

ICONES ORCHIDACEARUM

Fascicle 19(3)

Plates 1963-2000

THE GENUS EPIDENDRUM

Part 15

“Species New & Old in Epidendrum”

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ICONES ORCHIDACEARUM

Fascicle 19(3), plates 1963 to 2000

THE GENUS EPIDENDRUM

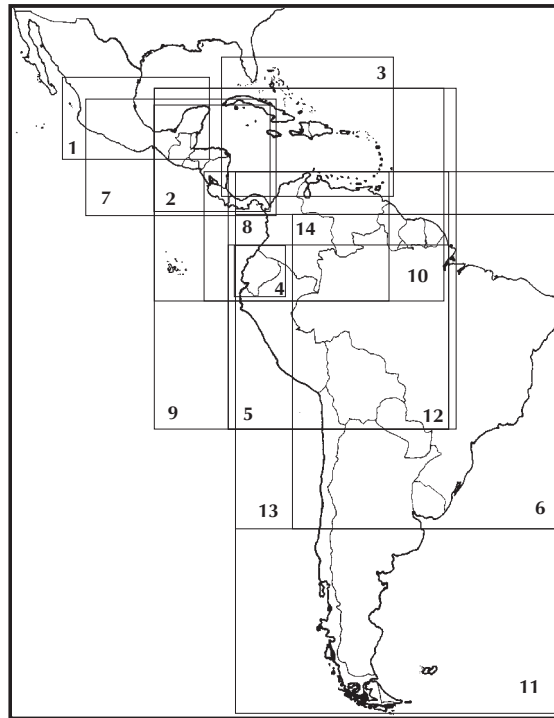
Part 15

“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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ICONES ORCHIDACEARUM

Fascicle 19(3), plates 1963 to 2000

THE GENUS *EPIDENDRUM*

Part 15

“Species New* & Old in *Epidendrum*”

Index

FOREWORD.....	I
Corrections to earlier volumes and Publication dates.....	II

<i>Epidendrum albopropinquum</i> Hágsater & E.Santiago	1963
<i>Epidendrum andinum</i> Carnevali & G.A.Romero	1964
<i>Epidendrum angelguachisacae</i> Hágsater & H.Medina*	1965
<i>Epidendrum ariasii</i> Hágsater & Dodson	1966
<i>Epidendrum atacazoicum</i> Schltr.	1967
<i>Epidendrum bennettii</i> Dodson.....	1968
<i>Epidendrum bifarium</i> Sw.	1969
<i>Epidendrum brevivenium</i> Hágsater & Dodson.....	1970
<i>Epidendrum calimaense</i> J.S.Moreno & Hágsater.....	1971
<i>Epidendrum celsiae</i> J.S.Moreno & Hágsater.....	1972
<i>Epidendrum churubambense</i> Ocupa, J.Duarte, E.Santiago & Hágsater.....	1973
<i>Epidendrum dayseae</i> Krahl & Hágsater.....	1974
<i>Epidendrum densifolium</i> Kraenzl.	1975
<i>Epidendrum dentatum</i> Hágsater & E.Santiago*	1976
<i>Epidendrum elprogresoense</i> Hágsater, A.D.Gut. & L.A.Velásquez*	1977
<i>Epidendrum ferreyrae</i> Hágsater & Ric.Fernández.....	1978
<i>Epidendrum infundibuliforme</i> Hágsater & Villaf.*	1979
<i>Epidendrum isthmi</i> Schltr.	1980
<i>Epidendrum libanense</i> Sierra-Ariza & Hágsater*.....	1981
<i>Epidendrum lindamazonicum</i> Hágsater & G.Calat.	1982
<i>Epidendrum luizae</i> Krahl, Hágsater & Chiron.....	1983
<i>Epidendrum macbridei</i> C.Schweinf.	1984
<i>Epidendrum melanoporphyreum</i> C.Schweinf.	1985
<i>Epidendrum miniatum</i> Schltr.	1986
<i>Epidendrum noctirufescens</i> Hágsater & Cadena*.....	1987
<i>Epidendrum olorteguii</i> Damian, Hágsater & Mitidieri.....	1988
<i>Epidendrum pacholguitarum</i> Ordóñez-Blanco. E.Santiago & Hágsater*.....	1989
<i>Epidendrum pseudocernuum</i> Carnevali & I.Ramírez.....	1990
<i>Epidendrum rhomboscutellum</i> Hágsater & E.Santiago.....	1991
<i>Epidendrum ruizianum</i> Steud.	1992
<i>Epidendrum rupestre</i> Lindl.	1993
<i>Epidendrum schlimii</i> Rchb.f.	1994
<i>Epidendrum scutella</i> Lindl.	1995
<i>Epidendrum sonsonense</i> Rinc.-González, E.Santiago & Hágsater	1996
<i>Epidendrum tandapioides</i> Hágsater.....	1997
<i>Epidendrum tetartociclium</i> Hágsater & Collantes.....	1998
<i>Epidendrum unchogense</i> Ocupa & E.Santiago.....	1999
<i>Epidendrum villenae</i> Hágsater & E.Santiago.....	2000

ICONES ORCHIDACEARUM

Fascicle 19(3), plates 1963 to 2000

THE GENUS *EPIDENDRUM*

Part 15

Species New & Old in *Epidendrum*

FOREWORD

With this issue we conclude volume 19 of the Icones and part 15 dedicated to the Genus *Epidendrum*, thus publishing plate 2000, of which 1500 have been dedicated to the genus.

Of late we have been very busy in both Colombia and Peru, and in some cases, we have decided to first publish new species in indexed publications such as Phytotaxa, Harvard Papers in Botany, Richardiana and Lankesteriana for the benefit of the coauthors who are working on their Master of Science degree and need publications in indexed journals for their CV. It also permits us to deal with illustrated keys to groups of species or more lengthy papers on certain localities which are proving to have a high diversity or many novelties. A total of 38 species are monographed.

Thus, in this issue we publish 7 new species: three from Colombia: *Epidendrum libanense* Sierra-Ariza & Hágsater, *E. pacholgitarum* Ordóñez-Blanco, E.Santiago & Hágsater, and *E. nitrofurescens* Hágsater & Cadena; three from Peru: *Epidendrum dentatum* Hágsater & E.Santiago, *E. elprogresoense* Hágsater, A.D.Gut. & L.A. Velásquez, *E. infundibuliforme* Hágsater & Villaf., one from Ecuador: *E. angelguachisacae* Hágsater & H.Medina.

We also include 7 new species recently first published elsewhere. *Epidendrum calimaense* J.S.Moreno & Hágsater and *E. celsiae* J.S.Moreno & Hágsater in Harvard Papers in Botany. *Epidendrum churubambense* Ocupa, J.Duarte, E. Santiago & Hágsater and *E. unchogense* Ocupa & E.Santiago, first published in Phytotaxa as is *E. dayseae* Krahl & Hágsater. *Epidendrum luizae* Krahl, Hágsater & Chiron in Richardiana. *Epidendrum sonsonense* Rinc.-González, E.Santiago & Hágsater in Lankesteriana.

The rest are previously published species which were only known from the type or from inked illustrations and we can now present un full color LCDPs (Lankester Composite Dissection Plate).

One interesting case of *Epidendrum brevivenium* Lindl., where we here reduce 5 later names to synonyms, all based on specimens from northern Ecuador and neighboring Colombia, which had been based on floral or vegetative differences. A reevaluation of the available material shows that the lobulation of the lip can vary greatly in the same plant, and vegetative differences like stems and leaves vary greatly depending on the whether the plant grows in shade on a tree or is fully exposed on rocky cliffs at higher altitude.

We wish to thank the 28 authors, 19 illustrators or collaborators who prepare the LCDP plates and 34 photographers who participate in this volume, as well as the 13 reviewers, in particular Patricia Harding who aside from questioning some descriptions also helps in getting the English language correct, and Dr. Kanchi Gandhi of Harvard University Herbaria from helping in taxonomic decision of type citations, ensuring that new species names and author abbreviations are correct.

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Corrections to earlier volumes of *Icones Orchidacearum*:

EPIDENDRUM PURDII Hágsater & E.Santiago, *Icon. Orchid.* 12: t. 1280. 2009.

The orthography of the specific epithet has been corrected by Kew to *Epidendrum purdiei* Hágsater & E.Santiago, as the surname of Purdie. In addition the plant is illustrated as upright, but should have been inverted and shown as pendulous. Furthermore, it is placed in the Sorata subgroup of the Andean Group, but we now believe it belongs to the Nanum Group.

EPIDENDRUM MERIDENSE Hágsater & C.Jerez, *Icon. Orchid.* 18(1): pl. 1822. 2020.

The correct abbreviation of the second author is **C.J.Jerez**, please add the “J.” to C.Jerez.

EPIDENDRUM CHLOIDOPHYLLUM Rchb.f. ex Hágsater & Dodson, *Icon. Orchid.* 14: pl. 1417. 2013.

In Other Specimens; Paratype AMES 4351! Should read Paratype: AMES 73789! W 4351 Tracing of specimens at AMES).

EPIDENDRUM OVATILABIUM Hágsater, E.Santiago & Edquén, *Icon. Orchid.* 19(1): pl. 1930 (2022).

Type: PERU: Amazonas: Prov. Chachapoyas: Distr. Granada: Comunidad campesina de Diosán, sector Canchi, 3100 m, 22 octubre 2018, **José Dilmer Edquén Oblitas 2311**. Holotype: HURP! (LCDP voucher). The collecting number originally cited has to be corrected, as *Edquén 816*, corresponds to a completely different species and does not comply with the diagnosis.

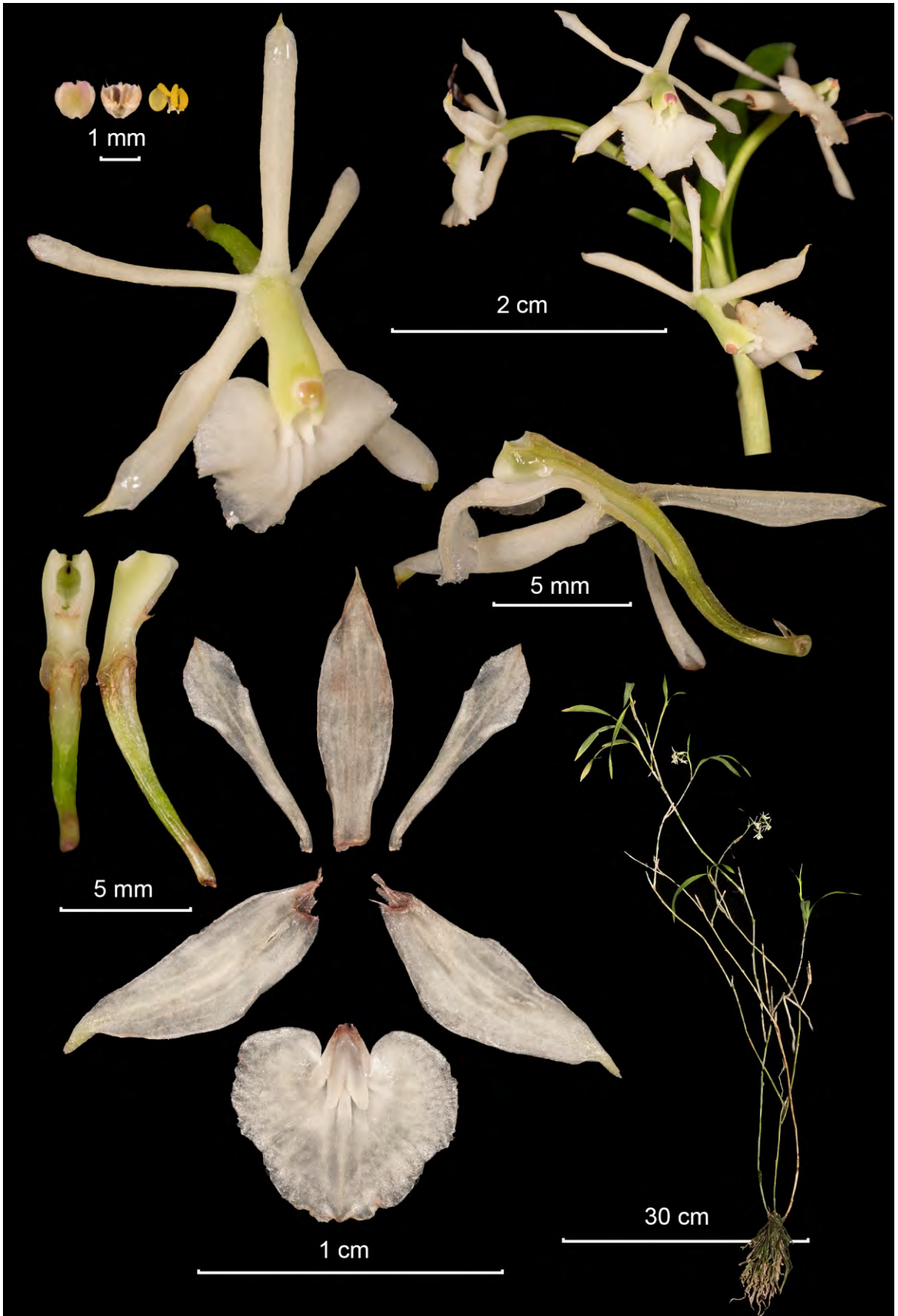
EPIDENDRUM FRUTICULUM Schltr. *Icon. Orchid.* 12: pl. 1248 (2009).

In the title and text, we changed the original orthography to *fruticulum*, allegedly in accordance with article 23.5 of the Saint Louis Code, but this is a mistake because the correct base is *fruticulus* meaning a shrublet, is a masculine noun so it doesn't decline to agree with the gender of the genus. We misinterpreted the name with *fruticosus*, which means bushy and is an adjective and thus would have to conform to the genus. (See Etymology). Please correct the name in your records to *Epidendrum fruticulus* Schltr.

Publication dates:

Volume 1 was published on 26 February 1990
Volume 2 was published on 11 October 1993
Volume 3 was published on 25 March 1999
Volume 4 was published on 8 August 2001
Volume 5-6 was published on 9 June 2003
Volume 7 was published on 13 January 2005
Volume 8 was published on 1 June 2006
Volume 9 was published on 18 May 2007
Volume 10 was published on 11 June 2008
Volume 11 was published on 3 December 2008
Volume 12 was published on 16 December 2009
Volume 13 was published on 10 December 2010
Volume 14 was published on 31 May 2013
Volume 15(1) part 11 was published on 26 May 2015
Volume 15(2) part 11 was published on 19 July 2016
Volume 16(1) part 12 was published on 24 January 2018
Volume 16(2) part 12 was published on 30 November 2018
Volume 17(1) part 13 was published on 21 October 2019
Volume 17(2) part 13 was published on 11 May 2020
Volume 18(1) part 14 was published on 8 December 2020
Volume 18(2) part 14 was published on 13 August 2021
Volume 19(1) part 15 was published on 3 May 2022
Volume 19(2) part 15 was published on 28 June 2022
Volume 19(3) part 15 is published on 6 June 2023

Empty



EPIDENDRUM ALBOPROPINQUUM Hágsater & E.Santiago

Plate 1963

EPIDENDRUM ALBOPROPINQUUM Hágsater & E.Santiago, *Icon. Orchid.* 15(1): t. 1501 (2015).

Type: MEXICO: Puebla: On road Tehuacán-Orizaba, at km 17 & 20, flowers nearly ivory white, fragrant of hyacinths, ca. 1700 m, 1 June 1936, *Karl Erik Magnus Östlund 5861*. Holotype: AMO! Isotypes: AMES! CAS! F! MEXU! SEL x2! US!

Epiphytic, monopodial, erect, branching herb 40–70 cm tall, forming a shrub. **Roots** 4.0–5.5 mm in diameter, basal from primary stem, very fleshy, nearly as thick as stem. **Stems** primary stem 25–30 × 0.3–0.5 cm, erect, ascending; branches 3–17 × 0.2–0.35 cm, produced generally from apical and sub-apical internodes, just below leaves, terete, thin, straight, unequal in size, distal ones gradually smaller; all with non-foliar sheaths 5–60 mm long, tubular, papiraceous, fibrous, disappearing with age. **Leaves** 2–4, aggregate towards apex of stems, articulate, alternate, similar in size and shape; sheaths 3–25 mm long, tubular, minutely striated; blade 3.1–10.5 × 0.6–1.3 cm, lanceolate, acute, thin, grass-like, dorsally carinate. **Spathes** lacking. **Inflorescence** 2.5–3.5 cm long, apical, racemose, distichous, nutant, laxly few-flowered, short, flowering only once; peduncle 0.8–1.7 cm long, filiform, short, without bracts; rachis 1.3–2.0 cm long, filiform, fractiflex. **Floral bracts** 3–5 mm long, much shorter than ovary, triangular-filiform, long acuminate, embracing. **Flowers** 5–8, simultaneous, resupinate, ivory-white, immaculate, column green on dorsal surface, apex of column turning yellow with age, anther white or sometimes dirty lilac along a central vertical band; fragrance strong, sweet, pleasant, of *Hyacinthus sp.* **Ovary** 7–13 mm long, terete, thin, slightly inflated behind perianth, unornamented. **Sepals** 9.0–12 × 2.4–3.3 mm, spreading to slightly reflexed, free, narrowly elliptic, acute to apiculate, dorsally keeled, keel extending beyond the blade of the sepal, 3-veined, margins entire, revolute; lateral sepals slightly oblique. **Petals** 8.0–11.0 × 1.5–2.6 mm, free, spreading to reflexed, spatulate-oblongate, acute, 3-veined, oblique, and obliquely united to base of column, apical margin erose, revolute. **Lip** 6–7 × 6–7 mm, united to column, entire, slightly convex, cordiform, base cordate, apex rounded, mucronate, margins erose; bicallose, calli small, sub-globose, parallel, disc provided with tree thin, parallel ribs, lateral pair short, just in front of calli, disappearing at middle of blade, central rib elongate, reaching apex of lip. **Column** 4.6–5 mm long, straight, thin, apically dilated. **Clinandrium-hood** reduced, margin entire. **Anther** sub-reniform, truncate at base and apex, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose, somewhat longer than pollinia. **Rostellum** apical, slit; viscarium semi-liquid, transparent. **Lateral lobes of stigma** prominent, occupying 1/3 of stigmatic cavity. **Cunuculus** penetrating about 1/3 of ovary, slightly inflated, unornamented. **Capsule** not seen.

OTHER SPECIMENS: MEXICO: Chiapas: Cerro del Huitepec, al O de San Cristobal de Las Casas, 2500 m, 30 XI 1982, *Cabrera 3917*, MEXU! San Cristóbal de las Casas, en el Centro de Huitepec, al Oeste de San Cristobal de Las Casas, 4 XII 1983, *Cabrera 6013*, MEXU! CICY! **Oaxaca:** Santa Ana Cuauhtémoc, El Aguacate, 1373 m, 24 II 2005, *Juárez 1459*, IBUG! *Ibid.* *Juárez 1758*, IBUG! **Puebla:** Zacapoaxtla; Apulco, 1600 m, 13 VI 2003, *Mora 505*, AMO! **Veracruz:** Sta. Rita, Sierra de Chiconquiaco, 1310 m, 16 VII 1967, *Nevling 16*, AMES! MEXU! 55 km NE of junction of Hwy 140 and road to Misantra, 22 VII 1978, *Poole 1552*, MEXU! Chiconquiaco, Landeroy y Cos, 1800 m, 14 VII 1973, *Ventura 8632*, AMO! XAL. Acatlán, 1700 m, 2 VI 1975, *Ventura 11523*, AMO! CHAPA, ENCB! MEXU! **EL SALVADOR: Santa Ana:** Cerro Montecristo, Los Planos, 2000 m, 25 VIII 1977, *Hamer 592*, AMO! (illustration, AMO!).

OTHER RECORDS: MEXICO: Without locality, possibly from Puebla or Veracruz, cult. *Guzmán Roldán s.n.*, digital image, AMO! Without locality, possibly from Veracruz, *Jack Orquídea s.n.*, digital image, AMO! Without locality, received 14 VII 2015, *Jonguitud s.n.*, digital image, AMO! Without locality, received 3 V 2020, *Prait s.n.*, digital image, AMO! **Oaxaca:** Huajuapán de León, *Israel Oliver sub Hágsater 14542*, illustration and digital images, AMO! (LCDP voucher) **Puebla:** Cuetzalan, ca. 1600 m, Jardín Botánico Xoxotic de Cuetzalan, digital photo, AMO! Cuetzalan del Progreso, cerca de la localidad Xocoyolo, Cultivado en el Jardín Botánico Xoxotic ubicado en la carretera Cuetzalan-San Antonio Rayón, km 2.8, 1490 m, 10 VI 2012, *Álvarez s.n.*, digital images, AMO! (Photo voucher). Sierra Norte, received 23 VI 2019, *Flores s.n.*, digital image, AMO! Zona poblana del Pico de Orizaba, Chichiquila, 2010, *Sánchez s.n.*, digital image, AMO!

DISTRIBUTION AND ECOLOGY: Ranging from central Mexico, in the Sierra Madre Oriental, at lower altitudes around the Pico de Orizaba, in the state of Puebla and neighboring Veracruz, in the Sierra de Chiconquiaco, and nearby in Oaxaca, and Cerro Montecristo at the border between Guatemala, El Salvador and Honduras. Usually in pine-oak or liquidambar cloud forests at 1300–1800[2500] m elevation. Flowering from April to August. The species appears to be sympatric with *E. propinquum*.

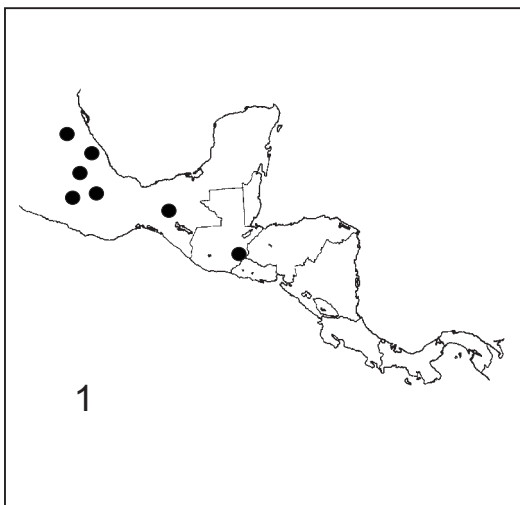
RECOGNITION: *Epidendrum albopropinquum* belongs to the Magnoliae Group which is characterized by the sympodial growth mode, sometimes with branching stems, the membranaceous to sub-coriaceous leaves, the delicate, relatively small flowers, and the lip bicallose, with few to many ribs on the disc of the lip, and the predominantly Mexican Propinquum Subgroup which is characterized by the bush-like habit with thin stems, the membranaceous leaves, the racemose, few flowered, compact, inflorescence, and the mostly yellow or pale green flowers. The species is recognized by the thin, grass-like leaves, the ivory-white, immaculate flowers, strongly, pleasantly fragrant of *Hyacinthus sp.*, the column short, straight, (ca 5 mm long), the nectary penetrating 1/3 of the ovary, and the calli sub-globose. It is very similar to *Epidendrum propinquum*, which has an identical vegetative habit, but its flowers are pale green, often with purple dots forming a ring around the disc of the lip or even spotting the whole flower, the fragrance is very weak, the column longer (ca. 7–9 mm long), and the nectary barely penetrating the ovary, and the calli are laterally compressed. It has been confused in with *Epidendrum ledifolium* A.Rich. & Galeotti, which is now known under the earlier synonymy, *Epidendrum lignosum* Lex., and has thick leathery leaves, narrower and apically rounded, the flowers greenish yellow to apple-green, concolor or marked with red, the apex of the column and anther red or purple and usually fragrant, of “medicinal ointment” during daytime. *Epidendrum skutchii* Ames, F.T.Hubb. & C.Schweinf. often has taller plants, to 120 cm, with linear-lanceolate, acute, grass-like leaves, and the apical inflorescence 4.5–6 cm long, with radiating, and the disc of the lip with fleshy-thickened veins. *Epidendrum eduardo-perezii* Hágsater & E.Santiago has shorter plants with green flowers, the sepals and petals tinged purple, the lip red-purple with multiple evident green ribs, the column 8 mm long, green at its base and purple at the apex, and the calli laminar and divergent.

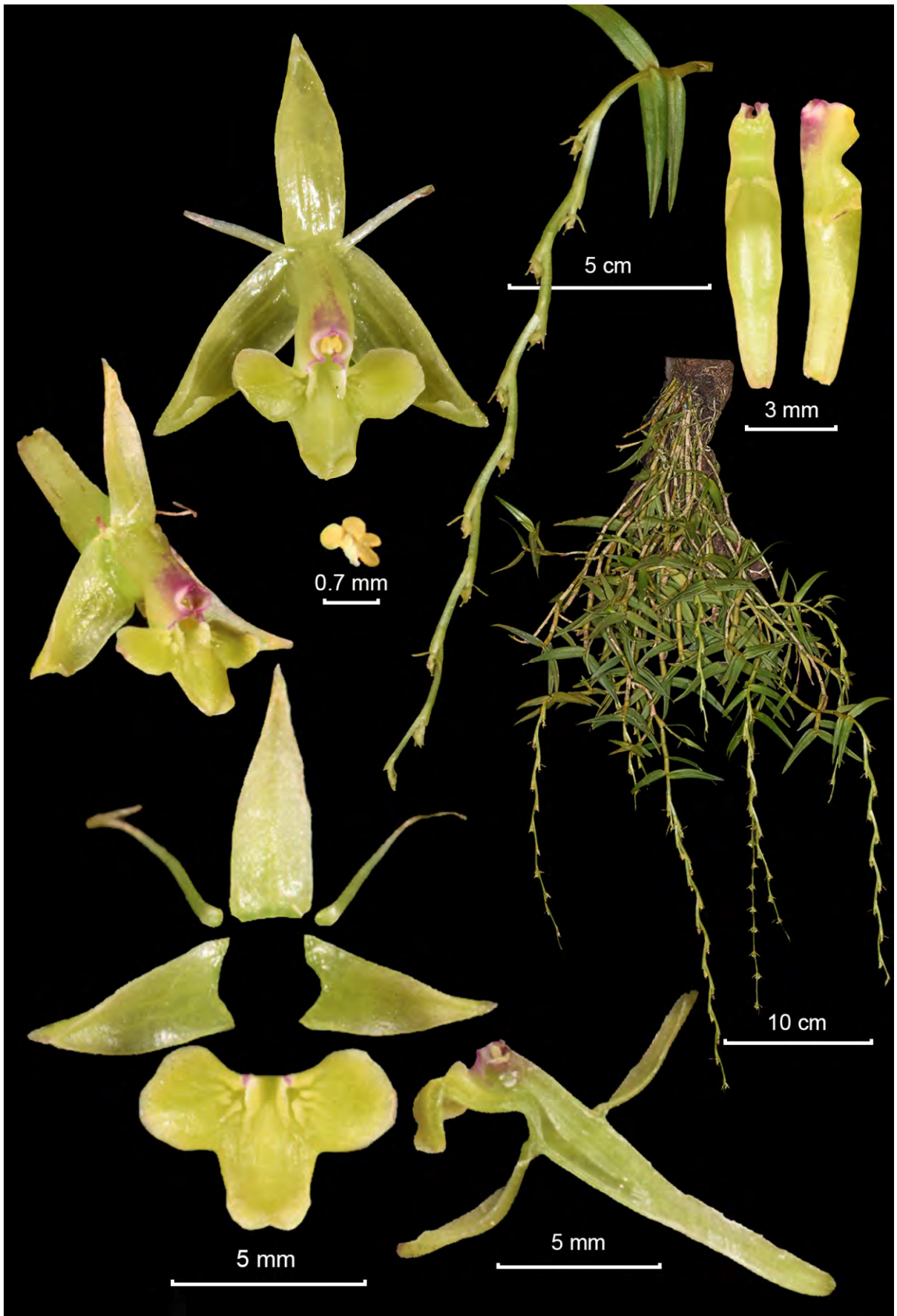
NOTE: It is amazing to find a widespread new species in Mexico, a well botanized country, which has been confused with another and not detected earlier, as it is basically distinguished by the color and strong, pleasant fragrance. The species had been detected by Fritz Hamer in El Salvador, and correspondence with the first author came and went, without identifying how it was different from *E. propinquum* (see Cervantes *et al.* 2002); Hamer (1981) included it as *E. ledifolium* (his illustration shows a strongly arched column). Ames & Correll (1952) indicate that *Epidendrum ledifolium* has “yellow-green or ivory white flowers, fragrant of hyacinth”; the ivory-white, fragrant flowers refer to the new species, and is taken from *Östlund 5861*. The material cited (*Steyermark 31688*, F!) as *E. ledifolium* is sterile, and the description corresponds to *E. propinquum*.

CONSERVATION STATUS: LC. Least Concern. Widespread and apparently frequent in the wet forests of the State of Puebla and neighboring Veracruz and south to Chiapas, Guatemala and the border with El Salvador and Honduras.

ETYMOLOGY: From the Latin *album*, white, and *propinquus*, close by, neighboring, in reference to the similarity of this species to *Epidendrum propinquum*, but with white flowers.

REFERENCES: Ames, O., & Correll, D.S. (1952) *Epidendrum ledifolium*. In *Orchids of Guatemala*, *Fieldiana: Bot.* 26(1): 340. Cervantes, L., Hágsater, E. & Soto, M. (2002) *Epidendrum propinquum*. In Hágsater, E. & Soto, M. (Eds.), *Orchids of Mexico, Part 2, Icon. Orchid.* 5: t. 579. Hágsater, E. (1980) *Epidendrum Mexicana Pollardiana 7: El Complejo Epidendrum propinquum, Orquídea (Mexico City)* 7(4): 313–333. Hágsater, E., & Santiago, E. (2008) *Epidendrum eduardo-perezii*. In Hágsater, E. & Sánchez, L. (Eds.), *The Genus Epidendrum, Part 10, Icon. Orchid.* 14: t. 1126. Hamer, F. (1981) *Epidendrum ledifolium, Las Orquídeas de El Salvador*, 3, suppl.: 100–101, 261. Santiago, E., & Hágsater, E. (2008) *Epidendrum lignosum*. In Hágsater, E. & Sánchez, L. (Eds.), *The Genus Epidendrum, Part 7, Icon. Orchid.* 11: t. 1138.





EPIDENDRUM ANDINUM Carnevali & G.A.Romero

Plate 1964

EPIDENDRUM ANDINUM Carnevali & G.A.Romero, *Orchids of Venezuela*, ed. 2: 1131 (2000).

Holotype: VENEZUELA: Trujillo: Boconó-Guaramacal road, rain forest at 2300 m, **Galfrid Clement Keyworth Dunsterville 620**.
Holotype: AMES! (Illustration, description and flowers in envelope).

Epiphytic, sympodial, sub-caespitose, pendulous **herb**, 12–30 cm tall. **Roots** 0.5–1 mm in diameter, produced from base of stem, scarce, fleshy, thin, white. **Stems** 5–7 × 0.1–0.9 cm, simple, cane-like, branched, basal part more or less terete, strongly compressed towards apex; base covered by 1 or 2 sheaths 8–10 mm long, infundibuliform, non-foliar, scarious. **Leaves** 4–6, distributed on apical half of stem, alternate, articulate, spreading in relation to stem, unequal in size (basal one smaller), fleshy, lightly sulcate on face but not carinate at back, though mid-vein shows up as a light purple-green line; foliar sheaths 5–12 × 3–5 mm, tubular (infundibuliform when dry), minutely striated; blade 6 × 0.2–0.6 cm, oblique-lanceolate, acuminate, margin entire. **Spathes** absent. **Inflorescence** 8–15 cm long, apical, racemose, pendent, few-flowered, lax; peduncle 1.3–1.6 cm long, laterally compressed, ancipitose; rachis 7.3–13.5 cm long, laterally compressed, ancipitose, sinuous. **Floral bracts** 5–7 × 5–6 mm, infundibuliform, widely triangular (when spread), acute, similar in length to ovary. **Flowers** 8–15, simultaneous, resupinate, light green, column green with some pink at apex, anther brown, fleshy, rigid; fragrance not registered. **Ovary** 6 mm long, terete, thick, slightly inflated behind perianth, hidden in floral bract. **Sepals** free, narrowly triangular, short acuminate apex, 5-veined, margin entire, spreading; dorsal sepal 3.5–3.8 × 1.2–1.3 mm, spreading; lateral sepals 4.5–5.5 × 2 mm, partly spreading, slightly oblique. **Petals** 3 × 0.3 mm, free, spreading, apex recurved forward, filiform, acute, margin entire, spreading. **Lip** 3.0–3.3 × 4.5–4.8 mm, united to column, spreading, 3-lobed, base slightly cordate, margin entire, spreading; bicallose, calli prominent, erect, laterally compressed, parallel; disc with numerous short thickened veins radiating from base of lateral lobes; lateral lobes 1.5 × 1.5 mm, obliquely sub-quadrate, apex truncated; mid-lobe 2 × 1.5 mm; oblong-sub-quadrate, longer than wide, apex truncated, slightly emarginate. **Column** 3.5–4 mm long, straight, constricted in middle. **Clinandrium-hood** short tubular, margin entire. **Anther** not seen. **Pollinia** 4, obliquely ovoid, slightly laterally compressed, similar in size. **Rostellum** apical, slit; viscarium semi-liquid, transparent. **Lateral lobes of stigma** not seen. **Anther** 4-locular, reniform, emarginate apex, base apiculate, with a central rib on dorsal surface. **Cuniculus** penetrating just behind perianth, slightly inflated. **Capsule** 25 × 7 mm, ellipsoid; pedicel 7 mm long, body 15 × 7 mm; apical neck 5 × 1.5 mm.

OTHER SPECIMENS: COLOMBIA: Cundinamarca: Mun. Albán, Vda. Pantanillo-Garbanzal, 2556 m, 2 XII 2013, *Arias 28*, JBB! Mun. Guatavita, Pantano de Martos, 2866 m, 13 III 2017, *Rincón-González 906*, FMB! **Santander:** Mun. California, 2300–2800 m, 20 II 2013, *Hinestroza 252*, HUA! **VENEZUELA: Mérida:** Ejido-Páramo Los González, 2800 m 2 V 1949, *Renz 5228*, RENZ! La Carbonera, Passohe Ejido-Azulita, 2300 m, 4 III 1949, *Renz 5324*, RENZ! Capaz-Gebiet, El Trigal, 2400 m, 30 III 1949, *Renz 5362*, RENZ! Sierra de Mérida, zwischen Mérida und Los Nevados, in La Aguada, 3200 m 21 V 1949, *Renz 5536*, RENZ! Zwischen Humocaro Bajo und Carache, Fila Los Napes, 3130 m, 6 IX 1959, *Renz 9605*, RENZ! **Táchira:** arriba de Betania y Tamá, 2300–2450 m, 22–24 V 1967, *Steyermark 98665*, AMES! Cabecera del Río Quinimari, 2400 m, 10 I 1968, *Steyermark 100613*, AMES x3! **Trujillo:** Boconó, Parque Nacional Guaramacal, 1790–2200 m, 16 VI 2001, *Stergios 19246*, CICY!

OTHER RECORDS: COLOMBIA: Without locality data, 15 II 2018, *Uribe s.n.* digital images, AMO! (LCDP voucher). **Boyacá:** Almeida, *Romero Medina s.n.*, digital images AMO! **Santander:** Cordillera Oriental, 2200–3300, 6 V 2019, *Cristhian Kqa s.n.*, digital images, AMO! (Photo voucher).

DISTRIBUTION & ECOLOGY: Endemic to the northern Andes in western Venezuela and northern Colombia. Epiphytic in wet cloud forest at 2300–3200 m elevation. Flowering October to June.

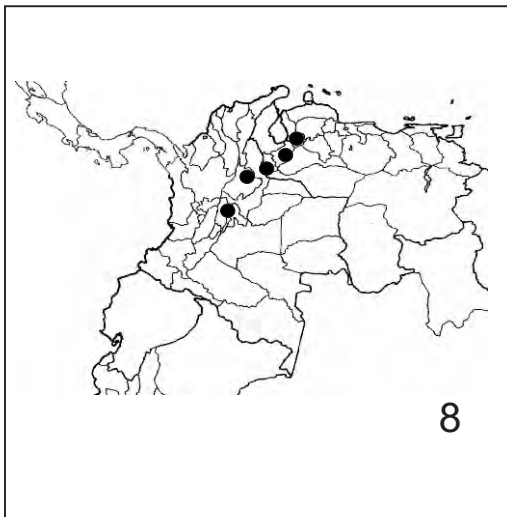
RECOGNITION: *Epidendrum andinum* belongs to the Bifarium group, which is recognized by the sympodial plants, the leaves 4–7, spreading, narrowly linear-lanceolate, acuminate, the distichous inflorescence, simple, the rachis elongate, the flowers with a short ovary completely covered by the floral bract, the sepals linear, and the lip 3-lobed, bicallose. This species is recognized by the pendulous habit, the floral bracts infundibuliform and small, the flowers light green with some pink to red at the apex of the column, the sepals 3.5–5.5 mm long, the petals filiform, the lip 3-lobed, the disc of the lip with numerous short, thickened veins radiating from the base of lateral lobes. *Epidendrum bifarium* Sw. known only from the Blue Mountains of Jamaica, has erect plants, and the margins of lip slightly undulate, the lateral lobes sub-orbicular, mid-lobe rectangular, wider than long.

NOTE: Before the description of this species, specimens from Venezuela were identified as *Epidendrum bifarium*, as published by Dunsterville & Garay (1965), with an illustration of the type of the Andean species.

CONSERVATION STATUS: VU Vulnerable. The localities where *E. andinum* have been reported are 720 distant in the two countries. The extension of the presence is calculated in 7500 km², with less than ten known localities, thus corresponding to category VU B1ab(iii). (IUCN, version 3.1). Notwithstanding, there is little knowledge of this species from the eastern Andes in Colombia in the departments of Norte de Santander, Santander, Boyacá and Cundinamarca, where its presence may have diminished in recent years due to agriculture and cattle grazing in the subpáramo areas.

ETYMOLOGY: In reference to the Andes, where the species was first found in Venezuela, as compared to its sister species, *E. bifarium* Sw. which is endemic to Jamaica.

REFERENCES: Dunsterville, G.C.K. & Garay, L.A. (1965) as *Epidendrum bifarium*. **Venez. Orchid. III. [Dunsterville & Garay]** 3: 84–85. Hágsater, E. & Ackerman, J.D. (2014) *Epidendrum*, in Ackerman, J.D. *et al.*, *Orchid Flora of the Greater Antilles*, **Mem. New York Bot. Gard.** 109: 151–190. Hágsater, E. & Santiago, E. (2023) *Epidendrum bifarium*. In Hágsater & E., & Santiago E. (Eds.), *The Genus Epidendrum*, Part 15, **Icon. Orchid.** 19(3): t. 1969. IUCN (2001) **Categorías y criterios de la Lista Roja de la UICN**, versión 3.1. pp 33.



Authors: E. Hágsater & E. Santiago

LCDP: C. Uribe Vélez & A. Cisneros

Photo: Cristhian Kqa

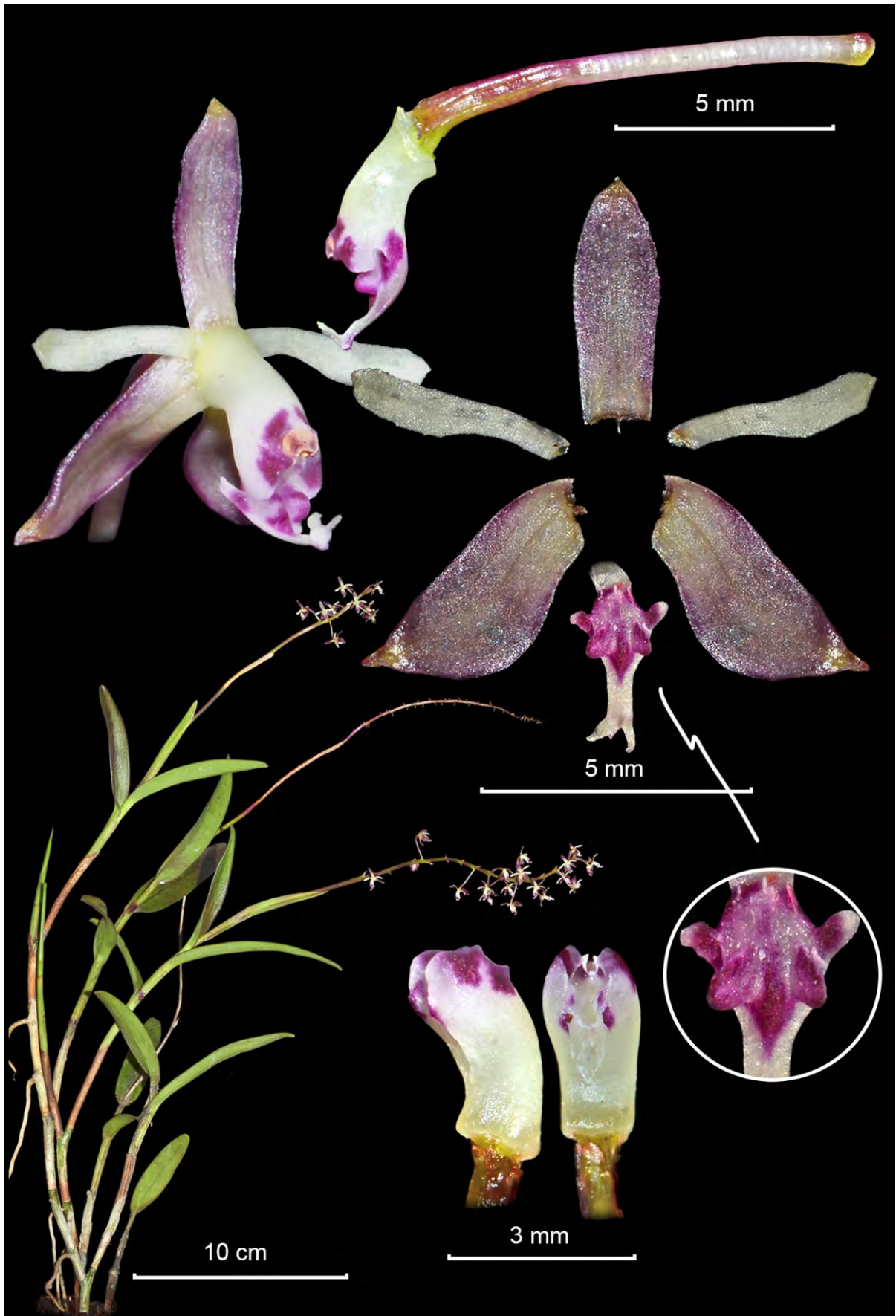
Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONS ORCHIDACEARUM 19(3). 2023.

Plate 1964



EPIDENDRUM ANGELGUACHISACAE Hágsater & H.Medina

EPIDENDRUM ANGELGUACHISACAE Hágsater *et* H. Medina, *sp. nov.*

Type: ECUADOR: Morona Santiago: Cantón Limón Indanza, Parroquia General Leonidas Plaza Gutiérrez, sector Loma de Puerco, near the Área Ecológica de Conservación Municipal Tinajillas Río Gualaceño, 2900 m, epífita en bosque primario nublado y lluvioso, cultivada en Ecuagenera, Gualaceo, febrero 2020, *Hugo Medina Troyani 051*. Holotipo HA! (LCDP and Photo voucher)

Similar to *Epidendrum cylindrostenophyllum* Hágsater & Dodson but the flowers white, sepals tinged wine-red, especially towards margins, petals white, lip and column white, base and apex respectively heavily marked with wine-red spots (vs. flowers greenish white), the ovary 7–10.5 mm long (vs. ovary 3–5 mm long), the lip 3.0 × 1.8 mm, (vs. lip 3.0–4.0 × 3.2–4.7 mm), the lateral lobes 0.5 × 0.3 mm, small and narrow (lateral lobes 1.7 × 0.9 mm, prominent, narrow at base, apex transversely elliptic, wider, hamate).

Epiphytic, sympodial, scandent, erect herb, 28–36 cm tall including inflorescence. **Roots** ca. 1.5 mm in diameter, fleshy, thin, white, scarce, one root per internode produced along rhizomatose section of stems. **Stems** 5.6–14 × 0.3–0.8 cm, produced 6–7 cm, from 3rd internode of previous stem, terete, erect, base covered by non-foliar sheaths, brown with dark brown dots, turning white and fibrous with age. **Leaves** 2–3, aggregate towards apex of stems, sub-spreading, arching; sheaths 0.8–2.0 × 0.3 cm, tubular, green, sometimes dotted or striped purple; blades 3–8 × 1 cm, narrowly elliptic-lanceolate, apex narrowly rounded, medium green. **Spathe** 1, 5.8–6.6 × 0.3–0.4 cm, tubular, conduplicate, apex acute, sides parallel. **Inflorescence** 14–18 cm long, apical from mature stem, erect, loosely few-flowered, racemose; peduncle 8.8–12 × 0.15 cm, dark red-brown, sometimes provided near middle, beyond spathe with bract 2.7–4.3 × 0.2 cm, long tubular, apex acute, light brown; rachis 8–9 cm long, terete, thin, straight dark red-brown. **Floral bracts** 1.5–2 mm long, much shorter than ovary, triangular, acute, embracing. **Flowers** 27–30 sparsely distributed along raceme, resupinate, simultaneous, white, sepals tinged wine-red, especially towards margins, petals white, lip and column white, base and apex respectively heavily marked with wine-red spots: fragrance none. **Ovary** 7–10.5 × 0.6 mm, terete, straight, thin, white, apical 1/3 slightly thickened, green tinged purple, unornamented, furrowed. **Sepals** spreading, slightly reflexed, arching, 3-veined, membranaceous, margins entire, spreading; dorsal sepal 4.6 × 1.6 mm, oblong, apex obtuse; lateral sepals 5.2 × 2.1 mm, obovate-oblong, acuminate, sigmoid, with low apical dorsal keel, short aristate. **Petals** 4.2 × 0.8 mm, narrowly oblanceolate-oblong, apex obtuse, slightly sigmoid, 1-veined, margins entire, spreading. **Lip** 3.0 × 1.8 mm, united to column, except for column wings, base cuneate, deeply 3-lobed, laminar, slightly involute in natural position with apical lobes of mid-lobe abruptly upturned 90°; bicallose, calli large, divergent, obovoid, prominent, laterally compressed, low mid-rib at base of mid-lobe; lateral lobes 0.5 × 0.3 mm, somewhat retrorse, small, oblong, apex rounded; mid-lobe 2.2 × 0.45 mm, rectangular from a obtuse base, apex short bifid, lobes 0.6 × 0.15 mm, triangular, acute, upturned in natural position to 90°, margins entire, spreading. **Column** 3.5 × 1.3 mm, arched, tubular; apex truncate with pair of apical rounded wings free from lip. **Clinandrium-hood** short, margin entire. **Rostellum** apical, slit; viscarium semi-liquid, transparent. **Lateral lobes of stigma** short. **Cuniculus** not seen. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known presently from a single collection from the Amazon slope of the Andes near the road General Plaza-Gualaceo, near Tinajillas, at 2900 m elevation. Flowering in February.

RECOGNITION: *Epidendrum angelguachisacae* belongs to the *Cylindraceum* group, which is characterized by the sympodial habit, the few-leaved stems, the racemose inflorescence with 1–2 ancipitose, long, spathaceous bracts with parallel sides, and the resupinate, membranaceous flowers with the lateral lobes of the lip usually wide and hamate, flat. The species is recognized by the 2–3 leaves 3–8 × 1 cm, the resupinate flowers, the base color white marked with wine-red, the ovary 7–10.5 mm long, and the lip 3.0 × 1.8 mm, narrow, with the lateral lobes 0.5 × 0.3 mm, flat, oblong, straight, and apically rounded. It resembles *Epidendrum cylindrostenophyllum*, which has greenish white flowers, the ovary 3–5 mm long, short, and the lip 3.0–4.0 × 3.2–4.7 mm, about as wide as it is long, with prominent, hamate lateral lobes 1.7 × 0.9 mm, narrow at the base and transversely elliptic and hamate at the apex. The flowers superficially resemble *Epidendrum machinense* M.F. Escal. & Rinc.-González superficially, but that species has a single, longer leaf, 13–15 cm long, one per stem, non-resupinate flowers basically green marked with purple-brown, the lateral lobes of the lip are sub-obovate, twisted, broadly hamate in natural position, and especially the column is short and stocky, 3.7 × 2 mm, widened towards the apex due to the funnel-shaped clinandrium-hood.

ETYMOLOGY: In honor of Ángel Guachisaca (1984–), an employee of Ecuagenera in Gualaceo, Azuay, Ecuador, who discovered the species. The family name Guachisaca is of Quechua origin from Ecuador.

In reference to the Área Ecológica de Conservación Municipal Tinajillas Río Gualaceño, near where the species was discovered. The area was established in February 2013.

CONSERVATION STATUS: DD. Data deficient. Known presently from a single collection in southern Ecuador.

REFERENCES: Escalante, M.F., & Rincón-González, M. (2020) *Epidendrum machinense* (Orchidaceae: Laeliinae), a new species from Colombia, *Phytotaxa* 435(1): 33–40. Santiago, E., Hágsater, E. & Rincón-González, M. (2020) *Epidendrum machinense*. In Hágsater, E. & Santiago, E. (Eds.), *The Genus Epidendrum*, Part 14, *Icon. Orchid.* 18(1): t. 1818. Sánchez S. L. & Hágsater, E. (2009) *Epidendrum cylindrostenophyllum*. In Hágsater, E. & Sánchez S. L. (Eds.), *The Genus Epidendrum*, Part 8, *Icon. Orchid.* 12: t. 1235.



Authors: E. Hágsater & H. A. Medina

LCDP: H. A. Medina

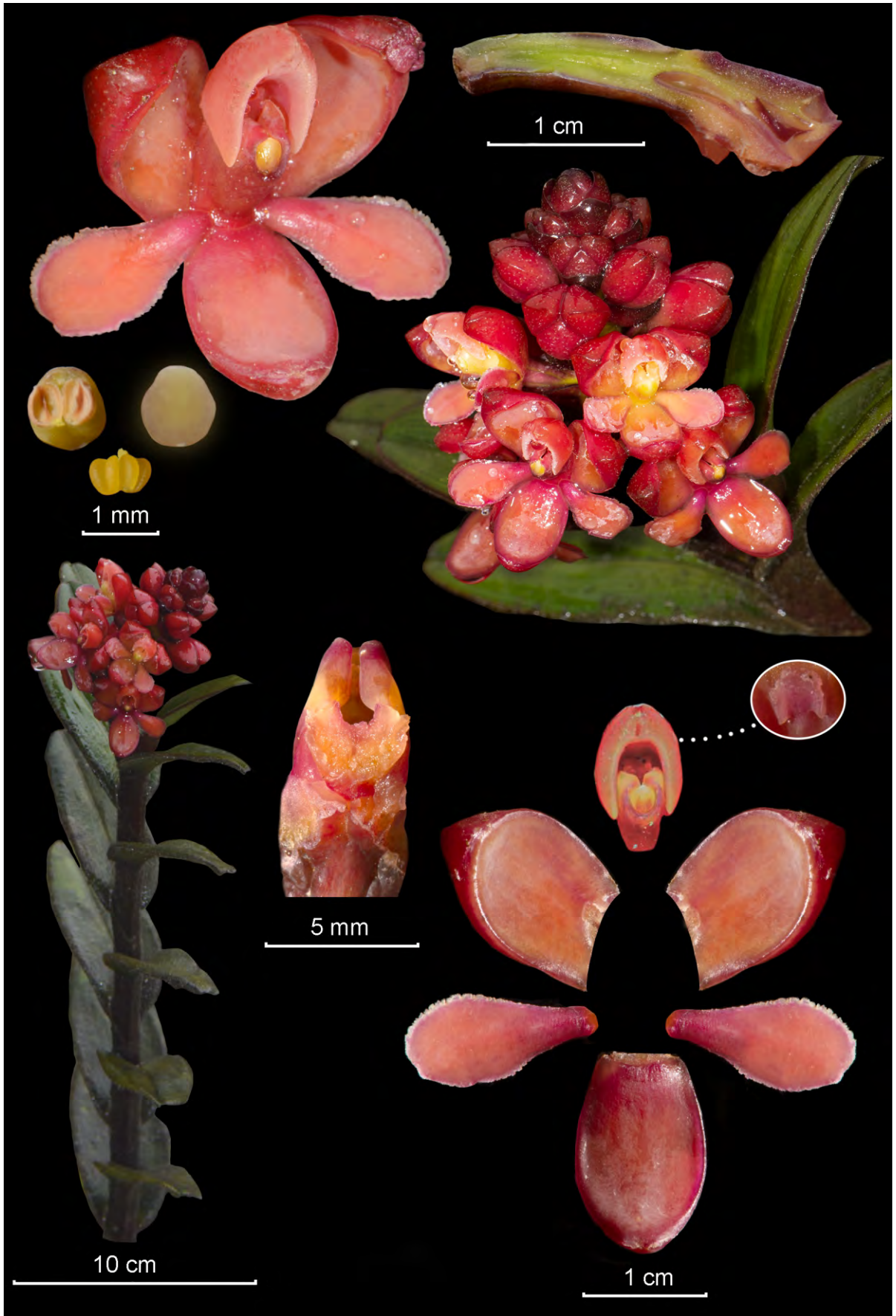
Photo: H. A. Medina

Editors: E. Hágsater & E. Santiago

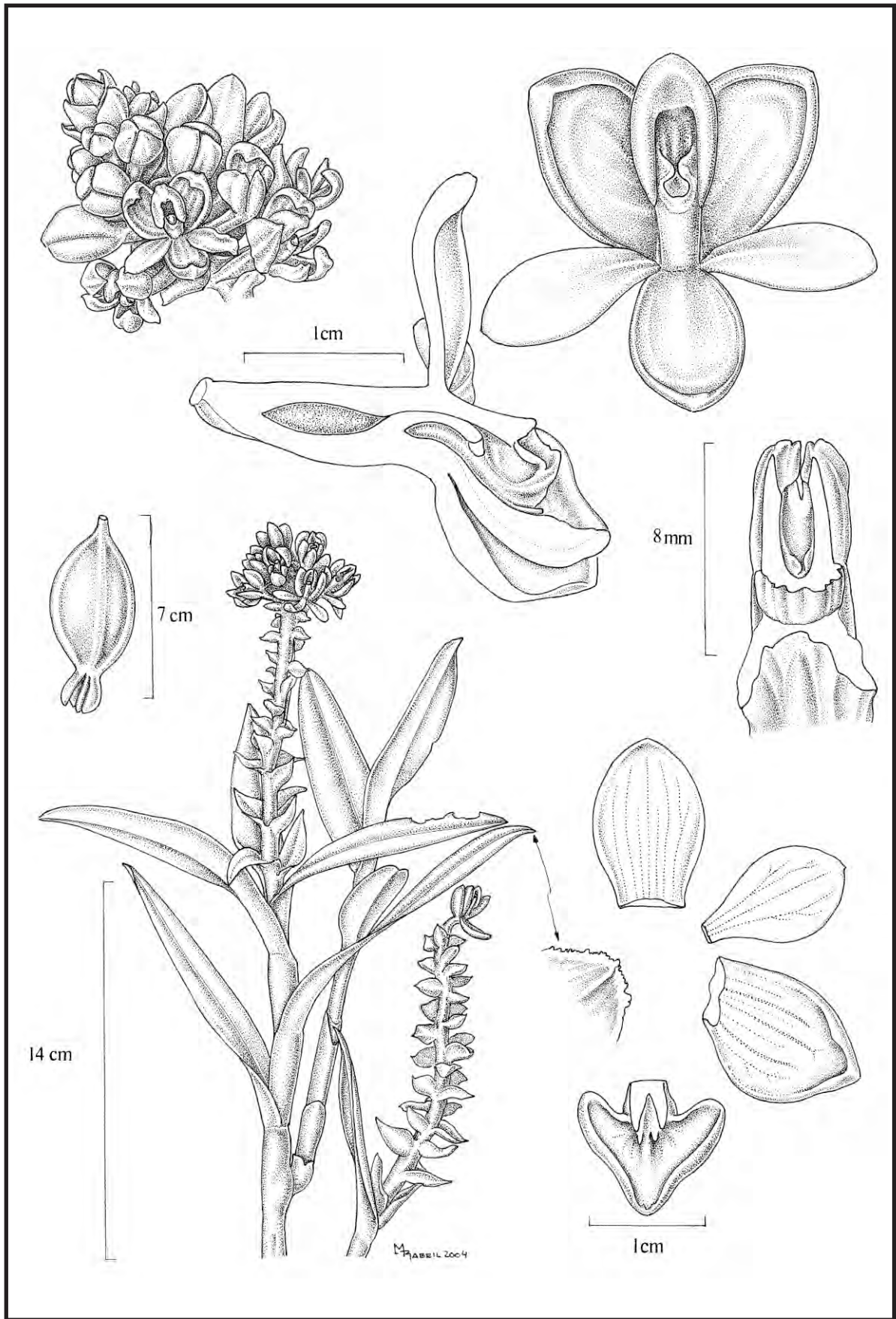
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ICONES ORCHIDACEARUM 19(3). 2023. Plate 1965



EPIDENDRUM ARIASII Hágsater & Dodson



EPIDENDRUM ARIASII Hágsater & Dodson

EPIDENDRUM ARIASII Hágsater & Dodson, *Icon. Orchid.* 7: t. 707 (2004).

Type: ECUADOR: Tungurahua: Baños, Parque Nacional Llanganates. Páramo de Soguillas Valle de los Frailejones, 3660 m, 12 October 1998, *Homero Vargas, J. C. Ronquillo & Norby L. Granda 2794*. Holotype: QCNE! (Illustration voucher, *pro parte*, flowers.)

Epiphytic, monopodial, branching, **herb** 150–300 cm tall. **Roots** basal. **Stems** 150 × 1.05–1.3 cm; erect, branching when mature, cane-like, terete; the branches 15–19 × 0.6–1 cm. **Leaves** 15 on the main stem; 5–6 on the branches, distributed along the apical 2/3 of the stem, alternate, spreading, more or less perpendicular to the stem, articulate, coriaceous; sheaths 2–3.3 × 0.6–1.3 cm; tubular, somewhat infundibuliform, striated and minutely rugose when dry; blade 4–11 × 1.4–3 cm, lanceolate-elliptic, apex somewhat rounded, low dorsal keel, margin reddish, minutely crenate. **Inflorescence** 7.5–15 cm de largo, apical, erect, flowering only once, racemose; peduncle short, thick, without bracts; rachis totally hidden by the floral bracts. **Floral bracts** 7–17 × 5–9 mm, prominent, half as long to nearly as long as the ovary, the apical ones gradually shorter, widely triangular-ovate, orange-red, spreading. **Flowers** about 45, non-resupinate, successive, 3–6 open at one time, the buds developing progressively, fleshy, orange-red in color. **Ovary** 14–19 mm de largo, terete, thick, smooth. **Sepals** 14–16 × 9.6–12 mm, free, spreading, concave, obovate, 7-veined, margin entire; the **dorsal sepal** rounded at the apex, **laterals** subacute. **Petals** 13.2–15 × 8 mm, free, spreading, widely spatulate, apex rounded, margin spreading, hyaline and denticulate. **Lip** 10 × 12.4 mm, triangular, base cordate, apex subacute, margin entire; fleshy, cucullate in natural position; bicallose, the calli laminar. **Column** 8–9 mm de largo, straight, thick. **Clinandrium hood** reduced, margin entire. **Anther** ovoid, 4-celled. **Rostellum** apical, slit; viscarium semi-liquid, transparent. **Cunuculus** shallow, barely penetrating the ovary, smooth. **Capsule** 55 × 3.3 mm, ellipsoid; pedicel 7 mm de largo, very short; lacking an apical neck.

OTHER SPECIMENS: ECUADOR: Azuay: Desviación de Carretera Cuenca-Loja hacia Jima y Tambillo, 3467 m, 26 IV 2018, *Hágsater 15889*, QCNE! (LCDP voucher) **Tungurahua:** Cordillera de los Llanganates, Cerro Hermoso, 3400 m, 10 II 1994, collected by D. Arias Mantilla, *Dodson 19106*, MO! Digital image, AMO! (Illustration voucher, *pro parte*, the inflorescence.)

OTHER RECORDS: ECUADOR: Without locality data, *Caetano s.n.*, digital image, AMO! **Morona-Santiago:** carretera Gima-San Miguel de Cuyes, 3400 m, 31 VII 2017, *Hirtz s.n.*, digital images, AMO! Cordillera de los Llanganates, *Lou Jost s.n.*, 2003, digital image, AMO! (Illustration voucher, *pro parte*, habit.) **Tungurahua:** Reserva Cerro Candelaria, de Fundación Ecominga, 3320 m, *Exe s.n.* digital images: <https://www.inaturalist.org/observations/108992275> (Photo voucher). Baños, *Exe s.n.*, digital images: <https://www.inaturalist.org/observations/109464072>

DISTRIBUTION AND ECOLOGY: Known from the Llanganates Range (border of Napo and Tungurahua provinces) and south to the Azuay border with Morona Santiago, on the eastern slopes of the Andes in Central Ecuador at 3400–3660 m altitude. Flowering from October to April, probably throughout the year.

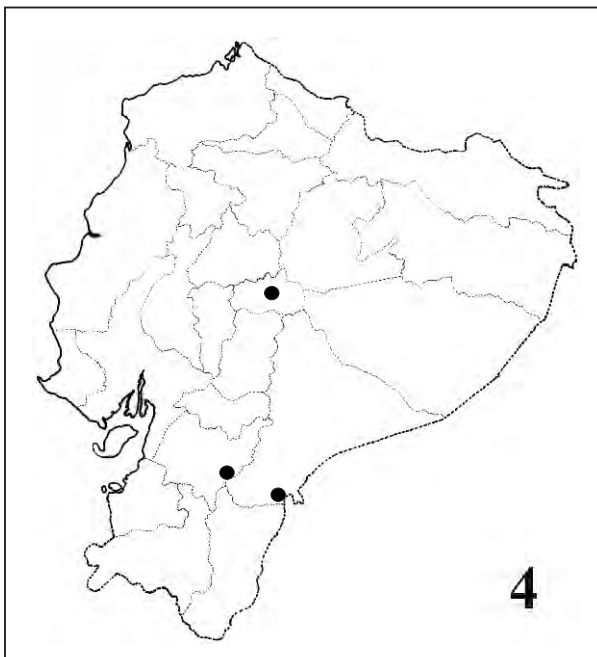
RECOGNITION: *Epidendrum ariasii* belongs to the Macrostachyum Group, which is characterized by the monopodial plants with sub-apical branching, the rugose leaf sheaths, the large leaves generally spreading, the erect racemose inflorescence, and the fleshy flowers generally green to black (ripe olive colored), as well as yellow to pink to purple, the entire, conduplicate, generally ecallose lip embracing the column, and the nectary pubescent to papillose in front of the stigmatic cavity and at least at the base of the lip. The species is recognized by the orange-red, successive flowers on an erect, compact, raceme, the nectary does not show the pubescent surface usual in the group and the petals 13.2–15 × 8 mm, widely spatulate, with the margin hyaline and denticulate. It closely resembles *E. xylostachyum* Lindl. which has green flowers, petals 18.8–12.9 × 4.8–5.4 mm, widely oblong-obovate, margin entire and is found on the Cordillera Central in Colombia and ranges along the provinces of Antioquia to Nariño. *Epidendrum erikae* Hágsater & E.Santiago has lilac colored flowers, petals 14 × 6 mm, ovate-elliptic with the margin entire.

CONSERVATION STATUS: DD. Data deficient. Presently known from central Ecuador from Tungurahua to Azuay, lithophytic to epiphytic at 3400–3660 m elevation.

ETYMOLOGY: In honor of D. Arias Mantilla who first brought the species to the attention of the authors.

ACKNOWLEDGMENTS: Collections by Hágsater in Ecuador made under framework contract “Diversidad Genética del Ecuador” MAE-DNB-CM 2016-0045, Instituto Nacional de Biodiversidad, INABIO. “Investigando las causas de la megadiversidad. Factores asociados a la diversificación macroevolutiva de cuatro grupos vegetales neotropicales”.

REFERENCES: Hágsater, E. & Dodson, C.H. (2004) *Epidendrum ariasii*. In Hágsater, E. & Sánchez S., L. (Eds.), The Genus *Epidendrum*, Part 4, *Icon. Orchid.* 7: t. 707. Hágsater, E. & Santiago, E. (2015) *Epidendrum erikae*. In Hágsater, E. & Sánchez S., L. (Eds.), The Genus *Epidendrum*, Part 11, *Icon. Orchid.* 15(1): t. 1521. Santiago, E. & Hágsater, E. (2020) *Epidendrum xylostachyum*. In Hágsater, E. & Santiago, E. (Eds.), The Genus *Epidendrum*, Part 14, *Icon. Orchid.* 18(1): t. 1848.



Authors: E. Santiago & E. Hágsater

LCDP: E. Hágsater & X. Alcántara

Illustrator: M. López R.

Photo: Nolan Exe

Editors: E. Hágsater & E. Santiago

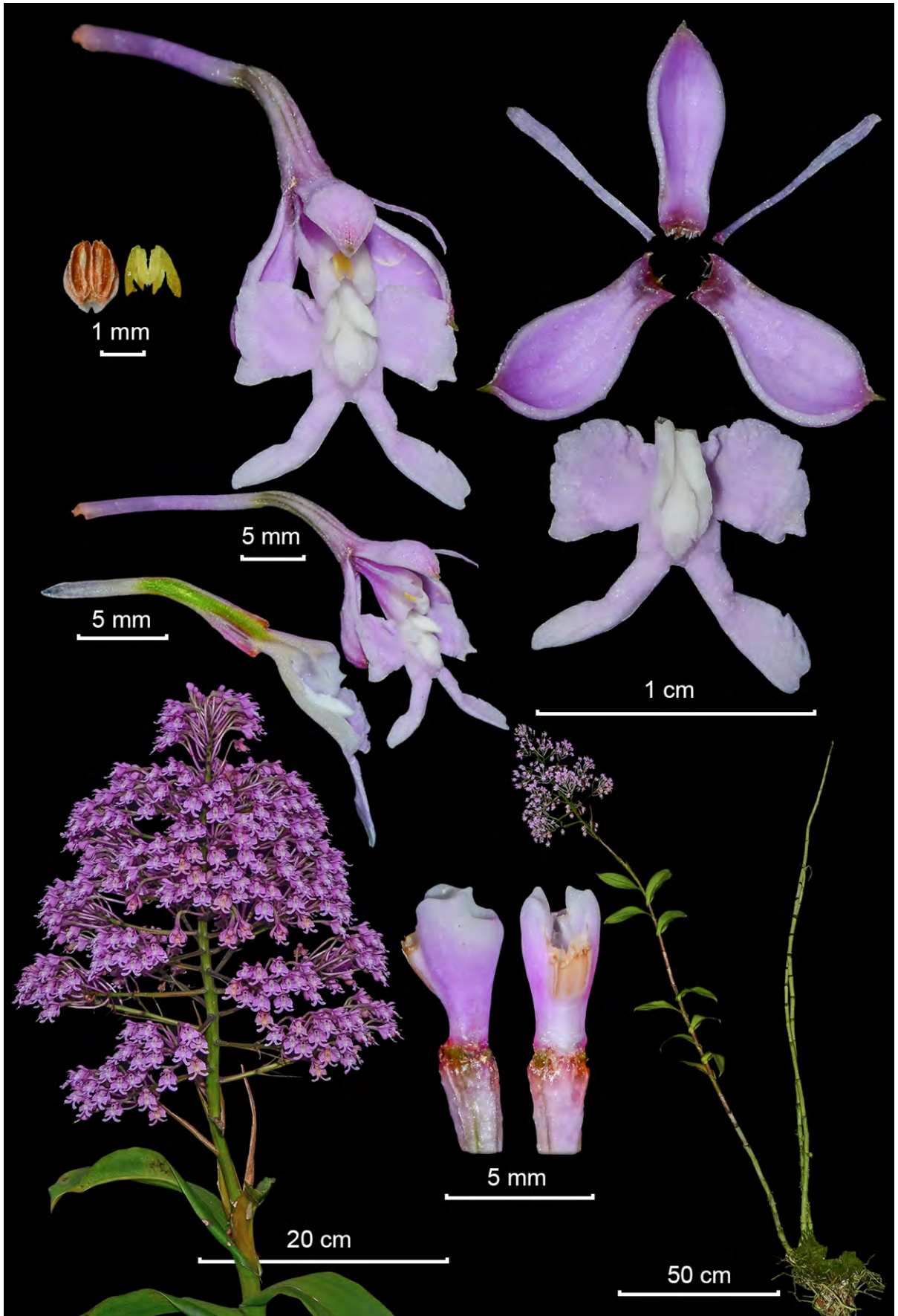
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ICONES ORCHIDACEARUM 19(3). 2023.

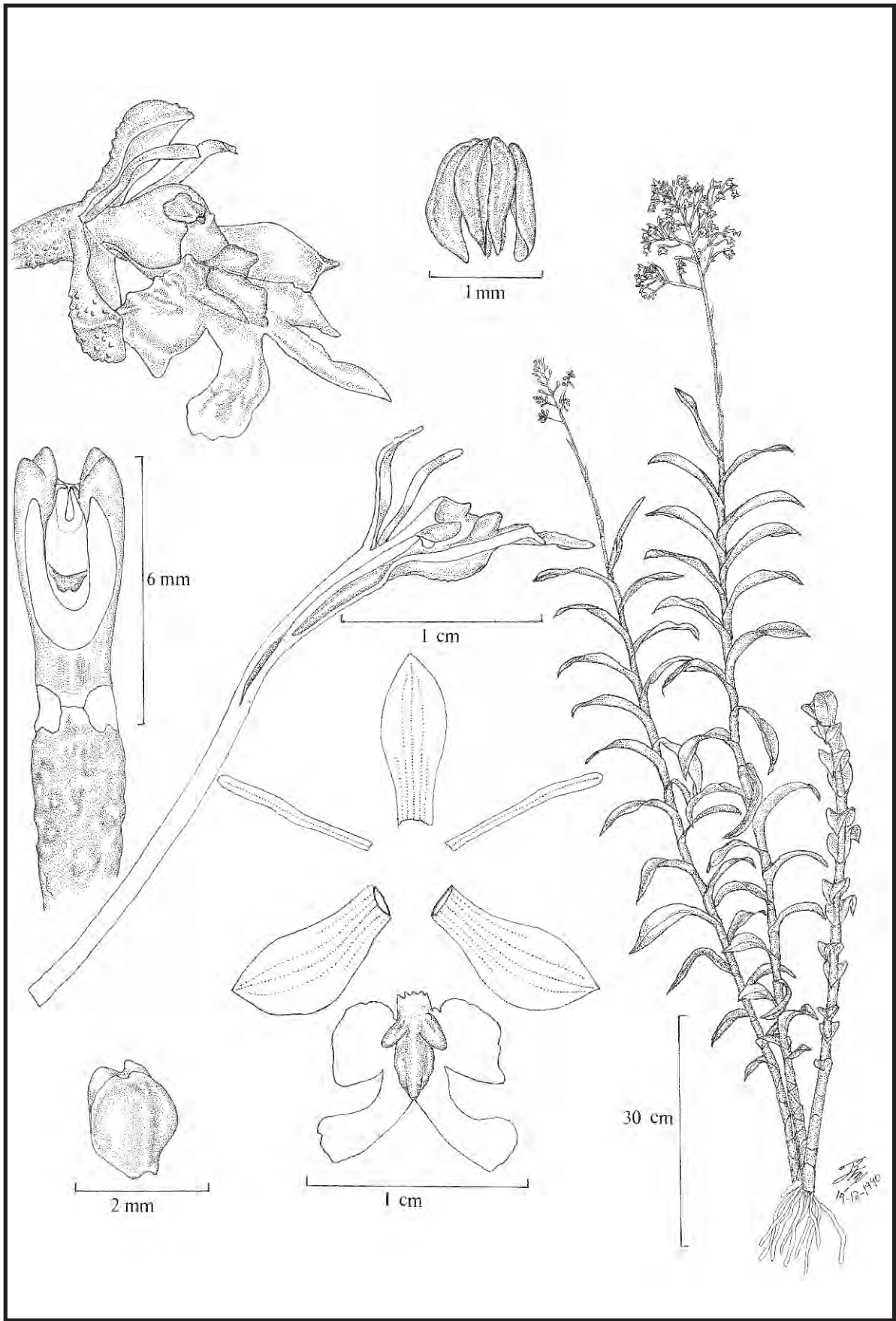
Plate 1966

Empty



EPIDENDRUM ATACAZOICUM Schltr.

Plate 1967a



EPIDENDRUM ATCAZOICUM Schltr.

Plate 1967b

EPIDENDRUM ATACAZOICUM Schltr., Repert. Sp. Nov. Regni Veg. Beih. 8: 67 (1921).

Type: ECUADOR: Pichincha: Mt. Atacazo, April 1900, **Luis (Aloysius) Sodiro s.n.** Holotype: B, destroyed. Lectotype (designated by Dodson, in P. Jørgensen & C. León 1999): QPLS! xerox, AMO! Sketch of lip, AMO! Sketch, Mansfeld 1929*!

Synonym: *Epidendrum bifalce* Schltr., Repert. Sp. Nov. Regni. Veg. Beih. 8: 67 (1921).

Type: ECUADOR: Chimborazo: Mt. Chimborazo, ad vicum Chillanes, Sept. 1881, **Luis (Aloysius) Sodiro 63** Holotype: B, destroyed. Lectotype (designated by Dodson, in P. Jørgensen & C. León 1999): QPLS! xerox, AMO! Isolectotypes BR000000657079! QPLS x3!

Epidendrum giganteum Lindl., Catalogue. 26 [150/8] (1853), (Romero & Trujillo, 2019). “26 *Epidendrum giganteum* (Lindley), a magnificent new species, with enormous panicles of crimson flowers, forming it is native habitat masses of a foot and a half in diameter (see drawing and dried specimen No. 2).” Holotype: PERU*: Amazonas: Sources of the Marañón. May 1853. **Józef Warszewicz Ritter von Rawicz 2**, K! Isotypes: part of stem, flower & watercolor illustration of single flower and sketch of plant, W 49521! “Andes, Peru”, *Warszewicz s.n.*, ex Herb. Hooker, K! Possible duplicate without data, as *E. syringothyrsus*, W 15918! There are four additional specimens marked *E. leave* Lindl., *Warszewicz s.n.* in W, which apparently belong to this entity: W 49519! W 49520! W 49531! W 49532! *Non E. giganteum* (L.f.) Poir (1810) = *Eulophia speciosa* (R.Br.) Bolus; *nec E. giganteum* hort. ex Planch. (Valid name, not yet identified).

Lithophytic or epiphytic, sympodial, caespitose, erect **herb**, 70–200 cm tall. **Roots** 2–3 mm in diameter, basal, fleshy, white, thick. **Stems** ca. 50–170 × 0.6–1.2 cm, simple, terete at base, laterally compressed towards apex; base covered by tubular, non-foliar, scarios sheaths 3–4 cm long, becoming fibrous with time. **Leaves** up to 25, distributed throughout stem, articulate, erect-spreading, sub-coriaceous; sheath 2–5 × 0.6–1.3 cm, tubular, minutely striated; blade 7–18 × 2.5–5 cm, elliptic to oblong-elliptic, acute, margin entire, smooth. **Spathes** lacking. **Inflorescence** 15–65 cm long, apical, paniculate, flowering only once, erect, pyramidal, producing 14–20 unequal branches, sometimes themselves branched, progressively shorter; flowers densely aggregate from middle of rachis on; racemes 2.5–9 cm long, subtended by prominent bract 0.7–6 cm long, narrowly triangular, long-acuminate; peduncle 6–25 cm long, somewhat laterally compressed, with 1–4 tubular, acuminate, partly imbricating bracts 5–10 cm long. **Floral bracts** 3–7 mm long, small, much shorter than ovary, triangular-lanceolate, acuminate, embracing. **Flowers** 60–200, simultaneous, resupinate, rose-lilac, lip lighter colored, anther, calli and disc white, without fragrance. **Ovary** 20–35 mm long, terete, thin, long, with small warts, furrowed. **Sepals** 7.5–8.5 × 3–4 mm, partly spreading, free, fleshy, spatulate-oblongate, acute, dorsally verrucose, 5-veined, lateral veins short, margin spreading, entire. **Petals** 6.5–8.0 × 0.6–0.7 mm, partly spreading, free, linear, apex rounded, 1-veined, margin entire, spreading. **Lip** 6–9 × 9.0–9.5 mm (width between apical lobes 9.0–9.5 mm, between lateral lobes 7–8 mm), united to column, 3-lobed, base slightly cordate, margin entire; bicallose, calli horn-like, thin, somewhat laterally flattened, slightly divergent, elongate, reaching base of mid-lobe, disc with 3 prominent, rounded keels reaching apical sinus; lateral lobes 2.5–3.3 × 3–4 mm, obliquely ovate-dolabriform, apical margin forming an obtuse angle; mid-lobe 3–6 × 9.0–10.0 mm, deeply emarginate, bilobed, lobes narrow, falcate, oblong, divaricate, apex rounded. **Column** 5–6 mm long, straight, thin, ending in a pair of small apical teeth. **Clinandrium-hood** reduced, margin entire. **Rostrum** apical, short, slit; viscarium semi-liquid, transparent. **Anther** ovoid, 4-celled, with a low, dorsal keel. **Pollinia**, 4, “bird-wing” type, strongly laterally compressed, inner pair somewhat smaller, translucent; caudicles soft and smooth, slightly shorter than pollinia. **Cunuculus** penetrating 1/5th of ovary, smooth. **Capsule** 52 × 23 mm, ellipsoid, pedicel 19 mm long, thin, body 33 × 23 mm, and short apical neck.

OTHER SPECIMENS: ECUADOR: Hort. Schuttleworth, 1891, Charlesworth, K! Without data, W 17027! *Ibid.* W 50189! *Ibid.* W 15918! *Ibid.* #28 W 4491! *Bull 80*, (watercolor of flower) K! “Colombia”, *Hartweg s.n.*, K! W! El Ecuador, *Lobb s.n.*, K! South America, *Pearce 46*, K! Without data, *Sodiro s.n.*, QPLS x6! Valle Pululahua, *Sodiro 169*, QPLS x2! **Azuay:** Molleturo, 2650 m, 21 VII 1985, *Dodson 15942*, AAU! MO! QCA! QCNE! W of Cuenca, 2300–2800 m, *Lehmann 8191*, AMES x2! K! [“Peru”] Huayaquil [Cuenca to Guayaquil] *Tafalla Pavón*, BM! [Incorrectly annotated as type of *E. paniculatum*.] BR! G! MA! W x2! Soldados, Hort. Ecuagenera, 2000 m, pressed cult. 8 IX 1999, *Portilla sub Hágsater 12284*, AMO! In sylvi Llalla, in montis Azuay, VIII 1959, *Spruce 6073*, K! W x2! **Bolivar:** Guaranda, 2550 m, 13 VIII 1939, *Asplund 8212*, G! NY! S! Urcu-Chillanes, 2600–3000 m, 3 XI 1943, *Acosta-Solis 6612*, F! **Cañar:** El Corazón, 8300 ft, 6 IX 1944, *Prieto CP-7*, AMES x2! NY x2! **Chimborazo:** Riobamba: Pangor [Juan de Velasco], X 1886, without collector, Q! Sibambé, 2000 m, 18 VIII 1943, *Acosta-Solis 5412*, F! Cola-Guayaquil, 2900 m, 11 VII 2000, *Alvarez 2665*, ECUAMZ! MO! NY! QCNE! Pallatanga, 2800–3200 m, 13 VII 1995, *Clark 1328*, MO x2! QCNE! Pallatanga, 1700 m, 1 VII 1982, *Dodson 13155*, SEL! Pallatanga, 2000–2500 m, 24 XI 1988, *Andreetta sub Hágsater 9754*, AMO x2! (Illustration voucher). Riobamba-Guayaquil, 2500 m, 7 VIII 1977, *Luer 1822*, SEL! Vicinity of Huiagra, mostly on the Hacienda de Licay, 3 IX 1918, *Rose 22524*, AMES x2! NY! Panza Redonda. via Riobamba-Pallatanga, 2600, 22 VI 1997, *Soejarto 10135*, CHEP! Pallatanga, X 1858, *Spruce s.n.*, K! **Cotopaxi:** Pilaló, 2400 m, 3 VII 1968, *Holm-Nielsen 1243*, AAU! AMES! **Loja:** Oña-Saraguro, 2500–2800 m, *Lehmann 8315*, K! **Pichincha:** Chiriboga, 2650 m, 1 VII 1955, *Asplund 16704*, AMES! Quito: Parque Ichimbia, 2850 m, 5 XII 2009, *Cerón 66133*, QAP! Aloag-Tandapi, 2900 m, 31 X 1961, *Dodson 1031*, QCA! QCNE! SEL! Quito-Santo Domingo via Chillogallo, 2300 m, 3 V 1985, *Dodson 15829A*, MO! Lloa-Mindo, 2600 m, 3 VII 1987, *Dodson 17258*, AMO! MO! QCNE! Lloa, 9000 ft, 1856, *Jameson 356*, AMES! E! GH! K! P! Andinum Quitensium, *Jameson s.n.*, G! Monte Pichincha, VI 1863, *Jameson s.n.*, K! W! 49548! Lloa-Mindo, 2900 m, 9 VII 1988, *Jørgensen 65456*, QCA! Camino a Santo Domingo, 2500 m, 9 IX 1954, *Rauh-Hirsch E-181*, AMES! Aloag-Tandapi, *Spruce 6053*, W! Manuel Cornejo Astorga, 2850 m, 29 V 1979, *Lajtnant 13990*, AAU! GB! QCA! Lloa, VI 1873, *Sodiro s.n.*, AMES x2! BP x2! Pululahua, *Sodiro s.n.*, QPLS! Mindo, 2860 m, 31 V 1986, *Zak 1011*, AAU! QCA! **Tungurahua:** near Baños, 2100 m, 7 X 1961, *Dodson 875*, SEL! Juivi, 2400 m, 7 I 1962, *Dodson 1881*, SEL! Vulc. Tungurahua, VIII 1901, *Sodiro s.n.*, QPLS!



OTHER RECORDS: Without data, ex Hort. Bull, illustration of flower, W 34932! **ECUADOR: Azuay:** P.N. Cajas, 2300 m, 25 VII 2012, *Gerlach s.n.*, Digital images, AMO! Soldados, Hort. Ecuagenera, *Medina s.n.*, digital images AMO! (LCDP voucher). Molleturo, vivero Ecuaflo-A, 2000 m, rec'd 2017, *Merino s.n.*, digital images, AMO! (Photo voucher). **Pichincha:** Valle de Lloa, 12000 ft, *Jameson s.n.*, illustration of flower, W 49522! **Tungurahua:** P.N. Llanganates, 3368 m, 2 IX 2020, *Llangana s.n.* Digital image, AMO!

DISTRIBUTION AND ECOLOGY: Endemic to Ecuador, widespread on the western slopes of the Andes, from the valley of Lloa and at the base of Mount Atacazo and Mount Pichincha, south to Loja province. The type of *Epidendrum giganteum* Lindl., at K, is undoubtedly this species, but is said to have come from Peru, "sources of the Marañón". No other specimens are known from Peru. Growing usually on rocky banks at 2000–3200 m altitude, flowering mainly from May to November.

RECOGNITION: *Epidendrum atacazoicum* belongs to the Pseudepidendrum Group and Porphyreum Subgroup, which is recognized by the caespitose habit, the unbranched stems, apical, branched inflorescence without spathes, and the flowers with a 3-lobed lip with the mid-lobe generally bifurcate and divaricate, and filiform petals. The species is recognized by the pyramid-shaped inflorescence with small, rose-lilac flowers, the lip lighter colored, the sepals 7.5–8.5 mm long, the sepals and the ovary with small warts, the mid-lobe of the lip forming a pair of linear-oblong lobes, the apices rounded. *Epidendrum porphyreum* Lindl. has a non-pyramid-like, paniculate inflorescence with larger, magenta flowers, the sepals 13–15 mm long, the disc white, and the mid-lobe of the lip forms a pair of triangular, slightly divaricate, the apices obtuse. *Epidendrum amplum* D.E.Benn. & Christenson has the inflorescence with the branches arranged in the same plane, the sepals and ovary smooth, and the lip differently proportioned with the lateral lobes sub-rectangular, narrower than the mid-lobe. *Epidendrum peraltum* Schltr. has green yellow flowers tinged with pink to totally dirty pink, the sepals 14–16 mm long, dorsally smooth, and the lateral lobes of the lip falcate-oblong, strongly reflexed, the bilobed mid-lobe with a pair of strongly divaricate, linear lobes

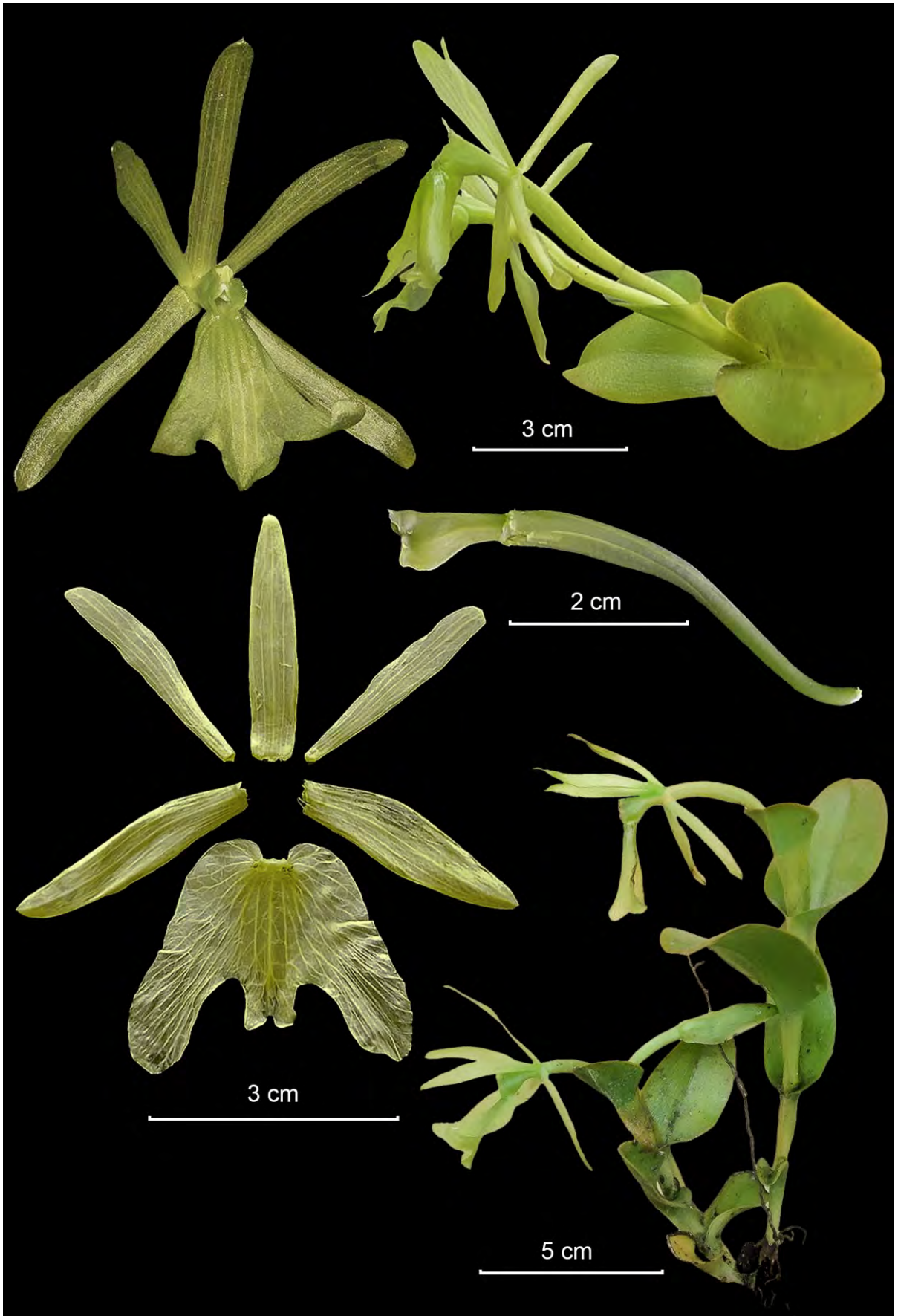
COMMON NAME: Flor de Cristo.

CONSERVATION STATUS: Critically endangered. CR. The species was widespread in Ecuador as seen from historical collections, but many are in places now turned to urban or agriculture. This is one of the most spectacular species of *Epidendrum* and are most certainly collected when found in the wild for gardens, as the plants are relatively large plants with several stalks in flower and are terrestrial.

ETYMOLOGY: In reference to Mount Atacazo, near Quito, where the type was collected.

***NOTES:** The illustration published by Mansfeld (1929) shows a lip of different proportions, with the callus displaced towards the isthmus of the lip and the lateral lobes projected backwards. We do not know if this is an artifice of the artist or a distortion of the flower. On the other hand, the original description indicates sepals as ca. 11 mm long and column 9 mm long, whereas the material we have seen has sepals 7.5–8.5 mm long and the column 5–6 mm long. The type and other specimens of *Epidendrum giganteum* Lindl. are said to have come from "Peru, sources of the Marañón". However, we believe the specimens came from Ecuador, where Warszewicz arrived in late 1851 in Guayaquil and travelled from there to Peru. His specimens were shipped from Peru and taken to London and sold at auction in 1853. We have not seen any other collections from Peru and believe the species is endemic to Ecuador. The only other large stemmed species with similar flowers is *Epidendrum amplum*, but the inflorescence and orientation of the flowers and racemes are very distinct.

REFERENCES: Bennett Jr., D.E., & Christenson, E.A. (1998) *Epidendrum amplum*, *Lindleyana* 13: 36, fig. Dodson, C.H. (1999) Orchidaceae in Jørgensen, P.M. & León-Yañez, S. (Eds.) Catalogue of Vascular Plants of Ecuador, *Monogr. Syst. Bot. Missouri Bot. Gard.* 75: 630–775. Mansfeld, R. (1929) *Figuren Atlas zu den Orchideenfloren der Südamerikanischen Kordillerenstaaten* von R. Schlechter. *Repert. Sp. Nov. Regni Veg. Beih.* 57: t. 86 Nr. 334. Romero-González, G.A. & Trujillo, D. (2019) John Lindley's Ignored Orchids Names, *Harvard Pap. Bot.* 24(1): 47–53. Santiago, E. & Hágsater, E. (2010) *Epidendrum peraltum*. In Hágsater, E. & Sánchez S., L. (Eds.), The Genus *Epidendrum* Part 9, *Icon. Orchid.* 13, t. 1369. Santiago, E. & Hágsater, E. (2010) *Epidendrum porphyreum*. In Hágsater, E. & Sánchez S., L. (Eds.), The Genus *Epidendrum* Part 9, *Icon. Orchid.* 13, t. 1377.



EPIDENDRUM BENNETTII Dodson

EPIDENDRUM BENNETTII Dodson, Icon. Pl. Trop. ser 2, 1: t. 0058 (1989).

Type: PERU: Huánuco: Leoncio Prado: along the Río Monzón, 950 m, 5 May 1965, *José Schunke sub David E. Bennett 1248-1*.
Holotype UC! Illustration published by Dodson & Bennett, 1989.

Epiphytic, sympodial, caespitose, erect **herb**, 15–20 cm tall including inflorescence. **Roots** 1.5–2.0 mm in diameter, basal, numerous, thin, white. **Stems** 6.4–13.5 × 0.4–1.5 cm, cane-like, totally covered by imbricating foliar sheaths, progressively more laterally compressed, ancipitose. **Leaves** 4–5, distributed throughout the stems, progressively larger, medium green, fleshy coriaceous, rigid; sheaths 1.5–2.7 × 0.6–1.5 cm, laterally compressed, ancipitose, imbricating, infundibuliform; blades 1.5–7.5 × 1.0–3.1 cm, elliptic-oblong, apex widely bilobed, base embracing stem, margins entire, spreading. **Spathe** lacking. **Inflorescence** ca. 8 cm tall including flowers, apical, peduncle sessile, 1–2-flowered. **Floral bracts** much shorter than ovary, hidden within sheath of apical leaf. **Flowers** 1–2, large, resupinate, light to medium green; fragrance not registered. **Ovary** 43–40 mm long, terete, furrowed, slightly thickened ventrally along apical 1/3. **Sepals** spreading, oblong-elliptic, apex obtuse, 5–7-veined, margins entire, revolute; dorsal sepal 27–40 × 6.1–8 mm, lateral sepals 30–37 × 6–8 mm, slightly oblique. **Petals** 27 × 4–6 mm, oblanceolate, apex rounded, 5-veined, margins entire, spreading. **Lip** 28–30 × 33 mm, united to column, deeply 3-lobed, in outline somewhat tridentate, lateral lobes surpassing mid-lobe apex, base slightly cordate, bicallose, calli small, laterally compressed, divergent, disc unornamented, lateral lobes 29–31 × 8–9 mm, oblong, apex rounded, slightly divergent when spread, in natural position, apices somewhat involute, lateral margins entire, revolute; mid-lobe 6–12 × 6–9 mm, oblong-quadrate, apex emarginate to bilobed, margins entire, apical corners somewhat involute. **Column** 13.6–16 × 6.5–10 mm, clavate, apex with fleshy thickened margins, funnel shaped. **Clinandrium-hood** prominent, funnel shaped, margin dentate to entire. **Anther** spherical, pale green, with an upright oblong process at apex in front. **Pollinia** not seen. **Rostellum** slit, apical; viscarium semi-liquid. **Lateral lobes of stigma** not seen. **Cuniculus** not seen, probably narrow, penetrating about ½ of pedicellate ovary. **Capsule** not seen.

OTHER SPECIMENS: BOLIVIA: La Paz: Prov. Franz Tamayo; Mun. Apolo; Población: Santa Catalina, bosque basimontano pluviestacional, 1406 m, 05 III 2023, *Zenteno 23659*, LPB! digital images of live material, AMO! LPB! (LCDP voucher, *pro parte*, inflorescence, floral segments and column and ovary; photo voucher). **PERU: Amazonas:** Prov. Bagua; Distr. Aramango: Catarata de Numparket, a 5 km al sureste del centro poblado de Nueva Esperanza, 1860 m, 25 VI 2021, *Ocupa s.n.* USM! **San Martín:** Prov. Tocache; Distr. Pólvora; Sector Buenos Aires, P.N. Cordillera Azul, 1431 m, 24 VIII 2017, *Valenzuela 32469*, HOXA! digital images of live material, AMO!

OTHER RECORDS: PERU: Amazonas: Prov. Bagua; Distr. Aramango: Catarata de Numparket, a 5 km al sureste del centro poblado de Nueva Esperanza, 1860 m, 25 VI 2016, *Ocupa s.n.*, digital images, AMO! (LCDP *pro parte*, plant and flower).

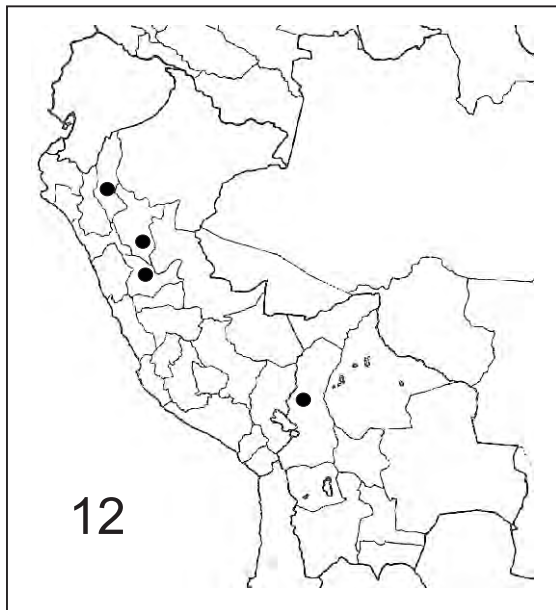
DISTRIBUTION AND ECOLOGY: Presently known from the eastern slope of the Andes from the Department of Amazonas in Peru to La Paz, Bolivia, a range of some 1700 km. Epiphytic in wet montane forest at 950–1860 m elevation. Flowering from March to August.

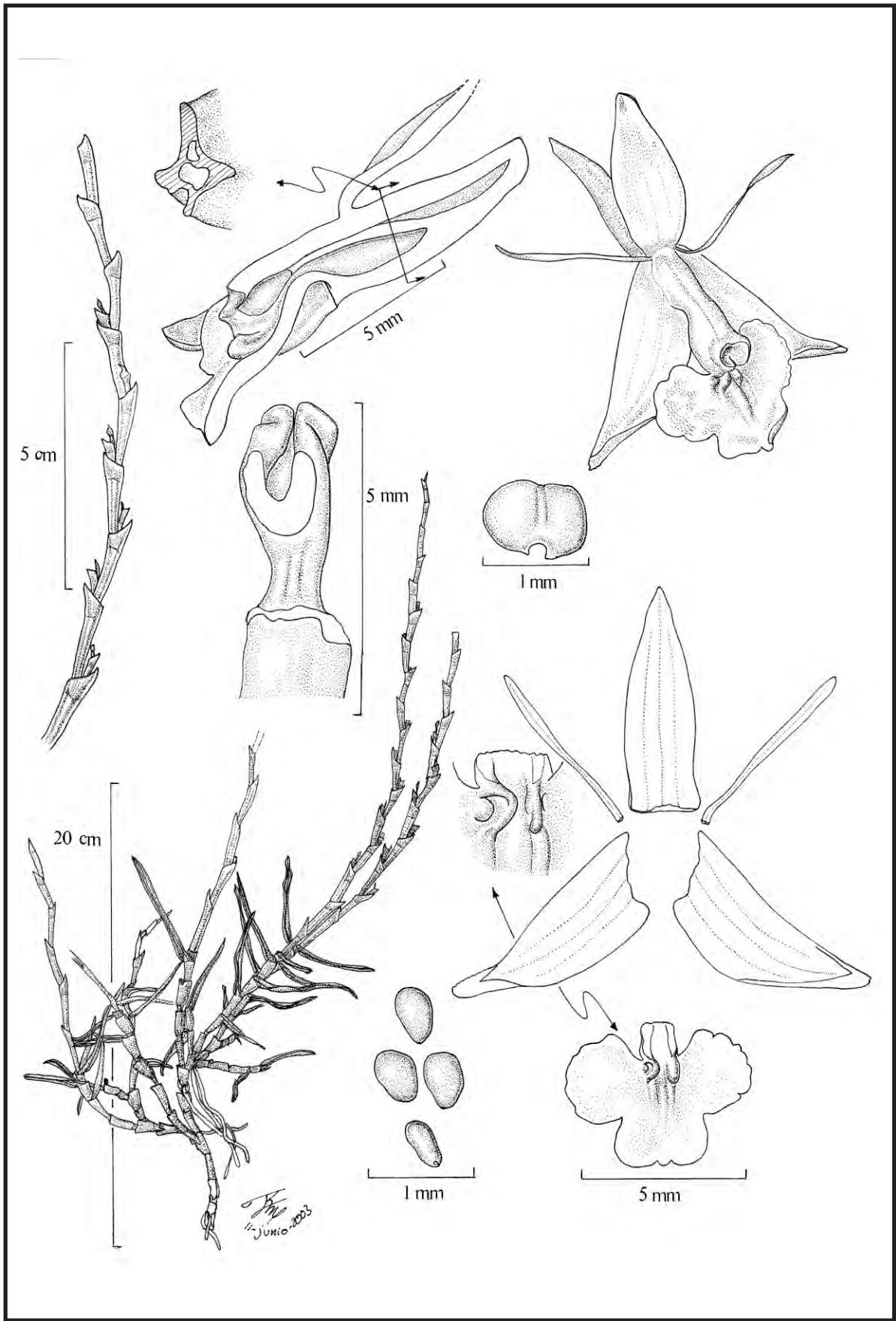
RECOGNITION: *Epidendrum bennettii* belongs to the Difforme group, which is characterized by the caespitose, sympodial plants, the fleshy light green to glaucous leaves, the apical inflorescence without any spathe, the sessile, rarely with a short peduncle, one-flowered to corymbose inflorescence, and the flowers green to yellowish green, rarely white. The species is recognized by the 1–2-flowered inflorescence, the flowers large, the sepals 27–40 mm long, the lip 28–30 × 33 mm, in outline somewhat tridentate, the slightly divergent lateral lobes oblong, rounded, surpassing the small mid-lobe, which is oblong to quadrate, emarginate to bilobed at the apex; there is some range of differences in the size of the flowers and shape of the floral fragments, but the species appears to be a very distinct from most others of the group, especially by the shape of the lip. The only other species with a small mid-lobe surpassed by the large lateral lobes is *Epidendrum barbeyanum* Kraenzl. from Costa Rica and Panama, which has 5–10 simultaneous flowers the lip is 26–29 × 37–42 mm, transversely elliptic, the lateral lobes 16–17 × 28–29.5 mm, spreading, flabelliform, semi-orbicular, much wider than long, and the margin undulate.

ETYMOLOGY: In honor of David Edward Bennett Dorsey (1923–2009), a veteran aviator of the Second World War who established himself in Lima in 1946, married Aurora Pastorelli, and collected Peruvian orchid species and worked with a number of young students who also illustrated many species, along with his brother in law, Manuel Pastorelli, who was his official illustrator and later published the series of Icones Orchidacearum Peruvianum, with David Bennett and Eric A. Christenson as editors. They privately published 800 illustrations in that series. Bennett's private herbarium was donated to the forestry herbarium of the Universidad Agraria La Molina - MOL in 2001 (Trujillo, 2014).

CONSERVATION STATUS: DD. Deficient. Though the species appears widespread in Peru and western Bolivia, there are very few collections.

REFERENCES: Bennett, D.E. & Christenson, E.A. (1993) *Icon. Orchid. Peruvianum*, t. 1–200. Bennett, D.E. & Christenson, E.A. (1995a) *Icon. Orchid. Peruvianum*, t. 201–300. Bennett, D.E. & Christenson, E.A. (1995b) *Icon. Orchid. Peruvianum*, t. 301–400. Bennett, D.E. & Christenson, E.A. (1998) *Icon. Orchid. Peruvianum*, t. 401–600. Bennett, D.E. & Christenson, E.A. (2001) *Icon. Orchid. Peruvianum*, t. 601–800. Dodson, C.H. & Bennett, D.E. (1989) *Epidendrum bennettii*. In Dodson, C. & Dodson, M. (Eds.), *Orchids of Peru*, **Icon. Pl. Trop. ser 2**, 1: t. 58. Sánchez S., L. & Hágsater, E. (2006) *Epidendrum barbeyanum*. In Hágsater, E., & Sánchez S., L. (Eds.) *The Genus Epidendrum*, Part 5, **Icon. Orchid.** 8: t. 811. Trujillo, D. (2014) Annotated list of Orchidaceae types of the Bennett collection at the forestry herbarium MOL, *Lankesteriana* 14(1): 1–88.





EPIDENDRUM BIFARIUM Sw.

EPIDENDRUM BIFARIUM Sw., Nova Acta Regiae Soc. Sci. Upsal. Ser. 2, 6: 68 (1799).

Basionym: *Epidendrum anceps* Sw., Prodr. Veg. Ind. Occ. 121. (1788), nom. illeg. JAMAICA: *Olof Swartz s.n.* Lectotype designated by Hágsater & Ackerman, 2014): BM000046444!. Type: Isolectotypes: C! S! W0016964 (26524)! G!). Non *E. anceps* Jacq., Select. Stirp. Amer. Hist. 224 (t. 138) (1763).

Epiphytic and lithophytic, sympodial, sub-caespitose, erect herb, 15–33 cm tall including inflorescence. **Roots** from base of plant, slender and long. **Stems** 5–15 cm long, produced from middle of older stem below leaves, terete at base and strongly compressed toward apex, leafy above. **Leaves** 5–7, alternate; sheaths 3–10 mm long, tubular, striated; blades 3–7 × 1.0–1.4 cm, spreading, distributed along stems, fleshy, rigid, narrowly lanceolate, acuminate. **Spathes** lacking. **Inflorescence** 10–25 cm long, apical from stem, sub-erect; raceme distichous, rachis somewhat flattened. **Floral bracts** 5–10 mm long, triangular, acute, same size as ovary. **Flowers** 10–19, simultaneous, pale green, tinged reddish brown, labellum yellow-green; fragrance not recorded. **Sepals** fleshy, carinate toward apex, 3-nerved, margins entire, dorsal sepal 5 × 2 mm, reflexed, oblong-lanceolate, acute, mucronate, lateral sepals 7 × 2.5 mm, partly spreading, obliquely ovate, acute, mucronate. **Petals** 5 × 1 mm, linear, obtuse. **Lip** 6.5 × 5 mm, united to column, 3-lobed, lateral lobes sub-orbicular, margin slightly undulate, mid-lobe sub-rectangular, wider than long, apex bilobulate, lobules orbicular, smaller than lateral lobes, disc prominently bicallose, median carinae fleshy extending to near apex. **Column** 2–4 × 2 mm, slightly arcuate, thickened toward apex, somewhat laterally compressed. **Clinandrium-hood** short, entire. **Anther** reniform, emarginate, carinate in front, 4 celled. **Pollinia** 4, obovoid, caudicles soft and granulose, similar in size as pollinia. **Rostrum** apical, slit; viscarium semi-liquid. **Lateral lobes of stigma** small. **Cuniculus** penetrating 1/3 of pedicellate ovary, wide, constricted at middle of column, unornamented. **Ovary** 6–10 mm long, slightly dilated toward apex, unornamented, furrowed. **Capsule** not seen.

OTHER SPECIMENS: JAMAICA: without locality, I 1912, *Brenes s.n.*, AMES! Clydesdale, 7 X 1908, *Britton 3871*, NY! Catherines Peak, 3000 ft, 23 I 1888, *Eggers 3543* E! M! Cedar Hurst 660 m, 24 I 1899, *Harris 7558*, BM! C! St. Andrews, Clydesdale, 1300 m, 3 XI 1899, *Harris 7753*, AMES! BM! Z! Jamaica, 26 IV 1900, *Harris 8124*, BR! (with description by Cogniaux, 1910). Clydesdale, 4000 ft, 20 I 1900, *Harris s.n.*, BM! Wallenford, 26 IV 1900, *Harris 9024*, BM! NY! St. Andrews, Blue Mountains, near Cinchona, 4500 ft, 7 IV 1908, *Harris 10494*, AMES! NY! Without locality, *March 1275*, K! Jamaica, Ex Herb. G. McNab, E! without locality, *McFayden 41*, K! (Tracing of specimen at K) AMES! Jamaica, XI 1885, *Morris J.P.150*, BM! NY! W! St. Thomas. Blue Mountains, trail between Abbey Green and Portland Gap, 4000–5000 ft, 12 XII 1954, *Proctor 9601* AMES! (Illustration voucher) NY! St. Andrews, weg Clydesdale nach Morces Gap, 1000–1200 m, 27 I 1961, *Renz 9878*, RENZ!

OTHER RECORDS: JAMAICA: *Fawc. + Rendl. Fl. Jamaica* t. 15(6). illustration of flower, BM! (Fawcett & Rendle, 1910). Jamaica, unpublished illustration, *Olof Swartz 41*, copy BM!

DISTRIBUTION AND ECOLOGY: Endemic to the Blue mountains in Jamaica: Parishes Portland, St. Andrew, and St. Thomas. Mostly epiphytic in broadleaf wet forests. Elevation 600–1600 m. Flowering: October–April. Fruiting: January–July.

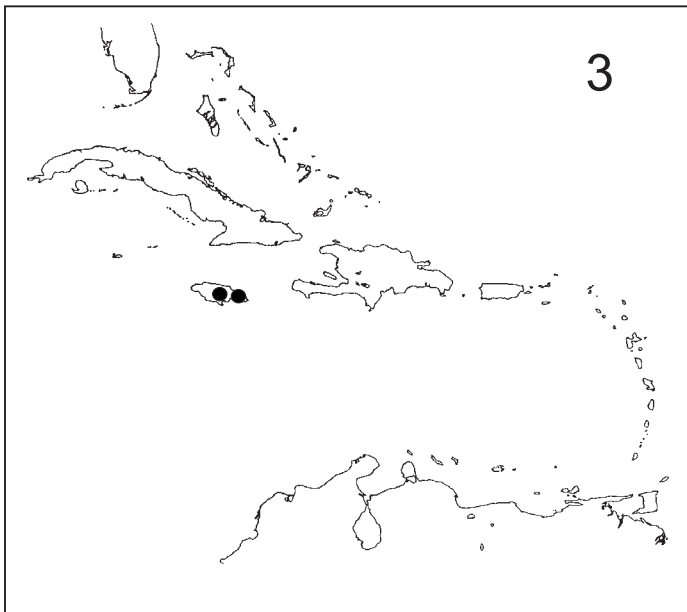
RECOGNITION: *Epidendrum bifarium* belongs to the Bifarium group recognized by its somewhat repent, erect habit, the simple stems with a 5–7, narrowly lanceolate leaves, the distichous raceme with conduplicate bracts and the small flowers, the floral bracts similar in length to the ovary and 3-lobed labellum with the mid-lobe slightly bilobed. It is very similar and to *Epidendrum andinum* Carnevali & G.A. Romero from the Venezuelan Andes, which has been recently segregated, and recognized mainly by the pendulous habit, the somewhat smaller flowers, and the entire, sub-quadrate mid-lobe of the labellum. They are somewhat similar to *Epidendrum rigidum* Jacq., which is widespread from Florida, the Antilles, and South America, but that species has oblong-elliptic leaves, an entire, ovate-elliptic lip, the floral bracts longer than the ovary partially enveloping the flowers, and a fimbriate clinandrium-hood. Earlier works considered *Epidendrum rigidum* a single species distributed throughout tropical America (Hágsater, 1990), but was later recognized as being two superficially similar species, with the species in Mesoamerica being *Epidendrum cardiophorum* (Jiménez & Hágsater, 2010).

NOTE: Description adapted from Hágsater & Ackerman (2014).

ETYMOLOGY: From the Latin *bifarius*, double sided, in reference to the distichous inflorescence, with the flowers alternating on both sides of the acropitose rachis.

CONSERVATION STATUS: EN. Endangered. Endemic to the Blue Mountains from Jamaica, aside from numerous historical collections we are surprised not to have found any photograph of the live plant on the internet. The extension of Jamaica is 11,000 km². As the species is found only above 600 m elevation, probably about 1/10 of the surface, a maximum of 1,100 km². The species would qualify in the (EN)B1b(ii) category of the IUCN.

REFERENCES: Ackerman, J.D. & del Castillo Mayda, M. (1992) *Epidendrum rigidum*. **The Orchis of Puerto Rico and the Virgin Islands** 118–119. Cogniaux, A. (1910), *Orchidaceae*. In Urban, I. (Ed.) **Symbolae Antillanae** 6: 292–696. Fawcett, W. & Rendle A.B. (1910) **Fl Jamaica** London. pp. 1–150. Figs. 1–32. Hágsater, E. (1990) *Epidendrum rigidum*. In Hágsater, E., & Salazar, G.A. (Eds.) **The Orchids of Mexico, Part 1, Icon. Orchid.** 1: t. 41. Hágsater, E. & Ackerman, J.D. (2014) *Epidendrum*, in Ackerman, J.D. *et al.*, **Orchid Flora of the Greater Antilles, Mem. New York Bot. Gard.** 109: 151–190. Hágsater, E. & Santiago, E. (2023) *Epidendrum andinum*. In Hágsater & E., & Santiago E. (Eds.), **The Genus Epidendrum**, Part 15, **Icon. Orchid.** 19(3): t. 1964. Jiménez M., R. & Hágsater, E. (2010) *Epidendrum cardiophorum*. In Hágsater E. & Sánchez S., L. (Eds.) **The Genus Epidendrum**, Part 9, **Icon. Orchid.** 13: t. 1311.



Authors: E. Hágsater & E. Santiago

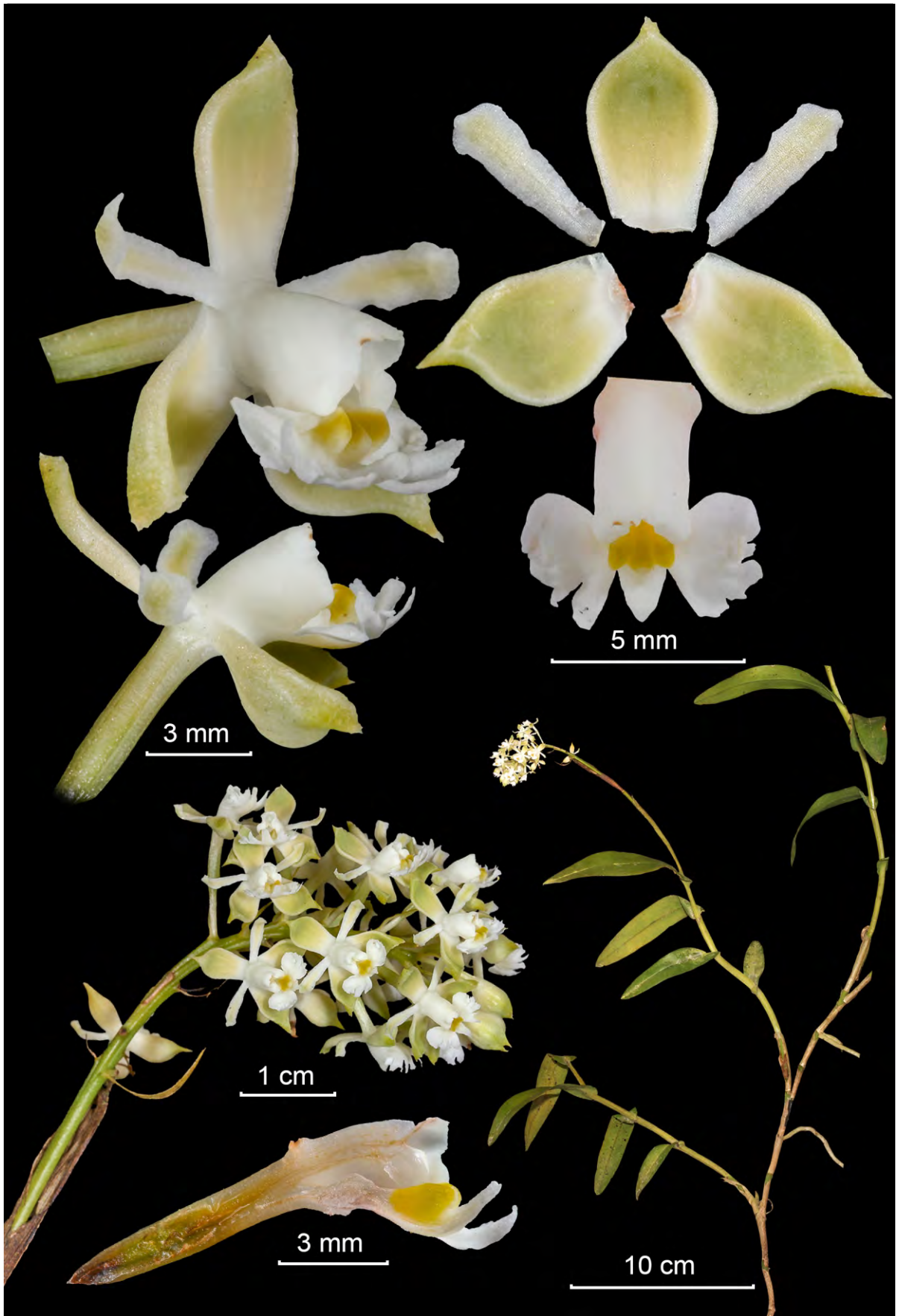
Illustrator: R. Jiménez M.

Editors: E. Hágsater & E. Santiago

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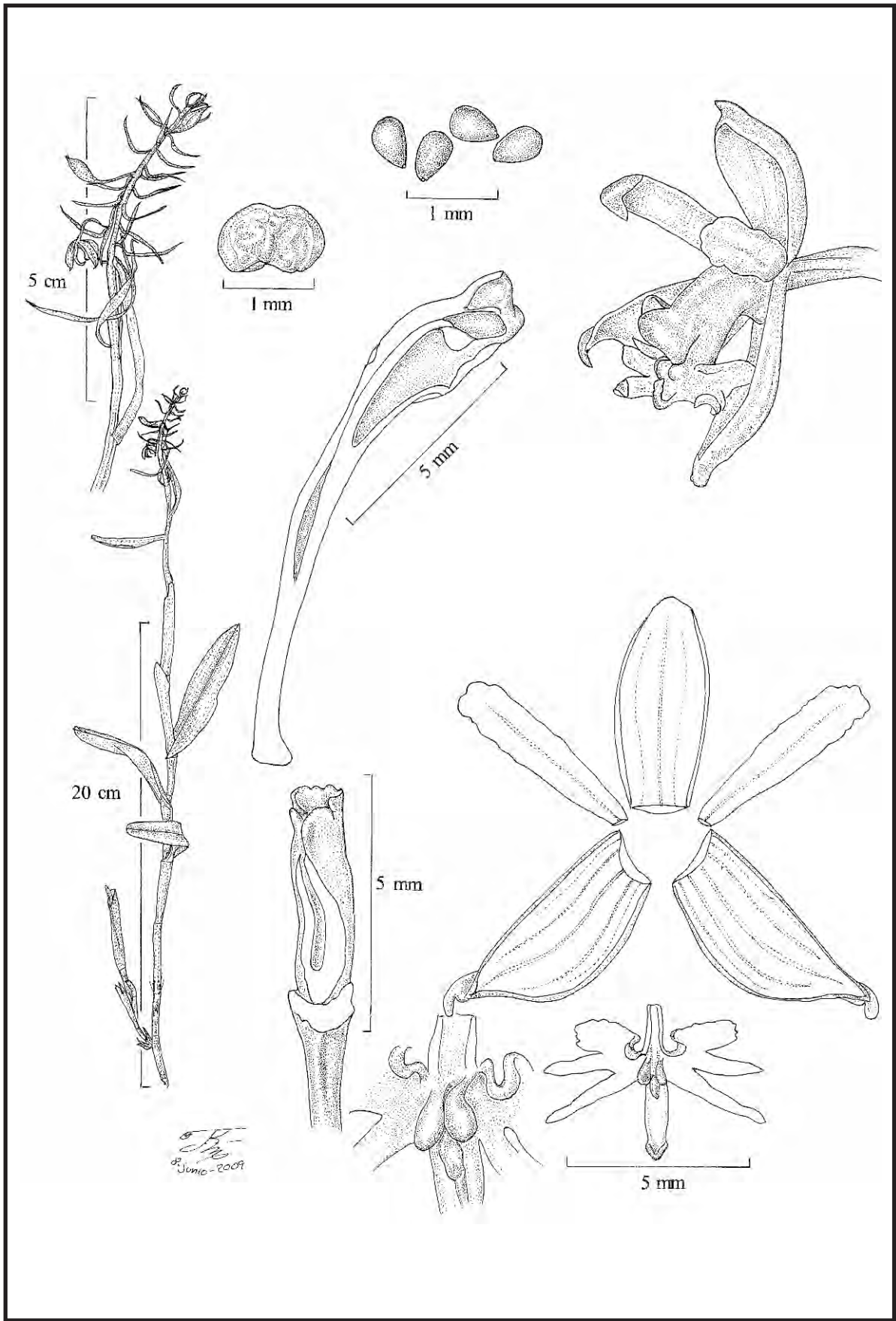
Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 19(3). 2023. Plate 1969



EPIDENDRUM BREVIVENIUM Lindl.

Plate 1970a



EPIDENDRUM BREVIVENIUM Lindl.

Plate 1970b

EPIDENDRUM BREVVENIUM Lindl., Fol. Orchid. 3(Epidendrum): 46 (1853).

ECUADOR: Pichincha in woods at 10,000 ft, *William Jameson 817*. Holotype: K000583843! (ex Herb. Hooker). Isotypes: G00168905! (Photograph CNHM 24755; AMES HUH00070150! NY! SEL!) G! K! LE00001438! W! (Tracing of specimen Herb. Lindley 145, with detail of lip W 5790!).

Synonyms: *Epidendrum mosquerae* F.Lehm. & Kraenzl., Bot. Jahrb. Syst. 26(5): 472 (1899). Type Ecuador: [Chimborazo: Colta:] near Pangor [Juan de Velasco], W. Slopes of the W. Andes of Cajiabamba, 2800–3200 m. *Friedrich Carl Lehmann 8348*, Holotype: B, destroyed. Lectotype (here designated): NY01047716! Isolectotypes: AMES HUH00070598! K! L 914120-155!

Epidendrum millei Schltr., Repert. Spec. Nov. Regni Veg. 15: 54 (1917). *pro syn. nov.* Type: Ecuador: Silv. subandinis prope San Florencio [Tandapi], ca. 2700 m, VII 1883, *Luis Mille 97*, Syntype: B, destroyed. Lectotype (here designated): Prop. San Florencio [Tandapi], VII 1883, *Luigi Aloysius Sodiro 58*, BR0000006573201!

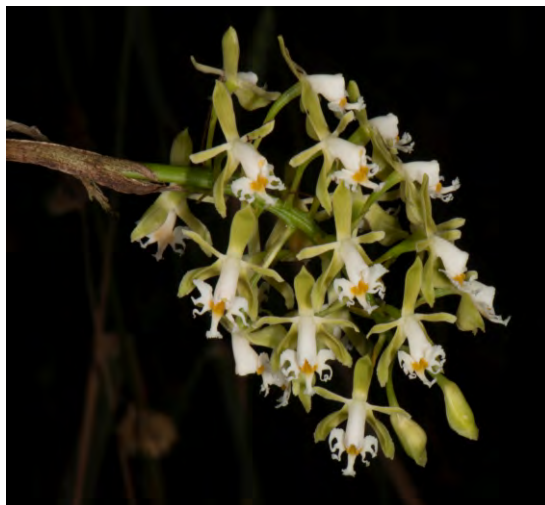
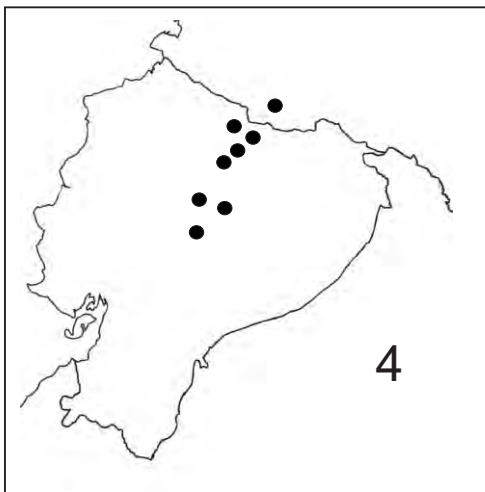
Epidendrum rhacoglossum Schltr., Repert. Spec. Nov. Regni Veg. Beih. 8: 84 (1921). Type: Ecuador: Chimborazo: In silvis andinis occidentibus montis Chimborazo, 2900 m, Sept. 1891, *Luigi Aloysius Sodiro s.n.*, B, destroyed.

Epidendrum brevivenioides Hágsater & Dodson, Icon. Orchid. 4: t. 422 (2001). *pro syn. nov.* Type: Ecuador: Imbabura, Vía Mariano Acosta-Palmira-Tambo-Nueva América, "Tambo-Nueva América", 11800 a 10000 pies, 29 diciembre 1979, *Jaime A. Jaramillo, Flavio Coello & Fernando Sarmiento 1630*. Holotype: QCNE 18529! Isotypes: AAU! QCA! QCNE 21714!

Epidendrum dactylodes Rchb.f. ex Hágsater, Icon. Orchid. 12: t. 1236 (2009). *pro syn. nov.* Type: Colombia: [Nariño:] Túquerres, Mai 1853, *José Jerónimo Triana 1376*. Holotype: W 4734! (Illustration voucher). Isotype: P!

Epiphytic, sympodial, repent herb, 20–25 cm tall. **Roots** 0.5–1.3 mm, filiform, produced along rhizomatous section. **Stems** 9–32 × 0.15–0.25 cm, produced from the 3rd–4th internode of previous stem, spaced 6 cm along repent rhizomatous section, erect, terete. **Leaves** 4–5, distributed along apical half of stems, medium green on both sides; sheaths 2–3 × 0.2–0.3 cm, tubular, striate when dry; blade 3–11 × 0.6–2.0 cm, narrowly elliptic oblong, apex unequally bilobed. **Spathe** 1, 2.7–4.9 × 0.3–0.5 mm, tubular, narrow, conduplicate, sides parallel, acute. **Inflorescence** 5–15 cm long, apical from mature stem, racemose, sub-erect; peduncle 4–9 cm long, elongate, with 1–2 bracts 2.7–3.8 cm long, near apex of peduncle, raceme 1.7–3.5 cm long, compact. **Floral bracts** 4–14 mm long, linear-triangular, acuminate. **Flowers** 8–14, simultaneous, resupinate, sepals and petals pale green, sepals rarely brown, margins sometimes white, column and lip white, calli and mid-rib dark yellow to green; fragrance "lechemiel", caramel (*Cerón 74700*). **Ovary** 9–12 mm long, longer to shorter than ovary, not inflated, terete, unornamented, furrowed. **Sepals** 5.0–6.0 × 2.0–3.5 mm, spreading, free, obovate, with a prominent dorsal keel, apex aristate, 3-veined; dorsal sepal short aristate, lateral sepals oblique, apex prominently aristate. **Petals** 4.5–5.0 × 1.0–1.6 mm, spreading, free, inflexed beyond middle, narrowly obcuneate, 1-veined, margins sinuous, spreading. **Lip** 3.6–4.2 × 6.0–6.6 mm, united to column, 3-lobed; bicallose, calli prominent, tall at apex, truncate apically, mid-rib short, apex globose, continued into a low keel; lateral lobes dolabriform, 3–4-parted, basal part rounded, crenulate and sub-acute, following parts narrower, truncate to lacerate, sub-triangular; mid-lobe triangular to sub-rectangular, acute to truncate, margins entire, thick. **Column** 3.8–4.5 mm, slightly arched, apex truncate. **Cinandrrium-hood** short, funnel-shaped, entire, fleshy, truncate. **Anther** reniform, apex truncate, 4 celled. **Pollinia** 4, obovoid, caudicles not seen, viscarium semi-liquid. **Rostellum** apical, slit; viscarium semi-liquid. **Lateral lobes of stigma** small, about half length of stigmatic cavity. **Cuniculus** slightly penetrating pedicellate ovary, unornamented. **Capsule** 18 × 8 mm; pedicel 5 × 0.5 mm; body 12 × 8 mm, globose ellipsoid; apical neck 2 × 1.5 mm, short, thick.

OTHER SPECIMENS: COLOMBIA: Nariño: Mun. Túquerres: Gebirge von Túquerres un den Vulkan Azufral, 2800 m, 13 VII 1880, *Lehmann 35*, G x2! W! Vda. Olaya, 5 km al NO de Túquerres, 3200 m, 22 V 2022, *Reina-Rodríguez 3700*, CUCV! (LCDP voucher). Prov. Túquerres, V 1853, *Triana 1371*, P! **ECUADOR: Bolívar:** Westabhängen der Chimborazo, 3300 m, 21 XII 1880, *Lehmann 295*, G! W! **Carchi:** San Gabriel: La Paz-Piquier Alto-Bellavista, km 17, 3300 m, 24 III 1989, *Freire Fierro 1413*, NY! QCA! San Isidro, 3400 m, 15 VII 1983, *Hirtz 1153*, MO! QCNE! SEL! **Chimborazo:** Eastern Cordillera of Riobamba, 3250 m, I 1929, *Rimbach 49*, AMES! US! Ostlich von Riobamba, 3300 m, 15 III 1934, *Schimpff 804*, AMES! G! M! MO! S! Z! Sudlich von Riobamba, 3200 m, 22 III 1934, *Schimpff 890*, G! M! MO! US! Z! **Cotopaxi:** Reserva Ecológica Los Ilinizas, 3050 m, 20 I 1996, *Cerón 30304*! QAP! Sector La Florida, Cerro Azul, 3100 m, 25 VII 1993, *Fuentes 10*, QAP! Sigchos al Rio Toachi, por camino Sigchos-Latacunga, desviación hacia Cerro Azul, 3114 m, 22 IV 2018, *Hágsater 15790*, QCNE x3! (Photo voucher). Quebrada Faldiguera, Hcda. El Pongo, E side of Iliniza, 3270 m, 12 II 1990, *Jørgensen 92946*, QCA! QCNE! **Imbabura:** Lake Cuicocha, Islote chica, 3150 m, 23 VI 1939, *Asplund 7130*, AMES! FLAS! S! USF! Carretera Pimampiro-Chuga-Palma Grande, km 6–8, 2900, 5 IX 1988, *Freire 1161*, QCA! Island on Lag. Cuicocha, 24 I 1953, *Prescott 242*, DS! NY! *Ibid.* 21 II 1958, *Prescott 1307*, NY! Lake Cuicocha, Island, 3100 m, 29 V 1939, *Penland 759*, AMES! QCNE! Laguna Cuicocha, Islote Yerovi, 3100 m, 19 IV 1992, *Peñafiel 1202*, MO! QCNE! **Napo:** Papallacta, 2950 m, 4 VIII 1955, *Asplund 17208*, AMES! S. SW side of Volcán Antisana, road from the hacienda to Quito, 3290 m, 6 XII 1982, *Barfod 41301*, AAU! MO! QCNE! 1 km above Papallacta, 3400 m, 29 V 1986, *Dodson 16420*, GB, MO! NY! QCNE! NW of Papallacta, 3050 m, 16 VIII 1990, *Jaramillo 11898*, QCA! Below Papallacta, 2800, 28 VIII 1978, *Luer 3434*, SEL! 10 km E of Papallacta, 2800–2900 m, 5 VI 1973, *Holm Nielsen 6853*, AAU! AMES! COL! K! MO! Q! QCA! S! SEL! Bellow Papallacta, 2710 m, 15 V 1981, *Kuhn 122*, SEL! bei Papallacta am Antisana, 3000 m, 4 I 1880, *Lehmann 457*, W! between Papallacta and Cuyuja, 2850–2900 m, 26 III 1979, *Lojtant 11386*, AAU! GB! MO. Papallacta páramo, 10,500 ft, 29 I 1959, *Prescott 1283*, NY! Páramo Anitana 10,500 ft, 28 IV 1958, *Prescott 1437*, NY! Parroquia Quijos, Papallacta, 10,700 ft, 28 VII 1974, *Scheviak 836*, Herb. Zsachetne! Papallacta, 3400 m, 19 VII 1967, *Sparre 17700*, S! cliff-faces above Papallacta, 3350 m, 2 VIII 1990, *Webster 28523*, MO! QCA! QCNE! TEX! **Pichincha:** El Ilaló, 10,500 ft, 29 XII 1938, *Balls 5797*, E! K! US! Pichincha, 30 III 1930, *Benoist 2320*, P! Bosque Protector Pasochoa, 2850–3900 m, 15 VI 1986, *Betancourt 254*, QCA! Volcán Ilaló, sector Hondonada entre la Cruz y la Pirámide, 2749 m, 25 X 2014, *Cerón 74700*, QAP! *Ibid.* 3117 m, 26 VII 2014, *Cerón 74327*, QAP! *Ibid.*, 3100 m, 9 V 2015, *Cerón 76135*, QAP! Río Pita, Cascada Condor Machay, 2950 m 10 II 2019, *Cerón 84591*, QAP! Mt. Pasachoa, cerca de Aloag, carretera Quito-Machachi, 2900–3200 m, 1 V 1985, *Dodson 14818*, AMES! MO! Mt. Pasachoa, cerca de Aloag, carretera Quito-Machachi, 2900–3300 m, 1 V 1985, *Dodson 15818*, AMES! MO! Western side of Mt. Ilinizas, 3000 m, 23 I 1987, *Hirtz 3071*, AMO! MO! QCNE! Near Lloa, *Jameson s.n.*, K! W! On Pichincha at 15,500 ft, *Jameson 816*, K! 1–2 km NE–E of Hacienda Pinatura, ca 5 km E of Pintag, 3200–3300 m, 1 VII 1979, *Lojtant 15425*, AAU! MO, GB! Pifo: W of pass Quito-Papallacta, 2850 m, 20 II 1982, *Luer 6841*, SEL! E slope of Cerro Pichincha, Quebrada de Los Cóndores, 3270–3310 m, 28 IV 1971, *MacBryde 195*, AMES! MO! QCA! SEL! US! In silv. occid. in Atacazo pr. Chillogallo, I 1872, *Sodiro 58*, Q! QPLS210761! Mont. Atacazo, Hac. Chiriboga, 1 II 1871, *Sodiro s.n.*, BP! Pifo, prope Quebrada, *Sodiro s.n.* QPLS! without locality or data, *Sodiro?* QPLS x5! Silv. sub And. M. Mojanda, III 1903, *Sodiro s.n.*, QPLS! Bosques sub and. 2700 m, *A. Mille 9*, QPLS! **Tungurahua:** Above Pillaro, 300, 10 VIII 1939, *Asplund 8118*, R! S! Mt. Tungurahua, 2800 m, VII 1984, *Hirtz 1845*, MO! Volcán Tungurahua, 500 m a la derecha del sendero Ponda-Refugio, 3050–3150 m, 6 IV 1996, *Cerón 31047*, QAP! SW side des Tungurahua, 2600–3800 m, 5 IV 1933, *Heinrichs 842*, G!



Authors: E. Hágsater & G. A. Reina-Rodríguez

LCDP: G. A. Reina-Rodríguez & A. Cisneros

Illustrator: R. Jiménez M.

Photo: E. Hágsater

Editors: E. Hágsater & E. Santiago

OTHER RECORDS: COLOMBIA: Nariño: Túquerres, 2 VI 2022, *Vargas s.n.*, digital images, AMO! (Photo voucher). ECUADOR: Imbabura: Laguna Puruhanta, 3469 m, 31 V 2022, *Monteros s.n.* digital image, AMO! Napo: origen del Papallacta, 23 II 2019, *Carrera s.n.*, digital images AMO! Pichincha: Pasachoa: Río Pita en el Valle de los Chillos, 8 II 2019, *Carrera s.n.*, digital images AMO! Pifo: Papallacta road, 3300 m, VII 2002, *Chartier s.n.*, digital images AMO! Volcán Pasachoa, Santa Rica Reserva Ecológica, 3300 21 IV 2022, *Torres s.n.*, digital images, AMO! Tungurahua: Cantón Patate, Sucre, 2800 m, 19 IV 2022, *Castellanos s.n.*, digital image, AMO! <https://www.inaturalist.org/observations/115435653> Parque Nacional Llanganates, 3357 m, 8 IV 2022, *Llangana s.n.*, digital images, AMO!

DISTRIBUTION AND ECOLOGY: Common and widespread from Túquerres in Nariño, Colombia, to the western Andes south of Riobamba, Ecuador, growing on rocks and trees, and on cliffs directly exposed to full sunlight and winds, at 2700–3800 m elevation, in a range of some 330 km. When fully exposed to sunlight the plants are short and firm, when epiphytic in shade the stems elongate, and the leaves are narrower; often forming large mats on rocks.

RECOGNITION: *Epidendrum brevivenium* is a member of the *Brevivenium* group which is characterized by the repent rhizomes with erect, thin, few-leaved stems, and a pair of conduplicate tubular spatheaceous bracts at the apex; the inflorescence is erect, with prominent floral bracts; the lip appears 7-lobed. *Epidendrum brevivenium* has leaves 7 x 0.6–2.5 cm, the petals linear, acute, and the lateral lobes of the lip more or less divided into filiform, divergent lobules, or sometimes the lateral lobes are nearly entire, with several incisions, the mid-lobe triangular to rectangular and then expanding apically into two lobes. *Epidendrum guanacasense* Hágsater & Dodson has up to 18 ovate leaves on the stem, 1–2 cm long, sepals 4.5 mm long, the lateral lobes of the lip not forming finger-like lobes, and the mid-lobe oblong-rectangular, simple, with a sub-entire margin.

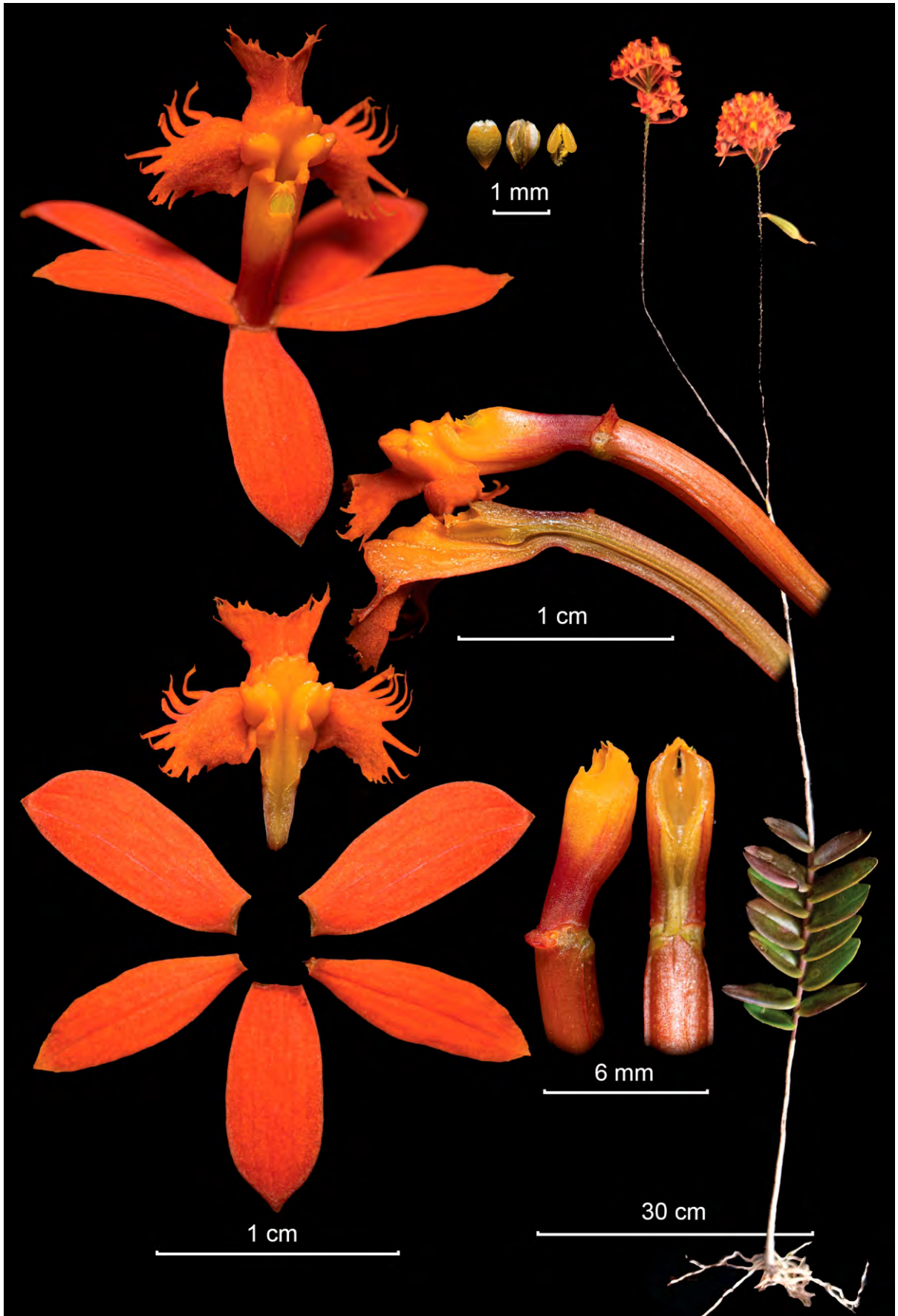
NOTE: After studying the variation within plants of different localities in the distribution, it has become evident that even in the same inflorescence you will find differences in the lobation of the lip so that there is no way to separate species on this feature. When comparing the accompanying illustration of the type of *E. dactyloides*, with the illustration by Reichenbach on the type specimen at W, his sketch shows nearly entire lateral lobes, though the flowers were taken from the same inflorescence. In addition, the width of the leaves that seemed to be inconsistent and varies within populations. Several names are hereby reduced to synonyms. The length of stems and width of leaves depends on exposure to sunlight and wind as well as elevation. Regarding the collections of Mille and Sodiro, it seems they often collected together, at least the type collections in *Silvula Sub Andina Propre San Florencio*, VII 1883 corresponds to both *Mille 97* and *Sodiro 58*. In the original description by Schlechter, he cites both collections, *A. Mille 97* and *A. Sodiro 58* with the same data. In addition, there are many specimens in the Sodiro Herbarium in Quito (QPLS), several without data and several from different localities and dates but the same number 58, so it appears Sodiro used the number not for a particular collection gathered on a date, but as an identifier of what he considered a species, a common practice at the time. The locality of San Florencio is in the town of Tandapi, in the canton of Manuel Cornejo Astorga.

CONSERVATION STATUS: NT. Not Threatened. The specie is common and relatively widespread over a range of 330 km and grows well on cliffs up to 3800 m elevation, as well as epiphytic and in large masses on boulders and on tree trunks.

ETYMOLOGY: In reference to the short veins of the lip.

ACKNOWLEDGMENT: We wish to thank Mónica Patricia Tobar Flórez (1985–) and her mother Blanca Mariela Flórez Táquez (1957–), of Túquerres, Nariño, avid orchid collectors who have shared their collections with several orchid specialists and have a live orchid collection at their home. The mother started collecting some 30 years ago while trekking in the forests and paramos of the area, later accompanied by her daughter who started studying them and uploading them to the internet. They supplied the live material which was photographed by Guillermo Reina-Rodríguez, who travelled especially from Pasto and found numerous interesting specimens including the plant photographed for the LCDP plate here included and plants of what has been described as *Epidendrum florezianum* Hágsater, E. Santiago & Reina-Rodr. (2022).

REFERENCES: Dodson, C.H. (1999) *Epidendrum* in *Orchidaceae* in P.M. Jørgensen, P.M., & León-Yáñez, S. (Eds.), Catalogue of the Vascular Plants of Ecuador, **Monogr. Syst. Bot. Missouri Bot. Gard.** 75: 655–669. Dodson, C.H. & Dodson, P.M. (1989) *Epidendrum brevivenium*. In Dodson, C.H. & Dodson, P.M. (Eds.), Orchids of Ecuador, **Icon. Pl. Trop. ser II**, 5: t. 464. Hágsater, E. (2009) *Epidendrum dactyloides*. In Hágsater, E. & L. Sánchez S. (Eds.), The Genus *Epidendrum*, Part 8, **Icon. Orchid.** 12: t. 1236. Hágsater, E., & Dodson, C.H. (1993) *Epidendrum guanacasense*. In Hágsater, E. & Sánchez S., L. (Eds.), The Genus *Epidendrum*, Part 1, **Icon. Orchid.** 2: t. 140. Hágsater, E. & Dodson, C.H. (2001) *Epidendrum brevivenioides*. In Hágsater, E. & Sánchez S., L. (Eds.), The Genus *Epidendrum*, Part 3, **Icon. Orchid.** 4: t. 422. Hágsater E., Santiago, E. & Reina-Rodríguez, G. (2022) *Epidendrum florezianum*. In Hágsater, E. & Santiago, E. (Eds.), The Genus *Epidendrum*, Part 15, **Icon. Orchid.** 19(2): t. 1953.



EPIDENDRUM CALIMAENSE J.S.Moreno & Hågsater

Plate 1971

EPIDENDRUM CALIMAENSE J.S.Moreno & Hágsater, Harvard Pap. Bot. 27(1): 45 (2022).

Type: COLOMBIA, Valle del Cauca: Municipio de Calima El Darién, predio La Lorena, 1732 m, 15 septiembre 2020, *Alejandro Zuluaga & Juan Sebastián Moreno 5621*. Holotype: CUVCI (LCDP and Photo voucher)

Terrestrial, sympodial, caespitose **herb**, to ca. 135 cm tall including inflorescence. **Roots** 0.8–3.2 mm in diameter, basal, terete, fleshy, thin, white. **Stems** 30–58 × 0.3–0.5 cm, simple, cane-like, straight, terete, thin, covered by foliar sheaths, papyraceous, white. **Leaves** 4.5–8.6 × 1.8–2.5 cm, articulate, elliptic, apex rounded, coriaceous, smooth, green, margins entire, aggregate along apical half of stem. **Spathes** lacking. **Inflorescence** ca. 64–86 cm tall, racemose; peduncle 38–52 cm long, elongate, green, covered by 5–8 tubular bracts 3.0–3.8 cm long, white, scarious when dry, striated, papyraceous, imbricated, acute; rachis 30–35 cm long; producing keikis from sub-apical nodes of peduncle of inflorescence. **Floral bracts** 1–4 mm long, much shorter than ovary, decreasing in size, triangular, acuminate, embracing. **Flowers** ca. 60, successive 16–24 open at any time, non-resupinate, sepals and petals orange, lip orange turning to yellow at disc, callus yellow, column red, apical half yellow, anther green; fragrance none. **Ovary** 17–26 mm long, terete, thin, not inflated, orange tinged green towards base, slightly arched, furrowed. **Sepals** 10–12.2 × 4–5.5 mm, spreading, oblong, apex acute, minutely apiculate, 7-veined, margin entire, spreading; lateral sepals oblique, with low dorsal keel. **Petals** 9–11.4 × 3–3.8 mm, spreading, oblong elliptic, acute, 5-veined, distal margin microscopically dentate, spreading. **Lip** 5.8–6.2 × 10.8–11.2 mm, basally united to column, 3-lobed, base slightly cordate, bicallose, callus massive, a pair of elevated spherical calli on sides at base, central callus lobed and wide, arranged in shape of a semi-circular crown formed by three unequal tubercules, lateral ones made up of two teeth, middle one made up of three teeth; lateral lobes 5.3–5.8 × 3.3–3.8 mm, ovate, distal margins broadly emarginate, slightly reflexed; mid-lobe 4.4–5.4 × 4.8–5.4 mm, basal half an isthmus, apical half sub-triangular, slightly bilobed, lobes divergent, distal margin short-laciniate, sides revolute. **Column** 9.5–10.3 mm long, terete, slightly thickened towards apex, a lateral wing on each side at apex, acute, margin minutely erose, embracing anther, margin minutely papillose, and a pair of finger-like wings curved upwards and attached to callus. **Cinandrium-hood** reduced; margin irregular dentate. **Anther** ovoid, acute, rugose, 4-celled. **Pollinia** 4, narrowly obovate, elongate, laterally compressed, of equal size; caudicles soft and granulose, forming elongate tetrads that appear as a pile of roof tiles. **Rostellum** apical, slit; viscarium semi-liquid, transparent. **Lateral lobes of stigma** very small. **Cuniculus** deep, penetrating half pedicellate ovary, minutely papillose, papillae arranged in longitudinal rows. **Capsule** ellipsoid.

DISTRIBUTION AND ECOLOGY: Known presently only from the Pacific slope of the Cordillera Occidental of the Andes in Valle del Cauca, southern Colombia, at around 1700 m elevation. The locations where this species grows are open sites with mild to severe erosion, moderate to high slopes, high exposure to the sun and in the afternoons to strong moisture-laden winds. The soils are characterized by high clay content, low fertility, low content of organic matter, which promotes a low regeneration capacity of natural covers. These areas were deforested after the construction of the Calima dam in 1961, and their deterioration has intensified over the last 30 years, which is why Celsia bought this area designated to implement an ecological restoration project to recover forest areas and connectivity in the landscape. Flowering in September.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

RECOGNITION: *Epidendrum calimaense* belongs to the Schistochilum group is characterized by the caespitose habit, the numerous coriaceous leaves, the generally and elongate peduncle to a pluri-racemose inflorescence, the brightly colored flowers generally pollinated by hummingbirds and butterflies, and the caudicles of the pollinarium granulose, the tetrads appearing like a loose pile of roof-tiles, without any spathaceous bracts, and the Secundum subgroup is recognized mainly by the non-resupinate flowers with a complex callus. *Epidendrum calimaense* is recognized by the non-resupinate flowers, the sepals and petals orange, lip disc orange-yellow, callus yellow, column red, apical half yellow, anther green, the sepals 10–12.2 × 4–5.5 mm, oblong, widely acute, the petals 9–11.4 × 3–3.8 mm, spreading, oblong-elliptic, acute, 5-veined, distal margin microscopically dentate, and the lip 5.8–6.2 × 10.8–11.2 mm, united to column, 3-lobed, base slightly cordate, bicallose, callus massive, a pair of elevated spherical calli on sides at base, central callus lobed and wide, arranged in the shape of a semi-circular crown formed by three unequal tubercules, the lateral ones made up of two teeth, middle one made up of three teeth. *Epidendrum celsiae* J.S. Moreno & Hágsater also has non-resupinate flowers, the sepals and petals fiery orange, lip pale orange yellow, callus orange-yellow, column yellow, anther green, the sepals 11.6–13.4 × 5.6–6.4 mm, spreading, elliptic, apex acute, minutely apiculate, the petals 11.8–12.6 × 6.7–7.2 mm, spreading, obtrullate-spatulate, acute, and the lip 8.8–9.5 × 13.8–15.4 mm, united to column, 3-lobed, base cordate, callus massive, callus formed by three unequal tubercules, lateral ones made up of two teeth, unequal, the outer pair short, united, with the basal part slightly elevated, and mid-tubercule consisting of single elongate and thin, high keel, which is thickened on each side to about the middle. *Epidendrum ramireziana* Sauleda & Uribe Vélez, from east of Buga, has sepals 15 × 5–6 mm, petals oblanceolate 14 × 5 mm, lip 13 × 15 mm, mid-lobe rectangular truncate to 3-dentate, non-laciniate, flowers orange to red. It is similar to *Epidendrum portokaliu* Hágsater & Dodson, found along the Amazonian corridor in eastern Ecuador, which has larger flowers sepals 9–17 × 3.6–5.2 mm, the petals are narrowly obovate, apex rounded, and the lip with a distinctly different callus formed by seven unequal tubercules, none forming a spherical basal body. In herbarium specimens it can be confused with *Epidendrum melinanthum* Schltr. which was described from the same general area and is widespread in Colombia along the Cordilleras Occidental and Central, but has yellow flowers, the yellow callus turning orange in mature flowers, sepals 7–8 × 3.0–3.5 mm, oblanceolate, acute, the petals 8–9 × 2.5–3.0 mm, elliptic to sub-rhombic, acute, and the callus is formed by two sub-spherical calli at the base, extended beneath by a pair of sub laminar teeth which arch inwards partly embracing a central sub globose mid-callus.

ETYMOLOGY: *Epidendrum calimaense* is named after the Calima region in Calima-El Darién, a municipality in Valle del Cauca department of southern Colombia, on the Pacific slope of the western Cordillera of the Andes, where the new species was found.

CONSERVATION STATUS: *Epidendrum calimaense* is only known from the type locality and is protected since the area is protected from external threats. The species classified within the IUCN categories as data deficient (DD) because we lack adequate distribution and population information to make an assessment (IUCN Standards and Petitions Subcommittee 2021). The discovery of *Epidendrum calimaense* and *E. celsiae* made it necessary to change the ecological restoration plans, as preservation of endemic species takes priority over restoring forest cover.

REFERENCES: Hágsater, E. & Dodson, C.H. (2004) *Epidendrum portokaliu*. In Hágsater, E. & Sánchez S.L. (Eds.), The Genus *Epidendrum*, Part 4, **Icon Orchid.** 7: t. 778. IUCN Standards and Petitions Subcommittee (2017) Guidelines for using the IUCN red list categories and criteria. Version 13. Prepared by the Standards and Petitions Subcommittee. <http://cmsdocs.s3.amazonaws.com/RedListGuidelines.pdf> (accessed March 3, 2021). Moreno, J.S., Hágsater, E., Bernal R.L.J., Guerra G. G. & Vargas, W.G. (2022) Two new species of *Epidendrum* (Orchidaceae: Laeliinae) from the Schistochilum Group in the Western Andes of Colombia and its value in ecological restoration decisions, **Harvard Pap. Bot.** 27(1): 43–51. <https://doi.org/10.3100/hpb.v27iss1.2022.n8> Moreno, J.S. & Hágsater, E. (2017) *Epidendrum melinanthum*, **Species Orchid.** 1 (1): LCDP 3. Moreno, J.S., Hágsater, E. (2022) *Epidendrum celsiae*. In Hágsater, E. & Santiago, E. (Eds.), The Genus *Epidendrum*, Part 15, **Icon. Orchid.** 19(3): t. 1972.



Authors: J. S. Moreno & E. Hágsater

LCDP: J. S. Moreno

Photo: J. S. Moreno

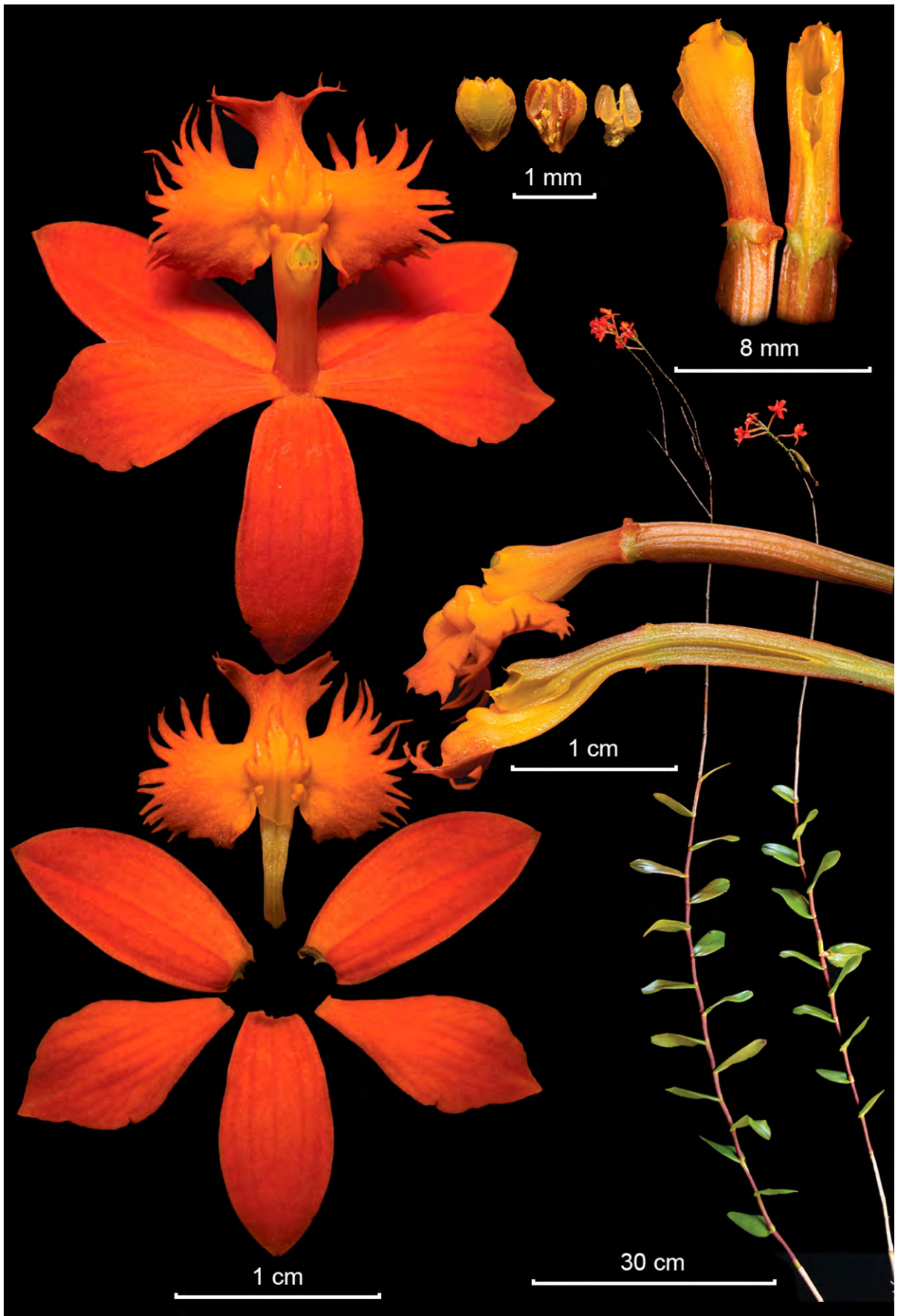
Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONS ORCHIDACEARUM 19(3), 2023.

Plate 1971



EPIDENDRUM CELSIAE J.S.Moreno & Hågsäter

EPIDENDRUM CELSIAE J.S. Moreno & Hágsater, Harvard Pap. Bot. 27(1): 50 (2022).

Type: COLOMBIA, Valle del Cauca: municipio de Calima El Darién, predio La Lorena, 1732 m, 15 septiembre 2020. *Alejandro Zuluaga & Juan Sebastián Moreno 5622*. Holotype: CUVCI (LCDP and Photo voucher)

Terrestrial, sympodial, caespitose herb, to ca. 162 cm tall including inflorescence. **Roots** 0.9–3.3 mm in diameter, basal, terete, fleshy, thin, white. **Stems** 70–100 × 0.3–0.7 cm, simple, cane-like, slightly sinuous, terete, thin, covered by foliar sheaths, papyraceous. **Leaves** 4.0–9.2 × 2.2–4.3 cm, articulate, ovate, apex acute, coriaceous, smooth, green, margins entire, distributed throughout stem. **Spathes** lacking. Inflorescence ca. 45–56 cm tall, racemose; peduncle 33–45 cm long, elongate, reddish, covered by 4–8 tubular bracts 3.0–12 cm long, white, scarious when dry, striated, papyraceous, imbricated, acute; rachis 8–21 cm long; producing keikis from sub-apical nodes of peduncle of inflorescence. **Floral bracts** 1.5–5 mm long, much shorter than ovary, decreasing in size, triangular, acuminate, embracing. **Flowers** ca. 40, successive 3–8 open at any time, non-resupinate, sepals and petals fiery orange, lip pale orange-yellow, callus orange-yellow, column yellow, anther green; fragrance none. **Ovary** 19–28 mm long, terete, thin, not inflated, orange, slightly arched, furrowed. **Sepals** 11.6–13.4 × 5.6–6.4 mm, spreading, elliptic, apex acute, minutely apiculate, 5-veined, margin entire, spreading; lateral sepals oblique, with low dorsal keel. **Petals** 11.8–12.6 × 6.7–7.2 mm, spreading, obtrullate-spatulate, acute, 3-veined (lateral veins short branched), distal margin irregularly erose, spreading. **Lip** 8.8–9.5 × 13.8–15.4 mm, united to column, 3-lobed, base cordate, callus massive, callus formed by three unequal tubercles, lateral ones made up of two teeth, unequal, outer pair short, united, with basal part slightly elevated, and mid-tubercle consisting of single elongate and thin, high keel, which is thickened on each side to about middle; lateral lobes 6.3–7.2 × 5.5–6.6 mm, semi-orbicular, margin deeply lacinate, slightly revolute; mid-lobe 4.8–5.3 × 6.8–7.4 mm, basal half an isthmus, apical half slightly bilobed, lobes divergent, sub-quadrate, distal margin lacinate, lateral margins revolute. **Column** 7.8–9.3 mm long, slightly arched upwards at apical half, terete, slightly thickened towards apex, lateral lobe on each side at apex, acute, margin minutely erose, embracing anther, and a pair of very short finger-like wings at base, slightly arched upwards. **Clinandrium-hood** reduced; margin irregularly dentate. **Anther** ovoid, acute, rugose, 4-celled. **Pollinia** 4, narrowly obovate, elongate, laterally compressed, of equal size; caudicles soft and granulose, forming elongate tetrads that appear as a pile of roof tiles. **Rostellum** apical, slit; viscarium semiliquid, transparent. **Lateral lobes of stigma** very small. **Cuniculus** deep, penetrating half pedicellate ovary, minutely papillose, papillae arranged in longitudinal rows. **Capsule** elliptic.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known presently only from the Pacific slope of the Cordillera Occidental of the Andes in Valle del Cauca, southern Colombia, at around 1700 m elevation. The locations where this species grows are open sites with mild to severe erosion, moderate to high slopes, high exposure to the sun and in the afternoons to strong moisture-laden winds. The soils are characterized by high clay content, low fertility, low content of organic matter, which promotes a low regeneration capacity of natural covers. These areas were deforested after the construction of the Calima dam in 1961, and their deterioration has intensified over the last 30 years, which is why *Celsia* bought this area designated to implement an ecological restoration project to recover forest areas and connectivity in the landscape. Flowering in September.

RECOGNITION: *Epidendrum celsiae* belongs to the *Schistochilum* group is characterized by the caespitose habit, the numerous coriaceous leaves, the generally and elongate peduncle to a pluri-racemose inflorescence, the brightly colored flowers generally pollinated by hummingbirds and butterflies, and the caudicles of the pollinarium granulate, the tetrads appearing like a loose pile of roof-tiles, without any spathaceous bracts, and the *Secundum* subgroup is recognized mainly by the non-resupinate flowers with a complex callus. *Epidendrum celsiae* is recognized by the non-resupinate flowers, the sepals and petals fiery orange, lip pale orange yellow, callus orange-yellow, column yellow, anther green, the sepals 11.6–13.4 × 5.6–6.4 mm, spreading, elliptic, apex acute, minutely apiculate, the petals 11.8–12.6 × 6.7–7.2 mm, spreading, obtrullate-spatulate, acute, and the lip 8.8–9.5 × 13.8–15.4 mm, united to column, 3-lobed, base cordate, callus massive, callus formed by three unequal tubercles, lateral ones made up of two teeth, unequal, the outer pair short, united, with the basal part slightly elevated, and mid-tubercle consisting of single elongate and thin, high keel, which is thickened on each side to about the middle. The two new species shares similar traits in the habit and flower morphology. Vegetatively, *Epidendrum calimaense* has elliptical leaves with the apex rounded, aggregate along the apical half of the stem, while *Epidendrum celsiae* has ovate leaves with the apex acute, distributed throughout the stem. The flowers of *Epidendrum celsiae* are larger compared with *E. calimaense*, the lip and callus of *E. calimaense* has the base slightly cordate, bicallose with a pair of elevated spherical calli on sides at base, central callus lobed and wide, arranged in shape of a semi-circular crown formed by three unequal tubercles, lateral ones made up of two teeth, middle one made up of three teeth. In contrast, *Epidendrum celsiae* which could be very similar in appearance has the lip base cordate, with the callus formed by three unequal tubercles, lateral ones made up of two teeth, unequal, outer pair short, united, with basal part slightly elevated, and mid-tubercle consisting of single elongate and thin, high keel, which is thickened on each side to about middle.

ETYMOLOGY: The name honors the energy company CELSIA, the owner who purchased property “La Lorena” for conservation purposes where the new species was found.

CONSERVATION STATUS: *Epidendrum celsiae* is only known from their type locality and the species is protected since the area is protected from external threats. The species classified within the IUCN categories as data deficient (DD) because we lack adequate distribution and population information to make an assessment (IUCN Standards and Petitions Subcommittee 2021).

REFERENCES: Hágsater, E. & Dodson, C.H. (2004) *Epidendrum portokaliunum*. In E. Hágsater & L. Sánchez S (Eds.), The Genus *Epidendrum*, Part 4, *Icon Orchid.* 7: t. 778. IUCN Standards and Petitions Subcommittee. 2017. Guidelines for using the IUCN red list categories and criteria. Version 13. Prepared by the Standards and Petitions Subcommittee. <http://cmsdocs.s3.amazonaws.com/RedListGuidelines.pdf> (accessed March 3, 2021). Moreno, J.S., Hágsater, E., Bernal, R.L.J., Guerra G.G. & Vargas, W.G. (2022) Two new species of *Epidendrum* (Orchidaceae: Laeliinae) from the Schistochilum Group in the Western Andes of Colombia and its value in ecological restoration decisions, *Harvard Pap. Bot.* 27(1): 43-51. Moreno, J.S. & Hágsater, E. (2017) *Epidendrum melinanthum*, *Species Orchid.* 1 (1): LCDP 3. Moreno, J.S., Hágsater, E. (2022) *Epidendrum calimense*. In Hágsater, E. & Santiago, E. (Eds.), The Genus *Epidendrum*, Part 15, *Icon Orchid.* 19(3): t. 1971.



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Photo: J. S. Moreno

Editors: E. Hágsater & E. Santiago

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Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 19(3), 2023.

Plate 1972



EPIDENDRUM CHURUBAMBENSE Ocupa. J.Duarte, E.Santiago & Hágsater

EPIDENDRUM CHURUBAMBENSE Ocupe, J. Duarte, E. Santiago & Hągsater, *Phytotaxa* 556(3): 271 (2022).

Type: PERU: Huánuco: Dist. Churubamba: Área de Conservación Regional Bosque Montano de Carpish, Bosque de Unchog, 3451 m, 08 marzo 2022, *L. Ocupe* 298. Holotype: USM! (LCDP and Photo voucher).

Lithophytic, sympodial, climbing **herb**, ca. 24 cm tall. **Roots** ca. 0.5–2 mm in diameter, distributed at base of primary pseudobulb rhizome, thin, vinaceous and white. **Stems** ca. 2.5–4.5 × 0.6–0.9 cm, pseudobulbous fusiform, sulcate and rugose, wine-red colored, covered by a single sheath ca. 5.5 cm long, membranaceous, acute, becoming fibrous with time, only parts present in old stems, unifoliate. **Leaves** ca. 6.4–8.4 × 0.9–1.2 cm, apical, narrowly lanceolate, coriaceous, articulate, spreading, medium green tinged wine-red, margin entire, apex acute. **Spathe** 1, ca. 1.97 cm long, tubular at base, oblong, acute, conduplicate. **Inflorescence** ca. 4.5 cm long, including flowers, apical, arising from developing stem, erect, racemose, shorter than leaf; peduncle ca. 3.5 cm long, terete, slender, erect; rachis ca. 3 mm long, terete. **Floral bracts** ca. 1 mm long, very small compared with the ovary, triangular-ovate, acuminate, embracing. **Flowers** 2, simultaneous, non-resupinate, yellow green, sepals lightly tinged with brown, column green at base and white towards apex; fragrance not registered. **Ovary** 22 mm long, terete, arching, 5–sulcate. **Sepals** 19.8 × 6–6.6 mm, free, ovate-elliptic, spreading, somewhat concave at middle portion, 7-veined, margin entire, apex attenuate; dorsal sepal abaxially carinate, lateral sepals oblique, slightly recurved, with low, short apical dorsal keel in the apex. **Petals** 16.9 × 3.5 mm, free, elliptical-lanceolate, strongly reflexed and pendent in natural position, hidden behind lateral sepals, flexuous, somewhat oblique at base, 3-veined, lateral veins few-branched, margin slightly erose, apex acute. **Lip** 11.5 × 13.7 mm, united to column, 3-lobed, sub-reniform in general shape, base cordate, margin entire; lateral lobes 9–10 × 6.9–7 mm, sub-orbicular, margin minutely erose; mid-lobe 3 × 5.8 mm, sub-quadrate, margin entire, apex cuneate, short, bilobed generating a pair of sub-quadrate lobes; bicallose, calli elongate, digitiform, short, fleshy, parallel; disc with 3 thickened ribs, two in front of calli and mid-rib which is slightly longer and widened at apex, fleshy, reaching apex in short mucro. **Column** 10 × 5.2 mm, clavate, slightly arched, thick, with pair of apical lateral wings, rounded, apex truncate, tinged green and brown to sides. **Clinandrium-hood** short, widely elliptic, margin entire. **Anther** reniform, base emarginate, apex concave, 4-celled. **Pollinia** 4, obovate, yellow, laterally compressed, caudicles soft and granulose, as long as pollinia. **Rostellum** apical, slit, viscarium semi-liquid. **Cuniculus** short, narrow, penetrating apex of pedicellate ovary. **Capsule** not seen.

OTHER SPECIMENS: PERU: Huánuco: Prov. Huánuco: Distr. Chinchao: caserío San Pedro de Carpish, alredecor del túnel de Carpish, 2732 m, 12 II 2003, *Beltrán* 5181, USM! Pachitea: Distr. Umari: comunidad campesina de San Marcos, 2800 m, 3 III 2010, *Beltrán* 6668, USM!

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: *Epidendrum churubambense* is only known from an area located within the Unchog Montane Forest, in the Carpish Montane Forest Regional Conservation Area, located in Churubamba District, Huánuco Department, at around 3451 m, forming part of the western slope of the central branch of the Andes Mountains. This new species grows as a lithophyte on high rocks eroded by rain and wind, directly exposed to sunlight and high humidity, product of dense mists. *Epidendrum churubambense* grows sympatric with other orchid species such as *Maxillaria haemathodes* (Ruiz & Pavón) Garay, *Maxillaria rotundilabia* C. Schweinf. and *Elleanthus aurantiacus* (Lindl.) Rchb.f. This species was observed flowering in March, at the beginning of the rainy season in that department.

RECOGNITION: *Epidendrum churubambense* belongs to the Saxicola group characterized by the pseudobulbous stems, the caespitose or scandent habit, the prominent spathe bract apically rounded, the few-flowered, erect inflorescence, the flowers purple or yellow, and the surface of the vegetative structures often rugose. The new species is recognized by the sepals and petals green-brown, lip yellow, the sepals 19.8 mm long, acuminate, the petals 16.9 mm long, elliptical-lanceolate, pendulous and hidden behind the lateral sepals, the lip 3-lobed, mid-lobe cuneate, apex bilobed, generating a pair of subquadrate lobes; disc with three, fleshy ribs, the mid-rib elongate to the apical sinus, the apex apiculate, slightly revolute. It is similar to *Epidendrum tetartocidium* Collantes & Hągsater has sepals light green to creamy green, translucent to somewhat opaque, petals and lip creamy green to citrine-yellow, the mid-lobe light green, translucent to slightly opaque, the sepals 25–26 mm long, elliptic, the petals 20–25 × 8–8.5 mm, oblong-elliptic to oblong-obtrullate, spreading, slightly arching forward; the lateral lobes shaped like a quarter circle, and the mid-lobe with the apex retuse forming a pair of rounded to sub-deltoid lobules. Other related species such as *Epidendrum monzonense* Kraenzl. which has the roots distributed throughout the rhizome, the leaves 6–9 × 1.5–2 mm, broadly-elliptic, apex sub-bilobed, the sepals brown, 15 × 5 mm, acute, oblong, and the lip yellow, margin erosive, median lobe small, sub-rectangular. *Epidendrum herreranum* C. Schweinf. which has perianth brown-reddish and the inner segments yellow, the sepals 19–20 mm long, ovate-elliptic, the petals 19 × 11 mm, rhombic-spatulate, slightly oblique, the lip with lateral lobes obliquely semi-orbicular with the forward margin truncate, and the mid-lobe obovate flabellate with the apex retuse with a pair of sub-orbicular lobules. *Epidendrum acjanacoense* Hągsater, E. Santiago & J. Duarte (2020) has purple-brown flowers, the sepals 14–16 mm long, elliptic, the petals 15 × 6.4 mm, obovate-elliptic, the lip 12 × 17.5 mm, the lateral lobes sub-orbicular, the midlobe sub-quadrate, apex bilobate, short with a small apiculus in the sinus.

CONSERVATION STATUS: DD. Data deficient. This species is currently known only from the Carpish Montane Forest Regional Conservation Area, central Peru.

ETYMOLOGY: In reference to the District of Churubamba in the Department of Huánuco, where the species has been collected.

REFERENCES: Collantes, B. & Hągsater, E. 2013, *Epidendrum herreranum*. In Hągsater, E. & Sánchez S.L. (eds), The Genus *Epidendrum*, Part 14, *Icon. Orchid.* 14. t. 1438. Collantes, B. & Hągsater, E. 2013, *Epidendrum tetartocidium*. In Hągsater, E. & Sánchez S.L. (eds), The Genus *Epidendrum*, Part 14, *Icon. Orchid.* 14. t. 1487. Hągsater, E., Santiago, E. & Duarte, J. 2020, *Epidendrum acjanacoense*. In Hągsater, E. & Santiago, E. (eds.) The Genus *Epidendrum*, Part 13, *Icon. Orchid.* 17(2). t. 1757. Kranzlin, F.W.L. 1905, *Epidendrum monzonense* in *Repert. Spec. Nov. Regni Veg.* 1: 88. Schweinfurt. C. 1943, *Epidendrum herreranum* in *Revista Acad. Colomb. Ci. Exact.* 5: 350.



Authors: L. Ocupe H., J. Duarte, E. Santiago & E. Hągsater

LCDP: L. Ocupe H.

Photo: L. Ocupe H.

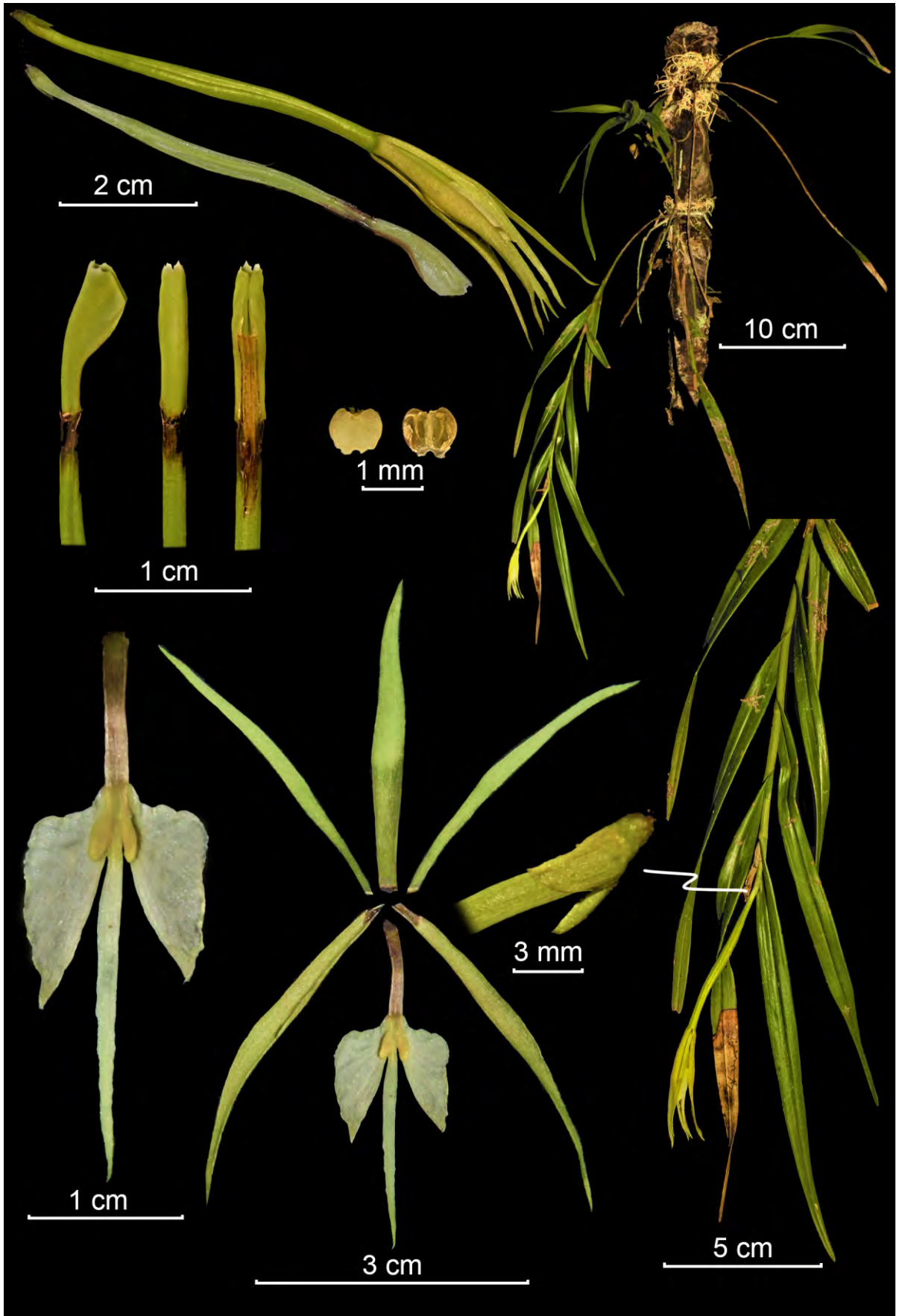
Editors: E. Hągsater & E. Santiago

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Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 19(3). 2023.

Plate 1973



EPIDENDRUM DAYSEAE Krahl & Hågsäter

EPIDENDRUM DAYSEAE Krahl & Hágsater, Phytotaxa 530(1): 97 (2022).

Type: BRAZIL: Amazonas: Manaus, Ramal da Usina, 2°40'49.90"S, 60°11'31.72"W, 55 m, 16 April 2021, in flower, *Amauri Herbert. Krahl & Dayse*

Raiane Passos Krahl 1577. Holotype: INPA! (LCDP and Photo voucher)

Epiphytic, sympodial, caespitose, pendent herb, 25–40 cm long excluding flowers. **Roots** 0.2–0.3 cm in diameter, basal, fleshy, white. **Stems** 16–22 × 0.3–0.4 cm, simple, terete at base becoming slightly flattened at apex, pendent, covered by tubular sheaths, green. **Leaves** 7–9, distributed along apical 2/3 of stem, with largest leaf at apex; sheaths 1.6–3.3 × 1.0–1.4 cm, laterally compressed; blades 7.6–16.6 × 0.5–1.0 cm, length:width 16:1, linear-lanceolate, apex acuminate, subcoriaceous, dark green above, underside slightly lighter green. **Spathe** lacking. **Inflorescence** apical, racemose, short, 1–3-flowered, producing one flower at a time, blooming for several years from same inflorescence becoming pluri-racemose; peduncle and rachis visible. **Floral bracts** 4 × 4 mm, much shorter than ovary, apparent, ovate, apex obtuse and minutely apiculate. **Flowers** successive, resupinate, sepals pale yellow-green, petals pale yellow-green, lip white, column creamy white, green towards base, calli yellow; fragrance sweet; sometimes autogamous. **Ovary** 54 mm, longer than sepals, not inflated, unornamented, slightly furrowed. **Dorsal sepal** 36 × 3 mm, slightly reflexed, symmetrical, linear-lanceolate, acuminate, 6-veined with additional secondary veins, margin entire, revolute. **Lateral sepals** 34 × 4 mm, slightly reflexed, slightly asymmetric, falcate, linear-lanceolate, acuminate, 7-veined with additional secondary veins, margins entire, revolute. **Petals** 34 × 2 mm, spreading, linear-lanceolate, acuminate, 5-veined, margins entire, somewhat revolute. **Lip** 31 × 12 mm, united to column, 3-lobed, base truncate to widely cuneate, margin entire, spreading; bicallose, calli laminar 3 × 1 mm, rounded, prominent, somewhat divergent, with a low mid-rib reaching middle of mid-lobe; lateral lobes 12 × 5 mm, sub-triangular, apically acute, surface smooth, separated from mid-lobe by deep, narrow sinuses, joined no further than apex of calli; mid-lobe 20 × 1 mm, linear, acuminate. **Column** 12 × 3 mm, slightly arched, dilated towards oblique apex. **Clinandrium-hood** slightly surpassing body of the column, deeply emarginate, margin acute to truncate-dentate. **Anthor** sub-quadrate, sides convex, top and bottom sinuate, 4-celled. **Pollinia** 4, ovate, strongly laterally compressed; caudicles soft and granulate, in two pairs, longer than pollinia, viscarium semi-liquid. **Rostrum** apical, slit; lateral lobes of the stigma reduced. **Cuniculus** 52 mm long from apex of the column, deep, penetrating 4/5 the length of ovary, unornamented. **Capsule** 52 × 15 mm, ellipsoid; pedicel 18 mm long, body 28 × 15 mm, apical neck 10 × 1.5 mm.

OTHER SPECIMENS: (Paratypes): BRAZIL: Amazonas: Manaus, Caatinga do Porto Camanaus, 19 X 1978, in fruit, *Madison 407* INPA! Ramal da Usina, 55 m, 29 VII 2021, in fruit, *A. Krahl 1612* INPA!

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: The type specimen was found to the north of the municipality of Manaus (AM), northern Brazil, in sandy soil vegetation called “*campina/campinarana*” forests. It was observed growing as an epiphyte at two meters above the ground. Flowering in April–May. Fruiting in July and October.

RECOGNITION: *Epidendrum dayseae* belongs to the Nocturnum group, which is characterized by the sympodial, caespitose plants, the cane-like stems, the short, racemose, or pluri-racemose inflorescence without a spathe, and the large star-shaped, successive flowers with similar sepals and petals. The new species is recognized by the pendent stem, the numerous linear-lanceolate and acuminate leaves distributed along the apical 2/3 of the stem, the pedicellate ovary longer than the sepals and the lateral lobes of the lip acute to acuminate, about half as long as the mid-lobe. It is similar to *E. longicolle* which occurs along the upper Amazon Basin in Peru, Ecuador, Colombia, Brazil, Venezuela, and the Guyana Shield as far as the adjacent north coast of South America including Trinidad and Tobago. However, *E. dayseae* can be distinguished by the pendent stem (vs. sub-erect to erect), a longer pedicellate ovary (ca. 54 vs 30–40 mm), narrower sepals (ca. 3 vs. 4–5 mm), and most distinctly by the lip's lateral lobes that are sub-triangular and smaller than the mid-lobe and deeply separated from the mid-lobe by deep, narrow sinuses, joined no further than the apex of the calli (vs. lateral lobes semi-ovate and nearly as long as the mid-lobe, and united to it as far as the middle, well beyond the calli), the lateral lobes of the lip narrower (≤ 5 vs. ≥ 5 mm), sub-triangular and apically acute (vs. semi-ovate and obtuse to acute), and the mid-lobe narrower (1 vs. 2–3 mm), and linear and acuminate (vs. lanceolate and acute). *Epidendrum dayseae* is morphologically similar to *Epidendrum plurifolionocturnum*. However, the new species has a pendent stem (vs. erect), a linear-lanceolate leaf blade (vs. lanceolate) which is generally longer (7.6–16.6 vs. 4.5–10 cm), the apex acuminate (vs. mucronate), a pedicellate ovary longer (ca. 54 vs. 30–40 mm), the lateral lobes of the lip ovate and apically acute (vs. semi-ovate with obtuse to acute apex) and the mid-lobe narrower (1 vs. 2–3 mm).

CYTOGENETICS: *Epidendrum dayseae* individuals have chromosome numbers $2n = 4x = 80$, with an average size of 2.36 μ m. The species exhibited a relatively symmetrical karyotype, with metacentric and submetacentric chromosomes. The karyotype had GC-rich heterochromatin bands (CMA+) on the proximal regions of most chromosomes, and four CMA+ terminal bands corresponding to NORs. Chromosome numbers for species of infrageneric groups of *Epidendrum* are predominantly $2n = 2x = 40$ (Felix & Guerra 2010, Assis *et al.* 2013, Cordeiro 2019, Pessoa *et al.* 2020). Polyploidy has been previously recorded for *Epidendrum* subgenus *Amphiglottium* (Assis *et al.* 2013) and *Epidendrum ciliare* Linnaeus (Coilostylis group; Felix & Guerra 2010). The *Epidendrum nocturnum* group appears to be a special group within *Epidendrum*, where speciation and diversification is associated with polyploidy events (Cordeiro, 2019). The chromosome number and CMA/DAPI bands pattern found in *Epidendrum dayseae* is similar to that found for most species of the *E. nocturnum* group analyzed so far, reinforcing the hypothesis of recent origin and diversification for the species in the group (Cordeiro 2019).

ETYMOLOGY: The specific epithet honors Brazilian botanist Dayse Raiane Passos Krahl, wife of the first author and co-collector of the type specimen.

CONSERVATION STATUS: Data deficient. With only two small populations known, there is not enough information about this species to assess the conservation status at this time.

REFERENCES: Assis, F.N.M., Souza, B.C.Q., Medeiros-Neto, E., Pinheiro, F., Barros, E., Silva, A.E. & Felix, L.P. (2013) Karyology of the genus *Epidendrum* (Orchidaceae: Laeliinae) with emphasis on subgenus *Amphiglottium* and chromosome number variability in *Epidendrum secundum*. *Bot. J. Linn. Soc.* 172 (3): 329–44. <https://doi.org/10.1111/boj.12045> Cordeiro, J.M.P. (2019) Citotaxonomia do gênero neotropical *Epidendrum* L. (Laeliinae, Orchidaceae): discutindo grupos infragenericos. (Thesis). Doctorate in Agronomy, Federal University of Paraíba, 122 pp. Felix, L.P. & Guerra, M. (2010). Variation in chromosome number and the basic number of subfamily Epidendroideae (Orchidaceae). *Bot. J. Linn. Soc.* 163 (2): 234–278. <https://doi.org/10.1111/j.1095-8339.2010.01059> Hágsater, E., & Sánchez S.L. (2018) *Epidendrum plurifolionocturnum*. In Hágsater E. & Santiago E. (eds.), The Genus *Epidendrum*, Part. 12, *Icon. Orchid.* 16(2): t. 1695. Lindley, J., 1834, *Epidendrum longicolle*. *Edwards's Bot. Reg.* 24 (Misc.): 49. Linnaeus, C., 1759, *Epidendrum ciliare*. *Syst. Nat.*, ed. 10 2: 1246. Sánchez S.L. & Hágsater, E. (2010) *Epidendrum ciliare*. In Hágsater, E. & Sánchez, S.L. (eds.), The Genus *Epidendrum*, Part 9, *Icon. Orchid.* 13: t. 1317. Sánchez S.L. & Hágsater, E. (2010), *Epidendrum longicolle*. In Hágsater E. & Sánchez S.L. (eds.), The Genus *Epidendrum*, Part 9, *Icon. Orchid.* 13: t. 1350.



Authors: A. H. Krahl, J. M. P. Cordeiro & E. Hágsater

LCDP: A. H. Krahl

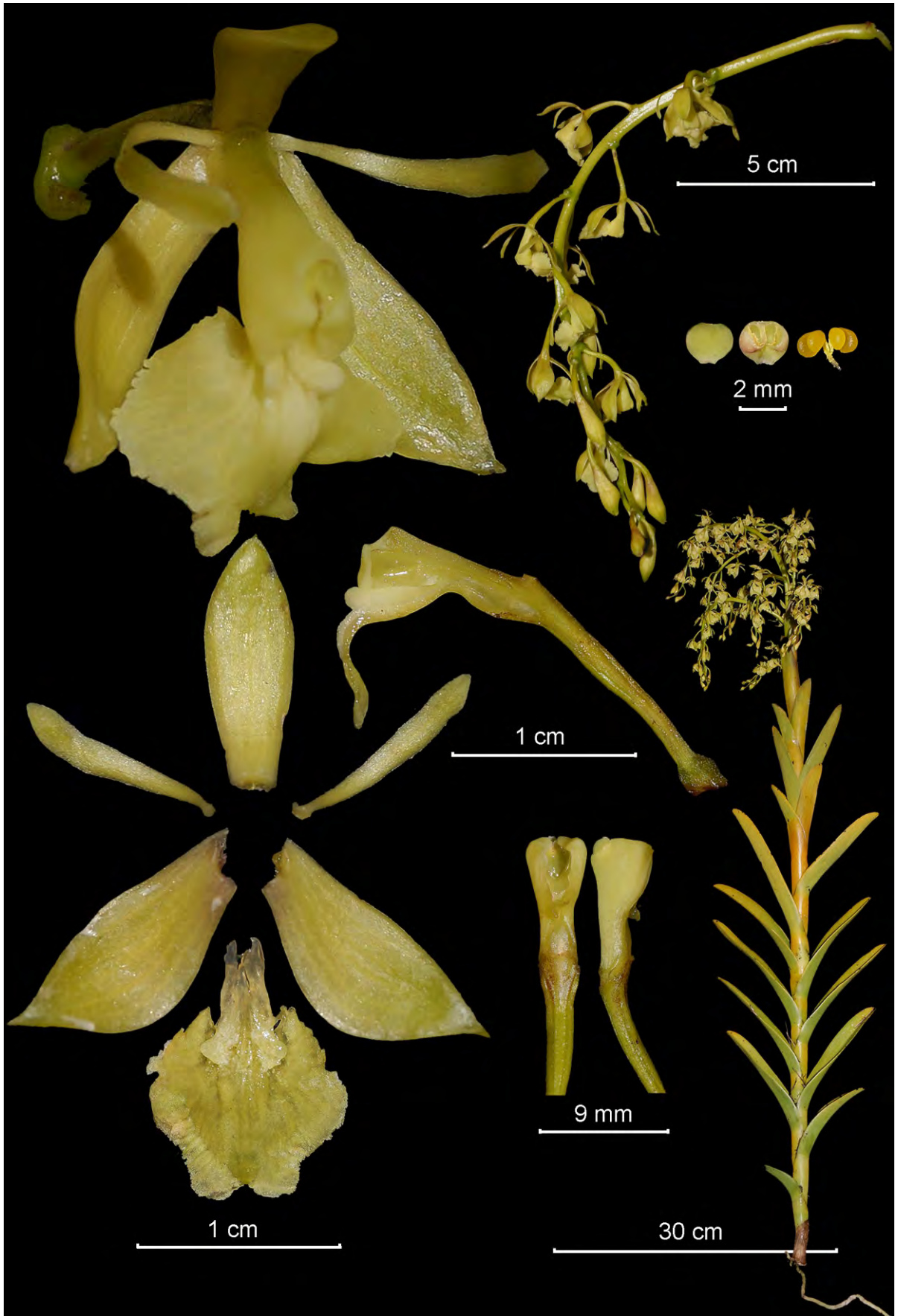
Photo: A. H. Krahl

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 19(3). 2023. Plate 1974



EPIDENDRUM DENSIFOLIUM Kraenzl.

***EPIDENDRUM DENSIFOLIUM* Kraenzl., Repert. Spec. Nov. Regni Veg. 1: 186 (1905).**

Type: PERU: Cajamarca: Unterhalb der Hacienda La Tahona bei Hualgayoc. Felsen in 2600 m. **August Weberbauer 4044**. Holotype: B, destroyed (photographs CNHM 18312: AMES! AMO! F! NY! SEL!).

Synonym: *Epidendrum excisum* Lindl. var. *grandiflorum* Lindl., Fol. Orchid. 3(*Epidendrum*): 52 (1853). Type: PERU: [Amazonas:] Chachapoyas, rocky banks **Andrew Mathews 3182**. Holotype: K000583840! Isotypes: BM! G! (Photograph: CNHM 24767, AMES! F! MO! SEL!) G (herb. De Candolle!) S! (Illustration, AMO!).

Epiphytic and terrestrial, sympodial, caespitose **herb**, 23–150 cm tall including inflorescence. **Roots** 5.6 mm in diameter, basal terete, fleshy, white. **Stems** 14–60 × 1.0–1.87 cm, simple, cane-like, terete basally, straight, laterally compressed towards apex, covered by foliar sheaths. **Leaves** ca. 17, distribute throughout the stems, alternate, coriaceous smooth, conduplicate at base, green to yellow-green; sheaths 3.7–5.6 cm long, tubular, imbricating, yellow-green tinged red; blade 4.2–12.9 × 1.6–3.3 cm, widely oblong or ligulate, apex rounded to unequally bilobed, margin entire, spreading. **Spathes** 2, 5.0–9.2 × 0.9–1.8 cm, prominent, tubular at base, conduplicate at apex, oblong, apex rounded to obtuse minutely apiculate, minutely striated, pale brown. **Inflorescence** 12–18 cm long, apical, paniculate, with short racemes near base, arching; peduncle 3 × 0.6 cm long, totally covered by spathes, terete, thick pale green; rachis 12.7 cm long, terete, thick, arched at the apex, pale green. **Floral bracts** 2 mm long, broadly triangular, embracing. **Flowers** >30, simultaneous, resupinate, yellow-green; fragrance not registered. **Ovary** 11.6 mm long, terete, thin, straight to arching, pale green tinged red. **Sepals** 11–14.0 × 4.3–5.8 mm, partly spreading, free, slightly concave, apex minutely apiculate, margin entire, spreading; dorsal sepal oblanceolate to narrowly obovate, apex obtuse; lateral sepals elliptic, oblique, apex acute, minutely apiculate. **Petals** 10.5–10.9 × 1.0–1.4 mm, partly spreading, free, linear-ob lanceolate, apex obtuse margin entire, spreading. **Lip** 7.5–9.0 × 8.7–10 mm, united to column, entire, base cordate, pentagonal in general form, “*quinquangulatum*”, strongly convex in natural position, margin irregularly crenate; bicallose, calli large, laminar, fleshy, somewhat laterally flattened, divaricate; disc with 3 ribs, lateral ones thin, which disappear before apical sinus: central fleshy, reaching apex of lip. **Column** 8.0–9.0 mm long, straight, thin at base gradually widening towards apex, forming a small ventral vesicle at base of column, pale green. **Clinandrium-hood** reduced, margin entire. **Rostellum** apical, slit; viscarium semi-liquid, transparent. **Anther** sub-spherical, 4-celled, pale green to cream colored. **Pollinia** 4, obovoid, laterally compressed, caudicles longer than pollinia, soft and granulate. **Lateral lobes of stigma** small, occupying 1/5 length of stigmatic cavity. **Cuniculus** widened at base of column and penetrating only about 1/8 of pedicellate ovary, unornamented. **Capsule** ellipsoid, perianth persistent; 3.9 cm long, pedicel 0.7 cm, body 2.0 × 0.68 cm, apical neck 1.2 cm long.

OTHER SPECIMENS: ECUADOR: Loja: Between La Toma and Loja, 1800–3000 m, 4 IX 1923, *Hitchcock 21339*, NY! **PERU: Ayacucho:** Huanta: Mts. NE of Huanta, 3100–3200 m, 1–10 II 1926, *Weberbauer 7507*, AMES! F! NY! US! **Cajamarca:** Chota: Huambos-Cochabamba, a 1 km de Huambos, Bosque de Pargos, 2240 m, 16 IV 1988, *Díaz 2793*, F! MO! NY! SEL! Distrito. Cajabamba, márgenes del Río Lulichuco, en el Caserío de Parubamba, 2600 m, XII 2005, *Trujillo 243* SEL! Prov. Chota, Huambos, ca. 2000 m, 9 IX 1956, *Soukup 4519*, US!

OTHER RECORDS: ECUADOR: Loja: Loja: Santiago, 2550 m, 8 I 2022, *Gelis s.n.*, digital images, AMO! (Photo voucher) Catamayo, carretera Loja-Cuenca, km 133, subiendo al Río Yacumbé, antes de la cumbre, 2600 m, 2 II 2004, *Hágsater 14253*, digital images, AMO! *Ibid.* camino El Cisne-Gualel-Chiquiribamba, 2226 m, 2 II 2004, *Hágsater 14260*, digital images, AMO! **PERU: Amazonas:** Prov. Bongará, Distr. Granada, 2600 m, 6 VI 2007, *Edquen 447*, digital series, AMO! (LCDP voucher). Prov. Chachapoyas, Distr. Balsas, Cordillera Calla Calla, *Deza s.n.*, digital images, AMO! *Ibid.* Leimebamba, 2500–2725 m, rec'd 21 V 2015, *Salas s.n.*, digital images, AMO! **Cajamarca:** Otuzco, 2800 m, 14 I 2022, *Deza s.n.*, digital images, AMO!

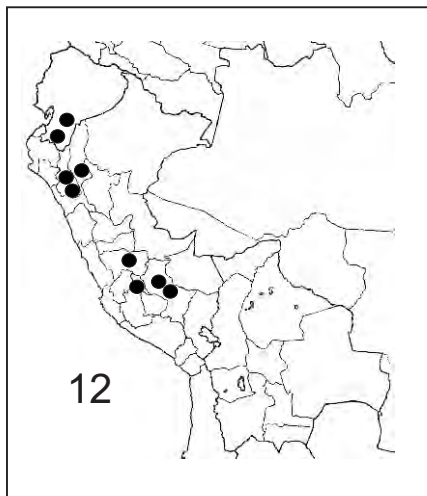
DISTRIBUTION AND ECOLOGY: The species is widespread from southern Ecuador to southern Peru, along the inter- Andean valleys, growing in semi-arid grass and bush lands at 2550–3200 m elevation.

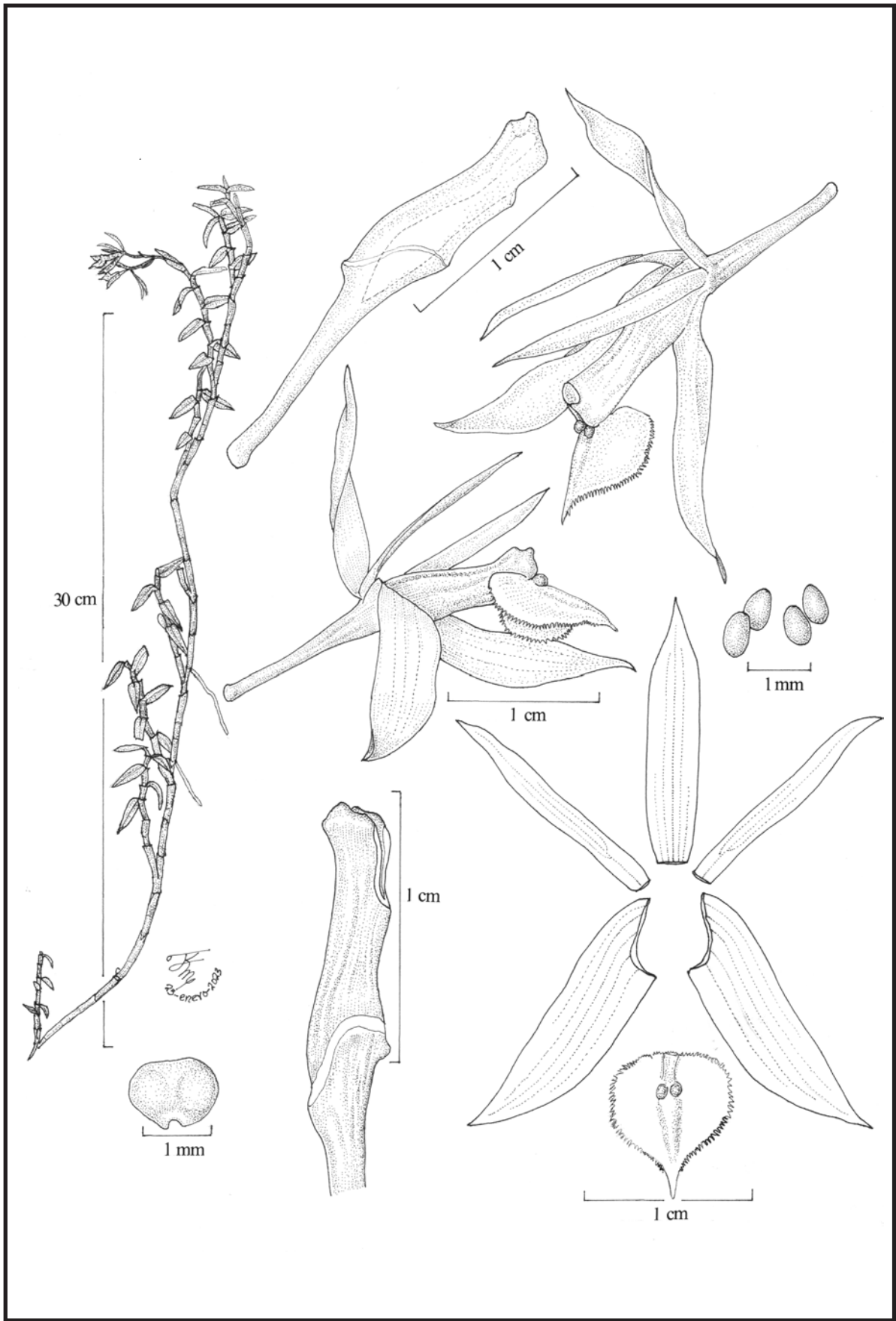
RECOGNITION: *Epidendrum densifolium* belongs to the Excisum Group characterized by the sympodial, caespitose habit, the simple cane-like, usually laterally compressed, sturdy stems, the numerous coriaceous leaves, the 1–2 large spathes, oblong, large, open, paniculate inflorescence with numerous yellow-green flowers, segments fleshy, and the lip entire to deeply 3-lobed. The species is recognized by the stem terete towards the base and somewhat laterally compressed above, and the lip entire, pentagonal “*quinquangulatum*”. It has been confused with *Epidendrum excisum* Lindl. which has wider laterally compressed stems, generally wider leaves, and a deeply 3-lobed lip. There is a third species with more terete stems and also a 3-lobed lip which is widespread and requires more study.

CONSERVATION STATUS: DD. Data deficient. It is often confused with *Epidendrum excisum* Lindl. It is difficult to identify herbarium specimens without a detailed study of the lip. It is difficult to evaluate the true frequency of specimens, as it would be necessary to boil a flower of each.

ETYMOLOGY: In reference to the dense, numerous leaves of the stem.

REFERENCES: Bennett Jr, D.E. & Christenson E.A. (1998) *Epidendrum excisum*, **Icon. Orchid. Peruvianum** t. 458. (plate only).





EPIDENDRUM DENTATUM Hágsater & E.Santiago

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

Type: PERU: Amazonas: Prov. Bagua, Cordillera Colán E of La Peca, 9600 ft, 28 August 1978, *Philip J. Barbour 3238*. Holotype: USM 166798! Isotype: MO 2796452! (Illustration voucher).

Epiphytic, sympodial, scandent herb with rhizome about half the length of the stems which are 7–11 cm long, the leaves 5–6, distributed throughout stem stems, the blades 0.9–2.0 × 0.4–0.6 cm, dark maroon, lanceolate, acute, the inflorescence apical, 2-flowered, arching, the flowers purplish tan with green center, sepals 15.6–17.2 mm long, oblong, acuminate, petals sub-parallel to the column, linear-oblong, and the lip entire, ovate-cordiform, apex acuminate, margin dentate.

Epiphytic, sympodial, scandent **herb**, 40 cm tall or more. **Roots** scarce, produced from rhizomatous part of stem, thin, terete, white. **Stems** 7–11 × 0.15–0.3 cm, including the rhizome 3–6.5 cm long, cane-like, laterally compressed, leafy part about half the length of whole stem, ca. 5.0–5.5 cm long, erect. **Leaves** 5–6, distributed throughout stem, sub-coriaceous, spreading, dark maroon; sheath 6–10 × 1.5–3 mm, tubular in rhizomatous part, something infundibuliform in leaf-sheaths, striate, rugose; blade 0.9–2.0 × 0.4–0.6 cm, dark maroon, lanceolate to ovate, acute, apiculate, margin spreading. **Spathes** 1, 15–16 × 2.5 mm, tubular, narrowly oblong, conduplicate above, apex obtuse. **Inflorescence** 5 cm long, apical, slightly arched, 2-flowered; peduncle 22 mm long, laterally compressed, provided with bract in middle, similar to spathe, 11–14 × 2 mm, narrowly elliptic, acute; rachis 5 mm long, laterally compressed, thin. **Floral bracts** 3–7 mm long, shorter than ovary, triangular, acuminate, embracing. **Flowers** 2, simultaneous, resupinate, purplish tan with green center. **Ovary** 11–12 mm long, terete, thin at base, slightly inflated behind perianth. **Sepals** partly spreading, oblong, acuminate, 5-veined, margin entire, spreading; dorsal sepal 15.6 × 3 mm, spreading, free; lateral sepals 17.2 × 4.5 mm, partly spreading, obliquely united to column, oblique. **Petals** 14.5 × 1.4 mm, partially spreading, sub-parallel to column, free, linear-oblong, short acuminate, 1-veined, vein short branching near base, margin entire, spreading. **Lip** 9 × 7.2 mm, united to column, entire, ovate-cordiform, base cordate, apex acuminate, margin dentate; bicallose, calli spherical, fleshy, parallel, short; disc with a mid-rib running to apex of lip. **Column** 10 mm long, with clinandrium-hood upturned, bidentate apex at sides of clinandrium. **Clinandrium-hood** short, margin entire. **Anther** reniform, 4-celled, **Pollinia** 4, lentic-shaped. **Rostellum** apical, slit; viscarium semi-liquid. **Lateral lobes of stigma** not seen. **Cuniculus** shallow, penetrating less than ¼ of pedicellate ovary, slightly inflated at perianth level, unornamented. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

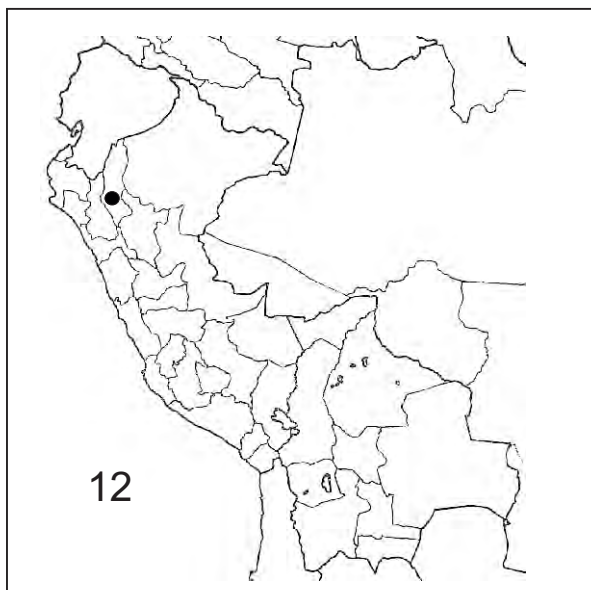
DISTRIBUTION AND ECOLOGY: Known presently only from the Department of Amazonas in northern Peru, Cordillera del Colán, at 2926 m elevation, epiphytic in humid elfin forest. Flowering in August.

RECOGNITION: *Epidendrum dentatum* belongs to the Dentatum group which is recognized by the erect, sympodial, scandent habit, the several leaves distributed throughout the non-rhizomatous part of the stem, the narrow, tubular, elliptic, acute spathe, the 2 resupinate flowers on a short raceme, and the entire, bicallose lip, cordiform, acute, the margin finely dentate. The species is recognized by the short stems 7–11 cm long, the leaves lanceolate to ovate, acute, the inflorescence 2-flowered and slightly arched, the flowers purplish tan with green center, the sepals 15.6–17.2 mm long, oblong, and the lip ovate-cordiform, with the margin dentate. We have not seen any similar species, the plant habit is reminiscent of the Colombian *Epidendrum maderoi* Schltr. which has the scandent habit, upright stems 15–55 cm long, and an erect, 3–6 flowered inflorescence, the flowers non-resupinate, ochre-yellow, the sepals of the same size but the apex narrowly rounded, and the lip narrowly cordiform, apex obtuse, with the margins entire.

CONSERVATION STATUS: DD. Data deficient. Known presently from a single collection from northern Peru.

ETYMOLOGY: From the Latin *dentatus*, toothed, having sharp teeth with concave or straight edges at the margin, in reference to the margins of the lip.

REFERENCE: Santiago, E., Hágsater, E. & Valencia E., M.F. (2020) *Epidendrum maderoi*. In Hágsater, E. & Santiago, E. (Eds.) *The Genus Epidendrum*, Part 14, **Icon. Orchid.** 17(2): t. 1779.



Authors: E. Hágsater & E. Santiago

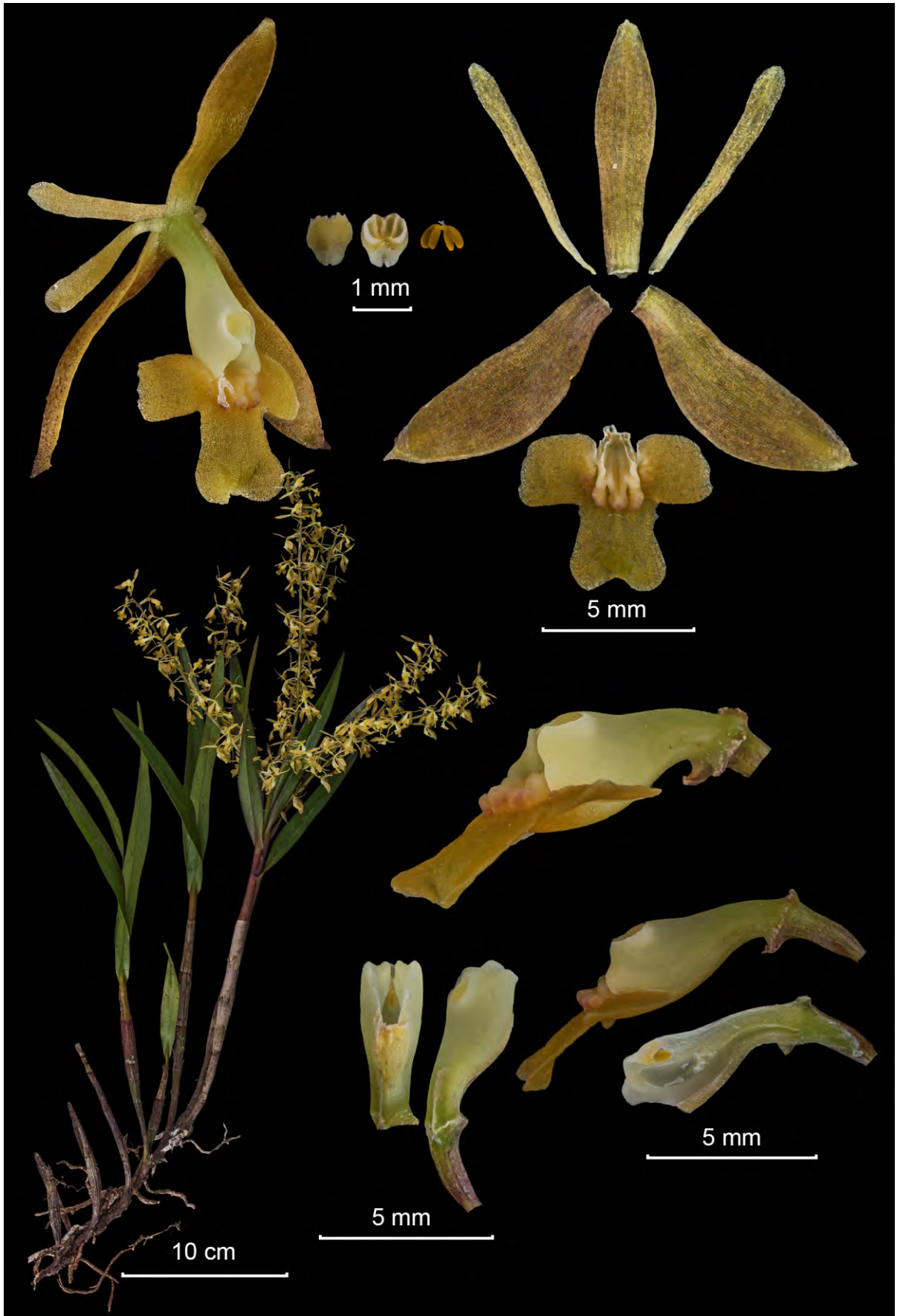
Illustrator: R. Jiménez M.

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 19(3), 2023. Plate 1976



EPIDENDRUM ELPROGRESOENSE Hągsater, A.D.Gut. & L.A.Velásquez

EPIDENDRUM ELPROGRESOENSE Hágsater, A.D.Gut. et L.A.Velásquez, sp. nov.

Type: PERU: AMAZONAS: Prov. Bongará; Distr. Yambrasbamba, centro poblado El Progreso, al norte de Chachapoyas, 2160 m, 1 febrero 2022, *Astrid Domy Gutiérrez Ruiz, Luis Alberto Velásquez Cabanillas & Antonio Goicochea Rojas 15*. Holotype: CPUN 24657! (LCDP and Photo voucher)

Similar to *Epidendrum purum* Lindl., but the flowers ochre-brown (flowers white), the 3 lobes of the lip are similar, square, the mid-lobe cuneate and emarginate (vs. lip 3-lobed, lateral lobes obliquely obovate, mid-lobe is widened in the apical half and rhombic), and three calli formed by 3 parallel structures of the same length and fused at the base to form an "M" shape (vs. bicallose, calli flat, laminar, rectangular, the sides slightly elevated, hollow beneath outer sides and front).

Epiphytic, sympodial, caespitose, erect herb, 48 cm tall including inflorescence. **Roots** 1–3 mm in diameter, basal, fleshy, white, and thin. **Stems** 10–18 × 0.5–0.6 cm, simple, cane-like, somewhat thickened in middle, thus fusiform; covered along basal 2/3 by non-foliar sheaths, to 6 × 0.8 cm, gray, becoming scarious. **Leaves** 3–5, aggregate towards apex of stem, distichous, articulate; sheaths to 2.8 × 0.6 cm, tubular, green more or less tinged and dotted wine-red; blade 6.6–12.6 × 0.9–1.2 cm, sub-equal, erect, medium green on both sides, sub-coriaceous, narrowly lanceolate, apex acute, smooth, margin entire, spreading. **Spathes** lacking. **Inflorescence** ca. 22 cm long, apical, paniculate, 6-branched, erect to somewhat spreading, densely many-flowered; peduncle very short, terete, unornamented, straight, racemes 12–18 cm long. **Floral bracts** 3 mm long, much shorter than ovary, triangular, acute, embracing. **Flowers** ca. 120 per inflorescence, ca. 20 per raceme, simultaneous, resupinate, ochre-brown, translucent, column creamy white, with pale green especially at base of column, calli ochre, solid; fragrance strong, pleasant. **Ovary** 6–7 mm long, terete, thin, glabrous, furrowed. **Sepals** spreading, free, scarcely glabrous, membranaceous, acute, 3-veined, margins entire, spreading; dorsal sepal 8.3 × 2.0 mm, spreading, narrowly elliptic; lateral sepals 8.5 × 2.5 mm, partly spreading, obliquely elliptic, upper margin straight, apex dorsally keeled, short aristate. **Petals** 8.0 × 0.8–1.0 mm, free, reflexed and somewhat descending, linear cuneate, 1-veined, apex rounded, margins entire, spreading. **Lip** 5.2 × 5.2–6.3 mm, united to column, 3-lobed, base cordate, margins entire, spreading; tri-callose, calli flat, parallel, laminar, erect, fleshy, sides elevated, united at base forming an "M", reaching base of mid-lobe; lateral lobes 2.3 × 2.3 mm, sub-quadrangle, slightly oblique, corners rounded; mid-lobe 2.8 × 3.1 mm, cuneate, somewhat widened at apex, somewhat emarginate, forming two rounded, short lobes. **Column** 5 mm long, slightly arched with ovary, thin at base, truncate at apex, lateral wings prominent, rounded slightly surpassing main body. **Clinandrium-hood** reduced, margin entire. **Anther** ovoid, 4-celled. **Pollinia** 4, obovoid, laterally compressed, elongate; caudicles soft and granulose, a pair, shorter than pollinia. **Rostellum** sub-apical, slit; viscarium semi-liquid. **Lateral lobes of stigma** small, ¼ length of stigmatic cavity. **Cuniculus** shallow, without penetrating pedicellate ovary, not inflated, unornamented. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Presently known from the type only, in northern Peru, Amazonas on the eastern branch of the Andes, near the border with San Martín, in the district of Yambrasbamba at 2160 m elevation. Epiphyte in montane forest 6 m tall. Flowering in January-February.

RECOGNITION: *Epidendrum elprogresoense* belongs to the Amblostomoides group, which is characterized by the sympodial, caespitose habit, the stems somewhat thickened in the middle, with leaves distributed along the apical 1/3, the inflorescence apical, paniculate, with numerous mostly white, fragrant flowers, the ovaries frequently pubescent, and the lip 3-lobed. The new species is recognized by the ochre-brown flowers, the 3 lobes of the lip similar, square, the mid-lobe cuneate and emarginate, and three calli formed by 3 parallel structures of the same length and fused at the base to form an "M" shape. *Epidendrum purum* is very similar but the lateral lobes of the lip are obliquely obovate, acute, and the mid-lobe is widened in the apical half and rhombic; it is endemic to Venezuela, in the area of Caracas and west to the state of Lara. *Epidendrum subpurum* Rehb.f. from eastern Venezuela and Trinidad is recognized by the lateral lobes of the lip obliquely ovate, cordate, forming nearly a 1/3 circle, and the rectangular mid-lobe, apically emarginate and bilobulate. The Brazilian *Epidendrum amblostomioides* Hoehne (1938) has plants 10–30 cm tall including the inflorescence, which is shorter than the leaves which are narrower, to 18 × 0.5 cm, the lip is 3-lobed, the lateral lobes sub-orbicular, the mid-lobe smaller, bilobed, 4 × 4 mm, the flowers are white with a slight green tinge. From Colombia to Peru, there is at least one species which has run under the name *E. purum*, but is different at least by the white flowers, lateral lobes of the lip obliquely ovate, apically rounded, the mid-lobe ensiform, and the scarcely short pubescent ovary, we are evaluating the variation to confirm if it is only one widespread species or several very similar species.

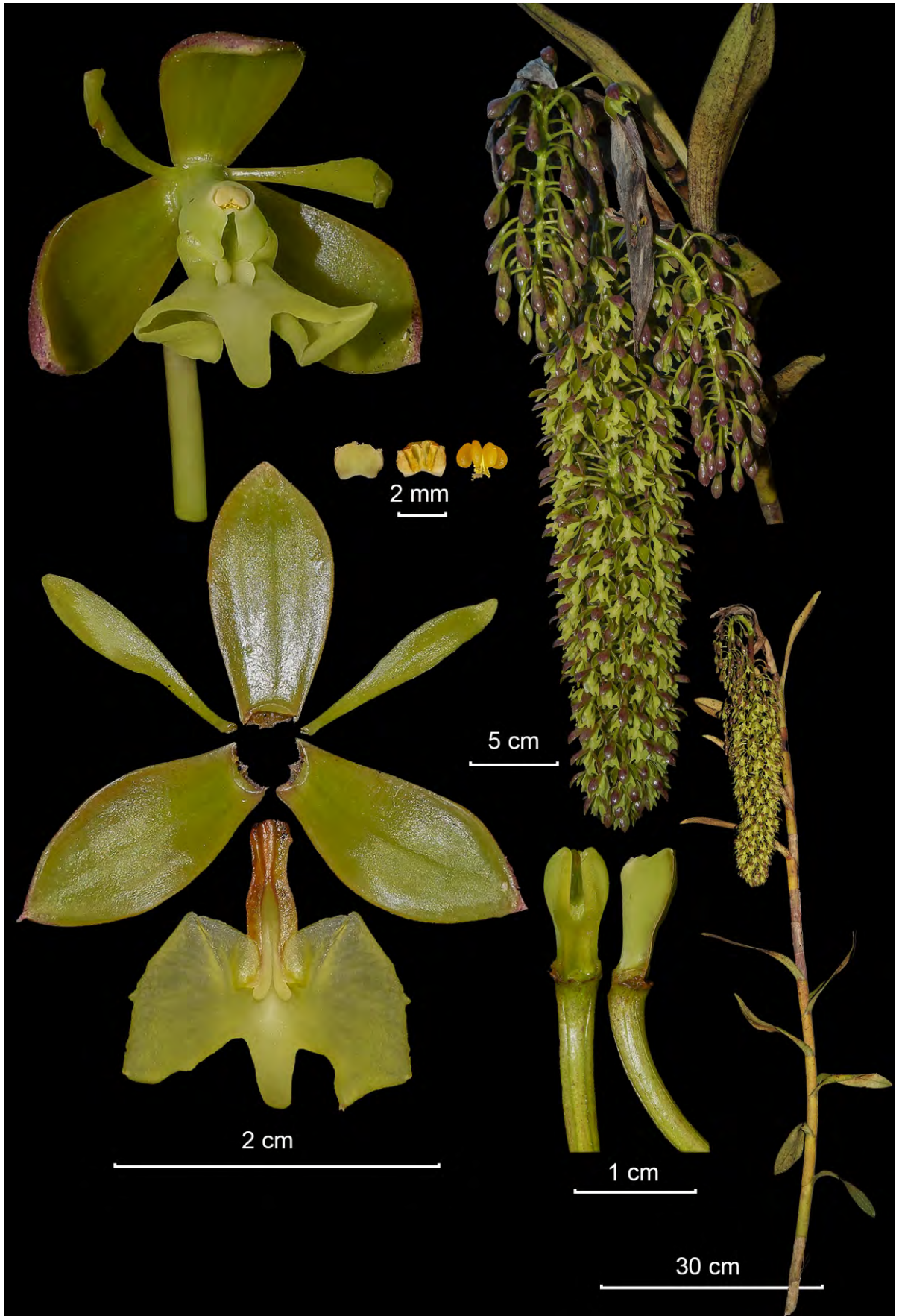
ETYMOLOGY: In reference to the locality of El Progreso, in the Department of Amazonas, Peru, an area where there is a great diversity of Orchidaceae, especially of the genus *Epidendrum*, and where the type was collected.

CONSERVATION STATUS: DD. Data deficient.

ACKNOWLEDGMENT: Collecting permit issued to Astrid Domy Gutierrez for her project "Distribución e identificación taxonómica de la familia Orchidaceae en los departamentos de San Martín, Amazonas y Cajamarca", under Resolución de Dirección General N° D000568-2021-MIDAGRI-SERFOR-DGGSPFFS.

REFERENCES: Damián, A., Hágsater, E. & Mitidieri, N. (2022) A new Peruvian species of *Epidendrum* (Laeliinae: Orchidaceae) belonging to the *Epidendrum incomptum* group. *Phytotaxa* 552(1): 99–106. <https://doi.org/10.11646/phytotaxa.552.1.9> Dunsterville, G.C.K. & Garay, L.A. (1966) *Epidendrum subpurum* in *Venez. Orch. III. [Dunsterville & Garay]* 6: 106–107. Foldats, E. (1970) *Epidendrum* in *Orchidaceae*, in T. Lasser (Ed.) *Flora de Venezuela* 15(3): 141–447; Instituto Botánico, Caracas. Hoehne, F.C. (1938) Cincoenta e uma novas espécies da Flora do Brasil, *Arq. Bot. Estado São Paulo n.s.* 1(1): 18 fig.





EPIDENDRUM FERREYRAE Hágsater & Ric.Fernández

EPIDENDRUM FERREYRAE Hágsater & Ric.Fernández, *Icon. Orchid.* 9: t. 936 (2007).

Type: PERU: Amazonas: Chachapoyas: encima de Leimebamba, 3400 m, 17 abril 1964, **Ramón Ferreyra Huerta 15527**. Holotype: USM 167258! Isotypes: AMO! USM x3!

Epiphytic, suberect, sympodial, caespitose **herb**, to 400 cm tall. **Roots** basal, thick, fleshy. **Stems** 300 × 1.8 cm, simple, cane-like, terete, thick. **Leaves** several, distributed throughout apical 2/3 of stem, distichous, spreading, somewhat recurved, coriaceous; sheaths 3–9 × 0.9–1.8 cm, tubular, striated, tinted red; blade 20 × 3.7–4.3 cm, narrowly lanceolate, acute, with a low dorsal keel, dark green above, with apex and underside tinted red, smooth, margin entire. **Spathe** 1, 16 × 5 cm, conduplicate, elliptic, sub-acute, margin entire and slightly revolute. **Inflorescence** 34 cm long, apical, paniculate, with heavy, dense-flowered, nutant racemes; peduncle 5 cm long, short, terete, thick, straight; with a large bract 10–13 × 5–6 cm, at base of each raceme, similar to spathe but somewhat shorter; rachis terete. **Floral bracts** 3–18 mm long, much shorter than ovary, linear-triangular, acute. **Flowers** about 70 on main raceme, fewer on lateral racemes, simultaneous, green, sepals strongly tinged with purple on dorsal side; fragrance strong, reminiscent of roses. **Ovary** 20–40 mm long, terete, thin, smooth. **Sepals** 15–18 × 6–7 mm, free, partly spreading, elliptic-oblong, obtuse, minutely apiculate, 4–5-veined, margin entire; lateral sepals slightly oblique. **Petals** 13–15 × 2.5–3 mm, free, partly spreading, oblanceolate, subacute, slightly oblique, margin entire, 1-veined, veins branching apically. **Lip** 12–13 × 16–17 mm, united to column, 3-lobed, base deeply cordate, margin entire; bicallose, calli spherical, small; disc somewhat thickened without clear ribs; lateral lobes 6–7 × 11 mm, dolabriform with widely acute angles, markedly revolute in natural position; mid-lobe 3.5 × 3.0 mm, sub-triangular. **Column** 10 mm long, straight. **Clinandrium-hood** straight, short, margin entire. **Anther** reniform, with a low keel in front, 4-celled. **Pollinia** 4, obovoid, laterally compressed, caudicles granulose, slightly longer than pollinia. **Rostellum** apical, slit; viscarium semi-liquid. **Lateral lobes of stigma** small. **Cuniculus** short, barely penetrating ovary, smooth, narrow. **Capsule** not seen.

OTHER SPECIMENS: PERU: Amazonas: Chachapoyas, Distr. Granada, Comunidad campesina de Diosán, sector Canchi, parte alta del Puente, 3242 m, 14 VIII 2018, *Edquén 829*, HURP! (LCDP voucher). Luya: San Francisco del Yeso: Ipaña, Las Palmas, 3260 m, 2 V 2010, *Trujillo 511*, MOLI; digital images of live material AMO! **Cajamarca:** Chota, Carta Chota, 2 XI 2018, without collector, CPUN x2!

OTHER RECORDS: PERU: Amazonas: Chachapoyas, Distr. Balsas, camino Balsas-Collonca, *Deza 6*, digital images AMO! Distr. Granada, Comunidad campesina de Diosán, sector Canchi, Granada a 7 Lagunas, pasando puente Río Imaza, arriba de ruina antigua, 3374 m, 18 III 2019, *Hágsater 16099*, digital images, AMO! Ibid. *Hágsater 16100*, digital images, AMO! Ibid. *Hágsater 16101*, digital images AMO! (Photo voucher with Dario Labajos Canlla, local guide). Leimebamba, rec'd. 14 II 2015, *Salas s.n.*, digital images AMO! **Cajamarca:** Hualgayoc: Chugur, Perlamayo Capilla, 3049 m, 9 VI 2020, *Dávila s.n.*, digital image, AMO!

DISTRIBUTION AND ECOLOGY: Known only from the Amazon slope of the Andes in the upper basin of the Marañón River in northern Peru, in the departments of Amazonas and Cajamarca. Epiphytic in wet cloud forest at 3000–3400 m altitude. Flowering from February to August.

RECOGNITION: *Epidendrum ferreyrae* belongs to the Ferreyrae Group, proposed here, which is characterized by the sympodial, caespitose habit, the tall cane-like stems with numerous leaves, the nutant inflorescence racemose or an open panicle with few, branches, the 1–2 large spathes at the base of the inflorescence, and the 3-lobed lip and medium sized flowers. The species is recognized by the tall stems, the prominent, conduplicate spathaceous bract with similar, though somewhat smaller bracts subtending the branches of the inflorescence, the green flowers with the outer surface of the sepals more or less purple, the oblanceolate, sub-acute petals, and the 3-lobed lip with an entire margin, the lateral lobes dolabriform and the much smaller mid-lobe sub-triangular. It is very similar to *E. lesteri* Hágsater & Dodson which has lanceolate, acute, dark green leaves with the underside tinted red, a pink-colored, obtuse spathe, a nutant, dense-flowered inflorescence branching near the base into several similar racemes, the green pale burgundy-red tinged flowers, the petals linear, the lateral lobes of the lip sub-reniform and the mid-lobe rectangular, the apex truncate, somewhat bilobed, short-apiculate. It closely resembles *Epidendrum orthoclinium* Hágsater & Dodson which has narrower leaves, a more lax-flowered inflorescence, smaller, greenish yellow flowers, acute petals, and the clinandrium hood upturned with the margin erose.

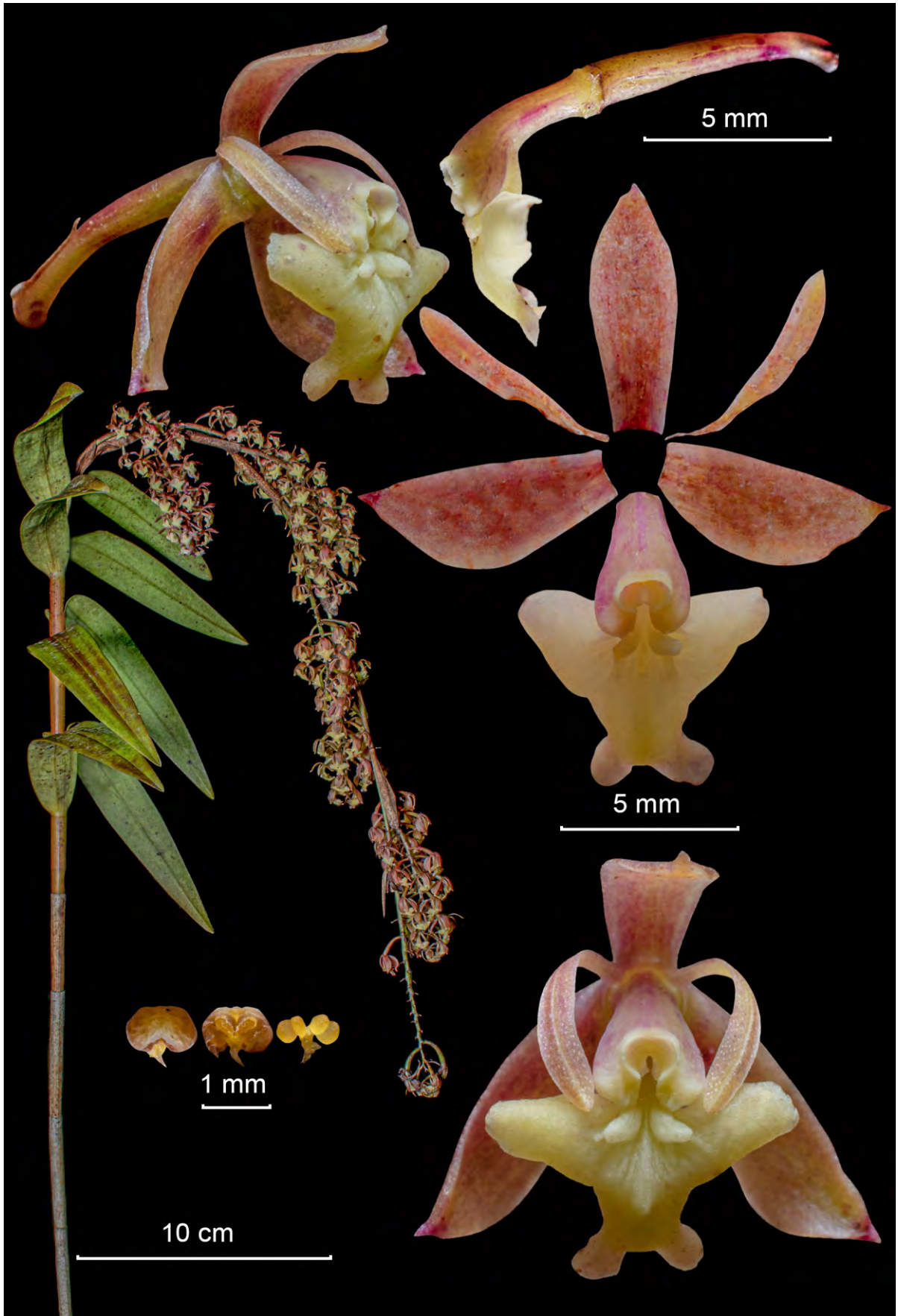
CONSERVATION STATUS: DD. Data deficient. Apparently scarce, and not widespread.

ETYMOLOGY: In honor of Ramón Ferreyra Huerta (1912–2005), founder and director (1961–1981) of the herbarium of the Universidad Nacional Mayor de San Marcos (USM), in Lima, Perú, who collected the type and over 22,000 numbers during his lifetime, mainly in Peru. Numerous species and two genera in the Asteraceae have been dedicated to him: *Ferreyranthus* H. Rob & Brettell, and *Ferreyrella* S.F. Blake.

ACKNOWLEDGMENTS: The collection by Edquén was collected under permit: “Efecto de la fragmentación de hábitats de bosque alto andino en diversidad de Orchidaceae y Bromeliaceae del anexo de Diosán, Distrito de Granadas, Amazonas”. (RDG) N° 137-2018-SERFOR/DGGSPFFS; Código de Autorización N° AUT- IFL-2018-025.

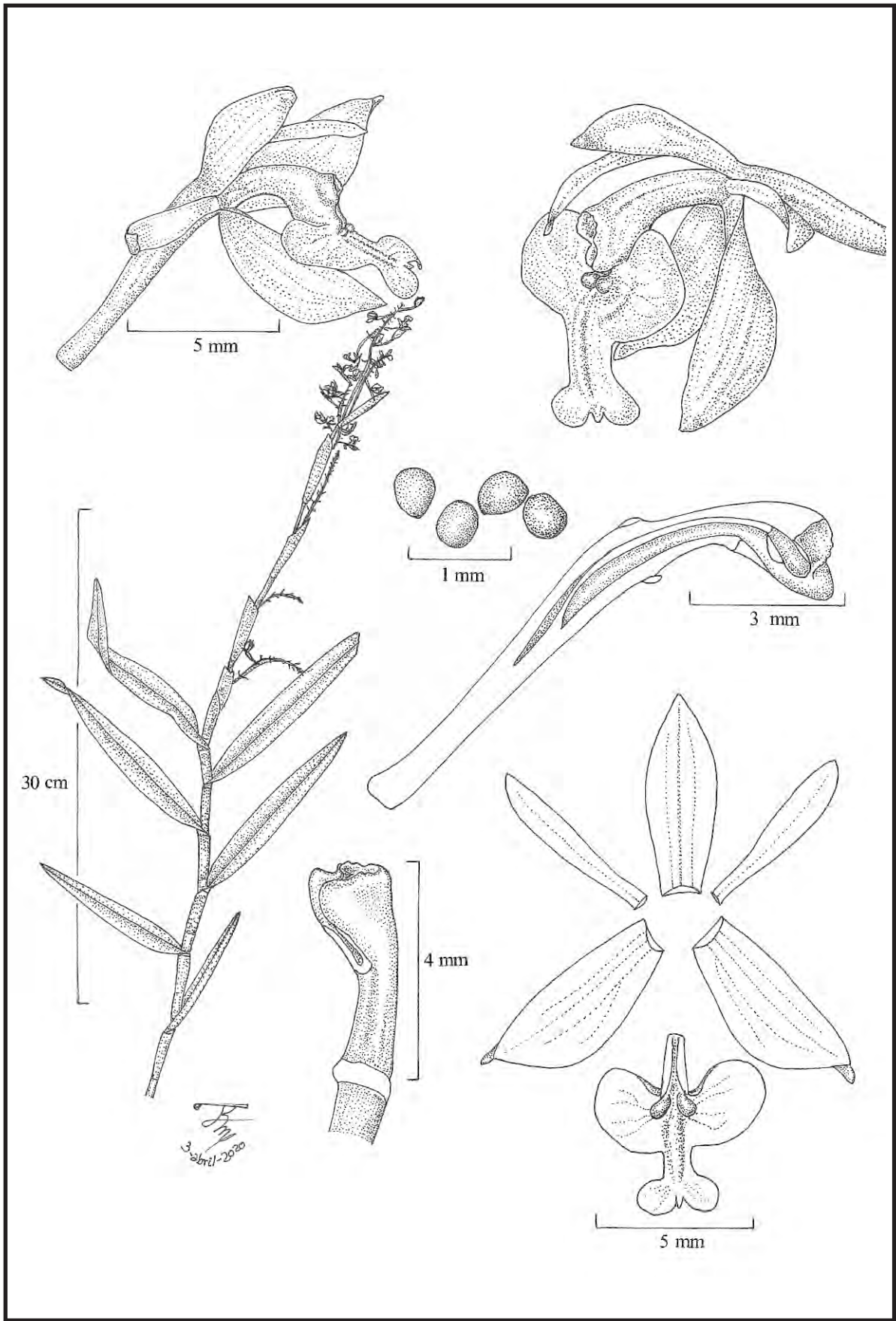
REFERENCES: Hágsater, E. (2002) *Epidendrum ferreyrae*. In E. Hágsater, E. & Sánchez S.L. (Eds.), The Genus *Epidendrum*, Part 6, *Icon. Orchid.* 9: t. 936. Hágsater, E. & Dodson, C.H. (2004) *Epidendrum lesteri*. In Hágsater, E. & Sánchez S.L. (Eds.), The Genus *Epidendrum*, Part 4, *Icon. Orchid.* 7: t. 754. Hágsater, E. & Dodson, C.H. (2004) *Epidendrum orthoclinium*. In Hágsater, E. & Sánchez S.L. (Eds.), The Genus *Epidendrum*, Part 3, *Icon. Orchid.* 4: t. 466.





EPIDENDRUM INFUNDIBULIFORME Hágsater & Villaf.

Plate 1979a



EPIDENDRUM INFUNDIBULIFORME Hágsater & Villaf.

Plate 1979b

EPIDENDRUM INFUNDIBULIFORME Hágsater *et* Villaf., *sp. nov.*

Type: PERU: Cusco: La Convención, Sta. Teresa: Pasña Pacana-Navajillayoc, 2134 m, 5 IV 2022, **Marcial Villafuerte, Jhon Antony Yuca Palomino, Moisés Alejandro Hilarés Javier & Nick Ayrtón Barriga Salas 738**. Holotype: CUZ! Digital images AMO! (LCDP and photo voucher).

Similar to *Epidendrum ruizianum* Steud. but the flowers red-brown with pale green yellow lip (vs. flowers ochre to yellow, lip white), the petals partly spreading, arching so that apex touches apex of column, narrowly oblanceolate (vs. petals linear oblong, spreading), the lateral lobes of lip orbicular with lateral margins strongly revolute in natural position (vs. lateral lobes transversely ovate, margins spreading), and the mid-lobe bilobed (vs. mid-lobe entire, cuneate, apex obtuse).

Epiphytic, sympodial, caespitose, erect **herb**, to 60–100 cm tall. **Roots** basal, thick. **Stems** 60–100 × 0.5–0.6 cm, cane-like, terete, erect, the basal half covered by non-foliar sheaths, 4–5 × 0.5–0.6 cm, tubular striated, brown turning gray. **Leaves** 6–10, distichous, spread along the apical half of stems, progressively closer; sheaths 2–5 × 0.5 cm, tubular, brown, striated; blade 8–15 × 1.2–2.0 cm, narrowly lanceolate-elliptic, acuminate, medium green, margins entire, spreading. **Spathe** lacking. **Inflorescence** ca. 35 cm long, apical, from mature stem, paniculate, arching-nutant; peduncle very long, producing 6–8 short racemes from each node at regular, diminishing intervals, racemes 5–12 cm long, each with pedicel of about half the length, covered nearly completely by prominent bracts 3.3–4.6 × 0.3–0.6 cm; tubular, infundibuliform, progressively shorter and less tubular, conduplicate, brown with darker brown varicosities, especially on lower ones; rachis 4.1–6.3 cm long, with numerous compact flowers. **Floral bracts** 2–8 mm long, mostly much shorter than ovaries, decreasing in size towards apex, narrowly triangular, acuminate. **Flowers** resupinate, numerous, ca. 30 per raceme, opening from base of racemes in succession, eventually most open simultaneously, sepals and petals red-brown, lip pale green yellow, column pale yellow dotted and tinged purple red; fragrance not registered. **Ovaries** 4–11 mm long, slightly thicker ventrally towards apex, furrowed, pale green yellow dotted wine-red. **Sepals** free, partly spreading and arching forward, 3–5-veined, margins entire, spreading; dorsal sepal 6.5–7.0 × 2.5–3.0 mm, oblanceolate, acute, mucronate; lateral sepals 6.8–7.0 × 2.6–3.2 mm, obliquely obovate, acute, aristate, upper margin nearly straight, lower margin strongly curved. **Petals** 7 × 0.7 mm, partly spreading, arching so that apex touches apex of column, narrowly oblanceolate, apex obtuse to rounded, 1-veined, margins entire, spreading. **Lip** 4.8 × 5.5–6.0 mm, 3-lobed, base cordate, margins entire; bicallose, calli finger-like, crescent-shaped and divergent, disc with low wide, thickened mid-rib, and smaller, inconspicuous radiating ribs; lateral lobes 2.4 × 2.2 mm, somewhat retrorse, semi-orbicular, with upper and lower margins strongly revolute so that they appear triangular-truncate in natural position; mid-lobe 2.0 × 2.6 mm, bi-lobed and prominently mucronate, lobes sub-orbicular, strongly divergent, with lateral margins revolute, so as to appear quadrate in natural position. **Column** 4 mm long, slightly arched, apex truncate with lateral wings rounded and slightly surpassing clinandrium-hood. **Clinandrium-hood** tubular, truncate, margin erose. **Rostellum** apical, slit, viscarium semi-liquid, transparent. **Anther** reniform, apex emarginate, surface rugose, 4-celled. **Pollinia** 4, obovoid, laterally compressed, inner pair slightly smaller; caudicles soft and granulose, as long as pollinia. **Cuniculus** penetrating ca. 1/3 of pedicellate ovary, unornamented. **Capsule** not seen.

OTHER SPECIMENS: PERU: **Cusco:** La Convención: Santa Teresa: Yanatile, 2950 m, 16 IV 2005, *Valenzuela 5374*, MO 6137390! SEL 102066! (Illustration voucher). Vilcabamba, Oyara, Cedropata, 2133 m, 19 II 2007, *Valenzuela 8737*, SEL 105390! (Illustration AMO!)

OTHER RECORDS: None seen.

DISRIBUTION AND ECOLOGY: Presently known from a very restricted area in southern Peru in the Department of Cusco, District of Santa Teresa, in Yunga Montane Forest and secondary forest, epiphytic at 2130–2950 m elevation. Flowering from February to April.

RECOGNITION: *Epidendrum infundibuliforme* belongs to the Ruizianum group, which is recognized by the sympodial, caespitose habit with a paniculate inflorescence, long, without spathe, peduncle very long producing a raceme at every node, each raceme subtended by a large bract, flowers numerous, compact at every raceme, and the lip 3-lobed, bicallose. The new species is recognized by the red-brown flowers with the lip pale green yellow formed by sub-orbicular lateral lobes, and the mid-lobe itself divided into two sub-orbicular, divergent lobes and a prominent mucro; all the lobes have the upper and lower margins strongly revolute, so they appear triangular and truncate in natural position. The only other species in this group is *Epidendrum ruizianum*, widely distributed from western Venezuela to central Peru, with ochre to yellow flowers with a white lip, the petals linear-oblong, and the lip lateral lobes transversely ovate, the mid-lobe cuneate, apex obtuse, all margins spreading.

ETIMOLOGY: From the Latin *infundibularis*, funnel-shaped, in reference to the peculiar large infundibuliform bracts that subtend each raceme of the inflorescence, a rare feature in *Epidendrum*.

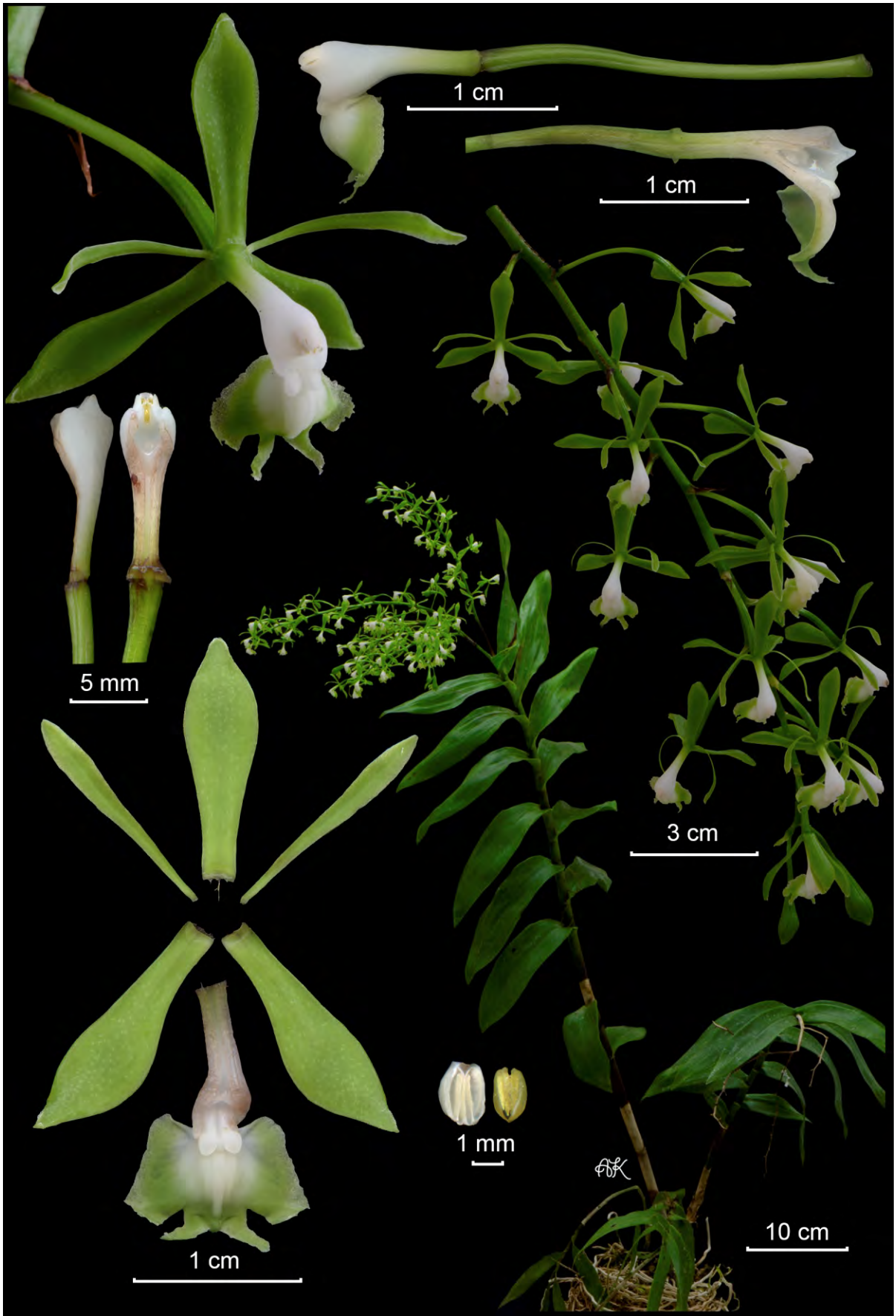
CONSERVATION STATUS: CR. Critically endangered. The species has only recently been collected in three locations some 40 km distant, in areas which have been well studied as they are near Cusco. Aside from the recent live collections only two specimens have been located in herbaria.

ACKNOWLEDGMENT: The authors and collectors wish to recognize the Regional Management for Natural Resources and Environmental Management of the Regional Government of Cusco for instituting the Area de Conservación Regional Choquequirao Project, and the financial support for the monitoring of orchids at Choquequirao.

REFERENCES: Hágsater, E. & Alzate, J. (2023) *Epidendrum ruizianum*, In Hágsater, E. & Santiago, E. (Eds.), *The Genus Epidendrum*, Part 15, *Icon. Orchid.* 19(3): t. 1992.

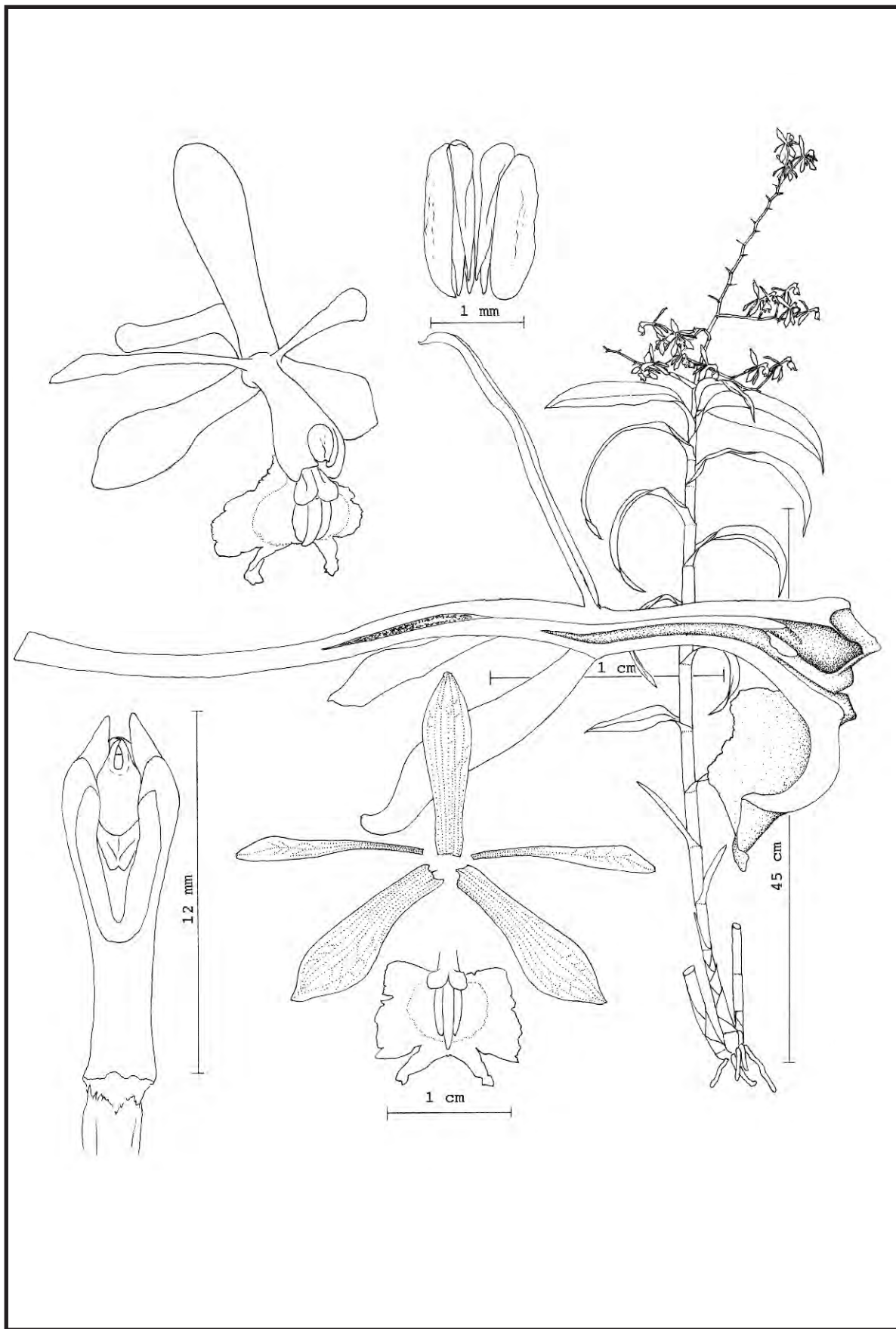


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EPIDENDRUM ISTHMI Schltr.

Plate 1980a



EPIDENDRUM ISTHMI Schltr.

EPIDENDRUM ISTHMI Schltr., *Repert. Spec. Nov. Regni Veg. Beih.* 17: 34 (1922).

Type: PANAMA: Panama-City, seal level, sent 18 June 1919 (to Rolfe at Kew), *Charles Wesley Powell 104*. Holotype: B, destroyed. Tracing of illustration prepared from the holotype: AMES 26750 // Lectotype [Designated by Christenson 1991: 127]: AMES 23956! HUH00070459! Isolectotypes: "Received summer 1922", AMES 23957! HUH00070458! K x2!

Epiphytic, sympodial, caespitose **herb** 50–120 cm tall including inflorescence. **Roots** 3 mm in diameter, basal, fleshy. **Stems** 30–80 × 0.9–1.2 cm, simple, cane-like, terete, very slightly thickened along basal half, erect, straight; base covered by tubular, scarious, non-foliaceous sheaths to 50 mm long. **Leaves** 9–15, distributed throughout stems, articulate, alternate, sub-coriaceous; sheaths 20–30 × 9–12 mm, tubular, minutely striated; blade 5.5–13 × 1.3–3.4 cm, lanceolate to elliptic-lanceolate, acute, margin entire. **Spathes** lacking. **Inflorescence** 15–40 cm long, apical, flowering only once, paniculate, suberect to slightly arching, laxly many-flowered; peduncle 2–3 cm long, thin, somewhat laterally compressed, straight; bracts 1.7–4 cm long, subtending branches, triangular, acuminate. **Floral bracts** 4–22 mm long, variable, from as long as ovary to much shorter, narrowly triangular, acuminate. **Flowers** 10–50, simultaneous, resupinate; sepals, petals, lip and base of column green, apical half of column white, calli and disc of lip immaculate white; afternoon fragrance of wet hair. **Ovary** 20 mm long, terete, thin, not inflated, smooth, furrowed. **Sepals** 13–16 × 4.0–4.8 mm, slightly reflexed, free, fleshy, narrowly spatulate-oblancheolate, apical half concave, minutely apiculate, 5-veined, margin entire, spreading; dorsal sepal narrowly rounded, lateral sepals sub-acute, oblique. **Petals** 13–15 × 2 mm, spreading, slightly reflexed to arching slightly forward, free, linear-oblancheolate, obtuse, 3-veined towards base, margin entire, spreading. **Lip** 8.3–9.5 × 11.3–12.0 mm, united to column, 3-lobed, base cordate, strongly convex; bicallose, calli prominent, thin, somewhat divaricate; disc with 3 fleshy, subacute keels, mid-keel running to apical sinus of lip, lateral pair shorter; lateral lobes 4.6 × 8 mm, sub-rectangular to dolabriform, margin undulate and irregular; mid-lobe 3 × 6–7 mm, bilobed, lobes oblong, divergent, each apex truncate, margin irregular. **Column** 10–12 mm long, straight, thin, long. **Clinandrium-hood** reduced, margin entire. **Anther** sub-rectangular, 4-celled. **Pollinia** 4, "bird-wing" type, strongly laterally compressed, in inner pair shorter. **Rostellum** sub-apical, slit; viscarium semi-liquid. **Cunicle** shallow, slightly penetrating ovary, not inflated, smooth. **Capsule** not seen.

OTHER SPECIMENS: COSTA RICA: Alajuela: Tacaorí, 950 m, 2 IX 1925, *Alfaro 170*, AMES x4! US! Reserva Biológica-Carara, 30 m, 29 IX 1983, *Chacón 1395*, CR! MEXU! entre Alto de Villegas y Ángeles Norte de San Ramón, 1200 m, 16 X 1984, *Hágsater 6905*, USJ! **Heredia:** N de San José de la Montaña, pressed cult. 25 IX 1982, *Hágsater 6437*, AMO! **Ibid.** 23 VIII 1984, SEL! **Ibid.** 1 X 1986, CR! (Illustration voucher) **Puntarenas:** Buenos Aires, Buenos Aires, entre Santa Rosa y Convento, orillas de la Quebrada Santa María, afluyente del Río Cañas, 824 m, 20 III 2013, *Karremans 5845*, JBL-spirit. (LCDP voucher). **San José:** Valle del General, 1200 m, col. 9 III 1986, pressed cult. 23 IX 1991, *Hágsater 8267*, AMO! **PANAMA: Darién:** Cerro Mali, Parque Nacional del Darién, 1000–1200 m, 22 X 1987, *Hammel 16423*, MO! **Panamá:** E of Panama City, sea level, VIII 1923, (Hort. *Powell 104*), *Powell 3396*, AMES x4! **Ibid.** (Hort *Powell 104*), *Powell 3405*, AMES!

OTHER RECORDS: COSTA RICA: Without data, 4 IX 1965, drawing by *R.L. Rodríguez s.n.*, digital image, AMO! **Puntarenas:** Aguirre, Quebrada Arroyo, 1 VIII 2000, photographed 9 VI 2001, *Castellfranco 31*, color photo, (published in Hágsater: 2005: 294). **PANAMA: Chiriquí:** Boquete: Jaramillo, Jaramillo Abajo, 1420 m, 30 VIII 2020, *Katuska19 s.n.*, AMO! <https://www.inaturalist.org/observations/58145505> Finca Dracula, received 22 III 2018, *Yong s.n.*, AMO! (Photo voucher).

DISTRIBUTION AND ECOLOGY: Restricted to the western slopes of the Cordillera Central in Costa Rica and Panama, and the Darién on the Colombian border, where the area on the Colombian side should be further studied. Found epiphytic from sea level to 1200 m elevation in seasonally dry forests.

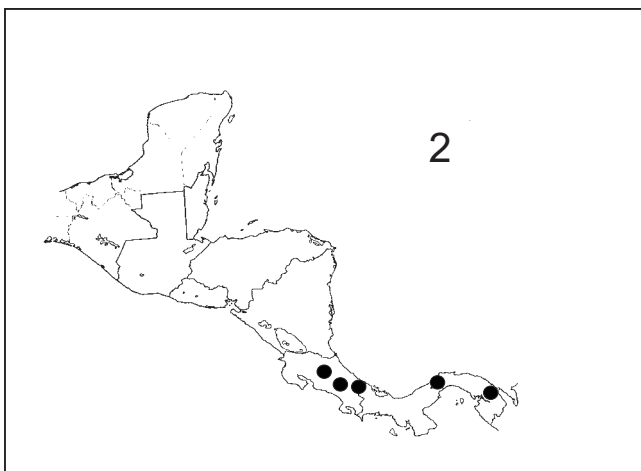
RECOGNITION: *Epidendrum isthmi* belongs to the Pseudepidendrum Group which is characterized by the caespitose plants, the cane-like stems, the acute to acuminate leaves, the usually apical inflorescence without any spathe though it may have several imbricated bracts, the mostly filiform petals, the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, and the "bird-wing" type pollinia, at least the inner pair, and Densiflorum Subgroup, where the short pedunculate inflorescence is paniculate, flowering only once, the flowers are green, the apex of the column and disc of the lip are white to creamy-white, the calli sometimes tinged purple, the petals are linear-oblong to linear-oblancheolate, never filiform, and the pollinia are unequal in shape, only the inner pair "bird-wing" like. The species has plants to 120 cm tall with a sub-erect, lax-flowered inflorescence, the floral segments spreading, the sepals 13–15 mm long, oblancheolate-spatulate, sub-acute, the lip 8.3–9.5 × 11.3–12 mm, 3-lobed, with the lateral lobes transversely rectangular or dolabriform, the corners forming a right angle, the lip is green around the disc and the margins, the apex of the column, calli and disc white, and the petals 2 mm wide. *Epidendrum mayarum* Hágsater has 90 cm tall plants with paniculate inflorescences with up to 120 flowers opening in succession but eventually all open, sepals 15.2–17.5 × 4.0–5.1 mm, narrowly oblancheolate, acute, the lip 7.3–10.0 × 9.5–12.2 mm, totally white, immaculate, with a fleshy disc, the lateral lobes 3.5–4.1 × 6.0–7.2 mm, obliquely hemi-elliptic, rounded, margins erose-undulate, and the column 12 mm long. *Epidendrum hyalinisthmi* Hágsater, E.Santiago & Olórtégui, from Peru, has small plants to 35 cm tall, paniculate inflorescences with 26–100 simultaneous flowers, and sepals 11–12 × 5 mm, narrowly obovate, obtuse, short apiculate, and the lip 10.7 × 12.3 mm, the lateral lobes flabellate and the mid-lobe, narrow and deeply emarginate, forming a pair of narrowly oblong-triangular lobes, sub-parallel to divaricate. *Epidendrum isthmoides* Hágsater & E.Santiago is endemic to central Costa Rica with large plants, elliptic leaves with the veins clearly marked, (13–23 × 3–5 cm), the sepals and petals creamy green to light brown, the lip entirely white, the floral segments partly spreading, the sepals 9–10 mm long, and the lip immaculate with a short isthmus between the lateral lobes and the mid-lobe. *Epidendrum jacarandichromum* Hágsater, E.Santiago & Uribe Vélez, from northern Colombia and neighboring Venezuela, has the peduncle of the inflorescence with 1–3 large, conduplicate, brown bracts, similar to those subtending the lower branches of the inflorescence, and the lip has sub-reniform lateral lobes, the corners rounded, the calli of the lip usually lavender-blue, the color spreading from the calli onto the sides of the disc except for the white ribs on the disc, and the lobes of the mid-lobe arched, apex rounded, margin entire.

NOTES: In a previous publication of *E. isthmi*, (Santiago & Hágsater, 2008) the description included specimens from Mexico, Guatemala, Honduras, and Belize which have now been assigned to *Epidendrum mayarum*. Powell sent several specimens to AMES and K, mostly without date, however in specimen at K includes a letter to Rolfe dated June 18, 1919. Specimens *Powell 3396* at AMES are dated August 1923. All the Powell specimens are annotated as Hort. Powell 104, so it appears that Powell cultivated a plant over several years and sent various specimens in different years with different specimen numbers but from the same cultivated plant.

ETYMOLOGY: In reference to the type having been collected in Panama, in the Central American isthmus.

CONSERVATION STATUS: VU. Vulnerable. The species is extinct in central Panama and is widespread in western Panama (Chiriquí) and Costa Rica. Though numerous localities have been recorded, it appears to be uncommon.

REFERENCES: Christenson, E.A. (1991) Mesoamerican orchids studies: Powell's Panamanian Orchidaceae, *Lindleyana* 6(3): 124–132. Hágsater, E. (2005) *Epidendrum* in Pupulin, F. *Vanishing Beauty: Native Costa Rican Orchids* 1: 268–307, San José, Costa Rica. Editorial de la Universidad de Costa Rica. Hágsater, E. (2022) *Epidendrum mayarum*. In Hágsater, E. & Santiago E. (Eds.), The Genus *Epidendrum*, Part 15, *Icon. Orchid.* 19(1): t. 1926. Hágsater, E., Santiago, E. & Olórtégui C., S. (2022) *Epidendrum hyalinisthmi*. In Hágsater, E. & Santiago, E. (Eds.), The Genus *Epidendrum*, Part 15, *Icon. Orchid.* 19(1): t. 1915. Hágsater, E., Santiago, E. & Uribe V., C. (2022) *Epidendrum jacarandichromum*. In Hágsater E. & Santiago, E. (Eds.), The Genus *Epidendrum*, Part 12, *Icon. Orchid.* 16(1): t. 1630. Santiago, E., & Hágsater, E. (2008) *Epidendrum isthmi*. In Hágsater, E. & Sánchez S., L. (Eds.), The Genus *Epidendrum*, Part 7, *Icon. Orchid.* 11: t. 1132. Hágsater, E., & Santiago, E. (2008) *Epidendrum isthmoides*. In Hágsater, E. & Sánchez S., L. (Eds.), The Genus *Epidendrum*, Part 7, *Icon. Orchid.* 11: t. 1133.



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LCDP: A. P. Karremans

Photo: G. Yong

Editors: E. Hágsater & E. Santiago

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EPIDENDRUM LIBANENSE Sierra-Ariza & Hågsater

EPIDENDRUM LIBANENSE Sierra-Ariza *et* Hágsater, *sp. nov.*

Type: COLOMBIA: Tolima: Líbano: Vda. Alto de San Juan, Localidad: Monte Tauro, 2028 m, 16 abril 2022, **Mario Alexei Sierra-Ariza & José Mario Sierra Rincón 347**. Holotype: TOLI! (LCDP and photo voucher).

Similar to *Epidendrum carchiense* Hágsater & Dodson, but the flowers smaller are green throughout, (vs. flowers olive-green, the lip olive green to brown), dorsal sepal 14.0–14.6 × 7.2–7.7 mm, (vs. dorsal sepal 16–20 × 6 mm), lateral sepals 14.9–15.8 × 9.0–9.4 mm (vs. lateral sepals 15–20 × 6–8.5 mm), petals 12.2–12.8 × 3.3–3.7 mm (petals 16–19 × 3 mm), the lip 10.3–11.2 × 19.9–21 mm (lip 12 × 23 mm), and the column 8.2–9.0 mm long (vs. column 11–13 mm long).

Epiphytic, sympodial, scandent **herb**, ca. 30 cm tall. **Roots** 4 mm in diameter, from base of primary stem. **Stem** 7.5–13 × 0.4–0.7 cm, terete, straight, produced from a sub-apical node of previous stem, below leaves, 7–9 internodes, lower 2/3 covered by non-foliar sheaths 0.6–3.0 × 0.4–0.7 cm, striated, purple brown. **Leaves** 2–3, aggregate towards apex of stems; sheaths 1.0–1.8 × 0.4–0.6 cm, tubular, striated, green to purple; blades 6–12 × 2.7–4.0 cm, elliptic, acute, medium green, margins entire, spreading. **Spathe** lacking. **Inflorescence** 13.7–15 cm long, apical from mature stem, arching-nutant, racemose; peduncle 3.1 × 0.3 cm, slightly laterally compressed; rachis 10.8 cm long. **Floral bracts** very short, triangular, obtuse, embracing. **Flowers** 17, simultaneous, resupinate, green, calli and disc pale green, surrounded by ring of purple dots, anther cream colored to pale green. **Ovary** 17–22 × 1.3–3.6 mm, arching towards apex, slightly inflated ventrally along apical 1/4. **Sepals** free, partly spreading, forming a cup around the column, fleshy, 3-veined, margins entire, spreading; dorsal sepal 14.0–14.6 × 7.2–7.7 mm, elliptic, acute; lateral sepals 14.9–15.8 × 9.0–9.4 mm, elliptic, acute, slightly oblique. **Petals** 12.2–12.8 × 3.3–3.7 mm, oblanceolate, apex obtuse-rounded. **Lip** 10.3–11.2 × 19.9–21 mm, 3-lobed, base cordate, convex in natural position; bicallose, calli low, semi-globose, separate, with very low mid-rib, wide, nearly reaching apex of lip; lateral lobes 7.5–7.7 × 7.9–8.1 mm, obliquely ovate, at an angle of 45° with axis of lip, separated from mid-lobe by rounded, corners, mid-lobe 2.4–2.5 × 8.5–8.9 mm, transversely rectangular, corners rounded, apex widely obtuse, mucronate, apex slightly revolute in natural position. **Column** 8.2–9.0 mm long, shorth, thick, curved upwards, thickened towards apex, clinandrium-hood very short, apex with truncate, rounded, fleshy wings on sides. **Clinandrium-hood** very short, margin entire. **Anther** transversely ovoid, apex truncate, surface minutely papillose, 4-celled. **Pollinia** obovoid, laterally compressed, sub-equal; caudicles soft and granulose, in two pairs, shorter than pollinia; viscarium semi-liquid, translucent. **Rostellum** apical, slit, viscarium semi-liquid, transparent. **Lateral lobes of stigma** very short. **Cuniculus** penetrating 1/3 of pedicellate ovary, wide, unornamented. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Presently known from a single collection from the eastern slope of the Cordillera Central of the Andes in Tolima, central Colombia, at 2028 m elevation, at the foot of the Nevado de Ruiz. Flowering in March–April.

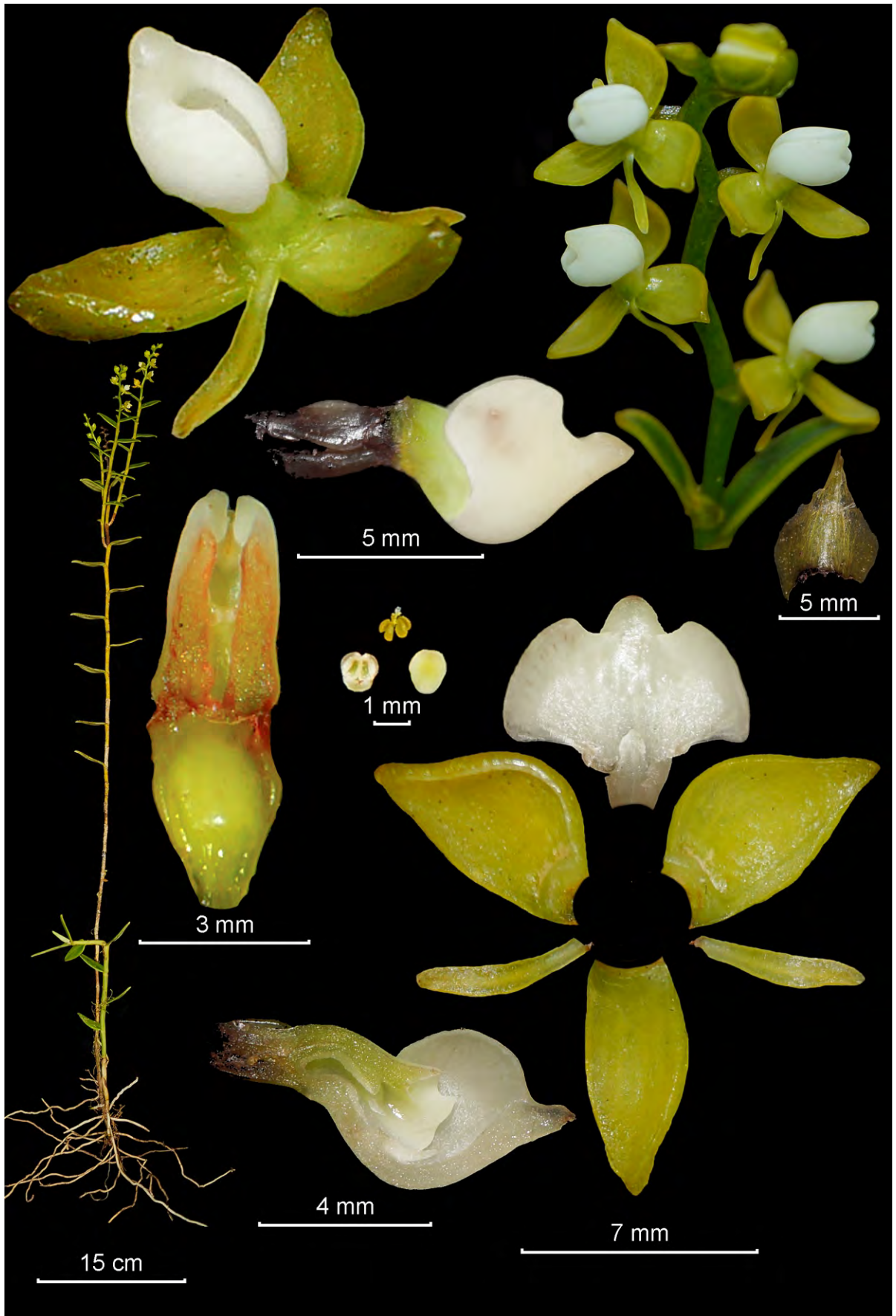
RECOGNITION: *Epidendrum libanense* belongs to the Incomptum group which is characterized by the erect habit with successive lateral growths produced from the middle of the previous growth, the few leaves aggregate towards the apex of the stems, the roots generally only from the base of the primordial stem, the short apical inflorescences, the fleshy yellow to green to violet-green to black flowers with short ovaries, and the lip entire to 3-lobed. The new species has sepals and petals which are partly spreading, forming a cup around the column, flowers are deep green, calli and disc pale green, surrounded by ring of purple dots, anther cream colored to pale green, the lip's lateral lobes 7.5–7.7 × 7.9–8.1 mm, are obliquely ovate, at an angle of 45° with axis of lip. *Epidendrum carchiense* is widespread from northern Ecuador to northern Colombia in both the Cordillera Oriental and Cordillera Central of the Andes, has larger, olive-green flowers, the lip olive green to brown, the dorsal sepal 16–20 × 6 mm, and spreading, the petals are reflexed in natural position, or parallel to the dorsal sepal, narrowly oblanceolate and acute, lip ecallose with lateral lobes opposite, spreading. *Epidendrum molinae* P.Ortiz & Hágsater from Tolima, has similar flowers but green yellow, dorsally tinged copper, oblong-elliptic to obliquely elliptic sepals 15 × 5 mm, narrowly oblanceolate petals, the lip is 9 × 20 mm, lateral lobes 7 × 7 mm, and the mid-lobe of the lip is 4 × 8 mm, much wider than long, apiculate.

ETYMOLOGY: In reference to the Municipality of Líbano in the Department of Tolima, Colombia, where the species has been collected.

CONSERVATION STATUS: DD. Data deficient. Presently known from a single collection.

REFERENCES: Hágsater, E. & Dodson, C.H. (1993) *Epidendrum carchiense*. In Hágsater, E. & Salazar, G.A. (Eds.), The Genus *Epidendrum*, Part 1, **Icon. Orchid.** 2: t. 119. Ortiz, P., & Hágsater, E. (2013) *Epidendrum molinae*. In Hágsater, E. & Sánchez S.L. (Eds.), The Genus *Epidendrum*, Part 10, **Icon. Orchid.** 14: t. 1458.





EPIDENDRUM LINDAMAZONICUM Hágsater & G.Calat.

Plate 1982

EPIDENDRUM LINDAMAZONICUM Hágsater & G.Calat., Icon. Orchid. 13: t. 1349 (2010).

Type: PERU: Amazonas: Prov. Chachapoyas: Distr. Molinopampa: Road from Chachapoyas to "Molinobamba" [=Molinopampa], 2200 m, 15 May 2001, *Tilo Henning & Christof Schneider 232*. Holotype: USM 187379! (Illustration AMO!). Isotype: HUT 41453! (digital image, AMO!)

Terrestrial, monopodial, branching, **herb** 60–120 cm tall. **Roots** 0.7–1.0 mm in diameter, basal, fleshy, thin. **Stem** erect, branching towards apex of mature stem, branches erect, cane-like, terete, somewhat flexuous, primary stem 20–60 0.3–0.4 cm; branches 7–15 0.2–0.3 cm. **Leaves** 14 on primary stem, 6–11 on branches, distributed throughout; sheaths 0.7–1.6 0.2–0.3 cm, tubular, with an erose keel on each side, very rugose; blades of primary stem 2.3–3.5 x 1.0–1.15 cm, ovate to lanceolate, apex rounded, apiculate, coriaceous, medium green, somewhat lighter underneath, margin entire, yellow-green; branch blades 0.8–1.7 0.4–0.7 0.2–0.3 (thick) cm, narrowly lanceolate, apex obtuse, short apiculate, with a dorsal keel, fleshy succulent, very thick, medium green, margin entire. **Spathe** lacking. **Inflorescence** 3.3–6.0 cm long, apical, flowering only once, simple, distichous, erect; peduncle 7–15 mm long, rachis 2.5–4.2 cm long, terete, sinuous. **Floral bracts** 3–7 4–5 mm long, longer to progressively shorter than ovary, widely ovate-triangular, acuminate, margin entire, somewhat retrorse. **Flowers** 3–8, non-resupinate, secund, lip apex always oriented towards rachis apex, simultaneous, greenish yellow and cream-colored with white lip. **Ovary** 3 mm long, short, sub-terete, upper carpels concave, ventrally convex and bisulcate, smooth. **Sepals** free, fleshy, 5-veined, margin entire and slightly involute; dorsal sepal 7–8 3.0–3.5 mm, spreading, oblong to oblong-ovate, obtuse; lateral sepals 7.3–8 4.0–4.5 mm, partly spreading, ovate, oblique, concave, apex acute. **Petals** 5.5–5.7 0.7–1 mm, free, spreading, linear, acute, fleshy, 1-veined, margin entire, spreading. **Lip** 6.0–6.5 7–9 mm, united to column, forming a deep sac in front of column and hiding it completely without totally embracing it; 3-lobed, very fleshy, margin entire, apex tridentate, base of lip and center of callus pubescent; callus single, an oblong, horizontal plate; lateral lobes 2.5 3.5 mm, sub-quadrate with corners rounded to somewhat axe-like (even in same plant), distal margin curved inward; mid-lobe 1 2 mm, small, triangular, apex rounded. **Column** 3.0–4.0 mm long, curved along basal half, thick, bent down at 45° with respect to ovary, with a pair of triangular teeth at apex. **Clinandrium-hood** reduced, margin entire. **Anther** ovoid, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose, short. **Rostellum** apical, slit; viscarium semi-liquid, transparent. **Cuniculus** short, without penetrating perianth, pubescent in front of stigmatic cavity. **Capsule** 15 10 mm (excluding persistent perianth), ellipsoid with very prominent ribs, sessile, apical neck obsolete, with persistent perianth.

OTHER SPECIMENS: PERU: Amazonas: Prov. Bongará, Perla del Imaza, La Perla Vieja, 1904 m, 21 II 2022, *Arista 182*, KUELAP! **Cajamarca:** Prov. San Ignacio, Distr. San Huarango: Nuevo Mundo, 2200 m, 13 III 2000, *Calatayud 457*, AMO! CUZ, USM! digital image AMO! Ibid. sketch of flower, xerox AMO! [cited as *E. lindae* Hágsater et Dodson in Calatayud, 2003.] **San Martín:** Prov. Rioja, Distr. Pardo Miguel Naranjos, Venceremos, 1750 m, 18 XI 2018, *Edquén 118*, HURP! (LCDP and Photo voucher) Ibid. 1898 m, *Edquén 2050*, UNACH! Ibid. 1987 m, *Edquén 2052*, UNACH! Moyobamba, 8 XII 1864, *Wallis 66*, W!

DISTRIBUTION AND ECOLOGY: Known only from the basin of the Marañón River in northern Peru, in the provinces of Cajamarca, Amazonas and adjacent San Martín, at 1750–2200 m elevation. Flowering March to May.

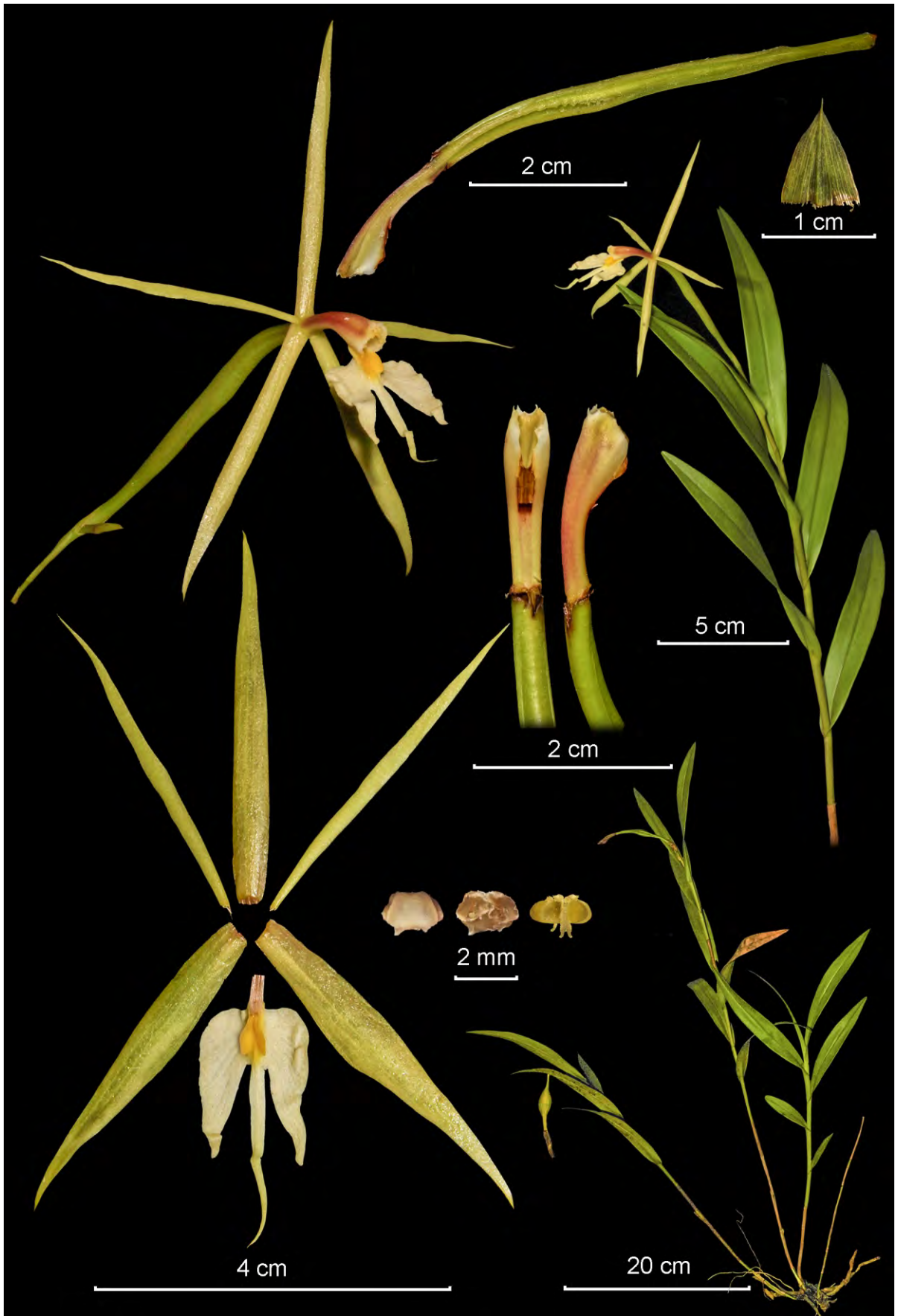
RECOGNITION: *Epidendrum lindamazonicum* belongs to Aquaticum Group which is characterized by the monopodial, branching habit, the distichous and erect to arching-nutant inflorescence with fleshy flowers, and the disc of the lip and/or nectary often pilose. This species is recognized by short and lanceolate leaves, 0.8–3.5 0.4–0.7 cm, the erect, few-flowered, distichous, secund inflorescence, the rachis 3.3–6.0 cm long and sinuous, the 3-lobed lip, the lateral lobes large, sub-quadrate with the corners rounded to somewhat axe-like, the mid-lobe small and triangular, apex rounded, the column bent down at the base at about 45° and the callus and surrounding area is prominently pilose. It is very similar to *E. lindae* Hágsater & Dodson which has leaves 3–10.5 1–3 cm, a paniculate inflorescence, 6–15 cm long, and the lip only slightly cuneate but 3-lobed, with the lateral lobes sub-quadrate. *Epidendrum stenocalymnum* Hágsater & G.Calat. is recognized by the small, ovate leaves, 1.2–2.1 0.9–1.2 cm, oblanceolate, unguiculate petals and cuneate lip forming a deep sac in front of the column, so that column is not visible. *Epidendrum campylorhachis* Hágsater has a 3-lobed lip with the base cuneate, narrowly oblanceolate petals and an oblique, deeply triquetrous ovary; in addition, the rachis segments are prominently incurved below each bract.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: In reference to the similarity between this species and *Epidendrum lindae* Hágsater, a species found along the Pacific slope of the Andes in southern Colombia and northern Ecuador, and the fact that the new species is found on the Amazon slope of the Andes, along the basin of the Marañón River.

REFERENCES: Calatayud, G. (2003) *Taxonomía y diversidad de la familia Orchidaceae en 4 localidades de la provincia de San Ignacio*; B. Sc. thesis, deposited in library of the Universidad de San Antonio Abad del Cusco, Perú. Calatayud, G. (2005) *Diversidad de la familia Orchidaceae en los bosques montanos de San Ignacio (Cajamarca, Perú)*. *Rev. Peru. Biol.* 12(2): 309–316. Hágsater, E. & Calatayud, G. (2014) *Epidendrum stenocalymnum*. In Hágsater, E. & Sánchez S., L. (Eds.) *The Genus Epidendrum*, Part 4; *Icon. Orchid.* 7: t. 790. Hágsater, E. & Santiago, E. (2004) *Epidendrum campylorhachis*. In Hágsater, E. & Sánchez S., L. (Eds.) *The Genus Epidendrum*, Part 4; *Icon. Orchid.* 7: t. 717. Santiago, E. & Hágsater, E. (2010) *Epidendrum lindae*. In Hágsater, E. & Sánchez S., L. (Eds.) *The Genus Epidendrum*, Part 9; *Icon. Orchid.* 13: t. 1348.





EPIDENDRUM LUIZAE Krahl, Hágsater & Chiron

EPIDENDRUM LUIZAE Krahl, Hágsater & Chiron, Richardiana N.S. 6: 77 (2022).

Type: BRAZIL: Amazonas: Manaus: Ramal da Usina, km 7, campinarana, 62 m, 9 julho 2021, *Amauri Herbert Krahl 1603*. Holotype INPA! (LCDP and Photo voucher).

Epiphytic, sympodial, cespitose, erect herb, 20–40 cm high excluding flowers. **Roots** basal, 0.2–0.4 cm in diameter, white. **Stems** simple, terete at base then slightly compressed towards apex, 15.5–32.5 × 0.3–0.4 cm, covered by green leaf sheaths. **Leaves** 7–11, distichous distributed along apical 2/3 of stem, basal ones shorter than apical ones; leaf sheaths 1.5–3.0 × 0.3–0.4 cm, tubular; leaf blade 6.2–12.5 × 1.0–1.6 cm, narrowly elliptic, acute, sub-coriaceous, medium green on both sides, margins entire, spreading. **Spathes** absent. **Inflorescence** apical, pluri-racemose, short, 8.5–9 cm long including the flowers, 1–3-flowered, with one flower at a time, flowering from same inflorescence during several years, so that it becomes pluri-racemose; peduncle and rachis visible; peduncle ca. 1.7 cm long, terete; rachis ca. 1 cm long. **Floral bracts** deltoid, 0.5–0.8 × 0.3–0.5 cm, much shorter than ovary, visible, acute. **Flowers** successive, resupinate, sepals and petals pale yellow-green, lip creamy white, calli deep yellow, column dorsally pink to wine-red and ventrally cream colored; nocturnally fragrant; autogamy not frequent. **Ovary** 4.8–5.9 cm long, longer than sepals, not inflated, unornamented, slightly sulcate. **Sepals** spreading, linear-lanceolate, acuminate, margin entire revolute; dorsal sepal 3.6–4.1 × 0.4–0.5 cm, symmetrical, 6-veined with additional secondary veins; lateral sepals 3.6–4.0 × 0.6–0.7 cm, asymmetrical, slightly recurved at apex, 7-veined with additional secondary veins. **Petals** 3.5–3.9 × 0.2 cm, spreading, linear-lanceolate, acuminate, symmetrical, straight, 5-veined, margin entire, slightly revolute. **Lip** 2.9–3.6 × 1.1–1.8 cm, fused to the column, trilobed, base truncate to rounded, disc bicallose, calli 0.4–0.5 cm long, blade-like, rounded, prominent, divergent; lateral lobes 1.1–1.8 × 0.5–0.7 cm, hemi-ovate, acuminate, asymmetrical, inner margin straight; mid-lobe 1.9–2.2 × 0.2 cm, linear-lanceolate, acuminate, symmetrical, straight, not fused to the lateral ones. **Column** 1.7–1.9 cm long, slightly arched, dilated towards apex, apex oblique. **Clinandrium-hood** deeply emarginate, proximal margin spicate, distal margin undulate. **Anthor** trapezoid with convex sides, upper and lower sides sinuate, 4-celled. **Pollinia** 4, semi-orbicular, inner margins straight, strongly laterally compressed; caudicles soft and granulose, in 2 pairs, longer than pollinia. **Rostellum** apical, slit; viscarium semi-liquid. **Lateral lobes of stigma** very short. **Cuniculus** 2.3–2.5 cm long penetrating 1/2 to 2/3 of ovary, unornamented. **Capsule** 4–5 × 1.5–2.0 cm; pedicel 1.5–0.2 cm, thin, body 1.5 × 1.2–2.0 cm, ellipsoid, centered, occupying about 1/3 the length; apical neck 1.2 × 0.3 cm.

OTHER SPECIMENES (Paratypes): BRAZIL: Amazonas: Manaus: Ramal Vale do Novo Amanhecer, ao lado do Sítio Toca da Onça, campina fechada, 44 m, 26 III 2018, *Krahl 602*, INPA! Iranduba, Reserva de Desenvolvimento Sustentável do Rio Negro, Rodovia AM-352, km 33, Ramal do Mineiro, campinarana, 61 m, 23 III 2019, *Krahl 1152*, INPA! *ibid.*, 16 VII 2019, *Krahl 563*, INPA!

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: This new species is not frequent and is presently known in campina and campinarana vegetation (white sand vegetation), associated with the Rio Negro basin, particularly in the municipalities of Manaus and Iranduba, in the state of Amazonas, Brazil. It grows principally on scleromorphic trees of *Macucu – Aldina heterophylla* Spruce ex Benth. (Fabaceae). *Epidendrum luizae* flowers from March to July, the period when a rainfall reduction occurs in the region announcing the dry period, which goes from August to October.

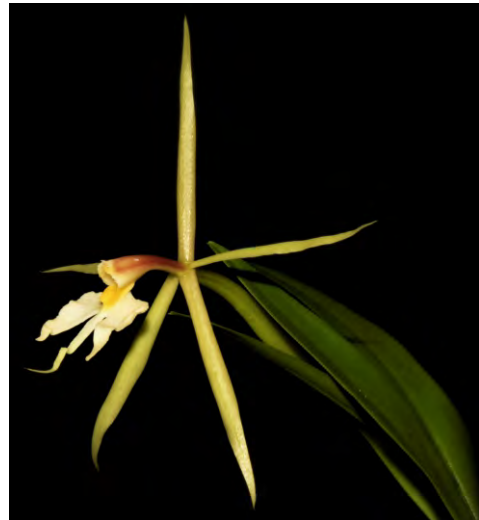
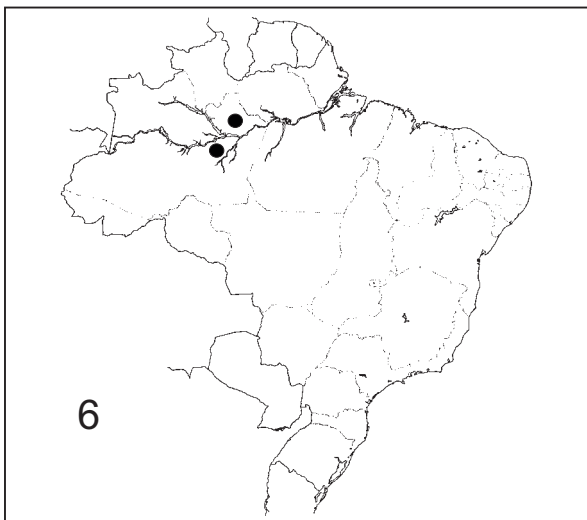
ETYMOLOGY: The specific epithet is in honor of Luiza Passos Krahl, daughter of the first two authors and a young woman fascinated by orchids.

RECOGNITION: *Epidendrum luizae* belongs to the Nocturnum group, having star-shaped flowers with their similar petals and sepals, making the mostly indistinguishable. The new species can be recognized by the rather long erect stems 15.5–32.5 × 0.3–0.4 cm, the 7–11 leaves 6.2–12.5 × 1.0–1.6 cm, narrowly elliptic, the ovaries 4.8–5.9 cm long, longer than the sepals, the sepals 3.6–4.1 cm long, the sepals and petals yellow-green, lip creamy white, calli deep yellow, and the column dorsally pink to wine red, the lateral lobes of the lip 1.1–1.8 × 0.5–0.7 cm, hemi-ovate, acuminate, asymmetrical, inner margin straight, the mid-lobe 1.9–2.2 × 0.2 cm, linear-lanceolate, acuminate, and the column 1.7–1.9 mm long. It resembles most closely the four species cited in Introduction. *Epidendrum dayseae* Krahl, J.M.P. Cordeiro & Hágsater which has shorter arching-pendulous stems 16–22 cm long, longer and narrower leaves 7.6–16.6 × 0.5–1 cm, most often longer ovaries, at least 5.4 cm long, similar sized sepals 3.4–3.6 cm long, overall similar lateral lobes of the lip however acute at the apex, a similar mid-lobe and a shorter column 1.2 cm long and green (vs. dorsally pink to wine red). *Epidendrum krukoffii* Hágsater, J.M.P. Cordeiro & Krahl is slightly smaller with stems 12–28 × 0.15–0.35 cm, shorter leaves 2.8–12 cm long, a distinctly shorter ovary 2.2–3 cm long, sepals distinctly smaller 1.8–2.6 × 0.4–0.5 cm, beige to brown, a lip with lateral lobes longer and somewhat narrower 0.75–1 × 0.3–0.7 cm and mid-lobe distinctly shorter 1.2–1.3 × 0.2–0.25 cm, and a column almost twice shorter 0.7–1.1 cm long. Finally, *Epidendrum longicolle* Lindl., which is found further up the Amazon Basin with no confirmed specimen from the state of Amazonas, has narrower stems 0.13–0.24 cm wide, much narrower (with a length/width ratio of 10–20:1) leaves 5–15 × 0.4–0.8 cm, a shorter ovary 3–4 cm long, sepals somewhat shorter 3–3.8 cm long, a lip with distinctly smaller lateral lobes 1.9–2.1 × 0.5–0.8 cm united up to half their length to the mid-lobe and a shorter and wider mid-lobe 1.2–1.7 × 0.2–0.3 cm in its free part and a much shorter column 1–1.2 cm long.

CONSERVATION STATUS: Endangered. EN. As for any new taxon, it is not possible to evaluate some of the IUCN criteria (IUCN 2019), such as criterion A (population size reduction). However, based on our field observations, we may estimate: (I) number of known sub-populations = 3; (II) extent of occupancy (EOO) = 540 km²; (III) area of occupancy (AOO) = 40–50 km²; (IV) total number of mature plants = ca. 500. In addition, the region where this species grows is suffering two threats: strong plant gathering by orchid lovers and strong deforestation due to human activities, leading to future decline of both the EOO and the population size. It is worth noting that only one of the three subpopulations are in a conservation area. According to criteria D (number of mature plants < 1000) and D2 (number of locations < 5), the species could be assessed as Vulnerable (VU). However, considering the criteria B1 (EOO < 5000 km²), B2 (AOO < 500 km²), Ba (number of locations < 5) and Bbi + Bbv (projected decline of EOO and of number of mature plants), we could also propose the Endangered (EN) status. Similarly, the criteria C (number of mature plants < 2500) and C1 (projected continuing decline of over 20% in the five next years) lead to the EN status. Finally, as a precautionary measure, we propose to classify the species into the EN category (based on B1, B2, Ba, Bbi, Bbv, C, C1).

ACKNOWLEDGMENTS: The authors thank the “Instituto Chico Mendes de Conservação da Biodiversidade (ICMBio)” and the “Secretaria Municipal de Meio Ambiente e Sustentabilidade (SEMMAS)” of Manaus (AM) for permission to collect in the Rio Negro Sustainable Development Reserve. The authors also thank Patricia Harding for the English language review.

REFERENCES: Hágsater, E., Cordeiro, J.M.P. & Krahl, A.H. (2021) *Epidendrum krukoffii*. In Hágsater, E. & Santiago, E. (Eds.), The genus *Epidendrum*, Part 14, *Icon. Orchid.* 18(2): t. 1877. IUCN (2019). Guidelines for Using the IUCN Red List Categories and Criteria. Version 14 (August 2019). Prepared by the Standards and Petitions Committee. <http://www.iucnredlist.org/documents/RedListGuidelines.pdf> (accessed 24/01/2022). Krahl, A.H., Cordeiro, J.M.P. & Hágsater, E. (2022) *Epidendrum dayseae*, a new species of Orchidaceae (Laeliinae) from northern Brazil. *Phytotaxa* 530: 95–102. Krahl, A.H., Passos-Krahl, D.R., Hágsater, E. & Chiron, G. (2022) *Epidendrum luizae* (Orchidaceae: Laeliinae), a new species from Brazilian Amazon of the Nocturnum Group, *Richardiana n.s.* 6: 73–85. Sánchez, S.L. & Hágsater, E. (2010) *Epidendrum longicolle*. In Hágsater, E. & Sánchez S.L. (Eds.), The Genus *Epidendrum*, Part 9, *Icon. Orchid.* 13: t. 1350.

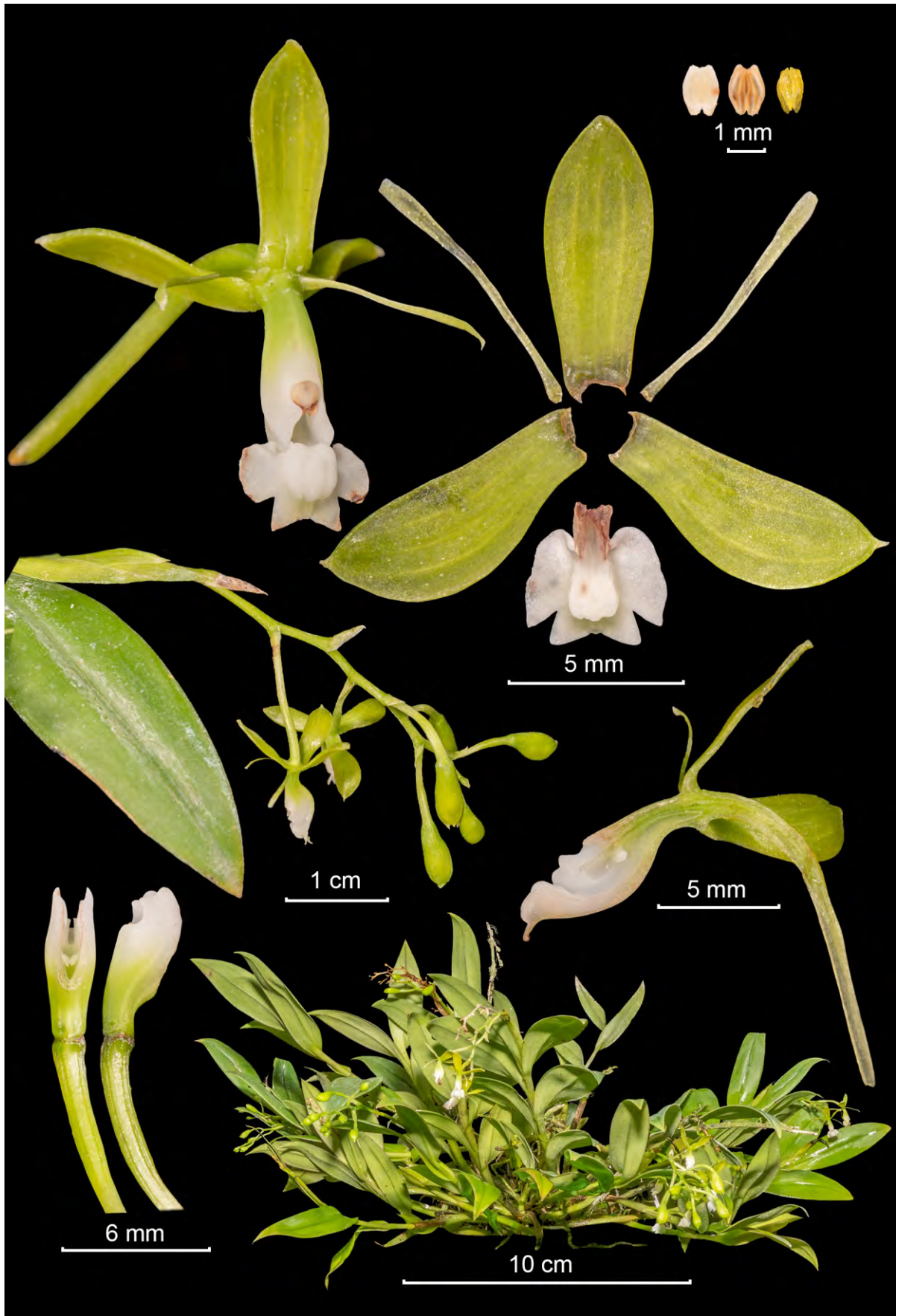


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LCDP: A. H. Krahl & A. Cisneros

Photo: A. H. Krahl

Editors: E. Hágsater & E. Santiago

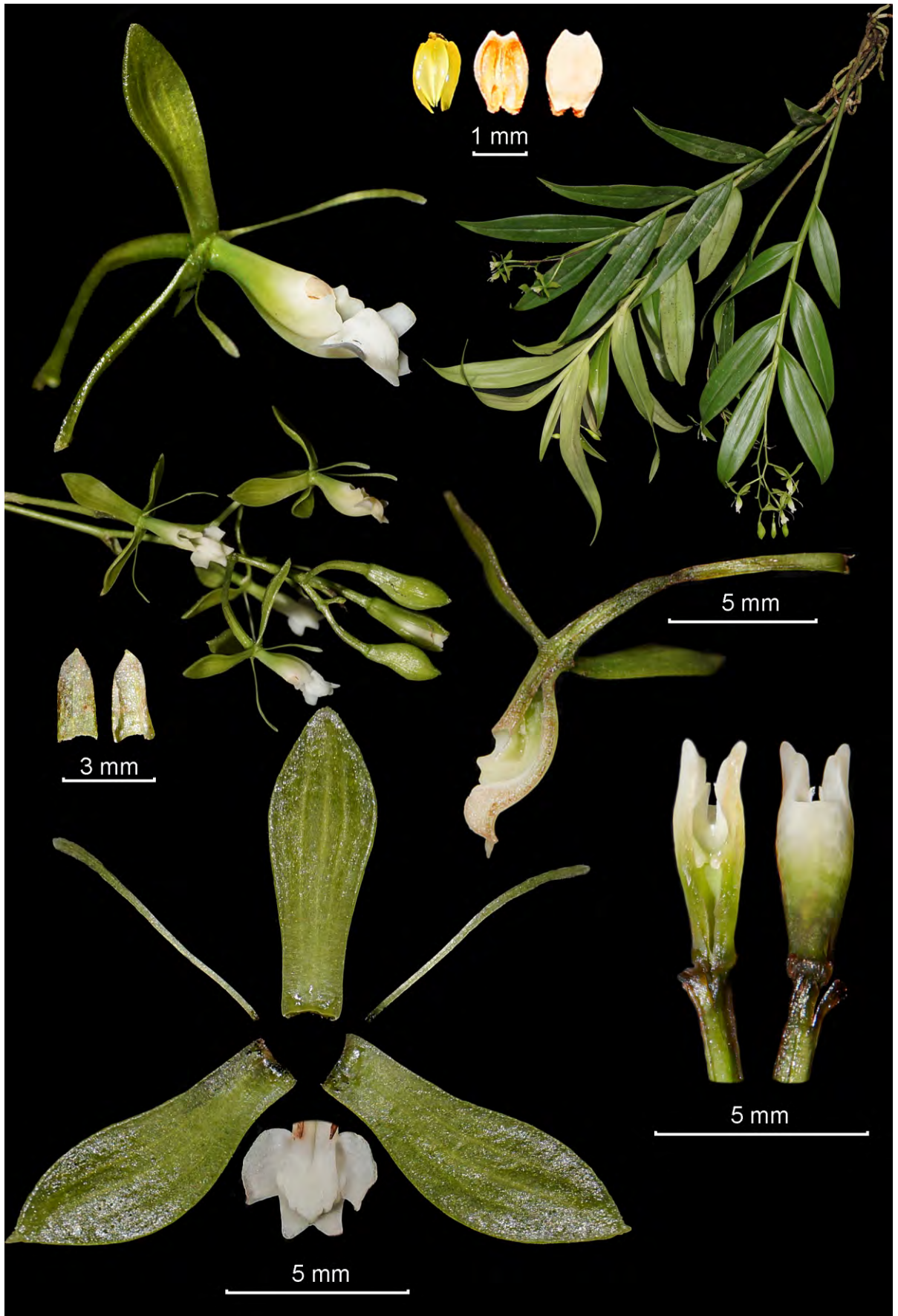


EPIDENDRUM MACBRIDEI C.Schweinf.

Plate 1984a

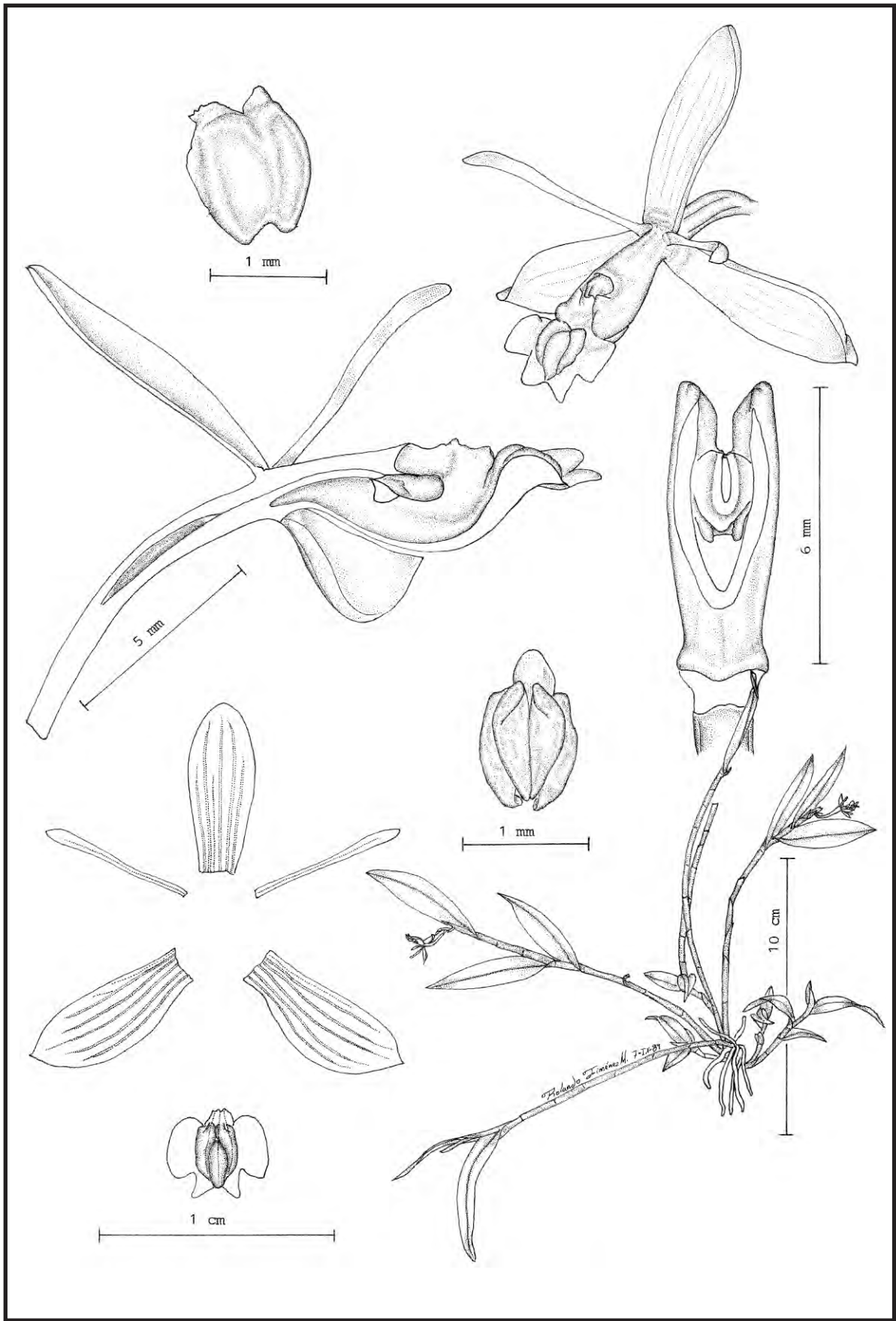
THE GENUS *EPIDENDRUM* PART 15

ICONES ORCHIDACEARUM 19(3). 2023



EPIDENDRUM MACBRIDEI C.Schweinf.

Plate 1984b



EPIDENDRUM MACBRIDEI C.Schweinf.

EPIDENDRUM MACBRIDEI C.Schweinf., Bot. Mus. Leafl. 11(4): 94 (1943).

Type: PERU: Huánuco: Pampayacu, Hacienda at mouth of Río Chinchao, at about 1070 m, 19–25 July 1923, *James Francis Macbride 5081*.
Holotype: F! Isotype: AMES 61588!

Epiphytic, sympodial, caespitose **herb** 10–30 cm tall. **Roots** ca. 1.0–1.5 mm in diameter, basal, thin, white. **Stems** 7–20.5 x 0.1–0.3 cm, simple, erect, cane-like, terete, thin, somewhat flexuous; base covered by non-foliar, scarious tubular sheaths, 1.2–1.5 cm de largo, becoming fibrous with age. **Leaves** 5–10, distributed throughout stem, articulate, distichous, sub-membranaceous; sheath 1–1.7 cm long, tubular; blade 2.5–10.3 x 0.7–1.75 cm, narrowly elliptic, acuminate, margin entire, spreading. **Inflorescence** 4–8.5 cm de largo, apical, racemose, sub-erect, short, lax, few-flowered, with a bract 10–16 mm long, tubular at base and conduplicate at apex, acuminate; producing new racemes with time from old peduncle, each with a bract at base and then pluri-racemose; peduncle 4 cm long, sub-terete, thin erect, very short, rachis 3–4 cm long, with racemes sub-erect, short, few-flowered. **Floral bracts** 2–4 mm long, much shorter than ovary, narrowly triangular, acuminate. **Flowers** simultaneous, resupinate, sepals, petals and basal half of column green, apical half of column and lip white, immaculate; without fragrance. **Ovary** 10–12 mm long, terete, thin, not inflated, unornamented, furrowed. **Sepals** spreading, free, fleshy, oblanceolate, obtuse, slightly concave, 3–5-veined, margin entire, spreading, dorsal sepal 7–8.7 x 2–3.1 mm, lateral sepals 7.5–9 x 2.5–3.9 mm, slightly oblique, minutely apiculate. **Petals** 6.7–8 x 0.4–0.7 mm, spreading, free, filiform, 1-veined, obtuse, margin entire, spreading. **Lip** 3.4–3.6 x 3.7–5 mm, united to column, 3-lobed, base slightly cordate, margin entire spreading; ecallose, disc with 3 large, prominent, thick keels reaching apical sinus; lateral lobes 1.2–1.4 x 2.3–3.0 mm, ovate dolabriform, apical corner nearly reaching apex of mid-lobe; mid-lobe 1.1–1.3 x 1.7–2.5 mm, small, widely deltoid to transversely rectangular, apex truncate to slightly emarginated and forming a pair of small triangular lobes. **Column** 5.3–6.5 mm long, short, straight, thick, apex 2-winged, wings sub-quadrate, prominent. **Cinandrium-hood** reduced, margin entire. **Rostellum** sub-apical, slit; viscarium semi-liquid. **Lateral lobes of stigma** small, about 1/3 length of stigmatic cavity. **Cinaculus** shallow, without penetrating ovary, smooth. **Anther** ovoid, 4-celled. **Pollinia** 4, “bird-wing” type, about equal in size, caudicles laminar.

OTHER SPECIMENS: ECUADOR: Without locality data, *Bennett 7340*, MOL! Ibid. *Bennett 7451*, MOL! Ibid. 1960, *Oxford Univ. Exped. 2362*, K! **Morona-Santiago:** Limón-Méndez, ca. km 22, 795 m, 21 XI 1988, *Hágsater 9640*, AMO x3! (Illustration voucher, AMO) Road Limón (General Plaza)–Macas, ca km 20 from Limón, 700–900 m, 26 III 1974, *Harling 12861*, GB! Road from Méndez to Morona (Cutucú), 900–1200 m, 4 II 1987, *Hirtz 3124*, MO! (slide, AMO) Road Méndez-Cutucú, 700 m, I 1989, *Hirtz 4100*, QCNE! MO! (slide, AMO) Pachicutza, km 140 on road Loja-Gualaquiza, along Río Zamora and along the road, 900–1000 m, 26 IV 1973, *Holm-Nielsen 4594*, AAU! AMES! Between Méndez and Paute, ca. 600 m, 11 VI 1979, *Lojtnant 14540*, AAU x2! Los Encuentros, on limit to Prov. Zamora, 840 m, 26 IX 1967, *Sparre 19000*, S! **Pastaza:** Bosque Protector Oglán Alto, margen izquierdo del río Oglán Alto, 580 m, 12 IV 2003, *Cerón 48170*, QAP! **Zamora-Chinchipe:** Along río Zamora, about 5 km from Zamora, 900 m, 30 VI 1944, *Camp s.n.*, NY! 6 km NE of Zamora, 1100 m, 26 VII 1960, *Dodson 195*, SEL! km 13 road from Loja to Zamora, 2800 m [?], 20 II 1986, *Embree 35*, MO! Parroquia: La Paz, Puntaza Alto, 990 m, 12 IV 2011, *Jiménez 6*, LOJA! **PERU:** Without locality data, *Raimondi 422*, USM! **Huánuco:** sub Andina, Cuchero, [Poepig] 1603, W-R! tracing AMES 38284! **Junín:** Jauja, Río Kachingari, Satipo, VIII 1940, *Ridoutt s.n.*, USM 11574! **Pasco:** Parque Nacional Yanachaga-Chemillén, 1300 m, 14 XI 2004, *Becerra 259*, MO! Comunidad Nativa Alto Lagarto (Reserva Comunal Yanesha), 500 m, 2 IV 2011, *Rojas 7737*, HOXA! **San Martín:** Bosque de Protección Alto Mayo, Aguas Verdes, 1020 m, 22 VII 2014, *Deng 2083*, USM! along road Rioja-Pedro Ruiz, 1170 m, 23 III 1998, *van der Werff 15518*, AMO x2! MO! USM! Around Tocache, 400–700 m, 25 V 1975, *Schunke 8626*, MO! SEL! Prov. Tocache, Sector Buenos Aires, Parque Nacional Cordillera Azul, 1277 m, 29 I 2017, *Valenzuela 32686*, HOXA! MO!

OTHER RECORDS: ECUADOR: Morona-Santiago: Cutucú, Hort. Orquídeas de los Andes, 900–1000 m, 9 III 2003, *Hágsater 13928*, digital image, AMO! **Pastaza:** camino a San José de Punin, 978 m, 4 XI 2017, *Hágsater 15391*, digital images, AMO! (LCDPb voucher, AMO) **Zamora-Chinchipe:** Vivero Ecuagenera, vivero Mosquera, en El Pangui, 22 IX 2016, *Hágsater 14723*, digital image, AMO! Ibid. *Hágsater 14729*, digital image, AMO! **PERU:** Selva Central, 29 V 2010, *Morón s.n.*, digital image, AMO! (Photo voucher) **San Martín:** Moyobamba, 16 XI 2021, *Romero s.n.*, digital images, AMO! Rioja, Distr. Pardo Miguel Naranjo, sector Yuracyacu, 1318 m, 1 IX 2017, *Edquén 168*, digital images, AMO! (LCDPa voucher, AMO) Ibid. 1347 m, 13 VI 2018, *Edquén 850*, digital images, AMO! Bosque de Protección Alto Mayo, Playa de Las Mariposas, 18 VII 2022, *Hágsater 16451*, digital image, AMO!

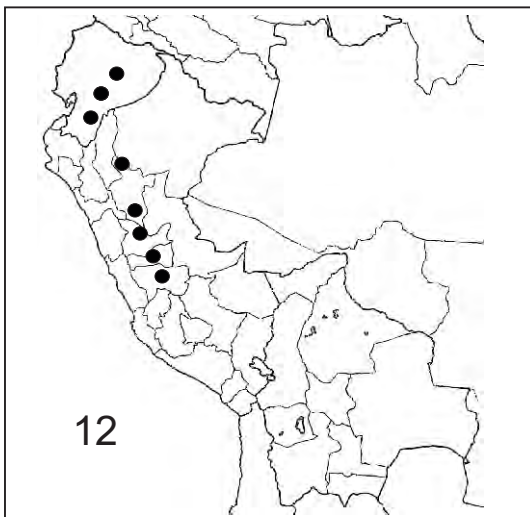
DISTRIBUTION AND ECOLOGY: Known only from central Ecuador to central Peru, on the eastern side of the Andes, along the slopes of the tributaries of the Amazon River, at 400–1500 m altitude, epiphytic in wet tropical forests. Flowering from March to November.

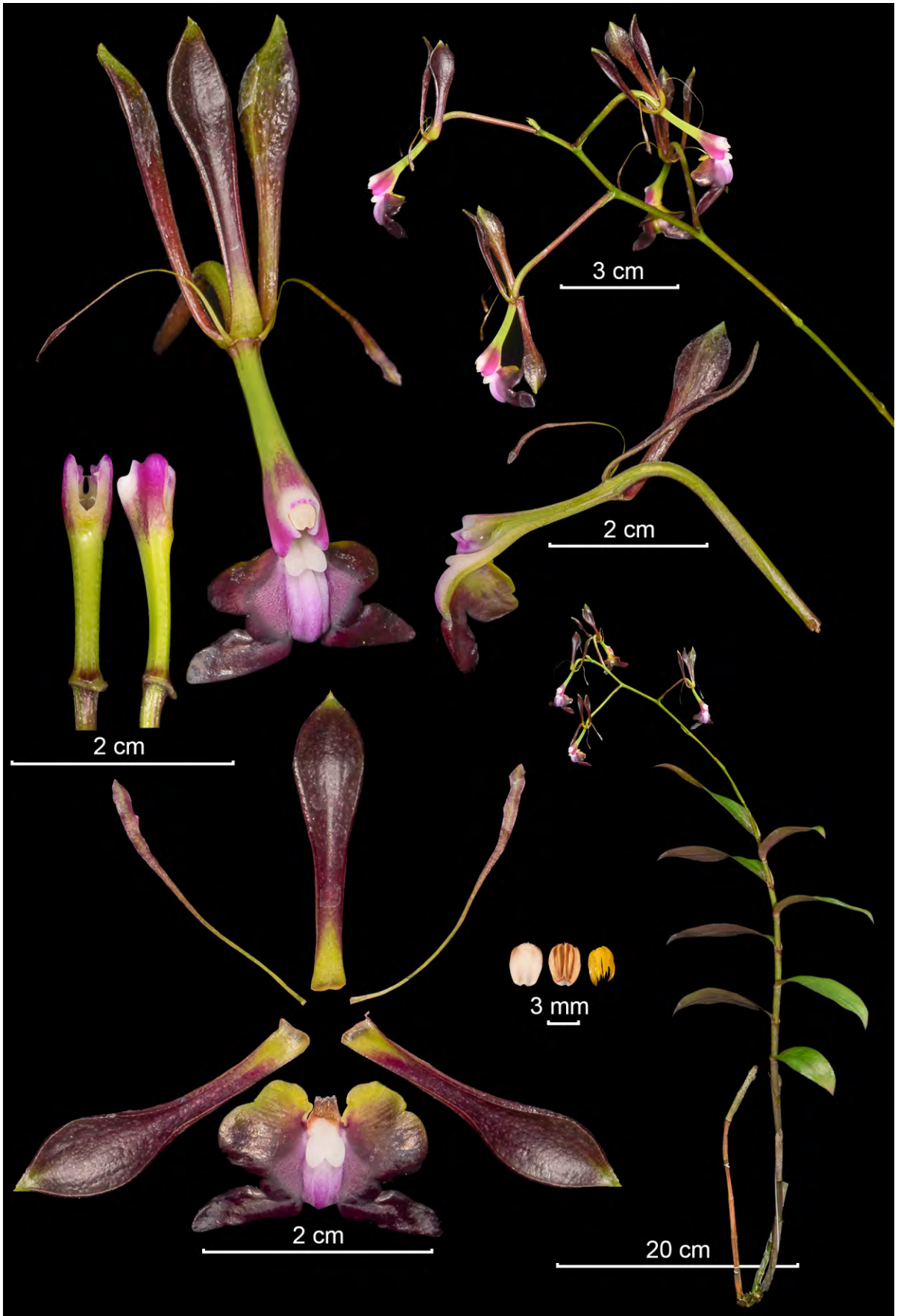
RECOGNITION: *Epidendrum macbridei* belongs to the Pseudepidendrum Group, which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, an apical inflorescence lacking a spathe, the petals filiform and the lip usually 3-lobed, with 3 parallel fleshy keels, the apical lobe often bifurcate, and the Pluriracemosum Subgroup, which has a racemose and few flowered inflorescence on an elongate peduncle, usually producing new racemes over the years and thus pluri-racemose, the rachis elongate and thus lax flowered, the flowers bicolorous, basically green to brown with the lip white to purple, spotted or not. The species is recognized by the small plants, to 30 cm tall, the short successive racemes from the same peduncle, the successive flowers with spreading sepals 7–9 mm long, the column 6 mm long with a pair of prominent sun-quadrate wings at the apex, and the lip ecallose, disc with 3 thickened, very prominent keels that reach the apical sinus of the lip. *Epidendrum poepigii* Hágsater, has taller plants (30–68 cm), very long (10–22 cm), linear-acuminate leaves, a paniculate inflorescence, sepals strongly reflexed, a 3 mm long column, and the lip with a pair of small, sub-globose calli. *Epidendrum parviflorum* Ruiz & Pavón also has larger plants, stems 40–60 cm long, with simultaneous small flowers, sepals 5 mm long, the column 3.5 mm long, and the lip with a single callus.

ETYMOLOGY: In honor of James Francis MacBride (1892–1976), American botanist, who devoted most of his professional life to the study of the flora of Peru, most of his collection are housed in the Field Museum of Chicago, and also is a good representation of the Orchidaceae at AMES.

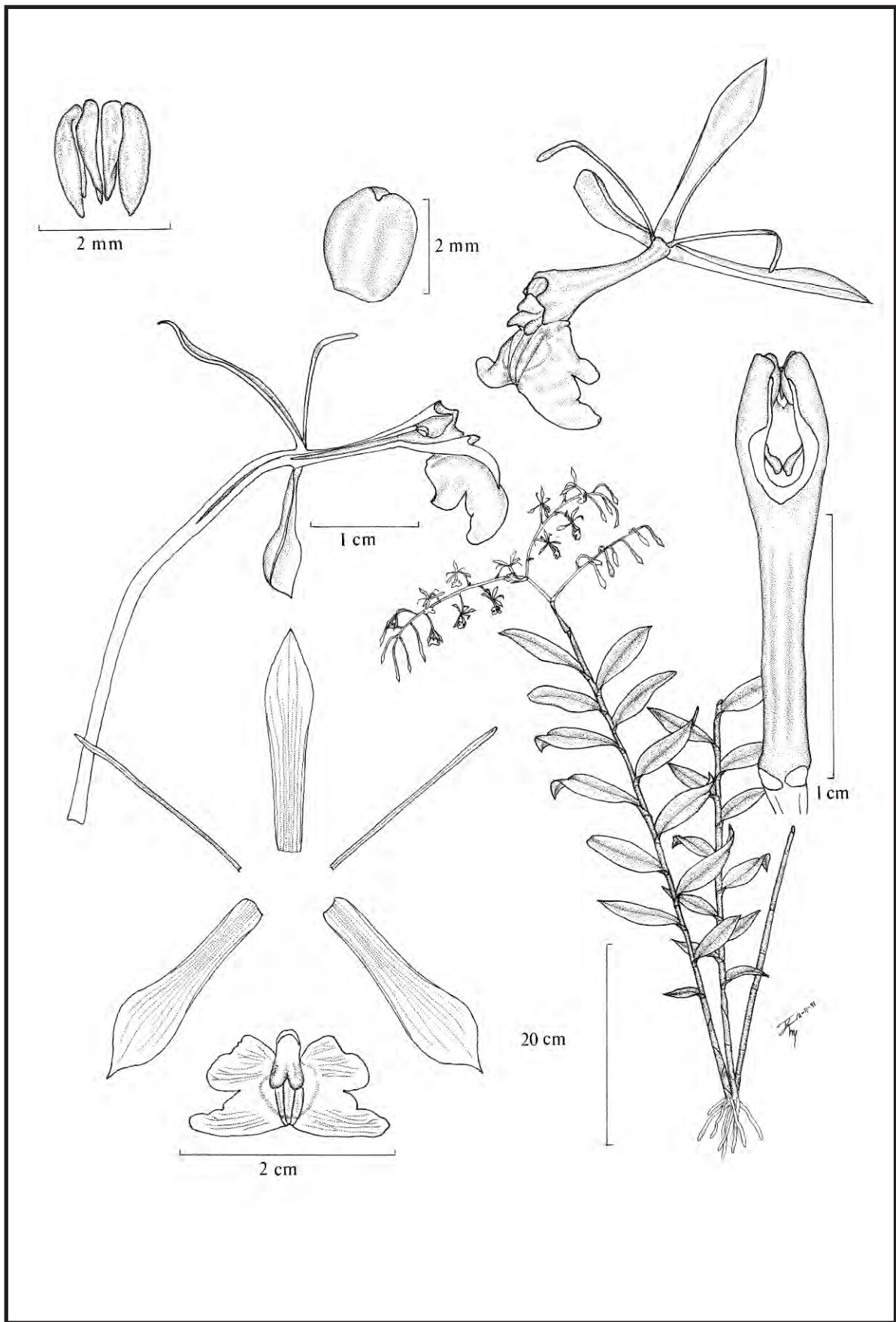
CONSERVATION STATUS: LC. Least concern. The species is widespread and common, with a range of some 1000 km from central Ecuador to central Peru, on the eastern slide of the Andes, found in wet forests at an elevation of 400–1500 m.

REFERENCES: Santiago, E. & Hágsater, E. (2010) *Epidendrum macbridei*. In Hágsater, E. & Sánchez, S., L. (Eds.), The Genus *Epidendrum* Part 9, *Icon. Orchid.* 13, t. 1351. Santiago, E. & Hágsater, E. (2010) *Epidendrum poepigii*. In Hágsater, E. & Sánchez, S., L. (Eds.), The Genus *Epidendrum* Part 9, *Icon. Orchid.* 13, t. 1373. Santiago, E. & Hágsater, E. (2013) *Epidendrum parviflorum*. In Hágsater, E. & Sánchez, S., L. (Eds.), The Genus *Epidendrum* Part 10, *Icon. Orchid.* 14, t. 1472.





EPIDENDRUM MELANOPORPHYREUM Hágsater



EPIDENDRUM MELANOPORPHYREUM Hágsater

EPIDENDRUM MELANOPORPHYREUM Hágsater, Icon. Orchid. 2: t. 156 (1993).

Holotype: PERU: Huánuco: outside Tingo María, road to Pulcalpa, Cordillera Azul, 1700 m, collected X 1987, prepared from a plant cultivated at J & L Orchids, 12 November 1991, *Cordelia Head* [788-297] sub *Eric Hágsater* 11120, MO! (Illustration voucher) Clonotype: *Cordelia Head* 788-297, 2 August 1988 (flower in spirit), AMO!

Terrestrial, sympodial, caespitose, 30–70 cm long herb. **Roots** ca. 2.5 mm in diameter, basal, fleshy. **Stems** 30–60 0.4–0.9 cm, simple, straight, reed-like, terete. **Leaves** 7–14, distributed throughout apical 2/3 of stems; sheath 5 cm long, tubular, smooth; blade 6–15.5 2.2–4.4 cm, elliptic, acute, margin entire, smooth, olive green, underside purple. **Inflorescence** 15–25 cm long, apical, from mature stem, flowering only once, paniculate, sub-erect; peduncle generally with two basal bracts, 5 cm long, conduplicate, acute. **Floral bract** 2–19 mm long, much shorter than ovary, triangular, acuminate, embracing. **Flowers** ca. 4–25, slightly simultaneous, resupinate, sepals, petals and lip dark purple, almost black, basal half of column green, (rarely sepals entirely green) apical half of column and disc of lip violet; scentless. **Ovary** 24–40 mm long, strongly arcuate, not inflated, terete, unornamented, furrowed. **Sepals** 20–25 4–6 mm, somewhat to strongly reflexed, free, unornamented, fleshy, narrowly spatulate-oblongate, acute, concave, margin spreading, 5-veined, with 4 secondary veins. **Petals** 20–25 0.5 mm, spreading, apical third inflexed, narrowly lanceolate to filiform, 1-veined, obtuse, membranaceous, margins entire, spreading. **Lip** 9 19–20 mm, united to column, convex, rigid, sub-coriaceous, sub-cordate at base, 3-lobed; bicallose, callus prominent, erect, 3-ribbed, ribs prominent, rounded, mid-rib reaching apical sinus; lateral lobes obliquely obreniform, somewhat widely emarginate, margins rounded, margin entire; mid-lobe strongly bifid, strongly divaricate, forming two opposite oblong, apex rounded. **Column** 16–20 mm long, straight, thin. **Clinandrium-hood** obsolete margin entire. **Anthor** sub-spherical, 4-celled. **Pollinia** 4, “bird-wing” type, strongly compressed laterally, transparent, inner pair slightly smaller; caudicles soft and smooth. **Rostrum** sub-apical, slit; viscarium transparent, semi-liquid. **Lateral lobes of stigma** small, 1/4 length of stigmatic cavity. **Cunuculus** very shallow, not penetrating behind perianth, smooth within. **Capsule** not seen.

OTHER SPECIMENS: PERU: Without locality, *Bennett* 5770, MOL! **Cajamarca:** Celendín, George of the Marañón, above Balsas, 2930 m, 26 V 1964, *Hutchison* 5386, UC! **Huánuco:** outside Tingo María, road to Pulcalpa, Cordillera Azul, 1700 m, collected X 1987, pressed cult. 25 II 1998, *C. Head* 10-87 J & L Orchids sub *Hágsater* 11835, AMO! slide, AMO! **Junín:** 9 mi above Paucartambo bridge Oxapampa-La Merced road, 1250-1600 m, 18 VII 1965, *Bennett* 423, UC! (illustration, Pastorelli 192, AMO!) *Ibid.* 16 VII 1966, *Bennett* 423, UC! Chanchamayo, 800 m, *Fernández* 300, USM! Tarma, Hausahuasi, Santuario Nacional Pampa de los Cedros-Unión, 1624 m, 7 III 2016, *Vásquez* 40592, HOXA! **Pasco:** Oxapampa, *Bennett* 5118, MOL! USM! Oxapampa, Vivero Saul Ruiz Pérez, 31 X 2010, *Dalström* 3074, USM! Oxapampa, Parque Nacional Yanachaga-Chemillén, Trocha de Centro Palma Bocaz a Purus, 1750 m, 16 IV 2006, *Monteagudo* 11930, HOXA! Poco antes de Puerto Bermudez, 250 m, 16 VI 2016, *Morón* s.n., USM! Oxapampa, Pozuzo, Parque Nacional Yanachaga-Chemillén, Puesto Huampal, 1148 m, 10 VIII 2007, *Vásquez* 32656, HOXA! **San Martín:** Without locality, 4 IV 2007, *Hajek* 2260, USM!

OTHER RECORDS: PERU: Without locality, received 2 V 2014, *Arévalo* s.n., digital image, AMO! Cult. en Lima por Manuel Moran, received 17 II 2010, *Fernández* s.n., digital image, AMO! Without locality data, *Jenny* s.n., digital image, AMO! *Ibid.*, received 11 X 2009, *Morón* s.n., digital image, AMO! *Ibid.* received 6 V 2014, *Morón* s.n., digital image, AMO! Selva Central, received 30 VIII 2017, *Morón* s.n., digital image, AMO! Without locality, *Restrepo* s.n., digital image, AMO! Cult. en Lima, received 28 VI 2019, *Saavedra* s.n., digital image, AMO! Without locality, received 6 VIII 2019, *Salcedo* s.n., digital image, AMO! *Ibid.*, received 23 VII 2013, *Torres* s.n., digital image, AMO! *Ibid.* 24 VI 2015, *Torres* s.n., digital image, AMO! Expo. de Moyobamba, received 17 XI 2016, *Torres* s.n., digital image, AMO! **San Martín:** Without data, *Edquén* s.n. digital images, AMO! (photo voucher). Bosque de Protección Alto Mayo, *Edquén* s.n., digital image, AMO! Rioja, Yuracyacu, 1188 m, 27 VIII 2015, *Edquén* 2085, digital images, AMO! *Ibid.* 31 VIII 2015, *Edquén* 2086, digital image, AMO! Moyobamba, Exposición 2 Congreso Peruano Orquideología, Orquideas Amazonicas, vivero bajo, Río Mayo, 1 XI 2019, *Hágsater* 16295, flowers in spirit and digital images, AMO! (LCDP voucher). Moyobamba, Exposición 2 Congreso Peruano Orquideología, Orquideas Amazonicas, vivero bajo, Río Mayo, 1 XI 2019, *Hágsater* 16307, digital image, AMO! Mariscal Cáceres: Juanjuí, zona de Camanilla, received 2 I 2021, *Olortegui* s.n., digital image, AMO! Tarapoto, received 8 X 2020, *Orquideas Amazónicas Tarapoto* s.n., digital image, AMO! Moyobamba, received 14 IX 2020, *Rodas* s.n., digital image, AMO!

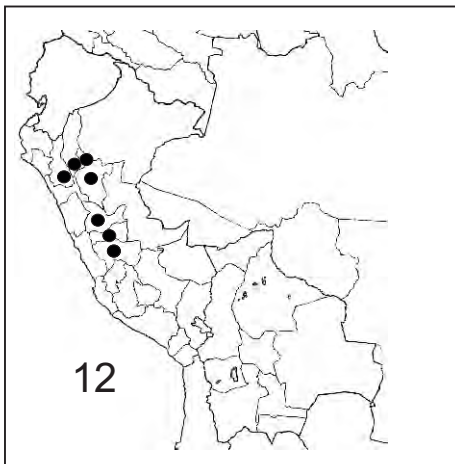
DISTRIBUTION AND ECOLOGY: Known presently only from central and northern Peru, a range of some 650 km in length, cultivated widespread. Terrestrial and probably lithophytic and epiphytic, on the eastern slopes of the Andes, in scrub forest at [250]800–2930 m elevation. Flowering from July to November.

CONSERVATION STATUS: LC. Least Concern. The plants could be confused with any of several species of the Pseudopidendrum group, and the very dark flowers are hardly visible in the wild except for the bright apex of the column and disc of the lip, so that collectors may well have overlooked it. The range of distribution is some 650 km long. The species is widely cultivated, and propagated not only in Peru, but also in Ecuador and Colombia.

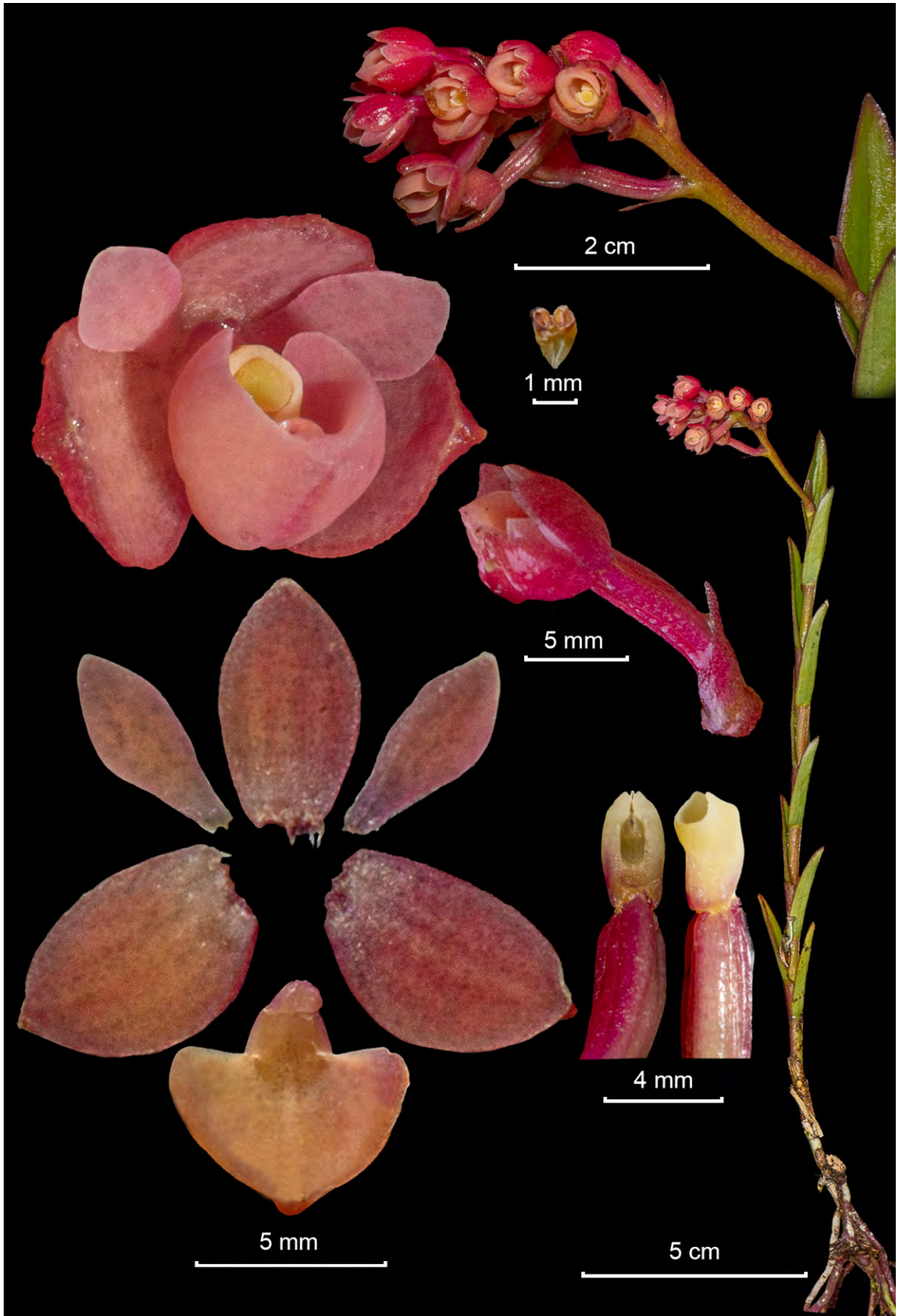
RECOGNITION: *Epidendrum melanoporphyreum* belongs to the Pseudopidendrum Group which is characterized by sympodial, caespitose plants, the cane-like stems, the leaves acute to acuminate, the usually apical inflorescence, sometimes producing new racemes from old inflorescence, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy ribs of the disc), the mid-lobe often bifurcate, the “bird-wing” type pollinia, at least the inner pair and Porphyreum Subgroup which has flowers colored reddish orange, deep purple or lilac-pink, and the calli generally prominent, sometimes horn-like. This species is recognized by the very dark purple, nearly black, flowers except for the green base of the column and the violet apex of the column and disc of the lip; the flowers are relatively large for the group, sepals being 20–25 mm long, and the lip has apical lobes widely divaricate, being wider across them than across the lateral lobes. *Epidendrum lilacinoides* Hágsater & E. Santiago has leaves elliptic, acute to short-acuminate, up to 100 flowers per raceme, purple with the lip white, turning yellowish with the age, the lip 3-lobed, bicallose, calli small, the lateral lobes of the lip oblique dolabriform, the ovary 12–35 mm long, the sepals 11–14 mm long, spreading, and the column 10 mm long. *Epidendrum crassinervium* Kraenzl. has leaves ovate-elliptic, the flowers, white turning yellowish, smaller, the sepals 9–10 mm long, and the petals 9–10 mm long, spreading to slightly reflexed, the lip 3–5 mm long, trapezoid in general form, 3-lobed, and the column 7 mm long.

ETYMOLOGY: From the Greek μελανος, black, and πορφυρος, purple, in reference to the very dark color of the flowers, nearly black-purple, unique to this species.

REFERENCES: Hágsater, E. (1993) *Epidendrum melanoporphyreum*. In Hágsater, E. & Salazar, G.A. (Eds.), *Icon. Orchid.* 2: t. 156. Hágsater, E. & Santiago, E. (2010) *Epidendrum lilacinoides*. In Hágsater, E. & Sánchez S., L. (Eds.), *Icon. Orchid.* 13: t. 1347. Santiago, E. & Hágsater, E. (2010) *Epidendrum crassinervium*. In Hágsater, E. & Sánchez S., L. (Eds.), *Icon. Orchid.* 13: t. 1323.

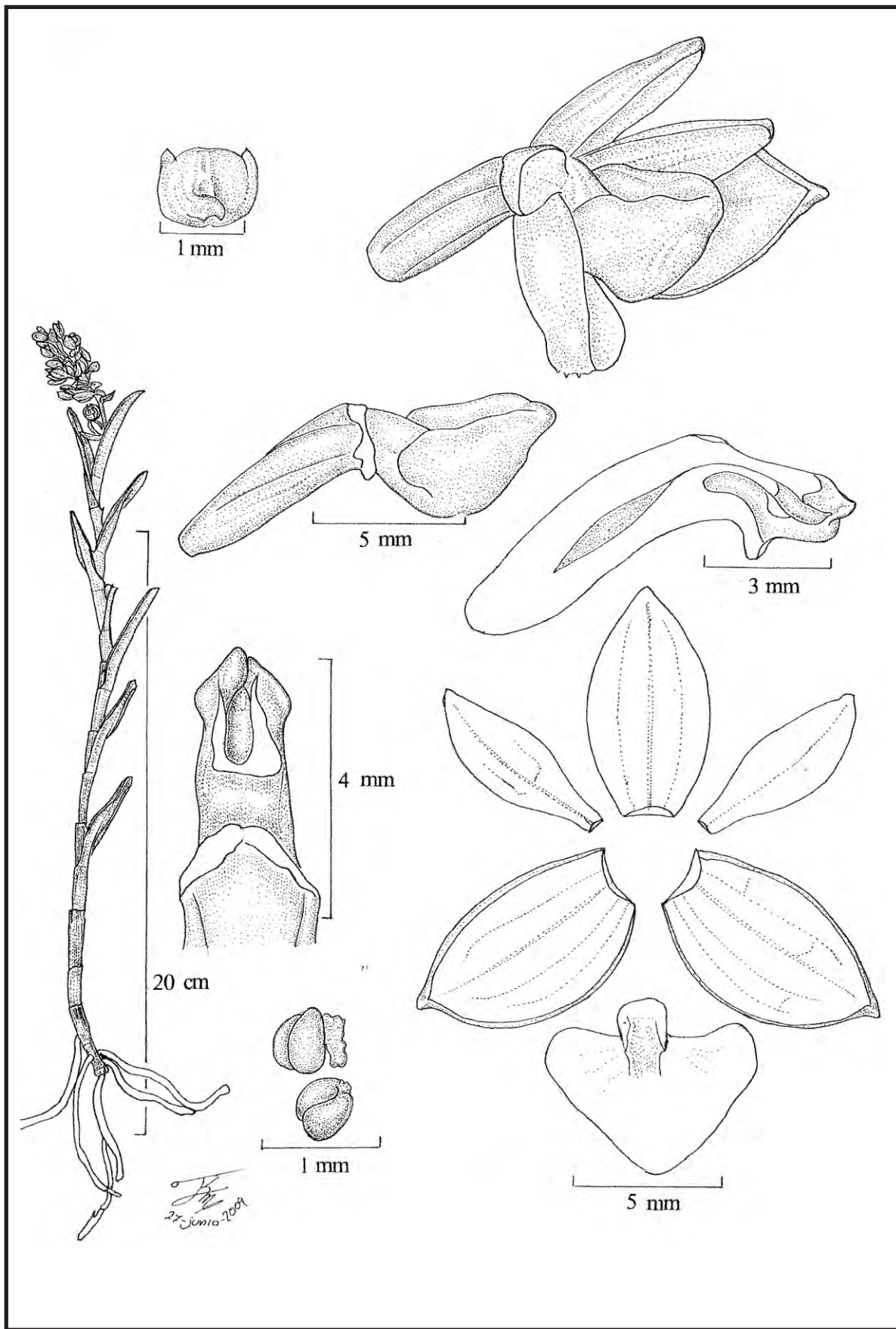


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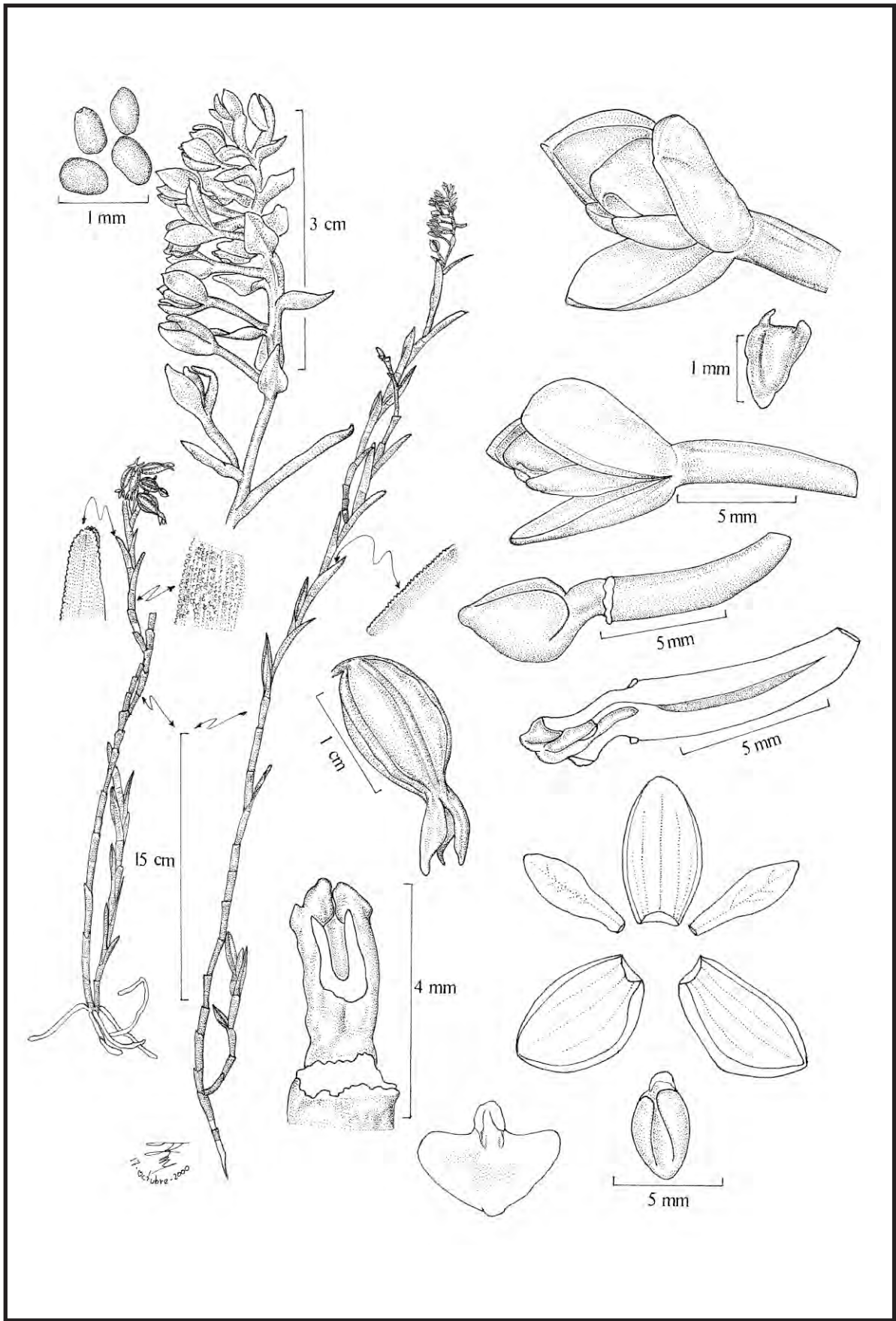


EPIDENDRUM MINIATUM Schltr.

Plate 1986a



EPIDENDRUM MINIATUM Schltr.



EPIDENDRUM MINIATUM Schltr.

Plate 1986c

EPIDENDRUM MINIATUM Schltr., Repert. Spec. Nov. Regni Veg. Beih. 8: 75 (1921).

Type: ECUADOR: Loja: Zwischen Gestrüpp am Bodem, um Los Hornillos, Ost-Andes von Loja, 2600-3000 m, **Friedrich Carl Lehmann 6858**. Holotype: B, destroyed. Isotypes: AMES x3! K! L! NY! W! (Illustration voucher, b).

Synonym: *Epidendrum erytropachytilum* Hágsater & E.Santiago, Icon. Orchid. 15(1): pl. 1522 (2015). ECUADOR: Azuay: Oriente Border: Eastern Cordillera, between Oña and the río Yacuambi, 10 September 1945, **Francisco Prieto P-308**. Holotype: NY! (Illustration voucher, c). Isotypes: AMES! S!

Terrestrial, monopodial, **herb** 14–120 cm tall, branching above. **Roots** 0.7–2.0 mm in diameter, basal, thin, fleshy. **Stems** branching towards apex, erect ascending, cane-like, terete; primary stem 12–60 × 0.3–0.6 cm; branches 7–10 × 0.2–0.4 cm, produced from sub-apical internodes of previous stems; base covered by sheaths 0.5–3.3 cm long, tubular, non-foliar, scarious. **Leaves** 11–17 or more on primary stem, 6–9 on branches, distributed throughout stems, sub-parallel to stem, slightly conduplicate at base, partly imbricated, coriaceous, similar amongst themselves in size and shape; sheaths 1.0–2.4 cm long, tubular striated, verrucose, tinged reddish purple; blade 1.5–6.0 × 0.5–0.9 cm, lanceolate, acute, minutely apiculate with a low dorsal keel, margin crenate. **Spathe** lacking. **Inflorescence** 3.5–7.0 cm long, apical, racemose, erect, many-flowered, dense, a helicoid; peduncle 13–15 mm long, terete, thin, without bracts. **Floral bracts** 4.2–8.5 × 4–7 mm, prominent, as long as ovary, widely triangular when spread, acute, cymbiform in natural position, green, margins denticulate, tinged red. **Flowers** 10–15, non-resupinate, most open simultaneously, reddish pink, sepals internally reddish orange, ovary reddish pink; fragrance not registered. **Ovary** 7.5–8 mm long, short, sub-triquetrous, thick, not inflated, clearly striated, red. **Sepals** 6.2–7.5 × 3.5–4.5 mm, partly spreading, free, fleshy, elliptic, apex subacute, minutely apiculate, 3–4 veined, margin entire, spreading; lateral sepals slightly oblique. **Petals** 5.5–6.6 × 1.8–2.5 mm; partly spreading, free, oblanceolate, apex subacute, 1-veined, margin entire, spreading. **Lip** 4–5 × 5–7 mm, entire, widely sub-triangular when spread, in natural position embracing apex of column, base sub-cordate, very fleshy (especially towards the apex), margin entire; bicollose, calli small, thin, elongate, parallel. **Column** 3.5–4.0 mm long, short, slightly arched at base, and arched upwards towards apex which is blunt, without teeth. **Clinandrium-hood** reduced, margin entire. **Anther** ovoid, 4-celled. **Pollinia** 4, obovoid, unequal. **Rostellum** apical, slit; viscarium semi-liquid. **Lateral lobes of stigma** small, 1/3 length of stigmatic cavity. **Cunuculus** short, without penetrating ovary, not inflated, unornamented. **Capsule** 18–20 × 8–9 mm, ellipsoid, perianth persistent; body 11–13 × 8–9 mm; pedicel 2–3 mm long, thin, short; apical neck 4–6 mm long.

OTHER SPECIMENS: BOLIVIA: La Paz: Nor-Yungas, PN-ANMI Cotapata, sendero Chojllapata, 3420 m, 23 X 2009, *Jiménez 5497*, LPB. *Ibid.* 3294 m, 18 XI 2005, *Miranda 1003*, LPB. **ECUADOR: Loja**: Páramo de Loja, 12000 ft, without collector, W-R 10877! Parque Nacional Podocarpus, Cajanuma, 3000 m, 14 XI 2008, *Werner 2718*, AMO x2! (spirit and digital image, AMO! photo voucher). **Morona-Santiago**: Gualaquiza: pasando Puerto Tambillo, bajando a San Miguel de Cuyes, 3250 m, 17 X 2018, *Hágsater 16013*, QCNE! (LCDP voucher). Area de Bosque Vegetación Protectora Tambillo, 3050 m, 12 III 2001, *Linder Suin 848*, AMO! **PERU: Amazonas**: Bagua; Cordillera Colán NE of La Peca, ca. 10400 ft, 9 IX 1978, *Barbour 3437*, MO! SEL! **Pasco**: Oxapampa: Dist. Huancabamba. Parque Nacional Yanachaga-Chemillén, cercanías al macizo de la Cordillera Yanachaga, 3330 m, 24 IV 2007, *Monteagudo 13809*, AMO! HOXA, HUT, MO, USM. *Ibid.* La Colmena-trocha Erica, 3320 m, 19 VIII 2008, *Valenzuela 11560*, AMO! HOXA, HUT, MO, USM.

OTHER RECORDS: BOLIVIA: La Paz: Parque Nacional Cotapata y alrededores, http://fm2.fieldmuseum.org/plantguides/guide_pdfs/361-03.pdf photo 55 as *E. pachytilum* (seen 22 X 2014). **PERU: Pasco**: Parque Nacional Yanachaga Chemillén, *Becerra s.n.*, digital images, AMO!

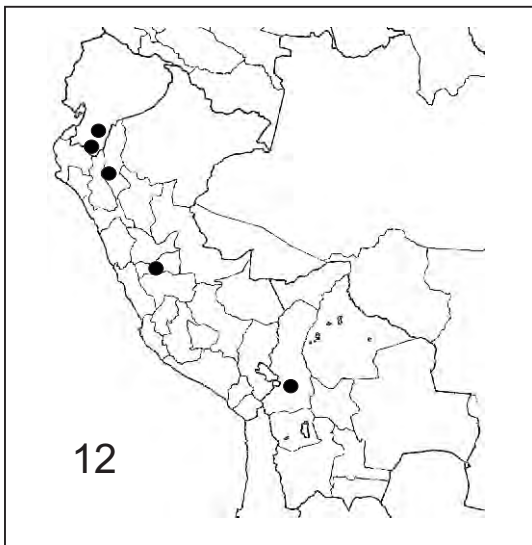
DISTRIBUTION AND ECOLOGY: Widespread along the upper slopes of the Cordillera Oriental of the Andes, from southern Ecuador through Peru to western Bolivia, terrestrial at 3000–3600 m altitude. Flowering from September to March.

RECOGNITION: *Epidendrum miniatum* belongs to the Pachytilum Group which is characterized by the monopodial plants with sub-apical branching, rugose leaf sheaths, by the relatively small leaves, parallel to the stem, the short, racemose, erect inflorescence, brightly colored flowers, yellow to orange to reddish pink, with an entire, conduplicate, lip embracing the column, without any pubescence in front of the stigmatic cavity nor on the lip, but generally with two small calli. The species is recognized by the small plants, up to 120 cm tall, leaves lanceolate, 1.5–6 × 0.5–0.9 cm, parallel to the stem and partly imbricating; inflorescence dense, with 10–15, reddish-pink flowers, including the ovary, sepals 6.2–7.5 × 3.5–4.5 mm; apex of column blunt, without teeth. *Epidendrum pachytilum* Kraenzl. is vegetatively very similar, but the inflorescence few-flowered, with up to 8, sulfur-yellow to green flowers, sepals ca. 11 mm long, and the lip widely triangular when spread, column with an uncinatate tooth each side at the apex. *Epidendrum incapachytilum* Hágsater & E.Santiago has taller plants, to 1.5 m tall, leaves 2.4–5.5 cm long, inflorescence generally lax, with 7–9 [12] flowers colored reddish orange to yellowish orange with the ovary green, sepals 8–9.4 × 4.2–5.1 mm, and the lip widely hemi-orbicular to widely triangular when spread, with a wide apiculus, apex of the column with a pair of long straight teeth.

CONSERVATION STATUS: DD. Data deficient. Widespread and apparently frequent in various protected areas.

ETYMOLOGY: From the Latin *miniatus*, rust-red, in reference to the color of the flowers.

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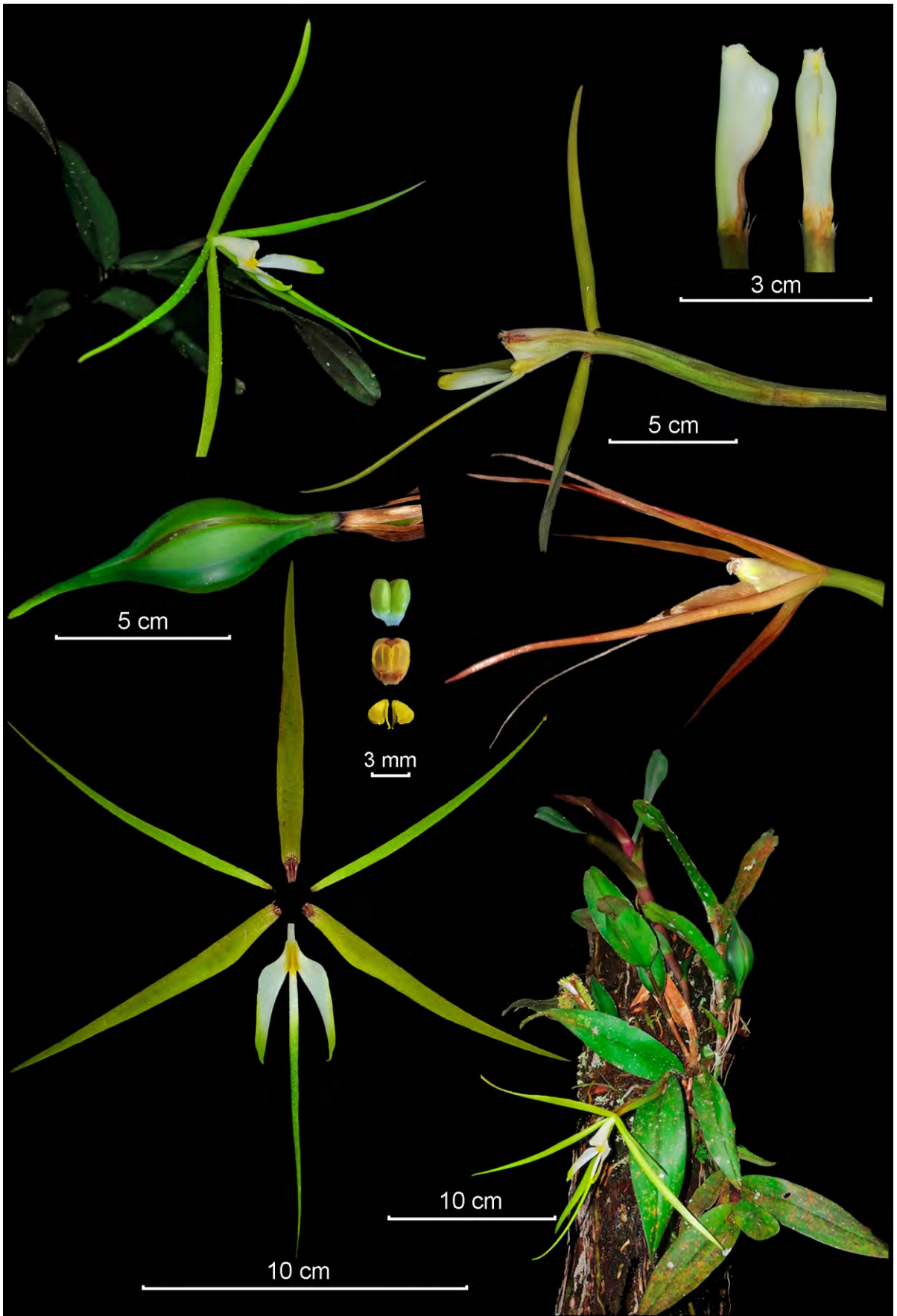
Authors: E. Santiago & E. Hágsater

Illustrator: R. Jiménez M.

LCDP: E. Hágsater & A. Cisneros

Photo: F. Werner

Editors: E. Hágsater & E. Santiago



EPIDENDRUM NOCTIRUFESCENS Hágsater & Cadena

EPIDENDRUM NOCTIRUFESCENS Hágsater et Cadena, *sp. nov.*

Type: COLOMBIA: Santander: Jesus María: Laderas, El Hogar, Alto de La Gloria, en bosque primario, 2110 m, 3 julio 2021, *Milton Rincón González y Daniel Eduardo Cadena Barbosa 1859*, Holotype: JBB! (LCDP and Photo voucher).

Similar to *Epidendrum purpureocaulle* Essers & Sabin from the French Guyana and the Amazon basin in Brazil, having purple stems, 3–7 leaves, 6–18 x 1.3–7.5 cm, progressively larger, medium dark green on both sides (vs. the stems and underside of the leaves tinged purple, the upper side of leaves dark green, 3 leaves, 4.6–14.0 x 2.5–4.8 cm), the ovary 65–75 mm long (vs. ovary 90–115 mm), the sepals 97–100 mm long (vs. sepals 67–84 mm long), petals light green, sepals pale brown dorsally, column and lip white, the apices of the lateral lobes of the lip light green, the mid-lobe the apical 4/5 mid-lobe green, calli deep yellow, upon pollination or wilting the floral segments become red-brown and the column purple (vs. sepals pale brown to pale yellow green, petals pale green, lip white, column creamy white, green towards the base, calli white to pale yellow, the tepals turning yellow when ageing, column cream colored), the lateral lobes of the lip 28–33 x 7 mm, hemi-trullate (vs. lateral lobes 21–28 x 6–8 mm, hemi-ovate), and the mid-lobe 75–80 x 2 mm (vs. mid-lobe 44–45 x 2.0–2.5 mm).

Epiphytic, sympodial, caespitose erect **herb**, to ca. 40 cm tall. **Roots** basal, fleshy. **Stems** to 34 x 0.4–1.5 cm, laterally compressed, ancipitose above. **Leaves** 3–7, unequal, progressively larger, the apical leaf always largest, distributed along the apical 3/4 of the stem, sheaths purple, top side of the leaf medium dark green, underside dark green, juvenile leaves greenish-yellow, central vein light purple; sheaths up to 1.5 cm wide, ancipitose; blade 6–18 x 1.3–7.5 cm, ovate-elliptic, apex narrowly bilobed. **Spathes** lacking. **Inflorescence** apical, pluriracemose, the rachis distichous, producing several flowers in succession and producing new racemes over several years, may have fruits and flowers simultaneously. **Floral bracts** 9–10 x 12 mm, much shorter than the ovary, triangular, embracing, abruptly acuminate, hidden within the apical leaf sheath. **Flowers** produced in succession, singly, resupinate, tepals light green, sepals pale brown dorsally, column and lip white, the apices of the lateral lobes of the lip light green, the mid-lobe the apical 4/5 mid-lobe green, calli deep yellow, upon pollination or wilting the floral segments become red-brown and the column purple; anther green; fragrance not registered. **Ovary** 65–75 x 5 mm, terete, inflated ventrally towards the middle, furrowed, unornamented, dark green, tinged purple. **Sepals** spreading, linear-lanceolate, acuminate, 14-veined, margins entire, revolute; dorsal sepal 97 x 9 mm; lateral sepals 99–100 x 9 mm, oblique, widest at the basal 1/5th and then narrowed along the lower margin. **Petals** 95 x 4 mm, spreading, slightly arched upwards in natural position, 8–9 veined, margins entire. **Lip** 80–85 x 24 mm, united to the column, deeply 3-lobed, base narrowly cuneate; bicallose, the calli 9 mm long, laminar, elongate, parallel, ending at the base of the mid-lobe; lateral lobes 28–33 x 7 mm, hemi-trullate, acuminate, oblique, the inner margin a concave arch, the outer margin with a rounded angle at the basal 1/4; mid-lobe 75–80 x 2 mm, linear-triangular, acuminate, straight. **Column** 26 mm long, white, faded light green in the basal dorsal portion, the basal 1/3 thin and slightly arched then straight and progressively thicker vertically, the apex oblique at about a 60° angle with rounded wings below and truncate above the rostellum. **Clinandrium hood** short, slightly concave, with a narrow apiculus. **Rostellum** sub-apical, slit; viscarium semi-liquid. **Anther** rectangular, longer than broad, apex truncate, formed by two vertical, green, ellipsoid bodies, 4-celled. **Pollinia** obovate-triangular, laterally compressed, inner margin straight, inner pair slightly smaller, with an acute appendage at the distal inner corner; caudicles granulate, in two pairs, tape-like, slightly longer than the pollinia. **Cuniculus** penetrating the 2/3 of the pedicellate ovary. **Capsule** 84 x 30 mm, pedicel 55 x 2–5 mm; body 50 x 30 mm, ellipsoid, somewhat displaced towards the apex; apical neck 14 x 6 mm.

OTHER SPECIMENS: COLOMBIA: Santander: La Belleza, 2000 m, 4 XII 1952, *Schneider 537*, COL! **Boyacá:** Mun. Duitama; via El Carmen-Violín, 2320 m, 24 XI 1994, *Betancur 5849*, COL!

OTHER RECORDS: COLOMBIA: without locality, *Vieira 138*, digital image, AMO!

DISTRIBUTION AND ECOLOGY: Presently known from three collections on the upper western slope of the Cordillera Oriental in northern Colombia in Boyacá and Santander, at 2000–2320 m altitude. Flowering and fruiting from November to March, probable over a long period. Epiphytic in pristine, montane sub-Andean wet forest.

RECOGNITION: *Epidendrum noctirufescens* belongs to the Nocturnum Group, which is characterized by the sympodial, caespitose plants, cane-like stems, the short, racemose, or pluri-racemose inflorescence without a spathe, and large star-shaped, successive flowers with similar sepals and petals. The new species is recognized by the ancipitose stems to 34 x 0.4–1.5 cm, the sheaths of the leaves purple, the leaves 6–18 x 1.3–7.5 cm, progressively larger, medium dark green on both sides, the ovary 65–75 mm long, the large flowers, sepals 97–100 mm long, petals light green, sepals pale brown dorsally, column and lip white, the apical 1/4 of the lateral lobes of the lip light green, the apical 4/5 mid-lobe of the lip light green, the mid-lobe the apical 4/5 is green, calli deep yellow, upon pollination or wilting the floral segments become red-brown and the column purple, and the lip 80–85 x 24 mm, base narrowly cuneate, calli elongate and dark yellow. It is similar to *Epidendrum purpureocaulle* Essers & Sabin [syn: *Epidendrum ancipitinocturnum* Hágsater & J.M.P. Cordeiro] from the French Guyana and the Amazon basin in Brazil, has dark green plants, to 11–21[33] cm tall, the stems and underside of the leaves tinged purple, the upper side of leaves dark green, the stems laterally compressed, ancipitose, the leaves 4.6–14.0 x 2.5–4.8 cm, the ovary 90–115 mm long, flowers large for the group, sepals pale brown to pale yellow green, petals pale green, lip white, column creamy white, green towards the base, calli white to pale yellow, the sepals 67–84 x 4–9 mm, margin revolute so as to become tubular, and the lip 50–53 x 17–19, lateral lobes 21–28 x 6–8 mm. *Epidendrum ramiro-medinae* Hágsater & L. Sánchez from the Putumayo in southern Colombia also has stems strongly laterally compressed, ancipitose, 6–7 leaves distributed along the upper 3/4 of the stem, narrow leaves, 1.5–2.8 cm wide, the ovary shorter (75–78 mm long) than the sepals (90–100 mm long), the lateral lobes of the lip narrowly semi-ovoid, rounded, mid-lobe 68–75 mm long, and the column 13 mm long. *Epidendrum cocornocturnum* Hágsater, found from Antioquia, Colombia, to Carchi, Ecuador, has green plants, leaves 8–18 x 2.8–4.6 cm wide, a longer ovary (60–90 mm long), lateral lobes of the lip 22–29 x 5 mm, semi-lanceolate, apex narrowly rounded, mid-lobe of the lip shorter, (50–57 mm long), and column twice as long, (19–26 mm long). *Epidendrum trapeziinocturnum* Bar.-Colm. & Hágsater has large plants up to 47 cm tall, medium green, the stems flattened, ancipitose above the middle, with 5–7 large leaves 13.5–15.0 x 4.2–4.8 cm, oblong, length:width 3:1, distributed along the apical half of the stems, the large flowers bright green with lip and calli white, column creamy white, sepals 96–97 x 5–6 mm, lateral lobes of the lip, semi-lanceolate, basally cuneate and apically long-acuminate, mid-lobe of the lip linear-triangular, 68–81 mm long, and the capsule with the body displaced somewhat beyond the middle.

ETYMOLOGY: From the Latin *nocturnus*, belonging to the night, and *rufescens* a mixture of red and brown, closer to red, in reference to the color into which the flowers turn when fertilized or wilting, which distinguishes this species from most others in the Nocturnum Group.

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Authors: E. Hágsater & D. E. Cadena B.

LCDP: D. E. Cadena B.

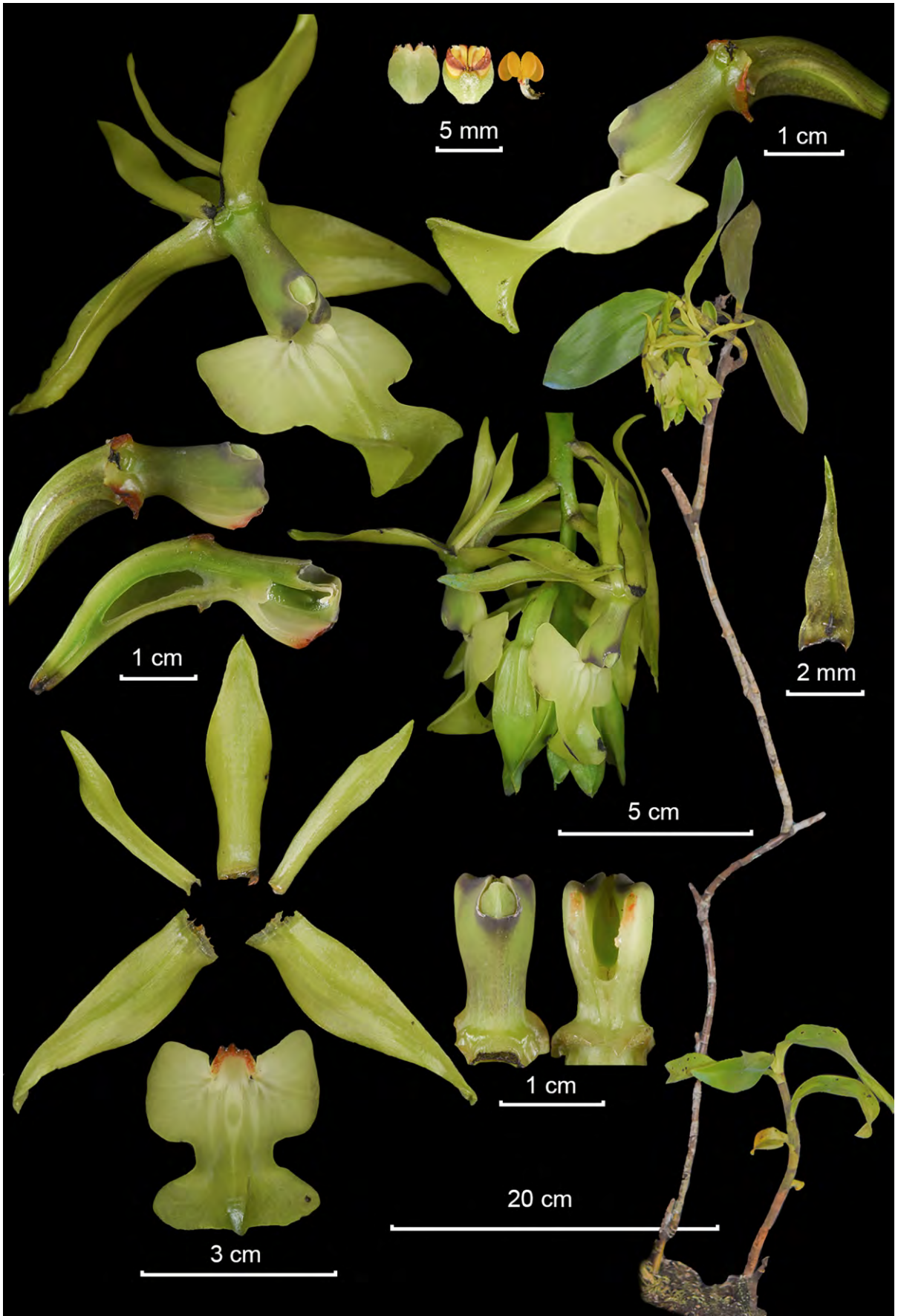
Photo: D. E. Cadena B.

Editors: E. Hágsater & E. Santiago

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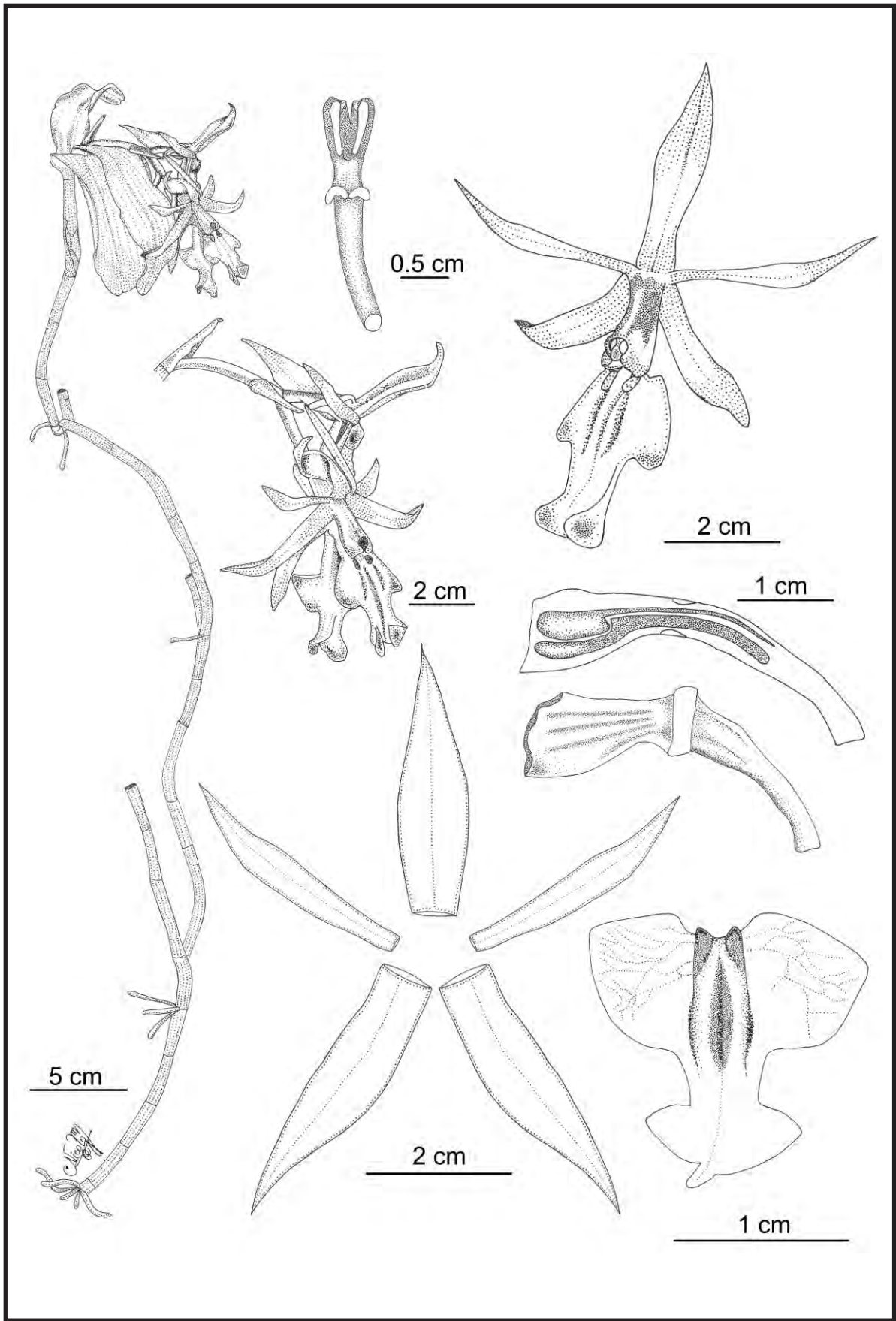
Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 19(3), 2023. Plate 1987



EPIDENDRUM OLORTEGUI Damian, Hágsater & Mítidieri

Plate 1988a



EPIDENDRUM OLORTEGUI Damian, Hágsater & Mitidieri

Plate 1988b

EPIDENDRUM OLORTEGUII Damian, Hágsater & Mitidieri, *Phytotaxa* 552(1): 100 (2022).

Type: PERU: Dept. Amazonas: Prov. Bongará: Distr. Yamborasbamba: Centro Poblado El Progreso, 2200–2300 m, November 2020, *Sergio Olortegui Chamoli & Landy Alexander Damián Parizaca 5050*. Holotype: USM! (LCDP and illustration voucher). Isotype: UFV!

Terrestrial, sympodial, scandent, erect herb up to 120 cm tall, new stems produced from middle of previous stem. **Roots** 5–6 mm in diameter, thick, scarce, from base of primary stems. **Stems** 20–45 × 0.3–0.6 cm, simple, cane like, terete, new stem produced from sub-apical internode of previous stem, lower part covered by 3–5 tubular, imbricated, chartaceous, gray, non-foliar sheaths. **Leaves** 2–4 aggregate towards apical half of stem, distichous, articulate, spreading, base embracing stem; sheaths 2.5–3.5 × 0.3–0.6 cm, tubular, infundibuliform in dry specimens; blade 8.5–14.5 × 2.2–6.0 cm, lanceolate to elliptic-lanceolate in mature specimens, acute, thin, margin entire. **Spathe** lacking. **Inflorescence** 17–20 cm long, apical, racemose, arching nutant, few-flowered; peduncle 7 cm long, laterally compressed, slightly ancipitose, rachis 13–15 cm long, sub-terete. **Floral bracts** 1.0–1.5 × 0.5–0.6 cm, shorter than the ovary, progressively shorter towards the apex of the rachis, ovate, acute, 3-veined, margins microscopically denticulate. **Flowers** 4–10, 2–5 flowers successive, several open at a time, resupinate, green to yellow or rarely ivory white (*León Martínez s.n.*), column darker green or dirty white, tinged purple towards apex, lip, when green, paler towards disc and calli; fragrance not perceived. **Ovary** 4 cm long, slightly arching, terete, furrowed, ventrally thickened in apical third. **Sepals** spreading, fleshy, free, 9-veined, margins entire, spreading; dorsal sepal 30–38 × 9–10 mm, lanceolate to oblong-lanceolate, acute, basal margins revolute, slightly carinate dorsally; lateral sepals 32–40 × 10–13 mm, lanceolate to oblong-lanceolate, oblique, acuminate, with a prominent dorsal keel. **Petals** 27–35 × 5–6 mm, strongly reflexed, parallel to ovary, fleshy, narrowly oblanceolate, acuminate, 3-veined, margins entire, spreading. **Labellum** 22–32 × 28–30 mm, fleshy, trilobed, fused to column, base obliquely cordate; bicallose, calli divergent, elongate, rounded, disc 3-ribbed, lateral ribs in front of calli inconspicuous, low, parallel, with a low, wide mid-rib reaching apex of labellum; lateral lobes 10–15 × 20–24 mm, prominent, convex, transversely sub-rectangular, basal corners narrowly rounded to obtuse, apical corner widely rounded, multi-veined, margins entire, spreading; mid-lobe 8–10 × 20–22 mm, curved in natural position, flabellate with two obliquely triangular lobes, the lobes divergent, obliquely triangular, obtuse, slightly revolute at the apex, margins entire, and a narrow, cuneate isthmus in the basal half, apical half truncate, with a short, thickened, narrowly triangular, reflexed, apiculus at apex. **Column** 15–16 mm long, short, thick, straight, slightly widening apically, constricted near the base. **Clinandrium-hood** very short, margin entire. **Anthor** 7.9 × 6.6 mm ovoid, glandular-papillose, 4-celled. **Pollinia** 4, dark yellow, obovate, laterally compressed, subequal, caudicles granulose, as long as pollinia. **Rostrum** apical, slit; viscarium semi-liquid, transparent. **Cuniculus** deep, penetrating two-thirds the ovary, widened behind perianth, unornamented. **Capsule** not seen.

OTHER SPECIMENS: PERU: Amazonas: Distr. Buenos Aires, centro poblado Santa Rosa, 2079 m, 15 Jul. 2022, *Arista 271*, KUELAP! Prov. Bongara, Distr. Yamborasbamba, Centro Poblado El Progreso, 2300 m, XI 2017, *Olortegui s.n.* USM!

OTHER RECORDS: PERU: Amazonas: Prov. Bongará: Distr. Yamborasbamba: El Progreso, Vivero “Mi Angelito,” colectada en el área de Nicolasa Velásquez, *León Martínez s.n.*, digital image, white form, AMO! (Photo voucher). Camino a la Perla del Imaza, 2108–2139 m, 17 VII 2022, *Hágsater 16418*, digital images, AMO! La Esperanza, Hort. vivero alto, Orquídeas Amazónicas, 16 VII 2022, *Hágsater 16490*, digital images, AMO! (Photo voucher). **San Martín:** Prov. Rioja, Distr. Pardo Miguel, Chisquilla, 2100 m, 22 VI 2019, *Edquén 2092*, digital images, AMO!

DISTRIBUTION AND ECOLOGY: *Epidendrum olorteguii* is presently known from the eastern slopes of the Andes in northern Peru, along the border of Amazonas and San Martín. It is epiphytic in montane forests between 2100–2300 m elevation. Flowering is registered from July through November.

RECOGNITION: *Epidendrum olorteguii* belongs to the *Incomptum* group which is characterized by having erect successive lateral growths produced from the middle of the previous growth, few leaves aggregated towards the apex of the stems, the short apical inflorescence with fleshy green to violet-green flowers with short ovaries, and the lip entire to 3-lobed. *Epidendrum olorteguii* is recognized by its large habit, the large leaves, 8.5–14.5 × 2.2–6.0 cm, the large green to yellow or rarely ivory white flowers, the column darker green or dirty white, tinged purple towards the apex, the lip cream suffused with light green at the mid-lobe, the lanceolate to oblong-lanceolate sepals 38–40 mm long, the petals narrowly elliptic, and the lip 22–32 × 28–30 mm, 3-lobed, the lateral lobes 7–10 × 12–14 mm, prominent, transversely sub-rectangular, the basal corners narrowly rounded, the apical corners widely rounded and the mid-lobe 15 × 16 mm, constricted at base, then transversely elliptic, the sides involute, apex with a short, thickened, narrowly triangular, reflexed apiculus. It is somewhat similar to *Epidendrum tamaense* Foldats, found from Ecuador to Venezuela, which has smaller plants, the leaves 3–14 × 2.0–4.3 cm, green to olive-green flowers, a lip marked with purple veins, the sepals 1.5–2.1 cm long, the petals narrowly obtrullate, obtuse to acute, and the 3-lobed lip has lateral lobes sub-orbicular, the mid-lobe obcuneate, deeply emarginate, with two sub-orbicular lobes. *Epidendrum ornis* Hágsater, Edquén, E. Santiago & E. Mondragón is somewhat reminiscent, but the flowers are ochre-yellow, smaller, the sepals 13–15 mm long, the petals linear-ob lanceolate, the lateral lobes of the lip are obliquely dolabriform, and the mid-lobe is rectangular-oblong with the apex expanded, bilobed and emarginate, thus forming small, rounded lobes. *Epidendrum incomptum* Rchb.f., ranging from Chiapas, Mexico to Panama, differs by its smaller flowers, sepals 12–17 mm long, and the lip being trilobed, slightly convex, base cordate, ecallose, with one low, thin, smooth mid-rib running to the apex of the lip, the lateral lobes divaricate, obliquely ovate, rounded, with the forward edge usually straight, and the mid-lobe entire, sub-quadrate, truncate, minutely apiculate.

ETYMOLOGY: In honor of Sergio Olortegui Chamoli (1994–) an enthusiastic orchid grower in the city of Moyobamba, San Martín and collector of the specimen that served as a holotype.

CONSERVATION STATUS: Data deficient. DD. Known presently from two localities 50 km apart, on the northern border of the Departments of Amazonas and San Martín. The known population of *E. olorteguii* and its habitat is protected by the community of Venceremos (Yamborasbamba, Amazonas), due to its ecosystem service of providing water to the adjacent communities of Oso Perdido and El Progreso. Both are located within the Bosque Protector Alto Mayo. However, the area is under constant pressure by locals who seek new areas for logging and farming.

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Authors: A. Damian, E. Hágsater & N. Mitidieri

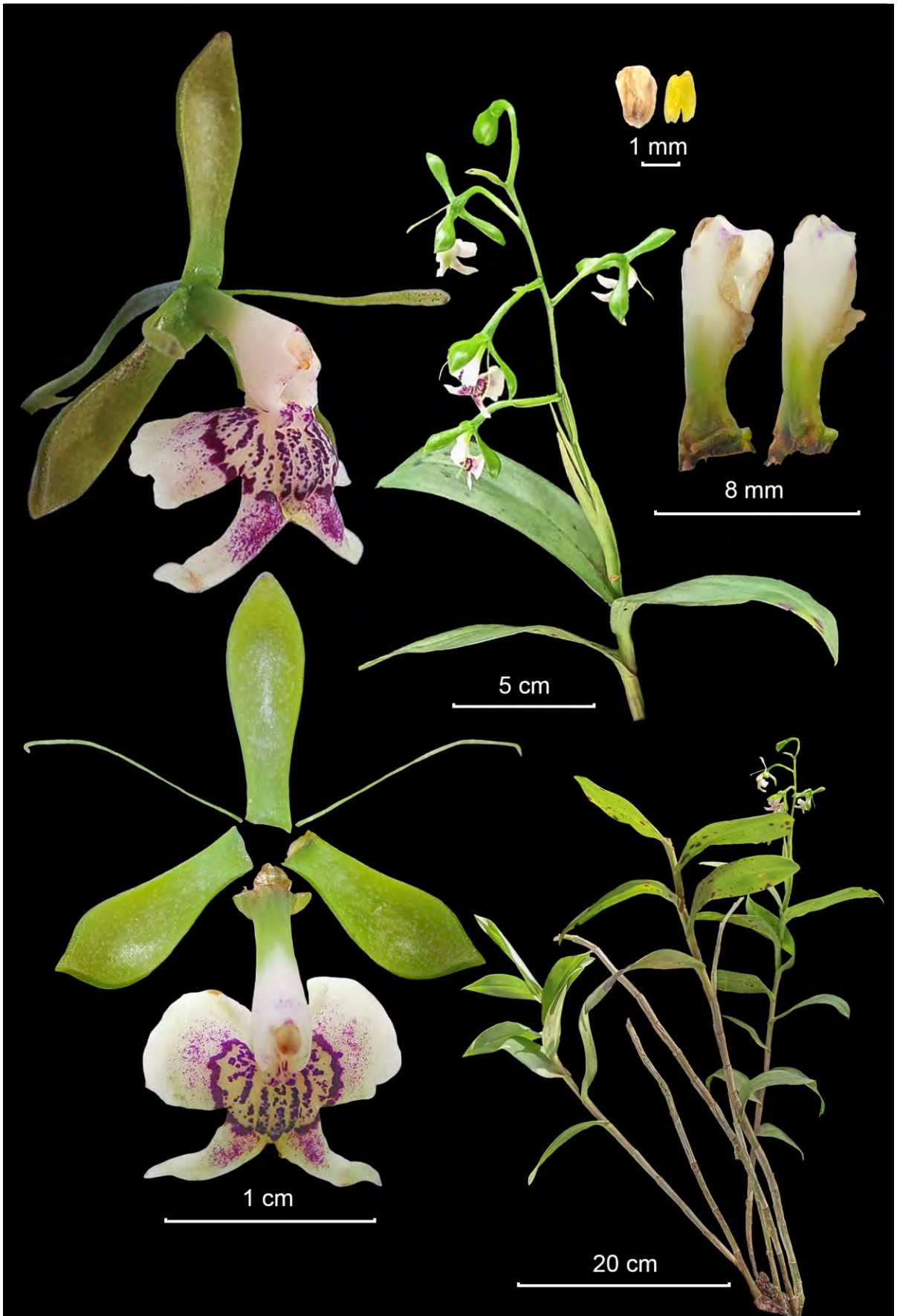
LCDP: A. Damian

Illustrator: N. Mitidieri

Photos: M. León M. (left) & E. Hágsater (right)

Editors: E. Hágsater & E. Santiago

Empty



EPIDENDRUM PACHOLGUITARUM Ordóñez-Blanco, E.Santiago & Hágsater

Plate 1989

EPIDENDRUM PACHOLGUITARUM Ordóñez-Blanco, E.Santiago *et* Hágsater, *sp. nov.*

Type: COLOMBIA: Cundinamarca: Cordillera Oriental, flanco oriental, colectado entre 2017 y 2018, hort. Jardín Botánico de Bogotá, 2400 m, prensado 15 mayo 2022, **Juan Camilo Ordóñez-Blanco 3430**. Holotype: JBB 37224! (LCDP and photo voucher).

Similar to *Epidendrum ortizii* Hágsater & E.Santiago, in both the general coloring of the flowers and the size of the flowers, but they differ the shape of the lip and number of ribs on the lip, without considering the size of the plants and number of flowers which could be due to cultural conditions. This species has the lateral lobes of the lip 5×6 mm, dolabriform, margin sub-entire (vs. lateral lobes $3.5\text{--}3.7 \times 3.3\text{--}3.6$ mm, triangular ovate, oblique, margin sub-crenate), and the disc of the lip with 5 fleshy, parallel ribs extending nearly to apical sinus with multiple shorter thickened radiating veins (vs. disc of the lip 3-ribs, the ribs thin, acute, reaching the apical sinus of the lip), and the petals very narrow, filiform, 11.7×0.15 mm (vs. petals wider, 9×0.6 mm).

Lithophytic, sympodial, caespitose, erect **herb**, ca. 45 cm tall. **Roots** ca. 3 mm in diameter, basal, thin. **Stems** $25\text{--}30 \times 0.4\text{--}0.5$ cm, simple, cane-like, terete, erect, straight; at base covered by non-foliar, minutely striated, tubular sheaths $3.5\text{--}5.0$ cm long. **Leaves** 10, distributed throughout stem, alternate, spreading, sub-coriaceous, basal smaller than apical; sheath $2.2\text{--}2.5 \times 0.4\text{--}0.5$ cm, tubular, minutely striated, green; blade $6\text{--}9.5 \times 1.5\text{--}2.3$ cm, elliptic, obtuse, margin entire, spreading. **Spathes** lacking. **Inflorescence** 14 cm long, apical, racemose, flowering only once, erect, few-flowered, lax; peduncle 7.5 cm long, straight, thin, provided with 5 narrowly lanceolate, acuminate, amplexicaul bracts, each bract $2.5\text{--}4.5$ cm long; rachis 6.5 cm long, thin, erect, straight. **Floral bracts** $6\text{--}9$ mm long, shorter than ovary, narrowly triangular, acuminate, amplexicaul. **Flowers** 6, simultaneous, resupinate, green, apical half of column and lip white, lip with reddish purple dotted lines on ribs and thickened veins; disc with a ring purple, fragrance not recorded. **Ovary** 23 mm long including pedicel, terete, thin, not inflated, arching at apical 1/3. **Sepals** $10.0\text{--}10.5 \times 3.7\text{--}4.2$ mm, spreading, free, oblanceolate-spatulate, obtuse, slightly concave towards apex, margin entire, spreading. **Petals** 11.7×0.15 mm, reflexed, free, filiform, apex rounded, oblique, margin entire. **Lip** 9.5×11.7 mm, united to column, convex, 3-lobed, base cordate, margin entire; bicallose, calli laterally flattened; disc with 5 fleshy, parallel ribs extending nearly to apical sinus with multiple shorter thickened radiating veins; lateral lobes 5×6 mm, dolabriform, margin sub-entire; mid-lobe 3.5×11.7 mm, widely emarginate, forming a pair of narrowly triangular, oblique, acute and divaricate lobes, each lobe 6×2.1 mm (at base). **Column** 9 mm long, straight, thin along basal 2/3 and gradually widening towards apex. **Clinandrium-hood** reduced, margin entire. **Anthor** ovoid, 4-celled. **Pollinia** 4, bird-wing type; caudicles laminar, somewhat shorter than pollinia. **Rostellum** apical, slit; viscarium semi-liquid. **Lateral lobes of stigma**, **Cuniculus** and **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known presently only from Colombia, Cundinamarca, Cordillera Oriental; exact locality unknown. Lithophytic, growing at 2400 m elevation, cultivated in Bogotá. Flowering in May.

RECOGNITION: *Epidendrum pacholguitarum* belongs to the Pseudepidendrum Group which is characterized by the caespitose plants, the cane-like stems, the acute to acuminate leaves, the usually apical inflorescence, the mostly filiform petals, the lip usually 3-lobed (with 3–5 parallel fleshy ribs), the apical lobe often bifurcate, and the “bird-wing” type pollinia, at least the inner pair, and Paniculatum Subgroup, which has filiform petals, all pollinia “bird-wing” type, green and white flowers often marked with purple on the disc of the lip and apex of the column. The new species is recognized by the short, racemose inflorescence, the leaves $6\text{--}9.5 \times 1.5\text{--}2.3$ cm, elliptic, the flowers green, the lip white with reddish purple dotted lines on the ribs and a purple ring around disc, the disc with 5 fleshy, parallel ribs extending nearly to apical sinus with multiple shorter thickened radiating veins, the sepals $10\text{--}10.5$ mm long, the lateral lobes of the lip dolabriform and mid-lobe forming a pair of divergent, narrowly triangular lobes. *Epidendrum ortizii* Hágsater & E.Santiago has plants to 100 cm tall with a paniculate inflorescence, the sepals 10 mm long, reflexed with the apex acute, and the disc of the lip has 3 ribs and multiple purple spots, the lateral lobes of the lip are 5×6 mm, dolabriform, margin sub-entire, and the petals very narrow, filiform, 11.7×0.15 mm. *Epidendrum weerakittianum* Hágsater, O.Pérez & E.Santiago has a similar lip, also white with purple dots, but not forming a ring around the disc, and the flowers larger, sepals 15 mm long, and grows on the Cordillera Occidental in western Colombia. *Epidendrum aguirrei* has a paniculate inflorescence, the leaves $6.5\text{--}10 \times 0.7\text{--}1.8$ cm, lanceolate, the disc of the lip with a solid purple spot, and the sepals $5\text{--}6$ mm long.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: Named in honor of Francisco Ordóñez who was nicknamed “Pacho” or “Pachito” (1936–2017) and Olga Pachón who was nicknamed “Olguita” (1942-), the first author’s grandparents. Thus the specific epithet is the combination of both nicknames.

REFERENCES: Hágsater, E. (1999) *Epidendrum aguirrei*. In Hágsater, E., Sánchez S., L. & García-Cruz, J. (Eds.), The Genus *Epidendrum*, Part 2, **Icon. Orchid.** 3: t. 302. Hágsater, E. & Santiago, E. (2013) *Epidendrum ortizii*. In Hágsater, E. & Santiago, E. (Eds.), The Genus *Epidendrum*, Part 10, **Icon. Orchid.** 14: t. 1464. Hágsater, E. & Sánchez S., L. (2013) *Epidendrum weerakittianum*. In Hágsater, E. & Sánchez S., L. (Eds.), The Genus *Epidendrum*, Part 10, **Icon. Orchid.** 14: t. 1495.



Authors: J. C. Ordóñez-Blanco, E. Santiago & E. Hágsater

LCDP: J. C. Ordóñez-Blanco & A. Cisneros

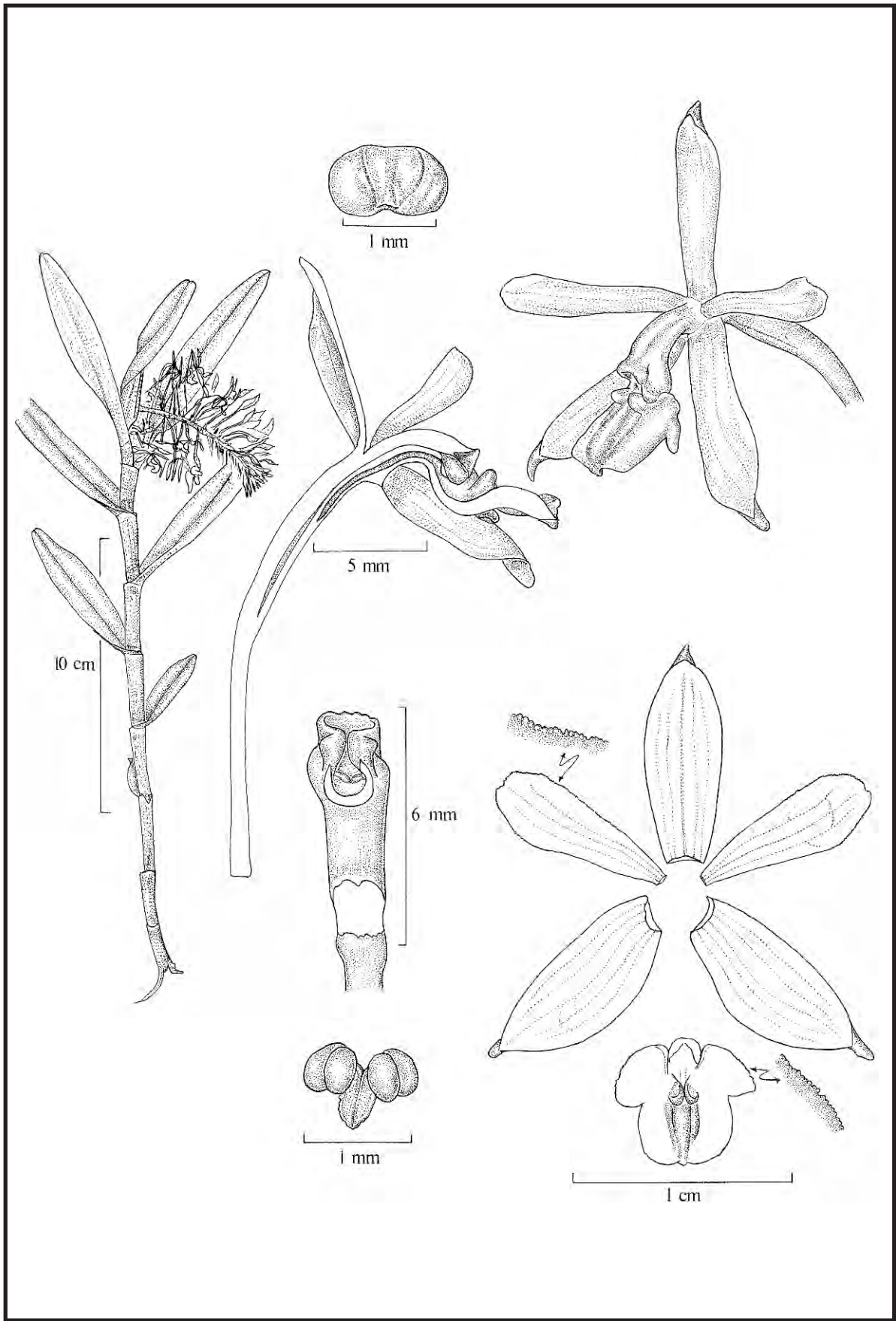
Photo: J. C. Ordóñez-Blanco

Editors: E. Hágsater & E. Santiago



EPIDENDRUM PSEUDOCERNUUM Carnevali & I.Ramírez

Plate 1990a



EPIDENDRUM PSEUDOCERNUUM Carnevali & I.Ramírez

Plate 1990b

EPIDENDRUM PSEUDOCERNUUM Carnevali & I. Ramírez, Harvard Papers 3(2): 241 (1998).

Type: VENEZUELA: Trujillo: near Boconó, Páramo de Guaramacal, 2600–3000 m, 22 November 1984, *Henk van der Werff & F. Ortega 6076*.
Holotype PORT, Isotypes: MO, VEN.

Terrestrial, monopodial, branching above, erect **herb**, 75–100 cm tall. **Roots** basal from primary stem, and occasionally scarce at base of some branches, thin. **Stems** cane-like, terete, erect, straight, branching sub-apically, main stem 40–65 × 0.8–1.3 cm long; branches 4.5–10 × 0.5–0.8 cm; basal portions covered by tubular sheaths, 3.5 cm long, non-foliar, scarious, becoming fibrous with time. **Leaves** 15–20 on main stem, 5–9 on branches, distributed along apical half of stems, basal ones shorter, alternate, articulate, sub-coriaceous; sheath 8–30 mm long, tubular at base, striated, rugose; blade 3–10 × 1.0–1.8 cm, oblong, obtuse, margin spreading, slightly erose towards apex. **Spathes** lacking. **Inflorescence** 4–8 cm long, apical, racemose, flowering only once, arching, many-flowered, conical; peduncle 1–2 cm long, short, terete, thin; rachis 2–6 cm long **Floral bracts** 2–3 mm long, much shorter than ovary, narrowly triangular, acuminate. **Flowers** 13–60, resupinate, simultaneous (though when many-flowered they open in succession), greenish yellow to greenish cream-colored. **Ovary** 12–25 mm long, terete, very thin, not inflated, smooth, green. **Sepals** 8–13 × 3.5–5 mm, spreading, free, fleshy, elliptic-obovate, rounded, prominently awned, 5-veined, smooth, margin entire, revolute; lateral sepals slightly oblique. **Petals** 7–11 × 1.5–3 mm, spreading, free, oblanceolate, rounded, 3-veined, smooth, margin crenulate, revolute. **Lip** 4.5–6.5 × 5–8.5 mm, united to column, 3-lobed, base cordate; bicallose, calli prominent, elongate to base of mid-lobe; disc 3-keeled, keels smooth, low, rounded, lateral pair slightly shorter than mid-rib which reaches apex of lip; lateral lobes 1.6–2.1 × 1.6–3.5 mm, dolabriliform to transversely sub-ovate, margin sub-entire; mid-lobe 2.8–3 × 3.4–4 mm, variable, from sub-quadrate, apex truncate, minutely apiculate, margin entire. **Column** 5–7 mm long, arched, thin at base, dilated at apex. **Clinandrium-hood** prominent, margin crenulate. **Anthor** reniform, 4-celled. **Pollinia** 4, obovoid; caudicles soft and granulose, shorter than the pollinia. **Rostellum** apical, slit; viscarium semi-liquid. **Cuniculus** shallow, penetrating 1/6th of ovary, thin, not inflated, smooth. **Capsule** globose; body 2.5 × 2 cm, peduncle 14 mm long, terete, thin; apical neck 9 mm long.

OTHER SPECIMENS: VENEZUELA: Barinas: trail from Carrizal, Parque Nacional Sierra Nevada, 28 VII 1988, *Dorr 5754*, NY! **Mérida:** Qda. de La Mitisus, Parque Nacional Sierra Nevada, 3000 m, 19 VI 1988, *Dorr 5616*, NY! MO! carretera San Francisco-Guaraque, Distr. Rivas Dávila, 2300 m, 10 V 1976, *Marcano 1745*, VEN! La Travesía, 3400 m, 8 IV 1949, *Renz 5191*, RENZ! MO! Páramo El Tambor, 2700 m, 27 IV 1949, *Renz 5291*, RENZ! **Táchira:** carretera La Grita-Fregonero-Bailadores, 2700 m, 16 III 1984, *Bono 3706*, VEN! *Ibid.* 2800 m, 16 III 1984, *Bono 3708*, VEN! Páramo de La Laja, Distr. Capacho, oeste de San Cristóbal, 1600 m, 28 VII 1984, *Bono 4211*, VEN! Zwischen Zumbador und Queninquea, 2500 m, 25 VIII 1949, *Renz 5936*, RENZ! Páramo El Zumbador, 2800 m, 23 XI 1949, *Renz 6217*, RENZ! Parque Nacional Los Páramos Batallón-La Negra. Via Páramo El Rosal-San José de Bolívar, Mun. Francisco de Miranda; a partir de La Grita, 2810 m, 20 IX 1998, *Stergios 18094*, VEN! Mun. Francisco Miranda. Vertiente al lado del camino. Bosque paramero. Carretera loma Cortada de Sumusica-San José de Bolívar, 2800 m, 22 IX 1998, *Stergios 18251*, VEN! **Trujillo:** Parque Nacional Guaramacal, road from Boconá to Guaramacal, SE of Boconó, S slope of mountain, 4 XI 1998, *Dorr 8494*, CICY! VEN! entre Carache y Agua de Obispo, 20 km de Carache, 2300–2500 m, 10 V 1998, *Rivero 1725*, MO! PORT. VEN! Strasse Trujillo-Boconó, Regenwald, 2000–2500 m, 15 VIII 1947, *Renz 4262*, RENZ! Strasse Trujillo-Boconó, Regenwald, 2000–2500 m, 15 VIII 1947, *Renz 4269*, RENZ! Strasse Trujillo-Boconó, 2200 m, 13 IX 1947, *Renz 4475*, RENZ! Carache-Humucaro Bajo, Passhohe, 2300 m, 8 II 1948, *Renz 4592*, RENZ! Zwischen Carache und Humucaro Bajo, Passhohe, 2200 m, 8 II 1948, *Renz 4630*, RENZ! Zwischen Trujillo und Boconó km 48, moosinge, kalkfne Felson, 2600 m, 5 III 1948, *Renz 4656*, RENZ! Zwischen Trujillo und Boconó, 2700 m, 12 XI 1943, *Renz 5027*, RENZ! Zwischen Trujillo und Boconó, Umgebung der Passhohe km 50, 2300 m, 24 II 1950, *Renz 6264*, RENZ! Páramo Los Nepas, Carache-Humucaro Bajo, 2300 m, 16 X 1958, *Renz 9178*, RENZ! Via Páramo Las Palmas, 2300 m, 21 V 1987, *Rivero 1218*, VEN! Carretera vieja entre Trujillo y Boconó, 2300–2500 m, *Steyermark 97282*, AMES! K! US! VEN! entre La Peña y Agua de Obispo, 22–28 km de Carache, 2400–2500 m, 1 III 1971, *Steyermark 105008*, NY! VEN! Staz. II, Tra Boconó ed il Páramo di Guaramacal, 2000–2650 m, *Taglia 9592*, FI! Misi, La Cristalina, 2400 m, 28 VIII 1941, *Tamayo 1933*, US! (Illustration voucher.)

OTHER RECORDS: VENEZUELA: Mérida: Páramo La Negra, 3300 m, *Dunsterville 700*, published note in Flora de Venezuela, 15(3) (illustration published in Orchids of Venezuela, an Illustrated Field Guide) Mun. Andrés Bello, San Eusebio, 2300 m, *M. Jerez s.n.*, digital photos, AMO! (LCDP and photo voucher). **Táchira:** Carretera hacia Pregonero, *Dunsterville s.n.*, note published in Foldats 1970). Pregonero, *Gerlach s.n.*, slide, AMO! **Trujillo:** at side of Boconó-Trujillo old road, 8000 ft, *Dunsterville 798*, xerox of illustration, AMES! Boconó-Guaramacal road, 1800 m, *Dunsterville 1302*, note and xerox of illustration, AMES!

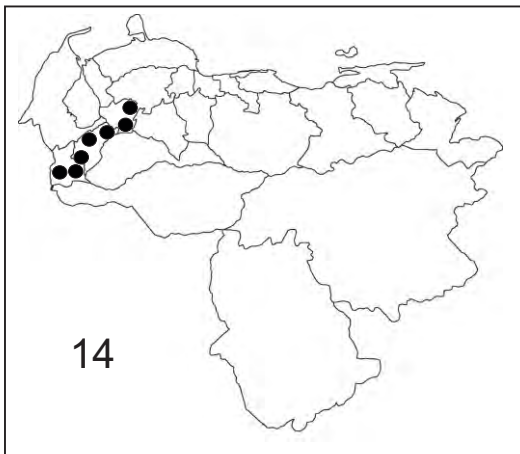
DISTRIBUTION AND ECOLOGY: Known only from the SW portion of the Cordillera de los Andes in Venezuela, terrestrial at 1800–3400 m altitude. Flowering from February to October.

RECOGNITION: *Epidendrum pseudocernuum* belongs to the Andean Group, Cernuum Subgroup, characterized by the monopodial, cane-like stems with sub-apical branching, the branches shorter than the main stem, coriaceous to sub-coriaceous leaves, the fleshy flowers, and the 3-lobed lip. The species is recognized by the oblong and obtuse leaves, the inflorescence ca. 4–8 cm long, conical; greenish yellow to greenish cream-colored flowers, the sepals 8–13 × 3.5–5 mm elliptic-obovate with revolute margins, and the lip with the lateral lobes shorter than the mid-lobe. *Epidendrum cernuum* Kunth has a cylindrical inflorescence, ca. 8–10 cm long, the flowers greenish yellow to yellowish brown, the sepals 10–13 mm long, oblong-elliptic, and the lip with the lateral lobes much shorter than the mid-lobe. *Epidendrum brevicernuum* Hágsater & Dodson has elliptic to lanceolate leaves, the greenish white to green, the lateral lobes of the lip as large as the mid-lobe, and the apex of the mid-lobe emarginate, not apiculate.

CONSERVATION STATUS: DD. Data deficient. The species has a limited range on the southern flanks of the Cordillera de los Andes in Venezuela from the Parque Nacional Guaramacal in Portuguesa, to the Páramo El Zumbador in Táchira, a range of some 250 km, where it appears to be rather common.

ETIMOLOGY: From the Greek *pseudo*, false, like, and the Latin *cernuus*, drooping, in reference to the pendent scape of the inflorescence. The species when described was compared with *E. cernuum*.

REFERENCES: Dunsterville, G.C.K. & Garay, L.A. (1965) *Epidendrum cernuum* Kunth, **Venezuelan Orchids Illustrated**, 3: 90. Foldats, E. (1970) *Epidendrum cernuum*. In **Flora de Venezuela**, 15(3): 190–192. Hágsater, E. & Dodson, C.H. (2001) *Epidendrum brevicernuum*. In Hágsater, E. & Sanchez S., L. (Eds.) **The Genus Epidendrum**, Part 13, **Icon. Orchid.** 17(1): t. 1708. Santiago, E. & Hágsater, E. (2009) *Epidendrum cernuum*. In Hágsater, E. & Santiago, E. (Eds.) **The Genus Epidendrum**, Part 8, **Icon. Orchid.** 12: t. 1218. Santiago, E. & Hágsater, E. (2009) *Epidendrum pseudocernuum*. In Hágsater, E. & Santiago, E. (Eds.) **The Genus Epidendrum**, Part 8, **Icon. Orchid.** 12: t. 1278.



Empty



EPIDENDRUM RHOMBOSCUTELLUM Hągsater & E.Santiago

EPIDENDRUM RHOMBOSCUTELLUM Hágsater & E.Santiago, Icon. Orchid. 14: t. 1481 (2013).

Type: PERU: Amazonas: Prov. de Chachapoyas, upper slopes of Puma-Urcu east-southeast of Chachapoyas, 2700–3000 m, 1 VI 1962, **John Julius Wurdack 688**. Holotype: USM! Isotypes: AMES! NY! (illustration, AMO!) UC! US!

Epiphytic, sympodial, sub-caespitose, erect herb, 90–150 cm tall. **Roots** ca. 20 cm long, 1.0–1.5 mm in diameter, produced from basal internodes of lower half of each stem, scarce, fleshy, thin, white. **Stems** 15–40 × 0.15–0.35 cm, produced from a middle internode of previous stem, simple, canelike, terete; base covered by 1–2 sheaths 13–16 mm long, tubular, non-foliar, slightly inflated so as to appear infundibuliform, non-foliar. **Leaves** 6–7, distributed throughout stem, alternate, articulate, unequal in size (basal and apical leaves generally smaller), fleshy-coriaceous, spreading to reclining; foliar sheaths 7–22 × 3–6 mm, tubular (sometimes slightly inflated so as to appear infundibuliform), blade 2–6 × 0.6–1.2 cm, narrowly lanceolate, acuminate, apical margin minutely papillose. **Spathe** 1, 1.7–3.5 × 0.8–1.3 cm (not spread), ovate to rhomboidal, acute, conduplicate, oblique, margin entire. **Inflorescence** 6.0–6.5 cm long (including flowers), apical, erect, 1–2 flowered; peduncle 6 mm long, thin, laterally compressed, erect, straight, totally hidden by spathe; rachis 4 mm long, laterally compressed, also hidden within spathe. **Floral bracts** 4 mm long, much shorter than ovary, triangular, acuminate, amplexicaul, hidden within spathe. **Flowers** 2, simultaneous, resupinate, sepals pale greenish yellow to copper colored, petals and lip greenish yellow at base, tinged red brown towards apex; fragrance not registered. **Ovary** 26 mm long, terete, thick, slightly inflated towards apex, ornamented by longitudinal winged ribs, furrowed. **Sepals** 27–30 × 5.7–9 mm, partly spreading, free, acute, margin entire, spreading to recurved; dorsal sepal elliptic-lanceolate, 5-veined; lateral sepals lanceolate, 6-veined. **Petals** 22–29 × 0.4–0.5 mm, partly spreading, free, narrowly oblanceolate-elliptic, acute, 3-veined, lateral veins short-branched throughout, margin entire, spreading. **Lip** 22–32 × 13–23 mm, united to column, entire, base cuneate, obovate-rhombic, acute, margin entire, spreading; bicallose, calli small, sub-globose (ovoid), parallel; disc provided with a short mid-rib. **Column** 8–11.5 mm long, short, thickened towards apex, straight, wide, apex with a pair of quadrate, fleshy wings at sides which are united with clinandrium-hood, margin irregularly undulate. **Clinandrium-hood** prominent (though not surpassing body of column), margin fleshy, irregularly undulate. **Anther** reniform to sub-spherical, 4-celled. **Pollinia** 4, obovoid, laterally compressed, caudicles granulose. **Rostellum** sub-apical, slit; viscarium semi-liquid. **Lateral lobes of stigma** long, about half length of stigmatic cavity. **Cuniculus** short, wide, penetrating about 1/5 of pedicellate ovary, unornamented. **Capsule** not seen.

OTHER SPECIMENS: COLOMBIA: Cauca: Paletará, 4 II 1884, *Lehmann 3530*, G! Páramo del Buey, *Lehmann 8336*, K-L! **Nariño:** Corregimiento de La Cruz. Corregimiento Alto Mayo, Vereda Quebrada, 2885 m, 11 VII 1999, *Díaz 320*, CAUP! **PERU: Amazonas:** Cerros Calla Calla, 15 km above Leimebamba on the road to Balsas, 2950 m, 27 III 1964, *Hutchison 4664*, AMES! UC! **USM!** Prov. Luya, Ipaña-Las Palmas, 3055 m, 28 IV 2010, *Trujillo 440*, MOL! Prov. De Chachapoyas, Mangalpa, 3 XII 1877, *Vidal-Sénège 4877*, P! (Illustration, AMO! Hágsater & Santiago 2013: t. 1481.) **Cusco:** Urubamba, Machu Picchu, Wiñay Wayna, 3100 m, *Nauray 002*, CUZ! *Ibid. Nauray 392*, CUZ!

OTHER RECORDS: COLOMBIA: Putumayo: Without locality data, 2007, *Ortiz & Uribe s.n.*, digital image, AMO! **PERU:** Without locality, received 22 IV 2016, *Damián s.n.*, digital image, AMO! **Amazonas:** Bongará, Granada, Bosque de Protección Alto Mayo, Comunidad Diosán, Granada, cultivada por Darío Labajos Canlla, 3100 m, 17 III 2019, *Hágsater 16094*, digital image, AMO! (Photo voucher) Leimebamba, *Trujillo 440*, digital image, AMO! **Cajamarca:** Without locality, received 16 III 2021, *Díaz s.n.*, digital image, AMO! **Huánuco:** Chinchao; San Pedro Carpish, 2710 m, 2003, *Collantes E 960*, digital image, AMO! Carpish camino a Moyobamba, 25 XII 2002, *Trujillo 80*, illustration and digital image, AMO! **Lima:** Without locality, received 7 XI 2021, *Díaz s.n.*, digital image, AMO! **San Martín:** Rioja, Pardo Miguel, Venceremos, 1959 m, *Edquén 549*, digital image, AMO! (LCDP voucher) Moyobamba, 21 VI 2011, *Morón s.n.*, digital image, AMO!

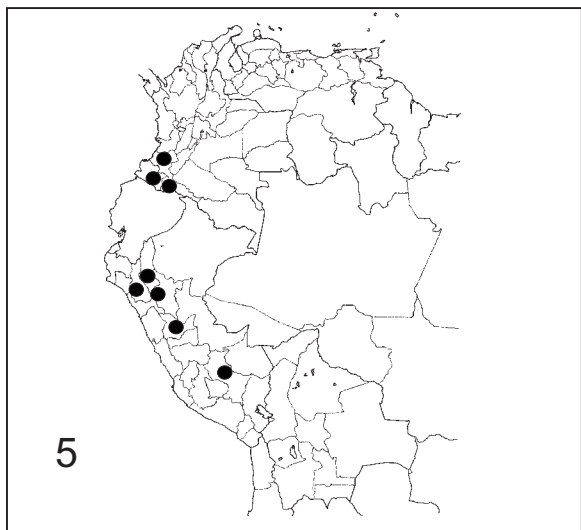
DISTRIBUTION AND ECOLOGY: Known from Colombia and Peru, from the upper reaches of the Amazon slope of the Cordillera Oriental of the Andes from the provinces of Amazonas, Cajamarca, Huánuco, Cusco and San Martín, and Meta, Cauca, Putumayo and Nariño in Colombia and Peru; at 2700–3100 m elevation, epiphytic in cloud forest, and possibly on rock amongst mosses. Expected in Ecuador. Flowering from December to June.

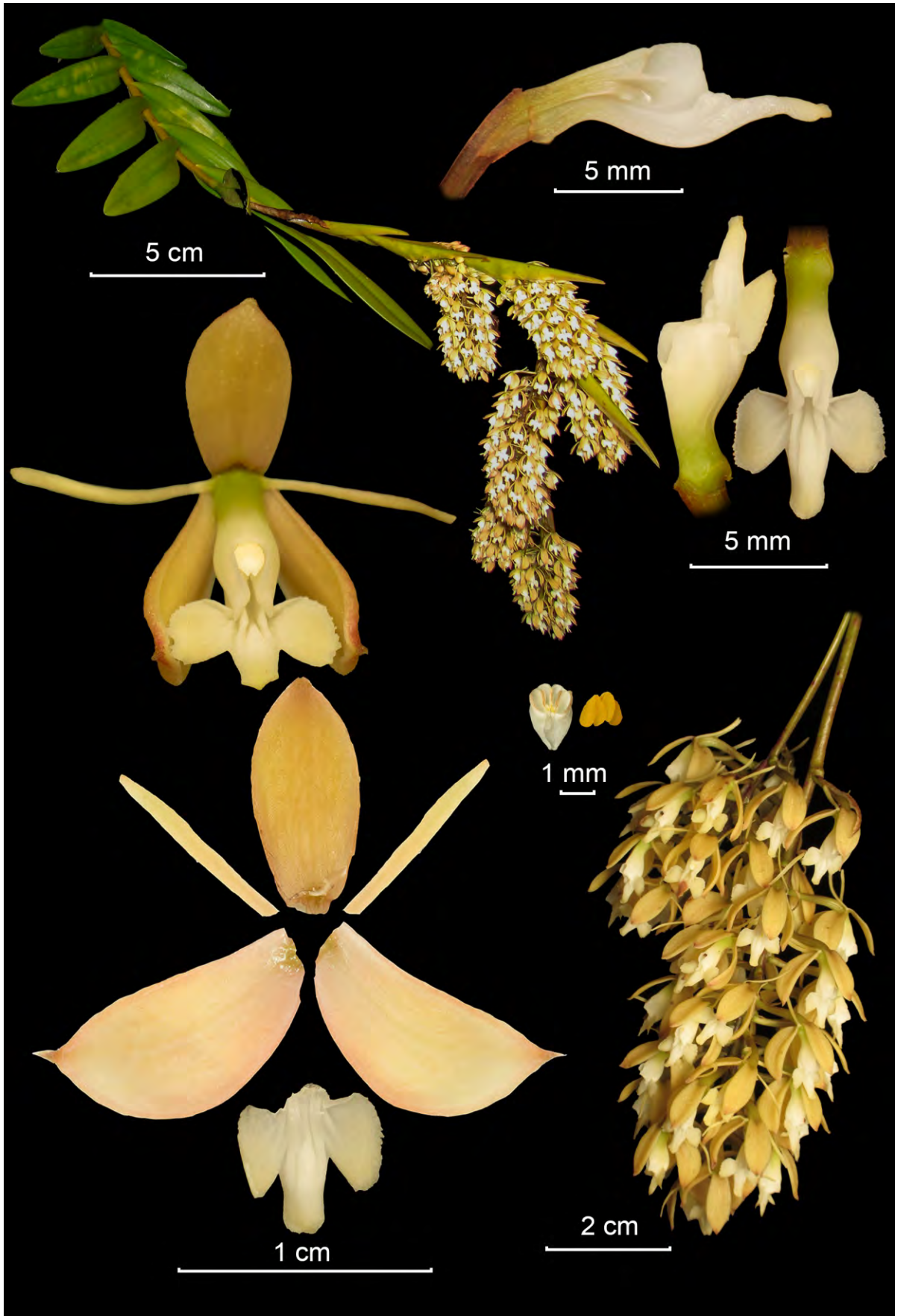
RECOGNITION: *Epidendrum rhomboscutellum* belongs to Megalospatham Group characterized by the caespitose but branching habit, many-leaved stem, fleshy, oblique leaves, a short, few flowered, raceme subtended by large semi-ovate spathaceous bracts, resupinate flowers, the column more or less united to the lip. The species is recognized by the scandent plant habit, relatively narrow, reclinate leaves (2–6 × 0.6–1.2 cm), the inflorescence with 2, greenish yellow flowers, the apex of the petals tinged reddish brown, the petals narrowly oblanceolate-elliptic, acute, the lip ovate-rhombic, its base cuneate, and apex acute, bicallose, with a short mid-rib. *Epidendrum scutella* Lindl. has a caespitose habit, ovate-lanceolate leaves (4.7–12 × 1.2–2.5 cm), 5-flowered inflorescence, flowers lime green or yellowish green, petals ovate-lanceolate, apex acute, lip widely orbicular to orbicular elliptic, the base cordate, and has a pair small calli ending in 2–3 very short, low ribs, with a longer mid-rib. *Epidendrum lagotis* Rchb.f. has narrowly elliptic leaves which are shorter and wider (2.5–3.5 × 1.0–1.5 cm), oblanceolate petals with the apex rounded, and the lip is orbicular and apically rounded. *Epidendrum platyoon* Schltr. has oblong-ligulate leaves, obtuse-bilobate, the petals lanceolate, slightly oblique, the lip widely ovate, obtuse, base cordate, bicallose, calli small, disc with a low mid-rib, the column with the clinandrium-hood funnel shaped, the apex upright.

CONSERVATION STATUS: LC. Least Concern. Widespread and frequent.

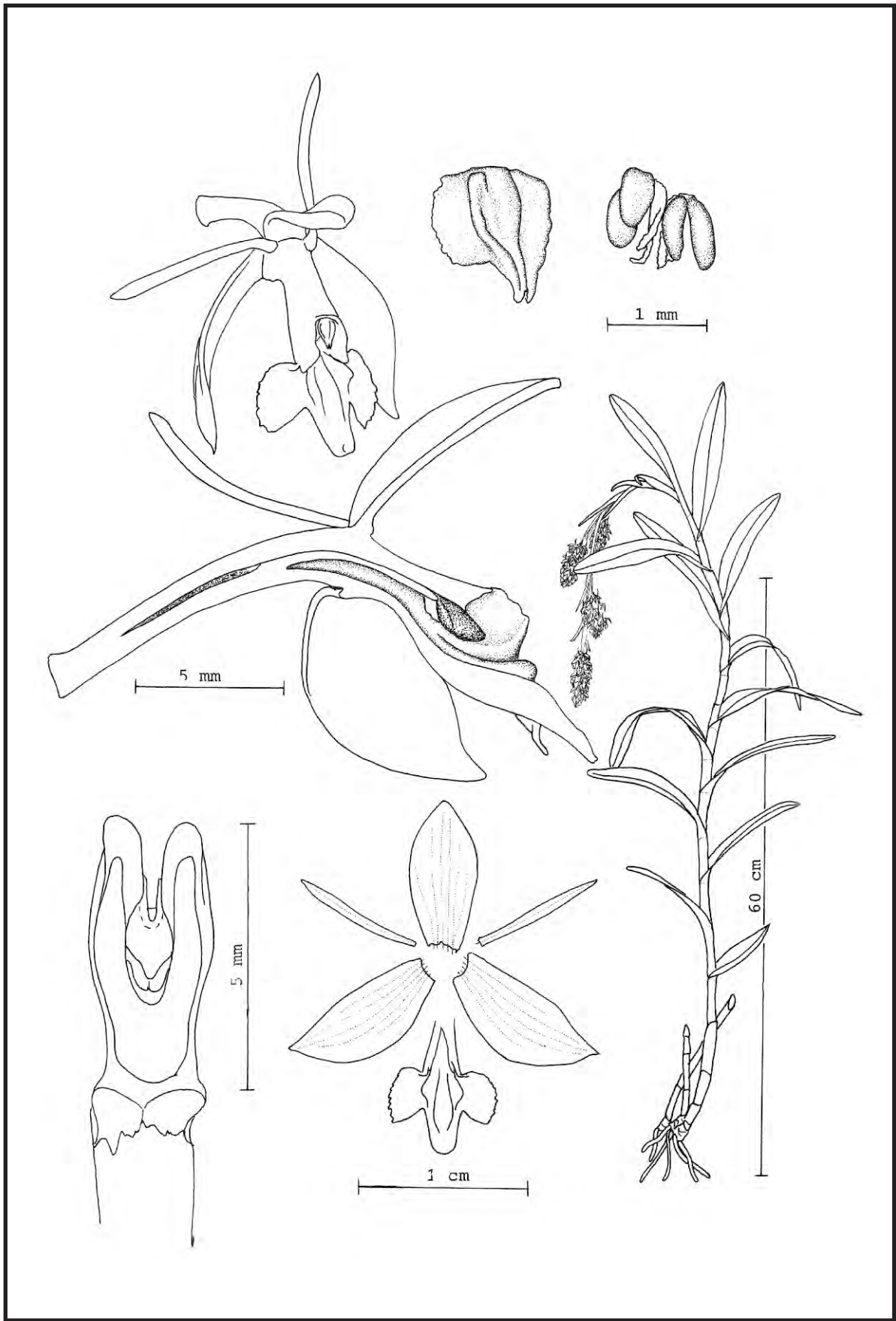
ETYMOLOGY: From the Latin *scutella*, a small dish or shield, and rhomboid, in reference to the similarity of this species to *Epidendrum scutella*, but with a rhomboid lip.

REFERENCES: Bennett Jr., D.E. & Christenson, E.A. (2001) *Epidendrum platyoon*. **Icon. Orchid. Peruvianum** t. 646. Hágsater, E. & Santiago, E. (2013) *Epidendrum rhomboscutellum*. In Hágsater, E. & Sánchez S., L. (Eds.) The Genus *Epidendrum*, Part 10, **Icon. Orchid.** 14: t. 1481. Ortiz V.P. & Uribe V.C. (2007) **Gallery of Colombian Orchids**, CD, Da Vinci Editores, Bogotá. Schlechter, F.R.R. (1921) *Epidendrum platyoon*. In *Die Orchideenfloren der südamerikanischen Kordilleren Staaten*. IV. Perú. **Repert. Spec. Nov. Regni Veg.** 9: 91.





EPIDENDRUM RUIZIANUM Steud.
THE GENUS EPIDENDRUM PART 15



EPIDENDRUM RUIZIANUM Steud.

Plate 1992b

EPIDENDRUM RUIZIANUM Steud., Nomencl. Bot. [Steudel], ed. 2, 1: 558 (1840).

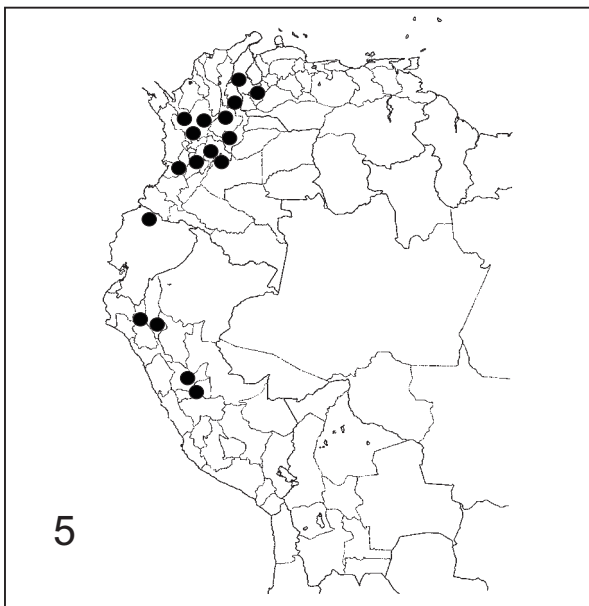
BASIONYM: *Epidendrum nutans* Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. 1: 245. 1798. Type: Habitat in Peruvia supra arbores et saxa ad Muña et Chaclla nemora", July–September 1786, *Hipólito Ruiz López*; & *José Antonio Pavón Jiménez* 4/78. Holotype (Designated by Pupulin, 2012: 58): MA 810719! isotypes: MA 810720! MA 810721! (Photograph CNHM 29531, AMES! F! MO! SEL! Illustration, tempera on paper by *J. Brunete*, AJB, Div. IV, 1289, MA! According to Ruiz's diary, *Epidendrum nutans* was collected and described when the Expedition visited Muña in July–September 1786 (Ruiz 2007: 287; Ms. 54); Brunete prepared the illustration in the same period.

SYNONYM*: *Epidendrum spathaceum* Lindl., J. Bot. (Hooker) 3: 85. 1840. Type: PERU: "Peru, obtained by Mr. Mathews out of the herbarium of Ruiz and Pavón, preserved at Lima, (herb. Hooker)" 1836, *Mathews s.n.* (probably *J. J. Tafalla* (Pupulin 2012: 58).

Holotype: K 001444736! Fragment W 4154! Tracing at W 5804! Isotypes: Ruiz & Pavón herb. Lima ex *Mathews*, K (Lindley Herb.) Photograph at AMES HUH 00070883! (mounted with *Linden 125*, see below). BM! F! *Ruiz & Pavón s.n.*, G! (CNHM 25449, AMES! F!).

Terrestrial and epiphytic, sympodial, caespitose, erect **herb**, to 80–200 cm tall. **Roots** ca. 3 mm in diameter, basal. **Stems** to 70 × 1 cm, cane-like, terete, base covered by non-foliar sheaths up to 5 cm long, tubular. **Leaves** numerous, ca. 14, distichous, sub-spreading, coriaceous; sheath 4–6 × 0.6–1.0 cm, tubular, yellow-green, striated; blade 7–25 × 2.6–4.0 cm, oblong-elliptic, apex narrowly rounded or bilobed, medium green. **Spathe** lacking. **Inflorescence** 38–60 cm long, apical, paniculate, arching, nutant, peduncle ca. 20 cm long, covered by large, 2–4 imbricating bracts 10–12 × 0.8–3 cm, conduplicate, acute, tubular near base, medium green, each raceme subtended by similar bracts, progressively smaller; rachis ca. 25 cm long, thin, with 4–7 compact racemes, each subtended by a large bract, each with ca. 30 flowers. **Floral bracts** 2–17 mm long, linear-lanceolate to narrowly triangular, acuminate. **Ovary** 8–12 × 1.6 mm, terete, slightly thickened at apex, furrowed. **Flowers** ca. 30–50 per raceme, opening more or less simultaneously, from very pale yellow to ochre, to orange-yellow or beige, lip always white to ivory white, base of column green; flowers very fragrant. **Sepals** fleshy, partly spreading, 5-veined; dorsal sepal 6.6–10 × 3.0–3.8 mm, elliptic, apex sub-acute, lateral sepals 7.6–11 × 3.5–4.2 mm, semi-elliptic, oblique, upper margin straight, lower margin, semi-circular, apiculate. **Petals** 5.8–9 × 0.5–0.9 mm, linear-oblong-elliptic, apex acute, straight, spreading to somewhat reflexed. **Lip** 4.1–6.0 × 4.0–6.0 mm, deeply 3-lobed, spreading; bicollose, calli elongate into long ribs reaching middle of mid-lobe, mid-rib narrow at base, wide and thickened towards apex; lateral lobes 1.5–2.5 × 3.0–4.5 mm, transversely ovate, oblique, at a 30-degree angle with axis of lip, ovate, outer margin erose-dentate; mid-lobe 2.3–4.0 × 1.2–1.8 mm, cuneate, somewhat widened near apex, apex rounded. **Column** 5.0–6.5 mm long, straight, apex truncate. **Clinandrium-hood** very short, margin entire, sides sinuous. **Anther** triangular, somewhat winged, apex narrow emarginate, 4-celled. **Pollinia** 4, obovoid, laterally compressed, sub-equal; caudicles in two pairs, granulose, soft, slightly longer than pollinia; viscarium semi-liquid. **Rostellum** apical, slit. **Lateral lobes of stigma** small, about 1/5 length of stigmatic cavity. **Nectary** narrow, penetrating apex of pedicellate ovary, unornamented. **Capsule** 2.0–2.2 × 1.4–1.7 mm, widely sub-globose to ellipsoid, perianth persistent.

OTHER SPECIMENS: #22, W 13509! **COLOMBIA:** sin loc, hort. Petropolitani, *Engels s.n.*, LE! Nouvelle Grenade, 1846–1852, *Funck 1197*, W! Nouvelle Grenade, 1849, *Linden 125*, K (photograph at AMES HUH 00070883! Mounted on same sheet as Mathews' Isotype of *E. spathaceum*) **Antioquia:** Campamento: Vda. Llanadas, km 6–12 O en vía a Mina Las Brisas, 1650–1810 m, 7 IX 1989, *Callejas 8287*, HUA! Sonsón, 1339 m, 7 XI 2013, *Castro 141*, JBB! Guarné, Finca Penjamo, 1800 m, 20 V 1980, *del Río 13*, HUA! Bolívar to El Carmen, VIII 1964, *Kapuler 261*, ¡COL! Um Dabeiba, 400–800 m, *Lehmann 6857*, K! 1 VII 2017, *López 187*, HUA! Briceño: Vda. *Sal Lehn* Vicente, 1022 m, 4 II 2017, *Trujillo 7869*, HUA! **Boyacá:** Páez: Vda. Yamonta, 1307 m, 25 X 2017, *Bravo 651*, JBB! *Ibid.* 1287 m, 26 X 2017, *Bravo 652*, JBB! Paipa: Vda. San Pedro, 2450 m, 30 VIII 1998, *Rodríguez 1779*, JAUM! **Cauca:** am Río Oveja und Río Teta 1000–14000 m, X 1895, *Lehmann s.n.*, K! **Chocó:** Costa norte Pacífica, VII 1988, *Misas 187a*, HPUJ! *Ibid.*, 10 m, VII 1988, *Misas 187b*, HPUJ! *Ibid.*, X 1996 m *Misas 187d*, HPUJ! Bahía Solano, Serranía del Baudó, 1993, *Misas 187e*, HPUJ! Tadó; sector Peñas de Olvido, 344 m, 29 IX 2018, *Sánchez 30*, HUA! **Cundinamarca:** La Mesa, near Mesitas between La Mesa and Bogotá, 27 X 1958, *Barclay 6092*, AMES! COL! MO! Quebradanegra: Vda. La Magdalena 1000 m, 13 XII 1992, 1000 m, 13 XII 1992, *Chaparro 171*, COL! Villa Gómez, Vía Paima: Vda. Potosí, 1530 m, 10 VI 1993, *Chaparro 323*, COL! La Mesa, La Esperanza, 1200 m, 13 X 1968, *Ortiz 145*, HPUJ! (Watercolor, HPUJ!). San Antonio de Tequendama, Santandercito, 1600 m, 14 X 1946, *Uribe 1381*, COL! JAUM! **Huila:** San José de Isnos: vía Bordonas a Isnos, Vda. La Muralla, 1600 m, 25 III 2016, *Morales 965*, HUA! Zwischen Colombia und Uribe, Haus El Playón, 800 m, IV 1939, *Renz 3077*, RENZ! **Risaralda:** Quinchía: Vda. Palo Grande, 2026 m, 29 IX 2017, *Ordóñez 1009*, HUA! **Santander:** Río Suratá valley between El Jaboncillo and Suratá, 1500–1800 m, 3 I 1927, *Killip 16407*, AMES! NY! US! USF! Bucaramanga, *Triana 1371*, COL! **Tolima:** Murillo: Vda. La Gloria, Río Lagunillas, La Furatena, 2750 m, 10 III 2003, *Correa 2566*, HUA! Mariquita, *Triana 125*, K! Chaparral: Vda. Agua Bonita, 1178 m, 17 IV 2008, *Vélez 7047*, HUA! **Valle del Cauca:** Represa Calima, 500 m, 6 V 1965, *Borrero 1012*, CUVIC! Murillo, 1100 m, IX 1938, *Dryander 2230*, US! El Cairo: El Crucero, via Cartago-El Cairo, 15 XI 2011, *García Ramírez 104*, CUVIC! Hort. Cali, 2 II 1984, *Tedesco sub Hágsater 7457*, AMO! (Illustration AMO!). La Cumbre, 1600–2100 m, 25 IX 1922, *Killip 11610*, AMES! MO, NY, PH, US. Tuluá: Corr. Barragán, Paramillo, Alto La Italia, 3400 m, 17 IX 1986, *López 74*, MO! TULV! Cordillera Central, Cañada del río Agua-Clara, Canta Claro, cercanías de Palmira, 11 X 1962, *López 8072*, US! Yotoco; Reserva Natural bosque de Yotoco, 1600 m, 6 III 2009, *Pérez 164B*, CUVIC! Cali: Pichindé, Finca Los Pomos, 1640 m, 18 X 1987, *Rivillas 20*, CUVIC! **ECUADOR:** **Imbabura:** Ibarra: Carolina: Along road from Ibarra to Lita in the general of Gualupe, 600–1300 m, I XI 1988, *Hirtz 3901*, AMO! MO!



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Illustrator: E. Hágsater

Photo: A. Huayta B.

Editors: E. Hágsater & E. Santiago

PERU: Without locality, *Rivero s.n.*, P! Without locality, *Warszewicz s.n.*, W! **Amazonas:** Chachapoyas: Cerros Calla Calla 5 km above Leimebamba on road to Balsas, at San Miguel, 2400 m, 27 III 1964, *Hutchison 4608*, AMES! UC! Bagua Chica, 1877, *Vidal-Sénèze 46*, P! **Cajamarca:** San Ignacio, Huarango, entre San Martín y Mushea, 900 m, 17 V 1996, *Campos 2778*, MO! USM! San Juan de Cutervo: entre San Francisco y Cunoat, 1690 m, 26 XI 2009, *García Llatas 6519*, HNOP! Without locality, 30 VIII 2008, *Hajek 2309*, USM! **Huánuco:** 42 mi from Tingo María to Huánuco, 7100 ft, 22 X 1959, *Maguire 44430*, HB! NY! **Pasco:** near Yaupi, 2300 m, 25 IX 1965, *Bennett 922*, UC! Yaupi, between Paucartambo and Yaupi Bajo, 2000 m, 2 X 1987, *Bennett 4047*, MOL! (Lámina 245, Bennett & Christenson 1998: pl. 470). Yaupi, 2300 m, 11 VII 1977, *SELBY 77-233 sub Ackerman 1032*, SEL! **VENEZUELA: Mérida:** Aricagua, 28 III 1922, *Jahn 984*, AMES! US! Sketch of flower AMES! **Zulia:** Sierra de Perijá, 2000 m, 29 XII 1950, *Hno. Gines 2027*, US! Perijá, Camino de Tetari, 2000 m, *Ramía 427*, VEN!

OTHER RECORDS: COLOMBIA: without locality, *Mutis* (1985: 9(3): plate 41, watercolor illustration). **Antioquia:** Campamento, 1700 m, 17 III 2021, *Alzate s.n.* iNaturalist 7223657! (LCDP voucher) El Cairo: carretera a Vda. Boquerón, 11 XII 2016, *García-Revelo s.n.*, LCDP, AMO! **Huila:** Subiendo del Río Magdalena a Oporapa, 1099 m, 31 III 2018, *Hágsater 15695*, digital images, AMO! Parque Natural Regional Cerro Banderas Ojo-Blanco, XI 2020, *Medina s.n.*, digital images, AMO! Teruel, Vda. La Armenia, 27 XI 2020, *Quilindo s.n.* digital image, AMO! Oporapa, 18 I 2020, *Robayo s.n.*, iNaturalist 38583043! **Santander:** Mun. Villanueva, 940 m, 26 II 2022, *Lisiewski s.n.* Digital images AMO! iNaturalist 108216405! **ECUADOR: Zamora-Chinchipe:** pasando Palanda, km 121, 1130 m, 28 I 2004, *Hágsater 14077*, Note, AMO! **PERU: Amazonas:** Chachapoyas: Balsas: Canchillo, abra Barro Negro, 31 XII 2021, *Deza s.n.*, digital images, AMO! **Cajamarca:** San Ignacio: San José de Lourdes: entre El Crucero y caserío Villa Rica, 1400 m, 27 X 2018, *Rimarachin s.n.*, digital images AMO! **Cusco:** Machu Picchu, 2000 m, 2 X 2012, *Inkaterra Villena s.n.*, digital images, AMO! **Huánuco:** Tingo, cultivada en Oxapampa, 1700 m, 21 X 2019, *Huayta, s.n.*, digital images, AMO! (Photo voucher). **Junín:** entre Tarma y La Merced, cerca de túnel Yanango, 1810 m, 17 XI 2021, *Quispe s.n.*, digital images, AMO!

DISTRIBUTION AND ECOLOGY: Wide ranging from northwestern Venezuela, through Colombia, Ecuador to central Peru. Growing on rocks and epiphytic from sea level to 3400 m elevation. Flowering mainly October to May. The species appears to produce numerous fruits in throughout the year, often flowering with fruits from previous flowering present.

RECOGNITION: *Epidendrum ruizianum* belongs to the Ruizianum group, characterized by the sympodial, caespitose habit, the tall terete, many-leaved stems, the apical inflorescence with several imbricating large bracts, and the inflorescence formed by several racemes of many compact flowers subtended by large bracts, similar to the bracts of the base. The species is recognized by the yellow to ochre colored flowers with the column and lip cream-colored. It is similar to *Epidendrum infundibuliforme* Hágsater & Villaf. which has red-brown flowers with the lip pale green, the lip formed by sub-orbicular lateral lobes, and the mid-lobe itself divided into two sub-orbicular, divergent lobes, and a prominent mucro; all the lobes have the side margins strongly revolute, so they appear triangular and truncate in natural position.

***NOTES:** Both names, *Epidendrum ruizianum* and *Epidendrum spathaceum* were published in November 1840, exact dates are not available. The citation of Journal of Botany volume III appears in the title page as MDCCCXLI, but this issue was published in parts from 17 to 21, and page 83 was published in part 19, and dated Nov. 1840. As there may be an argument as to which name should have priority, I suggest that the most widely used name be conserved, with no clear argument to do otherwise.

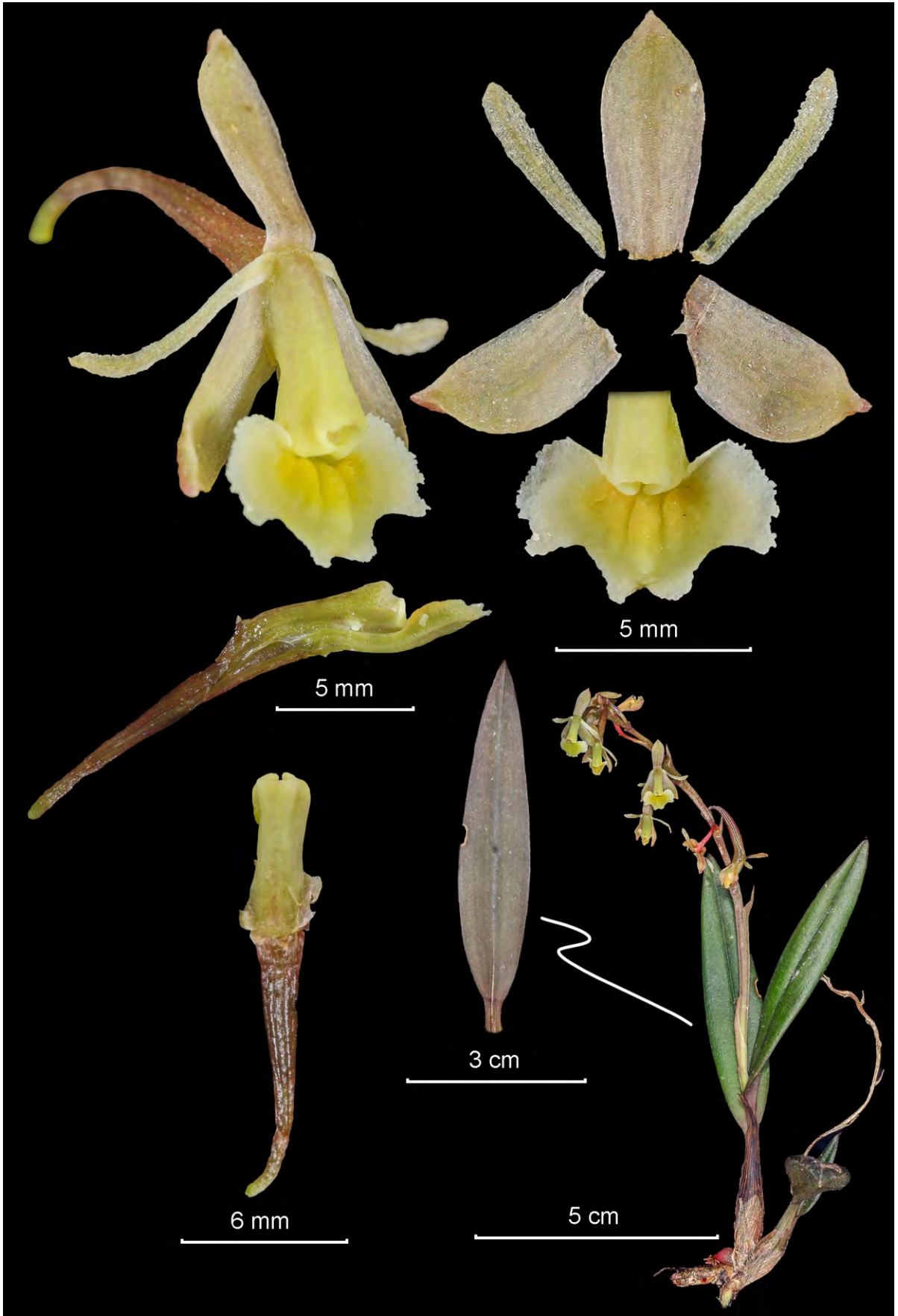
There are color forms which are white, or the sepals beige, the base of column green and the apex and the lip white, seen in Bucaramanga, Cali and Oxapampa.

Studying the herbarium material and published photographs from Bolivia by Vásquez & Ibsch (2004: *Epidendrum* illustration 58) and Dodson & Vásquez (1989: IPT II 2: t. 230), it is clear they mistook the species for what is being published as a new species by Ivan Jiménez & Hágsater, and *Epidendrum mesomicon* Lindl. Tropicos includes a digital image of a live inflorescence of *Solomon 5074*, which corresponds to *Epidendrum oreonastes* Rchb.f. We have not seen any material from Bolivia to confirm the occurrence of *E. ruizianum* there.

CONSERVATION STATUS: LC Least Concern. The species is widespread and common throughout its range from northwestern Venezuela to central Peru, but it is especially widespread and common in Colombia.

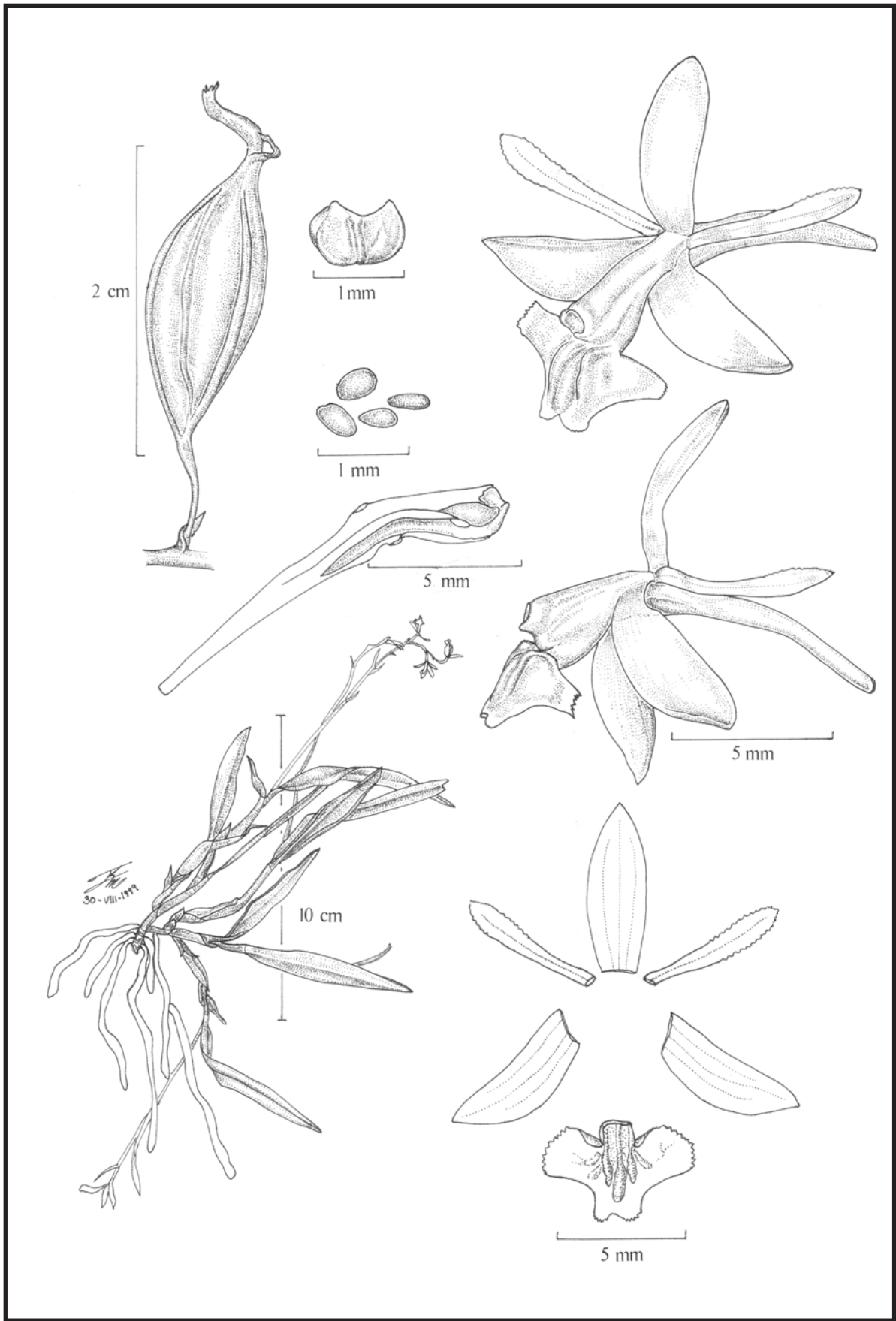
ETYMOLOGY: In honor of Hipólito Ruiz López (Belorado, Burgos, 1754–Madrid, 1816), the Spanish botanist who researched the floras of Peru and Chile together with José Antonio Pavón Jiménez, during the expedition ordered by King Carlos III of Spain between 1777 and 1788.

REFERENCES: Bennett, D.E., & Christenson, E.A. (1998) **Icon. Orch. Peruvianum** t. 401–600. Dodson, C.H., & Vásquez Ch., R. (1989) *Epidendrum ruizianum*. In Orchids of Bolivia, **Icon. Pl. Trop. ser. II**, 3: t. 230. Foldats, E. (1970) *Epidendrum ruizianum*. In Orchidaceae in Lasser, L. (Ed.) **Flora de Venezuela** 15(3): 374–376. Hágsater, E., & Villafuerte, M. (2022) *Epidendrum infundibuliforme*. In Hágsater, E. & Santiago, E. (Eds.), The Genus *Epidendrum*, Part 15, **Icon. Orchid.** 19(3): t. 1979. Mutis, J.C. (1985) *Epidendrum ruizianum*. In **Flora de La Real Expedición Botánica del Nuevo Reyno de Granada, 9 (Microspermae: Orchidaceae III)**: t. 41. Pupulin, F. (2012) The Orchidaceae of Ruiz & Pavón's "Flora Peruviana et Chilensis". A taxonomic Study. I., **Anales Jard. Bot. Madrid** 69(1): 21–79. Ruiz, H. (2007) **Relación del viaje hecho a los reinos de Perú y Chile por los botánicos y dibujantes enviados por el Rey para aquella expedición, extractada de los diarios por el orden que llevó en éstos su autor**. Introducción, transcripción y notas de Raúl Rodríguez Nozal y Antonio González Bueno. Madrid, Los Libros de la Catarata. ISBN: 978-84-8319-329-7 / 978-84-00-08565-0. Santiago, E., & Hágsater, E. (2020) *Epidendrum mesomicon*. In Hágsater, E. & Santiago, E. (Eds.), The Genus *Epidendrum*, Part 14, **Icon. Orchid.** 18(1): t. 1823. Vásquez Ch., R. (2004) *Epidendrum oreonastes*, in Subtribu: Laeliinae. In Vásquez, Ch., R. & Ibsch, P.L. (Eds.) Orquídeas de Bolivia, Diversidad y estado de conservación 2: 78–335. Fundación Amigos de la Naturaleza, Santa Cruz de la Sierra, Bolivia. (Text pg 129, Photos 70–71, pg 157–158, Ilust. 47 pg 205).



EPIDENDRUM RUPESTRE Lindl.

Plate 1993a



EPIDENDRUM RUPESTRE Lindl.

EPIDENDRUM RUPESTRE Lindl., J. Bot. (Hooker) 3: 84 (1840).

Type: ECUADOR: Tungurahua: Valley of Baños, on rocks at base of Tunguragua, *Col. Hall 7*, ex Herb. Hooker. Holotype: K000583850! Copy of drawing of flower from Lindley herbarium, by Reichenbach, W-39093! Isotypes: "Peru", *Col. Hall s.n.*, K. Photograph of specimen AMES! Sketch by Reichenbach, W-5764! *Hall*, from Herb. Lindley specimen, 2 flowers in envelope (mounted with *Jamieson* specimen) W 52164!

Synonyms: *Epidendrum calyptrichilum* Schltr., Repert. Spec. Nov. Regni Veg. Beih. 8: 69. 1921. Type: ECUADOR: Imbabura: Cordillera de la Escalera, Juli 1871, *Aloisio Sodiro s.n.* B, destroyed. *Epidendrum piestopus* Schltr., Repert. Spec. Nov. Regni Veg. 15: 56. 1917. Type: ECUADOR: Pichincha: Quito: in Guamaní et Caturco, 2800 m, *Luis Mille S.J. II*. Holotype: B destroyed. Lectotype (designated by Dodson & Hágsater 1999): QPLS 211155! *Epidendrum penlandii* L.O. Williams, Bot. Mus. Leaflet 9: 9. 1940. Type: ECUADOR: Imbabura: Cotacachi: Island in Lake Cuicocha, 3100 m, 29 May 1939, C. William Penland & Robert H. Summers 756, AMES 57881! (HUH 00070693).

Epiphytic, sympodial, caespitose, pendent herb, 10–18 cm long. **Roots** 3 mm in diameter, thick, fleshy, white. **Rhizome** 0.5 cm long, short. **Stems** 2.7–4.0 × 0.4–0.6 cm, short, green, forming a fusiform pseudobulb slightly thickened. **Leaves** 2, articulate, produced from middle internode, and one from apex of pseudobulb; blade 1.5–6.5 × 0.3–1.2 cm, linear-elliptic, coriaceous, rugose, dark green, margin entire, spreading. **Spathe** lacking. **Inflorescence** 8–13 cm, apical, flowers opening in succession from base towards apex, lower in fruit when apical buds opening, ca. 4 flowers open simultaneously; peduncle 5–8 cm long, straight, laterally compressed, flat, with 1–2 bracts 0.5–0.9 cm long, distributed along peduncle; rachis 2.5 cm long, terete, straight. **Floral bracts** 1.5–6 mm long, shorter than ovary, triangular, acuminate. **Flowers** 7–25, successive, resupinate, pale yellow-green, disc of lip darker; fragrance none registered. **Ovary** 7–9 × 0.5 mm, clavate, furrowed, with a small ventral swollen vesicle at apex. **Sepals** free, 3-veined, margin entire, spreading; dorsal sepal 5.7–7.0 × 2.4 mm, somewhat reflexed, elliptic, acute; lateral sepals 6 × 2.1 mm, partly spreading, elliptic-oblong, acute. **Petals** 6.4 × 0.8 mm, reflexed, narrowly oblanceolate, apex rounded, 1-veined, margin erose, spreading. **Lip** 3.8–4.0 × 6.0–7.0 mm, adnate to column, shallowly 3-lobed, convex; ecallose, disc with 3 parallel, wide, thickened ribs forming a single thickening; lateral lobes 3 × 4 mm, somewhat dolabriform, basal corner rounded to obtuse, apical corner acute, distal margin crenate, spreading; mid-lobe small, trapezoid, lateral margins straight, entire, apical margin erose, slightly emarginate. **Column** 4.5–6.0 mm long, thick, apex forming an obtuse angle with lateral rounded wings. **Clinandrium-hood** short, margin entire. **Rostellum** apical, slit; viscarium semi-liquid. **Lateral lobes of stigma** small, 1/3 length of stigmatic cavity. **Pollinia** 4, obovoid, laterally compressed, inner pair slightly smaller; caudicles not seen. **Cunicle** penetrating 1/4th of the pedicellate ovary, unornamented, forming a slightly widened vesicle behind the perianth. **Anther** transversely ellipsoid, apex bidentate, forming a concave arch, 4-celled. **Capsule** 25 × 7–10 mm; pedicel 7.3 × 0.3–0.8 mm, conical; body 16 × 7–10 mm, ellipsoid; apical neck 1.5 × 1.0 mm, short, thin.

OTHER SPECIMENS: COLOMBIA: Cauca: Paramo de Guanacas, Central Andes von Popayan, 3000–3300 m, *Lehmann 6852*, K! **Nariño:** Prope Piedreancha, 28 V 1876, *André K2005*, K! Sapúyes, 10000 ft, 17 VI 1878, *Lehmann s.n.*, W! (Illustration AMO!) Um Chaquilulo und Chillanguer, Provinz Túquerres, 3000–3300 m, 23 VII 1887, *Lehmann 6731*, K! Mun. Túquerres, Vda. Chanarro Alto, 7 km SW de Túquerres, 22 V 2022, *Reina-Rodríguez 3703*, CUVCI (LCDP voucher). **ECUADOR: Azuay:** Vicinity of the lake in the valley of the Río Surucucho (a br. of the Río Matadero), 18–20 km west of Cuenca, 9800–10300 ft, 16 VII 1945, *Camp E-4180*, AMES! (Illustration voucher). NY! Along road Cuenca-Loja, 3000 m, 17 III 1984, *Dalström 616*, QCA! SEL! Surucucho, 20 km W of Cuenca, 3000 m, 5 V 1958, *Dodson 295*, SEL! km 8, road Cuenca to Molleturo, 2800 m, 21 VII 1985, *Dodson 15934*, MO! QCNE! Chaguan, ca. km 25 desde Cuenca, 3176 m, 17 IX 2016, *Hágsater 14602*, QCNE! km 91 on Pan American Highway N of Loja, 2900 m, 5 V 1973, *Holm-Nielsen 5112*, AAU! Near Cuenca, VII 1864, *Jamieson s.n.*, W 52164! (*Pro parte*, mounted with two flowers of *Hall s.n.* from Lindley Herbarium 108!) Near Lago Surucucho, SW of Cuenca, 3000 m, 7 V 1981, *Kuhn 65*, SEL! Bei Mariviña, bis bei Loja und am Tunguragua, 10000 ft, 15 VIII 1878, *Lehmann s.n.*, W! Bei Mariviña, 10000 m, 2 IX 1878, *Lehmann s.n.*, W! Along ravines near km 140, between Loja and Cuenca, 2800 m, 12 II 1978, *Luer 2553*, SEL! Ferroloma, Surucucho, 3400 m, 16 III 1997, *Minga 186*, HA! La Ramada [La Ramada], *Teuscher 8*, USF! Along Pan-American Highway 35 km S de Cuenca, 9900 ft, 20 IX 1944, *Wiggins 10744*, AMES! CAS! **Imbabura:** Cotacachi: Lake Cuicocha, Isote Chica, 3150 m, 23 VI 1939, *Asplund 7175*, S! Otavalo, along the new road west of Otavalo, 3000 m, 7 II 1979, *Luer 3892*, SEL! Reserva Ecológica Cotacachi-Cayapas, Laguna Cuicocha, Isote Teodoro Wolf, 3000 m, 26 VII 1991, *Peñafiel 217*, QCNE! Reserva Ecológica Cotacachi-Cayapas. Alrededores de la Laguna de Cuicocha. Quebrada Chumabi, 3300–3350 m, 2 III 1992, *Peñafiel 1060*, MO! QCNE! **Loja:** Saraguro: Rancho Ovejero, entre Cumbre y Saraguro, 3120 m, 2 VIII 1959, *Barclay 8502*, AMES! COL! MO! **Pichincha:** Quito, 8/IX/1865, *Jamieson s.n.*, K! IV/1878, *Jamieson s.n.*, K!

OTHER RECORDS: COLOMBIA: without locality, VII 2015, *Uribe s.n.*, digital images, AMO! (photo voucher). **ECUADOR: Azuay:** Chaguan, ca. km 25 desde Cuenca, 3176 m, 17 IX 2016, *Hágsater 14602*, digital images, AMO! Bird trail around lake Llaviuco, 2010, *Gleichenstein s.n.*, digital images AMO! **Imbabura:** Cotacachi: Island in Lake Cuicocha, 3100 m, 2 V 2018, *Monteros s.n.*, digital images, AMO! Without locality, *Andreas Kay*, digital images, AMO! **Pichincha,** Pifo, 28 II 2020, *Carrera s.n.*, digital images, AMO!

DISTRIBUTION AND ECOLOGY: Widely distributed from Loja in Southern Ecuador to southern Colombia as far as the Páramo de Guanacas, near Popayán, Cauca, on rocks and epiphytic, in high elevation montane wet elfin forest, at 2800–3400 m elevation. Flowering from February to November.

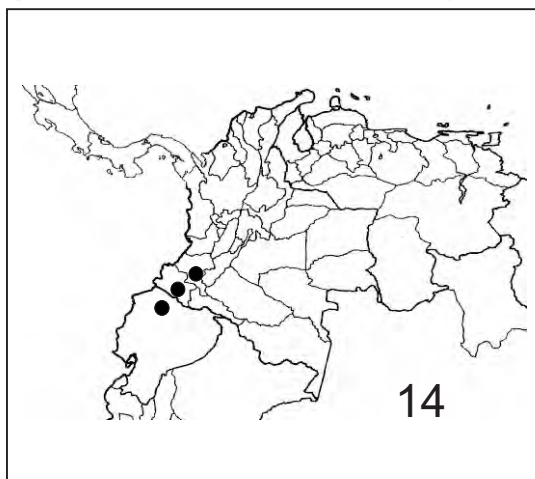
RECOGNITION: *Epidendrum rupestre* belongs to the Rupestre group, which is characterized by the caespitose, sympodial plants, the pseudobulbous stems with 1–4 fully developed leaves toward the apex, the lack of spathes at the base of an erect, racemose or paniculate inflorescence, the lip ecallose or bicallose and with several fleshy thickened keels on the disc. The species is recognized by the narrowly fusiform pseudobulbs, the 2-leaves, leaves lanceolate, coriaceous, the apical inflorescence about 3 times longer than the apical leaf, the flowers pale yellow-green, disc darker, the lip shallowly 3-lobed, ecallose, the disc with 3 parallel wide, thickened ribs forming a single thickening, the lateral lobes somewhat dolabriform, the basal corner rounded to obtuse, the apical corner acute, distal margin crenate, spreading; mid-lobe small, trapezoid. *Epidendrum excelsum* C.Schweinf. has longer leaves to 10 cm long, has an entire lip, the margins erose-denticulate, two prominent calli, and the disc 5–7 ribbed, the ribs low.

NOTES: Lindley's drawing of the lip shows the 3 lobes clearly separate, the lateral lobes somewhat obliquely cuneate, the apical margin dentate, and the mid-lobe quadrate, apically emarginate, margins entire. Otherwise, it conforms quite well with the observed shape of the lip in other specimens. Distribution indicated in GBIF.org (accessed 21 January 2023) based on misidentified specimens from Peru.

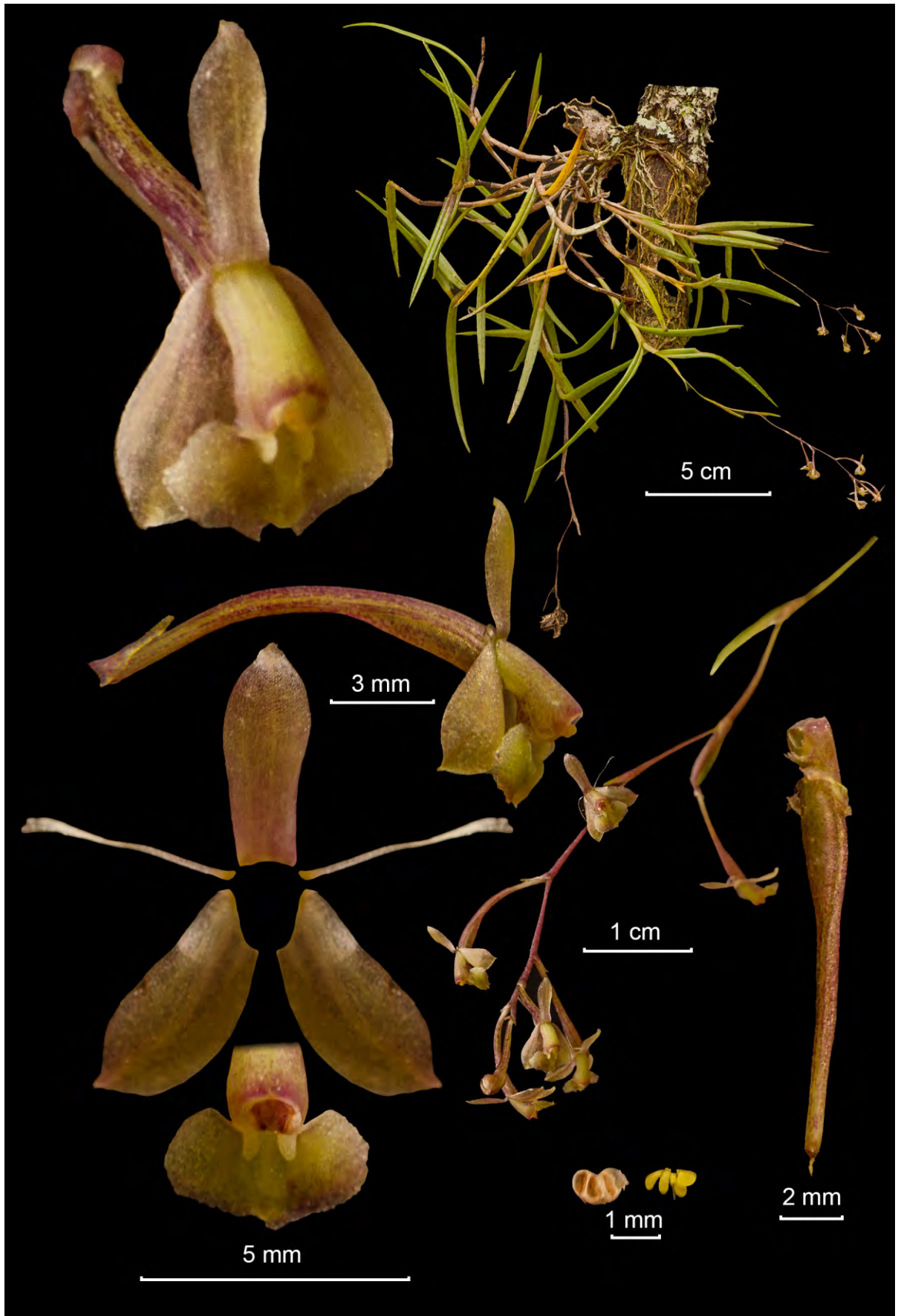
CONSERVATION STATUS: DD. Data deficient. The range of distribution is not well known, as it now confirmed in southern Colombia as well as Ecuador from Cuenca to above Otavalo.

ETYMOLOGY: From the Latin, *rupestris*, rupicolous, from *rupes*, rocks, in reference to the type of the species which was collected on rocks.

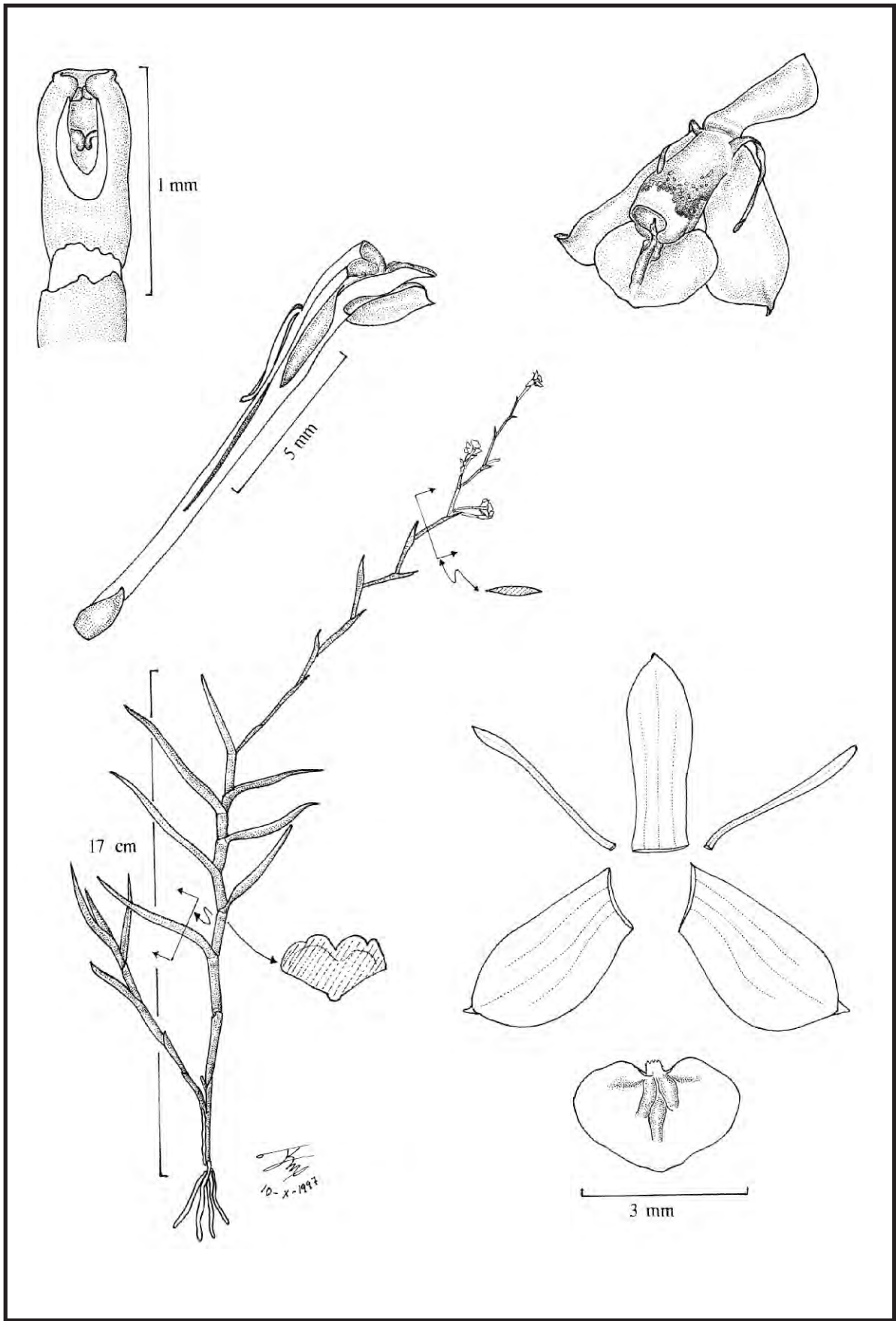
REFERENCES: Dodson, C.H. & Hágsater, E. 1999, *Epidendrum piestopus*, in Jørgensen, P.M., León-Yañez, S. (eds.) Catalogue of the Vascular Plants of Ecuador, *Monogr. Syst. Bot. Missouri Bot. Gard.* 75: 665. Hágsater, E. 2015, *Epidendrum excelsum*. In Hágsater, E. & Sánchez S.L. (eds.), The Genus *Epidendrum*, Part 11, *Icon. Orchid.* 15(1): t. 1525. GBIF.org: Global Biodiversity Information Facility (2023).



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EPIDENDRUM SCHLIMII Rehb.f.
THE GENUS EPIDENDRUM PART 15



EPIDENDRUM SCHLIMII Rehb.f.
THE GENUS EPIDENDRUM PART 15

Plate 1994b
ICONES ORCHIDACEARUM 19(3). 2023

EPIDENDRUM SCHLIMII Rchb. f., Linnaea 22: 838 (1850).

Type: VENEZUELA: Mérida, 6500 ft, *Nicolas Funck & Louis Joseph Schlim 1049*. Holotype W 4183! Isotypes: G x2! (CNHM 25448, photograph F!) LE! LY0561938! P00480370! P x2! W0027146!

Synonym: *Epidendrum tenellum* Lindl., Fol. Orchid. 3(Epidendrum): 44 (1853). Type: VENEZUELA: 'Nueva Granada', Mérida, 6500 ft, *Nicolas Funck & Louis Joseph Schlim 1049*. Holotype K-L. Tracing at AMES HUH00070926! Isotypes: W 4183! Isotypes: G x2! LE! LY0561938! P00480370! P x2! W0027146!

Epiphytic, caespitose, sympodial, erect **herb**, 12–30 cm tall including inflorescence. **Roots** 0.5 mm in diameter, basal, scarce, thin, white. **Stems** 3.5–6.0 × 2–3 mm, simple, short, cane-like, base terete, laterally compressed towards apex, thin; base covered by non-foliar sheaths 4–9 mm long, tubular, minutely striated, scarious. **Leaves** 4–5, distributed throughout stem, alternate, sub-spreading, straight; sheath 2–10 × 2.3–3 mm, minutely striated; blade 1.5–5.5 × 0.2–0.4 cm, linear-lanceolate, acuminate, sub-coriaceous, conduplicate, margin entire, spreading. **Spathes** lacking. **Inflorescence** 7.5–10 cm long, apical, racemose to incipient paniculate, erect, laxly few-flowered; peduncle 3–7 cm long; thin, ancipitose, fractiflex, with 1–4 bracts, 10–16 mm long, distributed throughout peduncle, tubular and ancipitose at base, conduplicate towards apical half, long acuminate; rachis 4.5–5.0 cm long, filiform with 2–3 racemes, each raceme 5 mm long, straight, very short, laxly few-flowered, nearly totally hidden with a bract similar to that of peduncle but progressively shorter. **Floral bracts** 1–3 mm long, shorter than ovary, narrowly triangular, long acuminate, embracing. **Flowers** 4–6, 2 per raceme, small, membranaceous, simultaneous, resupinate, purple-brown with base of column and lip green; fragrance not registered. **Ovary** 10–11 mm long, terete, thin, ventrally inflated along apical 1/3, forming a small vesicle. **Sepals** 3–4.5 × 1.1–2.0 mm, apex rounded, minutely apiculate, 3-veined, margin entire, spreading; dorsal sepal free, reflexed, nearly parallel to ovary, obovate-oblong; lateral sepals obliquely united to column, spreading, obovate-elliptic, slightly oblique. **Petals** 3 × 0.3 mm, free, filiform (apex wider), 1-veined, apex rounded, margin entire, spreading. **Lip** 2–2.1 × 3–3.8 mm, united to column, flat, entire, widely cordiform to reniform, somewhat widely transversely obtrullate, base cordate, apical sides forming an obtuse angle but rounded, margin entire, spreading; bicallose, calli laterally compressed, disc with prominent mid-rib, reaching 2/3 of lip. **Column** 2.5 mm long, very slightly arched. **Clinandrium-hood** short, margin entire. **Anther** not seen. **Pollinia** not seen. **Rostellum** apical, slit; viscarium transparent, semi-liquid. **Lateral lobes of stigma** prominent, half as long as stigmatic cavity. **Cunuculus** penetrating 1/5th of ovary, not inflated, unornamented. **Capsule** not seen.

OTHER SPECIMENS: COLOMBIA: Antioquia: Parque Regional Arví, Bosque de Los Vásquez, Vda. Mazo, 17 II 2007, *Benavides 4027*, HUA! San Pedro de Medellín, 2500 m, *Lehmann s.n.*, LE! entre las Veredas Mazo y Piedras Blancas, I VIII 2011, *Morales s.n.*, HUA! Vda. Pantanillo, 2400 m, *Ortiz 269*, HPUJ! Carretera entre "Las Palmas" y Río Negro, laderas del río Negro, 2300 m, 12 VIII 1957, *Ospina 184a*, COL! Vda. Pantanillo, cuenca del río Aurra, 2200–2450 m, *Tobón 2612*, JAUM! **Boyacá:** Tenza, Vereda Rucha, 1704 m, 29 VI 2018, *Florez 614*, HUA! Entre Moniquirá y Arcabuco, pasando la cascada y subiendo al acantilado, 2400 m, *Hágsater 11494*, flower in spirit, AMO! (Illustration voucher). Between Arcabuco and Moniquirá, ca. 2500 m, 25 IV 1852, *Luer 7564*, SEL! Mun. Ganchavita, Vereda La Hoya, 2400–2537 m, 1 XII 2015, *Sierra 3*, JBB! **Cundinamarca:** Suba, 2600–2700 m, 6 I 1947, *Schneider 379/1*, COL! Facatativá, Hacienda Cuatro Esquinas, 2800–2900 m, 16 I 1947, *Schneider 379/2*, COL! **Norte de Santander:** Cordillera Oriental, región del Sarare, entre el Alto del Loro y el Alto de Santa Inés, 1800–2200 m, *Cuatrecasas 12538*, COL! **Magdalena:** San Sebastián de Rábago, Sierra Nevada de Santa Marta, 6200 ft, 17 VIII 1945, *Foster 1507*, COL! **VENEZUELA: Aragua:** "Mérida:" Prope colonian Tovar, *Fendler 1445*, AMES x3! BR! G! K x2! MO! P! **Distrito Federal:** Zwischen Junquito und Colonia Tovar, ca 3 km nordlich von Junquito, 1800 m, *Renz 8689*, RENZ! between El Junquito and Colonia Tovar, 2200 m, *Steyermark 95982*, VEN! **Mérida:** Umgebung von Capaz, 2300 m, *Renz 5184*, RENZ! Las Cruces, Passhöhe zwischen Egidio[Ejido] und Jají, 1800 m, *Renz 5243*, RENZ! Umgebung von Merida, Westhänge der Mucujun-Tales, 2000 m, *Renz 6706*, RENZ! **Táchira:** entre Michelena y Boca de Monte, oeste del Zumbador, 1700 m, *Steyermark 96759*, VEN!

OTHER RECORDS: COLOMBIA: Boyacá: Úmbita, 2500 m, 28 IX 2016, *Perdomo s.n.*, digital image, AMO! **Cundinamarca:** Gachalá: Guavio, 21 VI 2019, *Alfonso Acosta s.n.*, digital images AMO! (Photo voucher). Chía: 2700–2800 m, 18 IV 2020, *Pfahls s.n.*, digital images, AMO! **VENEZUELA: Distrito Federal:** Junquito, near Caracas, VII 1955, *Dunsterville 295*, illustration, AMES! K! (Dunsterville & Garay 1959). Caracas, *Lansberg s.n.* (only illustration) W 17731! **Mérida:** Mun. Libertador, sector la Pedregosa Alta, 2000 m, 11 X 2022, *Jerez 2171*, digital images, AMO (LCDP voucher)

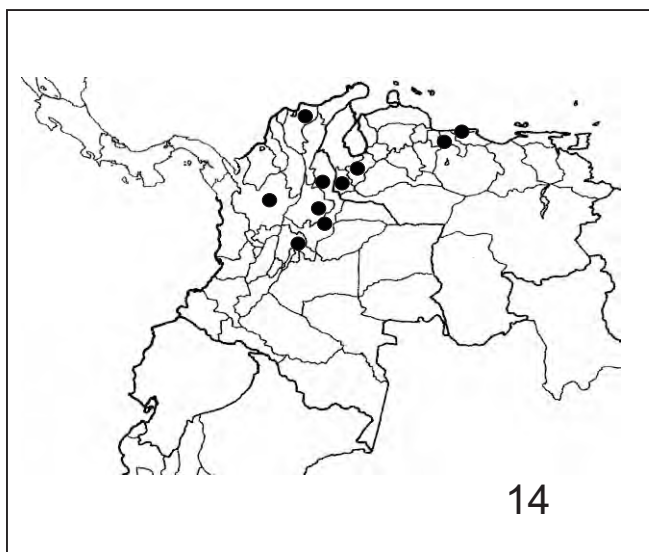
DISTRIBUTION AND ECOLOGY: Apparently restricted to Northern Colombia in Antioquia on the Cordillera Central, the Cordillera Oriental of the Andes from Boyacá, Colombia north to the Sierra Nevada de Santa Marta, and east to Mérida, Venezuela, as well as on the Cordillera Costanera of Venezuela, in Aragua and Distrito Federal. Epiphytic in dry forest at 1800–2500 m altitude. Flowering in April to August.

RECOGNITION: *Epidendrum schlimii* belongs to the Epidendropsis Group, Gracillimum Subgroup characterized by the sympodial, caespitose, relatively small plants with non-thickened stems, the long, paniculate inflorescence, the delicate small flowers, and the long, narrow, sub-coriaceous leaves. The species is recognized by the short leaves 1.5–5.5 × 0.2–0.4 cm, linear-lanceolate, the laxly few-flowered inflorescence, with 2–3 very short racemes of 2 flowers each, purple brown with the base of the column and the lip green, the sepals 3–4.5 mm long, and the lip widely cordiform to reniform somewhat widely transversely obtrullate. *Epidendrum rolfeanum* F. Lehm. & Kraenzl. has longer leaves 4–11 × 0.1–0.2 cm, acicular, the inflorescence many-flowered, with 3 racemes of 3–6 purple-brown flowers with the disc of the lip greenish yellow, reniform. *Epidendrum cryptorhachis* Hágsater has much larger plants, to 43 cm tall, the leaves 2.8–10 × 0.4–0.8 cm, linear lanceolate, the densely many-flowered inflorescence, multiple racemes, parallel to the rachis, with up to 14 flowers per raceme, the lip 3-lobed, the petals narrowly spatulate, not filiform.

CONSERVATION STATUS: LC. Least Concern. The species is widespread in northern South America, a known range of some 950 km, where there are many conserved areas.

ETYMOLOGY: In honor of Louis-Joseph Schlim (1819–1863), who together with Nicolas Funck, collected the type material. Schlim was the stepbrother of Jean Jules Linden, and a noted Belgian orchid collector, who collected mainly in Colombia and Venezuela between 1841 and 1852.

REFERENCES: Dunsterville, G.C.K. & Garay, L.A. (1956) *Epidendrum schlimii*, Venez. Orch. Ill. [Dunsterville & Garay] 1: 132–133. Hágsater, E. (2006) *Epidendrum cryptorhachis*. In Hágsater, E. & Sánchez S.L. (eds.) The Genus *Epidendrum*, Part 5; **Icon. Orchid.** 8: t. 823. Santiago, E. & Hágsater, E. (2016) *Epidendrum rolfeanum*. In Hágsater, E. & Sánchez S., L. (eds.) The Genus *Epidendrum*, Part 12, **Icon. Orchid.** 16(1): t. 1656.



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EPIDENDRUM SCUTELLA Lindl.
THE GENUS EPIDENDRUM PART 15

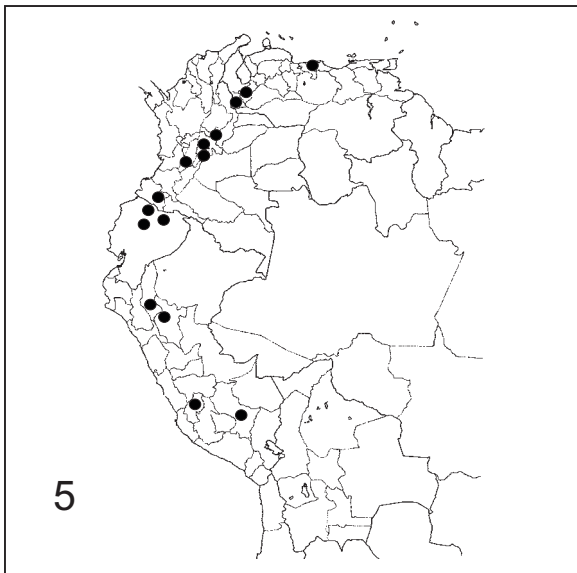
EPIDENDRUM SCUTELLA Lindl., Edwards's Bot. Reg. 30: misc. 83 (1844).

Type: ECUADOR: [Pichincha: Quito:] Guayan, on the western declivity of Pichincha near Quito, *Karl Theodor Hartweg s.n.* Holotype: K (Lindley 154)! Tracing of type by Reichenbach, W 5794!

Epiphytic, terrestrial or lithophytic, sympodial, caespitose, erect **herb**, 19–41.2 cm tall. **Roots** 0.5–1 mm in diameter, produced from base of stem, scarce, fleshy, thin, white. **Stems** 13–31.1 × 0.4–1.1 cm, simple, cane-like, terete, base covered by 1 or 2 sheaths 18–37 mm long, tubular, non-foliar, scarious. **Leaves** 6–10, distributed throughout stem, alternate, articulate, unequal in size (basal one smaller), coriaceous, subspreading in relation to stem; foliar sheaths 10–30 × 6–12 mm, tubular, minutely striated (especially when dry); blade 4.7–12.5 × 1.2–2.5 cm, ovate-lanceolate, acute, margin entire. **Spathe** 1, 2.7–4.8 × 1.8–2.4 cm, conduplicate, obliquely ovate, apex rounded, margin entire. **Inflorescence** 7–11.8 cm long (including flowers), apical, erect, few-flowered; peduncle 5 mm long, thick, laterally compressed, erect, straight; rachis 7–8.5 mm long, laterally compressed, both totally hidden within spathaceous bract. **Flowers** generally 5, simultaneous, resupinate, lime-green or yellowish green, calli and mid-rib white; fragrance not registered. **Ovary** 28–40 mm long, terete, thick, slightly inflated behind perianth to form a small vesicle, ornate with longitudinal ribs, their margin entire. **Sepals** 27–38 × 8–12 mm, partly spreading, cucullate, free, ovate-elliptic, acute, 5-veined, margin entire, spreading; dorsal sepal slightly inflexed, lateral sepals oblique. **Petals** 28–36 × 9–12 mm, partly spreading, free, ovate-lanceolate, acute, 5-veined, margin entire, spreading. **Lip** 26–36 × 20–31 mm, united to column, entire, convex, orbicular to orbicular-elliptic, base cordate, sub-obtuse, margin entire, spreading; bicallose, calli small, each prolonged by 2–3 short ribs, with an additional mid-rib, narrow, low, acuminate, disappearing before reaching middle of blade. **Column** 9.5–10 mm long, wide, arching upwards. **Clinandrium-hood** prominent (though not surpassing body of column), margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, obliquely ovoid, similar in size. **Rostellum** sub-apical, slit; viscarium, semi-liquid. **Lateral lobes of stigma** not seen. **Cuniculus** penetrating just behind perianth, slightly inflated, forming a small vesicle. **Capsule** not seen.

OTHER SPECIMENS: COLOMBIA: Boyacá: Ventaquemada, km 106 de carretera Bogotá-Tunja, 2920 m, XII 1972, *Ortiz 599*, HPUJ x2! Cauca: Páramo de Las Papas, 2800-3100 m, 26 IX 1958, *Idrobo 3793*, COL! CUAP! Paletará VIII 1964, *Kapuler 226*, COL! Anden von Popayán, 2500-3000 m, 1906, *Lehmann sub Herb. Kew 457*, K! Guanacas, *Lehmann, Herb. Kew 474*, K! *Ibid.*, *Lehmann sub Herb. Kew 513*, K! Minas Inza, *Lehmann sub Herb. Kew 517*, K! Páramo de Moras, 3000 m, 9 X 1982, *Lehmann 2067*, G! Paramo de Barbillas, SE of Popayán, 3070 m, 27 VII 1978, *Luer 3031*, SEL! Almaguer, Resguardo Indígena de Caquiona, 2800-3200 m, 2 VIII 2003, *Macias 3183*, CUAP! Inzá, 2700-2800 m, 3 X 2003, *Muñoz 1789*, CUAP x2! San Sebastián, Sector Valencia. 3232 m, 4 XII 2009, *Rodríguez 83*, CUAP x2! **Cundinamarca:** carretera de Coachi a la Calera, 18 VIII 2007, *Farfán 1077*, FMB x2! *Ibid.*, 18 VIII 2007, *Farfán 1078*, FMB x2! Mpio. Coachi, carretera de Coachi a la Calera, *Farfán 1079*, FMB x2! Alto de Sissa, 2900-3100 m, 2 XI 2007, *Farfán 1098*, FMB x2! *Ibid.* 20 km E of Pacho, 3100 m, 1 VIII 1967, *Garay 971*, AMES! Alto de Gutiérrez, 2900 m, 1987, *Ortiz 4404*, HPUJ! Guasca, 2900 m, 17 VIII 1941, *Renz 3943*, RENZ! Guasca and Gachetá, 2800 m, 28 VIII 1955, *Renz 8494*, RENZ! La Calera, vereda de San José, 2800-3200 m, 12 IX 2008, *Sánchez 76*, HPUJ! **Distrito Capital:** Sumapaz, Nazareth, 2980 m, 27 VI 2013, *Morales 3611*, JBB! Nazareth, Los Ríos, 2909 m, 15 I 2013, *Ordoñez 1723*, JBB! **Nariño:** prope Pasto, 2900 m, *André 2886*, K x2! Near Laguna La Concha, 25 VI 1960, *Garay 48*, AMES x2! COL! SEL! Pueblo Laguna, bei Pasto, 9000 ft, 19 X 1878, *Lehmann s.n.*, W 69326! **ECUADOR:** Without locality data, *Lehmann s.n.*, W-R 69321! *Ibid.* *Sodiro s.n.*, BP 65893! **Carchi:** along road Tulcán-Maldonado, 3300 m, 4 IV 1984, *Dalström 713*, SEL! E of Gruta La Paz, 3200 m, 13 IX 2004, *Hirtz 9015*, AMO! above Maldonado, ca. 1700-2000 m, 21 II 1978, *Luer 2662*, SEL! **Cotopaxi:** Auf dem Páramo de Boliche zwischen Tulcan und Insa, 2800-3200 m, *Lehmann 8334*, K! **Imbabura:** Huara and Inzá, 2800-3000 m, VI 1886, *Lehmann 6293*, K! **Sucumbios:** Playón de San Francisco, Cerro el Mirador, sendero del Colegio Nacional Playón, 3000-3100 m, 13 VIII 1996, *Cerón 32285*, QAP! **Tungurahua:** Valle de Chaupe, above Baños, 2200 m, 24 VI 1975, *Luer 497*, SEL! **Pichincha:** Andes of Quito, *Jameson 130*, W! **PERU:** Without locality data, *Callally s.n.*, CUZ! **Amazonas:** 48 km above Balsas on the road to Leimebamba, 3100 m, 30 V 1964, *Hutchison 5457*, UC! Leimebamba, 1 VI 2010, *Trujillo 435*, MOL! Calla Calla slopes, near Leimebamba-Balsas, 2900-3100 m, 9 VI 1962, *Wurdack 1251*, AMES! K! S! US x2! USM! **Cusco:** Lares, Rayampata, 3052 m, 18 II 2004, *Valenzuela 2663*, MO! Machu Picchu, WinayWayna, 7 III 1999, *Nauray 405*, CUZ! Acjanacu, *Vargas 19968*, CUZ! F! NY! Sta. Rosa, a 20 km Quillabamba, *Vargas 20274*, CUZ! **VENEZUELA: Táchira:** Zumbador and Queniquea, 2900 m, 20 VIII 1949, *Renz 5794*, RENZ! **Mérida:** Palmira und Timotes, 3000 m, 12 XII 1948, *Renz 5033*, RENZ! Zwischen Santa Cruz de Mora und El Molino, Gebiet der Passhohe, 2700 m, 12 IX 1949, *Renz 6093*, RENZ! Cruz de Mora und El Molino, 2700 m, 12 XI 1949, *Renz 6098*, RENZ! Mérida, *Wagener 136*, W 4788!

OTHER RECORDS: COLOMBIA: Without locality, received 20 V 2015, *Amaral s.n.*, digital image, AMO! Without locality, VIII 1967, *Escobar s.n.*, digital image, AMO! Without locality, *Uribe s.n.*, digital image, AMO! (Photo voucher) Without locality, *plate 29*, (Mutis, 1985) Without locality, received 8 IX 2020, *Olmos s.n.*, digital image, AMO! **Boyacá:** Tunja, Reserva Forestal el Malmo, 2800-3100 m, 27 X 2014, *Castro 214*, digital image, AMO! km 106 de carretera Bogotá-Tunja, 2920 m, XII 1972, *Ortiz 599*, slide and illustration, AMO! **Cauca:** Zona sur Parque Nacional de Puracé, Macizo Colombiano, margen izquierdo del Río Caquetá, camino a la laguna Santiago, sector Valencia, 3200 m, 21 IX 1987, *Duque 618*, COL! San Sebastián, Sector Valencia. Bosque adyacente al río Caquetá, 3232 m, 4 XII 2009, *Rodríguez 83*, digital image, CUAP! **Cundinamarca:** En la vertiente occidental de la cordillera oriental Facatativá-Cundinamarca, 2800 m, received 22 V 2021, *Amaya s.n.*, digital image, AMO! Guasca, Parque Nacional Natural Chingaza, received 13 V 2022, *Chingaza Grupo de Conservación*, digital image, AMO! Páramo de Guasca, received 28 X 2015, *Gutiérrez s.n.*, digital image, AMO! **Nariño:** Bosques altoandinos del alto río Guamez, 2700 m, received 6 X 2014, *Pardo s.n.*, digital image, AMO!



ECUADOR: Without data, as *Epidendrum epicattleya*, *Ecuagenera*, digital image, AMO! Without locality, received 10 VII 2020, *Cuacés s.n.*, digital image, AMO! Without locality, *Hirtz 5789*, digital image, AMO! **Chimborazo:** Guamoto-Macas, 2800 m, VIII 2004, *Sánchez s.n.*, digital image, AMO! **Napo:** km 73 Quito-Baeza, 6 VI 1983, 7000-10000 ft, *Thurston 3005*, slide, AMO! **PERU: Amazonas:** Without locality, received 27 VI 2015, *Salas s.n.*, photographic composition, AMO! Leimebamba, 1 VI 2010, *Trujillo 435*, digital image, AMO! Bongará: Granada, Bosque de Protección Alto Mayo, Comunidad Diosán, Granada, cultivada por Darío Labajos Canlla, 3100 m, 17 III 2019, *Hágsater 16093*, digital image, AMO! Chachapoyas, Around Molinopampa, *DeBurghgraeve s.n.*, digital image, AMO! **Cusco:** Lares, Manto, *Calatayud s.n.*, digital images and illustration, AMO! Del SHMP, El Palomar, received 16 VI 2014, *Collantes s.n.*, digital image, AMO! Parque Nacional del Manú, SERNANP, received 3 V 2022, *Fernández s.n.*, digital image, AMO! La Convención, Aguas Calientes, Santuario Histórico de Machu Picchu, Rango D, 11 IV 2014, *Gonza D sp.2*, digital image, AMO! Machu Picchu, WinayWayna, 7 III 1999, *Nauray 405*, illustration (published in Bennett & Christenson, (2001) *Icon. Orchid. Peruvianum* t. 654). Machu Picchu, *Vargas s.n.*, photograph published (Christenson, 2003) **Huancavelica:** Huacholpa, received 16 VI 2014, *Collantes s.n.*, digital image, AMO! **San Martín:** Rioja, Pardo Miguel, Chisquilla, Sector 7 lagunas, espaldas del Cerro Campanario, 3318 m, *Edquén 544*, digital image, AMO! (LCDP voucher) **VENEZUELA:** Photos published (Romero, 1998) as *E. scutella* pg. 82-83, and as *E. praetervisum* Rchb.f., pg. 77. **Caracas:** Without locality data, *Dunsterville s.n.*, illustration and digital image, K!

DISTRIBUTION AND ECOLOGY: Widespread along the Cordillera Oriental of the Andes from western Andean Venezuela through Colombia, Ecuador and Peru. Epiphytic, at 2000–3100 m altitude. Flowering throughout the year.

RECOGNITION: *Epidendrum scutella* belongs to Megalospatum Group characterized by the caespitose but branching habit, many-leaved stem, fleshy, oblique leaves, a short, few flowered, raceme subtended by large semi-ovate spathes, the resupinate flowers, the column more or less united to the lip. The species is recognized by the robust, compact stems, leaves ovate-lanceolate (4.7–12 cm long), with an acute apex, the inflorescence is 5-flowered, the flowers lime-green or yellowish green, the lip orbicular to elliptic-orbicular, the base cordate, apex sub-obtuse, and a pair of low calli which are bi- or tri-dentate at the apex, and a central, thin mid-rib. *Epidendrum rhomboscutellum* Hágsater & E. Santiago has thin stems, narrowly lanceolate leaves (2–6 cm long), the apex acuminate, the inflorescence is 2-flowered, the flowers greenish yellow with the apex of the petals reddish brown, the lip is obovate-rhombic with the base cuneate, and the apex acute; disc with a pair of globose calli. *Epidendrum lagotis* Rchb.f. has narrowly ovate-elliptic leaves (2–6 × 1.0–2.3 cm), a 2-flowered inflorescence, the lip orbicular, nearly as wide as it is long, and the petals are spatulate, with the apex somewhat rounded. *Epidendrum platyoon* Schltr. has oblong-ligulate leaves, apex obtuse bilobate, inflorescence 1–2-flowered, the sepals lanceolate, obtuse, the petals somewhat oblique, the lip widely ovate, obtuse, bicallose, small, the disc with a low mid-rib and a parallel, thinner rib on each side, carinate-thickened, and the column about 8 mm long, straight.

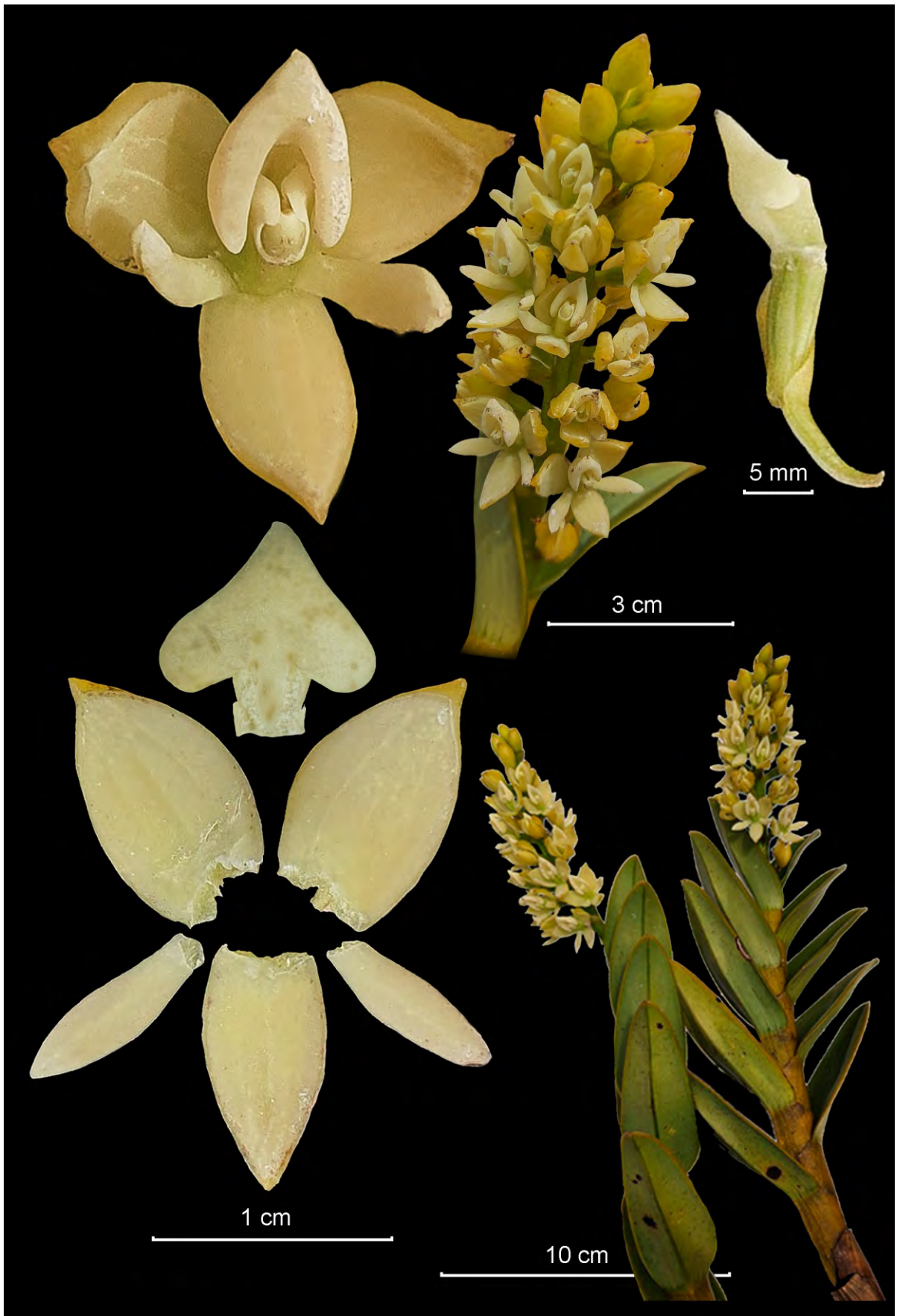
*NOTE: *Epidendrum platyoon* was considered as synonym a of *E. scutella* in *Icones* 15(1): t. 1559, but it has differences with *E. scutella*, especially in the form of the calli, which we recognize here as a distinct species.

CONSERVATION STATUS: LC. Least Concern. Widespread and frequent.

ETYMOLOGY: From the Latin *scutella*, a small drinking cup, having a small pit, possibly in reference to the prominent clinandrium-hood with the sunken anther.

REFERENCES: Bennett Jr., D.E. & Christenson, E.A. (2001) *Epidendrum platyoon* Schltr. In *Icon. Orchid. Peruvianum* t. 646. Bennett Jr., D.E. & Christenson, E.A. (2001) *Epidendrum scutella* Lindl. in Christenson, E.A. (Ed.), *Icon. Orchid. Peruvianum* t. 654. Christenson, E.A. (2003) digital image, *Epidendrum scutella*, In *A Manual to the Orchids of the Machu Picchu Historical Sanctuary*, pg. 15, PROFONANPE, Lima. Romero, G.A. (1998), photographs, *Epidendrum scutella*, in *Venezuela, Orchid Paradise*, pg. 82–83, Armitano Editores, Caracas. Mutis, J.C. (1985) as *Epidendrum lagotis* in *Flora de la Real Expedición Botánica del Nuevo Reyno de Granada*; 9, *Microspermae: Orchidaceae* 3: t. 29. Santiago, E. & Hágsater, E. (2015) *Epidendrum scutella*. In Hágsater, E. & Sánchez S., L. (Eds.), *The Genus Epidendrum* Part 11, *Icon. Orchid.* 15(1): t. 1559. Schlechter, F.R.R. (1921) *Epidendrum platyoon* in *Repert. Spec. Nov. Regni Veg.* 9: 91. Romero, G.A. (1998) *Venezuela: Orchid Paradise*, 203 pp., Armitano, Caracas.

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EPIDENDRUM SONSONENSE Rinc.-González, E.Santiago & Hágsater

Plate 1996

EPIDENDRUM SONSONENSE Rinc.-González, E. Santiago & Hágsater, *Lankesteriana* 22(2): 145-153 (2022).

Type: COLOMBIA: Antioquia, Municipio de Sonsón, Páramo de Sonsón, 2780 m, 5 noviembre 2017, *Heriberto David, Oswaldo Diaz & Cristian Bedoya 6154*. Holotype: HUA!

Terrestrial, monopodial, branched, erect **herb**, 50 to 180 cm tall. **Roots** 1.5–3.0 mm in diameter, basal from primary and secondary stems. **Stems** cane-like, terete, erect, straight, very robust, branching when mature, branches sub-apical and erect, base covered by sheaths 2.8 cm long, tubular, non-foliar, scarious; primary stem 44–120 × 2.0–2.3 cm; secondary stems 10–30 × 1.0–1.5 cm. **Leaves** 14–18 from primary stem, 7–14 on the branches, distributed throughout stems, articulate to foliar sheath, sub-erect respect to stem when mature, slightly conduplicate along basal half, nearly imbricated, similar in shape, two apical leaves decreasing in size, coriaceous, very rigid; sheaths 1.5–3.5 cm long, tubular, striated, rugose, pale yellow to creamy yellow; blade 2.7–10.0 × 1.4–3.0 cm, ovate-elliptic, green concolor when alive with ventral surface glaucous and margin ochre-green, when dry the leaf surface is ochre and the underside brown, entire, slightly revolute, apex obtuse. **Inflorescence** 6.0–9.5 cm long, apical, developing from mature stems, racemose, erect, compact, dense; peduncle 9–13 × 3.8–5.0 mm, terete, straight; rachis 45–75 mm long, straight, pale green. **Floral bracts** 5–11 × 3.5 mm, as long as ovary or slightly longer than ovary, triangular, apex acuminate, margin entire, embracing. **Flowers** 20–35, successive, basal flowers opening first, non-resupinate, distichous, distributed along rachis, pale yellow to creamy yellow, column pale green to pale purple in the apex, fleshy; fragrance sweet, faint. **Ovary** 7–11 mm long, terete, thick, furrowed, yellow green. **Sepals** free, partly spreading, fleshy, apex obtuse, 3-veined, with a dorsal keel, margin entire, spreading; dorsal sepal 7–11 × 3.5–6.0 mm, narrowly ovate; lateral sepals 7.5–12.0 × 4–8 mm, ovate-elliptic, oblique. **Petals** 6.5–10.0 × 1.5–3.0 mm, partly spreading, free, oblong-oblancoate, oblique, apex obtuse, 1-veined, margin entire. **Lip** 4.5–8.0 × 4–8 mm, united to column, fleshy, entire, cordiform, base cordate, apex obtuse, embracing column in natural position without covering it; disc with two small oblong keels at base. **Column** 4.5–7.0 mm long, thick, terete, with a pair of apical narrowly rounded wings at apex. **Clinandrium** reduced, margin entire. **Anther** 4-celled, ovoid, white. **Rostellum** apical, slit. **Cuniculus** shallow, without penetrating ovary, without ornamentation detail. **Capsule** not seen.

OTHER SPECIMENS: COLOMBIA: Antioquia: Municipio de Sonsón: Páramo de Sonsón: Cerro de Las Palomas, 3370 m, 16 X 2009, *Alzate et al. 3379*, HUA! Páramo de Sonsón, 2700–3240 m, 10 I 1995, *Betancur 5864*, FMB! (LCDP voucher, pro-parte (only dissected flower), HUA! Vereda Norí, Cerro de las Papas, vertientes hacia el Magdalena, 2960 m, 20 X 1997, *Cogollo 11436*, JAUM! (illustration, AMO! Cerro de Las Palomas, alrededores de la escalera para subir a la cima del cerro, 3250 m, 16 VI 2012, *Diaz et al. 828*, HUA! *Ibid. Diaz 852*, HUA! Páramo de las Palomas, 3290 m, 11 VII 1989, *Hoyos 1197*, HUA! *Ibid. Hoyos 1200*, HUA! Páramo Alto de las Palomas, 3400 m, 13–16 XI 2008, *Méndez 4571*, HUA! Páramo de las Palomas, 3366 m, 10 IV 2014, *Sarrazola 507*, HUA! Páramo La Vieja, 3112 m, 15 V 2014, *Sarrazola 616*, HUA! Vereda Manzanares bajo, Morro de La Vieja, 3160 m, 11 XI 2020, *Vásquez 001*, JAUM! (LCDP voucher, pro parte). Vereda San Francisco. La Palmita, Cerro La Paloma, 3350 m, 8 IV 2009, *Vélez-Puerta 3297*, MEDEL! digital images of live material, AMO! MEDEL! (Photo voucher)

OTHER RECORDS: COLOMBIA: Antioquia: Municipio de Sonsón, Venteadero, 2625 m, 3 IV 2020, *Carmona s.n.*, digital image: <https://www.inaturalist.org/observations/43244852> Vereda La Francia, 1850 m, 22 VI 2018, *Salazar s.n.*, digital image: <https://www.inaturalist.org/observations/13915103> Páramo de Sonsón, 3200 m, 22 VI 2018, *Sánchez s.n.*, digital image: <https://www.inaturalist.org/observations/13824318>

RECOGNITION: *Epidendrum sonsonense* belongs to the *Macrostachyum* Group, which is characterized by the monopodial plants with sub-apical branching, the rugose leaf sheaths, the large leaves generally spreading, the erect racemose inflorescence, and the fleshy flowers generally green to black (ripe olive colored), as well as yellow to pink to purple, the entire, conduplicate, generally ecallose lip embracing the column, and the nectary pubescent to papillose in front of the stigmatic cavity and at least at the base of the lip. The new species is recognized by the robust stems, 2.0–2.3 cm thick, the leaves 2.7–10 × 1.4–3.0 cm, sub-erect, coriaceous very rigid, somewhat imbricated, the inflorescence dense with successive flowers yellow to creamy yellow, the floral segments partly spreading, very fleshy, the sepals 7–12 mm long and the labellum cordiform. It is similar to *Epidendrum polyanthostachyum* Hágsater, E. Santiago & García-Ramírez, ranging from the departments of Valle del Cauca and Chocó, Colombia, but that species has thin stems, 0.5–1.0 cm thick, the leaves spreading, larger and sub-coriaceous, the inflorescence dense with simultaneous flowers green turning yellow upon ageing, the floral segments spreading and the labellum widely deltoidal. *Epidendrum lasiostachyum* Rodr.-Martínez, Hágsater & E. Santiago endemic to the Valle del Cauca, Colombia, is florally similar but the plants are smaller with thin stems, 0.3–0.5 cm thick, the leaves are 4.5–6.0 × 0.8–1.0 cm, lanceolate and spreading, the inflorescence is laxly few-flowered, the flowers yellow with the apex of the column purple, and the labellum is trullate, thickly covered by trichomes (Hágsater *et al.*, 2016).

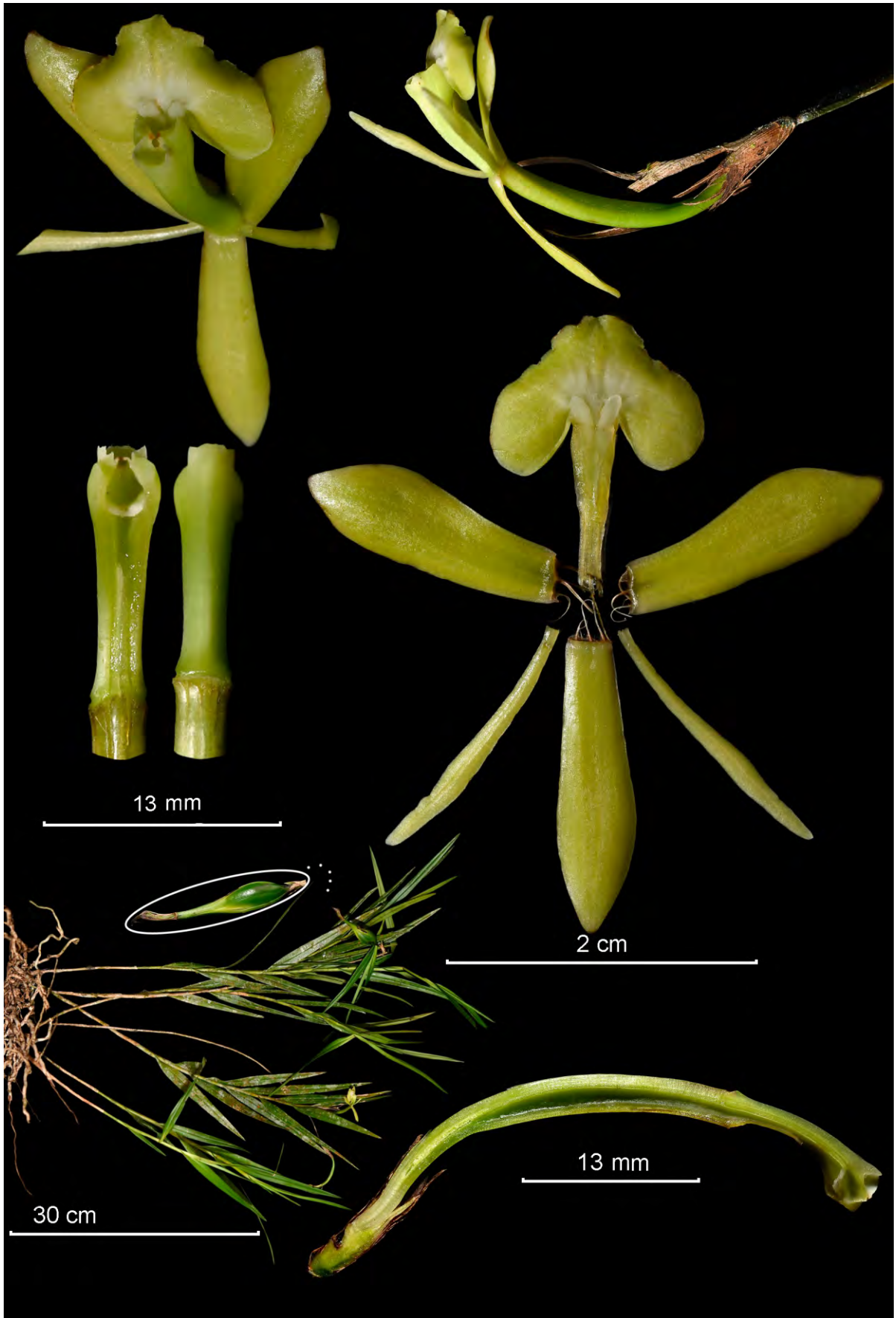
DISTRIBUTION AND ECOLOGY: The species endemic to Colombia, and is known only from the Municipality of Sonsón, paramo de Sonsón, Cerro de las Palomas, Cerro de las Papas, and paramo La Vieja. There are other potential areas of occurrence in the departments of Caldas (Manzanares, Marulanda and Pensilvania), and northern Tolima (Herveo and Fresno), with the southern potential limit of distribution in the Parque Nacional Natural los Nevados and the northern limit in Belmira, Antioquia. The species is found terrestrially at 2960–3400 m elevation, flowering between April and November, probably blooming all year round.

ETYMOLOGY: In reference to the municipality of Sonsón, paramo de Sonsón, Antioquia, Colombia, where the new species has been found.

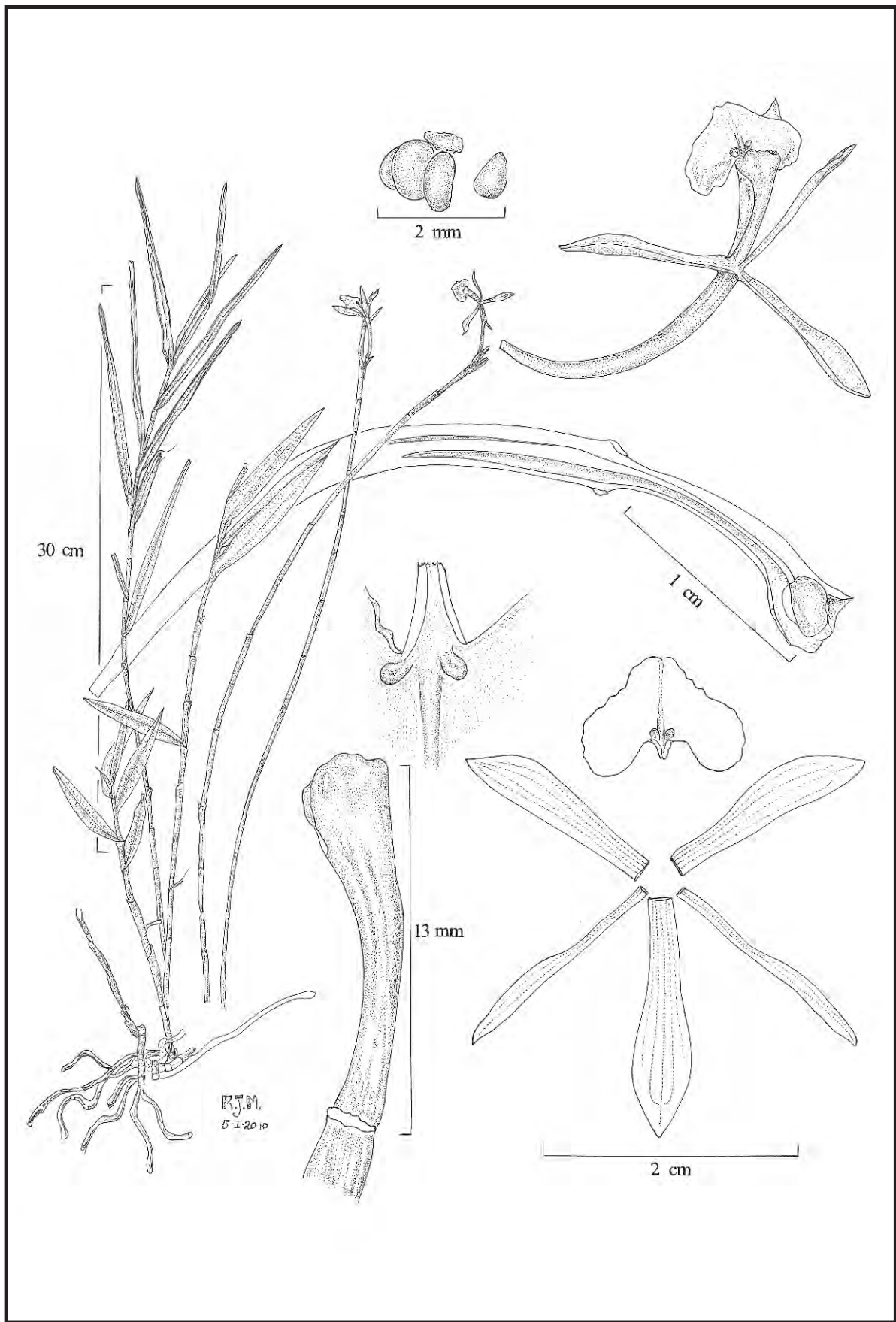
CONSERVATION STATUS: Vulnerable VU B1ab(iii). The area of potential distribution of the species is below 5000 km². The actual extent of occurrence being 801 km², with less than 10 known localities. There is pressure from extensive cattle grazing and deforestation in the páramo and sub-páramo areas.

REFERENCES: Hágsater, E., Santiago E. A. & García-Ramírez, D. (2013) *Epidendrum polyanthostachyum*. In Hágsater, E. & Sánchez, S. L. (Eds.), The Genus *Epidendrum*, Part 10, **Icon. Orchid.** 14: t. 1477. Hágsater, E., Santiago, E. & Rodríguez-Martínez, L. (2016) *Epidendrum lasiostachyum* (Orchidaceae): a new Colombian species of the *Epidendrum Macrostachyum* group, *Lankesteriana* 16(1): 27–37. Santiago, E., & Hágsater, E. (2018) *Epidendrum lasiostachyum*. In Hágsater, E. & Santiago, E. (Eds.), The Genus *Epidendrum*, Part 14, **Icon. Orchid.** 16(1): t. 1634.





EPIDENDRUM TANDAPIOIDES Hágsater



EPIDENDRUM TANDAPIOIDES Hágsater

EPIDENDRUM TANDAPIOIDES Hágsater, *Icon. Orchid.* 12: t. 1297 (2009).

Type: PERU: Cajamarca: Prov. San Ignacio, La Coipa, 2000 m, 9 mayo 1987, *Shirley Keel & César del Carpio 978*. Holotype: USM!

Epiphytic or terrestrial, sympodial, caespitose **herb**, 25–50 cm long, young stems erect, arching hanging when mature. **Roots** 1.5–3 mm in diameter, fleshy, thin, white, spaced along basal part of stems, thick. **Stems** 25–48 × 0.2–0.3 cm, originating from basal internodes of previous stems, simple, cane-like, terete at base, laterally compressed towards apex, thin, straight and sub-erect when young, arching and hanging when mature; base covered by tubular, non-foliaceous, scarious sheaths, 1.5–2 cm long, becoming fibrous with age. **Leaves** 7–19, distributed along apical half of stem, distichous, articulate, sub-parallel to stem; sheath 2–3 × 0.2–0.3 cm, tubular, minutely striated, slightly ancipitose; blade 6.5–12.5 × 0.5–1.2 cm, linear-lanceolate, apex acuminate, margin entire, spreading or some revolute. **Spathes** lacking. **Inflorescence** 2.5 cm long, apical and lateral, sub-sessile, producing one flower at a time in succession, flowering also from old stems lacking leaves. **Floral bracts** 9 mm long, much shorter than ovary, triangular-ovate, acute, embracing. **Flowers** successive, non-resupinate, fleshy, greenish yellow, sometimes sepals with veins marked light brown, disc and calli white, pollinia yellow. **Ovary** 2.5–3 cm long, terete, thin, striated, not inflated. **Sepals** partly spreading, free, oblanceolate, acute, 7-veined, margin entire, spreading, **dorsal** 17 × 5.2 mm; **laterals** 19–20 × 5–6 mm. **Petals** 17–18 × 1.3–1.5 mm, spreading, free, linear, slightly falcate, acute, 1-veined, margin entire, spreading. **Lip** 10–11 × 12–14 mm, united to column, slightly 3-lobed, base deeply cordate; bicallose, calli small, globose; disc with low mid-rib, sometimes reaching apex of lip; lateral lobes 4–5.5 × 6.5–7 mm, obliquely dolabriform, margin entire; mid-lobe 3.5–4.3 × 4.3–5 mm, sub-triangular, minutely apiculate, margin erose. **Column** 13–14 mm long, thin, slightly arching, long. **Clinandrium-hood** short, margin entire. **Anther** not seen. **Pollinia** 4, lenticular; caudicles granulose. **Rostellum** apical, slit; viscarium semi-liquid. **Lateral lobes of stigma** prominent, as long as stigmatic cavity. **Cuniculus** penetrating 2/3 apical part of pedicellate ovary, not inflated, unornamented. **Capsule** ellipsoid, perianth persistent, pedicel and apical neck subsessile, body 70 × 23 mm.

OTHER SPECIMENS: PERU: Amazonas: Prov. Utcubamba: Distr. Bagua Grande: ACP Bosque Berlin, 1900 m, 6 XII 2015, *Damián 1138*, UFV! Bongará: Pomacochas road, km 318.5 (E. of Olmos) between Pomacochas and Río Utcubamba, 1810 m, 1 II 1964, *Hutchison 3938*, AMES! UC! Pomacochas: Shillac, north by trail from Pedro Ruiz, 2300 m, 31 VIII 1983, *Smith 4934*, USM! (Illustration voucher).

OTHER RECORDS: PERU: Amazonas: Prov. Chachapoyas, Leimebamba, Valle de los Chilchos, *Deza s.n.*, digital image, AMO! Prov. Leimebamba, *Salas s.n.* digital image, AMO! Prov. Bongará, Catarata Gocta, 28 VI 2010, *Spittler s.n.*, digital images, AMO! San Martín: Rioja: sector Venceremos, Río Serranoyacu, 1951 m, 19 VI 2016, *Edquén 2095*, digital photo, AMO! *Ibid. Edquén 6760* digital images, AMO! (LCDP and Photo voucher).

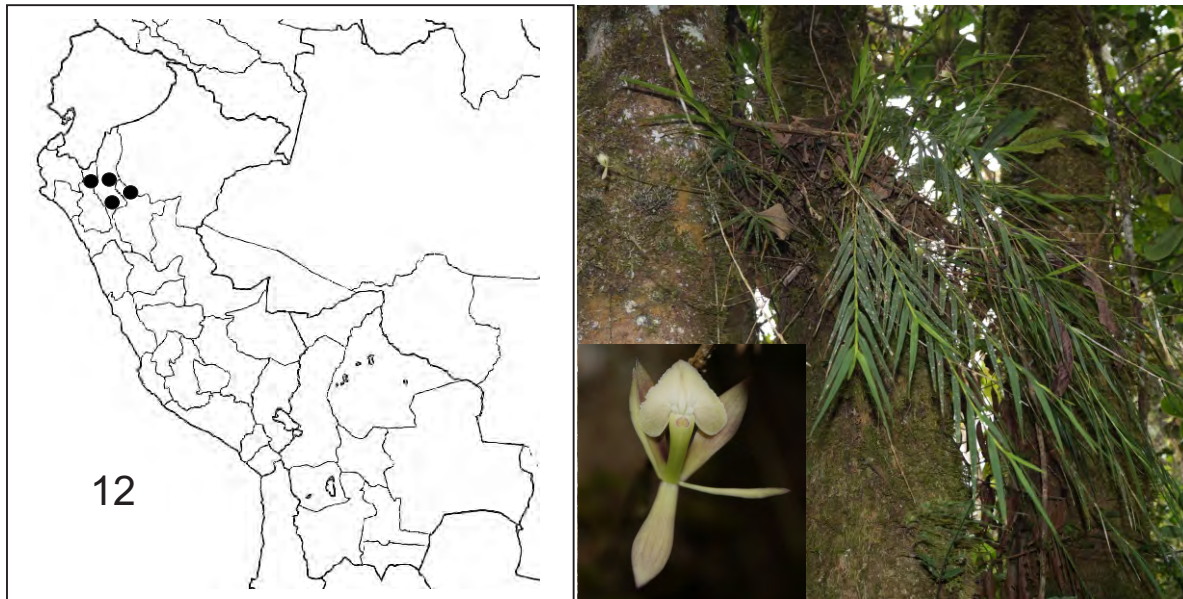
DISTRIBUTION AND ECOLOGY: Known presently only from northern Peru, south of the Ecuadorian border, on the upper eastern slope of the Andes in the departments of Amazonas, Cajamarca and San Martín; epiphytic on tree trunks in humid montane forest and terrestrial in grass on the edge of road banks, at 1810–2300 m elevation. Flowering in February to August.

RECOGNITION: *Epidendrum tandapioides* belongs to the Tandapianum Group, which is recognized by the sub-caespitose habit and inflorescence producing single, successive flowers, with a large triangular, deeply cordate, bicallose lip. This species is recognized by the thin stems, linear-lanceolate leaves 6.5–12.5 × 0.5–1.2 cm, the apical and lateral inflorescences producing one flower at a time, the flowers greenish yellow sometimes the veins marked in light brown, the sepals 17–20 mm long, the petals linear and the lip deeply cordate. *Epidendrum tandapianum* Dodson & Hágsater has green flowers, the ovary slightly inflated ventrally along the apical half, the petals linear-oblanceolate, and an entire, triangular lip.

CONSERVATION STATUS: DD. Data deficient. Presently known from a range of 200 km on the upper eastern slope of the Andes, from nine sites.

ETYMOLOGY: In reference to the similarity of this species with *Epidendrum tandapianum* which in turn refers to the town of Tandapi, in Pichincha, Ecuador.

REFERENCES: Hágsater, E. (2009) *Epidendrum tandapioides*. In Hágsater, E. & Sánchez S., L. (Eds.), The Genus *Epidendrum* Part 8, *Icon. Orchid.* 13, t. 1297. Santiago, E. & Hágsater, E. (2009) *Epidendrum tandapianum*. In Hágsater, E. & Sánchez S., L. (Eds.), The Genus *Epidendrum* Part 8, *Icon. Orchid.* 12, t. 1296.



Authors: E. Hágsater, J. D. Edquén O. & E. Santiago

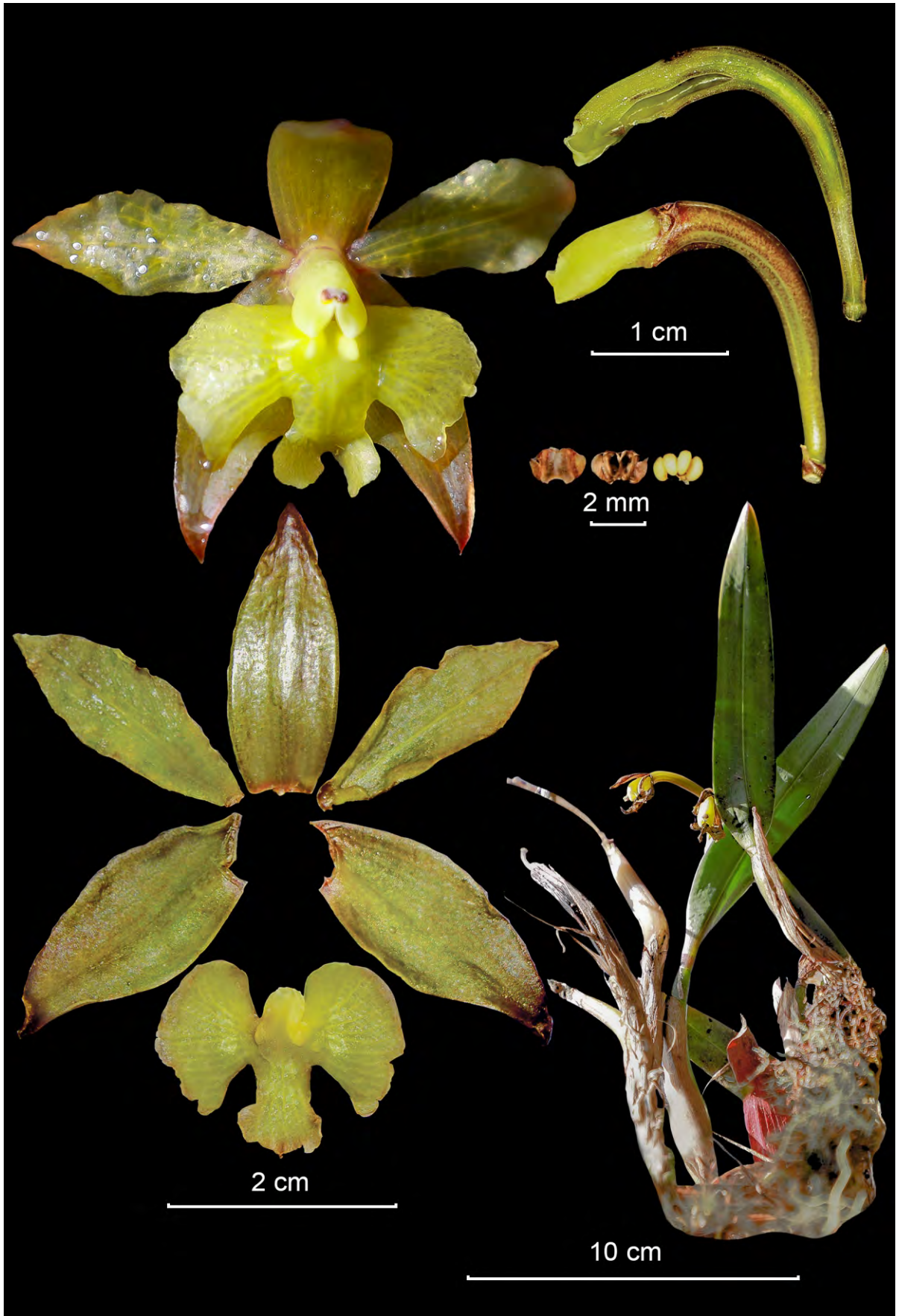
LCDP: J. D. Edquén O. & X. Alcántara

Illustrator: R. Jiménez M.

Photo: J. D. Edquén O.

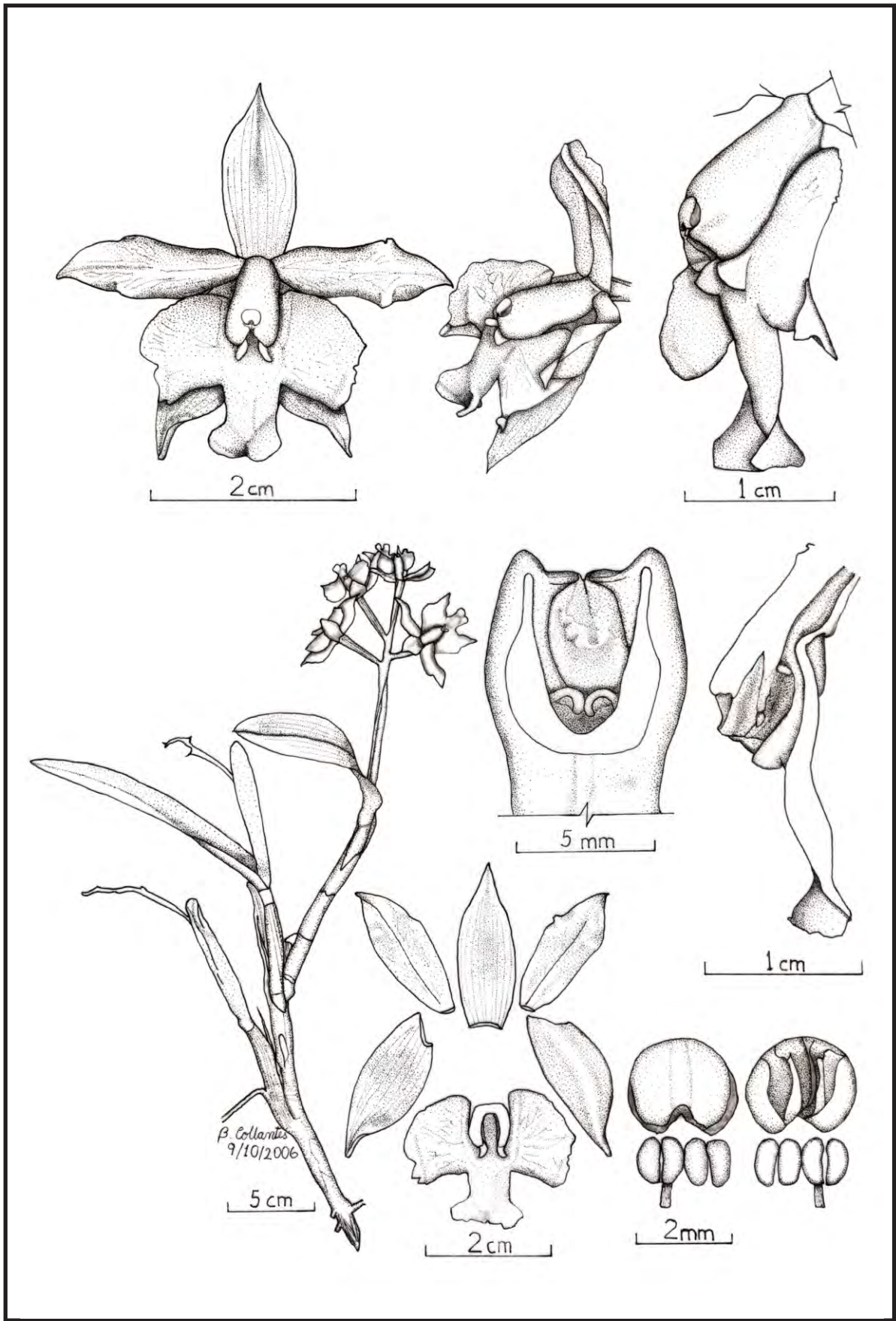
Editors: E. Hágsater & E. Santiago

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EPIDENDRUM TETARTOCICLIUM Collantes & Hågsäter

Plate 1998a



EPIDENDRUM TETARTOCICLIUM Collantes & Hågsater

EPIDENDRUM TETARTOCICLIUM Collantes & Hágsater, Icon. Orchid. 14: pl. 1487 (2013).

Type: PERU: Huancavelica: Prov. Tayacaja: Distr. Huachocolpa: Bosque Amaru, 3000–3600 m, 19 abril 2004, *Reden Suárez & Gissela Alegria 006 ex Benjamín Collantes 903*. Holotype: USM! Isotypes: MOL! USM!

Epiphytic, sympodial, creeping, robust **herb**, 30–40 cm tall. **Roots** 0.5–2.0 mm in diameter, basal, scarce, thick. **Rhizome** erect to arching, covered by scarious, evanescent bracts, 4–7 cm long. **Stem** 5.5–12 × 0.7–0.9 cm, thickened, forming a thin, terete, fusiform, unifoliate pseudobulb, old pseudobulbs rugose-striated, dark green, the new pseudobulb smooth and brilliant, covered by a persistent, tubular, non-foliar bract, 6.8–12 × 1.2 cm, scarious, becoming fibrous with time, the distal margin free. **Leaves** 12.5–20.5 × 2.3–2.9 cm, single, apical, erect, narrowly oblong-elliptic, acute to sub-acute, sometimes with a minuscule apicule, narrow at the base, sessile, coriaceous, green and waxy (brilliant). **Spathes** 1, 7.4–8.1 × 0.6–1.5 cm, prominent, covering more than half peduncle of the inflorescence, tubular at base, conduplicate at apex, apex rounded, light brown. **Inflorescence** 14–16 cm long including the flowers, apical, racemose, with 3–4 flowers, erect to slightly arching, peduncle 8.1–10.7 cm long, thin; rachis 2.1–3 cm long. **Floral bracts** 2 mm long, much shorter than the ovary, widely triangular, acute, embracing. **Flowers** 3–4, simultaneous, resupinate, natural spread 4–5 cm, sepals light green to creamy green, translucent to somewhat opaque, petals and lip creamy green to citrine-yellow, the mid-lobe light green, translucent to slightly opaque; fragrance seminal, detected in the morning. **Ovary** 23–37 mm long, terete, progressively dilated towards the apex. **Sepals** spreading, free, elliptic, acuminate, 7–9-veined, margin entire, spreading; the **dorsal** sepal 25–26 × 9.0–9.5 mm, concave to convex, with a low keel, margin irregular; the **lateral** sepals 26–29 × 9.5–10.2 mm, oblique at the base, with a dorsal keel or not. **Petals** 20–25 × 8.0–8.5 mm, spreading, slightly arching forward, oblong-elliptic to oblong-obtrullate, acute, 3-veined (the lateral veins short-branched), margin entire, spreading. **Lip** 18–22 × 20.5–29 mm, united to the column, deeply 3-lobed, base cordate; bicallose, the calli basal, complanate, divaricate; lateral lobes 9 × 13 mm, shaped like a quarter circle, distal margin irregularly erose, the anterior margin forming a 80°–90° angle with respect to the isthmus of the mid-lobe; mid-lobe 8 × 8 mm, with a square isthmus abruptly dilated into a pair of rounded to sub-deltoid lobes, apex retuse, with a conspicuous mucro. **Column** 12–14 × 6.0–6.5 mm, short, thick, arched, constricted at the base, dilated towards the apical half. **Clinandrium-hood** reduced, margin entire. **Anther** sub-spherical-reniform, 4-celled. **Pollinia** 4, ellipsoid to sub-ovoid, sub-equal, dorsally convex, ventrally flattened. **Rostellum** sub-parallel to the axis of the column, occupying about the apical half of the column, slit, the anterior margins overlapping, forming an oval foramen; viscarium semi-liquid, transparent. **Lateral lobes of the stigmatic cavity** prominent, semi-discoid, arching, the upper border minutely granulate. **Cunuculus** shallow, penetrating nearly 1/8 of the ovary, 3 mm, unornamented.

OTHER SPECIMENS: PERU: Huancavelica: Prov. Tayacaja: Distr. Huachocolpa, Bosque de Amaru, 22 II 2005, *Collantes 1002*, AMO! USM! (Illustration and Photo voucher). *Ibid.*, paraje Chaupimonte, 3400 m, 16 VI 1999, *León 3056*, USM! *Ibid.*, arriba de Marcavalle, 2800 m, 20 IV 1964, *Tovar 4767*, UC! USM!

OTHER RECORDS: PERU: Junín: Prov. Concepción, Distr. Mariscal Castilla: Centro Poblado: San Martín de Porrás Mamac, Laguna Acchi, 3300 m, 5 V 2022, *Navarro 103*, digital images, AMO! (LCDP voucher).

DISTRIBUTION AND ECOLOGY: Known presently from Central Peru, Junín, on both sides of the Mantaro river in the province of Tayacaja in Huancavelica, including the Amaru forest, near Yanamito, epiphytic on *Clusia sp.*, in cloud forest, at 2800 to 3600 m altitude. Flowering from October to April.

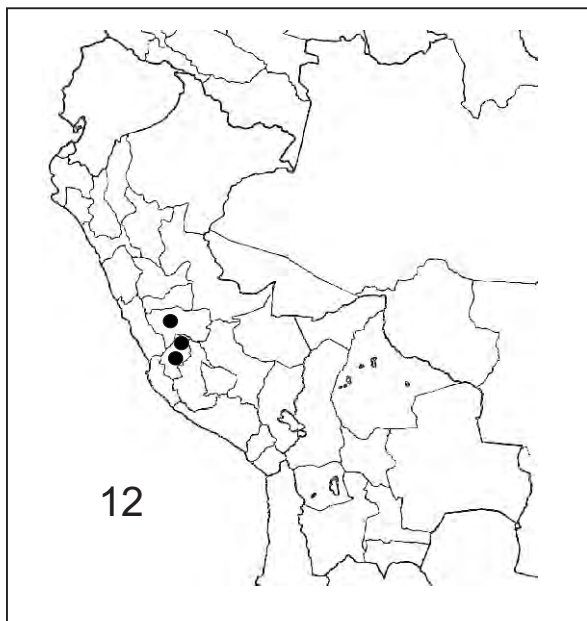
NOTES: The description is based on the holotype and 3 isotypes, 5 flowers were examined, from different inflorescences. The flowers have the fragrance of human semen, detected in the morning.

RECOGNITION: *Epidendrum tetartociclium* belongs to the Saxicola Group characterized by the pseudobulbous stems, racemose inflorescence subtended by a prominent spathaceous bract, and few, showy flowers, either resupinate or non-resupinate. The species is recognized by the creeping habit, fusiform, unifoliate pseudobulbs, resupinate pale green to citrine-yellow flowers, the petals nearly as wide as the sepals, 3-lobed lip, the lateral lobes shaped like a quarter-circle, the anterior margin forming an 80°–90° angle with the isthmus of the mid-lobe. It is similar to *Epidendrum herreranum* C.Schweinf. where the lateral lobes of the lip are obliquely rounded-dolabriform, the anterior margin forming a 10°–30° angle with the isthmus, the flowers are yellowish, with the dorsal surface of the sepals red brown. *Epidendrum monzonense* Kraenzl. has shorter, oblong leaves (6–9 × 1.5–2 cm), brown sepals (15 × 5 mm), and a yellow lip 14 mm wide.

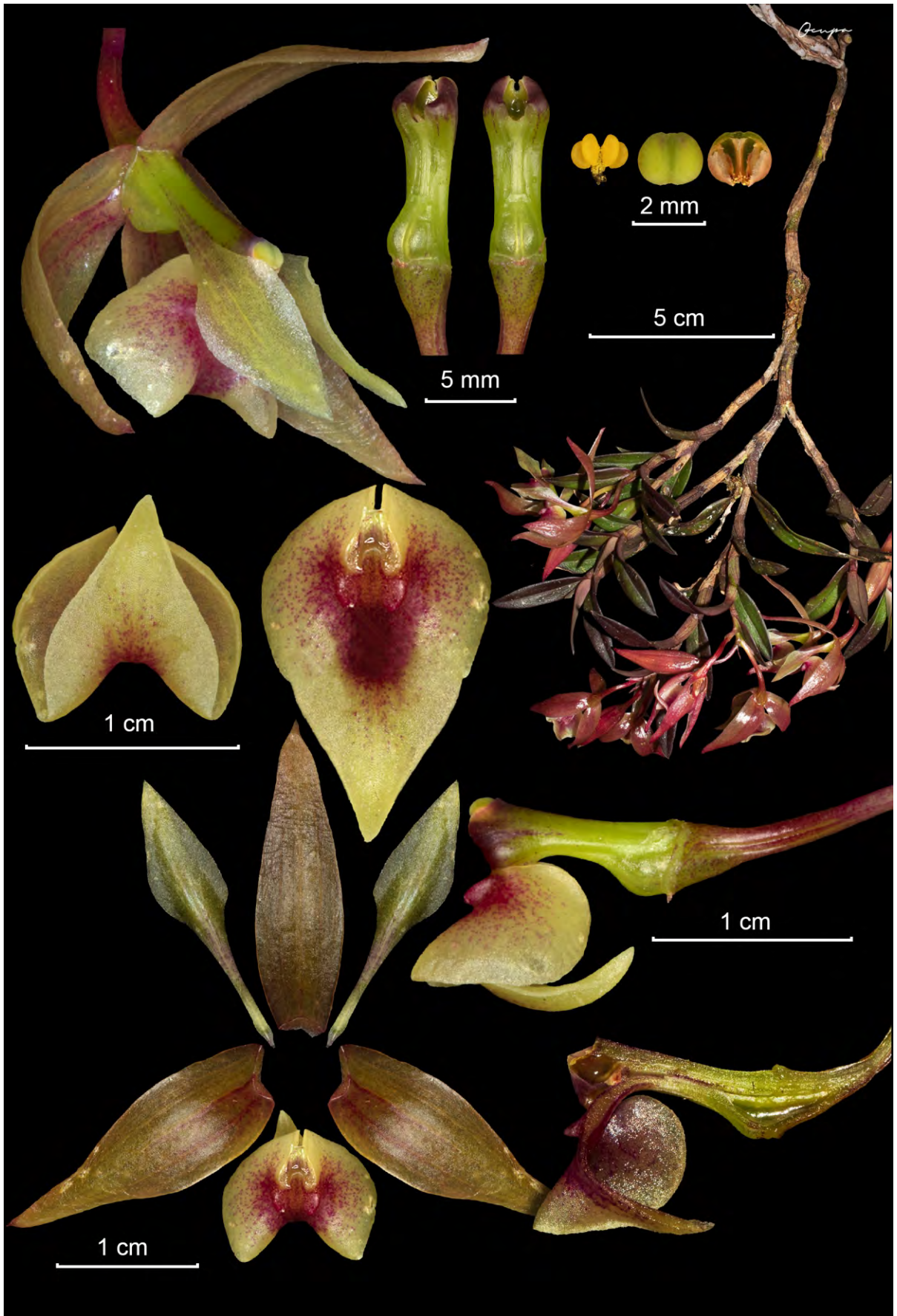
CONSERVATION STATUS: DD. Data deficient. The species is now known from three localities, a range of some 180 km, from central Peru.

ETYMOLOGY: From the Greek τεταρτοκυκλιον, a quarter circle, in reference to shape of the lateral lobes of the lip, a quadrant of a circle.

REFERENCES: Collantes, B. & Hágsater, E. (2013) *Epidendrum tetartociclium*. In Hágsater, E. & Sánchez S.L. (Eds.), The Genus *Epidendrum*, Part 14, *Icon. Orchid.* 14. t. 1487. Hágsater, E., & Collantes, B. (2013) *Epidendrum herreranum*. In Hágsater, E. & Sánchez, S.L. (Eds.), The Genus *Epidendrum*, Part 10, *Icon. Orchid.* 14: t. 1438. Kraenzlin, F.W.L. (1905) *Epidendrum monzonense* in *Repert. Spec. Nov. Regni Veg.* 1: 88. Schweinfurth, C. (1943) *Epidendrum herreranum* in *Revista Acad. Colomb. Ci. Exact.* 5: 350.



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EPIDENDRUM UNCHOGENSE Ocupa & E.Santiago

Plate 1999

Type:—PERU. Huánuco: Distrito Churubamba, Area de Conservación Regional Bosque Montano de Carpish, Bosque de Unchog, 2817 m, 7 March 2022, *Luis Ocupe Horna 299*. Holotype: USM-Spirit! (LCDP and Photo voucher)

Epiphytic, descending, monopodial, branched **herb.** ca. 10 cm long. **Roots** ca. 2.5 mm in diameter, basal, white, fleshy, thin. **Stems** cane-like, terete, thin, slightly sinuous to straight, primary stem ca. 4.5–9 × 0.25–0.39 cm, branches ca. 3.8–6 × 0.2–0.34 cm, new branches produced from a sub-apical node of a previous branch, progressively smaller, covered by non-foliar sheaths, 0.8–1.7 × 0.5–0.7 cm, infundibuliform, light brown to dark brown, with purple tones, ancipitose, striate, chartaceous. **Leaves** ca. 1.5–3.9 × 0.4–0.62 cm, 5–6 per stem, green to purplish brown, abaxially dark purplish, distributed along the branches, sub-coriaceous, articulate, distichous, straight to briefly reclined, attenuate, conduplicate at base, lanceolate, channeled in central vein, margin attenuate, apex acuminate. **Spathe** lacking. **Inflorescence** ca. 5 cm long, including flowers, apical, pendulous, racemose, few -flowered; peduncle ca. 8.5 mm long, short, thin, terete, slightly arched, with a leaf bract covering half the inflorescence; rachis ca. 3 mm long, very short. **Floral bracts** 3.5–5 × 2–3 mm, narrowly triangular, apex attenuate, light green or suffused with purple, membranaceous, embracing. **Flowers** 2–3, simultaneous, resupinate, nutant; sepals buff-colored, with wine-red spots, petals light green, with wine-red spots below the middle, lip cream tinged with wine-red spots in the center, column green, wine at the apex. **Ovary** 1.6–2.1 cm long, clavate, thin, 3-furrowed, purple-greenish and widened towards the apex, forming a ventral gibbous vesicle with the basal portion of the column. **Sepals** free, partly spreading, slightly thickened, lanceolate, concave, 5-veined, margin entire, extended; dorsal sepal 20–22 × 5–6 mm long, apex acute, adaxially sub-verrucose near apex; lateral sepals 21–23 × 6.5–7 mm, apex acuminate, oblique, unequal, adaxially sub-verrucose. **Petals** 20 × 4.8–5.3 mm, free, parallel to column, slightly convex, trullate, base long-attenuate, somewhat unequal, 3-veined, apex acute, longitudinally thickened along mid-vein, especially at half apical portion, margins slightly revolute to half apical portion. **Lip** 17.5 × 14 mm, attached to column, entire, narrowly ovate, deeply cordate at base, apex acute, apical half strongly recurved in natural position, bicallose; callus reniform, fleshy, wine-red, separated, forming a small cavity between them; basal sides of the lip convex, microscopic and short ciliated margin, giving appearance of having a bilobed apex. **Column** 10 × 3.5 mm, clavate, straight, widened at base, forming a ventral, gibbous vesicle with apical portion of ovary; stigma ventral, concave, covered by a viscous substance; lateral lobes of stigma thick, dark vinaceous; clinandrium-hood much reduced, margin entire. **Anther** 1.43 × 1.78 mm, sub-spherical, yellowish green, 4 celled, green. **Pollinarium** formed by 4 pollinia, yellow, in 2 nearly sub-equal pairs, obovoid, flattened at interfaces, caudicles attaching them in pairs, granulose. **Rostellum** apical, slit; viscarium semi-liquid. **Cuniculus** penetrating less than 1/2 ovary, wide, smooth. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: *Epidendrum unchogense* is a rare species known presently only from a small area located on the western slope of the central branch of the Andes, in Churubamba District, Huánuco Department. The type specimen was recorded in a small area within the Unchog Montane Forest, in the southern part of the Carpish Montane Forest Regional Conservation Area, growing as an epiphyte on branches of *Miconia monzoniensis* Cogn. between 2663–2817 m elevation, along the trail on the way to Naupamarca. This species was observed flowering in March, at the beginning of the rainy season in that department.

RECOGNITION: *Epidendrum unchogense* belongs to the Soratae subgroup of the Scabrum group which is characterized by the branching habit starting on a monopodial, primary stem, infundibuliform, rugose leaf-sheaths, lanceolate, aristate, obtuse, acute to subacute leaves, a racemose subcapitate inflorescence on a short, thin peduncle, and the bicallose lip. This species can be easily recognized by the leaves lanceolate, acuminate apex, the laxly, three-flowered inflorescence, the sepals 20–23 mm long, the petals trullate in the apical half and long attenuate at the base, parallel to the column, the lip entire, narrowly ovate with the apex acute and strongly revolute and a gibbous ventral vesicle, formed between the column and the ovary. It is similar to *E. llatasii* Hágsater, A.G.Díaz & E.Santiago, described from northern Peru but recently recorded for the San Pablo de Pillao district of Huánuco, has greenish-yellow concolorous flowers, sepals 12–15 mm long, petals linear with rounded apex and the lip incipiently 3-lobed with the lobe transversely rectangular and the apex truncate strongly revolute. Other related species such as *E. carpishense* Hágsater, D.Trujillo & E.Santiago has 3–4 creamy yellow flowers, concolorous, the sepals 4.5–5 mm long, the petals linear-filiform and the lip reniform. The shape of the callus and revolute apices of the lip of *E. unchogense* are slightly reminiscent of *E. labrychilum* Hágsater, Edquén & E.Santiago recorded from northern Peru, in San Martín Department, but that species has smaller flowers (sepals 9 mm long) and filiform petals 8 × 0.3 mm, in addition to the lip is 3-lobed with the median lobe short and incipient.

CONSERVATION STATUS: DD. Data deficient. This species is currently known from the Carpish Montane Forest Regional Conservation Area, central Peru.

ETYMOLOGY: The specific epithet is named in honor of the montane forest Unchog, where this unusual *Epidendrum* was found.

REFERENCES: Hágsater, E., Trujillo, D. & Santiago, E. (2009) *Epidendrum carpishense*. In Hágsater, E. & Sánchez S. L. (eds.) The Genus *Epidendrum* Part 8, *Icon Orchid.* 12: t. 1215. Hágsater, E., Edquén, O. J. D. & Santiago, E. (2019) *Epidendrum labrychilum*. In Hágsater, E. & Santiago, E. (eds.) The Genus *Epidendrum* Part 13, *Icon Orchid.* 17(1): t. 1730. Hágsater, E., Díaz, A. & Santiago, E. (2018) *Epidendrum llatasii*. In Hágsater, E. & Santiago, E. (eds.) The Genus *Epidendrum* Part 12, *Icon Orchid.* 16(2): t. 1679. Ocupe-Horna, L., Jiménez, J. M. Duarte J., Santiago, E. & Hágsater, E. (2022) *Two new species and new record of Epidendrum (Orchidaceae) from the Carpish Montane Forest Regional Conservation Area, Peru*, Phytotaxa 556(3): 269–280. DOI: [10.11646/phytotaxa.556.3.3](https://doi.org/10.11646/phytotaxa.556.3.3)



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LCDP: L. Ocupe H.

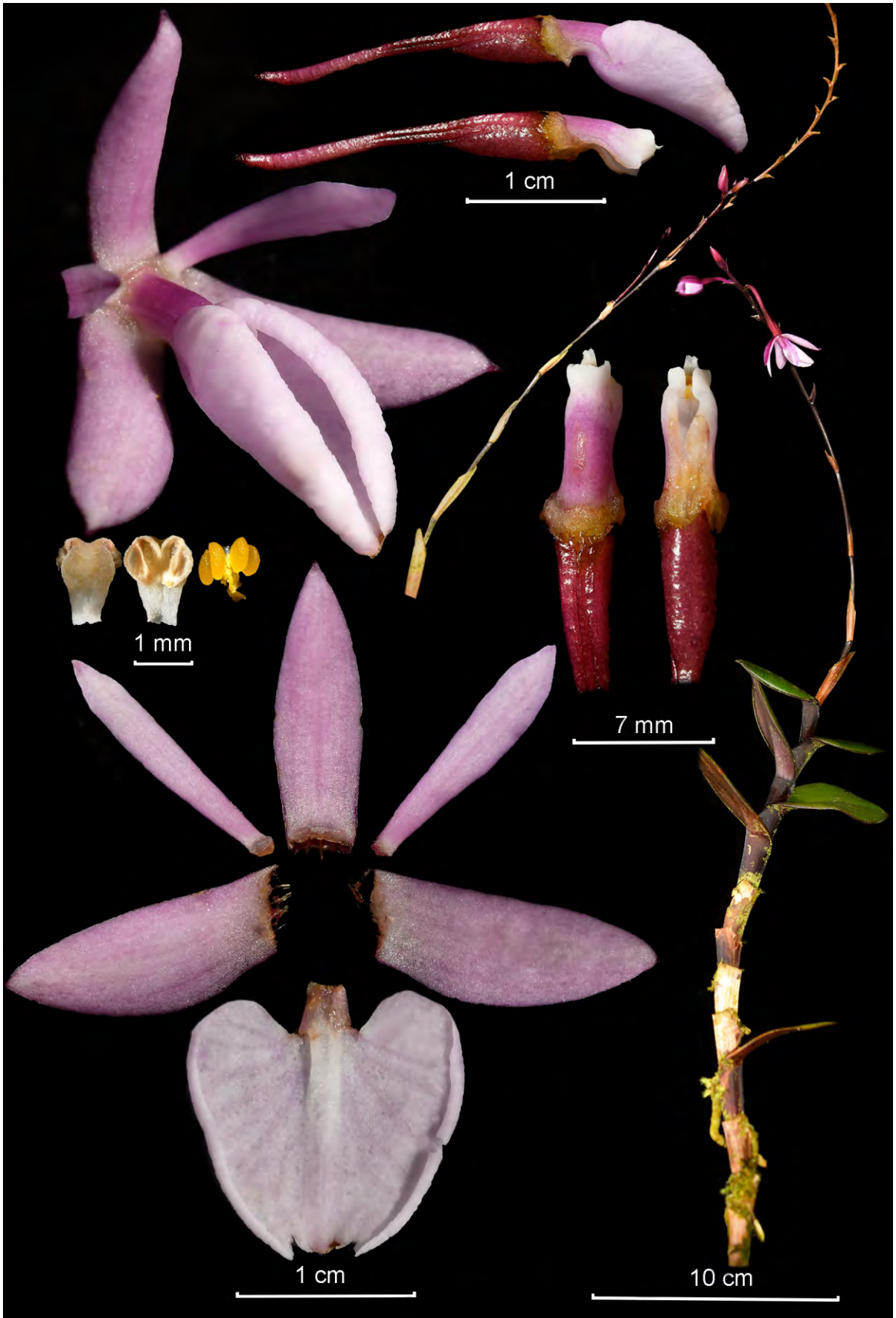
Photo: L. Ocupe H.

Editors: E. Hágsater & E. Santiago

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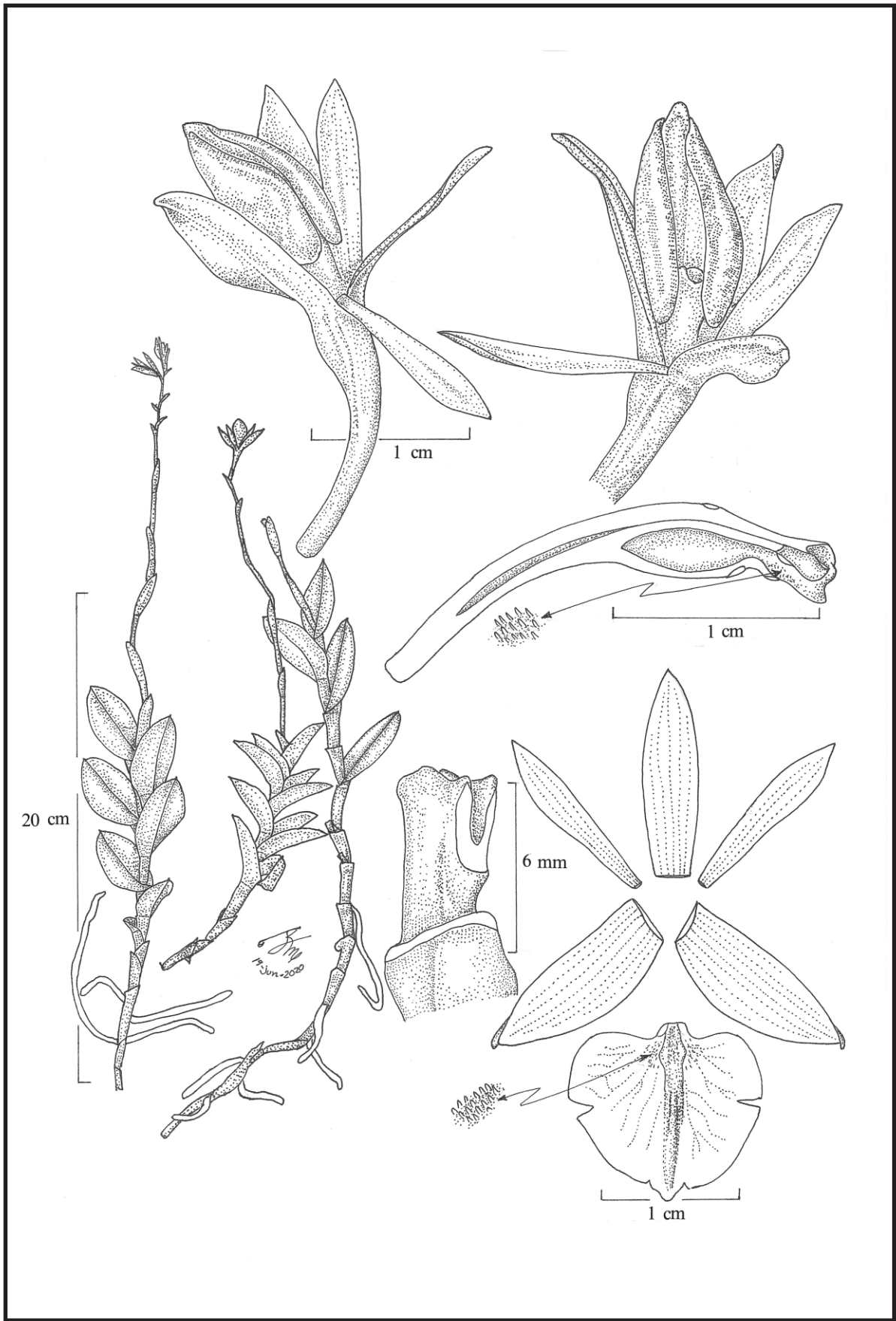
Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 19(3), 2023. Plate 1999



EPIDENDRUM VILLENAE Hágsater & E.Santiago

Plate 2000a



EPIDENDRUM VILLENÆ Hågsäter & E.Santiago

Plate 2000b

EPIDENDRUM VILLENAE Hágsater & E.Santiago, *Icon. Orchid.* 18(1): pl. 1847 (2020).

Type: PERU: Cajamarca: Prov. San Ignacio: Distr. Huarango: Cordillera Huarango, El Romillero. Bosque primario sobre suelo de arenisca blanca en la cresta de la Cordillera, 2370 m, 17 julio 2005, *Eric Rodríguez, E. Alvites I. & S. Arroyo 2896*. Holotype: USM! Isotypes: HUT, SEL! (Illustration voucher).

Terrestrial and lithophytic, sub-caespitose, sympodial **herb**, 25–41 cm tall including the inflorescence. **Roots** 2–3 mm in diameter, produced along the elongate rhizome, sometimes from the lower leafy part when leaves have fallen off, simple, fleshy, thick, white. **Stems** 11–30 cm long, erect, produced from a middle internode of the previous stem below the leaves, rhizomatous part 4–9 × 0.2–0.5 cm, the leafy part 8–18 × 0.4–1.0 cm, straight to sinuous, rigid, laterally compressed to ancipitose; rhizomatous part with thin, striated sheaths that disintegrate quickly. **Leaves** 7–10, distributed throughout the stems, 2.0–5.0 × 1.4–2.4 cm, widely elliptic 2:1–3:1, apiculate, a low dorsal keel running the length, conduplicate at the base, very fleshy, rigid and brittle, green on both sides to dark green above, dark purple to purple-brown beneath. **Spathes** lacking. **Inflorescence** 12–19 cm long, apical from mature stem, pluri-racemose, the new racemes originating from the apical bracts of the peduncle when the primary raceme has stopped producing flowers, distichous, laxly few-flowered; peduncle 10–16 × 0.2 cm, sinuous with 3–6 tubular bracts spaced along its length, bracts 5–25 × 2–6 mm, progressively smaller; rachis 5.7 cm long, slightly sinuous, flowering in succession one flower developing at a time, distance between flowers up to 7 mm, progressively shorter distally. **Floral bracts** 2–7.6 mm long, triangular, acuminate, embracing, progressively shorter. **Ovary** 15–17.5 mm long, terete, inflated behind the perianth. **Flowers** successive, one developing at a time, sometimes several buds present in different stages of development, non-resupinate, lilac, the lip white with very pale lilac hue, column lilac, anther white with very pale lilac hue; fragrance none. **Sepals** partly spreading, elliptic, acute, fleshy, margin entire, spreading; the dorsal sepals 13–15.6 × 3.9–4.0 mm, 5-veined, the lateral sepals 13.6–15.6 × 5.2–5.6 mm, 7-veined, slightly oblique, minutely apiculate. **Petals** 13.1–14.5 × 2.6–2.8 mm, sub-parallel to the column in natural position, linear-oblongate, acute, 3-veined, margin entire, spreading. **Lip** 12.6–13 × 13.6–14.4 mm, entire, widely sub-cordiform, the lateral margins involute in natural position and thus boat-shaped, loosely embracing the apex of the column, apex obtuse, apiculate, margin entire; disc with short pubescence, bicallose, the calli laminar and divaricate with a wide raised band down the middle to about the middle of the lip, the base somewhat canaliculate. **Column** 6–7 mm long, straight, the apex dorsally curves slightly upwards. **Clinandrium-hood** short, margin entire. **Rostellum** apical, slit. **Lateral lobes of the stigma** small, 1/3 the length of the stigmatic cavity. **Nectary** penetrating the ovary behind the perianth, inflated, pubescent opposite the stigmatic cavity. **Anther** ovoid, apex truncate. **Pollinia** not seen. **Capsule** ellipsoid, pedicel thin, apical neck short and thick.

OTHER SPECIMENS: PERU: Cajamarca: San Ignacio: Huarango: Quebrada El Mirador, 2200 m, 13 III 2000, *Calatayud 458*, CUZ! MO.

OTHER RECORDS: PERU: Amazonas: Yambasbamba-El Progreso, 30 XII 2019, *Velázquez s.n.* digital images, AMO! (Photo voucher). Prov. Rodríguez de Mendoza, Distrito Vista Alegre, 3200 m, Hort. Agro Oriente, XI 2017, *Villena s.n.*, digital images, AMO! Vivero Alto de Orquídeas Amazónicas, de El Progreso, ca. 3500 m, 15 VII 2022, *Hágsater 16433*, digital images, (LCDP voucher)

DISTRIBUTION AND ECOLOGY: Known presently from the Cordillera Huarango, an Andean Tepui of compacted white sandstone (arenisca), south to the District of Vista Alegre in the department of Amazonas, and the province of Rodríguez de Mendoza, a range of some 200 km in length; terrestrial or lithophytic among mosses at 2200–3200 m altitude. Flowering from March to November, probably much longer.

RECOGNITION: *Epidendrum villenae* belongs to the Indazense Group, which is recognized by the sympodial, sub-caespitose plants with laterally compressed stems and very rigid leaves, the elongate peduncles of the inflorescence covered by tubular bracts, and a very short rachis with successive flowers similar to those of the *Macrostachyum* group. The new species is recognized by the fleshy, very brittle, widely elliptic leaves, the lilac flowers with the lip white and the lip lateral margins involute and boat-shaped but sub-cordiform when spread, the calli laminar, small, with a laminar band running down the middle to the apex of the lip. *Epidendrum indanzaense* known presently only from Ecuador, has green flowers with the lip a lighter green and the lip cordiform when spread, ecallose and without ribs.

CONSERVATION STATUS: VU. Vulnerable. Known presently from a range of some 200 km in northern Peru, from the Cordillera de Huarango south to the District of Vista Alegre, to the east of the Río Mayo-Chinchipe bordering with Ecuador, and in the upper basin of the other Río Mayo, in the Department of San Martín, affluent of the Río Huallaga.

ETYMOLOGY: In honor of Biol. Janette Karol Villena Bendezú (1973–), who brought this species originally to our attention. Her father, Renato Villena Ruiz, founded Agro Oriente Viveros in 1980, also known as Orquídeas Amazónicas. Karol studied biology at the Universidad Ricardo Palma and has brought new focus to the company, propagating a number of interesting local species in two localities to grow both warm and cold climate species. They have plants of this species under cultivation.

ACKNOWLEDGMENT: Holotype was exported with CITES Export Permit Number Peru 10013, 11 August 2007, Received MO 30 August 2007.

REFERENCE: Hágsater, E., & Dodson, C.H. (1993) *Epidendrum indanzense*. In Hágsater, E. & Salazar, G.A. (Eds.), The Genus *Epidendrum*, *Icon. Orchid.* 2. t. 147. Hágsater, E., & Santiago, E. (2020) *Epidendrum villenae*. In E. Hágsater & Santiago, E. (Eds.), The Genus *Epidendrum*, *Icon. Orchid.* 18(1): t. 1847.



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