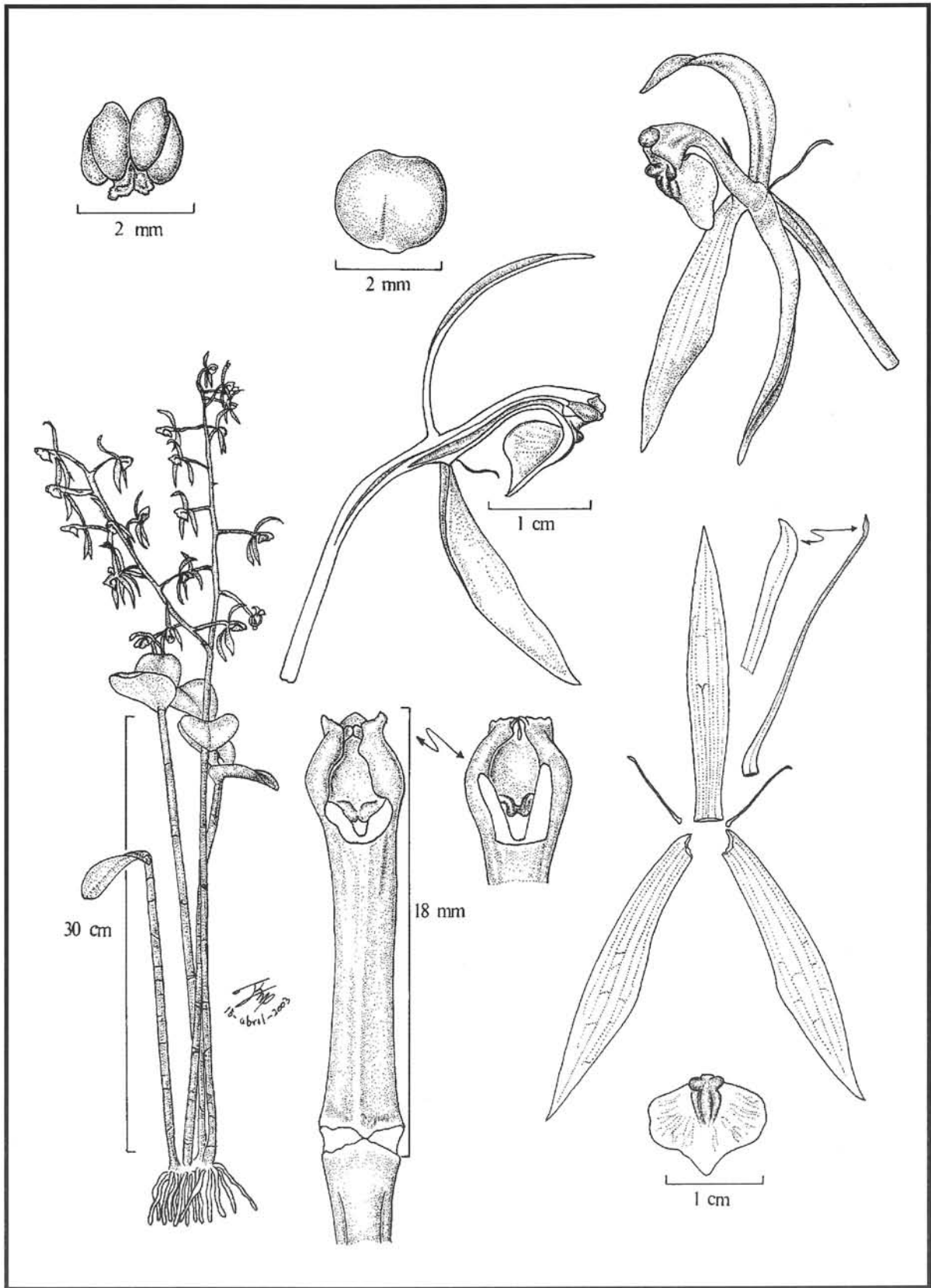
Illustrator: R. Jiménez M.

Editors: E. Hágsater & L. Sánchez S.

Herbario AMO

Apartado Postal 53-123, 11320 México, D.F., MÉXICO

ICONES ORCHIDACEARUM 8. 2006. Plate 819



EPIDENDRUM COXIANUM Rchb.f.

EPIDENDRUM COXIANUM Rchb.f., Gard. Chron. 1877 (II): 358. 1877.

Type: Hort. Stevens, *Sergeant Cox*, W!

Synonym: *Epidendrum dalstroemii* Dodson, *Icones Pl. Trop.* 10: 919. 1984. Type: ECUADOR: Zamora-Chinchipec: along river at Valladolid, 1200 m, 4 January 1983, *Dalström 420*. SEL!

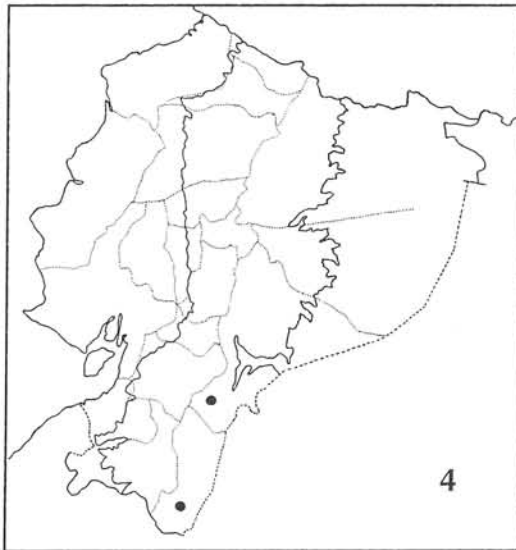
Hierba epífita, cespitosa, ca. 60-80 cm de alto. **Raíces** de la base de la planta, carnosas, gruesas, blancas. **Tallos** sencillos, tipo caña, erectos, teretes, delgados, 16-35 x 0.4-0.7 cm. **Hojas** 2, agregadas en el ápice de los tallos, alternas, coriáceas; vaina tubular 30-42 x 4-7 mm; lámina elíptica, ápice redondeado, margen extendido y entero, lisa, 6-8 x 3-4.2 cm. **Bráctea espátea** relativamente pequeña, ápice redondeado, ca. 2 cm de largo. **Inflorescencia** apical, racemosa a paniculada, multiflora, erecta, laxa, 20-26 cm de largo; cada racimo ca. 15 cm de largo; pedúnculo terete, grueso, 5 cm de largo, provisto ocasionalmente de una bráctea ovada, redondeada, abrazadora, 1.5-2.0 cm de largo; raquis terete, gradualmente más delgado hacia el ápice, 13.5-17.5 cm de largo. **Brácteas florales** mucho más cortas que el ovario, triangulares, cortamente acuminadas, 3-nervadas, abrazadoras, gradualmente más pequeñas hacia el ápice, 4-8 x 2-3 mm. **Flóres** 4-10 por racimo, en conjunto hasta 30 por inflorescencia, simultáneas, resupinadas, sépalos ocreos, mitad basal de la columna verde, mitad apical y labelo blancos, sin fragancia. **Ovario** terete, delgado, liso, no inflado, 22-30 mm de largo. **Sépalos** extendidos, libres, linear elípticos, acuminados, 3-nervados, las nervaduras laterales ramificadas desde la base, dando la apariencia de ser 5-nervado, margen extendido y entero, 27-35 x 3.5-5 mm; los laterales ligeramente oblicuos. **Pétalos** muy reducidos, reflexo descendentes, libres, aciculares a linear filiformes, ligeramente más anchos en el ápice, agudos, 1-nervados, margen entero, 4-10 x 0.4-0.5 mm. **Labelo** unido a la columna, entero, suborbicular a subdeltoide, base truncada, ápice triangular, los bordes laterales reflexos, margen entero; bicalloso, los callos prominentes, globosos, basales; disco con 3 quillas, romas y agudas, la central alargada más allá de la mitad del labelo, el par lateral más corto; 9-12 x 11-14 mm. **Columna** delgada en la base, obcónica en el ápice, sigmoidea, 18 mm de largo. **Clinandrio** corto, entero. **Antera** esférica, 4-locular. **Polinios** 4, obovoides; caudículas suaves y granuladas. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** de 1/2 del largo de la cavidad estigmática. **Nectario** traspasando justo detrás del perianto, no inflado, no ornamentado. **Cápsula** no vista.

Epiphytic, caespitose, **herb.** **Roots** basal, fleshy, thick. **Stems** simple, cane-like, erect, thin. **Leaves** 2, aggregate at the apex of the stems, coriaceous; sheath tubular; blade elliptic, apex rounded, margin entire. **Spathaceous bract** relatively small, apex rounded. **Inflorescence** apical, racemose to paniculate, erect, lax-flowered, peduncle terete, sometimes provided with an ovate, rounded bract; rachis terete. **Floral bracts** much shorter than the ovary, triangular, short acuminate, 3-veined. **Flowers** up to 30, 4-10 per raceme, simultaneous, resupinate, sepals ochre, the basal half of the column green, apical half and lip white; without fragrance. **Ovary** terete, thin. **Sepals** spreading, free, linear-elliptic, acuminate, 3-veined, lateral veins branching from the base and thus appearing 5-veined, margin spreading, entire. **Petals** much reduced, reflexed, descendant, free, acicular to filiform, slightly wider towards the apex, acute, 1-veined, margin entire. **Lip** united to the column, entire, suborbicular to subdeltoide, base truncate, apex triangular, sides reflexed, margin entire; bicallose, the calli prominent, globose, basal; disc with 3 keels, rounded and acute, the middle one longer, reaching further than the middle of the lip, the laterals shorter. **Column** thin at the base, obconical towards the apex, sigmoid. **Clinandrium-hood** short, entire. **Anther** spherical, 4-celled. **Pollinia** 4, obovoid, caudicles soft and granulose. **Rostellum** apical, slit. **Nectary** slightly penetrating the ovary.

OTHER SPECIMENS: ECUADOR: Azuay: Sigsig a Chiguinda, El Churlido, 2600 [?] m. Cultivated by Eduardo Sánchez at Orquídeas de los Andes, pressed 9 III 2003, *Hágsater 13856*, AMO! (Illustration voucher).

DISTRIBUTION AND ECOLOGY: Endemic to southern Ecuador, on the eastern slopes of the Andes, at 1200-2600? m altitude. Flowering in January-March.

RECOGNITION: *Epidendrum coxianum* is very distinct, and cannot be confused with any other species in the neotropics. It belongs to the Excisum Group, Longiflorum Subgroup, characterized by the caespitose habit, erect stems with several fleshy leaves, a spathaceous bract, and the inflorescence with numerous star-like flowers, with narrow sepals and petals, and a prominent lip. The species is recognized by the tall, terete, cane-like stems, with a pair of elliptic-orbicular, coriaceous leaves, an erect, lax-flowered, racemose to paniculate inflorescence with large, simultaneous flowers, the petals much reduced, hair-like, and a suborbicular lip at the end of an upright, sigmoid, column; the lonely spathaceous bract is small. The species nearest it is *Epidendrum lehmannii* Rchb.f., from the eastern slopes of the Andes in southern Ecuador (where they are sympatric) and northern Peru, which has the stems laterally flattened above, 2-5 leaves distributed towards the apical 1/3 of the stems, the leaves elliptic, 14-26 cm long, a prominent spathaceous bract 7-17 cm long, and the flowers star-like, the sepals and petals similar, and the lip 3-lobed, with a narrow, triangular midlobe.



CONSERVATION STATUS: DD. Data deficient. Apparently highly localized.

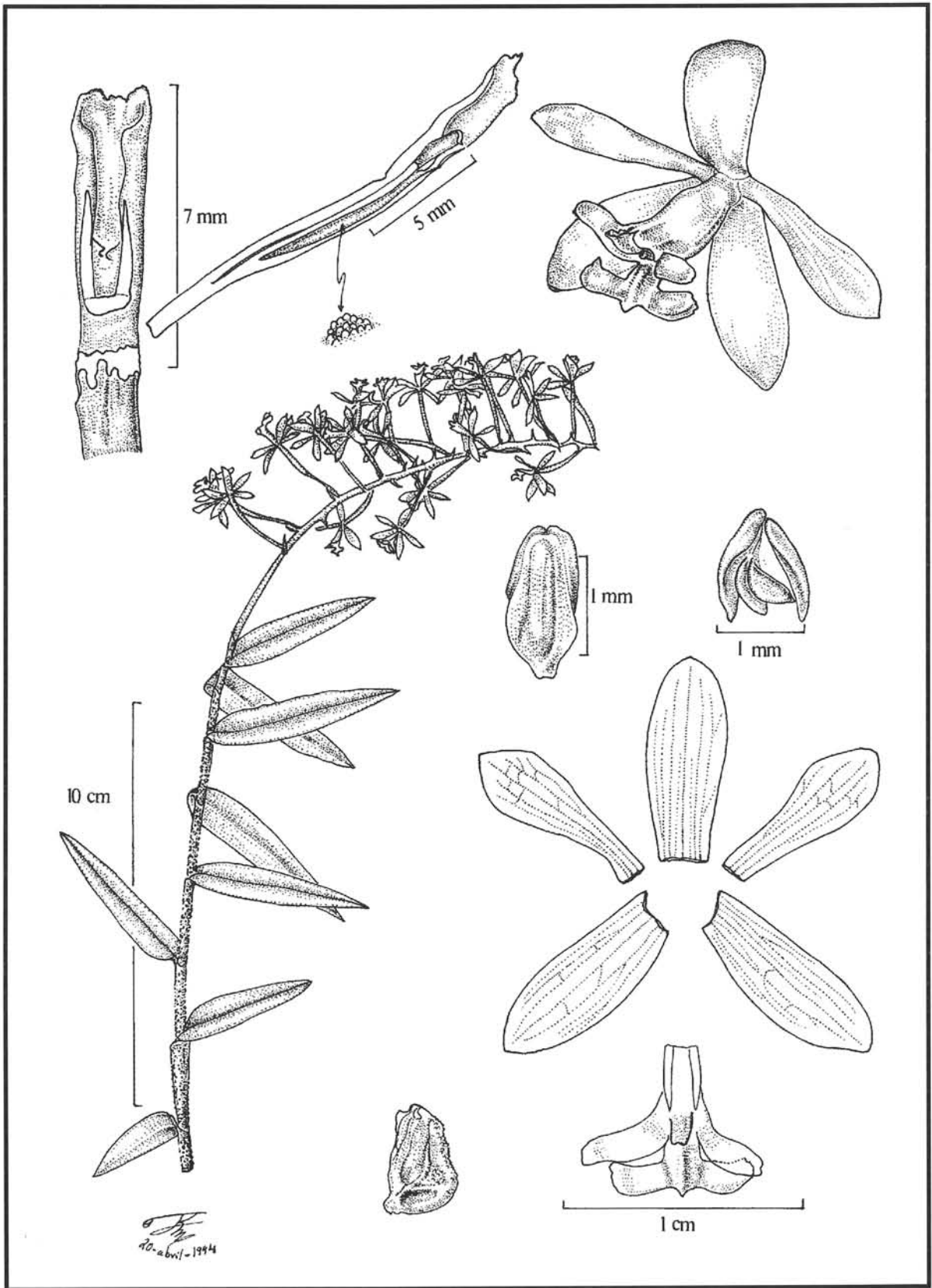
ETYMOLOGY: In honor of Mr. Sergeant Cox, of Mill Hill, near London, "a most ardent grower of orchids" during the later part of the XIX century.

Author: E. Hágsater

Illustrator: R. Jiménez M.

Editors: E. Hágsater & L. Sánchez S.

Herbario AMO Apartado Postal 53-123, 11320 México, D.F., MÉXICO ICONES ORCHIDACEARUM 8. 2006. Plate 820



EPIDENDRUM CRESCENTILOBUM Ames

EPIDENDRUM CRESCENTILOBUM Ames. Sched. Orchid. 4: 37. 1923.

Type: COSTA RICA: [Cartago:] Cascajal, 5500 ft, C. H. Lankester 60. Holotype: K! tracing, AMES 24132! Photo: AMO! Xerox AMO! Synonym: *Oerstedella crescentiloba* (Ames) Hágsater, Orquídea (Mexico City) 8(1): 21. 1981.

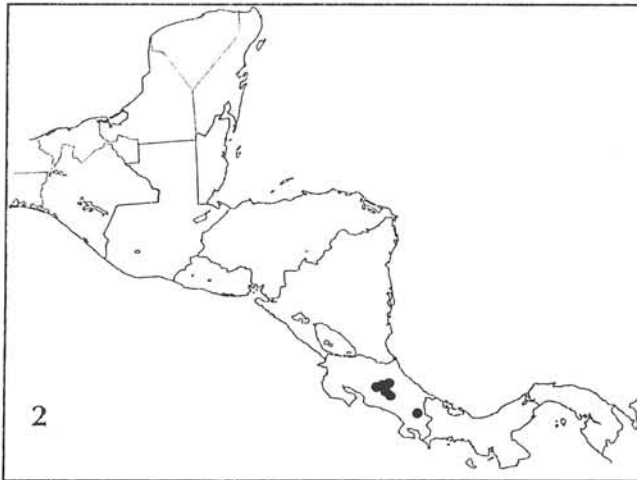
Hierba epífita, simpodial, cespitosa; 25-80[130] cm de alto. **Raíces** basales, carnosas, delgadas, blancas; 1-2.5 mm de grosor. **Tallos** sencillos, tipo caña, teretes, delgados, erectos, rectos; generalmente produciendo keikis en tallos robustos; 15-120 x 0.1-0.55 cm. **Hojas** 6-15, distribuidas a lo largo de los 2/3 apicales del tallo, articuladas, alternas, extendidas, las basales caedizas; vaina tubular, fuertemente verrugosa; 6-42 x 1-5.5 mm; lámina oblongo lanceolada, subcoriácea, ápice agudo, margen entero; 1.8-10 x 0.4-2.5 cm. **Bráctea** espátácea ausente. **Inflorescencia** apical, florece una sola vez, racemosa a raramente paniculada, generalmente secundiflora, ligeramente arqueada de manera que el racimo es horizontal, densa; [4.5]6-15 cm de largo; pedúnculo terete, delgado, recto, ligeramente muricado; 2-6 cm de largo; ocasionalmente provisto de 1 a 2 brácteas lineal lanceoladas, acuminadas; 3-10 mm de largo; raquis terete, delgado, recto, muricado. **Brácteas florales** más cortas que el ovario, lineal triangulares, acuminadas, gradualmente más cortas; 2-8 mm de largo. **Flores** 10-70, simultáneas, resupinadas, sépalos y pétalos púrpura rosado, el labelo blanco y el callo amarillo; sin fragancia. **Ovario** terete, delgado, ligeramente inflado justo detrás del perianto, no ornamentado; 10-24 mm de largo. **Sépalos** extendidos, libres, angostamente elípticos, redondeados, diminutamente apiculados, algo carnosos en el ápice, 5-nervados, algunas nervaduras ramificadas desde la base dando la apariencia de ser 7 u 8-nervados, margen entero; 6-8.5 x 3-3.5 mm; los laterales ligeramente oblicuos. **Pétalos** extendidos, libres, oblanceolados, redondeados, diminutamente apiculados, 3-nervados, las nervaduras laterales ramificadas en la parte media, dando la apariencia de ser 5-nervados, margen entero; 6-8 x 2-3 mm. **Labelo** unido a la columna, 3-lobado, base ligeramente cuneada, margen entero; 4-5 x 6-7.5 mm; unicaloso, el callo sulcado, bidentado en el ápice; disco desprovisto de quillas; lóbulos laterales insertados a un ángulo de 45° y algo arqueados hacia atrás, oblongos, subagudos, en posición natural más o menos erectos y el ápice arqueado hacia fuera; 3-3.2 x 1-2.2 mm; lóbulo medio muy carnoso, formando un istmo angosto y corto en la base, bilobado en el ápice, los lóbulos subrectangulares, divergentes, arqueados hacia arriba, el ápice con un apículo carnoso interlobular; 2.5 x 5 mm. **Columna** larga, gruesa, con una torca a la mitad; 6-7 mm de largo incluyendo el clinandrio; el cuerpo de la columna ocupa poco menos de la mitad del largo total incluyendo el clinandrio. **Clinandrio** prominente, semitubular, sobrepasando el cuerpo de la columna, margen irregularmente crenado. **Antera** subovoidea, papilosa, con una quilla central elevada y carnosa, 4-locular. **Polinios** 4, tipo ala de pájaro, planos, desiguales, el par interior de la mitad de largo que el par exterior; caudículas laminares, delgadas; sin viscidio. **Rostelo** perpendicular con respecto al eje de la columna, formando un seno amplio. **Lóbulos laterales del estigma** de 1/2 del largo de la cavidad estigmática. **Nectario** penetrando 1/2 del ovario, delgado, no inflado, papiloso. **Cápsula** elipsoide, con el perianto persistente; pedicelo delgado, 6-11 mm de largo; cuerpo, 15-28 x 5-10 mm; cuello apical, 6 mm de largo.

Epiphytic, sympodial, caespitose herb. **Roots** basal, fleshy, thin, white. **Stems** simple, cane-like, terete, thin, erect, straight; generally producing keikies on robust stems. **Leaves** 6-15, distributed throughout the apical 2/3 of the stem, articulate, alternate, spreading, the lower ones deciduous; sheaths tubular, strongly verrucose; blade oblong-lanceolate, subcoriaceous, apex acute, margin entire. **Inflorescence** apical, flowering only once, racemose or rarely paniculate, generally secund, slightly arching so that the raceme is generally horizontal, dense-flowered; peduncle terete, thin, straight, slightly muricate, occasionally provided with 1-2 linear-lanceolate, acuminate bracts. **Floral bracts** shorter than the ovary, linear-triangular, acuminate, gradually shorter. **Flowers** 10-70, simultaneous, resupinate, sepals and petals pink-purple, lip white with deep yellow callus, without fragrance. **Ovary** terete, thin, slightly inflated just behind the perianth, smooth. **Sepals** spreading, free, narrowly elliptic, rounded, minutely apiculate, somewhat fleshy towards the apex, 5-veined, some veins branching from the base so as to appear 7 or 8-veined; margin entire; the lateral sepals slightly oblique. **Petals** spreading, free, oblanceolate, rounded, minutely apiculate, 3-veined, the lateral veins branching from the middle, and appearing 5-veined, margin entire. **Lip** united to the column, 3-lobed, base slightly cuneate, margin entire; callus single, sulcate, apex bidentate, disc without keels; lateral lobes inserted at a 45° angle, arching somewhat backwards, oblong, subacute, in natural position more or less erect and the apex arching outward; midlobe very fleshy, forming a narrow isthmus at the base, apex bilobed with a fleshy apicule in the sinus, the lobes rectangular, divergent, arching backwards. **Column** including the clinandrium-hood long, thick, with a hump towards the middle, the body of the column occupies somewhat less than half the total length. **Clinandrium-hood** prominent, semitubular, much surpassing the body of the column, margin irregularly crenate. **Pollinia** 4, bird-wing-type, flat, unequal, the inner pair half as long as the outer pair; caudicles laminar, thin; viscidium lacking. **Rostellum** perpendicular to the axis of the column, forming a wide sinus. **Nectary** penetrating 1/2 the ovary, thin, not inflated, papillose.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Endemic to Costa Rica, Cordilleras of Tilarán, Central and Talamanca. Epiphytic between 1300-2900 m altitude. Flowering: October to March.

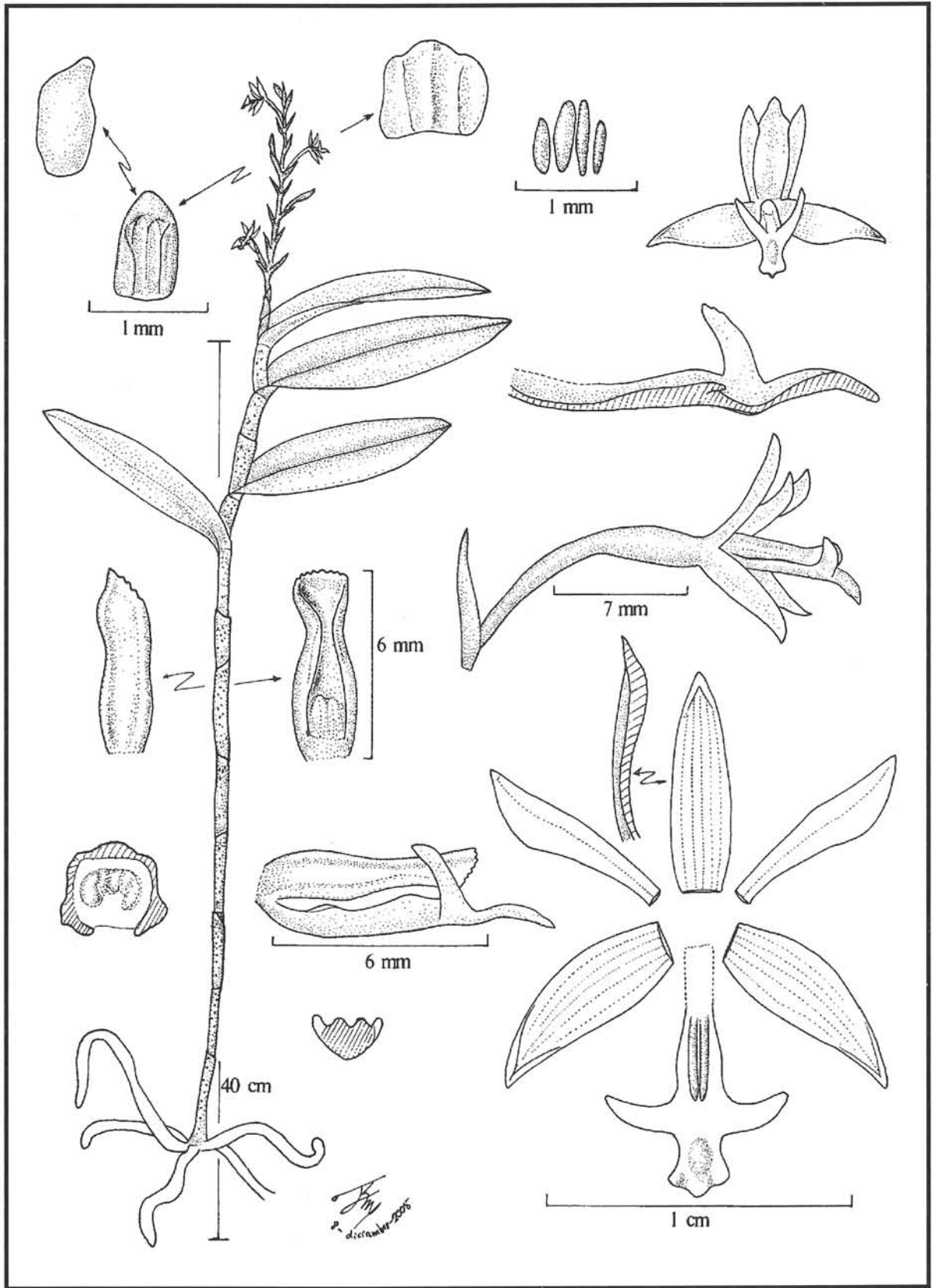
RECOGNITION: *Epidendrum crescentilobum* belongs to the *Oerstedella* Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is perpendicular to the axis of the column instead of parallel, forming a wide, open sinus, and without a viscidium; and the *Aberans* Subgroup, which is characterized by the pink with white flowers, and the column with an elongate cylindrical clinandrium-hood, the pollinia bird-wing type unequal. The species is recognized by the racemose to rarely pedunculate inflorescence, generally secund and in a horizontal position, with all the



flowers on the upper side, the small flowers (sepals 6-8.5 mm long), the midlobe with divaricate lobes arching backwards. *Epidendrum aberrans* Schltr. is also similar, with a racemose inflorescence (occasionally paniculate), slightly larger flowers (sepals 7-10 mm), lip with acute, straight lateral lobes, and widely distributed from Mexico (Isthmus of Tehuantepec) to western Costa Rica. *Epidendrum pachyepalum* Hágsater & E.Santiago has a secund inflorescence with larger (sepals 12-14 mm), successive flowers, apically very fleshy sepals and petals, and a triquetrous ovary.

ETYMOLOGY: In reference to the midlobe of the lip, which has been described as somewhat crescent-shaped, that is the tips of the divergent apical lobes are turned backwards, and thus arched like a 1/4 moon.

REFERENCES: Dressler R. L., 1993, *Field guide to the Orchids of Costa Rica and Panama*, Cornell University Press, p. 90. Hágsater, E., in Hammel et al., 2003, *Manual de Plantas de Costa Rica*, Missouri Botanical Garden, 3: 349. Hágsater, E., & M. A. Soto Arenas, 2005, *Transfers to Epidendrum L. from Oerstedella Rchb.f., Lankesteriana* 5(1): 73.



EPIDENDRUM CRUCIFORME Hágsater & E.Santiago
 THE GENUS EPIDENDRUM PART 5

EPIDENDRUM CRUCIFORME Hágsater et E.Santiago, *sp. nov.*

Type: NICARAGUA: [Jinotega: 1 km south of Jinotega Rock Quarry, edge of cloud forest in full sun on small scrub trees, 4400 ft], **Alfonse Henry Heller 6436**. Holotype: SEL 14832! (Illustration voucher). Copy of illustration, F 1644362! There is a specimen at SEL 426 with the same collector's number which does not correspond to this species, and has a flower of *E. hawkesii* in the envelope.

Epidendro aberranti Schltr. simile sed floribus minoribus, ovario breve, labello non nisi bene ad columnam basem juncto, lobulis lateralibus ad angulum 90° extensis, lobulo medio oblongo duos appendices triangulares parvos ferenti, discrepat.

Hierba epífita, simpodial, cespitosa; 23-40 cm de alto. **Raíces** basales, gruesas, carnosas; 2 mm de grosor. **Tallos** sencillos, tipo caña, teretes, delgados; 17-40 x 0.2-0.3 cm; provistos en la base de vainas tubulares no foliares, verrugosas; 12-23 mm de largo. **Hojas** 4-6 o más, distribuidas en el ápice del tallo, alternas, articuladas; vaina tubular, verrugosa; 10-12 x 2-3 mm; lámina lanceolada, ápice agudo, margen entero; 3-5.5 x 0.9-1.2 cm. **Bráctea** espatácea ausente. **Inflorescencia** apical, racemosa, corta, erecta; 3-5 cm de largo; pedúnculo, terete, delgado, desprovisto de brácteas, liso; 9 mm de largo; raquis terete, delgado, recto a fractiflexo. **Brácteas florales** prominentes, de la mitad o más del largo del ovario, angostamente triangulares, agudas, abrazadoras; 4-6 mm de largo. **Flores** 15, simultáneas, resupinadas, color rosado a blancas con el ápice rosado; sin datos de fragancia. **Ovario** terete, delgado, ligeramente arqueado, algo dilatado justo detrás del perianto, liso; 5-10 mm de largo. **Sépalos** entreabiertos, libres, carnosos en la mitad apical, ovado triangulares, agudos, con una quilla dorsal en el ápice, 5-nervados, dorsalmente verrugosos, margen entero; 4.5-7 x 1.2-2 mm; los laterales oblicuos, ligeramente falcados. **Pétalos** entreabiertos, dirigidos hacia arriba, casi paralelos al sépalo dorsal, libres, ligeramente carnosos, linear oblanceolados, oblicuos, agudos, 1-nervados, margen entero; 4-6 x 0.9-1.2 mm. **Labelo** libre con respecto a la columna casi en su totalidad, (unido a la base de la misma por sólo unos 2 mm) trilobado, truncado en la base, margen entero; 3-3.3 x 3.4-4.5 mm, bicallose, los callos paralelos, delgados, decurrentes por debajo de la columna y alargados hasta la base de los lóbulos laterales; disco provisto de una quilla delgada; lóbulos laterales extendidos en un ángulo de 90° con respecto al eje del labelo, dirigidos hacia arriba en posición natural, oblongo triangulares, redondeados, ligeramente oblicuos; 1.2-1.8 x 6-8 mm; lóbulo medio oblongo, el ápice obtuso, con un par de apéndices triangulares, y por lo tanto la mitad apical en forma de rombo, redondeados, carnosos; 1-2 x 1-1.4 mm. **Columna** ligeramente jorobada la base, delgada, tubular, con tres quillas decurrentes a todo lo largo de la misma; 5 mm de largo incluyendo el clinandrio. **Clinandrio** prominente, ca. del doble del largo de la columna, ápice entero o 3-lobado, finamente dentado. **Antera** reniforme, 4-locular. **Polinios** 4, lateralmente aplanados, tipo ala de pájaro, desiguales en tamaño, un par de la mitad del tamaño del otro; caudículas laminares, cortas. **Rostelo** perpendicular con respecto al eje de la columna, formando un seno amplio. **Nectario** no visto. **Cápsula** no vista.

Epiphytic, sympodial, caespitose herb. **Roots** basal, thick, fleshy. **Stems** simple, cane-like, terete, thin; provided basally with tubular, non-foliaceous, verrucose sheaths. **Leaves** 4-6 or more, distributed towards the apex of the stem; blade lanceolate, apex acute, margin entire. **Inflorescence** apical, racemose, short, erect; peduncle terete, thin, without bracts, smooth; rachis terete, thin, straight to zigzag. **Floral bracts** prominent, half as long as the ovary or longer, narrowly triangular, acute. **Flowers** 15, simultaneous, resupinate, pink to white with pink apices. **Ovary** terete, thin, slightly arching, somewhat dilated behind the perianth, smooth. **Sepals** partly spreading, free, fleshy throughout the apical half, ovate-triangular, acute, with a dorsal apical keel, 5-veined, dorsally verrucose, margin entire; the lateral sepals oblique, slightly falcate. **Petals** partly spreading, directed upwards, nearly parallel to the dorsal sepal, free, slightly fleshy, linear-oblanceolate, oblique, acute, 1-veined, margin entire. **Lip** nearly totally free of the column, united only for a short length at the base, 3-lobed, base truncate, margin entire; bicallose, the calli parallel, thin, decurrent throughout the basal claw and reaching the base of the lateral lobes; disc provided with a thin keel; lateral lobes spreading at a 90° angle with respect to the axis, directed upwards in natural position, oblong-triangular, rounded, slightly oblique; midlobe oblong, apex obtuse, with a pair of widely triangular apical appendages, thus the apical half rhombic, rounded, fleshy. **Column** somewhat hump-backed at the base, thin, tubular, with 3 decurrent keels running down the whole length. **Clinandrium-hood** prominent, about twice as long as the body of the column, thin, tubular, apex entire or 3-lobed, margin finely dentate. **Anther** reniform, 4-celled. **Pollinia** 4, laterally compressed, bird-wing type, unequal; caudicles short, laminar.

OTHER SPECIMENS: None seen.

OTHER RECORDS: NICARAGUA: Jinotega: Cerro Diablo, 4200 ft, *Heller 8215*, Xerox copy note and illustration, AMO!

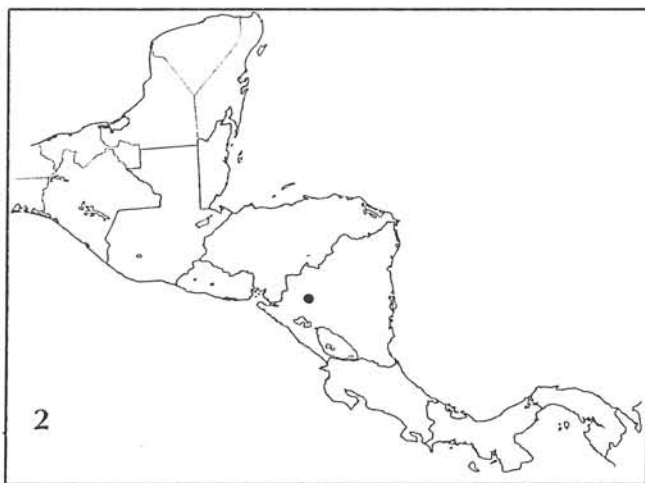
DISTRIBUTION AND ECOLOGY: Known only from Cordillera Central de Nicaragua, at 1300 m altitude, epiphyte in cloud forest. Flowering October-November.

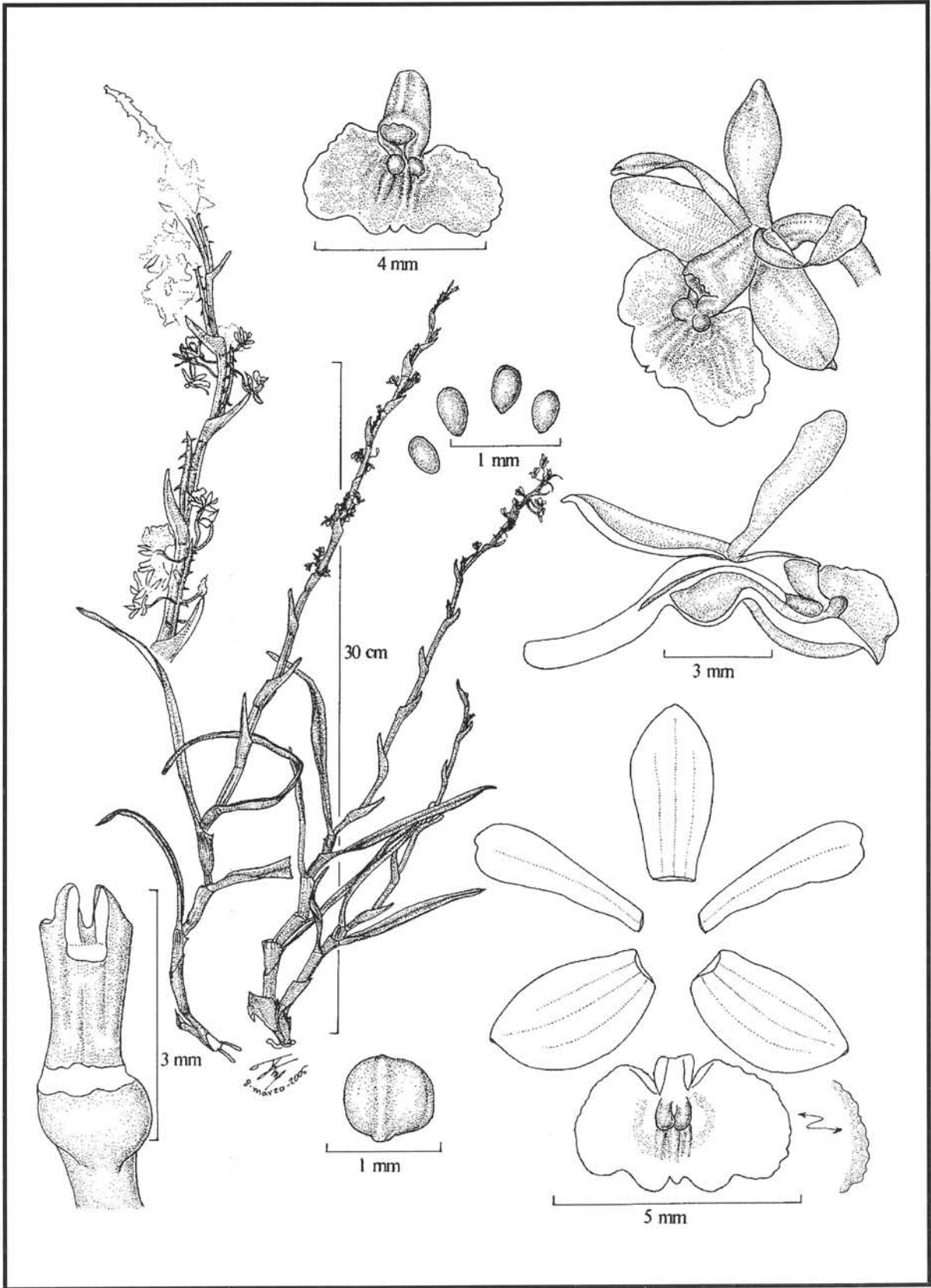
RECOGNITION: *Epidendrum cruciforme* belongs to the *Oerstedella* Group, *Aberrans* Subgroup. The species is recognized by the very small flowers (sepals 4.5-7 mm long), pink or white and pink flowers, the petals upright, nearly parallel to the dorsal sepal, the somewhat arching ovary, humped column, and the lateral lobes perpendicular to the axis of the lip, oblong, triangular, and the midlobe simple, with the apical half rhombic due to small, wide, triangular lobes. It is similar to *Epidendrum unicallosum* Hágsater which has lilac-pink, somewhat larger flowers (sepals 9.2-10 mm long), the ovary triquetrus and straight, the 3-lobed lip united to the column throughout and the very fleshy midlobe of the lip. *Epidendrum atypicum* Hágsater & E.Santiago has spreading flowers, a triquetrus ovary and a 3-lobed lip united to the column throughout, with the lateral lobes cuneate and the midlobe subulate, very fleshy and the callus laminar, tridentate. *Epidendrum aberrans* Schltr. has pink flowers with a white lip, the lip united to the column throughout, and the lateral lobes of the lip inserted at a 45° angle, with the midlobe clearly bilobed.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Latin *crux*, *crucis*, cross, and *-formis*, shape, thus cross-shaped, in reference to the lip with the lateral lobes spreading at a 90° angle with respect to the axis of the lip, which distinguishes the species. The name was proposed by Heller in a letter to L.O. Williams.

REFERENCES: Hamer, F., 1990, Orchids of Central America an Illustrated field guide, *Selbyana* 11 (Suppl.): 545, as *Oerstedella* sp.





EPIDENDRUM CRYPTORHACHIS Hágsater

EPIDENDRUM CRYPTORHACHIS Hágsater, sp. nov.

Type: ECUADOR: Pichincha: Guayabamba, 8 March 1877, *Vidal Sénège s.n.* Holotype: P! (Illustration voucher, pro parte.) Isotype: P! (Illustration voucher, pro parte.) Flower in spirit, AMO!

Epidendro gracillimo Rchb.f. simile sed racemis compactioribus, rhachidi recta, petalis ad apicem latioribus et cuneatis, ovario inflato vesiculam prominentem brevem post perianthum formanti, divergens.

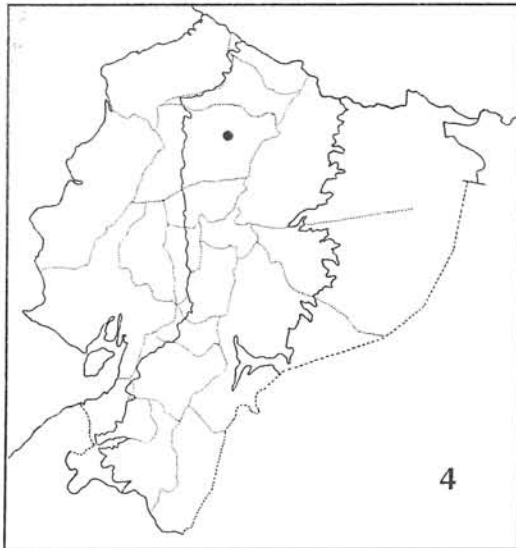
Hierba cespitosa, simpodial, 17-43 cm de alto incluyendo la inflorescencia. **Raíces** basales, escasas, delgadas, 0.5-1.5 mm de grosor. **Tallos** sencillos, cortos, tipo caña, teretes en la base a lateralmente aplanados en el ápice, delgados, flexuosos, 5-11.5 x 0.22-0.57 cm. **Hojas** 3-6, distribuidas a lo largo de los tallos, alternas, suberectas y arqueadas; vaina infundibuliforme en seco, finamente estriada, 8-17 x 2.2-5.7 mm; lámina linear lanceolada, acuminada, coriácea, conduplicada, margen entero, 2.8-8 x 0.4-0.6 cm. **Bráctea espatácea** ausente. **Inflorescencia** apical, paniculada, erecta, multiflora, densa, 19-32 cm de largo; pedúnculo elongado, delgado, ancipitoso, bialado, ligeramente sinuoso, 6.5-12.5 cm de largo, provisto de 1-5 brácteas distribuidas a todo lo largo, túbulares y ancipitosas en la base, conduplicadas hacia la mitad apical y largamente acuminadas, 14-32 mm de largo; provista de 6-9 racimos cortos, cada racimo recto, corto, denso, multifloro, subparalelo al eje de la inflorescencia, envuelto en gran parte por una bráctea semejante a las del pedúnculo pero progresivamente más cortas; los racimos de 1.4-2.7 cm de largo. **Brácteas florales** pequeñas, más cortas que el ovario, triangulares, agudas, abrazadoras, 1-2 mm de largo. **Flores** ca. de 90 por inflorescencia, más cortas que el ovario, triangulares, agudas, simultáneas, resupinadas, flores de color rojo pardo, sin datos de fragancia. **Ovario** terete, delgado, inflado ventralmente en el 1/3 apical, formando una vesícula prominente, liso, 5-6 mm de largo. **Sépalos** extendidos, libres, obovados, ápice redondeado, diminutamente apiculado, 3-nervados, margen extendido, entero, 3.3-3.5 x 1.6-2 mm; los laterales ligeramente oblicuos. **Pétalos** extendidos, libres, angostamente espatulados, ápice incipientemente bilobado, 1-nervados, margen entero, extendido, 3.7 x 1 mm. **Labelo** unido totalmente a la columna, 3-lobado, reniforme, base cordada, margen ligeramente crenado, los lóbulos laterales transversalmente elípticos, el lóbulo medio inconspicuamente bilobado, con un apículo diminuto, cada lóbulo redondeado, 2.5 x 4.3 mm; bicalloso, los callos prominentes, globosos, cortos; provisto de 3-quillas, delgadas y lisas, que se desvanecen antes de llegar al ápice de la lámina. **Columna** corta arqueada, 3 mm de largo. **Clinandrio** corto, margen crenado. **Antera** esférica, con una quilla roma, baja a todo lo largo, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidas. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** no vistos. **Nectario** penetrando 1/3 del ovario, muy inflado, liso. **Cápsula** no vista.

Sympodial, caespitose herb. **Roots** basal, scarce, thin. **Stems** simple, short, cane-like, terete at the base, laterally compressed towards the apex, thin, flexuous. **Leaves** 3-6, distributed throughout the stems, alternate, suberect and arching; sheath infundibuliform when dry, minutely striated; blade linear-lanceolate, acuminate, coriaceous, conduplicate, margin entire. **Inflorescence** apical, paniculate, erect, many-flowered, dense; peduncle elongate, thin, ancipitose, two-winged, slightly sinuous, provided with 1-5 bracts distributed throughout, tubular and ancipitose at the base, conduplicate above, long, acuminate; the inflorescence with 6-9 short, straight racemes, dense, many-flowered, subparallel to the axis of the inflorescence, enveloped at the base by large conduplicate bracts, similar to those of the peduncle but progressively shorter. **Floral bracts** small, shorter than the ovary, triangular, acute. **Flowers** ca. 90, 4-14 per raceme, small, membranaceous, simultaneous, resupinate, red-brown. **Ovary** terete, thin, ventrally inflated towards the apical 1/3, forming a prominent vesicle, smooth. **Sepals** spreading, free, obovate, apex rounded, minutely apiculate, 3-veined, margin spreading, entire; the lateral sepals slightly oblique. **Petals** spreading, free, narrowly spatulate, apex slightly bilobed, 1-veined, margin spreading, entire. **Lip** united to the column, 3-lobed, reniform, base cordate, margin slightly crenate, lateral lobes transversely elliptic, midlobe inconspicuously 2-lobed with a minute apicule, the lobes rounded; bicallose, the calli prominent, globose, short, disc with 3 thin, smooth keels which disappear before reaching the apex. **Column** short, arching. **Clinandrium-hood** short, margin crenate. **Anther** spherical, with a low rounded keel in front, 4-celled. **Pollinia** 4, obovoid, laterally compressed. **Rostellum** apical, slit. **Nectary** penetrating 1/3 of the ovary, much inflated, smooth.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from the type, from central Ecuador, northeast of Quito, at about 2900 m altitude. Flowering in December.

RECOGNITION: *Epidendrum cryptorhachis* belongs to the Epidendropsis Group, Gracillimum Subgroup characterized by the sympodial, caespitose, relatively small plants with non-thickened stems, long, paniculate inflorescence, delicate small



flowers, and long, narrow, subcoriaceous leaves. The species is recognized by the short plants with a long inflorescence, about twice as long as the apical leaf or more, appearing at first sight racemose, with an erect, laterally compressed rachis, prominent bracts, but under closer inspection paniculate, with short, strict, parallel, 4-14-flowered racemes appearing from each of the upper bracts, ovary short, 5-6 mm long, the petals narrowly spatulate, 3.7 x 1 mm, and a wide, reniform, 3-lobed lip, deeply cordate, the midlobe formed by two small, rounded lobes with a wide apicule in the sinus. It is similar to *Epidendrum gracillimum* but that species has narrower leaves, a long narrow nectary penetrating about half the ovary, linear petals, and an entire, reniform lip. *Epidendrum physophorum* Schltr. from Bolivia has a much shorter inflorescence, the branches widespread, flowers smaller, a short, inflated nectary, a comparatively slender column, sepals 3.25 mm long, petals linear, and the reniform, entire lip with a dentate-erose margin.

CONSERVATION STATUS: DD. Data deficient. The area where the pretype was collected over a century ago has been heavily disturbed.

ETYMOLOGY: From the Greek κρυπτος, hidden, and ραχίς, axis of the inflorescence, in reference to the short, straight racemes of the panicle which are hidden partially by the bracts of the inflorescence, and parallel to the primary rachis, so they are not apparent at first sight.

Author: E. Hágsater

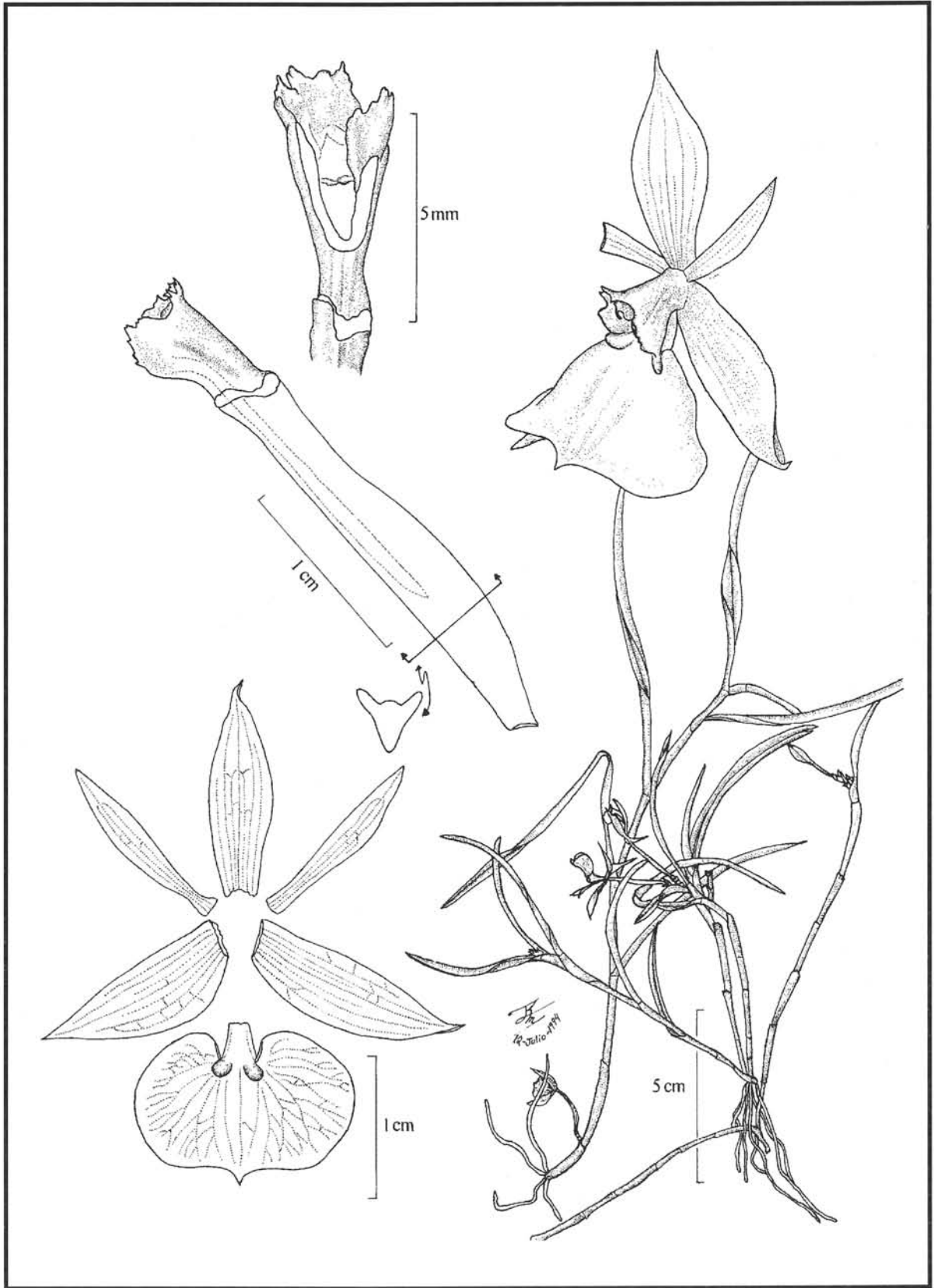
Illustrator: R. Jiménez M.

Editors: E. Hágsater & L. Sánchez S.

Herbario AMO

Apartado Postal 53-123, 11320 México, D.F., MÉXICO

ICONES ORCHIDACEARUM 8. 2006. Plate 823



EPIDENDRUM CUATRECASII Garay
THE GENUS EPIDENDRUM PART 5

Type: COLOMBIA: Valle del Cauca: Bajo Calima, La Trojita, 50 m, 19 February 1944, *J. Cuatrecasas* 16252. Holotype: US! Isotypes: AMES! U! (Illustration voucher).

Hierba epífita, cespitosa, 21.5-40 cm de alto. **Raíces** basales, delgadas, blancas, 1 mm de grosor. **Tallos** sencillos, tipo caña, lateralmente comprimidos, delgados, ligeramente arqueados, 21.5-37 x 0.2-0.4 cm. **Hojas** distribuidas hacia la mitad apical del tallo, caedizas con el tiempo, alternas, conduplicadas en la base; vaina tubular, lateralmente comprimida y ancipitosa, finamente estriada, 2.0-4.3 cm de largo; lamina angostamente elíptico lanceolada, ápice agudo, diminutamente apiculado, margen entero, 3.8-11.5 x 0.3-1.3 cm. **Bráctea espátacea** ausente. **Inflorescencia** apical y lateral, por lo menos la apical pluriracemosa, produce una flor de la bráctea subapical, y nuevos raquis de las brácteas inferiores, provista de 4 brácteas imbricadas, tubulares, infundibuliformes, cortas, 3 mm de largo. **Brácteas florales** triangulares, agudas, amplexicaules, 2 mm de largo. **Ovario** triquetro, delgado, ligeramente ensanchado dorsalmente hacia la zona media basal, minutamente papiloso, 16-23 mm de largo. **Flores** 1 a la vez de una raquis, por lo que puede haber dos o más por tallo, sucesivas, resupinadas, color verde claro, sin datos de fragancia. **Sépalos** entreabiertos, libres, margen entero, 5-nervados, 11 x 3.0-3.6 mm; el dorsal angostamente oblanceolado, redondeado, apiculado; los laterales angostamente lanceolados, agudos a acuminados, oblicuos. **Pétalos** entreabiertos, libres, linear oblanceolados a lineares, agudos, margen entero, 3-nervados, 10.4 x 1.2 mm. **Labelo** unido a la columna, entero, subreniforme, base cordada, apiculado en el ápice, margen entero, 8 x 10.7 mm; bicalloso, los callos pequeños, delgados. **Columna** recta, delgada, el ápice en forma de embudo, con una ala carnosa, de cada lado, margen eroso, dando con el clinandrio la impresión de una columna apicalmente trilobada; 6 mm de largo. **Clinandrio** prominente, margen eroso. **Antera** no vista. **Polinios** no vistos. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** no vistos. **Nectario** penetrando algo más de la mitad del ovario, no inflado. **Cápsula** no vista.

Epiphytic, sympodial, caespitose herb. **Roots** basal, thin. **Stems** simple, cane-like, laterally compressed. **Leaves** distributed throughout the apical half of the stem; sheath laterally compressed, ancipitose; blade narrowly elliptic-lanceolate, apex acute, minutely apiculate. **Inflorescence** apical and lateral, at least the apical ones pluri-racemose, producing one flower from the subapical bract, producing a new rachis from the lower bracts, the bracts imbricating tubular, infundibuliform. **Ovary** triangular in section, somewhat dilated dorsally below the middle. **Flowers** 1 at a time from one rachis, so there can be two or more at a time from one stem; light green. **Sepals** spreading, 5-veined, dorsal narrowly oblanceolate, rounded, apiculate, the laterals narrowly lanceolate, acute to acuminate, oblique. **Petals** spreading, free, linear-oblanceolate to linear, acute, margin entire, 3-veined. **Lip** united to the column, entire, subreniform, base cordate, apex apiculate, margin entire; bicallose, the calli small, thin. **Column** straight, thin, apex funnel-shaped, with a fleshy wing on each side, margin erose, with the clinandrium-hood giving the column a 3-winged aspect. **Clinandrium-hood** prominent, margin erose. **Nectary** penetrating somewhat more than half the ovary.

OTHER SPECIMENS: COLOMBIA: Chocó: Area of Baudó, about 2 km north of the village of El Firme, on the bank of Quebrada Ilsagard, 11 II - 29 III 1967, *Fuchs* 22188, US! Area of Baudó, on the right side of Río Baudó, about 10 km upstream from the estuary, near Quebrada Paulita, 11 II - 29 III 1967, *Fuchs* 22246, S! US! Nuqui-Pangui, Río Pangui, 0 m, Gómez 394, MO! **Valle del Cauca:** Bajo Calima; Bahía de Buenaventura, quebrada de San Joaquín, 10 m, 23 II 1946, *Cuatrecasas* 19955, AMES! US! Concesión Pulpapel/Buenaventura 3°55'N 77°W, 100 m, 21 II 1985, *Monsalve* 699, CUCV! MO.

DISTRIBUTION AND ECOLOGY: Known only from the Pacific lowlands of Colombia in the Chocó and Bajo Calima (Valle del Cauca) near the port of Buenaventura from sea level to 100 m altitude, epiphytic in tropical rain forest. Flowering in February and March.

RECOGNITION: *Epidendrum cuatrecasasii* belongs to the Albertii Group characterized by the caespitose habit, simple stems, apical and lateral inflorescences, with various bracts on the peduncle of the inflorescence. The species is recognized by the acuminate, narrow leaves, apical and lateral inflorescences, the lateral inflorescence (if present) with an evident peduncle and non-floral bracts (the bracts are also present in the apical inflorescence, though sometimes they may be hidden by the apical leaf), the ovary is triangular in section (triquetrus). It was confused by Garay himself with a member of the Difforme Group, *Epidendrum jejunum* Rchb.f. which it resembles superficially; however, the presence of a lateral inflorescence (which is not present in the type seen by Garay) shows the successive bracts of the inflorescence typical of the Albertii Group. The species is somewhat similar to *Epidendrum hexagonum* Hágsater & Dodson, which is, however, much larger overall. It can be confused with *E. jejunum* which grows further south, in Ecuador, on the western slope between 200-800 m altitude, has bilobed leaves less than 7 cm long and sepals less than 11 mm long. *Epidendrum stellidiforme* Hágsater & Dodson from southern Colombia and northern Ecuador is found at 1300-1500 m altitude, has larger flowers, the sepals being more than 16 mm long. The two latter species belong to the Difforme Group and do not have any lateral inflorescence.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In honor of José Cuatrecasas (1903-1996), Spanish botanist who worked in Colombia for several years and then at the US herbarium, Smithsonian Institution in Washington D.C. on the Flora of Colombia, tropical Andean Asteraceae; Humiriaceae; *Theobroma*; and Sterculiaceae. He collected the type.

REFERENCES: Garay, Leslie, A., 1968. Studies in American Orchids VII. *Caldasia* 10(47): 235.



Authors: E. Hágsater, E. Santiago & L. Sánchez S.

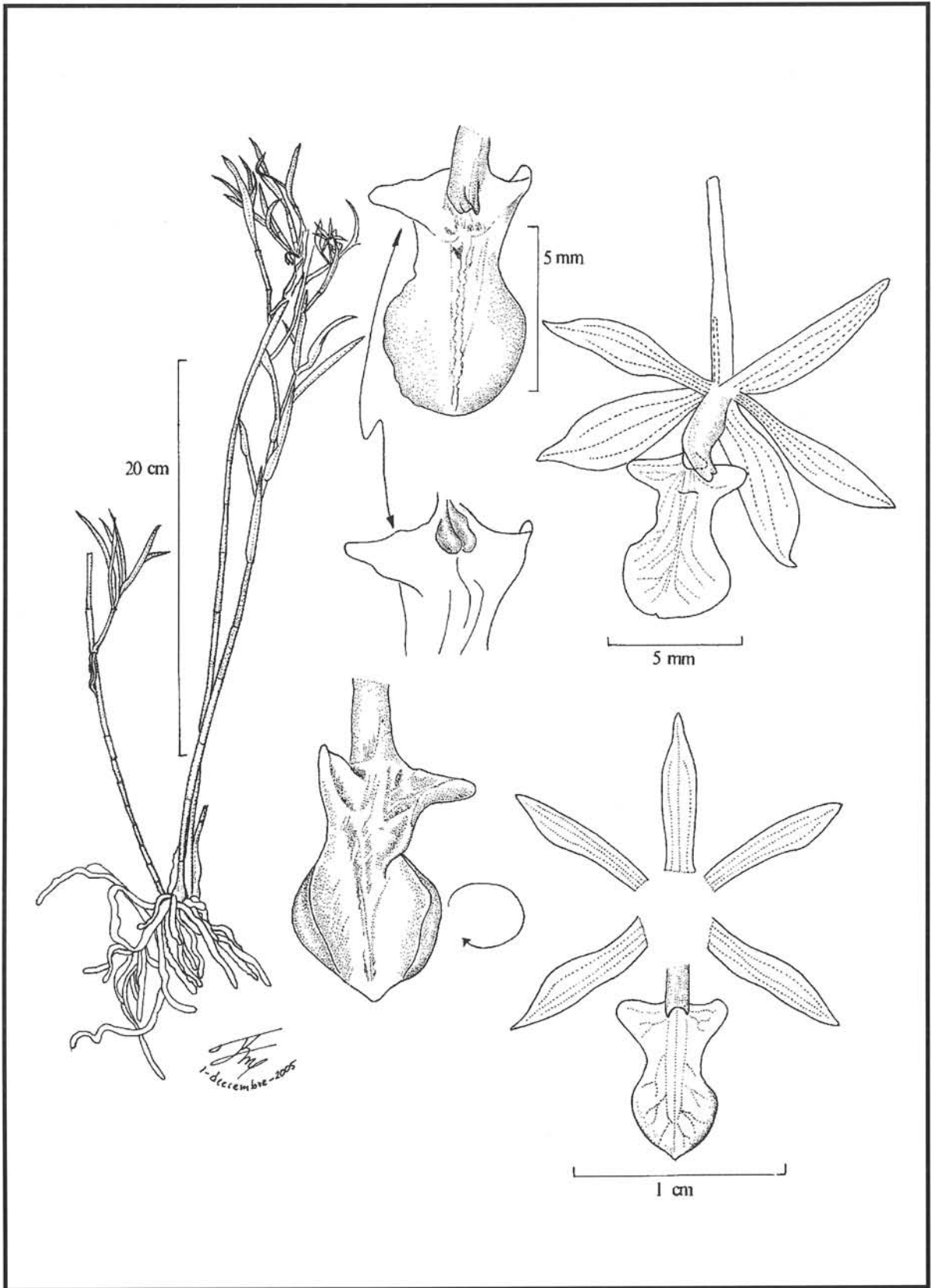
Illustrator: R. Jiménez M.

Editors: E. Hágsater & L. Sánchez S.

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ICONES ORCHIDACEARUM 8. 2006. Plate 824



EPIDENDRUM CYCLOLOBUM Hágsater & E.Santiago
THE GENUS EPIDENDRUM PART 5

EPIDENDRUM CYCLOLOBUM Hágsater et E.Santiago, sp. nov.

Type: NICARAGUA: [Matagalpa: Cordillera Central, area near "Jinotega Rock Quarry", 5 km north of Santa María Ostuma, 1500 m, 8 I 1963, *Louis O. Williams, Antonio Molina R. & Terua P. Williams* as] *A. H. Heller 23373*. Holotype: SEL 32164! (Illustration voucher). Xerox AMO! Sketch of flower by Hágsater, AMO!

Epidendro centropetalum Rchb.f. simile sed inflorescentiis fere sessilibus minus floriferis, petalis acutis, labelli lobulis lateralibus triangularibus rotundatis, lobulo medio orbiculare.

Hierba simpodial, caespitosa, con numerosos keikis; ca. 35 cm de alto. **Raíces** basales, de la base de los tallos y en la base de los keikis, carnosas, gruesas, blancas; 2-3 mm de grosor. **Tallos** sencillos, tipo caña, teretes, delgados, erectos, rectos, produciendo keikis en el tercio apical de los tallos viejos; 35 x 0.15-0.3 cm; cubiertos en la base por vainas tubulares, no foliares. **Hojas** 5-7, distribuidas en el ápice de los tallos, articuladas, alternas, suberectas, gramíneas, generalmente caedizas; vaina tubular, verrugosa; 6-30 x 1.5-3 mm; lámina linear lanceolada, ápice agudo, margen entero; 2.2-4.5 x 0.2-0.6 cm. **Bráctea espatácea** ausente. **Inflorescencia** apical, florece una sola vez, racemosa, corta, subsésil, erecta, pauciflora; pedúnculo reducido. **Brácteas florales** mucho más cortas que el ovario. **Flores** 2, por racimo, simultaneas, resupinadas, de color rosado; sin datos de fragancia. **Ovario** terete, delgado, no inflado, liso; 13-14 mm de largo. **Sépalos** libres, oblongo elípticos, agudos, 3-nervados, margen entero, 7-8 x 1.5-2 mm; los **laterales** diminutamente apiculados, ligeramente oblicuos. **Pétalos** libres, linear oblanceolados, agudos, 3-nervados, margen entero; 7.5 x 1.5 mm. **Labelo** unido a la columna, 3-lobado, base truncada, margen entero; 6 x 5 mm; bicalloso, los callos delgados, paralelos; disco provisto de 3 quillas delgadas, angostas y bajas; lóbulos laterales pequeños, triangulares, redondeados, extendidos, fuertemente divaricados; 2 x 1.2 mm; lóbulo medio formando un istmo en la base, orbicular en el ápice; 4.7 x 3.7 mm. **Columna** corta, ligeramente arqueada; 3.3 mm de largo. **Clinandrium** prominente, semitubular, sobrepasando el cuerpo de la columna, margen irregular. **Antera** no vista. **Polinios** no vistos. **Rostelo** no visto. **Lóbulos laterales del estigma** no vistos. **Nectario** penetrando 1/3 del ovario, angosto. **Cápsula** no vista.

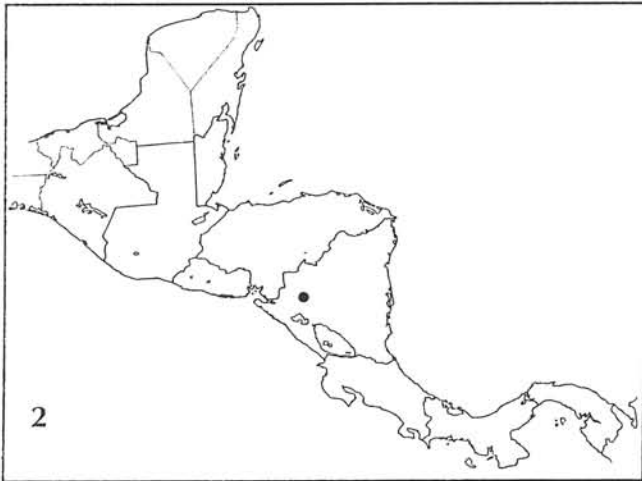
Sympodial, caespitose **herb** with numerous keikies. **Roots** basal, from the main plant and the keikies, thick, fleshy. **Stems** simple, cane-like, terete, thin, straight, producing keikies from the apical third of old stems; the base covered by tubular, non-foliaceous sheaths. **Leaves** 5-7 distributed throughout the apical half of the stems, articulate, alternate, suberect, grass-like, the lower ones generally deciduous; sheath tubular, verrucose; blade linear-lanceolate, apex acute, margin entire. **Inflorescence** apical, flowering only once, racemose, short, subsessile, erect, few-flowered. **Floral bracts** much shorter than the ovary. **Flowers** 2, simultaneous, resupinate, pink. **Ovary** terete, thin, not inflated, smooth. **Sepals** free, oblong-elliptic, acute, 3-veined, margin entire; the lateral sepals minutely apiculate, slightly oblique. **Petals** free, linear-oblanceolate, acute, 3-veined, margin entire. **Lip** united to the column, 3-lobed, base truncate, margin entire; bicallose, the calli thin; disc with 3 thin keels; lateral lobes small, triangular, rounded, spreading, strongly divaricate; midlobe forming an isthmus, orbicular. **Column** short, slightly arching. **Clinandrium-hood** prominent, semitubular, surpassing the body of the column, margin irregular. **Nectary** penetrating 1/3rd of the ovary, narrow.

OTHER SPECIMENS: None seen.

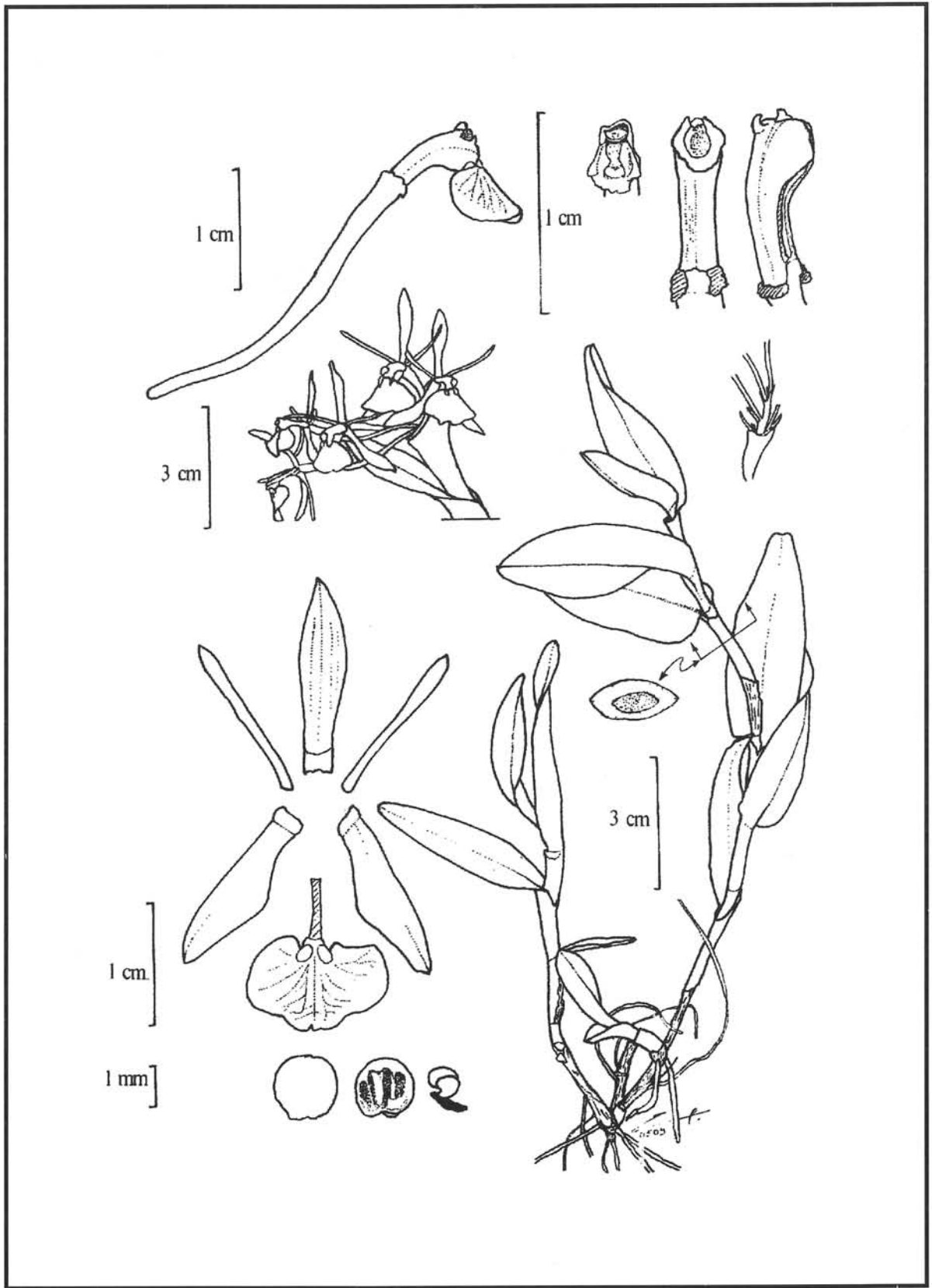
DISTRIBUTION AND ECOLOGY: Only known from the Cordillera Central de Nicaragua, in cloud forest, at 1500 m altitude. Flowering January.

RECOGNITION: *Epidendrum cyclolobum* belongs to the Oerstedella Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is perpendicular to the axis of the column instead of parallel, forming a wide, open sinus, and without a viscidium, and the Aberrans Subgroup, which has small, membranaceous flowers with a prominent clinandrium-hood, with unequal, bird-wing type pollinia, the inner pair much smaller than the outer pair, and the pollinia very flat and translucent. The species is recognized by the thin stems, grass-like, suberect, narrow leaves, erect, subsessile, racemose inflorescence with few pink flowers, sepals 7-8 mm long, the 3-lobed lip with the lateral lobes triangular, rounded and the midlobe orbicular. *Epidendrum centropetalum* Rchb.f. is vegetatively very similar, but the flowers are slightly larger (sepals 9-10 mm long), the lateral lobes of the lip are smaller, narrowly triangular, acute, and the midlobe is wide and an inverted "V" shaped, with a wide, deep, apical sinus. *Epidendrum pansamalae* Schltr. has still larger flowers (sepals 13-14 mm long) densely-flowered inflorescences, the lateral lobes of the lip oblong and the midlobe flabellate.

CONSERVATION STATUS: DD. Data deficient. Known only from the type.



ETYMOLOGY: From the Greek κύκλος circle, and λοβός, lobe, in reference to the circular midlobe of the lip characteristic of this species.



EPIDENDRUM DEJEANIAE Chiron, Hágsater & L.Sánchez
 THE GENUS EPIDENDRUM PART 5

EPIDENDRUM DEJEANIAE Chiron, Hágsater et L.Sánchez, sp. nov.

Type: FRENCH GUIANA: Forested bank on the lower course of Acarauany river, hort. Mana, pressed February 2005, *Aline Dejean sub Guy Chiron 2892*. Holotype: LY! (Illustration voucher.) Flower in alcohol: AMO!

Epidendro amapensi Hágsater & L.Sánchez simile sed 5-6 floribus, labello reniformi breviter ad apicem trilobato, margine integro, lobulo medio brevi latoque, clinandrio integro, recedens.

Hierba epífita, cespitosa, simpodial, de 20 cm de alto. **Raíces** basales, de la base de los tallos, delgadas, blancas, 1.5 mm de grosor. **Tallos** sencillos, de 6-10 entrenudos, delgados y subcilíndricos en la base, de 2 mm de grosor, distalmente ensanchados y lateralmente comprimidos, ancipitosos; 17 x 0.6 cm. **Hojas** 5-7, alternas, articuladas; vainas tubulares, lateralmente comprimidas, ancipitosas, 2 x 0.6 cm; lámina elíptica, lanceolada, ápice redondeado, diminutamente bilobado, la carina dorsal terminando en una punta aristada, subcoriácea, superficie irregular, las hojas inferiores y superiores más pequeñas; 5.7-6.5 x 1.5-2.0 cm. **Bráctea espatácea** ausente. **Inflorescencia** apical, sésil, racemosa, subcorimbosa, pedúnculo ligeramente comprimido, 5-6 x 2 mm, cubierto por una hoja muy reducida, aguda, 17 x 5-6 mm. **Brácteas florales** triangulares, agudas, progresivamente menores, la inferior 6-7 mm de largo. **Ovario** cilíndrico, liso, 25-30 x 2 mm. **Flores** 5-6, simultáneas, resupinadas, concoloras, verde oscuro (verde botella). **Sépalos** lanceolados, agudos, 5-nervados, margen entero, ligeramente revoluto; los laterales oblicuos, ligeramente más anchos; 15 x 3.5-4.0 mm. **Pétalos** lineares, agudos, 1-nervados, márgenes enteros, extendidos; 13 x 0.8 mm. **Labelo** unido a la columna, reniforme, cordado en la base, brevemente trilobado en el ápice, margen entero, 7 x 12.5 mm; bicalloso, los callos, ovoideos; lóbulos laterales semiorbitales, lóbulo medio corto y ancho, ligeramente emarginado. **Columna** delgada, arqueada, 8 mm de largo, terminada en un par de alas cortas que forman el rostelo. **Clinandrio** corto, en forma de embudo, ligeramente sobrepasando la antera, margen entero. **Rostelo** apical, hendido. **Antera** esférica, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, caudículas granuladas, viscidio semilíquido. **Nectario** penetrando 1/2 del ovario, angosto, liso.

Epiphytic, caespitose, sympodial herb. **Roots** basal, from each stem numerous, thin, white. **Stems** simple, of 6-10 internodes, the base thin, subterete, distally widened and laterally compressed, ancipitose. **Leaves** 5-7, alternate, articulate; sheaths tubular, laterally compressed, ancipitose; blade elliptic-lanceolate, apex rounded, minutely bilobed, apically short-aristate, subcoriaceous, surface irregular, the lower and upper leaves somewhat smaller. **Inflorescence** apical, sessile, racemose, subcorymbose, peduncle short, slightly compressed, covered by a reduced, acute leaf. **Floral bracts** triangular, acute, progressively smaller. **Ovary** terete, smooth, long. **Flowers** 5-6, simultaneous, resupinate, concolor, dark green (bottle green). **Sepals** lanceolate, acute, 5-veined, margins entire, slightly revolute; lateral sepals oblique, slightly wider than the dorsal sepal. **Petals** linear, acute, 1-veined, margins entire, spreading. **Lip** united to the column, reniform, base cordate, apex short-3-lobed, margin entire; bicallose, the calli obovoid; lateral lobes semiorbicular, midlobe short and wide, somewhat emarginate. **Column** thin, arching, ending in a pair of short, wings that form the rostellum. **Clinandrium-hood** funnel shaped, short, slightly surpassing the anther, margin entire. **Rostellum** apical, slit. **Anther** subspherical, 4-celled. **Pollinia** 4, obovoid, laterally compressed, caudicles granulate, viscidium semiliquid. **Nectary** penetrating half the ovary, narrow, smooth.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Endemic to French Guiana, on the forested bank on the lower course of Acarauany river, epiphytic, 5-10 m altitude. Flowering from February to March.

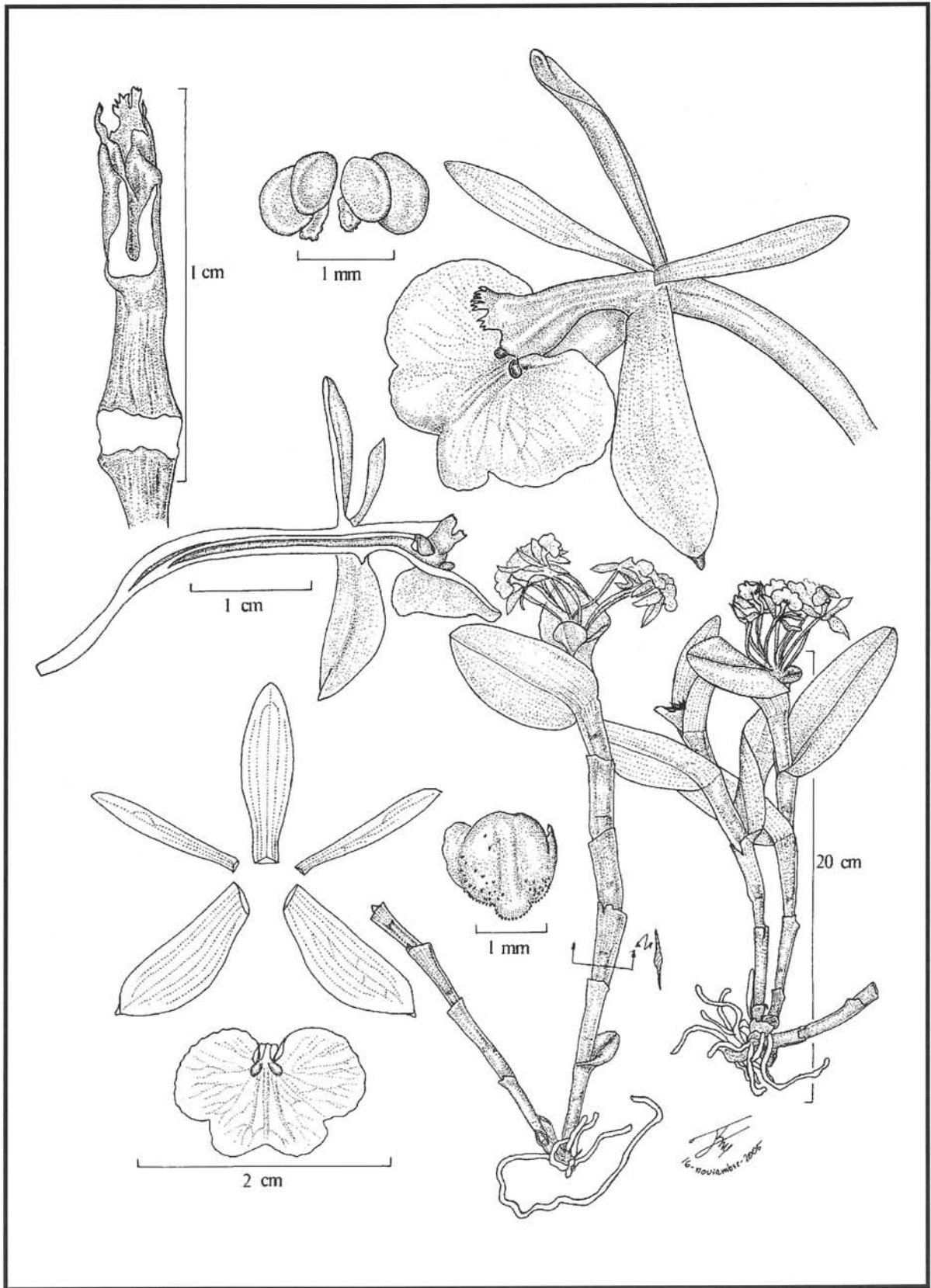
RECOGNITION: *Epidendrum dejeaniae* belongs to the Difforme Group which is characterized by the caespitose, sympodial plants, fleshy, pale green to glaucous leaves, apical inflorescence, sessile, rarely with a short peduncle, one-flowered to corymbose, without spathaceous bracts, fleshy, green to yellowish-green rarely white flowers. The species has laterally compressed, ancipitose, stems distally, the lip with the apex short, 3-lobed, the apical lobe short and wide, slightly emarginate, and the slightly arching column. It is similar to *Epidendrum amapense* Hágsater & L.Sánchez, distributed along the Brazilian-French Guiana border, which has 1-2 flowers, a 3-lobed lip with the margins erose, and the apical lobe transversely oblong, slightly emarginate and mucronate, and the clinandrium-hood irregular and deeply dentate. The flowers resemble those of *E. sertorum* Garay & Dunst. found on the eastern plains of Colombia and the upper Orinoco of



Venezuela, at an altitude of less than 500 m, but it has 7-15 white to greenish yellow flowers which are slightly larger (sepals 17 mm long), an entire, cordiform lip, the disc with many thickened veins. *Epidendrum difforme* Jacq. is endemic to the windward islands of the Antilles (Montserrat, Guadeloupe, Dominica, Martinique, Ste. Lucia, St. Vincent and Trinidad et Tobago), has 3-5 flowers, 15 mm long sepals, a 3-lobed lip with a square midlobe with globose calli and a low thickened keel. In the French Guiana, *E. cremersii* Hágsater & L.Sánchez has a longer ovary (30-35 mm), 1-2, rarely 3, large flowers (sepals 27-30 mm long), a large, 3-lobed lip (20-23 x 35-36 mm) with the lateral lobes surpassing the midlobe and separated from it by deep sinuses. *Epidendrum althausenii* A.D.Hawkes, ranging throughout the Amazon basin has 1-2, rarely 3 large flowers, the ovary 35-40 mm long, sepals 23-50 mm long and the lip much wider than long. *Epidendrum oldemanii* Christenson has 3-5 leaves, the apical ones progressively longer; a 2-flowered inflorescence, and the lip transversely reniform-bilobed, the margin sinuate, and the column with a prominent, dentate clinandrium-hood.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In honor of Mrs. Aline Dejean, from Mana (French Guiana) who collected and grew the pretype specimen from which the type was prepared.



EPIDENDRUM DIFFORME Jacq.

THE GENUS EPIDENDRUM PART 5

Plate 827

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM DIFFORME Jacq., Enum. Syst. Pl. 29, 1760; Select. Stirp. Amer. Hist. 223, t. 136, 1763. Select. Stirp. Amer. Hist. ed. icon. arch. pict. 108, t. 206, 1780.

Type: MARTINIQUE: [Without locality], on large trees, *Jacquin s.n.* Holotype: BM!

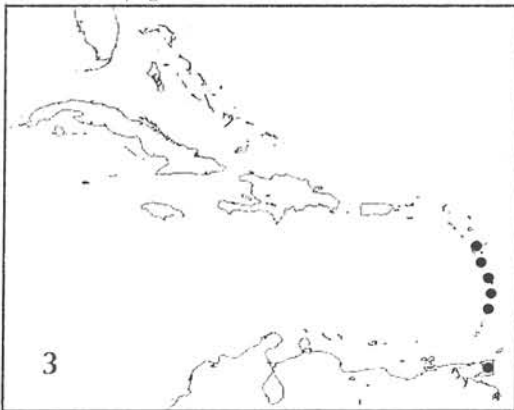
Hierba epífita, simpodial, cespitosa; 14-35 cm de alto. Raíces basales, carnosas, delgadas, 1-2 mm de grosor. Tallos sencillos, tipo caña, fuertemente comprimidos lateralmente, ancipitosos, ligeramente flexuosos, 10-30 x 0.2-0.5 [-15] cm. Hojas 4-10, distribuidas a lo largo del tallo; vaina foliar comprimida lateralmente, ancipitosa, dilatada hacia la lámina foliar, lisa, 1-2.5 cm de largo; lámina elíptica a ovada, ápice redondeado a retuso, margen entero, subcoriácea, lisa, carina dorsal baja, verde, 2-9 x 1.2-3.5 cm. Bráctea espátea ausente. Inflorescencia apical, del tallo maduro, florece una sola vez, subcorimbosa, recta, oculta entre las hojas apicales, subsésil, pedúnculo muy reducido. Brácteas florales mucho más cortas que el ovario, triangulares, agudas, 3-6 x 1-1.5 mm. Flores 2-5, raramente más, resupinadas, simultáneas, abriendo en sucesión, verde brillante. Ovario no inflado, terete, liso, 21-37 x 1-1.4 mm. Sépalos extendidos, libres, glabros, subcoriáceos, elípticos, ápice redondeado, 5-nervados, margen revoluta, entero; el dorsal algo constricto cerca de la base, 8.7-15 x 2.5-4.5 mm; los laterales ligeramente falcados, 9-15 x 3.1-5.6 mm. Pétalos membranáceos, extendidos, angostamente ligulados a lanceolados, 3-nervados, margen entero, extendido, 7.2-13.7 x 1-2.7 mm. Labelo unido a la columna, trilobado, 7.8-10 x 12-16 mm; bicalloso, los callos pequeños, subglobosos; disco engrosado hacia el centro formando una carina muy baja, fuertemente revoluta en posición natural; lóbulos laterales elípticos a suborbiculares, margen entero a crenulado, 3.8-6.8 x 4.5-8.5; lóbulo medio corto, ápice ligeramente emarginado o con un seno profundo, formando dos lóbulos; los lóbulos semiorbiculares, margen entero, 1.5-2 x 4-7 mm. Columna recta a ligeramente arqueada hacia la mitad apical, delgada, 7-10 x 1.5-2 mm. Clinandrio sobrepasando ligeramente el ápice del cuerpo de la columna, en forma de embudo, 0.8-1.5 mm de largo; entero, margen eroso a dentado. Antera subsférica, con una protuberancia en forma de media caña invertida en la base, 4-locular. Polinios 4, obovoides, comprimidos lateralmente, subiguales; caudículas suaves y granuladas, más cortas que los polinios; viscidio viscoso, translúcido. Rostelo apical, hendido. Lóbulos laterales del estigma de 1/2 del largo de la cavidad estigmática. Nectario penetrando 1/2 del ovario, liso. Cápsula no vista.

Epiphytic, sympodial, caespitose herb. Roots basal, fleshy, thin. Stems simple, cane-like, strongly compressed laterally, ancipitose, slightly flexuous. Leaves 4-10, distributed throughout the stem; sheath laterally compressed, ancipitose, dilated towards the blade, smooth; blade elliptic to ovate, apex rounded to retuse, margin entire, subcoriaceous, smooth, with a low dorsal keel, green. Inflorescence apical, from the mature stem, flowering only once, subcorymbose, straight, hidden between the apical leaves, subsessile, peduncle very short. Floral bracts much shorter than the ovary, triangular, acute. Flowers 2-5, rarely more, resupinate, simultaneous, opening in succession, bright green. Ovary not inflated, terete, smooth. Sepals spreading, free, elliptic, apex rounded, 5-veined, margin revolute, entire, glabrous, subcoriaceous, the dorsal sepal somewhat constricted towards the base, the lateral sepals slightly falcate. Petals membranaceous, spreading, narrowly ligulate to lanceolate, apex rounded, 3-veined, margin entire, spreading. Lip united to the column, 3-lobed; bicallose, the calli small, subglobose; disc revolute in natural position; lateral lobes elliptic to suborbicular, margin entire to crenulate; midlobe short, emarginate or with a deep sinus, forming two lobes; the lobes semiorbicular with margin entire. Column straight to slightly arching towards the apex of the column, thin. Clinandrium-hood slightly surpassing the body of the column, funnel-shaped, erose to dentate. Anther subsphaeric, with short beak at the apex, in the shape of an inverted half-cane, 4-celled. Pollinia 4, obovoid, laterally compressed, subequal; caudicles soft and granulese, shorter than the pollinia; viscidium viscous, translucent. Rostellum apical, slit. Nectary penetrating half the ovary, smooth.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Restricted to the Windward Islands of Montserrat, Guadeloupe, Dominica, Martinique, St. Lucia, St. Vincent and Trinidad and Tobago. Epiphyte in rain forest, from 30 to 1000 m altitude. Flowering throughout the year.

RECOGNITION: *Epidendrum difforme* belongs to the *Difforme* Group which is characterized by the caespitose, sympodial plants, fleshy, pale green to glaucous leaves, apical inflorescence, sessile, rarely with a short peduncle, one-flowered to corymbose, without spathaceous bracts, fleshy, green to yellowish-green rarely white flowers. The species is recognized by the ancipitose, strongly compressed stems, 2-5 [-15], simultaneous, green flowers, 3-lobed, bicallose lip, the calli subglobose, lateral lobes with entire to crenulate margin, midlobe short, wide, emarginate, forming two rounded lobes. Of all the species in the Antilles, only *E. difforme* and *E. panegyricum* Hágsater & L. Sánchez have ancipitose, strongly compressed stems, and whereas *E. difforme* has elliptic to suborbicular lateral lobes of the lip, with a large, wide, emarginate midlobe forming two semiorbicular lobes, *E. panegyricum*, endemic to the island of Dominica, has a trapezoid lip with elliptic lateral lobes and a very small midlobe, itself bilobed with narrow, rounded lobes and a prominent apicule in the sinus. The widespread, Antillean *E. umbellatum* Sw. has large, vigorous, succulent plants, with compressed but not ancipitose stems, and usually more numerous flowers. All other species of the group on the islands have terete to slightly compressed stems: *E. boricuarum* Hágsater & L. Sánchez, *E. floridense* Hágsater, *Epidendrum crenulidifforme* L. Sánchez & Hágsater, *Epidendrum abbottii* L. Sánchez & Hágsater, *Epidendrum dodii* L. Sánchez & Hágsater, and *Epidendrum orientale* Hágsater & M.A. Díaz. There are several species on the mainland in South America which have similarly ancipitose stems, including: *E. apaganum* Mansfeld, *E. microcephalum* Hágsater & L. Sánchez, *E. pseudoapaganum* D.E. Benn. & Christenson, *E. upanodifforme* Hágsater & Dodson, *E. apaganoides* D.E. Benn. & Christenson, and *E. yaracuyense* G. Carnevali & G.A. Romero.



CONSERVATION STATUS: NT. Not Threatened, common throughout the Windward Islands.

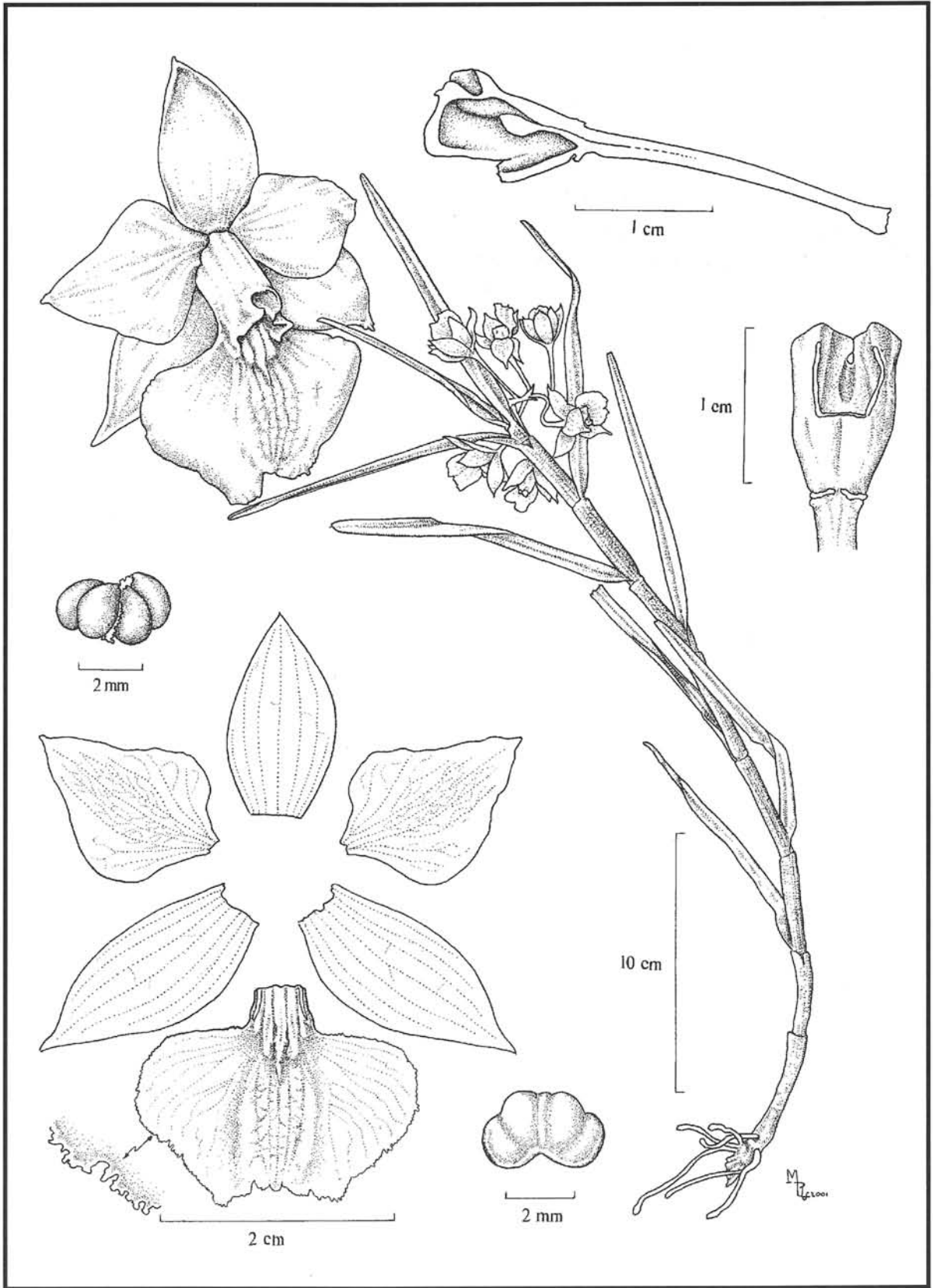
ETYMOLOGY: From the latin *difformis*, of different forms, in reference to its presumed variability.

Authors: E. Hágsater & L. Sánchez S.

Illustrator: R. Jiménez M.

Editors: E. Hágsater & L. Sánchez S.

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EPIDENDRUM DIOTHONAEOIDES Schltr.

Plate 828

THE GENUS EPIDENDRUM PART 5

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM DIOTHONAEOIDES Schltr. in Fedde, Repert. Sp. Nov. Regni Veg. 14: 391. 1916.

Type: ECUADOR: Chimborazo: valley Pallatanga, in silv. suband. in montis Pichincha, alt. ca. 3300 m. **A. Sodiro 44**. Holotype: B, destroyed. Lectotype: QPLS! [Dodson in Monogr. Syst. Bot. Mo. Bot. Gard. 75: 658. 1999.] Isolectotype: QCNE! Here designated.

Hierba epífita o terrestre, raramente litófito, ramificada hacia el ápice sólo en tallos maduros; hasta 3 m de alto. **Raíces** basales y en la base de algunas ramificaciones, carnosas, gruesas, blancas; 1-2.5 mm de grosor. **Tallos** ramificados, tipo caña, teretes; 24-57 x 0.5-0.9 cm; las ramas 12-40 x 0.55-0.7 cm. **Hojas** numerosas, distribuidas a casi todo lo largo del tallo, alternas, coriáceas, las basales con el tiempo caedizas; vaina tubular, estriada y fuertemente rugosa; 19-45 x 4-7 mm; lámina angostamente lanceolada, ápice obtuso, desigualmente bilobado, margen entero, lisa; 5.6-14.3 x 0.7-1.2 cm. **Bráctea espátacea** ausente. **Inflorescencia** apical, racemosa, arqueada, laxa; 5-6.5[8] cm de largo; pedúnculo corto, terete; 5-10 mm de largo, desprovisto de brácteas; raquis terete; 2-4 cm de largo. **Brácteas florales** mucho más cortas que el ovario, deltoides, acuminadas; 3-5 mm de largo. **Flores** 7-10 [14], simultáneas, color pardo a pardo rojizo, raramente pardo verdosos, en ocasiones con la columna blanca; fragancia desagradable, a basurero de mercado. **Ovario** terete, delgado, liso, no inflado; 18-35 mm de largo. **Sépalos** extendidos, libres, ovado elípticos, 7-nervados, agudos, carinados dorsalmente, la carina prominente, margen entero, carnosos, glabros; el dorsal 18-22 x 8-11 mm; los laterales oblicuos, 21-25 x 8.5-12.5 mm. **Pétalos** extendidos, libres, rómbicos, agudos, 5-nervados, las nervaduras laterales muy ramificadas desde la base, margen ondulado; 18-20 x 10-15.5 mm. **Labelo** unido totalmente a la columna, unguiculado, base truncada, reniforme, emarginado, con un apículo pequeño, margen diminutamente eroso; provisto de 3-quillas, las quillas laterales cortas, redondeadas, la central alargada casi hasta la parte media del disco, aguda; 15-20 x 22-31 mm. **Columna** gruesa, recta, el ápice arqueado hacia arriba; 10-12 mm de largo. **Clinandrio** corto, entero. **Antera** reniforme, 4-locular. **Polinios** 4, obovoides, subiguales. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** obsoletos. **Nectario** sin traspasar el perianto, liso. **Cápsula** no vista.

Epiphytic, terrestrial or rarely lithophytic, erect, branching herb. **Roots** thick, from the base of the plant, sometimes from the branches. **Stems** branching above, cane-like, terete. **Leaves** numerous, distributed nearly throughout the stems, alternate, coriaceous, sheath tubular, striated, strongly rugose; blade narrowly lanceolate, apex obtuse, unequally bilobed, margin entire, smooth. **Inflorescence** apical, racemose, arching, lax-flowered. **Floral bracts** much shorter than the ovary, deltoid, acuminate. **Flowers** 7-10 [14], simultaneous, brown to reddish brown, rarely greenish brown, sometimes the column white; fragrance disagreeable, of marketplace garbage. **Ovary** terete, thin, smooth. **Sepals** spreading, free, ovate-elliptic, 7-veined, acute, dorsally carinate, margin entire, fleshy, glabrous, the laterals oblique, somewhat larger than the dorsal. **Petals** spreading, free, rhombic, acute, margin undulate, 5-veined, the lateral veins much branched from the base. **Lip** totally united to the column, unguiculate, base truncate, reniform, emarginate, minutely apiculate, margin minutely erose, 3-keels, the lateral keels short, rounded, the central keel nearly reaching the middle of the disc, gradually narrower and acute. **Column** thick, straight, the apex arched upwards, not winged. **Clinandrium**-hood short, entire. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, subequal. **Rostellum** subapical, slit. **Lateral lobes of the stigma** obsolete. **Nectary** without penetrating the ovary, smooth.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Known from the upper western slope of the Andes, from northwestern Ecuador (and historically in Chimborazo) and now also identified from southwestern Colombia, on the eastern slope of the Cordillera Central, in the valley of the Río Magdalena. Terrestrial, epiphytic or lithophytic, on road-banks, cliffs, in cloud forest, wet montane forest and among bushes and weeds below páramo, from 1,500 to 3,150 m altitude. Flowering from October to May.

RECOGNITION: *Epidendrum diothonaeoides* belongs to the Diothonea Group and Subgroup which is characterized by the branching plants, linear-lanceolate to oblong, apically bilobed leaves, racemose, arching-nutant inflorescence, membranaceous flowers (rarely fleshy), the entire to 3-lobed, ecallose lip with the margin erose without or with 1-10 thin, smooth to erose keels, the column completely to obliquely united to the lip, the anther reniform. The species has tall plants, long leaves, 5.6-14.3 cm long, short and lax-flowered inflorescence with fleshy flowers, sepals 18-25 mm long, wide, rhombic petals, reniform lip and ovary 18-35 mm long. It is similar to *Epidendrum allisonii* Hágsater & Dodson has shorter leaves, 2.5-7.7 cm long, smaller flowers, sepals 16-18 mm long, and ovate petals. *Epidendrum celicense* Hágsater & Dodson has a dense, (ca. 30 flowers) inflorescence, membranaceous flowers, sepals 10-13.4 mm long, trullate petals and ovary 13-17 mm long, and the lip with 5 smooth, thin keels; specimens from Azuay, previously identified as *E. diothonaeoides* correspond to this species.

CONSERVATION STATUS: DD. Data deficient. Apparently common and widespread, and difficult to cultivate outside its natural habitat. The disagreeable fragrance and dinghy color, make it unattractive for horticulture.

ETYMOLOGY: From the generic *Diothonea*, which it was compared to, but Reichenbach decided to place it in *Epidendrum* probably due to the column not being as obliquely united to the lip as in other species of this group with which it shares all other features.



REFERENCES: Dodson, C.H. & P. M. Dodson, 1989. *Icones Pl. Trop.* ser. II(5): pl. 466.

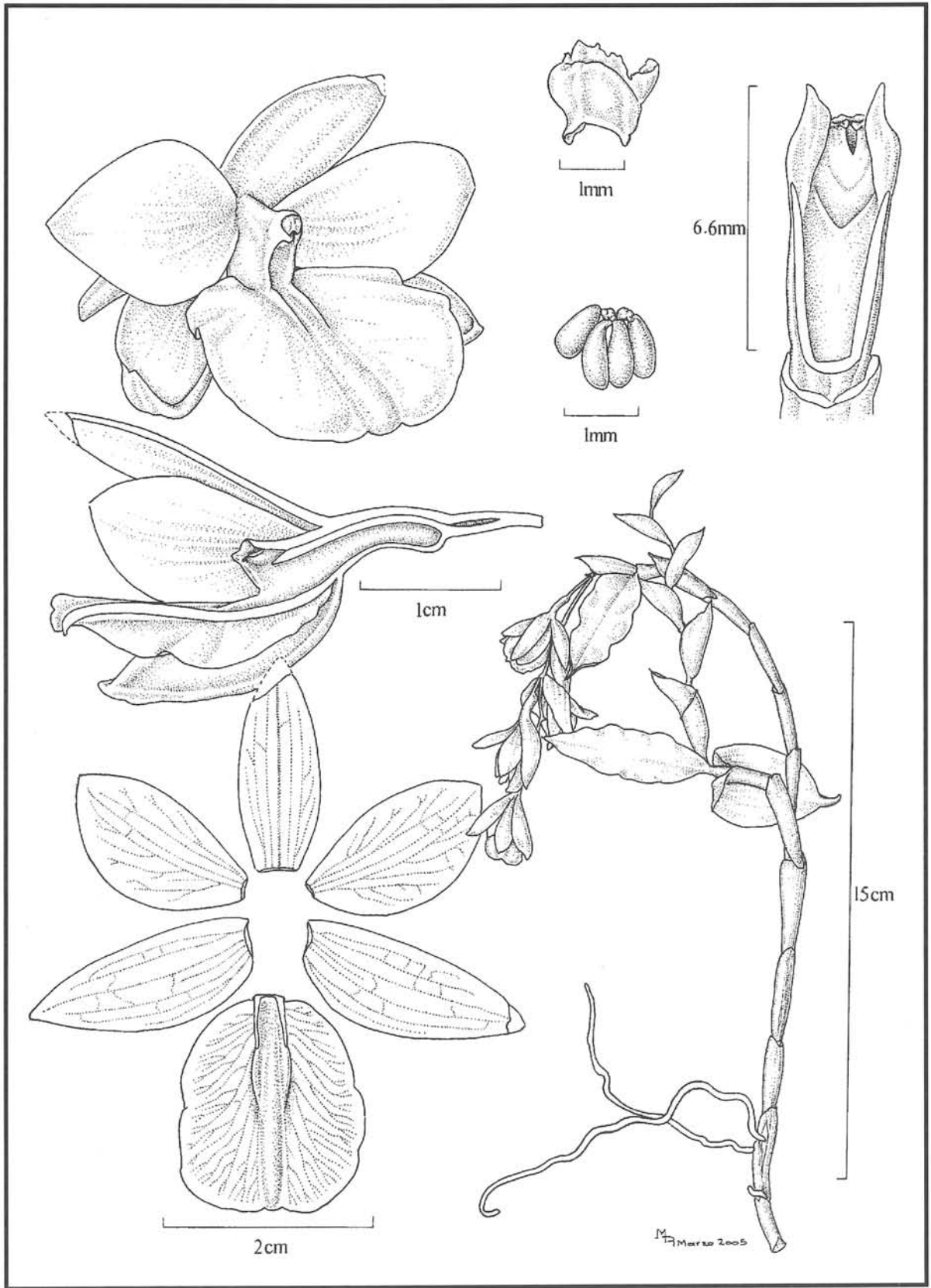
Authors: E. Santiago & E. Hágsater

Illustrator: M. López R.

Editors: E. Hágsater & L. Sánchez S.

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ICONES ORCHIDACEARUM 8. 2006. Plate 828



EPIDENDRUM DOLICHOCLAMYS Hágsater & E.Santiago

Plate 829

EPIDENDRUM DOLICHOCHLAMYS Hágsater et E.Santiago, *sp. nov.*

Type: COSTA RICA: Cartago: El Guarco, Cordillera de Talamanca, camino del ICE, Alto del Gallo, camino La Esperanza del Guarco para adentro, 09°41'N 83°53'W, 2400 m, 2 February 1995, *María M. Chavarría 661*.
Holotype: INB! (Illustration voucher).

Epidendrum bugabense Hágsater simile sed inflorescentia elongata sinuosa, bracteis cernuis, pedunculo per bractea unica occulto, floribus ex vinoso viridibus, sepalis hemiapertis margine extenso, labello carinam carnosam prominentem ferenti, separabile.

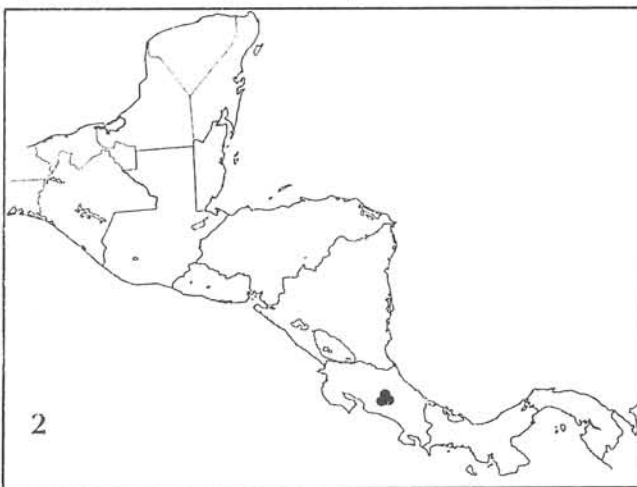
Hierba epífita, de simpodio rastrero, suberecta, de crecimiento sucesivo lateral donde cada tallo nuevo se origina de un entrenudo intermedio del tallo anterior, 30-40 cm de alto. **Raíces** basales, escasas, carnosas, delgadas, 0.7-1.4 mm de grosor. **Tallos** sencillos, tipo caña, teretes en la base y lateralmente aplanados hacia el ápice, delgados, arqueados, 9-22 x 0.13-0.45 cm; cubiertos casi en su totalidad por vainas tubulares, agudas, ligeramente infladas en el ápice, escariosas, fibrosas con el tiempo, 10-40 mm de largo. **Hojas** 2-4, agrupadas en el ápice de los tallos, alternas, articuladas; vainas tubulares, lateralmente aplanadas, finamente estriadas, 8-30 mm de largo; lámina ovado elíptica, aguda, coriácea, margen extendido y entero; 3-9 x 1-3 cm. **Bráctea espatácea** ausente. **Inflorescencia** apical, florece una sola vez, pauciflora, racemosa, distica, sinuosa, nutante, laxa, 8.5-16 cm de largo; pedúnculo oculto en su totalidad por una sola bráctea tubular, oblonga, aguda, conduplicada, parcialmente imbricada con la primer bráctea floral; 20-33 mm de largo; raquis terete, delgado, ligeramente flexuoso; 7-13 cm de largo. **Bráctea floral** casi tan largas como el ovario, las apicales gradualmente más cortas, ovadas, agudas, conduplicadas, amplexicaules, caídas, casi paralelas al raquis; 15-25 x 4-8 mm. **Flores** 4-8, simultáneas, resupinadas, de color verde con vino tinto a púrpura; sin datos de fragancia. **Ovario** terete, delgado, no ornamentado, formando una vesícula ventral prominente en la mitad apical, 12-17 mm de largo. **Sépalos** libres, entreabiertos, membranáceos, angostamente elípticos, subagudos, 5-nervados, las nervaduras laterales ramificadas desde la base, dando la apariencia de ser 7-nervados, margen extendido, entero, 20-22 x 7.5-8.5 mm; los laterales ligeramente oblicuos. **Pétalos** entreabiertos, libres, membranáceos, oblicuamente elípticos, obtusos, 3-nervados, las nervaduras laterales muy ramificadas, margen extendido, entero; 19.5 x 10 mm. **Labelo** unido a la columna, entero, anchamente oblongo, base truncada, ápice redondeado, diminutamente mucronado, margen algo sinuoso, 20 x 18 mm; bicallosos, los callos laminares, delgados, bajos, alargados hasta cerca de la mitad de la lámina; disco con 1 quilla prominente, carnosa, alargada hasta el ápice de la lámina. **Columna** corta, gruesa, con el ápice arqueado hacia arriba, 8 mm de largo. **Clinandrio** corto, margen entero. **Antera** ovoide, con una quilla roma al frente, 4-locular. **Polinios** 4, obovoides; caudículas más cortas que los polinios. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** no vistos. **Nectario** penetrando 1/2 del ovario, formando una vesícula prominente, no ornamentado. **Cápsula** no vista.

Epiphytic, sympodial, creeping, suberect **herb**, with new growth originating from an intermediate internode of the previous stem. **Roots** basal, scarce, fleshy, thin. **Stems** simple, cane-like, terete at the base, laterally compressed towards the apex, thin, arcuate; covered by acute, tubular sheaths, somewhat inflated apically, scarious and fibrous with time. **Leaves** 2-4, aggregate towards the apex of the stems, alternate, articulate; sheaths tubular, laterally compressed, and minutely striated; blade elliptic-ovate, acute, coriaceous, margin spreading, entire. **Inflorescence** apical, flowering only once, few-flowered, racemose, distichous, nutant, lax; peduncle totally hidden by a single tubular, oblong, acute, conduplicate bract, partly imbricating with the first floral bract; rachis terete, thin, slightly flexuous. **Floral bracts** nearly as long as the ovary, the apical ones gradually shorter, ovate, acute, conduplicate, amplexicaul, drooping, nearly parallel to the rachis. **Flowers** 4-8, simultaneous, resupinate, green tinged with wine-red to purple. **Ovary** terete, thin, smooth, forming a prominent ventral vesicle along the apical half. **Sepals** free, partly spreading, membranaceous, narrowly elliptic, subacute, 5-veined, the lateral veins branching from the base, so as to appear 7-veined, margin spreading, entire, the lateral sepals slightly oblique. **Petals** partly spreading, free, membranaceous, obliquely elliptic, obtuse, 3-veined, the lateral veins much branched, margin spreading, entire. **Lip** united to the column, entire, widely oblong, base truncate, apex rounded, minutely mucronate, margin somewhat sinuous; bicallose, the calli laminar, thin, low, elongate, reaching the middle of the lip; disc with a single prominent, fleshy keel reaching the apex of the lip. **Column** short, thick, the apex arching upwards. **Clinandrium**-hood short, margin entire. **Anther** ovoid, with a low rounded keel in front, 4-celled. **Pollinia** 4, obovoid, caudicles shorter than the pollinia. **Rostellum** apical, slit. **Nectary** penetrating half the ovary, forming a prominent vesicle, smooth.

OTHER SPECIMEN: See appendix.

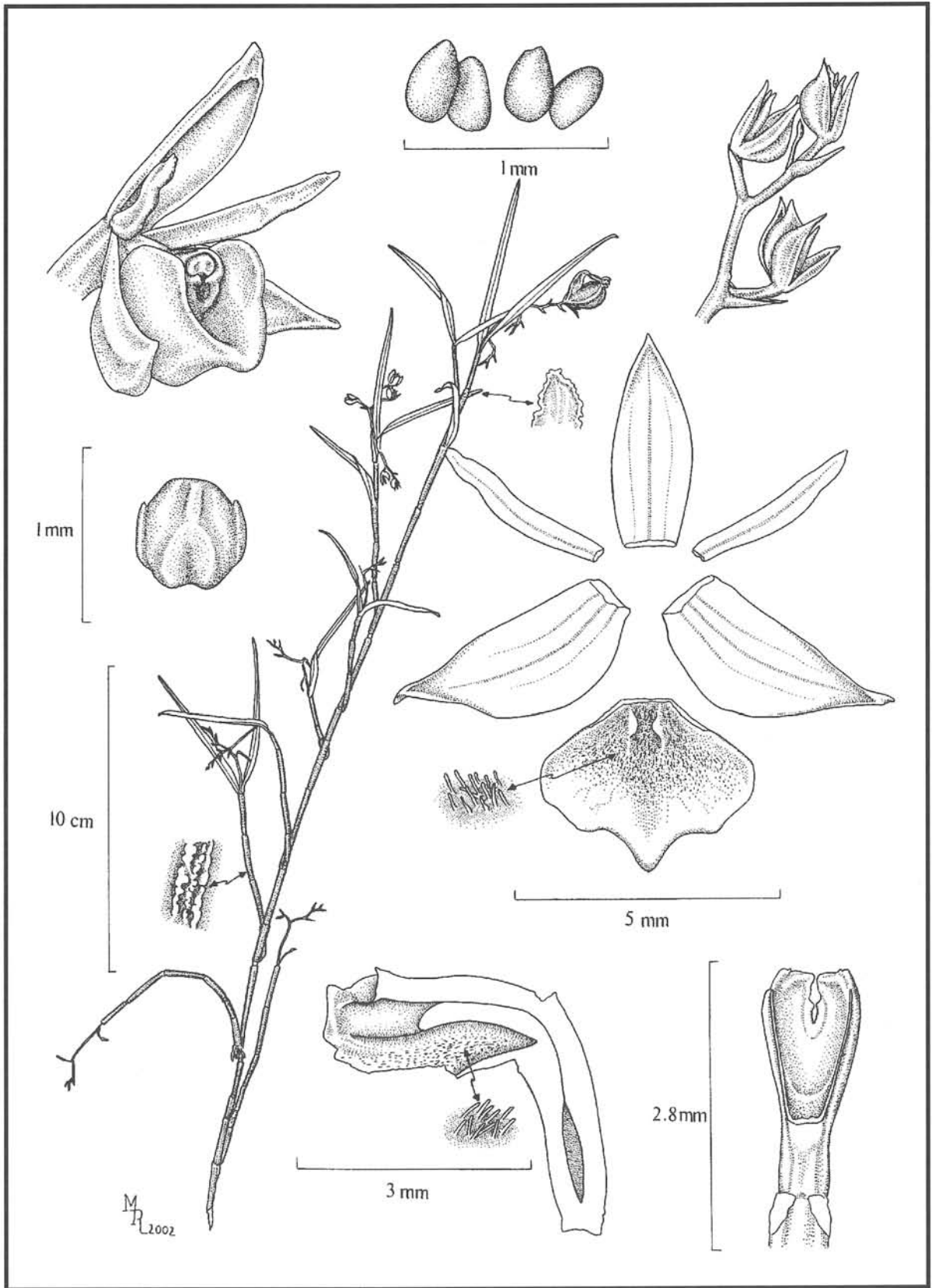
DISTRIBUTION AND ECOLOGY: Known only from the western end of the Cordillera de Talamanca in central Costa Rica, epiphyte at 2400-2700 m altitude. Flowering February to July.

RECOGNITION: *Epidendrum dolicho-chlamys* belongs to the Polychlamys Group, Polychlamys Subgroup which is characterized by the successive lateral growths produced from the middle of the previous growth, leaves aggregate towards the apex of the stems, and apical, distichous inflorescence with very prominent, conduplicate, acute, glumaceous floral bracts. The species is distinguished by the elongate, sinuous rachis with large, drooping floral bracts, the peduncle covered by a single bract, showy flowers (sepals 20-22 mm long), green tinged wine-red to purple, the lip widely oblong, bicallose, and the nectary forming a prominent vesicle along the apical half of the ovary. *Epidendrum bugabense* has numerous imbricating bracts covering the peduncle, and the floral bracts smaller and at an angle with respect to the rachis, smaller, red flowers (sepals 13-16 mm long), a short column (5 mm long), and a similar vesicle on the underside of the ovary. *Epidendrum lutheri* Hágsater has a similar lax inflorescence of 5-9 smaller (14-15 mm), green flowers with narrow segments. *Epidendrum polychlamys* Ames has a compact, dense inflorescence with small, yellow flowers (sepals 13 mm), spreading floral bracts, an ecallose, widely oblong lip, and the nectary does not form a vesicle. *Epidendrum atwoodchlamys* Hágsater also has a dense inflorescence with large (sepals 18-24 mm), yellow or greenish yellow flowers and very wide petals (10-12.5 mm wide), a suborbicular, ecallose lip, and the ovary does not form a vesicle.



CONSERVATION STATUS: DD. Data deficient. Apparently present in the Reserva Forestal Río Macho.

ETYMOLOGY: From the Greek *δολιχος* long, and *χλαμυς*, military cloak, mantle, in reference to the elongate rachis of the inflorescence which distinguishes this species from other members of the Polychlamys Group.



EPIDENDRUM ELLEANTHOIDES Schltr.

EPIDENDRUM ELLEANTHOIDES Schltr. Repert. Spec. Nov. Regni Veg. Beih. 7: 132. 1920.

Type: COLOMBIA: Cauca, *Madero s.n.* Holotype: B (destroyed). Neotype: Here designated: Valle de Sibundoy, 5 km NE of Sibundoy; climbing, 2 m, fls. pale yellow, original, very humid forest, 2760 m, 28 November 1962, *M. L. Bristol 386*. COL! Isoneotypes: AMES! US! (Illustration voucher).

Hierba terrestre o epífita, erecta, ramificada, hasta 2 m de alto. **Raíces** basales y ocasionalmente de las ramificaciones, delgadas, carnosas, 1 mm de grosor. **Tallos** teretes, ramificados, el principal de más de 60 cm de largo, 0.2-0.3 cm de grosor, las ramificaciones cortas, 3-11 x 0.1-0.2 cm. **Hojas** del tallo principal no vistas, las de las ramas distribuidas a lo largo de los tallos, vaina tubular, estriada y ligeramente verrugosa, hasta 39 mm de largo; lámina linear lanceolada a elíptica, ápice agudo, frecuentemente oblicuo, margen apical irregularmente eroso crenado, dorsalmente carinada, 13-80 x 2.0-4.5 mm. **Bráctea espátacea** ausente. **Inflorescencia** apical, paniculada, arqueado nutante, formado por uno o varios racimos dísticos, 2-5 cm de largo; pedúnculo, terete, filiforme, desprovisto de brácteas, en ocasiones con un segundo pedúnculo de 15 mm de largo arriba del primer racimo; raquis en zigzag. **Brácteas florales** más cortas a más largas que el ovario, triangulares, acuminadas, 2-4 mm de largo. **Flores** 3-6 por racimo, sucesivas, 1-2 abiertas a la vez, color amarillo pálido a verde, las por fuera más o menos teñidas de color cobre, sin datos de fragancia. **Ovario** corto, terete, delgado, no inflado, no ornamentado, 2-4 mm de largo. **Sépalos** entreabiertos, libres, elípticos, agudos, margen entero, 3-nervados; el dorsal 3.7-4.4 x 1.5-1.8 mm; los laterales oblicuos, 4.2-4.8 x 1.8-2.3 mm. **Pétalos** entreabiertos, libres, oblongo oblanceolados, redondeados, margen apical diminutamente dentado, 1-nervados, 3.4-3.8 x 0.5 mm. **Labelo** unido a la columna, entero, transversalmente elíptico a trulado, apiculado, carnoso, abrazando el ápice de la columna en posición natural, 3.2-4.5 x 4.4 mm, bicalloso, fuertemente pubescente en la base, papiloso hacia el ápice. **Columna** corta, recta, delgada, geniculada en la base con respecto del ovario, 2.7 mm de largo. **Clinandrium** reducido, entero. **Antera** subsférica, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, caudículas cortas. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** pequeños, de ¼ del largo de la cavidad estigmática, la cual ocupa la mitad del largo de la columna. **Nectario** corto, sin traspasar el perianto, pubescente frente a la cavidad estigmática, papiloso detrás de ésta. **Cápsula** no vista.

Terrestrial or epiphytic, branching herb. **Roots** basal and sometimes from the base of the branches, thin, fleshy. **Stems** terete, branching. **Leaves** distributed throughout the stems, sheath tubular, striated and somewhat verrucose; blade linear-lanceolate to elliptic, obliquely acute, apical margin crenate-erose, dorsally carinate. **Inflorescence** apical, paniculate, formed by one or more distichous racemes, arching-nutnant, with a short filiform peduncle and a longer peduncle above the first raceme, rachis zigzag. **Floral bracts** shorter to longer than the ovary, triangular, acuminate. **Flowers** 3-6 per raceme, distichous, successive, 1-2 open at one time, pale yellow to green, outside more or less tinged copper. **Sepals** partly spreading, elliptic, acute, 3-veined. **Petals** oblong-oblanceolate, rounded, apical margin minutely dentate, 1-veined. **Lip** transversely elliptic to trullate, apiculate, embracing the column in natural position, bicallose, strongly pubescent at base, papillose towards the apex. **Column** straight, but geniculate at the base with respect to the ovary. **Clinandrium** hood reduced, entire. **Anther** subspherical, 4-celled. **Nectary** short, without surpassing the perianth, wide, pubescent in front of the long stigmatic cavity, papillose behind it.

OTHER SPECIMENS: COLOMBIA: **Antioquia:** Alto de San Lorenzo, 2600 m, 17 IX 1984, *Dodson 15319*, RPSC! SEL! Alto de Alegrías, 2000-2500 m, 22 X 1884, *Léhmman s.n.*, US! **Boyacá:** sin localidad, 3200 m, XII 1951, *Yépes-Agredo 3363*, COL! **Cauca:** Tierra Adentro, 2500-3000 m, I 1906, *Pittier 1076*, AMES! US! (illustration, AMO!). **Cundinamarca:** Laguna Seca, *Ortiz V. 832*, HPUJ! Vereda San Antonio, La Cabrera, 29 IV 1988, *Ospina 1202*, COL! Páramo de Chipaque, 3000-3100 m, 18 VI 1950, *Schneider 134*, COL! S! (Illustration, AMO!) Laguna de Catarnica, 2050 m, 15 II 1964, *Uribe 4663*, AMES! (illustration, AMO!) COL! **Putumayo:** Páramo de Tambillo, NE del Valle de Sibundoy, 2700-2800 m, 13 XII 1942, *Evans 3129*, AMES! Sibundoy, *Ospina 140*, COL! **ECUADOR:** **Carchi:** Maldonado to Tulcán road ca. km 30, 2900-3100 m, 5 X 1981, *Werling 284*, AMES! QCA! NY! **Pichincha:** W of Calacali, ca. 2500 m, 24 V 1979, *Löjtnant 13681*, AAU! **Sucumbios:** Cartagena, km 25 from El Carmelo on road towards La Bonita, 2800 m, 8 IV 1979, *Löjtnant 12025*, AAU! GB! **Tungurahua:** Road Patate to Leito to Llanganates, 3000 m, *Hirtz 2499*, AMES! QCNE! RPSC! **Zamora-Chinchi:** Nudo de Sabanilla, just E of the pass on road to Valladolid, 2800 m, 4 II 1985, *Harling 21535*, GB! Km 14 Road Loja to Zamora, 2750-2770 m, 19 IV 1973, *Holm-Nielsen 3837*, AAU! AMES! MO! (Illustration, AMO!) S! SEL (xerox, at AMO!) South of Yangan toward Valladolid, 2450 m, 18 III 1984, *Luer 9575*, SEL! **PERU:** **Cuzco:** Paucartambo, Pillahuata, Paso del Aguila, 2800 m, 4 XI 1965, *Vargas 16774*, AMES! CUZ (xerox at AMO!) Photo AMO!

OTHER RECORDS: COLOMBIA: Cundinamarca: Laguna Seca, *P. Ortiz V. 832*, illustration, xerox AMO!



DISTRIBUTION AND ECOLOGY: Widespread in Colombia and Ecuador, rare in Peru, in bushes and on trees in high montane below páramo. Between 2000 and 3200 m altitude. Flowering throughout the year.

RECOGNITION: *Epidendrum elleanthoides* belongs to the Elleanthoides Group characterized by the many branching thin canes, with long, narrow, grass-like leaves, the paniculate inflorescence with hair-thin peduncles, small flowers, oblong petals and a fleshy lip which embraces the column. The species has very small flowers (sepals 3.7-4.8 mm long) with the sides of the transversely elliptic to trullate, apiculate, lip embracing the column without overlapping and the oblong petals about six times longer than broad. It closely resembles *Epidendrum guacamayense* Hágsater & Dodson which has flowers nearly twice as large, the segments narrower and the petals about 15 times longer than broad, and the lobes of the lip overlapping above the column. *Epidendrum saccatum* Hágsater has shorter leaves, and a very broad, reniform lip with a sac-like base and without ornamentation. *Epidendrum montispichinchense* Hágsater & Dodson has leaves about twice as wide and larger flowers, with the nectary forming a wide, rounded cavity. *Epidendrum hesperium* Hágsater has larger flowers, sepals 7 mm long, and an entire lip about as long as it is wide and somewhat overlapping over the column.

CONSERVATION STATUS: DD. Data deficient.

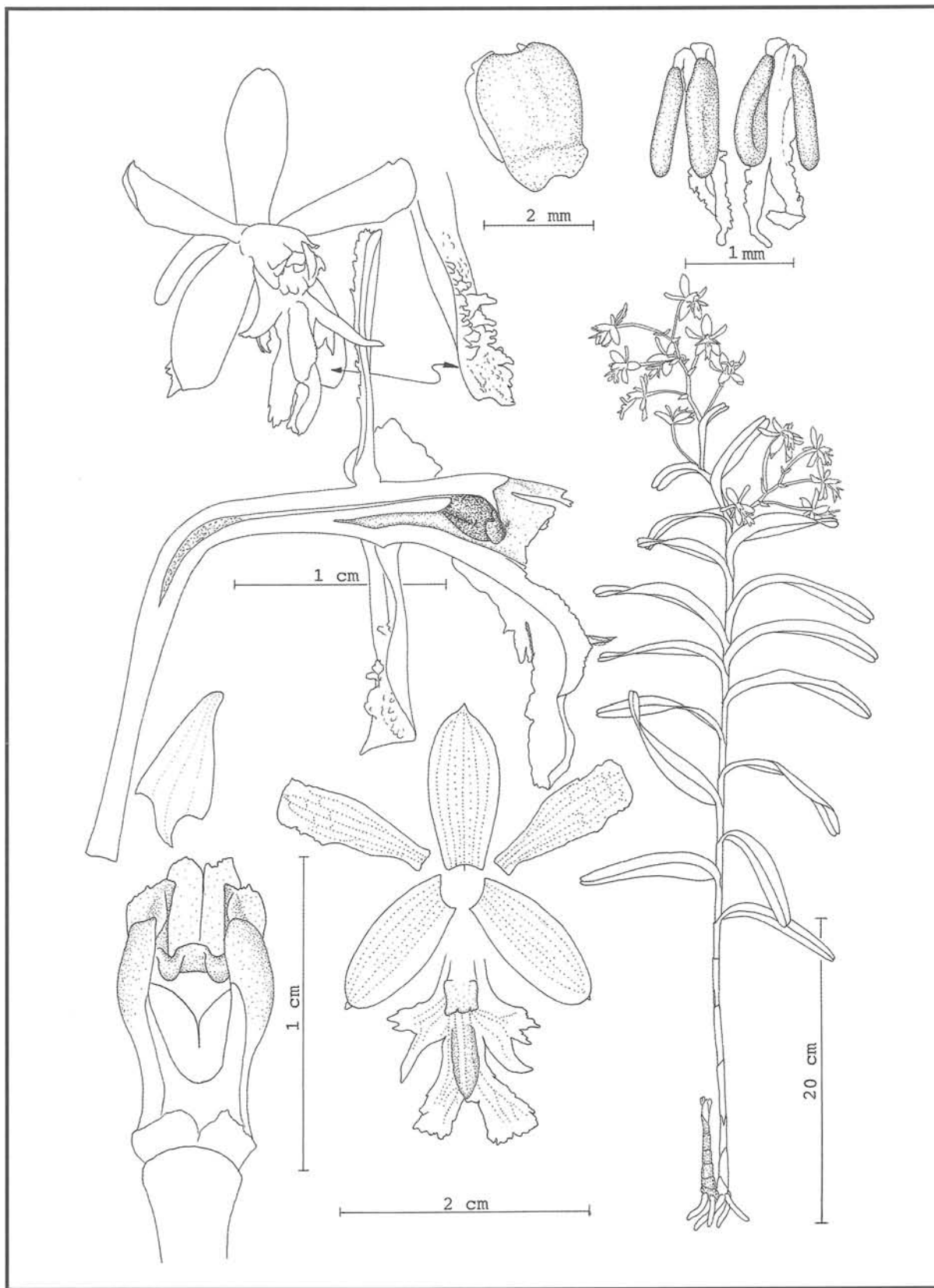
ETYMOLOGY: In reference to the superficial similarity of the plant habit to that of some of the small-leaved species of the genus *Elleanthus* (Orchidaceae).

Authors: E. Santiago & E. Hágsater

Illustrator: M. López R.

Editors: E. Hágsater & L. Sánchez S.

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EPIDENDRUM EXASPERATUM Rchb.f.

THE GENUS EPIDENDRUM PART 5

Plate 831

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM EXASPERATUM Rchb.f. Beitr. Orchid.-K. C. Amer. 87. 1866.

Type: COSTA RICA: Cartago: Naranjo, 4 VII 1857, **Wendland 1121**. Holotype: W-R 50049! (tracing at AMES 401251, xerox and photo AMO!) Isotype: W-R 50047!

Synonym: *Oerstedella exasperata* (Rchb.f.) Hágsater, Orquídea (Mexico City) 8(1): 21. 1981.

Hierba epífita o litófito, cespitosa y ramificada; formando arbustos masivos; de 80-300 cm de alto. **Raíces** basales, tanto en el tallo principal como en la base de algunas ramificaciones, (keikis) carnosas, gruesas; hasta 3-5 mm de grosor. **Tallos** ramificados, tipo caña, teretes, erectos a ligeramente arqueados; 5.5-35 x 0.35-1 cm; cubiertos en la base por vainas tubulares, no foliares, con diminutas verrugas morado-pardas poco notables al tacto. **Hojas** 11-13 (a numerosas), distribuidas a lo largo del tallo, alternas, articuladas, desiguales en tamaño, (las del tallo principal más grandes que las de las ramificaciones o keikis), subcoriáceas; vainas tubulares, con puntos pardos cuando jóvenes; 7-54 x 3.5-10 mm; lámina angostamente elíptica a linear, bilobada, con una quilla dorsal baja, margen diminutamente dentado; 1.5-12 x 0.5-3.5 cm. **Bractea** espátacea ausente. **Inflorescencia** apical y lateral, racemosa a ocasionalmente paniculada, erecta, pauciflora, laxa; 5.5-12 cm de largo; pedúnculo terete, delgado, desprovisto de brácteas; 2-2.5 mm de largo. **Brácteas florales** más cortas que el ovario, triangular ovadas, agudas, abrazadoras, las basales foliosas en las primeras flores del raquis; 3-11 mm de largo. **Flores** 3-9 por racimo, simultáneas, aunque las apicales presentes aún en botón floral cuando abren las inferiores, resupinadas; sépalos y pétalos pardo verdosos, raramente blancos, labelo y columna blancos en ocasiones con algunos tintes violeta alrededor del callo, el labelo tornándose amarillento con el tiempo; fragancia dulce. **Ovario** terete, delgado, no inflado, liso; 16-33 mm de largo. **Sépalos** extendidos, libres, carnosos, obovados, obtusos, dorsalmente exasperados, aculeado verrugosos, 7-nervados, algunas nervaduras ramificadas dando la apariencia de ser 9-nervados, margen entero, 10-13 x 4-6 mm; los laterales con una quilla dorsal prominente. **Pétalos** extendidos, libres, oblanceolados, cuneados, obtusos, 3-nervados, las nervaduras laterales muy ramificadas dando la apariencia de ser 7-nervados, margen apical eroso; 9-12 x 3-5 mm. **Labelo** unido a la columna, 3-lobado; 8-13 x 9-11 mm; unicalloso, el callo subcuadrado con el ápice incipientemente tridentado; disco provisto de una quilla prominente, muy carnosa, alargada hasta el seno apical, la superficie de la quilla áspera; ancho entre lóbulos laterales ligeramente mayor que entre los apicales; lóbulos laterales obcuneados, más o menos bifidos, el lóbulo anterior formando un diente agudo, el lóbulo posterior irregularmente dentado; 5-6 x 3-5 mm; lóbulo medio bilobado con un istmo basal angosto, oblongo, largo, los lóbulos obcuneados a subcuadrados, algo divergentes con un seno profundo, margen eroso dentado, especialmente el apical; 7-11 x 7-10 mm. **Columna** recta; 8-9 mm de largo; terminada en cuatro lóbulos laminares, truncados, con el margen diminutamente eroso. **Clinandrio** corto, sobrepasando muy ligeramente el cuerpo de la columna, bilobado, margen diminutamente eroso. **Antera** obovoide, con el ápice truncado, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos; caudículas más largas que los polinios; sin viscidio. **Rostelo** perpendicular con respecto al eje de la columna, formando un seno amplio. **Lóbulos laterales del estigma** obsoletos. **Nectario** apenas penetrando el ovario justo detrás del perianto, no inflado, liso. **Cápsula** no vista.

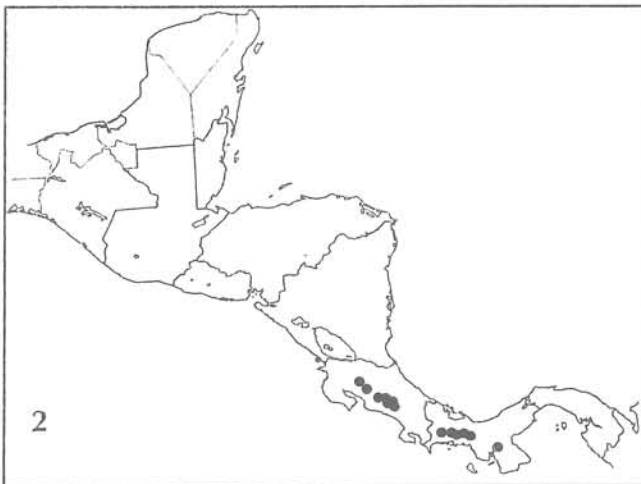
Epiphytic or lithophytic, caespitose, branching herb, forming massive bushes. **Roots** basal, from the main stem as well as from the branches (keikis), fleshy, thick. **Stems** branching, cane-like, terete, erect to slightly arched; basally covered by tubular, non-foliaceous sheaths, with minute purple-brown warts, barely noticeable to the sense of touch. **Leaves** 11-13 (to numerous), distributed throughout the stem, alternate, articulate, unequal (those of the main stem larger than those of the branches or keikis), subcoriaceous; sheaths tubular, spotted with light brown dots when young; blade narrowly elliptic to linear, bilobed, with a low dorsal keel, margin minutely dentate. **Inflorescence** apical and lateral, racemose to somewhat paniculate, erect, lax few-flowered; peduncle terete, thin. **Floral bracts** shorter than the ovary, triangular-ovate, acute, those of the basal flowers foliose. **Flowers** 3-9 per raceme, simultaneous, though the apical buds may still be closed when the lower ones open; resupinate; sepals and petals greenish brown, rarely white, lip and column white, occasionally tinged violet around the callus, the lip turning yellow with time; fragrance sweet. **Ovary** terete, thin, smooth. **Sepals** spreading, free, fleshy, obovoid, obtuse, dorsally exasperate, verrucose-aculeate, 7-veined, some veins branching so as to appear 9-veined, margin entire; the lateral sepals with a prominent dorsal keel. **Petals** spreading, free, oblanceolate, cuneate, obtuse, 3-veined, the lateral veins much branched so as to appear 7-veined, apical margin erose. **Lip** united to the column, 3-lobed; callus subquadrate with the apex slightly tridentate; disc provided with a prominent, thickened, elongate keel that reaches the apical sinus, the surface of the keel rough; width between the lateral lobes somewhat wider than between the apical lobes; lateral lobes obcuneate, more or less bifid, the front lobe forming a long, acute, tooth, the back lobe irregularly dentate; midlobe bilobed with a basal, narrow, oblong isthmus, the lobes obcuneate to subquadrate, somewhat divergent, with a deep sinus, margin erose-dentate, especially apically. **Column** straight, ending in 4 laminar, truncate lobes, margin minutely erose. **Clinandrium-hood** short, somewhat surpassing the body of the column, bilobed, margin minutely erose. **Anther** obovoid, apex truncate, 4-celled. **Pollinia** 4, obovoid, laterally compressed, caudicles longer than the pollinia. **Rostellum** perpendicular to the axis of the column, forming a wide sinus. **Nectary** barely penetrating the ovary, smooth.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Widespread in Costa Rica and W. Panama, epiphytic or lithophytic in wet forest at, 850-2500 [3000] m altitude. Flowering throughout the year.

COMMON NAME: *Estrella de Mar*, fide C.H. Lankester, cited by O. Ames, Sched. Orch. 6: 71. 1923.

RECOGNITION: *Epidendrum exasperatum* belongs to the *Oerstedella* Group, *Verrucosum* Subgroup. The species is recognized by the large, robust, branching plants, the sheaths only



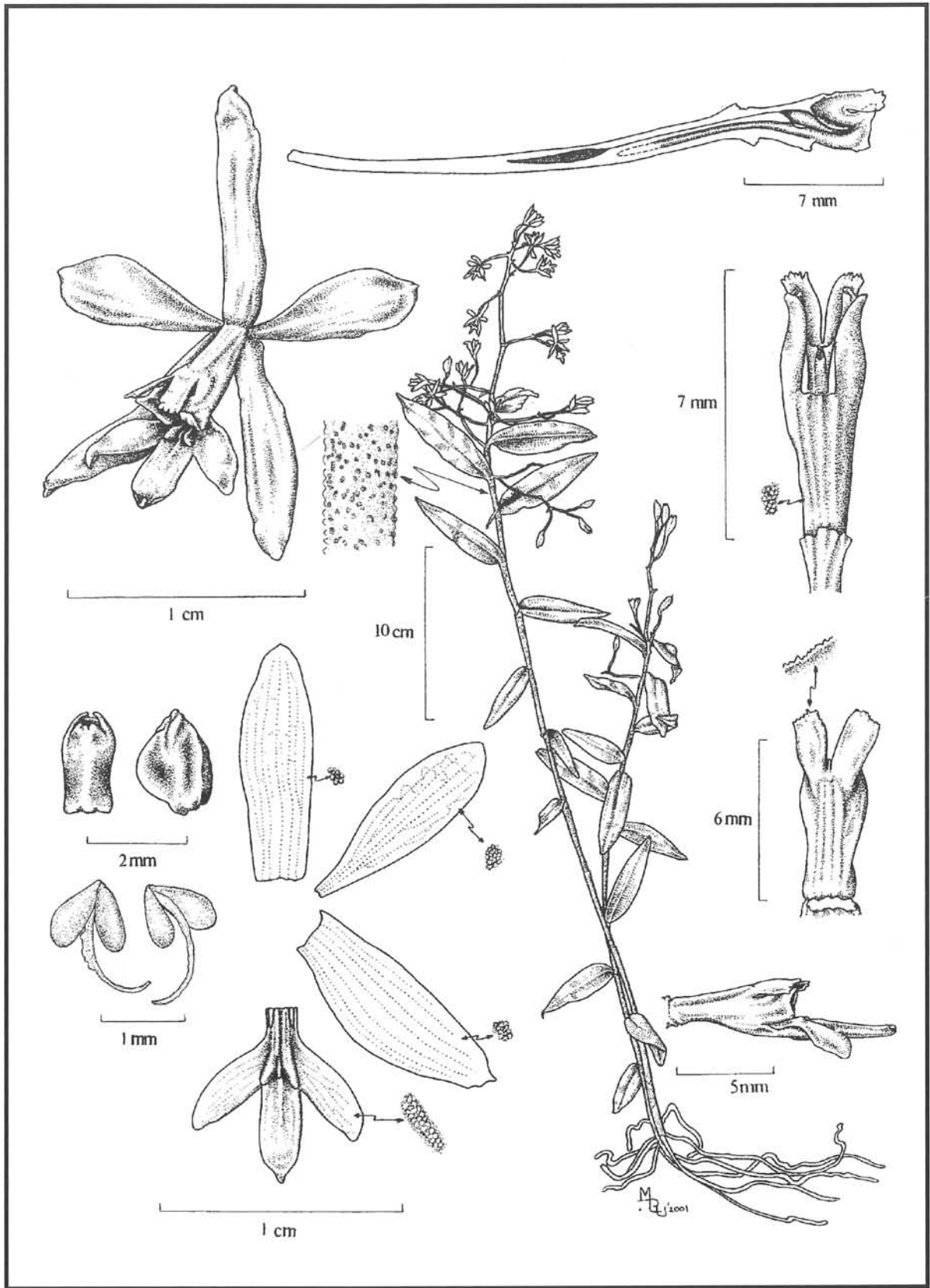
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dotted in brown, without obvious warts, flowers greenish brown or rarely white, lip and column white, the lip somewhat tinged with violet; sepals dorsally aculeate-verrucose, the lip forming 4 similar obcuneate lobes, the lateral ones with 1-2 prominent acute teeth. *Epidendrum parvexasperatum* (Hágsater) Hágsater has less vigorous plants, the sheaths have minute warts, similarly colored but smaller flowers, sepals dorsally rugose-pustulate, lateral lobes of the lip truncate, and do not form acute teeth. *Epidendrum x monteverdense* (Pupulin & Hágsater) Hágsater is distinguished by the creamy to pale green flowers, unornamented sepals, the apex of the column tinged violet, and the lateral lobes of the lip truncate to slightly bidentate.

CONSERVATION STATUS: DD. Data deficient. A widespread and common species.

ETYMOLOGY: From the Latin *exasperatus*, covered with short hard points, in reference to the dorsal surface of the sepals.

REFERENCES: Dressler R. L., 1993, *Field guide to the Orchids of Costa Rica and Panama*, Cornell University Press, p. 89. Hágsater, E., in Hammel et al., 2003, *Manual de Plantas de Costa Rica*, vol. III, Missouri Botanical Garden, p. 350. Hágsater, E., & M. A. Soto Arenas, 2005, *Transfers to Epidendrum* L. From *Oerstedella* Rchb.f., *Lankesteriana* 5(1): 73.



EPIDENDRUM FOLSOMII Hágsater & E.Santiago
 THE GENUS EPIDENDRUM PART 5

EPIDENDRUM FOLSOMII Hágsater et E.Santiago, *sp. nov.*

Type: PANAMA: Coclé: Sawmill 7 km NE of El Copé, 1800 ft, 22 June 1979, **Thomas Antonio 1123**.
Holotype: AMO! (Illustration voucher).

Epidendro fuscino (Dressler) Hágsater simile sed foliis lanceolatis, floribus minoribus olivaceis labello albedo, labelli lobulis angustioribus in angulo 45° respectu labelli axem affixis, recedens.

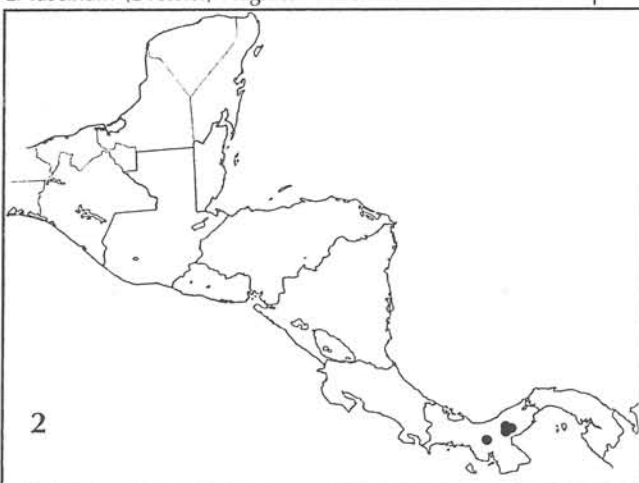
Hierba epífita y terrestre, cespitosa, simpodial; 16-56 cm de alto. **Raíces** basales, en el tallo inicial y en la base de cada tallo nuevo, carnosas, delgadas; 1-3 mm de grosor. **Tallos** sencillos, tipo caña, teretes, delgados, erectos, rectos; 11-45 x 0.17-0.35 cm. **Hojas** 7-14, distribuidas lo largo del tallo, articuladas, alternas; vaina tubular, finamente estriada y verrugosa, 10-41 x 1.7-3.5 mm; lámina lanceolada, ápice desigualmente bilobado, margen entero, lisa, 3-8 x 0.7-1.9 cm. **Bráctea espátacea** ausente. **Inflorescencias** apical y laterales, (la apical paniculada, erecta, 6.5-11 cm de largo; las laterales racemosas, extendidas, 3-6.5 cm de largo), distribuidas en la zona apical del tallo, de la base de las vainas foliares, laxas, paucifloras; pedúnculo terete, delgado, 8-28 mm de largo, desprovisto de brácteas. **Brácteas florales** mucho más cortas que el ovario, abrazadoras, triangulares, agudas, 3-5 mm de largo. **Flores** 4-7 por inflorescencia, simultáneas, resupinadas, sépalos y pétalos verde oliva a amarillo verdoso; labelo blanco a amarillento, columna blanca; sin datos de fragancia. **Ovario** terete, delgado, liso, no inflado, 14-20 mm de largo. **Sépalos** extendidos, libres, oblongo obovados, obtusos, diminutamente apiculados, 5-nervados, las nervaduras laterales ramificadas desde la base dando la apariencia de ser 7-nervados, margen entero, 9-11 x 2.8-3.6 mm; los **laterales** ligeramente oblicuos. **Pétalos** extendidos, libres, elípticos, unguiculados, obtusos, 3-nervados, las nervaduras laterales muy ramificadas, margen entero; 9-10 x 2.7-3.1 mm. **Labelo** unido a la columna, trilobado, unguiculado, margen entero, 5.6-7 x 5.6-7.7 mm; bicalloso, los callos delgados, alargados hasta la base del lóbulo medio, ligeramente divaricados; disco provisto de una carina delgada, muy corta, intercallosa; lóbulos laterales oblongo elípticos, redondeados, insertados a un ángulo de 45° respecto del eje del labelo, 3-4.7 x 1-1.9 mm; lóbulo medio oblongo, diminutamente apiculado, 4.7 x 1.9 mm. **Columna** recta, delgada, terminada en 4 lóbulos laminares, subcuadrados, margen eroso, 5.5-6.8 mm de largo. **Clinandrio** ligeramente largo, dividido en dos lóbulos subcuadrados, truncados, petaloides, ligeramente divergentes, margen apical eroso. **Antera** piriforme a subobovoidea, con una quilla dorsal carnosa, muy prominente, redondeada; 4-lócular. **Polinios** 4, obovoides; caudículas suaves y granulosas, del doble del largo de los polinios. **Rostelo** perpendicular respecto al eje de la columna, formando un seno amplio. **Nectario** penetrando ¼ del ovario, no inflado, liso. **Cápsula** no vista.

Epiphytic and terrestrial, caespitose, sympodial **herb.** **Roots** basal, or occasionally from the base of new stems, thick. **Stems** simple, cane-like, terete, erect. **Leaves** 7-14, distributed throughout the stem; sheath tubular, finely striated and verrucose; blade lanceolate, apex unequally bilobed, margin entire. **Inflorescences** apical and laterals, (the apical one paniculate the lateral ones racemose), distributed along the upper half of the stem, from the base of the foliar sheaths, lax, few-flowered; peduncle terete, thin. **Floral bracts** much shorter than the ovary, triangular, acute. **Flowers** 4-7 per inflorescence, simultaneous, resupinate, sepals and petals olive-green to greenish yellow, lip white to yellowish, column white. **Ovary** terete, thin, smooth. **Sepals** spreading, free, oblong obovate, obtuse, minutely apiculate, 5-veined, margin entire, the laterals oblique. **Petals** spreading, free, elliptic, unguiculate, obtuse, 3-veined, the lateral veins branching, margin entire. **Lip** united to the column, 3-lobed, margin entire; bicallose, the calli thin, elongate, reaching the base of the midlobe, slightly divergent, with a short and thin keel in between; lateral lobes oblong-elliptic, rounded, inserted at a 45° angle with respect to the axis of the lip; midlobe oblong, minutely apiculate, somewhat more than two times longer than broad. **Column** straight, thin, ending in 4 lobes, margin erose. **Clinandrium-hood** slit into two subquadrate, truncate, petaloid, slightly divergent lobes, the margin erose. **Anther** pyriform to subobovoid, with a dorsal triangular, fleshy keel, 4-celled. **Pollinia** 4, obovoid, laterally compressed, caudicles soft and granular, longer than the pollinia; viscidium lacking. **Rostellum** perpendicular to the axis of the column, forming a wide sinus. **Nectary** penetrating ¼ of the ovary, narrow, smooth.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Endemic to Central Panama, province of Coclé, known only from the pass north of El Copé, on the eastern end of the Serranía de Tabasará, on the summit of the intercontinental divide at about 600-800 m altitude, in cloud forest. Epiphytic and terrestrial on roadside. Flowering in July to October.

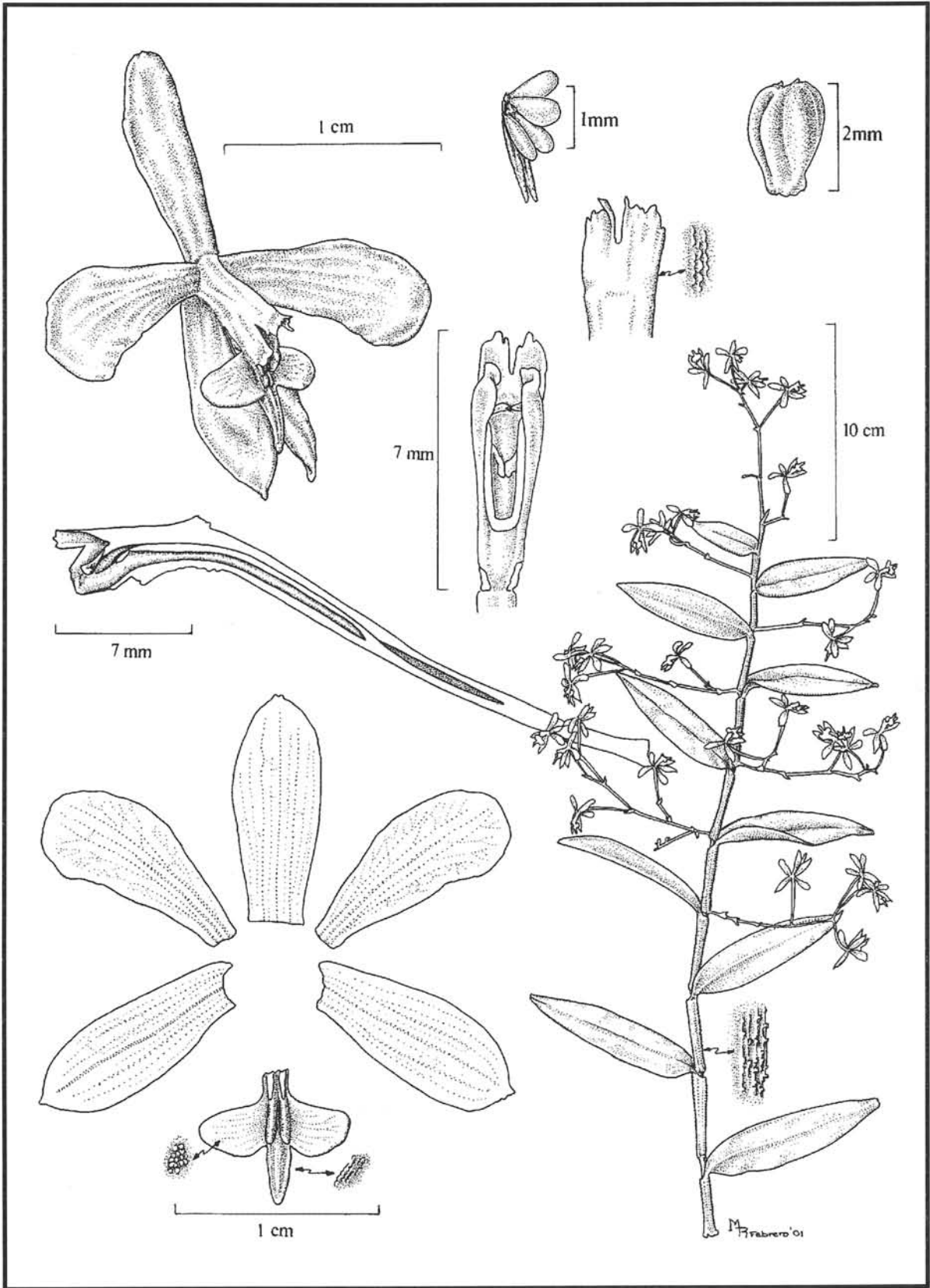
RECOGNITION *Epidendrum folsomii* belongs to the Oerstedella Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is transverse to the column instead of parallel, forming a wide, open sinus, and Intermixtum Subgroup which has small, membranaceous flowers with a petaloid clinandrium-hood, and obovoid, laterally compressed pollinia with granulate caudicles. The species has a relatively long clinandrium-hood with slightly divergent lobes and a three-lobed lip with the lobes subequal and simple, the narrow lateral lobes inserted at 45°, it has small flowers, is found at lower altitudes, 600-800 m altitude around El Copé, and flowers in July to October, compared with *E. fuscino* (Dressler) Hágsater which flowers in March to April has larger, pale green flowers (sepals 13-15 mm long), and the lateral lobes of the lip are inserted at a 90° angle.



Epidendrum fortunae Hágsater & Dressler flowers in February-March (rarely June) and is found in the area of Cerro Fortuna in western Chiriquí, has wide, cuneate petals and wide lateral lobes of the lip. *Epidendrum intermixtum* Ames & C.Schweinf. is restricted to central-western Costa Rica and has light green sepals and petals, a white lip and yellow callus, the three lobes of the lip are subequal, and the midlobe is more or less square and the clinandrium-hood bifid. *Epidendrum chalcochronum* Hágsater is very similar to *E. intermixtum* but has longer inflorescences, brown sepals and petals with a lighter lip, and an entire, truncate clinandrium-hood with the margin erose.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In honor of James P. Folsom who collected extensively in Central and South America, prepared his dissertation of the pollination of *Dichaea*, and collected several of the specimens cited.



EPIDENDRUM FORTUNAE Hágsater & Dressler

EPIDENDRUM FORTUNAE Hágsater et Dressler, *sp. nov.*

Type: PANAMA: Chiriquí: Boquete. Fortuna dam site, epiphytic, in cloud forest, 10 February 1985, *Henk van der Werff & Cor van Hardeveld 6855*. Holotype: AMO! (Illustration voucher). Isotype: MO!

Epidendro fuscino (Dressler) Hágsater simile sed floribus minoribus, labelli magnitudine minus quam dimidio, labelli lobis lateralibus vix longioribus quam latoribus, distinguibile.

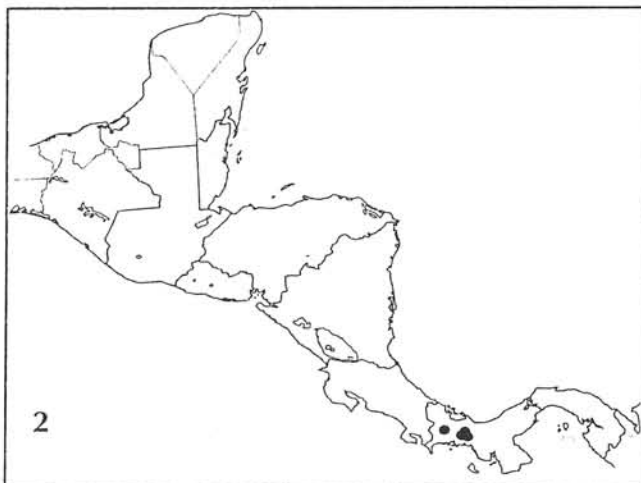
Hierba epífita, cespitosa, simpodial, ca. 45 cm de alto. **Raíces** basales, carnosas, 1.1-1.5 mm de grosor. **Tallos** sencillos, tipo caña, teretes, de más de 31 x 0.22-0.35 cm. **Hojas** 10 o más, distribuidas lo largo de la mitad apical del tallo, alternas, semejantes entre sí; vaina tubular, finamente estriada y verrugosa, 13-35 x 0.22-0.35 mm; lámina lanceolada a elíptica, ápice desigualmente bilobado, margen entero, lisa, 1.3-8.6 x 1.0-1.9 cm. **Bráctea** espátacea ausente. **Inflorescencias** apical y laterales, racemosas a incipientemente paniculadas, las laterales extendidas, distribuidas hacia la parte apical del tallo, surgiendo a partir de la base de la vaina foliar; la apical de 6 flores, erecta, 5-11 cm de largo; las laterales con 4-6 flores, 3.3-9.7 cm de largo; pedúnculo corto, terete; 5-15 mm de largo, desprovisto de brácteas. **Brácteas** florales mucho más cortas que el ovario, abrazadoras, triangulares, agudas; 2-6 mm de largo. **Flores** numerosas, 4-6 por inflorescencia, simultáneas, resupinadas, sépalos y pétalos verde pálido, labelo y columna blancos, callo amarillo; fragancia muy intensa. **Ovario** terete, delgado, no inflado, liso; 17-25 mm de largo. **Sépalos** extendidos, libres, angostamente obovados, obtusos, diminutamente apiculados, 6-7-nervados, margen entero, 9-11 x 3.7-4.2 mm. **Pétalos** extendidos, libres, anchamente cuneados, redondeados, 3-nervados, las nervaduras laterales muy ramificadas desde la base dando la apariencia de ser 5-nervados, margen entero; 8.5-10 x 3-4.7 mm. **Labelo** unido a la columna, trilobado, truncado; 4-5.2 x 4-7.3 mm; bicalloso, los callos delgados, alargados hasta la base del lóbulo medio; lóbulos laterales hemiorbiculares, el margen basal casi recto, ápice redondeado, margen entero; 2-3 x 1.6-2.3 mm; lóbulo medio subulado, ápice angostamente redondeado; 2.3-2.8 x 0.8-1.2 mm. **Columna** recta, 7 mm de largo, terminada en 4-lóbulos laminares, truncados, algo petaloides, con el margen eroso dentado. **Clinandrio** corto, bilobado, margen eroso dentado. **Antera** obovoide, 4-locular. **Polinios** 4, obovoideos, lateralmente comprimidos; caudículas granulosas, angostas, del doble del largo de los polinios. **Rostelo** perpendicular con respecto al eje de la columna, formando un seno amplio. **Nectario** penetrando poco menos de la mitad del ovario, no inflado, liso. **Cápsula** no vista.

Epiphytic, caespitose, sympodial herb. **Stems** simple, cane-like, terete, erect. **Leaves** 10 or more, distributed throughout the upper half of the stem; sheath tubular, verrucose, blade lanceolate to elliptic, apex unequally bilobed. **Inflorescences** apical and laterals, racemose to slightly paniculate, the lateral inflorescences spreading, straight, with 4-6 flowers, the lateral ones arising from the base of the leaf-sheaths. **Floral bracts** much shorter than the ovary, triangular, acute. **Ovary** terete, not inflated. **Flowers** 4-6 per inflorescence, simultaneous, resupinate, sepals and petals pale green, column and lip white, callus yellow, very fragrant. **Sepals** spreading, free, narrowly obovate, obtuse, minutely apiculate, 6-7-veined, margin entire. **Petals** spreading, free, widely cuneate, rounded, 3-veined, the lateral veins branching from the base so as to appear 5-veined, margin entire. **Lip** united to the column, three-lobed, truncate, bicallose, calli long, reaching the base of the midlobe; lateral lobes hemiorbicular, the basal margin more or less straight, apex rounded; midlobe subulate, apex narrowly rounded. **Column** straight, apex ending in 4 petaloid lobes. **Clinandrium**-hood short, divided into two subquadrate, petaloid lobes, the apical margin erose. **Anther** obovoid, 4-celled. **Nectary** penetrating somewhat less than half the ovary, smooth.

OTHER SPECIMENS: PANAMA: **Bocas del Toro:** Fortuna, 1200-1300 m, III 2001, *Carrera 178*, AMO! **Chiriquí:** 5 km N of Fortuna Lake, 1100-1135 m, 8 III 1985, *Croat 60021*, MO! Cerro Fortuna, 1300-1400 m, 20 III 1978, *Dressler 5785*, AMO! Fortuna (dam) 1300-1400 m, 23 III 1978, *Hammel 2245*, MO! Los Planes de Hornito, 1100-1200 m, 17 VI 1982, *Knapp 5549*, MO! Fortuna, 1100 m, 16 II 1985, *Luer 10580*, MO! Ibid. 1250 m, 29 VI 1987, *McPherson 11147*, MO! Ibid., 7 II 1985, *van der Werff 6651*, MO!

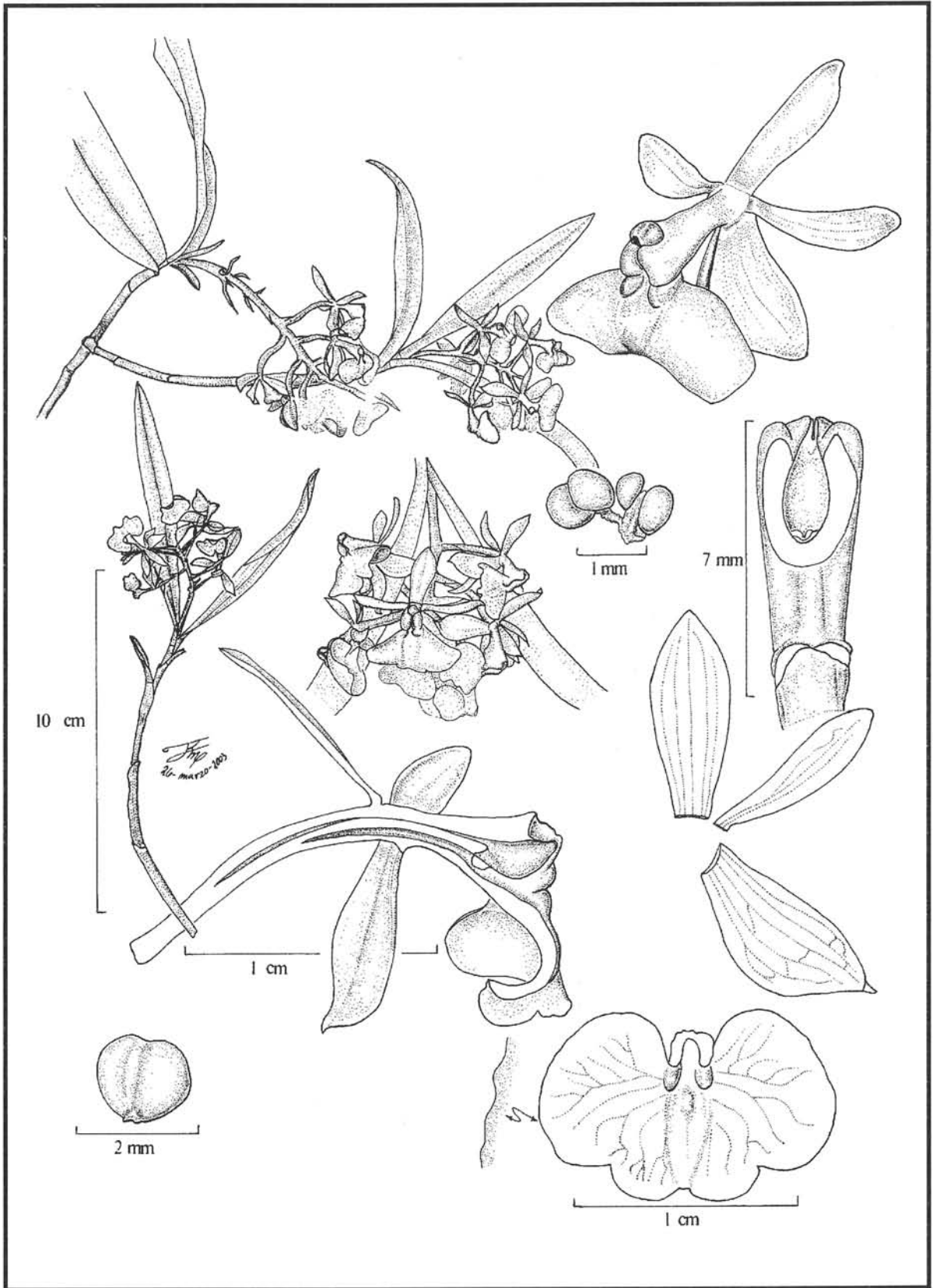
DISTRIBUTION AND ECOLOGY: Endemic to Panama, Chiriquí and Bocas del Toro provinces, near the top of the intercontinental divide, Cerro Fortuna and Fortuna dam site, at 1100-1400 m altitude, in cloud forest. Flowering from February to March, June.

RECOGNITION: *Epidendrum fortuneae* belongs to the Oerstedella Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is transverse to the column instead of parallel, forming a wide, open sinus, and Intermixtum Subgroup which has small, membranaceous flowers with a bifid, petaloid clinandrium-hood, and laterally compressed, obovoid pollinia with long, granulose caudicles. The new species is closely similar to *E. fuscinum*, and is distinguished from it by the taller plants, smaller flowers (sepals 9-11 mm) and the noticeably smaller lip, the lateral lobes being only slightly longer than wide (2-3 mm long). *Epidendrum fuscinum* has 13-15 mm long sepals, with the lateral lobes of the lip 7-10 mm long, and about 2-3 times longer than wide. It is closely related to *Epidendrum folsomii* Hágsater which is found at lower altitudes, 600-800 m altitude around El Copé; that species flowers in July to October. It appears that these three species are highly localized, though clearly recognizable by the size, thickness of the flowers and especially the lip. Nearly all specimens have been previously identified as *Epidendrum intermixtum* Ames, F.T.Hubb. & C.Schweinf. which is restricted to central-western Costa Rica and not found in Panama.



CONSERVATIONS STATUS: DD. Data deficient.

ETYMOLOGY: In reference to Cerro Fortuna, and the dam below it, in western Panama, near where the species has been found up to now.



EPIDENDRUM FUJIMORIANUM D.E.Benn. & Christenson

EPIDENDRUM FUJIMORIANUM D.E.Benn. & Christenson, *Icones Orch. Peruv.* Pl. 459. 1998.

Type: PERU: Huánuco: Leoncio Prado, along old road from Carpish to Tingo María, 2400 m, 30 October 1986, *D. E. Bennett et al.* 3665. Holotype: transferred from USM to MOL. [Christenson, pers. comm.]

Hierba epífita, de más de 30 cm de alto. Raíces de la base de la planta, ocasionales en los tallos superiores, sencillas, gruesas. Tallos producido de un internodo intermedio del tallo anterior, sencillos, tipo caña, ligeramente arqueados, teretes, delgados, de más de 9 x 0.12-0.2 cm. Hojas 3-4, distribuidas hacia el ápice del tallo, desiguales en tamaño, las inferiores muy pequeñas, subcoriáceas; vaina tubular, finamente estriada, 8-32 x 1.2-2 mm de largo; lámina oblongo elíptica, aguda, margen entero, 6.9-8.2 x 0.7-0.8 cm. Bráctea espátacea ausente. Inflorescencia apical, racemosa, florece una sola vez, ligeramente arqueada, laxa, 4.5 cm de largo; pedúnculo delgado, terete, 1.3 cm de largo, provisto en la base de 2 brácteas, angostamente triangulares, acuminadas, 6-10 mm de largo; raquis terete, delgado, recto, 2 cm de largo. Bráctea floral de menos de la mitad del largo del ovario, angostamente triangular, acuminada, 4-5 mm de largo. Flores 10-13, simultáneas, color pardo negruzcos con base verde claro, labelo más oscuro, con una mancha amoratada en el disco, columna verde claro, el ápice amoratado oscuro; sin fragancia. Ovario terete, delgado, no inflado, no ornamentado, 11 mm de largo. Sépalos libres, reflexos, ligeramente obovados, subagudos, 5-nervados, margen entero, glabros, 9.0-9.5 x 3.4-4.0 mm; los laterales diminutamente apiculados, oblicuos. Pétalos ligeramente reflexos, angostamente oblanceolados, ápice redondeado, 3-nervados, margen entero, glabros, 8.6 x 2.1 mm. Labelo oscuramente trilobado, en forma general reniforme, convexo, margen entero, 10.4 x 13.2 mm; bicalloso, los callos tres-lobos, subglobosos, desprovisto de quillas; lóbulos laterales suborbiculares, lóbulo medio ancho y poco profundo, bilobulado. Columna recta, ápice ligeramente arqueado hacia arriba, delgada, 5 mm de largo. Clinandrio reducido, entero. Antera subglobosa, carnosa, con una quilla roma enfrente, 4-locular. Polinios 4, obovoides, desiguales; caudículas tan largas como los polinios, suaves y granuladas. Rostelo apical, hendido. Lóbulos laterales del estigma de 1/3 del largo de la cavidad estigmática, prominentes, hemiorbiculares. Nectario penetrando 1/3 del ovario, delgado, no inflado, no ornamentado. Cápsula no vista. [Medidas del ejemplar ilustrado.]

Epiphytic, scandent herb. Roots basal, fleshy. Stems simple, cane-like, terete, thin, arising from a middle internode of the previous stem. Leaves 3-4, distributed towards the apex of the stem, unequal, the lower pair very small, subcoriaceous; sheath tubular, minutely striated; blade oblong-elliptic, acute, margin entire. Inflorescence apical, racemose, flowering only once, somewhat lax-flowered. Floral bracts less than half the length of the ovary, narrowly triangular, acuminate. Flowers 10-13, simultaneous, blackish brown on a somewhat greenish background, lip darker, with a purple spot on the disc, column light green, the apex dark purple; without fragrance. Ovary terete, thin, not inflated, unornamented. Sepals free, reflexed, narrowly obovate, subacute, 5-veined, margin entire, glabrous, the laterals minutely apiculate, oblique. Petals slightly reflexed, narrowly oblanceolate, apex rounded, 3-veined, margin entire, glabrous. Lip obscurely three-lobed, reniform in outline, convex, margin entire; bicallose, the calli small, subglobose, without keels; lateral lobes suborbicular, midlobe wide and shallow, bilobulate. Column straight, apex slightly arched upwards. Clinandrium-hood reduced, entire. Anther subglobose, fleshy, with a low, rounded keel in front, 4-celled. Rostellum apical, slit. Nectary penetrating 1/3 of the ovary, narrow, unornamented.

OTHER SPECIMENS: without locality, cult. Ecuagenera, 10 III 2003, *Hágsater* 13871, AMO! (Illustration voucher).

OTHER RECORDS: PERU: Huánuco: San Pedro de Carpish, ruta Paty, camino a Ñaupamarca, km 456, 30 VIII 2002, *Delsy Trujillo* 41, image of live plant, AMO!

DISTRIBUTION AND ECOLOGY: Known from central Peru, from the Amazon slope of the Andes, at 2400 m, epiphytic. Flowering in March and August.

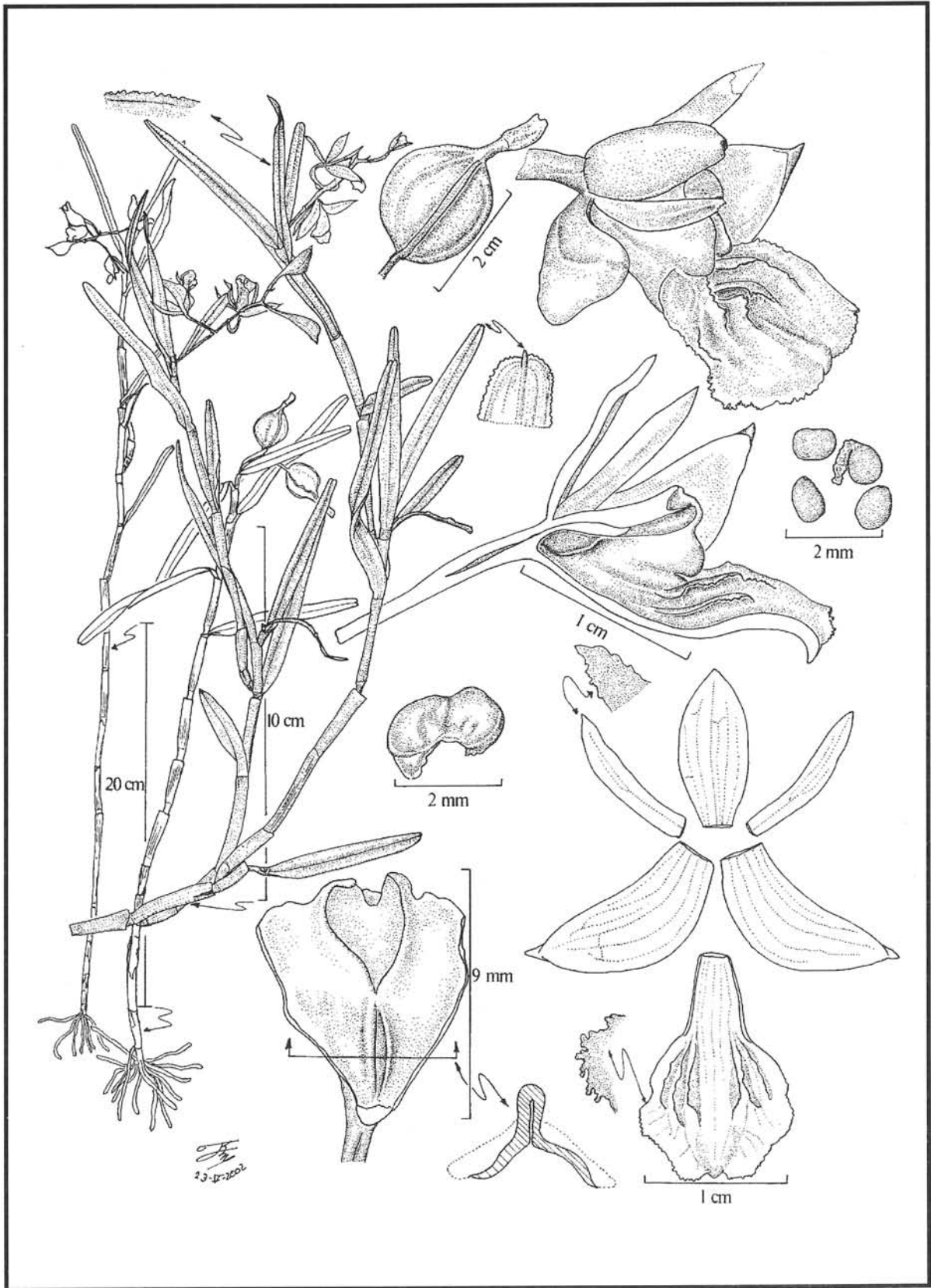
RECOGNITION: *Epidendrum fujimorianum* belongs to the *Arbuscula* Group, *Incomptum* Subgroup, which is recognized by the stems produced from the middle of the previous stem, with few leaves aggregated near the apex, the racemose inflorescence and the fleshy, green to black flowers. The species is recognized by the small, greenish to blackish flowers which turn reddish brown, the disc of the lip purple and the column green with the apex purple, the uninflated ovary, 3-lobed lip, 5-veined sepals, 3-veined petals, and bicallose lip. It closely resembles *E. amayense* Hágsater from northern Colombia, which has an ecallose lip, 1-veined, narrow petals and greenish yellow flowers. *Epidendrum liguliferum* C.Schweinf. from the same general area has larger flowers, the sepals 16-17 mm long, and very prominent, long, thin, divergent calli on the lip, and normally simple, cane-like stems more than 60 cm long; this species does not appear to belong to the same group.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: Named in honor of Alberto Fujimori Fujimori, former President of Peru.

NOTE: The illustration published with the original description does not correspond to this species, as can be noted by the reniform, entire lip, ciliate margin of the petals, long ovary, and in particular the successive flowers produced from a pluriracemose inflorescence, where new racemes are produced with time from the same stem. This last feature is typical of the *Nocturnum* Group and has also been noted in some species of the *Difforme* Group, but not in the *Arbuscula* Group, where some species like *Epidendrum jamaicense* Lindl. or *Epidendrum morganii* Dodson do produce successive flowers, but always from the same raceme. There is another, unpublished illustration, of *Bennett* 3665 prepared by M. Alcántara on 6 October 1995 as Lámina 1201 (xerox at AMO!) which does correspond to entity. We wish to thank José Portilla and his family and team at Ecuagenera for permitting us to go through his nursery and study the numerous species under cultivation, as well as *Delsy Trujillo* of Huánuco for sharing her material.



EPIDENDRUM GASTROCHILUM Kraenzl.

Type: PERU: Cajamarca: Chota, mountains west of Huambos, 2,900-3,000 m. In sclerophyllous vegetation consisting of bushes with small trees interspersed, *A. Weberbauer 4172*. Holotype: HBG, (fide Christenson, 1994.) Isotypes: B, (destroyed, photo: AMES! F! NY! SEL!), G! MOL (photo AMO!)

Hierba epífita, ramificada; de 20-30 cm de alto. **Raíces** basales, carnosas, delgadas, blancas; 0.8-1.2 mm de grosor. **Tallos** ramificados arriba, tipo caña, teretes, delgados, rectos; 10-24 x 0.15-0.4 cm. **Hojas** 4-5[9], distribuidas hacia la zona media apical de los tallos, disticas, subcoriáceas; vaina tubular, finamente estriada, algunas levemente teñidas de púrpura, las basales se deshacen con el tiempo; 18-26 x 1.5-4.0 mm; lámina angostamente lanceolada a oblongo lanceolada, ápice truncado, desigualmente bilobado, con una quilla dorsal baja, margen ligeramente crenado a entero, ligeramente revoluto en ejemplares secos; 3-6[8] x 0.4-0.6[0.8] cm. **Bráctea** espatácea ausente. **Inflorescencia** apical, racemosa, arqueada, corta, pauciflora; 2.5-3.5 cm de largo; pedúnculo corto, terete, delgado; 0.9-1.2 cm de largo, provisto en la parte basal de una bráctea semejante a las florales, triangular, aguda; 2-3 mm de largo. **Brácteas florales** mucho más cortas que el ovario, triangulares, agudas; 2 mm de largo. **Flores** 3-5, simultáneas, resupinadas, de color pardo verdosas, raramente amarillentas con linteos púrpura; sin datos de fragancia. **Ovario** terete, delgado, no inflado, no ornamentado; 9-15 mm de largo. **Sépalos** entreabiertos, libres, ápice agudo, 5-nervados, margen entero; el dorsal elíptico a elíptico lanceolado, 11.2-13.2 x 4.8-5 mm; los laterales oblicuos, angostamente elípticos, aristados dorsalmente, 14-15 x 5-5.6 mm. **Pétalos** entreabiertos, libres, lineares a linear oblanceolados, falcados, ápice agudo, 5-nervado, margen entero, hacia el ápice irregularmente dentado; 11-12 x 1.8-2.4 mm. **Labelo** unido a la columna, entero, ovado orbicular, base cuneada, ápice ligeramente emarginado, inconspicuamente bilobado, con un apículo redondeado, margen diminutamente dentado; ecaloso, disco provisto de 6 quillas laminares, altas, que van desde la base hasta cerca de la parte media del labelo; 15.6-17.6 x 11-11.5 mm. **Columna** recta, gruesa, obcónica, con el ápice arqueado hacia arriba, con un par de alas ventrales amplias, ventralmente con una cavidad a la cual se accesa por una hendidura larga y angosta; 9-10 mm de largo. **Clinandrio** reducido, entero. **Antera** reniforme, 4-locular. **Polinios** 4, lenticulares, caudículas granulosas ligeramente más largas que los polinios. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** pequeños, ocupando ¼ del largo de la cavidad. **Nectario** obcónico, sin traspasar el perianto, no ornamentado, con una cavidad amplia formada por la unión de la columna y el labelo, no ornamentada. **Cápsula** pedicelo terete, delgado; 6 mm de largo; cuerpo subgloboso; 17.5-18 x 16.2-17 mm; cuello apical; 4 mm de largo.

Epiphytic, branching herb. **Roots** basal, fleshy, thin. **Stems** cane-like, terete, thin, straight, branching above. **Leaves** 4-5[9], distributed towards the apical half of the stems, distichous, subcoriaceous; sheath tubular, minutely striated; blade narrowly lanceolate to oblong-lanceolate, apex truncate, unequally bilobed, with a low, dorsal keel, margin somewhat crenate to entire. **Inflorescence** apical, racemose, arching, short, few-flowered, flowering only once; peduncle short, terete, thin, provided with a lone bract towards the base, the bract similar to the floral bracts, much shorter than the ovary, triangular, acute. **Flowers** 3-5, simultaneous, resupinate, greenish brown or reddish, rarely yellowish with purple tinge. **Ovary** terete, thin, smooth. **Sepals** partly spreading, free, apex acute, 5-veined, margin entire; dorsal elliptic to elliptic-lanceolate; laterals oblique, narrowly elliptic, dorsally aristate. **Petals** partly spreading, free, linear to linear-oblanceolate, falcate, apex acute, 1-veined, margin entire, irregularly dentate towards the apex. **Lip** united to the column, entire, ovate-orbicular, base cuneate, apex somewhat emarginate, mostly bilobed, with a rounded apicule, margin minutely dentate; ecallose, disc provided with 6 laminar, elongate keels, spreading from the base to the middle of the lip. **Column** straight, thick, obconical, with the apex arching upwards and the lateral wings wide; the underside with an elongate cavity which is accessed through a long, narrow slit. **Clinandrium-hood** reduced, entire. **Anther** reniform, 4-celled. **Pollinia** 4, lentil-shaped, caudicles granulate, slightly longer than the pollinia. **Rostellum** apical, slit. **Nectary** obconical, not penetrating the ovary, forming a wide cavity, unornamented. **Capsule** pedicel terete, thin, body subglobose, apical neck short.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Apparently endemic to north eastern Peru, on both sides of the Marañón river, in elfin forest at 2800-3100 m altitude. Flowering in February, April and June. Fruiting in February.

RECOGNITION: *Epidendrum gastrochilum* belongs to the *Diothonea* Group and Subgroup which is characterized by the branching plants, linear lanceolate to oblong, bilobed

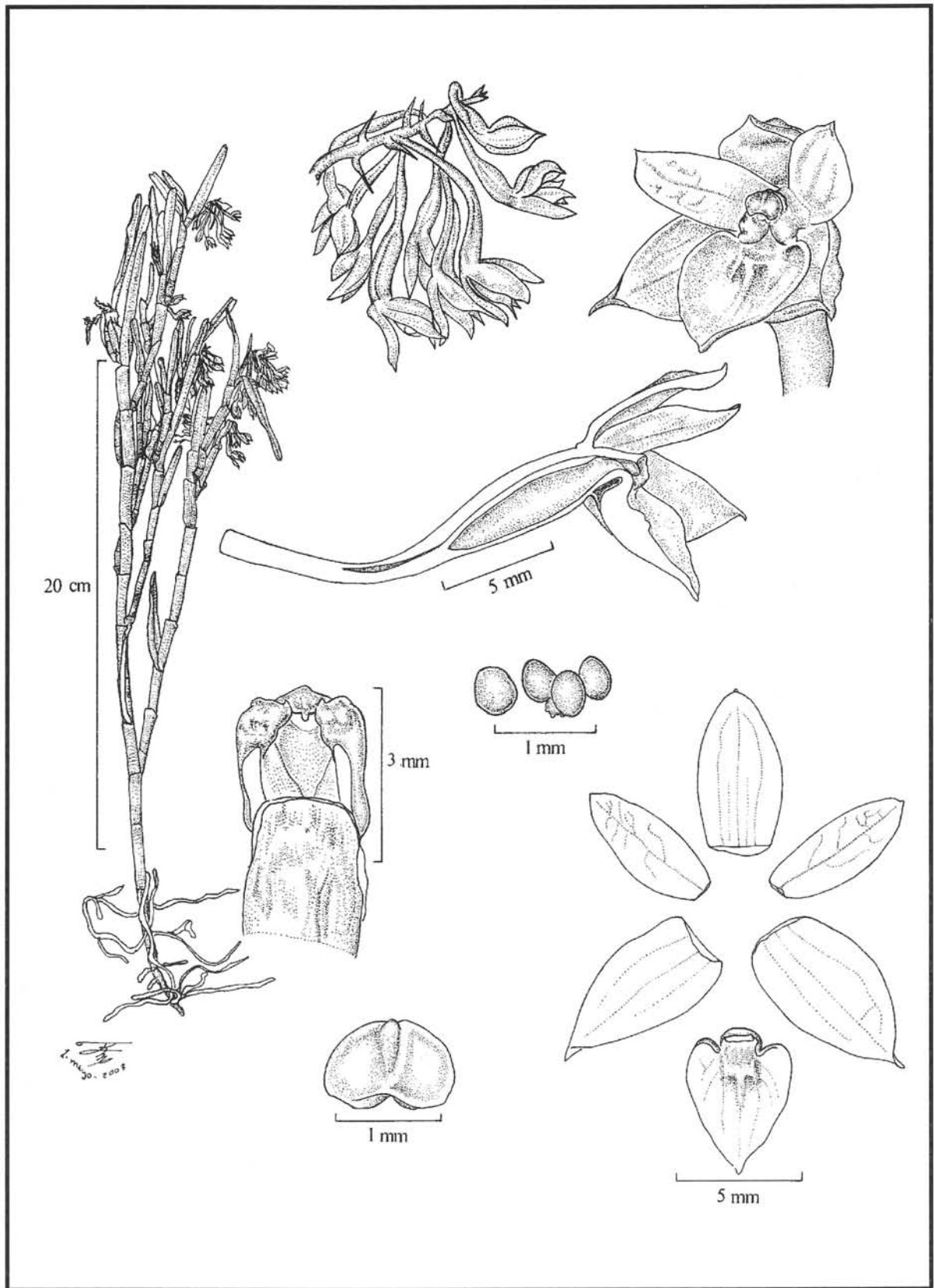


leaves, racemose, arching-nutant inflorescence, membranaceous flowers (rarely fleshy), the entire to 3-lobed, ecallose lip with the margin erose without or with 1-10 thin, smooth to erose keels, the column completely to obliquely united to the lip, the anther reniform. The species has narrowly lanceolate to oblong leaves with the apex truncate and bilobed, a short, 3-5-flowered inflorescence, linear to linear oblanceolate petals and the lip united to the column, entire, ovate-orbicular, and cuneate at the base. It is similar to *Epidendrum heterothoneum* (Rchb.f. & Warsc.) Hágsater & Dodson, which has linear to linear-lanceolate leaves, obtuse and minutely bilobed, a short inflorescence with up to 13 flowers and the lip united to the column and 3-lobed. *Epidendrum suavis* (Rchb.f. & Warsc.) Løjtnant has narrowly lanceolate leaves up to 13 cm long, inflorescence many-flowered, up to 15 flowers, obtusulate, acute, petals and the lip entire, flabellate-subovate.

CONSERVATION STATUS: DD. Data deficient. Apparently of restricted distribution range and locally scarce.

ETYMOLOGY: From the Greek γαστήρ belly, bulging, and χείλος, lip, in reference to the belly-like structure formed by the wide union of the column and lip.

REFERENCE: Christenson, E. A., 1994. Significant collections of Orchidaceae conserved in Herbarium Hamburgense (HBG). *Brittonia* 46(4): 344-354.



EPIDENDRUM GASTROPODIUM Rchb.f.

THE GENUS EPIDENDRUM PART 5

Plate 836

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM GASTROPODIUM Rchb.f., Ann. Syst. Bot. 6: 405. 1861.

Basionym: *Gastropodium violaceum* Lindl., Ann. Mag. Nat. Hist. 15: 107. 1845. Type: COLOMBIA:
Cauca: On the Declivity of Puracé to Popayán, **Hartweg 1422**. Holotype: K! Isotypes: E! FI! G x2! K! LE!
P! W! Photograph of G: Neg. CNHM 24785, AMES! F. NY!

Hierba terrestre o epífita, ramificada; ca. 30 cm de alto. **Raíces** basales, escasas en algunas ramificaciones, carnosas, delgadas; 0.5-1.0 mm de grosor. **Tallos** ramificados hacia el ápice, tipo caña, teretes, rectos, delgados; el principal; 20-22 x 0.25-0.35 cm; las ramificaciones, 3.5-8.5 x 0.2-0.53 cm. **Hojas** ca. 10, caedizas, 3-4 persistentes en las ramificaciones, distribuidas en la parte media apical de los tallos, coriáceas, alternas; vaina tubular, finamente estriada; 10-22 x 2.5-3.5 mm; lámina lanceolada, ápice truncado, bilobado, con una quilla dorsal baja, margen entero; las del tallo principal; 2.6-5.5 x 0.3-0.6 cm. **Bráctea** espatácea ausente. **Inflorescencia** apical, corta, racemosa, densa, multiflora, subsésil; 1.5 cm de largo; pedúnculo muy corto, terete, delgado, sin brácteas. **Brácteas florales** mucho más cortas que el ovario, angostamente lanceoladas, acuminadas, abrazadoras; 2-3 mm de largo. **Flores** 9-13, simultáneas, resupinadas, color púrpura rosado, cojín del labelo anaranjado; sin datos de fragancia. **Ovario** terete, delgado, liso, ligeramente inflado ventralmente en el 1/3 apical; 8-12 mm de largo. **Sépalos** entreabiertos, libres, ovado elípticos, ápice agudo, con una quilla dorsal erosa, 3-nervados, 6.5-7.5 x 3.4-3.8 mm; el dorsal con un par de nervaduras intermedias secundarias, margen entero. **Pétalos** entreabiertos, libres, angostamente elípticos, subagudos, 1-nervados, con múltiples ramificaciones cortas, margen entero; 6 x 2 mm. **Labelo** unido en el 1/2 basal de la columna, entero, cordiforme, margen entero; 5.4 x 4 mm; ecaloso; cojín tricarinado en el ápice, las carinas lisas, bajas, subagudas, unidas en la base, el par lateral más corto, desvaneciéndose hacia la zona media del labelo; en la base el labelo forma un mentón al estar doblado hacia abajo y hacia atrás antes del ápice de la columna. **Columna** recta, gruesa, corta, en el ápice un par de lóbulos redondeados, gruesos, carnosos; 3 mm de largo. **Clinandrium** corto, entero. **Antera** subreniforme, con una quilla central roma. **Polinios** 4, lenticulares, semejantes; caudículas cortas. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** no vistos. **Nectario** penetrando 1/3 del ovario, inflado, liso. **Cápsula** no vista.

Terrestrial or epiphyte, branching herb. **Roots** basal, fleshy, thin. **Stems** branching towards the apex, cane-like, terete, straight, thin, the main stem longer than the branches. **Leaves** ca. 10 on the main stem, 3-4 persistent on the branches, distributed along the apical half of the stems, coriaceous, alternate, the lower ones generally dropping; sheath tubular, minutely striated and rugose; blade lanceolate, apex truncate, bilobed, smooth, with a low dorsal keel, margin entire. **Inflorescence** apical, short, racemose, dense, many-flowered, subsessile, flowering only once; peduncle, very short, terete, thin, without bracts. **Floral bracts** much shorter than the ovary, narrowly lanceolate, acuminate. **Flowers** 9-13, simultaneous, resupinate, pink-purple colored, the cushion of the lip orange. **Ovary** terete, thin, smooth, slightly inflated ventrally along the apical 1/3. **Sepals** partly spreading, free, ovate-elliptic, apex acute, with a dorsal, erose keel, 3-veined, margin entire. **Petals** partly spreading, free, narrowly elliptic, subacute, 1-veined, with multiple branches, margin entire. **Lip** united to the basal 1/2 of the column, entire, cordiform, margin entire; ecallose, with a basal tricarinate cushion at the apex, the keels smooth, low, subacute, the lateral pair shorter, disappearing towards the middle of the lip; base of the lip forming a mentum as it is bent down and backwards, below the apex of the column. **Column** straight, short, entire, with a pair of fleshy, truncate, rounded lobes at the apex. **Clinandrium-hood** short, entire. **Anther** subreniform with a low central keel. **Pollinia** 4, lentil-shaped, subequal, caudicles short. **Rostellum** apical, slit. **Nectary** penetrating 1/3 of the ovary, inflated, smooth.

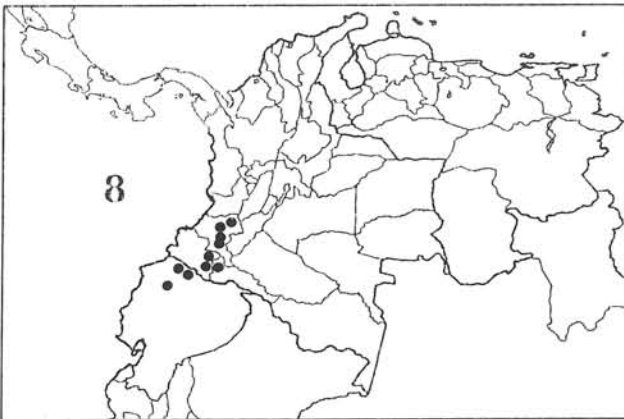
OTHER SPECIMENS AND OTHER RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Southern Colombia and the neighboring northern border regions of Ecuador on the Cordillera Central, at 2400-3700 m altitude. The species appears to be sympatric with *Epidendrum mesogastropodium* Hágsater & Dodson in northern Ecuador in the provinces of Sucumbios and Imbabura. Flowering from October to August.

RECOGNITION: *Epidendrum gastropodium* belongs to the Diothonea Group, *Gastropodium* Subgroup, characterized by the branching habit, linear-lanceolate to lanceolate, apically bilobed leaves, arching-nutant, racemose inflorescence, membranaceous or rarely fleshy flowers, the lip entire to 3-lobed, with an erose margin, ecallose, without or with 1-10 thin, smooth to erose keels, the column united to the lip from totally to obliquely to free; the Subgroup which has small, usually brightly colored flowers pink to purple flowers, a very short inflorescence, lip more or less cordiform, united to the basal half of the column, the column ending in fleshy-thickened lobes. The species has acute floral segments and the concave lip has a prominent transverse cushion ending in three short keels, the flowers are pink-purple. It is similar to *Epidendrum eugenii* Schltr. where the lip has three, narrow, low keels which do not form a transverse cushion, and reach nearly the apex of the lip. *Epidendrum mesogastropodium* Hágsater & Dodson has ovate-elliptic, subacute sepals, and the cushion of the lip truncate.

CONSERVATION STATUS: DD. Data deficient. The species is apparently common in southern Colombia at high altitude.

ETYMOLOGY: From the Greek, γαστήρ-, belly, and ποδιον, foot, in reference to the inflated belly or ovary, which is characteristic of this species. The generic name *Gastropodium* was originally coined for this species.



Authors: E. Santiago & E. Hágsater

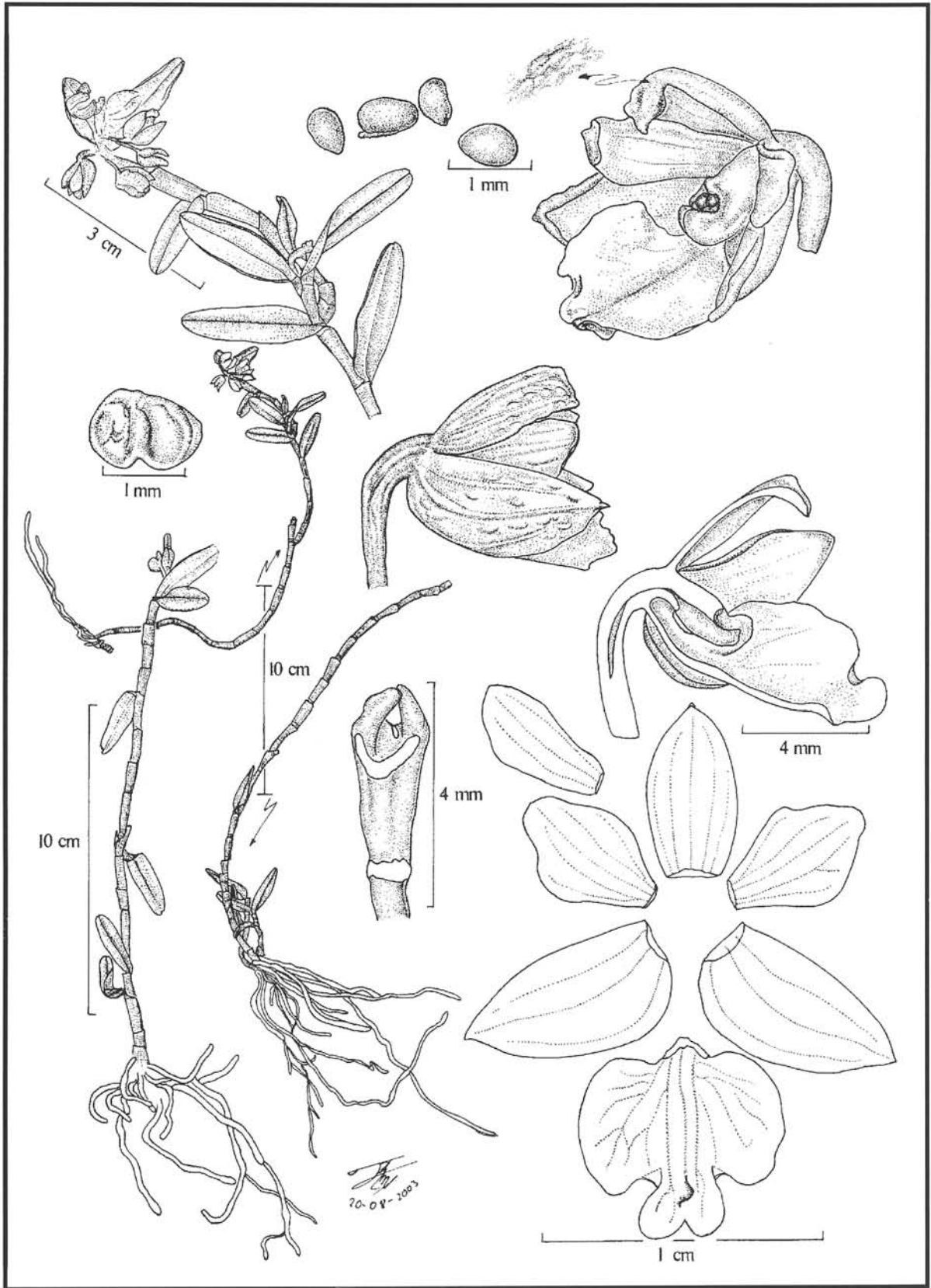
strator: R. Jiménez M.

Editors: E. Hágsater & L. Sánchez S.

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ICONES ORCHIDACEARUM 8. 2006. Plate 836



EPIDENDRUM GLOBIFLORUM F.Lehm. & Kraenzl.

EPIDENDRUM GLOBIFLORUM F. Lehm. & Kraenzl., Engl. Jahrb. 26: 469. 1899.

Type: ECUADOR: Loja: Epiphytic in dense, humid forests in Loma de Amboca, above Cisne, 2400-2600 m, December, F. C. *Lehmann 8193*. Holotype: K! Isotypes: AMES! (Illustration voucher). LE!

Hierba epífita, ramificada; 16-26 cm de alto. **Raíces** basales, carnosas, gruesas, blancas; 0.6-1.3 mm de grosor, muy escasas en algunas ramificaciones. **Tallos** ramificados cuando maduros, las ramificaciones originándose de los internodos apicales del tallo anterior, tipo caña, teretes en la base, lateralmente aplanados hacia el ápice, delgados, erectos; el principal; 12-15 x 0.18-0.27 cm; los subsecuentes; 5-14 x 0.15-0.23 cm. **Hojas** 15 en el tallo basal, distribuidas a lo largo del mismo, caedizas; 3-4 persistentes hacia el ápice de los tallos superiores, alternas, subcoriáceas, lisas; vaina tubular, estriada; 6-14 x 1.8-2.7 mm; lámina oblongo ovada, obtusa, bilobada, con una quilla dorsal baja, margen entero; 1.5-3.0 x 0.5-0.7 cm. **Bráctea** espátacea ausente. **Inflorescencia** racemosa, pauciflora, corta, arqueada nutante; 1 cm de largo. **Brácteas florales** de la mitad del largo del ovario, triangulares, agudas; 2.5-3 mm de largo. **Flores** 7-8, simultáneas, resupinadas, subglobosas, color blanco verdosas; sin datos de fragancia. **Ovario** terete, delgado, no inflado, no ornamentado, arqueado hacia el ápice en ángulo recto; 4-6.5 mm de largo. **Sépalos** entreabiertos, cóncavos, oblongo elípticos, agudos, diminutamente apiculados, 3-nervados, las nervaduras laterales del sépalo dorsal ramificadas desde la base dando la apariencia de ser 5-nervados, margen entero, dorsalmente pustulados, 6-7.5 x 3-3.8 mm; los laterales oblicuos. **Pétalos** entreabiertos, libres, subrombicos a anchamente elípticos, redondeados, 3-nervados, las nervaduras laterales ramificadas desde la base dando la apariencia de ser 5-nervados, margen entero; 5 x 2.3-3.5 mm. **Labelo** unido a la columna, trilobado, base ligeramente cordada, margen entero; 6 x 7 mm; escalooso; disco con una quilla elevada formando un diente caroso y triangular al centro del lóbulo medio; lóbulos laterales más grandes que el lóbulo medio, anchamente semiovalados; 3 x 4.5 mm; lóbulo medio corto, bilobado, los lóbulos laterales redondeados, emarginado; 2 x 2.8 mm. **Columna** corta, gruesa, recta, con un par de alas apicales redondeadas y falcadas, no involutas; 4 mm de largo. **Clinandrio** reducido, margen entero. **Antera** reniforme, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** de la mitad del largo de la cavidad estigmática, ocupando esta casi todo el largo de la columna. **Nectario** corto, sin traspasar el perianto, delgado, redondeado, no inflado, liso. **Cápsula** no vista.

Epiphytic, branching herb. **Roots** basal, fleshy, thick. **Stems** branching when mature, the branches from the subapical internodes, cane-like, terete at the base, laterally flattened above, thin, erect. **Leaves** 15 on the basal stem, 3-4 towards the apex of the branches, subcoriaceous, smooth; sheaths tubular, striated; blade oblong-ovate, obtuse, bilobed, with a low dorsal keel, margin entire. **Inflorescence** racemose, few-flowered, short, arching-nutant. **Floral bracts** half as long as the ovary, triangular, acute. **Flowers** 7-8, simultaneous, resupinate, subglobose, greenish-white. **Ovary** terete, thin, smooth, arched towards the apex to a right angle. **Sepals** partly spreading, concave, oblong-elliptic, acute, minutely apiculate, 3-veined, the lateral veins of the dorsal sepal branching from the base so as to appear 5-veined, margin entire, dorsally pustulate; lateral sepals oblique. **Petals** partly spreading, free, subrhombic to widely elliptic, rounded, 3-veined, the lateral veins branching from the base so as to appear 5-veined, margin entire. **Lip** united to the column, 3-lobed, base slightly cordate, margin entire; scalloose, disc with an elevated keel forming a fleshy, triangular tooth in the middle of the midlobe; lateral lobes larger than the midlobe, widely semiovalate; midlobe short, bilobed, the lobes rounded, emarginate. **Column** short, thick, straight, with a pair of rounded, falcate wings at the apex. **Clinandrium-hood** reduced, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, laterally compressed. **Rostellum** subapical, slit. **Lateral lobes of the stigmatic cavity** about half as long as the cavity which occupies nearly the whole length of the column. **Nectary** short, not penetrating the ovary, thin, rounded, smooth.

OTHER SPECIMENS: ECUADOR: Loja: Catamayo: El Cisne Zaruma, 2340 m, 12 XII 1994, *Jorgensen 1431*, QCNE!

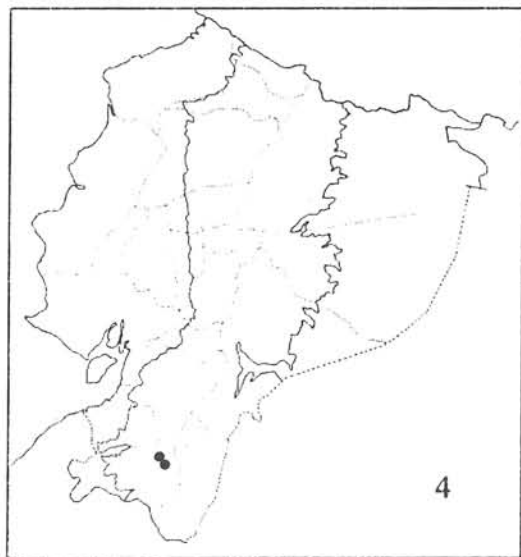
DISTRIBUTION AND ECOLOGY: Apparently restricted to the type locality, NW of Loja. Flowering in December.

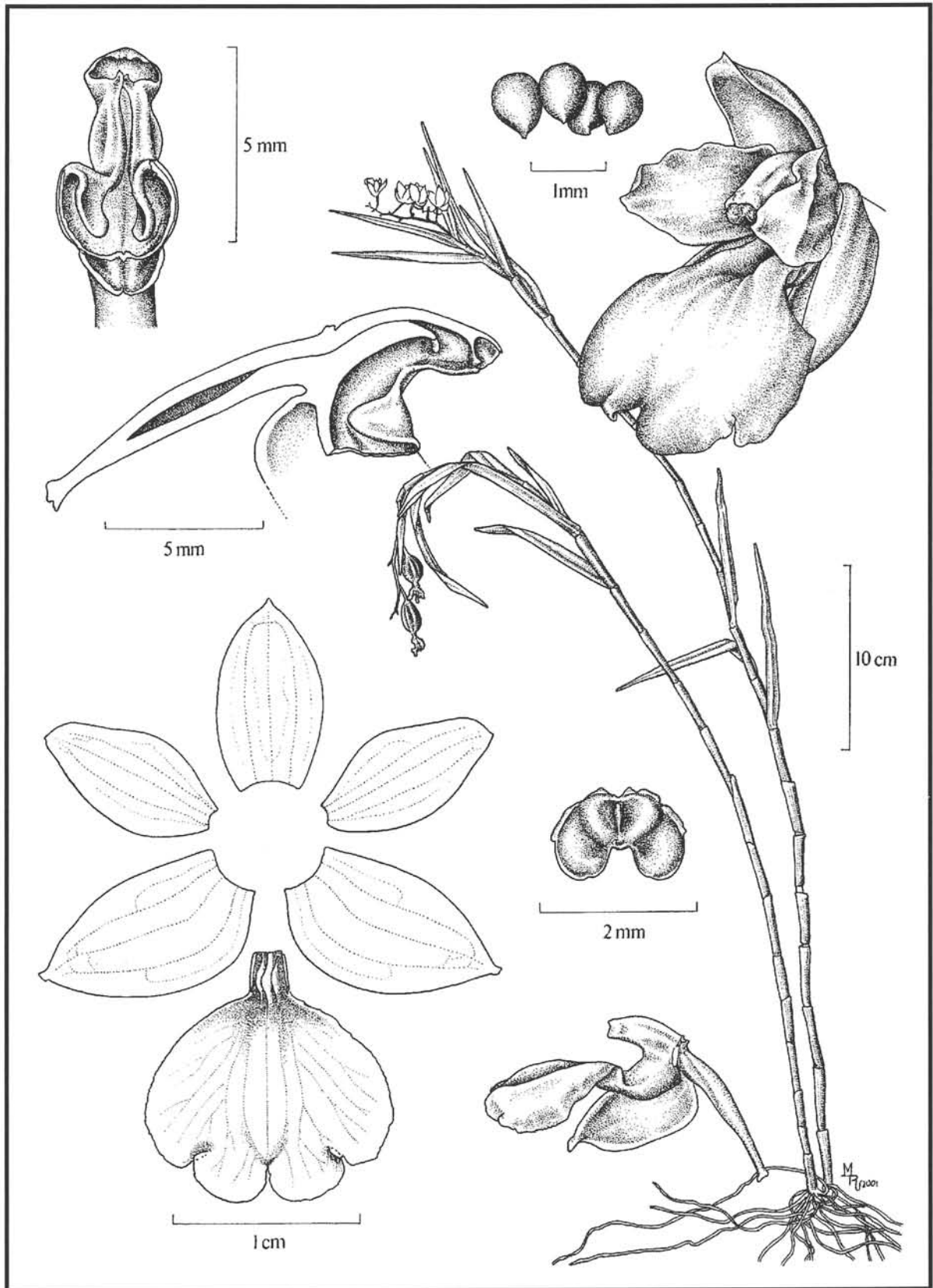
RECOGNITION: *Epidendrum globiflorum* belongs to the *Diothonea* Group and Subgroup, characterized by the branching habit, linear-lanceolate to lanceolate, bilobed leaves, arching-nutant, racemose inflorescence, membranaceous or rarely fleshy flowers, the lip entire to 3-lobed, with an erose margin, scalloose, without or with 1-10 thin, smooth to erose keels, the column united to the lip from totally to obliquely to free. The species has oblong-ovate leaves 1.5-3.0 x 5-7 mm, 7-8, subglobose, greenish white flowers, partly spreading, 6-7.5 mm long sepals; the column ends in a pair of outstretched, rounded, falcate wings, and the clinandrium-hood is much reduced. *Epidendrum pseudoglobiflorum* Hágsater & Dodson has orange to vermilion colored flowers with an entire, suborbicular-hexagonal lip and a truncate column. *Epidendrum podocarpophyllum* Schltr. has salmon red/yellow flowers, longer, narrower leaves (30-50 x 3.5-5 mm), and somewhat shorter sepals (5 mm long), the inflorescence with 10-15 flowers and the lip 3-keeled, these short and basal, with the surface of the disc verrucose, the midlobe subquadrate, apically bilobed, with the lobes truncate. *Epidendrum restrepoanum* A.D.Hawkes has oblong-lanceolate leaves ([2.5]4.2-5.6 x 0.4-0.7[0.9] cm), larger flowers, sepals 6-9 mm long and the lip 3-lobed, deeply cordate and with 5-7 keels on the disc.

CONSERVATION STATUS: DD. Data deficient, apparently rare.

ETYMOLOGY: From the Latin *globus*, ball-like, globose, and *flos*, flower, in reference to the subglobose flowers described by the authors.

NOTE: Lehmann and Kränzlin cited a second Lehmann collection, *Lehmann 6468* for this species, but Schlechter correctly described that specimen as *E. podocarpophyllum* stating that if Kränzlin had taken the trouble to study that plant more closely, he would have noted that it is very different, with sepals salmon-red and the petals and lip salmon-yellow.





EPIDENDRUM GRATISSIMUM (Rchb.f.) Hágsater & Dodson

Plate 838

EPIDENDRUM GRATISSIMUM (Rchb.f.) Hágsater & Dodson, *Orquídea* (Mexico City) 12(2): 296. 1992.

Basionym: *Diothonea gratissima* Rchb.f., *Bot. Zeit.* 10: 772. 1852. Type: Colombia: Quindío, **Humboldt & Bonpland s.n.** Holotype: (sterile) W-R 52000 pro parte! [Mounted with *Triana 1371*.] Reichenbach's sketches, W-R 51999! Copy AMES 38324! [They include a sketch of the lip and foot of the column (involute column wings) which are spread so as to appear as small, basal, triangular lobes of the lip.]

Synonyms: *Epidendrum oyacachiense* Hágsater, *Orquídea* (Mexico City) 12(2): 296. 1992. Basionym: *Diothonea angustifolia* Schltr. *Repert. Sp. Nov. Regni Veg.* 8: 65. 1921. Type: Ecuador: In silvis subandinis prope Oyacachi, Jan. 1901, **A. Sodiro [17]**. Holotype: B, destroyed. Lectotype: QPLS! Designated by Dodson in Jørgensen, P. M., & S. León Yáñez, Eds. *Catalogue of the Vascular Plants of Ecuador*, *Monog. Syst. Bot. Mo. Bot. Gard.* 75: 664. 1999. Not *E. angustifolium* Sw., *Prodr. Veg. Ind. Occ.* pg. 123. 1788.

Epidendrum pentacarinatum Hágsater & Dodson, *Icon. Orch.* (Mexico City) 3:pl. 369. 1999. Type: Ecuador: Carchi: Tulcán-Maldonado, 3530 m, 29 April 1993, pressed 12 November 1993, **E. Hágsater et al. 11256**. Holotype: QCNE! (illustr. AMO!) Isotype: AMO! Clonotypes: 25 November 1993, AMES! COL! MO!

Hierba epífita o terrestre, erecta; 23-75 cm de alto. **Raíces** basales en el tallo principal y ocasionalmente en la base algunas ramificaciones, carnosas; 0.7-2.7 mm de grosor. **Tallos** ramificados cerca del ápice cuando maduros, tipo caña, teretes, rectos; el principal 23-75 x 0.24-0.6 cm; las ramificaciones; 10.5-30 x 0.25-0.45 cm. **Hojas** 9-13 en el tallo principal, 4-8 en las ramas, distribuidas hacia la mitad apical de los tallos, alternas, suberectas; vaina tubular, finamente estriada, rugosa; 6-40 x 2.4-6 mm; lámina lanceolada a angostamente lanceolada, ápice bilobado, con una quilla dorsal diminuta, margen entero; las del tallo principal; 5.5-14.5 x 0.5-1 cm; las de las ramificaciones; 2.5-10 x 0.4-1 cm. **Bráctea espatácea** ausente. **Inflorescencia** apical, racemosa, nutante; 5-7 cm de largo, en ramas jóvenes usualmente más pequeña; pedúnculo corto, terete, delgado; 1 cm de largo, ocasionalmente provisto de una bráctea triangular, acuminada, semejante a las florales; 7 mm de largo; raquis terete, delgado, recto. **Brácteas florales** mucho más cortas que el ovario, lanceoladas, acuminadas, abrazadoras; 2-5 mm de largo. **Flores** 15-22, simultáneas, resupinadas, de color variable, rosado amarillento, rosadas o amarillas, muy raramente pardo rojizas; fragancia fresca y dulce. **Ovario** terete, delgado, liso, no inflado; 8-15 mm de largo. **Sépalos** extendidos, libres, ovado elípticos, agudos, con una quilla dorsal, 3-nervados, margen entero, 8.5-11.5 [13] x 4-5.5 [7] mm; los **laterales** oblicuos. **Pétalos** extendidos, libres, ovados, agudos, 3-nervados, margen entero; 8-10 x 3-5 mm. **Labelo** unido a la columna de manera oblicua, entero, subreniforme, base truncada, ápice 4-lobulado, los lóbulos redondeados, el par central casi de la misma longitud que el par lateral, aunque comúnmente el par lateral más corto, margen eroso crenado; [7]8.3-12 x [9.3]12-16.5 mm; escalooso, provisto de 3-5 quillas generalmente cortas, la central desvaneciéndose hacia la parte media del labelo, el par lateral más corto, delgadas, laminares, erosas. **Columna** unida al labelo de manera oblicua, arqueada, con un pie de columna prominente; 4-6 mm de largo; la superficie ventral provista de un par de alas muy prominentes e involutas. **Clinandrio** corto, entero. **Antera** reniforme, 4-locular. **Polinios** 4, ovoides, caudículas suaves, granuladas. **Rostelo apical**, hendido. **Lóbulos laterales del estigma** no vistos. **Nectario** muy amplio y corto, formado por las alas y el pie de columna, sin penetrar el ovario, liso. **Cápsula** no vista.

Epiphytic or terrestrial, branching with age, erect herb. **Roots** basal, from the base of the main stem, occasionally from the base of some of the branches, fleshy, thick. **Stems** branching from the mature main stem, terete, straight, the main stem taller than the branches which are progressively shorter. **Leaves** 9-13 on the main stem, 4-8 on the branches, distributed towards the apical half of the stems, alternate, suberect; sheath tubular, striated, rugose; blade lanceolate to narrowly lanceolate, apex bilobed, with a minute dorsal keel, margin entire; those of the branches about equal to those of the main stem. **Inflorescence** apical, racemose, nutant. **Floral bracts** much shorter than the ovary, lanceolate, acuminate, the apical ones gradually shorter. **Flowers** 15-22, simultaneous, resupinate, pinkish, yellow-pink or yellowish colored, rarely reddish brown; fragrance fresh and sweet. **Ovary** terete, thin, smooth, not inflated. **Sepals** spreading, free, ovate-elliptic, acute, with a dorsal keel, 3-veined, margin entire; **laterals** oblique. **Petals** spreading, free, ovate, acute, 3-veined, margin entire. **Lip** obliquely united to the column, subreniform, base truncate, apex 4-lobed, the lobes rounded, about equal, the external pair frequently shorter, margin erose-crenate; ecallose, provided with 3-5 thin, laminar, erose keels, usually short, the mid-keel disappearing towards the middle of the lip, the laterals shorter. **Column** obliquely united to the lip, arched, with an prominent column-foot, ventrally provided with a pair of prominent, involute wings. **Clinandrium**-hood short, entire. **Rostellum** apical, slit. **Anther** reniform, 4-celled. **Nectary** very wide and shallow, formed by the wings and column-foot.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Most widespread species of the *Diothonea* Group, ranging on both sides of the Andes in Ecuador and the Cordillera Central in Colombia, between 2400 and 3530 m altitude. Flowering in November to June [August].

RECOGNITION: *Epidendrum gratissimum* belongs to the *Diothonea* Group and Subgroup which is characterized by the branching plants, linear-lanceolate to oblong, bilobed leaves, racemose, arching-nutant inflorescence, membranaceous flowers (rarely fleshy), the entire to 3-lobed, ecallose lip with the margin erose, without or with 1-10 thin, smooth to erose keels, the column completely to obliquely united to the lip, the anther reniform. The species is recognized by the long



inflorescence (5-7 cm), pinkish yellow, pink or yellowish colored flowers, the subreniform, apically 4-lobed lip with 3-5, laminar, erose keels and the column obliquely united to the lip, with a prominent column-foot not involute, without forming a sac, and involute column wings. *Epidendrum neoviridiflorum* Hágsater from the western slopes of the Andes, has green or burgundy-red flowers, with an entire, ovate-suborbicular lip, apically 4-lobed, 5 laminar, erose keels, at the base (running down the lip, the middle keel reaching about 3/4 of the lip) the lateral pair much reduced, with an prominent column-foot, not involute. *Epidendrum orthopterum* Hágsater & E.Santiago has a short inflorescence (2 cm long), a 3-lobed lip with 7 erose keels, and the column with a pair of straight, non involute wings.

CONSERVATION STATUS: DD. Data deficient.

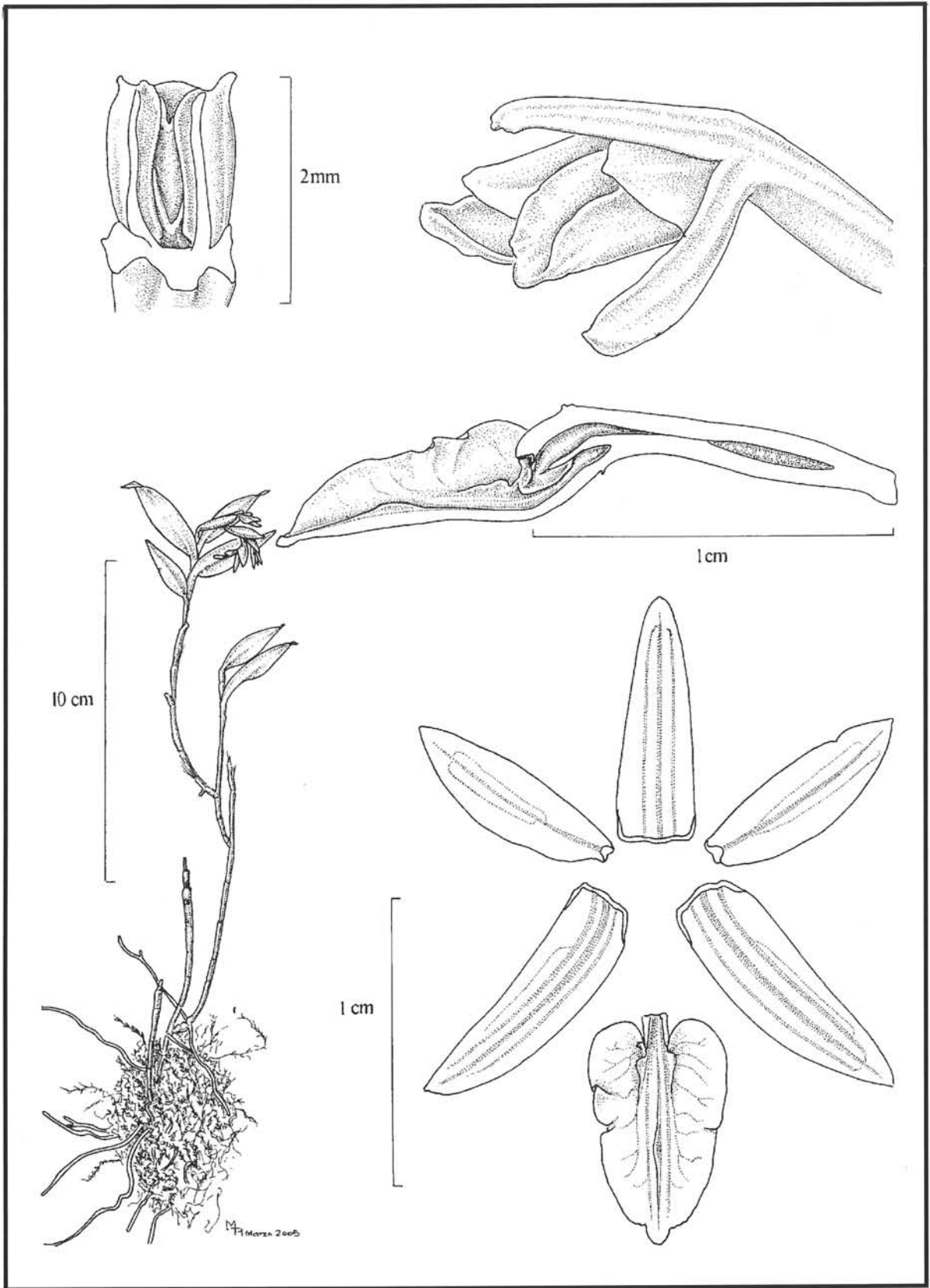
ETYMOLOGY: From the Latin *gratia*, graceful, agreeable, and the ending, *-issima*, the superlative, thus the most graceful.

Authors: E. Santiago & E. Hágsater

Illustrator: M. López R.

Editors: E. Hágsater & L. Sánchez S.

Herbario AMO Apartado Postal 53-123, 11320 México, D.F., MÉXICO ICONES ORCHIDACEARUM 8. 2006. Plate 838



EPIDENDRUM GYMNOCHLAMYS Hágsater & E.Santiago

Plate 839

EPIDENDRUM GYMNOCHLAMYS Hágsater et E. Santiago, sp. nov.

Type: PANAMA: Chiriquí: above Boquete, on trail to Pate Macho on continental divide, 1850-2100 m, 13 March 1988, *Gordon McPherson 12323*. Holotype: MO! (Illustration voucher).

Epidendro estrellensi Ames simile sed caulibus gracilioribus brevibus, foliis minoribus, inflorescentiae pedunculo ebracteato, segmentis floralibus subacutis, labello oblongo-ovato, petalis ellipticis, recedens.

Hierba epífita, simpodial, erecta, de crecimiento sucesivo lateral, donde cada tallo nuevo se origina de un entrenudo intermedio del tallo anterior, ca. 20 cm de alto. Raíces escasas, distribuidas a lo largo de los entrenudos basales de los tallos, delgadas, blancas, 0.5-1.2 mm de grosor. Tallos sencillos, tipo caña, teretes, delgados, cortos, erectos, la base arqueada, 6-9 x 0.8-0.26 cm; cubiertos en la mitad basal por vainas tubulares, ligeramente infladas en el ápice, escariosas, fibrosas con el tiempo, 1.0-1.6 cm de largo. Hojas 4-5, agrupadas hacia el ápice del tallo, alternas, articuladas, la basal ligeramente más pequeña; vainas tubulares, ligeramente infladas en el ápice (sin ser infundibuliformes), 5-13 x 1.7-2.3 mm; lámina angostamente elíptica, aguda, coriácea, margen entero, 2.5-3.5 x 0.6-1.0 cm. Bráctea espátacea ausente. Inflorescencia apical, arqueada, florece una sola vez, racemosa, corta, distica, laxa, 3 cm de largo; pedúnculo lateralmente comprimido, muy corto, desprovisto de brácteas, 5 mm de largo; raquis recto, oculto por las brácteas florales, 2.5 cm de largo. Brácteas florales mucho más largas que el ovario, cubriendo casi la mitad de la flor, progresivamente más cortas, ovadas, agudas, conduplicadas, 7-15 mm de largo. Flores 6, sucesivas, resupinadas, verde pálido teñidas de rojizo; sin datos de fragancia. Ovario corto, terete, delgado, recto, no inflado, liso, 6-9 mm de largo. Sépalos libres, entreabiertos, glabros, angostamente triangulares, 3-nervados, margen extendido, entero, 8.5-10 x 2.7-3.0 mm; el dorsal redondeado en el ápice; los laterales oblicuos, subagudos. Pétalos libres, entreabiertos, elípticos, oblicuos, agudos, 1-nervados, la nervadura ramificada hacia la mitad, margen extendido, entero, 8 x 2.5 mm. Labelo unido a la columna, conduplicado en posición natural, entero, oblongo ovado, cordado en la base, ápice redondeado con un apículo ancho, margen entero, 7.7 x 4.8 mm; bicalloso, los callos delgados, laminares, bajos; disco con 1 quilla, lisa, delgada, que se desvanece antes de llegar al ápice de la lámina. Columna arqueada, corta, gruesa, 2 mm de largo. Clinandrio corto, margen entero. Antera no vista. Polinios no vistos. Rostelo apical, hendido. Lóbulos laterales del estigma no vistos. Nectario sin penetrar el ovario, no inflado, liso. Cápsula no vista.

Epiphytic, sympodial, erect herb, with successive lateral growth, where each new stem originates from an intermediate internode of the previous stem. Roots scarce, distributed along the basal internodes of the stems, thin, white. Stems simple, cane-like, terete, thin, short, erect, the base arcuate; the basal half covered by tubular sheaths, slightly inflated towards the apex, scarios, fibrous with time. Leaves 4-5, aggregate towards the apex of the stem, alternate, articulate, the basal leaf somewhat smaller; sheaths tubular, slightly inflated towards the apex (without being infundibuliform); blade narrowly elliptic, acute, coriaceous, margin entire. Inflorescence apical, arching, flowering only once, racemose, short, distichous, lax-flowered; peduncle slightly compressed, very short, lacking bracts; rachis straight, hidden by the floral bracts. Floral bracts much longer than the ovary, covering nearly half the flower, progressively shorter, ovate, acute, conduplicate. Flowers 6, successive, resupinate, pale green tinged reddish. Ovary short, terete, thin, straight, not inflated, smooth. Sepals free, partly spreading, glabrous, narrowly triangular, 3-veined, margin spreading, entire; the dorsal sepal rounded at the apex, the lateral sepals oblique, subacute. Petals free, partly spreading, elliptic, oblique, acute, 1-veined, the vein branching near the middle, margin spreading, entire. Lip united to the column, conduplicate in natural position, entire, ovate-oblong, base cordate, the apex rounded with a wide apicule, margin entire; bicallose, the calli thin, laminar, low; disc with one smooth, narrow keel that vanishes before the apex of the lip. Column arcuate, short, thick. Clinandrium-hood short, margin entire. Nectary without penetrating the ovary, not inflated, smooth.

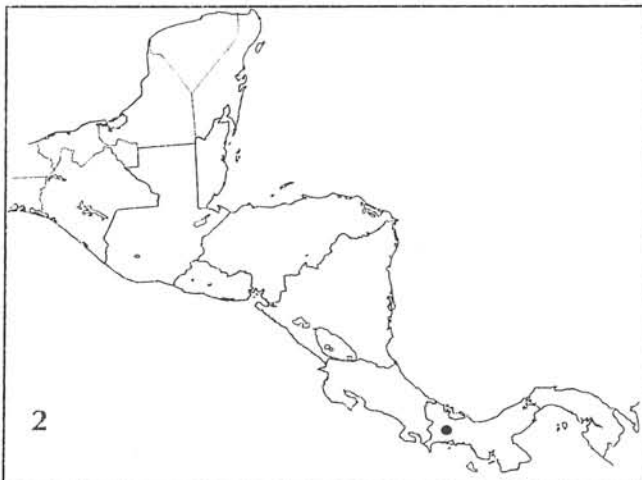
OTHER SPECIMEN: None seen.

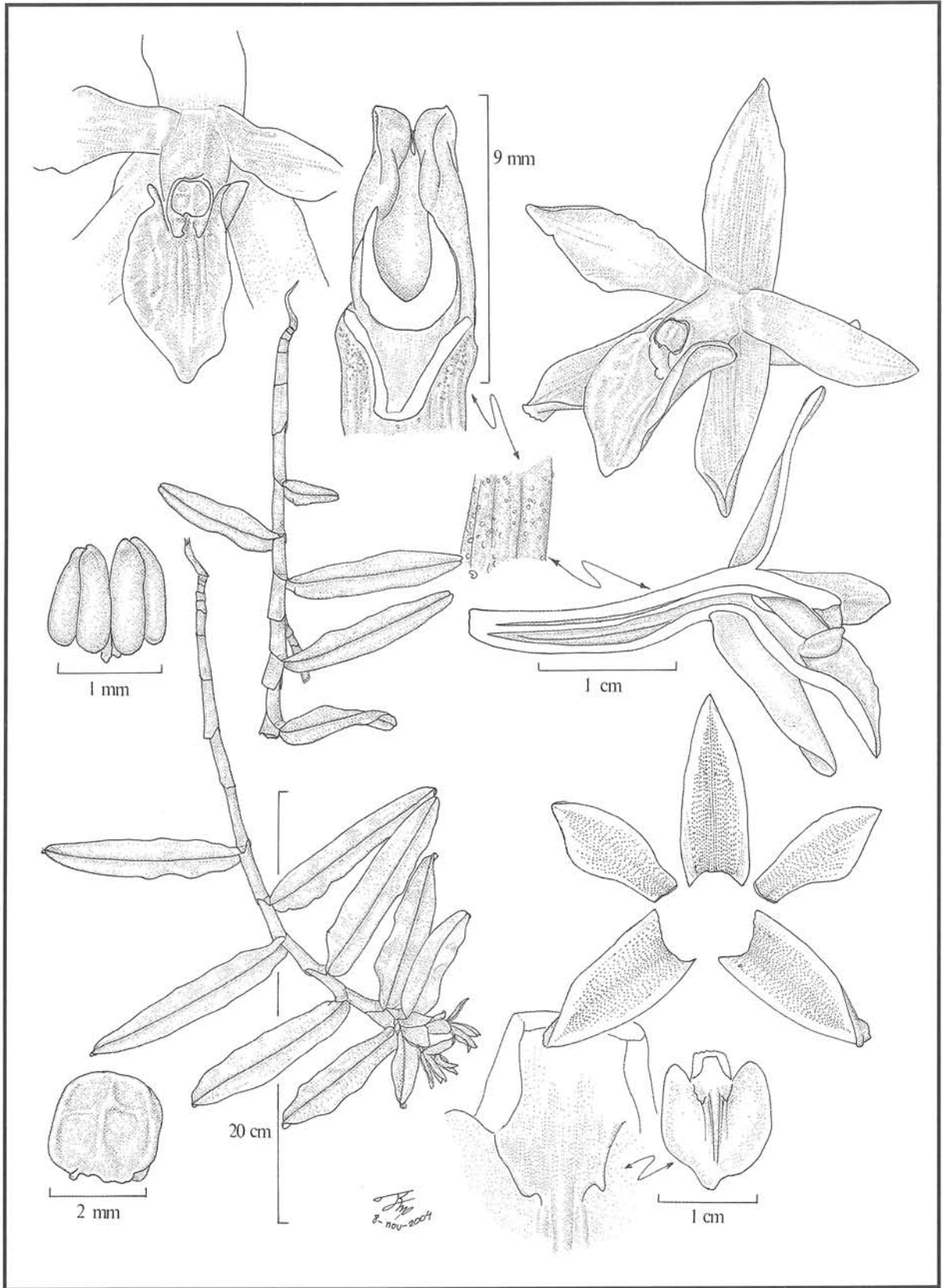
DISTRIBUTION AND ECOLOGY: Known only from the type, from western Panama along the continental divide. Epiphyte, at 1850-2100 m altitude. Flowering in March.

RECOGNITION: *Epidendrum gymnochlamys* belongs to the Polychlamys Group, Polychlamys Subgroup which is characterized by the successive lateral growths produced from the middle of the previous growth, few leaves aggregate towards the apex of the stems, the distichous, apical inflorescence with prominent, conduplicate, acute, glumaceous floral bracts. The species is distinguished by the thin, erect stems, small, narrowly elliptic leaves (2.5-3.5 cm long), short, lax inflorescence with 6, simultaneous flowers, the naked peduncle without bracts, the partly spreading subacute, triangular sepals, (8.5-10 mm long), the ovate-oblong lip, and the uninflated ovary without a spur. It is somewhat similar to *E. estrellense* Ames, which has somewhat flexuous stems towards the apex, larger elliptic-lanceolate leaves (8-12 cm long), the peduncle of the inflorescence covered by 7 bracts, the rounded, partly-spreading sepals (10 mm long) and the suborbicular-cordate lip. *Epidendrum sigmoideum* Hágsater has straight, elongate stems, elliptic leaves (5.5-7.5 cm long), the peduncle of the inflorescence completely covered by 1-3 bracts, rounded, spreading sepals (8.5-10 mm long), a bilobed, reniform lip and the sigmoid ovary with a prominent vesicle.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Greek *γυμνος* naked, unclad, stripped, and *χλαμως*, military cloak, mantle, in reference to the lack of bracts on the peduncle of the inflorescence which are generally characteristic of the Polychlamys Group of species, and facilitate its recognition.





EPIDENDRUM HABERI HÆgsater & L.SÆnchez

THE GENUS EPIDENDRUM PART 5

Plate 840

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM HABERI Hágsater et L.Sánchez, *sp. nov.*

Type: COSTA RICA: Alajuela: Reserva Monteverde, Río Peñas Blancas, 10°20' N 84 43' W, 820 m, *William Haber & Eladio Cruz 7245*. Holotype: INB! Isotypes: AMO! (Illustration voucher) F 2127642!

Epidendro rafaél-lucasii Hágsater simile sed floribus binis albis, ovario minute verrucoso, sepalis triangulari-ovatis, petalis elliptico-dolabriformibus obliquis, columna brevior, diversum.

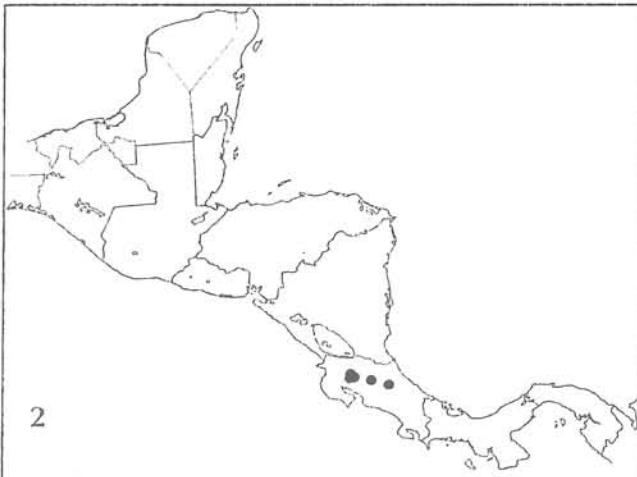
Hierba epífita, colgante, simpodial, con crecimiento sucesivo lateral, sin tallo principal. **Raíces** basales del tallo inicial, carnosas. **Tallo** recto, terete, producido de un entrenudo intermedio del tallo anterior, 17-25 x 0.28-0.38 cm. **Hojas** 9-10, desiguales, distribuidas en la mitad apical del tallo; vaina tubular, terete, cubriendo totalmente el entrenudo correspondiente del tallo, 15-30 x 5-8 mm; lámina oblongo elíptica a lanceolada, emarginada, mucronada en el ápice, subcoriácea, 3-11 x 1.5-2 cm. **Bráctea espatácea** ausente. **Inflorescencia** apical, florece una sola vez, dística, corta, recta, 3-4 cm de largo; pedúnculo con 1 bráctea basal conduplicada, aguda, subcoriácea, 18-20 mm. **Brácteas florales** prominentes, conduplicadas, agudas, ligeramente más cortas que el ovario, 1.5-1.8 x 1.8-2 mm. **Flores** 2, simultaneas, blancas; fragancia no registrada. **Ovario** finamente verrugoso, terete, no inflado, 19-20 mm de largo. **Sépalos** extendidos, triangular-ovados, subcoriáceos, agudos, dorsalmente carinados cerca del ápice, plurinervados, margen entero, revuelto, 15-16 x 6-6.3 mm; los **laterales** oblicuos, entreabiertos, rectos. **Pétalos** entreabiertos, elíptico dolabriformes, oblicuos, agudos, subcoriáceos, plurinervados, margen entero, revuelto, 15-16 x 5-5.5 mm. **Labelo** unido a la columna, entero, subcuadrado, los lados algo abrazando la columna, subcoriáceo, 12-13.5 x 9-10 mm; callo una plataforma, prolongándose en una quilla central prominente. **Columna** recta, gruesa, corta, 6.0-6.5 mm de largo. **Clinandrio** corto, margen entero. **Antera** subcuadrada, cóncava al frente, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, el par exterior ligeramente más corto; caudículas suaves y granulosas; viscidio semilíquido. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** cortos, de 1/3 del largo de la cavidad estigmática. **Nectario** muy profundo, penetrando todo lo largo del ovario, liso. **Cápsula** no vista.

Epiphytic, pendent herb with sympodial lateral successive growth, without main stem. **Roots** basal, from the initial stem, fleshy. **Stem** straight, terete, produced from an intermediate internode of the previous stem. **Leaves** 9-10, unequal, distributed throughout the apical half of the stem; sheath tubular, terete, covering all the corresponding internode; blade oblong-elliptic to lanceolate, emarginate, apex mucronate, subcoriaceous. **Inflorescence** apical, flowering only once, distichous, short, straight; peduncle with a basal, conduplicate, subacute, subcoriaceous bract, somewhat longer than the floral bracts. **Floral bracts** prominent, conduplicate, acute, somewhat shorter than the ovary. **Flowers** 2, simultaneous, white. **Ovary** minutely verrucose, terete, not inflated. **Sepals** spreading, triangular-ovate, subcoriaceous, acute, dorsally carinate near the apex, many-veined, margin entire, revolute; the **lateral sepals** oblique, partly spreading, straight. **Petals** partly spreading, elliptic-dolabriform, oblique, acute, subcoriaceous, many-veined, margin entire, revolute. **Lip** united to the column, entire, subquadrate, the sides embracing the column, subcoriaceous; callus a platform prolonged into a central, prominent keel. **Column** straight, thick, short. **Clinandrium-hood** short, margin entire. **Anther** subquadrate, concave in front, 4-celled. **Pollinia** 4, obovoid, laterally compressed, the outer pair somewhat shorter; caudicles soft and granulose; viscidium semiliquid. **Rostellum** apical, slit. **Nectary** very deep, penetrating the whole length of the ovary, smooth.

OTHER SPECIMENS: COSTA RICA: Alajuela: Río Peñas Blancas, 900 m, 13 VII 1988, *Bello 171*, INB! MO! Laguna de Pocosol, Río Peñas Blancas, 800 m, 4 VII 1989, *Bello 1001*, INB! SEL! Quebrada Azufre, Río Peñas Blancas, 750 m, 5 VII 1989, *Bello 1009*, INB! Finca Eladio, Río Peñas Blancas, 850 m, 5 VII 1989, *Bello 1013*, INB! MO! Heredia: Reserva Rara Avis, 550-700 m, *Martén 946*, MO! US! Limón: Guápiles, 300-500 m, 22 III 1924, *Standley 37481*, AMES!

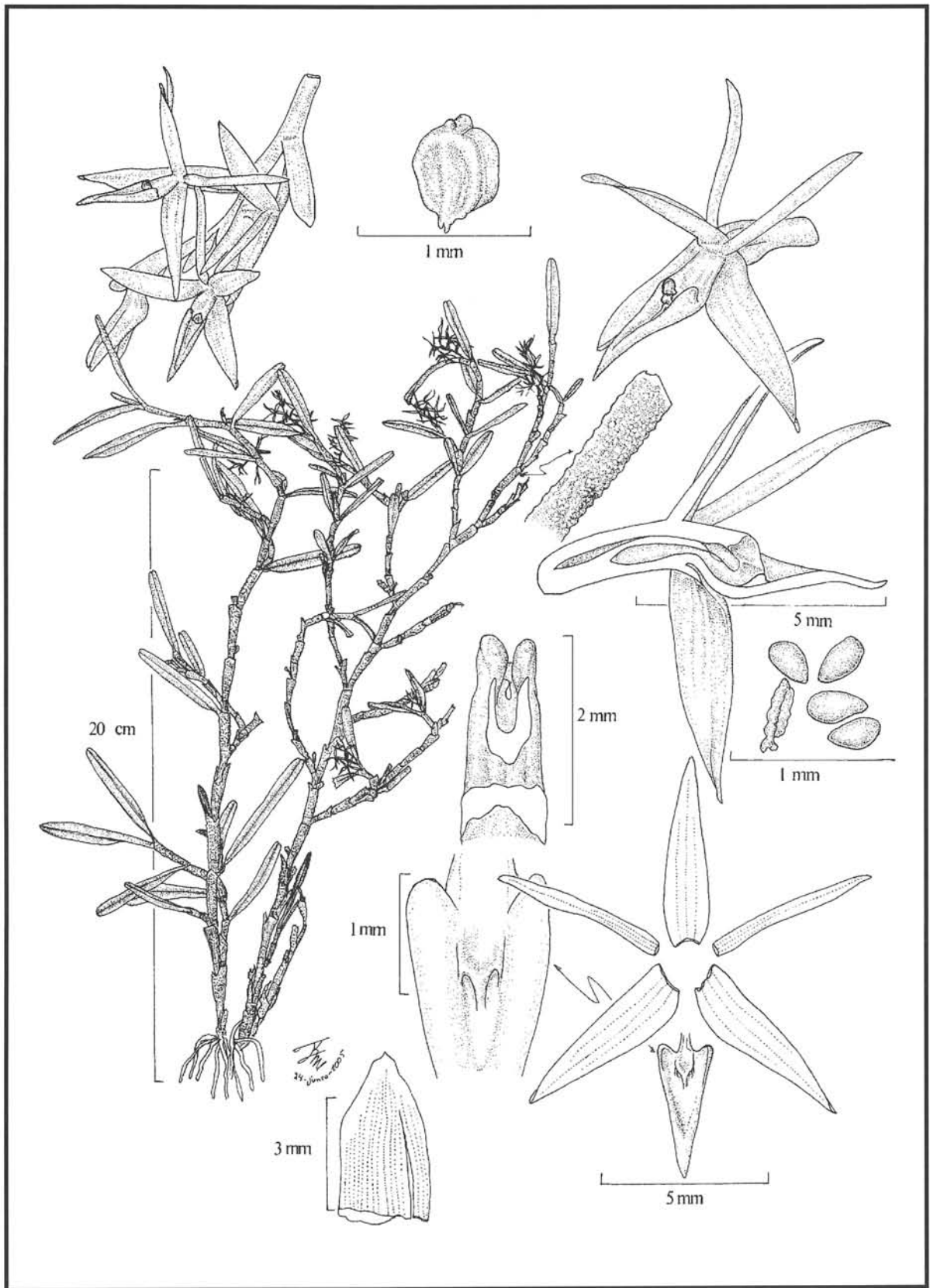
DISTRIBUTION AND ECOLOGY: Endemic to Costa Rica, on the Atlantic slope of the Cordillera de Guanacaste and the western portion of the Cordillera Central, 300-900 m altitude. Epiphyte. Flowering in June-July.

RECOGNITION: *Epidendrum haberi* belongs to the Ramosum Group which is characterized by the monopodial, branching stems, the distichous inflorescence, and the single callus, and the Mirabile Subgroup which has pendent plants, successive stems produced from a middle internode of the previous stem, without any evident main stem. The species is recognized by the short stems, 2-flowered raceme, the white flowers, verrucose ovary, triangular-ovate sepals and oblique, elliptic-dolabriform, many-veined petals, subquadrate lip, and short column. It has been confused with *Epidendrum rafaél-lucasii* which grows at somewhat higher altitude, flowers mainly in August and September, has a 2-4 flowered raceme with greenish yellow, lemon-scented flowers, an unornamented ovary, elliptic sepals, oblanceolate petals, triangular-cordiform lip and a longer column, 10 mm long. *Epidendrum cocoense* Hágsater from Cocos Island has a 3-flowered raceme with lemon-yellow flowers, long floral bracts, 7-veined sepals, narrowly elliptic-lanceolate, 5-veined petals, and an elongate lip with a "Y"-shaped callus. *Epidendrum jimenezii* Hágsater has somewhat laterally flattened stems, ovary slightly ventrally inflated toward the middle, sepals narrowly ligulate-obovate, 11-veined, petals ligulate, 3-veined, cordiform lip and the callus "Y"-shaped. *Epidendrum mirabile* Ames & C. Schweinf. has longer plants and larger, very attractive, purple flowers, the sepals 30-36 mm long, ovate-elliptic lip.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: This species is dedicated to William A. Haber, who has worked in the Monteverde Reserve for years and collected the type.



EPIDENDRUM HORNITENSE Hágsater & L.Sánchez

Plate 841

EPIDENDRUM HORNITENSE Hágsater et L.Sánchez, *sp. nov.*

Type: PANAMA: Chiriquí: Camp Hornito, Fortuna dam site, 8°44'N 82°13'W, 1000-1200 m, 12 August 1976, **Robert L. Dressler 5326**. Holotype: AMO 2324! (Illustration voucher). Isotype: PMA!

Epidendrum monophlebium Hágsater simile sed petalis trinervatis, labello anguste triangulari, ad basem cordato, ad apicem carnosum, differens.

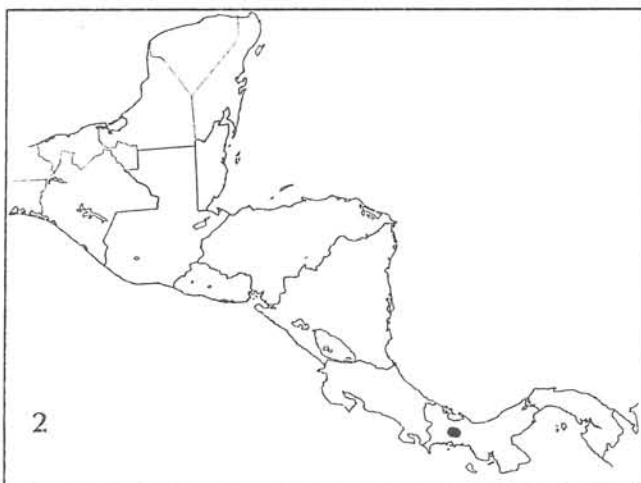
Hierba epífita, monopodial, ramificada, 25-30 cm ó más de alto. **Raíces** basales, filiformes, 0.5-0.8 mm de grosor. **Tallos** ramificados, tipo caña, teretes, cubiertos por vainas rugosas, el principal 23-30 x 0.15-0.2 cm; los tallos secundarios 6-10 x 0.1-0.13 cm; los tallos terciarios más cortos, producidos de los secundarios, 1.5-2.0 x 0.1-0.12 cm. **Hojas** numerosas, en los tallos principal, secundario y terciarios; 6-8 en los secundarios, 1-2 hojas en los tallos terciarios; vaina foliar tubular, rugosa, 0.5-1.5 cm de largo; láminas foliares articuladas, lineal elípticas, oblicuamente bilocadas, las del tallo principal 3.5-5 x 0.40-0.48 cm, las de los tallos secundarios, 2-4 x 0.35-0.45 cm, las de los tallos terciarios 1.8-3 x 0.25-0.28 cm. **Bráctea** espátacea ausente. **Inflorescencia** apical de los tallos secundarios y terciarios, racemosa, dística, erecta a arqueada, 1.5-2 cm de largo; pedúnculo muy corto, 1.5-2 mm de largo; el raquis en zigzag. **Brácteas florales** más largas que el ovario, conduplicadas, ovadas, obtusas a agudas, 4.3-4.5 x 2-2.2 mm. **Ovario** terete, ligeramente inflado hacia el ápice, liso, 3.0-3.2 x 0.4-0.6 mm. **Flores** 2-6, simultáneas, no resupinadas, verde amarillento pálido, fragancia no registrada. **Sépalos** glabros, libres, entreabiertos, lanceolados, acuminados, 3-nervados, margen entero, extendido, subcoriáceos, 4.2-4.5 x 0.9-1.1 mm; los laterales oblicuos, ápice con una carina dorsal pequeña, cortamente aristados. **Pétalos** glabros, libres, reflexos, lineares, agudos, 3-nervados, los laterales cortos, margen entero, extendido, 4.0-4.2 x 0.05-0.1 mm. **Labelo** unido a la columna, entero, coriáceo, acanalado en posición natural, angostamente triangular, base cordada, ángulos basales redondeados, ápice carnosum, 3.0-3.2 x 1.1-1.3 mm; callo laminar, sulcado en la base, tridentado y terminando en 3 quillas muy cortas. **Columna** corta, recta, 1.2-1.4 mm de largo. **Clinandrio** reducido, entero. **Antera** subesférica, con un pico apical agudo, 4-locular. **Polinios** 4, obovoides, caudículas suaves y granuladas, de longitud semejante a la de los polinios. **Lóbulos laterales del estigma** cortos, de 1/3 de la cavidad estigmática. **Nectario** penetrando 1/2 del ovario, ligeramente inflado, liso. **Cápsula** no vista.

Epiphytic, monopodial branching herb. **Roots** basal, filiform, thin. **Stems** branching, cane-like, terete, covered by rugose sheaths, the evident main stem tall, with shorter secondary stems which branch into very short tertiary flowering branches. **Leaves** numerous on the main stem, 6-8 on the secondary stems and 1-2 on the flowering stems, and these somewhat over half the size of those of the main stem; sheaths tubular, rugose; blade articulate, linear-elliptic, apex obliquely bilobed. **Inflorescence** apical from the secondary and tertiary or flowering stems, racemose, distichous, erect to arching; peduncle very short; rachis zigzag. **Floral bracts** longer than the ovary, conuplicate, ovate, obtuse to acute. **Ovary** terete, slightly inflated towards the apex, smooth. **Flowers** 2-6, simultaneous, non-resupinate, pale yellowish green. **Sepals** glabrous, free, partly spreading, lanceolate, acuminate, 3-veined, margin entire, spreading, subcoriaceous; the lateral sepals oblique, dorsal keel short aristate. **Petals** glabrous, free, reflexed, linear, acute, 3-veined, the lateral veins short, margin entire, spreading. **Lip** united to the column, entire, coriaceous, channel-shaped in natural position, narrowly triangular, base cordate, the basal angles rounded, apex fleshy; callus laminar, sulcate at the base, apex tridentate and ending in 3 very short keels. **Column** short, straight. **Anther** sub spherical, with a short apical, acute beak, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose, slightly longer than the pollinia; viscidium semi liquid. **Nectary** penetrating half the ovary, slightly inflated, smooth.

OTHER SPECIMENS: PANAMA: Chiriquí: Fortuna Dam area, along trail from road across Río Hornito, 1100-1250 m, 7 VII 1988, *McPherson 12850*, AMO! MO! (Illustration, AMO!)

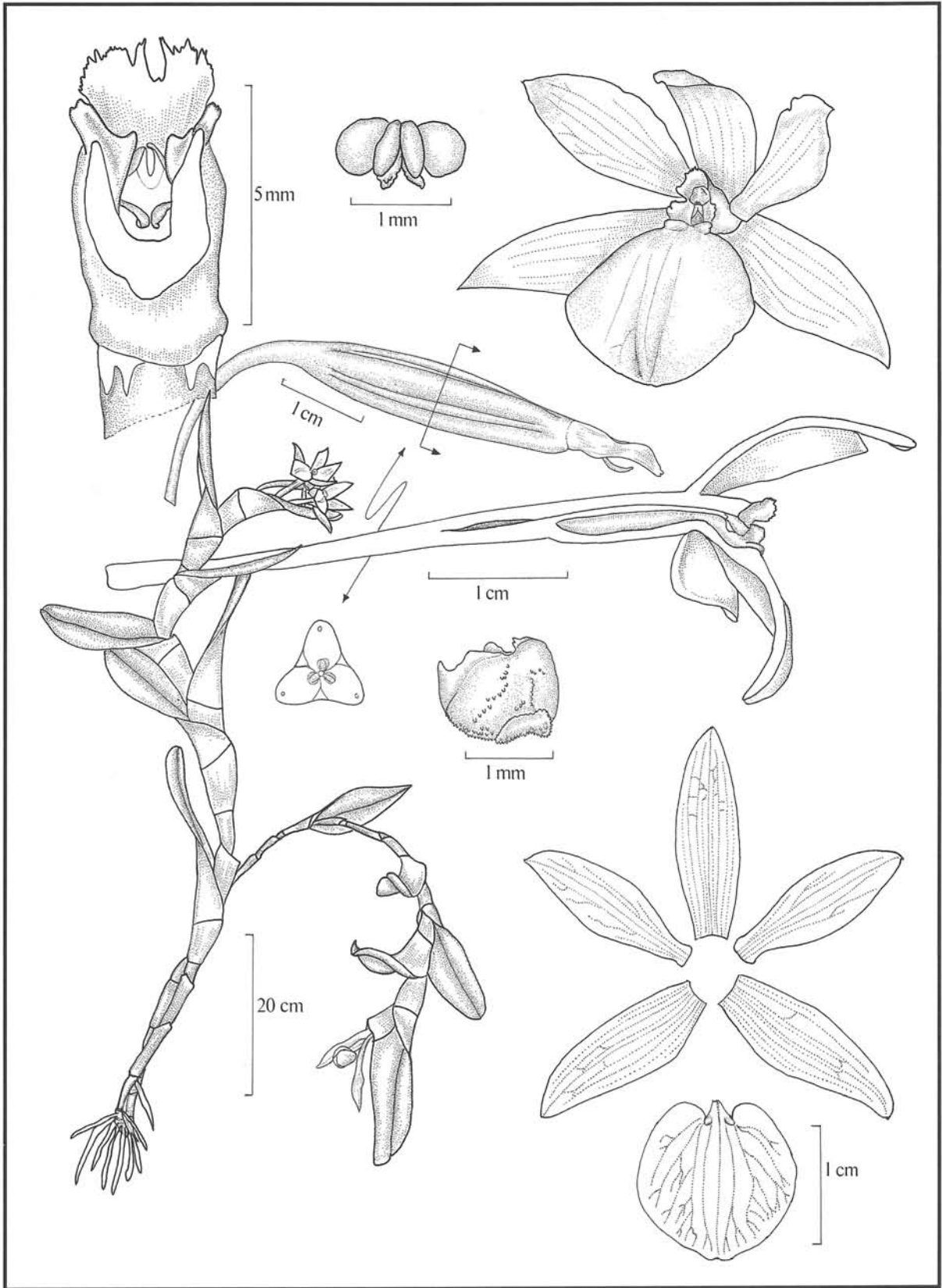
DISTRIBUTION AND ECOLOGY: Known only from western Panama, from the area around Cerro Hornito and Cerro Fortuna. Epiphyte in wet forest at 1000-1250 m altitude. Flowering in August.

RECOGNITION: *Epidendrum hornitense* belongs to the Ramosum Group which is characterized by the monopodial, branching stems, the spike-like, distichous inflorescence, and the single callus, and the Rugosum Subgroup which has branching habit with few-flowered inflorescences from short, secondary stems, the leaf-sheaths rugose. The species has teretes stems, 3-veined, lanceolate sepals, linear, 3-veined petals (the lateral veins short), a narrowly triangular, acute lip, cordate basally and fleshy thickened towards the apex. It is similar to *Epidendrum monophlebium* Hágsater from central Costa Rica, which has similarly small flowers, 1-veined petals, the lip truncate at the base, apically acuminate and not fleshy thickened. *Epidendrum sanchoi* Ames has white to greenish white, somewhat larger flowers (sepals 4.5-6.5 mm long), 5-veined, acute sepals with a prominent dorsal, apical keel, and the triangular, acuminate lip 4-5 mm long, ecallose, the disc with 3 thickened nerves. *Epidendrum orthodontum* Hágsater & L.Sánchez, has larger flowers, the 5-veined sepals 9-12 mm long, a 3-lobed lip 7-9 mm long, and a thick column with an erect apical tooth and a pair of lateral subquadrate wings.



CONSERVATION STATUS: DD: Data deficient.

ETYMOLOGY: In reference to the locality of Cerro Hornito, near which the type specimen was collected.



EPIDENDRUM HUNTERIANUM Schltr.
THE GENUS EPIDENDRUM PART 5

EPIDENDRUM HUNTERIANUM Schltr., Repert. Spec. Nov. Regni Veg. Beih. 17: 33, 1922.

Type: PANAMA: Im Überschwemmungsgebiete des Gatun-Sees, C. W. Powell 29. Holotype: B (destroyed). Lectotype (designated by Christenson, 1991): K! Drawing AMES 26778!

Hierba epífita, cespitosa, simpodial, 25-38 cm de alto. **Raíces** basales, filiformes, 0.5-1 mm de grosor. **Tallos** sencillos, tipo caña, lateralmente comprimidos, ancipitosos, 18-32 x 0.3-0.7 cm. **Hojas** 5-8, distribuidas a lo largo del tallo; vaina lateralmente comprimida, ancipitosa, lisa, 2.8 cm de largo; lámina anchamente elíptica a ovada, ápice retuso, margen entero, lisa, coriácea, 5.5-11 x 2.5-5.5 cm. **Inflorescencia** apical en el tallo maduro, florece una sola vez, sésil. **Brácteas florales** mucho más cortas que el ovario, triangulares, agudas, 3.7-4 x 1.2-1.5 mm. **Flores** 4-6, resupinadas, simultáneas, verdes. **Ovario** inflado, formando una vesícula detrás del perianto, liso, no ornamentado, triquetro, 35 x 2.0-2.5 mm. **Sépalos** subcoriáceos, glabros, extendidos, libres, agudos; el dorsal elíptico, 16-17.8 x 3.5-4 mm; los laterales oblicuamente lanceolados, 17-17.5 x 3.7-4.9 mm. **Pétalos** subcoriáceos, extendidos, elípticos, agudos, 3-nervados, margen entero, extendido, 15-15.5 x 3.5-4 mm. **Labelo** unido a la columna, suborbicular cordiforme, margen entero, ápice apiculado, 13.5-14.3 x 13.2-14.2 mm; bicalloso, callos muy pequeños en la base. **Columna** recta, 5.5-5.7 x 2-2.5 mm; con procesos laterales prominentes, ligeramente erosos. **Clinandrio** prominente, entero, dentado, 1.5-2 mm de largo. **Antera** subsférica, con una punta roma al frente, 4-locular. **Polinios** 4, semiovalados, lateralmente comprimidos, subiguales; caudículas suaves y granuladas, semejantes al largo de los polinios; viscidio viscoso, translúcido. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** prominentes, 1/2 del largo de la cavidad estigmática. **Nectario** penetrando 1/2 del ovario, no ornamentado. **Cápsula** triangular, 36 x 10 mm.

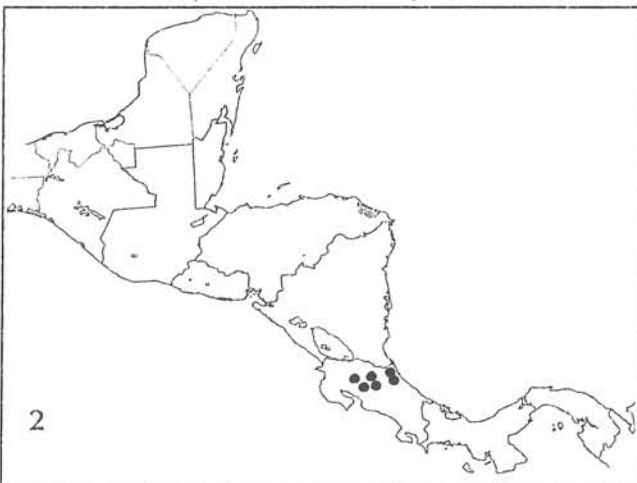
Epiphytic, caespitose, sympodial herb. **Stems** laterally compressed, ancipitose. **Leaves** 5-8, elliptic to ovate, retuse, entire, unornamented. **Inflorescence** apical, sessile, peduncle reduced. **Floral bracts** shorter than the ovary, triangular, acute. **Flowers** 4-6, resupinate, simultaneous, green. **Ovary** ventrally inflated, triquetrus, unornamented. **Sepals** subcoriaceous, glabrous, spreading, free, acute, 7-veined, margin entire; **dorsal sepal** elliptic; **lateral sepals** obliquely lanceolate. **Petals** subcoriaceous, elliptic, acute, entire, 3-veined. **Lip** united to the column, suborbicular-cordiform, entire, apiculate; bicallose, the calli small. **Column** straight, with prominent lateral erose processes. **Clinandrium-hood** prominent, dentate. **Anther** subspheric, 4-locular. **Pollinia** 4, semiovalate, laterally compressed, subequal; caudicles soft and granular; viscidium viscous, translucent. **Rostellum** subapical, slit. **Lateral lobes of stigma** prominent, 1/2 of the stigmatic cavity. **Nectary** penetrating 1/2 of the ovary, unornamented. **Capsule** triangular.

OTHER SPECIMENS: COSTA RICA: Vara Blanca, 7 VII 1987, Boyer 5, AMO! Alajuela: Without locality, 08 III-VIII 1935, Valerio 296, CR! F! Reserva Biológica Monteverde, Río Peñas Blancas, Laguna de Poco Sol, 700 m, 14 XII 1989, Bello 1644, INB! MO! Nuevo Arenal-San Rafael Guatusos, Km 13.8 pasando Cabanga, 300 m, col. 26 I 1988, pressed 3 VII 1991, Hágsater 9484, AMO! pressed 9 IX 1991 AMO! pressed 25 VI 1992 AMO! pressed 28 IX 1992 AMO! pressed 12 XI 1993 AMO! pressed 30 V 2000 AMO! Ibid. pressed 7 VI 1991, 9485 AMO! (Illustration voucher) pressed 26 VI 1991, AMO! San Carlos Cordillera de Tilarán, Falda Norte del Volcán Arenal, Camino a Tabacón, 500-600 m, 18 I 1994, Lepiz 135, INB! San Carlos Llanura de San Carlos, en la cuenca del Río Hule, por Río Cuarto, 375 m, 10 V 1995, Morales 4096, AMO! 3 1/2 Km west of Fortuna, 2 1/2 km NW of New Volcan Arenal along its sloping base, 1500 m, 5 VIII 1972, Taylor 11535, MO! NY! US! Heredia: La Virgen, Sarapiquí, 850 m, 15 IV 1978, Todzia 229, CR! Limón: Cerro Coronel, E of Río Zapote, 10-11 m, 24 I 1986, Douglas 23933, INB! Parque Tortuguero, Estación Cuatro Esquinas, 800 m al Sur de la casa-estación, a orillas de la Laguna de Tortuguero, 2 m, Robles 1386, MO! SEL! Lomas de Sierpe, 5 km Noreste de La Aurora, Guápiles, límite sur Parque Nacional Tortuguero, junto al Río Sierpe, 30 m, 10 XII 1988, Robles 2256, MO! Cartago: Alto de La Estrella, 26 III 1924, Standley 39589, AMES! PANAMA: Chiriquí: Boquete, Bajo Mono, 1000-2000 m, 24 III 1977, D'Arcy 11078, MO! Boquete, just above Bajo Chorro, 1000-2000 m, 24 III 1977, D'Arcy 11093, MO! Bajo Mono and Río Caldera, NW of Boquete, 6400 ft., 20 III 1979, D'Arcy 12746, MO! Boquete, end of road at Horqueta, NW of Boquete, 7400 ft [2260 m], 19 III 1969, Hammel 6536, MO! Cerro Punta, road to Cerro Punta National Park from Alto Quiel and Boquete, 1850 m, 16 I 1986, McPherson 8043, MO! Colón: Río Guanche, 16 XI 1975, D'Arcy 9709, SEL! Achioté, pressed 1 XII 1973, Dressler s.n., AMO!

OTHER RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Endemic to the Atlantic slopes of Costa Rica and Panama. Epiphyte in cloud forest, from 10 to 2200 m altitude. Flowering from March to December.

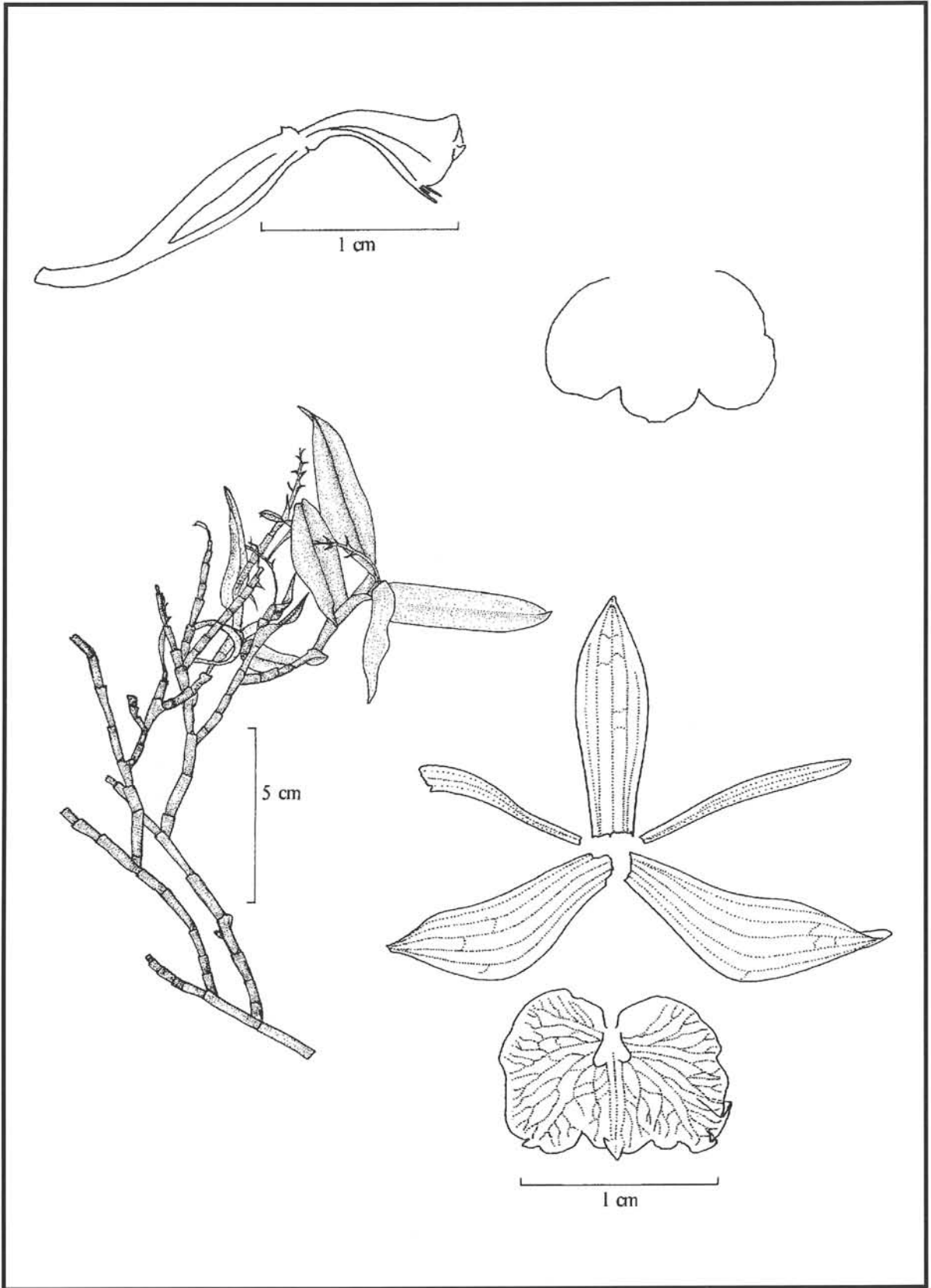
RECOGNITION: *Epidendrum hunterianum* belongs to the Difforme Group which is characterized by the caespitose, sympodial plants, fleshy, pale green to glaucous leaves, apical inflorescence, sessile, rarely with a short peduncle, one-flowered to corymbose, without spatheaceous bracts, fleshy, green to yellowish-green rarely white flowers. The species can be recognized by its laterally compressed, ancipitose stems, 4-6 flowers with inflated and triquetrus ovary, lip suborbicular-cordiform, entire, apiculate, column with prominent lateral, erose processes and a prominent, dentate clinandrium-hood. It is similar to *Epidendrum vulgoamparoanum* Hágsater & L.Sánchez, which has 1 to 5 flowers, a terete ovary, oblanceolate petals, the lip reniform to obscurely 3-lobed, with the midlobe emarginate and the clinandrium-hood fimbriate. *Epidendrum romero-castannedae* Hágsater & L.Sánchez from the inland hills around the Golfo del Darién in eastern Panama and northern Colombia, has narrower leaves, smaller flowers, a terete ovary, the lip obscurely 3-lobed, reniform, with the base deeply cordate, covered with thickened, radiating veins, and the margin slightly undulate. *Epidendrum apaganum* Mansf. from Peru, has 3-5 flowers, a terete ovary and a 3-lobed lip.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In honor of Abel Aken Hunter (-1936), postmaster of Balboa, and friend of Charles Powell, and his successor as director of the Tropical Station of the Missouri Botanical Garden.

REFERENCES: Christenson, E. A., 1991. Mesoamerican Orchid Studies II: Powell's Panamanian Orchidaceae. Lindleyana 6(3): 127.



EPIDENDRUM INCOMPTOIDES Ames, F.T.Hubb. & C.Schweinf.

Plate 843

EPIDENDRUM INCOMPTOIDES Ames, F.T.Hubb. & C.Schweinf. Bot. Mus. Leaflet. 3: 71. 1935.

Type: MÉXICO: [Chiapas:] Mts. near Fenía [Rancho Fénix, al este de la Hda. Monserrate, 16°33'N 94°00'W (Sousa 1969)], May, on Oak, *C. A. Purpus 299*. Holotype: US 1319026! (Photograph MEXU! Illustration voucher of flower, AMO!) Isotype: AMES 30476!

Hierba epífita, simpodial, erecta, donde cada tallo nuevo se origina de un entrenudo intermedio del tallo anterior, de ca. 25 cm de alto. **Raíces** basales en el tallo inicial, carnosas, gruesas, blanco cremosas. **Tallos** sencillos, tipo caña, teretes, rectos, cortos, 3.0-6.0 x 0.2-0.35 cm. **Hojas** 2-5, agrupadas en el ápice de los tallos, articuladas, alternas, erecto extendidas; vainas tubulares, ligeramente infladas sin llegar a ser infundibuliformes, ca. 10 mm de largo; lámina oblongo elíptica, aguda, subcoriácea, margen entero; 3.8-5.5 x 0.8-1.3 cm. **Bráctea** espátácea ausente. **Inflorescencia** apical, florece una sola vez, racemosa, ligeramente arqueada, 3 cm de largo; pedúnculo delgado, ancipitoso, recto, 1.0 cm de largo; raquis, corto, terete, delgado, subfractiflexo, 2 cm de largo. **Bráctea floral** de 1/3 del largo del ovario, linear lanceoladas, acuminadas, abrazadoras, las apicales gradualmente más cortas, 5 mm de largo. **Flores** 6-8, sucesivas, unas 4 llegan a estar abiertas de manera simultánea, resupinadas, carnosas, pardo amarillentas; sin datos de fragancia. **Ovario** terete, delgado, ligeramente inflado en los 2/3 apicales, liso, 13 mm de largo. **Sépalos** libres, extendidos, oblanceolados, agudos, 5-nervados, margen extendido, entero, 12-14 x 4.0-4.3 mm; los laterales oblicuos, con una quilla dorsal prominente. **Pétalos** libres, linear oblanceolados, agudos, 1-nervados, la nervadura ramificada desde cerca de la base dando la apariencia de ser 3-nervados, margen extendido y entero, 11 x 1.0 mm. **Labelo** unido a la columna, entero, reniforme, cordado en la base, 3-lobado en el ápice, 6.0 x 12.5 mm; el par de lóbulos laterales apicales subovoideos, redondeados; el lóbulo medio hemiorbicular, diminutamente apiculado; bicalloso, los callos subglobosos, algo lateralmente aplanados; con 3 quillas bajas, delgadas, lisas, alargada hasta el ápice de la lámina. **Columna** delgada en la base y más ancha hacia el ápice, ligeramente arqueada hacia arriba, 7-8 mm de largo. **Clinandrio** corto, margen entero. **Antera** reniforme, 4-locular. **Polinios** 4, obovoideos, lateralmente comprimidos; caudículas suaves y granuladas, tan largas como los polinios. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** no vistos. **Cápsula** no vista.

Epiphytic, simpodial, erect herb, where the new stem originates from a middle internode of the previous stem. **Roots** basal, from the initial stem, fleshy, thick. **Stems** simple, cane-like, terete, straight, short. **Leaves** 2-5, aggregated towards the apex of the stems, articulate, alternate, erect-spreading; sheaths tubular, slightly inflated; blade oblong-elliptic, acute, subcoriaceous, margin entire. **Inflorescence** apical, flowers only once, racemose, slightly arching; peduncle thin, ancipitose, straight; rachis short, terete, thin, somewhat zigzag. **Floral bracts** about 1/3 of length of the ovary, linear-lanceolate, acuminate, the apical ones gradually shorter. **Flowers** 6-8, successive, some 4 open at one time, resupinate, fleshy, yellowish brown. **Ovary** terete, thin, slightly inflated along the apical 2/3, smooth. **Sepals** free, spreading, oblanceolate, acute, 5-veined, margin spreading, entire; the lateral sepals oblique, with a prominent dorsal keel. **Petals** free, linear-oblanceolate, acute, 1-veined, the vein branching near the base and thus appears 3-veined, margin spreading, entire. **Lip** united to the column, entire, reniform, base cordate, the apical margin 3-lobed; the lateral lobes subobovoid, rounded; the midlobe hemiorbicular, minutely apiculate; bicallose, the calli subglobose, somewhat laterally flattened, with 3 low, narrow, smooth keels running down the middle till the apex. **Column** somewhat arcuate towards the apex. **Clinandrium-hood** short, margin entire. **Anther** reniform. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulate, as long as the pollinia. **Rostellum** apical, slit.

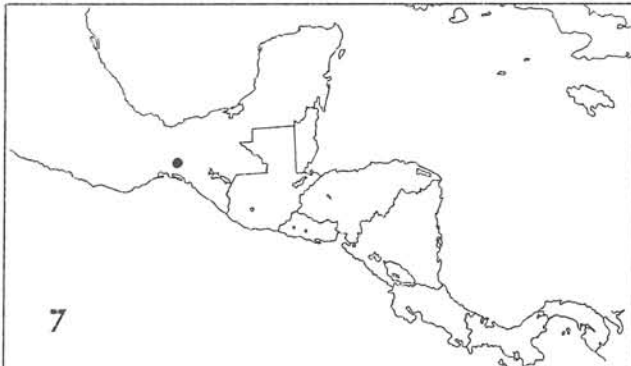
OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from the type collection, lowland western Chiapas. Epiphytic, on oak. Flowering in May.

RECOGNITION: *Epidendrum incomptoides* belongs to the Arbuscula Group, Incomptum Subgroup which is characterized by the successive lateral growths produced from the middle of the previous growth, few leaves aggregate towards the apex of the stems, a short apical inflorescence with fleshy greenish to violet-green flowers with short ovaries, the lip entire to 3-lobed. The species is recognized by the short, thin stems, the oblong-elliptic leaves 3.8-5.5 x 0.8-1.3 cm, the inflorescence with 6-8 yellowish brown flowers, the bicallose lip reniform with the apex 3-lobed, 12.5 mm wide with 3 low keels, and the ovary slightly inflated. *Epidendrum bisulcatum* Ames has oblong leaves up to 9 cm long, olive-green flowers with oblong sepals and a suborbicular lip. *Epidendrum incomptum* Rchb.f. has oblong-elliptic to narrowly oblong leaves up to 13 cm long, a dense inflorescence with up to 20 green to purple green flowers, and a 3-lobed, ecallose lip. *Epidendrum brenesii* Schltr. has oblong leaves, a racemose to paniculate inflorescence with up to 40 violet-brown or greenish yellow flowers, a reniform, velutinous lip which is deeply emarginate. *Epidendrum dressleri* Hágsater from southern Veracruz and Chiapas has non-resupinate, dark green flowers, with the apex of the column, calli and keels yellowish, very long, uninflated ovaries (25-30 mm long), and a subreniform lip 23 mm wide, apically 3-lobed, with the small midlobe emarginate and thus forming two small rounded lobes.

CONSERVATION STATUS: DD. Data deficient. Apparently extremely rare. We have no record of it having been collected again.

ETYMOLOGY: From the Latin, *incomptus*, plain, simple, and the Greek ending *-οιδες*, resemble, in reference to the similarity of this species with *Epidendrum incomptum* Rchb. f.



REFERENCES: Sousa, M., 1969. Las Colecciones Botánicas de C. A. Purpus en México, 1898-1925. *Univ. of California Publications in Botany* 51: 18.

Authors: E. Santiago & E. Hágsater

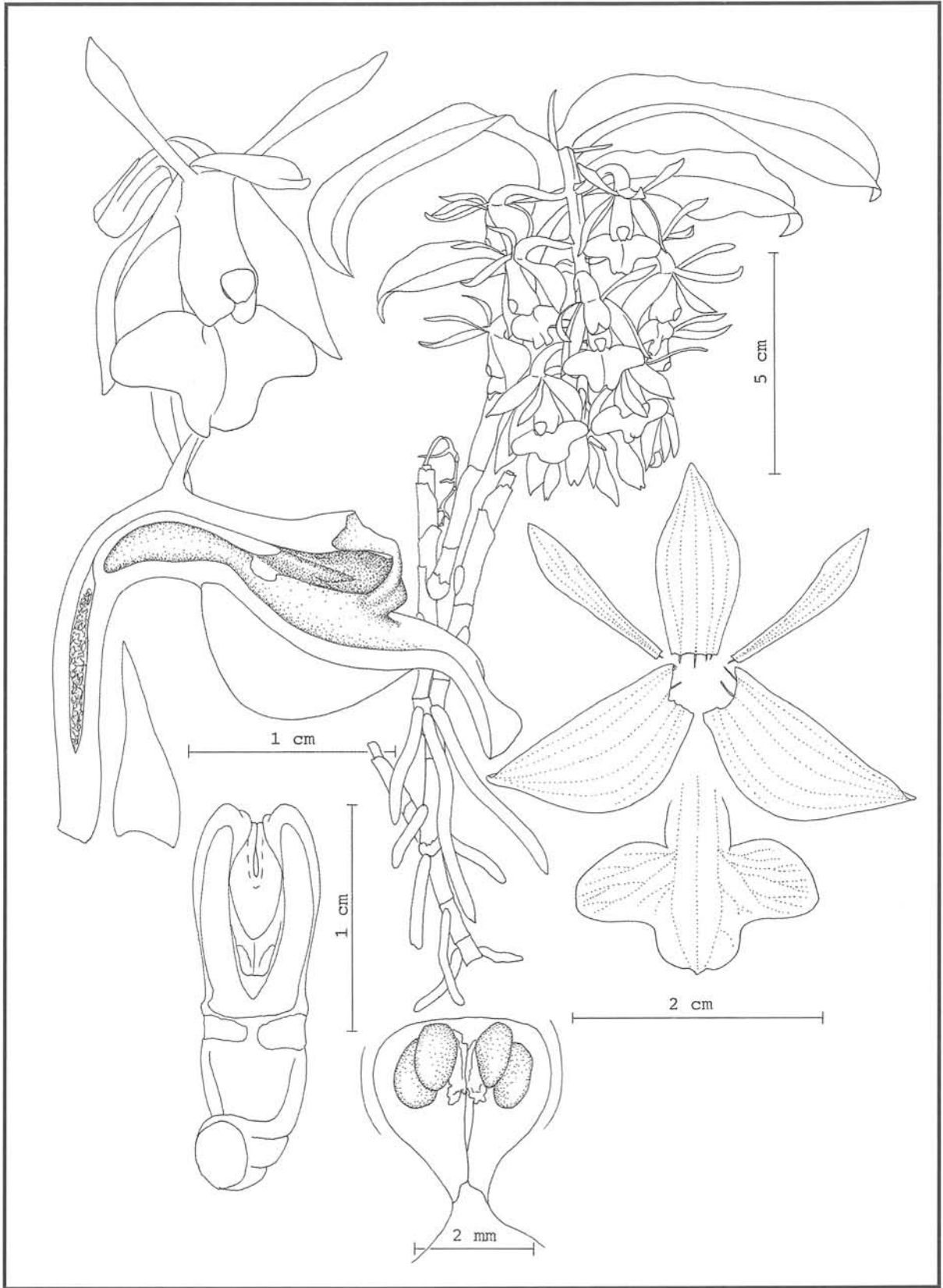
Illustrator: R. Jiménez M. & E. Hágsater

Editors: E. Hágsater & L. Sánchez S.

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ICONES ORCHIDACEARUM 8. 2006. Plate 843



EPIDENDRUM INCOMPTUM Rchb.f.

THE GENUS EPIDENDRUM PART 5

Plate 844

ICONES ORCHIDACEARUM 8. 2006

Type: PANAMA: Chiriquí, *Warszewicz s.n.* Holotype: W 49693! (tracing of a leaf and Reichenbach sketches of flowers at AMES!)

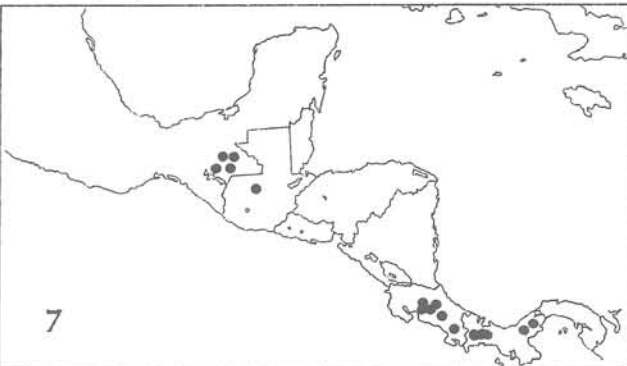
Hierba epífita, simpodial, erecta, donde cada tallo nuevo se origina de un entrenudo intermedio del tallo anterior, 50-70 cm de alto. **Raíces** basales en el tallo inicial y en la base de algunos tallos superiores, carnosas, gruesas, blancas, 1.5-4.0 mm de grosor. **Tallos** sencillos, tipo caña, teretes, rectos, los apicales más delgados, 3.0-30 x 0.2-0.6 cm. **Hojas** 2-4[6], agrupadas en el ápice de los tallos, articuladas, alternas, erecto extendidas; vainas tubulares, ligeramente infladas sin llegar a ser infundibuliformes, finamente estriadas, fibrosas con el tiempo, 8-30 mm de largo; lámina oblongo elíptica, raramente angostamente obovada, aguda, subcoriácea, margen entero; [3]5.5-13 x [1]1.5-4.2 cm. **Bráctea** espátácea ausente. **Inflorescencia** apical, florece una sola vez, racemosa a raramente paniculada, arqueada, 4-9 cm de largo; pedúnculo delgado, bialado, recto, 1-2.5 cm de largo; ocasionalmente provisto en la parte media de una bráctea, lineal lanceolada, acuminada, abrazadora, semejante a las florales, 15-18 mm de largo; raquis, corto, terete, delgado, recto, 3-6.5 cm de largo. **Brácteas florales** de más de la mitad del largo del ovario, lineal lanceoladas, acuminadas, abrazadoras, las apicales gradualmente más cortas, 4-10 mm de largo. **Flores** 5-20, sucesivas, aunque la mayoría llegan a estar abiertas de manera simultánea, resupinadas, carnosas, verdes uniformes o con el ápice de la columna y el labelo tenidos de púrpura; fragancia ligera a limón. **Ovario** terete, delgado, no inflado, liso, 12-18 mm de largo. **Sépalos** libres, angostamente obovados, agudos, 4-nervados, las nervaduras laterales ramificadas desde la base dando la apariencia de ser 5-6-nervados, margen extendido, entero, 12-17 x 5.0-8.0 mm; el dorsal extendido; los laterales entreabiertos, oblicuos. **Pétalos** extendidos, libres, lineal oblanceolados, agudos, 1-nervados, la nervadura ramificada desde la base dando la apariencia de ser 3-nervados, margen extendido y entero, 12-15 x 1.5-2.3 mm. **Labelo** unido a la columna, trilobado, ligeramente convexo, cordado en la base, margen entero, 10-15 x 13-28 mm; escalo; con 1 quilla baja, delgada, lisa, alargada hasta el ápice de la lámina; lóbulos laterales divaricados, oblicuamente ovados, redondeados, con el margen delantero frecuentemente recto, 7-11 x 6-10 mm; lóbulo medio subcuadrado, truncado, diminutamente apiculado, 3-4 x 6-8 mm. **Columna** delgada en la base y más ancha hacia el ápice, ligeramente arqueada hacia arriba, 9-11 mm de largo. **Clinandrio** reducido, margen entero. **Antera** ovoide, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos; caudículas suaves y granuladas, tan largas como los polinios. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** pequeños, de 1/4 del largo de la cavidad estigmática. **Cápsula** no vista.

Epiphytic, sympodial, erect herb, where the new stem originates in a middle internode of the previous stem. **Roots** basal from the initial stem and from the base of some of the upper stems, fleshy, thick, white. **Stems** simple, cane-like, terete, straight, the apical stems thinner. **Leaves** 2-4[6], aggregate towards the apex of the stems, articulate, alternate, erect-spreading; sheaths tubular, slightly inflated, minutely striated, fibrous with time; blade oblong-elliptic, rarely narrowly obovate, acute, subcoriaceous, margin entire. **Inflorescence** apical, flowering only once, racemose to rarely paniculate, arching; peduncle thin, two-winged, straight, occasionally provided with a bract in the middle, linear-lanceolate, acuminate, similar to the floral bracts; rachis short, terete, thin, straight. **Floral bracts** more than half the length of the ovary, linear-lanceolate, acuminate, the apical ones gradually shorter. **Flowers** 5-20, successive, though most will be open simultaneously, resupinate, fleshy, uniformly green or the apex of the column and the lip tinged with purple; fragrance slightly of lemon. **Ovary** terete, thin, smooth. **Sepals** free, narrowly obovate, acute, 4-veined, the lateral veins branching from the base so as to appear 5-6-veined, margin spreading, entire; the dorsal sepals spreading, the lateral sepals partly spreading, oblique. **Petals** spreading, free, linear-oblanceolate, acute, 1-veined, the vein branching from the base so as to appear 3-veined, margin spreading, entire. **Lip** united to the column, 3-lobed, slightly convex, base cordate, margin entire; ecallose, with one low, thin, smooth keel running to the apex of the lip; lateral lobes divaricate, obliquely ovate, rounded, with the forward edge usually straight; midlobe subquadrate, truncate, minutely apiculate. **Column** thin at the base, wider towards the apex, slightly arched upwards. **Clinandrium**-hood reduced, margin entire. **Anther** ovoid, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulate, as long as the pollinia. **Rostellum** apical, slit. **Lateral lobes of the stigma** small, about 1/4th the length of the stigmatic cavity.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Widespread from Chiapas, Mexico to Coclé, Panama. Epiphytic, in wet forests at 900-1600 m altitude, rarely 2000-2100 m (in Costa Rica). Flowering from July to January (in cultivation from February to April).

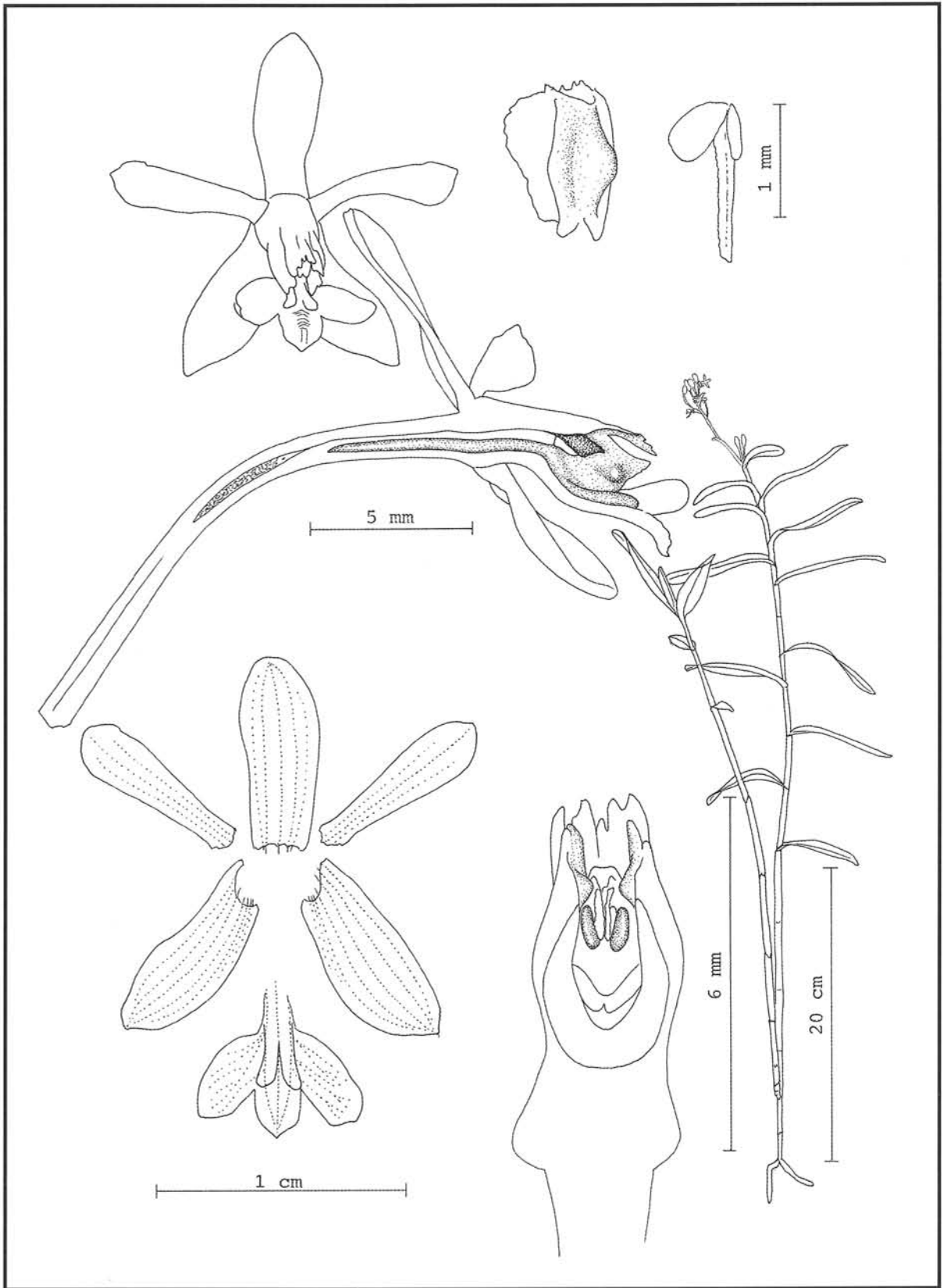
RECOGNITION: *Epidendrum incomptum* belongs to the Arbuscula Group, Incomptum Subgroup which is characterized by the successive lateral growths produced from the middle of the previous growth, few leaves aggregate towards the apex of the stems, a short apical inflorescence with fleshy greenish to violet-green flowers with short ovaries, the lip entire to 3-lobed. The species is recognized by the wide leaves, up to 4.2 cm, dense inflorescence with up to 20 flowers; the 3-lobed, ecallose lip 13-28 mm wide, with divaricate lateral lobes with the forward edge usually straight, and a subquadrate, minutely apiculate midlobe. *Epidendrum brenesii* Schltr. is vegetatively similar but has narrower leaves, 1.3-2.1 cm wide, and a wide, reniform, velutinous, deeply emarginate lip, with the apex somewhat 4-lobed, and 12-19 mm wide. *Epidendrum bisulcatum* Ames has oblong leaves 0.7-2.2 cm wide, short, thin stems, 1.2-3.5 mm thick, a few-flowered inflorescence with 6-9 olive-green flowers, and a suborbicular, bicallose, 3 keeled lip, 11-12.5 mm wide. *Epidendrum cerinum* Schltr. has narrowly elliptic leaves, 0.8-3.3 cm wide, an inflorescence with up to 10, large flowers, with partly spreading sepals 17-24 mm long, olive-green or lavender to black-colored flowers, and the widely ovate lip with the margin short and irregularly fimbriate, the lip is obliquely united to the column. It is most similar to *Epidendrum carchiense* Hágsater & Dodson which has olive-green flowers or the lip reddish brown to purple, the lateral lobes of the lip ovate and slightly retrorse when spread, the forward margin curved, and strongly falcate petals.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Latin *incomptus*, plain, simple, probably in reference to the ecallose, inornate lip.

REFERENCES: Hammel, B. E., et al. 2003. *Manual de Plantas de Costa Rica Vol. III*. Missouri Botanical Garden Press. pg. 135.



EPIDENDRUM INTERMIXTUM Ames & C.Schweinf.

EPIDENDRUM INTERMIXTUM Ames & C.Schweinf., Sched. Orch. 10: 65. 1930.

Type: COSTA RICA: [Cartago:] La Estrella, 5000 ft, 24 July 1925, *Charles H. Lankester 1009*. Holotype: AMES 30991! Sketch of flower of the type, made by C. Schweinfurth, mounted on *Stork 1320*, AMES 35142!

Synonym: *Oerstedella intermixta* (Ames & C.Schweinf.) Hágsater, Orquídea (Mexico City) 8(1): 21. 1981.

Hierba epífita o raramente terrestre, caespitosa, simpodial; 26-75 cm de alto. **Raíces** basales, carnosas, delgadas; 1-3.3 mm de grosor. **Tallos** sencillos, en ocasiones produciendo keikis, tipo caña, teretes, delgados, erectos, rectos; 21.5-63 x 0.18-0.4 cm; cubiertos en la base por vainas tubulares, no foliares, verrugosas, fibrosas con el tiempo; 25-45 mm de largo. **Hojas** 5-8, distribuidas en la mitad apical del tallo, alternas, articuladas, caedizas, subcoriáceas; vaina tubular, fuertemente verrugosa; 7-53 x 1.3-4 mm; lámina lanceolada o angostamente elíptica, ápice redondeado, desigualmente bilobado, margen entero; 2.6-10 x 0.5-1.8 cm. **Bráctea espatácea** ausente. **Inflorescencias** apical y laterales, (la apical generalmente paniculada; 5-14.5 cm de largo, las laterales racemosas a incipientemente paniculadas; 1-5 cm de largo); distribuidas en la zona apical del tallo y originándose en la base de la vaina, paucifloras, laxas; pedúnculo terete, delgado; el apical, 1.5-4 cm de largo, los laterales; 0.4-2 cm de largo; desprovistos de brácteas. **Brácteas florales** mucho más cortas que el ovario, ovado triangulares, agudas, abrazadoras, 2-5 mm de largo. **Ovario** terete, delgado, liso, no inflado, 10-21 mm de largo. **Flores** ca. 15-50, 3-7 por inflorescencia, simultáneas, resupinadas; sépalos y pétalos blancos a blanco verdosos, labelo blanco tornándose amarillo con el tiempo, callo amarillo; sin fragancia. **Sépalos** extendidos, libres, obovados, obtusos, 5-6-nervados, margen entero, 6-8.5 x 2.5-3.7 mm; los laterales diminutamente apiculados, oblicuos. **Pétalos** extendidos, libres, cuneados, redondeados, 3-nervados, margen entero; 6-8 x 2-3 mm. **Labelo** unido a la columna, trilobado, margen entero; 3-4.2 x 6.5-8 mm; bicalloso, los callos delgados, alargados hasta la base del lóbulo medio, ligeramente divaricados en el ápice; disco provisto de una quilla baja infercallosa; lóbulos laterales oblongos, a un ángulo de 45° respecto del eje del labelo, ligeramente arqueados, redondeados; 3.5-4 x 2-2.5 mm; lóbulo medio oblongo ovado, diminutamente apiculado; 1.2-2 x 1.2-2 mm. **Columna** recta, gruesa, 6 mm de largo, terminada en 4 lóbulos, con el margen irregularmente dentado. **Clinandrio** corto, bilobado, cada lóbulo subcuadrado, margen apical irregularmente dentado. **Antera** piriforme a subovoide, con una quilla dorsal carnosa y triangular. **Polinios** 4, ovoides, lateralmente comprimidos, el par interior más pequeño; caudículas suaves y granuladas, más largas que los polinios; sin viscidio. **Rostelo** perpendicular con respecto al eje de la columna, formando un seno amplio. **Nectario** penetrando ca. de ¼ del ovario, no inflado, liso. **Cápsula** no vista.

Epiphytic or rarely terrestrial, caespitose, sympodial herb. **Roots** basal, fleshy, thin. **Stems** simple, occasionally producing keikis, cane-like, terete, thin erect, straight; the base covered by non-foliaceous, tubular, verrucose sheaths. **Leaves** 5-8, distributed throughout the apical half of the stem, alternate, articulate, deciduous, subcoriaceous; sheath tubular, strongly verrucose; blade lanceolate or narrowly elliptic, apex rounded, unequally bilobed, margin entire. **Inflorescences** apical and lateral (the apical one paniculate the lateral ones racemose to somewhat paniculate), distributed along the apical internodes of the stem, piercing the base of the sheath, lax, few-flowered; peduncle terete, thin. **Floral bracts** much shorter than the ovary, triangular-ovate, acute. **Ovary** terete, thin, smooth. **Flowers** ca. 15-50, 3-7 per inflorescence, simultaneous, resupinate; sepals and petals white to greenish white, lip white turning yellow with age, callus yellow. **Sepals** spreading, free, obovate, obtuse, 5-6-veined, margin entire, the lateral sepals minutely apiculate, oblique. **Petals** spreading, free, cuneate, rounded, 3-veined, margin entire. **Lip** united to the column, 3-lobed, margin entire; bicallose, the calli thin, elongate, reaching the base of the midlobe, apically slightly divaricate; disc provided with a low keel; lateral lobes oblong, slightly arching, rounded, oblique at a 45° angle with respect to the axis of the lip; midlobe oblong-ovate, as wide as it is long, minutely apiculate. **Column** straight, thick, ending in 4 lobes, margin irregularly dentate. **Clinandrium-hood** short, bilobed, each lobe subquadrate, apical margin irregularly dentate. **Anther** pyriform to subobovoid, with a dorsal triangular, fleshy keel. **Pollinia** 4, ovoid, laterally compressed, the inner pair somewhat smaller; caudicles soft and granulate, longer than the pollinia; viscidium lacking. **Rostellum** perpendicular to the axis of the column, forming a wide sinus. **Nectary** penetrating ca. 1/4 of the ovary, smooth.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Endemic from central Costa Rica, on the Atlantic slope of the Cordilleras Central and Tilarán, and the basin of the Río Reventazón. Epiphytic or rarely terrestrial, at 1200-1950 m altitude. Flowering from July to December.

RECOGNITION *Epidendrum intermixtum* belongs to the *Oerstedella* Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is perpendicular to the longitudinal axis of the column, forming a wide, open sinus and *Intermixtum* Subgroup which has small, membranaceous flowers with a bifid, petaloid clinandrium-hood, and laterally compressed pollinia with long, granulate caudicles. The species is recognized by the small flowers, sepals (6-8.5 mm long) and petals white or greenish white, 3-lobed lip white, the lateral lobes oblong, arching, twice as long as they are wide, the midlobe ovate-oblong, and the short lateral racemes. *Epidendrum chalcocchromum* Hágsater is very similar but has reddish brown on olive-green flowers, with the clinandrium-hood entire, and longer peduncles on the lateral inflorescences. *Epidendrum fuscium* (Dressler) Hágsater is also similar but has much larger flowers (sepals 13-15 mm), and the lateral lobes of the lip are three times longer than wide, the midlobe linear, acute.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In reference to the inflorescences, which are mingled among the apical leaves.

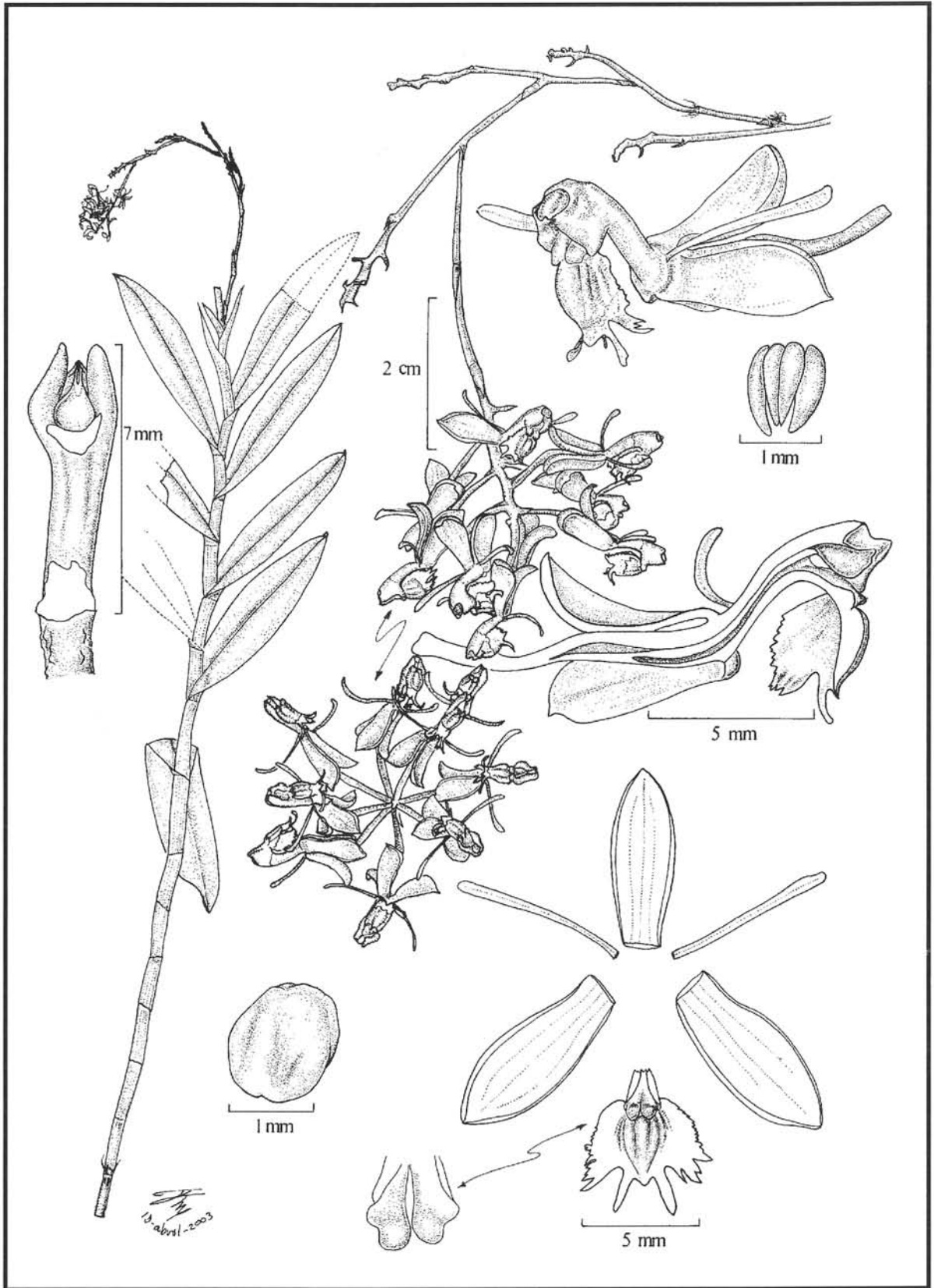
REFERENCES: Dressler R. L., 1993, *Field guide to the Orchids of Costa Rica and Panama*, Cornell University Press, p. 89. Hágsater, E., in Hammel et al., 2003, *Manual de Plantas de Costa Rica*, vol. III, Missouri Botanical Garden, p. 350. Hágsater, E., & M. A. Soto Arenas, 2005, *Transfers to Epidendrum* L. From *Oerstedella* Rchb.f., *Lankesteriana* 5(1): 73.

Authors: E. Santiago & E. Hágsater

Illustrator: E. Hágsater

Editors: E. Hágsater & L. Sánchez S.

Herbario AMO Apartado Postal 53-123, 11320 México, D.F., MÉXICO ICONES ORCHIDACEARUM 8. 2006. Plate 845



EPIDENDRUM IONOPHYLLUM Ortiz

Type: COLOMBIA: Valle del Cauca; [Bajo Calima] Rio Bravo, 1400 m, collected by J. A. González, J. H. Ramírez & P. Ortiz, 28 June 1996, *P. Ortiz 1075*. Holotipo: HPUJ.

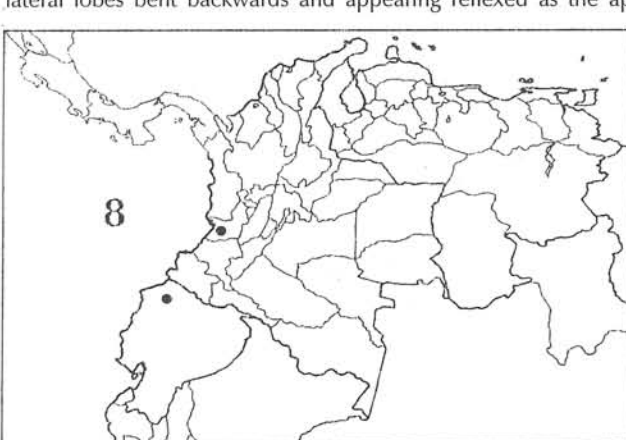
Hierba epífita, caespitosa, de más de 65 cm de alto. **Raíces** basales, carnosas, gruesas. **Tallos** sencillos, tipo caña, lateralmente aplanados, ancipitosos, anchos, de ca. 50 x 0.4-0.8 cm. **Hojas** 7-12, distribuidas en los 2/3 apicales del tallo, suberectas, alternas, subcoriáceas, semejantes entre sí; vaina tubular, lateralmente aplanada, ancipitosa, ligeramente estriada, 2.5-3.8 x 0.5-0.8 cm; lámina elíptica, aguda, lisa, margen entero, 9-12 x 2.3-3.5 cm, hojas verde oscuro por el anverso, amarotados por el reverso. **Bráctea espátea** ausente. **Inflorescencia** apical, alargada, (en el ejemplar tipo cortada de tal manera que parece mucho más corta de lo que realmente es) pedúnculo flexuoso, ancipitoso, cubierto por brácteas, tubulares en la base, conduplicadas en la mitad apical, agudas, fibrosas cuando secas, ocultando casi en su totalidad al pedúnculo, 6-9 x 0.3-0.6 cm, inflorescencia pluriracemosa, los racimos sucesivos; cada racimo, paucifloro, florece una sola vez, arqueado nutante, produciéndose de la parte media del pedúnculo del racimo anterior, 3.2-4.5 cm de largo; pedúnculo delgado, terete, 2.3-2.7 cm de largo; provisto en la base de una bráctea triangular, abrazadora, aguda, 4-5 mm de largo; raquis terete, delgado, 1.2-1.8 cm de largo. **Brácteas florales** mucho más cortas que el ovario, angostamente triangulares, acuminadas, 2 mm de largo. **Flores** 8-11 por racimo, simultáneas, resupinadas, radiales, perfectamente distribuidas alrededor del eje; de color verde, en ocasiones difuminado de morado, o marrón moradas, mitad apical de la columna y labelo blancos con los callos y el disco morado pálido sólido; sin fragancia. **Ovario** terete, muy delgado sin ser filiforme, algo dilatado en la mitad apical, terete, liso, 8-12 mm de largo. **Sépalos** reflexos, libres, cóncavos en el ápice, carnosos, angostamente obovados, ápice obtuso, 3-nervados, margen extendido, entero, no ornamentados, 7.0-8.0 x 2.2-3.0 mm. **Pétalos** reflexos, libres, linear filiformes, ligeramente más anchos hacia el ápice, redondeados, 1-nervados, margen extendido, entero, 7.0-8.0 x 0.3-0.4 mm. **Labelo** unido a la columna, trilobado, base truncada, margen lacerado, en posición natural fuertemente convexo, 4.5 x 5.6 mm; bicaloso, los callos delgados con el ápice globoso, cortos; disco provisto de tres quillas carnosas, agudas, la central alargada cerca del seno apical; además de un par de venas engrosadas prominentes en la base de los lóbulos laterales; lóbulos laterales ovado hemielípticos, reflexo conduplicados, 1.6 x 3.9 mm; lóbulo medio bilobado, diminutamente apiculado; los lóbulos apicales en forma de cuernos, subagudos, 1.8 x 2.7 mm. **Columna** sigmoide, arqueada hacia arriba en la base y después hacia abajo, delgada en las 2/3 partes basales; obcónica en el ápice, terminada en un par de dientes apicales laterales subagudos, 7 mm de largo. **Clinandrio** reducido, entero. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** cortos, de 1/5 del largo de la cavidad estigmática. **Antera** subsférica, 4 locular. **Polinios** 4, tipo ala de pájaro, lateralmente fuertemente comprimidos, los interiores algo menores. **Nectario** penetrando 1/4 del ovario, no inflado, liso. **Cápsula** no vista.

Epiphytic, caespitose herb. **Roots** basal, fleshy, thick. **Stems** simple, cane-like, laterally flattened, ancipitose, wide. **Leaves** 7-12, distributed throughout the apical 2/3 of the stems, suberect, subcoriaceous, similar; sheath tubular, laterally compressed, ancipitose; blade elliptic, acute, smooth, margin entire, dark green on the upper side, purplish on the underside. **Inflorescence** apical, elongate (in the type specimen cut so as to appear much shorter), peduncle flexuous, covered by large conduplicate bracts, racemose, producing successive racemes with time, from the middle of the peduncle of the previous raceme, the raceme arching-nutant, with a thin, terete peduncle, subtended by a small bract at the base, rachis terete, short. **Floral bracts** much shorter than the ovary, narrowly triangular, acuminate. **Flowers** 8-11 per raceme, simultaneous, resupinate, radiating, perfectly distributed around the axis; color green, sometimes purple tinged, or brown-purple, the apical half of the column and the lip white with the calli and the disc light, solid, purple; not fragrant. **Ovary** terete, very thin but not filiform, somewhat dilated in the apical half, smooth. **Sepals** reflexed, free, concave towards the apex, fleshy, apex obtuse, 3-veined, margin spreading, entire. **Petals** reflexed, free, linear-filiform, slightly wider towards the apex, rounded, 1-veined, margin spreading, entire. **Lip** united to the column, 3-lobed, base truncate, margin lacerate, in natural position deeply convex; bicallose, the calli thin, globose at the apex; disc formed by three low, fleshy keels, the middle one longer, reaching the apicule in the sinus, with a pair of thickened veins at the base of each lateral lobe; lateral lobes ovate-semielliptic, conduplicate-reflexed; midlobe bilobed, minutely apiculate in the sinus, the lobes horn-like, subacute. **Column** sigmoid, arching upwards towards the base, then downwards, the basal 2/3s thin, then obconical, terminating in a pair of triangular, lateral teeth. **Clinandrium-hood** reduced, entire. **Rostellum** subapical, slit. **Anther** subspherical, 4-celled. **Pollinia** 4, bird-wing-type, strongly laterally flattened, the inner pair somewhat smaller. **Nectary** penetrating 1/4th of the ovary, thin.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

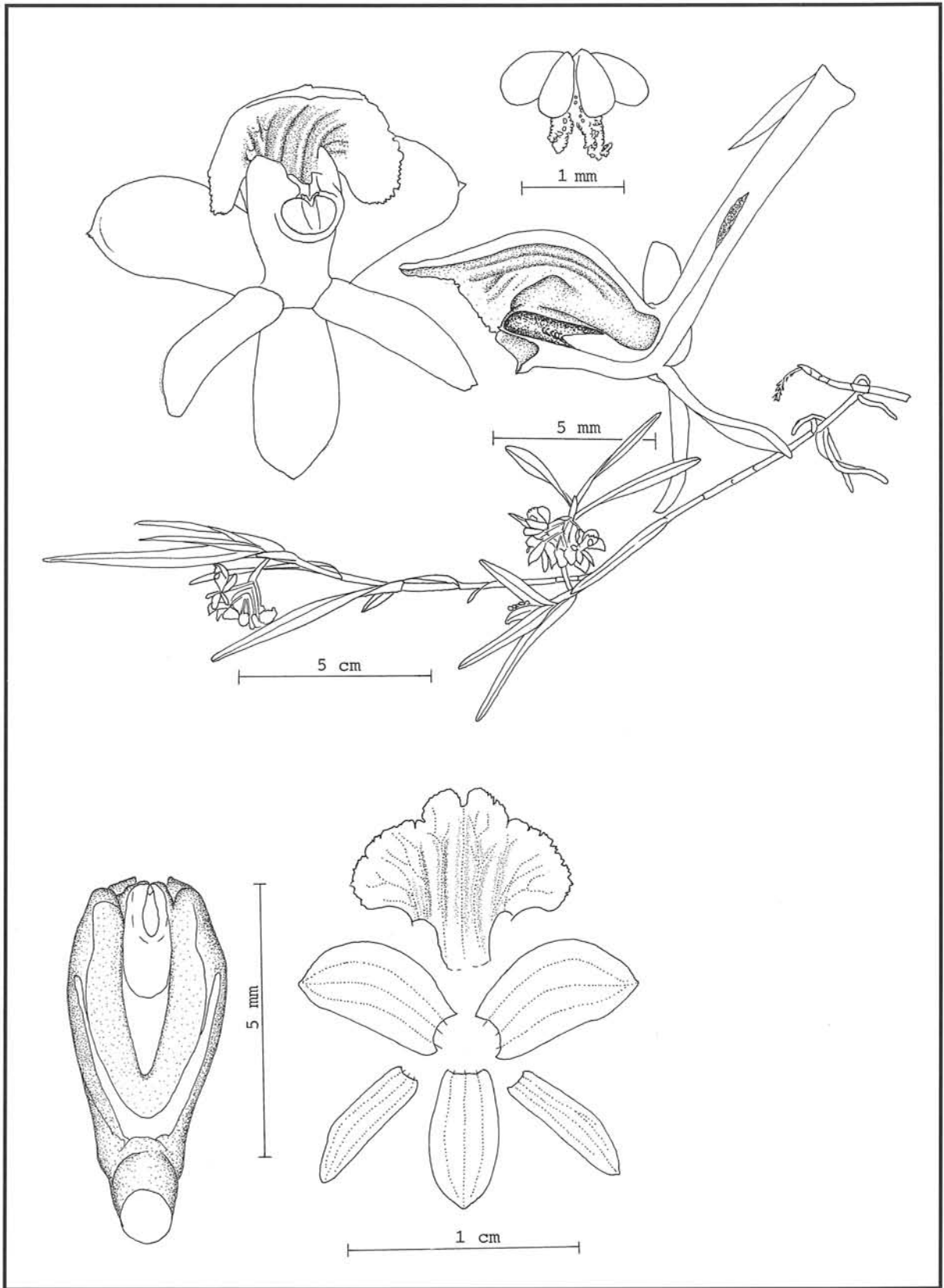
DISTRIBUTION AND ECOLOGY: COLOMBIA: Valle del Cauca, from the Bajo Calima at 1400 m altitude, and Ecuador, without locality, but probably from the province of Esmeraldas. Flowering in March, June.

RECOGNITION: *Epidendrum ionophyllum* belongs to the Paniculatum Group, Turrialvae Subgroup characterized by the caespitose habit, cane-like stems, apical inflorescence which produces successive racemes of small flowers, the lip 3-lobed with the midlobe bilobed and usually forming two narrow, divergent lobes, the disc formed by low, fleshy keels often colored purple and the filiform petals. The species is recognized by the elongate, flexuous, ancipitose peduncle of the inflorescence, the thin, terete peduncle of each successive raceme about 2.3-2.7 cm long, and the nutant raceme of 8-11 flowers, perfectly distributed around the axis at 45° angles, with small flowers, a sigmoid column, deeply convex lip, the lateral lobes bent backwards and appearing reflexed as the apex of the column is arched downwards. The flowers are somewhat reminiscent of *E. resectum* Rchb.f. from Costa Rica, because of the deeply convex lip, which is also reflexed, but the construction of the inflorescence is quite distinct, as that species only flowers once from a stem, and the margin of the lip is entire. *Epidendrum jatunsachanum* Dodson & Hágsater has an equally ancipitose, flexuous peduncle, but the stems are hanging, the flowers single, and the lobes of the fimbriate, flat lip subequal in size. The general plant habit, with successive racemes produced from an elongate, ancipitose inflorescence are reminiscent of *Epidendrum anceps* Jacq. [Anceps Group] and its local relative, *Epidendrum musciferum* Lindl. but the flowers of that species have a straight column and the three lobes of the lip rounded and are entire, with no calli nor keels on the lip.



CONSERVATION STATUS: DD. Data deficient. Apparently locally common, at least where the type was collected.

ETYMOLOGY: From the Greek *ion*, violet, the flower, and *φυλλον*, leaf, in reference to the violet or purple stems and leaves.



EPIDENDRUM JATIVAE Dodson
THE GENUS EPIDENDRUM PART 5

EPIDENDRUM JATIVAE Dodson, Icon. Pl. Trop. 1: 85. 1980.

Type: ECUADOR: Bolivar: Balzapamba, km 57, on road from Babahoyo to Guaranda, 730 m, 21 May 1960, C. H. Dodson & C. Játiva 58. Holotype: SEL.

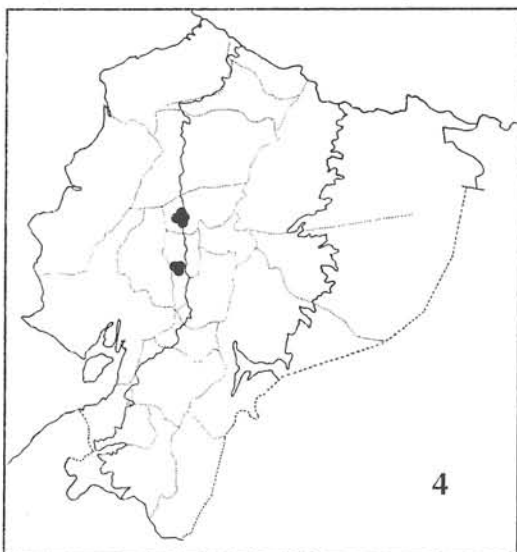
Hierba epífita, ramificada, frecuentemente colgante, de 46 cm de alto. **Raíces** de la base y escasas en la base de algunos de los tallos sucesivos, carnosas, gruesas, 1-3 mm de grosor. **Tallos** originándose cerca del ápice del tallo anterior, tipo caña, teretes, delgados, rectos, el principal de más de 4-11 x 0.1-0.3 cm. **Hojas** 3 a 9 por tallo, distribuidas a lo largo de los mismos, las basales generalmente caedizas, alternas, subcoriáceas; vaina tubular finamente estriada cuando seca, 0.8-1.8 cm de largo; lámina linear lanceolada, ápice bilobado, con una quilla dorsal baja, margen entero, lisa, desiguales, progresivamente más grandes hacia el ápice del tallo, [1.6]3.2-7.5[10] x 0.3-0.5 cm. **Bráctea** espatácea ausente. **Inflorescencia** apical, florece una sola vez, racemosa, subglomerulosa, arqueado nutante, 1.8-2.5 cm de largo; pedúnculo terete, delgado, liso, 5-8 mm de largo; provisto en la parte media de una bráctea semejante a las florales, triangular, aguda, 3-4 mm de largo; raquis terete, recto, liso, 5-9 mm de largo. **Brácteas** florales cerca de la mitad del largo del ovario, gradualmente más pequeñas hacia el ápice, angostamente triangulares, acuminadas, 1-3 mm de largo. **Flóres** 8-13, no resupinadas, sucesivas, estando abiertas 5 o 6 de manera simultánea, color verdoso, más o menos teñidas de rojo borgoña a pardo purpúreas; sin datos de fragancia. **Ovario** terete, delgado, no inflado, liso, 6-10 mm de largo. **Sépalos** extendidos, libres, ápice redondeado, 3-nervados, margen entero, lisos, membranáceos; el dorsal elíptico obovado, 6 x 3 mm; los laterales elípticos, oblicuos, con un apículo diminuto, 6 x 3-4 mm. **Pétalos** extendidos, libres, oblongos, obtusos, 3-nervados, margen entero y extendido, membranáceos, 6 x 1.5 mm. **Labelo** unido a la columna, entero, subreniforme, truncado en la base, ápice 4-lobulado, los lóbulos redondeados, el par lateral más corto que el par central margen crenado, 7 x 8 mm; ecallose; provisto con 3 quillas, romas, lisas, cortas. **Columna** unida totalmente al labelo, recta, gruesa, obcónica, desprovista de alas involutas, 5 mm de largo. **Clinandrio** reducido, entero. **Antera** 4-locular, reniforme. **Polinios** 4, obovoides. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** no vistos. **Nectario** sin traspasar el perianto, una cavidad formada por la columna y el labelo, amplia, no ornamentada, **Cápsula** no vista.

Epiphytic, branching, frequently hanging herb. **Roots** basal, and from the base of some upper stems, thin, fleshy. **Stems** originating from near the base of the previous stem, cane-like, terete, thin, straight. **Leaves** 3-9 per stem, distributed throughout, subcoriaceous, sheath tubular, minutely striated when dry, blade linear-lanceolate, apex bilobed, margin entire. **Inflorescence** apical, flowering only once, racemose, subglomerulose, arching-nutant. **Floral bracts** about half as long as the ovary, gradually shorter, narrowly triangular, acuminate. **Flowers** 8-13, non-resupinate, successive, some 5-6 open at one time, greenish, more or less tinged with burgundy red to purplish brown. **Ovary** terete, thin, smooth. **Sepals** spreading, free, apex rounded, 3-veined, margin entire, smooth, membranaceous, dorsal elliptic-obovate, laterals elliptic, oblique, with a minute apicule. **Petals** spreading, free, oblong, obtuse, 3-veined, margin entire, spreading, membranaceous. **Lip** united to the column, entire, subreniform, base truncate, apex 4-lobed, the lobes rounded, the external pair shorter, margin crenate, ecallose, disc provided with 3 low, smooth, short, keels. **Column** united totally to the lip, straight, thick, obconical, without wings involute. **Clinandrium-hood** reduced, entire. **Anther** 4-celled, reniform. **Pollinia** 4, obovoid. **Rostellum** apical, slit. **Nectary** not penetrating the ovary, a wide cavity, smooth.

OTHER SPECIMENS: ECUADOR: Bolivar: Balzapamba-San Miguel, La Guardia, 1700 m, 16-17 V 1968, *Harling* 9586, GB! Babahoyo-Guaranda, just above Balzapamba, 1500 m, 21 IV 1980, *Holm-Nielsen* 23011, AAU! Guaranda-Catarama, between Las Monjas and Caluma, 1600 m, 23 IV 1980, *Holm-Nielsen* 23147, AAU! **Cotopaxi:** 3 km E of Macuchi, 1700 m, 2 IV 1980, *Dodson* 10146, SEL! Tene fuerte, Río Pílaló, km 52-53, 750-900 m, 8 III 1982, *Dodson* 13008, SEL! km 57 Quevedo-Latacunga, 800-900 m, epiphyte in montane cloud forest, col. 9 IV 1984, pressed from cultivated material 10 VI 1985, [*Thurston* T-3393, *Dodson* 14219, sub] *Hágsater* 7759, (Illustration voucher) AMO! AMES! COL! MO! QCA! QCNE! SEL! pressed 9 IV 1984, AMO! Ibid. *Dodson* 14219, RPSC! Quevedo-Latacunga km 57, 900 m, 5 IV 973, *Holm-Nielsen* 3003, AAU! AMES. **Loja:** 8 km W of Celica on road to Alamor, 2000 m, 17 II 1985, *Harling* 22145, GB! QCA! 3 km W of Celica, 2200 m, 18 II 1985, Ibid. 22171, GB! Celica-Zapotillo, ca. Km 5, 2200 m, 23 II 1985, Ibid. 22463, GB! QCA! 6 km W of Celica, road to Alamor, 2050 m, 6 I 1991, *Kessler* 2365, QCA!

DISTRIBUTION AND ECOLOGY: Known from the western slopes of the Andes in south-central Ecuador, between 730-2200 m altitude, in wet montane forest. Flowering from January to May.

RECOGNITION: *Epidendrum jativae* belongs to the Diothonea Group which is characterized by the branching plants, linear-lanceolate to oblong leaves, the apex bilobed, racemose, arching-nutant inflorescence, membranaceous flowers (rarely fleshy), the entire to 3-lobed, ecallose lip with the margin erose and with 1-10 thin keels, smooth to erose, the column completely free to obliquely united to the lip, the anther reniform.

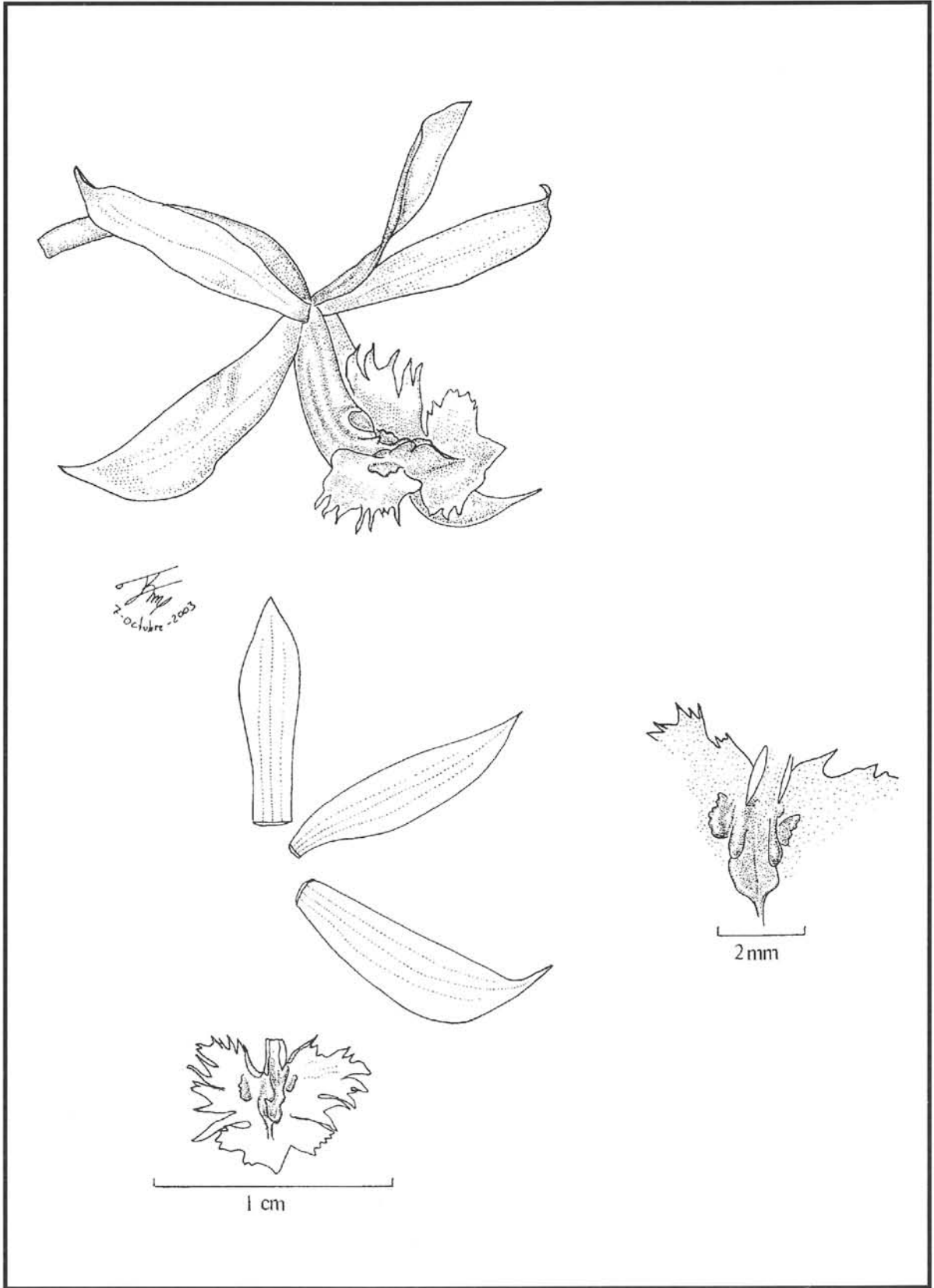


The species is recognized by the small, non-resupinate flowers, subglomerulose inflorescence, concave, subreniform lip apex 4-lobed, the external lobes shorter, oblong petals and the straight column, totality united to the lip, though this is not obvious from the small flowers. It is somewhat similar to *Epidendrum microdiothoneum* Hágsater & Dodson which has resupinate flowers, the ovary provided with a prominent vesicle, and a prominently arching, incurved column obliquely united to the lip which is 4-carinate and convex, somewhat longer than wide, and the lobes are all similar in area. *Epidendrum cochabambanum* Dodson & Vásquez also has small flowers, but the lip is cuneate, the flowers resupinate and the inflorescence has 3-6 flowers.

NOTES: This species has uncharacteristically non-resupinate flowers, the lip being upper-most. All other species of the Diothonea Group are resupinate. The original illustration, drawn from an herbarium specimen does not show this feature, and in addition shows two horns at the apex of the column, which though originally described as "broad, fleshy calli at the base" are part of the apex of the column.

CONSERVATION STATUS: DD. Data deficient. Apparently widespread and common.

ETYMOLOGY: Named in honor of Carlos Játiva, Ecuadorian biologist, who participated in the collection of the type.



EPIDENDRUM LACERUM Lindl.

EPIDENDRUM LACERUM Lindl., Bot. Reg. 24: Misc. 17. 1838.

Synonym: *Amphyglottis lacera* (Lindl.) Britton, Ann. New York Acad. Sci. 5: 201. 1924. Type: Cuba: introduced from Havannah, spring 1835, Capt. Sutton, flowered at Charles Lemon, Cerclew, November-December 1836. Holotype: K-L, not seen, Isotype: W! (Illustration voucher). Nir (2000) incorrectly cites *Sintenis 4021* from Puerto Rico as the type.

Hierba cespitosa, erecta, 50-75 cm de alto. **Raíces** basales, delgadas. **Tallo** erecto, terete. **Hojas** dísticas, vainas tubulares, lámina oblongo lanceolada, obtusa, gruesa, carmota, verdes, lustrosas, 9 x 1.3 cm. **Inflorescencia** apical, erecta, pedúnculo alargado, cubierto por brácteas tubulares, agudas. **Flores** no resupinadas, de color rosado pálido. **Ovario** terete, algo anguloso, torcido, 2.5 cm de largo. **Sépalos** extendidos, linear oblanceolados, acuminados, 3-nervados, 10-11.5 x 2.5-3.1 mm. **Pétalos** extendidos, linear elípticos, agudos, 3-nervados, 11.5 x 2.5 mm. **Labelo** unido a la columna, 3-lobado, profundamente fimbriado, 6 x 8 mm; callo complicado, formado por dos láminas paralelas que terminan en una quilla central, todo con un par de tubérculos irregulares en la base a los lados; lóbulos laterales suborbiculares, 3 x 4 mm, lóbulo medio cerca de 5 veces más ancho que largo, separado por un istmo angosto, transversalmente ovado, obtuso, 2 x 5 cm. **Columna** delgada, ligeramente sigmoide, el ápice arqueado hacia arriba, terminado en una par de alas laterales bidentadas, arqueadas hacia arriba, 7 mm de largo. **Clinandrio** reducido, entero. **Antera** ovoide.

Caespitose, erect herb. **Roots** basal, thin. **Stem** erect, terete. **Leaves** distichous, sheaths tubular, blade oblong-lanceolate, obtuse, thick, fleshy, rich shining green. **Inflorescence** apical, straight, peduncle elongate, covered by tubular, acute, bracts. **Flowers** non-resupinate, pale pink colored. **Ovary** terete, somewhat angular and twisted. **Sepals** spreading, linear-oblanceolate, acuminate, 3-veined. **Petals** spreading, linear-elliptic, acute, 3-veined. **Lip** united to the column, 3-lobed, deeply fimbriate, somewhat wider than long; callus complicated, formed by two parallel keels that end in a central keel, with a pair of irregular, tuberculate calli on the sides at the base; lateral lobes suborbicular, midlobe separated by a narrow isthmus, transversely ovate, about five times wider than long. **Column** thin, somewhat sigmoid, the apex upturned, ending in a pair of bidentate, upturned wings. **Clinandrium-hood** reduced, entire. **Anther** ovoid.

OTHER SPECIMENS: None seen.

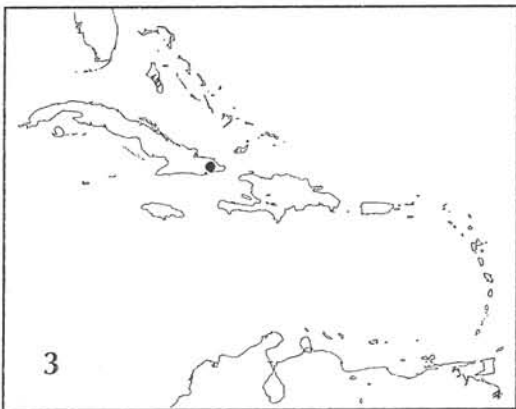
DISTRIBUTION AND ECOLOGY: Apparently endemic and extinct in Cuba. Flowering in cultivation in England in November-December.

RECOGNITION: *Epidendrum lacerum* belongs to the Schistochilum Group, Secundum Subgroup which is characterized by the caespitose habit, terete stems with several oblong-elliptic, acute to bilobed, distichous leaves, the scape elongate, with a short, apical raceme of successive, non-resupinate flowers, with a complicated, plurituberculate callus. The species is recognized by the narrow leaves, pale pink flowers, narrow, acuminate, 3-veined, sepals, acute petals and the lip with the lateral lobes much larger than the apical lobe which is about 5 times wider than the width of the lobes. It resembles *Epidendrum secundum* Jacq. from the lesser Antilles which has smaller flowers, the petals oblanceolate-cuneate, obtuse, somewhat oblique and 3-veined, the sepals obliquely obovate, obtuse, 3-veined, with the lateral veins branching so as to appear 6-veined above, the lip trapezoid in outline, wider than long, the margin deeply fimbriate, the lateral lobes larger than the apical lobes, the apical lobe widely flabellate, truncate. *Epidendrum ackermanii* Hágsater, an endemic from Puerto Rico has lanceolate, acute leaves, rhombic, straight, 5-veined, petals, elliptic, acute, straight, 5-veined sepals and a subquadrate lip in general outline, slightly longer than wide, the outline irregular dentate-laciniate, the lip formed by subequal, suborbicular lobes, the apical ones being somewhat larger; the flowers are pink, with a white blotch on the disc covering more than the callus. In Cuba it is vegetatively similar to *E. wrightii* Lindl. which has orange flowers, a deltate-ovate lip, V-shaped callus, prolonged into a central keel. It has been confused with *Epidendrum flexuosum* G. Meyer (syn: *E. imatophyllum* Lindl.) a myrmecophilous species from the mainland, which has a somewhat similar shaped lip though generally longer, and two simple calli with a thin narrow, long keel in the middle.

CONSERVATION STATUS: DD. Data deficient. Apparently extinct.

ETYMOLOGY: From the Latin, *lacerus*, lacerate, torn, irregularly divided by deep incisions; in reference to the margin of the lip.

REFERENCES: Nir, Mark, 2000, *Orchidaceae Antillanae*. DAG Media Publishing, New York, pg. 140, under *E. secundum*.

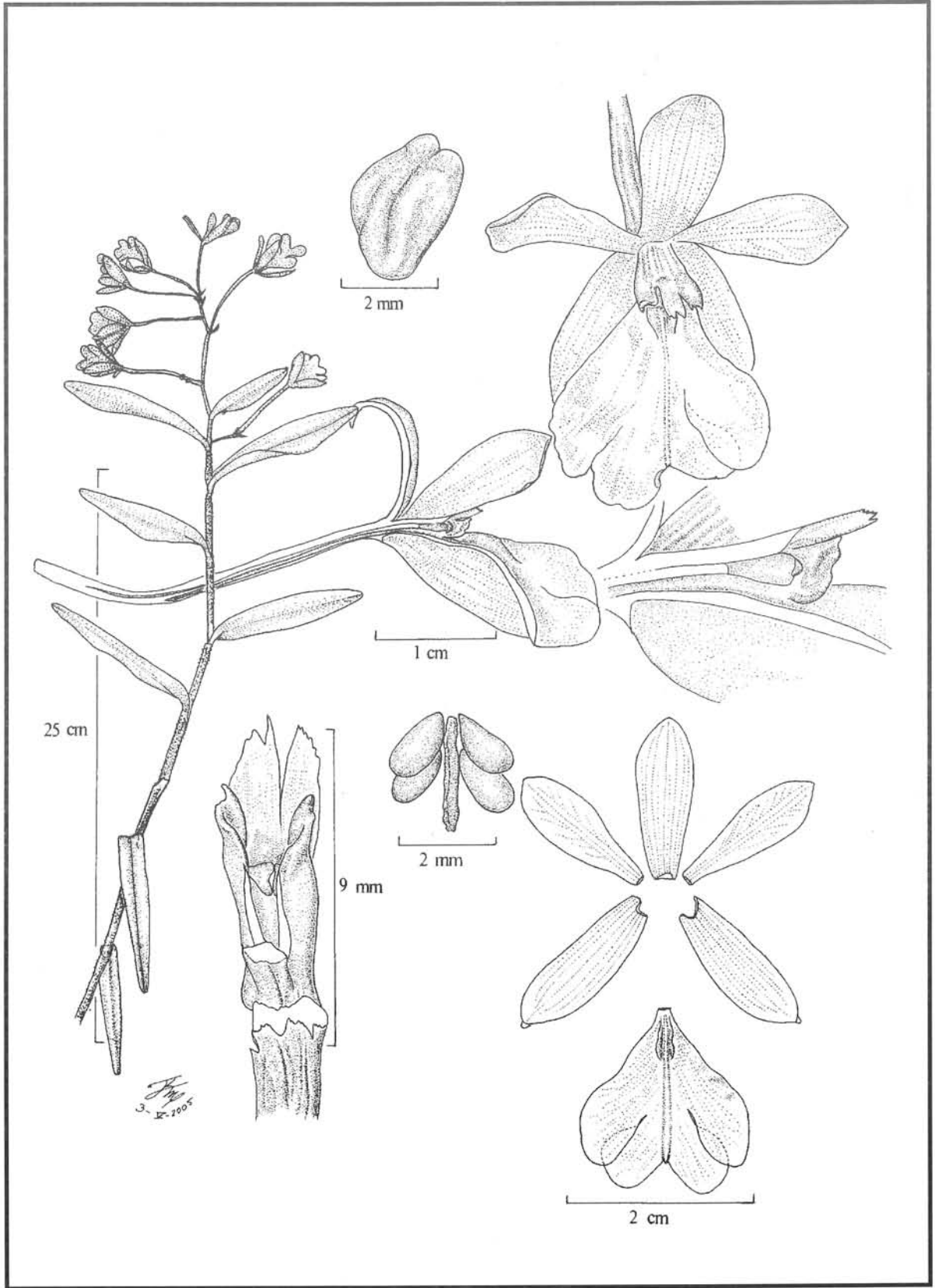


Author: E. Hágsater

Illustrator: R. Jiménez M.

Editors: E. Hágsater & L. Sánchez S.

Herbario AMO Apartado Postal 53-123, 11320 México, D.F., MÉXICO ICONES ORCHIDACEARUM 8. 2006. Plate 848



EPIDENDRUM LACTEUM Dressler

THE GENUS *EPIDENDRUM* PART 5

Plate 849

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM LACTEUM Dressler, Orquideología 11(2): 108. 1976.

Type: PANAMÁ: Veraguas: Continental Divide, about 12-15 km northwest of Santa Fé, ca. 700 m, 17 mayo 1975, **Robert L. Dressler 5030**. Holotype: US!

Synonym: *Oerstedella lactea* (Dressler) Hágsater, Orquídea (Mexico City) 8(1): 21. 1981.

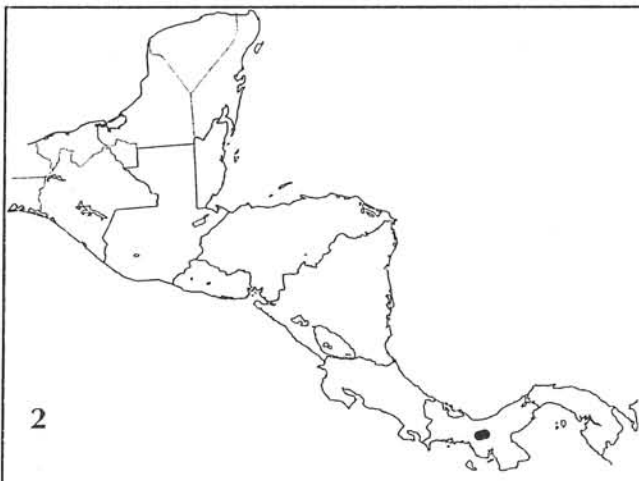
Hierba epífita o litófito, caespitosa, simpodial; 43 cm de alto. **Raíces** basales, carnosas, 2.5-3.5 mm de grosor. **Tallos** sencillos, el retoño nuevo naciendo de 3 a 7 cm arriba de la base del tallo anterior, tipo caña, teretes, delgados, erectos; 24-43 x 0.2-0.4 cm; cubiertos en la base por vainas tubulares no foliares, con verrugas oscuras. **Hojas** 9-12, distribuidas a lo largo de los 2/3 apicales del tallo, alternas, articuladas; vainas tubulares, con verrugas oscuras; 10-35 x 2-5 mm; lámina elíptica a lanceolada, el ápice obtuso a incipientemente bilobado, subcoriáceas, margen entero; 4.2-8.3 x 0.9-3.5 cm. **Bráctea espátacea** ausente. **Inflorescencias** apical y laterales (la apical paniculada con 2 racimos provistos de una bráctea algo foliosa en la base de los mismos, las laterales racemosas), erecta, pauciflora, laxa; 2.5-6 cm de largo; pedúnculo terete, delgado, desprovisto de brácteas, hasta de 17 mm de largo; raquis corto, terete, delgado, recto. **Brácteas florales** mucho más cortas que el ovario, triangular ovadas, agudas, abrazadoras; 2.5-8 mm de largo. **Flores** ca. 35, 4-6 por racimo, simultáneas, resupinadas; sépalos y pétalos crema verdosos, labelo blanco; muy fragantes. **Ovario** terete, delgado, no inflado, no ornamentado; 25-37 mm de largo. **Sépalos** entreabiertos, libres, carnosos, oblanceolados a elíptico oblanceolados, ligeramente verruculosos hacia el ápice, 7-nervados, algunas nervaduras ramificadas dando la apariencia de ser 11-nervados, margen entero, 16-17 x 5-6 mm; los **laterales** con una quilla dorsal diminuta. **Pétalos** entreabiertos, libres, oblanceolados, obtusos, 3-nervados, las nervaduras laterales muy ramificadas dando la apariencia de ser 7-nervados, margen entero, 16-17 x 5-5.3 mm. **Labelo** unido a la columna, 3-lóbado, unguiculado, margen entero; 17-19 x 18-23 mm; bicalloso, los callos delgados, cortos; disco provisto de una quilla delgada, algo carnosas, alargada hasta el seno apical; lóbulos laterales obovado subcuadrados, ligeramente oblicuos, obtusos; 13-14 x 6-7 mm; lóbulo medio profundamente bilobado, los lóbulos obovados; 8-10 x 7-12 mm. **Columna** delgada, recta; 8 mm de largo; terminada en cuatro lóbulos laminares, con el margen eroso. **Clinandrio** sobrepasando ligeramente el cuerpo de la columna, bilobado, margen eroso dentado. **Antera** carnosas, obovoidea, con tres quillas delgadas, ápice truncado, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos; caudículas granuladas, más largas que los polinios; sin viscidio. **Rostelo** perpendicular con respecto al eje de la columna, formando un seno amplio. **Lóbulos laterales del estigma** obsoletos. **Nectario** penetrando hasta la mitad del ovario, no inflado, liso. **Cápsula** (no madura) elipsoide, redondeada, con los segmentos florales persistentes; 32 x 12 mm.

Epiphytic or lithophytic, caespitose, sympodial herb. **Roots** basal, fleshy, thick. **Stems** simple, the new stem produced somewhat above the base of the previous stem, cane-like, terete, thin, erect; base covered by tubular, non-foliaceous sheaths covered by dark warts. **Leaves** 9-12, distributed throughout the apical 2/3 of the stem, alternate, articulate; sheaths tubular, covered with dark warts. **Leaflets** elliptic to lanceolate, the apex obtuse to slightly bilobed, subcoriaceous, margin entire. **Inflorescences** apical and lateral (apical panicle with 2 lateral, racemes provided with a somewhat foliaceous bract at the base, lateral racemes simple), erect, lax, few-flowered; peduncle terete, thin, basally nude; rachis short terete, thin straight. **Floral bracts** much shorter than the ovary, triangular-ovate, acute. **Flowers** ca. 35, 4-6 per raceme, simultaneous, resupinate; sepals and petals greenish creamy, lip white; very fragrant. **Ovary** terete, thin, smooth. **Sepals** partly spreading, free, fleshy, oblanceolate to elliptic-oblanceolate, slightly verruculose towards the apex, 7-veined, some veins branching and thus appearing 11-veined, margin entire; the lateral sepals with a minute dorsal keel. **Petals** partly spreading, free, oblanceolate, obtuse, 3-veined, the lateral veins much branched and appearing 7-veined, margin entire. **Lip** thin, united to the column, 3-lobed, unguiculate, margin entire; bicallose, the calli thin, short, disc provided with a thin, somewhat fleshy keel reaching the apical sinus; lateral lobes obovate-subquadrate, slightly oblique, obtuse; midlobe deeply bilobed, the lobes obovate. **Column** thin, straight, ending in 4 laminar lobes, the margin erose. **Clinandrium-hood** slightly surpassing the body of the column, bilobed, margin erose-dentate. **Anther** 4-celled, fleshy, obovoid, with 3 thin keels, apex truncate. **Pollinia** 4, obovoid, laterally compressed; granulose caudicles longer than the pollinia; without viscidium. **Rostellum** perpendicular to the axis of the column, forming a wide sinus. **Nectary** penetrating to the middle of the ovary, smooth.

OTHER SPECIMENS: See appendix.

DISTRIBUTION AND ECOLOGY: Endemic to central Panama, in very wet forest, epiphyte; ca. 700-1100 m altitude. Flowering from March to June.

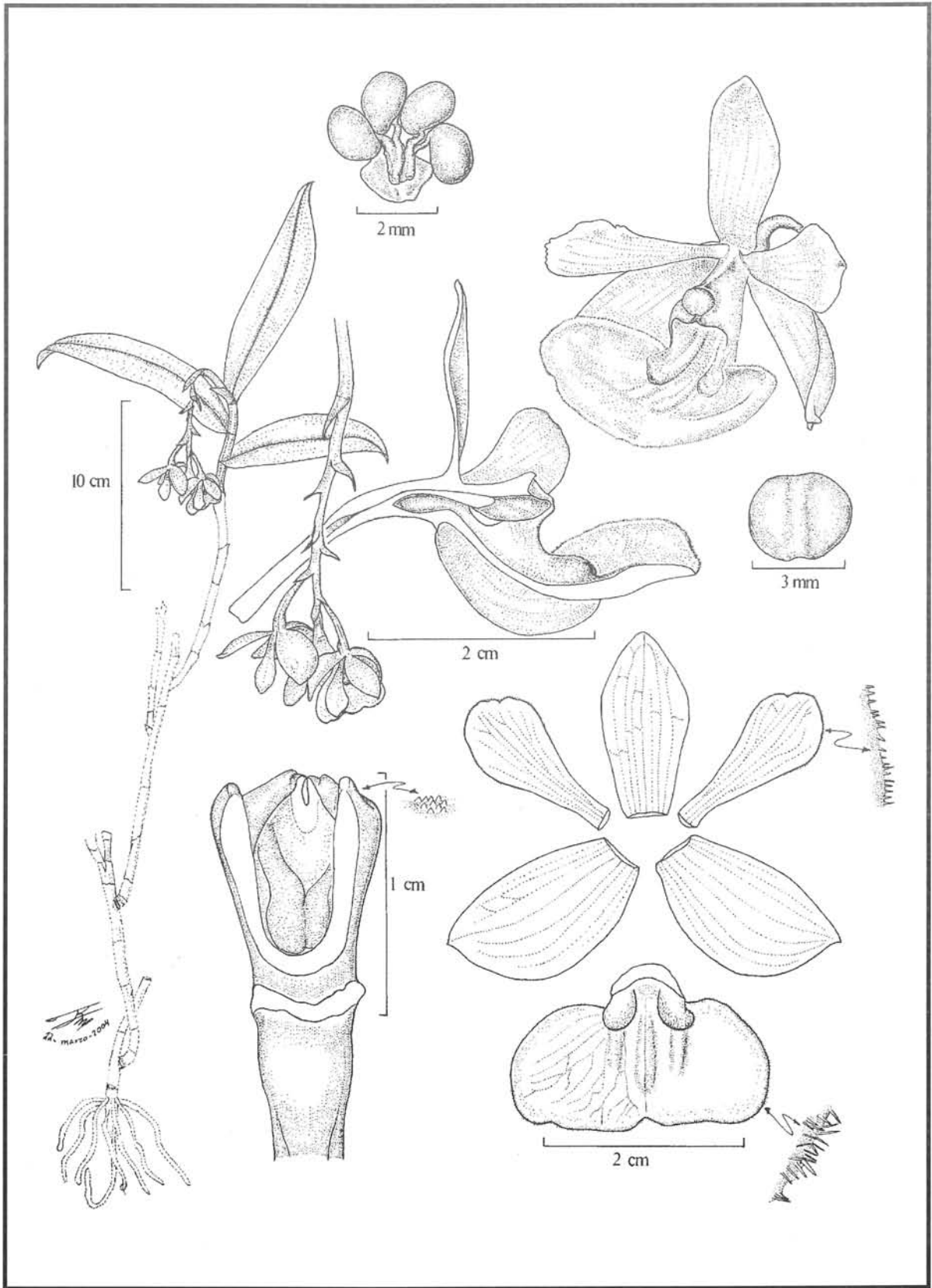
RECOGNITION: *Epidendrum lacteum* belongs to the *Oerstedella* Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is perpendicular to the axis of the column instead of parallel, forming a wide, open sinus, and without a viscidium, and the *Wallisii* Subgroup which has large, fleshy flowers, the lip entire or 3-lobed, the midlobe of the lip bilobed, the clinandrium-hood petaloid, and the pollinia obovoid, laterally compressed, with granulose caudicles. The species is recognized by the medium sized plants (43 cm high) with large flowers (sepals 16-17 mm long), showy, very fragrant, greenish creamy flowers with the lip white, immaculate, the lip with 4 rounded lobes; endemic from central Panama. *Epidendrum schweinfurthianum* Correll has taller plants, 65-150 cm high, with smaller, immaculate flowers, (sepals 10-12 mm long), sepals and petals orange-copper colored, the lip purple violet towards the callus, turning pink towards the margin; found in Guatemala, Honduras and El Salvador. *Epidendrum wallisii* Rchb.f. has few, larger flowers, sepals (15)18-23 mm long and petals yellow usually dotted with purple-red, and the lip white with purple lines and/or dots; found from Costa Rica to western Colombia.



CONSERVATION STATUS: DD. Data deficient. Apparently highly endemic.

ETYMOLOGY: From the Latin *lacteus*, milky, in reference to the milk-white color of the flowers, which distinguishes this species.

REFERENCES: Dressler R. L., 1993, *Field guide to the Orchids of Costa Rica and Panama*, Cornell University Press, p. 91. Hágsater, E., & M. A. Soto Arenas, 2005, *Transfers to Epidendrum* L. From *Oerstedella* Rchb.f., *Lankesteriana* 5(1): 73.



EPIDENDRUM LATISEGMENTUM C.Schweinf.

EPIDENDRUM LATISEGMENTUM C.Schweinf., Bot. Mus. Leaf. 11: 91. 1943.

Type: PERU: Loreto: Pumayacu, between Balsapuerto and Moyobamba, 600-1200 m, August-September 1933, *G. Klug 0.9*. Holotype: AMES! Isotype: US!

Hierba epífita, simpodial, erecta, ca. 40 cm de alto. **Raíces** de la base de la planta, carnosas, gruesas. **Tallos** sencillos, el nuevo tallo se origina de un entrenudo subapical del tallo anterior, tipo caña, teretes, rectos, ca. 15 x 0.5 cm. **Hojas** 4, agrupadas hacia el ápice de cada tallo, la basal mucho más corta que las apicales, alternas; vaina tubular, finamente estriada, 14.5 x 5 mm; lámina angostamente elíptica, aguda, lisa, oblicua, margen entero, 9-17 x 2.1-3.0 cm. **Bráctea** espatácea ausente. **Inflorescencia** apical, florece una sola vez, racemosa, arqueada nutante, pauciflora, laxa, 10.2 cm de largo; pedúnculo lateralmente comprimido, recto, no ornamentado, provisto en la base de una bráctea, angostamente triangular, conduplicada, subaguda, 12 mm de largo. **Flores** 5-8, sucesivas, 3 abiertas de manera simultánea, resupinadas, carnosas, verdes; sin fragancia. **Brácteas florales** mucho más cortas que el ovario, triangulares, acuminadas, abrazadoras, 3-17 mm de largo. **Ovario** terete, delgado, no inflado, no ornamentado, 22 mm de largo. **Sépalos** extendidos, libres, obovados, redondeados, diminutamente apiculados, 7-8 nervados, márgenes extendidos, enteros, 18-21 x 8.5-15 mm; los laterales oblicuos. **Pétalos** extendidos, libres, espatulados, obtusos, levemente emarginados en el ápice, 3-nervados, los nervios laterales ramificados cerca de la base y hacia la mitad apical, margen extendido, entero en la mitad basal, cortamente ciliado hacia la mitad apical, 18-19 x 8-11 mm. **Labelo** unido a la columna, entero, en aspecto general subreniforme, subcordado en la base, ápice truncado, emarginado, carnoso, margen hirsuto, 16.0-16.5 x 25-26 mm; bicalloso, los callos muy prominentes, carnosos, laminares, ligeramente divaricados, con 3 quillas obtusas, lisas, bajas, la central desvaneciéndose antes de llegar al ápice del labelo, el par lateral más corto. **Columna** gradualmente arqueada hacia arriba, gruesa, papilosa en el ápice, 10 mm de largo. **Clinandrio** reducido, margen entero. **Antera** reniforme, con una quilla baja al frente, 4-lócular. **Polinios** 4, obovoides, caudículas casi tan largas como los polinios, no granuladas. **Rostelo** apical, hendido. **Nectario** penetrando 1/5 del ovario, no inflado, no ornamentado. **Cápsula** no vista.

Epiphytic, sympodial, erect herb. **Roots** from the base of the plant, fleshy, thick. **Stems** simple, where the new stem is produced from a subapical node of the previous stem, cane-like, terete, straight. **Leaves** 4, aggregate towards the apex of each stem, the lower one much shorter than the apical leaves, alternate; sheath tubular, minutely striated; blade narrowly elliptic, acute, smooth, oblique, margin entire. **Inflorescence** apical, flowering only once, racemose, arching-nutant, few, lax-flowered; peduncle laterally compressed, straight, provided with a bract at the base, the bract narrowly triangular, conduplicate, subacute. **Flowers** 5-8, successive, 3 open at one time, resupinate, fleshy, green. **Floral bracts** much shorter than the ovary, triangular, acuminate. **Ovary** terete, thin, smooth. **Sepals** spreading, free, obovate, rounded, minutely apiculate, 7-8-veined, margin spreading, entire; the laterals oblique. **Petals** spreading, free, spatulate, obtuse, slightly emarginate on the apical, margin extended, entire along the basal half, short-ciliate towards the apical half. **Lip** united to the column, entire, subreniform, base slightly cordate, apex truncate, emarginate, fleshy, margin hirsute; bicallose, the calli prominent, fleshy, laminar, slightly divaricate, with 3 low, obtuse, smooth keels, the mid-keel reaching slightly past the middle of the lip, the lateral keels shorter. **Column** arching gradually upwards, thick, apex minutely papillose. **Clinandrium** reduced, entire. **Anther** reniform, with a low keel in front, 4-celled. **Pollinia** 4, obovoid, caudicles nearly as long as the pollinia. **Rostellum** apical, slit. **Nectary** penetrating 1/5th of the ovary, smooth.

OTHER SPECIMENS: ECUADOR: Zamora-Chinchipec: Guayzimi, por Río Nangaritzza, 600-1200 m, 26 I 2004, Hort. Ecuagenera, Hágsater 14027, AMO! (Illustration voucher, flowers in spirit, digital photos)

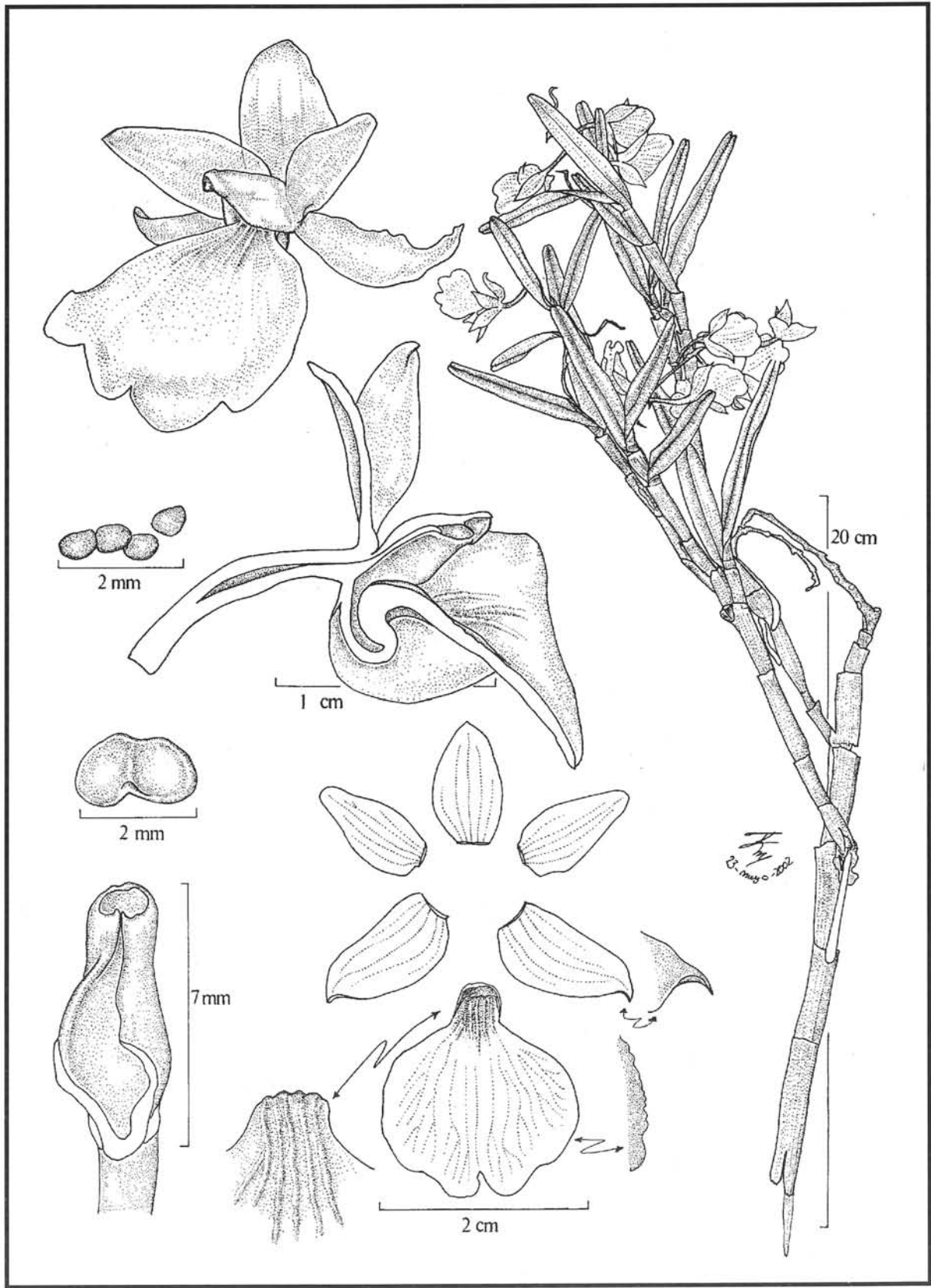
DISTRIBUTION AND ECOLOGY: Known only from the basin of the tributaries of the Marañón River, on the foot-hills of the Andes, in southern Ecuador and northern Peru, at about 600 m. Epiphytic in forest. Flowering in August-January.

RECOGNITION: *Epidendrum latisegmentum* belongs to the Arbuscula Group, Incomptum Subgroup, characterized by the sympodial habit, the new growth produced from the mid-nodes of the previous cane-like growth below the leaves, the apical inflorescence flowering one time only, and the roots produced at the base of each new growth, not at the intermediate nodes, the flowers fleshy. The species is recognized by the thin, uninflated nectary, large, bilobed, subreniform lip, and the relatively wide sepals and petals. It is somewhat similar to *Epidendrum fujimorianum* D.É.Benn. & Christenson which has shorter, narrower, acute petals, and produces successive flowers singly on short racemes (according to the illustration of the type, not the description). *Epidendrum bisculatum* Ames has much smaller flowers, the lip being less than half the size, and suborbicular. *Epidendrum nephroglossum* Schltr. also has a smaller lip, the sepals being 11 mm long, and the petals linear-oblancoelate and somewhat acuminate.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Latin, *latus*, broad, and *segmentum*, piece, in reference to the broad floral parts.



EPIDENDRUM LLOENSE (Lindl.) Hágsater & Dodson

THE GENUS EPIDENDRUM PART 5

Plate 851

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM LLOENSE (Lindl.) Hágsater & Dodson, *Orquídea* (Mexico City) 12(2): 296. 1992.

Basionym: *Diothonea lloensis* Lindl., in Hook. Journ. Bot. 1: 12. 1834. Type: Valley of Lloa, western declivity of the Andes, *Hall 67* Holotype: K-L!

Synonym: *Epidendrum podostylos* Hágsater & Dodson, *Icon. Orch.* (Mexico City) 2: pl. 175. 1993. Type: Ecuador: Imbabura: km 21 Cuicocha-Selva Alegre, ca. 2900 m, 6 December 1986, *E. Hágsater, C. H. Dodson, P. Dodson & A. Hirtz 9191* Holotype: QCNE! Isotype: AMO!

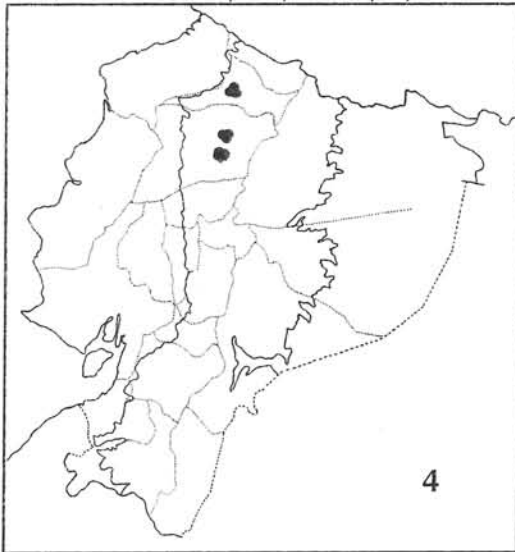
Hierba terrestre, cespitosa; 30-50 cm de alto. **Raíces** basales, en el tallo inicial como en algunas ramas, carnosas, delgadas, 1.2-2 mm de grosor. **Tallos** ramificados, generalmente hacia el ápice, tipo caña, teretes, rectos; 20-50 x 0.38-0.6 cm, las ramificaciones; 7-22 x 0.2-0.6 cm. **Hojas** en el tallo inicial no vistas, caedizas, 3 a 6 en ramas maduras; vaina tubular, estriada y ligeramente rugosa; 0.7-4.3 x 0.38-0.5 cm; lámina angostamente lanceolada, ápice desigualmente bilobado, margen entero, subcoriácea; 3.4-13.7 x 0.4-1.2 cm. **Bráctea** espatácea ausente. **Inflorescencia** apical, racemosa, arqueada; 5-12 cm de largo; pedúnculo terete, recto; 8-17 mm de largo; ocasionalmente provisto de una bráctea semejante a las florales, triangular, acuminada, abrazadora; 5-11 mm de largo. **Brácteas florales** más cortas que el ovario, angostamente triangulares, acuminadas, gradualmente más pequeñas; 3-9 mm de largo. **Flores** [10]12-22, simultáneas, resupinadas, membranáceas, pardo amarillentas, raramente pardo verdosas; sin datos de fragancia. **Ovario** terete, delgado, liso, no inflado; 7-17 mm de largo. **Sépalos** entreabiertos, libres, ovados a ovado elípticos, agudos, 4-5-nervados, margen entero, [8]10.6-14 x [4.5]6.5-7 mm; los laterales oblicuos, ocasionalmente con una carina dorsal que se prolonga más allá del ápice. **Pétalos** entreabiertos, libres, angostamente ovados a subtrulados, ápice subagudo, margen entero, 4-5-nervados; 8-12 x [4]6-6.6 mm. **Labelo** unido de manera oblicua a la columna, entero, subreniforme, ápice 4-lobulado, los lóbulos redondeados, el par central algo más largo que el lateral, base con una uña corta, margen eroso; 12-16 x 13-20 mm; ecaloso, con 5 quillas bajas, que forman una estructura convexa en la base del mismo, lisas, raramente algo serruladas. **Columna** unida de manera oblicua al labelo, arqueada, con un pie de columna muy prominente e involuto, casi tan largo como la columna misma, ventralmente provista de un par de alas prominentes, no involutas; 5-6 mm de largo. **Clinandrio** prominente, cubriendo parcialmente a la antera, entero. **Antera** reniforme, 4-locular, con una quilla roma central. **Polinios** 4, subiguales, obovoides; caudículas suaves y granulosas. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** muy pequeños. **Nectario** ausente pero se forma un saco angosto entre el pie de columna y el labelo, liso. **Cápsula** no vista.

Terrestrial, caespitose, branching herb. **Roots** basal, from the basal stem and the base of some branches, fleshy, thin. **Stems** branching generally towards the apex, cane-like, terete, straight. **Leaves** generally 3-6 present from the branches, sheaths tubular, striated and rugose; blade narrowly lanceolate, apex unequally bilobed, margin entire, subcoriaceous. **Inflorescence** apical, racemose, arching. **Floral bract** shorter than the ovary, narrowly triangular, acuminate, gradually shorter. **Flowers** [10]12-22, simultaneous, resupinate, membranaceous, yellowish brown, rarely greenish brown. **Ovary** terete, thin, smooth, not inflated. **Sepals** partly spreading, free, ovate to ovate-elliptic, acute, 4-5-veined, margin entire, laterals oblique, occasionally with a dorsal keel prolonged beyond the apex. **Petals** partly spreading, free, narrowly ovate to subtrullate, apex subacute, margin entire, 4-5-veined. **Lip** united obliquely to the column, entire, subreniform, apex 4-lobed, the lobes rounded, the central pair slightly longer than the lateral pair, base with a short claw, margin entire; ecallose, with 5 low keels that form a convex structure at the base of the lip, rarely somewhat serrulate. **Column** arched, apical half free, with a very prominent and involute column foot, nearly as long as the column proper, ventrally provided with prominent wings, these not involute. **Clinandrium-hood** prominent, partially covering the anther, entire. **Anther** reniform, 4-celled, with a rounded central keel. **Pollinia** 4, subequal, obovoid; caudicles soft and granular. **Rostellum** subapical, slit. **Lateral lobes of the stigma** very small. **Nectary** formed by a narrow sac between the column foot and the lip, unornamented.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

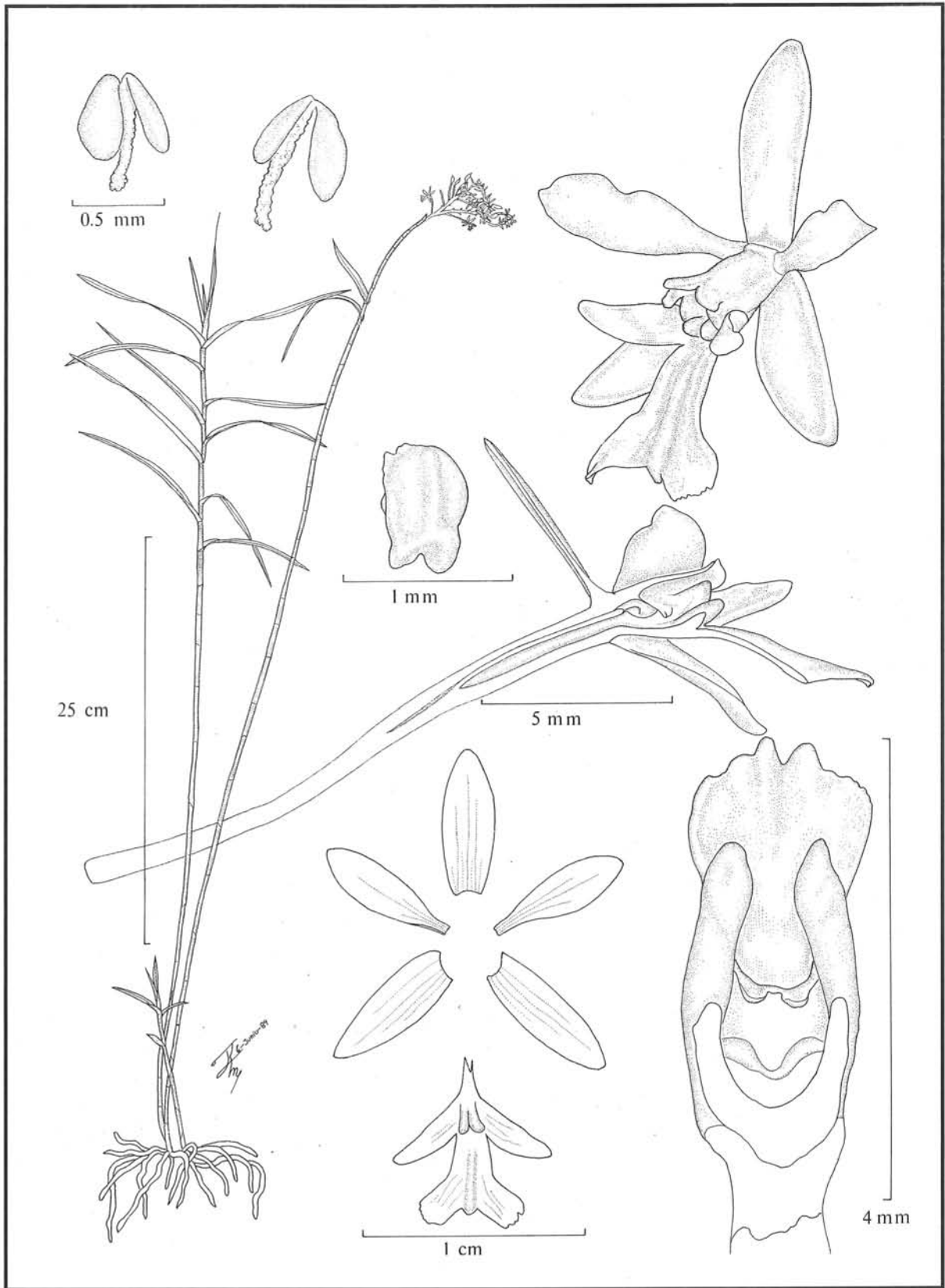
DISTRIBUTION AND ECOLOGY: Endemic to Ecuador from the provinces of Imbabura and Pichincha, from below the paramos of the western slope of the Andes; terrestrial in montane forest, 1600-3300 m. Flowering from February to September.

RECOGNITION: *Epidendrum lloense* belongs to the *Diothonea* Group and Subgroup which is characterized by the branching plants, linear lanceolate to oblong, bilobed leaves, racemose, arching-nutant inflorescence, membranaceous flowers (rarely fleshy), the entire to 3-lobed, ecallose lip with the margin erose without or with 1-10 thin, smooth to erose keels, the column completely to obliquely united to the lip, the anther reniform. The species is recognized by the elongate inflorescence, 5-12 cm long, with [10]12-22 flowers, greenish brown or yellowish brown in color; the petals narrowly ovate to subtrullate; the entire, subreniform with 5 low keels that form a concave structure at the base of the lip; the column with a very prominent and involute, column-foot. *Epidendrum dolichorhachis* Hágsater & Dodson has oblong petals, the lip 3-lobed; the column lacks a column-foot, and the ventral surface is provided with a pair of short, involute wings. *Epidendrum gratissimum* (Rchb.f.) Hágsater & Dodson, has pinkish-yellow flowers, ovate petals, the column ventrally with a pair of very prominent, involute wings.



CONSERVATION STATUS: DD. Data deficient. The species was common in the area which has become heavily populated and thus disturbed.

ETYMOLOGY: In reference to the type locality, the town of Lloa, in the valley below Quito, the capital of Ecuador.



EPIDENDRUM MACDOUGALII (H&Egater) H&Egater

THE GENUS EPIDENDRUM PART 5

Plate 852

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM MACDOUGALLII (Hágsater) Hágsater, Lankesteriana 5(1): 74. 2005.

Basionym: *Oerstedella macdougalii* Hágsater, Orquídea (Mexico City) 13(1-2): 222. 1993.

Type: MEXICO: Chiapas, km 2 del camino Ocozacoautla-Laguna Bélgica, detrás del INI, 900 m, 19 April 1989, pressed 6 June 1989, **Miguel A. Soto y Esteban Martínez 5429**. Holotype: pressed 6 June 1989, AMO!

(Illustration voucher.) Clonotypes: pressed in the field, 19 April 1989: AMO! AMES! CAS! INB! K! MO! SEL!

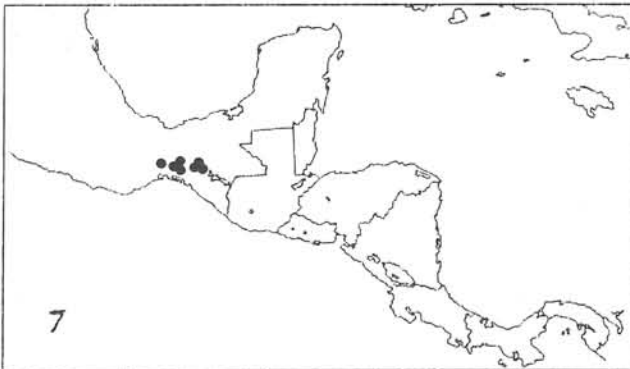
Hierba terrestre, simpodial, cespitosa; de 22-90 cm de alto. **Raíces** basales, carnosas, gruesas; 1-4.5 mm de grosor. **Tallos** sencillos, tipo caña, teretes, delgados, erectos, rectos; 13-80 x 0.1-0.3 cm. **Hojas** 6-26, distribuidas a lo largo del tallo, articuladas, alternas, extendidas, gramíneas; vaina tubular, fuertemente verrugosa, las verrugas teñidas de morado; 10-40 x 1-3 mm; lámina linear lanceolada, ápice agudo, margen entero, lisa, verde; 6-12.5 x 0.3-0.9 cm. **Bráctea** espátacea ausente. **Inflorescencia** apical, florece una sola vez, racemosa a paniculada en individuos muy robustos (donde se producen racimos laterales cortos una vez que termina de florecer el racimo principal), erecta; 4.5-21 cm de largo; pedúnculo terete, delgado, recto; 2-15.5 cm de largo; provisto de 2 a 5 brácteas tubulares, acuminadas; 8-25 mm de largo; raquis terete, delgado, recto. **Brácteas** florales mucho más cortas que el ovario, triangulares, acuminadas, abrazadoras, gradualmente más pequeñas; 2-7 mm de largo. **Flores** 7-25 por racimo, sucesivas, resupinadas, lila rosadas, ápice de la columna blancuzco, callo amarillo; fragancia ausente. **Ovario** terete, delgado, ligeramente inflado en el tercio apical, no ornamentado; 13-26 mm de largo. **Sépalos** extendidos, libres, membranáceos, angostamente obovados, obtusos, 3-nervados, margen entero, 5-7 x 2.3-3 mm; los laterales ligeramente oblicuos. **Pétalos** entreabiertos, libres, obovado oblanceolados, base cuneada, ápice redondeado, 3-nervados, margen entero; 4.5-6 x 1.6-2 mm. **Labelo** unido a la columna, 3-lobado, base levemente cuneada; 5-6.3 x 6-9 mm; bicalloso, los callos cortos, delgados; disco provisto de 1 quilla baja, delgada, lisa; lóbulos laterales ligeramente más anchos que los lóbulos apicales del lóbulo medio, triangulares, insertados a un ángulo de 45°, agudos, margen entero; 3-4 x 1-1.2 mm; lóbulo medio formando un istmo angosto y largo abajo, bilobado y expandido arriba, los lóbulos apicales subrectangulares, insertados a 45°, margen apical eroso, seno apical apiculado; 4-5 x 4-7 mm. **Columna** corta, gruesa; 3-4 mm de largo incluyendo el clinandrio. **Clinandrio** prominente, carnoso, tubular, sobrepasando ligeramente el cuerpo de la columna, margen eroso. **Antera** ovoide, truncada, con una quilla central, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales; caudículas suaves y granuladas, del doble del largo que los polinios; sin viscidio. **Rostelo** perpendicular con respecto al eje de la columna, formando un seno amplio. **Lóbulos laterales del estigma** pequeños. **Nectario** poco profundo, penetrando 1/3 del ovario, delgado, no inflado, liso. **Cápsula** elipsoide, 12-24 x 9 mm, con un pedicelo delgado de 8 mm de largo.

Terrestrial, sympodial, caespitose herb. **Roots** basal, fleshy, thick. **Stems** simple, cane-like, terete, thin, erect, straight. **Leaves** 6-26, distributed throughout the stem, articulate, alternate, spreading, grassy-like; sheath tubular, strongly verrucose, the warts purple; blade linear-lanceolate, smooth, green, apex acute, margin entire. **Inflorescence** apical, flowering only once, racemose to paniculate in robust individuals (short, lateral racemes are produced once the main raceme has finished blooming), erect; peduncle terete, thin, straight, provided with 2-5 tubular, acuminate bracts; rachis terete, thin, straight. **Floral bracts** much shorter than the ovary, triangular, acuminate, gradually shorter. **Flowers** 7-25 per raceme, successive, resupinate, pink-lilac, column apex whitish, callus yellow; without fragrance. **Ovary** terete, thin, slightly inflated along the apical third, smooth. **Sepals** spreading, free, membranaceous, narrowly obovate, obtuse, 3-veined, margin entire; the lateral sepals slightly oblique. **Petals** partly spreading, free, obovate-oblanceolate, base cuneate, apex rounded, 3-veined, margin entire. **Lip** united to the column, 3-lobed, base slightly cuneate; bicallose, the calli short, thin; disc provided with one low, thin, smooth keel; lip slightly wider at the lateral lobes than at the apical lobes of the midlobe; lateral lobes triangular, inserted at a 45° angle, acute, margin entire; midlobe forming a long, narrow isthmus below, bilobed and widened above, the apical lobes subrectangular, inserted at 45°, apical margin erose, apical sinus apiculate. **Column** short, thick, the body of the column occupying half the length, the clinandrium-hood the other half. **Clinandrium-hood** prominent, fleshy, tubular, margin erose. **Anther** ovoid, truncate, with a low central keel, 4-celled. **Pollinia** 4, obovoid, laterally compressed, subequal; caudicles soft and granulose, twice as long as the pollinia; viscidium lacking. **Rostellum** perpendicular with respect to the axis of the column, a wide sinus. **Nectary** barely penetrating 1/3 of the ovary, narrow, not inflated, smooth. **Capsule** ellipsoid, with a thin pedicel.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Endemic to Mexico on Pacific slope of the mountains of the Isthmus of Tehuantepec. Terrestrial in clayey soils, in mixed Oak and Pine-Oak and *Liquidambar* forests, growing in canyons at 850-1700 m altitude. Flowering from February to July.

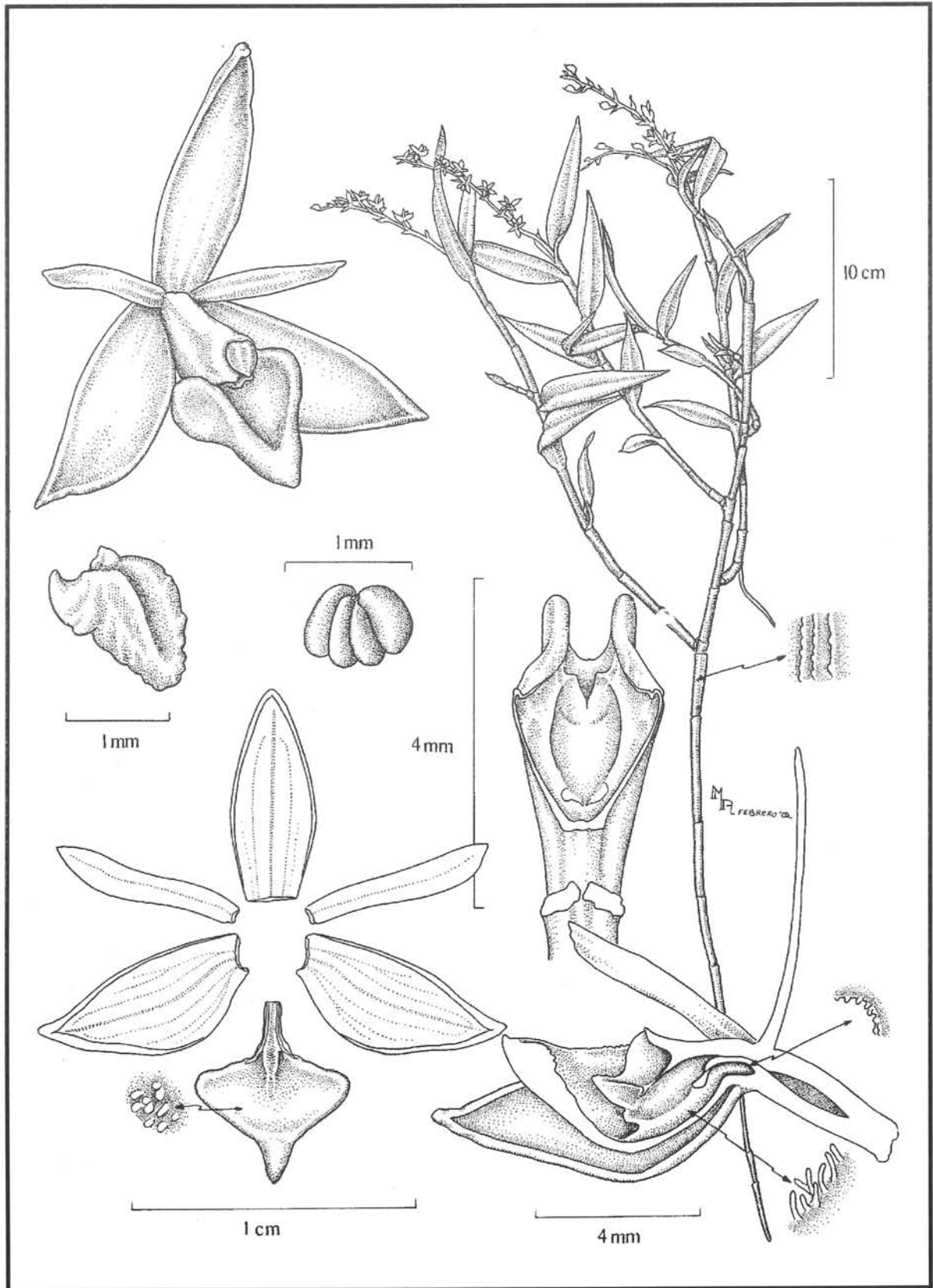
RECOGNITION: *Epidendrum macdougalii* belongs to the *Oerstedella* Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is perpendicular to the axis of the column instead of parallel, forming a wide, open sinus, and without a viscidium, and the Verrucosum Subgroup, recognized by the small to medium sized, membranaceous flowers with sepals and petals immaculate, a bilobed clinandrium-hood slightly surpassing the body of the column, obovoid, subequal pollinia with long granulose caudicles. The species is recognized by the simple, thin stems, grassy linear-lanceolate leaves, the peduncle of the inflorescence with 2-5 tubular bracts, small lilac-pink flowers (sepals 5-7 mm long), the lip with acute lateral lobes. It is similar to *Epidendrum myrianthum* Lindl. which has much larger, more robust plants with paniculate, many flowered inflorescences, and the lateral lobes of the lip are rounded, and the 7-10 mm long sepals are proportionately wider. *Epidendrum aberrans* Schltr. has similar flowers, but the lip is usually white, and has a



much longer, narrower column, is always epiphytic, forms keikies along the stems and somewhat larger flowers (sepals 7-10 mm long); the pollinia are however very different, bird-wing type, unequal, with laminar caudicles, and belongs to the *Aberrans* Subgroup.

ETYMOLOGY: In honor of Thomas Baillie MacDougal (1895-1973) and avid collector and student of Cacti, especially from the states of Chiapas and Oaxaca, and also author of several articles on orchids of the region. He collected the earliest recorded specimen of the species and later gave another plant to Glenn Pollard.

REFERENCES: Hágsater, E., & M. A. Soto Arenas, 2005, Transfers to *Epidendrum* L. from *Oerstedella* Rchb. f., *Lankesteriana* 5(1): 73.



EPIDENDRUM MICRORIGIDIFLORUM Hágsater

EPIDENDRUM MICRORIGIDIFLORUM Hágsater, *sp. nov.*

Type: PANAMA: Chiriquí: Valle de Fortuna, 1100-1200 m; 27 October 1999, *Dressler 6259*. Holotype: AMO! (Illustration voucher).

Epidendro rigidifloro Schltr. simile sed habitu vegetativo floribusque minoribus, labello late rhombeo, ad basem late cuneato, ad apicem manifeste apiculato, aurantiaco-viridulo, divergens.

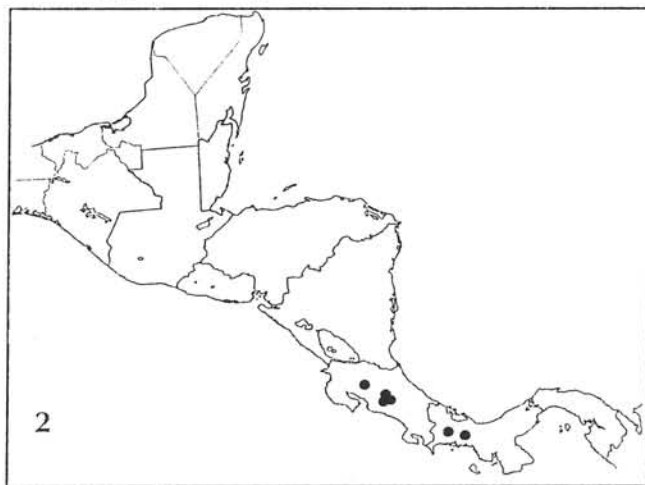
Hierba epífita, submonopodial, ramificada arriba, de más de 60-100 cm de alto. **Raíces** en el tallo principal no vistas, raramente escasas en algunas ramificaciones, carnosas, gruesas, blancas, 2.8 mm de grosor. **Tallos** ramificados subapicalmente, tipo caña, teretes, delgados, rectos, el principal de más de 40 x 0.3-0.46 cm; las ramificaciones (producidas de los entrenudos intermedios o apicales una ó dos ramificaciones), 11-29 x 0.2-0.42 cm. **Hojas** en el tallo principal no vistas; 4-7 en las ramificaciones, distribuidas en los 2/3 apicales del tallo, articuladas, alternas, desiguales, la basal y la apical más pequeñas; vaina tubular, finamente estriada, rugosa, 10-26 x 2-4.6 mm; lámina ovado lanceolada, acuminada, coriácea, margen entero, 1.6-7.5 x 0.6-1.5 cm. **Bráctea espatácea** ausente. **Inflorescencia** apical, racemosa, erecta, florece una sola vez, 6-10 cm de largo; pedúnculo terete, delgado, corto, recto, 10-12 mm de largo; raquis recto. **Bráctea floral** del doble del largo del ovario, angostamente triangulares, agudas, abrazadoras, 4-9 mm de largo. **Flores** 8-16, simultáneas, no resupinadas, sépalos y pétalos amarillo verdoso o cremas, labelo anaranjado verdoso; sin datos de fragancia. **Ovario** corto, terete, delgado, no inflado, liso, 4-5 mm de largo. **Sépalos** libres, extendidos, ovados, agudos, 3-nervados, las nervaduras laterales ramificadas desde la base, dando la apariencia de ser de 5 a 6 nervados, margen involuto y entero, 7.5-7.8 x 3-3.5 mm; los **laterales** ligeramente oblicuos, 5-nervados. **Pétalos** libres, extendidos, lineares, agudos, 1-nervados, margen entero, 6.8 x 1.2 mm. **Labelo** unido a la columna, entero, anchamente rómbico, diminutamente subpapiloso, anchamente cuneado en la base, prominentemente apiculado en el ápice, margen entero, 4.3 x 5.4 mm; bicalloso, los callos, incipientes, delgados, paralelos, muy cortos. **Columna** corta, gruesa, ligeramente arqueada hacia arriba, 4 mm de largo. **Clinandrio** corto, margen entero. **Antera** subovoidea, 4-locular, con un canal central conspicuo. **Polinios** 4, obovoides, lateralmente comprimidos. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** pequeños, de 1/5 del largo de la cavidad estigmática. **Nectario** corto, sin penetrar el ovario, delgado, pubescente. **Cápsula** no vista.

Epiphytic, tall, submonopodial herb, branching above. **Roots** basal and rarely scarce from the base of the branches, fleshy, thick, white. **Stems** branching subapically, cane-like, terete, thin, straight, the branches produced from the upper internodes. **Leaves** 4-7 distributed along the apical 2/3 of the branches, articulate, alternate, unequal, progressively larger, except for the apical one which is smaller; sheaths tubular, minutely striated and rugose; blade ovate-lanceolate, acuminate, coriaceous, margin entire. **Spathaceous bract** absent. **Inflorescence** apical, racemose, erect, flowering only once; peduncle terete, thin, short, straight; rachis straight. **Floral bracts** twice as long as the ovary, narrowly triangular, acute. **Flowers** 8-16, simultaneous, non-resupinate, sepals and petals greenish yellow or cream, lip greenish orange. **Ovary** short, terete, thin, smooth. **Sepals** free, spreading, ovate, acute, 3-veined, the lateral veins branched from the base so as to appear 5-6-veined, margin involute and entire; the lateral slightly oblique, 5-veined. **Petals** free, spreading, linear, acute, 1-veined, margin entire. **Lip** united to the column, entire, widely rhombic, subpapillose, base widely cuneate, apex prominently apiculate, margin entire. **Column** short, thick, slightly arching upwards. **Clinandrium-hood** short, margin entire. **Anther** subovoid, 4-celled, with a conspicuous central channel. **Pollinia** 4, obovoid, laterally compressed. **Rostellum** subapical, slit. **Nectary** short, without penetrating the ovary, thin, pubescent.

OTHER SPECIMENS: COSTA RICA: **Alajuela:** Reserva Biológica Monteverde San Ramón, Río Peñas Blancas, 1000 m, 7 XI 1989, *Bello 1472*, MO! **Cartago:** Reserva de Tapantí, 25 IX 1984, *Dressler 50*, USJ! 6 km upstream from Tapantí, 1500-1800 m, 24 XI 1984, *Grayum 4552*, AMO! CR! SEL! Río Grande de Oroquí, región de Tapantí, 1250 m, 29 I 1983, *Hágsater 6981*, AMO! 8 km S of Tapantí, 1800 m, 20 II 1977, *Lent 4109*, CR! F! Reserva Nacional Tapantí, 1330-1660 m, 10 I 1985, *Mora 10*, USJ! PANAMA: **Chiriquí:** Vicinity of Cerro Colorado mine, above Chami, 1250 m, 25 I 1988, *McPherson 11998*, AMO!

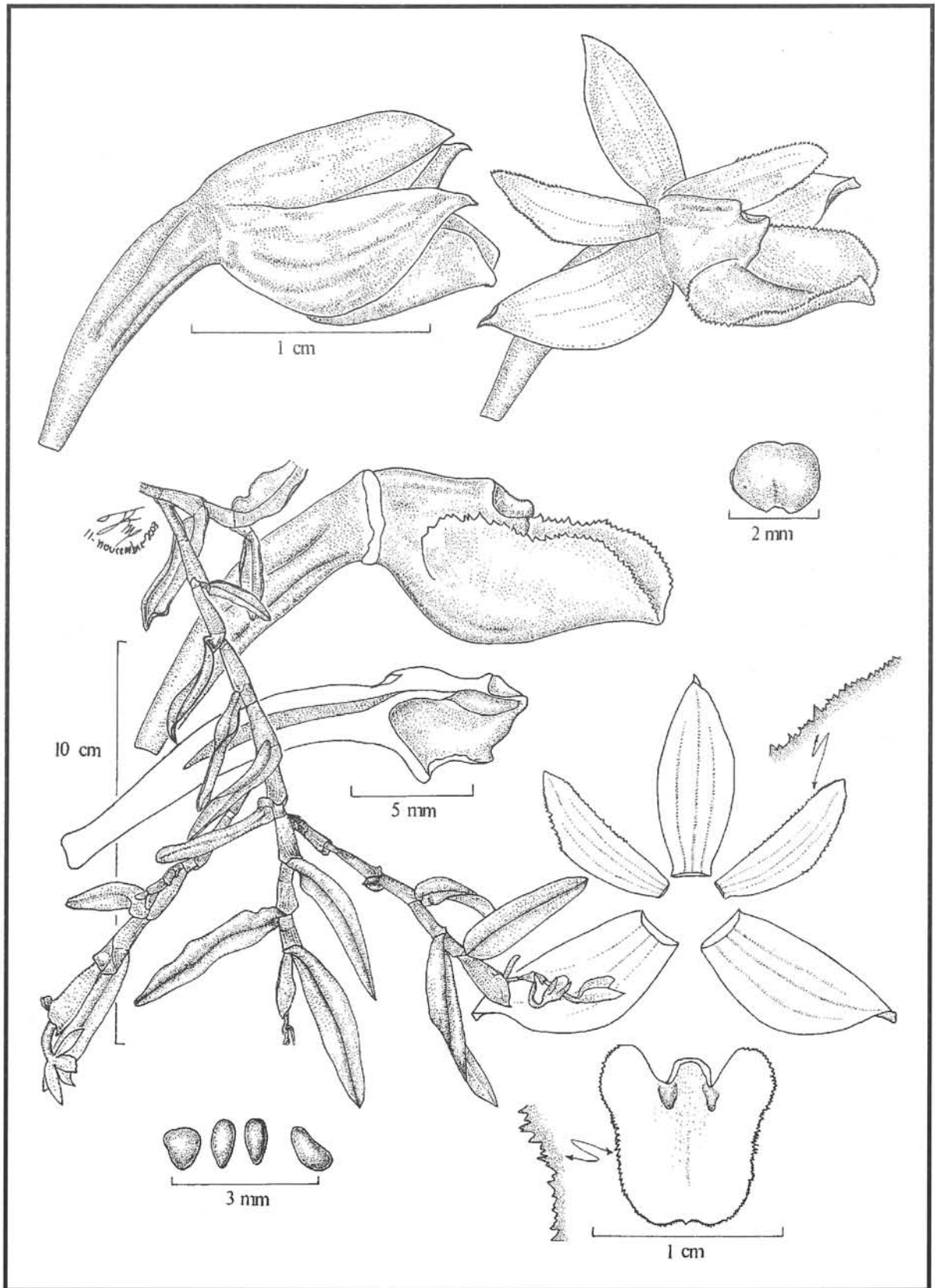
DISTRIBUTION AND ECOLOGY: Ranging from western Costa Rica to western Panama, at 1000-1800 m altitude. Flowering from September to January.

RECOGNITION: *Epidendrum microrigidiflorum* belongs to the *Macrostachyum* Group, *Aquaticum* Subgroup which is characterized by the monopodial stems, branching above, the apical, erect, distichous, secund inflorescence with non-resupinate, fleshy flowers, the lip entire, triangular to cordiform, with small calli and the nectary usually puberulose in front of the stigmatic cavity. The new species is recognized by the 60-100 cm high, subapically branching plants with relatively small leaves (1.6-7.5 x 0.6-1.5 cm), short inflorescence (6-10 cm), floral bracts (4-9 mm), with the flowers greenish yellow and the lip greenish orange, the sepals 7.5-7.8 mm long, and the lip widely rhombic. It is very similar and has been confused with *E. rigidiflorum* which is overall larger, the lanceolate leaves (17.5-19.8 x 1-2.7 cm), the inflorescence long, (15-23 cm) distichous and secund, the floral bracts (11-22 mm) and yellow, yellowish brown to greenish yellow, large, fragrant flowers (sepals 10 mm long), with the lip deeply cordate-triangular. Both have been confused with the South American *Epidendrum macrostachyum* Lindl. which has a racemose, cylindrical inflorescence, with similar flowers.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Greek μικρός, small, and the Latin rigidus, and flos, flower, in reference to the small flowers and vegetative habit, compared to the sister larger species *Epidendrum rigidiflorum*.



EPIDENDRUM MINUTIDENTATUM C.Schweinf.

EPIDENDRUM MINUTIDENTATUM C.Schweinf., Bot. Mus. Leaflet. Harvard Univ. 11: 99, 1943.

Type: PERU: Cuzco: Prov. Quispicanchis; Marcapata, 3100 m, **A. Weberbauer 7804**. Holotype; F 605154. Isotypes: AMES 61551! NY! US 2567009!

Hierba epífita, colgante, ramificada, hasta de 24 cm de alto. **Raíces** basales, delgadas carnosas, sencillas. **Tallos** ramificados, producidos en la mitad apical de tallos anteriores, tipo caña, ligeramente teretes en la base a lateralmente comprimidos hacia el ápice, algo flexuosos, las ramificaciones menores que los tallos basales, 5.5-11 x 0.12-0.4 cm. **Hojas** ca. 12 en los tallos basales, 2-5 en las ramificaciones, distribuidas a lo largo del tallo, dísticas, la basal generalmente más pequeña; vainas infundibuliformes, finamente estriadas, 3-12 x 3.3-4.7 mm; lámina elíptico lanceolada, algo oblicua, ápice redondeado, con una quilla dorsal, margen apical algo crenado, coriácea, 1.8-4.2 x 0.4-1.25 cm. **Brácteas** espátáceas 1-2, obovadas, anchas, redondeadas, margen entero, rugosas en seco, cubriendo al pedúnculo, 15-18 x 5-6 mm. **Inflorescencia** apical, pauciflora, 2.5 cm de largo; pedúnculo lateralmente aplanado, delgado, oculto casi en su totalidad por la bráctea espátácea, 13-18 mm de largo. **Brácteas florales** más cortas que el ovario, angostamente triangulares, agudas, abrazadoras, gradualmente más pequeñas hacia el ápice, 2-6 mm de largo. **Flores** 1-4, simultáneas, resupinadas, de color rosado amarillentas a pardo rojizas con puntos púrpura; sin datos de fragancia. **Ovario** terete, delgado, liso, no inflado, 12 mm de largo. **Sépalos** entreabiertos, libres, angostamente elípticos, agudos, diminutamente apiculados, 3-nervados, margen entero, 9.8-10.2 x 3.7-4.5 mm; los laterales oblicuos. **Pétalos** entreabiertos, libres, elíptico oblongos, agudos, 3-nervados, margen entero en la base a dentado hacia la mitad apical, 8.2-8.8 x 2.5 mm. **Labelo** unido de manera oblicua a la columna, entero, subcuadrado, cordado en la base, con un par de lóbulos redondeados en la base, diminutamente apiculado, margen conspicuamente dentado, 9 x 8.7 mm; ecallosos y desprovisto de quillas. **Columna** recta, gruesa, 5 mm de largo. **Clinandrio** reducido, margen entero. **Antera** transversalmente elíptica, 4-locular. **Polinios** 4, obovoides, desiguales. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** no vistos. **Nectario** poco profundo, sin traspasar el perianto, amplio, no ornamentado. **Cápsula** no vista.

Epiphytic, pendant, branching herb. **Roots** basal, thin, fleshy, simple. **Stems** branching, produced from the apical half of the previous stem, cane-like, slightly terete at the base, laterally compressed above, somewhat flexuous, the branches shorter than the basal stems. **Leaves** about 12 on the basal stems, 2-5 on the branches, distributed along most of the stems, distichous, the basal one usually smaller; sheath infundibuliform, minutely striated; blade elliptic-lanceolate, somewhat oblique, apex rounded, with a dorsal keel, coriaceous, apical margin somewhat crenate. **Spathaceous bract** 1-2, obovate, wide, rounded, margin entire, rugose when dry, covering the peduncle. **Inflorescence** apical, few-flowered; peduncle laterally compressed, thin. **Floral bracts** much shorter than the ovary, narrowly triangular, acute, the apical ones gradually shorter. **Flowers** 1-4, simultaneous, resupinate, yellow-pink to reddish brown, dotted with purple. **Ovary** terete, thin, smooth. **Sepals** partly spreading, free, narrowly elliptic, acute, minutely aciculate, 3-veined, margin entire; the laterals oblique. **Petals** partly spreading, free, elliptic-oblong, acute, 3-veined, basal margin entire, dentate along the apical half. **Lip** obliquely united to the column, entire, subquadrate, the base cordate, with a pair of rounded lobes at the base, the apex minutely apiculate, margin conspicuously dentate; ecallose, smooth. **Column** straight, thick. **Clinandrium-hood** reduced, entire. **Anther** transversely elliptic, 4-celled. **Pollinia** 4, obovoid, unequal. **Rostellum** apical, slit. **Nectary** wide, without penetrating the ovary, smooth.

OTHER SPECIMENS: PERU: Cuzco: Quispicanchis: Yuncawaro, Valle Marcapata, 2000 m, 10 XII 1966, *Vargas 18527*, AMES! (Illustration voucher).

DISTRIBUTION AND ECOLOGY: Known only from south eastern Peru, from the upper basin of the Madre de Dios River, between 2000 and 3100 m altitude; growing in Bushwood consisting of high shrubs and small trees with many hard-leaved species. Flowering from December to February.

RECOGNITION: *Epidendrum minutiflorum* belongs to the Geminiflorum Group, Megalospatum Subgroup, recognized by the branching habit, many-leaved basal stem, the leaves fleshy and *Dichaea*-like, the prominent, semioval spathaceous bracts and the few-flowered inflorescence, with the flowers resupinate. The species is recognized by the branching habit, with the branches produced around the middle of the stems, subquadrate, deeply cordate lip with the margin conspicuously denticulate, the lack of calli, the oblique apex of the column.

CONSERVATION STATUS: DD. Data deficient.



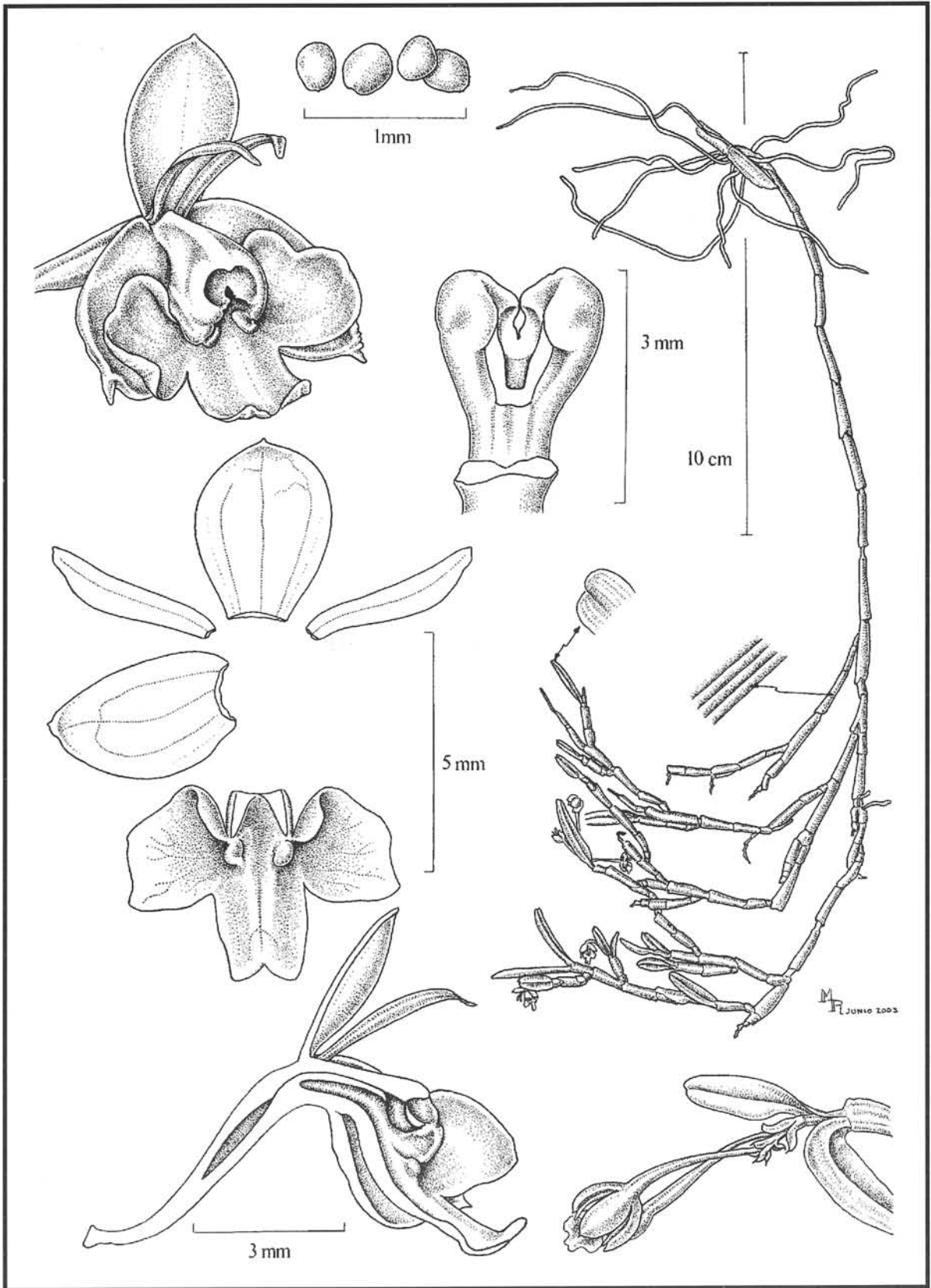
ETYMOLOGY: From the Latin *minutus*, minute, finely, and *dentatus*, toothed; in reference to the conspicuously dentate margin of the lip.

Author: E. Hágsater

Illustrator: R. Jiménez M.

Editors: E. Hágsater & L. Sánchez S.

Herbario AMO Apartado Postal 53-123, 11320 México, D.F., MÉXICO ICONES ORCHIDACEARUM 8. 2006. Plate 854



EPIDENDRUM MODESTISSIMUM F. Lehm. & Kraenzl.

EPIDENDRUM MODESTISSIMUM F. Lehm. & Kraenzl., Engl. Bot. Jahrb. Syst. 26: 469. 1899.

Type: COLOMBIA: Cauca: Epiphytica in silvis densis in declivitate occidentali montis ignovimi de Sotará, 2000 m, July 1886, *F. C. Lehmann 6261*. Holotype: B, destroyed. Lectotype, here designated: K!

Hierba epífita, más o menos monopodial, ramificada, ca. 16 cm de alto. **Raíces** basales, carnosas, delgadas, blancas, 0.5-1.5 mm de grosor. **Tallos** ramificados hacia el ápice, las ramificaciones a su vez originando ramificaciones muy cortas de los entrenudos apicales de la rama anterior, tipo caña, teretes, delgados, el principal, 16 x 0.13 cm; las ramificaciones muy cortas, 1.0-5.0 x 0.1-0.15 cm. **Hojas** en el tallo principal no vistas, 2 en las ramificaciones, generalmente sólo 1 persistente en el ápice de los tallos, alternas, subcoriáceas; vaina tubular, finamente estriada, 5-13 x 1.0-1.5 mm; lámina oblongo lanceolada, ápice truncado y desigualmente bilobado, margen entero, lisa, 0.7-2.0[2.5] x 0.15-0.3[0.4] cm. **Bráctea espátacea** ausente. **Inflorescencia** apical, racemosa, arqueado nutante, florece una sola vez, pauciflora, 1 cm de largo; pedúnculo muy corto, terete, delgado, desprovisto de brácteas, 1-3 mm de largo; raquis terete, delgado, recto, 3 mm de largo. **Brácteas florales** mucho más cortas que el ovario, triangulares, agudas, abrazadoras, 1 mm de largo. **Ovario** terete, delgado, liso, no inflado, 7 mm de largo. **Flores** [1-3]3-5, simultáneas, resupinadas, color blanco; sin datos de fragancia. **Sépalos** entreabiertos, libres, obovado elípticos, ápice redondeado, diminutamente apiculado, 3-nervados, margen entero, 3.5-4.0[5] x 2.4-2.8 mm; los **laterales** ligeramente oblicuos. **Pétalos** entreabiertos, libres, oblongos, redondeados, 1-nervado, margen entero, oblicuos, ligeramente falcados, 3.7 x 0.7 mm. **Labelo** unido totalmente a la columna, trilobado, base profundamente cordada, margen entero, 4.0-6 x 4-5.5 mm; bicalloso, los callos basales, prominentes, globosos; disco desprovisto de quillas; lóbulos laterales dolabriformes, redondeados, 2 x 2.8 mm; lóbulo medio rectangular oblongo, el ápice retuso, 1.8 x 1.9 mm. **Columna** recta, dilatada hacia el ápice, gruesa, corta, 2 mm de largo. **Clinandrio** corto, entero. **Antera** no vista. **Polinios** 4, lenticulares. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** no vistos. **Nectario** sin traspasar el perianto, delgado, liso. **Cápsula** no vista.

Epiphytic, more or less monopodial herb. **Roots** basal, fleshy. **Stem** branching near the apex, cane-like, terete, thin, the branches short. **Leaves** 2 from the branches, usually only one persistent, subcoriaceous; sheath tubular, minutely striated; blade oblong-lanceolate, apex truncate, unequally bilobed, margin entire, smooth. **Inflorescence** apical, racemose, arching-nutnant, flowering only once, few-flowered; peduncle short, terete; rachis terete, thin. **Floral bracts** much shorter than the ovary, triangular, acute. **Ovary** terete, thin, smooth. **Flowers** [1-3]3-5, simultaneous, resupinate, white. **Sepals** partly spreading, free, ovate-elliptic, apex rounded, minutely apiculate, 3-veined, margin entire, the laterals somewhat oblique. **Petals** partly spreading, free, oblong, rounded, 1-veined, margin entire, oblique, slightly falcate. **Lip** united to the column, 3-lobed, base deeply cordate, margin entire; bicallose, the calli basal, prominent, globose; lateral lobes dolabriform, rounded, midlobe oblong-rectangular, apex retuse. **Column** straight, dilated towards the apex, thick, short. **Clinandrium-hood** short, entire. **Pollinia** 4, lentil-shaped. **Rostellum** apical, slit. **Nectary** not penetrating the ovary, thin, smooth

OTHER SPECIMENS: COLOMBIA: Antioquia: Mpio. El Carmen, road to Vereda La Madera, 2660 m, 11 V 1983, *Escobar 2561 SEL!* (Illustration voucher). Cundinamarca: Usaquén, 3000 m, 19 X 1945, *Schneider 121*, AMES! Ibid. 6 VI 1948, *Schneider 121/2 COL!*

DISTRIBUTION AND ECOLOGY: Known from the Cordillera Central in Colombia, from Antioquia north of Medellín south to the Cauca, and the Cordillera oriental around Bogotá, growing at 2660-3000 m altitude. Flowering from May to October.

RECOGNITION: *Epidendrum modestissimum* belongs to the Cernuum Group, Anthropophorum Subgroup, recognized by the branching habit on a monopodial foot, oblong, bilobed leaves, adpressed sheaths and 3-lobed, bicallose lip, and a glomerulose, very short inflorescence; the column is much thickened towards the apex. The species is recognized by the small habit and white flowers, the short, oblong-lanceolate, truncate, unequally bilobed leaves, the dolabriform lateral lobes of the lip and the oblong-rectangular midlobe, retuse at the apex, without forming prominent divergent lobes. It is vegetatively very similar to *Epidendrum anthropophorum* Rehb. f. which also has white flowers but the lip has long lateral lobes and the bilobed, divaricate, shorter lobes of the midlobe, which, with the narrow, rectangular isthmus of the lip give it an anthropoid-like appearance.

CONSERVATION STATUS: DD. Data deficient. Apparently rare, though the small size may have led to its being overlooked.

ETYMOLOGY: From the Latin *modestus*, with moderation, discrete, modestly, which does not stand out, in reference to the small, unattractive aspect of the species.



Authors: E. Santiago & E. Hágsater

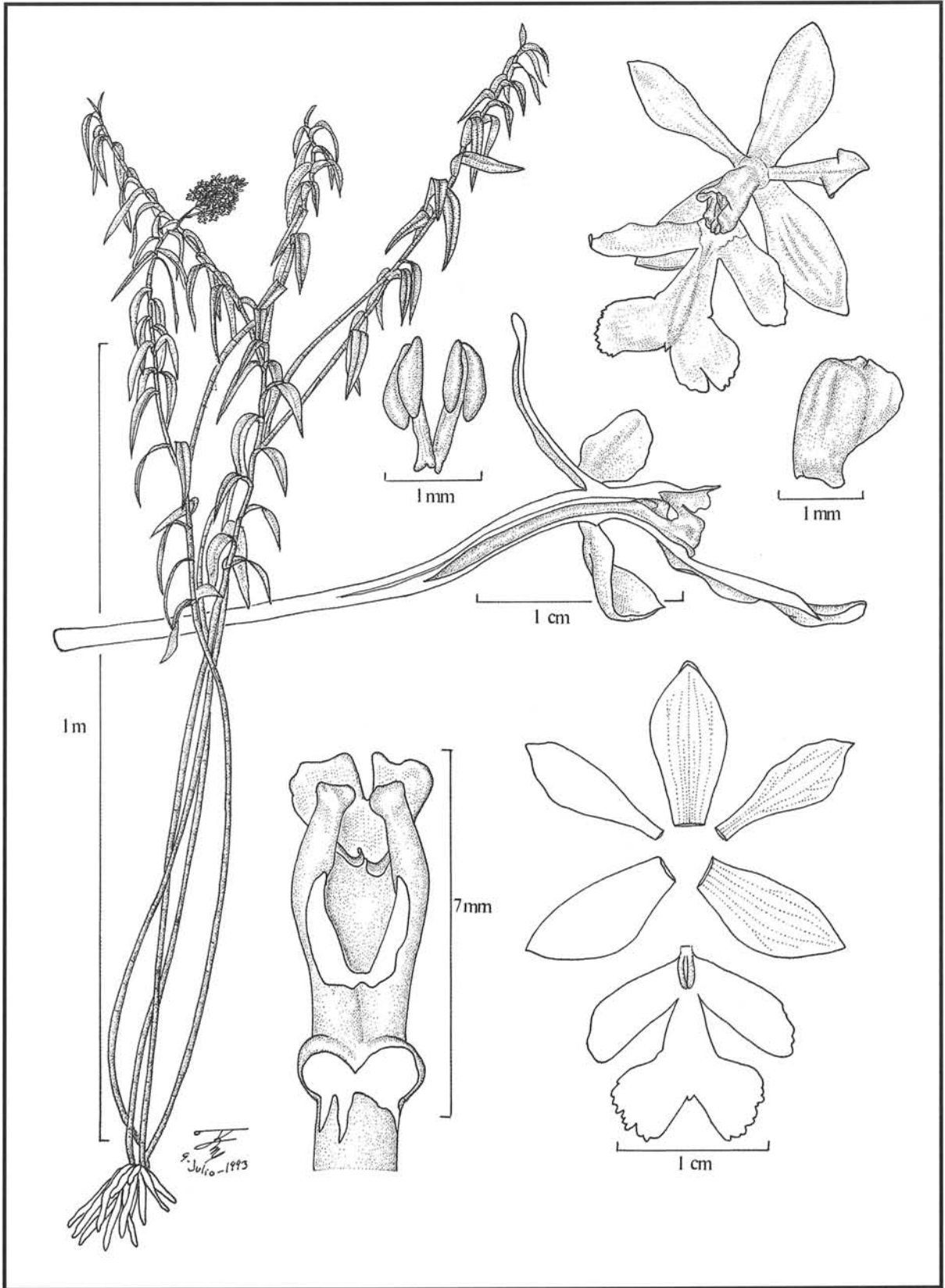
Illustrator: M. López R.

Editors: E. Hágsater & L. Sánchez S.

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ICONES ORCHIDACEARUM 8. 2006. Plate 855



EPIDENDRUM MYRIANTHUM Lindl.
THE GENUS EPIDENDRUM PART 5

EPIDENDRUM MYRIANTHUM Lindl., Folia Orch. Epid. 59. 1853.

Type: GUATEMALA: Guatemala, September 1852, *Klee*. Holotype: K!

Synonyms: *Epidendrum myriantchum* Hook. ex Gajón Sánchez Mejores Orq. Mex. (1930) 45, *sphalm*.

Epidendrum verrucosum var. *myrianthum* (Lindl.) Ames & Correll in Bot. Mus. Leaf. 10(4): 82. 1942.

Oerstedella myriantha (Lindl.) Hágsater, Orquídea (Mexico City) 8(1): 21. 1981.

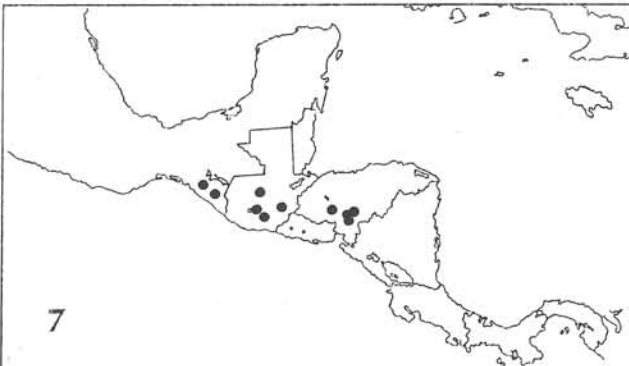
Hierba terrestre o epífita, simpodial, cespitosa; hasta de [40] 80-180 cm de alto. **Raíces** basales, carnosas, gruesas; 1-4 mm de grosor. **Tallos** sencillos, tipo caña, teretes, delgados, erectos, rectos; 28-120 x 0.2-0.45 cm; frecuentemente produce keikis en la mitad superior de tallos maduros. **Hojas** 10-28, distribuidas en la mitad apical del tallo, dísticas, articuladas, erecto extendidas; vaina tubular, fuertemente verrugosa; 5-25 x 2-4.5 mm; lámina linear lanceolada, lisa, ápice acuminado, margen entero; 3.3-15 x 0.4-1.8 cm. **Bráctea espatácea** ausente. **Inflorescencia** apical, florece una sola vez, paniculada a muy raramente racemosa, multiflora, erecta; 6-23 cm de largo; pedúnculo terete, delgado, recto; 1.2-3.3 cm de largo; ocasionalmente provisto de 1 bráctea tubular, acuminada; 7-12 mm de largo; raquis terete, delgado, recto. **Brácteas florales** mucho más cortas que el ovario, triangulares, acuminadas, gradualmente más pequeñas; 2-6 mm de largo. **Flores** 15-125, simultáneas, resupinadas, púrpura rosadas, callo amarillo; fragancia ausente. **Ovario** terete, delgado, no inflado, no ornamentado; 13-32 mm de largo. **Sépalos** extendidos, libres, membranáceos, obovados, obtusos a subagudos, 5-nervados, margen entero, 7-10 x 3-4 mm; los **laterales** ligeramente oblicuos. **Pétalos** extendidos, arqueados hacia adelante, libres, oblanceolados, subagudos, 3-nervados, las nervaduras laterales cortamente ramificados, margen entero, 7-10 x 2-3 mm. **Labelo** unido a la columna, 3-lobado, base ligeramente cuneada; 8-11 x 10-13 mm; bicalloso, los callos paralelos, cortos, delgados; disco provisto de 1 quilla baja, delgada, lisa, decurrente desde la base del labelo hasta el seno apical; lóbulos laterales rectangulares, algo cuneados, ocasionalmente algo falcados, oblicuamente truncados, margen apical ligeramente eroso; 5-6 x 2-3 mm; lóbulo medio formando un istmo angosto y largo en la base, expandido y bilobado en el ápice, los lóbulos apicales rectangulares a subcuadrados, cuneados, margen apical eroso; 9 x 9 mm. **Columna** corta, gruesa; 4-5 mm de largo incluyendo el clinandrio. **Clinandrio** prominente, sobrepasando muy ligeramente el cuerpo de la columna, bilobado, margen irregular. **Antera** ovoide, truncada, con una quilla central baja, 4-locular. **Polinios** 4, subobovoides, lateralmente comprimidos, subiguales; caudículas suaves y granuladas, del doble del largo que los polinios; sin viscidio. **Rostelo** perpendicular con respecto al eje de la columna, formando un seno amplio. **Lóbulos laterales del estigma** no vistos. **Nectario** poco profundo, penetrando ca. de 1/3 del ovario, delgado, no inflado, liso. **Cápsula** elipsoide, pedicelo; 10 mm de largo, cuerpo; 15-25 x 6-7.5 mm, cuello apical; 4-8 mm de largo, con el perianto persistente.

Tall, terrestrial or epiphytic, sympodial, caespitose herb. **Roots** basal, fleshy, thick. **Stems** simple, cane-like, terete, thin, erect, straight; often producing keikis from the upper half of mature stems. **Leaves** 10-28, distributed throughout the apical half of the stem, distichous, articulate, erect-spreading; sheaths tubular, strongly verrucose; blade linear-lanceolate, smooth, apex acuminate, margin entire. **Inflorescence** apical, flowering only once, paniculate to rarely racemose, many-flowered, erect; peduncle terete, thin, straight, short, occasionally provided with a single tubular, acuminate bract; rachis terete, thin, straight. **Floral bracts** much shorter than the ovary, triangular, acuminate, gradually shorter. **Flowers** 15-125, simultaneous, resupinate, pink-purple, callus yellow, without fragrance. **Ovary** terete, thin, not inflated, smooth. **Sepals** spreading, free, membranaceous, obovate, obtuse to subacute, 5-veined, margin entire, the lateral sepals slightly oblique. **Petals** spreading and arching forward, free, oblanceolate, subacute, 3-veined, the lateral veins short-branched, margin entire. **Lip** united to the column, 3-lobed, base slightly cuneate; bicallose, the calli parallel, short, thin; disc provided with a single, low, thin, smooth keel, decurrent from the base of the lip to the apical sinus; lateral lobes rectangular, somewhat cuneate, occasionally somewhat falcate, obliquely truncate, apical margin slightly erose; midlobe forming a narrow, long isthmus, expanding into a bilobed apex, the apical lobes rectangular to subquadrate, cuneate, shorter and wider than the lateral lobes, apical margin erose. **Column hood** short, thick. **Clinandrium-hood** prominent, somewhat surpassing the body of the column, bilobed. **Anther** ovoid, truncate, with a low central keel, 4-celled. **Pollinia** 4, subobovoid, laterally compressed, subequal; caudicles soft and granule, twice as long as the pollinia; viscidium lacking. **Rostellum** perpendicular to the axis of the column, forming a wide sinus. **Nectary** penetrating 1/3 of the ovary, thin, not inflated, smooth. **Capsule** ellipsoid.

OTHER SPECIMENS: See appendix.

DISTRIBUTION AND ECOLOGY: Ranging from Mexico (Chiapas, Pacific slope of the Sierra Madre de Chiapas), Guatemala, and El Salvador to the Cordillera de Tilarán in Honduras. Terrestrial or epiphytic, growing at [780-900] 1200-2370 m altitude. Flowering in April, June-September.

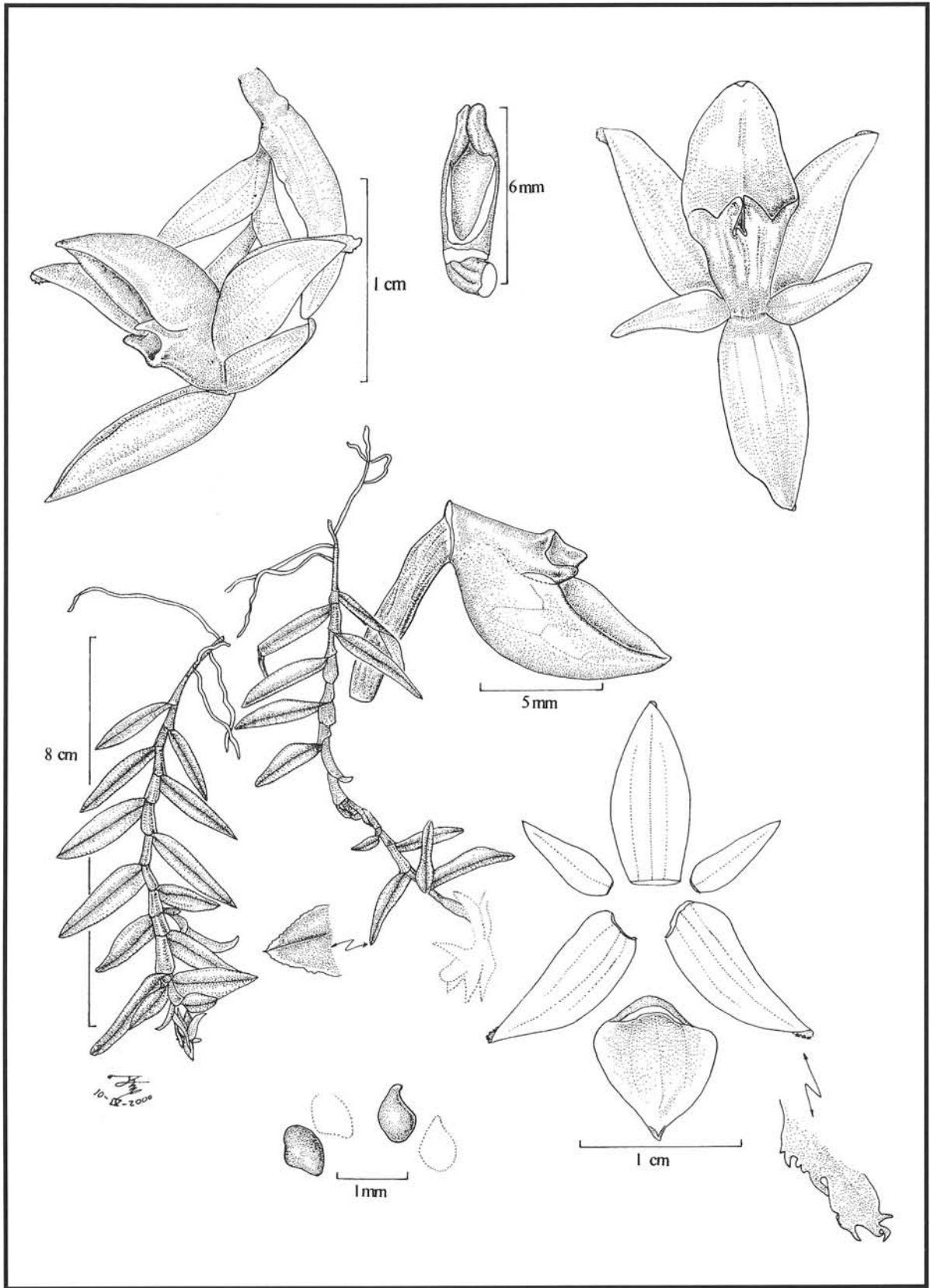
RECOGNITION: *Epidendrum myrianthum* belongs to the *Oerstedella* Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is perpendicular to the axis of the column instead of parallel, forming a wide, open sinus, and without a viscidium, and the *Verrucosum* Subgroup, recognized by the small to medium sized, membranaceous flowers with sepals and petals immaculate, a bilobed clinandrium-hood slightly surpassing the body of the column, obovoid, subequal pollinia with long granule caudicles. The species is recognized by the relatively tall plants, with a large, paniculate, attractive, many-flowered inflorescence, simultaneous, pink-purple flowers, the lip 3-lobed with the lateral lobes obliquely truncate. It closely resembles *E. verrucosum* Sw. which also has tall plants, somewhat, longer, wider leaves, white flowers, and the bicallose callus appears tridentate due to the short keel in the middle of the calli. *Epidendrum maddougallii* Hágsater also has pink-purple flowers, but the plants are short, with narrow, grass-like leaves, the few-flowered inflorescence on a relatively long peduncle with 2-5 tubular bracts, the successive flowers somewhat smaller (sepals 5-7 mm long), with acute lateral lobes.



ETYMOLOGY: From the Greek μυρία, myriad, countless, and ανθος flower, in reference to the many-flowered panicle.

NOTE: The Bolivian *E. amplum* D. E. Benn. & E. A. Christenson illustrated in color as *E. paniculatum* Ruiz & Pav. in Hooker, Bot. Mag. 94: t. 5731. 1868, is reminiscent of this species, due to the equally tall plants and large panicle with somewhat similar, pink-purple flowers.

REFERENCES: Hágsater, E., & M. A. Soto Arenas, 2005, Transfers to *Epidendrum* L. From *Oerstedella* Rchb.f., *Lankesteriana* 5(1): 73. Hamer, F., 1990, Orchids of Central America an illustrated field guide, *Selbyana* 11 (Suppl.): pl. 540.



EPIDENDRUM NANODENTATUM Hágsater & Dodson

THE GENUS EPIDENDRUM PART 5

Plate 857

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM NANODENTATUM Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: Zamora-Chinchipe: Quebrada de los Molinos, near Valladolid, 1700 m, July 1986, *Dennis D'Alessandro 723*. Holotype: MO! (illustration voucher).

Epidendro renzii Garay & Dunst. simile sed caulibus brevibus lateraliter compressis, ovario vesiculam non formanti, floribus binis oppositis non resupinatis roseis, labello viridulo triangulari ecalloso, petalis brevibus lanceolatis acutis, columnae apice dentem acutum in quoque latere ferenti, differens.

Hierba epífita, subcespitosa, ramificada, colgante, pequeña; 5-10 cm de alto. **Raíces** basales, filiformes; ca. 0.2-0.8 mm de grosor. **Tallos** originándose de los entrenudos apicales del tallo anterior (en plantas maduras), tipo caña, lateralmente aplanados, ancipitosos, rectos a ligeramente flexuosos; 4.5-9.5 x 0.1-0.35 cm. **Hojas** 6-14, distribuidas a todo lo largo del tallo, alternas, algo suculentas; vainas foliares cortas, ancipitosas, tubulares, dilatadas hacia arriba; 4-8 x 1-3.5 mm; lámina angostamente elíptica-lanceolada, aguda, margen apical diminutamente eroso; 1-2.4 x 0.3-0.6 mm. **Bráctea** espátacea ausente. **Inflorescencia** apical, subsésil, biflora; ca. 1 cm de largo; pedúnculo corto, terete; ca. de 5 mm de largo; provisto en la parte media de una bráctea prominente, angostamente lanceolada, aguda, conduplicada; 8-9 mm de largo. **Bráctea floral** 2, angostamente lanceoladas, acuminadas, conduplicadas, semejantes a la bráctea del pedúnculo; 6-8 mm de largo. **Flores** 2, simultáneas, opuestas, no resupinadas, sépalos y pétalos translúcidos, rosados con el labelo verdoso, columna púrpura rojiza; sin datos de fragancia. **Ovario** terete, delgado, no inflado, no ornamentado; 8 mm de largo. **Sépalos** extendidos, libres, ovados, agudos, con una quilla dorsal alta, eroso dentada, muy prominente, 3-nervados, margen entero, revoluto, 11-11.5 x 4-5 mm; los **laterales** oblicuos. **Pétalos** algo reflexos, libres, lanceolados, agudos, 1-nervados, margen entero; 7 x 2.2 mm. **Labelo** unido a la columna, entero, anchamente triangular, truncado en la base, agudo y con un apículo diminuto en el ápice, carnosos, cóncavo, margen entero; 9 x 7.7 mm; ecalloso; desprovisto de quillas, con un par de apéndices cortos, muy carnosos ubicados justo por debajo de los lados de la columna. **Columna** geniculada en la base con respecto del ovario, recta, gruesa, algo arqueada hacia arriba a la altura del clinandrio, con un par de dientes laterales agudos; 6 mm de largo. **Clinandrio** corto, margen entero. **Antera** ovoidea. **Polinios** 4, obovados, lateralmente comprimidos. **Rostelo** no visto. **Lóbulos laterales del estigma** no vistos. **Nectario** no visto. **Cápsula** no vista.

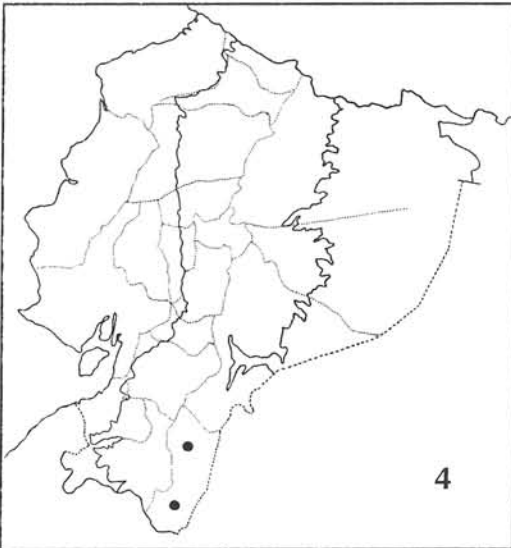
Epiphytic, pendent, subcaespitose, branching, small, herb. **Roots** basal, filiform. **Stems** originating from subapical internodes of the previous stem (in mature plants), cane-like, laterally compressed, ancipitose, straight to slightly flexuous. **Leaves** 6-14, distributed throughout the stems, alternate, somewhat succulent; sheaths short, ancipitose, tubular, dilated towards the apex; blade narrowly elliptic-lanceolate, acute, apical margin minutely erose. **Inflorescence** apical, subsessile, two-flowered; peduncle short, terete; provided in the middle with a prominent, narrowly lanceolate, acute, conduplicate bract. **Floral bracts** 2, narrowly lanceolate, acuminate, conduplicate, similar to the bract of the peduncle. **Flowers** 2, simultaneous, opposite, non-resupinate, sepals and petals translucent, pink, the lip greenish, column reddish purple. **Ovary** terete, thin, smooth. **Sepals** spreading, free, ovate, acute, 3-veined, margin entire, revolute, with an erose-dentate, prominent, high dorsal keel; lateral sepals oblique. **Petals** somewhat reflexed, free, lanceolate, acute, 1-veined, margin entire, shorter than the sepals. **Lip** united to the column, entire, widely triangular, base truncate, acute, with a minute apiculate at the apex, concave, margin entire; ecallose, without keels, with a pair of very short, fleshy appendages below the sides of the column. **Column** geniculate at the base with respect to the ovary, straight, thick, somewhat arching upwards at the clinandrium-hood, with a pair of acute, lateral teeth. **Clinandrium-hood** short, margin entire. **Anther** ovoid. **Pollinia** 4, obovate, laterally compressed.

OTHER SPECIMENS: None seen.

OTHER RECORDS: ECUADOR: Zamora-Chinchipe: Río Jamboe, just downriver from Zamora, *Hirtz 5750*, spirit, AMO! Color slide, AMO!

DISTRIBUTION AND ECOLOGY: Known only from the southern province of Zamora-Chinchipe in Ecuador, in the upper Amazon basin, epiphytic, 1000-1700 m altitude. Flowering in July.

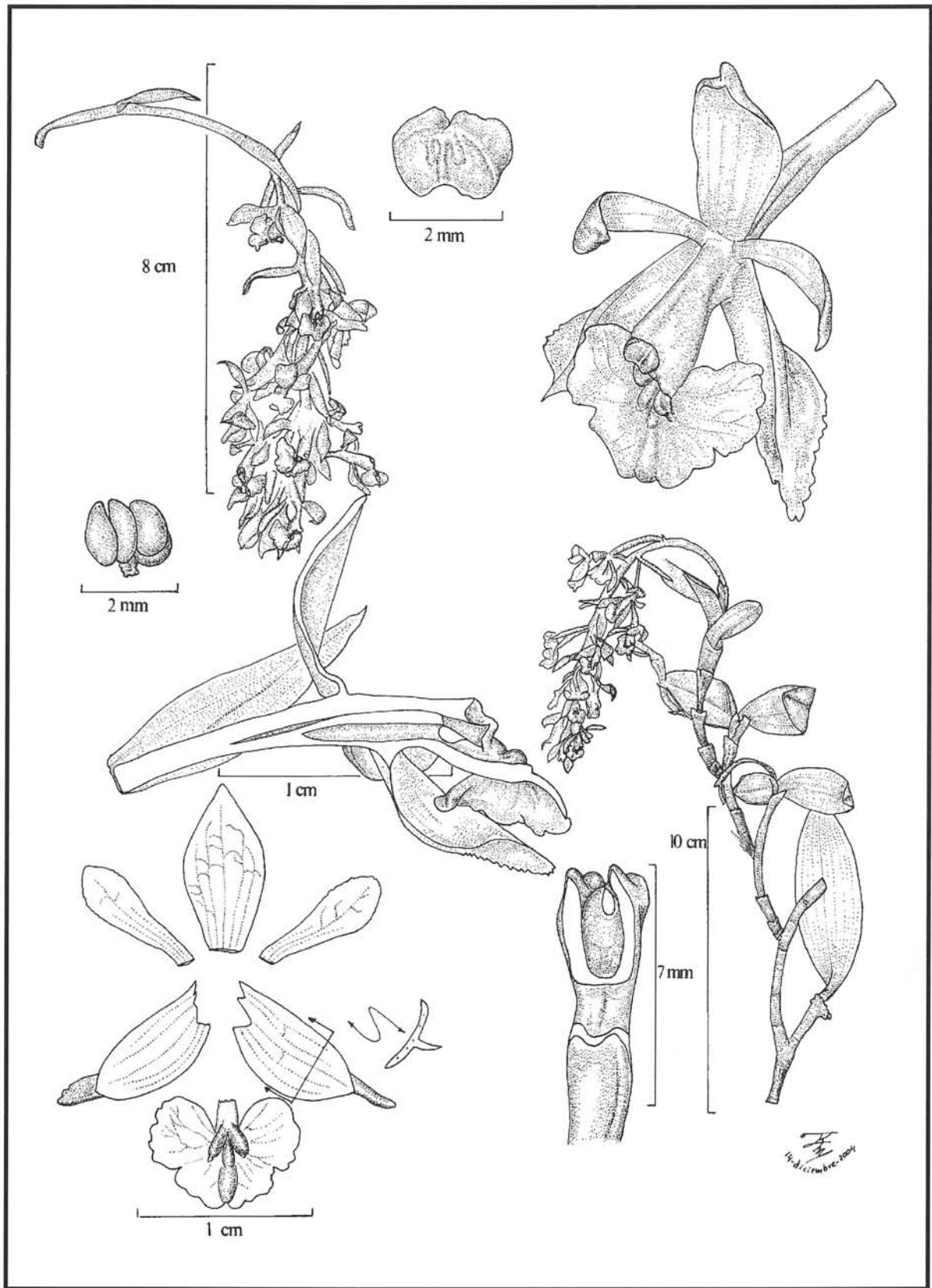
RECOGNITION: *Epidendrum nanodentatum* belongs to the Nanum Group which is characterized by the *Dichaea* like pendent stems, the inflorescence produced by pairs of opposite flowers, without spathaceous bracts, but with prominent floral bracts, and the *Renzii* Subgroup which has an entire lip. The species is recognized by the short, pendent habit, branching near the apex of the previous stem, the two opposite, non-resupinate, pinkish colored flowers, the triangular, ecallose lip, and the short, lanceolate, acute petals, with an acute tooth on either side of the apex of the column. It is similar to *Epidendrum renzii* Garay & Dunst., which has longer stems, 4 pale green and wine-red (lip) flowers in two opposite pairs, a prominent vesicle on the underside of the ovary, resupinate flowers, and oblong to oblanceolate petals. *Epidendrum nanosimplex* Hágsater & Dodson is also similar, but has 6-7, resupinate, pale green and white flowers in opposite pairs, shorter sepals (4-6 mm long), narrowly oblanceolate petals, a truncate column, and the triangular, semioval lip with a pair of prominent globose calli.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Greek *νανος*, dwarf, and the Latin *dentatus*, toothed, in reference to the dwarf-like habit, and similarity of the plant habit to that of *Epidendrum nanum* C. Schweinf., and the two prominent teeth on either side of the apex of the column, which distinguish this species.

REFERENCES: Dodson, Calaway H., 2001, as *Epidendrum* sp. (inverted), *Native Ecuadorian Orchids*, 2: 297, No. 607.



EPIDENDRUM NELSONII Hágsater

Type: GUATEMALA: Quetzaltenango: Volcán Santa María, 8000-11,500 ft., 24 January 1896, *Edward W. Nelson 3698*. Holotype: US! Isotype: AMES! US!

Hierba epífita, simpodial, erecta, donde cada tallo nuevo se origina de un entrenudo intermedio del tallo anterior, ca. 50 cm de alto. **Raíces** basales, tanto de la base de la planta como de la base de los tallos superiores, carnosas, gruesas, 3.0-5.0 mm de grosor. **Tallos** sencillos, tipo caña, teretes, delgados, rectos, 5.0-12 x 2.5-3.0 cm. **Hojas** 2-4, agrupadas en el ápice de los tallos, alternas, articuladas; vainas tubulares, lisas, escariosas; lámina angostamente elíptica, bilobada, subcoriácea, lisa, verde, margen entero; 2.5-12 x 1.0-3.0 cm. **Bráctea espatácea** ausente. **Inflorescencia** apical, florece una sola vez, racemosa, arqueada, densa, 8.5-10 cm de largo; pedúnculo delgado, lateralmente aplanado, 3.5-4.0 cm de largo; provisto en la base o en la parte media de 1 o 2 brácteas, semejantes a las florales, angostamente ovadas, agudas, abrazadoras, 16-18 mm de largo. **Bráctea floral** muy prominentes, ligeramente más largas como el ovario, angostamente ovadas, agudas, abrazadoras, 10-15 mm de largo. **Flores** 10-15, sucesivas, aunque la mayoría llegan a estar abiertas de manera simultánea, resupinadas, de color variable, blancas o verde pálido tenidas de pardo; fragancia dulce, tenue. **Ovario** terete, delgado, no inflado, no ornamentado, 9.0-14 mm de largo. **Sépalos** extendidos, libres, 5-nervados, margen extendido y entero, glabros, 11-12 x 3.0-4.0 mm; el dorsal elíptico, apiculado; los laterales elíptico ovados, oblicuos, agudos, con una quilla dorsal muy prominente, con el margen aserrado. **Pétalos** extendidos, libres, angostamente oblanceolados, obtusos, 1-nervados, membranáceos, margen extendido y entero, 7.0-9.0 x 2.3-2.5 mm. **Lábelo** unido a la columna, trilobado, margen entero, 5.0-7.0 x 8.0-9.0 mm; bicalloso, los callos suborbiculares, cortos; disco provisto de una quilla intercallosa, delgada, lisa, que se desvanece antes de llegar al seno apical; lóbulos laterales semi-orbiculares, 4.0 x 4.0 mm; lóbulo medio bilobado, los lóbulos semi-orbiculares, ligeramente divergentes, 2.0 x 5.0 mm. **Columna** recta, delgada, 7.0-9.0 mm de largo. **Clinandrio** reducido, margen entero. **Antera** no vista. **Polinios** 4, obovoides, lateralmente comprimidos, subiguales. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** no vistos. **Cápsula** no vista.

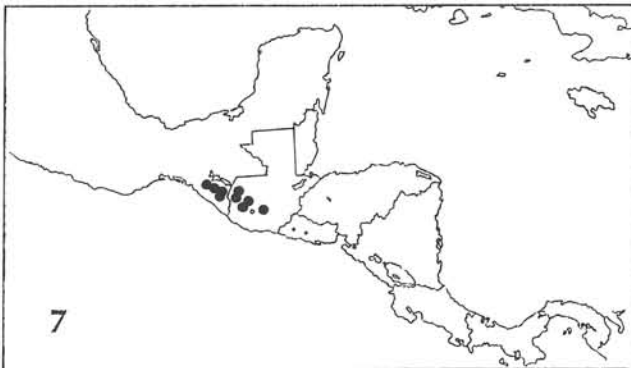
Epiphytic, simpodial, erect herb, where the new stem originates from a middle internode of the previous stem. **Roots** basal, from the base of the plant and the upper stems, fleshy, thick. **Stems** simple, cane-like, terete, thin, straight. **Leaves** 2-4, aggregate at the apex of the stem, alternate, articulate; sheaths tubular, smooth, scarious; blade narrowly elliptic, bilobed, subcoriaceous, smooth, green, margin entire. **Inflorescence** apical, flowering only once, racemose, arching, dense; peduncle thin, laterally flattened, with 1-2 narrowly ovate, acute bracts, similar to the floral bracts but longer. **Flowers** 10-15, successive, though most are open at one time, resupinate, color white to pale green or green tinged with brown; fragrance sweet, weak. **Ovary** terete, thin, not inflated, smooth. **Sepals** spreading, free, 5-veined, glabrous, margin entire and spreading; the dorsal elliptic, apiculate; the laterals ovate-elliptic, oblique, acute, with a very prominent dorsal keel, the margin serrate. **Petals** spreading, free, narrowly oblanceolate, obtuse, 1-veined, membranaceous, margin spreading, entire. **Lip** united to the column, 3-lobed, margin entire; bicallose, the calli suborbicular, short; disc provided with one central, thin, smooth keel which disappears before reaching the apical sinus; lateral lobes semi-orbicular; midlobe bilobed, the lobes semi-orbicular, slightly divergent. **Column** straight, thin. **Clinandrium**-hood reduced, margin entire. **Pollinia** 4, obovoid, laterally compressed, subequal. **Rostellum** apical, slit.

OTHER SPECIMENS: MÉXICO: Chiapas: Volcán Tacaná above Talquian, 2700 m, 5 III 1972, *Breedlove 24279*, CAS! Motozintla to El Porvenir and Siltepec, 2100 m, 29 XII 1972, *Breedlove 31101*, CAS! Unión Juárez, entre Talquian y Toniná, 1900 m, 19 XII 1987, *Martínez 22186*, MEXU! Siltepec, 3 I 1937, *Matuda 370*, MEXU! MICH! Mapastepec, Cara Laguna, 01 I 1938, *Matuda 2048*, MICH! MEXU! Chicharras, 6000 ft, 12 II 1896, *Nelson 3802*, AMES! US! Niquihuil, 2700 m, 8 II 1911, *Quarles 227*, U! (Illustration voucher.) GUATEMALA: Chimaltenango: San José Calderas, 2100m, 11 III 1999, *Véliz 99.6979*, MEXU! Volcán de Acatenango, Las Tres Cruces, 2480 m, 11 III 1989, *Véliz 99.6982*, MEXU! Quetzaltenango: Above Santa María, 1800 m, 22 II 1905, *Maxon 3610*, US! San Marcos: San Sebastián, NW of San Marcos, 2700-3800 m, 15 II 1940, *Steyermark 35748*, AMES! F! between Sibinal and Canjulá, Volcán Tacaná, 2200-2500 m, 18 II 1940, *Steyermark 36018*, F!

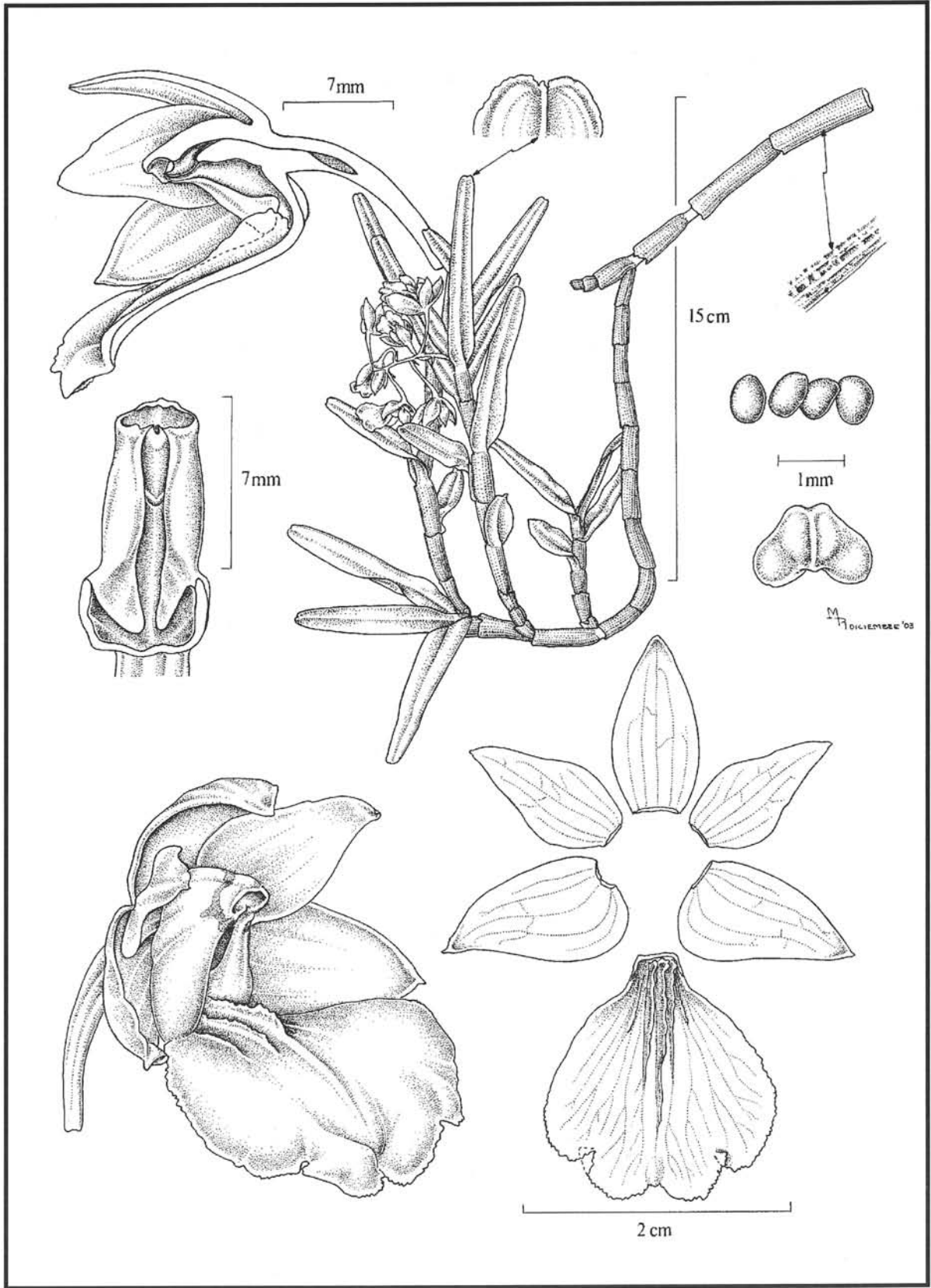
DISTRIBUTION AND ECOLOGY: Known from the Sierra Madre de Chiapas, Mexico to Chimaltenango in Guatemala, growing epiphytic at 1900-2700 m altitude. Flowering from December to March.

RECOGNITION: *Epidendrum nelsonii* belongs to the Arbuscula Group, Arbuscula Subgroup which is characterized by the successive lateral growths produced from the middle of the previous growth, few leaves aggregate towards the apex of the stems, arching, apical inflorescence with membranaceous, colorful flowers, the lip bicallose. The species is recognized by the dense inflorescence, small flowers (sepals 11-12 mm long), short ovaries (9-14 mm long), and prominent floral bracts, slightly longer than the ovary, flowers white or green tinged brown, slightly sweet scented. It is similar to *Epidendrum badium* Hágsater which has slightly larger flowers (sepals 14-17 mm long), the dorsal sepal reflexed, longer ovaries (14-25 mm), and proportionately shorter floral bracts, which are never as long as the ovary. *Epidendrum arbuscula* Lindl. from the mountains surrounding Guatemala City has still longer sepals (15-16 mm long), a longer ovary (12-36 mm) and the proportionately shorter floral bracts half the length of the ovary (6.0-23 mm). *Epidendrum alticola* Ames & Correll has even larger flowers, the sepals 15-18 mm long, a subentire lip formed by 4 semi-orbicular lobes and the ovary 25 mm long, with prominent floral bracts 8.0-23 mm long; the lip is snow-white with yellow calli.

CONSERVATION STATUS: DD. Data deficient.



ETYMOLOGY: In honor of Edward William Nelson (1855-1934), who collected the type; his collections are located at the US herbarium.



EPIDENDRUM NEOVIRIDIFLORUM Hágsater

THE GENUS EPIDENDRUM PART 5

Plate 859

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM NEOVIRIDIFLORUM Hágsater, Orquídea (Mexico City) 12(2): 296. 1992.

Basionym: *Diothonea viridiflora* Schltr. Repert. Sp. Nov. Regni Veg. Beih. 8: 66. 1921. Type: Ecuador: Pichincha: In silvis andinis montis Pichincha prope Tablahuasi, Jun. 1886, A. Sodiro 43. Holotype: B, destroyed. Lectotype: QPLS. [Dodson in Monogr. Syst. Bot. Missouri Bot. Gard. 75: 663. 1999.] Not *Epidendrum viridiflorum* (Hook.) Lindl., Bot. Reg. 20: misc. pg. 30. 1842.

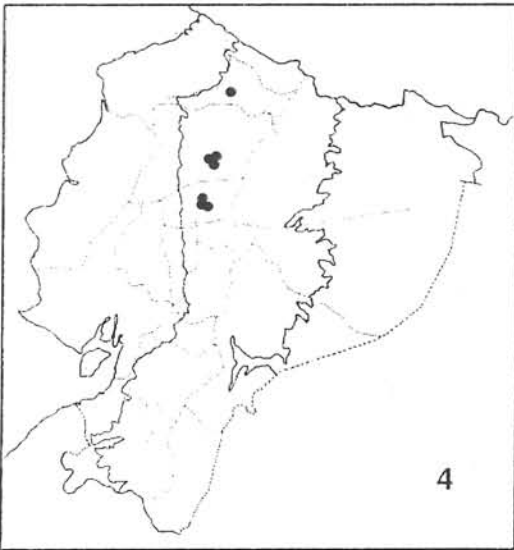
Hierba epífita o terrestre, ramificada con el tiempo, colgante, de 45-80 cm de alto. Raíces basales y escasas en la base de algunas ramificaciones, carnosas, delgadas, 2 mm de grosor. Tallos producidos cerca del ápice del tallo anterior, tipo caña, teretes, rectos; el basal de más de 37-45 x 0.5-0.7 cm; los superiores 9.5-17.5 x 0.36-0.5 cm. Hojas 15 o más en el tallo basal, 4-7 en las ramas, distribuidas a lo largo de los tallos, alternas, suberectas; vaina tubular, finamente estriada, rugosa, 13-31 x 3.6-7 mm; lámina lanceolada, ápice bilobado, con una quilla dorsal baja, lisa, margen entero a ligeramente creñado hacia el ápice, coriácea; las del tallo basal 4-10.6 x 0.7-1.3 cm; las de los superiores 1.8-6.3 x 0.6-1.2 [1.4] cm. Bráctea espátacea ausente. Inflorescencia apical, racemosa, arqueada nutante, florece una sola vez, densa, 4.5-6.5 cm de largo, en ramas jóvenes usualmente un poco más pequeña; pedúnculo corto, terete, delgado, recto, 0.7-1.0 cm de largo, desprovisto de brácteas; raquis terete, delgado, recto, 5.5 cm de largo. Brácteas florales mucho más cortas que el ovario, lanceoladas, acuminadas, abrazadoras, las apicales gradualmente más pequeñas, 2-8 mm de largo. Flores 13-18, simultáneas, resupinadas, color morado borgoña a verde ocre, sin fragancia. Ovario terete, delgado, liso, no inflado, 12-15 mm de largo. Sépalos entreabiertos, libres, ovados, agudos, 3-5-nervados, margen entero, 11-14 x 5.6-8.0 mm; los laterales oblicuos, con una quilla dorsal baja. Pétalos entreabiertos, libres, ovado subtrulados, agudos, 3-nervados, margen entero, 11-12 x 4.7-6.4 mm. Labelo unido a la columna de manera oblicua, entero, anchamente obovado orbicular, base truncada, ligeramente unguiculada, ápice 4-lobulado, los lóbulos redondeados, el par central ligeramente más largo que el lateral, margen eroso crenado, 14-17 x 15-18 mm; ecaloso, provisto de 3-5 quillas, delgadas, laminares, erosas, la central alargada hasta las 3/4 partes del largo del labelo, las quillas laterales gradualmente más cortas. Columna arqueada, con un pié de columna prominente, que no forma un saco, la superficie ventral provista de un par de alas muy prominentes e involutas, 8 mm de largo. Clinandrio prominente, pero sin sobrepasar el cuerpo de la columna, entero a crenulado. Antera reniforme, 4-locular, con una quilla lisa y baja al frente. Polinios 4, obovoides. Rostelo apical, hendido. Lóbulos laterales del estigma no vistos. Nectario muy amplio y corto, formado por la alas y el pié de columna, sin penetrar el ovario, liso. Cápsula no vista.

Epiphytic or terrestrial, branching to pendent herb. Stems produced from near the apex of the previous stem, cane-like, terete, straight. Leaves 15 or more on the basal stem, 4-7 and the upper stems, alternate, suberect, sheath tubular, minutely striated, rugose; blade lanceolate, apex bilobed, with a low dorsal keel, smooth, margin entire and slightly crenate towards the apex, coriaceous. Inflorescence apical, racemose, arching nutant, flowering only once, dense, peduncle and rachis short, terete, thin, straight. Floral bracts much shorter than the ovary, lanceolate, acuminate, the apical ones gradually shorter. Flowers 13-18, simultaneous, resupinate, burgundy-red to ochre-green. Ovary terete, thin, smooth. Sepals partly spreading, free, ovate, acute, 3-5-veined, margin entire; the laterals oblique, with a low dorsal keel. Petals partly spreading, free, ovate, subtrullate, acute, 3-veined, margin entire. Lip united obliquely to the column, widely obovate, orbicular, base truncate, slightly unguiculate, apex 4-lobed, the lobes rounded, the central pair slightly longer than the lateral pair, margin erose-crenate; ecallose, provided with 3-5 thin, elongate, erose keels, the middle keels reaching about 3/4 of the lip, the lateral pair gradually shorter. Column arched, with a prominent column foot, without forming a sac, the ventral surface provided with a pair of prominent, involute wings. Clinandrium-hood prominent, entire to crenulate. Anther reniform, 4-celled, with a low, smooth keel in front. Pollinia 4, obovoid. Rostellum apical, slit. Nectary wide and short, formed by the column wings and foot, without penetrating the ovary.

OTHER SPECIMENS: See appendix.

DISTRIBUTION AND ECOLOGY: Endemic to central western Ecuador, on the western range of the Andes at 1800-3400 m altitude, growing just below the páramo in cloud bathed shrub and elfin forest, terrestrial and epiphytic. Flowering from February to June.

RECOGNITION: *Epidendrum neoviridiflorum* belongs to the *Diothonea* Group and Subgroup which is characterized by the branching plants, linear-lanceolate to oblong, bilobed leaves, racemose, arching-nutant inflorescence, membranaceous flowers (rarely fleshy), the entire to 3-lobed, ecallose lip with the margin erose without or with 1-10 thin, smooth to erose keels, the column completely to obliquely united to the lip, the anther reniform. The species has a 4.5-6.5 cm long

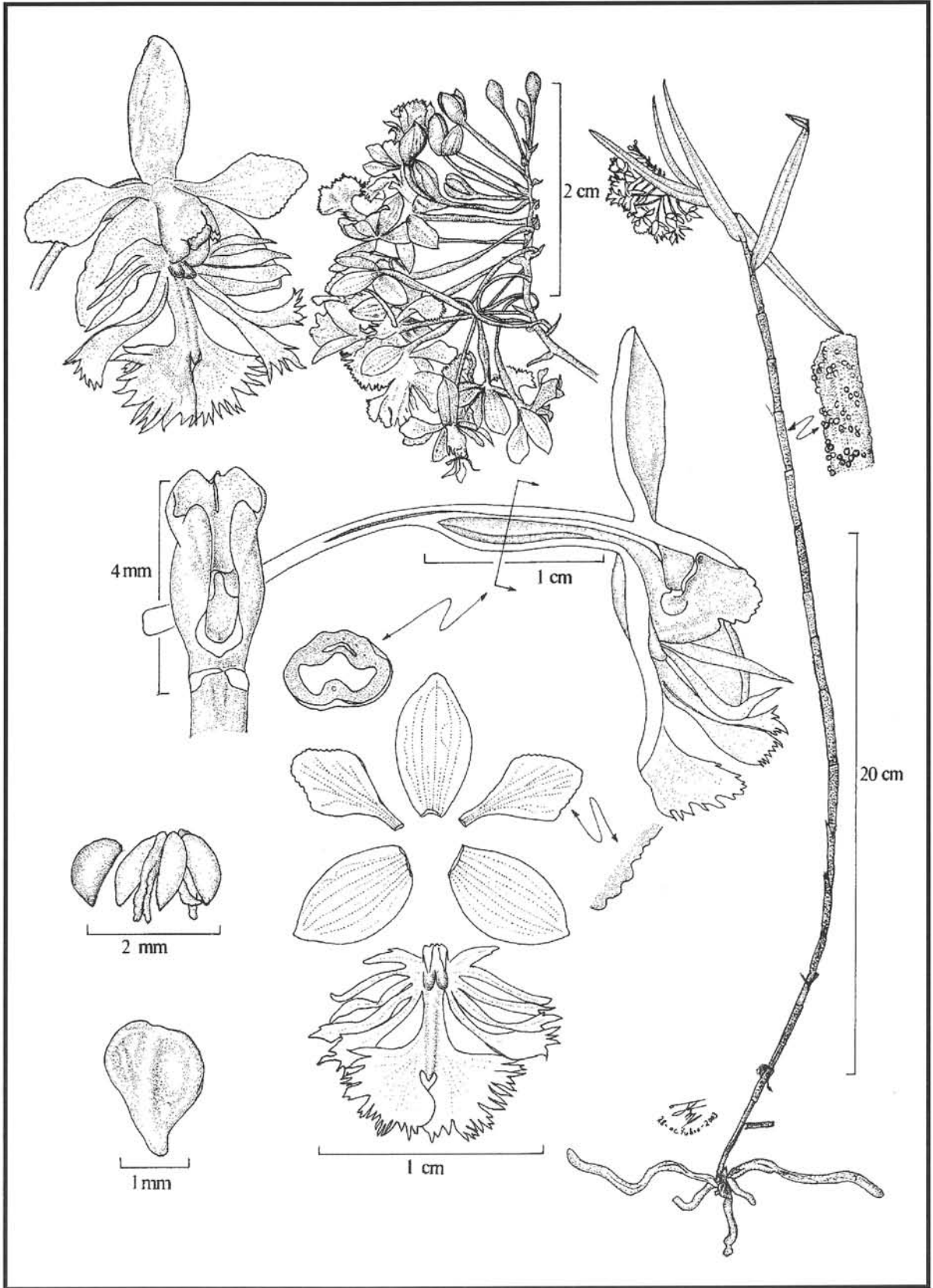


inflorescence, green or burgundy red flowers, an entire, ovate-suborbicular lip, apically 4-lobed, and 3-5 long laminar keels at the base [running down the lip, the middle keel reaching about 3/4 of the lip], the lateral ones much reduced, a prominent column-foot, not involute, without forming a sac and leaves 6-12[14] mm wide, the column with a pair of involute wings. *Epidendrum gratissimum* (Rchb.f.) Hágsater & Dodson, has a inflorescence (5-7 cm long), a subreniform, apically 4-lobed lip with 3-5, long, laminar, erose keels usually short, and the lip obliquely united to the column, with a prominent column-foot not involute without forming a sac. *Epidendrum lloense* (Lindl.) Hágsater & Dodson has the inflorescence 5-12 cm long, a subreniform lip with 5 smooth or rarely serrulate keels that form a convex structure at the base of the lip and the column with a very prominent column-foot forming a sac and without involute wings. *Epidendrum orthopterum* Hágsater & E.Santiago has a short inflorescence (2 cm long), a 3-lobed lip with 7 erose keels, and the column with a pair of straight, non involute wings.

CONSERVATION STATUS: DD. Data deficient. The area where this species grows has been heavily disturbed by human activity.

ETYMOLOGY: From the Latin *neo-*, new, *viridis-*, green, and *florum*, flower, in reference to the basionym which was described as having green flowers, as one of the forms of this species indeed has.

NOTE: The specimen cited as voucher by Dodson, *op. cit.*, Hirtz 4265 corresponds to *Epidendrum arevaloides* Hágsater & Dodson.



EPIDENDRUM NIVEOCALIGARIUM Hågsäter

Plate 860

EPIDENDRUM NIVEOCALIGARIUM Hágsater, sp. nov.

Type: PANAMA: Darién: 10 km NE of Jaqué, ridge between Río Tabuelita and Río Pavarandó, 1400-1600 ft, 1 Feb. 1981, W. G. D'Arcy & K. Sytsma 14547. Holotype: MO! (Illustration voucher).

Epidendro caligario Rchb.f. simile sed floribus albis, angulo inter labellum et columnae dorsum formato multo majore, segmentis floralibus relative latioribus, discrepans.

Hierba cespitosa, erecta, recta, de 40 cm de alto. **Raíces** basales, carnosas, gruesas, blancas; 1.3-3 mm de grosor. **Tallos** sencillos, tipo caña, teretes, delgados, rectos; 36.5 x 0.1-0.2 cm. **Hojas** 5, agregadas hacia el ápice del tallo, alternas, articuladas, gramíneas; vaina tubular, finamente estriada en seco, verrugosa; 13-20 x 1-2 mm; lámina angostamente lanceolada, aguda, margen entero; 5-7 x 0.6-0.7 cm. **Bráctea espatácea** ausente. **Inflorescencia** apical, florece una sola vez, racemosa, ligeramente arqueada, densa; 3.5 cm de largo; pedúnculo corto, terete, delgado; 5 mm de largo, desprovisto de brácteas. **Brácteas florales** mucho más cortas que el ovario, triangulares, agudas, abrazadoras, gradualmente más cortas; 1-4 mm de largo. **Flores** 22, simultáneas, resupinadas, de color blanco; sin datos de fragancia. **Ovario** subterete, con un septo longitudinal que casi divide al nectario en dos, ligeramente inflado cerca de la mitad apical, liso; 15-22 mm de largo. **Sépalos** extendidos, libres, elípticos, redondeados, diminutamente apiculados, 5-nervados, algunas nervaduras ramificadas desde la base, dando la apariencia de ser 7-8 nervados, margen entero, 6.2-6.5 x 3.3-3.5 mm. **Pétalos** extendidos, libres, obtrulados, redondeados, 3-nervados, las nervaduras muy ramificadas arriba, margen dentado en la mitad apical, entero en la mitad basal; 5.7 x 3 mm. **Labelo** unido a la columna, trilobado, ligeramente cordado en la base; 8.5 x 11 mm; bicaloso, los callos delgados, alargados hasta la base del lóbulo medio; con una quilla, delgada, lisa, decurrente, alargada hasta el seno apical; lóbulos laterales oblicuamente elípticos, profundamente 5-lacinados; 5.1 x 6.0 mm; lóbulo medio flabeliforme, con un istmo largo y delgado, margen fimbriado en la mitad apical y entero en la mitad basal; 6.5 x 8.5 mm. **Columna** recta, prominentemente dilatada hacia el ápice, de manera que el labelo y el dorso de la columna forman un ángulo de unos 70°; 4 mm de largo. **Clinandrio** prominente, entero, margen eroso. **Antera** obovoide, 4-locular. **Polinios** 4, semiovalados, lateralmente aplanados, subiguales; caudículas granulosas, ligeramente más largas que los polinios. **Rostelo** perpendicular con respecto al eje de la columna, formando un seno amplio. **Nectario** penetrando poco menos de la mitad del ovario, ligeramente inflado, liso. **Cápsula** no vista.

Caespitose, erect herb. **Roots** basal, fleshy, thick, white. **Stems** simple, cane-like, terete, thin, straight. **Leaves** 5, aggregate towards the apex of the stem, alternate, articulate, grass-like; sheaths tubular, minutely striated in dry material, verrucose; blade narrowly lanceolate, acute, margin entire. **Inflorescence** apical, flowering only once, racemose, slightly arching, dense-flowered; peduncle, short, terete, thin. **Floral bracts** much shorter than the ovary, triangular, acute, gradually shorter. **Flowers** 22, simultaneous, resupinate, pure white. **Ovary** subterete, smooth, ventrally with a longitudinal septum, and thus vertically flattened, apically somewhat inflated. **Sepals** spreading, free, elliptic, rounded, minutely apiculate, 5-veined, some veins branching from the base and thus appearing 7-8 veined, margin entire. **Petals** spreading, free, obtrullate, rounded, 3-veined, the lateral veins much branched above, apical margin dentate, basal margin entire. **Lip** united to the column, 3-lobed, slightly cordate at the base; bicallose, the calli thin, elongate, reaching the base of the midlobe; with a narrow, smooth keel running down the midlobe to the apical sinus; lateral lobes obliquely elliptic, margin deeply 5-laciniate; midlobe flabelliform, with a long, narrow isthmus, margin fimbriate towards the apex, entire at the base. **Column** straight, strongly dilated, the lip forming a 70° angle with the back of the column. **Clinandrium-hood** prominent, entire, margin erose. **Anther** obovoid, 4-celled. **Pollinia** 4, subequal, semiovate, laterally compressed; caudicles granulose, slightly longer than the pollinia. **Rostellum** transverse to the axis of the column, forming a wide sinus. **Nectary** penetrating somewhat less than half the ovary, somewhat inflated, smooth.

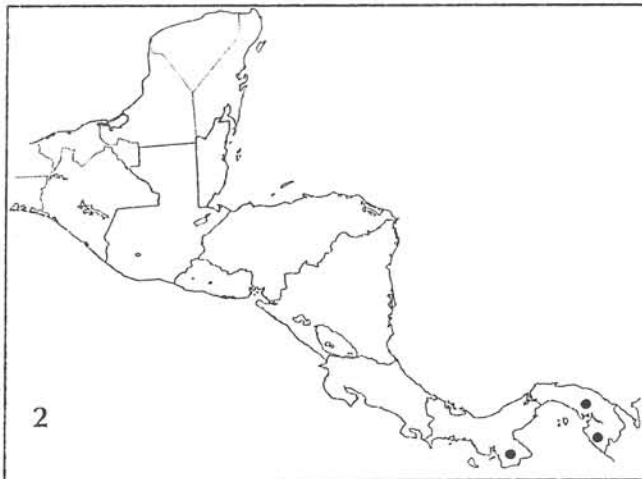
OTHER SPECIMENS: PANAMÁ: Panamá: Serranía de Majé Trail, between Charco Rico and the Headwater of the Río Ipeí Grande. 700 m, 24 I 1984, Churchill 4337, MO! **Los Santos:** above Guanico River, 550-650 m, 5 I 1989, McPherson 13514, MO!

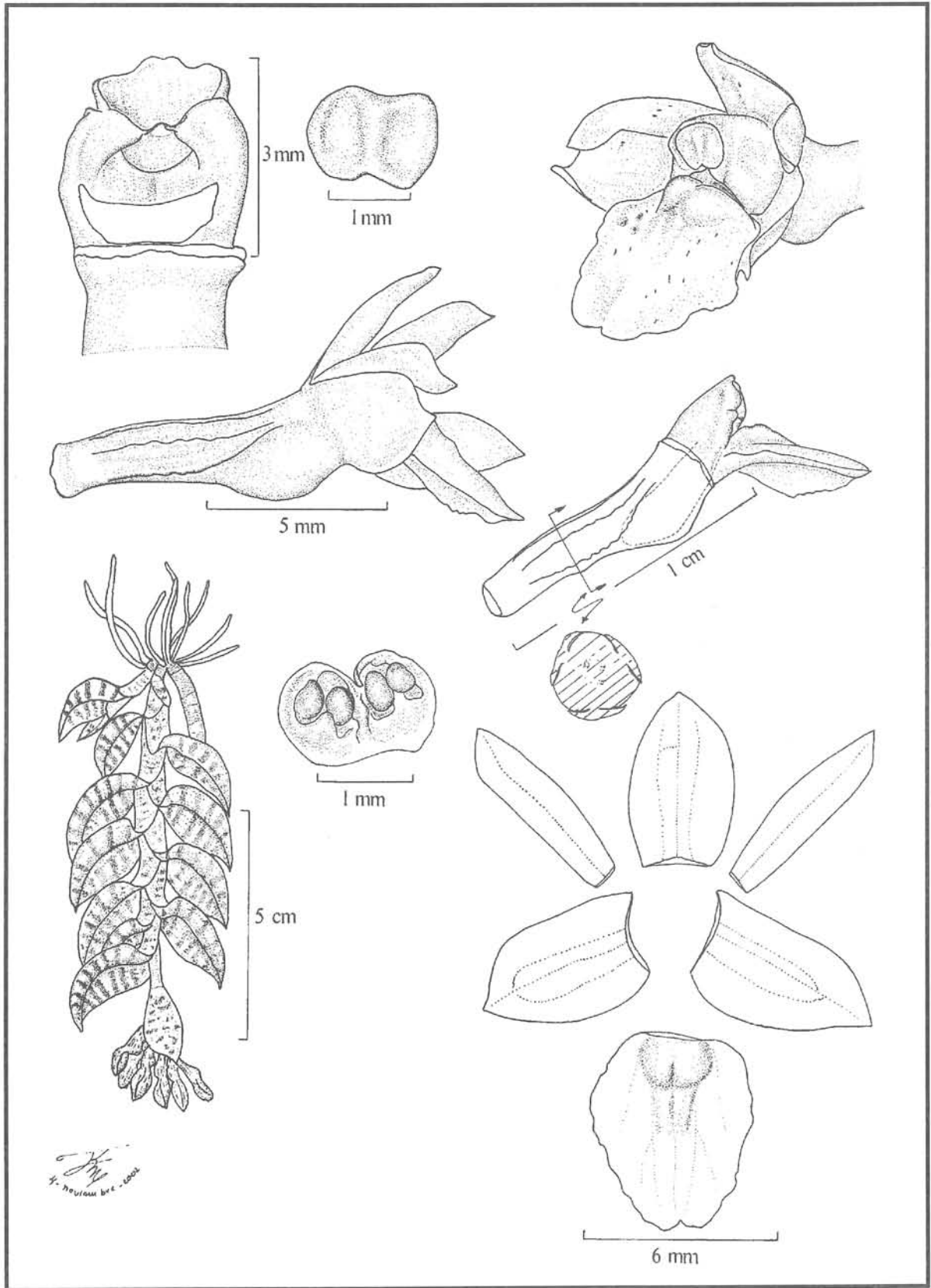
DISTRIBUTION AND ECOLOGY: Known only from southern Panama, on both sides of the Gulf of Panama, in the Peninsula de Azuero and in the Serranía del Sapo, Darién, at 450-700 m altitude. Flowering in January and February.

RECOGNITION: *Epidendrum niveocaligarium* belongs to the Oerstedella Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is perpendicular to the axis of the column instead of parallel, forming a wide, open sinus, and without a viscidium, and the Verrucosum Subgroup, recognized by the small to medium sized, membranaceous flowers with sepals and petals immaculate, a bilobed clinandrium-hood slightly surpassing the body of the column, obovoid, subequal pollinia with long granulose caudicles. The species is recognized by the thin stems, white, immaculate flowers, deeply 5-laciniate lateral lobes of the lip and the column and lip forming a 70° angle. It is nearly identical to *Epidendrum caligarium* Rchb.f. from western Panama which has rosy purple flowers, with the angle between the lip and column about 45° wide, and the clinandrium-hood deeply slit. The Mexican (Isthmus of Tehuantepec) *Epidendrum maddougallii* (Hágsater) Hágsater is vegetatively also very similar, but the lobes of the lip are narrow and entire, neither dentate nor deeply laciniate.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Latin *niveo*, pure white, and *caliga*, the footgear of a Roman soldier, referring to the deeply laciniate lateral lobes of the lip which look like the straps of the *caliga*, thus pure white-strapped footgear.





EPIDENDRUM OBLIQUIFOLIUM Ames, F.T. Hubb. & C. Schweinf.

Plate 861

EPIDENDRUM OBLIQUIFOLIUM Ames, F.T.Hubb. & C.Schweinf., Bot. Mus. Leafl. 3: 73. 1935.

Type: COSTA RICA: [San José?:] Hacienda La Esperanza (La Palma), 1500 m, December 1913, *Otón Jiménez 972*. Holotype: US! Isotype: CR!

Hierba caespitosa, colgante, 10-15 cm de alto. Raíces basales, filiformes, 0.3-0.6 mm de grosor. Tallos sencillos, produciéndose de los entrenudos basales del tallo anterior, tipo caña, lateralmente aplanados, delgados, 7.1-7.7 x 0.3-0.6 cm. Hojas 5-10, distribuidas a lo largo del tallo, disticas, carnosas; vaina infundibuliforme, finamente estriada y rugosa, 0.83-1.0 x 0.3-0.6 cm; lámina ovado elíptica, oblicua, ápice agudo, margen entero, de color verde pálido algunas con barras transversales moradas, 1.6-4 x 0.7-1.1 cm. Bráctea espatácea 1, semiobovada, aguda, conduplicada, oblicua, cubriendo aproximadamente la mitad de la longitud del ovario, 1.7 x 8.6 mm. Inflorescencia apical, corta, subumbelada, 3.3 cm de largo; pedúnculo inferior a la bráctea espatácea, desnudo, lateralmente aplanado, 1.1-1.5 cm de largo. Brácteas florales mucho más cortas que el ovario, inconspicuas y ocultas dentro de la bráctea espatácea. Flores 3-6, simultáneas, resupinadas, de color verde claro, sin datos de fragancia. Ovario terete en la base, provisto de 6 alas longitudinales erosas a serruladas a lo largo de los $\frac{3}{4}$ apicales, inflado ventralmente justo detrás del perianto, formando una vesícula, 9-12 mm de largo. Sépalos libres, entreabiertos, ovado elípticos, agudos, 3-nervados, margen entero y extendido, ligeramente cóncavos, 5.3-8 x 3.3-4.0 mm. Pétalos libres, lineares, agudos, 1-nervados, margen entero, 5.5-6.9 x 1.5 mm. Labelo unido en la base de la columna, entero, base truncada, subrectangular-oblongo a oscuramente ovado, ápice diminutamente retuso, margen eroso, 6.1-7.0 x 4.2-5.0 mm; bicalloso, los callós prominentes, globosos, que se continúan en 2 quillas delgadas que se desvanecen hacia la parte media del labelo. Columna muy corta, ligeramente arqueada, 3 mm de largo. Clinandrio prominente, sobrepasando ligeramente el cuerpo de la columna, margen sinuoso. Antera reniforme, 4-locular. Polinios 4, ovoides, subiguales. Rostelo apical, hendido. Lóbulos laterales del estigma no vistos. Nectario penetrando $\frac{1}{3}$ del ovario, formando una vesícula ventral prominente, no ornamentado. Cápsula no vista.

Pendent, caespitose, herb. Roots basal, filiform. Stems simple, cane-like, produced from the basal internodes of the previous stem, laterally flattened, thin. Leaves 5-10, distributed throughout the stems, fleshy; sheath funnel-shaped, minutely striated and rugose, blade ovate-elliptic, oblique, apex acute, margin entire, pale green with transverse purple bands. Spathaceous bract 1, semiobovate, acute, conduplicate, oblique, covering about half the length of the ovaries. Inflorescence apical, short, subumbellate, peduncle below the spathaceous bract, laterally flattened. Floral bracts much shorter than the ovary, inconspicuous, hidden within the spathaceous bract. Flowers 3-6, simultaneous, resupinate, light green. Ovary terete at base, provided with 6 longitudinal, erose to serrulate wings along the apical $\frac{3}{4}$, inflated ventrally behind the perianth, forming a vesicle. Sepals free, partly spreading, ovate-elliptic, acute, 3-veined, margin entire and spreading, slightly concave. Petals free, linear, acute, 1-veined, margin entire. Lip united to the base of the column, entire, base truncate, subrectangular-oblong to obscurely ovate, apex minutely retuse, margin erose; bicallose, the calli prominent, globose, continued into two thin keels which disappear towards the middle of the lip. Column very short, slightly arched. Clinandrium-hood prominent, surpassing the body of the column, margin sinuous. Rostellum apical, slit. Nectary penetrating $\frac{1}{3}$ of the ovary, forming a prominent, ventral vesicle, smooth.

OTHER SPECIMENS: COSTA RICA: without locality, 24 XI 1960, *Horich 60-111-51*, MO! Cartago: Alto de la Estrella, 26 III 1924, *Standley 39572*, AMES! US! Ibid. 39578, AMES! Santa Clara de Cartago, 7000 ft, 23 XII 1923, *Lankester 566*, AMES! Cañón del Guarco, 2400-2500 m, 2 X 1981, *Hágsater 6355*, AMO! (Illustration voucher, spirit). San José: Villa Mills, 2680 m, 7 VII 2000, *Mario Blanco 1536*, US!

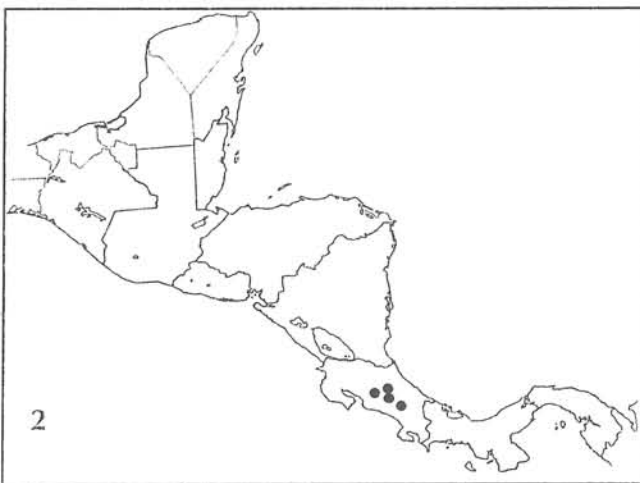
OTHER RECORDS: COSTA RICA: Cartago: La Chonta, 2500 m, IX 1970, *Valerio Ch. 17*, illustration, AMO! (Illustration voucher of plant).

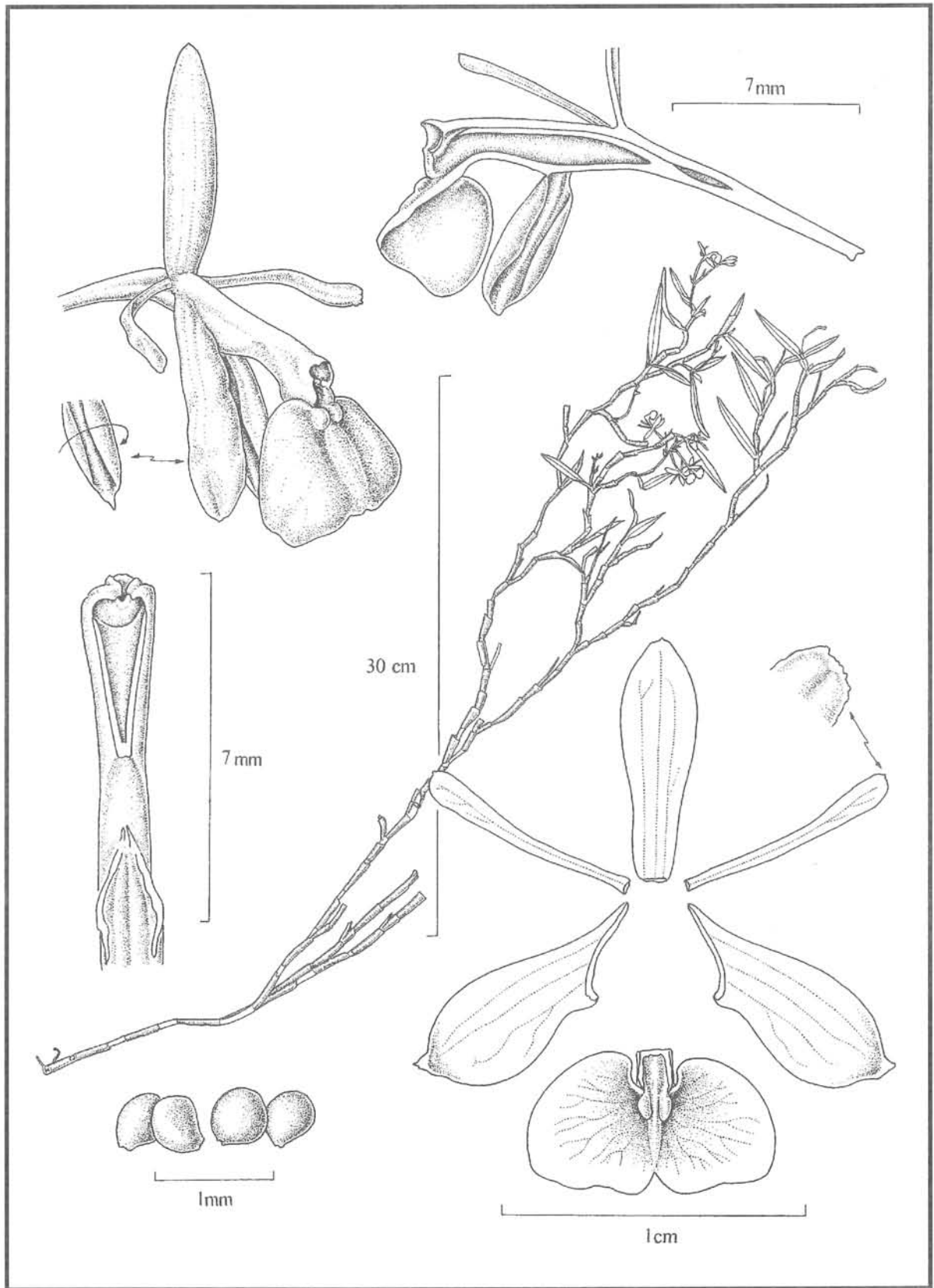
DISTRIBUTION AND ECOLOGY: Apparently endemic to Costa Rica, from the Cordillera de Talamanca, at about 1500 to 3000 m altitude in cloud forest. Flowering in July to December.

RECOGNITION: *Epidendrum obliquifolium* belongs to the *Megalospathum* Group, *Obliquifolium* Subgroup, characterized by the caespitose habit, the prominent spathaceous bract, oblique leaves and fleshy flowers. The species is recognized by the pendent habit, compact, 5-10 leaved-stem, the leaves with transverse purple bars, the lip subrectangular-oblong, longer than wide, petals linear, 1-veined. It closely resembles *Epidendrum plagiophyllum* Hágsater from Panama, which has shorter plants, unmarked leaves, a square lip, as wide as it is long, and oblong, 3-veined, petals. *Epidendrum vesicicaule* L. O. Williams has an erect habit, unmarked leaves, and is larger overall.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In reference to the oblique leaves which characterize this group of species.





EPIDENDRUM OBLIQUUM Schltr.

THE GENUS EPIDENDRUM PART 5

Plate 862

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM OBLIQUUM Schltr., Repert. Sp. Nov. Regni Veg. 10: 457. 1912.

Type: BOLIVIA: Nor Yungas: Unduavi, auf Bäumen, 3200 m, November 1910, *Otto Buchtien 2619*.
Holotype: B, destroyed. Lectotype (here designated): US! (Illustration voucher). Isotypes: AMES x2! L! LY!

Hierba epífita, erecta, monopodial, ramificada, de más de 57 cm de alto. **Raíces** basales en el tallo primario, carnosas, gruesas, 2.0 mm de grosor. **Tallos** algo ramificados, tipo caña, teretes, delgados, erectos, el principal 32 x 0.1-0.2 cm; tallos secundarios producidos de los internodos de la mitad apical del tallo principal, 3-6 x 0.12-0.15 cm; los tallos secundarios se suceden a su vez en segmentos semejantes de un internodo subapical del tallo secundario anterior. **Hojas** en el tallo principal no vistas, 2-3 en los tallos secundarios, agrupadas hacia el ápice; alternas, caedizas; vaina tubular, estriada, rugosa, infundibuliforme, 0.7-1.3 cm de largo; lámina angostamente lanceolada, subaguda, aristada, margen entero, subcoriácea, lisa, las de las ramas desiguales, la primera aproximadamente del doble de tamaño que la apical; 2-4 x 0.4-0.6 cm. **Bráctea** espátácea ausente. **Inflorescencia** apical, de los tallos secundarios, racemosa, corta, florece una sola vez, en flor cuando la rama ha iniciado el crecimiento de una nueva ramificación, 2.0-2.3 cm de largo; pedúnculo terete, filiforme, recto, desprovisto de brácteas, 10-15 mm de largo; raquis terete, delgado, recto, 6-12 mm de largo. **Bráctea floral** mucho más corta que el ovario, lanceolada, acuminada, abrazadora, 2-6 mm de largo. **Flores** 4-6, sucesivas, varias abiertas a la vez, resupinadas, sin datos de color ni fragancia. **Ovario** terete, delgado, liso, algo inflado, no ornamentado, 10-15 mm de largo. **Sépalos** libres, redondeados, 3-nervados, margen entero; el dorsal extendido, angostamente obovado, diminutamente apiculado, 8 x 2.5 mm; los laterales entreabiertos, obovados, aristados, oblicuos, con quilla dorsal, margen revuelto, 8.5 x 3.3 mm. **Pétalos** entreabiertos, libres, lineares, ligeramente dilatados hacia el ápice, redondeados, diminutamente apiculados, 1-nervados, margen apical ligeramente eroso, 7.3 x 0.9 mm. **Labelo** unido a la columna, entero, reniforme, profundamente cordado en la base, margen entero, ápice emarginado, 4.6 x 8 mm; bicalloso, los callos pequeños, delgados; provisto de una quilla intercallosa, aguda y lisa, que se desvanece en el ápice del labelo. **Columna** delgada, recta, 7 mm de largo. **Clinandrium** corto, margen entero. **Antera** no vista. **Polinios** 4, obovoides, lateralmente comprimidos. **Rostelo** apical, hendido. **Nectario** poco profundo, penetrando 1/5 del ovario, liso. **Cápsula** no vista.

Epiphytic, erect, monopodial, branching herb. **Roots** from the base of the main stem, fleshy, thick. **Stems** somewhat branching, cane-like, terete, thin, erect, the main stem long, the short secondary stems a series of short segments produced from a subapical internode of the previous secondary stem. **Leaves** of the secondary stems 2-3, aggregate towards the apex of the stems, alternate, deciduous; sheaths striated and rugose, infundibuliform; blade narrowly lanceolate, subacute, aristate, margin entire, subcoriaceous, smooth, unequal, the first one about twice as large as the apical leaf. **Inflorescence** apical, from the secondary stems, racemose, short, flowering only once, in flower when the new stem begins to appear; peduncle terete, filiform, straight. **Floral bracts** much shorter than the ovary, lanceolate, acuminate. **Flowers** 4-6, successive, several open at one time, resupinate. **Ovary** terete, thin, somewhat inflated smooth. **Sepals** free, rounded, 3-veined, margin entire; dorsal spreading, narrowly obovate, minutely apiculate; laterals partly spreading, obovate, aristate, oblique, with a dorsal keel, margin revolute. **Petals** partly spreading, free, linear, somewhat dilated towards the apex, rounded, minutely apiculate, 1-veined, apical margin somewhat erose. **Lip** united to the column, entire, reniform, deeply cordate, margin entire, apex emarginate; bicallose, the calli small, thin; with an intermediate, low, rounded, acute keel. **Column** thin, straight. **Clinandrium-hood** short, margin entire. **Pollinia** 4, obovoid, laterally compressed. **Rostellum** apical, slit. **Nectary** shallow, penetrating 1/5 of the ovary, smooth.

OTHER SPECIMENS: BOLIVIA: Rio Saujana, ca. 2800 m, X 1911, *Herzog 2422*, L! Yungas, *Roez/ s.n.*, W (14445)!

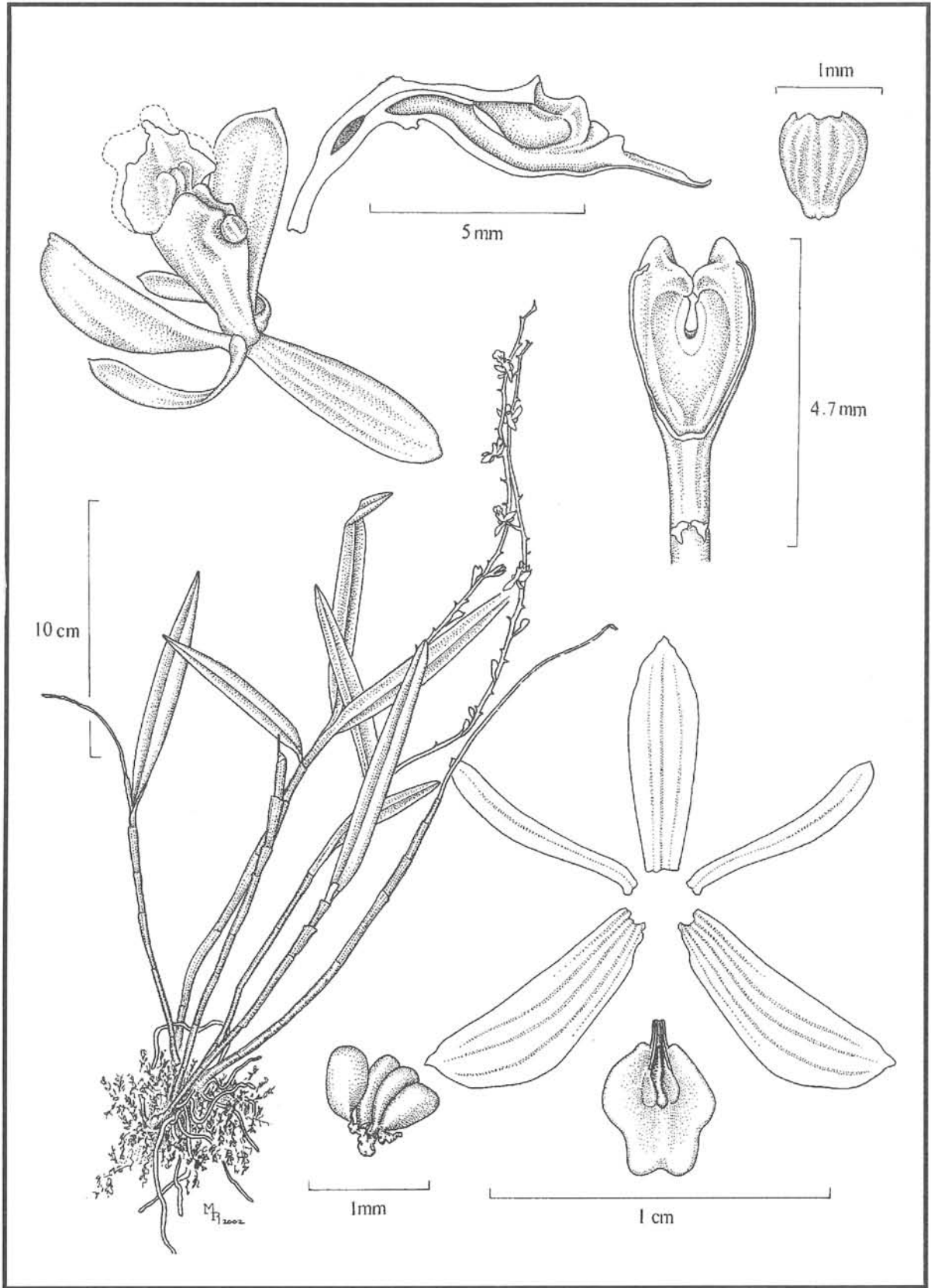
DISTRIBUTION AND ECOLOGY: Known only from Bolivia, at 2800-3200 m. Flowering in October-November.

RECOGNITION: *Epidendrum obliquum* belongs to the Soratae Subgroup of the Scabrum Group which is characterized by the branching habit starting on a primary stem, infundibuliform, rugose leaf-sheaths, lanceolate, aristate, acute leaves, racemose subcapitate inflorescence on a short, thin peduncle, and the bicallose lip. The species has a reniform, emarginate lip 4.6 x 8 mm in size and a straight column. *Epidendrum soratae* Rchb.f. is recognized by the reniform, apically somewhat 3-lobed lip, and the 6-7 mm long sepals. *Epidendrum cardenasii* Hágsater has larger flowers, 12-13 mm long sepals, the lip bilobed, widely emarginate and about as long as it is wide, the base short cordate and the calli laminar and divaricate. *Epidendrum bolivianum* Schltr. has larger flowers, sepals 13 mm long, apically bilobed, wider leaves, 7-12 mm wide, the 3 lobes of the lip about equal in size. *Epidendrum brachycaulum* Hágsater & R.Vásquez has short stems, wider leaves, 5-15 mm wide, a deeply, 3-lobed lip, with the midlobe rectangular, twice as long as it is wide and bilobed at the apex, and 9-10 mm-long sepals. *Epidendrum tetragonum* Hágsater & Dodson has a rectangular lip, the apex truncate, sepals 7-8 mm long, the lip is oblong-rectangular, with two inconspicuous lobes at the base. *Epidendrum cartilaginiflorum* Rchb.f. has a cordiform, somewhat 3-lobed-lip, apex obtuse, rounded, and the sepals are 16 mm long. *Epidendrum steinbachii* Ames has adpressed sheaths instead of these being infundibuliform, and therefore does not belong to this group; the lip is entire, reniform, with sepals 6 mm long.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: The name *obliquum* refers to the oblique lateral sepals, a feature common to many species in *Epidendrum*.



EPIDENDRUM OPIRANTHIZON Hágsater & Dodson

EPIDENDRUM OPIRANTHIZON Hágsater & Dodson, Icon. Orchid. (Mexico City) 2: pl. 165. 1993.

Type: ECUADOR: Prov. Morona-Santiago: km 45-59 Méndez to Morona, 800-1000 m, collected by C. Luer & P. Jessup, flowered at RPSC, 20 March 1989, *Calaway H. Dodson 17938*. Holotype: MO! Isotype: AMO!

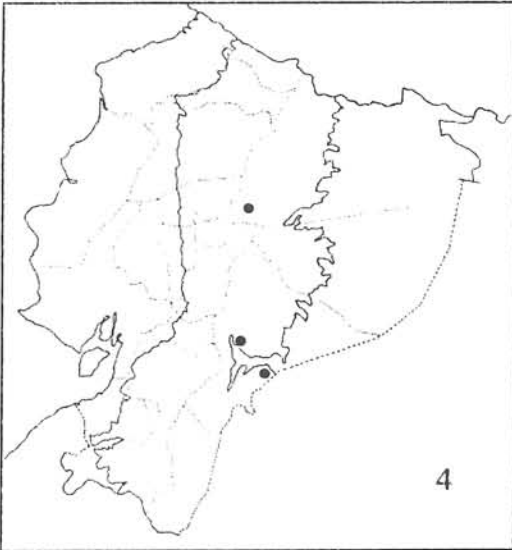
Hierba epífita, cespitosa, 13-36 cm de alto. Raíces basales, carnosas, 1-2 mm de grosor. Tallos sencillos, tipo caña, teretes, delgados, rectos, producidos de la base del tallo anterior, 6-15 x 0.1-0.3 cm. Hojas 3-5, distribuidas en el tercio apical del tallo; vaina tubular, finamente estriada, 0.9-1.8 cm de largo; lámina angostamente elíptica, ápice subagudo, margen entero, 6.3-12 x 0.8-1.3 cm. Bráctea espátacea ausente. Inflorescencia apical, florece una sola vez, racemosa, suberecta a arqueada, 8-21 cm de largo; pedúnculo terete, delgado, corto, desprovisto de brácteas, 2.8 cm de largo; raquis terete, delgado, elongado, ligeramente sinuoso hacia el ápice, 14.8-17.3 cm de largo. Brácteas florales de alrededor de la mitad del largo del ovario, triangulares, agudas, 1.5-2.0 mm de largo. Flores no resupinadas, numerosas, ca. 21-30, sucesivas, abriendo del ápice hacia la base del racimo, sépalos y pétalos amarillo verdoso, labelo rosado blanco. Ovario corto, liso, dilatado en la mitad apical, 2.5 mm de largo. Sépalos libres, obovado elípticos, ápice redondeado, diminutamente apiculado, 3-nervados, los laterales con un par de nervaduras cortas, dando la apariencia de ser 5-nervados, margen entero, 4.5-7.5 x 2.0-2.5 mm; el dorsal extendido; los laterales entreabiertos, oblicuos. Pétalos libres, reflexos, oblongo oblanceolados, obtusos, diminutamente apiculados, 1-nervados, margen entero, 4.5-6.5 x 0.8-0.9 mm. Labelo unido a la columna, entero, hexagonal subrómico, base angostamente cordada, ápice truncado, ligeramente lobado, margen entero, 3.0-3.8 x 3.2-3.5 mm; bicalloso, los callos prominentes, laminares, carnosos, alargados hasta la parte media del labelo; provisto de una quilla intercallosa, prominente, ápice redondeado, de la misma longitud del largo de los callos. Columna delgada, obcónica, ligeramente recurvada hacia el ápice, 4.0-4.7 mm de largo, terminada en un par de dientes carnosos, subagudos. Clinandrio reducido, entero. Antera anchamente obovada, 4-locular. Rostelo apical, hendido. Polinios 4, obovoides, lateralmente comprimidos, con el lado interior de cada par plano, subiguales; caudículas granuladas, cortas. Nectario corto, penetrando hasta el perianto, no inflado, liso. Lóbulos laterales del estigma alargados, delgados, ocupando casi la mitad del largo de la cavidad estigmática. Cápsula no vista.

Epiphytic, caespitose herb. Roots basal, fleshy. Stems simple, cane-like, terete, thin, straight. Leaves 3-5, distributed on the apical third of the stem; sheath tubular, minutely striated when dry, blade narrowly elliptic, apex subacute, margin entire. Inflorescence apical, flowers only once, racemose, suberect to arching; peduncle short, terete, thin, without bracts; rachis terete, thin, long, somewhat sinuous towards the apex. Floral bracts about half as long as the ovary, triangular, acute. Flowers non-resupinate, numerous, successive, opening from the apex of the inflorescence backward, sepals and petals yellow-green, lip pinkish white. Ovary short, smooth. Sepals free, obovate-elliptic, rounded, minutely apiculate, 3-veined, with a pair of additional lateral, short veins, thus appearing 5-veined. Petals free, reflexed, oblong-oblanceolate, obtuse, minutely apiculate, 1-veined, margin entire. Lip united to the column, entire, hexagonal-subrhombic, base narrowly cordate, apex truncate, somewhat lobed, margin entire; bicallose the calli prominent, laminar, fleshy, elongate, reaching the middle of the lip, with a prominent, intermediate keel, as long as the calli and rounded at the end. Column thin, obconical, recurved towards the apex, with a fleshy wing on each side of the apex. Clinandrium-hood reduced, entire. Rostellum apical, slit. Anther widely ovoid, 4-celled. Pollinia 4, obovoid, laterally compressed, with the inner side of each pair flat; caudicles granulate, short. Nectary shallow, only penetrating as far as the perianth, smooth.

OTHER SPECIMENS: ECUADOR: Morona-Santiago: along small road above Sucuá, 800 m, 22 IV 1982, *Dalström 209*, SEL! Flowers in spirit, AMO! (Illustration voucher). Napo: Near the road S of Baeza toward Tena, 1000-1500 m, 11 VIII 1978, *Luer 3254*, SEL!

DISTRIBUTION AND ECOLOGY: Known only from the Amazon slope of the Andes in central eastern Ecuador. Epiphyte, from 800 to 1000 m altitude. Flowering from April to March.

RECOGNITION: *Epidendrum opiranthizon* belongs to the Amblostomoides Group characterized by the caespitose habit, simple, fusiform thickened stems, lack of a spathaceous bract and small flowers. The species can be recognized by the racemose inflorescence, small, non-resupinate flowers opening from the apex of the raceme backward, the lip entire, hexagonal-subrhombic; bicallose the calli prominent, laminar, fleshy, elongate, reaching the middle of the lip, with a prominent, intermediate keel, as long as the calli and rounded at the end. Superficially the plant looks like *Epidendrum macrum* Dressler, but in that species the lip is deeply 3-lobed, the ovary pubescent and the flowers open simultaneously. *Epidendrum roncenum* Dodson & R.Vásquez has a paniculate inflorescence and the 3-lobed lip has a long, spatulate midlobe. *Epidendrum chiguindense* Hágsater & Dodson also produces the flowers from the apex of the inflorescence backward, but has short, laterally compressed stems, thick, coriaceous leaves, a long, arching, nutant, rat-tail-inflorescence with a long, narrow spathaceous bract at the base, numerous, green, successive flowers, and a triangular, cordate lip with a prominent, fleshy, striated, "V" shaped callus.

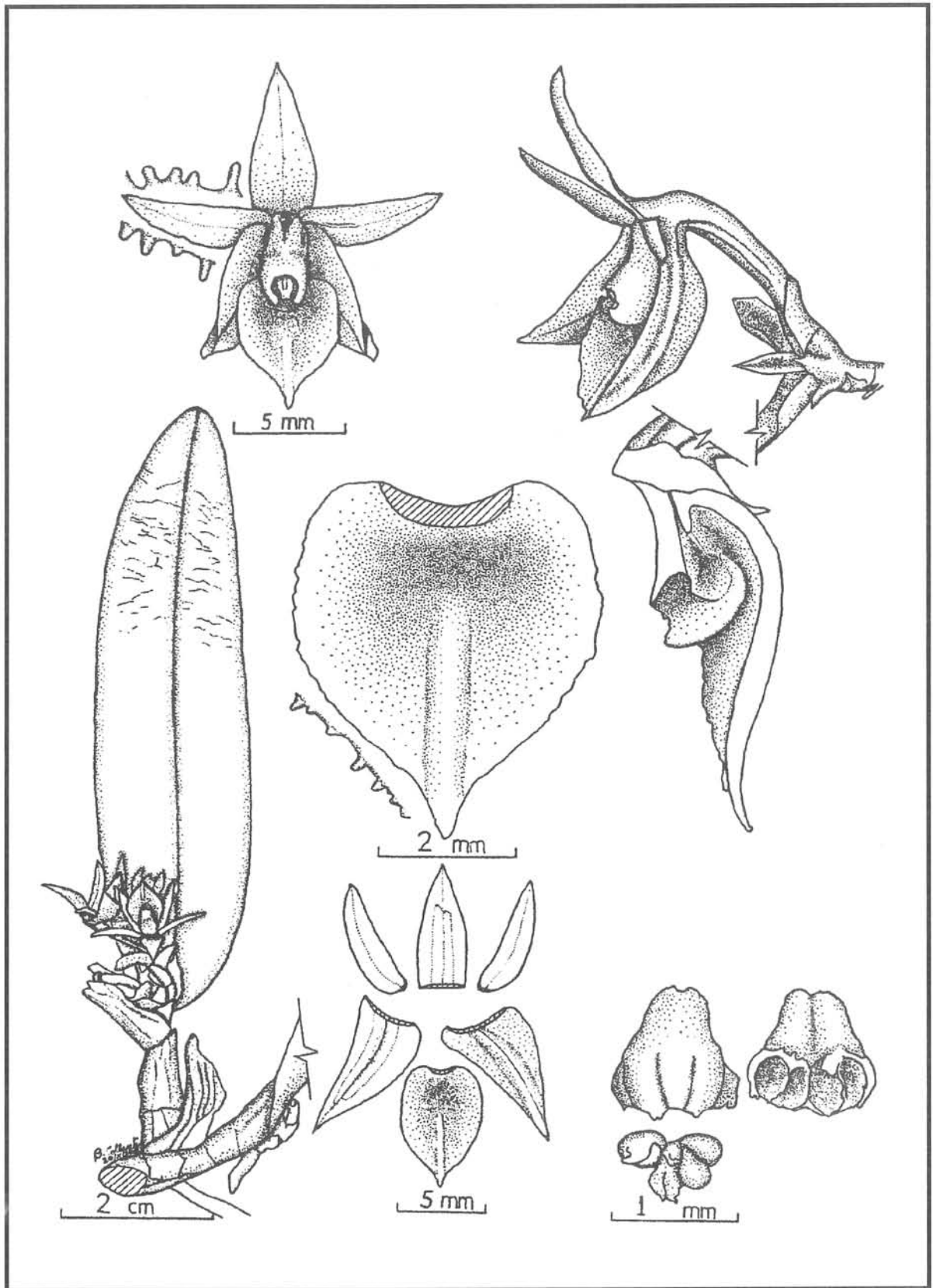


CONSERVATION STATUS: DD: Data deficient.

ETYMOLOGY: From the Greek *οπισθεν*, backward, and *ανθίζων*, flowering, in reference to the peculiar order in which the flowers develop and open, from the apex of the inflorescence backward.

NOTE: When pressed or preserved in FAA the flowers produce oxalate crystals much like those in *Prosthechea*, an unusual feature in *Epidendrum* also found in some species of the *Macrostachyum* Group.

REFERENCE: Hágsater, E. & C. H. Dodson, 1993. *Epidendrum opiranthizon* in E. Hágsater & G. Salazar (Eds.) *Icon. Orchidacearum* (Mexico City) 2: pl. 165. *Asoc. Mex. Orq.*



EPIDENDRUM PACHACUTEQIANUM Hágsater & Collantes

EPIDENDRUM PACHACUTEQIANUM Hágsater et Collantes, sp. nov.

Type: PERU: Cusco: Santuario Histórico de Machu Picchu, Quebrada Alccamayo, bosque de neblina, 3000 m, agosto 2005, cultivated by Ermitaño Quispe Batallanos y Ricardo Ojeda Abarca at the *Machu Picchu Pueblo Hotel-Inkaterra 85*. Holotype: USM! (Illustration voucher).

Epidendro serpenti Lindl. simile sed foliis bis majoribus oblongis rotundatis, floribus successivis majoribus, petalis oblongo-lanceolatis quam sepalis duplo angustioribus, labello cordiforme acuminato, separabile.

Hierba epífita, cespitosa, simpodial; 11 cm de alto, incluyendo la inflorescencia. **Raíces** a lo largo del rizoma, carnosas, blanquecinas, el ápice en crecimiento morado violáceo; 2 mm grosor. **Tallos** formando pseudobulbos algo engrosados, teretes, cortos, cubiertos con vainas tubulares no foliares; 2 x 0.6 cm. **Hojas** 1 ó 2, (aunque generalmente unifoliada) agregadas en el ápice del pseudobulbo, erectas, carnosas, gruesas, coriáceas, oblongas, ápice redondeado, margen entero, de color verde oscuro mate; 8.3 x 1.8 cm. **Bráctea espalácea** ausente. **Inflorescencia** apical, racemosa, subsésil, erecta, produciendo nuevos racimos con el tiempo; 2 cm de largo; pedúnculo muy corto, cubierto en su totalidad por 4 brácteas prominentes e imbricadas, arrosetadas. **Brácteas florales** más pequeñas que el ovario, anchamente triangulares, agudas, abrazadoras, de color rosado; 5 mm de largo. **Ovario** terete, delgado, no inflado, liso; 8 mm de largo. **Flores** 4-5, sucesivas, no resupinadas, con un duración de más de un mes cada una, sépalos y pétalos de color rosado grisáceo a rosado pálido cobrizo, el labelo rosado a verde cremoso, la columna verde cremosa con manchas fucsia dorsalmente en la base; sin fragancia. **Sépalos** libres, acuminados, 3-nervados, margen extendido y entero; el dorsal extendido, triangular lanceolado; 6 x 2.5 mm; los laterales entreabiertos, ovado triangulares, con una quilla dorsal prominente, oblicuos; 8 x 3.5 mm. **Pétalos** extendidos, libres, oblongo lanceolados, agudos, 1-nervados, oblicuos, margen extendido, diminutamente papiloso; 6.5 x 1.5 mm. **Labelo** unido de manera oblicua a la columna, ligeramente cóncavo en posición natural, entero, cordiforme, con un apículo en el ápice, margen extendido, papiloso; 6.5 x 4.5 mm; ecaloso, con una quilla lisa, carnosa, baja que se origina en la mitad de la lámina y se desvanece hasta el ápice de la misma. **Columna** gruesa, geniculada en la base con respecto del ovario, el cuerpo arqueado hacia arriba; 4 mm de largo. **Clinandrio** reducido, margen entero. **Antera** ovada, 4-locular. **Polinios** 4, obovoides a piriformes, subiguales; caudículas granuladas, más largas que los polinios. **Rostelo** apical, hendido. **Lóbulos laterales del estigma**, angostos, ocupando la tercera parte de la cavidad estigmática. **Nectario** poco profundo, sin penetrar el ovario, amplio, liso. **Cápsula** no vista.

Epiphytic, caespitose, sympodial herb. **Roots** produced along the rhizome, fleshy, thick, white, the growing apex violaceous purple. **Stems** forming somewhat thickened pseudobulbs, terete, short, covered by tubular, non-foliaceous sheaths. **Leaves** 1 or 2, (usually unifoliate), aggregate at the apex of the pseudobulb, erect, fleshy, thick, coriaceous, oblong, apex rounded, margin entire, dark green, mat. **Inflorescence** apical, racemose, subsessile, erect, producing new racemes in time; peduncle very short, completely covered by 4 prominent, imbricating, tubular bracts. **Floral bracts** shorter than the ovary, widely triangular, acute, pink colored. **Ovary** terete, thin, not inflated, smooth. **Flowers** 4-5, successive, non-resupinate, lasting more than a month each, sepals and petals grayish pink to pale copper-pink, lip pink to creamy green, column creamy green with fuchsia spots dorsally at the base. **Sepals** free, acuminate, 3-veined, margin spreading and entire; the dorsal sepal spreading, triangular-lanceolate, the lateral sepals partly spreading, ovate-triangular, with a prominent dorsal keel, oblique. **Petals** spreading, free, oblong-lanceolate, acute, 1-veined, oblique, margin spreading, minutely papillose. **Lip** obliquely united to the column, slightly concave in natural position, entire, cordiform, the apex apiculate, margin spreading, papillose; ecallose, with a smooth, fleshy low keel originating at the middle of the lip and reaching the apex. **Column** thick, geniculate at the base with respect to the ovary and then arching upwards. **Clinandrium-hood** reduced, margin entire. **Anther** ovate, 4-celled. **Pollinia** 4, obovoid to pyriform, subequal; caudicles granulose, longer than the pollinia. **Rostellum** apical, slit. **Nectary** short, wide, smooth.

OTHER SPECIMENS: None seen.

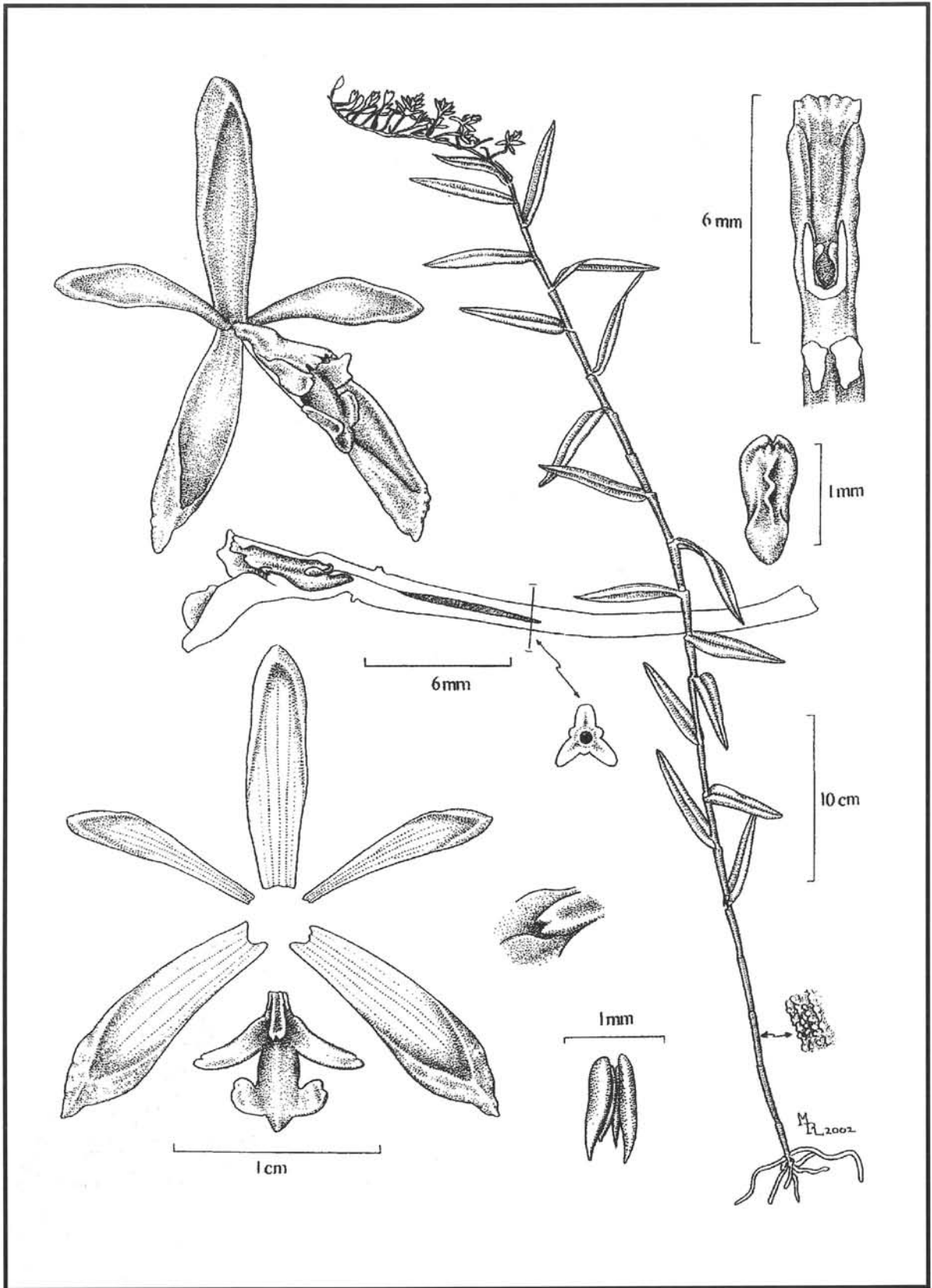
DISTRIBUTION AND ECOLOGY: Known only from the Machu Picchu Sanctuary, at 2900-3000 m altitude, epiphytic, in cloud forest. Flowering in August and September.



RECOGNITION: *Epidendrum pachacutecianum* belongs to the Kalopternix Group, Serpens Subgroup, characterized by reduced rhizomatous, aggregate pseudobulbous stems with one or few fleshy-coriaceous leaves, and an apical, sessile inflorescence without spatheous bracts, compact, star-shaped flowers, often burgundy red in color, lip entire, more or less cordiform. The species is recognized by the large, single, erect leaf per stem, the small, non-resupinate, successive flowers, sepals 6-8 mm long, the cordiform, acuminate, ecallose lip, the petals oblong-lanceolate, about half as wide as the sepals; the margin of the lip and petals is minutely papillose. It is somewhat similar to *Epidendrum serpenti* which has a triquetrous capsule, smaller leaves, 32-37 x 10-12 mm, and somewhat smaller flowers the sepals 5.5-6 mm long, the margin of the lip is minutely dentate. *Epidendrum platyphylloserpens* Hágsater is smaller overall and pendent, leaves 32-47 x 17-22 mm, sepals 8.5 mm long, with the lip cordiform, rounded and short apiculate.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In honor of Pachacutec, the ninth Inca of the Hanan Dynasty, great legislator and monarch under whose reign Machu Picchu as well as the Qoricancha temple in Cusco were built.



EPIDENDRUM PACHYTEPALUM Hågsater & E.Santiago

EPIDENDRUM PACHYTEPALUM Hágsater et E.Santiago, *sp. nov.*

Type: COSTA RICA: Canaán to Chirripó via Los Angeles, above (north of) the Río Talari, 3100-3200 m, 21 August 1971, *William C. Burger 8253*. Holotype: F! (Illustration voucher).

Epidendro crescentilobo Ames simile sed floribus majoribus succesivis, labelli lobulo medio carnosio incrassato ad apicem duas alas membranaceas ferenti, sepala petalaeque carnosae versus marginem apicalem, ovario triquetro, polliniorum paris interioribus magnitudine $\frac{3}{4}$ partibus polliniorum exteriorum magnitudinis aequanti, polliniis interioribus in pollinarii centro sitis, distinctum.

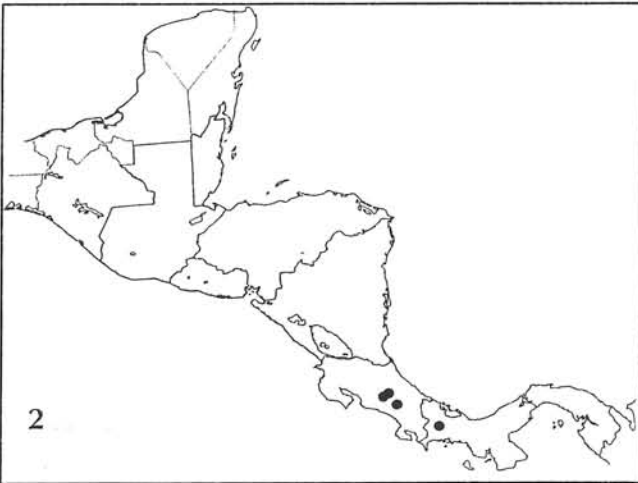
Hierba epífita y terrestre, simpodial, cespitosa, erecta; de 75-150 cm de alto. **Raíces** basales, carnosas, delgadas, blancas; 1.5-2.2 mm de grosor. **Tallos** sencillos, tipo caña, teretes, delgados, erectos, rectos, 75-150 x 0.16-0.26 cm; cubiertos en la base por vainas tubulares no foliares. **Hojas** 10-15, distribuidas casi a lo largo del tallo, alternas, subcoriáceas; vaina tubular, verrugosa; 10-33 x 1.6-2.6 mm; lámina lanceolada, acuminada, con una quilla dorsal diminuta, margen entero, lisa; 5-11 x 1-1.4 cm. **Bráctea** espátacea ausente. **Inflorescencia** apical, racemosa, laxa, secundiflora, todas las flores por encima del raquis, florece sólo una vez, 8-12.5 cm de largo; pedúnculo delgado, terete, 22 mm de largo, provisto en la base de una bráctea angostamente lanceolada, largamente acuminada, abrazadora, 18 mm de largo. **Bráctea** floral más cortas que el ovario, lineal lanceoladas, agudas, abrazadoras, 4-10 mm de largo. **Flores** 5-34, sucesivas, algunas apicales presentes aun en botón floral cuando el resto están abiertas, botones florales con quillas carnosas que terminan en tres picos, sépalos y pétalos color fucsia lavanda con callo naranja, los márgenes laterales apicales del clinandrio con una mancha morada visible cuando vista de frente; sin datos de fragancia. **Ovario** trimetro, delgado, no inflado, no ornamentado, 15-30 mm de largo. **Sépalos** libres, extendidos, oblongo oblanceolados, obtusos, carnosos hacia el margen apical y por lo tanto carnosos aristados, 5-nervados, margen entero, 12-14 x 2.8-4 mm. **Pétalos** libres, extendidos, oblanceolados, unguiculados, subagudos, carnosos hacia el margen apical, 3-nervados, las nervaduras laterales ramificadas arriba, margen entero, 10-13 x 2-4 mm. **Labello** unido a la columna, trilobado, cuneado en la base, margen entero, 5 x 9 mm; el callo un cojín carnosio, alargado hasta cerca del istmo, bidentado en el ápice; lóbulos laterales oblongos, redondeados, oblicuamente bilobados, divaricados, ligeramente más angostos hacia el ápice, 3.5-4 x 1-3 mm; lóbulo medio carnosio, engrosado, elíptico oblongo, obtuso, bialado cerca del ápice, las alas petaloideas, oblicuamente subcuadradas, algo bilobadas en el ápice, algo retrorsas, 3.0-4.0 x 4.0-4.5 mm. **Columna** recta, delgada, 12 mm de largo, incluyendo el clinandrio. **Clinandrio** muy prominente, sobrepasando el cuerpo de la columna y $1\frac{1}{2}$ veces el largo del cuerpo de la columna, margen eroso ondulado. **Antera** subovoidea, 4-locular, con una quilla lisa, flexuosa al frente. **Pollinios** 4, tipo ala de pájaro, desiguales, el par interior más pequeño, de las $\frac{3}{4}$ partes del largo de los exteriores, centrados. **Rostelo** transversal, sinuado. **Nectario** corto, sin traspasar el perianto, no inflado, no ornamentado. **Cápsula** no vista.

Epiphytic and terrestrial, sympodial, caespitose, erect herb. **Roots** basal, fleshy, thick. **Stem** simple, cane-like, terete, thin, erect, straight. **Leaves** 10-15, distributed nearly throughout the stem, alternate, subcoriaceous; sheath tubular, verrucose; blade lanceolate, acuminate, smooth, margin entire. **Inflorescence** apical, racemose, lax-flowered, secund, all the flowers above the rachis, flowering only once; peduncle thin, terete, provided at the base with one narrowly lanceolate, long-acuminate bract. **Floral bracts** shorter than the ovary, linear-lanceolate, acuminate. **Flowers** 5-34, successive, some apical buds when the rest are fully open, resupinate, floral buds with fleshy keels that protrude at the apex into three fleshy tips, sepals and petals fuchsia colored, calli and base of lip orange, apical sides of clinandrium-hood with a pair of purple spots visible when seen from front. **Ovary** triquetrous, thin, smooth. **Sepals** free, spreading, oblong-oblanceolate, obtuse, 5-veined, fleshy towards the apical margin, thus fleshy aristate, the margin entire. **Petals** free, spreading, oblanceolate, unguiculate, subacute, fleshy towards the apical margin, 3-veined, the veins branching above, margin entire. **Lip** united to the column, 3-lobed, base cuneate, margin entire; 5 x 9 mm; the callus a fleshy cushion, elongate, nearly reaching the isthmus, apex bidentate, lateral lobes oblong, rounded, obliquely bilobed, divaricate, slightly narrower towards the apex; midlobe fleshy-thickened, elliptic-oblong, obtuse, with a pair of petaloid wings near the apex, obliquely subquadrate, apically bilobed, somewhat retrorse. **Column** straight, thin. **Clinandrium-hood** prominent, about $1\frac{1}{2}$ longer than the body of the column, margin erose-undulate, 4-celled, with a flexuous keel in front. **Pollinia** 4, bird-wing-type, unequal, the inner pair smaller, $\frac{3}{4}$ the size of the outer pair, centered. **Rostellum** transverse, sinuate. **Nectary** without penetrating the ovary, smooth.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Known from the summit of the Cordillera de Talamanca, Costa Rica and Chiriquí, in Panamá at 2200-3200 m in high montane oak forest; terrestrial and epiphytic. Flowering in February, June to October.

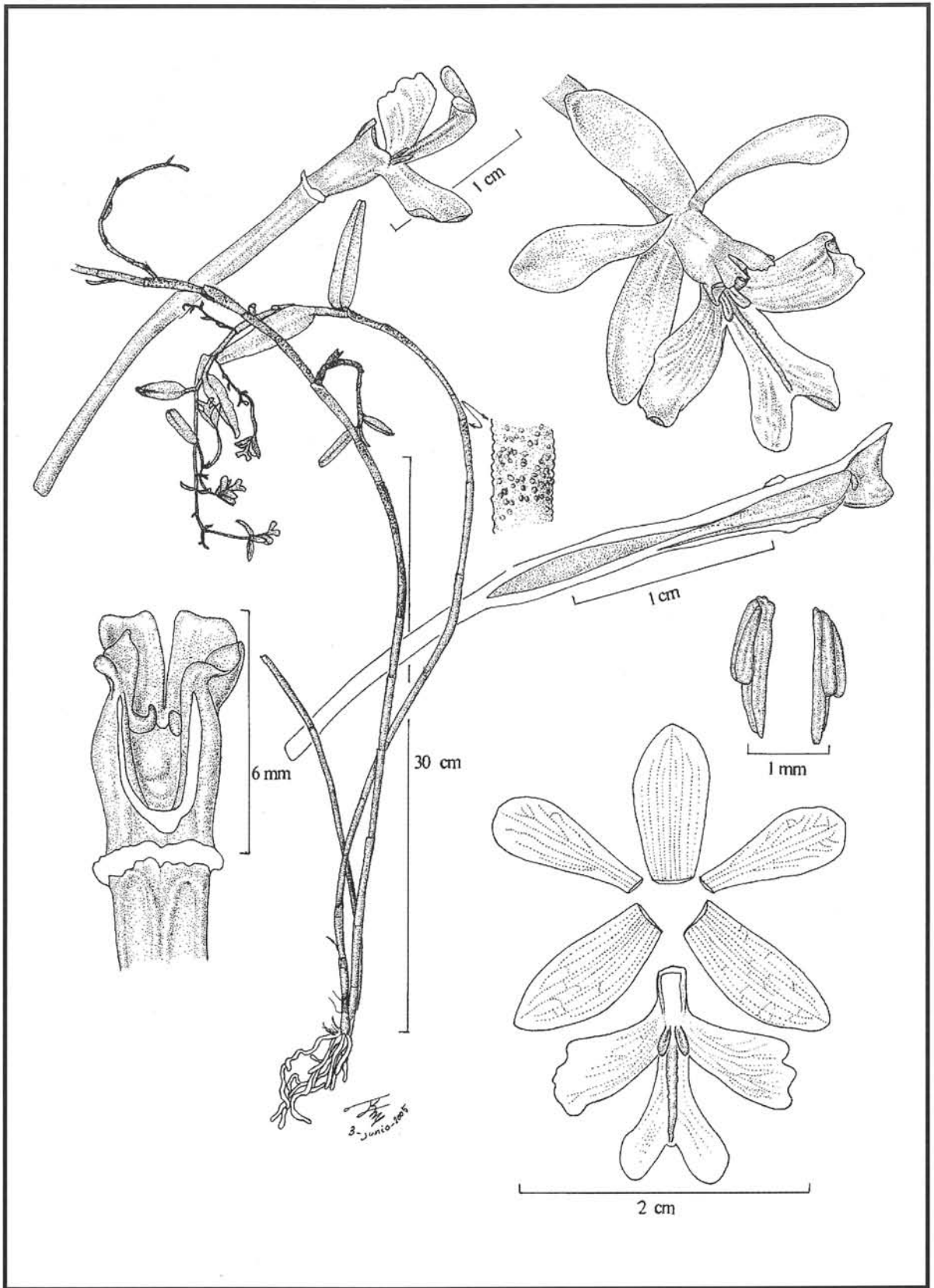
RECOGNITION: *Epidendrum pachytepalum* belongs to the Oerstedella Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is transverse to the column instead of parallel, forming a wide, open sinus, and Aberrans Subgroup which has small, membranaceous flowers with a prominent clinandrium-hood, with unequal pollinia, the inner pair much smaller than the outer pair, and the pollinia very flat and translucent. The species is recognized



by the somewhat large flowers for the group, fuchsia colored, with base of lip and calli orange, and two purple spots on apical sides of clinandrium-hood visible when seen from front, the sepals and petals fleshy-thickened towards the apical margins, the inner pollinia about $\frac{3}{4}$ the size of the outer pair and centered, the fleshy midlobe has subquadrate wings near the apex. *Epidendrum atypicum* Hágsater has a simple midlobe of the lip, and very prominent clinandrium-hood nearly twice as long as the body of the column, the inner pollinia are only half as large as the outer pair, and located towards the apex of the pollinarium. It is closely related to *E. crescentilobum* Ames which has somewhat smaller flowers and a clearly 4-lobed lip, the midlobe membranaceous, not fleshy-thickened, the inner pollinia are located towards the thinner end of the outer, larger pair.

CONSERVATION STATUS: DD. Data deficient. Apparently common along the summit of the Cordillera de Talamanca, within the various National Parks.

ETYMOLOGY: From the Greek *παχύς*, thick, and *tepalum*, the sepals and petals, in reference to the unusual thickening of the sepals and petals, near the apical margins.



EPIDENDRUM PAJITENSE C.Schweinf.

THE GENUS EPIDENDRUM PART 5

Plate 866

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM PAJITENSE C.Schweinf., Bot. Mus. Leaf. 14(3): 56. 1949.

Type: PANAMÁ: Coclé: Cerro Pajita, hills north of El Valle, 1100 m, 27 October 1946, **Paul H. Allen 3784**.

Holotype: AMES! (photo at AMO)

Synonym: *Oerstedella pajitense* (C.Schweinf.) Hágsater, Orquídea (Mexico City) 8(1): 21. 1981.

Hierba epífita, "saprofita", cespitosa, simpodial; de 33-58 cm de alto. **Raíces** basales, carnosas; 1-2 mm de grosor. **Tallos** sencillos, tipo caña, teretes, delgados, suberectos, en ocasiones el retoño nuevo naciendo cerca de la mitad del tallo anterior; 16-32 x 0.15-0.4 cm; cubiertos en la base por vainas tubulares no foliares, verrugosas, generalmente no persistentes. **Hojas** 8-10, distribuidas en la mitad apical del tallo, alternas, articuladas; vainas tubulares, verrugosas; 10-32 x 2-4 mm; lámina oblongo lanceolada a elíptico lanceolada, el ápice obtuso o subagudo, cortamente bilobado, margen entero; [1.5]3.5-6.2 x 0.5-1.6 cm. **Bráctea** espácea ausente. **Inflorescencias** apical y laterales (la apical paniculada con 2 racimos laxos provistos de una bráctea algo foliosa en la base de los mismos; las laterales racemosas), erectas, paucifloras, laxas; 2-9 cm de largo; pedúnculo terete, delgado, desprovisto de brácteas, hasta de 9-20 mm de largo; raquis corto, terete, delgado, algo flexuoso. **Brácteas florales** mucho más cortas que el ovario, triangular ovadas, agudas, abrazadoras; 2-5 mm de largo. **Flores** 2-6 por racimo, simultáneas, resupinadas; sépalos y pétalos rosados por fuera a blanco parduzcos por dentro; sin datos de fragancia. **Ovario** terete, delgado, no inflado, no ornamentado; 17-25 mm de largo. **Sépalos** extendidos, libres, carnosos, lisos, oblongo elípticos, obtusos a subagudos, 7-nervados, las nervaduras laterales ramificadas dando la apariencia de ser 9-nervados, margen entero, 9.3-12 x 3-5 mm; los laterales ligeramente oblicuos, diminutamente apiculados. **Pétalos** extendidos, libres, oblanceolados, cuneados, redondeados, diminutamente apiculados, 3-nervados, con las nervaduras laterales cortamente ramificadas, margen entero, 9-10 x 3.2-5 mm. **Labelo** unido a la columna, 3-lobado, unguiculado, margen entero; 10-12.5 x 14-16 mm; bicalloso, los callos delgados, lisos, alargados hasta la base del lóbulo medio; disco provisto de una quilla intercallosa, delgada, muy parecida a los callos aunque ligeramente más larga que estos; lóbulos laterales obovado oblongos, ligeramente oblicuos, ligeramente lobulados; 6-8 x 3.5-4 mm; lóbulo medio con un istmo angosto en la base, flabelado en el ápice, profundamente bilobado, los lóbulos subcuadrado-redondeados; 8-10 x 6-8 mm. **Columna** delgada, recta; 6.5 mm de largo; terminada en cuatro lóbulos laminares, con el margen eroso dentado. **Clinandrio** corto, bilobado, margen eroso dentado. **Antera** no vista. **Polinios** no vistos. **Rostelo** perpendicular con respecto al eje de la columna, formando un seno amplio. **Lóbulos laterales del estigma** obsoletos. **Nectario** no visto. **Cápsula** no vista.

Epiphytic, caespitose, sympodial herb. **Roots** basal, fleshy, thick. **Stems** simple, cane-like, terete, thin, suberect, the new stem sometimes produced from the middle of the previous stem; the stems covered at the base by non-foliaceous, tubular, verrucose sheaths. **Leaves** 8-10, distributed throughout the apical half of the stem, alternate, articulate; sheaths tubular, verrucose; blade lanceolate-oblong to lanceolate-elliptic, apex obtuse to subacute, short bilobed, margin entire. **Inflorescence** apical and laterals (the apical one paniculate, the lateral ones racemose), erect, lax, few-flowered; peduncle terete, thin; rachis short, terete, thin, somewhat flexuous. **Floral bracts** much shorter than the ovary, ovate-triangular, acute. **Flowers** 2-6 per raceme, simultaneous, resupinate, sepals and petals rose-pink outside, brownish white inside. **Ovary** terete, thin, smooth. **Sepals** spreading, free, fleshy, smooth, oblong-elliptic, obtuse to subacute, 7-veined, the lateral veins branching so as to appear 9-veined, margin entire, the lateral sepals slightly oblique, minutely apiculate. **Petals** spreading, free, oblanceolate, cuneate, rounded, minutely apiculate, 3-veined, the lateral veins short-branched, margin entire. **Lip** united to the column, 3-lobed, unguiculate, margin entire; bicallose, the calli thin, smooth, elongate, reaching the base of the midlobe; disc provided with a thin keel very similar to the calli, but somewhat longer; lateral lobes ovate-oblong, slightly oblique, truncate to slightly lobulate; base of the midlobe with a narrow isthmus, flabellate at the apex, deeply bilobed, the lobes subquadrate-rounded. **Column** thin, straight, ending in 4 laminar lobes, the margin erose-dentate. **Clinandrium-hood** short, bilobed, margin erose-dentate. **Rostellum** perpendicular to the axis of the column, forming a wide sinus.

OTHER SPECIMENS: PANAMÁ: Coclé: El Valle de Antón, 600 m, 26 XI 1985, MO 4291084! Cerro Pilón, El Valle, 3000 ft, 4 I 1968, Dressler 1973, F! MICH! MO! Cerro Pilón, El Valle, 3000 ft, 4 I 1968, Duke 15009, F! MICH! (Illustration voucher) MO! Valle de Antón, 1000-2000 ft, 2 XII 1967, Lewis 2522, AMO! F! MO! UC! above El Valle, 900 m, 20 II 1985, Luer 10644, MO! Ibid. on trail to top of Cerro Gaital, 1000 m, 21 I 1988, McPherson 11962, MO! SW of La Mesa, ca. 900 m, 26 XII 1982, Stein 976, MO!

DISTRIBUTION AND ECOLOGY: Endemic to the Valle de Antón, Panama. Epiphyte, 300-1100 m altitude. Flowering from October to January.

RECOGNITION: *Epidendrum pajitense* belongs to the *Oerstedella* Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is perpendicular to the axis of the column instead of parallel, forming a wide, open sinus, and without a viscidium, and the *Verrucosum* Subgroup, recognized by the small to medium sized, membranaceous flowers with sepals and petals immaculate, a bilobed clinandrium-hood slightly surpassing the body of the column, obovoid, subequal pollinia with long granulose caudicles. The species is recognized by the intermediate plants (to 58 cm tall) lanceolate-oblong to lanceolate-elliptic leaves to 1.6 cm wide, the few-flowered inflorescence, the flowers rose-pink outside, brownish white inside, the rachis somewhat flexuous; (sepals 9.3-12 mm long), the lip is 3-lobed, the lateral lobes obovate-oblong, truncate to slightly lobed at the apex. It is similar to *E. lacteum* Dressler which has larger flowers (sepals 16-17 mm long), greenish cream-colored with the lip white, 3-lobed, the lobes rounded at the apex, and the anther with 3 decurrent, thin, keels. *Epidendrum verrucosum* Sw. which has tall plants (up to 3 m), paniculate inflorescence with numerous flowers, sepals and petals white or greenish cream and the lip creamy-yellow.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In reference to the type locality of Cerro Pajita.

REFERENCES: Dressler R. L., 1993, *Field guide to the Orchids of Costa Rica and Panama*, Cornell University Press, p. 89. Plate 6. fig. 5. Hágsater, E., & M. A. Soto Arenas, 2005, *Transfers to Epidendrum L. From Oerstedella Rchb.f. Lankesteriana* 5(1): 73.

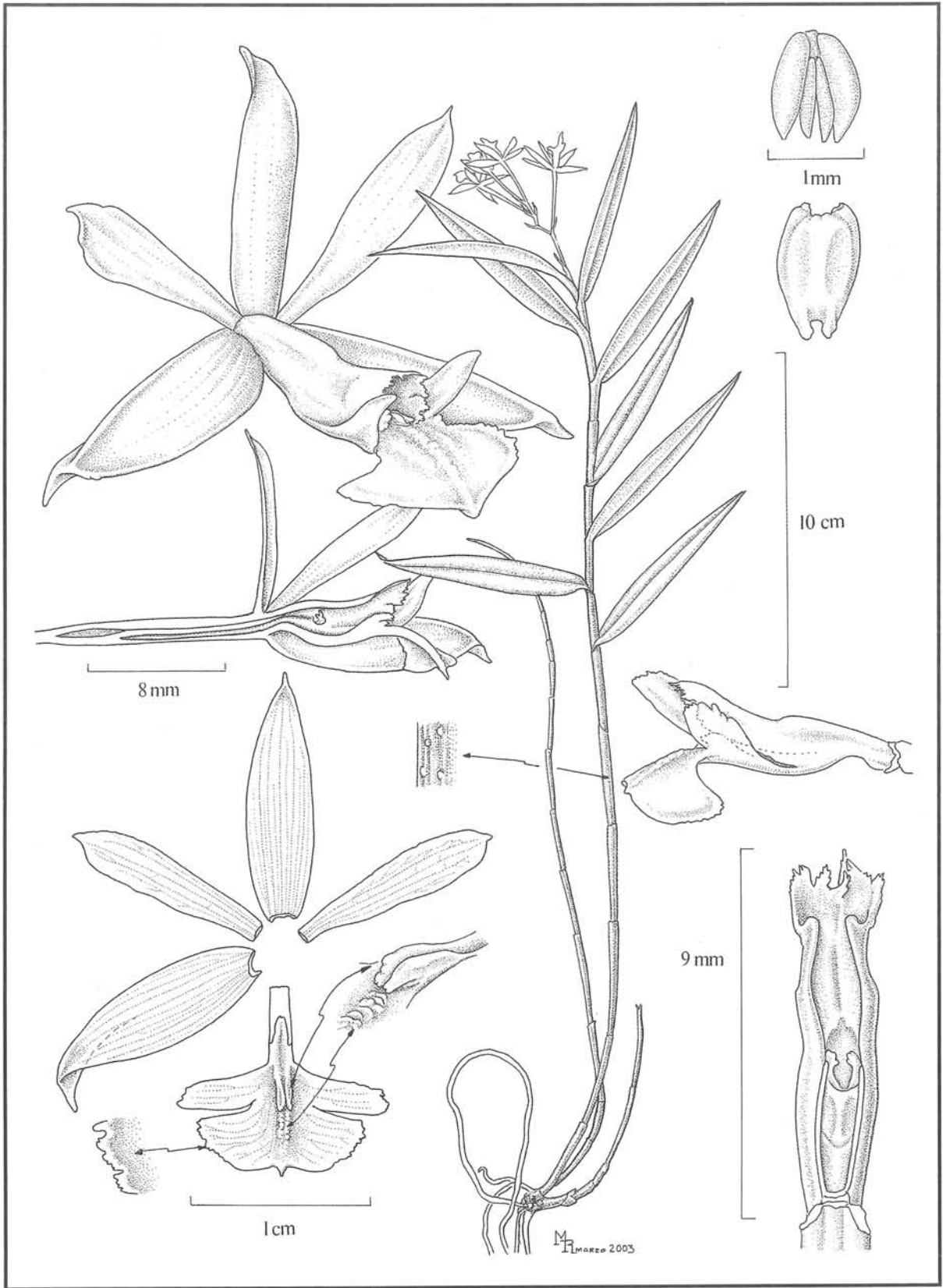


Authors: E. Santiago & E. Hágsater

Illustrator: R. Jiménez M.

Editors: E. Hágsater & L. Sánchez S.

Herbario AMO Apartado Postal 53-123, 11320 México, D.F., MÉXICO ICONES ORCHIDACEARUM 8. 2006. Plate 866



EPIDENDRUM PANSAMALAE Schltr.
THE GENUS EPIDENDRUM PART 5

EPIDENDRUM PANSAMALAE Schltr., Repert. Spec. Nov. Regni Veg. 10: 485. 1912.

Type: GUATEMALA: [Alta Verapaz: Finca] Pansamala, 4000 ft, September 1886, *Hans von Türckheim 1062*.

Holotype: B destroyed, (tracing at AMES!)

Synonyms: *Oerstedella pansamala* (Schltr.) Hágsater, *Orquidea* (México City) 8(1): 24. 1981.

Epidendrum dunnii A. D. Hawkes, *Orch. Journ.* 1(1): 39. 1952. Type: PANAMA: Coclé: Cerro Grande at headwaters of Río Ceri, 2000 ft, 15 X 1950, *Harry A. Dunn s.n. (Alex D. Hawkes 2392)*. Holotype: UC 916874!

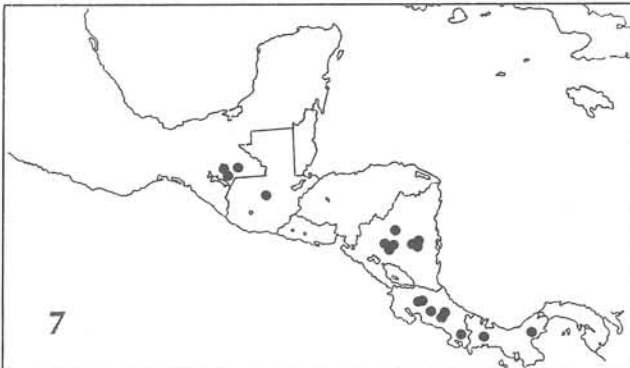
Hierba epífita, simpodial, cespitosa; 23-57 cm de alto. **Raíces** basales, carnosas, gruesas, blancas; 0.5-2 mm de grosor. **Tallos** sencillos, tipo caña, teretes, delgados, erectos, rectos; 20-50 x 0.1-0.35 cm; cubiertos en la base por vainas tubulares, verrugosas, no foliares. **Hojas** 7-14, distribuidas a lo largo de casi todo el tallo, alternas, articuladas, subcoriáceas, generalmente caedizas; vaina tubular, fuertemente verrugosa; 6-26 x 1-3.5 mm; lámina linear lanceolada a lanceolada, ápice acuminado, diminutamente apiculado, margen entero; 3-10 x 0.4-1.6 cm. **Bráctea** espatácea ausente. **Inflorescencia** apical, florece una sola vez, racemosa a raramente paniculada, suberecta, subdensa; 3-8 cm de largo; pedúnculo terete, delgado, recto; 10-23 mm de largo; provisto de 1 a 2 brácteas angostamente triangulares, acuminadas, abrazadoras; 7-8 mm de largo; raquis terete, delgado, en zigzag; 2-6 cm de largo. **Brácteas florales** mucho más cortas que el ovario, triangular lanceoladas, acuminadas, abrazadoras, gradualmente más pequeñas; 6 mm de largo. **Flores** 3-35 [50], cada racimo con 3 a 14 flores, simultáneas, resupinadas, de color rosado con el ápice de la columna blanco; sin datos de fragancia. **Ovario** terete, delgado, no inflado, no ornamentado; 15-18 mm de largo. **Sépalos** extendidos a entreabiertos, libres, lanceolados a angostamente elípticos, agudos, con un apículo dorsal prominente, 5-nervados, todas las nervaduras ramificadas desde la base dando la apariencia de ser 10-nervados, margen entero, 13-14 x 4-4.2 mm. **Pétalos** entreabiertos, libres, linear oblanceolados, redondeados, diminutamente apiculados, 3-nervados, las nervaduras laterales ramificadas desde la base dando la apariencia de ser 5-nervado, margen entero; 12.5 x 2.8 mm. **Labelo** unido a la columna, 3-lobado, base truncada, margen eroso crenulado; 6.5 x 12 mm; bicalloso, los callos oblongo, delgados, paralelos, alargados hasta la base del lóbulo medio; disco con una quilla, baja, formada por dos hileras de pequeños tubérculos bajos; lóbulos laterales oblongos, truncados, extendidos, rectos; 5 x 1.7 mm; istmo angosto y muy corto, lóbulo medio entero, flabelado, apiculado, formado por dos lóbulos extendidos, más cortos y anchos que los laterales; 4.5 x 10 mm. **Columna** corta, gruesa, arqueada hacia arriba hacia el ápice, a la altura del clinandrio, 9 mm de largo (incluyendo el clinandrio). **Clinandrio** prominente, semitubular, sobrepasando el cuerpo de la columna, entero, margen profundamente dentado. **Antera** ovoidea, 4-locular. **Polinios** 4, tipo ala de pájaro, lateralmente aplanados, el par interior más pequeño y ubicado hacia el ápice; caudículas laminares, sin viscidio. **Rostelo** perpendicular con respecto al eje de la columna, formando un seno amplio. **Lóbulos laterales del estigma** obsoletos. **Nectario** penetrando 1/2 del ovario, angosto, no inflado, no ornamentado. **Cápsula** no vista.

Epiphytic, sympodial, caespitose herb. **Roots** basal, fleshy, thick. **Stems** simple, cane-like, terete, thin, erect, straight, the base covered by tubular, strongly verrucose sheaths. **Leaves** 7-14, distributed nearly throughout the stem, alternate, articulate, subcoriaceous, generally deciduous; sheath tubular, strongly verrucose; blade linear-lanceolate to lanceolate, apex acuminate, minutely apiculate, margin entire. **Inflorescence** apical, flowering only once, racemose to rarely paniculate, suberect, subdense; peduncle terete, thin, straight, short, provided with 1-2 narrowly triangular, acuminate bracts; rachis terete, thin, zigzag. **Floral bracts** much shorter than the ovary, triangular lanceolate, acuminate. **Flowers** 3-35[50], each raceme with 3-14 flowers, simultaneous, resupinate, pink with the apex of the column white. **Ovary** terete, thin, not inflated, smooth. **Sepals** spreading to partly spreading, free, lanceolate to narrowly elliptic, acute, with a prominent, dorsal apicule, 5-veined, all the veins branching from the base so as to appear 10-veined, margin entire. **Petals** partly spreading, free, linear-oblanceolate, rounded, minutely apiculate, 3-veined, the lateral veins branching from the base so as to appear 5-veined, margin entire. **Lip** united to the column, 3-lobed, base truncate, margin erose-crenulate; bicallose, the calli oblong, thin, parallel, elongate to the base of the midlobe; disc with a fleshy, low keel formed by two rows of low, rounded tubercles; lateral lobes oblong, truncate, spreading, straight; isthmus narrow and very short, midlobe entire, flabellate, apiculate, appearing as two spreading lobes, shorter and wider than the lateral lobes. **Column** short, thick, arching upwards towards the apex, at the clinandrium-hood level, margin deeply dentate. **Anther** ovoid, 4-celled. **Pollinia** 4, bird-wing type, laterally compressed, caudicles laminar, the inner pair smaller and positioned apically; viscidium lacking. **Rostellum** perpendicular to the axis of the column, forming a wide sinus. **Nectary** penetrating 1/2 of the ovary, narrow, not inflated, smooth.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Disjunct distribution, ranging from the highlands on the Mexican-Guatemalan border to the hills above Lake Izabal, and throughout the cordilleras of Nicaragua and Costa Rica to central Panama [Coclé]. Epiphytic between 700-1500 m altitude. Flowering from September to December, April.

RECOGNITION: *Epidendrum pansamala* belongs to the *Oerstedella* Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is perpendicular to the axis of the column instead of parallel, forming a wide, open sinus, and without a viscidium, and the *Aberans* Subgroup, which has small, membranaceous flowers with a prominent clinandrium-hood, with unequal, bird-wing type pollinia, the inner pair much smaller than the outer pair, and the pollinia very flat and translucent. The species is recognized by the intense pink-colored flowers, with a prominent, white, deeply dentate clinandrium-hood, the oblong, spreading lateral lobes of the lip longer and narrower than those of the flabellate midlobe which lacks any apical sinus, with a narrow, short isthmus, and the bicallose callus. The similarly colored *E. centropetalum* Rchb.f. (syn. *E. centradenia* Rchb.f.) has a straggling habit with thinner stems, shorter inflorescences, and a large, wide lip with triangular lateral lobes and the midlobe "V" shaped, and a tridentate callus. *Epidendrum aberrans* Schltr. also has pink flowers, though the lip is white to pink, the inflorescence is elongate, and the bicallose midlobe has a long,



narrow isthmus with parallel sides, and 4 similar, acute lobes. *Epidendrum crescentilobum* Ames has a racemose inflorescence, generally secund and in a horizontal position, with all the flowers on the upper side, small flowers (sepals 6-8 mm long), and the midlobe with a long, narrow isthmus and divaricate lobes arching backwards.

ETYMOLOGY: In reference to the Finca Pansamala, near Cobán, in Alta Verapaz, Guatemala, where the type was collected.

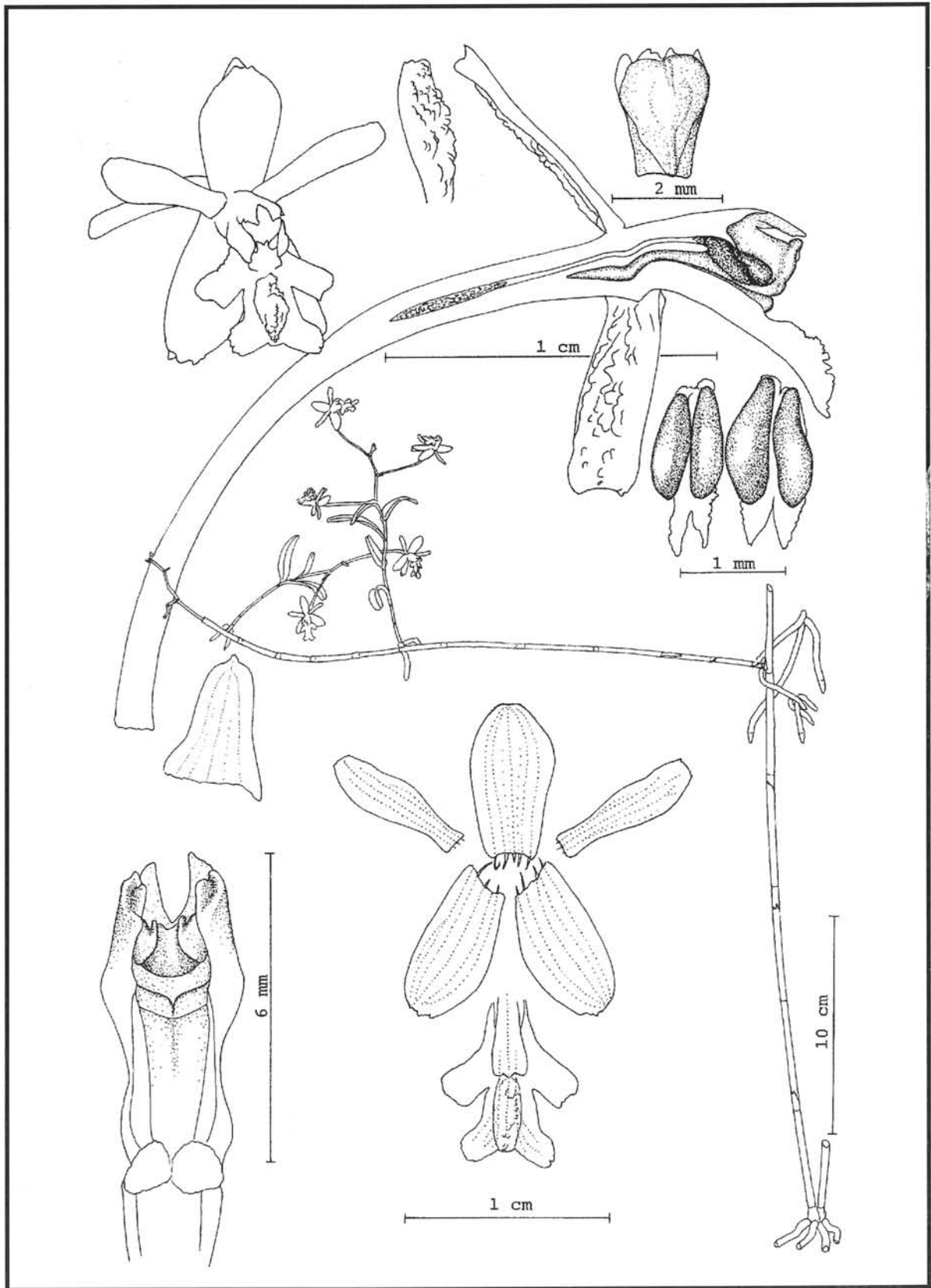
REFERENCES: Dressler R. L., 1993, *Field guide to the Orchids of Costa Rica and Panama*, Cornell University Press, p. 90. Hágsater, E., in Hammel et al., 2003, *Manual de Plantas de Costa Rica*, vol. III, Missouri Botanical Garden, p. 350. Hágsater, E., & M. A. Soto Arenas, 2005, *Transfers to Epidendrum L. From Oerstedella Rchb.f. Lankesteriana* 5(1): 73. Hamer, F., 1990, *Orchids of Central America an illustrated field guide*, Selbyana 11 (Suppl.): pl. 541.

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Illustrator: M. López R.

Editors: E. Hágsater & L. Sánchez S.

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EPIDENDRUM PARVIEXASPERATUM (Hágsater) Hágsater

THE GENUS *EPIDENDRUM* PART 5

Plate 868

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM PARVIXASPERATUM (Hágsater) Hágsater, Lankesteriana 5(1): 73. 2005.

Basionym: *Oerstedella parvixasperata* Hágsater, Orquídea (Mexico City) 13(1-2): 219. 1993.

Type: COSTA RICA: San José: Fila de la Cordillera de Talamanca, 1950 m, 2 mayo 1982, *E. Hágsater & C. Horich 6333*. Holotype: AMO! (Illustration voucher, Xerox copy at MEXU!)

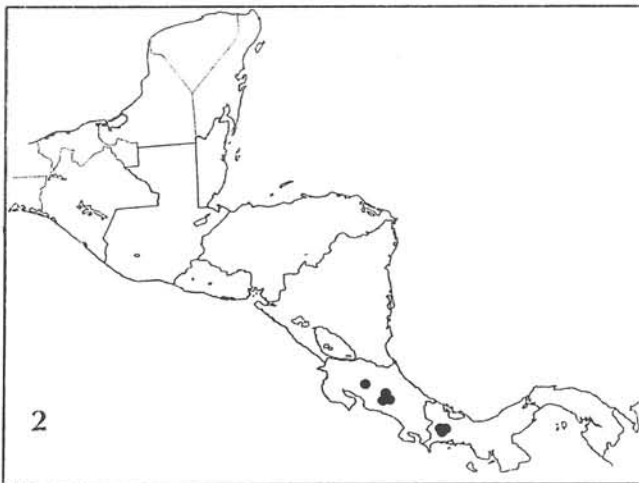
Hierba epífita, cespitosa; hasta de 150 cm de alto. **Raíces** basales, tanto en el tallo principal como en la base de los keikis, carnosas, gruesas; 3 mm de grosor. **Tallos** sencillos, produciendo keikis, tipo caña, leretes, delgados, erectos; 5-100 x 0.2-0.5 cm; cubiertos en la base por vainas tubulares, no foliares, con pequeñas verrugas moradas; 1.4-3.5 cm de largo. **Hojas** 4-8, distribuidas a lo largo de los 2/3 apicales del tallo, alternas, articuladas; vainas tubulares, con pequeñas verrugas amaratas; 11-33 x 2-5 mm; lámina angostamente elíptica a lanceolada, bilobada, con una quilla dorsal baja, subcoriáceas, margen entero; 1.5-5.7 x 0.4-1.4 cm. **Bráctea espátea** ausente. **Inflorescencia** apical y lateral, racemosa, erecta, pauciflora, laxa; 1-2 cm de largo; pedúnculo terete, delgado, corto, desprovisto de brácteas, 6-8 mm de largo; raquis corto, terete, delgado, en zigzag. **Brácteas florales** más cortas que el ovario, triangular ovadas, agudas, abrazadoras, las basales foliosas en las primeras flores del raquis; 2-6 mm de largo. **Flores** 3-5 por racimo, simultáneas, resupinadas; sépalos y pétalos pardo verdosos con labelo y columna blancos, el labelo ligeramente manchado de violeta; sin datos de fragancia. **Ovario** terete, delgado, no inflado, liso; 17-25 mm de largo. **Sépalos** extendidos, libres, carnosos, obovados, obtusos, con una quilla dorsal prominente, rugoso pustulados en la superficie dorsal, 5-nervados, margen entero, 7.5-10 x 3.5-4 mm. **Pétalos** extendidos, libres, linear oblanceolados, ligeramente sigmoides, truncados, 3-nervados, margen diminutamente eroso; 7-10 x 2-2.5 mm. **Labelo** unido a la columna, 3-lobado, unguiculado; 7-9 x 8-9 mm; unicalloso, el callo subcuadrado con el ápice incipientemente tridentado; disco provisto de una quilla prominente, muy carnosa, verrugosa, alargada hasta el seno apical; lóbulos laterales subcuadrados, truncados en ocasiones con el margen eroso denticulado; 2-3 x 1-1.5 mm; lóbulo medio con un istmo basal angosto, el ápice bilobado, los lóbulos subcuadrados, algo divergentes, con un seno profundo, margen eroso dentado; 5-6 x 7-8 mm. **Columna** delgada, ligeramente arqueada hacia el ápice, terminada en cuatro lóbulos laminares, truncados, con el margen entero; 6 mm de largo. **Clinandrio** corto, sin sobrepasar el cuerpo de la columna, bilobado, margen entero. **Antera** obovoidea, 4-locular, con el ápice truncado. **Polinios** 4, obovados, el par exterior ligeramente menor, lateralmente comprimidos; caudículas más largas que los polinios; sin viscidio. **Rostelo** perpendicular con respecto al eje de la columna, formando un seno amplio. **Lóbulos laterales del estigma** obsoletos. **Nectario** poco profundo, apenas penetrando el ovario justo detrás del perianto, no inflado, liso. **Cápsula** no vista.

Epiphytic, caespitose herb. **Roots** basal, from the base of the main stem and the keikis, fleshy, thick. **Stems** simple, producing keikis, cane-like, terete, thin, erect; the base covered by tubular, non-foliaceous sheaths with small purple warts. **Leaves** 4-8, distributed along the apical 2/3 of the stems, alternate, articulate; sheaths tubular with small, purple warts; blade narrowly elliptic to lanceolate, bilobed, with a low dorsal keel, subcoriaceous, margin entire. **Inflorescence** apical and lateral, racemose, erect, lax, few-flowered; peduncle terete, thin, short; rachis short, terete, thin, zigzag. **Floral bracts** shorter than the ovary, ovate-triangular, acute, the basal bracts foliaceous. **Flowers** 3-5 per raceme, simultaneous, resupinate; sepals and petals greenish brown, lip and column white, the lip slightly tinged with violet. **Ovary** terete, thin, smooth. **Sepals** spreading, free, fleshy, obovate, obtuse, with a prominent dorsal keel, the dorsal surface rugose-pustulate, 5-veined, margin entire. **Petals** spreading, free, linear-oblanceolate, slightly sigmoid, truncate, 3-veined, margin minutely erose. **Lip** united to the column, 3-lobed, unguiculate; callus single, subquadrate with the apex slightly tridentate; disc provided with a prominent, very fleshy, verrucose keel, ending in the apical sinus; lateral lobes subquadrate, truncate, occasionally with the margin erose-denticulate; midlobe with a narrow basal isthmus, apex bilobed, the lobes subquadrate, somewhat divergent, with a deep sinus, margin erose-dentate. **Column** thin, slightly arching towards the apex, ending in 4 laminar truncate, lobes, margin entire. **Clinandrium-hood** short, without surpassing the body of the column, bilobed, margin entire. **Anther** obovoid, 4-celled, apex truncate. **Pollinia** 4, obovoid, the outer pair somewhat smaller, laterally compressed, caudicles longer than the pollinia; viscidium lacking. **Rostellum** perpendicular with respect to the axis of the column, forming a wide sinus. **Nectary** shallow, barely penetrating the ovary, smooth.

OTHER SPECIMENS: See appendix.

DISTRIBUTION AND ECOLOGY: Widespread in Costa Rica and western Panama, along the summit of the cordillera, epiphytic, 1300-3000 m, Flowering from January to May.

RECOGNITION: *Epidendrum parvixasperatum* belongs to the *Oerstedella* Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is perpendicular to the axis of the column instead of parallel, forming a wide, open sinus, and without a viscidium, and the *Verrucosum* Subgroup, recognized by the small to medium sized, membranaceous flowers with sepals and petals immaculate, a bilobed clinandrium-hood slightly surpassing the body of the column, obovoid, subequal pollinia with long granulate caudicles. The species is recognized by the keiki-producing stems, the greenish brown flowers with the lip tinged with violet, the sepals dorsally rugose-pustulate, the 3-lobed lip with the lateral lobes of the lip truncate without forming acuminate teeth. It is very similar to *Epidendrum exasperatum* C.Schweinf. which has larger flowers and plants, the sheaths of the stem only having brown dots, but no warts, the dorsal surface of the sepals exasperate, aculeate-verrucose and the 3-lobed lip with the inner corner of the lateral lobes with a prominent, acuminate tooth.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Latin *parvus*, and *exasperata*, in reference to the similarity of the species to *E. exasperatum* C. Schweinf. but smaller in size.

REFERENCES: Hágsater, E., in Hammel et al., 2003, *Manual de Plantas de Costa Rica*, Missouri Botanical Garden, 3: 349. Hágsater, E., & M. A. Soto Arenas, 2005, *Transfers to Epidendrum* L. From *Oerstedella* Rchb.f., *Lankesteriana* 5(1): 73.



EPIDENDRUM PENTADACTYLUM Rchb.f.

THE GENUS EPIDENDRUM PART 5

Plate 869

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM PENTADACTYLUM Rchb.f., Bonplandia 2: 89. 1854.

Type: COSTA RICA: Irarú [Irazú], 9000 ft, *Oersted*. Holotype: W 49558!

Synonym: *Oerstedella pentadactyla* (Rchb.f.) Hágsater, *Orquídea* (Mexico City) 8(1): 24. 1981.

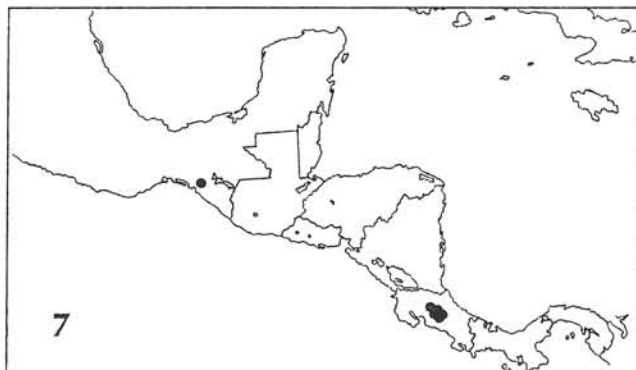
Hierba epífita, cespitosa y ramificada; 60-100 cm de alto. **Raíces** generalmente basales, carnosas, gruesas; 1.3-3 mm de grosor. **Tallos** ramificados profusamente cerca del ápice, las ramificaciones produciendo a su vez ramificaciones ascendentes (más cortas) de los entrenudos apicales de tallos anteriores, tipo caña, teretes, muy delgados, erectos, rectos; 2.5-60 x 0.1-0.35 cm; cubiertos en la base por vainas no foliares, tubulares, con verrugas amoratadas; 4-40 mm de largo. **Hojas** 5-8, distribuidas en la mitad apical de los tallos, alternas, articuladas, caedizas, desiguales; vainas tubulares, con verrugas amoratadas; 3-17 x 1-2.2 mm; lámina linear lanceolada, aguda, diminutamente apiculada, gramínea, margen enteró; 0.7-6 x 0.3-1.2 cm. **Bráctea espatácea** ausente. **Inflorescencia** apical, sésil, racemosa, erecta, pluriflora, densa, corta; 1.6-3 cm de largo. **Brácteas florales** más cortas que el ovario, distribuidas de manera helicoidal a lo largo del raquis; triangular ovadas, agudas, abrazadoras; 1-3 mm de largo. **Flores** 10-27, sucesivas, 2 a 5 abiertas de manera simultánea, resupinadas; sépalos y pétalos pardo rojizos, labelo blanco con el callo amarillo, clinandrio blanco; poco fragantes. **Ovario** terete, delgado, no inflado, no ornamentado; 4-6 mm de largo. **Sépalos** reflexos, libres, carnosos, convexos, ovado elípticos, 3-nervados, las nervaduras laterales ramificadas desde la base dando la apariencia de ser 5-nervados, margen enteró, 4.3-4.8 x 2.1-3.4 mm. **Pétalos** reflexos, libres, convexos, obovado subrómicos, unguiculados, obtusos, 3-nervados, margen enteró; 3.8-4.3 x 1.8-2.2 mm. **Labelo** unido a la columna, 3-lobado (pero pareciendo 5-7 lobado); 3.8-4.7 x 5.2-6 mm; bicalloso, los callos prominentes, divaricados, alargados hasta la base del lóbulo medio; disco provisto de una quilla intercallosa, carnosa, prominente, alargada hasta el seno apical; lóbulos laterales divididos en 2 o 3 lóbulos digitiformes, obtusos, margen enteró; 2.2 x 2.9-3.4 mm; lóbulo medio subrectangular, retuso, profundamente bilobado, los lóbulos redondeados, margen enteró a eroso; 1.5-2.8 x 1.3-2.8 mm. **Columna** corta, gruesa, recta; 2.5-3 mm de largo. **Clinandrio** corto, enteró, sin sobrepasar el cuerpo de la columna, margen eroso dentado. **Antera** carnosa, obovoidea, con un par de dientes agudos en el ápice, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos; caudículas algo más largas que los polinios; sin viscidio. **Rostelo** perpendicular con respecto al eje de la columna, formando un seno amplio. **Lóbulos laterales del estigma** obsoletos. **Nectario** amplio, sin penetrar el ovario, no inflado, liso. **Cápsula** elíptica, con los segmentos florales persistentes.

Epiphytic, caespitose, and branching herb. **Roots** generally basal, fleshy, thick. **Stems** branching near the apex, the branches themselves also branching, erect, but shorter, cane-like, terete, very thin, erect, straight; covered near the base by non-foliaceous, tubular sheaths with purple warts. **Leaves** 5-8, distributed along the apical half of the stems, alternate, articulate, deciduous, unequal; sheaths tubular, with purple warts; blade linear-lanceolate, acute, minutely apiculate, grass-like, margin entire. **Inflorescence** apical, sessile, racemose, erect, many-flowered, dense, short. **Floral bracts** shorter than the ovary, helicoidally arranged on the rachis; triangular-ovate, acute. **Flowers** 10-27, successive, 2-5 open at one time, resupinate; sepals and petals reddish brown, lip white, callus yellow, clinandrium-hood white; somewhat fragrant. **Ovary** terete, thin, short, smooth. **Sepals** reflexed, free, fleshy, convex, ovate-elliptic, 3-veined, the lateral veins branching from the base so as to appear 5-veined, margin entire. **Petals** reflexed, free, convex, obovate-subrhombic, unguiculate, obtuse, 3-veined, margin entire. **Lip** united to the column, 3-lobed, (but appearing 5-7-lobed); bicallose, the calli prominent, divaricate, elongate, reaching the base of the midlobe; disc provided with a prominent median, fleshy keel that reaches the apical sinus; lateral lobes divided into 2-3 finger-like, obtuse lobes, margin entire; midlobe subrectangular, retuse, deeply bilobed, the lobes rounded, margin entire to erose. **Column** short, thick, straight. **Clinandrium-hood** entire, without surpassing the body of the column, margin erose-dentate. **Anther** fleshy, obovoid, with a pair of acute teeth at the apex, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles somewhat longer than the pollinia; without viscidium. **Rostellum** perpendicular to the axis of the column, forming a wide sinus. **Nectary** wide, without penetrating the ovary, smooth. **Capsule** elliptic, with persistent floral segments.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Previously thought to be endemic from the upper Pacific slope of the Cordillera Central and western end of the Cordillera de Talamanca in central Costa Rica, recently discovered on the Pacific slope of the western Sierra Madre de Chiapas, México. Epiphyte in dry forest; at 1000-2500 m altitude. Flowering from November to May.

RECOGNITION: *Epidendrum pentadactylum* belongs to the *Oerstedella* Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is perpendicular to the axis of the column instead of parallel, forming a wide, open sinus, and without a viscidium, and the Verrucosum Subgroup, recognized by the small to medium sized, membranaceous flowers with sepals and petals immaculate, a bilobed clinandrium-hood slightly surpassing the body of the column, obovoid, subequal pollinia with long granulose caudicles. The species is recognized by the thin stems, profusely branching near the apex, the inflorescence apical, short, compact, flowers small (sepals 4.3-4.8 mm long), the sepals and petals reflexed, reddish brown (rarely greenish), lip white, with the lateral lobes divided into 2 or 3 finger-like lobes. The specimen collected in Chiapas (México) differs in having more lanceolate petals, a prominent midlobe of the lip with the lobes wide and laminar, subquadrate. *Epidendrum caligarium* Rchb.f. has larger (sepals 5.5-6.0 mm long), pink colored flowers, a longer, somewhat inflated ovary (15-20 mm long), and the lateral lobes of the lip deeply 4-5-laciniate. *Epidendrum niveocaligarium* Hágsater is similar to the latter, but the flowers are snow-white. *Epidendrum exasperatum* Rchb.f. has large, vigorous, much branched plants, apical and lateral inflorescences, dorsally exasperate, greenish brown sepals and petals (10-13 mm long), and the lateral lobes of the lip irregularly dentate.



CONSERVATION STATUS: DD. Data deficient. In Costa Rica the species has been found in disturbed habitats, including the gardens of the University of Costa Rica, on *Tabebuia pentaphylla*.

ETYMOLOGY: From the Greek πέντα, and δακτύλος, in reference to the finger-like lobes into which the lip is divided

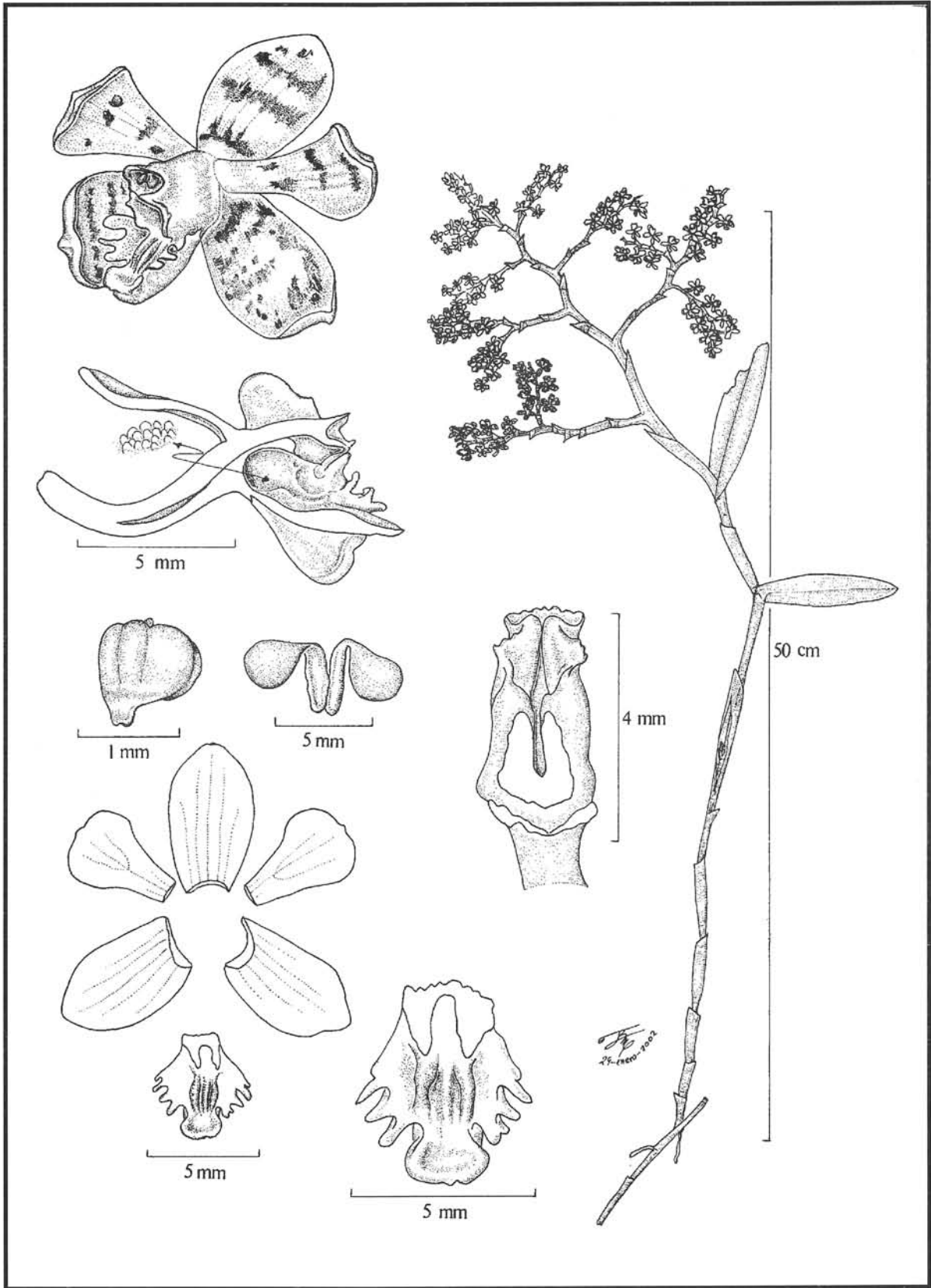
REFERENCES: Dressler R. L., 1993, *Field guide to the Orchids of Costa Rica and Panama*, Cornell University Press, p. 90. Hágsater, E., in Hammel et al., 2003, *Manual de Plantas de Costa Rica*, vol. III, Missouri Botanical Garden, p. 347-353. Hágsater, E., & M. A. Soto Arenas, 2005, Transfers to *Epidendrum* L. From *Oerstedella* Rchb.f., *Lankesteriana* 5(1): 73.

Authors: E. Santiago & E. Hágsater

Illustrator: E. Hágsater

Editors: E. Hágsater & L. Sánchez S.

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EPIDENDRUM PHILOWERCKLEI Hágsater & E.Santiago
 THE GENUS EPIDENDRUM PART 5

EPIDENDRUM PHILOWERCKLEI Hágsater et E.Santiago, sp. nov.

Type: PANAMA: Bocas del Toro: Changuinola, Sierra Madre, 2200 m, 5 February 2000, Jardín Finca Drácula 482, A. Maduro & E. Olmos 200. Holotype: AMO! (Illustration voucher.)

Epidendro wercklei Schltr. simile sed floribus ochraceis et cum fasciis brunneo-rubellis, columnae cum labello junctioe alta et aliquantum obliqua, ore lato, nectario lato et infime rotundato, diversum.

Hierba epífita o raramente terrestre, simpodial, 20-60 cm de alto. **Raíces** originándose a lo largo de los entrenudos basales de cada tallo, escasas, delgadas. **Tallos** sencillos, producidos de los entrenudos inferiores de tallos anteriores, tipo caña, teretes en la base y lateralmente aplanados arriba, delgados, erectos, rectos, 11-34 x 0.3-0.45 cm; la parte inferior cubierta por vainas tubulares no foliáceas, 18-21 mm de largo. **Hojas** 3-6, distribuidas hacia el ápice de los tallos, suberectas, alternas, articuladas; vaina tubular, lateralmente comprimida, finamente estriada, 1-4 x 0.3-0.45 cm; lámina oblongo lanceolada, aguda, diminutamente apiculada, coriácea, margen entero, 4.2-8 x 0.7-1.7 cm. **Bráctea** espatácea ausente. **Inflorescencia** apical, paniculada, erecta, pluriflora, florece una sola vez, 7-22 cm de largo; pedúnculo lateralmente aplanado, ancipitoso, recto, 3.5-6 cm de largo, provisto en la parte media de una bráctea, tubular en la base, ancipitosa, conduplicada en el ápice, aguda, 3-15 mm de largo; raquis fractiflexo, ancipitoso, 4-17 cm de largo. **Brácteas florales** más cortas que el ovario, deltoides, agudas, amplexicaules, ancipitosas, 2.5-4 mm de largo. **Ovario** terete, delgado, ligeramente arqueado, no inflado, liso, 5-6 mm de largo. **Flores** [15] 30-60, simultáneas, no resupinadas, carnosas, sépalos y pétalos verde amarillento o amarillo ocre marcados con barras transversales de color pardo rojizo, labelo blanco amarillento con manchas pardo rojizas; sin datos de fragancia. **Sépalos** extendidos, libres, obovado elípticos, ápice redondeado a subagudo, 5-nervados, ligeramente cóncavos en la mitad apical, margen extendido y entero, 6-6.5 x 3.2-3.6 mm; los laterales ligeramente oblicuos. **Pétalos** extendidos, libres, cuneado espatulados, ápice truncado, redondeado, diminutamente apiculado, 1-3-nervados, ligeramente cóncavos en la mitad apical, margen extendido, entero, 5.2-6 x 2.5-3.4 mm. **Labelo** unido a la columna, trilobado, carnoso, cóncavo, 4.3-5 x 4.3-5 mm; escalloso, disco provisto de 3 quillas, carnosas, delgadas, la central ocasionalmente alargada hasta el centro del lóbulo medio, el par lateral más corto; lóbulos laterales triangulares, divididos en 3-4 lóbulos digitiformes, 1.5-2 x 1.7-2.3 mm; lóbulo medio espatulado, corto, angosto en la base y anchamente rómbico en el ápice, diminutamente apiculado, margen entero, 1.5 x 1.4-1.7 mm. **Columna** recta, gruesa, formando una estructura alta con la uña del labelo, cuya apertura es alta y algo oblicua; la interior con un borde vertical de cada lado, de manera que el acceso al nectario es vertical y muy angosto, 4 mm de largo. **Clinandrio** corto, margen entero, eroso. **Antera** reniforme, con una quilla dorsal carnosa, 2-locular. **Polinios** 2, ovoides, lateralmente aplanados; caudículas laminares, duras, casi tan largas como los polinios. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** no vistos. **Nectario** corto, sin penetrar el ovario, amplio, redondeado al fondo, diminutamente papiloso. **Cápsula** no vista.

Epiphytic or rarely terrestrial, sympodial **herb**. **Roots** originating from the basal internodes of each stem, scarce, thin. **Stems** simple, produced from the lower internodes of the previous stem, cane-like, terete at the base, laterally compressed above, thin, erect, straight; the lower part covered by tubular, non-foliaceous sheaths. **Leaves** 3-6, distributed towards the apex of the stem, suberect, alternate, articulate; sheath tubular, laterally compressed, minutely striated; blade oblong-lanceolate, acute, minutely apiculate, coriaceous, margin entire. **Inflorescence** apical, paniculate, erect, many-flowered, flowering only once; peduncle laterally compressed, ancipitose, straight, provided in the middle with a single bract, the bract tubular at the base, ancipitose, conduplicate towards the apex, acute; rachis fractiflex, ancipitose. **Floral bracts** shorter than the ovary, deltoid, acute, ancipitose. **Ovary** terete, thin, slightly arched, not inflated, smooth. **Flowers** [15] 30-60, simultaneous, non-resupinate, fleshy, sepals and petals yellowish green or ochre-yellow, marked with transverse reddish brown stripes, lip yellowish white with reddish brown marks. **Sepals** spreading, free, obovate-elliptic, the apical half slightly concave, apex rounded to subacute, 5-veined, margin spreading, entire; lateral sepals slightly oblique. **Petals** spreading, free, cuneate-spatulate, apex truncate, rounded, minutely apiculate, apical half slightly concave, 1-3-veined, margin spreading, entire. **Lip** united to the column, 3-lobed, fleshy, concave; escallous, disc provided with 3, fleshy, thin keels, the mid-keel occasionally reaching the center of the midlobe, the lateral pair shorter; lateral lobes triangular, formed by 3-4 finger-like divisions; midlobe spatulate, short, base narrow, apex widely rhombic, minutely apiculate, margin entire. **Column** straight, thick, forming a high structure with the claw of the lip, forming a high, somewhat oblique aperture; the inside access to the nectary very narrow, restricted by a vertical thickening on each side. **Clinandrium-hood** short, margin entire, erose. **Anther** reniform, with a fleshy dorsal keel, 2-celled. **Pollinia** 2, ovoid, laterally compressed; caudicles laminar, hard, nearly as long as the pollinia. **Rostellum** apical, slit. **Nectary** short, without penetrating the ovary, rounded at the end, minutely papillose. **OTHER SPECIMENS:** COSTA RICA: Limón: De Ujarrás a San José Cabécar, 2200 m, 14 III 1993, Fernández 677, INB! P. N. Cordillera de Talamanca, Quebrada Kuisa, 2200 m, 13 III 1993, Bittner 1777, AMO! PANAMA: Chiriquí: above Guadalupe, NE of Cerro Punta, 12 XI 1976, Luer 1215, Herb. Dressler Ibid. 20 II 2001, Maduro 180, AMO!

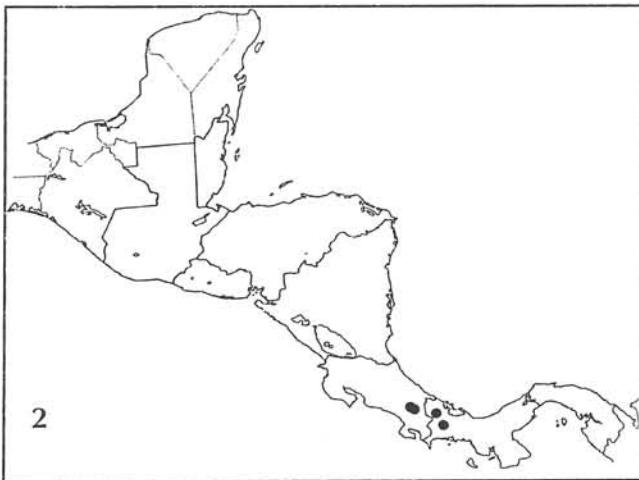
DISTRIBUTION AND ECOLOGY: Known only from the top of the Atlantic slope of the Cordillera on both sides of the border between Costa Rica and Panama, at 2200 m altitude. Flowering from November to March.

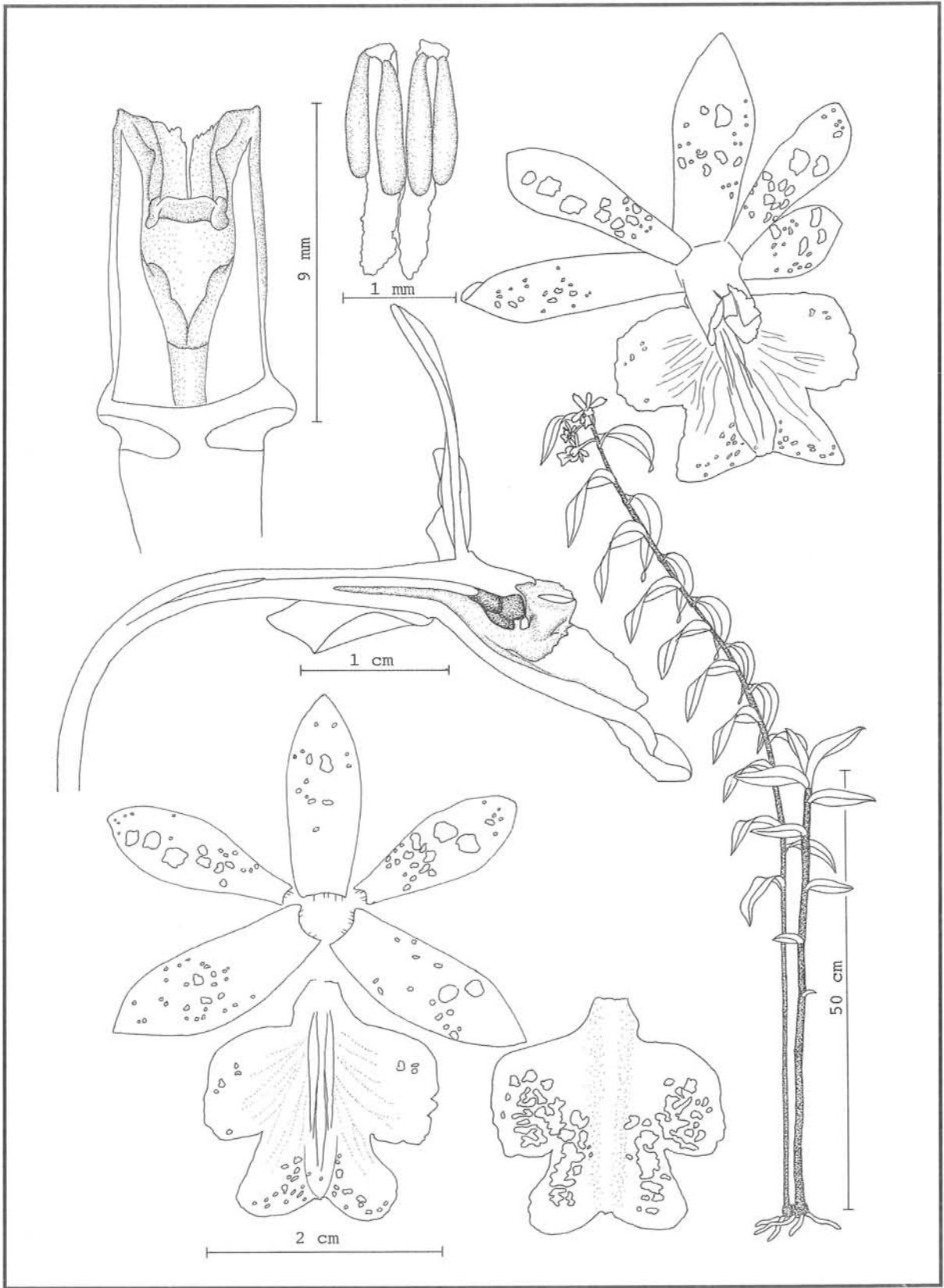
RECOGNITION: *Epidendrum philowercklei* belongs to the Neowilliamsia Group, characterized by the ancipitose stems and rachis, the rachis with conduplicate, acute bracts, usually non-resupinate flowers, the lip often digitate and the 2-4 pollinia with 2 hard, laminar, caudicles. The species is recognized by the tall plants with a paniculate inflorescence, the flowers

marked with red-brown transverse bars over yellow-ochre floral segments, and especially the straight, entire clinandrium-hood and the very wide, somewhat oblique opening formed by the column and lip, with the nectary widely rounded at the height of the perianth; the lip has finger-like divisions, and the petals are cuneate-spatulate. It has been confused with *E. wercklei* which has a similarly divided lip, with finger-like divisions, but the flowers are white or cream green, sparse, with dark purple brown spots, a longer, straight clinandrium-hood, and the column-lip forming a vertically narrower opening, and forming a narrow, rounded nectary. It hybridizes naturally with *Epidendrum dwyeri* Hágsater which is recognized by the ochre, brown-banded sepals and petals, small subentire white lip, and especially the very cuneate and vertically narrow column, which leaves only a small opening in front, and a narrow, acute nectary.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Greek φίλος, friendly, loving, and Werckle, in reference to the similarity of this species with *E. wercklei* Schltr., with which it has been confused for over two decades, and the fact that it is found within the borders of the Parque Nacional La Amistad, which straddles the border between Costa Rica and Panama.





EPIDENDRUM PINNIFERUM C.Schweinf.

THE GENUS EPIDENDRUM PART 5

Plate 871

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM PINNIFERUM C.Schweinf., Bot. Mus. Leaf. 9: 92. 1938.

Type: COSTA RICA: "Matamba" [situated between Pirrís and San Jerónimo], 14 May 1936, **Alfredo Brade 335**.

Holotype: AMES 44326! (photo at AMO!)

Synonym: *Oerstedella pinnifera* (C.Schweinf.) Hágsater, Orquídea (Mexico City) 8(1): 24. 1981.

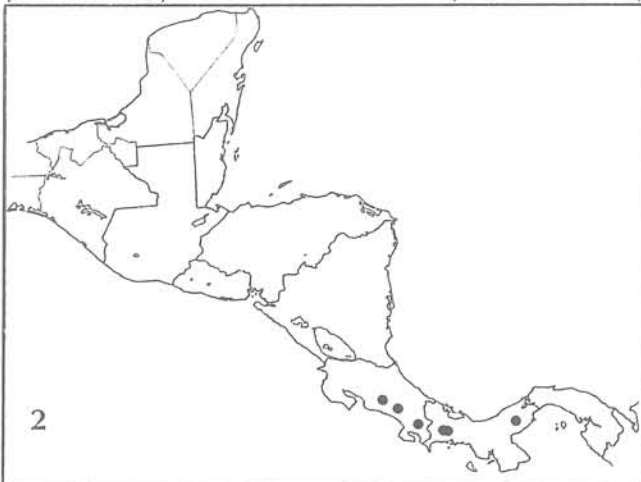
Hierba epífita, cespitosa, simpodial; de 70-150 cm de alto. **Raíces** basales, carnosas, gruesas, escasas. **Tallos** sencillos, tipo caña, teretes, erectos, rectos; 70-150 x 0.2-0.6 cm; cubiertos en la base por vainas tubulares no foliares, fuertemente verrucosas. **Hojas** numerosas, hasta 18, distribuidas en los 2/3 apicales del tallo, alternas, articuladas; vainas tubulares fuertemente verrucosas; 17-48 x 2-7.5 mm; lámina elíptica, el ápice agudo, diminutamente apiculado, subcoriácea, margen entero; [3]6-14 x [0.5]1-3.6 cm. **Bráctea** espátácea ausente. **Inflorescencias** apical y laterales (cerca del ápice del tallo), racemosas, paucifloras, laxas, las flores siempre colgantes debajo de las hojas; 1.5-2.7 cm de largo; pedúnculo terete, delgado, desprovisto de brácteas; 8-10 mm de largo; raquis corto, terete, delgado, recto. **Brácteas** florales mucho más cortas que el ovario, angostamente ovadas, agudas, abrazadoras; 3-6 mm de largo. **Ovario** terete, delgado, no inflado, no ornamentado; 23-35 mm de largo. **Flores** hasta 20 por tallo, 2-6 por racimo, simultáneas, resupinadas; sépalos y pétalos pardo amarillentos con manchas más oscuras; los sépalos con el ápice algo verduoso; labelo lila rosado con manchas lila intenso en el ápice y reverso; la forma albina, immaculada, tiene sépalos y pétalos amarillos y el labelo blanco; callo amarillo; aparentemente sin fragancia. **Sépalos** reflexos, libres, carnosos, ligeramente convexos, lisos, obovado elípticos, subagudos, 7-nervados, las nervaduras laterales ramificadas dando la apariencia de ser 9-nervados, margen entero, 15-17 x 6-8 mm. **Pétalos** reflexos, libres, espatulados, ápice redondeado, diminutamente apiculado, 5-nervados, margen entero, 14-15 x 5.5-6 mm. **Labelo** unido a la columna, 3-lobado, truncado; 16-18 x 16-19 mm; bicallose, los callos muy delgados, paralelos, no divaricados, agudos, alargados hasta la base del lóbulo medio; disco diminutamente verrucoso, provisto de múltiples venas engrosadas y una quilla intercallosa, delgada, carnosa, alargada hasta el ápice del lóbulo medio; lóbulos laterales rectangular subcuadrados, truncados, margen eroso; 8 x 8 mm; lóbulo medio con un istmo incipiente, profundamente bilobado en el ápice, los lóbulos algo divergentes, subcuadrado redondeados, margen ligeramente eroso; 7 x 12 mm. **Columna** gruesa, recta, 4-lobada en el ápice; 9 mm de largo. **Clinandrio** corto, bilobado, margen eroso-dentado. **Antera** carnosa, obovoide, 4-locular. **Polinios** 4, oblongo obovoides, lateralmente comprimidos, desiguales, el par exterior ligeramente más pequeño; caudículas granulosas, más largas que los polinios; sin viscidio. **Rostelo** perpendicular con respecto al eje de la columna, formando un seno amplio. **Lóbulos laterales del estigma** obsoletos. **Nectario** penetrando 1/4 del ovario, no inflado, liso. **Cápsula** no vista.

Epiphytic, caespitose, sympodial **herb**. **Roots** basal, fleshy, thick, few. **Stems** simple, cane-like, terete, erect, straight, the lower part covered by non-foliaceous tubular, strongly verrucose sheaths. **Leaves** numerous, up to 18, distributed along the upper 2/3 of the stem, alternate, articulate; sheaths tubular, strongly verrucose; blade elliptic, apex acute, minutely apiculate, subcoriaceous, margin entire. **Inflorescences** apical and lateral near the apex of the stem, racemose, lax few-flowered, the flowers always hanging below the leaves; peduncle terete, thin, rachis short, terete, thin, straight. **Floral bracts** much shorter than the ovary, narrowly ovate, acute. **Ovary** terete, thin, not inflated, smooth. **Flowers** up to 20 per stem, 2-6 per raceme, simultaneous, resupinate, sepals and petals yellowish brown with darker spots, the sepals apically somewhat greenish; lip pink-lilac with darker lilac spots towards the apex and underside; the immaculate, light-colored form has yellow sepals and petals and a white lip. **Sepals** reflexed, free, fleshy, slightly convex, smooth, obovate-elliptic, subacute, 7-veined, the lateral veins branching to appear 9-veined, margin entire. **Petals** reflexed, free, spatulate, apex rounded, minutely apiculate, 5-veined, margin entire. **Lip** united to the column, 3-lobed, truncate; callus bicallose, the calli narrow, parallel, acute, reaching the base of the midlobe; disc minutely verrucose, provided with multiple thickened veins and a central keel that reaches the apex of the midlobe; lateral lobes rectangular-subquadrate, truncate, margin erose; midlobe widely cuneate, apex deeply bilobed like the tail of a fish, the lobes somewhat divergent, subquadrate, rounded, margin somewhat erose. **Column** thick, straight, apex 4-lobed. **Clinandrium**-hood short, bilobed, margin erose-dentate. **Anther** fleshy, obovoid, 4-celled. **Pollinia** 4, oblong-obovoid, laterally compressed, unequal, the outer pair somewhat smaller; granulose caudicles longer than the pollinia; viscidium lacking. **Rostellum** perpendicular to the axis of the column, forming a wide sinus. **Nectary** penetrating 1/4 of the ovary, not inflated, smooth.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Ranging from eastern Costa Rica (Cordillera Brunqueña) to central Panama, along the Pacific slope. Epiphytic in hot, dry forest, 800-1150 m altitude. Flowering in March.

RECOGNITION: *Epidendrum pinniferum* belongs to the *Oerstedella* Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is perpendicular to the axis of the column instead of parallel, forming a wide, open sinus, and without a viscidium, and the *Wallisii* Subgroup which has large, fleshy flowers, the lip entire or 3-lobed, the midlobe of the lip bilobed, the clinandrium-hood petaloid, and the pollinia obovoid, laterally compressed, with granulose caudicles. The species is recognized by the large, fleshy, showy flowers (sepals 15-17 mm long), the sepals and petals reflexed, yellowish-brown with darker spots, the 3-lobed lip

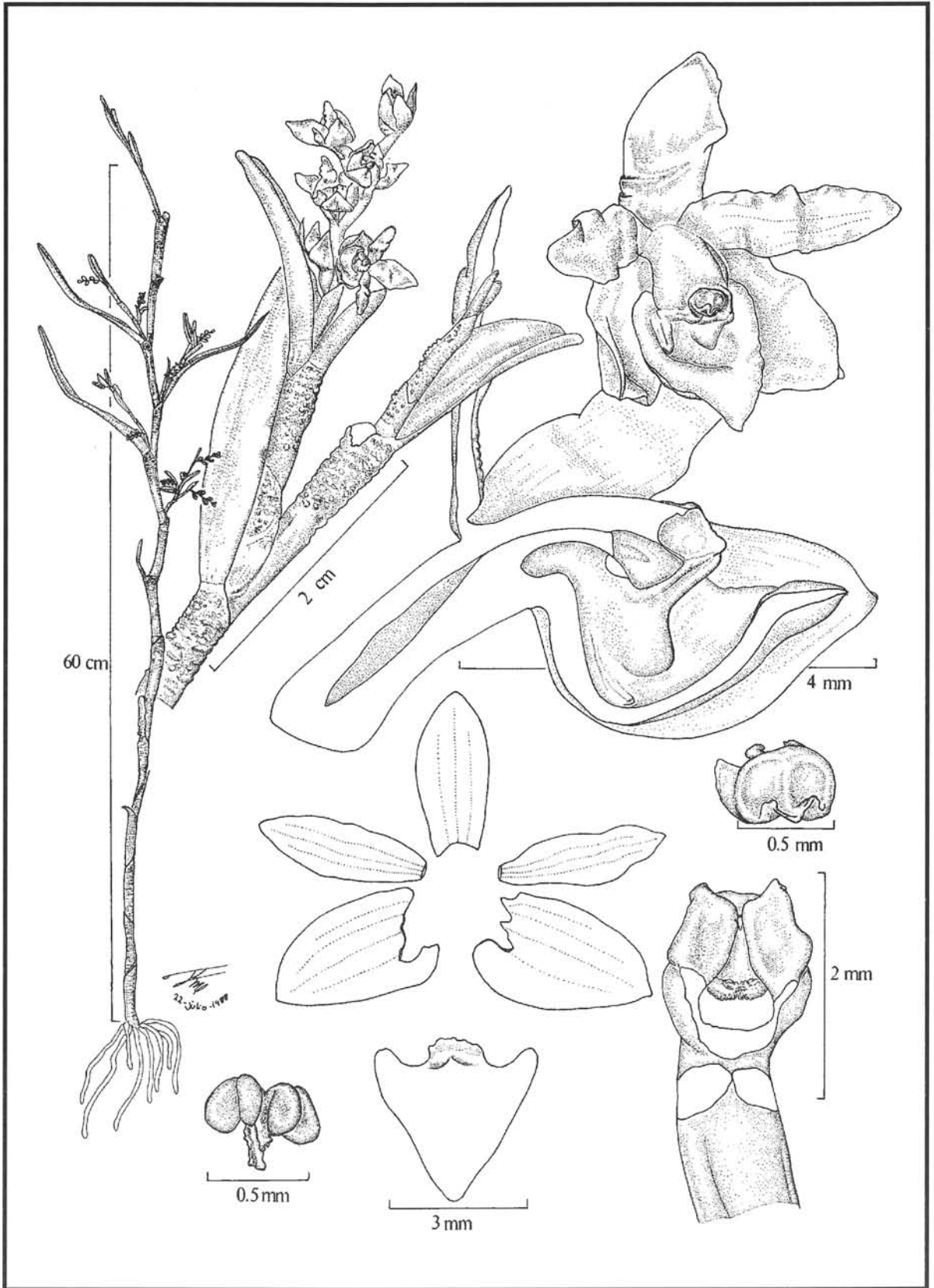


with subquadrate lobes pink-lilac with intense lilac spots towards the apex and on the underside. *Epidendrum schweinfurthianum* Ames is similar but the leaves are lanceolate and narrower (4-18 mm wide), has smaller flowers (sepals 10-12 mm long), the sepals and petals are copper-orange, with the lip purple-violet, the lip 3-lobed with the lateral lobes bifid, the basal lobe rounded and the apical lobe acute. *Epidendrum pseudoschumannianum* Fowlie has slightly smaller flowers (sepals 13-15 mm long), spreading, dorsally violet-blue sepals and petals, ventrally pale orange with reddish brown dots, the lip and column violet; the fragrance is reminiscent of *Stanhopea oculata*.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Latin *pinnatus*, feather shaped, i.e. with leaves tightly produced on both sides; in reference to the lobes of the lip which simulate the fin of a fish.

REFERENCES: Dressler R. L., 1993, *Field guide to the Orchids of Costa Rica and Panama*, Cornell University Press, p. 90, Plate 6, fig. 5. Hágsater, E., in Hammel et al., 2003, *Manual de Plantas de Costa Rica*, vol. III, Missouri Botanical Garden, p. 351. Hágsater, E., & M. A. Soto Arenas, 2005, Transfers to *Epidendrum* L. from *Oerstedella* Rchb.f., *Lankesteriana* 5(1): 74. *Die Orchideenbewertung*, *Die Orchidee* 33(3):13, 1982.



EPIDENDRUM PLATYSTOMOIDES Hágsater & L.Sánchez

Plate 872

THE GENUS EPIDENDRUM PART 5

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM PLATYSTOMOIDES Hágsater et L.Sánchez, sp. nov.

Type: COSTA RICA: Cartago: Rt. 2, km 64, más allá de la Cima, camino hacia el N ca. 500 m, páramo con restos de bosque bajo de neblina, 9°40'30"N 83°53'30"W, 2430 m, col. 28 enero 1988, prensado 3 agosto 1988, *Eric Hágsater & Dora Emilia Mora de Retana 9507*. Holotype: AMO! (Illustration voucher).

Epidendro platystomum Hágsater & L.Sánchez simile sed caulis principalis foliis longioribus, sepalis lateralibus 4-nervatis, petalis anguste ellipticis, labello triangulari-hastato sinubus basalibus parum profundis, ad apicem laevi et bicalloso, callis laminaribus minutissimis, columna arcuata in tote longitudine, discrepat.

Hierba epífita, monopodial, ramificada, 30-90 cm ó más de alto. **Raíces** basales, carnosas, delgadas. **Tallos** ramificados, tipo caña, teretes, flexuosos, cubiertos por vainas rugosas, siendo éstas más evidentes hacia el ápice de cada vaina, el principal amarillo, ca. 90 x 0.38-0.55 cm; los tallos secundarios 3-9 x 0.1-0.2 cm; los tallos terciarios o florales muy cortos, producidos de los secundarios o del principal, 2-3 x 0.05-0.1 cm. **Hojas** numerosas, en el tallo principal, 5-6 en los secundarios, 2 a 3 hojas en los tallos terciarios; vaina foliar tubular, rugosa, 0.4-5 cm de largo; lámina foliar articulada, linear lanceolada, ápice oblicuamente bilobado, las del tallo principal 11-14.5 x 1-1.3 cm, las de los tallos secundarios 2.5-4 x 0.4-0.5 cm, las de los tallos terciarios, 1.5-2 x 0.18-0.25 cm. **Bráctea** espatácea ausente. **Inflorescencia** apical de los tallos secundarios y terciarios, racemosa, dística, arqueada, florece una sola vez, 1.5-2 cm de largo; pedúnculo muy corto, 1.5-2 mm de largo; el raquis en zigzag. **Brácteas florales** mucho más largas que el ovario, conduplicadas, ovadas, agudas, 4.5-5.5 x 1.6-2 mm. **Ovario** terete, no inflado, liso, 1.8-2.3 x 0.3-0.5 mm. **Flores** 3-6, simultáneas, no resupinadas, blancas, fragancia no registrada. **Sépalos** glabros, libres, entreabiertos, subcoriáceos, margen extendido, entero, 2.9-3.1 x 1.2-1.4 mm; el dorsal obovado, agudo, 3-nervado; los laterales oblicuos, ovados, redondeados, 4-nervados. **Pétalos** glabros, libres, entreabiertos, angostamente elípticos, agudos, 3-nervados, margen extendido, algo sinuado, 2.9-3.1 x 0.4-0.5 mm. **Labelo** unido a la columna, entero, triangular hastado, ángulos basales angostamente redondeados, coriáceo, ápice redondeado, 2.8-3 x 3-3.2 mm; bicalloso, los callos laminares, muy pequeños. **Columna** corta, arqueada en toda su longitud, con una apertura alargada y angosta formada por un par de alas laminares, prominentes, en forma de embudo, margen entero, 1.5-2 mm de largo. **Clinandrio** reducido, margen entero. **Antera** subreniforme, con un pico apical laminar ancho, 4-locular. **Polinios** 4, obovoides, caudículas suaves y granuladas, algo más largas que los polinios. **Lóbulos laterales del estigma** cortos. **Nectario** corto, sin traspasar el perianto, amplio, liso. **Cápsula** no vista.

Epiphytic, monopodial, branching herb. **Roots** basal, fleshy, thin. **Stem** branching, cane-like, terete, flexuous, covered by rugose sheaths, especially rugose towards the apex, the main stem yellow, tall and thick, the secondary branches much smaller and the tertiary or floral branches very short. **Leaves** numerous on the main stem, very long, 5-6 on the secondary stems, much smaller, 2-3 on the tertiary stems, somewhat smaller; sheaths tubular, rugose towards the apex; blade articulate, linear-lanceolate, apex obliquely bilobed. **Inflorescence** apical, from the secondary and tertiary or floral stems, racemose, distichous, arching, flowering only once, peduncle very short, rachis zigzag. **Floral bracts** much longer than the ovary, conduplicate, ovate, acute. **Ovary** terete, not inflated, smooth. **Flowers** 3-6, simultaneous, non-resupinate, white. **Sepals** glabrous, free, partly spreading, subcoriaceous, margin spreading, entire; dorsal sepal obovate, acute, 3-veined; lateral sepals oblique, ovate, rounded, 4-veined. **Petals** glabrous, free, partly spreading, narrowly elliptic, acute, 3-veined, margin spreading, somewhat sinuate. **Lip** united to the column, entire, triangular-hastate, coriaceous, the basal angles narrowly rounded, apex rounded; bicallose, the calli laminar, very small. **Column** short, arching throughout, with an elongate, narrow apical aperture funnel-shaped, formed by a pair of laminar wings, margin entire. **Clinandrium-hood** reduced, margin entire. **Anther** reniform, with a wide, transverse, laminar apical beak; 4-celled. **Pollinia** 4, obovoid, caudicles soft and granulate, somewhat longer than the pollinia. **Nectary** shallow, without penetrating the ovary, wide, smooth.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Only known from the western end of the Cordillera de Talamanca in central Costa Rica; epiphyte in cloud forest remnants, 2430 m altitude. Flowering in cultivation in Mexico City in August.

RECOGNITION: *Epidendrum platystomoides* belongs to the Ramosum Group which is characterized by the monopodial, branching stems, the spike-like, distichous inflorescence, and the single callus, and the Rugosum Subgroup which has branching habit with few-flowered inflorescences from short, secondary stems, the leaf-sheaths rugose. The species is recognized by the tall, thick, flexuous main stems with long (11-14.5 cm), narrow leaves and rugose leaf sheaths, short, distichous inflorescence with 3-6 small, white flowers (sepals 2.9-3.1 mm long), and the triangular-hastate lip which is about as wide as it is long, bicallose, the calli laminar, very small, and the column arching throughout, short, with a funnel-shaped, blunt apex. It is similar to *Epidendrum platystomum* Hágsater & L.Sánchez which has shorter leaves on the main stem (5-8 cm), smaller sepals (2.3-2.7 mm long), and a widely, deeply triangular-hastate lip, with the apex thickened and minutely papillose, ecallose, and the column arched at the base only. *Epidendrum sanchoi* Ames has larger flowers, sepals 4.5-6.5 mm long and 5-veined, lanceolate, acute, and a proportionately narrower triangular-hastate, acuminate lip, and the union with the column straight and narrow. *Epidendrum trachythece* Schltr. has smaller flowers, sepals 1.5-3.5 mm long, 5-7 veined, the lip is reniform-apiculate, bicallose, the calli prominent, wide, and reaching the middle of the disc. *Epidendrum nutantirhachis* Ames & C.Schweinf., grows in the same general area, and has somewhat shorter leaves on the main stem (to 9.5 cm), larger flowers (sepals 6-11 mm long), and a triangular-cordate lip with a prominent fleshy callus and high central keel.

CONSERVATION STATUS: DD: Data deficient.

ETYMOLOGY: From the Greek πλατυς- wide, broad, and στομα- mouth, opening, in reference to the widely elongate apical aperture of the column-lip which this species shares with *Epidendrum platystomum*, and the ending -οειδής, which denotes resemblance.

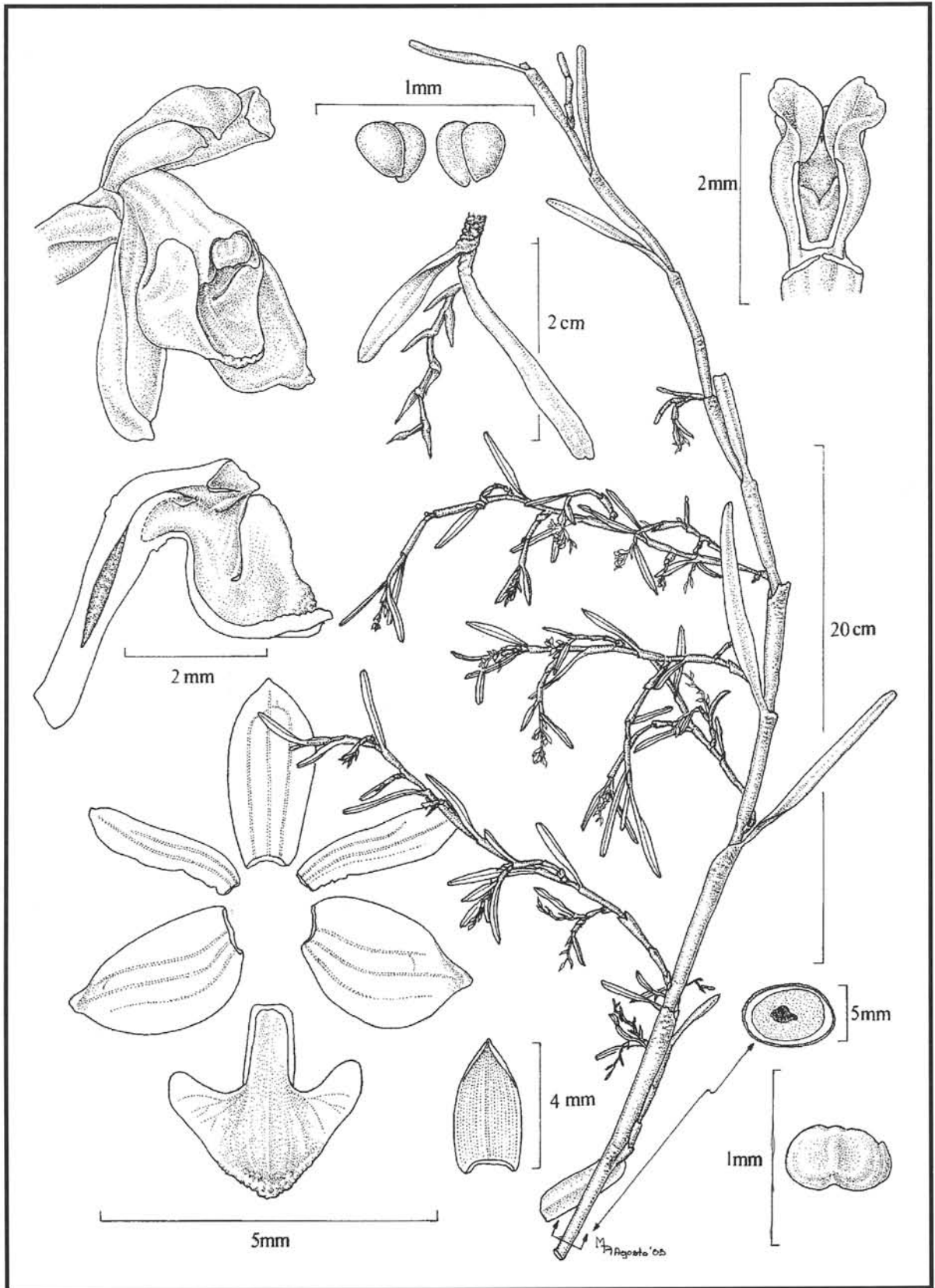


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Editors: E. Hágsater & L. Sánchez S.

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EPIDENDRUM PLATYSTOMUM Hágsater & L.Sánchez

Plate 873

THE GENUS *EPIDENDRUM* PART 5

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM PLATYSTOMUM Hágsater et L.Sánchez, *sp. nov.*

Type: PANAMA: Chiriquí: Along Boquete Trail, Cerro Respinga, East of town of Cerro Punta, ca. 2000-2500 m, 11 September 1972, *Al Gentry 5948*. Holotype: MO 2142425! (Illustration voucher). Isotype: MO 3532269!

Epidendro sanchoi Ames simile sed floribus minoribus, sepalis trinervatis, dorsale obovato, lateralibus ovatis, labello late hastato, ad basem profunde cordato, ad apicem carnosus, minute papilloso, columna aperturam elongatam angustamque instar infundibuli elongati cum alis laminaribus prominentibus brevis ferenti, discedens.

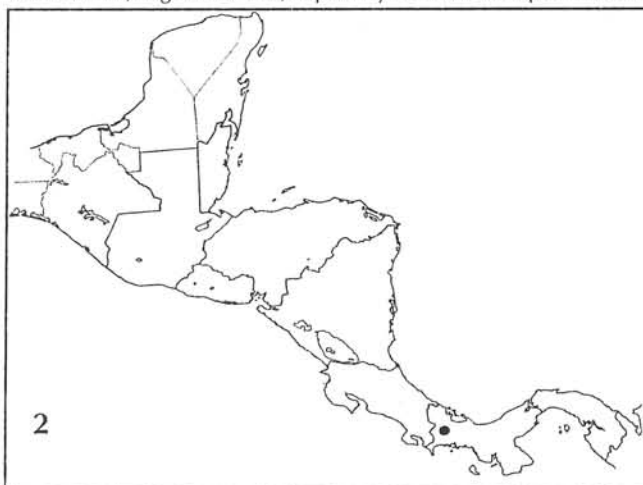
Hierba epífita, monopodial, ramificada, 20-50 cm ó más de alto. **Raíces** basales. **Tallos** ramificados, tipo caña, teretes, cubiertos por vainas rugosas, siendo éstas más evidentes hacia el ápice de cada vaina, el principal ca. 50 x 0.45-0.6 cm; los tallos secundarios 17-30 x 0.1-0.2 cm; los tallos terciarios o florales cortos, producidos principalmente de los secundarios y de un entrenudo superior del tallo terciario anterior, 1.5-2 x 0.05-0.1 cm. **Hojas** distribuidas a lo largo de los tallos; numerosas en el principal, 6-9 en los secundarios, 2 a 3 hojas en los tallos terciarios; vaina foliar tubular, rugosa, 0.5-5 cm de largo; lámina foliar articulada, linear lanceolada, oblicuamente bilobada, las del tallo principal 5-8.5 x 0.3-0.68 cm, las de los tallos secundarios, 3-6.5 x 0.2-0.45 cm, las de los tallos terciarios 1.5-3 x 0.18-0.25 cm. **Bráctea** espátacea ausente. **Inflorescencia** apical de los tallos secundarios y terciarios, racemosa, distica, arqueada, 1.5-2 cm de largo; pedúnculo muy corto, 1.5-2 mm de largo; el raquis en zigzag. **Brácteas florales** más largas que el ovario, conduplicadas, ovadas, obtusas a agudas, 2.8-4 x 1.3-1.6 mm. **Ovario** terete, no inflado, liso, 2.4-3 x 0.3-0.5 mm. **Flores** 2-6, simultáneas, no resupinadas, blancas, fragancia no registrada. **Sépalos** glabros, libres, entreabiertos, subcoriáceos, 3-nervados, margen entero, extendido, 2.3-2.7 x 1.3-1.7 mm; el dorsal obovado, agudo; los laterales oblicuos, ovados, redondeados. **Pétalos** glabros, libres, entreabiertos, algo adnados al sépalo dorsal, linear ligulados, obtusos, ligeramente arqueados en la base, 2-3 nervados, margen extendido, entero a sinuado en la zona basal del lado de los sépalos laterales, 2.0-2.5 x 0.4-0.5 mm. **Labello** oblicuamente unido a la columna, entero, coriáceo, ecalloso, anchamente hastado, base profundamente cordada, ángulos basales redondeados, ápice redondeado, carnosus, diminutamente papilloso; 1.8-2 x 2.7-2.9 mm. **Columna** corta, arqueada en la base, con una apertura apical larga y angosta formada por un par de alas laminares, prominentes, formando un embudo, margen apical ondulado, 1.3-1.7 mm de largo. **Clinandrio** reducido, entero. **Antera** reniforme, 4-locular. **Polinios** 4, obovoides, caudículas suaves y granuladas, de longitud semejante a la de los polinios. **Lóbulos laterales del estigma** cortos. **Nectario** poco profundo, sin traspasar el perianto, amplio, inflado, liso. **Cápsula** no vista.

Epiphytic, monopodial, branching herb. **Roots** basal. **Stems** branching, cane-like, terete, covered by rugose sheaths, especially towards the apex of each sheath, the main stem tall, the secondary stems, much shorter, and the tertiary or floral stems very short, produced mainly from the secondary stems, and from a subapical internode of the previous floral stem. **Leaves** distributed throughout the stems, numerous and large on the main stem, 6-9 and smaller on the secondary stem, and 2-3 small leaves on the tertiary, floral stems; foliar sheath tubular, rugose; blade articulate, linear-lanceolate, obliquely bilobed. **Inflorescence** apical from secondary and tertiary stems, racemose, distichous, arching, with a very short peduncle; rachis zigzag. **Floral bracts** longer than the ovary, conduplicate, ovate, obtuse to acute. **Ovary** terete, not inflated, smooth. **Flowers** 2-6, simultaneous, non-resupinate, white. **Sepals** glabrous, free, partly spreading, 3-veined, margin entire, spreading; the dorsal sepal obovate, acute, the lateral sepals oblique, ovate, rounded. **Petals** glabrous, free, partly spreading, somewhat adnate to the dorsal sepal, linear-ligulate, obtuse, slightly arching at the base, 2-3-veined, margin spreading, entire to sinuate along the lower border on the side of the lateral sepals. **Lip** obliquely united to the column, entire, coriaceous, ecallose, widely hastate, base deeply cordate, basal angles rounded, apex rounded, fleshy, minutely papillose. **Column** short, arching at the base, apical aperture long and narrow, funnel-shaped, formed by a pair of prominent laminar wings, apical margin undulate. **Clinandrium-hood** reduced, entire. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, caudicles short and granulose, as long as the pollinia. **Nectary** shallow, without penetrating the ovary, wide, inflated, smooth.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from Chiriquí, western Panama, at 2000-2500 m altitude, epiphyte in cloud forest. Flowering in August-September.

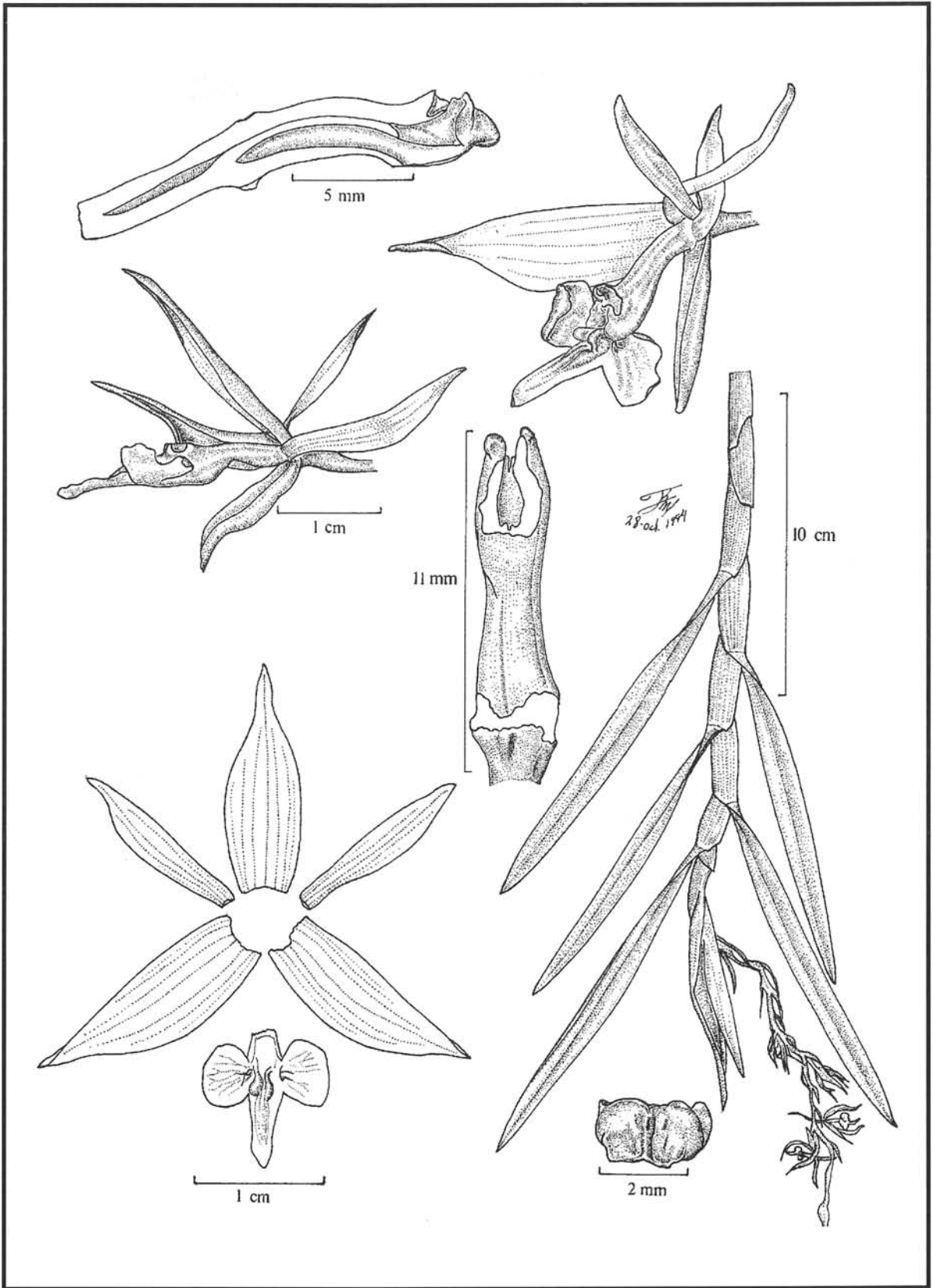
RECOGNITION: *Epidendrum platystomum* belongs to the Ramosum Group which is characterized by the monopodial, branching stems, the spike-like, distichous inflorescence, and the single callus, and the Rugosum Subgroup which has branching habit with few-flowered inflorescences from short, secondary stems, the leaf-sheaths rugose. The species has terete stems, rugose sheaths, especially towards the apex of each sheath, 2-6, small white flowers, sepals 2.3-2.7 mm long,



the widely hastate lip, the base deeply cordate, the angles rounded, and obliquely united to the column which has a pair of laminar wings forming an elongate funnel with the margin undulate. It is similar to *Epidendrum sanchoi* which has larger flowers, sepals 4.5-6.5 mm long and 5-veined, lanceolate, acute, and a proportionately narrower triangular-hastate, acuminate lip, and the union with the column straight and narrow. *Epidendrum trachythece* Schltr. has smaller flowers, sepals 1.5-3.5 mm long, 5-7 veined, the lip is reniform-apiculate, bicallose, the calli prominent, wide, and reaching the middle of the disc. *Epidendrum platystomoides* Hágsater & L.Sánchez is also quite similar, sepals 2.9-3.1 mm long, with the column arching throughout and a similar, elongate, funnel-shaped apex, also obliquely united to the lip which is proportionately more triangular than hastate, as wide as it is long.

CONSERVATION STATUS: DD: Data deficient.

ETYMOLOGY: From the Greek πλατυς, wide, broad, and στωμα, mouth, opening, in reference to the widely elongate apical aperture of the column-lip which characterizes this species.



EPIDENDRUM PRASINUM Schltr.

THE GENUS EPIDENDRUM PART 5

Plate 874

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM PRASINUM Schltr., Repert. Sp. Nov. Regni Veg. Beih. 7: 144. 1920.

Type: COLOMBIA: Cauca: An Bäumen in mässig dichten Wäldern auf dem Páramo de Barbillas, zwischen Guachicono und Almaguer, 2800-3000 m, Juli 1886, *F.C. Lehmann 6249*. Holotype: B, destroyed. Lectotype: here designated: NY! (Illustration voucher). Isotypes: AMES! K! US!

Hierba epífita o terrestre (en taludes), colgante o postrada, ramificada, hasta 2 m de largo. **Raíces** de los tallos principales, de los entrenudos cercanos a la base, 1-2 de entrenudos salteados, 2 mm de grosor. **Tallos** tipo caña, el tallo principal aparentemente de unos 2 m de largo, ramificaciones primarias de cerca de 50 cm de largo, secundarias o ramas florales de 7-54 cm de largo, 3.5-12 mm de grosor. **Hojas** alternas, en las ramas 4-11, distribuidas a lo largo de la mitad apical del tallo, vaina tubular, finamente rugosa, 2.5-4 cm de largo, las basales no foliosas; lámina foliar articulada, angostamente lanceolada, ápice agudo, mucronado, margen eroso algo revoluto, subcoriácea, finamente rugosa en seco, desiguales, progresivamente más largas desde las inferiores de cada tallo, 1-19.5 x 0.8-1.3 cm. **Inflorescencia** terminal, de las ramificaciones maduras, florece una sola vez, racemosa, colgante, 7-14 cm de largo, no ornamentado. **Brácteas espatáceas** 2, desiguales, imbricadas, acuminadas, conduplicadas, 5-11 x 0.8-2 cm. **Flores** 5-15, simultaneas, resupinadas, coloración verde amarillenta, color poro o pardo rosadas con las quillas amarillas. **Brácteas florales** las basales dos a tres veces más largas que el ovario, las apicales más cortas, triangular a caudadas, 4-33 x 1 mm. **Ovario** pedicelado, no inflado, de sección circular, no ornamentado, 8 x 10 mm de largo. **Sépalos** entreabiertos, libres, márgenes extendidos, quilla dorsal apical lisa, glabros; el dorsal angostamente elíptico, acuminado, 5-nervado, 12-20 x 3.5-5.5 mm; los laterales angostamente ovados, acuminados, 7-nervados; 13-20 x 3.5-6 mm. **Pétalos** reflexos, angostamente elípticos, ápice agudo, márgenes extendidos, membranáceos, trinervados; 10-16 x 1.5-3 mm. **Labelo** unido a la columna, cordado en la base, trilobado, 7.5-14 x 8-9 mm, bicalloso, tricarinado; lóbulos laterales oblicuamente ovadas, 4 x 5 mm; lóbulo medio angostamente triangular, obtuso, 3-5.5 x 3 mm, margen entero. **Columna** algo arqueada hacia abajo, delgada, con un par de dientes verticales en el ápice, 8-10 mm de largo incluyendo el clinandrio. **Clinandrio** reducido, entero. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** pequeños. **Nectario** poco profundo, sin penetrar el ovario, liso interiormente. **Antera** reniforme, con una quilla roma al frente, 4 locular. **Polinios** no vistos. **Cápsula** no vista.

Pendent epiphytic or prostrate terrestrial (on embankments) herb, branched. **Stems** branching, main stem long, with secondary and tertiary branches. **Leaves** 4-11, unequal, distributed throughout the apical half of the stem, sheaths finely rugose, blades narrowly lanceolate, acute, mucronate, margin erose, revolute. **Inflorescence** terminal, pendent, 5-15 simultaneous, resupinate leek-green to brownish pink flowers, the keels yellow. **Spathaceous bracts** 2, unequal, imbricate, conduplicate, acuminate. **Floral Bracts** triangular caudate, up to three times longer than the ovary. **Sepals** narrowly elliptic to ovate, dorsally carinate towards the apex, acuminate, 5-7-veined. **Petals** narrowly elliptic, 3-veined. **Lip** cordate at the base, 3-lobed, bicallose, 3-carinate; lateral lobes obliquely ovate, midlobe narrowly triangular, obtuse. **Column** slightly arched, thin. **Clinandrium**-hood reduced, entire. **Nectary** very shallow, not penetrating the ovary, smooth.

OTHER SPECIMENS: COLOMBIA: Antioquia: Urao; trail to Páramo de Frontino, 3000-3300 m, 20 XI 1988, *McPherson 13195*, COL! MO! Cauca: Páramo de Barbillas, 3070 m, 27 VII 1978, *Luer 3030*, FI SEL! **ECUADOR:** Cerro de Sta. Rosa, 19 XII 1881, *Poortmann 246*, P! Carchi: Tulcán-La Bonita, ca. 2800 m, 24 VII 1982, *Dodson 13049*, RPSC! SEL! US! Tulcán-La Bonita, ca. 2780 m, 8 VII 1990, *Hágsater 10544*, AMO! QCNE!

DISTRIBUTION AND ECOLOGY: Cordillera Occidental of Colombia and northern Ecuador on the eastern side of the Andes, epiphytic in trees in paramo or wet montane forests on *Cedrella* sp., or terrestrial on embankments, 2600-3200 m altitude. Flowering from July to December.

RECOGNITION: *Epidendrum prasinum* is recognized by the sturdy, pendent plants, with subcoriaceous, narrowly lanceolate leaves (up to 19.5 x 1.3 cm) and the inflorescence subtended by two large, conduplicate, acuminate spathaceous bracts 5-11 cm long; the lip is 3-lobed, cordate with roundish lateral lobes and a narrow triangular midlobe. From the shape of the flowers and presence of spathaceous bracts, the species would seem related to the *Alpicolum* Group, but the branching vegetative habit is quite distinct for this group and closer to *Epidendrum ampelospatum* Hágsater & Dodson. The flowers and spathaceous bracts are somewhat reminiscent of *E. klotzschianum* Rchb.f. which has simple, unbranched stems.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Greek πρασον, leek, in reference to the yellowish green, "leek-colored" flowers.

NOTE: Lehmann noted on the type collection that he observed a butterfly on the orchid: "the butterfly itself is doubly interesting because on its back it carries the pollinia of the orchid flower. It was found on the flowers in the early morning hours (between 7 and 8 o'clock)."

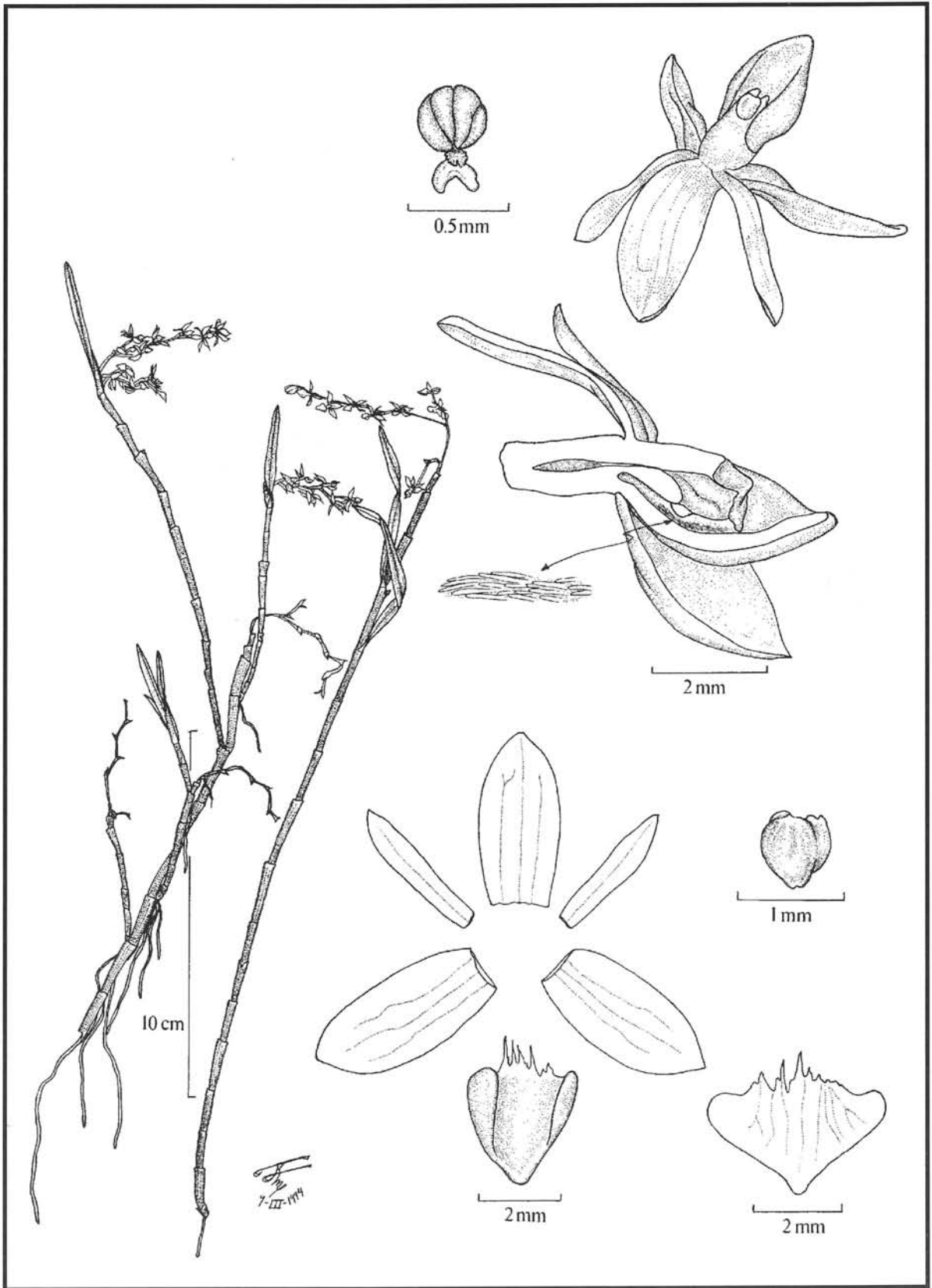


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Editors: E. Hágsater & L. Sánchez S.

Herbario AMO Apartado Postal 53-123, 11320 México, D.F., MÉXICO ICONES ORCHIDACEARUM 8. 2006. Plate 874



EPIDENDRUM PSEUDOGRAMINEUM D.E.Benn. & Christenson

Plate 875

EPIDENDRUM PSEUDOGRAMINEUM D.E.Benn. & Christenson, Icones Orch. Peruv. pl. 648. 2001.

Type: PERU: Cuzco: Urubamba; Historic Sanctuary of Machu Picchu, 3200 m, 13 Sept. 2000, *M. León M. & B. Collantes 4035*. Holotype: CUZ; Isotype: Herb. Bennettianum.

Hierba epífita o litófito, ramificada, hasta más de 40 cm de alto. **Raíces** de la base del tallo principal, en ocasiones de la base de algunas ramas superiores, filiformes, 0.5-1 mm de grosor. **Tallos** ramificados cuando maduros, erectos, tipo caña, teretes, hasta de 35 x 0.18-0.33 cm, las ramas 5-25 x 0.15-0.33 cm. **Hojas** distribuidas a lo largo del tallo, las basales decíduas, en las ramas 7 a numerosas; vaina tubular, finamente rugosa, estriada, ca. 2.3 cm de largo; lámina linear lanceolada, aguda, sulcada, dorsalmente carinada, especialmente hacia el ápice, margen eroso; las del tallo principal no vistas, las de las ramas, 3.0-7.7 x 0.28-0.4 cm. **Bráctea** espátacea ausente. **Inflorescencia** apical, del tallo principal o de las ramificaciones maduras, florece una sola vez, paniculada, ocasionalmente racemosa, arqueada, dística, flexuosa, 1.3-8 cm de largo; pedúnculo filiforme. **Brácteas florales** del mismo largo que el ovario, cuculadas, ovadas, algo carinadas hacia el ápice, obtuso apiculadas, margen entero, 2-3.5 mm de largo. **Flores** 3-25, simultáneas, carnosas, blancas, los ápices teñidos de morado, margen del labelo morado, columna blanco verdoso con morado en el ápice, fragancia no registrada. **Ovario** terete, no inflado, no ornamentado, 2-4 mm de largo. **Sépalos** oblongo elípticos, obtusos, carnosos, glabro, 3-nervados, 4-5 x 1.5-2 mm; el dorsal reflexo; los laterales entreabiertos, ligeramente cóncavos. **Pétalos** recurvados, ligulados, agudos, carnosos, 1-nervados, 3.4-4 x 0.6-0.8 mm. **Labelo** unido a la columna, en posición natural los lados abrazando el ápice de la columna, entero, anchamente cordiforme, muy carnosos, obtuso con un mucrón carnosos, se puede extender una vez rehidratado sin romperlo, 2.5-3 x 3-4.2 mm; ecaloso, sin quillas. **Columna** recta, gruesa, 2 mm de largo, el ápice con un diente redondeado a cada lado. **Clinandrio** reducido, entero. **Antera** ovoide, carnosos, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, formando una esfera compacta; caudículas más cortas que los polinios, suaves y granuladas; viscidio semifluido. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** de 1/3 del largo de la cavidad estigmática. **Nectario** apenas penetrando hasta el perianto, con pubescencia frente al estigma e inclinada hacia el interior. **Cápsula** no vista.

Epiphytic or lithophytic, branching herb. **Stems** erect, branching with age. **Leaves** linear-lanceolate, acute, sulcate and dorsally carinate, margin erose. **Inflorescence** apical, arching, paniculate, distichous, peduncle thin, flowers only once. **Floral bracts** about as long as the ovary, ovate, obtuse-apiculate. **Flowers** 3-25, simultaneous, sepals and petals white, the apex magenta, the lip margin lavender-magenta, column greenish white, the apex magenta. **Sepals** oblong-elliptic, obtuse, fleshy, 3-veined, the dorsal reflexed, the laterals partly open. **Petals** reflexed, ligulate, acute, 1-veined. **Lip** fleshy, cordiform, sides embracing the column in natural position, wider than long; ecallose; non-carinate. **Column** straight, thick, with an apical rounded tooth on each side. **Pollinia** 4, obovoid, laterally compressed, forming a compact sphere. **Rostellum** subapical. **Nectary** penetrating only as far as the perianth, pubescent opposite the stigmatic cavity, the hairs leaning towards the back of the nectary.

OTHER SPECIMENS: **BOLIVIA:** Cochabamba: Chaparé; Pampa Tambo, 2700 m, 29 I 1980, *Vásquez 281*, LPB! Image, AMO!, Illustration, xerox at AMO! Ibid. 12 XII 1989, *Vásquez 1181*, LPB! Image, AMO! **PERU:** Cuzco: without locality, *Bues (Herrera) 2156* AMES! US! Ibid. *Bues (Herrera) 2159*, AMES! US 1423523! (Illustration voucher.) Ibid. *Bues (Herrera) 2160*, US! 28 km NE from Hacienda Luisiana and Apurimac River, 3400 m, 17 VII 1968, *Dudley 11207*, MO, xerox copy at AMO! Urubamba, Machu Picchu, 2990 m, 25 IX 1982, *Peyton 1334*, AMO! MO! xerox copy at AMO!

DISTRIBUTION AND ECOLOGY: Ranging along eastern edge of the Andes, on the highlands of south central Peru and Bolivia, epiphytic in elfin forest, at around 2900-3400 m altitude. Flowering July- September.

RECOGNITION: *Epidendrum pseudogramineum* belongs to the Stenophyton Subgroup, Macrostachyum Group, which is characterized by the branching habit, distichous inflorescence and ovate to cordiform, entire, ecallose lip. The species is recognized by the very small flowers, and the branching inflorescence. All other species of this group have much larger flowers. This species has been confused with *E. gramineum* Lindl., which, however, has wider, narrowly elliptic leaves (8 mm wide), a carinate, callose lip and much narrower, filiform petals. *Epidendrum dendroboides* Thunb. has larger flowers and a racemose inflorescence. *Epidendrum stenophyton* Schltr. is similar in habit, but has larger flowers, the sepals being 7 mm long.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: Named for its historic confusion with *E. gramineum* Lindl.

NOTE: The illustration shows the semi-liquid viscidium of the pollinarium in a curved position, due to the way it was extracted from the flower. The viscidium itself is flat when in place.

REFERENCES: "*Epidendrum gramineum* Lindl." sensu C. Schweinfurth in *Orchids of Peru*, *Fieldiana: Botany* 30 (2): 450-51. The description corresponds to this species, and the *Bues* specimens are cited.

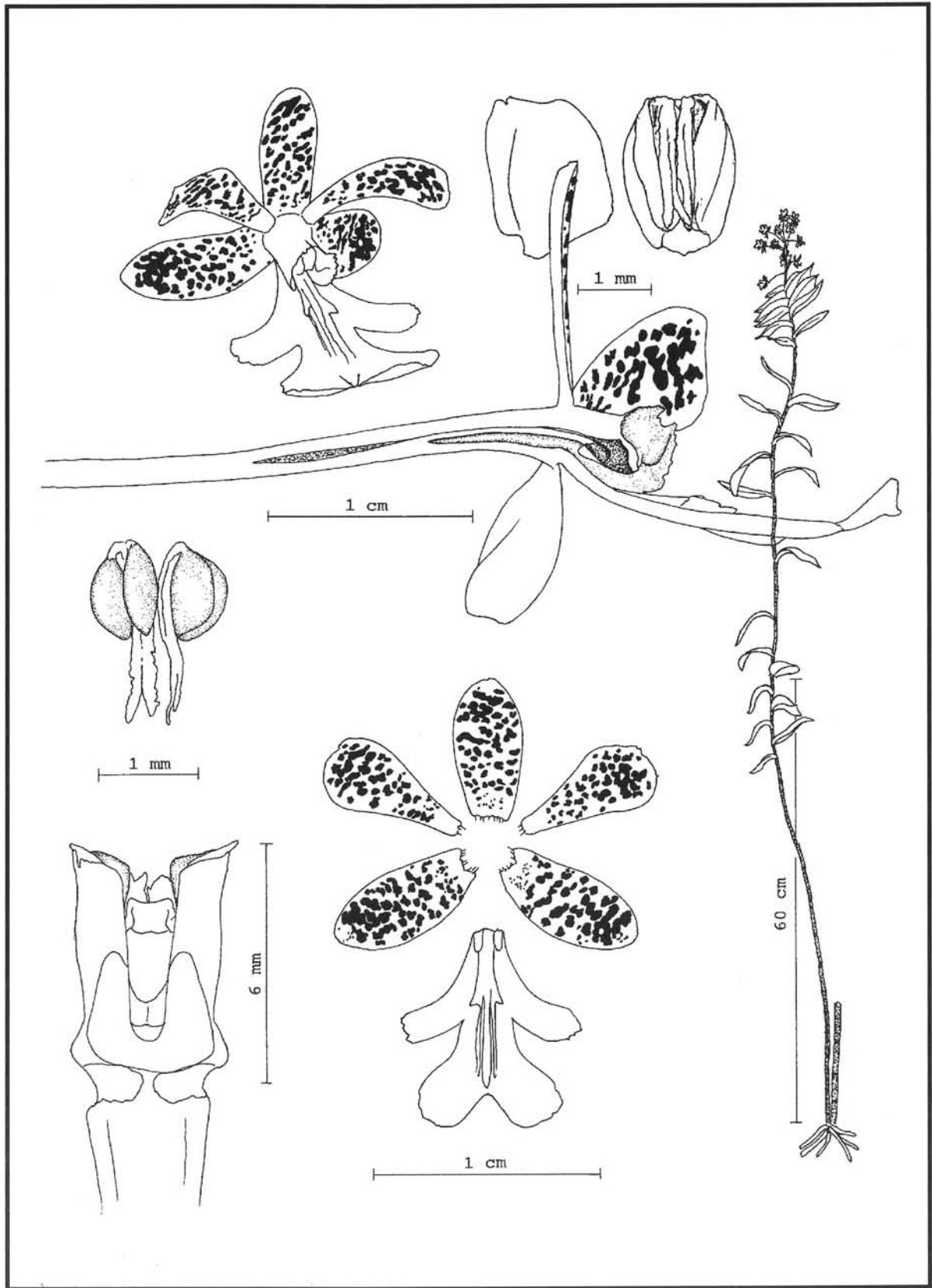


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EPIDENDRUM PSEUDOSCHUMANNIANUM Fowlie

Plate 876

EPIDENDRUM PSEUDOSCHUMANNIANUM Fowlie, Orchid Digest 33(8): 255. 1969.

Type: PANAMÁ: Coclé: Beyond la Loma del Tigre, District of El Valle de Antón, 800-1000 m, **Clarence Kl. Horich**. Holotype: UCLA!

Synonym: *Oerstedella pseudoschumanniana* (Fowlie) Hágsater, Orquídea (Mexico City) 8(1): 24. 1981.

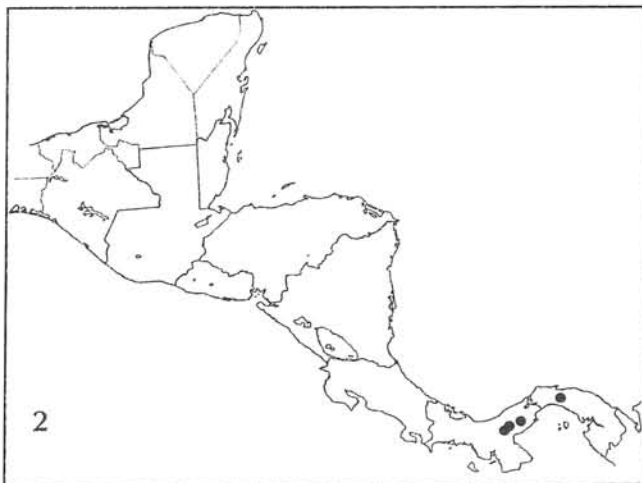
Hierba epífita, cespitosa, simpodial; 50-150 cm de alto. **Raíces** basales, carnosas, gruesas, blancas; 6 mm de grosor. **Tallos** sencillos, tipo caña, teretes, erectos; 135 x 0.7-1 cm; cubiertos en la base por vainas tubulares, no foliares, verrugosas, las verrugas de color púrpura grisáceo. **Hojas** ca. 40, distribuidas a lo largo de la mitad superior del tallo, alternas, articuladas; vainas tubulares, prominentemente verrugosas; 18-45 x 4.3-11 mm; lámina angostamente oblonga elíptica a ovada, el ápice obtuso, subcoriácea, margen entero; 4-10 x 0.8-5.4 cm. **Bráctea espatácea** ausente. **Inflorescencia** apical ó lateral, racemosa a paniculada, erecta, multiflora, laxa; 7-25 cm de largo; pedúnculo terete, delgado, desprovisto de brácteas; 20-35 mm de largo. **Brácteas florales** mucho más cortas que el ovario, lanceoladas, acuminadas, abrazadoras, progresivamente más pequeñas; 3-10 mm de largo. **Ovario** terete, delgado, no inflado, no ornamentado, ligeramente ensanchado justo detrás del perianto; 13-33 mm de largo. **Flores** ca. 50, 5-15 por racimo, vistosas, simultáneas, resupinadas; sépalos y pétalos teñidos de azul violeta en la superficie dorsal, la superficie ventral naranja pálido, con manchas de color pardo rojizo, labelo y ápice de la columna violeta, el margen más claro, callo amarillo; fragancia que recuerda a *Stanhopea oculata*. **Sépalos** extendidos, libres, carnosos, obovado elípticos, ápice ligeramente cóncavo, redondeado, diminutamente apiculados, 7-8-nervados, margen entero, 13-15 x 4.5-7 mm; los **laterales** ligeramente oblicuos. **Pétalos** extendidos, libres, espatulados, obtusos, 3-nervados, las nervaduras laterales ramificadas desde la base dando la apariencia de ser 5-nervados, margen irregular, 8-15 x 8-9 mm. **Labelo** unido a la columna, 3-lobado, unguiculado; 15-18 x 15-17 mm; bicalloso, los callos delgados, agudos, con el ápice ligeramente divaricado; disco provisto de 3 quillas delgadas, alargadas cerca del ápice del lóbulo medio; lóbulos laterales subrectangulares, truncados a subagudos, margen lateral entero a eroso; 5 x 4 mm; lóbulo medio con un istmo corto y angosto en la base, bilobado, los lóbulos subcuadrados, con el margen eroso; 8-10 x 11-12 mm. **Columna** corta, gruesa, recta, el ápice algo en forma de embudo, con un par de lóbulos laterales deltoides, muy carnosos a la altura de la antera margen eroso; 6-7 mm de largo. **Clinandrio** corto, bilobado, margen eroso. **Antera** obovoide, ápice truncado, con una quilla dorsal lisa, 4-locular. **Polinios** 4, subobovoides, lateralmente comprimidos, semejantes; caudículas granuladas, más largas que los polinios; sin viscidio. **Rostelo** perpendicular con respecto al eje de la columna, formando un seno amplio. **Lóbulos laterales del estigma** obsoletos. **Nectario** penetrando ¼ del ovario, no inflado, liso. **Cápsula** no vista.

Epiphytic, caespitose, sympodial **herb**. **Roots** basal, fleshy, thick. **Stems** simple, cane-like, terete, erect; the base covered by tubular, non-foliaceous sheaths, covered by purple-grey warts. **Leaves** ca. 40, distributed throughout the upper half of the stems, alternate, articulate; sheaths tubular, prominently verrucose; blade narrowly oblong-elliptic to ovate, the apex obtuse, subcoriaceous, margin entire. **Inflorescence** apical or lateral, racemose or paniculate, erect, lax, many-flowered; peduncle terete, thin. **Floral bracts** much shorter than the ovary, lanceolate, acuminate, progressively shorter. **Flowers** ca. 50, 5-15 per raceme, showy, simultaneous, resupinate; sepals and petals tinged violet-blue on the dorsal surface, the ventral surface pale orange with reddish-brown dots; lip and apex of the column violet, callus yellow; fragrance reminiscent of *Stanhopea oculata*. **Sepals** spreading, free, fleshy, obovate-elliptic, apex slightly concave, rounded, minutely apiculate, 7-8-veined, margin entire; the lateral sepals slightly oblique. **Petals** spreading, free, spatulate, obtuse, 3-veined, the lateral veins branching from the base so as to appear 5-veined, margin irregular. **Lip** united to the column, 3-lobed, unguiculate; bicallose, the calli thin, acute, with the apex divaricate; disc provided with 3, thin keels, elongate, reaching the apex of the midlobe; lateral lobes subrectangular, truncate to subacute, lateral margin entire to erose; midlobe with a short, narrow isthmus at the base, bilobed, the lobes subquadrate with the margin erose. **Column** short, thick, straight, the apex somewhat funnel-shaped, with a pair of very fleshy, deltoid lateral lobes at the height of the anther, margin erose. **Clinandrium-hood** short, bilobed, margin erose. **Anther** obovoid, apex truncate, with a smooth dorsal keel, 4-celled. **Pollinia** 4, subobovoid, laterally compressed, subequal; granulose caudicles longer than the pollinia; viscidium lacking. **Rostellum** perpendicular to the axis of the column, forming a wide sinus. **Nectary** penetrating 1/4th of the ovary, smooth.

OTHER SPECIMENS: See appendix.

DISTRIBUTION AND ECOLOGY: Endemic to central Panama along the continental divide, in the provinces of Coclé and Panamá. Epiphytic, on very tall trees of a warm, humid jungle, with *Huntleya burtii*, *Brassia allenii*; 450-1100 m altitude. Flowering from October to April.

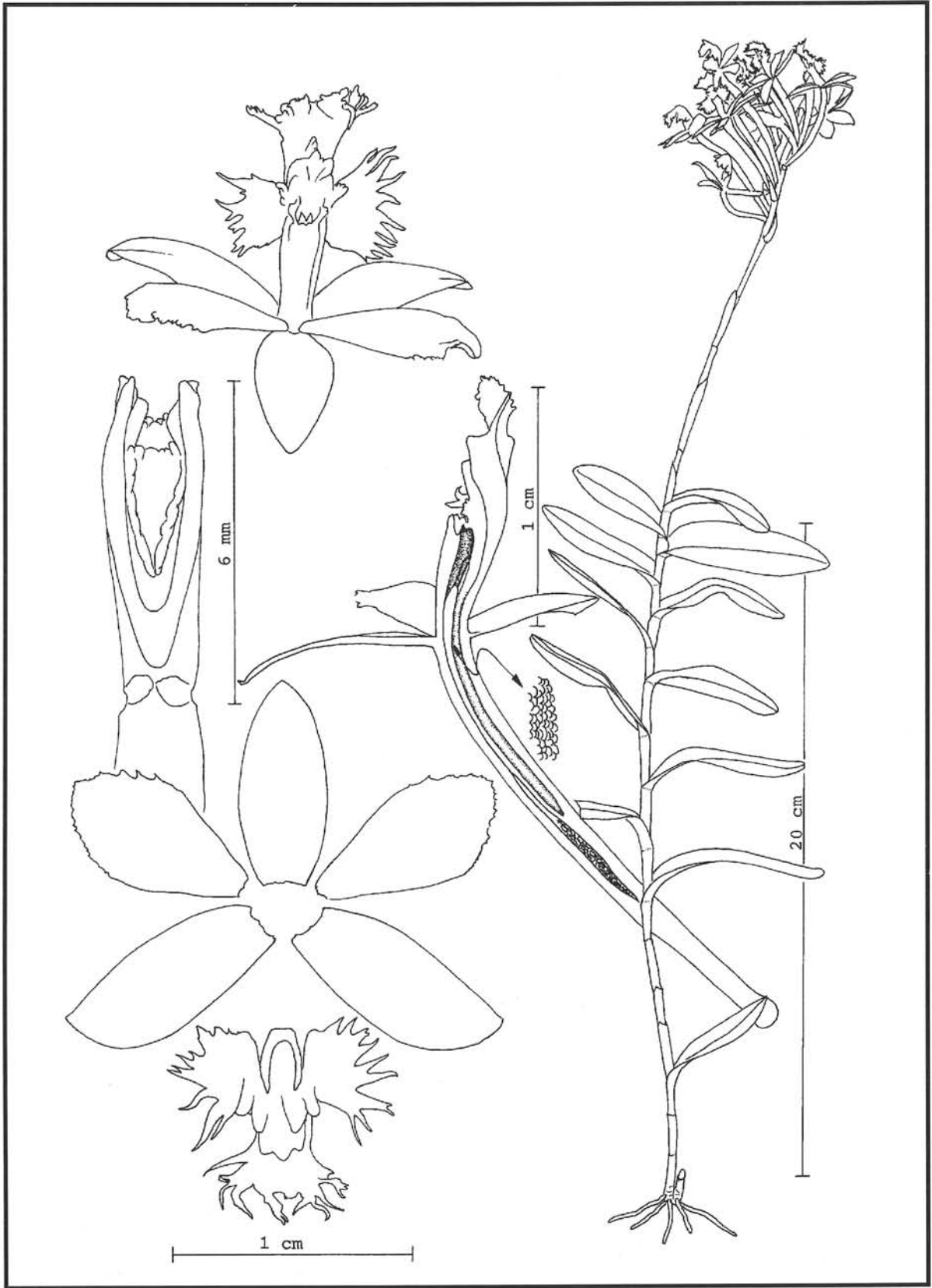
RECOGNITION: *Epidendrum pseudoschumannianum* belongs to the *Oerstedella* Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is perpendicular to the axis of the column instead of parallel, forming a wide, open sinus, and without a viscidium, and the *Wallisii* Subgroup which has large, fleshy flowers, the lip entire or 3-lobed, the midlobe of the lip bilobed, the clinandrium-hood petaloid, and the pollinia obovoid, laterally compressed, with granulose caudicles. The species is recognized by the very showy flowers, violet-blue dorsally, pale orange ventrally, with dense reddish brown spots, with the lip and the apex of the column violet. It is similar to *E. schumannianum* Schltr. which differs in the blue-violet to pink flowers with some violet to reddish brown dots, the pink-lilac lip with violet veins or dots; the lateral lobes of the lip are falcate to subrectangular; apparently endemic to Costa Rica. *Epidendrum wallisii* Rchb.f. has fewer, much larger flowers (sepals [15]18-23 mm long), sepals and petals yellow, sometimes with reddish brown dots, and the lip white turning yellowish, with purple lines or dots; known from Costa Rica to western Colombia.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In reference to the similarity of this species to *E. schumannianum* which was dedicated to K. Schumann, German cactus specialist and botanist of the second half of the 19th century.

REFERENCES: Dressler R. L. 1993, *Field guide to the Orchids of Costa Rica and Panama*, Cornell University Press, p. 91. Hágsater, E., & M. A. Soto Arenas, 2005, Transfers to *Epidendrum* L. From *Oerstedella* Rchb.f., *Lankesteriana* 5(1): 73.



EPIDENDRUM PTOCHICUM Hágsater

THE GENUS *EPIDENDRUM* PART 5

Plate 877

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM PTOCHICUM Hágsater, sp. nov.

Type: COLOMBIA, Anchicayá: entre campamento y retén, epífita, collected 26 April 1983, pressed 13 December 1984, *Eric Hágsater, Robert L. Dressler y James P. Folsom 7378*. Holotype: AMO! (Illustration voucher).

Epidendro melinantho Schltr. simile sed plantis saepe myrmecophilis, floribus minoribus, callo ex 4 elementis digitiformibus constanti in laminam carnosam tridentatam terminanti, discedit.

Hierba epífita, cespitosa, erecta, de 36 a 100 cm de alto. **Raíces** basales, gruesas, blancas, ca. 2 mm de grosor. **Tallos** sencillos, tipo caña, teretes, delgados, rectos, de 36-100 x 0.3-0.4 cm. **Hojas** 15, alternas, disticas, distribuidas a lo largo del tallo; vaina tubular, lisa, finamente estriada cuando seca, 0.8-1.5 x 0.3-0.4 cm; lámina angostamente elíptica a lanceolada, ápice redondeado a bilobado, en ocasiones carinado dorsalmente, coriácea, lisa, verde, margen entero, 4.3-13 x 0.8-1.4 cm. **Bráctea espátacea** ausente. **Inflorescencia** apical, racemosa, erecta, 14.5-57 cm de largo; pedúnculo alargado, terete, 8.5-50 cm de largo, cubierto por vainas tubulares, agudas, 18-34 cm de largo, produciendo nuevos racimos de los nodos subapicales. **Flores** 13-33, sucesivas, varias abiertas a la vez, no resupinadas, de color naranja subido a rojas, labelo con el callo amarillo canario bordes naranja suave, columna naranja con el ápice amarillo, sin fragancia. **Brácteas florales** mucho más cortas que el ovario, triangulares, acuminadas, 2-10 mm de largo. **Ovario** delgado, terete, no inflado, no ornamentado, 14-25 mm de largo. **Sépalos** extendidos, libres, elípticos, obtusos, apiculados, con una quilla dorsal diminuta, glabros, 5-nervados, margen extendido y entero, 8-9 x 3.5-4 mm; los **laterales** ligeramente oblicuos. **Pétalos** extendidos, libres, obovados a oblanceolados, redondeados, 5-nervados, las nervaduras ramificadas, el margen generalmente eroso en la mitad apical, 8 x 3-4 mm. **Labelo** unido a la columna, trilobado, base profundamente cordada, margen fimbriado, 7.6 x 9.6 mm; el callo masivo, representado por una estructura de 4 prominencias basales digitiformes, las laterales más cortas, las centrales sobrepuestas en una estructura laminar tridentada en el ápice, alargada hacia la parte media del lóbulo apical; lóbulos laterales irregularmente dolabriformes, 3.8 x 5.3 mm; lóbulo medio cuneado, más o menos bilobado hacia el ápice, 4.4 x 5.9 mm. **Columna** recta, delgada, 6 mm de largo. **Clinandrio** reducido, entero. **Antera** 4-locular, ovoide, ápice bifido. **Polinios** 4, obovados, lateralmente comprimidos, caudículas 4, en dos pares, formadas por tétradas alargadas, en forma de tejas apiladas. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** delgados, de 1/2 del largo de la cavidad estigmática. **Nectario** penetrando 2/3 del ovario, delgado, papiloso. **Cápsula** elipsoide, algo cónica, la parte distal más ancha, ocupando la mitad del largo, pedicelo delgado, de 1/4 del largo, cuello apical delgado, de 1/4 del largo.

Epiphytic, caespitose, erect herb. **Roots** basal, thick, white. **Stems** simple, cane-like, terete, thin, straight. **Leaves** 15, alternate, distichous, distributed throughout the stem; sheaths tubular, smooth, minutely striated when dry; blade narrowly elliptic to lanceolate, apex rounded to bilobed, sometimes dorsally carinate, coriaceous, smooth, green, margin entire. **Inflorescence** apical, racemose, erect; peduncle elongate, terete, covered by tubular, acute sheaths, producing new racemes from the subapical nodes. **Flowers** 13-33, successive, several open at one time, non-resupinate, deep orange to red, the lip with a canary yellow callus, bordered by pale orange, column orange with the apex yellow; without fragrance. **Floral bracts** much shorter than the ovary, triangular, acuminate. **Ovary** thin, terete, not inflated, smooth. **Sepals** spreading, free, elliptic, obtuse, apiculate, with a minute dorsal keel, glabrous, 5-veined, margin spreading and entire; the laterals slightly oblique. **Petals** spreading, free, obovate to oblanceolate, rounded, 5 veined, the veins branching, the margin generally erose along the apical half. **Lip** united to the column, 3-lobed, base deeply cordate, margin fimbriate; callus massive, formed by 4 basal, finger-like structures, the lateral ones shorter, the central ones superposed on a 3-toothed, laminar structure, elongate and reaching the middle of the midlobe of the lip; lateral lobes of the lip irregular-dolabriform; midlobe cuneate, more or less bilobed at the apex. **Column** straight, thin. **Clinandrium-hood** reduced, entire. **Anther** 4-celled, ovoid, apex bifid. **Pollinia** 4, obovoid, laterally compressed, with 4 caudicles in two pairs, formed by elongate tetrads stacked like a pile of roof-tiles. **Rostellum** apical, slit. **Nectary** penetrating 2/3 of the ovary, thin, papillose. **Capsule** ellipsoid, somewhat conical, the distal part wider, with long, thin pedicel and apical neck.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

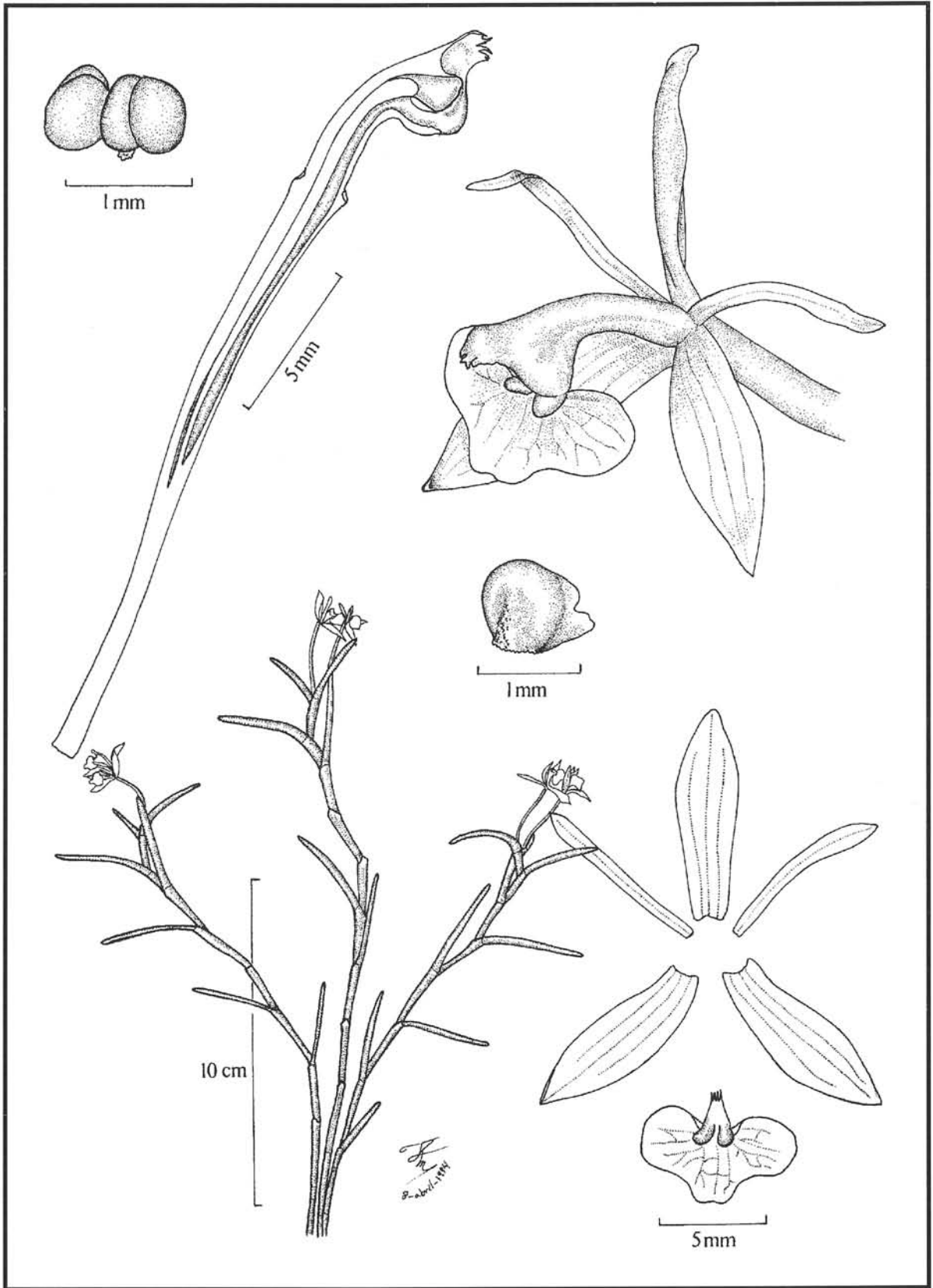
DISTRIBUTION AND ECOLOGY: Ranges along the Pacific lowlands in southern Colombia to northern Peru, at about 600 m altitude, and along the Amazon slope up to 1300 m, growing epiphytic and myrmecophilous and lithophytic in very wet rain-forest to dry forests; also found associated with ants on citrus trees. Flowering from December to April.



RECOGNITION: *Epidendrum ptochicum* belongs to the Elongatum Subgroup of the Secundum Group which is characterized by the caespitose habit, simple, terete stems, numerous, oblong-elliptic, bilobed leaves, a mostly elongate inflorescence, with a raceme of successive, non-resupinate flowers, the lip with a complicated, fleshy callus. The species is recognized by the poor, weak-looking plants and flowers, (when compared with most other species of this group), the deeply 3-lobed lip, the margin deeply fringed, the callus formed by 4 distinct, finger-like basal knobs followed by a 3-dentate apical structure, the flowers are normally deep orange to red, with the callus and the apex of the column yellow; peach and white colored flowers have been seen in Ecuador; the species is normally myrmecophilous when epiphytic, and no large specimens have been seen in the field. *Epidendrum melinanthum* has sturdy, terrestrial plants with numerous yellow flowers, the callus a very fleshy, shallowly 3-lobed structure terminating in a short central keel.

CONSERVATION STATUS: DD. Data deficient. Apparently widespread but locally scarce. The species seems to be autogamous, as it sometimes forms numerous seed capsules.

ETYMOLOGY: From the Greek πτωχικός, shabby, poor, in reference to the weak, poor appearance of the plants and flowers.



EPIDENDRUM PUDICUM Ames
THE GENUS EPIDENDRUM PART 5

EPIDENDRUM PUDICUM Ames, Sched. Orchid. 6: 71, fig. 10. 1923.

Type: PANAMA: Chiriqui: "Palo Alto", 4500 ft, August 1923, *Charles W. Powell 319*. Holotype: AMES!
Isotypes: MO x2! (Illustration voucher). Clonotype: *ibid*, pressed in cultivation as *Ames 3412*, AMES!

Hierba epífita, simpodial, cespitosa, 15-20 cm de alto incluyendo la inflorescencia. **Raíces** basales, filiformes, 1 mm de grosor. **Tallos** sencillos, tipo caña, algo lateralmente comprimidos, flexuosos, 12-16 x 0.1 cm. **Hojas** 8-10, distribuidas a lo largo del tallo, oblicuamente ascendentes, sulcadas; vaina foliar lateralmente comprimida, lisa; lámina linear, ápice obtuso a oscuramente bilobado, lisa, 1.5-3 x 0.2-0.3 cm. **Inflorescencia** apical, del tallo maduro, sésil. **Flores** 1-2, simultáneas, resupinadas, blanco ceroso, con un tinte desvanecido verde; en la unión de la columna y el labelo presenta un color verde brillante, fragancia no registrada. **Bráctea floral** mucho más corta que el ovario, triangular, aguda, 2 x 1.6 mm. **Ovario** no inflado, terete, no ornamentado, 19-21.5 x 0.5-0.7 mm. **Sépalos** extendidos, libres, oblanceolados, ápice agudo, subcoriáceos, glabros, 3-nervados, margen revuelto, entero, 8-10 x 2-2.5 mm; los laterales oblicuos. **Pétalos** extendidos, linear oblanceolados, ápice agudo, 1-nervados, membranáceos, margen entero, extendido, 8-8.5 x 0.8-1 mm. **Labelo** unido a la columna, cordiforme a oscuramente trilobado, base cordada, membranáceo, margen entero, 4-5 x 6.5-7 mm; bicalloso, los callos divergentes, subglobosos; lóbulos laterales semiorbiculares; lóbulo medio triangular truncado, ápice obtuso a ligeramente emarginado. **Columna** arqueada, 6.5 x 1.1 mm. **Clinandrio** prominente, entero, margen fimbriado. **Antera** obovoidea, no ornamentada, 4-locular. **Polinios** 4 subiguales, obovoides, lateralmente comprimidos; caudículas suaves y granuladas, mucho más cortas que los polinios; viscidio viscoso, translúcido. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** de la mitad del largo de la cavidad estigmática. **Nectario** penetrando la mitad del ovario, delgado, liso. **Cápsula** no vista.

Epiphytic, sympodial, caespitose herb. **Stems** somewhat laterally compressed, flexuous. **Leaves** 8-10, obliquely ascending, sulcate, sheath laterally compressed, smooth; blade linear, apex obtuse to obscurely bilobed. **Inflorescence** apical, from the mature stem, sessile. **Flowers** 1-2, simultaneous, resupinate, waxy white with a faint tinge of green, bright green where the lip joins the column. **Floral bract** much smaller than the ovary, triangular, acute. **Ovary** not inflated, terete, smooth. **Sepals** free, spreading, oblanceolate, acute, subcoriaceous, glabrous, 3-veined, margin revolute, entire; the lateral sepals oblique. **Petals** spreading, linear-oblanceolate, acute, membranaceous, 1-veined, margin entire, spreading. **Lip** united to the column, cordiform to obscurely 3-lobed, base cordate, membranaceous, margin entire; bicallose, the calli divergent, subglobose; lateral lobes semiorbicular; midlobe triangular truncate, apex widely obtuse to slightly emarginate. **Column** arcuate. **Clinandrium** hood prominent, entire, margin fimbriate. **Anther** obovoid, unornamented, 4-celled. **Pollinia** 4, subequal, obovoid, laterally compressed; caudicles soft and granular, smaller than the pollinia; viscidium viscous, translucent. **Rostellum** subapical, slit.

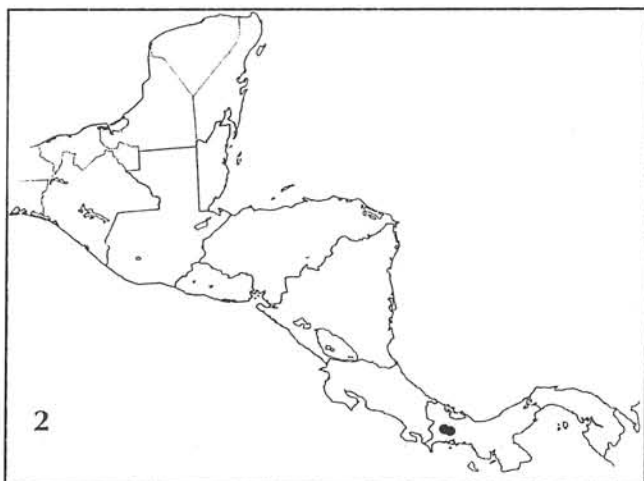
OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Endemic to western Panama. Epiphyte, growing at 1400 m altitude. Flowering in August.

RECOGNITION: *Epidendrum pudicum* belongs to the Difforme Group which is characterized by the caespitose, sympodial plants, fleshy, pale green to glaucous leaves, apical inflorescence, sessile, rarely with a short peduncle, one-flowered to corymbose, without spathaceous bracts, fleshy, green to yellowish green, rarely white flowers. The species can be recognized by its laterally compressed stems, linear, obliquely ascending, 2-3 mm wide leaves, 1-2, small, simultaneous, flowers, colored waxy white with a faint tinge of green, 3-veined sepals, 1-veined petals, and the lip cordiform to obscurely 3-lobed, with semiorbicular lateral lobes, a midlobe triangular truncate, and a prominent, fimbriate clinandrium-hood and subglobose calli. It is similar to *Epidendrum firmum* Rchb.f. which has somewhat wider leaves, pale green flowers, and a 3-lobed lip with a subquadrate midlobe.

CONSERVATION STATUS: DD: Data deficient. Known only from the type collection.

ETYMOLOGY: From the Latin *pudicum*, bashful, modest, hidden, probably in reference to the simplicity and small size of the flowers.



Authors: L. Sánchez S. & E. Hágsater

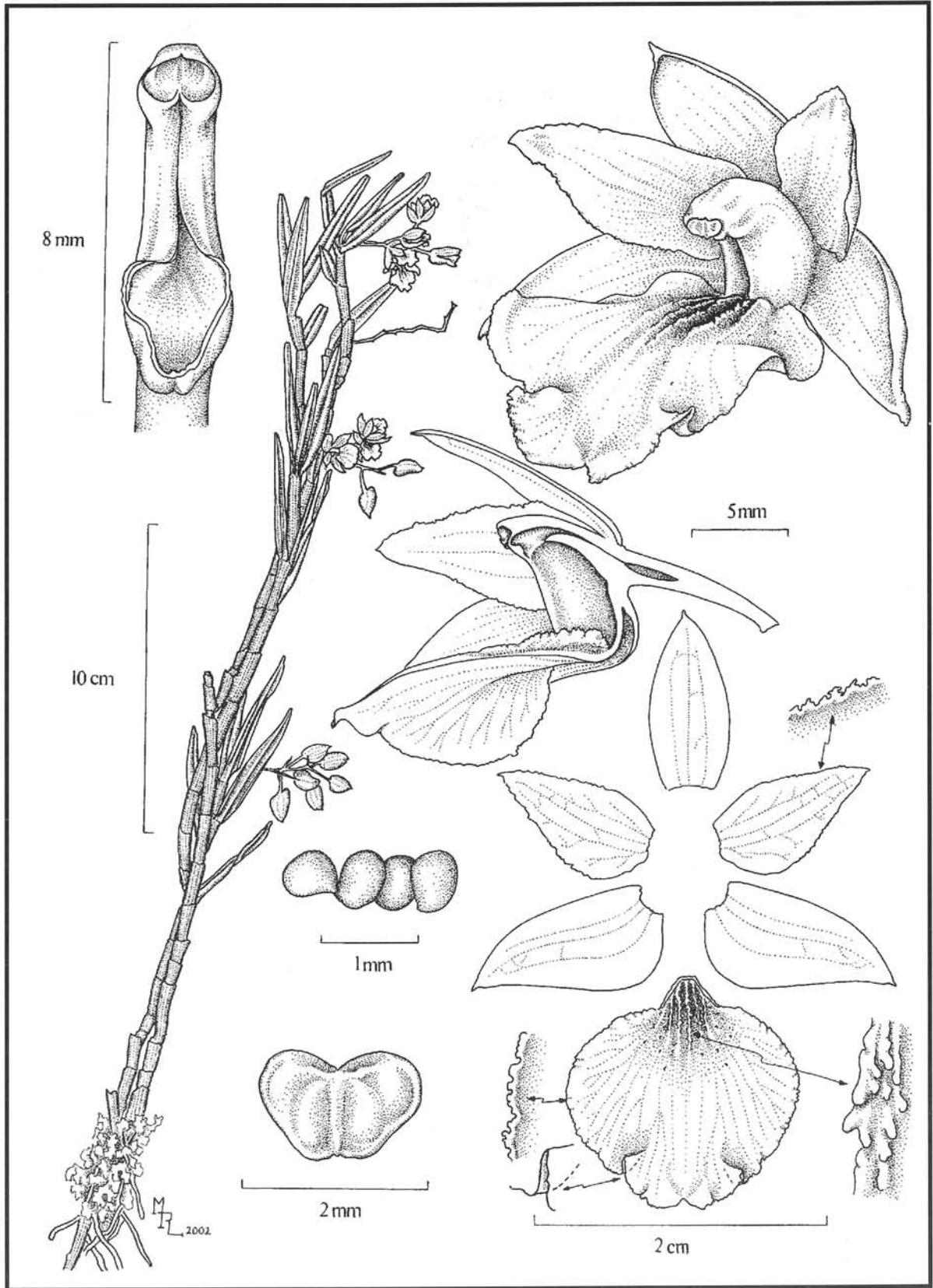
Illustrator: R. Jiménez M.

Editors: E. Hágsater & L. Sánchez S.

Herbario AMO

Apartado Postal 53-123, 11320 México, D.F., MÉXICO

ICONES ORCHIDACEARUM 8. 2006. Plate 878



EPIDENDRUM PULCHRUM (Schltr.) Hágsater & Dodson

Plate 879

EPIDENDRUM PULCHRUM (Schltr.) Hágsater & Dodson, Orquídea (Mexico City) 12(2): 296. 1992.

Basionym: *Diothonea pulchra* Schltr. Repert. Spec. Nov. Regni Veg. 16: 388. 1916. Type: Ecuador: In silvis occidentalibus Montis Pichincha, Sep 1899, A. **Sodi** 18. Holotype: B, destroyed. Neotype, here designated: Pichincha: Carretera vieja, Quito-Santo Domingo via Chilligallo-San Juan Chiriboga, 3200 m, 3 V 1985, C. H. **Dodson**, B. **Stein** & L. **McCook** 15822, QCNE! Isoneotypes, here designated: AMES! MO! (Illustration voucher.) SEL.

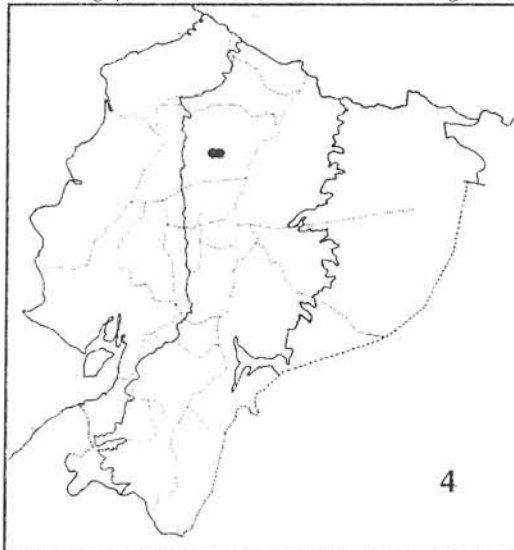
Hierba epífita o terrestre, ramificada; 24-50 cm de alto. **Raíces** basales, carnosas, gruesas, blancas; 1-2 mm de grosor. **Tallos** ramificados, produciéndose las ramificaciones de los entrenudos apicales del tallo anterior, tipo caña, teretes, rectos; 15-50 x 0.25-0.55 cm. **Hojas** 7-10, en los tallos principales distribuidas generalmente a lo largo de los mismos, en las ramificaciones, distribuidas hacia la zona media apical, erectas, alternas, las basales generalmente no persistentes, subcoriáceas; vaina tubular, estriada, algunas levemente teñidas de púrpura en los tallos jóvenes; 15-30 x 0.25-0.55 mm; lámina angostamente lanceolada, ápice bilobado, con una quilla dorsal baja, margen entero, lisa; 4-7.6 x 0.4-0.5 cm. **Bráctea** espátacea ausente. **Inflorescencia** apical, racemosa, arqueada, florece una sola vez; 5-7 cm de largo; pedúnculo corto, terete, delgado; 0.7-1 cm de largo, provisto en la parte basal de una bráctea semejante a las florales, linear triangular, aguda; 8 mm de largo; raquis terete, delgado, ligeramente flexuoso; 3.3-5.2 cm de largo. **Brácteas florales** más cortas que el ovario, ca. de la mitad del largo del mismo, linear triangulares, agudas, las apicales más pequeñas; 3-6 mm de largo. **Flores** 10-14, simultáneas, resupinadas, color pardo rojizas, sin datos de fragancia. **Ovario** terete, delgado, no inflado, no ornamentado; 9-16 mm de largo. **Sépalos** entreabiertos, libres, ápice agudo, 3-nervados, margen entero, con una quilla dorsal inconspicua; el dorsal ovado elíptico, 12 x 5.3 mm; los laterales oblicuos, ovados, 13.6 x 7 mm. **Pétalos** entreabiertos, libres, ovados, ápice agudo, 3-nervado, las nervaduras cortamente ramificadas, margen denticulado, 11.6 x 6.3 mm. **Labelo** unido a la columna de manera oblicua, entero, suborbicular, base truncada, ápice incipientemente emarginado, margen crenado, plegado en el ápice; escalo; disco escasamente ornamentado con diminutas papilas en la base y provisto de 5 quillas, delgadas, cortas, rugosas, la central ligeramente más larga que las laterales pero sin llegar a la parte media del mismo, rugosas; 13 x 15.6 mm. **Columna** arqueada, con una apertura ventral alargada y angosta, provista de un par de alas ventrales rectas no involutas, pie de columna prominente, que no forma un saco; 5 mm de largo. **Clinandrio** corto, margen entero. **Antera** reniforme, 4-locular. **Polinios** 4, obovoides. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** ausentes. **Nectario** formado por una cavidad amplia formada por la unión amplia de la columna y el labelo, sin traspasar el perianto, no ornamentado. **Cápsula** no vista.

Epiphytic or terrestrial, branching herb. **Roots** basal from the stem, fleshy, thick, white. **Stems** branching, produced from the apical internodes of the previous stem, cane-like, terete, straight. **Leaves** 7-10, distributed along the whole main stem, on the branches distributed along the apical half, erect, alternate, the basal leaves falling off, subcoriaceous; sheath striated, some slightly tinged with purple on young stems; blade narrowly lanceolate, apex bilobed, with a low dorsal keel, smooth, margin entire. **Inflorescence** apical, racemose, arching, flowering only once; peduncle short, terete, thin, provided near the base with a single bract similar to the floral bracts, linear-triangular, acute; rachis terete, thin, slightly flexuous. **Floral bracts** about half as long as the ovary, linear triangular, acute, the apical ones gradually shorter. **Flowers** 10-14, simultaneous, resupinate, reddish brown. **Ovary** terete, thin, not inflated, unornamented. **Sepals** partly spreading, free, apex acute, 3-veined, margin entire, with a dorsal inconspicuous keel; **dorsal sepals** ovate-elliptic; **laterals** oblique, ovate. **Petals** partly spreading, free, ovate, apex acute, 3-veined, the veins short-branched, margin denticulate. **Lip** obliquely united to the column, entire, suborbicular, base truncate, apex slightly emarginate, margin crenate, plicate at the apex; ecallose; disc scarcely ornamented with minute papillae at the base and provided with 5 thin, short, rugose keels, the mid-keel longer than the laterals without reaching the middle of the lip. **Column** arched, producing a ventral, elongate, narrow aperture by the lateral wings which are not involute; column foot prominent, without forming a sac. **Clinandrium-hood** short, entire. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, laterally compressed. **Rostellum** apical, slit. **Nectary** a large cavity formed by the wide union of the column and the lip, not penetrating the ovary.

OTHER SPECIMENS: ECUADOR: None seen.

DISTRIBUTION AND ECOLOGY: Known only from the western slopes of the Andes in central Ecuador, above 3000 m. Flowering in May and September.

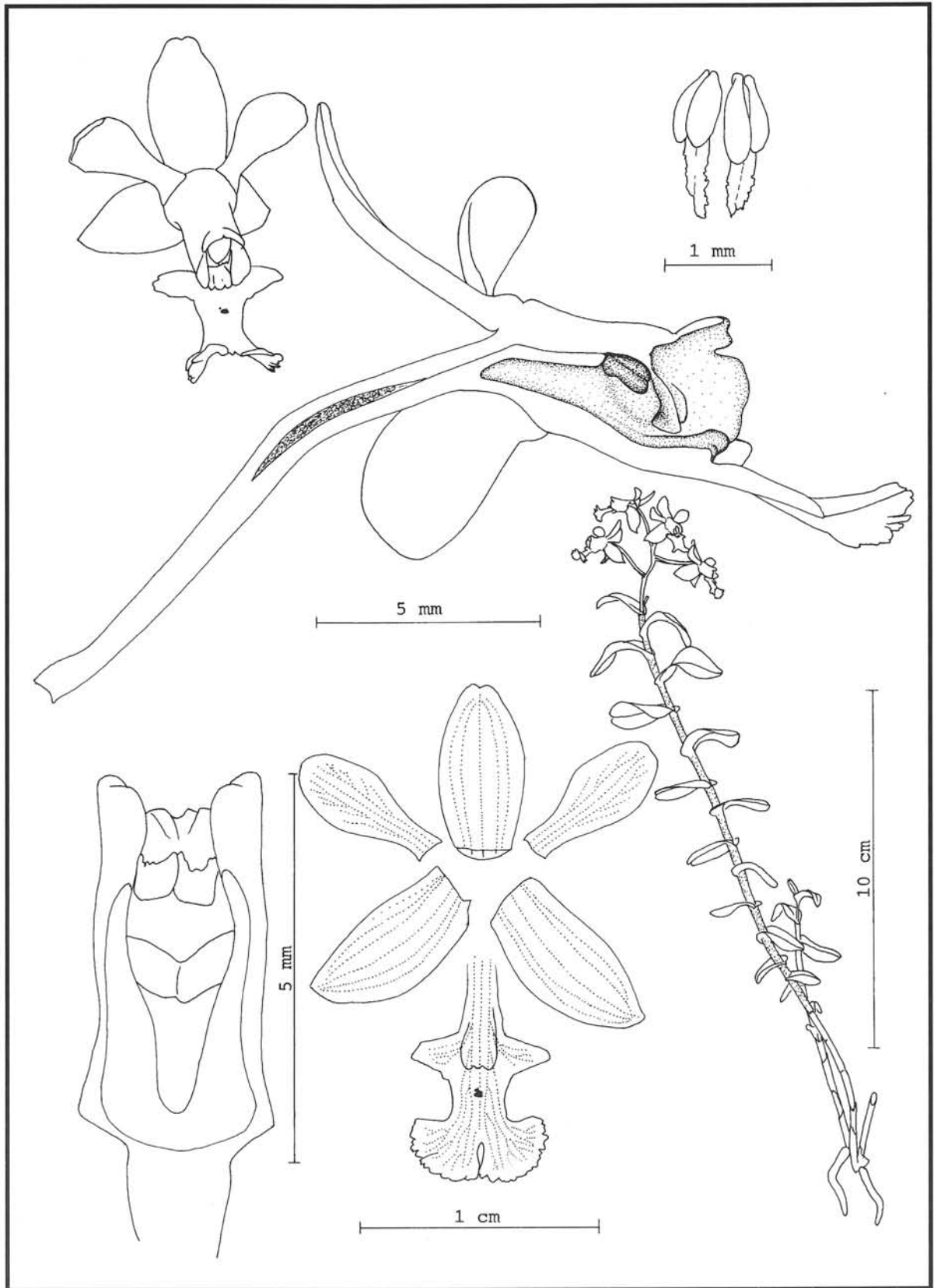
RECOGNITION: *Epidendrum pulchrum* belongs to the Diothonea Group and Subgroup which is characterized by the branching plants, linear-lanceolate to oblong, bilobed leaves, racemose, arching-nutant inflorescence, membranaceous flowers (rarely fleshy), the entire to 3-lobed, ecallose lip with the margin erose without or with 1-10 thin, smooth to erose keels, the column completely to obliquely united to the lip, the anther reniform.



The species is recognized by the 5-7 cm long inflorescence, the suborbicular lip which is undivided at the apex, scarcely ornamented with minute papillae and 5 thin, short, rugose keels, and the column obliquely united to the lip, with a prominent, straight column foot, and the column wings not involute. *Epidendrum lloense* (Lindl.) Hágsater & Dodson, has the inflorescence 5-12 cm long, the lip subreniform with the apex 4-lobed, 5 smooth or rarely serrulate keels that form a convex structure at the base of the lip and the column with a very prominent involute column-foot forming a prominent sac. *Epidendrum gratissimum* (Rchb.f.) Hágsater & Dodson (syn. *E. oyacachiense* Hágsater & *E. pentacarinatum* Hágsater & Dodson) has a subreniform lip with a 4-lobed apex, unornamented with 3-5 laminar, erose keels, the column ventrally provided with a pair of involute wings. *Epidendrum neoviridiflorum* Hágsater has a widely ovate-orbicular lip with the base unguiculate and the apex 4-lobed, unornamented and the column with a pair of involute wings. *Epidendrum orthopterum* Hágsater & E. Santiago has a short inflorescence, 2 cm long, and a 3-lobed lip with 7 erose keels.

CONSERVATION STATUS: DD. Data deficient.

ETIMOLOGY: From the Latin *pulcher*, beautiful.



EPIDENDRUM PUMILUM Rolfe

THE GENUS EPIDENDRUM PART 5

Plate 880

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM PUMILUM Rolfe, Bull. Misc. Inform. Kew 1893: 171. 1893.

Type: [COSTA RICA:] Without locality, imported by *Messrs. F. Sander & Co.* of St. Albans, flowered January, 1890. Lectotype (designated by D. E. Mora & J. T. Atwood, Icon. Pl. Trop. Pl. 1462. 1992.): K. Photo at AMES! Paratype: Hort. Glasnevin Botanic Garden, F. W. Moore. K.

Synonyms: *Oerstedella pumila* (Rolfe) Hágsater, Orquídea (Mexico City) 8(1). 24. 1981.

Epidendrum acrochordonium Schltr., Beih. Bot. Centralbl. 36(3): 400. 1918. Type: COSTA RICA: Without locality, *Adolfo Tonduz s.n.* Holotype: B, destroyed; Lectotype [here designated]: tracing at AMES 26926!

Hierba epífita, erecta, cespitosa; 15-35 cm de alto. **Raíces** basales, carnosas, escasas. **Tallos** sencillos, tipo caña, erectos a ligeramente arqueados, teretes, delgados; 13-25 x 0.13-0.2 cm; cubiertos en la base por vainas tubulares no foliosas, verrugosas, fibrosas con el tiempo. **Hojas** 8-14, distribuidas a casi todo lo largo del tallo, alternas, articuladas, erecto extendidas, semiamplexicaules, semejantes entre sí; vainas tubulares, verrugosas; 5-15 x 1.3-2 mm; lámina ovada oblonga, subconvexa, ápice obtuso, bilobado, margen entero; 0.6-4 x 0.7-1.3 cm. **Bráctea espatácea** ausente. **Inflorescencia** apical, racemosa, erecta, laxa, hasta 6.5 cm de largo; pedúnculo terete, delgado; 3-8 mm de largo; provisto de una bráctea semejante a las florales, linear lanceolada, aguda; 3-10 mm de largo. **Brácteas florales** más cortas que el ovario, ovado lanceoladas, agudas, abrazadoras, las apicales gradualmente más cortas; 4-8 mm de largo. **Flores** 3-18, simultáneas a sucesivas cuando son muchas, resupinadas, amarillo verdosas, frecuentemente pardo moradas en la superficie dorsal, callo amarillo, el labelo con algunos puntos amarillos; sin datos de fragancia. **Ovario** terete, delgado, no inflado, liso; 8-12 mm de largo. **Sépalos** extendidos, libres, oblongo elípticos, subobtusos, diminutamente apiculados, subcóncavos, 3-nervados, las nervaduras laterales ramificadas desde la base dando la apariencia de ser 5-nervados, margen entero, 5-7 x 3-5 mm. **Pétalos** extendidos, libres, obovado espatulados, obtusos, diminutamente apiculados, unguiculados en la base, cóncavos, 3-nervados, margen entero con dos dientes laterales cerca del ápice, 5-6 x 2-3 mm. **Labelo** unido a la columna, 3-lobado, ligeramente dirigido hacia arriba en el ápice; 6-7.5 x 5.5-6.5 mm; unicalloso, el callo tridentado en el ápice; desprovisto de quillas; lóbulos laterales mucho más pequeños que los apicales, oblongos a oblongo triangulares, truncados a subagudos, extendidos, margen irregular; 3 x 1-1.5 mm; lóbulo medio formando en la base un istmo largo y angosto; el ápice bilobado, con un seno apical profundo y mucronado, formando un par de lóbulos semi-orbiculares con el margen dentado fimbriado; 4-5 x 1-1.5 mm. **Columna** recta, terminada en 3 lóbulos laminares prominentes, truncados; 5 mm de largo. **Clinandrio** corto, sin sobrepasar el cuerpo de la columna, entero, margen apical crenado. **Antera** obovoide, 4-locular. **Polinios** 4, obovoides, caudículas suaves y granuladas, del doble de largo que los polinios. **Rostelo** perpendicular al eje de la columna, formando un seno amplio. **Lóbulos laterales del estigma** obsoletos. **Nectario** corto, sin penetrar el ovario, no inflado, liso. **Cápsula** no vista.

Epiphytic, erect caespitose herb. **Roots** basal, fleshy, scarce. **Stems** simple, cane-like, erect to somewhat arching, terete, thin, covered at the base by tubular, non foliaceous, verrucose sheaths, becoming fibrous with time. **Leaves** 8-14, distributed nearly throughout the stem, alternate, articulate, erect-spreading, semiamplexicaul, all similar; sheaths tubular, verrucose; blade ovate-oblong, subconvex, apex obtuse, bilobed, margin entire. **Inflorescence** apical, racemose, erect, lax-flowered; peduncle terete, thin, provided with a bract similar to the floral bracts, linear-lanceolate, acute. **Floral bracts** shorter than the ovary, ovate-lanceolate, acute, the apical ones gradually shorter. **Flowers** 3-18, simultaneous to successive when many, resupinate, greenish yellow, frequently purple-brown on the dorsal surface, with the lip with a few purple dots. **Ovary** terete, thin, not inflated, smooth. **Sepals** spreading, free, oblong-elliptic, subobtusely, minutely apiculate, subconvex, 3-veined, the lateral veins branching from the base so as to appear 5-veined, margin entire. **Petals** spreading, free, obovate-spatulate, obtuse, minutely apiculate, unguiculate at the base, concave, 3-veined, margin entire with a pair of lateral teeth near the apex. **Lip** united to the column, 3-lobed, turned slightly upwards near the apex; callus single, tridentate at the apex, without keels; lateral lobes much smaller than the middle lobe, oblong to oblong-triangular, truncate to subacute, spreading, margin irregular; middle lobe with a linear isthmus at the base, semi-orbicular, somewhat divaricate, apical margin dentate-fimbriate. **Column** straight, ending in 3 prominent laminar, truncate lobes. **Clinandrium-hood** short, without surpassing the body of the column, entire, margin crenate. **Anther** obovoid, 4-celled. **Pollinia** 4, obovoid, caudicles soft and granulate, about twice as long as the pollinia. **Rostellum** perpendicular to the axis of the column, forming a wide sinus. **Nectary** short, without penetrating the ovary, not inflated, smooth.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Known from Costa Rica and western Panama. Epiphytic, growing in very wet cloud forest at 1300-2650 m altitude. Flowering from September to February, rarely in June and August.

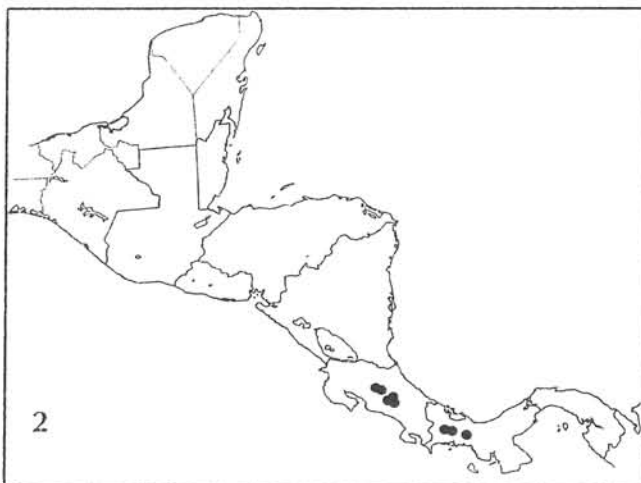
RECOGNITION: *Epidendrum pumilum* belongs to the *Oerstedella* Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is incumbent to the column instead of parallel, forming a wide, open sinus, without a viscidium, and *Verrucosum* Subgroup recognized by the small to medium sized, membranaceous flowers with sepals and petals immaculate, a bilobed clinandrium-hood slightly surpassing the body of the column, obovoid, subequal pollinia with long granulate caudicles. The species is distinguished by the greenish yellow flowers, the sepals frequently purple-brown dorsally, the lip with a few purple spots, sepals 5-7 mm long, the apex of the column 3-lobed, without surpassing the body of the column, and the callus is tridentate. *Epidendrum endresii* Rchb.f. has white flowers, the lip more or less colored with lilac, the flowers somewhat larger (sepals 7.5-10 mm long), the apex of the column 4-lobed, and the lip bicallous.

NOTE: We consider *E. adolphii* Schltr. synonymous with *E. endresii*, though Schlechter himself confused his *E. adolphii* with *E. pumilum* Rolfe, (Repert. Spec. Nov. Regni Veg. Beih. 19: 125 and 217. 1923.) As with several other species of the *Oerstedella* Group, *E. pumilum* has two color forms, the light colored greenish yellow form, and the darker form, with the dorsal surface of the sepals purple-brown.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Latin "*pumilus*", dwarf, small, in reference to the small size of the plant originally used as a type by Rolfe.

REFERENCES: Dressler R. L., 1993, *Field guide to the Orchids of Costa Rica and Panama*, Cornell University Press, p. 91. Hágsater, E., in Hammel et al., 2003, *Manual de Plantas de Costa Rica* 3: 352, Missouri Botanical Garden. *Oerstedella pumila*, *Die Orchidee* 51(3) Orchideenkartei 925-6, 2000. Hágsater, E., & M. A. Soto Arenas, 2005, *Transfers to Epidendrum* L. from *Oerstedella* Rchb.f., *Lankesteriana* 5(1): 73.

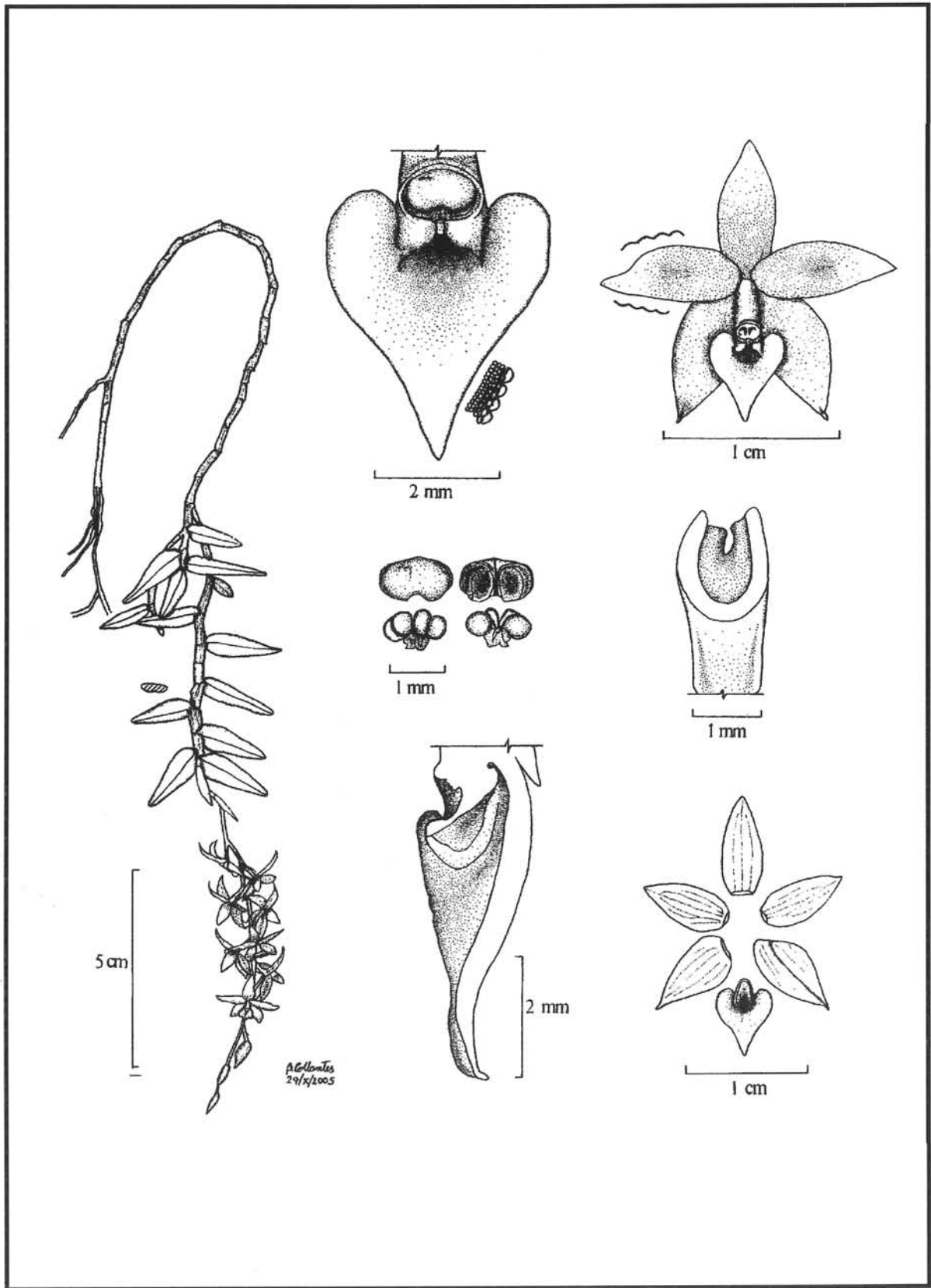


Authors: E. Santiago & E. Hágsater

Illustrator: E. Hágsater

Editors: E. Hágsater & L. Sánchez S.

Herbario AMO Apartado Postal 53-123, 11320 México, D.F., MÉXICO ICONES ORCHIDACEARUM 8. 2006. Plate 880



EPIDENDRUM QUISPEI Hågsater & Collantes

THE GENUS EPIDENDRUM PART 5

Plate 881

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM QUISPEI Hágsater et Collantes, sp. nov.

Type: PERU: Cusco: Santuario Histórico de Machu Picchu, Quebrada Alccamay, bosque de neblina, 3000 m, octubre 2004, collected by Moisés Quispe y Ermitaño Quispe Batallanos, *Machu Picchu Pueblo Hotel-Inkaterra 86*. Holotype: USM! (Illustration voucher.) Isotype: MOL!

Epidendrum madsenii Hágsater & Dodson in partibus vegetativis aliquantum simile sed inflorescentia elongata, floribus magnis cum segmentis lanceolatis, petalis quam sepalis angustioribus, labello ecalloso profunde cordiforme acutoque, discrepans.

Hierba epífita, monopodial, colgante, de 17 a 30 cm de largo. Raíces de los entrenudos basales del tallo primario, escasas, delgadas, 1 mm de grosor. Tallos sencillos, producidos de los entrenudos apicales del tallo anterior, tipo caña, teretes, delgados, rectos a ligeramente flexuosos, 6-17 x 0.2-0.3 cm. Hojas 4-9, distribuidas a lo largo del tallo, caedizas con el tiempo, extendidas, alternas, articuladas; vaina tubular, finamente estriada, 5.3-10 x 2-3 mm; lámina ovado lanceolada, ápice subagudo, con un apículo diminuto, con una quilla dorsal baja, margen entero, 1.4-2 x 0.4-0.6 cm. Bráctea espatácea ausente. Inflorescencia apical, racemosa, colgante, densa, florece una sola vez, 8.5 cm de largo; pedúnculo 23 mm de largo, fractiflexo, provisto de 2 brácteas prominentes, tubulares en la base, conduplicadas en el ápice, agudas, cubriendo casi en su totalidad al mismo, 9-13 x 1.5-2.5 mm. Brácteas florales casi tan largas como el ovario, gradualmente más pequeñas, lineares, acuminadas, abrazadoras, 2-5 mm de largo. Ovario terete, delgado, no inflado, no ornamentado, 6 mm de largo. Flores 5-10, la mayoría abierta de manera simultánea (aunque algunas apicales presentes aún en botón floral), resupinadas, de color casi blanco a tenuemente rosado ocráceo a rojo vinoso, sin fragancia. Sépalos extendidos, libres, angostamente ovados, agudos, margen entero, 8-8.2 x 3-3.7 mm; el dorsal 3-nervado; los laterales 5-nervados, diminutamente apiculados, oblicuos. Pétalos extendidos, libres, angostamente ovados, agudos, 3-nervados, las nervaduras ramificadas desde la base dando la apariencia de ser 5-nervados, margen diminutamente crenulado, 7 x 3.5 mm. Labelo unido a la columna, entero, triangular cordiforme, profundamente cordado en la base, agudo en el ápice, margen diminutamente crenulado, 5-5.5 x 4-4.4 mm; ecalloso, desprovisto de quillas. Columna recta, delgada, 4 mm de largo. Clinandrio reducido, entero. Antera reniforme, 4-locular. Polinios 4, obovoides, redondeados, lateralmente comprimidos; caudículas suaves y granuladas ligeramente más largas que los polinios, subiguales. Rostelo apical, hendido. Lóbulos laterales del estigma no vistos. Néctario incipiente, sin penetrar el ovario, liso. Cápsula no vista.

Epiphytic, monopodial, pendent herb. Roots from the basal internodes of the primary stem, scarce, thin. Stems simple, produced from the subapical internodes of the previous stem, cane-like, terete, thin, straight to somewhat flexuous. Leaves 4-9, distributed throughout the stem, deciduous with time, spreading, alternate, articulate; sheath tubular, minutely striated; blade ovate-lanceolate, apex subacute, with a minute apicule, the dorsal keel low, margin entire. Inflorescence apical, racemose, pendent, dense, flowering only once, with a short fractiflex peduncle that bears 2 prominent bracts, tubular at their base, conduplicate towards the apex, acute, nearly totally covering the peduncle. Floral bracts nearly as long as the ovary, gradually shorter, linear, acuminate. Ovary terete, thin, not inflated, smooth. Flowers 5-10, most of them open simultaneously, resupinate, from nearly white to ochre-pink to wine-red, without fragrance. Sepals spreading, free, narrowly ovate, acute, margin entire; the dorsal sepals 3-veined, the lateral sepals 5-veined, minutely apiculate, oblique. Petals spreading, free, narrowly ovate, acute, 3-veined, the veins branching from the base and thus appearing 5-veined, margin crenulate. Lip united to the column, entire, triangular-cordiform, deeply cordate at the base, apex acute, margin minutely crenulate; ecallose, without keels. Column straight, thin. Clinandrium hood reduced, entire. Anther reniform, 4-celled. Pollinia 4, obovoid, rounded, laterally compressed, subequals; caudicles soft and granulese, slightly longer than the pollinia. Rostellum apical, slit. Nectary short, without penetrating the ovary, smooth.

OTHER SPECIMENS: PERU: Cusco: Santuario Histórico de Machu Picchu, Quebrada Alccamay, bosque de neblina, 3000 m, agosto 2005, collected by Ermitaño Quispe, Machu Picchu Pueblo Hotel-Inkaterra 86bis, AMO! CUZ! Historic Sanctuary of Machu Picchu, Aguas Calientes, 2700 m, 6 XII 2001, Nauray MP-621, CUZ. Illustration, xerox, AMO!

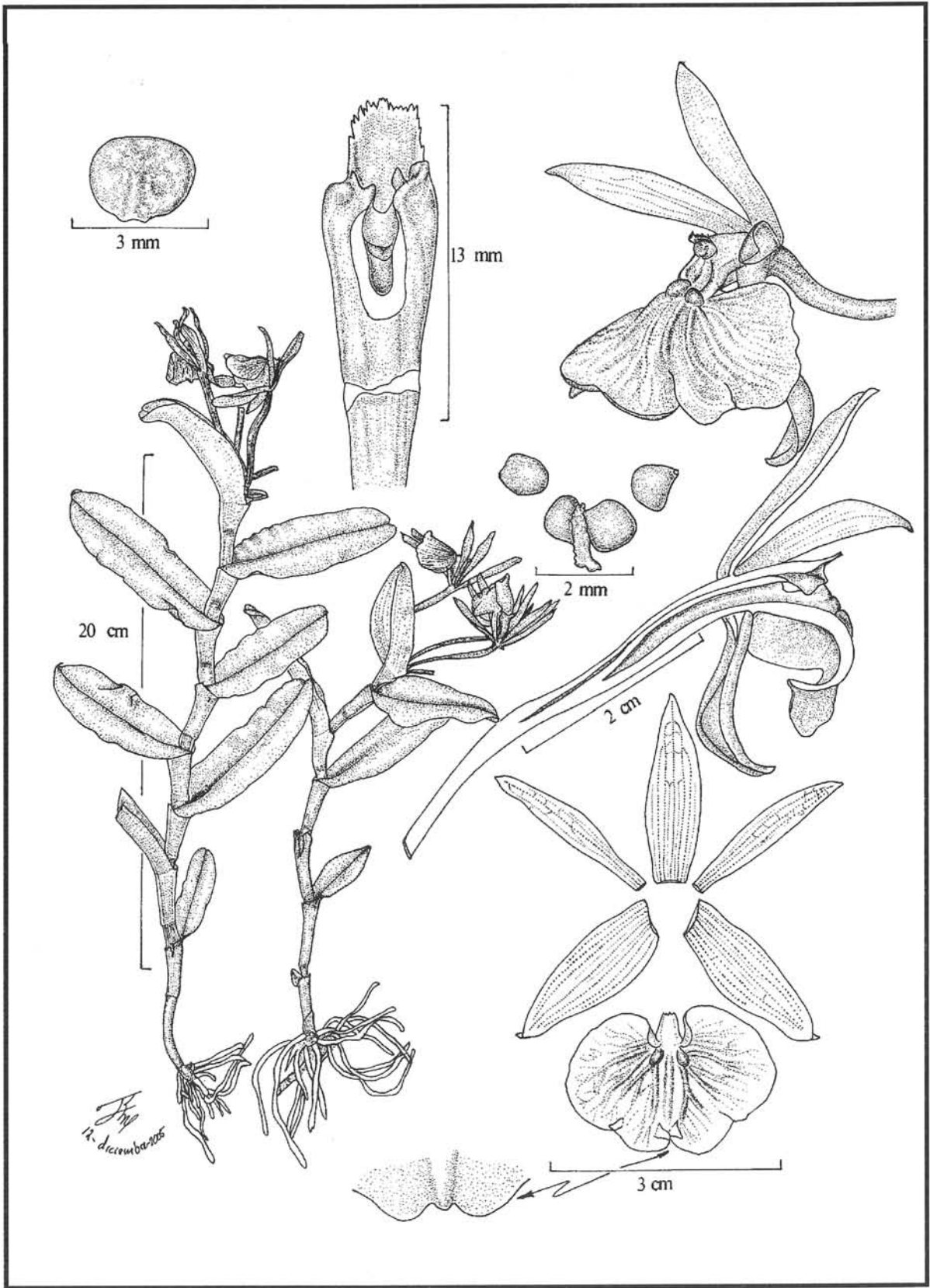
DISTRIBUTION AND ECOLOGY: Known presently only from Machu Picchu, 2700-3000 m altitude, epiphytic on incense trees (*Clusia trochiformis*) in cloud forest. Flowering in October to December.



RECOGNITION: *Epidendrum quispei* belongs to the Quispei Group which is characterized by the monopodial, branching habit, the new stems produced from a subapical internode of the previous stem, the lack of spathaceous bracts, with 1-2 bracts on the peduncle, racemose inflorescence, the flowers star-shaped, the petals somewhat narrower than the sepals, the lip deeply cordiform and acute. The species is recognized by the pendent plants, racemose inflorescence with 5-10 flowers, 8 mm long sepals, deeply cordiform lip without calli, and the petals as wide as the sepals. Most other pendent *Epidendrum* species of this size have a spathaceous bract, and we have not found any species similar to this one. The plant habit is reminiscent of the Nanun Group, monopodial with the new stem produced from a subapical internode of the previous stem; however, the inflorescence is long and many-flowered, and the flowers, are typically *Epidendrum*-like, but somehow unique, with the deeply cordate, acute, ecallose lip.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In honor of Moisés Quispe, an excellent conservationist collector, gardener at the Machu Picchu Pueblo Hotel-Inkaterra, who perished tragically in the huayco of April 2004 that affected the Machu Picchu Pueblo. Moisés and Ermitaño Quispe are not related.



EPIDENDRUM ROMERO-CASTANNEDAE Hágsater & L.Sánchez

EPIDENDRUM ROMERO-CASTANNEDAE Hágsater et L.Sánchez, sp. nov.

Type: COLOMBIA: Chocó: Serranías del margen izquierdo del río Cacarica, a poca distancia de su desembocadura en el Atrato, Riosucio, 13 VII 1957, *Romero-Castañeda 6381*. Holotype: COL! (Illustration voucher pro parte, right stem, flowers) Isotype: MO! (Illustration voucher pro parte, left stem)

Epidendro vulgoamparoano Hágsater & L.Sánchez simile sed foliis angustis ellipticis, petalis anguste ellipticis, discrepat.

Hierba epífita, simpodial, caespitosa, 12-30 cm de alto. **Raíces** basales, carnosas, delgadas, 1.0-1.5 mm de grosor. **Tallos** sencillos, tipo caña, lateralmente comprimidos, 5-22 cm de largo. **Hojas** 4-7, equidistantes a lo largo del tallo; vaina foliar tubular, lateralmente comprimida, no ornamentada, 1-2 cm de largo; lámina elíptica, ápice asimétricamente bilobado, no ornamentada, verde, carina dorsal ausente, margen entero, 4-7 x 1.2-2.5 cm. **Bráctea** espatácea ausente. **Inflorescencia** apical, florece una sola vez, del tallo maduro, sésil, subcorimbosa. **Brácteas florales** mucho más pequeñas que el ovario, triangulares, apiculadas, 3-4 mm de largo. **Ovario** terete, inflado hacia el ápice, no ornamentado, 35-55 mm de largo. **Flores** 1-5, simultáneas, resupinadas, verde claro; fragancia no registrada. **Sépalos** entreabiertos, angostamente elípticos, agudos, 7-nervados con algunas nervaduras secundarias, subcoriáceas, glabros, libres, margen entero, extendido, 22-28 x 5-6 mm; los laterales oblicuos. **Pétalos** entreabiertos, angostamente elípticos, agudos, 3-nervados, con algunas venas secundarias, margen entero, extendido, 21-25 x 3.0-3.7 mm. **Labelo** unido a la columna, oscuramente trilobado, reniforme, base profundamente cordada, venas radiantes engrosadas, margen ligeramente ondulado, 17.0-17.5 x 24-26 mm; bicalloso, los callos pequeños; lóbulos laterales oblicuamente semioblicuos; lóbulo medio corto, emarginado, formando dos lóbulos pequeños, redondeados, con un mucro en el seno. **Columna** recta, 10-13 mm de largo. **Clinandrio** prominente, margen eroso fimbriado. **Antera** subsférica, 4-locular, no ornamentada. **Polinios** 4, lateralmente comprimidos, en forma de lente; caudículas suaves y granuladas, más pequeñas que los polinios; viscidio viscoso translucido. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** penetrando más de 1/2 de la longitud del ovario. **Nectario** penetrando 1/3 de la longitud del ovario, no ornamentado. **Cápsula** no vista.

Epiphytic, sympodial, caespitose herb. **Roots** basal, fleshy, thin. **Stems** simple, cane-like, laterally compressed. **Leaves** 4-7, distributed throughout the stem; sheaths tubular, laterally compressed, smooth; blade elliptic, apex unequally bilobed, margin entire. **Inflorescence** apical, flowering only once from the mature growth, sessile, subcorymbose. **Floral bracts** much smaller than the ovary, triangular, apiculate. **Ovary** terete, inflated towards the apex, smooth. **Flowers** 1-5, simultaneous, resupinate, light green. **Sepals** partly spreading, free, narrowly elliptic, acute, 7-veined with several secondary veins, subcoriaceous, glabrous, margin entire, spreading; lateral sepals oblique. **Petals** partly spreading, narrowly elliptic, acute, 3-veined, with several secondary veins, margin entire, spreading. **Lip** united to the column, obscurely 3-lobed, reniform, base deeply cordate, covered with thickened, radiating veins, margin slightly undulate; bicallose, the calli small; lateral lobes obliquely semiobicular; midlobe short, emarginate, forming a pair of small, rounded lobes with a mucro in the sinus. **Column** straight, short. **Clinandrium-hood** prominent, margin erose-fimbriate. **Anther** subspherical, 4-celled. **Pollinia** 4, laterally compressed, lentil-shaped; caudicles soft and granulous, smaller than the pollinia; viscidium viscous, translucent. **Rostellum** subapical, slit. **Nectary** penetrating 1/3 of the length of the ovary, smooth.

OTHER SPECIMENS: PANAMA: Without locality, cult. by Marv Ragan, 16 VIII 2004, *Dressler 6416*, AMO! (Illustration) PMA! **Darién:** Camino del Pirre, 8 VII 1966, *Duke 255*, MO! Near El Real, 14 VI 1959, *Stern 459*, MO! **COLOMBIA: Córdoba:** Laguna de Ayapel, *Ospina 154*, JAUM!

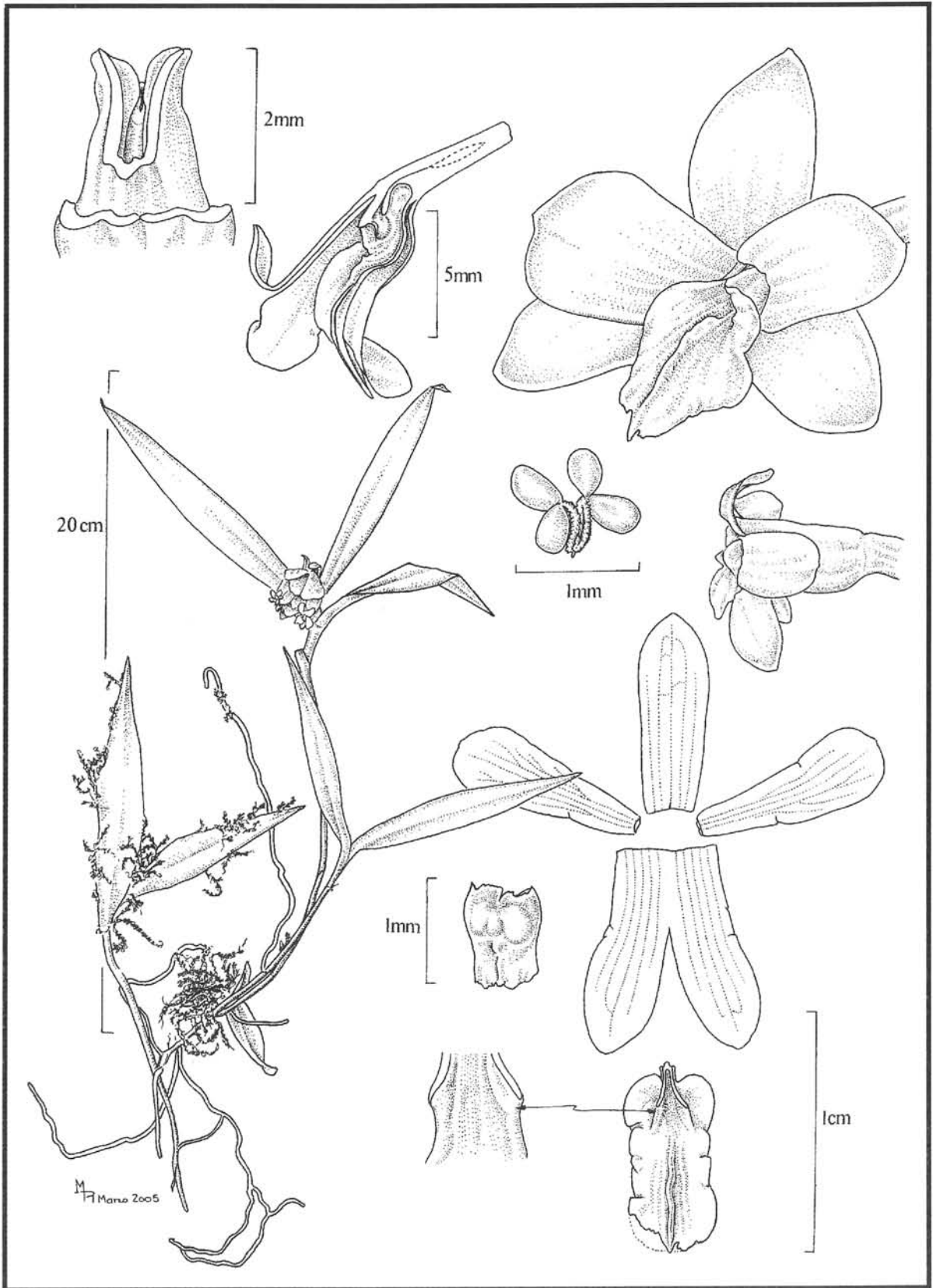
DISTRIBUTION AND ECOLOGY: Known only from the inland hills around the Golfo del Darién in eastern Panama and northern Colombia. Epiphyte, from 10 to 700 m altitude. Flowering from April to August.

RECOGNITION: *Epidendrum romero-castannedae* belongs to the Difforme Group which is characterized by the caespitose, sympodial plants, fleshy, pale green to glaucous leaves, apical inflorescence, sessile, rarely with a short peduncle, one-flowered to corymbose; without spathaceous bracts, fleshy, green to yellowish green rarely white flowers. The new species can be recognized by its laterally compressed stems, elliptic leaves, 1-5 pale green flowers, inflated ovary, sepals and petals narrowly elliptic, obscurely 3-lobed lip, disc with prominent, radiating veins, clinandrium-hood prominent, erose-fimbriate. *Epidendrum vulgoamparoanum* has wider leaves and elliptic-oblancoolate petals. *Epidendrum yojoaense* Hágsater & L.Sánchez has light glaucous-green plants, with petals rhombic, acute, lip obscurely 3-lobed-reniform, and a short, erose clinandrium-hood.

CONSERVATION STATUS: DD. Data deficient.

ETIMOLOGY: In honor of R. Romero-Castañeda, Colombian botanist who collected extensively in Colombia between 1948 and 1960, especially in northern Colombia, and collected the type.





EPIDENDRUM SALPICHLAMYS Hágsater & E.Santiago

EPIDENDRUM SALPICHLAMYS Hágsater et E. Santiago, *sp. nov.*

Type: COSTA RICA: Cartago: In forest along creek debouching into Río Grande de Orosí from the east, ca. 1 km upstream from confluence of Quebrada Salta, Tapantí, 9°43'N 83°47'W, 1500-1700 m, 12 July 1984, *Michael H. Grayum & Pam Sleeper 3446*. Holotype: MO! (Illustration voucher).

Epidendro cryptantho L.O. Williams simile sed caulibus gracilioribus, foliis angustioribus, inflorescentia simplici racemosa, floribus luteo-viridibus buccinatis, sepalis connatis in dimidio basali, labello oblongo, remotum.

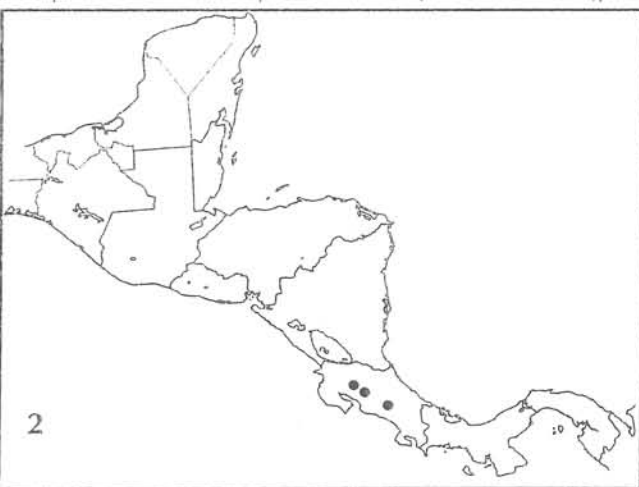
Hierba epífita, simpodial, suberecta, de crecimiento sucesivo lateral, donde cada tallo nuevo se origina de los entrenudos basales del tallo anterior; 16-30 cm de alto. **Raíces** escasas, distribuidas en los entrenudos basales de los tallos, delgadas, blancas; 0.7-1.1 mm de grosor. **Tallos** sencillos, tipo caña, teretes, delgados, suberectos; 9-16 x 0.1-0.25 cm; cubiertos por vainas tubulares, escariosas, fibrosas con el tiempo; 10-23 mm de largo. **Hojas** 2-3, agrupadas en el ápice del tallo, alternas, articuladas, subcoriáceas; vainas tubulares, ligeramente infladas en el ápice, finamente estriadas, 10-15 mm de largo; lámina angostamente elíptica, aguda, margen entero, 3-10 x 0.8-1.7 cm. **Bráctea espátacea** ausente. **Inflorescencia** apical, sésil, racemosa, densa, florece una sola vez, arqueada, 2 cm de largo; pedúnculo y raquis ocultos totalmente por múltiples brácteas. **Brácteas florales** tan largas como el ovario, ovadas, subagudas, conduplicadas, imbricadas, glumáceas, margen entero, 10-15 mm de largo. **Flóres** ca. 5, sucesivas, en forma de trompeta, tubulares en la base, con el ápice de los segmentos florales extendidos, amarillo verdosas; sin datos de fragancia. **Ovario** corto, terete, delgado, no inflado, liso, 5-6 mm de largo. **Sépalos** fusionados en la mitad basal, extendidos y abruptamente reflexos arriba de la mitad, membranáceos, glabros, oblongos, ligeramente ensanchados cerca del ápice, redondeados, 5-nervados, no ornamentados, margen entero, 8.3 x 3 mm; los **laterales** ligeramente divaricados en la mitad apical. **Pétalos** libres, entreabiertos, espatulados, redondeados, 3-nervados, las nervaduras laterales con ramificaciones cortas bifurcadas en el ápice, margen extendido, entero, 8.3 x 3 mm. **Labelo** unido a la columna, cordado en la base, la base abrazando la columna, entero, oblongo, ápice redondeado y apiculado, margen ondulado, 7.2 x 3.7 mm; bicalloso, los callos laminares, bajos, delgados, divaricados; disco provisto de una quilla prominente, laminar, alta, lisa. **Columna** algo doblada hacia abajo en la base, recta, corta, gruesa, 2 mm de largo. **Clinandrio** reducido, margen entero. **Antera** subobovoidea, 4-locular. **Polinios** 4, ovoides, caudículas suaves y granuladas, tan largas como los polinios. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** no vistos. **Nectario** sin penetrar el ovario, no inflado, liso. **Cápsula** no vista.

Epiphytic, sympodial, suberect **herb**, with lateral successive growth, where the new stem originates from a basal internode of the previous stem. **Roots** scarce, distributed along the basal internodes of the stem, thin, white. **Stems** simple, cane-like, terete, suberect; covered by tubular, scariosus sheaths, becoming fibrous with time. **Leaves** 2-3, aggregate towards the apex of the stem, alternate, articulate, subcoriaceous; sheaths tubular, slightly inflated apically, minutely striated; blade narrowly elliptic, acute, margin entire. **Inflorescence** apical, sessile, racemose, dense, flowering only once, arching; peduncle and rachis totally hidden by multiple bracts. **Floral bracts** as long as the ovary, ovate, subacute, conduplicate, imbricating, glumaceous, margin entire. **Flowers** ca. 5, successive, trumpet-shaped, the base tubular, the floral segments then spreading widely; greenish yellow. **Ovary** short, terete, thin, not inflated, smooth. **Sepals** fused along the basal half, then spreading and abruptly reflexed above the middle, membranaceous, glabrous, oblong, slightly widened near the rounded apex, 5-veined, margin entire; apical half of the lateral sepals somewhat divaricate. **Petals** free, partly spreading, spatulate, rounded, 3-veined, the lateral veins above the middle, and bifurcate near the apex, margin spreading, entire. **Lip**, united to the column, entire, oblong, base cordate, apex rounded, apiculate, margin undulate, the base embracing the column; bicallose, the calli laminar, low, narrow, divaricate; disc provided with a prominent, laminar, high, smooth keel. **Column** bent downwards at the base, straight, short thick. **Clinandrium-hood** reduced, margin entire. **Anther** subobovoid, 4-celled. **Pollinia** 4, obovoid, caudicles soft and granulose, as long as the pollinia. **Rostellum** subapical, slit. **Nectary** without penetrating the ovary, not inflated, smooth.

OTHER SPECIMENS: See appendix.

DISTRIBUTION AND ECOLOGY: Known only from the Atlantic slope of the Cordillera in Central Costa Rica, from the Monteverde Reserve to the basin of Tapantí. Epiphytic, growing at 1300-1700 m altitude. Flowering in June and July.

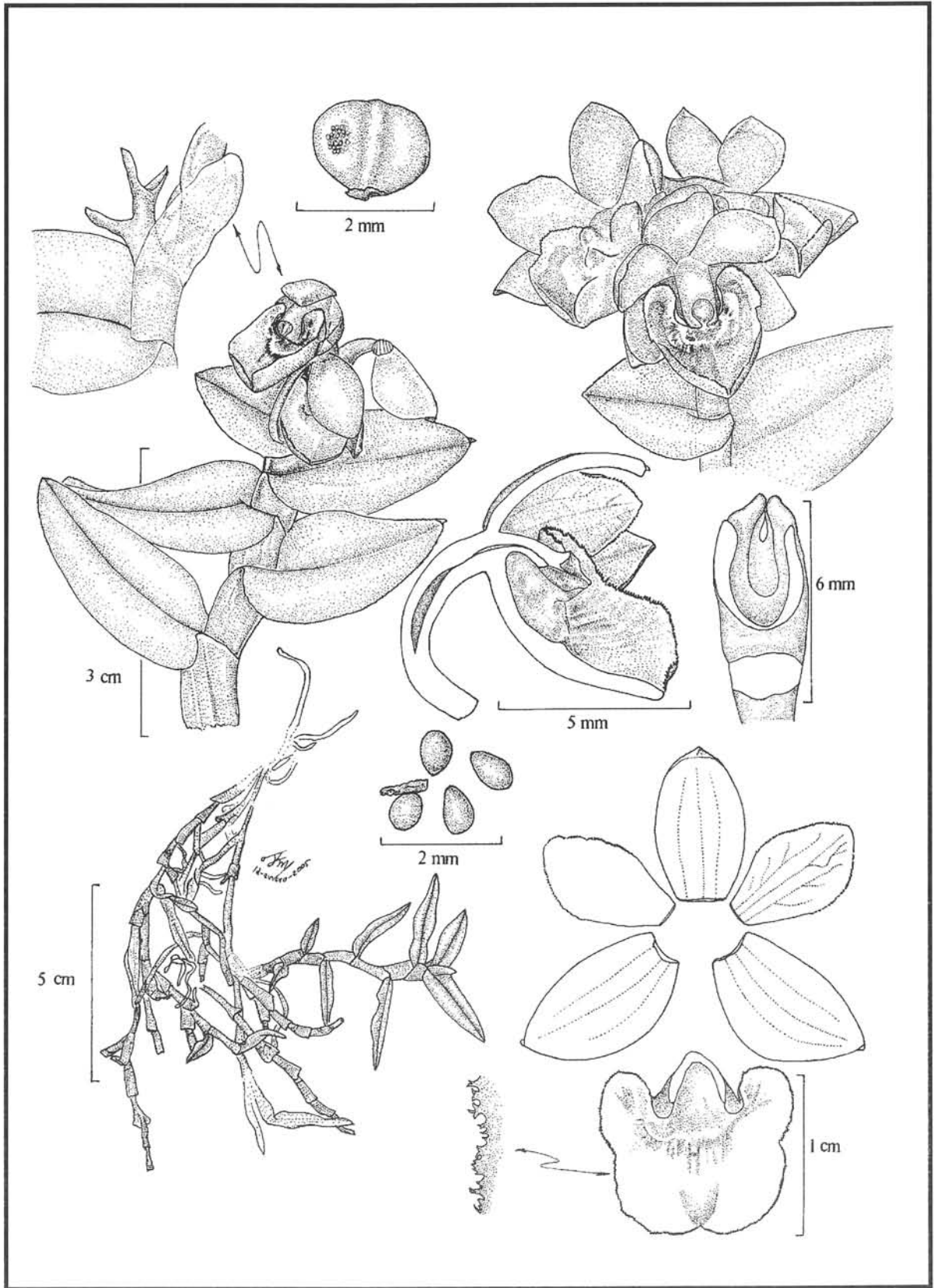
RECOGNITION: *Epidendrum salpichlamys* belongs to the Polychlamys Group, Polychlamys Subgroup which is characterized by the successive lateral growths produced from the middle of the previous growth, few leaves aggregated towards the apex of the stems, the distichous, apical inflorescence with prominent, conduplicate, acute, glumaceous floral bracts. The species is distinguished by the narrow leaves (less than 17 mm wide), simple, sessile, compact, racemose inflorescence, with imbricating floral bracts, the trumpet-shaped, greenish yellow flowers, with the sepals basally connate and abruptly reflexed above the middle, the oblong lip and the thin, non-inflated ovary. It closely resembles *Epidendrum cryptanthum* confirmed only from intermediate altitudes (600-1000 m) in central Panama, and which has a more robust habit, with thicker stems, wider leaves (17-33 mm wide), a compact but paniculate inflorescence with 1-3 dense, simultaneous racemes, (a feature which is not evident from the compact inflorescence, especially in pressed specimens) and creamy white flowers hidden by the floral bracts, the sepals free, and the lip obovate.



Epidendrum lutheri Hágsater has an elongate inflorescence with widely spaced, spreading floral bracts, the rachis clearly visible and sinuous, larger flowers, the free sepals 13-15 mm long, and the ovary forms a prominent vesicle. *Epidendrum bugabense* Hágsater also has an elongate inflorescence, with numerous imbricating bracts that partially cover the peduncle, a straight rachis, larger red flowers, 16-19 mm long sepals free, the lip obovate-suborbicular, and the ovary forms a prominent vesicle as well.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Greek σαλπιγῆ, trumpet, and, χλαμυς, military cloak, mantle, in reference to the trumpet shape of the flower and to the large, glumaceous floral bracts which are characteristic of the species of the Polychlamys Group, and facilitate its recognition.



EPIDENDRUM SANGAYENSE Hágsater & Dodson

EPIDENDRUM SANGAYENSE Hágsater et Dodson, sp. nov.

Type: ECUADOR: Morona Santiago: Guamote-Macas, Parque Nacional Sangay, 3000 m, 23 September 2004, *Alex Hirtz & Eduardo Sánchez 9074*. Holotype: AMO 25125! (flower in spirit, AMO!, slide of pretype, AMO!) (Illustration voucher).

Epidendro minutidentato C.Schweinf. simile sed foliis brevioribus et proportione latioribus, petalis ovato-ellipticis latioribus, discedens.

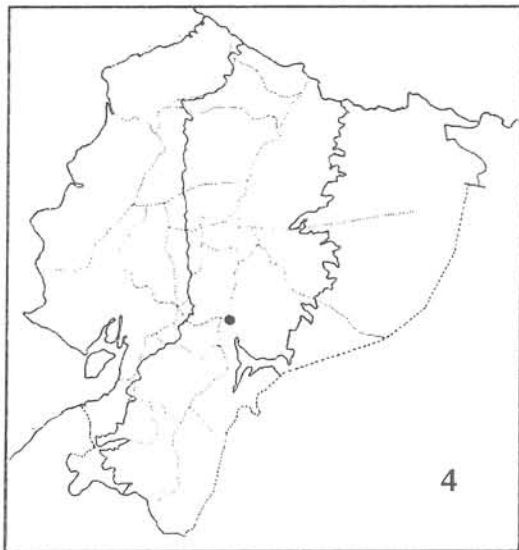
Hierba subcespitosa, ramificada, colgante, pequeña; ca. 5-9 cm de alto. Raíces basales, delgadas, escasas; 0.4-0.7 mm de grosor. Tallos ramificados, producidos en la mitad apical de tallos anteriores, tipo caña, lateralmente aplanados (especialmente en el ápice), ancipitosos, algo flexuosos; 4.5-9 x 0.25-0.5 cm. Hojas 5-8, distribuidas a lo largo del tallo, alternas, extendidas, desiguales (la apical y las basales más pequeñas); vainas algo infundibuliformes, finamente estriadas; 4-10 x 2.5-4 mm; lámina lanceolada a ovado lanceolada, ápice subagudo, con una quilla dorsal algo erosa, coriácea, margen denticulado; 1-2.7 x 0.4-1.1 cm. Bráctea espatácea 1, anchamente ovada, ápice redondeado, conduplicada, cubriendo casi en su totalidad al raquis; 8 x 9 mm. Inflorescencia apical, corta, subsésil, pauciflora; 1 cm de largo; pedúnculo corto, lateralmente aplanado, desprovisto de brácteas; 4 mm de largo. Brácteas florales más cortas que el ovario, angostamente triangulares, agudas, abrazadoras; 2-3 mm de largo. Flores 3, simultáneas, no resupinadas, sépalos y pétalos ventralmente de color pardo rojizos con la superficie dorsal amarillenta; labelo amarillo con un anillo pardo rojizo; columna amarilla; sin datos de fragancia. Ovario terete, delgado, arqueado, liso, no inflado; 8-9 mm de largo. Sépalos entreabiertos, libres, ligeramente cóncavos, elípticos, ápice redondeado, 3-nervados, carnosos, margen entero, 10 x 6 mm; el dorsal diminutamente apiculado; los laterales con una quilla dorsal baja, ligeramente erosa; algo oblicuos. Pétalos entreabiertos, libres, obovado-elípticos, ápice redondeado, 3-nervados, las nervaduras laterales cortamente ramificadas a todo lo largo, carnosos, margen entero en la base y dentado en la mitad apical, 9 x 6 mm. Labelo unido totalmente a la columna, entero a oscuramente trilobado, subrectangular en aspecto general, cóncavo, cordado en la base, con un par de lóbulos reniformes en la mitad basal, ápice ligeramente emarginado, margen dentado; 10 x 12 mm; ecaloso y provisto de una quilla ancha y baja, alargada hasta el ápice del mismo. Columna recta, gruesa; 6 mm de largo. Clinandrio reducido, margen entero. Antera transversalmente elíptica, 4-locular. Polinios 4, obovoides, lateralmente comprimidos; caudículas suaves y granuladas, casi del mismo largo de los polinios. Rostelo apical, hendido. Lóbulos laterales del estigma no vistos. Nectario poco profundo, sin traspasar el perianto, amplio, liso. Cápsula no vista.

Subcaespitose, branching, pendent, short herb. Roots basal, thin, scarce. Stems branching, branches produced from a middle internode of the previous stem, cane-like, laterally compressed, (especially towards the apex) ancipitose, somewhat flexuous. Leaves 5-8, distributed throughout the stems, alternate, spreading, unequal (the apical and basal leaves smaller); sheaths somewhat infundibuliform, minutely striated; blade lanceolate to ovate-lanceolate, coriaceous, margin denticulate, apex subacute, with a slightly erose dorsal keel. Spathaceous bract single, widely ovate, apex rounded, conduplicate, covering nearly all the rachis. Inflorescence apical, subsessile, few-flowered; peduncle short, laterally compressed, without bracts. Floral bracts shorter than the ovary, narrowly triangular, acute. Flowers 3, simultaneous, non-resupinate, sepals and petals ventrally reddish-brown, dorsally yellowish; lip yellow with a reddish brown ring around the disc. Ovary terete, thin, arching, smooth, not inflated. Sepals partly spreading, free, slightly concave, elliptic, apex rounded, 3-veined, fleshy, margin entire; the dorsal sepals minutely apiculate, lateral sepals with a low, slightly erose keel, somewhat oblique. Petals partly spreading, free, obovate-elliptic, apex rounded, 3-veined, the lateral veins short branched throughout, fleshy, margin entire at the base, dentate throughout the apical half. Lip united to the column, entire to slightly 3-lobed, subrectangular in outline, concave, base cordate, with a pair of rounded lobes at the base, apical lobe slightly emarginate, margin dentate; ecallose, provided with a wide, low keel that reaches the apex of the lip. Column straight, thick. Clinandrium-hood reduced, margin entire. Anther transversely elliptic, 4-celled. Pollinia 4, obovoid, laterally compressed; caudicles soft and granulate, nearly as long as the pollinia. Rostellum apical, slit. Nectary shallow, without penetrating the ovary, wide, smooth.

OTHER SPECIMENS: None seen.

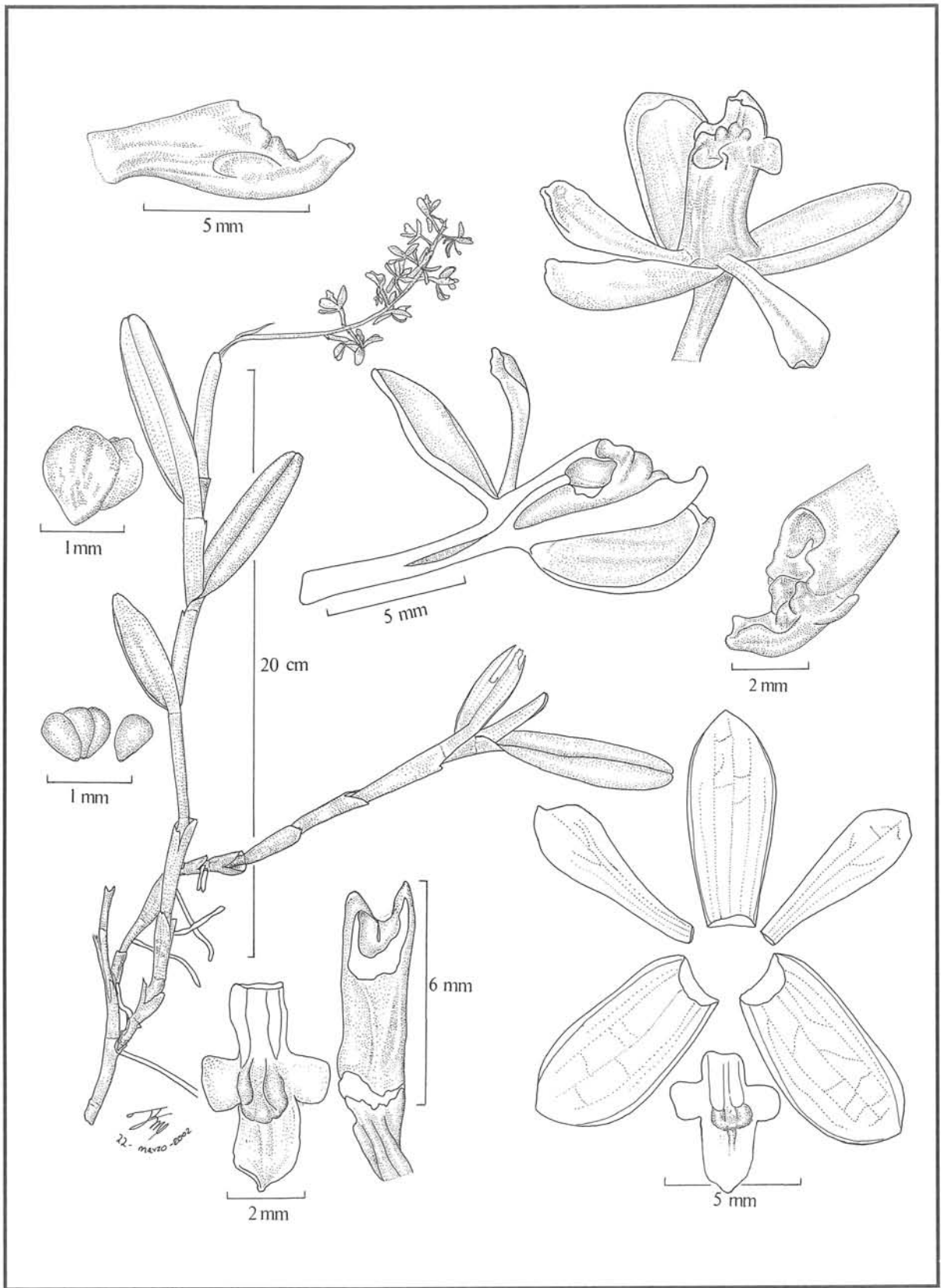
DISTRIBUTION AND ECOLOGY: Known only from the Parque Nacional Sangay, along the summit of the eastern Cordillera of the Andes in southern Ecuador, at 3000 m altitude. Flowering in September.

RECOGNITION: *Epidendrum sangayense* belongs to the *Megalospathum* Group, *Minutidentatum* Subgroup, characterized by the pendent, branching habit, non-resupinate flowers with the margin of the lip minutely dentate. The species is recognized by the short, wide leaves, small flowers with wide, obovate-elliptic petals. It is similar to *Epidendrum minutidentatum* C.Schweinf. which has longer, proportionately narrower leaves (up to 4.2 x 1.25 cm), and the narrowly elliptic petals, up to 2.5 mm wide and is only known from the Province of Cuzco, Peru.



CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In reference to the Parque Nacional Sangay, along the summit of the Eastern Cordillera of the Andes in southern Ecuador, where the type was collected.



EPIDENDRUM SARCODES Lindl.

THE GENUS EPIDENDRUM PART 5

EPIDENDRUM SARCODES Lindl. Fol. Orch. Epid. p. 45. 1853.

Type: COLOMBIA: Near Papaquere, *Purdie s.n.* Holotype: K! Illustration W!

Hierba epífita, simpodial, subcespitosa, erecta, 35-40 cm de alto. **Raíces** basales, carnosas, delgadas, 0.8-1.3 mm de grosor. **Tallos** sencillos, tipo caña, algo sinuosos, teretes en la base, lateralmente aplanados hacia el ápice, 13-20 x 0.3-0.6 cm, el tallo nuevo se produce del 2º-3er entrenudo del tallo anterior, a unos 2-4 cm de la base; en la base con dos vainas, tubulares, obtusas, papiráceas, 1.5- 3.0 x 0.4-0.6 cm. **Hojas** 4-6, distribuidas en la mitad apical del tallo; vaina tubular, lateralmente aplanada, ancipitosa, lisa; lámina elíptico lanceolada, coriácea, con una quilla dorsal, ápice desigualmente bilobado, aristado, margen entero, menudamente crenulado hacia el ápice, 5-9 x 1.3-1.8 cm. **Espatas** 1-2, de lados casi paralelos, ancipitosas, ápice angostamente redondeado, 5.0 x 0.5 cm. **Inflorescencia** apical, racemosa, erecta, 16 cm de largo, raquis recto; pedúnculo lateralmente comprimido, recto, no ornamentado, 5-9 cm de largo, con 1-2 brácteas intermedias progresivamente mucho más pequeñas que la espata. **Brácteas florales** mucho más cortas que el ovario, triangulares, agudas, 1.5-2.0 mm de largo. **Ovario** no inflado, terete, no ornamentado, 5-8 mm de largo. **Flores** 10-17, simultáneas, no resupinadas; sépalos y pétalos café verdosos a verde pálido con puntos café, labelo blanco con puntos púrpura, fragancia dulce. **Sépalos** extendidos, libres, ligeramente cóncavos, angostamente obovados, redondeados, 5-nervados, margen entero, carinados, 7-9 x 3.5 mm. **Pétalos** extendidos, libres, ligeramente cóncavos, espatulados, obtusos, 3-nervados, margen entero, 6-7 x 1.8-2.0 mm. **Labelo** unido a la columna, reducido, trilobado, 5.0-5.5 x 4.2-4.5 mm; bicalloso, los callos laminares, carnosos, adnados al centro con una carina desde la base hasta cerca del ápice del lóbulo medio; lóbulos laterales membranaceos, semiorbiculares, enteros, extendidos; lóbulo medio subrectangular, ápice triangular a ligeramente conduplicado. **Columna** recta, gruesa, 5.0-6.0 mm de largo. **Clinandrio** reducido, entero. **Antera** subcónica, no ornamentada, 4 locular. **Polinios** 4, obovados, lateralmente aplanados, semejantes. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** prominentes, de la mitad de largo de la cavidad estigmática. **Nectario** sin traspasar al perianto, amplio, no ornamentado. **Cápsula** no vista.

Epiphytic, sympodial, subcaespitose **Herb.** **Roots** few, basal, fleshy, thin. **Stems** simple, cane-like, slightly sinuous, laterally compressed above. **Leaves** 4-6 distributed throughout the apical half of the stem; sheath ancipitose; blade elliptic-lanceolate, margin entire, finely crenulate near the apex, apex unequally bilobed, aristate. **Spathes** 1-2, sides nearly parallel, ancipitose, apex narrowly rounded. **Inflorescence** apical, racemose, erect, peduncle laterally compressed, with 1-2 intermediate bracts progressively much shorter than the spathe. **Floral bracts** much shorter than the ovary, triangular, acute. **Ovary** terete. **Flowers** 10-17, simultaneous, non-resupinate, sepals and petals brownish-green to green with brown dots, column white with purple dots, sweet fragrance. **Sepals** spreading, free, concave, narrowly obovate, rounded, 5-veined, margin entire. **Petals** spreading, spatulate, obtuse, 3-veined, margin entire. **Lip** united to the column, reduced, 3-lobed, bicallose, the calli prominent, laminar, thickened, with an intermediate keel than runs nearly to the apex of the midlobe; lateral lobes semiorbicular, membranaceous, spreading; midlobe subrectangular, apex triangular, somewhat conduplicate. **Column** straight, thick. **Clinandrium**-hood reduced, entire. **Anther** subconical, 4-celled. **Pollinia** 4, subequal, obovate, laterally compressed. **Rostellum** apical, slit. **Nectary** without surpassing the perianth, wide.

OTHER SPECIMENS: COLOMBIA: [Without locality], *Purdie s.n.* AMES! (flowers in spirit AMO!, Illustration voucher), K! Bourbon, 2600 m, *André 1253*, K! Bourbon de Bogotá, *André 2015*, K! Usquén, near Bogotá, 2900-3000 m, 2 VII 1944 (19 December 1945), *Schneider 120*, AMES! (x2). Represa de Sisga, ca. 9000 ft., 2 III 1953, *Schultes 18798a*, AMES! Cundinamarca: Fomeque, Páramo de Chingaza, fincas Paraguay y El Cristal, 3300-3350 m, 31 I 1966, *Huertas 6480*, COL! Cordillera Oriental, veredas a la Aldea y La Cumbre, a la vía Claraval, 2780 m, *Huertas 6662*, COL!

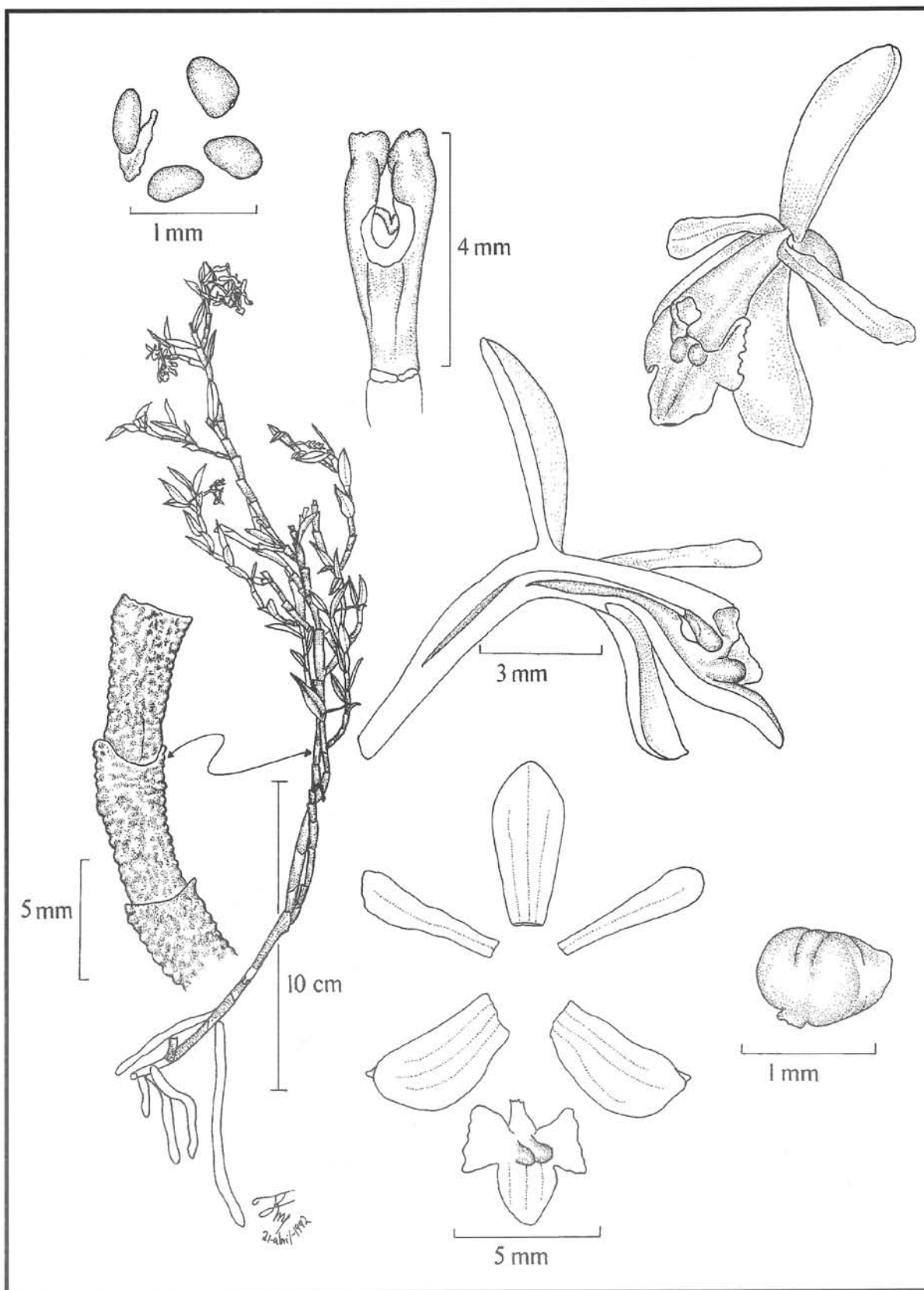
OTHER RECORDS: COLOMBIA: Cundinamarca: Chocontá, Carretera Central del Norte, km 50, 2750 m, 17 III 1996, *Schnitter sub Hágsater 11508*, flowers in spirit AMO!

DISTRIBUTION AND ECOLOGY: Known only from Colombia in the surroundings of Bogotá, on the Cordillera Oriental, 2600 m altitude. Flowering in January.

RECOGNITION: *Epidendrum sarcodes* belongs to the Mancum Group, which is recognized by the sympodial growth, narrow spathes with parallel sides, erect raceme with non-resupinate flowers and a generally reduced lip. The species can be recognized by lateral compressed stems at the apex, 3-lobed lip, with prominent, spreading, thin, semiorbicular lateral lobes, the midlobe subrectangular, the apex triangular, somewhat conduplicate, with prominent, laminar, fleshy calli, and spatulate petals. It is similar to *Epidendrum mancum* Lindl., but this species has smaller plants, leaves and flowers, and an entire, reduced lip. *Epidendrum sarcoglottis* Schltr. is distinguished by the entire, acute, claw-like lip, with a concave, transverse platform-like callus, and linear-oblanceolate petals.

CONSERVATION STATUS: DD. Data deficient. Apparently highly endemic.





EPIDENDRUM SCABRUM Ruiz & Pavón

THE GENUS EPIDENDRUM PART 5

Plate 886

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM SCABRUM Ruiz & Pavón, Syst. Veg. Fl. Peruv. et Chil. 1: 248. 1798.

Type: Peru: Huánuco: Pillao and Muña, on rocky mountains, *Pavón. s.n.* Holotype: MA. Photo of type: AMES! F! Isotype: G!

Synonyms: *Epidendrum loxense* F. C. Lehm. & Kraenzl., Engler. Bot. Jahrb. 26: 469. 1899. Type: ECUADOR: El Vagro on the east Andes of Loja, 3000-3300 m, *Lehmann 8194*, Holotype: K! Isotypes: AMES! LE! US! (Illust. AMO!). *Epidendrum cardiophyllum* Kraenzl., Engler. Bot. Jahrb. 37: 523. 1906. Type: PERU: Tarma: mountains west of Huacapistana, 2600-3000 m, *Weberbauer 2082*. Holotype: B, destroyed. Photograph F! NY! SEL!

Hierba terrestre, monopodial, de 35-300 cm de alto. **Raíces** basales, carnosas, gruesas, 1.6 mm de grosor. **Tallo** tipo caña, teretes, erectos, rectos, 35-300 x 0.38 cm. **Hojas** numerosas, las inferiores deciduas al tiempo de la floración, alternas; vaina tubular finamente estriada y fuertemente rugosa, 7-16 x 0.25-0.42 cm; lámina ovada, aguda, margen extendido y entero, 2.5-3.7 x 0.8-1.4 cm. **Bráctea** espácea ausente. **Inflorescencia** apical, paniculada, arqueada, laxa, alargada, 6.5 cm de largo, pedúnculo corto, terete, delgado, desprovisto de brácteas, 8 mm de largo; raquis terete, delgado, recto. **Flores** ca. 37, sucesivas, varías abiertas a la vez, los botones apicales en desarrollo cuando las primeras flores abren, resupinadas; amarillas, sin datos de fragancia. **Bráctea floral** de menos de la mitad del largo del ovario, linear lanceolada, acuminada, las apicales gradualmente más cortas, 3-11 mm de largo. **Ovario** terete, delgado, no inflado, no ornamentado, 15-17 mm de largo. **Sépalos** extendidos, oblanceolados, obtusos, 3-nervados, las nervaduras laterales ramificadas desde la base dando la apariencia de ser 5-nervados, margen entero; el **dorsal** libre, 8.8 x 2.6 mm; los **laterales** fusionados de manera oblicua a la base de la columna, aristados, oblicuos, 10 x 2.8 mm. **Pétalos** extendidos, libres, linear oblanceolados, redondeados, margen apical crenulado, extendido, 1-nervados, ramificados en el ápice, 8.4-9 x 1.3-1.5 mm. **Labelo** unido a la columna, trilobado, base cordada, 4.7 x 5.8 mm; bicalloso, los callos delgados, redondeados en el ápice; disco provisto de 3 quillas bajas, delgadas, subagudas, que se desvanecen antes de llegar al ápice del lóbulo medio; lóbulos laterales hemiobovados, margen algo denticulado, 2.6 x 2.6 mm; lóbulo medio subcuadrado cuneado, ápice ancho, truncado y diminutamente apiculado, 2 x 2.2 mm. **Columna** recta, delgada, dilatada hacia el ápice, 7 mm de largo. **Clinandrio** corto, margen entero. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** de la mitad del largo de la cavidad estigmática. **Nectario** poco profundo, penetrando ¼ del ovario, liso. **Antera** reniforme, 4-locular, con una quilla roma al frente. **Polinios** 4, lenticulares. **Cápsula** no vista.

Terrestrial, monopodial **herb.** **Roots** basal, fleshy, thick. **Stem** cane-like, terete, erect, straight. **Leaves** numerous, distributed throughout the stem, the lower ones deciduous by the time of flowering; sheath tubular, minutely striated and strongly rugose; blade ovate, acute, margin spreading, entire. **Inflorescence** apical, paniculate, arching, lax-flowered; peduncle short, terete, thin, without bracts; rachis terete, thin, straight. **Flowers** ca. 37, successive, several open at one time, the apical buds developing when the first flowers open, resupinate, yellow. **Floral bracts** less than half as long as the ovary, linear-lanceolate, acuminate, the apical ones gradually shorter. **Ovary** terete, thin, not inflated, smooth. **Sepals** spreading, oblanceolate, obtuse, 3-veined, the lateral veins bifurcate at the base thus appearing 5-veined, margin entire; **dorsal** free, the **laterals** fused obliquely to the base of the column, aristate, oblique. **Petals** spreading, free, linear-oblanceolate, rounded, 1-veined, the veins branching towards the apex, apical margin crenulate. **Lip** united to the column, 3-lobed, base cordate; bicallose, the calli thin, rounded at the apex, disc provided with 3 low, narrow, subacute keels which disappear before the apex of the midlobe; lateral lobes semiobovate, margin somewhat denticulate, midlobe somewhat smaller than the lateral lobes, subquadrate-cuneate, the apex wide, truncate and apiculate. **Column** straight, thin, somewhat dilated apically. **Clinandrium-hood** short, margin entire. **Rostellum** apical, slit. **Lateral lobes of the stigmatic cavity** half as long as the cavity. **Nectary** shallow, penetrating 1/4th of the ovary, smooth. **Anther** reniform, 4-celled, with a low keel in front. **Pollinia** 4, lentil-shaped.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

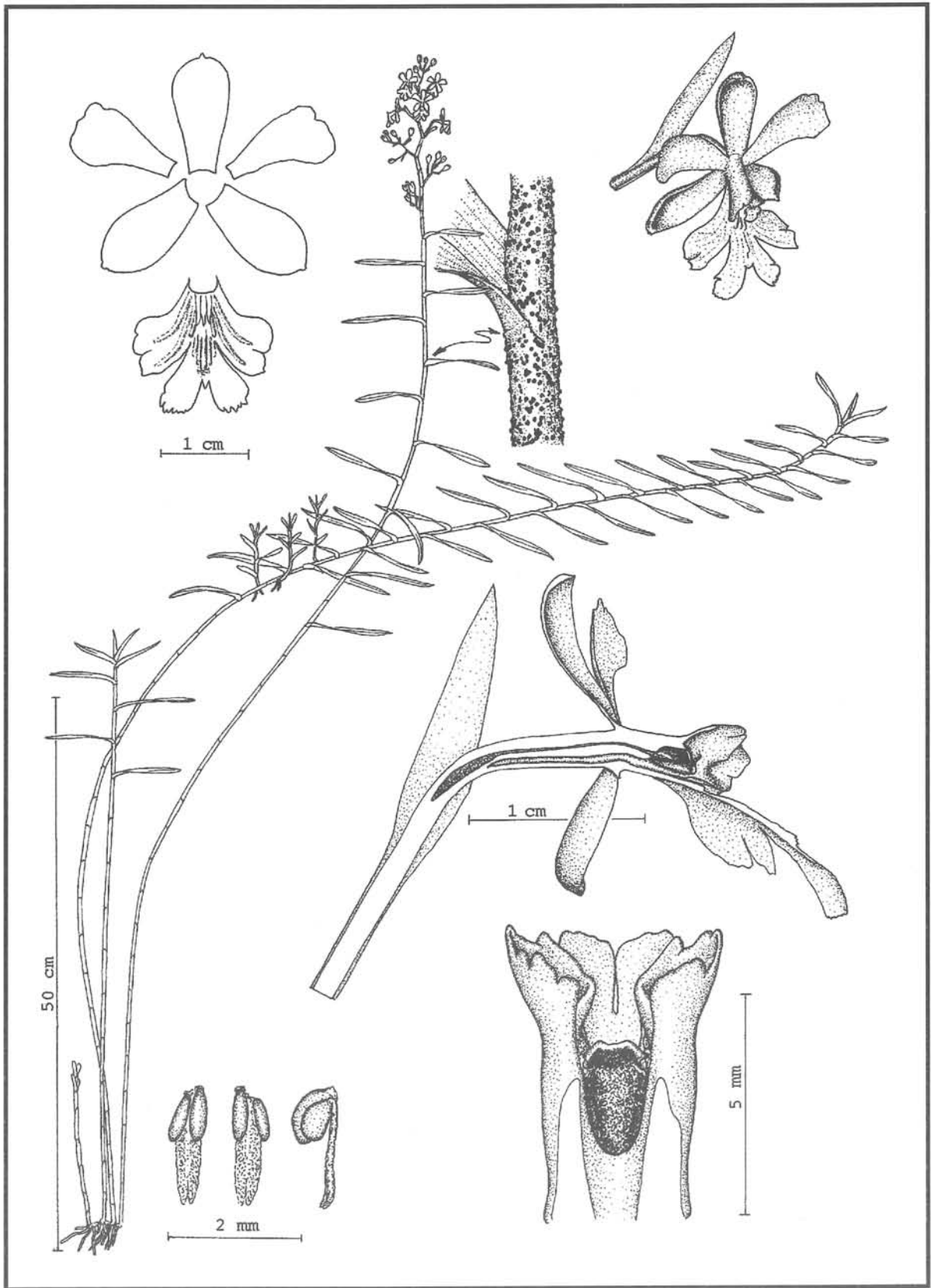
DISTRIBUTION AND ECOLOGY: Ranges along the summit of the eastern Andes from southern Ecuador, around Loja, south to central Peru, at 2100-3000 m altitude.



RECOGNITION: *Epidendrum scabrum* belongs to the Scabrum Group, Fritizianum Subgroup, which is characterized by the branching habit, adpressed leaf-sheaths, acute leaves, and 3-lobed lip. The species is recognized by the tall, monopodial, subapically scarcely branching, with ovate, acute leaves, the arching paniculate inflorescence with yellow, successive flowers, several open at one time. By the habit it somewhat resembles *E. fritizianum* Hoehne which has a dense, racemose inflorescence, the leaves up to 3.5 x 1.8 cm, the lip shallowly 3-lobed with the midlobe rounded and the disc thickened into a thick, rugose protuberance. *Epidendrum putidocardiophyllum* Hágsater & Dodson has a racemose inflorescence, large green flowers tinged purple, the sepals 17-18 mm long, the lateral lobes of the lip very small, obliquely triangular, and the long, rectangular midlobe with a pair of semiorbicular lobes at the apex. *Epidendrum platyphilum* has an elongate, racemose inflorescence, up to 27 cm long, the peduncle elongate; sepals 10-11 mm long, the clinandrium-hood funnel-shaped. *Epidendrum molau* Hágsater & Dodson has the main stem branched throughout its length, a lax-flowered inflorescence on a short peduncle, dorsally papillose sepals and a deeply 3-lobed lip with a rectangular midlobe. It somewhat resembles *Epidendrum pittieri* Ames which has 12.5 mm long petals, and a 10-11 mm long column.

CONSERVATION STATUS: Not Threatened. The species is known to be common.

ETYMOLOGY: From the Latin *scaber*, rough, roughened, in reference to the surface of the sheaths that cover the stem.



EPIDENDRUM SCHWEINFURTHIANUM Correll

Type: GUATEMALA: Zacapa: Sierra de Minas, along Río Repollal, 2100-2400 m, 12-13 January 1942, **Julian A. Steyermark 42521**. Holotype: F 1195512! (photo CNHM 50832) Isotype: AMES! (photo at AMO!)

Synonym: *Oerstedella schweinfurthiana* (Correll) Hágsater, Orquidea (Mexico City) 8(1): 24. 1981.

Hierba terrestre, cespitosa, simpodial; 65-150 cm de alto. **Raíces** basales, carnosas, gruesas, blancas; 3.5 mm de grosor. **Tallos** sencillos, (produciendo keikis hacia la mitad del crecimiento maduro), tipo caña, teretes, delgados, erectos cuando jóvenes, algo arqueado sinuosos cuando llegan a su largo máximo; 65-150 x 0.4-1.4 cm; cubiertos en la base por vainas tubulares no foliares. **Hojas** 8-34, distribuidas en la mitad apical del tallo, alternas, articuladas, las inferiores caedizas durante el crecimiento del tallo; vainas tubulares, teñidas de púrpura, prominentemente verrugosas, las verrugas moradas; 12-26 x 2.2-5.8 mm; lámina lanceolada, el ápice agudo, diminutamente apiculada, subcoriácea, margen entero; 2.2-11 x 0.4-1.8 cm. **Bráctea espatácea** ausente. **Inflorescencias** apical y laterales, (la apical paniculada, las laterales racemosas), erecta, pauciflora, laxa; 2.2-11.5 cm de largo; pedúnculo terete, delgado, desprovisto de brácteas, hasta de 4-22 mm de largo; raquis corto, terete, delgado, recto. **Brácteas florales** más cortas que el ovario a mucho más largas que este (cuando más cortas, angostamente ovadas; cuando más largas, triangular lanceoladas, algo foliáceas), agudas, abrazadoras; 2-28 mm de largo. **Ovario** terete, delgado, no inflado, no ornamentado, teñido de púrpura; 19-30 mm de largo. **Flores** 4-7 por racimo, vistosas, simultáneas, resupinadas; sépalos y pétalos naranja cobrizo en la superficie ventral y púrpura con el ápice verdoso en la superficie dorsal; el labelo lila rosado hacia el callo, tornándose rosado hacia los márgenes; columna blanca en la base y rosada en el ápice; callo amarillo; sin fragancia. **Sépalos** extendidos, libres, carnosos, cóncavos, lisos, obovados, ápice redondeado, muy carnosos, 7-nervados, las nervaduras laterales ramificadas dando la apariencia de ser 9-nervados, margen entero, 10-12 x 5.5-7 mm; los **laterales** ligeramente oblicuos. **Pétalos** extendidos, libres, espatulados, ápice truncado, 5-nervados, las nervaduras laterales ramificadas dando la apariencia de ser 7-nervados, margen ligeramente eroso, 11-12 x 6-7 mm. **Labelo** unido a la columna, 3-lobado, cortamente unguiculado; 12 x 15 mm; el callo tricalloso, los callos delgados, agudos, cortos, el par lateral algo más alto, con el ápice ligeramente divaricado; disco provisto de múltiples venas engrosadas radiando desde la base del labelo hacia la mitad basal tanto de los lóbulos laterales como del lóbulo medio, y una quilla carnososa, delgada, alargada hasta el ápice del lóbulo medio; lóbulos laterales oblicuamente rectangular subcuadrados, truncados, desigualmente bilobados, el lóbulo basal redondeado, el apical agudo, margen irregular; 7 x 6 mm; lóbulo medio con un istmo angosto en la base, profundamente bilobado en el ápice, los lóbulos obovado subcuadrados, ligeramente divergentes, con el margen apical eroso; 8 x 10 mm. **Columna** delgada, recta, el ápice en forma de embudo, extendido, algo petaloide en el ápice, margen eroso, 6 mm de largo. **Clinandrio** sobrepasando ligeramente el cuerpo de la columna, bilobado, petaloide, margen eroso dentado. **Antera** carnososa, obovoidea, 4-locular. **Polinios** 4, obovoides, lateralmente comprimidos, desiguales, el par exterior más pequeño; caudículas granuladas, más largas que los polinios; sin viscidio. **Rostelo** perpendicular con respecto al eje de la columna, formando un seno amplio. **Lóbulos laterales del estigma** obsoletos. **Nectario** penetrando 1/3 del ovario, no inflado, liso. **Cápsula** elipsoide, cuerpo, 25 x 10 mm; pedicelo terete, delgado 6 mm de largo; cuello apical generalmente con el perianto persistente.

Terrestrial, caespitose, sympodial, **herb.** **Roots** basal, fleshy, thick, white. **Stems** simple (producing keikis towards the middle from mature stems), cane-like, terete, thin, erect when young, arching when they reach maximum length; base covered by non-foliaceous tubular sheaths. **Leaves** 8-34, distributed along the apical length of the stem, alternate, articulate, the lower ones deciduous as the stem grows; sheaths tubular, tinged purple, prominently verrucose, the warts purple; blade lanceolate, apex acute, minutely apiculate, subcoriaceous, margin entire. **Inflorescences** apical and lateral near the apex, the apical one paniculate, the lateral ones racemose, erect, lax few-flowered; peduncle and rachis short, terete, thin. **Floral bracts** shorter than to much longer than the ovary; when longer narrower ovate, when longer triangular-lanceolate, somewhat foliaceous; acute. **Ovary** terete, thin, smooth, purple colored. **Flowers** 4-7 per raceme, showy, simultaneous, resupinate; sepals and petals copper-orange ventrally, dorsally purple with the apex greenish, lip violet-pink towards the callus, turning pink towards the margins; column white at the base, pink at the apex, callus yellow; without fragrance. **Sepals** spreading, free, fleshy, concave, smooth, obovate, apex very fleshy and rounded, 7-veined, lateral veins branching and thus appearing 9-veined, margin entire; lateral sepals slightly oblique. **Petals** spreading, free, spatulate, 5-veined, the lateral veins branching and thus appearing 7-veined, margin slightly erose. **Lip** united to the column, 3-lobed, short unguiculate; calli 3, thin, acute, short, the lateral pair higher with the apex slightly divaricate; disc provided with multiple thickened veins radiating from the base of the lip towards the basal half of both the lateral and midlobes, with a thin, fleshy, elongate keel reaching the apex of the midlobe; lateral lobes obliquely rectangular, subquadrate, truncate, unequally bilobed, the basal lobe rounded, the apical lobe acute, margin irregular; midlobe with a narrow isthmus, the apex deeply bilobed, the lobes subquadrate, slightly divaricate, apical margin erose. **Column** thin, straight, the apex funnel-shaped and spreading, somewhat petaloid, margin erose. **Clinandrium-hood** somewhat surpassing the body of the column, bilobed, petaloid, margin erose-dentate. **Anther** fleshy, obovoid, 4-celled. **Pollinia** 4, obovoid, laterally compressed, unequal, the outer pair smaller; granulose caudicles longer than the pollinia; without viscidium. **Rostellum** perpendicular to the axis of the column, forming a wide sinus. **Nectary** penetrating 1/3 of the ovary, smooth.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Ranging from the Sierra de las Minas in eastern Guatemala, the Cordillera de Tilarán in Honduras to higher mountains in El Salvador, terrestrial, at 1500-2400 m altitude. Flowering August, November to January.

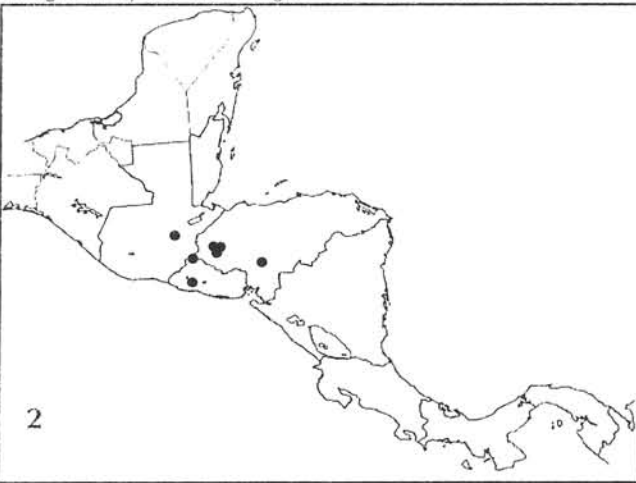
RECOGNITION: *Epidendrum schweinfurthianum* belongs to the *Oerstedella* Group, *Wallisii* Subgroup. The species is recognized by the tall, elongate stems with narrow (4-18 mm wide), lanceolate leaves, very fleshy, showy, copper-orange sepals and petals and the violet-pink lip with multiple radiating keels, the lateral lobes emarginate and slightly bilobed, the basal lobe rounded, the front lobe acute.

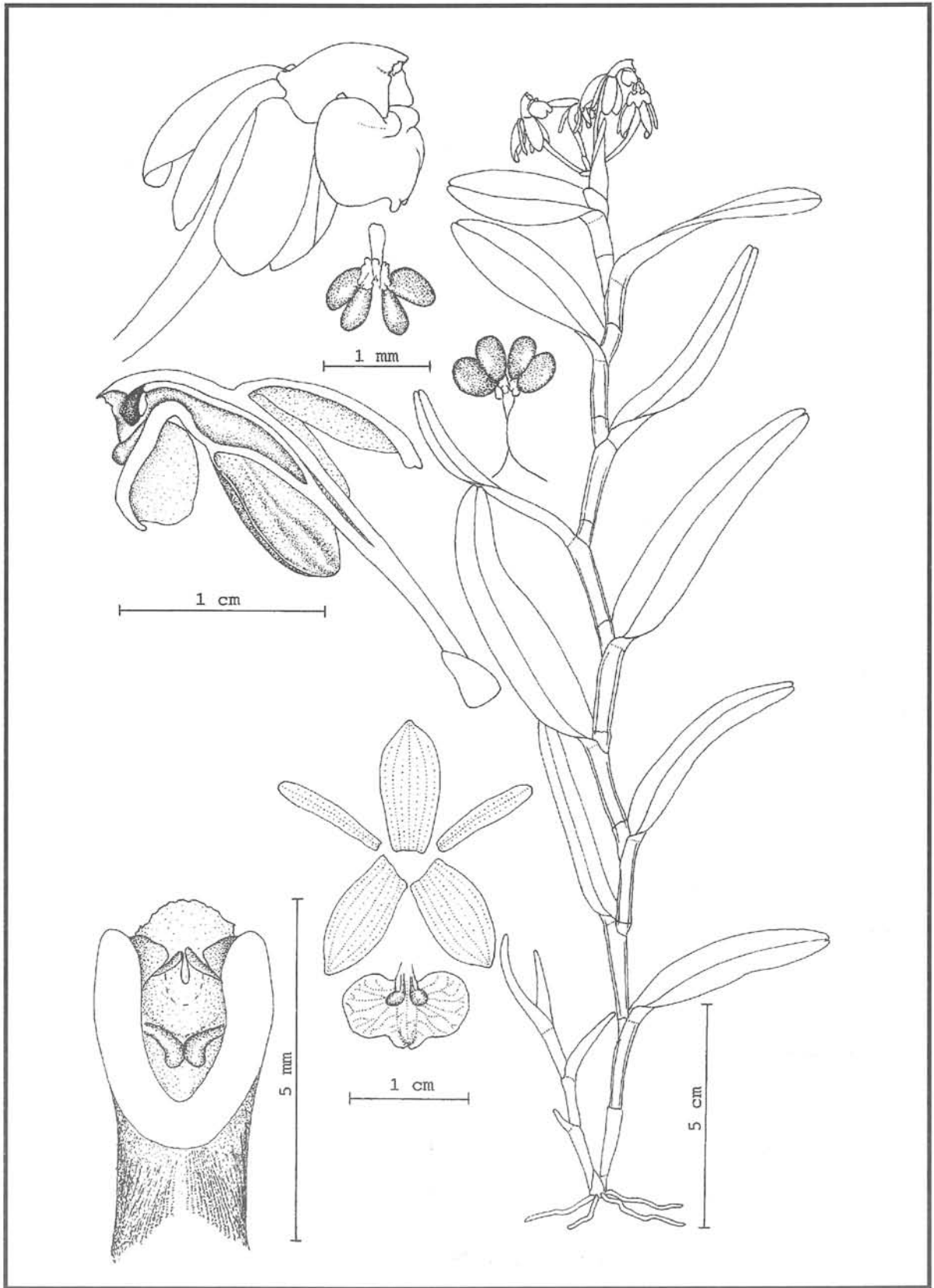
Epidendrum pinniferum C.Schweinf. has strong, tall, unbranched stems, with elliptic, somewhat wider leaves (to 36 mm wide), yellow-brown sepals and petals marked darker, and a lilac-rose lip with darker lilac spots near the apex and underside; the lateral lobes of the lip are subquadrate, entire. *Epidendrum pseudoschumannianum* Fowlie also has pale orange flowers, but these are densely marked with reddish brown dots, and the lip is violet with the margin whitish.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In honor of Charles Schweinfurth, botanist associated with the Ames Herbarium at Harvard during the second quarter of the 20th century, and who coauthored several works on orchids, especially from Central America and Peru.

REFERENCES: Hágsater, E., & M. A. Soto Arenas, 2005, Transfers to *Epidendrum* L. From *Oerstedella* Rchb.f., *Linkesteriana* 5(1): 73. Hamer, F., 1990, Orchids of Central America an illustrated field guide, *Selbyana* 11 (Suppl.): pl. 542.





EPIDENDRUM SIMULACRUM Ames

THE GENUS EPIDENDRUM PART 5

Plate 888

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM SIMULACRUM Ames, Schedul. Orchid. 6: 75. 1923.

Type: PANAMA: Chiriquí: "Lino Hill", 4000-4500 ft, *C. W. Powell 298*. Holotype: AMES! Isotype: MO!

Synonym: *Epidendrum curvicolonna* Ames, F. T. Hubb. & C. Schweinfurth, Bot. Mus. Leaflet. 3(3): 67. 1935. Type: "Lino Hill", 4000-4500 ft, *C. W. Powell 296*. Holotype: AMES! Isotype: MO!

Hierba epífita, simpodial, cespitosa, 14-27 cm de alto. **Raíces** basales, carnosas, delgadas, 1-1.5 mm. **Tallos** sencillos, tipo caña, teretes, ligeramente flexuosos, 10-23 x 0.1-0.2 cm. **Hojas** 4-10, equidistantes a lo largo del tallo; vaina foliar, tubular, 2-3 cm de largo; lámina elíptica, retusa, coriácea, 2-7 x 0.6-1.3 cm. **Inflorescencia** apical, en el tallo maduro, florece una sola vez, sésil, subcorimbosa. **Bráctea floral** mucho más pequeña que el ovario, anchamente ovada, aguda, 3.5 x 1.4 mm. **Flores** 2-6, simultáneas, resupinadas, verdes. **Ovario** inflado hacia el ápice, terete, no ornamentado, 12-31 x 0.5-0.7 mm. **Sépalos** libres, glabros, reflexos, coriáceos, elíptico obovados, agudos, con una carina roma en el ápice, 5-nervados, margen entero, extendido, 8-11 x 2.7-5.5 mm. **Pétalos** reflexos, lineares a linear-oblancoeados, redondeados a agudos, 2-3 nervados, margen entero, extendido, 7.5-12 x 0.5-2 mm. **Labelo** unido a la columna, reniforme cordiforme, oscuramente trilobado, convexo, 4.7-7.5 x 6-11 mm; bicalloso, los callos subesféricos; disco con una vena central engrosada; lóbulos laterales semiorbiculares, enteros; lóbulo medio subcuadrado, entero a apiculado. **Columna** fuertemente arqueada a un ángulo de casi 90°, 6-8.5 x 1.5 mm. **Clinandrio** entero, margen eroso. **Antera** subesférica, con una punta roma hacia la base, 4-locular. **Polinios** 4, subiguales, lateralmente comprimidos; caudículas suaves y granulosas, más cortas que los polinios; viscidio viscoso, translúcido. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** penetrando 2/3 de la cavidad estigmática. **Nectario** penetrando 1/2 de la longitud del ovario, no ornamentado. **Cápsula** no vista.

Epiphytic, sympodial, caespitose herb. **Stems** cane-like, terete, somewhat flexuous. **Leaves** 4-10; sheath tubular, terete; blade elliptic, retuse, coriaceous. **Inflorescence** apical, from the mature stem, flowers only once, sessile, subcorymbose. **Floral bracts** much smaller than the ovary, widely ovate, acute. **Flowers** 2-6, simultaneous, resupinate, green. **Ovary** inflated, towards the apex, terete, smooth. **Sepals** free, glabrous, reflexed, coriaceous, elliptic-obovate, acute, carinate, margin entire, spreading, 5-veined. **Petals** reflexed, linear to linear-oblancoead, rounded to acute, margin entire, spreading, 2-3 veined. **Lip** united to the column, reniform-cordiform, obscurely 3-lobed, convex; bicallose, the calli subspheric, disc with a central, thickened keel; lateral lobes semiorbicular, entire; midlobe subquadrate, entire to apiculate. **Column** strongly arcuate downwards about 90 degrees. **Clinandrium-hood** entire, margin erose. **Anther** subspheric, with a low keel in front, 4-celled. **Pollinia** 4, subequal, laterally compressed; caudicles soft and granular, shorter than the pollinia; viscidium viscous, translucent. **Rostellum** apical, slit. **Lateral lobes of the stigma** penetrating 2/3 of the stigmatic cavity. **Nectary** penetrating 1/2 of the ovary, smooth.

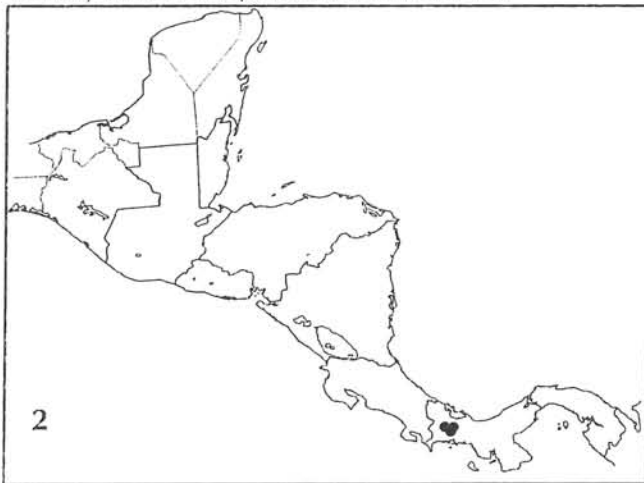
OTHER SPECIMENS: PANAMA: Chiriquí: Boquete, 5200 ft [1591 m], 5 VIII 1972, *D'Arcy 6386*, F! MO! NY! Monte Rey, Boquete, 21 VII 1971, *Croat 15746*, MO! Las Cumbres, Cerro Punta, 22 VII 1971, *Croat 16081A*, MO! East of Boquete along steep, forested slopes and in wooded pastures on Cerro Azul near Quebrada Jaramillo, 1620-1700 m, 11 VIII 1974, *Croat 26829*, MO! SEL x2! Cerro Horqueta, 1650 m, 13 VIII 1974, *Croat 26941*, MO! SEL x2! Boquete, Finca Collins, 7000 ft, 3 VIII 1960, *Ebinger 714*, F! MO! US! Boquete, Finca Collins, "Lino Hill", 5500 ft, 24 VII 1959, *Ebinger 1116*, MO x2! Boquete, Cerro Horqueta, 1700 m, *Hágsater 6520*, pressed 18 IX 1981, ENCB! MEXU! Ibid., pressed 19 IX 1981, AMO x2! (Illustration voucher) MEXU! PMA! Ibid., pressed 8 XI 1985, AMO x4! CR! Boquete, Finca Collins, 5000 ft, 7 VIII 1967, *Hyden 7647*, GH! MO! UC! US! Ibid. *Hyden 7678*, MO! Lino Hill, 4500 ft, VI 1923, *Powell 3373*, AMES! Cerro Horqueta, 1500 m, 2 VIII 1967, *Woods 13691*, MEXU! MO!

DISTRIBUTION AND ECOLOGY: Endemic species of the slopes of Volcán Barú in Chiriquí Province, Panamá. Epiphyte in rain forest between 1500 and 2142 m altitude. Flowering in July and August.

RECOGNITION: *Epidendrum simulacrum* belongs to the Difforme Group which is characterized by the caespitose, sympodial plants, fleshy, pale green to glaucous leaves, apical, sessile inflorescence, rarely with a short peduncle, one-flowered to corymbose, without spathaceous bracts, fleshy, green to yellowish-green rarely white flowers. The species has narrow, elliptic leaves, small, green flowers, the sepals and petals reflexed, an entire, reniform-cordiform lip with subglobose calli, and a strongly arched column, to 90°, with a short, erose clinandrium-hood. It is similar to *Epidendrum firmum* Rchb.f., but that species has larger flowers, spreading sepals and petals, and a 3-lobed lip, with a subquadrate midlobe, prominent, elongate, divergent calli, and the column not as strongly arched, with a prominent fimbriate clinandrium-hood.

CONSERVATION STATUS: DD (data deficient).

ETYMOLOGY: From the Latin *simulare*, to represent, an image of something that looks alike, apparently in reference to the similarity between this species and *E. firmum* Rchb.f.



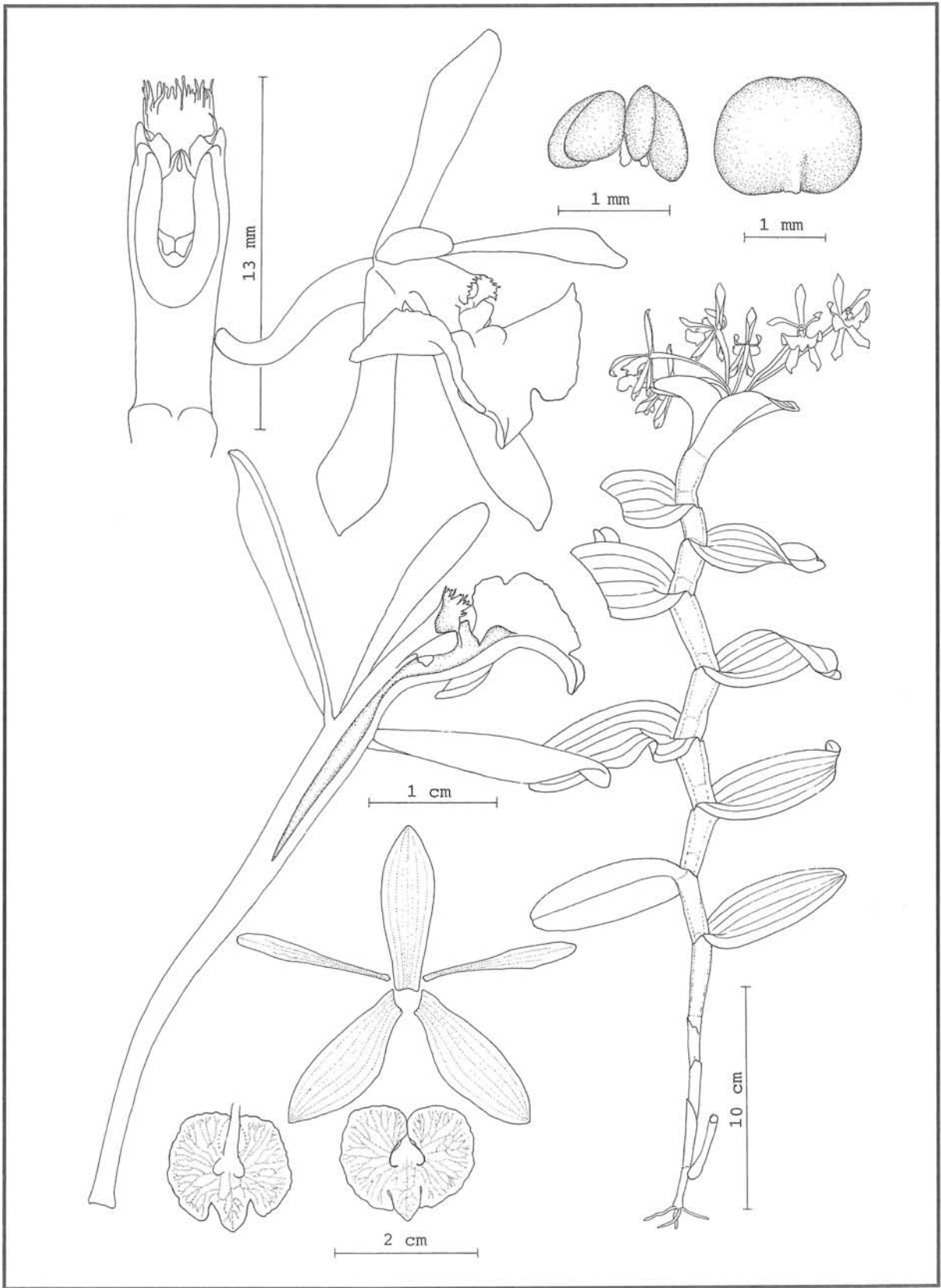
REFERENCES: Ames, O., et al., 1936. *The Genus Epidendrum in the United States and Middle America*. Botanical Museum Cambridge, Massachusetts, U.S.A. Hágsater, E., 1983. *Epidendrum simulacrum*, una especie altamente endémica de Panamá. Orquidea (Méx.) 9(1): 95-100. México, D.F.

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EPIDENDRUM STORKII Ames

THE GENUS EPIDENDRUM PART 5

Plate 889

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM STORKII Ames, Schedul. Orchid. 7:10-11. 1924.

Type: COSTA RICA: [Cartago:] Mountains south of Cartago, 20 June 1923, *H. E. Stork 460*. Holotype: AMES! Isotype: UC!

Synonym: *Epidendrum difforme* Jacq. var. *storkii* (Ames) Ames, F.T.Hubb. & C.Schweinf., Bot. Mus. Leaflet 2: 56, 1934.

Hierba epífita, sympodial, cespitosa, 12-46 cm de alto. **Raíces** basales, carnosas, filiformes, 0.5-1 mm de grosor. **Tallos** sencillos, tipo caña, algo comprimidos lateralmente, flexuosos, 16-39 x 0.3-0.5 cm. **Hojas** 8-10, equidistantes a lo largo del tallo; vaina foliar algo comprimida lateralmente, lisa, 1.5-3.2 cm de largo; lámina foliar, angostamente elíptica, ápice retuso, hacia el ápice revoluta, color verde con venación notable, carina dorsal baja, margen entero, extendido, 3.2-8 x 0.7-2 cm. **Bráctea espatácea** ausente. **Inflorescencia** apical en el tallo maduro, florece una sola vez, sécil, subcorymbosa. **Bráctea floral** mucho más corta que el ovario, ovada, aguda, 6.5-7 x 1-1.7 mm. **Flores** 2-4, resupinadas, simultáneas, verdes, fragancia débil, dulce. **Ovario** no inflado, terete, no ornamentado, 26-40 x 1.3-2 mm. **Sépalos** coriáceos, enteabiertos, glabros, libres, ápice agudo a obtuso, 5-nervado, margen entero, revoluto; el dorsal elíptico, 17-25 x 5 mm; los laterales elípticos a oblanceolados, 18-25 x 4-6 mm. **Pétalos** membranáceos, paralelos a la columna, espatulados, ápice agudo, 3-nervados, margen entero, revoluto, 16-22 x 1.4-3 mm. **Labelo** unido a la columna, trilobado, profundamente cordado, bicaloso, los callos alargados, 11.7-14 x 14-17.2 cm; lóbulos laterales mucho más grandes que el medio, desigualmente semiorbiculares, margen entero a sinuado, 4.5-5.7 x 8-10 mm; lóbulo medio subcuadrado, hasta su mitad, más angosto hacia el ápice terminando en una punta aguda a redondeada, 3.5-4 x 2-3 mm. **Columna** recta a ligeramente arqueada, delgada, 13.2-15 x 1.5-2 mm; terminando con sus lados carnosos, truncados. **Clinandrio** prominente, entero, margen fimbriado, 2.0-2.5 mm de largo. **Antera** subsférica, con una quilla aguda al frente, 4-locular. **Polinios** 4, semiovalados, lateralmente comprimidos; caudículas suaves y granulosas, semejantes al largo de los polinios; viscidio viscoso, translúcido. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** prominentes, hasta la mitad de la cavidad estigmática. **Nectario** profundo, penetrando la mitad del largo del ovario, no ornamentado. **Cápsula** no vista.

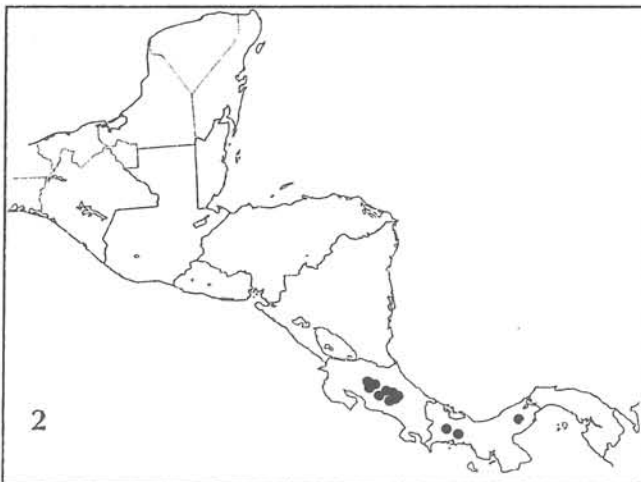
Epiphytic, sympodial, caespitose herb. **Roots** basal, fleshy, filiform. **Stems** simple, cane-like, somewhat laterally compressed, flexuous. **Leaves** 8-10, distributed throughout the stem; sheath somewhat laterally compressed, smooth; blade narrowly elliptic, apex retuse, revolute towards the apex, green with visibly light-colored veining, dorsal keel low, margin entire, spreading. **Inflorescence** apical, from the mature stem, flowering only once, subcorymbose. **Floral bract** much shorter than the ovary, ovate, acute. **Flowers** 2-4, resupinate, simultaneous, green, scent weak, sweet. **Sepals** partly spreading, coriaceous, glabrous, free, apex acute to obtuse, 5-veined, margin entire, revolute; **dorsal sepal** elliptic, **lateral sepals** elliptic to oblanceolate. **Petals** membranaceous, parallel to the column, spatulate, acute, 3-veined, margin entire, revolute. **Lip** united to the column, orbicular in outline, 3-lobed, deeply cordate, bicallose, the calli elongate; lateral lobes much larger than the midlobe, unequally semiorbicular, rounded, margin entire to sinuate; midlobe small, subquadrate below, terminating in a triangular, acute to rounded apex. **Column** straight to slightly arched, thin; ending in a pair of truncate fleshy sides. **Clinandrium-hood** prominent, entire, margin fimbriate. **Anther** subsphaerical, with an acute keel in front, 4-celled. **Pollinia** 4, semiovalate, laterally compressed, caudicles soft and granulose, as long as the pollinia; viscidium viscous, translucent. **Rostellum** subapical, slit. **Nectary** deep, penetrating half the ovary, smooth.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

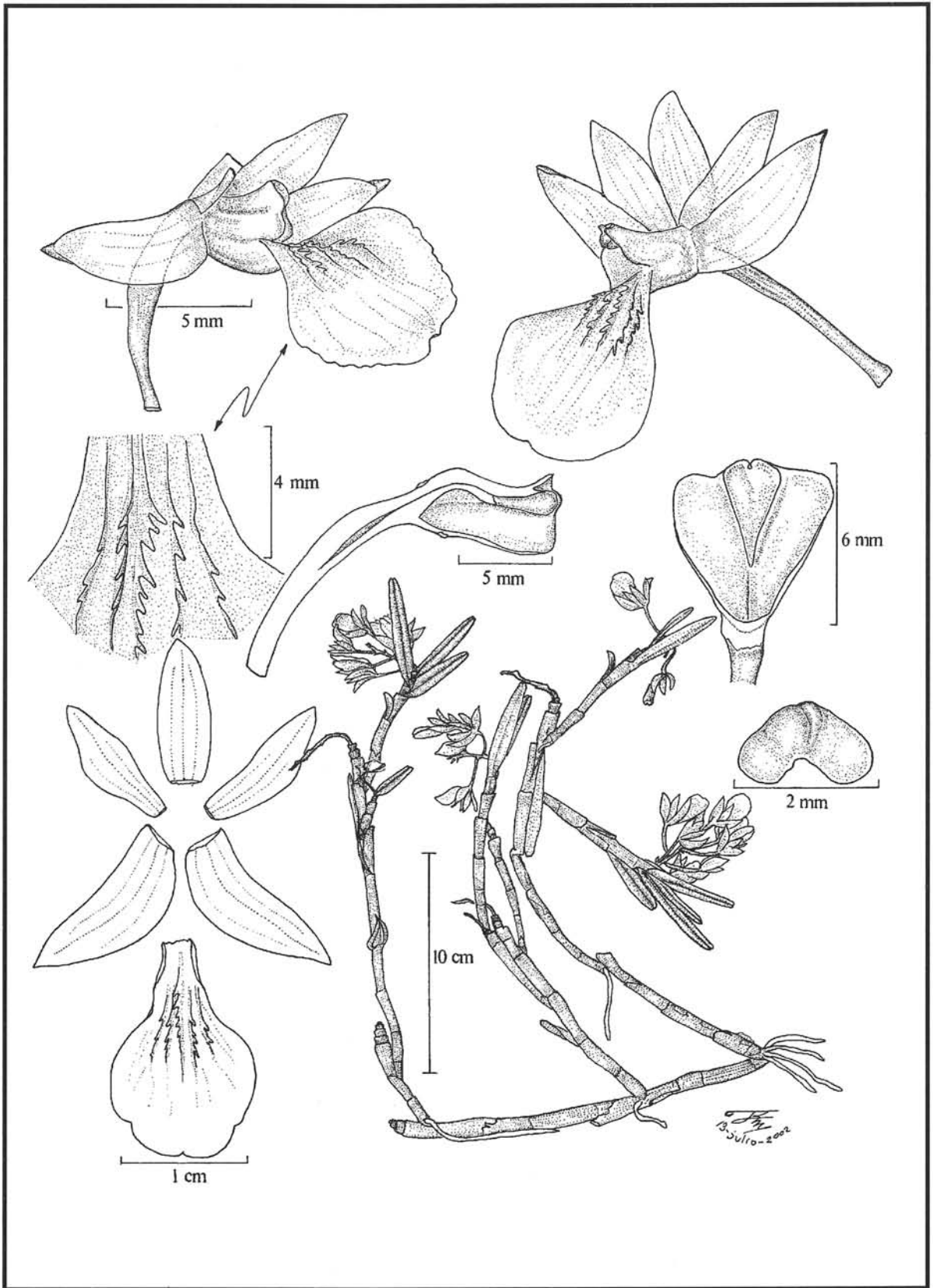
DISTRIBUTION AND ECOLOGY: Common in central Costa Rica, and found also in central and western Panama. Epiphyte in cloud forest, at 1200-2500 m altitude. Flowering throughout the year, but mainly from July to September.

RECOGNITION: *Epidendrum storkii* belongs to the *Difforme* Group which is characterized by the caespitose, sympodial plants, fleshy, pale green to glaucous leaves, apical inflorescence, sessile, rarely with a short peduncle, one-flowered to corymbose, without spathaceous bracts, fleshy, green to yellowish-green rarely white flowers. The species is recognized by the somewhat laterally compressed stems, the leaves with notoriously light-colored veins, 2-4 simultaneous flowers, 3-lobed lip with a very small midlobe, subquadrate at the base, the apex triangular, and the straight column ending in a pair of truncate fleshy sides and a prominent, fimbriate clinandrium-hood. It is similar to *Epidendrum lagenocolumna* Hágsater & L. Sánchez which has terete stems, up to 8, simultaneous flowers, the ovary with a swollen vesicle behind the perianth, and the midlobe of the lip emarginate-retuse, clinandrium-hood funnel-shaped, erose to dentate.

CONSERVATION STATUS: DD. Data deficient. Probably not threatened, as it seems to be common in Costa Rica.



ETYMOLOGY: In honor of Harvey E. Stork, who collected mainly around Cartago between 1923 and 1956, as well as in Peru.



EPIDENDRUM SUAVIS (Rchb.f. & Warsc.) Løjtnant

Plate 890

THE GENUS EPIDENDRUM PART 5

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM SUAVIS (Rchb.f. & Warsc.) Løjtnant, Bot. Notiser 130: 327. 1977.

Basionym: *Diothonea suavis* Rchb.f. & Warsc. in Bonpl. 2: 112. 1854. Type: PERU: without locality, *Warszewicz s.n.* Holotype: W-R 52012! Isotype: AMES!

Hierba terrestre o epífita, ramificada, erecta a ligeramente colgante, de 30-100 cm de alto. **Raíces** basales en el tallo principal y en la base de algunas ramificaciones, carnosas, gruesas, blancas, 1.2-2.4 mm de grosor. **Tallos** ramificados hacia la zona apical cuando maduros, tipo caña, teretes a lateralmente aplanados, generalmente delgados, rectos, el principal, 30-76 x 0.25-0.7 cm, las ramificaciones 9-34 x 0.27-0.45 cm. **Hojas** 8-12 en el tallo principal, 4-8 en las ramas, distribuidas a lo largo de los tallos, dirigidas hacia arriba, dísticas; vaina tubular, finamente estriada en seco, 15-50 x 2.5-7 mm; lámina angostamente lanceolada, desigualmente bilobada, con una quilla dorsal baja, margen entero, 4.5-14.5 x 0.5-1.1[1.3] cm. **Bráctea espatácea** ausente. **Inflorescencia** apical, racemosa, ligeramente arqueada, nutante, florece una sola vez, [5.4]8.5-12.5 cm de largo; pedúnculo corto, terete, delgado, 1.5-1.6 cm de largo, ocasionalmente provisto de una bráctea basal semejante a las florales, 6 mm de largo. **Brácteas florales** mucho más cortas que el ovario, triangulares, agudas, abrazadoras, 3-6 mm de largo. **Flores** 9-23, simultáneas, resupinadas, cuando jóvenes amarillentas, al madurar pardo amarillentas a pardo rojizas, fragancia dulce y fresca, especialmente en flores jóvenes. **Ovario** terete, delgado, no inflado, no ornamentado, 12-22 mm de largo. **Sépalos** entreabiertos, libres, membranáceos, agudos, margen entero; el dorsal oblongo elíptico, 3-5-nervado, 16-17 x 5.1-5.5 mm; los laterales oblongos, oblicuos, sigmoides, 3-4-nervados, 17-18 x 4.8-6.3 mm. **Pétalos** entreabiertos, libres, unguiculados en la base, angostamente rómbicos, agudos, membranáceos, 3-nervados, las nervaduras laterales bifurcadas, margen entero, 16-18 x [3.7]6.2-7 mm. **Labelo** unido a la columna, base cuneada, ovado, entero, levemente lobado en el ápice, margen diminutamente denticulado, [15]18-22 x [11.5]14-15 mm; ecalloso, con 3 a 7 quillas dentadas, que se desvanecen antes de llegar a la parte media del labelo. **Columna** gruesa, recta en la mitad basal, la mitad apical arqueada hacia arriba, 6-8 mm de largo, la superficie ventral con una cavidad, a la cual se accesa por una hendidura alargada y angosta provista además de un par de alas amplias, muy redondeadas en el ápice. **Clinandrio** corto, margen entero. **Antera** reniforme, 4 locular. **Polinios** 4, obovoides. **Rostelo** no visto. **Lóbulos laterales del estigma** no vistos. **Nectario** amplio, apenas traspasando el perianto. **Cápsula** no vista.

Terrestrial or epiphytic, branching herb. **Roots** basal from the main stem and occasionally from the base of the branches, thick. **Stems** branching towards the apex when mature, cane-like, terete to laterally compressed, thin, straight. **Leaves** 8-12 on the main stem, 4-8 on the branches, distributed throughout the stems, sheath tubular, minutely striated when dry; blade narrowly lanceolate, unequally bilobed, margin entire. **Inflorescence** apical, racemose, arching-nutant, flowering only once. **Floral bracts** much shorter than the ovary, triangular, acute. **Flowers** 9-23, simultaneous, resupinate, yellow when young, turning yellowish brown to reddish brown, fragrant, sweet and fresh, especially when young. **Ovary** terete, thin. **Sepals** partly spreading, free, membranaceous, acute, margin entire, 3-5-veined; dorsal oblong-elliptic, laterals oblong, oblique, sigmoid. **Petals** partly spreading, base unguiculate, narrowly rhombic, acute, membranaceous, 3-veined, the lateral veins bifurcate, margin entire. **Lip** united to the column, base cuneate, ovate, entire, apex slightly lobed, margin minutely denticulate; ecallose, with 3-7 dentate keels. **Column** thick, straight at the base, upturned towards the apex, the ventral surface with a cavity accessed through a long narrow groove, and a pair of prominent, rounded, ventral wings. **Clinandrium** short, margin entire. **Nectary** wide, barely penetrating the ovary.

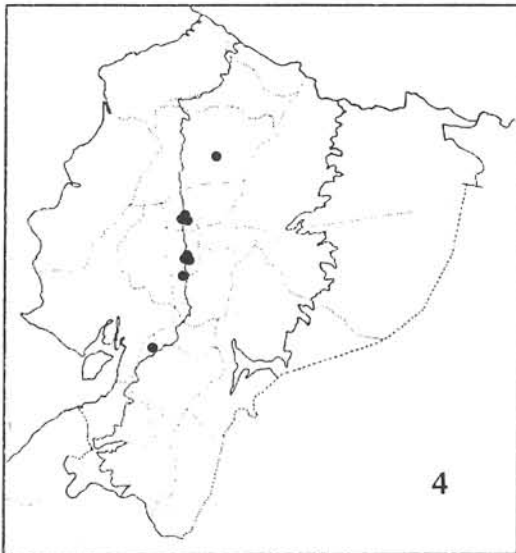
OTHER SPECIMENS: ECUADOR: Bolivar: Babahoyo-Guaranda km 68, 1650 m, 16 II 1991, *Dodson 18686*, QCNE! RPSC! Guaranda-San Pablo-Chillanes (60 Km) Km 9.5, 2300 m, 17 II 1991, *Dodson 18697*, MO! QCNE! Guaranda-Facundo Vela, 3000 m, III 1984, *Hirtz 1563*, AMO! QCNE! RPSC! Ibid. 1564, AMO! Guaranda-Chillanes, 2600 m, III 1984, *Hirtz 1577*, AMO! **Cotopaxi:** Quevedo to Latacunga, 2400 m, 14 II 1961, *Dodson 2248*, SEL (xerox AMO!) Ibid. 2249, SEL (xerox AMO!) Pílaló, 2500 m, 18 II 1985, *Dodson 15578*, AMES! MO! QCA! QCNE! Ibid. 15579, MO! QCA! RPSC! Latacunga to Quevedo on western slope, 3300 m, 27 II 1986, *Embree 58*, MO! QCNE! West Zumbagua, 3200 m, 2 V 1968, *Hárling 8916*, GB! Ibid. 8917 GB! Ibid. 8919, AMES! GB! (Illustration voucher) W of Pílaló, 2200-2350 m, 8 IV 1973, *Holm-Nielsen 3205*, AAU! MO! S! SEL (xerox AMO!) Ibid 3450-3500 m, 3301, AAU! AMES! SEL (xerox AMO!) **Pichincha:** Alizal, San Juan Chiriboga on old road Quito, 3100-3150 m, 20 III 1979, *Løjtnant 11233*, GB! QCA!

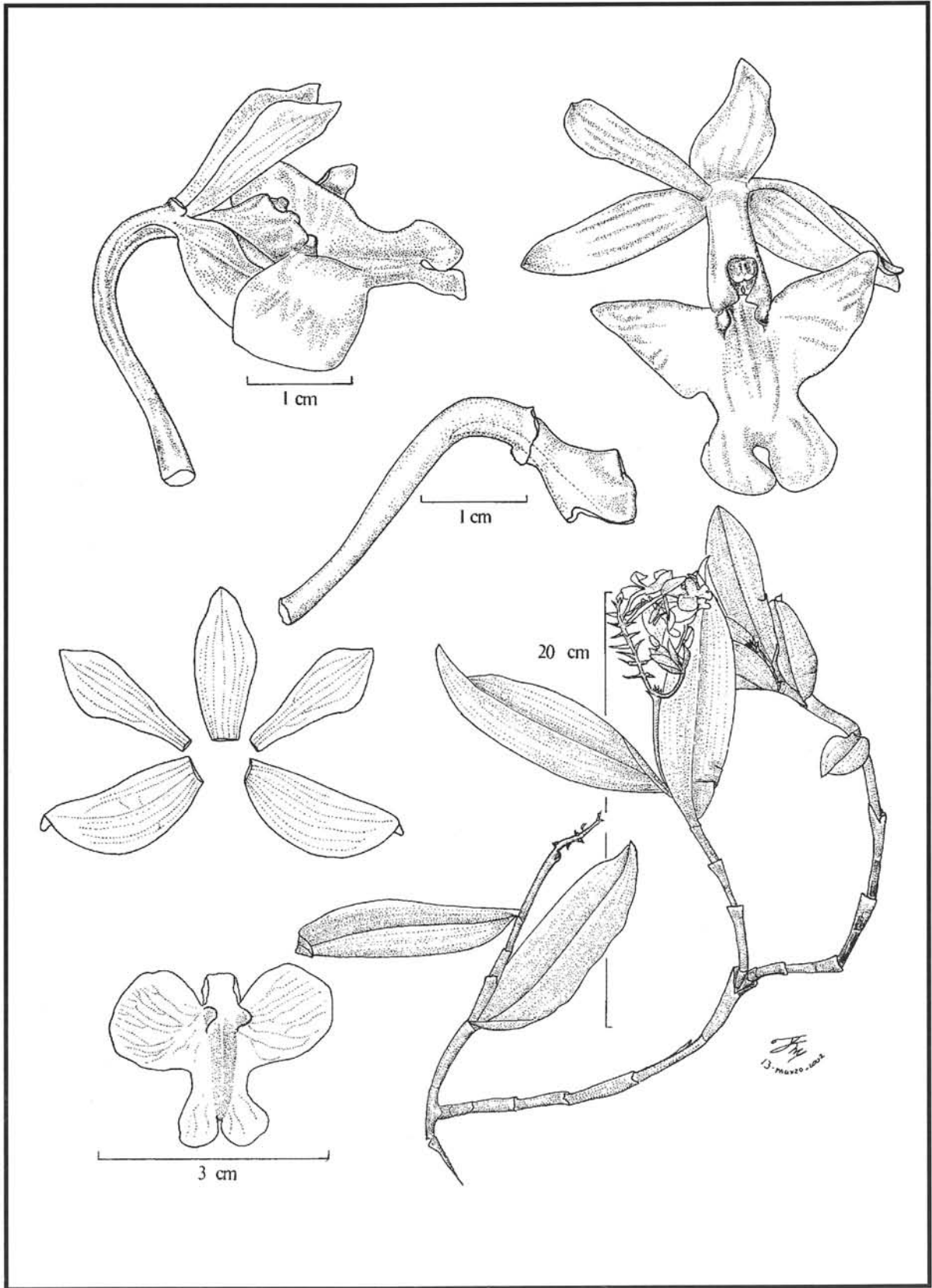
DISTRIBUTION AND ECOLOGY: This species ranges from central Ecuador to northern Peru along the western slope of the Andes from 1650 to 3500 m altitude. Growing at the timber line or slightly higher in scrubland and páramo, common on road embankments. Flowering from February to May.

RECOGNITION: *Epidendrum suavis* belongs to the *Diothonea* Group and Subgroup which is characterized by the branching plants, linear lanceolate to oblong, bilobed leaves, racemose, arching-nutant inflorescence, membranaceous flowers (rarely fleshy), the entire to 3-lobed, ecallose lip with the margin erose without or with 1-10 thin, smooth to erose keels, the column completely to obliquely united to the lip, the anther reniform. The species has narrowly lanceolate leaves 4-14.5 cm long, a long, dense inflorescence with 9-23 yellowish, sweetly fragrant flowers, petals narrowly rhombic, with the base unguiculate, and a short, thick, upturned column with prominent, rounded, ventral wings. *Epidendrum diothoneoides* Schltr. has larger, fleshy, brown or reddish brown flowers, it also has rhombic petals but these are 18-20 mm long, and the lip is reniform. *Epidendrum dolichorhachis* Hágsater & Dodson has a longer inflorescence with up to 30 flowers, oblong petals 6.7-10 mm long, a 3-lobed lip, cordate at the base, provided with 5 erose, elongate keels and a slightly sigmoid column.

CONSERVATION STATUS: DD. Data deficient. Apparently widespread and common in Ecuador.

ETYMOLOGY: From the Latin, *soft*. Probably refers to the soft texture of the flowers.





EPIDENDRUM TAMAËNSE Foldats
THE GENUS EPIDENDRUM PART 5

Type: VENEZUELA: Táchira; Faldas por debajo del Páramo de Tamá, 2475-2550 m, *J. A. Steyermark, G.C.K. y E. Dunsterville 98380*. Holotype: VEN. Illustration: *G.C.K. y E. Dunsterville 81*. [Orch. Venez., Illust. Field Guide, 2nd ed.: 309. 2000.]

Hierba epífita, de simpodio erecto donde cada tallo nuevo se origina de un entrenudo intermedio del tallo anterior, hasta unos 100 cm de alto. **Raíces** de la base de la planta y ocasionalmente de la base de los tallos superiores, carnosas, gruesas. **Tallos** sencillos, tipo caña, teretes, rectos, 21-25 x 0.3-0.6 cm. **Hojas** 2-4, desiguales, agrupadas hacia el ápice de cada tallo; vaina tubular, hasta 4 cm de largo; lámina elíptica, aguda, margen entero, membranácea, lisa, verde claro, 3-14 x [1.1]*2.0-4.3 cm. **Bráctea espátacea** ausente. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, racemosa, arqueada, [4]6-13 cm de largo; pedúnculo lateralmente comprimido, ancipitoso, arqueado, no ornamentado. **Flores** hasta [8-10]17, simultaneas, resupinadas, verdes a verde olivo, con venas púrpuras en el labelo, antera verde; fragancia no registrada. **Brácteas florales** mucho más cortas [a casi iguales] que el ovario, triangulares, acuminadas, 4-8[25] mm de largo. **Ovario** no inflado, terete, no ornamentado, incurvado hacia el ápice, 14-28 mm de largo. **Sépalos** entreabiertos, glabros, libres, elípticos, membranáceos, margen extendido, entero; el **dorsal** obtuso, 7-nervado, las nervaduras laterales menores, [15-19]20 x [6-7]8.4 mm; los **laterales** oblicuos, agudos a acuminados, aristados, con una quilla dorsal conspicua, 6-nervados, con nervios menores, [15-21]21 x [6-8]9.0 mm. **Pétalos** extendidos, angostamente obtrulados, obtusos a agudos, margen extendido, entero, 3-nervados, los nervios laterales ramificados desde cerca de la mitad, [14]20 x [7.0]7.8 mm. **Labelo** unido a la columna, trilobado, profundamente cordado, carnoso, márgenes enteros, [20]22-24 x 29[33] mm, bicalloso, con una carina central; lóbulos laterales suborbiculares, algo retrorsos; lóbulo medio algo más pequeño a más grande que los laterales, obcuneado, profundamente emarginado, formando dos lobos suborbiculares con un istmo bien formado. **Columna** arqueada hacia arriba [recta], gruesa, [10]14 mm de largo. **Clinandrio** reducido, margen entero. **Antera** semiesférica, de superficie granular-verrugosa, 4-locular. **Polinios** [4, algo piriformes y no lateralmente comprimidos, caudículas algo más largas]. **Rostelo** subapical, hendido. **Nectario** profundo, penetrando 1/3 del ovario. **Cápsula** no vista.

Epiphytic herb, where the new stem is produced from a middle internode of the previous stem. **Roots** fleshy, from the base of the plant or occasionally from the base of the upper stems. **Leaves** 2-4, unequal, elliptic, acute, herbaceous. **Inflorescence** apical, from the mature stem, arcuate, racemose. **Flowers** up to [8-10]17, simultaneous, resupinate, green to olive-green, the lip marked with purple veins, anther green. **Sepals** elliptic, acute [to acuminate], 6-7-veined, dorsal sepal obtuse [acuminate]; laterals oblique, acute, aristate. **Petals** obtrullate, obtuse [acute], 3-veined, the lateral veins branching from the middle, margin entire. **Lip** united to the column, 3-lobed, deeply cordate, bicallose with a median keel; lateral lobes suborbicular, somewhat retrorse; midlobe obcuneate, deeply emarginate, bilobed, the lobes suborbicular. **Column** arched upwards [or straight]. **Clinandrium-hood** reduced, entire. **Nectary** penetrating 1/3 of the ovary, unornamented.

* Bracketed [*] text indicates Venezuelan records.

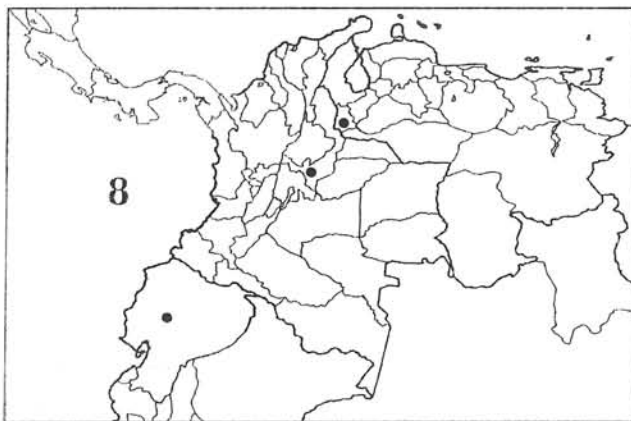
OTHER SPECIMENS: COLOMBIA: Boyacá: Villa de Leyva, "La Capilla", X 1971, *Ortiz 4176*, HPU! ECUADOR: Bolívar: de Guaranda camino hacia Balzapamba, 2600 m, III 1984, *Hirtz 1586*, AMO! (Illustration voucher.) Guaranda to Balzapamba, 1800 m, 17 I 1992, *Jaramillo 14561*, QCA! PERU: Amazonas: Chachapoyas, 1-2 km W of Molinopampa, 2350-2400 m, 23 VII 1962, *Wurdack 1485*, US! (Illustr., AMO!) VENEZUELA: Táchira: Río Quinimari, La Fundación, 2700 m, 16 V 1951, *Renz 7021*, RENZ!

OTHER RECORDS: VENEZUELA: Táchira: Páramo de Tamá, Cerro de Copas, La Fundación, *Fernández s.n.*, AMO! Photograph.

DISTRIBUTION AND ECOLOGY: Apparently scarce and highly endemic in western Venezuela and adjoining Colombia, as well as central Ecuador on the western slopes of the Andes, and northeastern Peru at about 2350-2700 m altitude. Flowering in March, July.

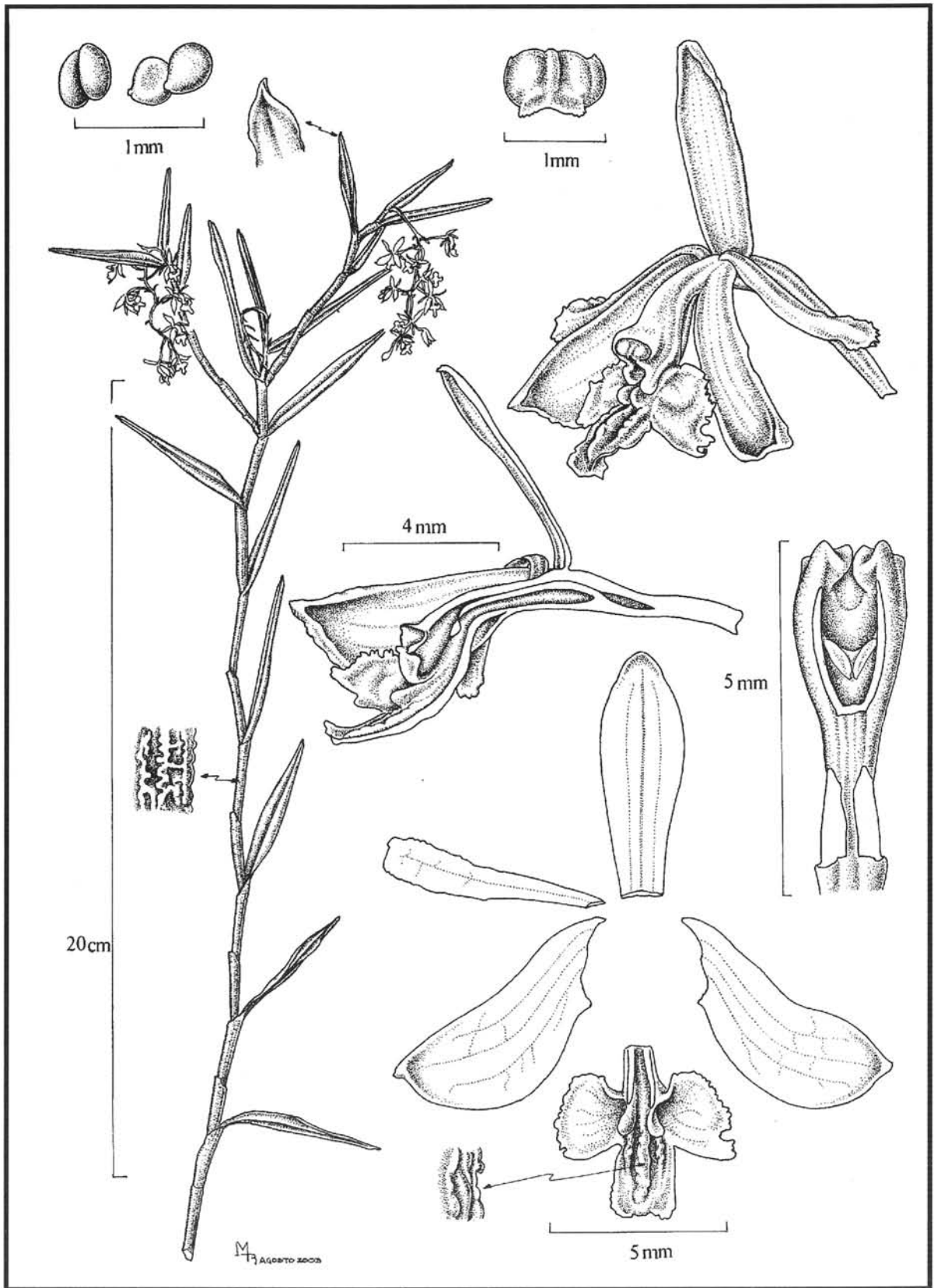
RECOGNITION: *Epidendrum tamaense* belongs to the Arbuscula Group, Incomptum Subgroup, which is characterized by the stems produced from the middle of the previous stem, with few, large leaves aggregate near the apex of the stem, the nodding raceme of relatively large, fleshy, basically green flowers, the thin ovary, not forming an inflated vesicle. The species is recognized by the fleshy, large, green to olive-green flowers turning yellowish, the lip marked with purple, the aristate sepals, obtrullate, 3-veined petals, the 3-lobed lip with the lobes subequal in size, the lateral lobes suborbicular, the midlobe obcuneate, deeply emarginate, forming two rounded lobules. The Venezuelan form has somewhat smaller leaves, a slightly shorter, straight column, longer floral bracts, and the flowers with more acuminate, light green tepals, with the column and lip dull peachy yellow to buff with very faint pink venation. The Ecuadorean *E. homioion* Hágsater & Dodson is similar, but that species is somewhat smaller, the sepals and petals shorter, and the 14-16 x 26-28 mm lip has semiorbicular lateral lobes, and a smaller midlobe. *Epidendrum incomptum* Rchb.f. and *E. yambalense* Hágsater & Dodson have acute or apiculate midlobes.

CONSERVATION STATUS: DD. Data deficient. Highly endemic in Venezuela and Colombia, rare in Ecuador.



NOTE: P. Jacquet [L'Orchidophile 48: 1878. 1981.] included this species in his provisional list of orchids of the [French] Guiana. The following year Y. Veyret [L'Orchidophile 53: 130-131. 1982.] indicated that after getting a flower from the grower, L. Lacombe, a resident of Cayenne, found that it was in reality *Encyclia tampensis* (Lindl.) Small, probably imported from Florida. Thus that record is a misprint and should be discarded.

ETYMOLOGY: In Reference to the Páramo de Tamá, on the border between Venezuela and Colombia, where the type was collected.



EPIDENDRUM TENUICAULE F. Lehm. & Kraenzl.

EPIDENDRUM TENUICAULE F. Lehm. & Kraenzl., Bot. Jahrb. Syst. 26: 468. 1899.

Type: ECUADOR: [Azuay]: Quinua, between Zurucucho and Tambo de Quinua, 3000-3500 m, F. C. Lehmann 4607. Holotype: K! Isotypes: AMES! NY x2! (Illustration voucher.) L! LE!

Hierba litófito o epífita, erecta, arbustiva y ramificada, 12-50 cm de alto. **Raíces** gruesas, carnosas, de los tallos basales, tanto de la base como de los internodos inferiores, no de las ramas superiores, 1.5-2 mm de grosor. **Tallos** ramificados, tipo caña, teretes, delgados; el principal largo, de 20-32 x 0.15-0.3 cm, las ramificaciones progresivamente más cortas, se producen de los internodos superiores del tallo anterior, se distinguen claramente, 4-6 x 0.2-0.3 cm. **Hojas** articuladas, distribuidas a lo largo de los tallos, vainas tubulares profusamente rugosas, estriadas, 4-20 x 2-3 mm; lámina angostamente lanceolada, ápice agudo, margen crenado, con una quilla dorsal, 1.5-5 x 0.2-0.5 cm. **Bráctea espatácea** ausente. **Inflorescencia** apical, racemosa, arqueada, nutante, densa, 2.5-3.7 cm de largo, pedúnculo terete, desprovisto de brácteas, delgado, corto, 5 mm de largo, raquis terete, delgado, 30-35 mm de largo. **Flores** 16-20, resupinadas, simultáneas, de color amarillo verdoso. **Brácteas florales** más cortas que el ovario, ovadas, acuminadas, 3-5 mm de largo. **Ovario** terete, no inflado, no ornamentado, 5-7 mm de largo. **Sépalos** 3-nervados, margen entero, 6.8-7.2 x 2.3-2.7 mm; el **dorsal** extendido, obovado, redondeado; los **laterales** entreabiertos, oblongos, falcados, aristados, con un apículo en la quilla dorsal. **Pétalos** extendidos, libres, linear oblanceolados, redondeados, 1-nervados, margen eroso, 6.2 x 1.2 mm. **Lábelo** unido a la columna, trilobado, base cordada, margen crenado, 3.8 x 5 mm; bicalloso, los callos gruesos, alargados hasta la mitad del disco, provisto de 3 quillas bajas, crenadas, el par lateral más corto que la central, esta a su vez desvaneciéndose antes de llegar al seno apical; lóbulos subiguales, lóbulos laterales dolabriformes, 1.8 x 2.3 mm; lóbulo medio rectangular, truncado, 1.9 x 1.8 mm. **Columna** ligeramente arqueada, obcónica en el ápice, 5 mm de largo. **Clinandrio** corto, margen entero. **Antera** reniforme, con una quilla roma y baja en la parte media, 4 locular. **Polinios** 4, obovoides, lateralmente comprimidos. **Rostelo** apical, hendido. **Nectario** traspasando ligeramente el perianto a la altura del sépalo dorsal, liso. **Cápsula** no vista.

Lithophytic and epiphytic herb, erect, shrubby, branched. **Roots** fleshy, thickened, from the base and lower internodes of the basal stems, not from the upper branches. **Stems** branched, cane-like, terete, thin, the main stem longer, the upper branches progressively smaller, produced from the subapical internodes of the previous stems, clearly distinguishable. **Leaves** articulate, distributed towards the apical half of the stems, sheaths tubular, very rugose, striated, blade narrowly lanceolate, apex acute, with a dorsal keel, margins crenate. **Inflorescence** apical, racemose, arching-nutant, dense, peduncle terete, thin, rachis terete. **Flowers** 16-20, resupinate, simultaneous, greenish yellow. **Floral bracts** ovate, acuminate, shorter than the ovary. **Ovary** terete, thin, smooth. **Sepals** 3-veined, margin entire, the **dorsal sepal** spreading, obovate, **lateral sepals** partly spreading, oblong, falcate, aristate, with a apicule at the end of the dorsal keel. **Petals** spreading, linear-oblanceolate, rounded, 1-veined, margin erose. **Lip** united to the column, 3-lobed, base cordate, margin crenate, bicallose, the calli thick, elongate, reaching the disc which is 3-keeled, the keels low, crenate, the lateral pair shorter than the mid-keel, which does not reach the apical sinus, lobes subequal, lateral lobes dolabriform, midlobe rectangular, truncate. **Column** slightly arching. **Clinandrium-hood** short, entire. **Rostellum** apical, slit. **Anther** reniform, with a low, rounded keel in the middle, 4-celled. **Pollinia** 4, obovoid, laterally compressed.

OTHER SPECIMENS: See appendix.

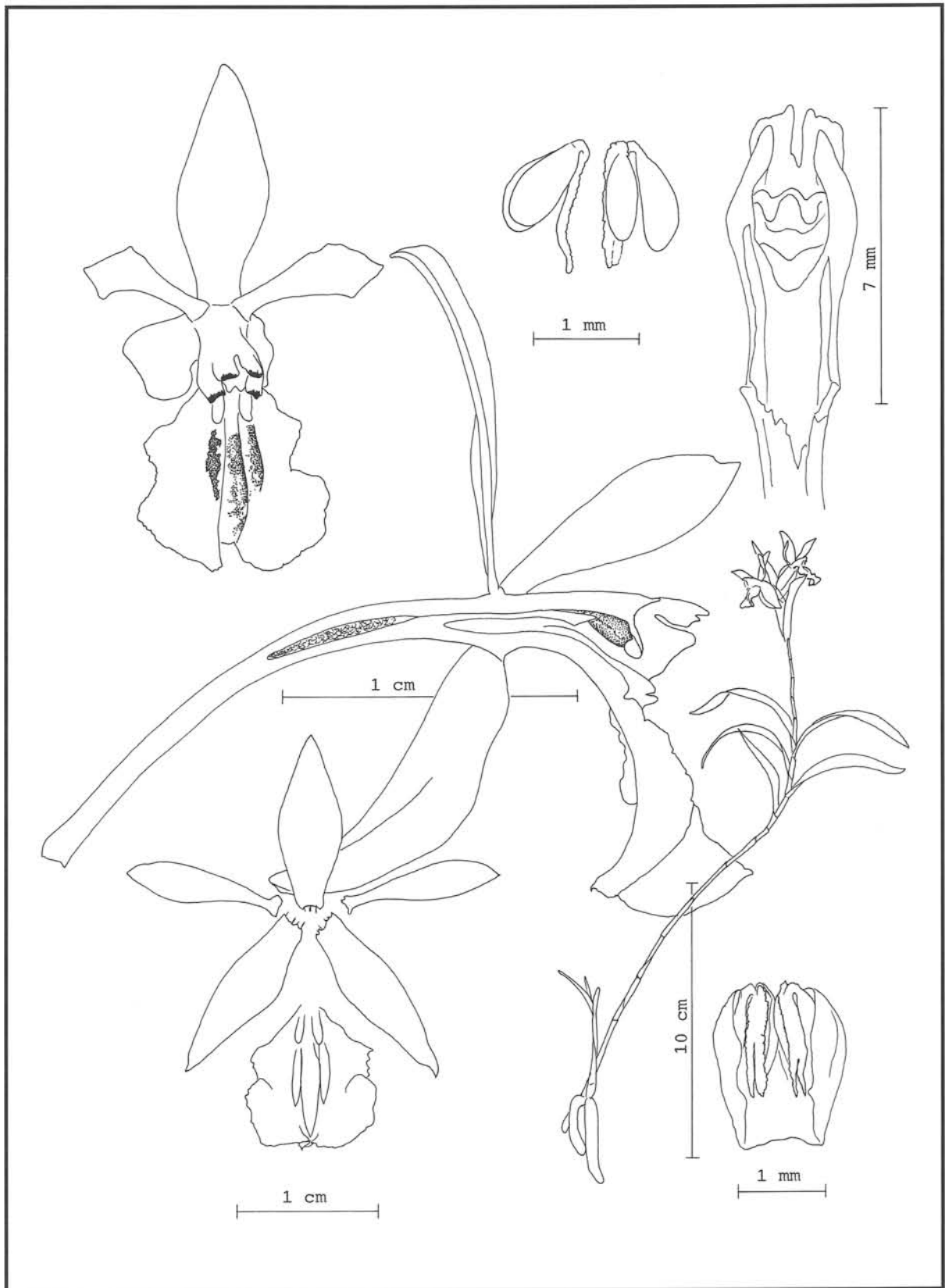
DISTRIBUTION AND ECOLOGY: Throughout Ecuador along the Interandean Valley, into northern Peru, NE Piura, at 2500-3700 m altitude. Very common, lithophytic and epiphytic, especially around the higher mountains near Cuenca, such as El Cajas. Flowering in February to December.

RECOGNITION: *Epidendrum tenuicaule* belongs to the Cardiophyllum Group, Cuniculatum Subgroup, which is characterized by the monopodial, branching habit, adpressed leaf-sheaths, acute leaves, and 3-lobed lip. The species is recognized by the bushy, branching, short plants, narrow leaves, mostly less than 5 mm wide, the arching small inflorescence with greenish yellow, simultaneous flowers, the lateral lobes of the lip well developed, dolabriform, and a short nectary. It is very similar to *Epidendrum ochricolor* A.D.Hawkes which has wider leaves (5-10 mm) and obliquely ovate lateral lobes of the lip. *Epidendrum cuniculatum* Schltr. has a deeper nectary, penetrating more than half the ovary, a larger, funnel-shaped clinandrium-hood with the margin sinuous, and very short, reniform, lateral lobes of the lip, with a sinuous margin. In Ecuador it has been confused with *Epidendrum scabrum* Ruiz & Pavón has very tall monopodial stems, with a relatively large, somewhat paniculate, arching-nutant, many-flowered inflorescence, and much larger, wider leaves, to 13 mm wide. It grows in the same region as *E. angustissimum* Lindl. (syn. *E. chortophyllum* Schltr.) which forms a more open bush, and has linear-lanceolate, acuminate leaves to 3.5 mm wide, the rachis of the inflorescence longer, to 5.3 cm long and the lateral lobes of the lip semi-orbicular. It somewhat resembles *E. soratae* Rchb.f. which has infundibuliform leaf-sheaths, short stems produced from the subapical internodes of the previous stem, narrow, linear petals with an entire margin and a reniform lip, with a very small, emarginate midlobe and the margins entire.

CONSERVATION STATUS: Not Threatened. Common around the type locality which is in a National Park.

ETYMOLOGY: From the Latin *tenuis*, slender, thin, and *caulis*, stem, in reference to the thin stems.





EPIDENDRUM TETRACEROS Rchb.f.

THE GENUS EPIDENDRUM PART 5

Plate 893

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM ATYPICUM Hágsater et E.Santiago, sp. nov.

Type: COSTA RICA: San José: Pan-American Highway, Cordillera de Talamanca, ca. 2400 m, on cliff, flowers purple, lower montane wet zone, 25 August 1961, *Claude Weber 6081*. Holotype: AMES 88967! (Illustration voucher).
Isotype: AMES 88923!

Epidendro crescentilobo Ames simile sed floribus majoribus, labelli lobulo medio simplici subulato acuto, ovario triquetro, polliniorum pari interiore in pollinarii parte supera, e latere crassiore polliniorum exteriorum sito, recedit.

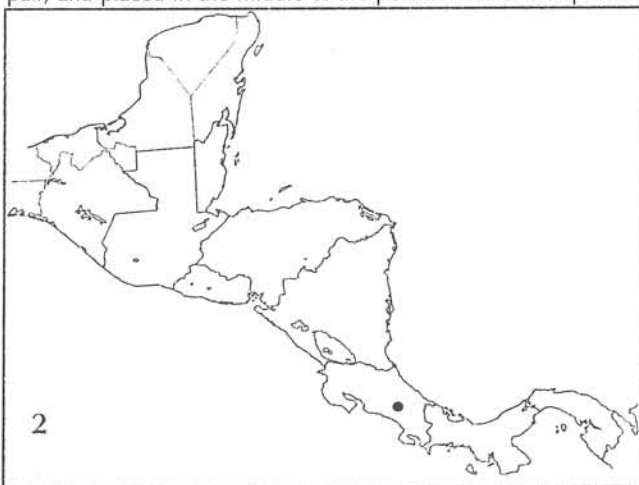
Hierba litófito, simpodial, cespitosa, en ocasiones ramificada arriba; 16-48 cm de alto. **Raíces** basales, carnosas; 1.4-2.3 mm de grosor. **Tallos** tipo caña, teretes, el basal ramificado hacia el ápice cuando maduro (después de florecer); 16-48 x 0.25-0.48 cm; las ramas 7-8 x 0.14-0.22 cm. **Hojas** 11-16 en el tallo basal, 6-7 en las ramas, distribuidas a lo largo de la mitad apical del tallo, alternas, semejantes entre sí; vaina tubular, verrugosa, 5-34 x 1.4-4.8 mm; lámina lanceolada, ápice agudo, lisa, con una quilla dorsal, margen entero; las del tallo principal 3-5.8 x 0.6-1.0 cm; las de las ramificaciones 1.4-2.8 x 0.5-0.7 cm. **Bráctea espatácea** ausente. **Inflorescencia** apical, racemosa, erecta; 4.5-7 cm de largo; pedúnculo corto, terete; 15-18 mm de largo; provisto de 1-2 brácteas semejantes a las florales, triangulares, largamente acuminadas; 5-7 mm de largo. **Brácteas florales** mucho más cortas que el ovario, abrazadoras, triangulares, acuminadas; 2-4 mm de largo. **Flores** 10-19, simultáneas, resupinadas, color púrpura; sin datos de fragancia. **Ovario** triquetro, no inflado, liso; 12-15 mm de largo. **Sépalos** extendidos, libres, oblanceolados, redondeados a agudos, 3-nervados, las nervaduras laterales ramificadas desde la base dando la apariencia de ser 5-nervados, margen entero; 9.5-10.5 x 2.5 mm. **Pétalos** extendidos, libres, angostamente oblanceolado espatulados, ápice subagudo, 3-nervados, margen entero; 8.5 x 1.8 mm. **Labelo** unido a la columna, trilobado, diminutamente papiloso, cuneado en la base; 6.1 x 5.3 mm; callo tridentado, formando un cojín algo depresado al centro; lóbulos laterales cuneados, truncados, la esquina posterior redondeada, la anterior aguda, margen apical sinuado; 2.2 x 1.8 mm; lóbulo medio subulado, agudo, muy carnoso; 4.4 x 1.2 mm. **Columna** recta, delgada, 6 mm de largo incluyendo el clinandrio. **Clinandrio** prominente, dos veces más largo que el cuerpo de la columna, el margen apical eroso. **Antera** obovoide, 4-locular. **Polinios** 4, tipo ala de pájaro, desiguales, el par interior de la mitad del largo de los exteriores y ubicados en la parte alta del polinario, del lado más grueso de los polinios exteriores; caudícula laminar; sin viscidio. **Rostelo** perpendicular al eje de la columna, formando un seno amplio. Nectario penetrando una cuarta parte del ovario, no inflado, liso. **Cápsula** no vista.

Lithophytic, sympodial, caespitose herb, occasionally branching above. **Roots** basal, fleshy. **Stems** cane-like, terete, mature (after flowering) stems branching above, branches short. **Leaves** distributed along the upper half of the stems, sheaths verrucose, blade lanceolate, acute, margin entire, those of the branches smaller. **Inflorescence** apical, racemose, erect, peduncle short, terete, provided with 1-2 bracts. **Floral bracts** much shorter than the ovary, triangular, acuminate. **Flowers** 10-19, simultaneous, resupinate, purple. **Ovary** triquetrus. **Sepals** spreading, free, oblanceolate, rounded to acute, 3-veined, the lateral veins branching from the base so as to appear 5-veined, margin entire. **Petals** spreading, free, narrowly oblanceolate-spatulate, subacute, 3-veined, margin entire. **Lip** united to the column, 3-lobed, minutely papillate, callus tridentate, forming an elongate cushion, somewhat depressed in the center; lateral lobes cuneate, truncate, posterior corner rounded, front corner acute, midlobe subulate, fleshy, acute. **Column** long, straight, thin. **Clinandrium-hood** prominent, twice as long as the body of the column, margin erose. **Anther** obovoid, 4-celled. **Pollinia** 4, bird-wing type, very flat and translucent, unequal, the inner pair half as long as the outer pair, placed on the upper side of the pollinarium, where the outer pollinia are thicker; viscidium lacking. **Rostellum** perpendicular to the axis of the column, forming a wide sinus. **Nectary** penetrating one fourth of the ovary.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from the type locality near the summit of the Cordillera de Talamanca in central Costa Rica, in wet lower montane forest, on a cliff, at 2400 m altitude. Flowering in August.

RECOGNITION: *Epidendrum atypicum* belongs to the Oerstedella Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is transverse to the column instead of parallel, forming a wide, open sinus, and Aberrans Subgroup which has small, membranaceous flowers with a prominent clinandrium-hood, with unequal, bird-wing type pollinia, the inner pair much smaller than the outer pair, and the pollinia very flat and translucent. The species is recognized by the simple midlobe of the lip, and very prominent clinandrium-hood nearly twice as long as the body of the column, the inner pollinia are placed next to the thicker side of the outer pollinia. It is closely related to *E. crescentilobum* Ames which has somewhat smaller flowers and a 4-lobed lip. *Epidendrum aberrans* Schltr. has a 4-lobed lip, the lobes are inserted at 45° and narrow. *Epidendrum pachyepalum* Hágsater & E.Santiago has somewhat larger flowers, sepals 12-14 mm long, fleshy thickened towards the apex, a two-lobed midlobe, and the inner pair of pollinia nearly ¼ the length of the outer pair, and placed in the middle of the pollinarium. Other species with a three lobed lip and an entire midlobe have shorter clinandria and the pollinia are subequal, obovoid, with long, granulose caudicles and include *Epidendrum fuscinum* (Dressler) Hágsater which has 13-15 mm long sepals, the lateral lobes of the lip 7-10 mm long, and about 2-3 times longer than wide. *Epidendrum intermixtum* Ames, F.T.Hubb. & C.Schweinf. is endemic to central and western Costa Rica, and is recognized by the small pale green and white flowers, sepals 6.0-8.5 mm long, the lip about 3-4.2 mm long, with the lateral lobes oblique, so as to look like a trident, with the three lobes aligned at the apex and all equally wide.



CONSERVATION STATUS: DD. Data deficient. Only known from the type.

ETYMOLOGY: From the Greek, α, without, and τυπος, impression, thus, not the usual appearance of this group of species, referring to the simple midlobe of the lip which does not have the spreading apical lobes of *Epidendrum crescentilobum* or *E. aberrans*.

Authors: E. Hágsater & E. Santiago

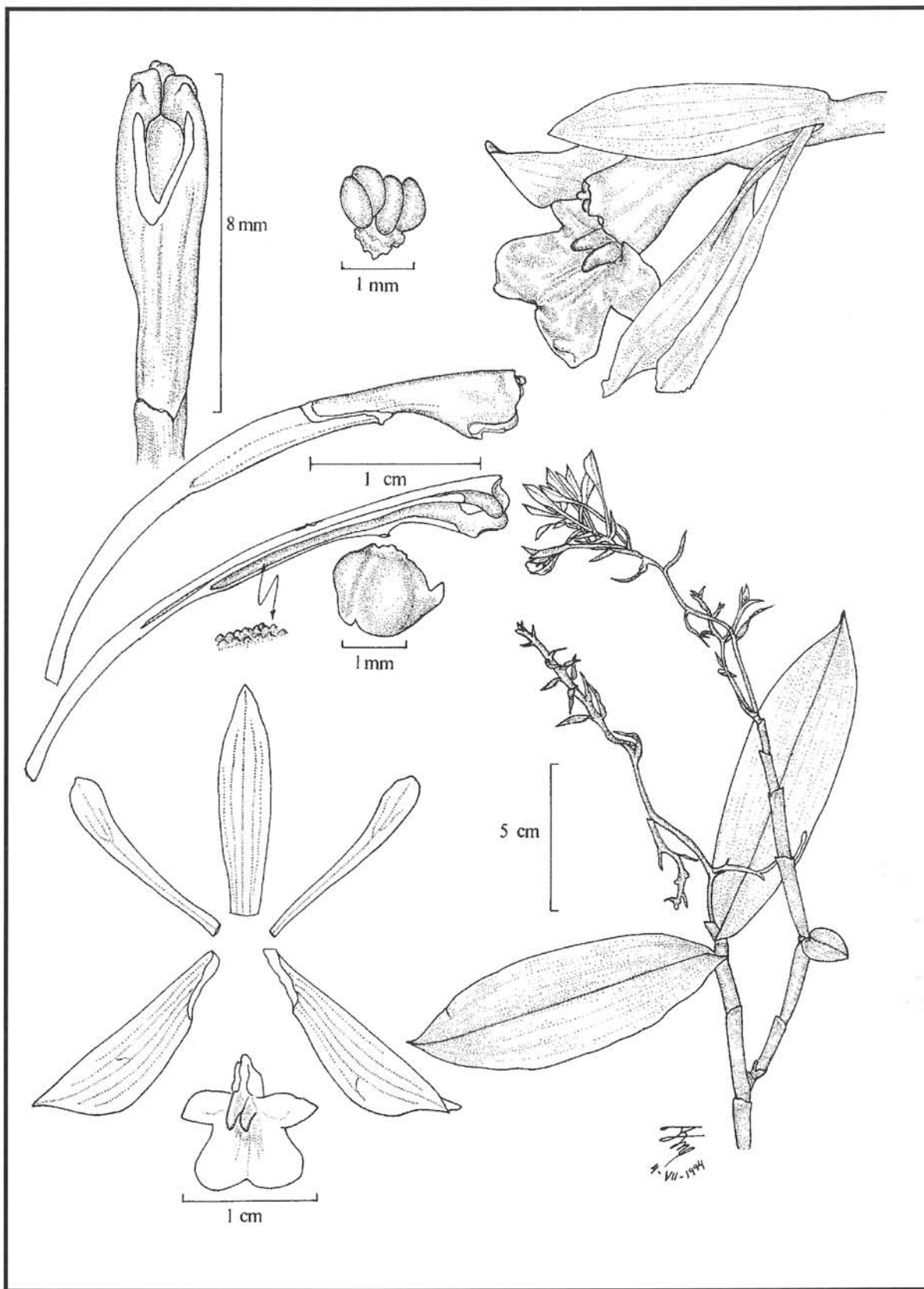
Illustrator: M. López R.

Editors: E. Hágsater & L. Sánchez S.

Herbario AMO

Apartado Postal 53-123, 11320 México, D.F., MÉXICO

ICONES ORCHIDACEARUM 8. 2006. Plate 810



EPIDENDRUM TRACHYCHLAENA Schltr.

EPIDENDRUM TRACHYCHLAENA Schltr., Repert. Sp. Nov. Regni Veg. 15: 57. 1917.

Type: ECUADOR: [Pichincha:] In silv. suband. Canzacoto-San Florencio, September 1892. A. Sodiro 61
Lectotype, here designated: [A. Sodiro s.n.] P! (Illustration voucher). Isotype: AMES!

Hierba de simpodio erecto, ramificado. **Raíces** no vistas. **Tallos** ramificados, tipo caña, teretes, rectos, 12-19 x 0.4-0.6 cm. **Hojas** 5-6, distribuidas en los dos tercios apicales del tallo, desiguales, la basal muy pequeña, progresivamente más grandes hasta las dos apicales subiguales; vaina tubular, estriada en seco, rugosa, 1-2.8 cm de largo; lámina articulada, elíptica, acuminada, margen entero, lisa, 1-15 x 1-4.8 cm. **Inflorescencia** terminal, del tallo maduro, florece una sola vez, paniculada con una o dos ramas cortas, 12-15 cm de largo; sin espata, sin brácteas en la base del pedúnculo, raquis no ornamentado, lateralmente comprimido. **Bráctea floral** más corta hasta más larga que el ovario, angostamente lanceolada, acuminada, hasta 3-20 mm de largo. **Flores** 20-25, sucesivas, varias abiertas a la vez, resupinadas, color y fragancia no registrados. **Ovario** no inflado, terete, no ornamentado, 13-17 mm de largo. **Sépalos** glabros, libres, 5-nervados; el **dorsal** angostamente elíptico, agudo, margen extendido, sin quilla, 16-17 x 4.5 mm; los **laterales** angostamente oblanceolados, apiculados, algo oblicuos, con quilla dorsal, margen extendido, 17-18 x 5 mm. **Pétalos** linear obcuneados, ápice redondeado obtuso, márgenes enteros, 1-nervados, 15-16 x 2.5 mm. **Labelo** unido a la columna, trilobado, 5-7.5 x 7-10 mm; bicalloso los callos alargados, agudos; lóbulos laterales extendidos, elípticos, subagudos, 3.2 x 0.25 mm, lóbulo medio subcuadrado obcuneado, emarginado, márgenes redondeados, 5 x 8 mm. **Columna** recta, 12-13 mm de largo. **Clinandrio** corto, carnos, margen eroso. **Nectario** poco profundo, penetrando un tercio del ovario. **Antera** subglobosa. **Polinios** 4, obovoides, lateralmente comprimidos, caudículas granuladas, viscidio semilíquido. **Rostelo** apical, hendido. **Cápsula** no vista.

Herb, stem branching. **Leaves** 5-6, elliptic, acuminate; leaf-sheaths rugose. **Inflorescence** terminal from the mature stem, paniculate. **Floral bracts** lanceolate, acuminate, much shorter to longer than the ovary. **Flowers** 20-25, successive, several open at one time, resupinate. **Ovary** thin, not inflated. **Dorsal sepal** elliptic, acute, 5-veined. **Lateral sepals** oblanceolate, apiculate, keeled, 5-veined. **Petals** linear obcuneate, apex rounded and obtuse, 1-veined. **Lip** 3-lobed, bicallose, the calli narrow, elongate and somewhat pointed; lateral lobes extended, elliptic, subacute, apical lobe subquadrate-obcuneate, emarginate, much larger than the lateral lobes. **Column** straight. **Clinandrium-hood** short, fleshy, erose. **Nectarium** penetrating two thirds of the ovary. **Anther** subglobose. **Pollinia** 4, obovoid, caudicles soft and granulate, viscidium semi-liquid. **Rostellum** apical, slit.

OTHER SPECIMENS: ECUADOR: Without locality, VII 1877, *Sodiro s.n.*, AMES 65908! **Pichincha:** San Florencio, 1000-1500 m, I 1906, *Lehmann 6730*, AMES! K!

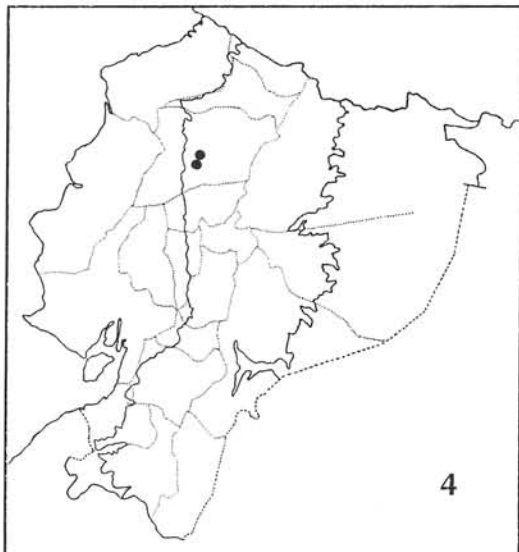
DISTRIBUTION AND ECOLOGY: Known only from Ecuador, from the province of Pichincha. Flowering in September-October.

RECOGNITION: *Epidendrum trachychlaena* belongs to the *Cardiophyllum* Group characterized by the branching habit, ovate, acute, membranaceous leaves, paniculate nodding inflorescence and can be recognized by the large leaves, successive flowers (though several open at one time) the 3-lobed, bicallose lip, the somewhat acute lateral lobes much smaller than the midlobe which is widened towards the apex, rounded and emarginate, sepals 16-17 mm long, and the narrowly obcuneate, 1-veined petals. *Epidendrum alexii* Hágsater & Dodson is closely related, does not seem to have any vegetative difference, but the midlobe of the lip is linear-spatulate, expanded near the apiculate apex, much longer than wide, the sepals are 9.5-12 mm long. It is apparently also closely related to *E. scabrum* Ruiz & Pavón, at least with the type, which shows acute leaves and is clearly a member of the *Cardiophyllum* Group. *Epidendrum lima* Lindl. has been confused with this species, but it has smaller, more numerous leaves, a main stem with branching above, and a racemose inflorescence with the lip narrower at the isthmus.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: from the Greek τραχύς, rough, and χλαμύς, cloak, cover, and the suffix -μα created, probably referring to the rugose leaf-sheaths.

NOTES: The description and illustration made under the supervision of Schlechter indicates the margin of the lip as "obscure serrulatis", a feature we have not been able to confirm. Schlechter compared the species with *E. floribundum* Kunth, but this species belongs to the *Paniculatum* Group, with very different characters, though the shape of the lip, as drawn under the supervision of Schlechter, looks somewhat similar.

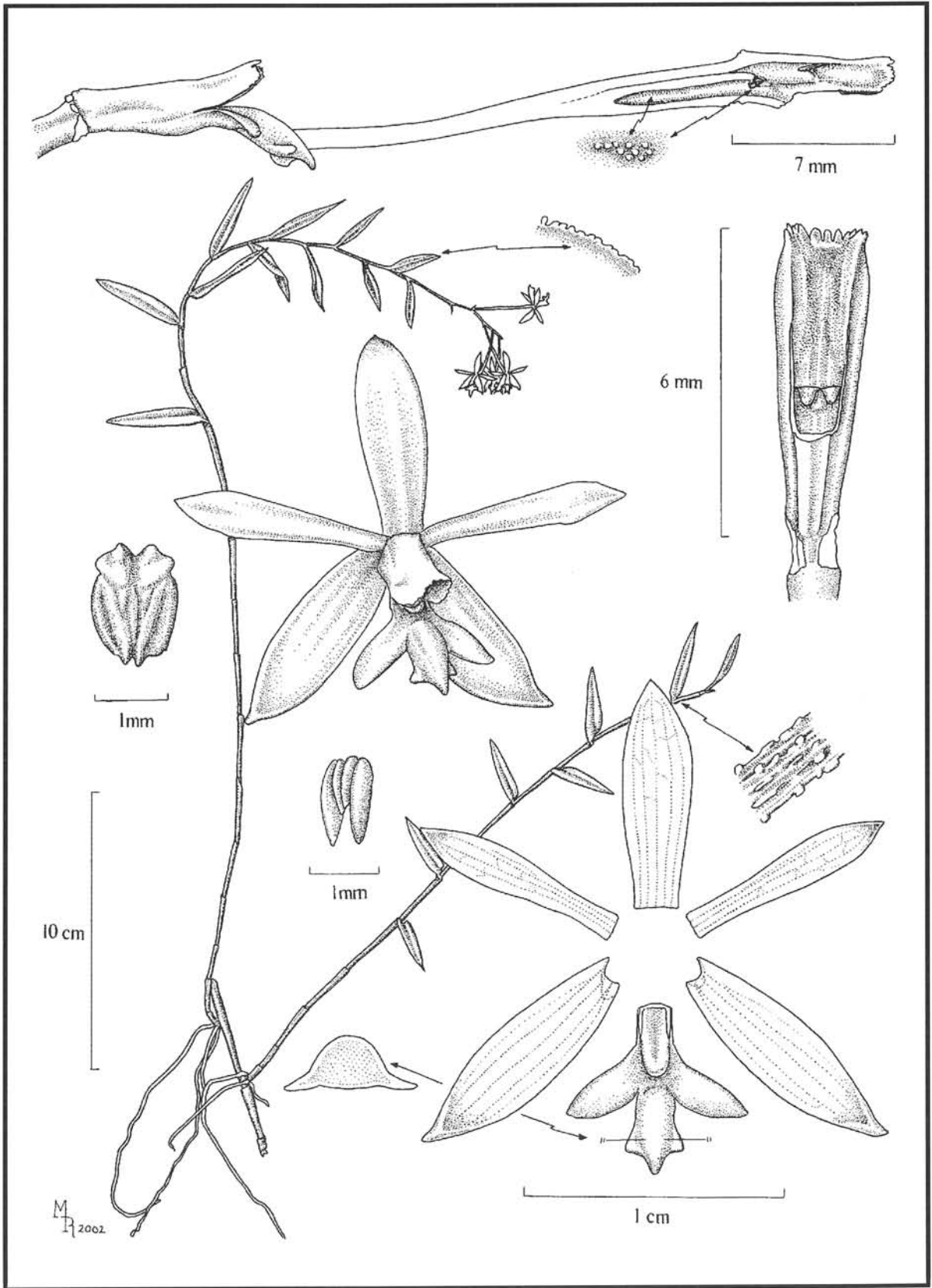


Author: E. Hágsater

Illustrator: R. Jiménez M.

Editors: E. Hágsater & L. Sánchez S.

Herbario AMO Apartado Postal 53-123, 11320 México, D.F., MÉXICO ICONES ORCHIDACEARUM 8. 2006. Plate 894



EPIDENDRUM UNICALLOSUM Hågsater & E.Santiago

EPIDENDRUM UNICALLOSUM Hágsater et E.Santiago, sp. nov.

Type: PANAMA: Chiriquí: Guadalupe, 20 February 2001, **Andrés Maduro & Erik Olmos 179**. Holotype: AMO! (Illustration voucher). (The holotype is a couple of keikis on a segment of main stem.)

Epidendro aberranti Schltr. simile sed labello trilobato, lobulo medio simplici incrassato carnosoque et duos appendices apicales triangulares parvos ferenti, polliniorum pari interiore in positione apicali juxta polliniorum exteriorum humerum sito, callo simplici rotundato sulcato, distat.

Hierba simpodial, cespitosa; 22-42 cm de alto. **Raíces** basales, delgadas, carnosas, blancas; 1 mm de grosor. **Tallos** sencillos, tipo caña, teretes, delgados, que forman keikis; de 22-37 x 0.1-0.2 cm. **Hojas** 12 o más, distribuidas lo largo de la mitad apical de los tallos maduros, alternas; vaina tubular, verrugosa; 8-24 x 1-2 mm; lámina lanceolada, ápice agudo, apiculado, margen apical eroso dentado, lisa; 2-3.9 x 0.4-0.6 cm. **Bráctea espatácea** ausente. **Inflorescencia** apical, racemosa, corta, erecta; pauciflora, laxa; 4 cm de largo; pedúnculo, terete, delgado, desprovisto de brácteas, liso; 20 mm de largo; raquis terete, delgado, recto, liso. **Brácteas florales** mucho más cortas que el ovario, abrazadoras, triangulares, agudas; 2.5-4 mm de largo. **Flores** 6, simultáneas, resupinadas, color lila rosado; sin datos de fragancia. **Ovario** triquetro, delgado, ligeramente dilatado justo detrás del perianto, liso; 18-22 mm de largo. **Sépalos** extendidos, libres, agudos, 3-nervados, las nervaduras laterales ramificadas desde la base dando la apariencia de ser 5-nervados, margen entero, 9.2-10 x 2.8 mm; el **dorsal** angostamente oblanceolado; los **laterales** angostamente elípticos. **Pétalos** extendidos, libres, oblanceolados, agudos, 3-nervados, margen entero; 8.7 x 1.9 mm. **Labelo** unido a la columna, trilobado, cuneado en la base, margen entero; 5.1 x 7.1 mm, unicalloso, el callo formado por una plataforma ancha, roma, surcada en la parte media; lóbulos laterales, angostamente elípticos, subagudos, oblicuos, divaricados; 2.8 x 1.5 mm; lóbulo medio oblongo, carnoso (en sección semiterete); 3.4 x 2.3 mm, con un par de apéndices apicales, triangulares, redondeados. **Columna** recta, delgada, 6 mm de largo incluyendo el clinandrio; (el clinandrio ocupa poco más de la mitad de la longitud total de la misma). **Clinandrio** prominente, margen crenado. **Antera** angulosa, mostrando la forma de los polinios al interior, 4-locular. **Polinios** 4, tipo ala de pájaro, los interiores más pequeños, menos de la mitad de largo de los exteriores, y ubicados arriba. **Rostelo** perpendicular con respecto al eje de la columna, formando un seno amplio. **Nectario** penetrando 1/3 parte del ovario, no inflado. **Cápsula** no vista.

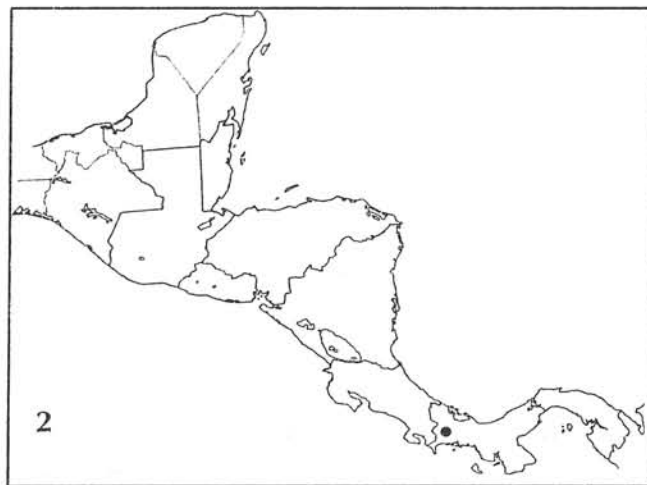
Sympodial caespitose herb. **Stems** simple, cane-like, terete, forming keikis. **Leaves** 12 or more, distributed throughout the apical half of the stems; sheaths tubular, minutely verrucose; blade lanceolate, apex acute, apical margin erose-dentate. **Inflorescence** apical, racemose, short, erect. **Floral bracts** much shorter than the ovary, triangular, acute. **Flowers** 6, simultaneous, resupinate, pink-lilac. **Ovary** triquetrus, thin, slightly thickened behind the perianth. **Sepals** spreading, acute, 3-veined, the dorsal narrowly oblanceolate, the laterals narrowly elliptic, margin entire. **Petals** spreading, free, oblanceolate, acute, 3-veined, margin entire. **Lip** united to the column, three-lobed, one-callus, the callus forming a wide, rounded, sulcate platform; lateral lobes narrowly elliptic, subacute, oblique, divaricate; mid-lobe oblong, fleshy (section semi-terete), with a pair of triangular appendages near the apex, the appendages triangular, rounded. **Column** straight, thin, the clinandrium-hood occupies more than half the total length. **Clinandrium-hood** prominent, margin crenate. **Anther** angular, showing the shape of the pollinia beneath. **Pollinia** 4, bird-wing type, the inner pair about half the size and located at the top. **Rostellum** perpendicular to the axis of the column, forming a wide sinus. **Nectary** penetrating 1/3 of the ovary.

OTHER SPECIMENS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from the type, cultivated in Guadalupe, Chiriquí province of western Panama. Flowering in February.

RECOGNITION: *Epidendrum unicallosum* belongs to the Oerstedella Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is transverse to the column instead of parallel, forming a wide, open sinus, and Aberrans Subgroup which has small, membranaceous flowers with a prominent clinandrium-hood, with unequal pollinia, the inner pair much smaller than the outer pair, and the pollinia very flat and translucent. The species is recognized by the three-lobed lip with the prominent clinandrium-hood which is longer than the body of the column proper, the entire, sulcate callus and the fleshy thickened mid-lobe of the lip with the small triangular appendages near the apex. It is similar to *Epidendrum atypicum* Hágsater & E.Santiago but in that species the lateral lobes of the lip are cuneate, truncate, with the margin sinuate and inserted at a 90° angle with respect to the axis of the lip. *Epidendrum aberrans* Schltr. has smaller flowers, the sepals 7-10 mm long, a membranaceous, bilobed midlobe, the calli 2, parallel, and the inner pair of pollinia located at about the middle of the outer pair.

CONSERVATION STATUS: DD. Data deficient.



ETYMOLOGY: unicallosum, from the Latin *uni-*, one-, and *callosus*, callose, bearing a hardened thickening, in reference to the single callus of the lip; most species in this group are bicallose.

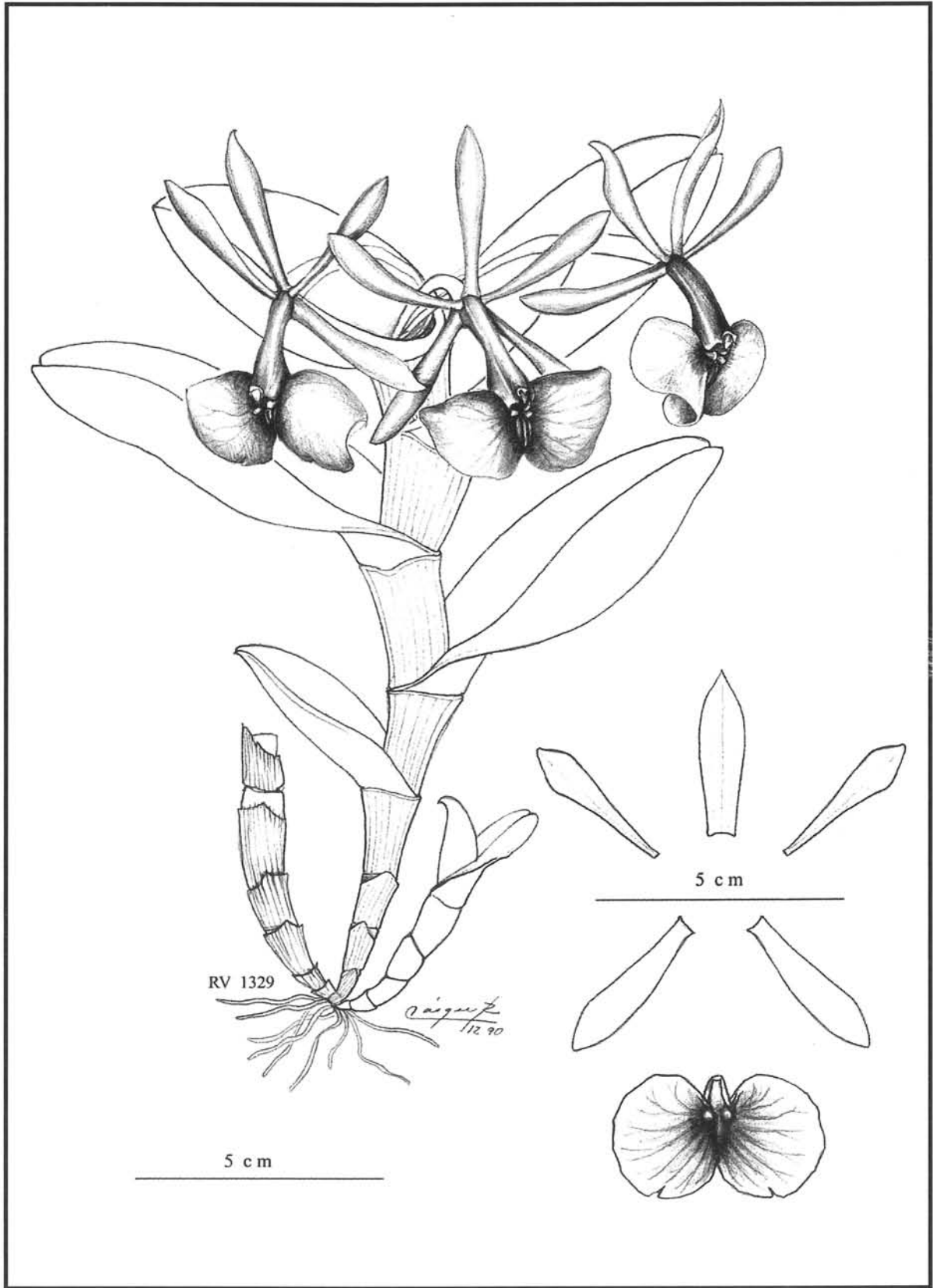
Authors: E. Hágsater & E. Santiago

Illustrator: M. López R.

tors: E. Hágsater & L. Sánchez S.

Herbario AMO Apartado Postal 53-123, 11320 México, D.F., MÉXICO

ICONES ORCHIDACEARUM 8. 2006. Plate 895



EPIDENDRUM VASQUEZII Hágsater & L.Sánchez
THE GENUS EPIDENDRUM PART 5

EPIDENDRUM VASQUEZII Hágsater et L.Sánchez, *sp. nov.*

Type: BOLIVIA: Santa Cruz: Ichilo: Montañas al O de Yapacaní, 17°24'S, 60°50'W, ca 700, diciembre 1990, *D. Ric s.n., R. Vásquez 1329*. Holotype: LPB! Isotype: VASQ! (Illustration voucher).

Epidendro althausenii A.D.Hawkes simile sed foliis longioribus et latioribus, floribus 3-4 majoribus, labello bilobato, disco tricarinato, carina centrale usque ad apicem prolongata et venis radialibus plurimis manifestis, lobulis suborbicularibus ad apicem incisuram parvam ferentibus, distinctum.

Herba epífita, simpodial, cespitosa, 15-22 cm de alto. **Raíces** basales, filiformes. **Tallos** sencillos, tipo caña, lateralmente comprimidos, ancipitosos, 14 x 0.7-1.7 cm. **Hojas** 5, equidistantes a lo largo del tallo; vaina foliar lateralmente comprimida, lisa, 1-7.2 cm de largo; lámina elíptica a ovada, coriácea, lisa, ligeramente carinada, ápice irregularmente bilobado, margen entero, extendido, verde grisácea, 4-9 x 1.5-2.5 cm. **Bráctea** espatácea ausente. **Inflorescencia** apical en el tallo maduro, florece una sola vez, sésil, 6 cm de largo. **Brácteas** florales mucho más pequeñas que el ovario. **Flores** 3, resupinadas, simultáneas, de color verde claro. **Ovario** terete, no ornamentado, 60 mm de largo. **Sépalos** extendidos, glabros, libres, subcoriáceos, angostamente obovados, agudos, 3-nervados, margen entero, revoluto, 33-34 x 8-9 mm. **Pétalos** extendidos, espatulados oblanceolados, agudos, 1-nervados, margen entero, extendido, 31-33 x 6-7 mm. **Labelo** unido a la columna, bilobado, base cordada, 25 x 42 mm; bicalloso, los callos pequeños, subglobosos, disco con tres quillas, la central se prolonga hasta el ápice y numerosas venas radiales evidentes; lóbulos orbiculáres, margen entero, con una pequeña muesca en el ápice, 25 x 20 mm. **Columna** arqueada, delgada, 20-25 mm. **Clinandrio** al mismo nivel del la columna, dentado. **Antera** 4-locular. **Polinios** 4. **Rostelo** no visto. **Lóbulos laterales del estigma** no vistos. **Nectario** no visto. **Cápsula** no vista.

Epiphytic, sympodial, caespitose herb. **Roots** basal, filiform. **Stems** simple, cane-like, laterally compressed, ancipitose. **Leaves** 5, distributed throughout the stem; sheath laterally compressed, ancipitose, smooth; blade elliptic to ovate, coriaceous, smooth, slightly carinate, apex unequally bilobed, margin entire, spreading, green. **Inflorescence** apical, from the mature stem, flowering only once, sessile. **Floral bracts** much smaller than the ovary. **Flowers** 3, simultaneous, pale green. **Ovary** terete, smooth. **Sepals** spreading, free, narrowly obovate, acute, margin entire, revolute, subcoriaceous, glabrous. **Petals** spreading, spatulate-ob lanceolate, acute, margin entire, spreading. **Lip** united to the column, bilobed, base cordate; bicallose, the calli small, subglobose, disc with 3 keels, the middle one extending to the apex of the lip, with numerous evident, thickened, radiating veins; lobes orbicular, margin entire, apically notched. **Column** arching, thin. **Clinandrium-hood** as long as the column, dentate.

OTHER SPECIMENS: None seen.

DISTRIBUTION & ECOLOGY: Known only from Bolivia. Epiphyte, in premountain forest, ca. 700 m altitude. Flowering in December.

RECOGNITION: *Epidendrum vasquezii* belongs to the Difforme Group which is characterized by the sympodial, caespitose, fleshy habit, green to glaucous leaves, the apical inflorescence lacking a spatheaceous bract, sessile or with a very short peduncle, one-flowered to corymbose, and the green, greenish yellow or rarely white flowers. The new species has laterally compressed stems, 3 large flowers, with a bilobed lip, the lobes orbicular and apically notched, the disc with 3 keels and numerous, evident, radiating, thickened veins. It is similar to *E. althausenii* which is widely distributed in the Amazon basin, has rather short stems, a single, large flower, occasionally 2, rarely 3, the lip subquadrate when spread, with the emarginate midlobe short in relation the lateral lobes, the column straight or slightly arched, and the clinandrium-hood prominent, with the margin dentate-fimbriate. The Brazilian *Epidendrum latilabrum* Lindl. has 2-4 large flowers, a 3-lobed lip 2-4 times wider than long, the lateral lobes semi-orbicular to sub-rectangular, the midlobe subquadrate to transversely rectangular, emarginate to bilobed, and the clinandrium-hood short, dentate. *Epidendrum garciae* Pabst is distinguished by the single flower, intensely fragrant during day-time, greenish white sepals and petals, white, transversely oblong, 3-lobed lip, the lateral lobes semi-elliptic, midlobe shorter than the lateral lobes, emarginate, forming 2 semi-orbicular lobes, and the slightly arching column with a prominent, erose to dentate clinandrium-hood. Of the larger Peruvian species, *Epidendrum apaganum* Mansf. and *Epidendrum apaganoides* D.E.Benn. & Christenson have 3-lobed lips and thickened veins on the lip, and *Epidendrum pseudoapaganum* D.E.Benn. & Christenson has an entire, reniform lip apparently without thickened veins or keels on the lip.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In honor of Roberto Vásquez Chávez of Cochabamba, Bolivia, today's prime authority on orchids in Bolivia, who collected the type.

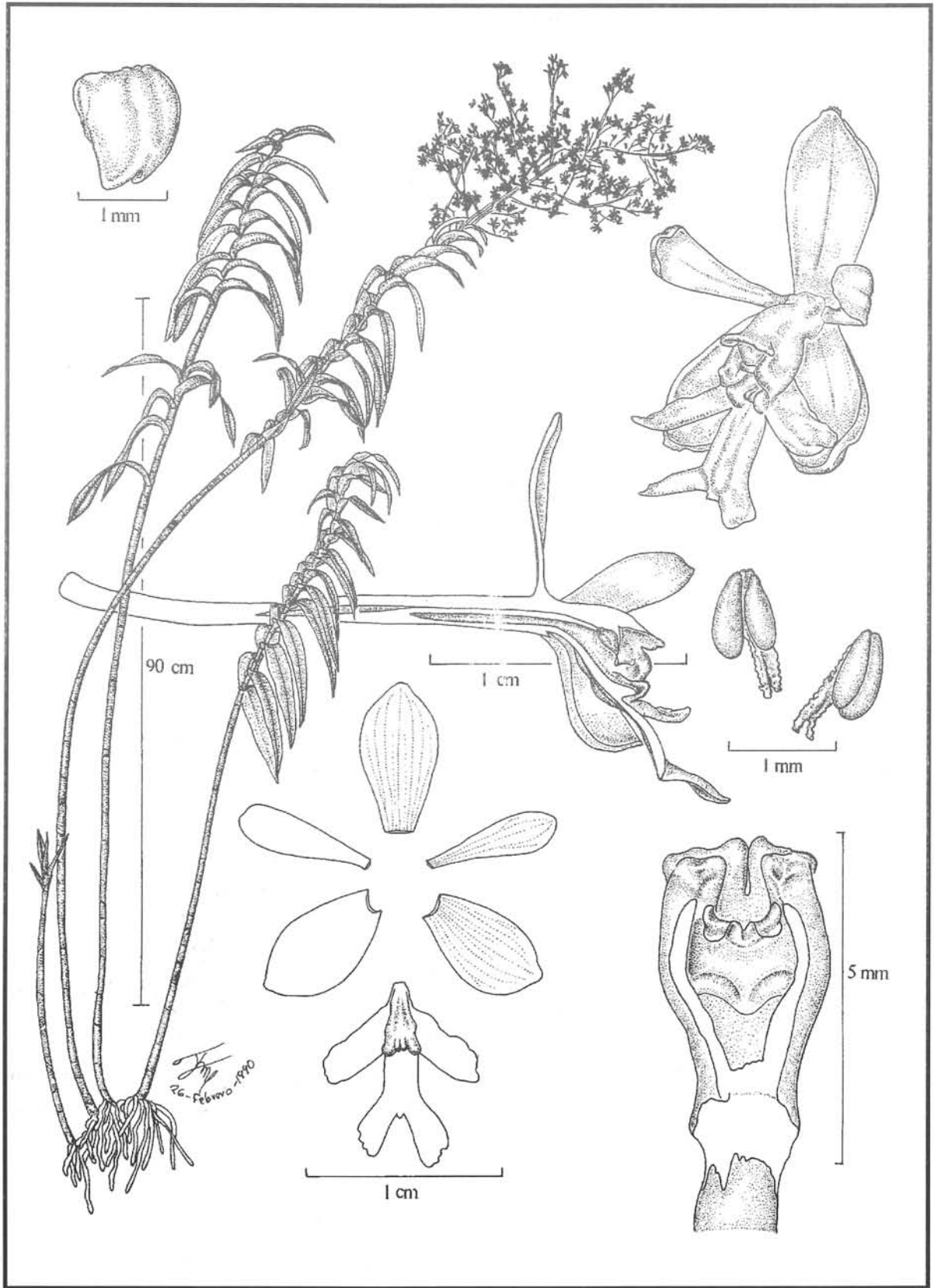


Authors: E. Hágsater & L. Sánchez S.

Illustrator: R. Vásquez

Editors: E. Hágsater & L. Sánchez S.

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EPIDENDRUM VERRUCOSUM Sw.

EPIDENDRUM VERRUCOSUM Sw., Nov. Act Ups. 6: 68. 1799.

Type: JAMAICA: Flor. Ind. Occid. **Swartz s.n.** Holotype: S! Isotype: BM!

Synonyms: *Amphiglottis verrucosa* (Sw.) Acuña, Acuña, Cat. Descr. Orq. Cub. 60: 103. 1939. *Oerstedella verrucosa* (Sw.) Hágsater, Orquídea (Mexico City) 8: 24. 1981. *Oerstedella verrucosa* (Sw.) Hamer & Garay, Las Orquídeas de El Salvador 3: 23. 1981. *Epidendrum myrianthum* Lindl. [var.] *album* "Rchb.f." ex Williams Orch. Grow. Man. Ed. 7: 387. 1894. Type: None. Reichenbach, in Gower, The Garden 44: 203. 1893. Stated "I have heard of a pure white-flowered form of this plant, but have not yet seen it." *Epidendrum verrucosum* Swartz var. *hansenii* C. D. Adams, Amer. Orch. Soc. Bull. 35: 997. 1966. Type: Jamaica: mountains near Kingston, **Hansen s.n.** (Holotype K.) *Oerstedella verrucosa* (Swartz) Hágsater var. *hansenii* (C. D. Adams) Nir, Lindleyana 9: 149. 1994. *Oerstedella hansenii* (C. D. Adams) Nir, Orchidaceae Antillanae 259. 2000.

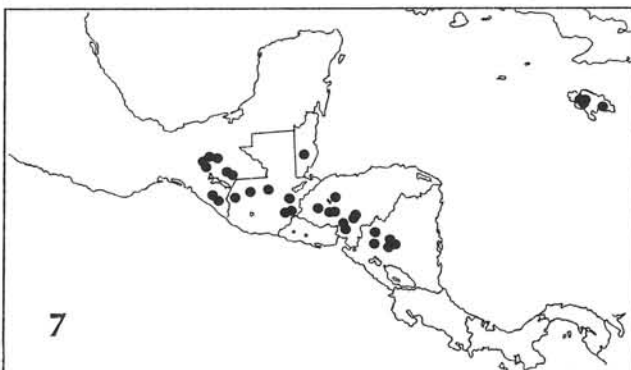
Hierba terrestre, litófito o epífita, simpodial, cespitosa; hasta de 3 m de alto. **Raíces** basales, y ocasionalmente de los keikis, carnosas, gruesas, sencillas, blancas; 2-3 mm de grosor. **Tallos** sencillos, tipo caña, teretes, delgados a robustos, erectos, rectos, produciendo keikis de tallos robustos; 20-300 x 0.2-1.1 cm. **Hojas** 13 a 30 o más, distribuidas en la mitad apical del tallo, disticas, articuladas, erecto extendidas; vaina tubular, lisa a fuertemente verrugosa; 5-40 x 2-11 mm; lámina lanceolada a linear lanceolada, lisa, ápice acuminado, margen entero; 5-21 x 0.5-3.5 cm. **Bráctea** espátacea ausente. **Inflorescencia** apical, florece una sola vez, paniculada a raramente racemosa, multiflora, erecta; 10-40 cm de largo; pedúnculo terete, delgado a robusto, recto; 2-5 cm de largo; raquis ligeramente flexuoso. **Bráctea floral** mucho más cortas que el ovario, lanceoladas, acuminadas, gradualmente más cortas; 2-5 mm de largo. **Flores** 20-500, simultáneas, resupinadas, blancas a crema verdosas (en Jamaica sépalos y pétalos verde pálido), callo amarillo; fragancia ausente (en Jamaica fragantes). **Ovario** terete, delgado, no inflado, no ornamentado; 15-20 mm de largo. **Sépalos** extendidos, libres, obovados, obtusos a subagudos, algo carnosos hacia el ápice, 9-nervados, margen entero, 4-8.5 x 3-4 mm; los **laterales** ligeramente oblicuos. **Pétalos** entreabiertos, libres, linear oblanceolados, subagudos, 3-nervados, las nervaduras laterales cortamente ramificadas, margen entero, 7-8.5 x 1.5-2 mm. **Labelo** unido a la columna, 3-lobado, base ligeramente cuneada; 9-12 x 9-10 mm; bicalloso, los callos delgados con el ápice recto a ligeramente divergente; disco provisto de una quilla intercallosa corta, de la misma longitud y color que los callos, dando la apariencia de ser un callo tridentado en el ápice; lóbulos laterales rectangular oblongos, insertados a un ángulo de 45°, oblicuamente truncados, margen entero a ligeramente dentado en el ápice; 4-5.5 x 1.5-2 mm; lóbulo medio con una quilla decurrente delgada y baja, formando un istmo angosto en la base, expandido y bilobado en el ápice, los lóbulos apicales rectangulares, algo menores que los lóbulos laterales, margen apical eroso; 6 x 6 mm. **Columna** corta, gruesa, ligeramente arqueada, 5 mm de largo incluyendo el clinandrio. **Clinandrio** prominente, sobrepasando muy ligeramente el cuerpo de la columna, bilobado, los lóbulos truncados, margen ligeramente irregular. **Antera** obovoidea, con una quilla central baja, 4-locular. **Polinios** 4, obovoides, subiguales; caudículas suaves, ligeramente granuladas, del doble del largo que los polinios; sin viscidio. **Rostelo** perpendicular con respecto al eje de la columna, formando un seno amplio. **Lóbulos laterales del estigma** no vistos. **Nectario** poco profundo, penetrando ca. de 1/4 del ovario, delgado, no inflado, liso. **Cápsula** elipsoide; cuerpo 15-22 x 9-12 mm; pedicelo; 8-10 mm de largo; cuello apical; 7 mm de largo.

Terrestrial, lithophytic or epiphytic, simpodial, caespitose, tall herb. **Roots** basal, fleshy, thick, simple, white. **Stems** simple, cane-like, terete, thin to robust, erect, straight, robust stems produce keikis. **Leaves** 13-30 or more, distributed throughout the apical half, distichous, articulate, spreading-erect; sheath tubular, smooth to strongly warty; blade lanceolate to linear-lanceolate, smooth, apex acuminate, margin entire. **Inflorescence** apical, flowering only once, paniculate, rarely racemose, many-flowered, erect; peduncle terete, thin to robust, straight; rachis slightly flexuous. **Floral bracts** much shorter than the ovary, lanceolate, acuminate, gradually shorter. **Flowers** 20-500, simultaneous, resupinate, white to greenish-cream colored, callus yellow; not fragrant (in Jamaica described as fragrant, sepals and petals pale green). **Ovary** terete, thin, not inflated, smooth. **Sepals** spreading, free, obovate, obtuse to subacute, somewhat fleshy towards the apex, 9-veined, margin entire, the lateral sepals somewhat oblique. **Petals** partly spreading, linear-oblanceolate, subacute, 3-veined, the lateral veins short branched, margin entire. **Lip** united to the column, 3-lobed, base slightly cuneate; bicallose, the calli thin with the apex straight to somewhat divergent, disc provided with a short keel in between the calli, as long as and the same color as the calli, the callus thus appearing as tridentate at the apex; lateral lobes rectangular-oblong, inserted at a 45° angle, obliquely truncate, margin entire to slightly dentate at the apex; midlobe with a decurrent thin, low keel, forming a narrow, long isthmus and then expanding and bilobed, the apical lobes rectangular, shorter than the basal lobes, somewhat divergent, apical margin erose. **Column** short, thick, slightly arching. **Clinandrium-hood** prominent, somewhat surpassing the body of the column, bilobed, the lobes truncate, margin slightly irregular. **Anther** obovoid, with a low central keel, 4-celled. **Pollinia** 4, obovoid, subequal, caudicles soft and granulate, twice as long as the pollinia; viscidium lacking. **Rostellum** perpendicular to the axis of the column, forming a wide sinus. **Nectary** penetrating 1/4th of the ovary, thin, smooth. **Capsule** ellipsoid.

OTHER SPECIMENS, OTHER RECORDS AND UNCONFIRMED RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Known from Jamaica, Mexico (Chiapas), Belize, Guatemala, El Salvador, Honduras and Nicaragua. Terrestrial, lithophytic or epiphytic, 600-2600 m altitude. Flowering from June through March.

RECOGNITION: *Epidendrum verrucosum* belongs to the Oerstedella Group which is characterized by the sympodial habit, mostly verrucose stems, and the rostellum which is perpendicular to the axis of the column instead of parallel, forming a wide, open sinus, and without a viscidium, and the Verrucosum Subgroup, recognized by the small to medium sized, membranaceous flowers with sepals and petals immaculate, a bilobed clinandrium-hood slightly surpassing the body of the column, obovoid, subequal pollinia with long granulate caudicles. The species is recognized by the tall plants (up to 3 m), paniculate inflorescence with numerous white flowers, the callus yellow, or sepals and petals white or greenish cream and the lip creamy-yellow, the lobes of the lip similar,



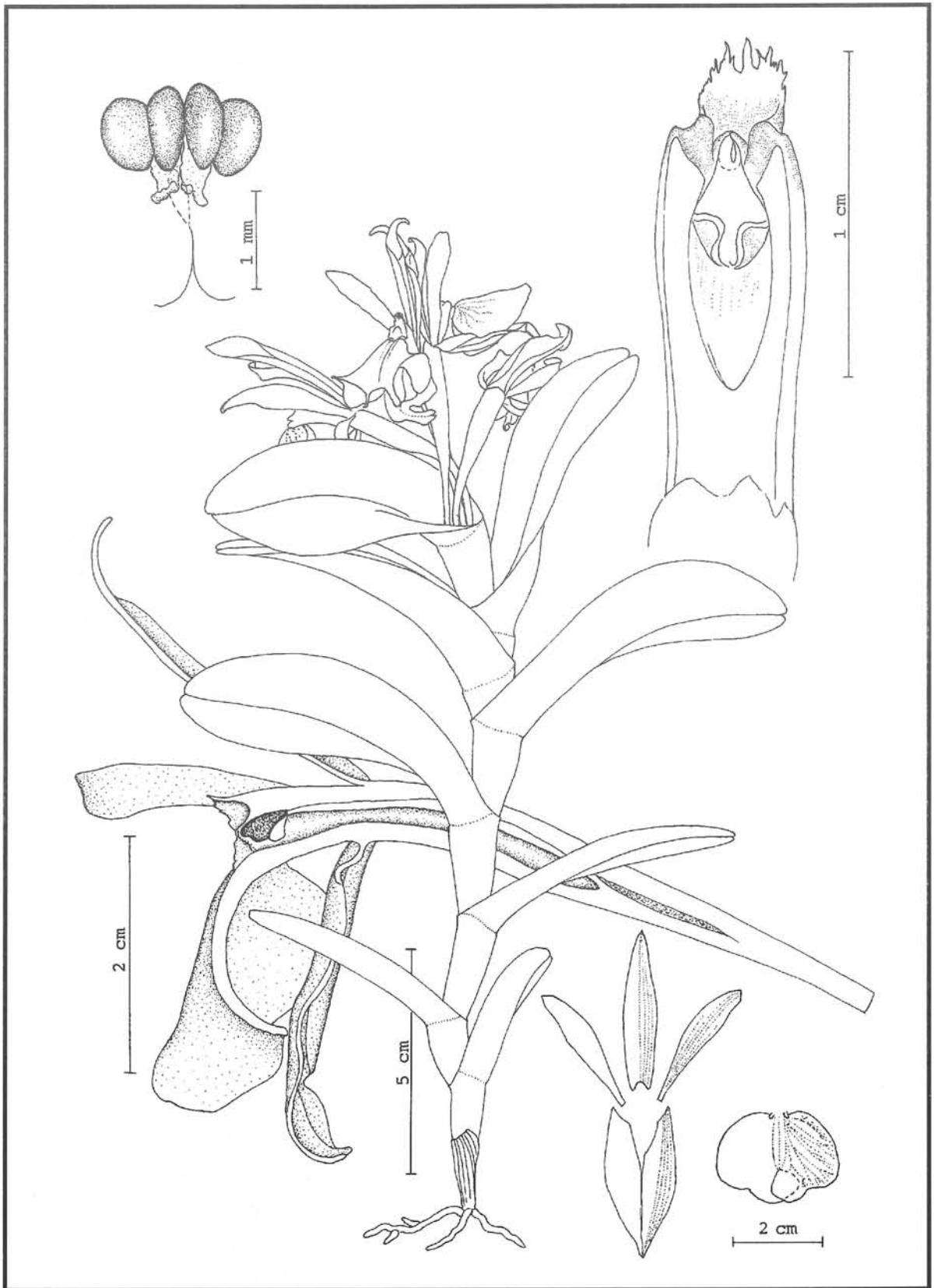
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rectangular-oblong, inserted at about 45°. It is similar to *E. myrianthum* Lindl. which has somewhat smaller plants (to 1.8 m), similar but lilac-colored flowers. *Epidendrum maddougallii* (Hágsater) Hágsater has short, thin-stemmed plants (to 90 cm tall) with a generally racemose inflorescence, the peduncle with several bracts, and lilac-pink flowers.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Latin *verruca*, wart, in reference to the warty sheathes of the stem, which are characteristic of this species and the Oerstedella Group in general.

REFERENCES: Hágsater, E., & M. A. Soto Arenas, 2005, Transfers to *Epidendrum* L. From *Oerstedella* Rchb.f., *Lankesteriana* 5(1): 73. Hamer, F., 1981. *Las Orquídeas de El Salvador III*: 274. Hamer, F., 1990, *Orchids of Central America an Illustrated field guide, Selbyana* 11 (Suppl.): pl. 543-544.



EPIDENDRUM VULGOAMPAROAU Hágsater & L.Sánchez

Plate 898

EPIDENDRUM VULGOAMPAROANUM Hágsater et L.Sánchez, sp. nov.

Type: COSTA RICA: Alajuela: Entre Río Grande de Atenas y Balsa, 400-485 m, colectada por Clarence Kl. Horich, 20 XII 1982, prensado de material cultivado 13 octubre 1983, *Hágsater 6963*. Holotype: INB! Isotype: AMO!

Epidendrum amparoanum of Authors not *Epidendrum amparoanum* Schltr., Repert. Spec. Nov. Regni Veg. Beih. 19:34. 1922. (= *E. barbeyanum* Kraenzl.)

Epidendro yojoaense Hágsater & L.Sánchez simile sed plantis floribusque viridibus non glaucis, petalis ellipticis usque oblanceolatis, labello obscure trilobato, discrepans.

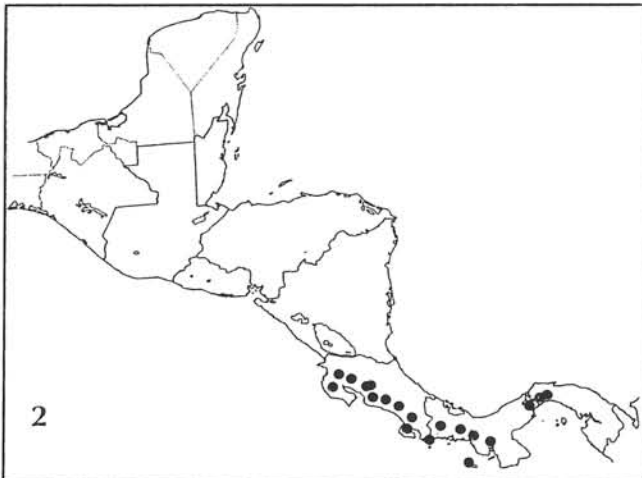
Hierba epífita, simpodial, cespitosa, 15-35 cm de alto. **Raíces** basales, carnosas delgadas, 1.0-1.5 mm de grosor. **Tallos** sencillos, tipo caña, lateralmente comprimidos, 11-21 cm de largo. **Hojas** 5-9, equidistantes a lo largo del tallo; vaina foliar lateralmente comprimida, no ornamentada, 2-3 cm de largo; lámina elíptica a ovada, ápice asimétricamente bilobado, no ornamentada, carina dorsal ausente, margen entero, verde, 3-13 x 1.5-6.5 cm. **Bráctea** espátacea ausente. **Inflorescencia** apical, en el tallo maduro, florece una sola vez, sésil. **Bráctea floral** mucho más pequeña que el ovario, triangular, aguda, 2.5-3 mm. **Flores** (1-2)3-5(10), simultáneas, resupinadas, verdes a verde-amarillentas; fragancia ligera, polvorosa. **Ovario** inflado, terete, no ornamentado, 30-60 mm de largo. **Sépalos** libres, abiertos, glabros, subcoriáceos, elípticos, agudos, 7-nervados, margen entero; el **dorsal** 21.5-33 x 6.2-8.2 mm; los **laterales** oblicuos, carina dorsal ausente, margen revoluto, 21-31 x 5.5-10 mm. **Pétalos** parcialmente abiertos, elíptico a oblanceolados, agudos, 3-nervados, margen entero, extendido, 20-30 x 4-7 mm. **Labelo** unido a la columna, anchamente obovado, oscuramente trilobado, base profundamente cordada, margen ligeramente ondulado, 14.5-21 x 25-38 mm; bicalloso, los callos pequeños, subglobosos; lóbulos laterales oblicuamente semiobliculares, con numerosas venas engrosadas en la base; lóbulo medio corto, oscuramente bilobado. **Columna** recta, 6-12 mm de largo. **Clinandrio** prominente, entero, margen eroso fimbriado. **Antera** subsférica, no ornamentada, 4-locular. **Polinios** 4, subiguales, obovoides, lateralmente comprimidos; caudículas suaves y granuladas, más pequeñas que los polinios; viscidio viscoso, translúcido. **Rostelo** subapical, hendido. **Lóbulos laterales del estigma** penetrando 3/4 de la cavidad estigmática. **Nectario** penetrando 1/2 de la longitud del ovario, no ornamentado. **Cápsula** no vista.

Epiphytic, caespitose herb. **Stems** cane-like, laterally compressed. **Leaves** 5-9, laterally compressed shade; blade elliptic to ovate, apex unequal bilobed, unornamented, margin entire, green. **Inflorescence** apical, flowering only once, sessile. **Floral bracts** smaller than the ovary, triangular, acute. **Flowers** (1-2)3-5(10), simultaneous, resupinate, green; fragrance light, dust-like. **Ovary** inflated, terete, smooth. **Sepals** free, spreading, glabrous, subcoriaceous. **Dorsal sepal** elliptic, acute, margin entire, 7-veined. **Lateral sepals** obliquely elliptic, acute, margin entire, revolute, 7-veined. **Petals** elliptic to oblanceolate, margin entire, spreading, 3-veined. **Lip** united to the column, entire, widely obovate, obscurely 3-lobed, cordate base, margin undulate; bicallose, the calli small, subglobose; lateral lobes obliquely semiobicular, with many thickened veins at the base; midlobe small, obscurely bilobed. **Column** straight. **Clinandrium-hood** prominent, entire, margin erose-fimbriate. **Anther** subspheric, unornamented, 4-celled. **Pollinia** 4, subequal, obovoid, laterally compressed; caudicles soft and granular, smaller than the pollinia; viscidium viscosous, translucent. **Rostellum** subapical, slit. **Lateral lobes of the stigma** penetrating 3/4 of the stigmatic cavity. **Nectary** penetrating 1/2 of the ovary. **Capsule** not seen.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Known from the Pacific watershed of Costa Rica and Panama. Epiphyte, in dry forest and secondary forest along the Pacific coast; from 0 to 500 altitude. Flowering throughout the year.

RECOGNITION: *Epidendrum vulgoamparoanum* belongs to the Difforme Group which is characterized by the caespitose, sympodial plants, fleshy, pale green to glaucous leaves, apical inflorescence, sessile, rarely with a short peduncle, one-flowered to corymbose, without spathaceous bracts, fleshy, green to yellowish-green rarely white flowers. The species has laterally compressed stems, elliptic to ovate leaves, 7-veined sepals, a widely obovate, obscurely 3-lobed lip, with many thickened veins; the midlobe somewhat bilobed, and the prominent, erose-fimbriate clinandrium-hood. It is similar to *Epidendrum yojoaense* which grows in rain-forests on the Atlantic slope of Honduras, and has light glaucous-green plants and flowers, a reniform lip, rhombic petals. Differs from *Epidendrum barbeyanum* Kraenzl., which has ancipitose stems, lanceolate sepals, distinctly 3-lobed lip, prominent flabelliform lateral lobes, midlobe smaller than the lateral lobes, and separated from it by deep sinij, forming two, divergent, triangular to subrectangular, acute to rounded lobes, and a reduced, entire clinandrium-hood. *Epidendrum romero-castanedae* Hágsater & L.Sánchez from the inland hills around the Golfo del Darién in eastern Panama and northern Colombia has narrower leaves and narrowly elliptic petals.

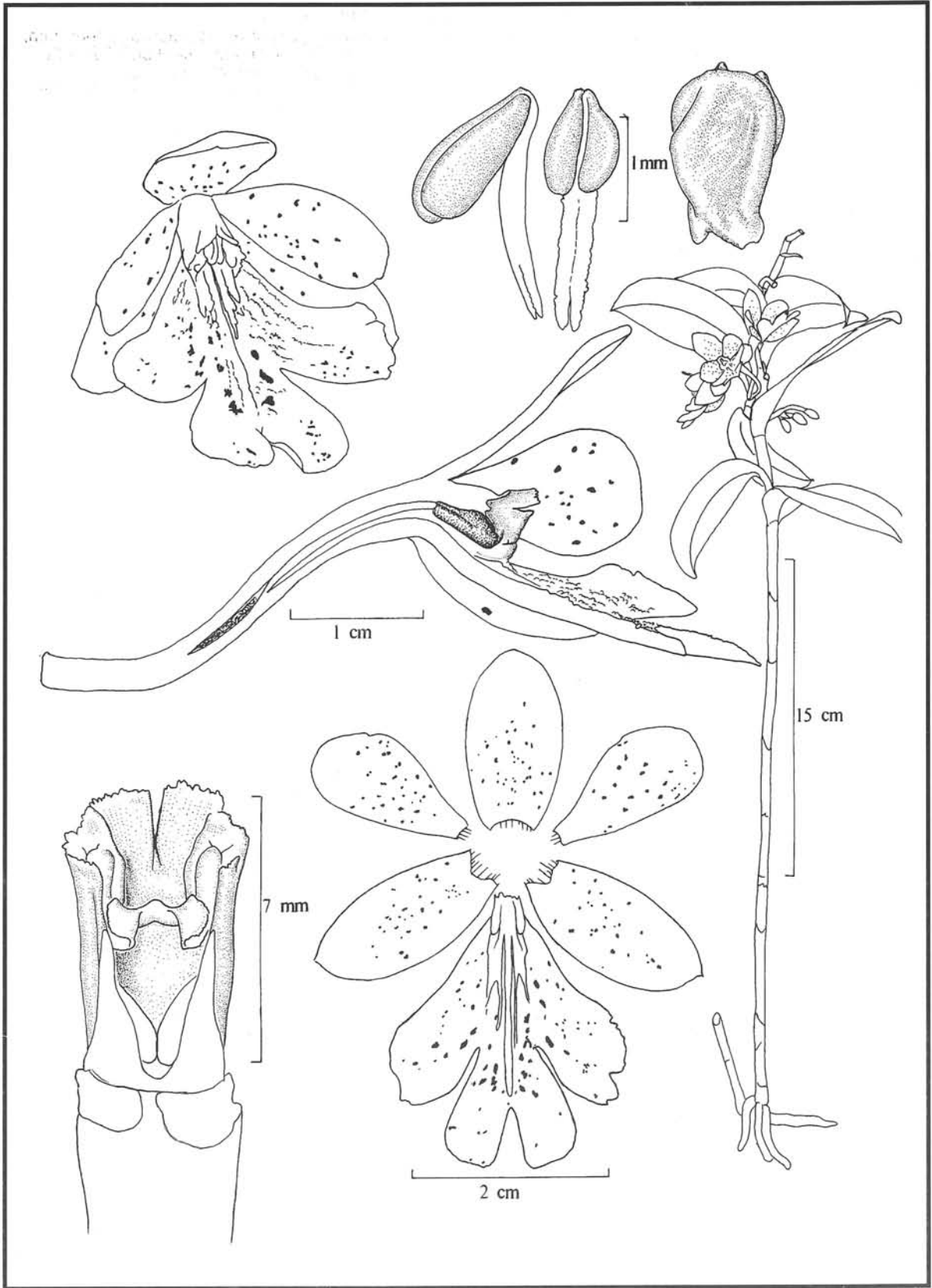


CONSERVATION STATUS: No threatened. This species is very common along the Pacific coast from Costa Rica to central Panama, in primary and secondary, seasonally dry forest.

NOTE: Unfortunately the name used for this common and well-known species *Epidendrum amparoanum* Schltr. corresponds to the larger species found in and around San José, *Epidendrum barbeyanum* Kraenzl. Though the type was lost in the Berlin fire, the description of the very large and peculiar lip clearly and without doubt identifies what the author had in front of him.

ETYMOLOGY: From the Latin *vulgo*, commonly, generally, and *amparoanum*, in reference to the fact that this species has been generally identified as *E. amparoanum* Schltr. but does not conform to the original description.

REFERENCES: Hammel, B. E., et al. 2003, *Manual de Plantas de Costa Rica Vol. III*. Missouri Botanical Garden Press. pg. 114.



EPIDENDRUM WALLISII Rchb.f.

THE GENUS EPIDENDRUM PART 5

Plate 899

ICONES ORCHIDACEARUM 8. 2006

EPIDENDRUM WALLISII Rchb.f., Gard. Chron., 4: 66. 1875.

Type: COLOMBIA: **Gustav Wallis**. Lectotype [here designated]: W 500421, pro parte, the 3-flowered specimen, which corresponds to the colored sketch with the description made by Rchb.f. and mounted on W 500451!

Synonyms: *Oerstedella wallisii* (Rchb.f.) Hágsater, Orquídea (Mexico City) 8(1): 24. 1981.

Epidendrum pseudowallisii Schltr. Feddes Repert. Beih. 19: 124. 1923. Type: COSTA RICA: Llanuras de San Carlos, Buena Vista, 2000 m, 1910, **A. & C. Brade 1287**. Holotype: B, destroyed. Lectotype [here designated]: tracing of holotype: AMES 31578! *Oerstedella pseudowallisii* (Schltr.) Hágsater, Orquídea (Mexico City) 8(1): 24. 1981.

Hierba epífita, cespitosa, simpodial; 27-100 cm de alto. **Raíces** basales, carnosas, gruesas, blancas; 1-2.5 mm de grosor. **Tallos** sencillos, tipo caña, teretes, erectos; [10]23-85 x 0.18-0.8 cm; cubiertos en la base por vainas tubulares, verrugosas, no foliares; 23-50 mm de largo. **Hojas** 5-15, distribuidas en el tercio apical del tallo, alternas, articuladas, las basales caedizas; vainas tubulares, prominentemente verrugosas; 8-45 x 1.8-8 mm; lámina oblongo lanceolada a elíptica, aguda, subcoriácea, margen entero; 3.3-13.2 x 1-4.2 cm. **Bráctea** espatácea ausente. **Inflorescencia** apical y lateral, racemosa, (en ocasiones con una rama corta adicional en la base) corta, ligeramente arqueada, pauciflora, laxa; 0.5-2 cm de largo; pedúnculo corto, terete, delgado, desprovisto de brácteas; 4-6 mm de largo. **Brácteas florales** mucho más cortas que el ovario, ovado triangulares, agudas a acuminadas, abrazadoras; 3-7 mm de largo. **Ovario** terete, delgado, no inflado, no ornamentado, algo dilatado justo detrás del perianto; 16-33 mm de largo. **Flores** 1-4 por racimo, muy llamativas, simultáneas, resupinadas; sépalos y pétalos de color amarillo con puntos púrpura oscuro (raramente inmaculados), el labelo blanco tornándose amarillo con el tiempo, punteado o rayado de púrpura, callo y quillas naranja; fragancia agradable a miel y almizcle. **Sépalos** entreabiertos, libres, carnosos, elípticos, ápice redondeado, diminutamente apiculados, 9-nervados, las nervaduras laterales ramificadas dando la apariencia de ser 11-nervados, margen entero, [15]18-23 x 5-8 mm. **Pétalos** entreabiertos, libres, obovado espatulados, obtusos, 5-nervados, las nervaduras laterales ramificadas desde la base dando la apariencia de ser 7-nervados, margen entero, [12]15-22 x 5-7 mm. **Labelo** unido a la columna, 3-lobado, cuneado flabelado; 13-24 x 14-22 mm; bicalloso, los callos delgados, agudos, ligeramente divaricados en el ápice; disco provisto de 3 quillas, la central prominente, alargada hasta el ápice del lóbulo medio, el par lateral bajo, mucho más corto; lóbulos laterales subrectangulares, redondeados, ligeramente falcados, margen irregularmente eroso; 6-10 x 5-7 mm; lóbulo medio con un istmo basal corto y angosto, bilobado, cada lóbulo, subrectangular-redondeado, con el margen apical eroso; 8-13 x 10-18 mm. **Columna** gruesa, recta, levemente dirigida hacia arriba a la altura del clinandrio, terminada en cuatro lóbulos laminares, truncados, que forman un embudo incipiente, con el margen diminutamente eroso; 6-8 mm de largo. **Clinandrio** corto, bilobado, margen eroso. **Antera** obovoide, ápice truncado, 4-locular. **Polinios** 4, oblongo obovoides, lateralmente comprimidos, semejantes; caudículas más largas que los polinios; sin viscidio. **Rostelo** perpendicular con respecto al eje de la columna, formando un seno amplio. **Lóbulos laterales del estigma** obsoletos. **Nectario** penetrando 1/2 del ovario, no inflado, liso. **Cápsula** no vista.

Epiphytic, caespitose, sympodial **herb**. **Roots** basal, fleshy, thick, white. **Stems** simple, cane-like, terete, erect, straight; the base covered by tubular, non-foliaceous sheaths, the sheaths covered by warts. **Leaves** 5-15, distributed throughout the apical third, alternate, articulate, the lower ones deciduous; sheaths tubular, prominently verrucose; blade oblong-lanceolate to elliptic, acute, subcoriaceous, margin entire. **Inflorescence** apical and lateral, racemose, short, slightly arching, lax, few-flowered; peduncle short terete, thin. **Floral bracts** much shorter than the ovary, ovate-triangular, acute to acuminate. **Ovary** terete, thin, smooth, somewhat dilated behind the perianth. **Flowers** 1-4 per raceme, very showy, simultaneous, resupinate; sepals and petals yellow with dark purple dots, rarely immaculate, lip white turning yellow with time, dotted or striped with purple, callus and keels orange; fragrance pleasant, of honey and musk. **Sepals** spreading, free, fleshy, elliptic, apex rounded, minutely apiculate, 9-veined, the lateral veins branching so as to appear 11-veined, margin entire. **Petals** spreading, free, obovate-spatulate, obtuse, 5-veined, the lateral veins branching from the base so as to appear 7-veined, margin entire. **Lip** united to the column, 3-lobed, cuneate-flabellate; bicallose, the calli thin, acute, slightly divaricate at the apex; disc provided with 3 keels, the central keel prominent, elongate to the apex of the midlobe, the lateral pair much shorter; lateral lobes subrectangular, rounded, slightly falcate, margin irregularly erose; midlobe with a short, narrow basal isthmus, bilobate, each lobe subrectangular-rounded, the apical margin erose. **Column** thick, straight, the clinandrium-hood slightly upturned, ending in 4 lamina lobes, apex somewhat funnel-shaped, truncate, the margin minutely erose. **Clinandrium-hood** short, bilobed, margin erose. **Anther** obovoid, apex truncate, 4-celled. **Pollinia** 4, oblong-obovoid, laterally compressed, subequal; caudicles longer than the pollinia; viscidium lacking. **Rostellum** perpendicular to the axis of the column, forming a wide angle. **Nectary** penetrating half the ovary, smooth.

OTHER SPECIMENS AND OTHER RECORDS: See appendix.

DISTRIBUTION AND ECOLOGY: Ranging along the Atlantic slope from the Cordillera Central in Costa Rica, through the Pacific slope of Colombia in the Chocó and Valle del Cauca to northwestern Ecuador. Epiphytic or lithophytic, at 500-2100 m altitude. Flowering from October to December, and March to August.

RECOGNITION: *Epidendrum wallisii* belongs to the *Oerstedella* Group, *Wallisii* Subgroup. The species is recognized by the large, fleshy, very showy flowers, sepals and petals yellow, generally with dark purple dots, the lip white turning yellow, with purple lines, or dark purple dots. *Epidendrum pinniferum* C.Schweinf. has somewhat smaller flowers (sepals 15-17 mm long), reflexed sepals and petals, generally yellowish brown with more intense brown markings on the sepals, the lip is lilac-pink with multiple thickened veins; an albino form exists in Panama, with yellow and white flowers. *Epidendrum lacteum* Dressler has small plants, greenish creamy, immaculate sepals and petals, with a white lip and is apparently endemic to central Panama in the province of Veraguas.

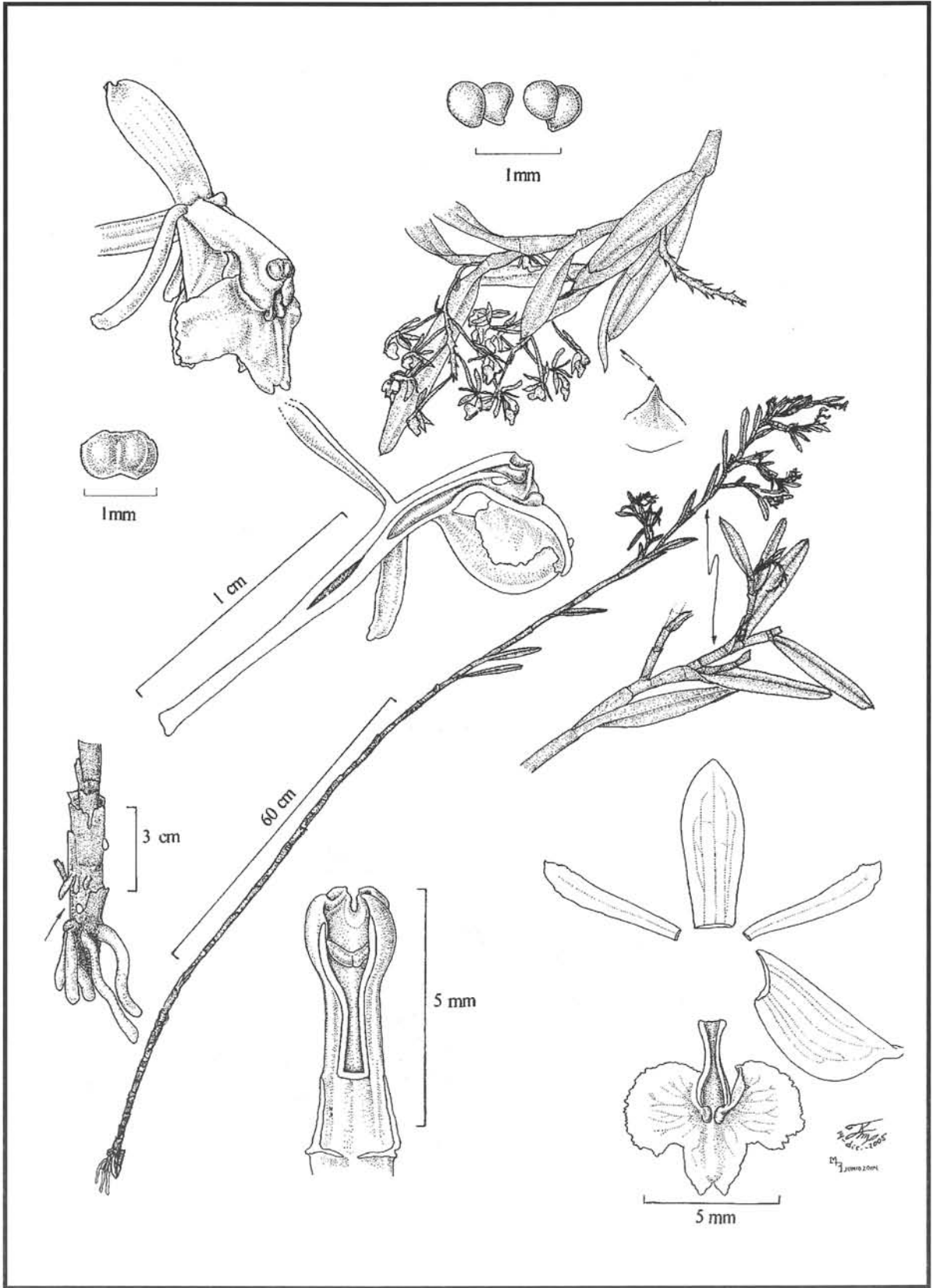
NOTE: The basis for the separation of *E. pseudowallisii* were slight differences in the wider petals and smaller, narrower lip, and the lack of keels on the lip. Withner stated that the Costa Rica flowers had a white lip, while those from Colombia had prominent purple lines on the disc. Dressler (pers. comm.) has said that the variation he has seen in Colombia or Panama is much larger than between the flowers from Costa Rica and Colombia. We have observed the great variation in plants from Cerro Jefe in Panama. Thus we have treated them all as a single species.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In honor of Gustav Wallis, (1830-1878), a German gardener, employed by Jean Linden, and later by James Veitch to collect in Brazil, the Philippines and Colombia, where he collected this species.

REFERENCES: Dodson, C. H., 2002, *Native Ecuadorian Orchids*, Dodson Trust, 3: 636. Dressler R. L., 1993, *Field guide to the Orchids of Costa Rica and Panama*, Cornell University Press, p. 91, Plate 6, fig. 3. Hágsater, E., in Hammel et al., 2003, *Manual de Plantas de Costa Rica*, vol. III, Missouri Botanical Garden, p. 352. Hágsater, E., & M. A. Soto Arenas, 2005, Transfers to *Epidendrum* L. From *Oerstedella* Rchb.f., *Lankesteriana* 5(1): 73.





EPIDENDRUM YPSILUM Hágsater & E.Santiago
 THE GENUS EPIDENDRUM PART 5

EPIDENDRUM YPSILUM Hágsater et E.Santiago, sp. nov.

Type: PERU: Amazonas: Chachapoyas, middle eastern Calla Calla slopes, near km 415-418 of Leimebamba-Balsas road, 2900-3150 m, 20 August 1962, *John J. Wurdack 1735*. Holotype. US 2403924! (Illustration voucher).

Epidendro fruticulus Schltr. simile sed foliis oblongo-lanceolatis, floribus non resupinatis minoribus, labelli lobulo medio cuneato subtriangularem emarginato, abhorrens.

Hierba terrestre o epífita, monopodial, ramificada arriba, erecta, 185 cm de alto. **Raíces** basales del tallo principal, carnosas, muy gruesas, 2.3-3.3 mm de grosor. **Tallo** principal profusamente ramificado subapicalmente, tipo caña, terete, erecto, recto; el principal 140 x 0.5-0.8 cm; las ramificaciones a su vez ramificadas, 7-13 x 0.18-0.33 cm. **Hojas** numerosas, ca. de 27 en el tallo principal, 3-10 en las ramas, distribuidas en la mitad apical del tallo, alternas, articuladas, dirigidas hacia arriba; vainas tubulares a infundibuliformes, estriadas, rugosas, 15-35 x 5-8 mm; lámina oblongo lanceolada, ápice redondeado a agudo, con una quilla dorsal diminuta, margen denticulado en el ápice, coriácea, lisa; las del tallo basal, 5-12 x 0.6-1.1 cm; las de las ramificaciones 1.6-4.8 x 0.3-0.7 cm. **Bráctea espatácea** ausente. **Inflorescencia** apical, florece una sola vez, racemosa, suberecta, corta, 3-4.5 cm de largo; pedúnculo corto, terete, delgado, desprovisto de brácteas, 8-11 mm de largo. **Brácteas florales** más cortas que el ovario, linear lanceoladas, acuminadas, abrazadoras, 3-5 mm de largo. **Flores** 14-20, simultáneas, no resupinadas, amarillas, salpicadas de marrón, sin datos de fragancia. **Ovario** terete, delgado, no inflado, liso, 10-11 mm de largo. **Sépalos** libres, obovados, subagudos, margen entero, 6.2-6.5 x 2.2-2.7 mm; el **dorsal** reflexo, 3-nervado, las nervaduras laterales ramificadas dando la impresión de ser 5-nervado; los **laterales** entreabiertos, oblicuos, con una quilla dorsal prominente, 6-nervados. **Pétalos** libres, ligeramente reflexos, linear oblanceolados, subagudos, 1-nervado, margen entero hacia la base y ligeramente eroso hacia el ápice, 5.7 x 1 mm. **Labelo** unido a la columna, trilobado, base profundamente cordada, margen crenado, 5 x 6.7 mm; bicalloso, callos redondeados, cortos; disco provisto de una quilla baja, lisa y redondeada en el ápice, alargada hasta el seno apical; lóbulos laterales dolabriformes, 2.7 x 3.4 mm; lóbulo medio cuneado, subtriangular, emarginado, 1.8 x 2.2 mm. **Columna** ligeramente arqueada, delgada en la base, más ancha en el ápice, 5 mm de largo. **Clinandrio** reducido, margen entero. **Antera** reniforme, 4-lócular. **Polinios** 4, obovoides, lateralmente comprimidos, desiguales. **Rostelo** apical, hendido. **Lóbulos laterales del estigma** prominentes, ocupando 1/2 de la cavidad estigmática. **Nectario** poco profundo, penetrando ligeramente el ovario, liso, no inflado. **Cápsula** no vista.

Terrestrial or epiphytic, monopodial, branching, erect **herb**. **Roots** at the base of the main stem, fleshy, thick. **Main stem** much branched towards the apex, cane-like, terete, erect, straight; the branches short, also branched. **Leaves** ca. 27 on the main stem, 3-10 on the branches, distributed throughout the apical half, alternate, articulate, directed upwards; sheaths tubular, somewhat infundibuliform, striated, rugose; blade oblong-lanceolate, apex rounded to acute, with a short dorsal keel, apical margin denticulate, coriaceous, smooth, those of the branches smaller than those of the main stem. **Inflorescence** apical, flowering only once, racemose, suberect, short; peduncle short, terete, thin, without bracts. **Floral bracts** much shorter than the ovary, linear-lanceolate, acuminate. **Flowers** 14-20, simultaneous, non-resupinate, yellow, speckled dull maroon. **Ovary** terete, thin, smooth. **Sepals** free, obovate, subacute, the dorsal reflexed, 3-veined, the lateral veins branching so as to appear 5-veined; the laterals partly spreading, oblique, with a prominent dorsal keel, 6-veined. **Petals** free, slightly reflexed, linear-oblanceolate, subacute, basal margin entire, apical margin erose, 1-veined. **Lip** united to the column, 3-lobed, base deeply cordate, margin crenate; bicallose, the calli rounded, short; disc provided with a low, smooth keel, rounded at the apex which reaches the apical sinus; lateral lobes cuneate, subtriangular, emarginate. **Column** slightly arching, thin at the base, thickened above. **Clinandrium-hood** reduced, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, laterally compressed, unequal. **Rostellum** apical, slit. **Nectary** shallow, slightly penetrating the ovary, not inflated, smooth.

OTHER SPECIMENS: No seen.

DISTRIBUTION AND ECOLOGY: Known only from the type on the Amazon slope of the Andes in northern Peru, terrestrial or epiphyte, at 2900-3150 m. Flowering in August.



RECOGNITION: *Epidendrum ypsilum* belongs to the Soratae Subgroup of the Scabrum Group which is characterized by the branching habit starting on a primary stem, infundibuliform, rugose leaf-sheaths, lanceolate, aristate, acute leaves, racemose inflorescence on a short, thin peduncle, and the bicallose lip. The species can be recognized by the very tall, thin but robust main stem, somewhat branching subapically, with leaves considerably larger on the main stem than those of the branches, the golden yellow speckled dull maroon, non-resupinate flowers, 6.2-6.5 mm-long sepals and the 3-lobed lip with a cuneate, subtriangular, emarginate, midlobe. It resembles *Epidendrum schneideri* Hágsater but the plants of that species are very small, short, linear-lanceolate leaves, 1.2-2.8 cm long, brownish green, resupinate flowers, the sepals dorsally with red-violet dots, petals filiform and the 3-lobed lip rounded at the apex. *Epidendrum chrysomyristicum* Hágsater & E.Santiago has vegetatively similar plants, yellow, resupinate flowers occasionally tinged reddish, sepals 10-12.5 mm long, petals linear-lanceolate, acute, and the 3-lobed lip and the midlobe "T" shaped. *Epidendrum fruticulatum* has elliptic, rounded leaves, yellow, resupinate flowers, sepals 6-9 mm long, linear-oblanceolate, rounded petals, and the lip 3-lobed, with the midlobe rectangular, slightly widened towards the apex, entire. *Epidendrum stenostachyum* Hágsater & E.Santiago has a racemose, narrow, cylindrical inflorescence with greenish yellow, resupinate flowers with purple dots, sepals 7.0-7.7 mm long, and the lip entire, widely ovate-triangular.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Greek ὑψηλός, tall, high, in reference to the very tall, thin vegetative habit of the plant.

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