

ICONES ORCHIDACEARUM

Fascicle 18(2)

Plates 1849-1900

THE GENUS EPIDENDRUM

Part 14

“Species New & Old in Epidendrum”

Editors: Eric Hágsater & Elizabeth Santiago

CONTRIBUTORS TO FASCICLE 18(2)

Authors:

Eric Hágsater
Elizabeth Santiago Ayala
Luis Valenzuela Gamarra
Guillermo Alberto Reina-Rodríguez
Juan Sebastián Moreno Silva
Rolando Jiménez Machorro
Carlos Javier Jerez Rico
Mauricio Jerez Rico
Hugo Alfonso Medina Troyani
José Dilmer Edquén Oblitas
Irving Julian Duarte Salinas
Mario Alexei Sierra Ariza
Anaís Cisneros García
Iván Jiménez Pérez
Jorge Mario Vélez Puerta
Esteban Domínguez Vargas
Joel Maciel Pereira Cordeiro
Alex Gustavo Díaz Hernández
Sergio Olórtegui Chamolí
Ramiro Medina Trejo
Nicolás Gutiérrez Morales
Milton Rincón González
Amauri Herbert Krahl
Carlos Uribe Vélez
Marcos Salas Guerrero

Illustrators:

Anaís Cisneros García
Rolando Jiménez Machorro
Juan Sebastián Moreno Silva
Esteban Domínguez Vargas
Hugo Alfonso Medina Troyani
Delsy María Trujillo Chávez
Mario Alexei Sierra Ariza
Carlos Uribe Vélez
Iván Jiménez Pérez
Rafael Lucas Rodríguez †
Milton Rincón González
Astrid Domy Gutiérrez Ruiz
Louis Otho (Otto) Williams †
Marcos Salas Guerrero
Antonio Goicochea Rojas
Luis Valenzuela Gamarra

Photographers:

José Dilmer Edquén Oblitas
Guillermo Alberto Reina-Rodríguez
Rolando Jiménez Machorro
Juan Sebastián Moreno Silva
Rudy Gelis
Frank Jordan
Mario Alexei Sierra Ariza
Gerardo Adolfo Salazar Chávez
Robin Fernández Hilario
Peter Hoell
Florian Werner
Jhonatan David Puentes Rondón
Erica Morón de Abad
Beatriz Vásquez
Eric Hágsater
Jay Pfahl
Frank Jordan
David Haelterman
Carlos Uribe Vélez
Elizabeth Santiago Ayala
Iván Jiménez Pérez
Alejandro Romero Medina †
Fredy Alexander Alfonso Acosta
Joel Maciel Pereira Cordeiro
Sebastián Ospina
Larry Mayse
Alex Gustavo Díaz Hernández
Ramiro Medina Trejo
Hugo Alfonso Medina Troyani
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Carlos Javier Jerez Rico
Miguel Ángel Chocce Peña †
Marcos Salas Guerrero
Jairo Santiago García Revelo
Alex Reynolds
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Edwin Becerra
Ron Parsons
John Bohrman



Herbario
AMO

ICONES ORCHIDACEARUM

Fascicle 18(2), plates 1849 to 1900

THE GENUS EPIDENDRUM

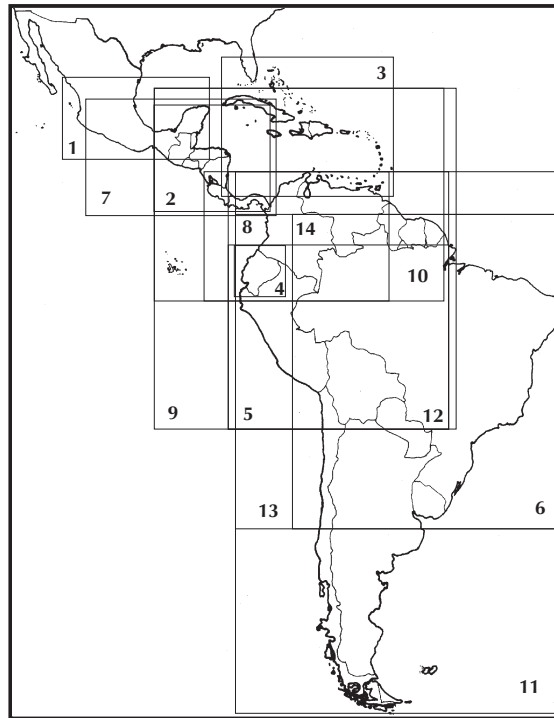
Part 14

“Species New & Old in Epidendrum”

Reference Map

TROPICAL AMERICA

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



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THE GENUS *EPIDENDRUM*

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Fascicle 18(2), plates 1849 to 1900

THE GENUS *EPIDENDRUM*

Part 14

Species New & Old in *Epidendrum*

FOREWORD

In this issue we have tackled some complicated issues such as *Epidendrum compressum* Griseb., which is very widespread in South American and has been described multiple times, and sometimes transferred to genera where it does not belong. In addition, there are problems because at least in two cases the "Type" collection was either several specimens of the same species collected in different localities at different dates, and thus the collector's number was used to identify not a particular collection but a particular species, i.e. the type of *E. laxum* Poepp. & Endl. In the case of *E. guentherianum* Kraenzl., two very different species were distributed under the same collection number and name, and though the protologue clearly corresponds to one set of specimens, the other set was later used to make a new combination, clearly disregarding the protologue. I wish to thank the Head of the Department of Botany of the W (Vienna) herbarium, Dr. Christian Bräuchler, for his help in clarifying this mess.

Clarifying these complications requires searching for all duplicates. We have photographed many of them through visits to the main herbaria in America and Europe and the photographs are housed in our AMO-DATA digital system (not yet available online), together with thousands of live plant photographs downloaded from our contacts in Facebook and other digital platforms. In addition, now numerous specimens can be downloaded by using the virtual herbaria in various platforms such as GBIF (Global Biodiversity Information Facility, GBIF.org) and also iNaturalist (iNaturalist.org). JSTOR (jstor.org) although primarily a digital storage system for journals, also stores selected herbarium specimens.

As to the citation of Holotypes and isotypes: they are clearly cited as Holotype: AMO! (LCDP voucher). Isotype: K! We clearly and unequivocally indicate that the type is at AMO, and that the LCDP (Lankester Composite Digital Plate) is based on the plant of which the holotype was later prepared, the pretype, a designation not accepted in the code. The same applies to Holotype: MO! (illustration voucher). The holotype is the specimen at MO, and the published illustration was prepared from the holotype at MO. The type can only be an herbarium specimen, so the addition of information as to which specimen was used for the preparation of illustrations, LCDP's or Photographs does not imply that any of these are types, but clearly indicates what material they are based on. We thank Dr. Helen Hartley Content Editor at IPNI, Kew for discussing these issues.

The use of the "!" after a specimen implies that we have seen either the specimen physically or at least a digital image of it. In some cases, we have records of duplicate specimens sent to other herbaria, if we have not seen them, they are simply stated as US, SP, USM.

An issue we have with citation of herbarium acronyms is that some smaller herbaria in South America have not registered with Index Herbariorum; a simple, online, free procedure. This causes a problem for registration of new species at INPI, International Plant Names Index. We are hereby providing a listing of such herbaria which we have used in the past.

HURP: Herb. Mus. Hist. Nat., Univ. Ricardo Palma, Lima, Perú. It is in the process of being registered in Index Herbariorum.

In the few cases where specimens are deposited in personal herbaria, we list them as follows:

Herb. I. Jiménez: Herbarium of Iván Jiménez, La Paz, Bolivia.

Herb. R. Vásquez: Herbarium of Roberto Vásquez Chávez, of Cochabamba, Bolivia, which is being integrated to the national herbarium in La Paz, LPB.

Finally, I would like to note that in making Icones Orchidacearum possible, it is clearly a group effort with many participants acting as co-authors, illustrators, photographers, and reviewers. We are increasingly able to share materials with amateurs and botanists in the countries involved, taking advantage of their vast field experience. As will be seen from the evolution of the Icones from illustrations prepared from herbarium specimens to LCDP's, we are working closely with collaborators in the field who can take a series of digital images from live material for the LCDP's.

We are especially thankful to Guillermo Reina Rodríguez for his help in processing the conservation status of many of the species. We also wish to thank Patricia Harding for her going over the English language to make it as clear and correct as possible.

In this issue we present 52 plates of which 29 are new to science, 11 from Peru, 8 from Ecuador, 10 from Colombia and 1 from Brazil (they don't add 30 because one is shared by Brazil and Colombia). A number of species are illustrated in color for the first time, having been published before in Icones with a botanical illustration only.

Eric Hágsater
August 2021
Mexico City
<https://orcid.org/0000-0002-2371-9427>
www.herbarioamo.org
herbamo@prodigy.net.mx

APPENDIX 1: Corrections to earlier volumes of *Icones Orchidacearum*:

Eric Hágsater

1.- *Epidendrum ancipitinocturnum* Hágsater & J.M.P.Cordeiro, *Icon. Orchid.* 18(1): pl. 1803. 2020.

This above name proposed as a new species for a Brazilian orchid has been found to be conspecific with *Epidendrum purpureocaule* Essers & Sambin (2018), a native of French Guyana. Accordingly, the earlier name is accepted here with its range extension to Brazil, and the later name is relegated to the synonymy as shown below.

**

2.- *Epidendrum humidicolum* Schltr. *Icon. Orchid.* 13: pl. 1340. 2010.

The correct name is *Epidendrum humidicola* Schltr. as originally published.

**

3.- *Epidendrum meridense* Hágsater & C.Jerez, *Icon. Orchid.* 18(1): pl. 1822

In Recognition, the length of the ovary is cited as "ovary 75-105 cm long". This is evidently wrong and it should read 75-105 mm long, as stated in the description.

**

4.- *Epidendrum pleurothallipnevma* Hágsater, Edquén & E.Santiago, *Icon. Orchid.* 16(2): pl. 1694.

The name on the plate is miss spelled as *Epidendrum pleurotallipnevma*, missing the h, correct to *Epidendrum pleurothallipnevma* as indicated in the text.

**

5.- *Epidendrum purpureocaule* Essers & Sambin, *Richardiana N.S.* 2: 146. 2018.

Type: FRENCH GUYANA: Guyane, commune de Sinnamary, Petit-Saut, PK 16 à droite et à une vingtaine de mètres de la route, altitude 30 m, 02/07/2017, Diana Essers & Aurélien Sambin 1083, (Holotype CAY; Isotype HJBG-H 0201 photos).

Synonym: *Epidendrum ancipitinocturnum* Hágsater & J.M.P.Cordeiro, *Icon. Orchid.* 18(1): pl. 1803. 2020, *syn. nov.* Type: BRAZIL: Amazonas: Mun. Novo Airão: passando Manacapuru, rama do Mineiro km 33, 93 m, epífita em Campinha alta em arena branca, col. 26 fevereiro 2017, prensado em cultivo 22 outubro 2020, Eric Hágsater, Leonardo Pessoa Felix, Joel Maciel Pereira Cordeiro, Erton Mendonça de Almeida 15079. Holotype: INPA!

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6.- *Epidendrum scabrum* Ruiz & Pav. in Santiago & Hágsater, *Icon. Orchid.* 8: pl. 886. 2006.

The illustration published by Santiago and Hágsater (2006: pl. 886) as *Epidendrum scabrum* of Dodson 15936 was mistakenly included and corresponds to the recently described *Epidendrum acrolithophilum* Hágsater & E.Santiago. A new *Icon* of *Epidendrum scabrum* is presented in this volume, under plate 18(2): 1893.

**

7.- *Epidendrum scabrum* Ruiz & Pav. var. *parviflorum* Cogn., *Martius Fl. Bras.* 3 (5): 107 1898.

We have determined the above variety to be the same as *Epidendrum acrolithophilum* Hágsater & E.Santiago, *Icon. Orchid.* 17(1): pl. 1701. (2019) and include it here as a heterotypic synonym:

Synonym: *Epidendrum scabrum* Ruiz & Pav. var. *parviflorum* Cogn., *Martius Fl. Bras.* 3 (5): 107 1898, *syn. nov.* [Non *E. parviflorum* Ruiz. & Pav. (1798)]. Type: In rupibus ad mont. Chimborazo. Alt. 4000 m. *William Jameson 251*. Lectotype (here designated): C! (mounted alone, the only specimen annotated by Cogniaux). Isolectotypes: G pro parte! (mounted with 3 other specimens/species). K-L! W-R 49954! (the specimen, not the contents of the envelope on upper left hand corner). W-R 49957! (A single raceme without flowers in an envelope on the upper right-hand corner corresponds to Jameson 251! The two large specimens correspond to *E. angustissimum* Lindl. (*Jamieson s.n.*, Quito.) There is a third sheet W-R 5866 which has two sketches of specimens at K-L; the sketch on the right corresponds to the specimen of *Jamieson 251* at K-L.

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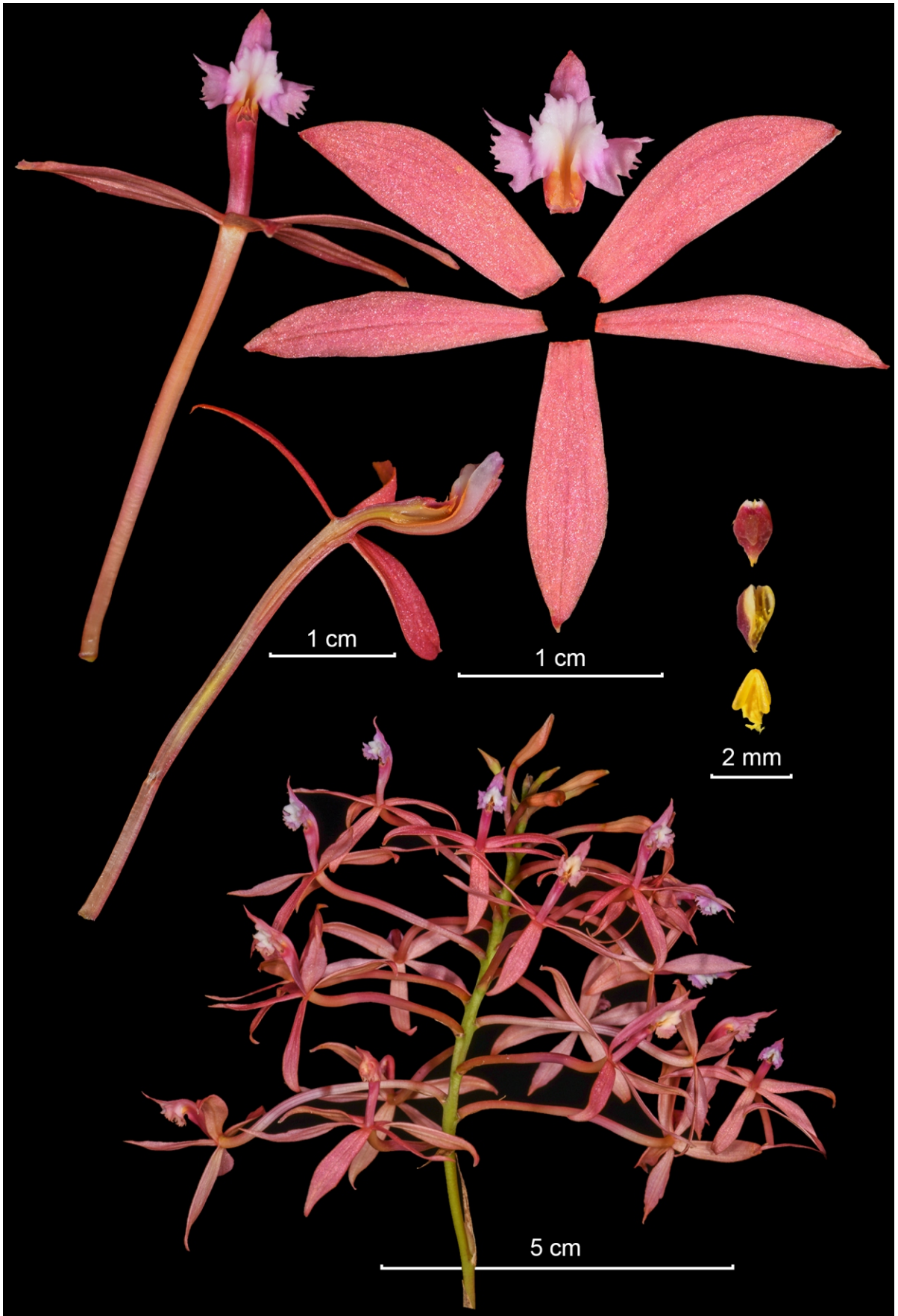
8.- *Epidendrum yanachagaense* Hágsater, *Icon. Orchid.* 13: pl. 1400. 2010

In the illustration, the scale of the column near the left margin indicates 1 mm, it should be 1 cm, as shown in the longitudinal section.

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) was published on 26 May 2015
Volume 15(2) was published on 19 July 2016
Volume 16(1) was published on 24 January 2018
Volume 16(2) was published on 30 November 2018
Volume 17(1) was published on 21 October 2019
Volume 17(2) was published on 11 May 2020
Volume 18(1) was published on 8 December 2020
Volume 18(2) is published on 13 August 2021



EPIDENDRUM ACUTILOBUM Hágsater & Uribe Veléz

Plate 1849

EPIDENDRUM ACUTILOBUM Hágsater et Uribe Vélez, sp. nov.

Type: COLOMBIA: Huila: Guadalupe: from Guadalupe to Andaluc a, 8000 ft, VIII 1964, *Alan M. Kapuler & V. Hascall 168*. Holotype: COL!

Similar to *Epidendrum vinosum* Schltr. but the sepals elliptic-oblancoelate, acuminate (vs. oblong-oblancoelate, apex obtuse), petals elliptic-oblancoelate, acuminate (vs. oblancoelate, acute), lip with lateral lobes semi-flabellate, spreading (vs. semi-orbicular, reflexed, the distal margin lacerate-dentate), and the mid-lobe usually appearing long, triangular, and acuminate (vs. mid-lobe short, oblong with the apex broadly triangular, obtuse to truncate).

Epiphytic, sympodial, caespitose erect herb, 65-70 cm tall including the inflorescence. **Roots** 1.2-1.8 mm in diameter, basal, terete, fleshy, white. **Stems** 28-30 x 0.28-0.38 cm, simple, cane-like, slightly sinuous, terete, and slightly compressed towards the apex, thin, basal half covered by non-foliar sheaths. **Leaves** 8-13, distichous, articulate, distributed along the apical half of the stems; sheaths 3.5 x 0.4-0.6 cm, tubular, smooth, papyraceous, scarious when dry; blade 3.5-11 x 1.8-2.3 cm, elliptic-oblong, apex rounded to unequally bilobed, coriaceous, smooth, medium green, margins entire. **Spathes** lacking. **Inflorescence** 40-55 cm long, racemose to pluri-racemose, producing new racemes from the upper nodes of the peduncle, cylindrical to sub-spherical; peduncle 30-46 cm long, elongate, straight, covered by 6-8 bracts, 2-5 cm long, yellow with brown dots, scarious when dry, striated, papyraceous, imbricated, acuminate; rachis 7-10 cm long. **Floral bracts** 3-23 mm long, decreasing in length, much shorter than the ovary, triangular, acuminate, embracing. **Flowers** ca. 25, successive, nearly all eventually open at the same time, very attractive, with a few apical buds, non-resupinate, flowers pale pink-red, lip somewhat pinker, the column darker, the apical wings orange, anther wine-red, large white callus; fragrance none. **Ovary** 37-40 mm long, terete, thin, not inflated, coral-red tinged green, furrowed. **Sepals** 14.4 x 4.0-4.4 mm, spreading, horizontal, elliptic-oblancoelate, apex acuminate, margin entire, 5-veined; lateral sepals slightly oblique, the side proximal to the petals straight, the side proximal to the lip curved, with a low dorsal keel. **Petals** 15.2 x 3.0-3.2 mm, spreading, horizontal, elliptic-oblancoelate, somewhat oblique, acuminate, 3-veined, margin entire, spreading. **Lip** 7 x 8.6 mm, united to the column, erect, 3-lobed, base cordate, distal margin of lateral lobes distally irregularly and shallowly lacinate, callus massive, prominent, subquadrate, reaching the middle of the mid-lobe of the lip, formed by a massive truncate plate ending in 3 acute tubercules, with a pair of thick elliptic tubercules on top of the plate at the sides of the base that divergently terminate in acute points, leaving a narrow channel in the middle leading to the entrance of the nectary, the apical wings of the column adnate to these structures; lateral lobes 2.5-3.0 x 3.0-4.5 mm, obliquely semi-flabellate; mid-lobe 4.4 x 3.0 mm, triangular, acute, the margin entire, spreading. **Column** 10 mm long, including the apical wings, clearly arched with the lip concave, terete, thin, ventrally minutely papillose, with a pair of apical triangular wings, bidentate, embracing the rostellum. **Clinandrium hood** reduced, margin bidentate. **Anther** cordiform, elongate, narrow, acute, dorsally rugose, 4-celled. **Pollinia** 4, narrowly obovate, elongate, laterally compressed, subequal; caudicles soft and granulose, formed by elongate tetrads that appear as a pile of roof tiles; viscarium semi-liquid, transparent. **Rostellum** apical, slit. **Lateral lobes of the stigma** occupying 2/3 the length of the stigmatic cavity. **Nectary** ca. 30 mm deep from the apex of the column wings, penetrating 1/3 the length of the pedicellate ovary, minutely papillose, the papillae arranged in longitudinal lines. **Capsule** not seen.

OTHER SPECIMENS: COLOMBIA: Caquet a: Weg San Vicente-Campoalegre, bei Hans Ramos, 1800 m, 28 II 1939, *Renz 3119*, RENZ! **Huila:** Colombia: Vda. El Dorado, Parque Nacional Regional P ramo de Las Oseras, 1772 m, *Medina 64*, SURCO! digital images of live flower, AMO! Ibid. 1999 m, 23 I 2021, *Medina 94*, SURCO! Zwischen der D rfern Colombia und Natagaima in Magdalenatal, Ostanfang der Cordillera Altamisa, 1300 m, 30 IV 1939, *Renz 3120*, RENZ! **Santander:** V a Curos-M laga, 2755 m, 27 VI 2009, *Fern ndez-Alonso 28151*, COL! Floridablanca, a la altura del km 15 V a a C cuta, 1700 m, 10 II 2012, *Gonz lez 2067*, COL! Between Santa Barbara and Guaca, 2700 m, 6 XI 1981, *Luer 6597*, SEL!

OTHER RECORDS: COLOMBIA: Caquet a: Florencia: El P rtico, 24 II 2021, *Jordan s.n.*, Digital images, AMO! (Photo voucher). **Huila:** Altamira, comprada en Popay n, en Exposici n Nacional de Orqu deas, Popay n, 26 marzo 2018, *H gsater 15637*, spirit, AMO B-789! (Digital images & LCDP voucher, AMO!) Acevedo, 22 I 2014, *Rosero s.n.*, digital images, AMO! San Jos  de Isnos, cerca de Isnos, 1350 m, rec'd 13 II 2019, *M ndez s.n.*, digital images, AMO!

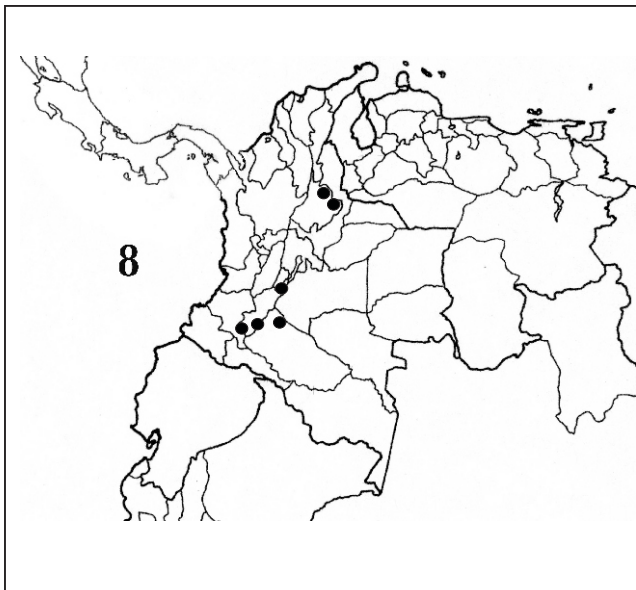
DISTRIBUTION AND ECOLOGY: Presently known from the Cordillera Oriental of Colombia, in the departments of Caquet , Huila and Santander, epiphytic and probably also terrestrial at 1300-2800 m elevation. Flowering from October to March.

RECOGNITION: *Epidendrum acutilobum* belongs to the Schistochilum group, Secundum subgroup, which is recognized by the caespitose habit, simple stems, leaves oblong-lancoelate, coriaceous, the bilobed and elongate peduncle of the erect, racemose inflorescence, the flowers non-resupinate, and the callus massive and complex. The new species is recognized by non-resupinate flowers, the pale pink-red flowers, with a large white callus on the lip, sepals 14.4 mm long, oblancoelate, petals 15.2 mm long, elliptic-oblancoelate; the massive callus prominent, formed by a massive truncate plate ending in 3 acute tubercules, with a pair of thick elliptic tubercules on top of the plate at the sides of the base that divergently terminate in acute points, the small lateral lobes of the lip, obliquely semi-flabellate, and the mid lobe of the lip triangular acute, margins entire. It is similar to *Epidendrum vinosum* Schltr., but that species has fuchsia to pale wine-red colored flowers, the callus white, sepals and petals more oblong, about 20 mm long, and wider near the obtuse apex, and the mid-lobe of the lip oblong, apically obtuse, and the callus about as wide as the mid-lobe, sub-quadrate, apiculate, with a rounded tubercule on each side. *Epidendrum villahermosaense* Sierra-Ariza & H gsater has pink-crimson flowers with a large wide, truncate callus, the sepals 17-19 mm long, the lateral sepals oblong, apex obliquely acute, and the retrorse lateral lobes of the lip deeply lacerate, spreading with the lateral margins entire and strongly revolute, the mid-lobe "Y" shaped, narrow at the base, and spreading towards the apex, with the lateral margins strongly revolute.

CONSERVATION STATUS: DD. Data deficient. Apparently widespread along the Cordillera Oriental of Colombia in the departments of Caquet , Huila, and Santander.

ETYMOLOGY: From the Latin *acutus*, acute, and *lobum*, lobe, in reference to the acute appearance of the mid-lobe of the lip which is characteristic of this species.

REFERENCES: H gsater, E., 2021, *Epidendrum vinosum* in E. H gsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 14, *Icon. Orchid.* 18(2): pl. 1898. Sierra-Ariza, M. A., & E. H gsater, 2018, *Epidendrum villahermosaense* in E. H gsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 14, *Icon. Orchid.* 18(2): pl. 1897.



Authors: E. H gsater & C. Uribe V.

LCDP: C. Uribe V. & A. Cisneros

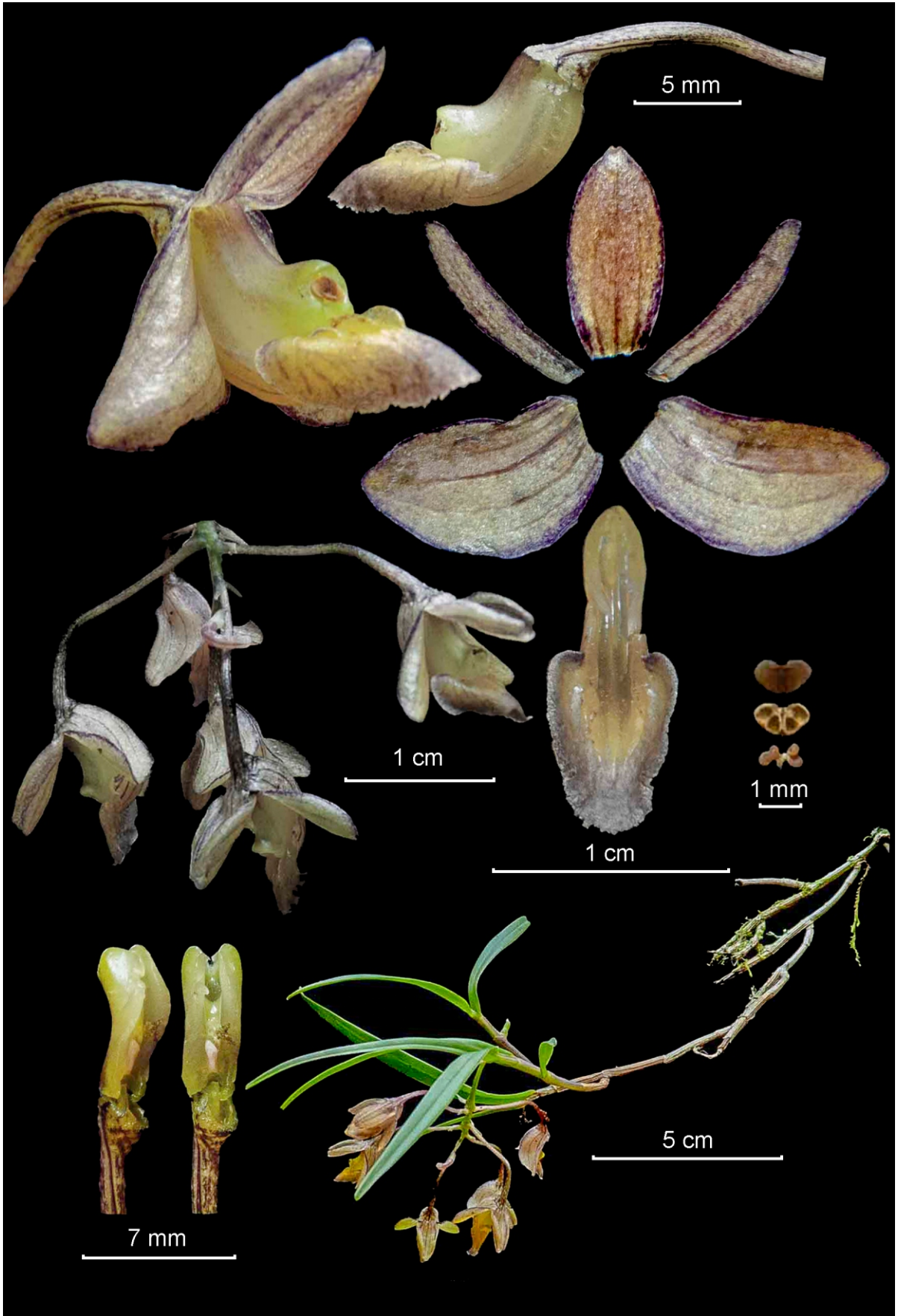
Photo: F. Jordan

Editors: E. H gsater & E. Santiago

Herbario AMO

Ciudad de M xico, M xico

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1849



EPIDENDRUM ADOLFOMORENOI R.Vásquez & Ibisch

EPIDENDRUM ADOLFOMORENOI R.Vásquez & Ibisch, *Organisms Diversity Evol.* 3(2): 101, 2003.

Type: BOLIVIA: La Paz: Nor Yungas; between Chuspipata and Coroico, 3000 m, 24 November 1992, **Roberto Vásquez Chávez, Carlyle A. Luer, Jane Luer & Darwin Ric 1747**. Holotype: LPB! Isotype: LPB. (The private herbarium of R. Vásquez was transferred to LPB after his passing and is in process of being integrated).

Epiphytic, monopodial **herb** ca. 26 cm tall, sub-apically branched. **Roots** 1 mm in diameter, basal fleshy. **Stems** sub-apically branched, the branches 4-5 x 0.2 cm, originating from a sub-apical internode of the previous stem, cane-like, terete, thin, sub-erect. **Leaves** 2-5, distributed towards the apex of the stems, erect-spreading, alternate, articulate, sub-coriaceous; sheaths 1.0-2.5 x 0.3 cm, tubular, striated; blade 1.5-9.0 x 0.4-0.5 cm, linear, apex obtuse, unequally bilobed, minutely apiculate, margin entire. **Spathes** lacking. **Inflorescence** 2-4 cm long including the flowers, apical, racemose, nutant, short, laxly, few-flowered, peduncle ca. 1 cm long, thin, rachis 0.6-1.0 cm long. **Floral bracts** 3-5 mm long, much shorter than the ovary, narrowly lanceolate, acuminate, at right angle to the rachis, embracing. **Flowers** 4-6, simultaneous, pendulous, resupinate, creamy-white with purple stripes, column yellowish white with violet stripes; without fragrance. **Ovary** 15 mm long, terete, thin, not inflated, smooth, white tinged purple. **Sepals** partly spreading, slightly convex, ovate-elliptic, apex rounded, 5-veined, margin entire, somewhat revolute; dorsal sepal 8.5-10 x 3.5-6 mm, free; lateral sepals 9.5-11 x 5-7 mm, connate, oblique. **Petals** 9-10 x 1.3-2 mm, adherent with the dorsal sepal, free, oblong, apex rounded, arched in natural position, 1-veined, margin entire, revolute. **Lip** 8-10 x 5.5-7.0 mm, 2/3 united to the column, forming a sac at the base, entire, widely ovate, base truncate, somewhat constricted at the apex, margin denticulate, revolute, thus the main body convex; ecallose, disc with prominent 5 fleshy, smooth ribs which disappear before reaching the apex of the lip. **Column** 6-10 mm long, arching strongly upwards beyond the middle, thick, with a pair of truncate wings at the apex. **Clinandrium-hood** short, truncate, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, lentil-shaped; caudicles small; viscarium semi-liquid. **Rostellum** apical, slit. **Lateral lobes of stigma** small. **Nectary** slightly penetrating the apex of the ovary, wide, smooth. **Capsule** not seen.

OTHER SPECIMENS: BOLIVIA: La Paz: Prov. Nor Yungas, PN-ANMI Cotapata, sendero Sillutinkara, después de pasar la cascada, 3090 m, 9 X 2015, I. Jiménez 6877, Herb. I. Jiménez! PN-ANMI Cotapata, sendero Sillutinkara, después de pasar la cascada, 3090 m, 25 XI 2020, I. Jiménez 9173, Herb. I. Jiménez! (LCDP voucher). PN-ANMI Cotapata, sendero Sillutinkara, después de cruzar la cascada, 3005 m, 26 X 2005, M. López 11, LPB!

OTHER RECORDS: BOLIVIA: La Paz: Nor Yungas: Parque Nacional Cotapata, sendero Sillutinkara, después de pasar la cascada, 2010, Jiménez s.n. digital image AMO! (Jiménez 2012: 2: 34, published photograph and Photo voucher).

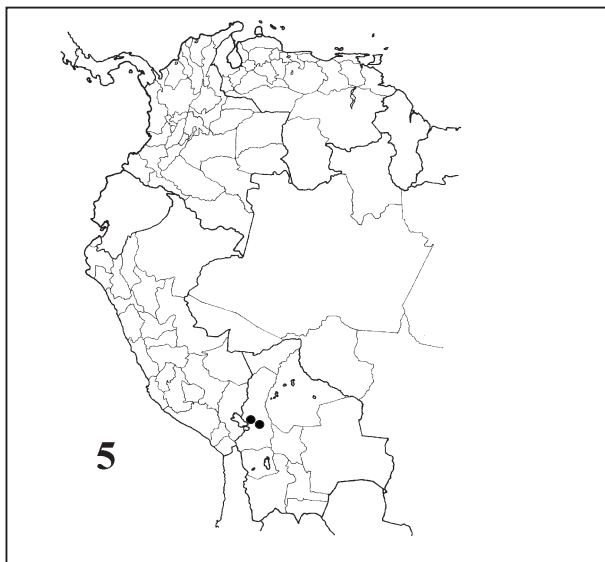
DISTRIBUTION AND ECOLOGY: Known only from a few collections in the region of Nor Yungas, La Paz, epiphytic in cloud montane forest, on moss covered branches and tree trunks at 3000 m elevation. Flowering from September to December.

RECOGNITION: *Epidendrum adolfomorenoi* belongs to the Diothonea Group and Subgroup, characterized by the branching habit, the leaves linear-lanceolate to lanceolate, bilobed at the apex, the arching-nutant, racemose inflorescence, the membranaceous or rarely fleshy flowers, the lip entire to 3-lobed with an erose margin, ecallose, without or with 1-10 thin, smooth to erose keels, and the column united to the lip ranging from totally to obliquely united to free. The species is recognized by the thin stems (2 mm thick), the linear leaves, the 2-4 cm long inflorescence, the 4-6 creamy-white flowers striped with violet, the column, 6-10 mm long is arching strongly upwards beyond the middle, thick, with a pair of truncate wings at the apex, the lateral sepals 9.5-11 mm long, connate at the base, petals connate with the dorsal sepals, the lip widely ovate with 5 smooth keels on the disc. *Epidendrum cryptotropis* Hágsater, Collantes & E. Santiago has very similar flowers in color and size, but the column is 5 mm long, slightly arched downwards, the lip is entire, sub-pandurate, flat in natural position, and the petals are spreading, oblong, straight. *Epidendrum cochabambanum* Dodson & R. Vásquez has smaller flowers, the sepals free, 4-7 mm long, the lip transversely elliptic with the apex 4-lobed, and the column has a deltoid, ventral slit 4 mm long. *Epidendrum gastrochilum* Kraenzlin has an 2.5-3.5 mm long inflorescence, 3-5, greenish brown flowers, free sepals 11-15 mm long, and the lip ovate-orbicular with 6, laminar, erose keels.

CONSERVATION STATUS: Vulnerable, according to Vásquez & Ibisch (2003). Known presently exclusively from the Cotapata National Park, in the Nor Yungas of Bolivia.

ETYMOLOGY: In honor of Adolfo Moreno Pareja (1962-), from Santa Cruz de la Sierra, former Executive Director of the Fundación Amigos de la Naturaleza for his contributions to orchid research and biodiversity conservation in Bolivia.

REFERENCES: Dodson, C.H., & R. Vásquez, 1989, *Epidendrum cochabambanum* in C. Dodson (ed.), *Orchids of Bolivia*, **Icon. Pl. Trop. ser II**, 4: pl. 328. Hágsater, E., B. Collantes & E. Santiago, 2013, *Epidendrum cryptotropis* in E. Hágsater & E. Sánchez S. (eds.), *The Genus Epidendrum*, Part 10, **Icon. Orchid.** 14: pl. 1420. Jiménez, I., J. Quezada & J.C. Bermejo, 2015, *Orquídeas de Cotapata*, **Rapid Color Guide # 361**, vers. 2, The Field Museum Chicago. https://fieldguides.fieldmuseum.org/sites/default/files/rapid-color-guides-pdfs/361_bolivia-orquideas_de_cotapata.pdf Santiago, E., & E. Hágsater, 2006, *Epidendrum gastrochilum* in E. Hágsater & E. Sánchez S. (eds.), *The Genus Epidendrum*, Part 5, **Icon. Orchid.** 8: pl. 835. Vásquez Ch., R., P.L. Ibisch & B. Gerkmann, 2003, Diversity of Bolivia Orchidaceae – a challenge for taxonomic, floristic and conservation research, **Organisms, Diversity Evol.** 3(2): 93-102.



Authors: I. Jiménez-Pérez & E. Hágsater

LCDP: A. Cisneros & I. Jiménez-Pérez

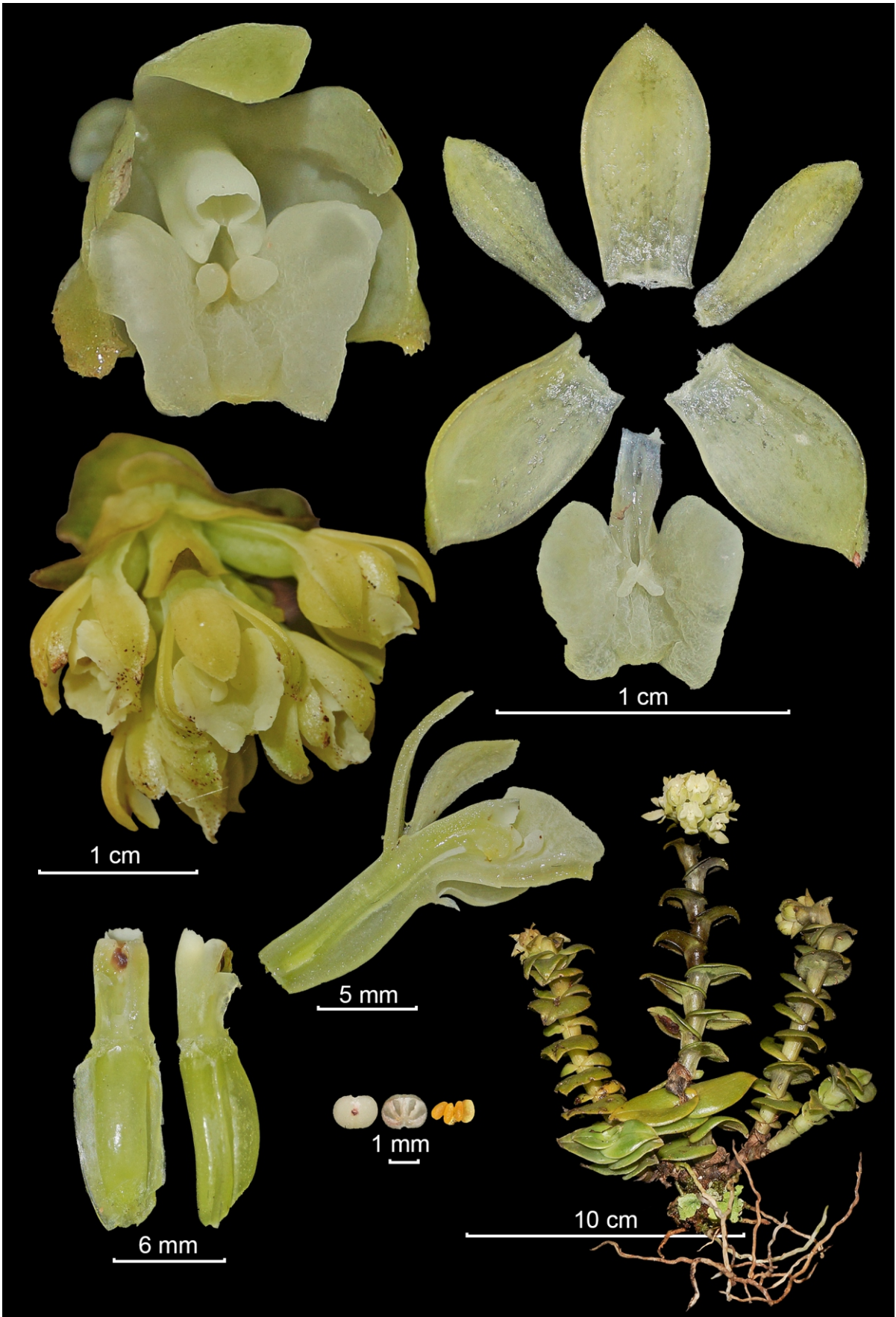
Photo: I. Jiménez-Pérez

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1850



EPIDENDRUM ALTOMAYOCAPITELLATUM Hågsäter & Edquén

Plate 1851

EPIDENDRUM ALTOMAYOCAPITELLATUM Hágsater et Edquén, sp. nov.

Type: PERU: Amazonas: Bongará: Distr. Granada, Comunidad Diosán sector 7 Lagunas, arriba de Laguna María Gondolán, epífito en matorral de relicto alto andino, 3221 m, 28 abril 2018, **José Dilmer Edquén Oblitas 382**. Holotype: HURP! (LCDP voucher).

Similar to *Epidendrum pterogastrium* Hágsater but the plants taller, 11-15 cm (vs. 10 cm tall), flowers larger, sepals 8-9 mm long, lip bilobed, 6.0-6.4 x 7.0 mm (vs. lip reniform, 4 x 7 mm), the lip lobes parallel, transversely elliptic, calli relatively small (vs. lip entire).

Epiphytic, erect, sympodial, caespitose **herb** 11-15 cm tall. **Roots** 0.5-1.4 mm in diameter, produced from the base of the stems, fleshy, thin, white. **Stems** 9-13 x 0.4-0.9 cm, simple, cane-like, terete at the base somewhat laterally compressed at the apex, erect, the new stem produced near the base of the previous stem; covered towards the base by 1-2 non-foliar sheaths, 9 x 4 mm. **Leaves** ca. 12, distributed throughout the stem, alternate, coriaceous, unequal in size (the basal and apical leaves smaller); sheaths 0.5-0.9 cm long, partly imbricating, infundibuliform, somewhat ancipitose, minutely striated; blade 1.2-3.5 x 1.0-2.2 cm, proportion 1.4:1 (length:width), ovate-elliptic, apex acute, somewhat revolute, amplexicaul, totally embracing the stem, perpendicular to the stem, margin entire, slightly revolute. **Spathaceous bract** lacking. **Inflorescence** 2.3 cm long, apical, from the mature stem, capitate, sub-globose, densely many-flowered; peduncle very short, laterally compressed, short, totally hidden by a single leaf-like, infundibuliform bract, 10 x 14 mm long when spread. **Flowers** 6-12, simultaneous, non-resupinate, pale green, anther white; fragrance diurnal, agreeable. **Floral bracts** ca 8 mm long, about as long as the ovary, wide, prominent, apex narrowly rounded, amplexicaul. **Ovary** 7.5 mm long, thickened, 2-winged, ornamented with 2 laminar keels which continue onto the keels of the lateral sepals, the margin entire, with a long, swollen vesicle ventrally. **Sepals** 8.0-9.0 x 4.4-4.7 mm, partly spreading, free, obovate, concave, margin entire, spreading; dorsal sepal obtuse, minutely apiculate, 3-veined; lateral sepals slightly oblique, acute, with a low dorsal keel, margin scarcely dentate, 3-veined. **Petals** 7.5 x 2.6-2.8 mm, partly spreading, free, oblanceolate, sub-obtuse, 1-veined, margin entire, spreading. **Lip** 6.0-6.4 x 7.0 mm, united to the column, fleshy, bilobed, the lobes parallel, base deeply cordate, apex deeply and widely emarginate with a wide apical sinus, the lip widest at the basal 1/3, margin entire, spreading; bicallous, the calli, sub-globose to elongate, divergent, leaning towards the middle to leave a hollow underneath, at the base of the mid-rib; disc provided with a thick, wide mid-rib, fleshy, prominent and elongate to near the apex of the lip; each lobe transversely elliptic 2.3-2.6 x 6.0-6.4 mm. **Column** 6 mm long, straight, thick, with a pair of truncate, rounded, fleshy wings. **Clinandrium-hood** prominent, tubular, (though barely surpassing the body of the column), margin erose. **Anther** wide, reniform, 4-celled, the lateral cells diagonal. **Pollinia** 4, obovoid, laterally compressed, sub-equal, caudicles soft and granulose, shorter than the pollinia, viscarium semi-liquid. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma** about 1/2 the length of the rounded stigmatic cavity. **Nectary** 11 mm deep, penetrating 3/4 of the ovary, slightly inflated in the pedicellate ovary, unornamented. **Capsule** not seen.

OTHER SPECIMENS: PERU: Amazonas: Rodriguez de Mendoza: Distr. Vista Alegre, camino hacia codo Bagazan desde campamento N1 en Área de Conservación Regional Vista Alegre, 3070 m, 11 VIII 2012, R. Fernández-Hilario 180, MOL. Digital images of live plant AMO! (Photo voucher).

OTHER RECORDS: PERU: Amazonas: Bongará: Granada, Bosque de Protección Alto Mayo, sector 7 Lagunas, arriba de Laguna María Gondolán, bosque *Polylepis*, 3678 m, 19 III 2019, Hágsater 16152, visual record. **San Martín:** Rioja: Pardo Miguel Naranjos: Chisquilla, Sector 7 Lagunas a espaldas del Cerro Campanario, 28 VII 2016, 3422 m, Edquén 2116. Digital images, AMO!

DISTRIBUTION AND ECOLOGY: Presently known from a limited area in the Bosque de Protección Alto Mayo, in northern Peru, at 3000-3500 m elevation, scarce in relict high-altitude Andean forests, with abundant Asteraceae and *Polylepis* sp. (Rosaceae) trees, with abundant mosses and epiphytes.

RECOGNITION: *Epidendrum altomayocapitellatum* belongs to the Capitellatum Group, which is characterized by the erect, succulent stems with non-articulate leaves, the spherical head of fleshy greenish flowers, and without any spathaceous bract. The new species is recognized by the somewhat short plants, 11-15 cm tall, ovate-elliptic, amplexicaule fleshy leaves 1.2-3.5 x 1.0-2.2 cm, proportion 1.4:1 (length:width), sepals obovate, 8-9 mm long, and the lip bilobed with transversely elliptic, parallel lobes. *Epidendrum pterogastrium* Hágsater has shorter plants (10 cm tall), shorter leaves (1.1-3.0 x 0.7-1.0 cm), elliptic sepals 5.8 mm long and the reniform lip has an erose margin. *Epidendrum isaucapitellatum* Hágsater has relatively tall plants, (16-23 cm tall), ovate-elliptic leaves, 1.2-5.5 x 1.0-2.2 cm, proportion 2.5:1 (length:width), the leaves are slightly imbricating so that only part of the sheath is visible; the lateral sepals ovate-elliptic, 6.8-7.4 mm long, petals oblanceolate, and the lip is entire, reniform. *Epidendrum capitellatum* C.Schweinf. is vegetatively very similar but has narrower leaves (0.5-1.6 cm wide), proportion 3:1 (length:width), spaced further apart along the stems, the sheath, and a part of the stem clearly visible, the lateral sepals are elliptic, and the lip is 3-lobed. *Epidendrum rhombicapitellatum* Hágsater & Dodson has very short plants (5 cm tall), sepals 3.7-4 mm long, and the 3-lobed lip has a rhombic mid-lobe, the column is 2 mm long with the apex arching upwards. *Epidendrum microcapitellatum* Hágsater, Medina Tr. & E.Santiago has very small plants, 3-5 cm tall, sepals 2.3-2.5 mm long, and a 3 lobed lip with very small, hemi-ovate lateral lobes and the mid-lobe is semi-elliptic-oblong.

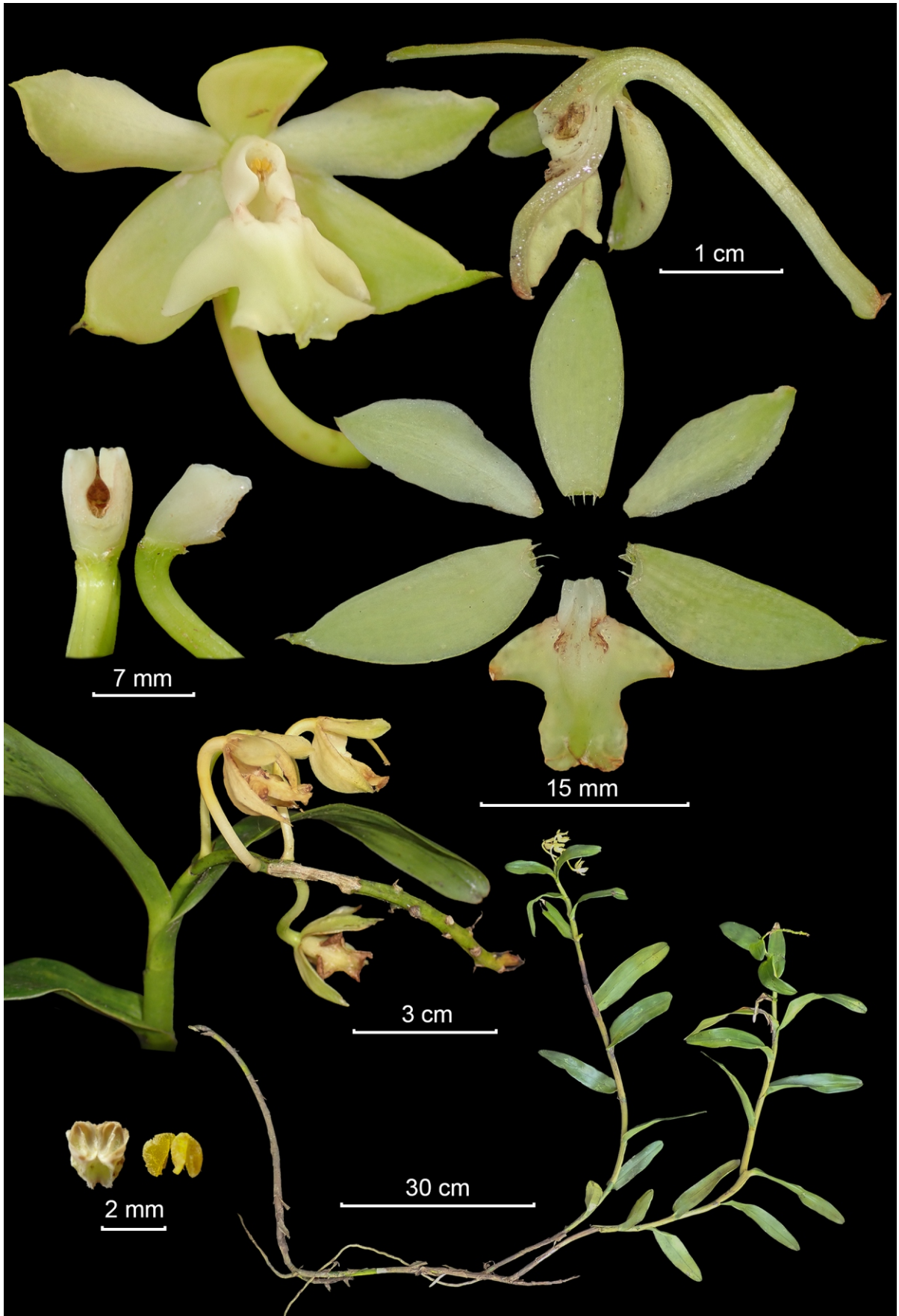
CONSERVATION STATUS: VN. Vulnerable. The species is presently known from a very small area, at high altitude in high altitude Andean forests among *paramos*, very wet, and useless for agriculture or cattle grazing.

ETYMOLOGY: In reference to the Bosque de Protección Alto Mayo, where the species has been found, and *capitulum*, head, in reference to the inflorescence which is somewhat sphaerical. The term was used by Charles Schweinfurt to describe the first species of this group, *Epidendrum capitellatum*.

ACKNOWLEDGMENTS: Type collected under permit: Efecto de la fragmentación de hábitats de bosque alto andino en diversidad y distribución de las familias Orchidaceae y Bromeliaceae, del anexo de Diosán, distrito de Granada-Amazonas, 2018. Código de Autorización No AUT- IFL-2018-025.

REFERENCES: Hágsater, E., 2004, *Epidendrum pterogastrium*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 4, *Icon. Orchid.* 7: pl. 784. Hágsater, E., 2006, *Epidendrum capitellatum*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 5, *Icon. Orchid.* 8: pl. 816. Hágsater, E., & C.H. Dodson, 2007, *Epidendrum rhombicapitellatum*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 7, *Icon. Orchid.* 9: pl. 980. Hágsater, E., R. Medina & E. Santiago, 2018, *Epidendrum microcapitellatum*, in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 12, *Icon. Orchid.* 16(2): pl. 1684. Hágsater, E., & E. Santiago, 2013, *Epidendrum isaucapitellatum*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 10, *Icon. Orchid.* 14: pl. 1445.





EPIDENDRUM AMBLYANTHERUM Hágsater & E.Santiago

EPIDENDRUM AMBLYANTHERUM Hágsater & E.Santiago, *Icon. Orchid.* 12: t. 1203, 2009.

Type: ECUADOR: Pichincha: Chillogallo-Sto. Domingo de los Colorados, a 6.7 km al W de Paso San Juan, 2950 m, 8 December 1986, **Eric Hágsater & Calaway H. Dodson 9002**. Holotype: QCNE ex AMO 8413! (illustration AMO!). Isotype: AMO 8412!

Synonym: *Epidendrum x renipichincae* Hágsater & E.Santiago, *Icon. Orchid.* 12: pl. 1284, 2009. Type: ECUADOR: Pichincha: km 44, Quito a Santo Domingo via Tandapi, 3000 m, 18 mayo 1985, **Calaway H. Dodson & Tom A. Dodson 15845**. Holotype: MO! (illustration AMO!)

Terrestrial, sympodial **herb**, producing sub-apical branches, over 75-90 cm tall. **Roots** 2-3 mm in diameter, basal, fleshy, scarce. **Stems** 55-82 x 0.6-1.1 cm, produced from sub-apical internodes of the previous stem, cane-like, terete, erect; base covered by non-foliar sheaths 3.7-4.2 cm long, tubular, scarious. **Leaves** 12-15 distributed throughout the stems, spreading, alternate, somewhat coriaceous, light green, concolor; sheaths 2.5-7.5 x 0.7-1.2 cm, tubular, minutely striated, rugose, greenish yellow; blade 5-15.5 x 2.2-3.7 cm, oblong-elliptic, apex rounded, slightly bilobed, margin entire, spreading. **Spathes** lacking. **Inflorescence** 6-14 cm long, apical, racemose, arching, laxly few-flowered; peduncle 1.2-2.0 cm long, terete, thin, with a basal bract 1.25 cm long, narrowly triangular, acuminate; rachis 6-8 cm long, terete, slightly flexuous. **Floral bracts** 3.5-11 mm long, small compared to the ovary, narrowly triangular, acuminate, embracing. **Ovary** 30-35 mm long, terete, thick, furrowed, arched at the apex, not inflated. **Flowers** 13-26, successive, opening first from the apex of the inflorescence subsequently towards the base, resupinate, pale green, yellow or yellowish ochre; fragrance non registered. **Sepals** partly spreading, free, elliptic, 3-veined, the lateral branching so as to appear 5-veined, margin entire, spreading; dorsal sepal 17-18 x 5-8 mm, apex obtuse; lateral sepals 20-22 x 5-8 mm, slightly oblique, apex acute, prominently aristate. **Petals** 12-17 x 4-6.4 mm, spreading, free, elliptic, acute, 3-veined, margin crenulate, slightly revolute at the base. **Lip** 10-14 x 11-16 mm, united to the column, convex, 3-lobed, base slightly cuneate in natural position, slightly cordate when spread out, margin entire; bicallose, the calli thick and rounded forming a boat-shape, at the apex forming a "Y" with a thick mid-rib on the disc of the lip which runs down to the apex of the mid-lobe, progressively narrower, with 3 pairs of short radiating thickened ribs at the base; lateral lobes 5-6 x 5-6 mm, obliquely triangular, apex obtuse, margin revolute; mid-lobe 5-7 x 6-9 mm, sub-quadrate, the base slightly narrower, apex truncate, slightly emarginate, margin slightly revolute. **Column** 6-12 mm long, thick, straight. **Clinandrium-hood** reduced, margin entire. **Rostellum** apical slit. **Anther** sub-obovoid, 4-celled. **Pollinia** 4, obovoid, somewhat laterally compressed; caudicles soft and granulose; viscarium semi-liquid. **Lateral lobes of the stigma** not seen. **Nectary** shallow, without penetrating behind the perianth. **Capsule** not seen.

OTHER SPECIMENS: Ecuador: Pichincha: below San Juan towards Chiriboga, 3000 m, 28 X 1955, *Asplund 18228*, S! 1-2 km NE-E of Hacienda Pinatura, ca. 5 km E of Pintag, 3200-3300 m, 1 VII 1979, *Løjtnant 15427*, AAU! GB! Quito: 50 m down slope from Virgen del Camino, vía entre Nono y Tandayapa, ca. 4 km W of Nono, 2620 m, 19 II 2021, *Rudy Gelis s.n.* QCNE! (LCDP and Photo voucher).

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known only from central Ecuador, western slope of the Andes, from the province of Pichincha, terrestrial at 2620-3300 m elevation. Flowering from July to December.

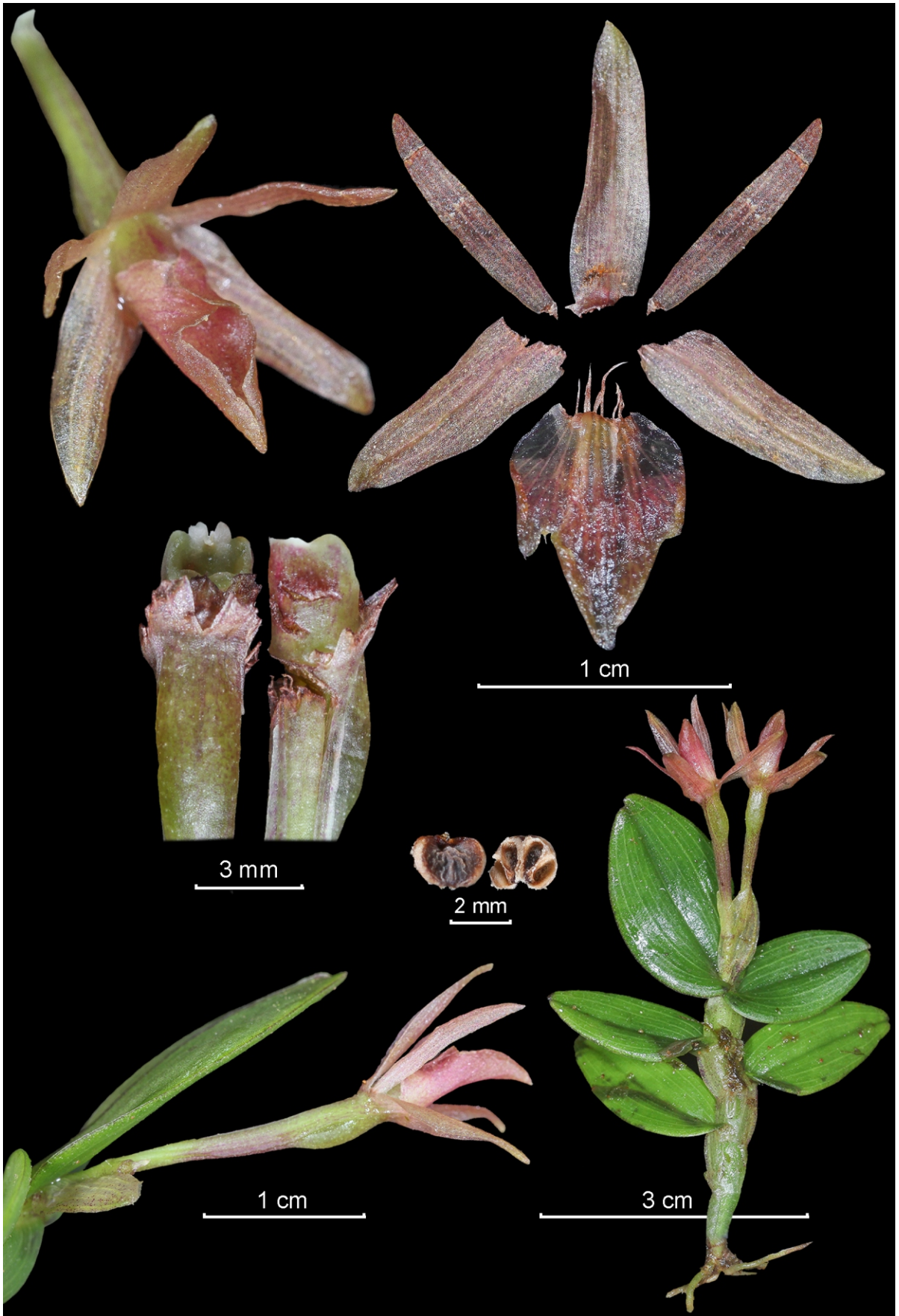
RECOGNITION: *Epidendrum amblyantherum* belongs to the Andean Group, Renilabium Subgroup, which is characterized by the tall plants, the monopodial habit, the generally large, bilobed leaves, the racemose inflorescence, and the entire or 3-lobed lip with a channel at the base of the disc between the calli. The species is recognized by the long stems produced from the sub-apical internodes of the previous stem, the leaves 5.0-15.5 x 2.2-3.7 cm, oblong, apex rounded, slightly bilobed, the inflorescence apical, laxly pale green flowered, sepals 17-22 mm long, petals elliptic, and the lip 10-14 x 11-16 mm, 3-lobed with the fleshy callus "Y" shaped. *Epidendrum inamoenum* Kraenzl. has leaves 2.4-8.0 x 1.2-1.7 cm, the inflorescence short and densely compact, 2-5 cm long, with green-yellow flowers, dorsally purple-brown, sepals 7-10 mm long, and the 3-lobed lip 6-7 x 5-10 mm also has a "Y" shaped callus but the shape is bilobed. *Epidendrum renilabium* Schltr. is vegetatively similar but the flowers are smaller, sepals 13-14 mm long, and the lip is 11-13 x 18-22 mm and is entire and reniform. It is reminiscent by the color of its flowers and 3-lobed lip with *Epidendrum maldonadoense* Hágsater & Dodson, from Nariño in southern Colombia, which has similarly pale green colored flowers with a 3 lobed lip but the leaves are narrowly oblong-elliptic, acuminate, the sepals 18-23 mm long, and the lip has two obovate calli, laminar, divergent.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Greek ἀμβλῦς, blunt, dulled, and ἀνθήρα, anther in reference to the blunt, rounded anther cap that distinguishes this species from others which have an acute anther.

REFERENCES: Hágsater, E., & C.H. Dodson, 2001, *Epidendrum maldonadoense* in E. Hágsater & E. Sánchez (eds.), *The Genus Epidendrum*, Part 3, *Icon. Orchid.* 4: pl. 456. Hágsater, E., G. Reina-Rodríguez & E. Santiago, 2021, *Epidendrum maldonadoense* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 14, *Icon. Orchid.* 18(2): pl. 1883. Santiago E. & E. Hágsater, 2009, *Epidendrum inamoenum* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 8, *Icon. Orchid.* 12: pl. 1255. Santiago E. & E. Hágsater, 2009, *Epidendrum renilabium* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 8, *Icon. Orchid.* 12: pl. 1283. Hágsater, E. & Santiago E. 2009, *Epidendrum x renipichincae* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 8, *Icon. Orchid.* 12: pl. 1284.





EPIDENDRUM AMPLEXIGASTRIUM Hágsater & Dodson

EPIDENDRUM AMPLEXIGASTRIUM Hágsater & Dodson, *Icon. Orchid.* 3: pl. 304. 1999.

Type: COLOMBIA: Cult. en Colomborquídeas, posteriormente en AMO, pressed 23 May 1996, **José Luis Aguirre sub Eric Hágsater 11545**. Holotype: COL! (illustration and photographs of live material AMO!). Clonotypes: 17 November 1997: AMES! 11 December 1997: QCNE! SEL!

Epiphytic, repent **herb** 6.6-18 cm tall. **Roots** 0.8-1.0 mm in diameter, basal, thin. **Stems** 2.5-8.0 x 0.28-0.48 cm, terete to laterally compressed above, thickened, fleshy, formed by 6-8 internodes, the new stem originating in the 4-5th node of the previous stem. **Leaves** 3-5, unequal, distributed throughout the apical half of the stem, twisted so that the adaxial surface is always outward facing, on the same plane as the stem, deep green variously colored with purple, with the veins clearly marked white, coriaceous; sheath smooth, ancipitose; blade 1.0-2.9 x 0.7-1.5 cm, articulate, ovate, apex rounded, bilobed, margin entire. **Spathe** 1.0-1.2 x 0.4-0.6 cm, conduplicate, narrowly obovate, obtuse. **Inflorescence** apical, from mature stem, flowering only once, 2-flowered, short; peduncle 6.5-8 mm long, hidden within the spathe. **Floral bracts** 3-6 x 1.2 mm, much shorter than the ovary, narrowly triangular, acuminate. **Ovary** 12-16 x 1.8 mm, somewhat inflated ventrally at the apical third, furrowed, the 3 ribs with low wings, the margins denticulate. **Flowers** 2, resupinate, simultaneous, copper colored with veins of sepals and petals red, apical lobe of lip light yellow-green; flowers with slight nocturnal fragrance. **Sepals** 10-16 x 3.0-3.6 mm, spreading, sometimes partly spreading, free, narrowly oblong-lanceolate, acute, 7-veined, margin entire, somewhat revolute. **Petals** 10-15 x 1.5-1.7 mm, partly spreading, free, narrowly elliptic, acute, 3-veined, margin entire, spreading. **Lip** 10-13 x 7.5-8.0 mm, united to the column, 3-lobed, hastate, base cuneate, margin entire, involute in natural position; disc excavate, papillose, bicallose, the calli laminar, parallel, forming longitudinal ribs; lateral lobes 2.3-4.0 x 6.0-8.1 mm, small, semi-obovate, occupying about half the length of the lip, upturned in natural position so as to embrace the apex of the column hiding it and tightly overlapping; mid-lobe 5.1-6.3 x 4.3-5.1 mm, triangular, acute. **Column** 3-4 mm long, short, thick. **Clinandrium** short, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, laterally compressed, subequal, forming longitudinal ribs; lateral lobes 2.3-4.0 x 6.0-8.1 mm, small, semi-obovate, occupying about half the length of the lip, upturned in natural position so as to embrace the apex of the column hiding it and tightly overlapping; mid-lobe 5.1-6.3 x 4.3-5.1 mm, triangular, acute. **Column** 3-4 mm long, short, thick. **Clinandrium** short, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, laterally compressed, subequal; caudicles smooth and granulose, slightly longer than the pollinia; viscidium semi-liquid, transparent. **Rostellum** apical, slit. **Lateral lobes of the stigma** prominent, about half its length. **Nectary** penetrating 1/3 of the ovary, widened within, unornamented.

OTHER SPECIMENS: COLOMBIA: Nariño: Ricaurte: Reserva Natural La Planada, Trayecto San Isidro-La Planada, 1500-1800 13 II 1988, *Benavides* 9295, PSO! Reserva Natural La Planada, 16 I 1990, *Benavides* 11186, PSO! Reserva Natural La Planada, 2021, *Reina Rodríguez* 3270, PSO! (LCDP voucher) **ECUADOR: Cotopaxi:** Quevedo-Latacunga, arriba de Macuchi, 1100 m, *Hágsater* 7592, AMO! **Napo:** km 92 Quito-Baeza, 1850 m, *Dodson* 15888, MO! QCNE! **Pichincha:** Tandapi, 1470 m, *Dodson* 15673, MO! [Hacienda] Canchacoto, 2200 m, 13 I 1881, *Lehmann* 341, W! (illustration, AMO!) New road between Quito and Santo Domingo, 2500 m, 2II 1978, *Luer* 2419, SEL!

OTHER RECORDS: ECUADOR: Imbabura: Cotacachi: Corredor Cotacachi-Awá, 17 IV 2021, *Gelis s.n.*, digital images, AMO! (Photo voucher)

DISTRIBUTION AND ECOLOGY: Ecuador on both the Amazon and the Pacific sides of the Andes, 1100-2500 m elevation, apparently widespread but uncommon in wet forests. Colombia, La Planada, Nariño. Flowering March to June.

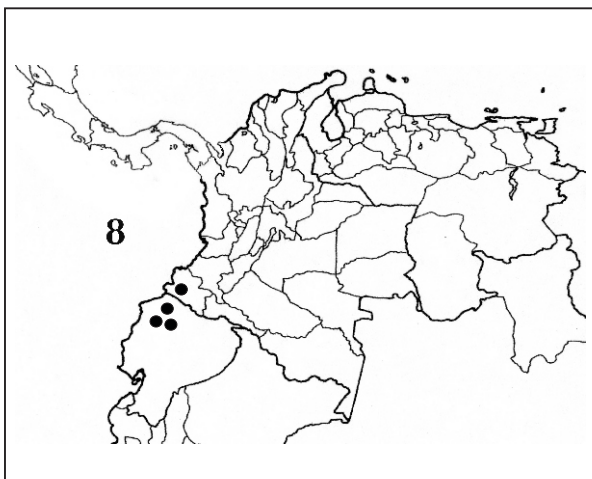
RECOGNITION: *Epidendrum amplexigastrium* belongs to the Quisayanum Group which is recognized by the sympodial habit, the ovate spathe, and the excavated papillose disc of the lip. The species is identified by shape of the lip, which is trilobed and cuneate, with the lateral lobes semi-obovate and directed forward and embracing the column in natural position so that the lobes are tightly overlapping over the column and hiding its apex. *Epidendrum marsupiale* E. Lehm. & Kraenzl. is the most similar species, with a lip similar in both shape and size but the lateral lobes are separated by deep sinuses and spreading in front of the column instead of embracing it and overlapping. *Epidendrum quisayanum* Schltr has leaves 1.5-3.5 x 1.0-1.8 cm, ovate, obtuse, coriaceous, dorsally green, the underside reddish, 3-4 fuchsia-colored flowers with the disc of the lip white surrounded by a dark fuchsia band and then the margin paler, sepals 10 mm long, obtuse, and the lip cordiform with thickened ribs radiating from the calli. *Epidendrum bianthogastrium* Hágsater & Dodson has leaves 1.1-3.2 x 0.5-0.9 cm, ovate, acute, two green flowers tinged copper, sepals 8.0-9.5 mm long, acute, and the lip triangular with an excavated disc of the lip ornamented with minute papillae. *Epidendrum polyanthogastrium* Hágsater & Dodson has leaves 2.0-4.1 x 0.9-1.3 cm, ovate, obtuse, sulcate, green, concolor, 6-7 copper-green flowers, sepals 8.0-9.5 mm long, acute, and the lip narrowly triangular with the disc excavated, minutely papillose.

CONSERVATION STATUS: DD. Data deficient. The species is found in a relatively restricted range, though it is of no horticultural interest

NOTE: The specimens from around Baeza (Napo) have not been analyzed in their floral details, and plants are all purple. Photographs or other details would be welcome.

ETYMOLOGY: From the Latin *amplexor*, embracing and *gastrium*, belly, in reference to the lip which embraces and completely covers the column, and the papillate disc of the lip though this is only visible under microscope.

REFERENCES: Hágsater, E. & C. H. Dodson, 1999, *Epidendrum polyanthogastrium* in E. Hágsater, L. Sánchez S. & J. García-Cruz (eds.), *The Genus Epidendrum*, Part 2, *Icon. Orchid.* 3: pl. 373. Hágsater, E. & C. H. Dodson, 2001, *Epidendrum bianthogastrium* in E. Hágsater & L. Sánchez S. (eds.) *The Genus Epidendrum*, Part 3, in *Icon. Orchid.* 4: pl. 417. Hágsater, E. & E. Santiago, 2021, *Epidendrum quisayanum* in E. Hágsater & L. Sánchez S. (eds.) *The Genus Epidendrum*, Part 10, *Icon. Orchid.* 14: pl. 1411. Lehmann, F.C., & F. Kränzlin, 1899, *Epidendrum marsupiale* in F. Kränzlin, *Orchidaceae Lehmannianae in Guatemala, Costa Rica, Columbia et Ecuador collectae, quas determinavit et descripsit* (Schluss), *Bot. Jahrb. Syst.* 26 (5): 474-475.



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

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

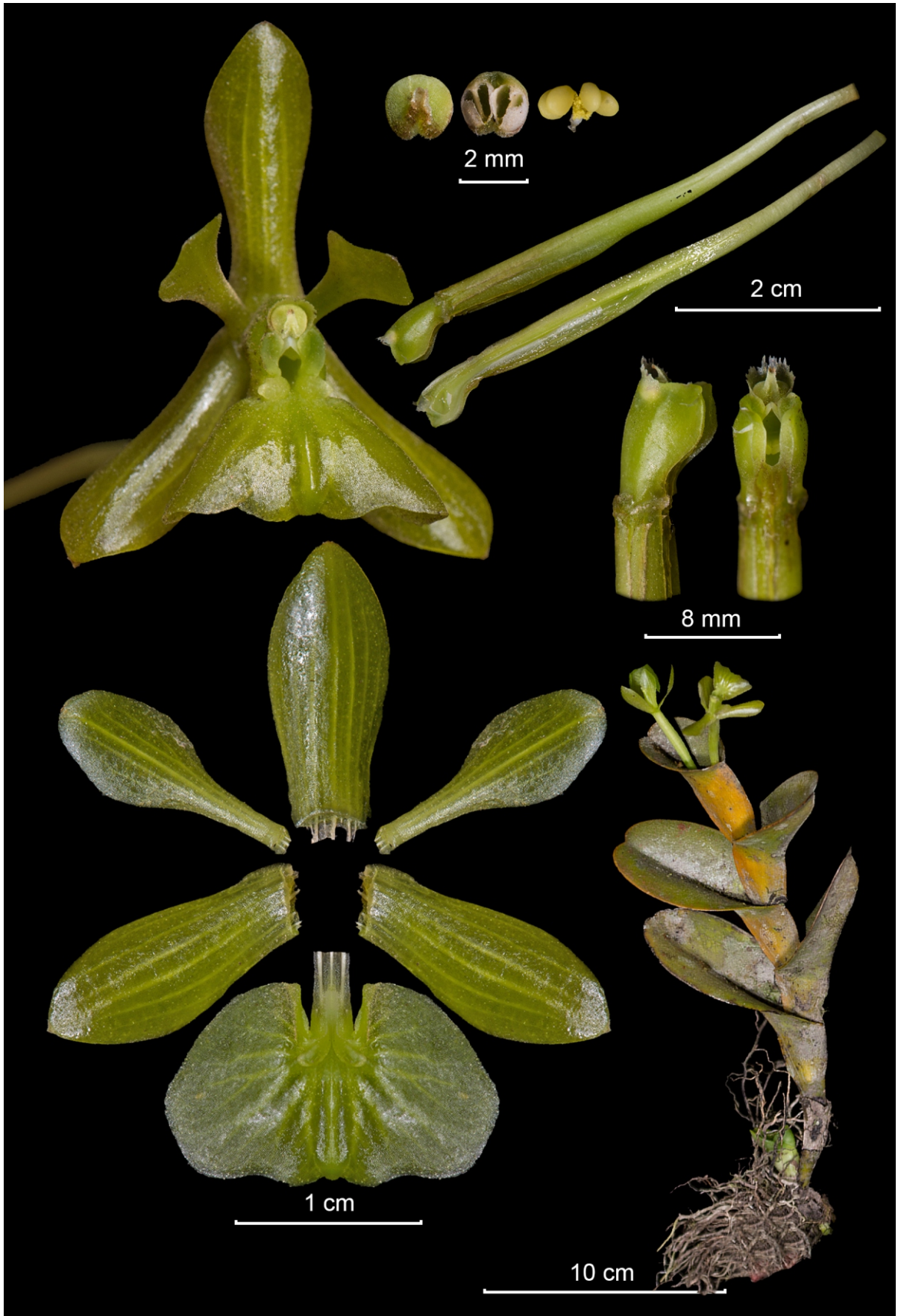
Photo: R. Gelis

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1853



EPIDENDRUM ANDREI Hágsater & L.Sánchez

EPIDENDRUM ANDREI Hágsater & L.Sánchez, Icon. Orchid. 3: pl. 306. 1999.

Type: COLOMBIA: Risaralda: Tambores [Tambores-Quindío-Cauca], 15 March 1876, **Edouard François André 2420**. Holotype: K!
(Specimen with watercolor illustration).

Epiphytic, sympodial, caespitose, erect **herb**, 14-29 cm tall. **Roots** 1-2 mm in diameter, basal, thin, white. **Stems** 8-24 x 1-2 cm, simple, cane-like, strongly laterally compressed, ancapitose, sinuous, often weighing the plant down when in flower, the sheaths yellow, especially the edges. **Leaves** 4-6, distributed throughout the stems, unequal, the lower one smaller and the apical one also smaller and somewhat bract-like, sheaths 1.6-3.2 x 1.0-2.0 cm, infundibuliform, wide and strongly laterally compressed, ancapitose, yellow green, the edges yellow; blades 3.8-10.0 x 2.2-3.5 cm, widely ovate to elliptic, coriaceous, apex rounded, unequally bilobed, margin entire, spreading, medium green, the margin yellow. **Spathe** lacking. **Inflorescence** 5.5 cm long including the flowers, apical, from the mature stem, racemose, rachis very short, hidden within the apical leaf, sessile. **Floral bracts** much shorter than the ovary, triangular-ovate, acute, embracing. **Ovary** 35-54 mm long, slightly inflated along the ventral apical 2/5, furrowed. **Flowers** 2-3, resupinate, simultaneous, pale green, concolor; fragrance not registered. **Sepals** 15.0-15.6 x 6.4 mm, free, spreading, glabrous, somewhat hyaline, elliptic to oblong, obtuse, the lateral sepals slightly apiculate, margin entire, revolute, especially at the mid-length. **Petals** 14 x 5.2 mm, partly spreading, erect, sub-parallel to the column, spatulate, apex rounded, 3-veined, the lateral veins short branched, margin entire, spreading. **Lip** 10.6 x 17.7 mm, united to the column, obscurely 3-lobed, obtuse, base deeply cordate, apex truncate, wide, in natural position the lateral lobes revolute thus the lip appears triangular, margins entire; bicallose; the calli strongly curved outwards, somewhat laterally compressed, finger-like, disc of the lip with 7 slightly thickened veins radiating from the base; lateral lobes 7.9 x 10.3 mm, semi-orbicular, the mid-lobe 2 x 7 mm, formed by two shallow curved lobes with a wide thickened apicule in the sinus, all apices, including those of the lateral lobes, aligned, and thus the apical margin undulate. **Column** 10 mm long including the clinandrium-hood, the base thin, apex truncate. **Clinandrium-hood** prominent and margin short-fimbriate. **Anther** sub-spherical, the apex emarginate, with a prominent triangular, canalliculate appendage in front; 4-celled. **Pollinia** 4, sub-equal, obovoid, laterally compressed; caudicles soft and granulose, shorter than the pollinia; viscarium semi-liquid, translucent. **Rostellum** apical, slit. **Lateral lobes of the stigma** occupying 1/3 the length of the stigmatic cavity. **Nectary** prominent, penetrating 2/5 of the pedicellate ovary, slightly widened, unornamented

OTHER SPECIMENS: COLOMBIA: Valle del Cauca: Trujillo: Cordillera Occidental, vertiente occidental; Hoya del Río Sanquinini, lado izquierdo, La Laguna, 1250 m, 10 XII 1943, Cuatrecasas 15635, AMES x2! US! VALLE x2! Montañas arriba de Buenaventura, *Duque 2194*, JAUM! Darién, Bajo Calima, *Moreno s.n.* CAUP! (LCDP voucher).

OTHER RECORDS: COLOMBIA: without locality, *Pedro Ortiz Valdivieso s.n.*, digital images, AMO! **Quindío:** Salento, 1400-1500 m, 22 II 2015, *Sauleda s.n.*, digital images, AMO! **Valle del Cauca:** El Darién, Calima, 2060 m, 10 IX 2019, *Hoell s.n.*, digital images, AMO! (Photo voucher). Ibid. 2700 m, 28 II 2019, *Hoell s.n.*, digital images, AMO! Reserva Natural Municipal de Río Bravo; on road from dam to power generation plant, 1400 m, IX 2019, *Sauleda s.n.*, digital images, AMO! Ibid. Near Lago Calima, 3 II 2016, *Sauleda s.n.*, digital images, AMO! **Risaralda:** Pueblo Rico: Montezuma Ecolodge, Parque Nacional Natural Tatamá, 16 VIII 2019, *Jenny*, digital image, AMO!

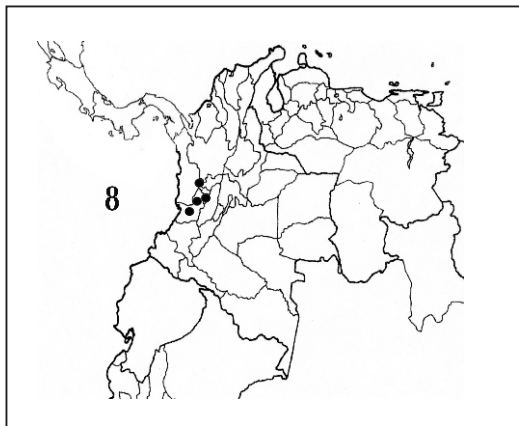
DISTRIBUTION AND ECOLOGY: Currently known from the Pacific slope of the Cordillera Occidental of the Andes in southern Colombia, in the Departments of Risaralda and Valle del Cauca, and the Cordillera Central in Quindío. Epiphyte at 1250-2060 m elevation. Flowering from August to December.

RECOGNITION: *Epidendrum andrei* 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, sessile, rarely with a short peduncle, one-flowered to glomerular, and the fleshy flowers green to yellowish-green, rarely white. The species is recognized by the wide, ancapitose stems, the few simultaneous flowers, the deeply cordate, obtuse, truncate lip apically truncate and widest near the apex, and especially the spatulate petals, the clinandrium-hood prominent and short fimbriate, and the anther with a prominent canalliculate point in front. *Epidendrum fusagasugaense* E. Parra, Hágsater & L.Sánchez has similar plants and larger flowers, sepals 20-22 mm long, the lip widely obreniform with the disc dark green, the petals elliptic 18-20 x 5-6 mm, and the clinandrium hood erose. *Epidendrum holtonii* Hágsater & L.Sánchez is also similar vegetatively, sepals 18-20 mm long, petals 18.0-18.5 x 4.5-5.0 mm, oblanceolate-spatulate, the lip 15 x 30 mm, transversely elliptic-reniform, widest at the base, and the clinandrium-hood truncate, and margin minutely dentate. *Epidendrum pseudokillipii* Hágsater & L.Sánchez has sepals 17-18 mm de long, petals 16 x 6.5 mm, obovate-spatulate, the lip 13 x 18 mm, widely cordiform, and the clinandrium-hood short, and margin fimbriate.

CONSERVATION STATUS: *Epidendrum andrei* is known from the western slope in well conserved forests of the Cordillera Occidental, departments of Valle del Cauca, Risaralda and probably Chocó and on the western slope of the Cordillera Central where land use for cattle ranching and agriculture have caused devastating effects and the ecosystem is severely fragmented. The extent of occurrence is less than 5,000 km² with populations restricted to Colombia. For these reasons, we categorize this taxon in the Vulnerable (EN) category, following the B1ab(iii) criterion of the IUCN (Version 3.1) (2012).

ETYMOLOGY: In honor of Édouard François André (1840-1911), French horticulturalist, landscape designer famous for designing city parks and public spaces in Lithuania, Monte Carlo, and Montevideo. He collected in the Andes in 1875-76, introduced Bromeliads to Europe and published a volume *Bromeliaceae Andreanae. Description et Histoire des Broméliacées récoltées dans la Colombia, l'Ecuador et la Venezuela*. He collected and illustrated the type.

REFERENCES: André, E.F., 1889, *Bromeliaceae Andreanae. Description et Histoire des Broméliacées récoltées dans la Colombia, l'Ecuador et la Venezuela*. Paris Librairie Agricole. Second printing Berkeley, CA, USA. Big Bridge Press, 1983. Hágsater, E., & L. Sánchez S., 1999, *Epidendrum andrei*, in E. Hágsater & G. Salazar (eds.), The Genus *Epidendrum*, Part 2, **Icon. Orchid.** 3: pl. 306. Hágsater, E., & L. Sánchez S., 2005, *Epidendrum pseudokillipii*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 4, **Icon. Orchid.** 7: pl. 781. Hágsater, E., & L. Sánchez, 2013, *Epidendrum holtonii* in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 8: **Icon. Orchid.** 12: pl. 1254. Parra, E., E. Hágsater & L. Sánchez, 2013, *Epidendrum fusagasugaense* in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 10: **Icon. Orchid.** 14: pl. 1430.



Authors: E. Hágsater, J. S. Moreno & J. Duarte

LCDP: J. S. Moreno

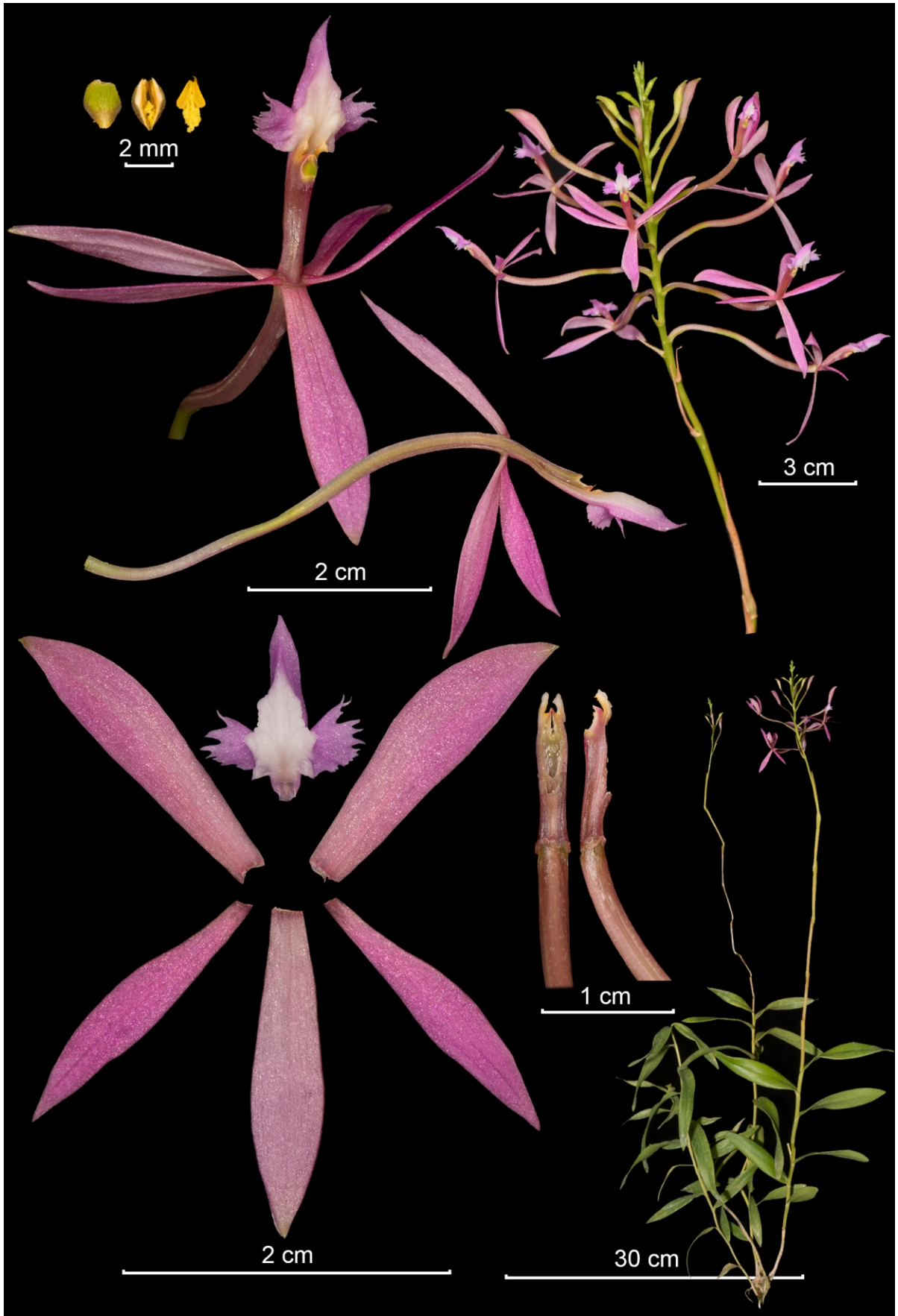
Photo: P. Hoell

Editors: E. Hágsater & E. Santiago

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Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1854



EPIDENDRUM ANGULATUM Hágsater & J.Duarte

EPIDENDRUM ANGULATUM Hágsater et J. Duarte, sp. nov.

Type: COLOMBIA: Huila: Altamira, comprada en Popayán, en Exposición Nacional de Orquídeas, Popayán, 26 marzo 2018, prensado 11 febrero 2021, **Jose Luis Aguirre sub Eric Hágsater 15637A**. Holotype: HPUJ! (LCDP voucher).

Similar to *Epidendrum vinosum* Schltr. but the flowers are lilac (vs. fuchsia), sepals oblanceolate, acuminate (vs. oblong or oblanceolate, apex obtuse), petals elliptic-lanceolate, acuminate (vs. oblanceolate, obtuse), lip lateral lobes sub-quadrate or semi-flabellate, spreading (vs. semi-orbicular, reflexed, the distal margin lacerate-dentate), and the mid-lobe usually appearing long, triangular and acuminate to flabelliform, the lateral margins strongly revolute, distal margin short fimbriate (vs. mid-lobe short, oblong with the apex triangular, obtuse to truncate).

Epiphytic, sympodial, caespitose erect **herb**, 65-70 cm tall including the inflorescence. **Roots** 1.2-1.8 mm in diameter, basal, terete, fleshy, white. **Stems** 28-30 x 0.28-0.38 cm, simple, cane-like, slightly sinuous, terete, slightly compressed towards the apex, thin, basal half covered by non-foliar sheaths. **Leaves** 8-13, distichous, distributed along the apical half of the stems; sheaths 3.5 x 0.4-0.6 cm, tubular, smooth, papyraceous, scarious when dry; blade 3.5-11.8 x 1.3-2.3 cm, elliptic-lanceolate, articulate, apex rounded to unequally bilobed, coriaceous, smooth, medium green, margins entire. **Spathe** lacking. **Inflorescence** 40-48 cm long, racemose to pluri-racemose, producing new racemes from the upper nodes of the peduncle, cylindrical to sub-spherical; peduncle 30-39 cm long, elongate, straight, covered by 6-8 bracts, 2.2-5.9 cm long, yellow with brown dots, scarious when dry, striated, papyraceous, imbricated, acuminate; rachis 7-10 cm long. **Floral bracts** 3-23 mm long, decreasing in length, much shorter than the ovary, triangular, acuminate, embracing. **Flowers** ca. 25, successive, 4-17 open at a time, in different stages of anthesis, non-resupinate, flowers lilac, the column darker, the column apical wings yellow, anther green, with a large white callus; fragrance none. **Ovary** 37-47 mm long, terete, thin, not inflated, lilac tinged green, paler towards the base, furrowed. **Sepals** 17.3-20 x 4.5-5.0 mm, spreading, horizontal, oblanceolate, apex acuminate, 5-veined, margin entire; lateral sepals slightly oblique, with a low dorsal keel. **Petals** 17-19.0 x 3.2-3.5 mm, spreading, horizontal, elliptic-oblanceolate, acuminate, 3-veined, margin entire, spreading. **Lip** 9.5-12 x 10-13.8 mm, united to the column, erect, 3-lobed, base truncate, distal margins of lobes fimbriate to irregularly lacinate, callus massive, prominent, formed by an angulate plate, the sides forming two pairs of obtuse angles, the apex acute reaching the middle of the mid-lobe, a pair of digital calli on the sides of the main central callus body; lateral lobes 4-5 x 5.3-7.8 mm, sub-quadrate or semi-flabellate; mid-lobe 6.0-7.0 x 2.0-8.0 mm, sub-rhomboid, the basal half oblong, the apical half triangular, acute, the margins usually revolute, thus usually appearing as triangular to flabelliform, lateral margins strongly revolute, distal margin short fimbriate and acute. **Column** 10.8-12.0 mm long, straight, terete, thin throughout, ventrally minutely papillose, with a pair of apical triangular wings, bidentate, embracing the rostellum, and a digitiform, curved, truncate wing on each side, adnate to the callus. **Clinandrium hood** reduced, margin irregularly crenate. **Anther** cordiform, rugose, 4-celled. **Pollinia** 4, narrowly obovate, elongate, laterally compressed, unequal, the outer pair $\frac{3}{4}$ the length of the inner pair; caudicles soft and granulose, formed by elongate tetrads that appear as a pile of roof tiles; viscarium semi-liquid, transparent. **Rostellum** apical, slit. **Lateral lobes of the stigma** occupying $\frac{2}{3}$ the length of the stigmatic cavity. **Nectary** 35 mm deep, occupying more than half the length of the pedicellate ovary, minutely papillose, the papillae arranged in longitudinal lines. **Capsule** not seen.

OTHER SPECIMENS: None seen.

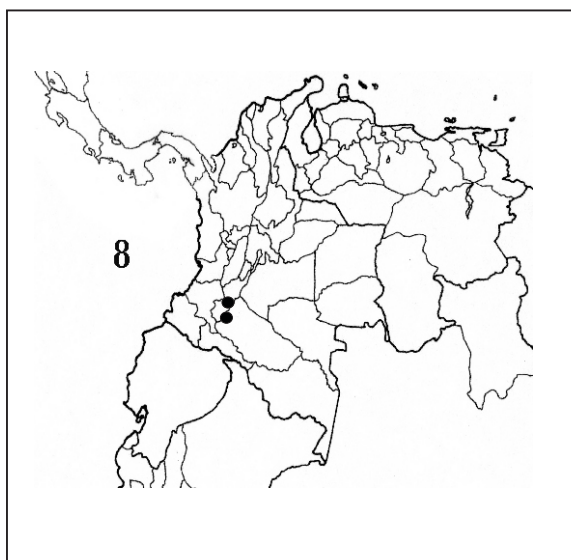
OTHER RECORDS: COLOMBIA: Huila: Exhibida en Exposición de Medellín, VIII 2018, *Jordan s.n. sub Hágsater 16193*, digital images, AMO! Caquetá: Florencia, El Pórtico, 2000 m, 11 II 2021, *Moreno s.n.*, digital images, AMO! (Photo voucher).

DISTRIBUTION: Known from three plants, one purchased in the National Orchid Exposition in Popayán, Cauca in March 2018, said to come from Altamira, Huila. Flowered in cultivation. A second plant was exhibited by Frank Jordan in Medellín 2018 and is in cultivation in his Finca Lindau, near Bogotá. A third plant was photographed slightly south from Altamira, in El Portico, Florencia, Caquetá. Flowering in February and August.

RECOGNITION: *Epidendrum angulatum* belongs to the Schistochilum group, Blepharoclinium subgroup, which is recognized by the caespitose habit, simple stems, leaves oblong-lanceolate, coriaceous, bilobed, the elongate peduncle of the erect, racemose inflorescence, the flowers non-resupinate, the callus simple, elongate, fleshy, sulcate towards the base. The new species is recognized by non-resupinate, lilac flowers and the large white callus on the lip, sepals 17.3-20.0 x 4.8-5.0 mm, oblanceolate, petals 17-19 mm long, elliptic-lanceolate, and the callus massive, prominent, formed by an angulate plate, the apex acute reaching the middle of the mid-lobe, the sides forming two pairs of obtuse angles, the lip base truncate, with a pair of digital, bilobed calli on the sides and the main central callus body, and the lip mid-lobe triangular, acute, with an entire margin to flabelliform, the lateral margins strongly revolute, distal margin short fimbriate. It is similar to *Epidendrum vinosum* Schltr., but that species has fuchsia-colored flowers, the sepals and petals more oblong and wider near the obtuse apex, and the mid-lobe of the lip is oblong, apically obtuse. *Epidendrum hookerianum* Rchb.f. has 25 mm long tepals, the lip with 4 elongate lines forming the callus, lateral lobes semi-ovate, deeply fimbriate towards the apex of the interior margin, and the mid-lobe linear-lanceolate, margin sub-dentate. *Epidendrum glossaspis* Rchb.f. has pink-purple flowers with a large white callus, sepals 26-33 mm long, petals straight, linear-triangular, 1 mm wide, and the lateral lobes of the lip approximately half as long as the whole lip, rhombic, acuminate. *Epidendrum blepharoclinium* Rchb.f. has pink-violet flowers with a white callus, the lateral lobes of the lip approximately half as long as the whole lip, sub-rhombic, acuminate. The general outline of the lip is quite similar to that of *Epidendrum acutilobum* Hágsater & Uribe-Vélez, but that species has smaller pale pink-red flowers and a wide truncate callus.

ETYMOLOGY: From the Latin, *angulatus*, strongly angled, the angles obtuse, in reference to the callus which has two pairs of obtuse angles on each side, the apex being an acute point and the base truncate.

REFERENCES: Hágsater, E., & C. Uribe-Vélez, 2021, *Epidendrum acutilobum* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 14; **Icon. Orchid.** 18(2): pl. 1849. Hágsater, E., & H. Medina, 2021, *Epidendrum vinosum* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 14; **Icon. Orchid.** 18(2): pl. 1898. Hágsater, E., & H. Medina, 2018, *Epidendrum glossaspis* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 12; **Icon. Orchid.** 16(1): pl. 1620. Hágsater, E., & E. Santiago, 2018, *Epidendrum blepharoclinium* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 12, **Icon. Orchid.** 16(1): pl. 1606. Reichenbach, H.G., 1876, *Epidendrum hookerianum* in *Linnaea* 41(1): 37.



Authors: E. Hágsater & J. Duarte

LCDP: R. Jiménez M. & A. Cisneros

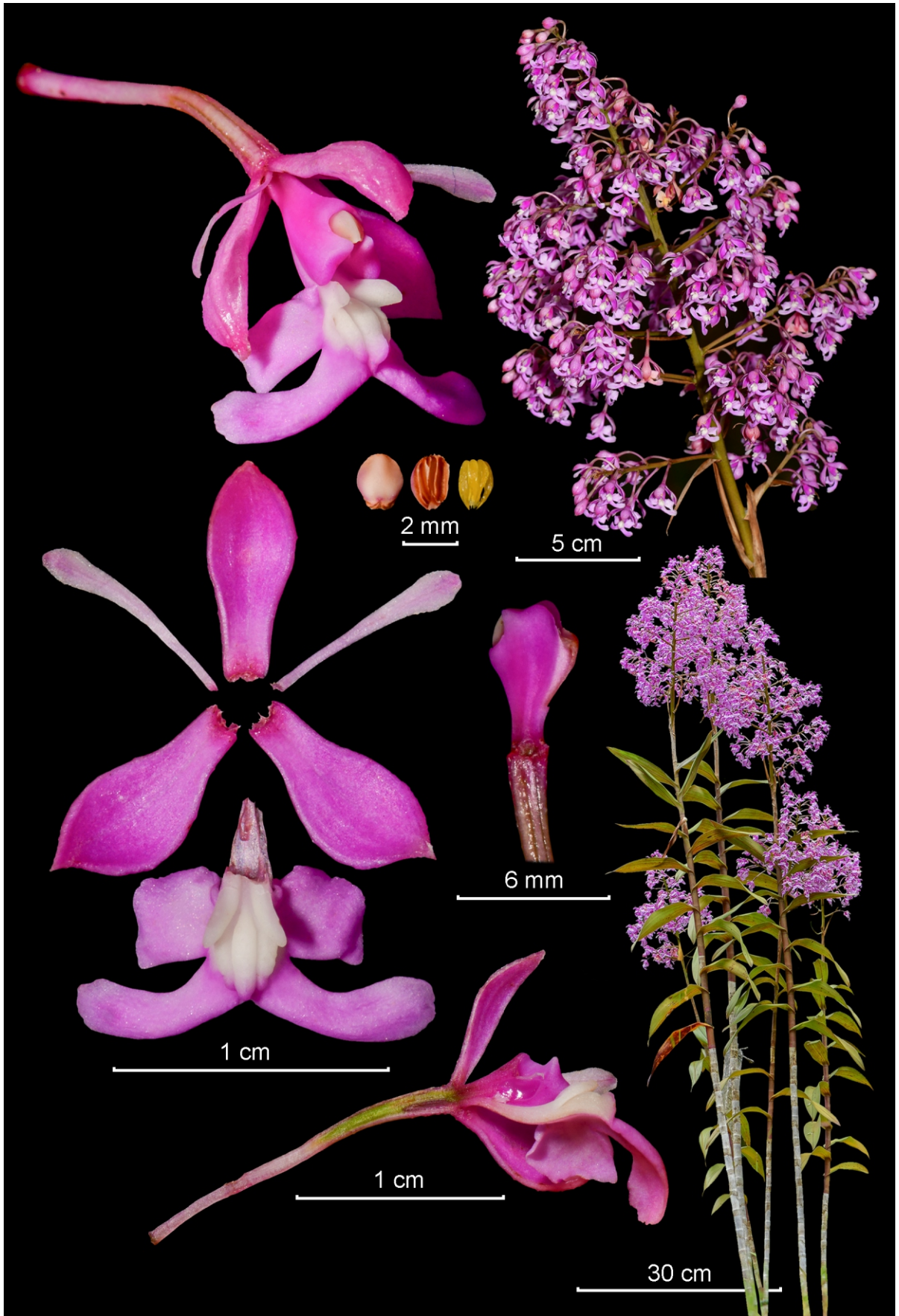
Photo: J. S. Moreno

Editors: E. Hágsater & E. Santiago

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ICONES ORCHIDACEARUM 18(2). 2021. Plate 1855



EPIDENDRUM APICILATUM Hågsater, E.Santiago & Uribe Vélez

Plate 1856

EPIDENDRUM APICILATUM Hágsater, E. Santiago et Uribe Vélez, *sp. nov.*

Type: COLOMBIA: Valle del Cauca: vertiente occidental de la Cordillera Occidental, **Carlos Uribe Vélez s.n.** Holotype: HPUJ! (LCDP voucher).

Similar to *Epidendrum atacazoicum* Schltr. but the inflorescence with racemes of similar size, not pyramidal (vs. inflorescence with basal racemes longer than the apical racemes and thus the inflorescence clearly pyramidal), the lateral lobes of the lip sub-quadrate (vs. dolabriform), the width of the lip between the apical lobes wider than between the lateral lobes (vs. width of the lip equal between the apical and lateral lobes), and the calli digitiform (vs. calli fleshy and laterally compressed).

Terrestrial, sympodial, caespitose, erect **herb** 112-150 cm tall. **Roots** basal, thin, fleshy, white. **Stems** 61-120 x 0.6-1.2 cm, cane-like, terete, thin; basal half covered with sheaths 23-30 mm long, non-foliar, tubular, white, scarious. **Leaves** 14-15, alternate, articulate, subcoriaceous, sub-spreading to the stem, light green on both sides with red-brown veins; sheaths 1.9-3.0 x 0.6-1.2 cm, tubular, minutely striated, red-brown; blade 10.2-12.3 x 1.7-3.5 cm, narrowly elliptic, acute, margin entire, slightly revolute. **Spathes** lacking. **Inflorescence** 26-33 cm long, paniculate, erect, densely many-flowered, the flowers opening in succession from the base towards the apices until they are all open; peduncle 10-13 cm long, terete, thin, provided with 3-4 bracts 3-6 cm long, tubular at base, conduplicate towards the apex, acuminate, white; rachis 16-20 cm long, with up to 10 short racemes, all of similar length, each subtended by a bract 2.0-3.7 cm long, narrowly triangular, long acuminate, embracing. **Floral bracts** 4-5 mm long, much shorter than the ovary, narrowly triangular, acuminate, embracing. **Ovary** 15 mm long, terete, thin, minutely furrowed. **Flowers** ca. 150-200, pink with the inner surface of the sepals and column fuchsia, disc of the lip white; fragrance none perceived. **Sepals** free, partly spreading, oblanceolate-spatulate, apex acute, minutely apiculate, 3-veined, the apical half concave, the dorsal surface minutely verrucose, margin entire, spreading; dorsal sepal 7.6 x 3.4 mm; lateral sepals 8.4 x 4.0 mm. **Petals** 8 x 1.2 mm, free, partly spreading, linear-oblanceolate, apex sub-rounded, 1-veined, margin entire, somewhat undulate towards the apex, spreading. **Lip** 6.4 x 13 mm, united to the column, base cordate when spread, appearing truncate in natural position, 3-lobed, margin spreading, sub-entire; bicallose, the calli fleshy, thin, digitiform, the disc with 3 narrow mid-ribs, the mid-rib reaching the apical sinus; lateral lobes 3.0 x 3.5 mm, quadrate, the basal margin undulate; mid-lobe 3 x 13 mm, wide and deeply emarginate, bilobed, each lobe 6.1-6.7 x 2.0-2.3 mm, oblong, falcate, apex rounded. **Column** 6 mm long, basal half thin, widening along the apical half, apex with a triangular rounded wing on each side at the height of the rostellum. **Rostellum** apical, slit. **Lateral lobes of the stigma** small, 1/4 the length of the stigmatic cavity. **Clinandrium-hood** reduced, margin entire. **Anther** ovoid, 4-celled. **Pollinia** 4, bird-wing type, strongly laterally compressed, unequal in size and shape, the inner pair somewhat smaller; caudicles soft and smooth, slightly shorter than the pollinia; viscarium semi-liquid. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: COLOMBIA: Boyacá: Gachantivá, 2800 m, 2 X 2020 m, *Puentes s.n.*, digital image, AMO! (Photo voucher).

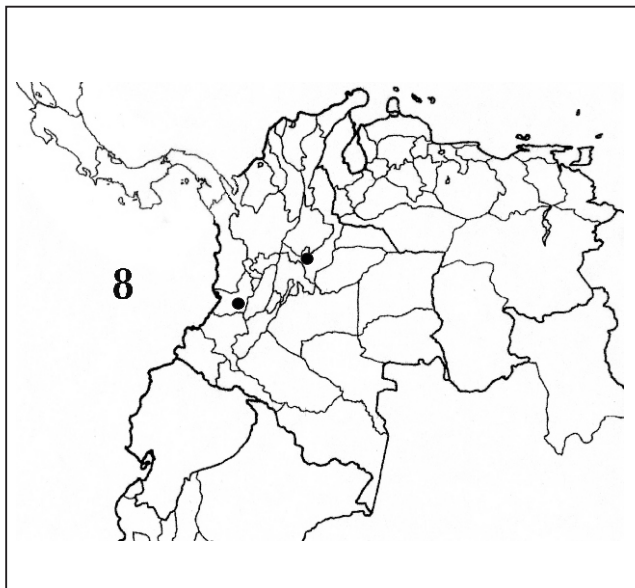
DISTRIBUTION AND ECOLOGY: Known presently from a plant said to come from the Valle del Cauca, on the Pacific slope of the Cordillera Occidental, without precise data, and cultivated near Bogotá. Also, from the digital image included from a plant collected on Cordillera Oriental in Boyacá at Gachantivá. Flowering from January to April.

RECOGNITION: *Epidendrum apicilatum* belongs to the Pseudepidendrum Group which is characterized by the caespitose plants, cane-like stems, the acute to acuminate leaves, the inflorescence usually apical, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), apical 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. The new species is recognized by the leaves 10.2-12.3 x 1.7-3.5 cm, the small flowers, sepals 7.6-8.4 mm long, dorsally, and minutely verrucose, the lip widest between the apical lobes, the lateral lobes quadrate, with the basal margin undulate. It is very similar to *Epidendrum atacazoicum* Schltr. but that species has leaves 7-18 x 2.5-5.0 cm, and pyramidal inflorescence, the racemes decreasing in size towards the apex of the inflorescence, the sepals clearly verrucose dorsally, the lip equally wide between the lateral and apical lobes, and the lateral lobes of the lip obliquely ovate-dolabriform. *Epidendrum arnoldii* Schltr. is also vegetatively similar, with a non-pyramidal, few-flowered inflorescence, sepals 8-10 mm long, dorsally glabrous, and the lip equally wide between the lateral and apical lobes. *Epidendrum leave* Lindl. has a densely flowered pyramidal inflorescence, the basal racemes longer than those at the apex, sepals 9-10 mm long, dorsally glabrous, and the lip equally wide between the lateral and apical lobes. *Epidendrum coconucoense* Hágsater, E. Santiago & Uribe-Vélez has somewhat larger flowers, sepals 11-12 mm long, pink, sepals and lip unevenly blotched with purple, the lateral lobes of the lip dolabriform, and the lip equally wide between the lateral and apical lobes.

ETYMOLOGY: From the Latin *apicalis*, the apical portion and *lata*, wide, in reference to the width of the lip widest between the apical lobes of the lip, a feature which distinguishes this species from most of the similarly colored species of the same Porphyreum subgroup.

CONSERVATION STATUS: DD. Data deficient. Known presently from a cultivated plant, without precise locality data, and a photograph of a plant from Boyacá, on the Cordillera Oriental. Range of distribution is unknown at present.

REFERENCES: Santiago, E. & E. Hágsater, 2009, *Epidendrum arnoldii* in Hágsater, E. & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 9, *Icon. Orchid.* 13: pl. 1304. Santiago, E. & E. Hágsater, 2010, *Epidendrum atacazoicum* in Hágsater, E. & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 9, *Icon. Orchid.* 13: pl. 1305. Hágsater, E. & E. Santiago, 2018, *Epidendrum coconucoense* in Hágsater, E. & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 12, *Icon. Orchid.* 16(1): pl. 1610. Santiago, E. & E. Hágsater, 2010, *Epidendrum laeve* in Hágsater, E. & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 9, *Icon. Orchid.* 13: pl. 1344.



Authors: E. Hágsater, E. Santiago & C. Uribe V.

LCDP: C. Uribe V. & A. Cisneros

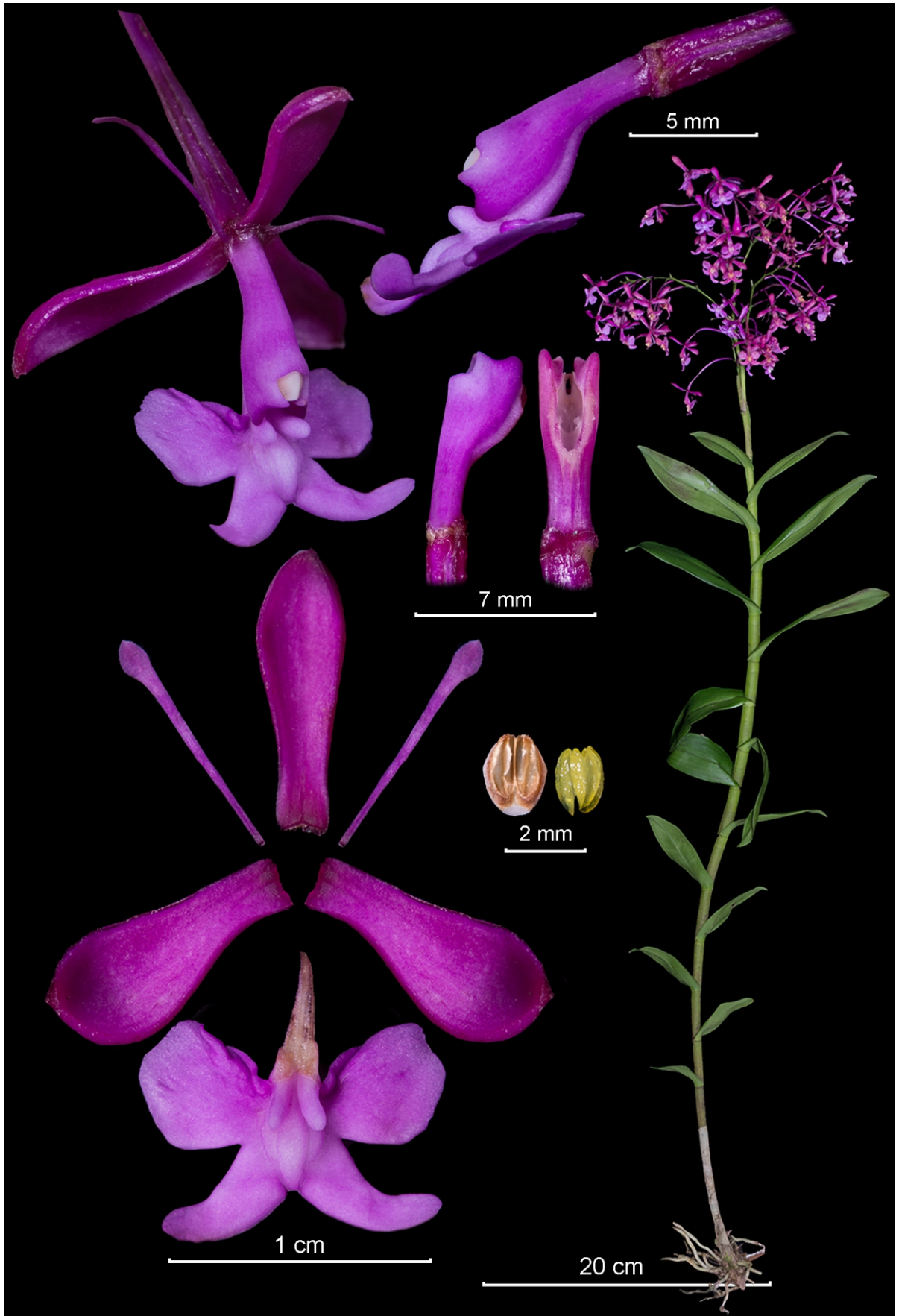
Photo: J. D. Puentes R.

Editors: E. Hágsater & E. Santiago

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ICONES ORCHIDACEARUM 18(2). 2021. Plate 1856



EPIDENDRUM ARNOLDII Schltr.

Plate 1857

EPIDENDRUM ARNOLDII Schltr. Repert. Spec. Nov. Regni Veg. Beih. 27: 134, 1924.

Type: COLOMBIA: Cundinamarca: Zipaquirá und Pacho, 2000 m, Oktober 1921, **Arnold Schultze** 7. Holotype: B, destroyed. Neotype (designated by Santiago & Hágsater, 2010: pl. 1304): Cundinamarca: entre Zipaquirá y Pacho, 2000 m, **Helmuth Schmidt-Mumm** 173, COL!

Epiphytic or terrestrial, sympodial, caespitose, erect **herb**, 85-150 m tall. **Roots** 2-3 mm in diameter, basal, fleshy, white. **Stems** 60-130 x 0.3-1.0 cm, simple, cane-like, terete; basal half covered by sheaths 23-40 mm long, non-foliar, tubular, white, scarious. **Leaves** 11-14, distributed throughout apical half of the stem, alternate, articulate, sub-coriaceous, sub-spreading with respect to the stem, medium green on both sides; sheaths 1.6-3.5 x 0.3-1.0 cm, tubular, minutely striated, pale green, generally concolor or scarcely tinged brown; blade 3.2-10.0 x 1.6 x 2.7 cm, oblong-elliptic, apex acute, margin entire, spreading. **Spathe** lacking. **Inflorescence** 13-20 cm long, apical, paniculate, erect, somewhat densely many-flowered; peduncle 6.0-7.5 cm long, straight, terete, thin, provided with 2-3 bracts 2.5-3.0 cm long, tubular at base, conduplicate at the apex, acute, green tinged brown; rachis 13-14 cm long, with 3-4 racemes of similar length, each subtended by a bract. **Floral bracts** 4-7 mm long, much shorter than the ovary, narrowly triangular, acuminate, embracing. **Ovary** 17-23 mm long, terete, thin, minutely furrowed, scarcely papillose. **Flowers** ca. 40, simultaneous, resupinate, rose-lilac or fuchsia, concolor or the disc and the calli white; fragrance not registered. **Sepals** 7.0-11.0 x 2.6-4.0 mm, spreading, free, oblanceolate-spatulate, apex obtuse, apical half concave, dorsally glabrous, 3-veined, margin entire, spreading. **Petals** 7.2-10.0 x 0.5-1.0 mm, spreading, free, linear-filiform, apex widened, obtuse*, 1-veined, margin entire, spreading. **Lip** 6.1-10.0 x 0.75-1.5 mm, united to the column, 3-lobed, base deeply cordate, margin sub-entire, spreading; width of the lip equal between the lateral lobes and the apical lobes; bicallose, calli fleshy, thin, angled upwards in front of the column wings, disc with 3 parallel, narrow ribs, mid-rib longer reaching the apical sinus of the lip; lateral lobes 4.3-4.7 x 4.7-5.0 mm, pentagonal, oblique, posterior margin undulate, corners rounded; mid-lobe 5.0 x 11.0 mm, bifid, apical lobes 4.0-5.6 x 1.7-2.0 mm, divergent, falcate-oblong, obtuse, margin entire, spreading. **Column** 5-7 mm long, basal half thin, widening vertically thereafter, apex bidentate, lateral wings short, rounded. **Rostellum** apical, slit. **Lateral lobes of the stigma** small, ¼ the length of the stigmatic cavity. **Clinandrium-hood**, reduced, margin entire. **Anther** ellipsoid, 4-celled, the surface creamy white. **Pollinia** 4, bird-wing type, strongly laterally compressed, unequal in size, the inner pair slightly smaller; caudicles soft and laminar, slightly longer than the pollinia; viscarium semi-liquid. **Nectary**: penetrating ¼ of the ovary, narrow. **Capsule** not seen.

OTHER SPECIMENS: COLOMBIA: Boyacá: Arcabuco, Santuario de Flora y Fauna Iguaque, 2900 m, 2 IV 2002, *Dueñas 3121A*, COL! Iguaque, 2700 m, *González 311*, COL! Santuario de Iguaque, 2960 m, 26 IX 1979, *Melampy 656*, MO! (illustration, AMO) Arcabuco, límite con el Santuario de Fauna y Flora Iguaque, 2700 m, 26 V 2017, *Gutiérrez 35*, JBB! (LCDP and Photo voucher). Duitama, Parque Natural La Zarza, 2669 m, 17 VII 2018, *Ordoñez 2775*, JBB! cerca de Arcabuco, 2750 m, 25 II 1940, *Pérez 8174-A*, COL! US! **Cundinamarca:** Quetame, [1500 m], 1 VII 1916, *Dawe 364*, K x2! Cabrera, vereda Núñez, 2300-2400 m, 13 VII 1988, *Linares 2345*, COL! NY! Sasaima, Vereda La Victoria; Hacienda Gualiva, Peñas del Aserradero, 2300-2900 m, 18 X 1957, *García-Barriga 15725A*, COL! near Pacho, 6000 ft, 8 XII 1988, *Meir 243*, K! near Bogotá, 21 X 1915, *Tracey 75*, K! Soacha, camino a Santandercito, 5 V 1989, *Villada 1*, BOG!

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: The presently known range is around Bogotá and north to Boyacá; terrestrial and epiphytic at 1500-2960 m elevation. Flowering apparently throughout the year.

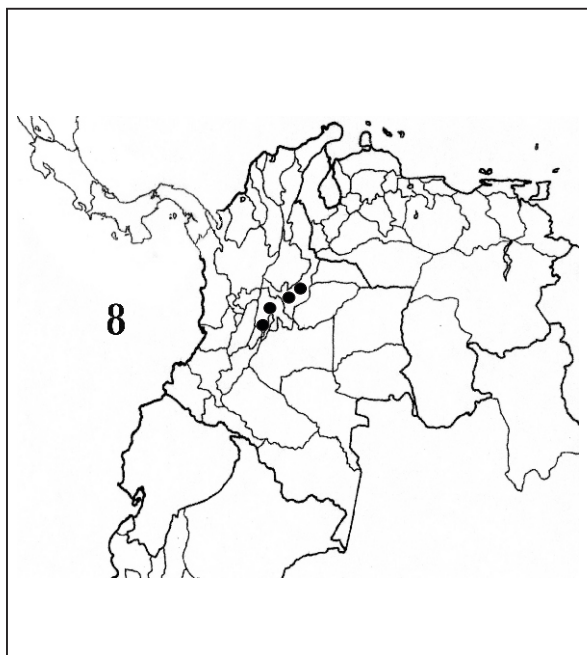
RECOGNITION: *Epidendrum arnoldii* belongs to the Pseudepidendrum Group which is characterized by the caespitose plants, the cane-like stems, the acute to acuminate leaves, the usually apical inflorescence, the mostly filiform petals, and the lip usually 3-lobed (with 3 parallel fleshy ribs), apical lobe often bifurcate, the “bird-wing” type pollinia, at least the inner pair, and the 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 rose-lilac-fuchsia flowers with the disc and calli sometimes white, the sepals 8-10.5 mm long, oblanceolate-spatulate, dorsally glabrous, the width of the lip equal between the lateral lobes and the apical lobes, lateral lobes pentagonal, corners rounded. *Epidendrum laeve* Lindl. has similarly colored flowers, the inflorescence with longer basal racemes than the apical racemes, and thus pyramidal, sepals 9-10 mm long, obovate-oblanceolate, lateral lobes dolabriform-trapezoid, somewhat retrorse, and the lobes of the bifid mid-lobe oblong, oblique. *Epidendrum falsiloquum* Rchb.f. has ochre-yellow to white tinged purple flowers, disc of the lip with purple lines, sepals 7-8 mm long, obovate-oblanceolate, and the lateral lobes of the lip sub-orbicular.

CONSERVATION STATUS: CR. Critically endangered. The species has a limited range and is distributed in a highly populated area of Colombia.

*NOTE: The original description indicates: “petalis... apice oblique sub-bilobulato retusis...” No known species in this group has petals with a bilobate apex.

ETYMOLOGY: In honor of Arnold Schultze (1875-1948), a German officer, geographer and entomologist specialized in Lepidoptera, who collected in Colombia in 1920, 1926 and 1927, among other countries in South America and Africa. He collected the type.

REFERENCES: Schultze, A., 1929, Die ersten Stände von drei kolumbianischen hochandinen Satyriden *Deutsche Entomologische Zeitschrift* Iris 43: 157-165, tfl. 3. Santiago, E., & E. Hágsater, 2010, *Epidendrum arnoldii* in Hágsater, E. & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 9, *Icon. Orchid.* 13: pl. 1304. Santiago, E., & E. Hágsater, 2010, *Epidendrum falsiloquum* in Hágsater, E. & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 9, *Icon. Orchid.* 13: pl. 1330. Santiago, E., & E. Hágsater, 2010, *Epidendrum laeve* in Hágsater, E., & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 9, *Icon. Orchid.* 13: pl. 1344. Santiago, E., & E. Hágsater, 2021, *Epidendrum falsiloquum* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 14, *Icon. Orchid.* 18(2): pl. 1868.



Authors: E. Santiago, J. S. Moreno & N. Gutiérrez

LCDP: J. S. Moreno

Herbario AMO

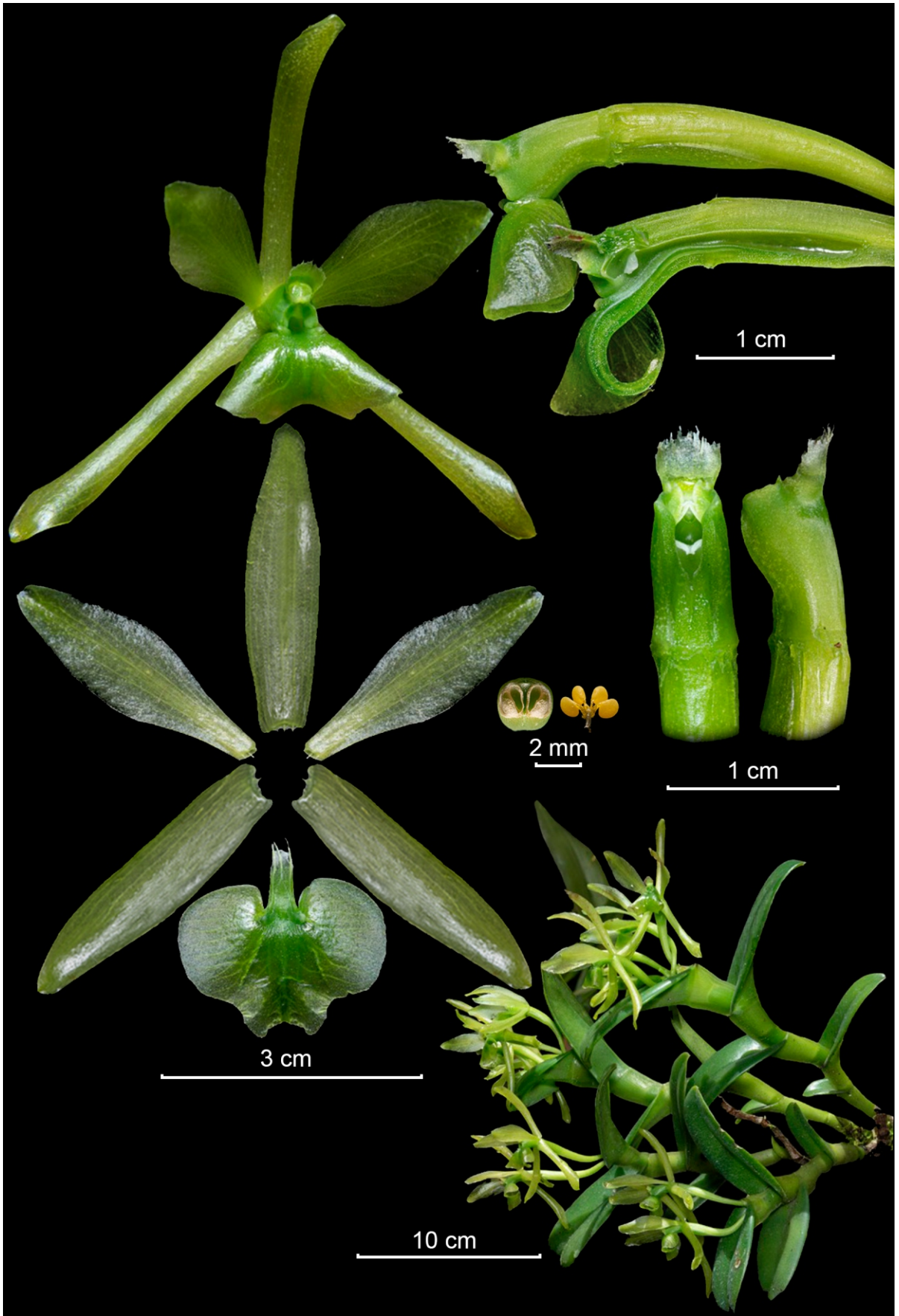
Ciudad de México, MÉXICO



Photo: J. S. Moreno

Editors: E. Hágsater & E. Santiago

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1857



EPIDENDRUM BEATRICIS-VASQUEZIAE Hągsater, J.S.Moreno & J.Duarte

Plate 1858

EPIDENDRUM BEATRICIS-VASQUEZIAE Hágsater, J.S.Moreno et J.Duarte, sp. nov.

Type: COLOMBIA: Cauca: sin localidad precisa; cultivada en Popayán, 26 abril 2021, **Alejandro Zuluaga** cultivada por **Beatriz Vásquez s.n.** Holotype: CAUP! (LCDP and Photo voucher).

Similar to *Epidendrum putumayoense* Hágsater & L.Sánchez with tall stems, 12-22 cm tall (vs. 7.0-7.5 cm tall), sepals 36 x 9 mm, narrowly elliptic to oblong (vs. 24.5-25.0 x 7.0-7.3 mm, narrowly oblanceolate) petals 31 x 9.2 mm, narrowly rhombic (vs. 23.0-23.5 x 2.5-3.0 mm, narrowly oblanceolate), lip 16 x 22 mm, base deeply cordate, lateral lobes obliquely revolute, the mid-lobe strongly revolute in natural position, so that the lip appears triangular with the lower side widely “” shaped (vs. 12.0-12.5 x 23.4-24.0 mm, obtrapezoid).

Epiphytic, sympodial, caespitose **herb**, 12-22 cm tall including the inflorescence. **Roots** 2-3 mm in diameter, basal, from the short rhizome, fleshy, white. **Stems** 10-15 x 0.9-1.6 cm, simple, cane-like, slightly flexuous, somewhat laterally compressed. **Leaves** 4-5, equally distributed throughout the stem, the lower ones smaller, articulate; sheath 1.4-3.3 x 0.9-1.6 cm, tubular laterally compressed and somewhat ancipitose, infundibuliform, pale green; blade 2.3-9.3 x 0.9-2.6 cm, fleshy, elliptic to narrowly ovate, apex bilobed, margin entire, spreading, green, concolor. **Spathe** lacking. **Inflorescence** 5 cm long including the flowers, apical from the mature stem, an umbel; rachis much abbreviated, sessile, enveloped at the base by a very wide, embracing bract, ca. 15 x 22 mm, clearly veined and dorsally with a low keel. **Floral bracts** 2-3 mm long, much shorter than the ovary, ovate-triangular, acuminate, embracing. **Ovary** 36 mm long, terete, ventrally somewhat inflated along the apical 1/3 behind the perianth, furrowed. **Flowers** 2-5, opening in succession but all eventually open at one time, resupinate, translucent green, the disc of the lip and apex of the column darker: fragrance faintly of menthol in the afternoon (probably stronger at night). **Sepals** 36 x 8-9 mm, spreading, free, glabrous, narrowly elliptic to oblong, apex rounded, somewhat hyaline, the veins clearly visible, 7-veined, margins entire, strongly revolute. **Petals** 31 x 9.2 mm, partly spreading, free, glabrous, narrowly rhombic, apex rounded, somewhat hyaline, the veins clearly visible, 3-veined, the lateral veins branching and thus appearing 5-veined, margins entire, spreading. **Lip** 16 x 22 mm, united to the column, 3-lobed, base deeply cordate, the lateral lobes obliquely revolute and the mid-lobe strongly revolute in natural position, thus appearing widely triangular with the bottom widely “” shaped; margins entire, spreading; disc bicallose, the calli sub-globose, small, fleshy, divaricate, with a mid-rib from the middle of the disc to the apex, low, wide; lateral lobes 9.2 x 12.6 mm, much larger than the mid-lobe, obliquely semi-orbicular; mid-lobe trapezoid, the apex widely crescent shaped. **Column** 11-13 mm long including the clinandrium-hood, short, thick, slightly arched, with a pair of truncate wings. **Clinandrium-hood** prominent, obliquely funnel-shaped, upper margin short-fimbriate, diminishing towards the shorter sides to dentate and then entire, closing in front of the rostellum. **Rostellum** apical, slit. **Anther** sub-cubical, slightly wider than long, the apical margin emarginate, front unornamented, 4-celled. **Pollinia** 4, the outer pair somewhat larger, semi-obovoid, laterally compressed; caudicles soft and granulate, longer than the pollinia; viscarium viscous, transparent. **Lateral lobes of the stigma** prominent, occupying 1/2 the length of the stigmatic cavity, forming a border at the apex of the column which closes below the rostellum, both sides coming into contact. **Nectary** penetrating nearly half the pedicellate ovary, unornamented. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

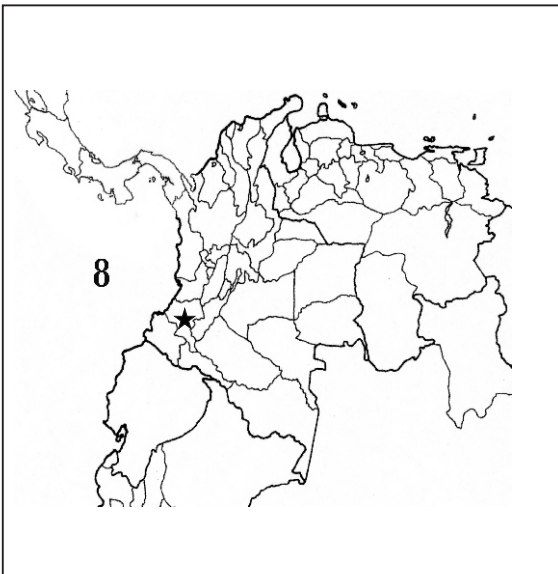
DISTRIBUTION AND ECOLOGY: Known presently from the southern Chocó region of Cauca, Colombia in very wet lowland tropical rainforest, epiphytic. Flowering in April-May.

RECOGNITION: *Epidendrum beatrix-vasqueziae* belongs to the difforme group which is characterized by the caespitose, sympodial plants, fleshy light green to glaucous leaves, the apical inflorescence without any spathe, sessile, rarely with a short peduncle, one-flowered to a glomerule, fleshy, and flowers green to yellowish-green, rarely white. The species is recognized by the somewhat compressed stems with 4 unequal leaves, the flowers 2-5, opening in succession but eventually all open at one time, large, the sepals 36 mm long, the petals 31 x 9.2 mm, narrowly rhombic, base cuneate, the lip 3-lobed, strongly revolute in natural position with the lateral lobes obliquely revolute thus appearing triangular from in front, lateral lobes obliquely sub-orbicular, mid-lobe trapezoidal, the apex widely crescent shaped, and the column 9 mm long, short and thick. *Epidendrum putumayoense* Hágsater & L. Sánchez has shorter stems, 3.5 cm long, sepals 24.5-25.0 mm long, narrowly oblanceolate, petals 23.0-23.5 x 2.5-3.0 mm, narrowly oblanceolados, lip 12 x 24 mm obtrapezoid. *Epidendrum platytilum* Schltr. has similarly sized flowers, sepals 36 mm long, lateral compressed stems, 1-2 green flowers, and inflated, terete ovary, a cordiform lip with several prominent veins, and a column 9 mm long, thin. *Epidendrum pseudokillipii* Hágsater & L.Sánchez has taller plants, to 38 cm tall, 7 leaves, smaller flowers, sepals 17-18 mm long, petals 16 x 6.5 mm, obovate-spatulate, the lip widely cordiform, obtuse, and the column short, 8.5-9.0 cm long.

CONSERVATION STATUS: DD. Data deficient. Known only from a single cultivated plant, without precise locality data.

ETIMOLOGY: In honor of Beatriz Vásquez, an avid orchid grower from Popayán, Cauca, in southern Colombia, who has shared her collection and noted this plant for its large attractive flowers with menthol fragrance.

REFERENCES: Hágsater, E., & L. Sánchez S., (1999) *Epidendrum putumayoense* in E. Hágsater, L. Sánchez S. & J. García-Cruz (eds.) The Genus *Epidendrum*, Part 2, **Icon. Orchid.** 3: pl. 377. Sánchez S., L., (2009) *Epidendrum pseudokillipii* in Hágsater, E. & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 5, **Icon. Orchid.** 7: pl. 781. Hágsater, E., & E. Hágsater (2009) *Epidendrum platytilum* in Hágsater, E. & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 8, **Icon. Orchid.** 12: pl. 1276.



Authors: E. Hágsater, J. S. Moreno & J. Duarte

LCDP: J. S. Moreno

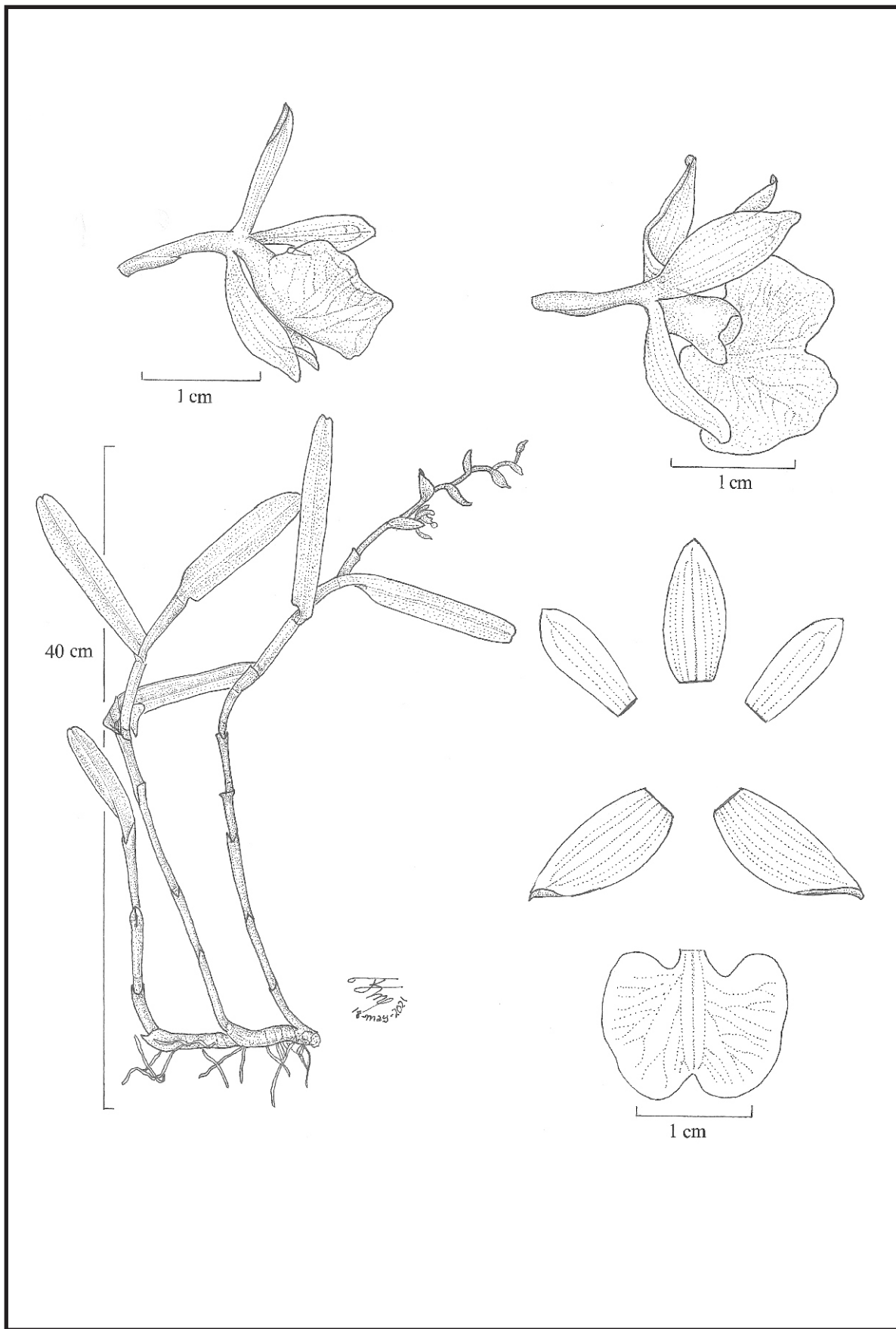
Photo: B. Vásquez

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1858



EPIDENDRUM BILOBATUM Ames

EPIDENDRUM BILOBATUM Ames, Sched. Orch. 7: 3. 1924.

Type: Costa Rica, Cartago: Paraíso: Cachí, 4000 ft, 5 August 1923, **Charles H. Lankester 509**. Holotype: AMES-27247!
Flowers in glycerin ex AMES-27247 HUH 84597! (illustration voucher).

Epiphytic, sympodial, sub-caespitose **herb**, 19-42 cm tall including inflorescence. **Roots** 2.0 mm in diameter, distributed along rhizome, scarce, fleshy. **Stems** 20-30 x 0.4-0.6 cm, simple, cane-like, erect, terete at base, laterally compressed towards apex, separated by an evident rhizome 4.0-4.5 cm long, covered by scarios bracts. **Leaves** 4-6, distributed along apical half of stems; sheaths 2.3-4.7 x 0.4-0.6 cm, tubular, striated; blade 9.0-12.5 x 1.4-2.0 cm, 5-6:1, oblong, apex bilobed, flat, coriaceous, articulate. **Spathe** lacking. **Inflorescence** apical, erect, 12 cm long, simple, distichous, flowering only once, produced from mature stem, peduncle short, less than 1 cm long; rachis sinuous. **Floral bracts** spreading, 9-19 x 4-7 mm (conduplicate), longer than ovaries, widely ovate, persistent in peduncles without flowers, spaced, falcate inwards, apex acute. **Flowers** 7, successive, several open at one time, non-resupinate, lip always oriented towards apex of rachis, progressively smaller; flowers pale apple green (becoming yellow as they age); fragrance not registered. **Ovary** 11.0-11.5 mm long, thin, somewhat rugose. **Sepals** free, spreading, 5-veined; dorsal sepal 12 mm long, elliptic, acute, strongly concave, with prominent dorsal keel, margin of keel denticulate; lateral sepals 12-14 x 6 mm, narrowly elliptic, acute, prominently veined. **Petals** 11 x 4 mm, widely spatulate, obtuse, prominently veined. **Lip** 13.0-15.0 x 15.0-15.3 mm, united to column, base strongly cordate, bilobed, strongly concave, shell shaped, apex deeply emarginate, bilobed, with thick mid-rib starting below apex of column. **Column** 7 mm long, dorsally, thick, thickened towards obliquely truncate apex, underside longer than dorsal length.

OTHER SPECIMENS: Costa Rica: Cartago: Turrialba: Tayutic, Moravia, 5 km al oeste del centro de Moravia. Sobre sendero al lado de la calle que va a Platanillo, 1000-1200 m, 22 I 2005, *Karremans 664*. (JBL-spirit).

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Presently known from two collections at ca. 970-1200 m elevation on the Caribbean slope of the Cordillera from what is now the dam of Cachí in central Costa Rica, and further east (the altitude indicated in the label of the type is 4000 ft is closer to the Lankester Garden where the species was cultivated).

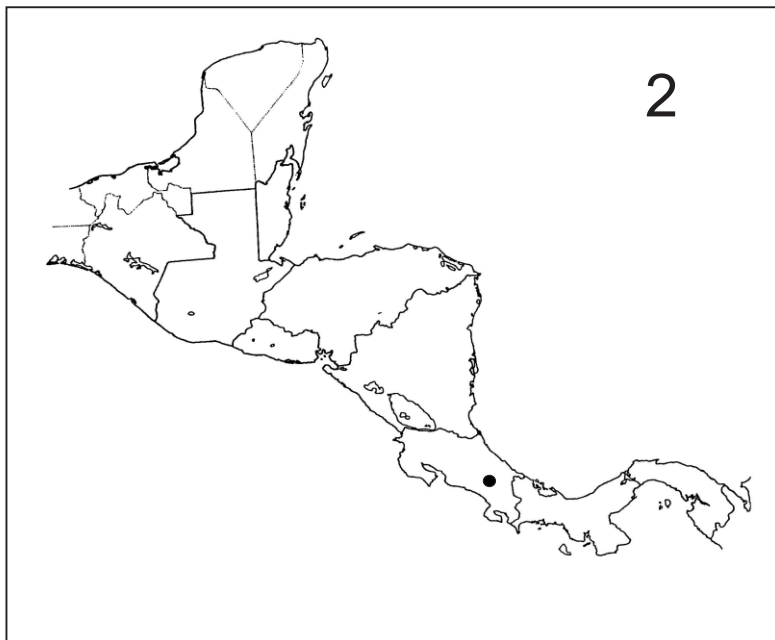
RECOGNITION: *Epidendrum bilobatum*, belongs to the Spathiger Group, which is characterized by the sympodial growth habit, the distichous, second inflorescence with large, conduplicate bracts, the fleshy green flowers with narrow petals and the reniform lip. The species has long, oblong leaves 9-12.5 x 1.4-2.0 cm, sepals 12-14 mm long, and the lip 13 x 15.3 mm, only slightly wider than long. It has been confused with *Epidendrum* sp. (see Jiménez & Hágsater, 2007 and note below) which is native to the central valleys and the Cordillera de Tilarán and has shorter narrow elliptic leaves 3.0-7.2 x 1.2-2.4 cm, 2-3:1, sepals 10-19 mm long, and the lip 9-11.8 x 15-17.5 mm, clearly wider than long. The characteristic interspaced floral bracts 8-10 mm long are reminiscent of *Epidendrum caluerorum* Hágsater, but that species has shorter stems, 8-20 cm long with 3-6 leaves, the peduncle of the inflorescence with 1-7 imbricating bracts, and the lip sub-trapezoid, truncate at the base instead of cordate. *Epidendrum belloi* Hágsater has a similar number of leaves per stem, but the plants of that species are very large, 45-66 cm tall, the inflorescence has long, triangular bracts and a cordiform lip.

NOTE: In their publication of *Epidendrum bilobatum*, Jiménez & Hágsater (2007), the description is a combination of two species, the species here illustrated and another population of the central Valleys of Costa Rica and the Cordillera de Tilarán, which will be published elsewhere, and treated above as *Epidendrum* sp. The illustration provided there (Tilarán, *Hágsater 7094*, AMO!) corresponds to that undescribed species; the list of specimens in the Appendix, page III, correspond to that species.

CONSERVATION STATUS: DD. Data deficient. The site where the type was collected is now a dam site. Two more collections were made By Karremans in 2005 somewhat east, around Moravia de Chirripó and Chirripó Abajo, also in the Cantón Turrialba, on the Caribbean slope of the Cordillera de Talamanca, but the plants did not survive in cultivation, and only flowers in spirit of one are conserved.

ETYMOLOGY: From the *Latin*, bi-, two, and *lobatus*, lobed, in reference to the clearly two-lobed lip of this species.

REFERENCES: Hágsater, E., 1993, *Epidendrum caluerorum*, in E. Hágsater, L. Sánchez S. & J. García-Cruz (eds.), The Genus *Epidendrum*, Part 1, *Icon. Orchid.* 2: pl. 116. Hágsater, E., 1999, *Epidendrum belloi* in E. Hágsater, L. Sánchez S. & J. García-Cruz (eds.), The Genus *Epidendrum*, Part 2, *Icon. Orchid.* 3: pl. 313. Jiménez, M., R., & E. Hágsater, 2007, *Epidendrum bilobatum*, in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 6, *Icon. Orchid.* 9: pl. 914.





EPIDENDRUM BITRIANGULARE Sierra-Ariza, J.S.Moreno & Hågsater

Plate 1860

EPIDENDRUM BITRIANGULARE Sierra-Ariza, J.S. Moreno et Hågsater, sp. nov.

Type: COLOMBIA: Valle del Cauca: Calima-El Darién, Vda. Río Bravo, 1200-1300 m, 20 octubre 2020, **Juan Sebastián Moreno 527**. Holotype: CAUP! (LCDP and Photo voucher.)

Similar to *Epidendrum amayense* Hågsater, but the flowers green, with red tinge on sepals (vs. flower greenish yellow), flowers larger, sepals 15-16 mm long (vs. 9 mm long), the lateral lobes of the lip large, sub-quadrate, somewhat reflexed (vs. lateral lobes orbicular), and the mid-lobe small and wide, bilobed, formed by two opposite right-angle triangles unequal, the base longer than the height, the outer sides parallel (vs. mid-lobe formed by two semi-orbicular lobes).

Epiphytic, sympodial, erect **herb**, 30 to 40 cm tall. **Roots** 3-5 mm in diameter, from the base of the primary stem, numerous, fleshy, thick, green. **Stems** 25-35 x 0.5-0.6 cm, straight, terete, cane-like, fuscous-colored, covered by non-foliar sheaths, 2.5-5 x 0.5-0.6 cm. **Leaves** 4, aggregate at the apex of the stem, articulate, alternate; sheath tubular; blade 5-10 x 1.5-3 cm, the lower leaf smaller, spreading, oblong, acute, coriaceous, smooth, dark green, margin entire. **Inflorescence** 9 cm long, apical, arching pendulous, a cylindrical raceme, densely many-flowered. **Floral bracts** 3 mm long, less than half the length of the ovary, triangular, acute, embracing. **Flowers** ca. 25, resupinate, internally green, the sepals externally tinged light red, lighter red inside. **Ovary** 15 x 3 mm, terete, red-green, curved, furrowed. **Sepals** partly spreading, free, slightly concave, margins entire, spreading; dorsal sepal 16 x 5 mm, oblong-elliptic, acute, 3-veined; lateral sepals 15 x 7 mm, elliptic, oblique, apiculate, with a low dorsal keel, 5-veined. **Petals** 15 x 2.5 mm, narrowly oblanceolate, acute to rounded, 1-veined, margin entire, spreading. **Lip** 12 x 24 mm, united to the column, 3-lobed, base widely cordate; bicallose, the calli very low, elongate, narrow ridges at the base of the lip, with a low, narrow, central rib, somewhat thickened reaching the apex of the lip; lateral lobes 10 x 9 mm, large, sub-quadrate, the corners rounded, margin sub-undulate; mid-lobe 2.5 x 8 mm, small and wide, bilobed, formed by two opposite right-angle triangles unequal, the base longer than the height, the outer sides parallel, the corners rounded. **Column** 8 x 5 mm, lightly curved upwards, the apex truncate. **Clinandrium-hood** reduced, margin entire. **Rostellum** sub-apical, slightly slit. **Lateral lobes of the stigma** rounded, slightly pronounced. **Anther**, **Pollinia**, **Nectary** and **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known from the Pacific slope of the Cordillera Occidental of the Andes in southern Colombia, in the basin of the Río Bravo in the municipality of Calima-El Darién, department of Valle del Cauca, epiphytic in humid mountain forest, at 1200-1300 m elevation. Flowering in October.

RECOGNITION: *Epidendrum bitriangulare* belongs to the Incomptum Group, which is characterized by having erect successive lateral growths produced from the middle of the previous growth, few leaves aggregate towards the apex of the stems, a short apical inflorescence with fleshy green to violet-green flowers with short ovaries, and the lip entire to 3-lobed. The new species is recognized by the internally green flowers, sepals 15-16 mm long, petals 15 x 2.5 mm, narrowly oblanceolate, and the 3-lobed lip, widely cordate at the base, with the lateral lobes sub-quadrate, slightly reflexed, and the small bilobed mid-lobe, 2.5 x 8 mm, the lobes are two opposite right-angle triangles, the base wider than the side, the outer margins parallel. It is somewhat similar to *Epidendrum amayense* Hågsater which has smaller, greenish yellow flowers, sepals 9 mm long, a somewhat similar 3-lobed lip, lateral lobes orbicular, but the mid-lobe is formed by two semi-orbicular lobes, and the petals are narrowly oblong. *Epidendrum aylacotoglossum* Hågsater has yellow flowers, sepals ca. 11 mm long, petals 9 x 2 mm, narrowly oblanceolate, apex rounded, and the lip with orbicular lateral lobes and the mid-lobe 2 x 6.8 mm, bilobed, forming two semi-ovate, oblique, rounded lobes.

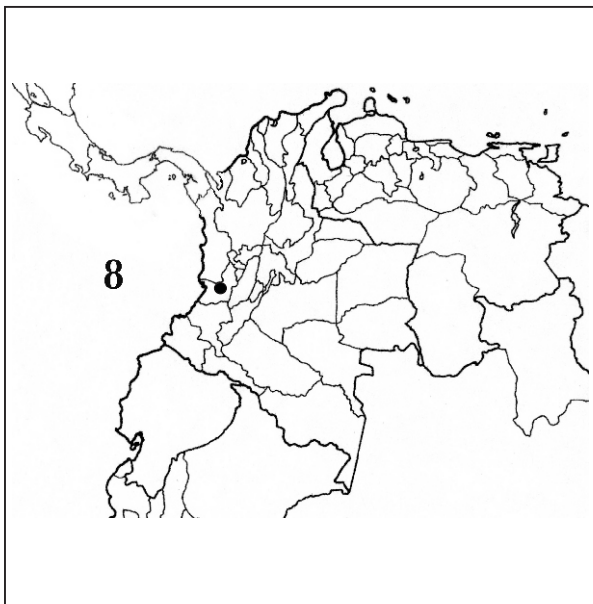
NOTE: Though this specimen shows a single unbranched stem, produced from the base of a small stem remnant, the species is expected to produce new stem from the middle internodes of the stem, with roots only at the base of the primary stem. That is the common vegetative architecture of the Incomptum Group, along with the few leaves aggregate towards the apex of the stems.

CONSERVATION STATUS: The species is presently known only from the type locality. This species, and others recently discovered in the Colombian Pacific coast, reflect the un-prospected degree of the western slope of the western Andes. Deforestation processes, illicit crops, and illegal mining are a constant. The status is applied a priori, this new species is considered in the Endangered (EN) category according to sub-criteria A1c and B1b(iii) (IUCN 2012).

CONSERVATION STATUS: DD. Data deficient. The species is presently known only from the type locality.

ETYMOLOGY: From the Latin *bi-*, two-, and *triangularis*, triangular, in reference to the mid-lobe of the lip with is formed by two opposite right-angle triangles of unequal sides, the base longer than the height, which distinguishes this species from other similar species.

REFERENCES: Hågsater, E., 1999, *Epidendrum amayense* in E. Hågsater, L. Sánchez S. & J. García-Cruz (eds.) The Genus *Epidendrum*, Part 2, *Icon. Orchid.* 3: pl. 303. Hågsater, E., 2004, *Epidendrum aylacotoglossum* in The Genus *Epidendrum*, Part 4, *Icon. Orchid.* 7: pl. 710. IUCN, 2012, **Red List Categories and Criteria:** Version 3.1. Second edition, Gland, Switzerland and Cambridge, UK; iv + 32 pp.



Authors: M. A. Sierra, J. S. Moreno & E. Hågsater

LCDP: J. S. Moreno

Photo: J. S. Moreno

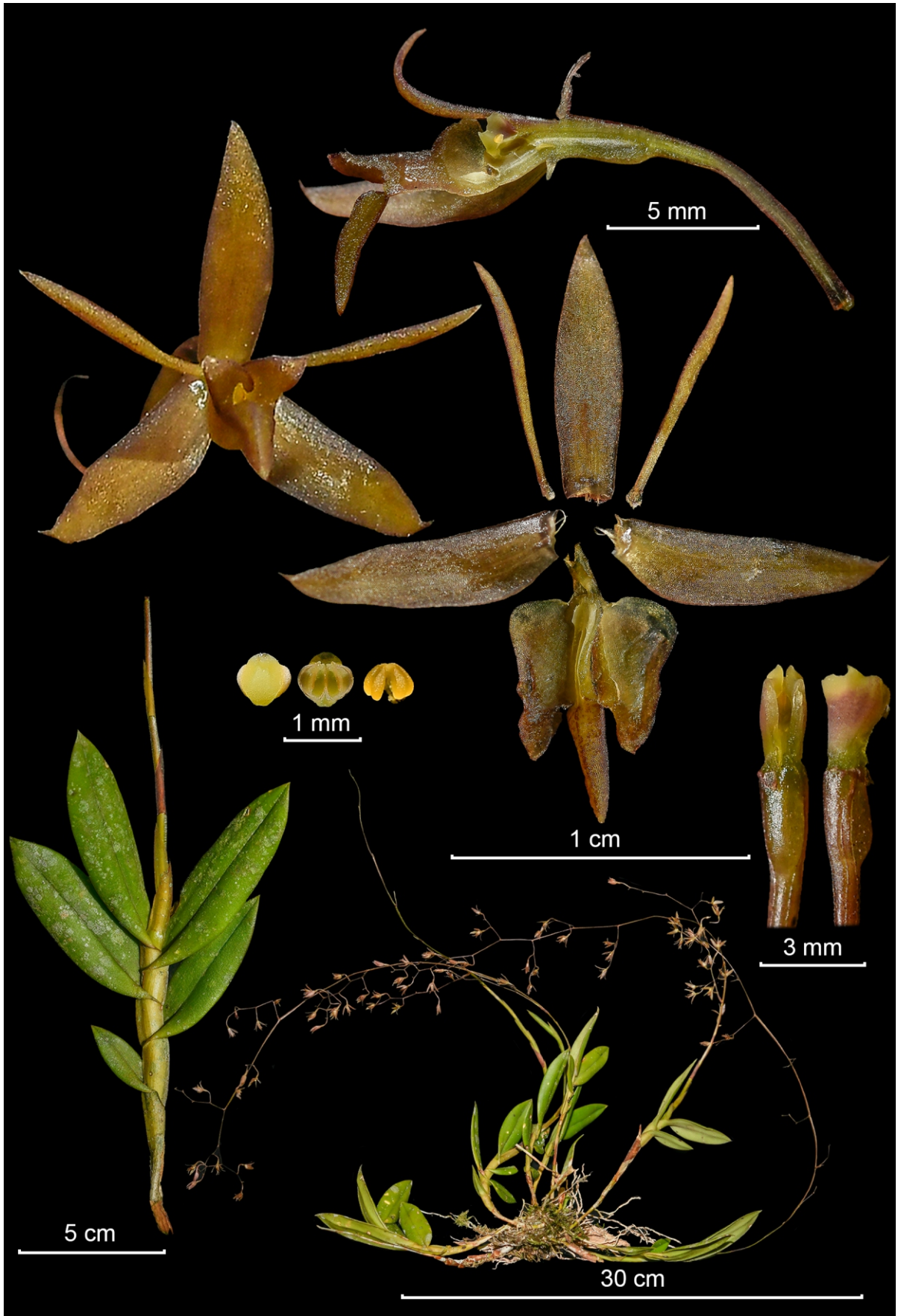
Editors: E. Hågsater & E. Santiago

Herbario AMO

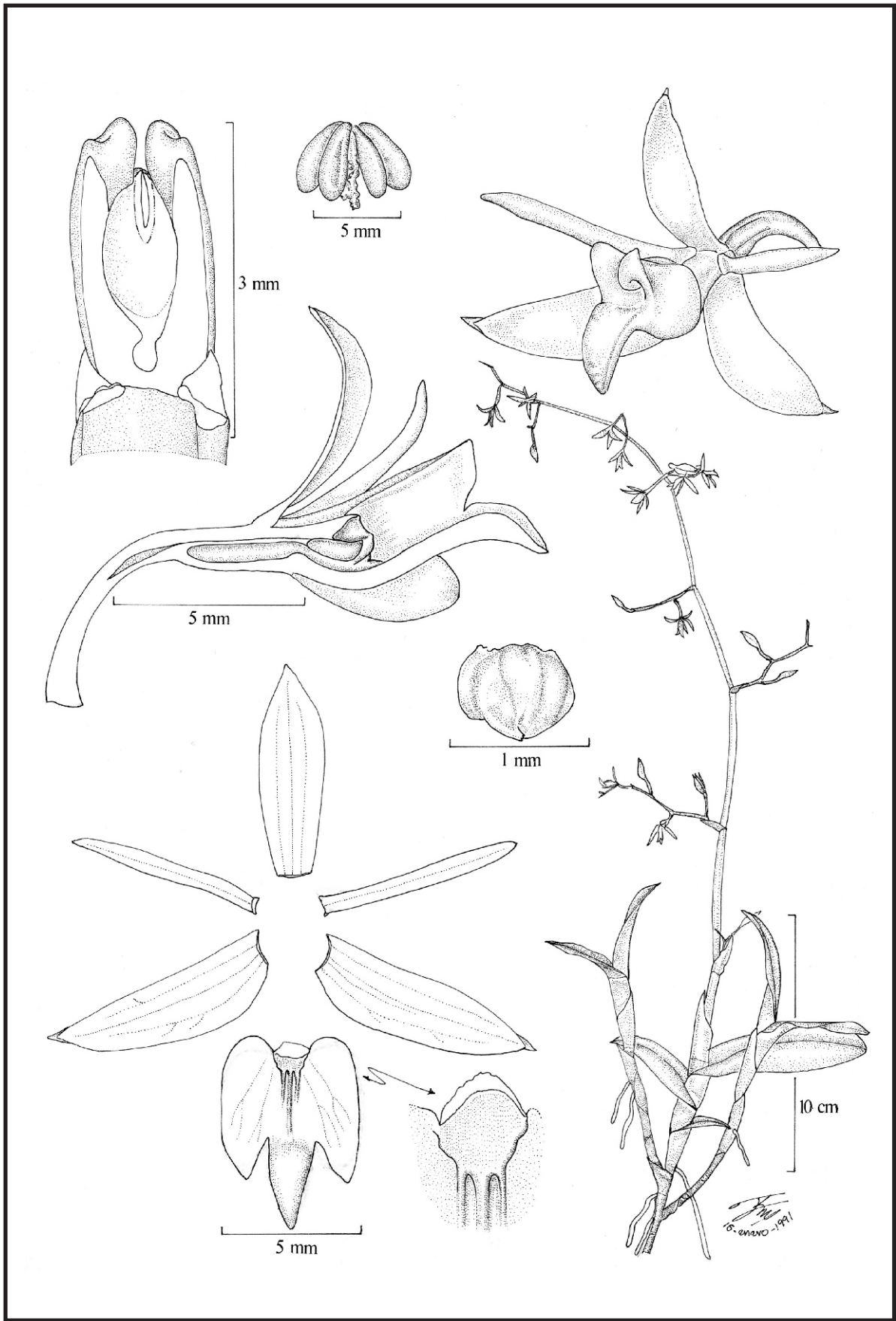
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ICONES ORCHIDACEARUM 18(2). 2021.

Plate 1860



EPIDENDRUM COMPRESSUM Griseb.



EPIDENDRUM COMPRESSUM Griseb.

Plate 1861a

EPIDENDRUM COMPRESSUM Griseb., Fl. Brit. W.I. [Grisebach] 617, 1864.

Type: TRINIDAD & TOBAGO: Trinidad: Cascade, Diego Martin, Trinidad, 1 XII 1845, **Bradford 5331**. Holotype: GOET! Isotypes: BM! K 583741!
 Heterotypic synonyms: *Epidendrum laxum* Poepp. & Endl., Nov. Gen. Sp. Pl. (Poeppig & Endlicher) 2: 2. 1836 [non *Epidendrum laxum* Sw., Prodr. [O.P. Swartz] 125. 1788 (= *Acianthera laxa* (Sw.) A. Doucette. Phytotaxa 275(3): 270. 2016)].
 Lectotype (here designated): PERU: [Huánuco:] Cuchero [now Tingo María], 1829, **Poeppig 1766**, W0048595! <https://w.jacq.org/W00485935>. Syntypes: Peruvia subandina, **Poeppig 1766**, P 00467513! PERU: [Huánuco:] Pampayacu ad arbores, January 1830, **Poeppig 1766**. W0048593! <https://w.jacq.org/W0048593>, and W0048594! <https://w.jacq.org/W0048594>; tracing of W0048594 including drawing of flower at AMES 67867 (HUH 70499)! drawing of flower of W0048594 by Szlachetko, UGDA, W0138530! <https://w.jacq.org/W0138530>; tracing at AMES 67868 (HUH 70500)!

Epidendrum laxum Poepp. & Endl. var. *mocoanum* Schltr., Repert. Spec. Nov. Regni Veg., Beih. 27: 67. 1924. Type: COLOMBIA: Caquetá, bei Mocoa, 530 m, Mai 1922, W. Hopp 88, B (destroyed).

Epidendrum yatapuense Barb.Rodr., Velloso ed. 2, 1: 123, 1891. Lectotype (here designated): **Barbosa Rodrigues's** original drawing (AMES) which was intended to be included in his unpublished book "Iconographie des Orchidées du Brésil" 4: t. 834. and reproduced by Sprunger et al. (1996: 1: 265, fig. A, as *Encyclia compressa* Griseb.)
 Copy of illustration K!

Epidendrum macrothyrus F.Lehm & Kraenzl., Bot. Jahrb. Syst. 26: 472, 1899. Type: Ecuador: Morona-Santiago: Cuchipamba at Río Sanguirima, E slopes of the E. Andes of Sigsig, 1000-1200 m, May 1887, **Friedrich Carl Lehmann 6494**, AMES 22548! AMES 22558! K! LE! NY 8810! US 84227!

Epidendrum guentherianum Kraenzl., Repert. Spec. Nov. Regni Veg. 25: 20. 1928.

≡ *Encyclia guentheriana* (Kraenzl.) R.Vásquez, Mongr. Syst. Bot. Missouri Bot. Gard. 127: 1272. 2014. Type: Bolivia: Lacareja: Mapiri: San Carlos, bei Sarampuni, 500 m, 12 III 1927, **Otto Buchtien 490**. Lectotype: (designated by Christenson, 1994: 349): HBG 501635! Isolectotype: US 1399559!

Invalid name: *Minicolonna laxa* (Poepp. & Endl.) Brieger, Orchideen (Schlechter) 8(29-32): 495. 1976. (No basionym given).

Minicolonna yatapuensis (Barb.Rodr.) Brieger, Orchideen (Schlechter) 8(29-32): 495. 1976. (No basionym given).

Encyclia compressa Griseb., cited by Sprunger, Cribb & Toscano (1996: 1: 265), nomen nudum.

Epiphytic, terrestrial, caespitose **herb**, 20-90 cm tall, including the inflorescence. **Roots** 1.3 mm in diameter, from the base of the stems. **Stems** 4.6-11 x 0.5-0.6 cm, sub-erect, cane-like, laterally compressed, aciculate, simple. **Leaves** 3-5, distributed along the upper 1/2 of the stem, alternate, sub-erect; sheaths 0.9-2.2 cm long, tubular, laterally compressed, aciculate, striated, papyraceous when dry; blade 2.1-15 x 0.8-1.3 cm, progressively larger to the apex of the stem, elliptic-oblong, acute, margin entire, slightly revolute. **Spathes** lacking. **Inflorescence** 16.5-80 cm long, apical, paniculate, arcuate, laxly many flowered; peduncle 6.6-35 cm long, laterally compressed at the base, terete towards the apex, covered with bracts 1.9-2.4 cm long, embracing, scarious, tubular, laterally compressed, apex conduplicate, acute, margin entire, the lower ones imbricated; rachis 9.7-45.6 cm long, terete, filiform. **Floral bracts** 1.3-3.0 mm long, decreasing, shorter than the ovary, linear-lanceolate, acute, embracing. **Flowers** numerous, up to 20 per raceme, simultaneous, several open at one time, resupinate, greenish brown to ochre-red colored; fragrant at night. **Ovary** 8.5-12 mm long, thin, inflated ventrally along the apical 1/4, furrowed, unornamented. **Sepals** 8-10 x 2.1-2.5 mm, free, partly spreading, recurved, 3-veined, fleshy, margin entire, spreading; dorsal sepal oblong-lanceolate, acute; lateral sepals lanceolate, apex aristate, oblique, the upper margin nearly straight. **Petals** 8.0-8.2 x 0.5-0.6 mm, partly spreading, recurved, linear-elliptic, acute, 1-veined, fleshy, margin entire. **Lip** 6.6-7.9 x 5.5-6.3 mm, united to the column, 3-lobed, trumpet shaped in natural position, the sides involute surrounding the column, the apices somewhat revolute, base slightly cordate; bicallose, calli prominent, laminar, with 3-low laminar mid-ribs extending to the middle of the lip; lateral lobes 3.8-5.5 x 2.0-2.5 mm, parallel to the mid-lobe, transversely semi-ovate, apex triangular, sub-acute, margin entire; mid-lobe 3.8-4.0 x 1.0-1.3 mm, fleshy thickened, narrowly triangular, acute, slightly recurved, margin entire, thick. **Column** 2.9-3.0 mm long, straight to slightly arched, somewhat thick. **Clinandrium-hood** prominent, though not surpassing the body of the column margin undulate. **Anther** widely ovoid, 4-celled. **Pollinia** 4, obovoid, laterally compressed. **Rostellum** apical, slit. **Lateral lobes of the stigma** very small. **Nectary** penetrating 1/4 of the pedicellate ovary, relatively wide throughout. **Capsule** globose, 23 x 7.2 mm, pedicel 7 mm long, thin; body 13 x 7.2 mm; apical neck 3 mm long.

OTHER SPECIMENS & OTHER RECORDS: See next page.

DISTRIBUTION AND ECOLOGY: Widespread in South America in wet tropical forests, epiphytic, from 50 to 2700 m elevation. Flowering throughout the year, but especially from December to May.

RECOGNITION: *Epidendrum compressum* belongs to the *Compressum* Group, characterized by the caespitose habit, simple cane-like, laterally compressed stems, the few leaves along the stem (1-5 leaves), the large lax flowered panicle, the lip deeply 3-lobed, the lobes parallel to and surrounding the column in natural position. The species is easily recognized by the simple, cane-like, short (4.6-11 cm long), laterally compressed stems with 3-5 leaves, elliptic-oblong, the large paniculate, laxly-flowered inflorescence, arcuate, the peduncle laterally compressed, covered with imbricated, e bracts, with resupinate, simultaneous, greenish to ochre-reddish flowers, the sepals 8-10 mm long, and the column 2.9-3.0 mm long. The plant habit is reminiscent of *Epidendrum compressibulbum* D.E.Benn. & Christenson, from the foot of the Andes in central Peru and central Ecuador, which also has very flat, aciculate stems, but it has a crowded paniculate, many-flowered inflorescence, and a deeply cordate, convex cordiform lip, pale green in color.

***NOTES:** There are four known specimens of *Poeppig 1766*: two from Pampayacu, dated January 1830, and a third from Cuchero (now Tingo María) dated 1829, and a fourth annotated "Peruvia subandina" without date. It is clear that those specimens numbered *Poeppig 1766* are the result of different collection events of the same species, a common practice at the time. The collection from Cuchero, the only precise locality cited in the protologue, is chosen as the lectotype here.

The duplicate of *Buchtien 490* from Kränzlin's herbarium at HBG was formally designated as lectotype by Christenson (1994), for in spite of this specimen being marked as "holotype" the protologue does not mention a single herbarium specimen and it cannot be excluded that Kränzlin used other duplicates as well. The lectotype and the original description clearly support the synonymy of *E. laxum* Poepp. & Endl. and *E. compressum*. While US 1399559 is conspecific and represents an isolectotype the specimens labelled as *Buchtien 490* kept at AMES 73847! (HUH00070573) E! and NY 00008808! either were misidentified and 490 originally comprised a mix of taxa or they actually represent mislabeled duplicates of *Buchtien 496* (HBG-500163), the type of *Epidendrum mapiriense* Kraenzl., Repert. Spec. Nov. Regni Veg. 25: 21. 1928 There are several other specimens at HBG, AMES, MO, NY and Z that correspond to an *Encyclia*, and are also labelled *Epidendrum guentherianum*. These specimens were the basis for Roberto Vásquez proposing the new combination *Encyclia guentheriana* (Kraenzl.) R.Vásquez.

CONSERVATION STATUS: NT. Not Threatened, the species is widespread and inhabits disturbed forests throughout the Amazon basin, coastal Brazil and the Pacific lowlands of the Chocó in Colombia and Ecuador as well as the island of Trinidad in the Antilles.

ETYMOLOGY: From the Latin *compressus*, compressed, laterally flattened, in reference to the flat, aciculate stems, characteristic of this species.

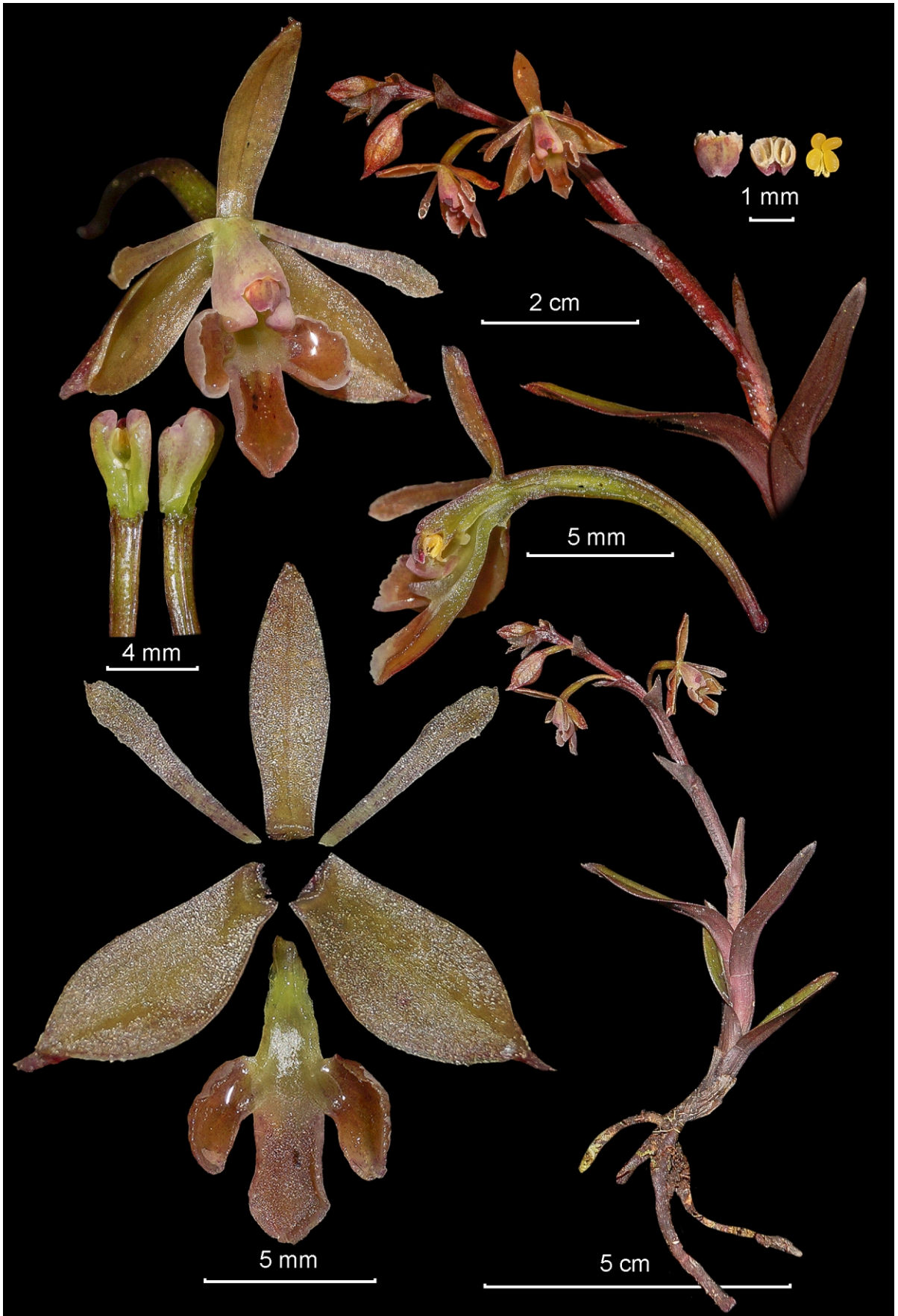
REFERENCES: Barbosa Rodriguez, J., 1891, *Velloso* ed. 2, 1: 115-133. Christenson, E.A., 1994, Significant collections of Orchidaceae conserved in Herbarium Hamburgense (HBG), *Brittonia* 46(4): 344-354. García-Cruz, J., 2002, *Epidendrum diffusum* in E. Hágsater & M. Soto (eds.) *Orchids of Mexico*, Part 2-3. **Icon. Orchid.** 5-6: pl. 572. Grisebach, A.H.R., 1864, *Epidendrum compressum* in **Fl. Brit. W. I.**: 617. Lehmann, F.C. & F.W.L., Kraenzlin, 1899, *Epidendrum macrothyrus* in **Bot. Jahrb. Syst.**, 26(5): 472. Poeppig, E.F. & S.F.L., Endlicher, 1836, *Epidendrum laxum* in **Nov. Gen. Sp. [Poeppig & Endlicher]** 2: 2. Santiago, E., E. Hágsater & H.A. Medina, 2020, *Epidendrum compressibulbum*, in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum* Part 14, **Icon. Orchid.** 18(1): pl. 1807. Sprunger, S., P. Cribb, A. Toscano de Brito (eds.), 1996, **Iconographie des orchidées du Brésil** 1: 265, fig. A. Friedrich Reinhardt, Basle, Switzerland. Swartz, O.P., 1788, *Epidendrum laxum* in **Prodr. [O. P. Swartz]** 125. Vásquez, R., 2004, *Subtribe Laeliinae*, in R. Vásquez Ch. & P.L. Ibsch (eds.), **Orquídeas de Bolivia. Diversidad y estado de conservación** 2: 78-331. Vásquez Ch., R., & C.H. Dodson, 1982, *Epidendrum compressum*, *Orchids of Bolivia*, **Icon. Pl. Trop.** 6: pl. 529.



EPIDENDRUM COMPRESSUM Griseb., Fl. Brit. W.I. [Grisebach] 617, 1864.

OTHER SPECIMENS: Without locality, *Without collector* 3371, P! **BOLIVIA: Cochabamba:** Chapare, Villa Tunari, Near Villa Tunari, 400 m, 27 XI 1978, *Luer* 3563, SEL x2! Carrasco, Agrigento, 350 m, 1 II 1978, *Vásquez* 29, SEL x2! **La Paz:** Sud Yungas, San Bartolomé (near Calisaya, 750-900 m, 1-22 VII 1939, *Krukoff* 10505, NY! **Santa Cruz:** Ichilo, Parque "Amoroso", Río Sagua 12 km SW de Huaytú, 450 m, 7 III 1989, *Saldías* 690, CTE! MO! NY! **BRAZIL: Amazonas:** Rio Taramá-mirim, 22 XII 1912, *Ducke* s.n., MG x2! SP! Pres. Figueredo, Rio Uatuma entre a foz do rio Pitinga e Igarapé Arraia. (a montante da UHE de Balbina), 18 III 1986, *Ferreira* 6838, INPA! NY! SEL! estrada Manaus-Caracará, km 61, Reserva Biológica de Campina do INPA, II 1975, *Braga* 2802, INPA! Estrada BR 17 (Carrasco), 6 XII 1959, *Cavalcante* s.n., HB! Rio Negro, Lauarete, levantamento do Projeto RADAM-5, 12 XII 1975, *Coelho* 169, INPA! MG! Amazonas, Pto. São Raimundo, Campo petrolífero do Rio Uruçu, Coarima, 3 II 1994, *da Cruz* 291, INPA! Manaus, RDS do Tupé, Campinara na próxima à comunidade Agrovila, trilha que segue a 4 km adentro da Mata de Terra Firme, 27 XI 2013, *Demarchi* 42, INPA! Manaus, 17 I 20215, *Krahl* 494, INPA! Manaus, BR-174, km 61, Reserva Experimental do INPA, 27 I 1976, *Monteiro* 73, INPA! Manaus-Caracará, km 12 near Igarapé Leão, 28 XII 1966, *Prance* 3843, COL! F! HB! INPA! K! MG! NY! R! S! Manaus, Road Manaus-Caracará, km 11 near Igarapé Leão, 17 III 1967, *Prance* 4675, HB! INPA! NY! *Ibid.* *Prance* 4681, INPA! NY! Reserva Florestal Ducke, Manaus-Itacoatiara, km 26, 4 I 1996, *P.A.C.L.* 273, INPA! Manaus, Estrada Manaus-Caracará, km 30, 28 I 1959, *Rodrigues* 789, INPA! *Ibid.* 2 I 1960, *Rodrigues* 1462, HB! INPA! Alto Rio Negro, Rio Vaupés, between Iponaré and confluence with Rio Negro, 17 XI 1947, *Schultes* 9160, AMES! Rio Negro, Rio Ariá, Paraná do Sumatma, acima da ilha das Anavilhanas, 1 III 1976, *Silva* 1872, INPA! Alto Rio Negro: Panuri ad Rio Vaupés, X 1852-I 1853, *Spruce* 2866, K x2! P! W x3! Santa Isabel do Rio Negro, 16 VIII 1999, *van Roosmalen* 1218, INPA! **Bahia:** Mun. Canavieiras, Puxim, 20 II 1999, *Toscano* 1932, RB! **Espírito Santo:** Reserva Florestal CVRD. Linhares. Próximo ao aceiro com Calimã, marco de ferro, 24 XI 1993, *Folli* 2100, RB! SEL! **Roraima:** Rorainópolis, Rio Branco, Lago do Pirarucu, 25 km antes da boca com o Rio Negro, 40 m, 28 III 2012, *Martinielli* 17685, RB! Auris Mission, Rio Auris, 2600 m, 6 XII 1973, *Prance* 20049, HB x2! NY! INPA! **São Paulo:** Boracéia, na costa norte, 7 VII 1974, *de Ghilány* s.n., HB! 10 km de Caraguatubata rumo Ubatuba, 16 XI 1968, *Pabst* 9222, HB! **COLOMBIA: Amazonas:** 84 km arriba de Tarapacá, La Manigua, Rio Catuhé, 7 VII 1973, *Idrobo* 6737, COL! Leticia, Parque Nacional Amacayacu, Administrativo Mata-Mata (Indirena). A orillas de Quebrada Bacaba, 100 m, 6 II 1991, *Rudas* 1472, FMB! MO! **Caquetá:** Río Ortequaza, margen izquierda, San Luis junto a la Quebrada de Mirama, 340 m, 16 I 1969, *Cuatrecasas* 27127, COL! Cartagena del Chairá, Vereda Laguna del Chairá, 240 m, 27 IX 2007, *Trujillo-C.* 816, HUA! **Cauca:** Río Micay y Río Sayja, *Lehmann* sub-Bentham *Trustees* 263, AMES! K! L! NY! **Nariño:** Tumaco, Tangareal, 60 m, 27 V 1986, *Ramírez* 541, PSO! **Putumayo:** Valle de Sibundoy, La Tagua, 600 m, 1 XI 1991, *Escobar* 5358, AMO! **Vaupés:** Alto Vaupés; entre Miraflores y el Balso, 15 II 1944, *Gutiérrez* 801, AMES x2! COL! MEDEL! NY x2! US! **ECUADOR: Esmeraldas:** Road from Lita to Alto Tambo, 750 m, 21 IX 2003, *Blanco* 2491, FLAS! km 122, Santo Domingo-Esmeraldas, 100 m, 13 IX 1980, *Dodson* 10406, SEL x2! QCA! 68 km S de Esmeralda on Sto. Domingo rd, 1400 ft, 1 VIII 1980, *Sauleda* 3849, SFU! **Imbabura:** Playa Luisa, below Magnolia, lower Intag Valley, 3200 ft, 17 IX 1944, *Drew* E-665, AMES! **Morona-Santiago:** Rio Cuyes, 19 km al W del Río Zamora, 5 km al SE del Gualaquiza, 1000 m, 29 III 1986, *Baker* 6848, NY! Along road Macas to Guamote, 800-1500 m, 6 II 1987, *Dodson* 16981, MO x2! Morona, Pedregal Río Upano, unos 11 km rio arriba de Macas hacia Puyo, 1050 m, 23 XI 1988, *Hágsater* 9679, AAU! AMO x16! COL! MO x3! QCNE! SEL! Patuca, regresando al camino Méndez-Macas, 3 km N de la desviación, hacia Sucúa, 500 m, 23 XI 1988, *Hágsater* 9719, AMO x2! Morona, Cordillera del Cutucú, along new road from Mendez to Morona (Cutucú), 900-1200 m, 4 II 1987, *Hirtz* 3127, MO x2! Río Upano near Méndez, 700 m, 1 1989, *Hirtz* 4035, MO x2! Morona, Cordillera del Cutucú, Asociación Shuar Sevilla, Cerro Iñiak Naint, 1043 m, 7 V 2002, *Suin* 1740, MO! QCNE! *Ibid.* Comunidad Yuranks, junto al Río Yukipa, 1050 m, 7 VI 2002, *Suin* 1969, QCNE! Gualaquiza, Road Gualaquiza-Nueva Tarqui, at bridge over Río Chupipampa, 900 m, 18 IV 1985, *Harling* 24270, MO! QCA! Sucúa, Patuca, 3 km N de la desviación, hacia Sucúa, 500 m, 23 XI 1988, *Williams* sub *Hágsater* 9712, AMO! **Napo:** Francisco de Orellana, Entre los ríos Tiputini y Tiavacuno. Parque Nacional Yasuni, 270-330 m, 25 II 1996, *Cerón* 30703, QAP! km 6 Tena-Puerto Napo, 450 m, 18 VI 1983, *Dodson* 14065, SEL x2! 2 km S de Tena, 580 m, 30 V 1986, *Dodson* 16469, MO! QCNE! Near Tena on road to Puerto Napo, 500 m, 26 IV 1987, *Dodson* 17064, QCNE! Sancudo "Sacha Pacha" on Río Aguarico, 230 m, 18 X 1991, *Dodson* 18907, MO! Along the Rio Napo in the region of Misahualli, La Cruz, 450-500 m, 1 II 1985, *Suárez* 165, MO x2! **Pastaza:** Umu Tena, Hacienda Dos Ríos, 650 m, 5 IV 1933, *Heinrichs* 310, G! M! MA! NY! Río Palora, 850 m, 1 IV 1983, *Hirtz* 954, SEL x2! Montalvo, Río Bonanza, 1 I 1977, *McElroy* 287, SEL x2! QCA! **Sucumbios:** Imuya Cocha on Río Cocha 2 hrs upriver from junction with Río Aguarico, 220 m, 30 VII 1991, *Dodson* 18835, MO x2! Imuya Cocha along Río Lagartococha, 1 hr upstream from junction with Río Aguarico, 200 m, 20 X 1991, *Dodson* 18963, MO! San Pedro de los Cofanes, Sinangüe, borde del Río Candúe, 650 m, 11 VI 1993, *Cerón* 22214, QAP! Laguna Imuya, 300 m, 16 II 1994, *Ospina* 1317, COL! **Zamora-Chinchipe:** El Pangui, along Río Chuchumbles, 1500 m, *Croat* 97054, QCNE x2! Río Palanuma, 1100 m, 1 III 1985, *D'Alessandro* 449, MO x2! Nudo de Sabanilla, Eastern side of pass, 2000-2700 m, 24 III 1985, *Hirtz* 2319, MO x2! **GUYANA:** Cuyuni-Mazaruni: Pakarimiam Mts, base camp 8.6 km NE Imbaimadai on Partang river tributary, 1.25 km E, 600 m, 20 V 1992, *Hoffman* 1754, NY! Parium, 9 km W, Ararata scrub area, 265 ft, 4 VII 1997, *Mori* 5327, NY! **Essequibo-west Demerara:** Without locality, 1 I 1904, *Jenman* 7248, K x4! P x2! Without locality, 1 I 1898, *Hn Thurn* 6, K! P x2!, junction of Yarikita and Amakura Rivers, 17 I 1920, *Hitchcock* 17628, AMES! US! Mabura Hill, 180 km SSE of Georgetown, 50 m, 10 IV 1985, *Steege* 156, U! *Ibid.* *Steege* 194, SEL x2! U! **Potaro-Siparuni:** Kaeteur Falls, Potaro River, 23 X 1923, *De la Cruz* 4467, AMES! CM! F! MO! NY! UC! US! Upper Takutu-Upper Essequibo, Maprri Creek, N side at base of waterfall, 4 VI 1996, *Clarke* 1958, NY! **PERU:** Without locality, *Without collector* 7444, MOL! Without locality, *Woytkowski* 5347, AMES! US! **Amazonas:** Bagua: Imaza: Quebrada Almemdra, cerro Tayu, 1200 m, *Rojas* 3178, HOXA! Bagua, Imaza, Comunidad Aguaruna de Yamayakat, 320-600 m, 28 V 2005, *Rodriguez* 2753, SEL! **Cajamarca:** San Ignacio, Valle del Río Tabaconas, 900-950 m, 1 IV 1912, *Weberbauer* 6154, F! AMES! **Cusco:** Quispicanchi, Marcapata, 1220 m, 9 II 2006, *Villafuerte* 388, CUZ! **Huánuco:** Leoncio Prado, Tingo María, 625-1100 m, 30 X 1949, *Ardell* 22594, US! Huánuco, San Pedro de Carpish, Cayumba, cerca de Tingo María, 900 m, 7 III 1947, *Ferreira* 1883, USM! AMES! Leoncio Prado, Mariano Dámaso Beraun, [San Antonio] Chuchero [= Tingo María], 1 I 1829, *Poepping* 4766, W! **Junín:** Chanchamayo, Valle del Chanchamayo, El Refugio San Ramón, 800 m, 21 V 1984, *Fernández* 332, USM! **Loreto:** Loreto, Reserva Nacional Pacaya Samiria, Río Yanayacu, El Cocul, 90 m, 21 XI 1992, *Del Carpio* 1812, MOL! USM! Vicinity of Iquitos, 100 m, 1 I 1937, *Klug* 10065, AMES! K! US! Iquitos, Río Nanay, Morropón, 90 m, 2 I 1983, *McDaniel* 26611, MO! Loreto, *Moore* 2010, AMES! Vicinity of Iquitos, 120 m, 1977, *Revilla* 3695, AAU! NY! SEL x2! TEX! Gamitanachoa, Río Mazán, 100-125 m, 27 I 1935, *Schunke* 124, AMES x2! F! K! UC! US! Buena Vista, Río Tahuayo, 140 m, 24 I 1981, *Vásquez* 1231, MO! Peña Negra, carretera Iquitos-Nauta km 20, 130 m, 27 II 1987, *Vásquez* 8855, NY! SEL x2! Quebrada Páparo, afluente derecho del Río Manatí, 110 m, 26 I 1989, *Vásquez* 11604, CAS! USM! **Pasco:** Oxapampa, Villa Rica, Bosque de Protección San Matías-San Carlos, Puellas-Yuncullimas, 963 m, 18 IV 2009, *Valenzuela* 12401, HOXA! MO! USM! *Ibid.* Quebrada Yuncullimas, 730 m, 21 IV 2009, *Valenzuela* 12531, HOXA! **San Martín:** Rioja: Venceremos, Creciendo en orillas del río Serranoyacu, 1900 m, 6 I 2018, *Dilmer* 2051, CHAX! Digital images AMO! (LCDP voucher). Rioja: Yuaracayacu, camino cuevas de Palestina, 966 m, 10 III 2021, *Dilmer* 5020, CHAX! digital images, AMO! (Photo voucher). San Martín de Zepelacio, near Moyobamba, 1200-1600 m, 1 III 1934, *Klug* 3571, AMES x2! F x2! K! MO! NY! S! US! USM! Lamas, Alonso de Alvarado, San Juan de Pacayzapa; al este del Puente (Carretera a Moyobamba), 900 m, 6 IV 1973, *Schunke* 5847, NY! SEL! **Ucayali:** Coronel Portillo, Distr. Padre Abad, Boquerón de Padre Abad, 400 m, 17 V 1969, *Schunke* 3048, COL! F! NY! G! US! **TRINIDAD & TOBAGO: Trinidad:** Mora Forest via Sangre Grande, 9 IV 1926, *Boadway* 6094, P! Trinidad, 1 XI 1965, *Prestoe* s.n., AMES! **VENEZUELA: Delta Amacuro:** Río Amacuro, Venezuela-British Guiana frontier, Sierra Imataca, between Amacuro and Mouth of Deadwater Creek Moat (Agua Muerto), 65-80 m, 7 XI 1960, *Steyermark* 87377, AMES! NY! Río Amacuro, Venezuela-British Guiana frontier. Sierra Imataca, downstream from mouth of Yarakita River, 65-80 m, 9 XI 1960, *Steyermark* 87464, VEN! **Amazonas:** Rio Negro: Near Cerro de la Neblina, on Río Mawarinuma, 140 m, 5 II 1984, *Liesner* 15651, NY! Rio Negro: Upper Cañón Baria; "Swampy" area between Río Mawarinuma and headwaters of Río Baria, 130 m, 27 III 1984, *Liesner* 16979, MO! NY! VEN! Entre aeropuerto y Boca Chico, 120 m, 20 I 1998, *Romero* 3122, VEN! Misión Río Mavaca, 230 m, 7 II 1991, *Stergios* 15242, VEN! **Bolívar:** Sierra Imataca, Río Toro (Río Garande), between Río La Reforma and Puerto Rico, N of El Palmar, 200-250 m, 14 XII 1960, *Steyermark* 88067, NY! VEN!

OTHER RECORDS: Without locality, *Chavez* s.n., illustration, K! **BOLIVIA: Cochabamba:** Carrasco, Agrigento, 350 m, 1 II 1978, *Vásquez* 29, illustration, (publ. *Vásquez & Dodson* 1982) AMO! **BRAZIL:** Without locality, *Barbosa* s.n., illustration, AMO! **Amazonas:** Novo Airão, passando Manacapuru, ramal do Mineiro km 33, 110 m, 26 II 2017, *Hágsater* 15072, digital images, AMO! **COLOMBIA:** Without locality, *Libia Orquídeas* s.n., digital images, AMO! Without locality, *Uribe* s.n., digital images, AMO! *Ibid.* *Uribe* 3, digital images, AMO! *Ibid.* *Uribe* 9844, digital images, AMO! **Caquetá:** Cartagena del Chairá, La laguna del Chairá, pie de monte Amazónico, *Arias* s.n., digital images, AMO! **Putumayo:** Valle de Sibundoy, La Tagua, 600 m, 1 XI 1991, *Escobar* 5358, digital images and spirit, AMO A-2377! **ECUADOR: Morona-Santiago:** Morona, Pedregal Río Upano, unos 11 km rio arriba de Macas hacia Puyo, 1050 m, 23 XI 1988, *Hágsater* 9679, digital images, illustration, spirit x2, AMO! Sucúa, Patuca, regresando al camino Méndez-Macas, 3 km N de la desviación, hacia Sucúa, 500 m, 23 XI 1988, *Williams* sub *Hágsater* 9712, illustration, AMO! *Ibid.* 6 IX 2002, *Williams* sub *Hágsater* 9719, spirit, AMO! Morona, Cordillera del Cutucú, Along new road from Mendez to Morona (Cutucú), 900-1200 m, 4 II 1987, *Hirtz* 3127, digital images, AMO! Sucúa, Patuca, 3 km N de la desviación, hacia Sucúa, 500 m, 23 XI 1988, *Williams* s.n. sub. *Hágsater* 97149, illustration, AMO! **Pastaza:** Puyo, Río Palora, 1000 m, 13 VI 1983, *William* sub *Hágsater* 7618, spirit, AMO! **Zamora-Chinchipe:** El Pangui, Hort. Ecuagenera, El Pangui, 27 I 2004, *Lapo* sub *Hágsater* 14061, spirit, AMO! **PERU:** Without locality, *Olórtegui* s.n., digital images, AMO! **Cusco:** Paucartambo, Kosñipata, Pongo de Qoñec, *Huamantupa* s.n., digital images, AMO! **Huánuco:** Leoncio Prado, Mariano Dámaso Beraun, Parque Nacional Tingo María, 8 III 2016, *Yupanqui* s.n., digital images, AMO! **Pasco:** Oxapampa, Villa Rica, selva central, Sanchirio Palomar en San Miguel de Eneñas, 1527 m, *Morón* s.n., digital images, AMO! **VENEZUELA: Bolívar:** Churún River, half way between Angel Falls and Río Carrao, 1 I 1957, *Dunsterville* 479, illustration, K! (Garay & Dunsterville 2: 110-111. 1961).



EPIDENDRUM CONCAVITRIDENTES Hágsater, Edquén & E.Santiago

EPIDENDRUM CONCAVITRIDENTES Hágsater, Edquén et E.Santiago, *sp. nov.*

Type: PERU: San Martín: Rioja: Pardo Miguel Naranjos: Chisquilla: Sector 7 lagunas, espaldas del Cerro Campanario, 3354 m, 15 enero 2018, **José Dilmer Edquén Oblitas 2124**. Holotype: HURP! (LCDP and Photo voucher)

Similar to *Epidendrum rupestre* Lindl. but with 3-4 elliptic leaves 2.3-5.3 x 1.0-1.8 cm (vs. leaves 2, lanceolate, 4.3-6 x 0.6-0.8 cm), flowers copper-green, dorsally tinged red (vs. flowers yellow), flowers successive, 2-3 open at a time (vs. flowers simultaneous), floral bracts ovate when spread (vs. bracts lanceolate), and the lip without any thickened ribs (vs. lip with 3 prominent thickened ribs).

Epiphytic, sympodial, caespitose, erect **herb**, 9-16 cm long including inflorescence. **Roots** 2.0-3.5 mm in diameter, basal, simple. **Stems** 2.8-5.0 x 0.3-0.6 cm, cane-like, terete at base, laterally compressed at apex, covered by sheaths 8.5-17 mm long, non-foliar, tubular, striated, acute. **Leaves** 3-4, distributed along apical ½ of stem, sub-coriaceous, wine-red on underside and sheaths, upper face green; sheaths 0.7-1.8 x 0.4-0.6 cm, somewhat compressed, conduplicate to tubular, striated; blade 2.3-5.3 x 1.0-1.8 cm, elliptic, apex acute, somewhat aristate due to the low dorsal keel, margin entire, spreading. **Spathes** lacking. **Inflorescence** 6.2-11 cm long, apical, racemose, flowering only once, erect, loosely few-flowered, flowers developing and opening in succession; peduncle 4.2-6 x 0.3 cm, laterally compressed, ancipitose, with 1-2 bracts distributed at about each 1/3, 8-19 mm long, obliquely infundibuliform, dorsally keeled, acute; rachis 2.5-7 cm long (in the pretype material, but developing), laterally compressed, somewhat 2-winged. **Floral bracts** 4.5-14 mm long, shorter than ovary, obliquely infundibuliform (ovate when spread), with a dorsal keel, acute to acuminate, embracing at the base. **Ovary** 12-13 x 1.2 mm, thin, furrowed. **Flowers** 4-10, successive, 2-3 open at one time, resupinate, secund, copper-green, dorsally tinged red, column green somewhat tinged muted purple towards apex, anther green tinged red-purple; fragrance not registered. **Sepals** spreading, free, 3-veined, margin entire, spreading; dorsal sepal 8.0 x 2.3 mm, elliptic, acute, 3-veined; lateral sepals 9.0-9.5 x 3.5-4.0 mm, obovate, acuminate, aristate, dorsally carinate. **Petals** 7.0 x 1.2 mm, spreading, narrowly oblanceolate, apex rounded, minutely apiculate, 1-veined, margin erose towards the apex, spreading. **Lip** 5.5 x 6.0 mm, adnate to the column, deeply 3-lobed, an unequal trident, base widely rounded, margins erose, somewhat involute, making the 3 lobes longitudinally concave; bicallose, the calli prominent, obliquely upright, triangular, somewhat laterally compressed, (visible in the longitudinal section of the plate), disc slightly thickened and granulose between the calli; lateral lobes 3.5 x 1.5 mm, oblong, arcuate apex rounded, the margins somewhat involute and thus concave; mid-lobe 4.0 x 2.5 mm, rectangular, apex rounded, the sides somewhat involute and thus concave, and appearing slightly constricted towards middle when seen from above. **Column** 4.0 x 2.2 mm, slightly clavate and arched, thick, with prominent lateral rounded fleshy wings at the apex. **Clinandrium-hood** short, recessed, margin sinuous. **Rostellum** apical, foramen slit. **Lateral lobes of the stigma** small, 1/3 the length of the stigmatic cavity. **Nectary** penetrating as far as the perianth, narrow, smooth. **Anther** widely globose, apex truncate, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose, slightly longer than the pollinia; viscarium semi-liquid. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Presently known only from the summit of the Andes on the northern border of the regions of Amazonas and San Martín, epiphytic in scrub forest with trees over 5 m tall dominated by the genus *Chusquea* spp. (Poaceae: Bambuseae) with abundant edaphic humidity and accumulation of moss, at 3354 m elevation. Flowering in January and February.

RECOGNITION: *Epidendrum concavitridentes* belongs to the Rupestre Group, which is characterized by the caespitose, sympodial plants, the usually thickened 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 or without several fleshy thickened keels on the disc. The species is recognized by the cane-like stems with 3-4 elliptic leaves 2.3-5.3 x 1.0-1.8 cm, flowers copper-green dorsally tinged red, the lip 3-lobed in the shape of a trident with the lobes longitudinally concave, without thickened ribs, and a pair of prominent calli, obliquely upright, triangular, somewhat laterally compressed. *Epidendrum rupestre* Lindl. has bifoliate stems, leaves lanceolate, 4.3-6 x 0.6-0.8 cm, yellow flowers, the lip 3-lobed with the lateral lobes forming a right angle with respect to the mid-lobe, and the mid-lobe with 3 prominent thickened ribs. *Epidendrum excelsum* C.Schweinf. has bifoliate stems thickened forming homoblastic pseudobulbs, the flowers yellow or greenish-yellow, and the lip entire with 5-7 thickened ribs.

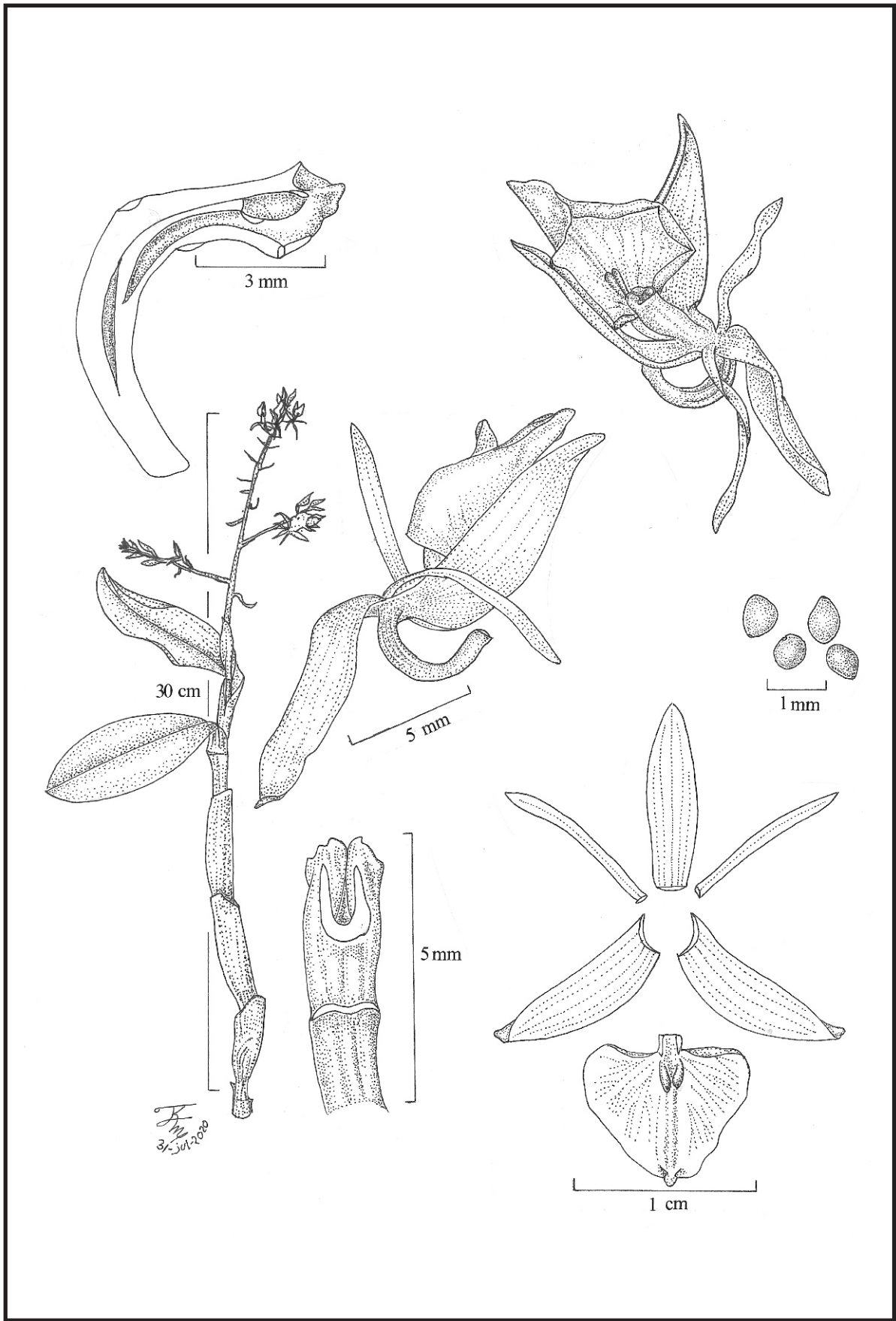
ETYMOLOGY: From the Latin *concavus*, concave, hollowed out, and *tridenti*, a three-pronged spear like that of Neptune, in reference to the concave three-pronged lip which is quite unusual in the genus.

ACKNOWLEDGMENT: Type collection made under project "Efecto de la fragmentación de hábitats de bosque alto andino en diversidad de Orchidaceae y Bromeliaceae del anexo de Diosán, Distrito de Granadas, Amazonas" emitido bajo la resolución de Dirección General (RDG) N° 137-2018-SERFOR/DGSGSPFFS; correspondiéndole el Código de Autorización N° AUT-IFL-2018-025.

CONSERVATION STATUS: Data Deficient. Known presently from a single collection.

REFERENCES: Hágsater, E., 2015, *Epidendrum excelsum* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, **Icon. Orchid.** 15(1): pl. 1525. Lindley, J., 1841, *Epidendrum rupestre* in **J. Bot. (Hooker)** 3: 84.





EPIDENDRUM DELTOCHILUM Hágsater & E.Santiago

Plate 1863

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

Type: ECUADOR: "Carchi:" [Imbabura: Pimampiro:] Mariano Acosta, 3300 m, *Alexander Hirtz & Family 7749**, 1 May 2001.
Holotype: SEL 101221! (illustration voucher).

Similar to *Epidendrum villenae* Hágsater & E.Santiago but the stems 5 leaved, remaining 2 leaves 7.3-7.7 x 2.0-2.8 cm, elliptic or narrowly elliptic, sub-coriaceous (vs. stems with 7-10 leaves 2.5 x 1.4-2.4 cm, widely elliptic, and very brittle), inflorescence paniculate with peduncle 5 cm long, provided with a bract 2.5 cm long near the base of the peduncle (vs. inflorescence simple, distichous, with peduncle 10-16 cm long, and 3-4 bracts distributed throughout), flowers dark olive brown (vs. flowers lilac, lip white), and petals 9.4 x 0.8 mm, linear, 1-veined (vs. petals 14.5 x 2.8 mm, linear-oblongate, 3-veined).

Herb 32 cm tall including the inflorescence (only incomplete stem present on type, base and roots missing). **Roots** not seen. **Stem** 17 x 0.6-1.2 cm, erect straight, laterally compressed, (possibly somewhat thickened in the middle as the sheaths of the specimen are loose and the stem seems to have shrunk with dehydration). **Leaves** 5, distributed throughout the stem (only 2 persistent at the apex of the stem in the specimen), spreading, sub-coriaceous; sheaths 1.6-4.7 x 6-12 mm, tubular, laterally compressed, minutely striated, scarious when dry, inflated in dry specimen; blade 7.3-7.7 x 2.0-2.8 cm, elliptic, apex rounded, margin entire, spreading. **Spathes** lacking. **Inflorescence** 13.7 cm long, apical, paniculate, erect, laxly few-flowered; peduncle 5 cm long, laterally compressed, provided in the middle with a single bract mid-length, 26 mm long, tubular, laterally compressed, subacute, scarious. **Floral bracts** 5-11 mm long, nearly as long as the ovary, narrowly triangular, embracing. **Ovary** 6-12 mm long, terete, thin, strongly arched or forming a right angle with the column so that the lip is always upright, not inflated, furrowed. **Flowers** 27, successive, several open at a time, non-resupinate, dark olive brown, anther white; fragrance not registered. **Sepals** free, oblong, obtuse, 5-veined, margin entire; dorsal sepal 10.3 x 2.8 mm, spreading, and arched backwards; lateral sepals 10.5 x 3.1 mm, partly spreading, oblique, with a dorsal keel. **Petals** 9.5-9.6 x 0.7-0.9 mm, partly spreading, free, linear, slightly falcate, acute, 1-veined, margin entire, spreading. **Lip** 8 x 9 mm, united to the column, entire, deltoid with the corners rounded, membranaceous; base truncate, apex apiculate, margins entire, slightly involute at the base, the sides spreading; bicallose, the calli fleshy, thin, parallel, disc with a narrow mid-rib reaching the apex of the lip. **Column** 5 mm long, straight, thin, apex at the clinandrium-hood curved slightly upwards (dorsally). **Clinandrium-hood** reduced, margin entire. **Anther** not seen. **Pollinia** 4, obovoid, somewhat laterally compressed, sub-equal; caudicles not seen. **Rostellum** subapical, slit. **Lateral lobes of the stigma** small, 1/3 the length of the stigmatic cavity. **Nectary** short, penetrating 1/4 of the pedicellate ovary, not inflated, unornamented. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known presently from a single collection from northern Ecuador. See Notes.

RECOGNITION: *Epidendrum deltochilum*, for which a new group is proposed, Deltochilum Group, is characterized by the sympodial growth, the few leaved stems with an erect paniculate inflorescence with an inflated, acute bract near the base of the peduncle, and the non-resupinate, successive flowers with a triangular lip. The new species is recognized by the simple stems with an erect, paniculate, lax-flowered inflorescence, the peduncle short with a tubular, laterally compressed bract in the middle, 26 mm long, flowers non-resupinate, successive, several open at one time, dark olive brown, anther white, the sepals 10-11 mm long, petals 1-veined, the lip widely triangular, the corners rounded, membranaceous, apex apiculate, the calli narrow, parallel, and the ovary very short, 6-12 mm long (nearly as long as the sepals). *Epidendrum villenae* Hágsater & E.Santiago has 7-10 leaved stems, a simple, distichous inflorescence with 3-4 bracts distributed along the peduncle, flowers are lilac with a white triangular lip, the ovary slightly inflated behind the perianth, and the sepals 14.8-15.6 mm long, petals 3-veined, lip with disc short-pubescent. *Epidendrum indanzense* Hágsater & Dodson has 7 ovate-elliptic leaves, non-infundibuliform sheaths, the inflorescence is elongate, much longer than the stem, with 8 ancipitose bracts sheathing it, and is pluri-racemose, the flowers green, sepals 15 mm long, and the lip cordiform, minutely papillose, ecallose, the apex obtuse.

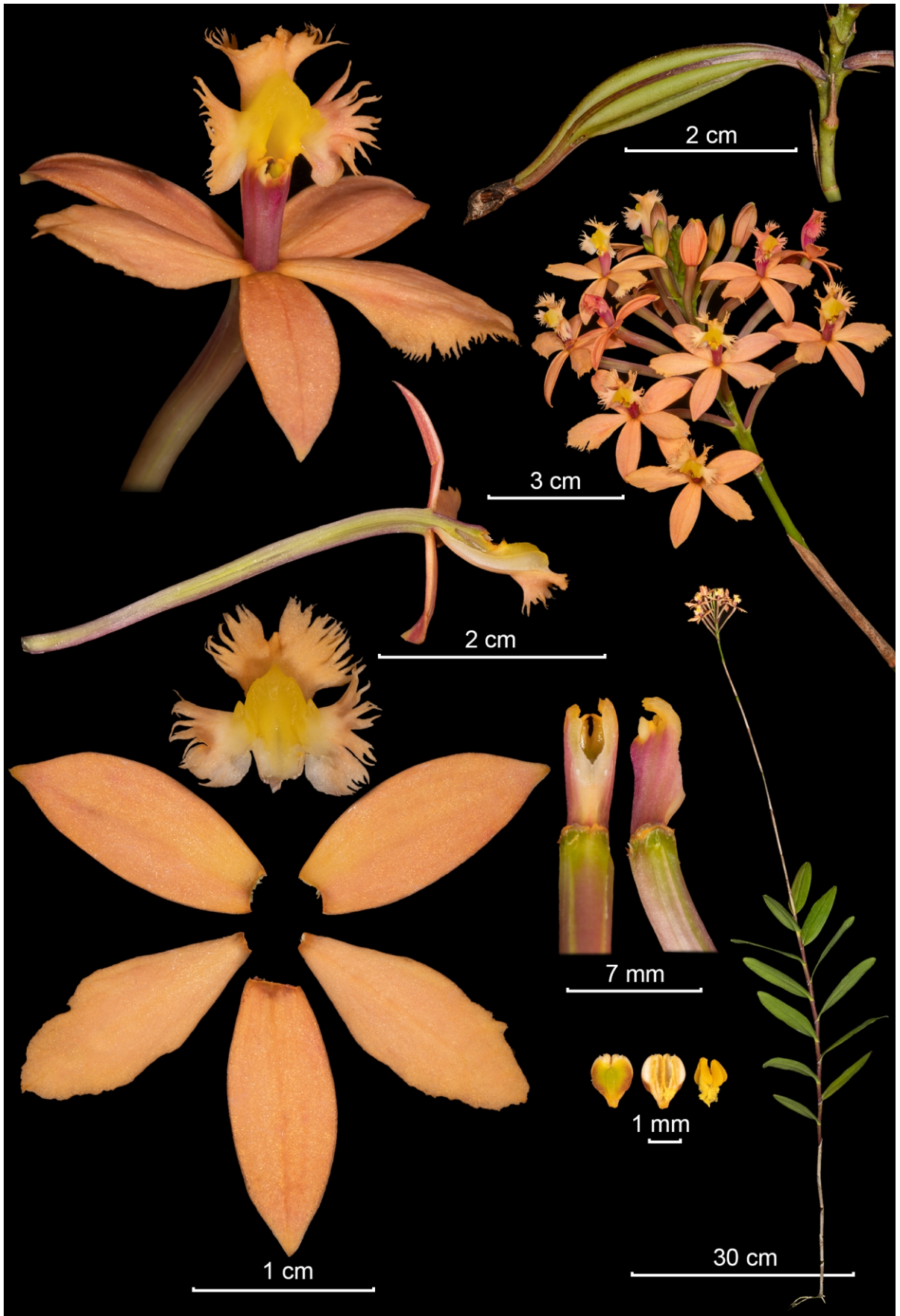
***NOTES:** Specimen *Alexander Hirtz and Family 7749* at SEL 101222 corresponds to a sterile plant of the Diothonea Group and is annotated as *Epidendrum cf. angustissimum* Lindl. The color photograph *Hirtz 7749* (copy at AMO!) belongs to a completely different species, probably close to *Epidendrum montistoletanum* Hágsater & E.Santiago. So, there are three different species with the same *Hirtz 7749* number and thus the locality data of one or the other may be wrong, as there has been an evident labelling error.

CONSERVATION STATUS: DD. Data deficient, known from a single specimen.

ETYMOLOGY: From the Greek **delto**, delta, the fourth letter of the Greek alphabet, represented by a triangle, and **ceilo**, lip, in reference to the entire, triangular lip the three sides about equal.

REFERENCES: Hágsater, E. & C.H. Dodson, 1993, *Epidendrum indanzense* in E. Hágsater & G.A. Salazar (eds.), *The Genus Epidendrum Icon. Orchid.* 2. pl. 147. Hágsater E. & E. Santiago, 2020, *Epidendrum villenae* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 14, *Icon. Orchid.* 18(1): 1847.





EPIDENDRUM DELTOIDEOVIRIDIS Hágsater

Plate 1864

EPIDENDRUM DELTOIDEOVIRIDIS Hágsater, sp. nov.

Type: ECUADOR: Prov.: Zamora-Chinche; Cantón: Yantzata; ca. km 29 Camino Los Encuentros-Paquiha Alto, Cordillera del Cóndor, Refugio de vida Silvestre El Zarza, 1440 m, colectado 10 abril 2017, prensado en cultivo 21 enero 2021, *Eric Hágsater, Itzi Frago, Adriana Benítez & Efraín Freire 15197*. Holotype: QCNE! (LCDP and Photo voucher).

Similar to *Epidendrum azulensis* D.E.Benn. & Christenson, but larger in every way, sepals 15 mm long (vs. 6.0-6.5 mm long), flowers pale salmon to pale pink the callus green (vs. deep violet, the callus white), and the callus massive, formed by 3 tubercles, the lateral pair digitiform, unequally bilobed, middle a thickened triangular body ending in a short keel, the center forming a depressed canal continued into the nectary, the margins slightly crenate (vs. callus massive, formed by 3 pairs of tubercles, prominent, separated with a low keel that forms a canal at the center of the disk of the lip).

Epiphytic, sympodial, caespitose, 40-91 cm tall including the inflorescence. **Roots** 0.5-1.6 mm in diameter, basal, branching, terete, fleshy, white. **Stems** 23-64 x 0.4-0.8 cm, simple, cane-like, slightly sinuous, terete, slightly compressed towards the apex, thin, covered by foliar sheaths. **Leaves** 7-16, distichous, distributed along the apical half of the stem; sheaths 1.0-4.5 cm long, tubular, smooth, papyraceous, becoming scarious when dry; blade 7-12 x 1.8-4.0 cm, oblong-lanceolate, articulate, apex emarginate, coriaceous, smooth, medium green, margins entire. **Spathe** lacking. **Inflorescence** 16-40 cm long, racemose to pluri-racemose, producing new racemes from the upper nodes of the peduncle; peduncle 14-32 cm long, elongate, covered by 8 bracts, 2.5-5.6 cm long, tubular, yellow with brown dots, scarious when dry, striated, papyraceous, imbricating, acute; rachis 5.0-7.5 cm long. **Floral bracts** 3-13 mm long, decreasing in length, much shorter than the ovary, triangular, acuminate, embracing. **Flowers** ca. 26, successive up to 13 open at a time, non-resupinate, at anthesis sepals, petals and lip pale salmon, dorsally dark salmon to pale pink, callus lime green turning greenish yellow as it matures, after pollination or aging flowers they turn completely pale orange; column intense-purple pink, anther yellowish green tinged purple on the sides; fragrance lacking. **Ovary** 25-36 mm long, terete, thin, not inflated, salmon colored tinged green, paler at the base, furrowed. **Sepals** 15.0 x 5.0-6.0 mm, spreading, oblanceolate-elliptic, apex acute, 5-veined, margin entire; lateral sepals slightly oblique, with a low dorsal keel. **Petals** 15.0 x 6.0 mm, spreading, elliptic, 3-veined, margins entire, spreading, except for the distal half of the side proximate to the dorsal sepal which is often irregular dentate-laciniate, giving the petal the appearance of a bird's wing. **Lip** 10.0 x 11.0 mm, united to the column, 3-lobed, base cordate, distal margins fimbriate to irregularly laciniate; callus massive, formed by 3 tubercles, the lateral pair digitiform, unequally bilobed, main body thickened triangular, ending in a short keel, the center forming a depressed canal continued into the nectary, the margins slightly crenate; lateral lobes 4 x 6 mm, sub-rectangular to flabelliform, mid-lobe 6.0 x 8.0 mm, flabelliform, emarginate, apiculate in the sinus. **Column** 7.5 mm long, straight, terete, with a pair of apical digitiform wings, recurved, and joined to the sides of the callus, with a pair of triangular wings at the height of the rostellum; column minutely papillose ventrally. **Clinandrium hood** reduced, somewhat enveloping the anther margin irregular dentate. **Anther** cordiform, apex narrowly truncate, rugose, 4-celled. **Pollinia** 4, narrowly obovate, elongate, laterally compressed, unequal, the lateral pair about 3/4 the length of the middle pair; caudicles soft and granulose, the tetrads elongate, arranged in rows like piled roof tiles; viscarium semi-liquid, transparent. **Rostellum** apical, slit. **Lateral lobes of the stigma** long, occupying 2/3 of the stigmatic cavity. **Nectary** 24 mm deep, penetrating half the pedicellate ovary, minutely papillose, the papillae arranged in longitudinal lines. **Capsule** 64 x 14 mm, medium green with 6 brown ribs; pedicel 10 x 3 mm, body 40 x 14 mm, apical neck 14 x 4 mm.

OTHER SPECIMENS: ECUADOR: Zamora-Chinche; Canton: Yantzata; ca. km 29 Camino Los Encuentros-Paquiha alto, Cordillera del Cóndor, Refugio de vida Silvestre El Zarza, 1440 m, 10 IV 2017, *Hágsater 15196* QCNE! (photo voucher of fruit).

OTHER RECORDS: ECUADOR: Zamora-Chinche; El Pagui: Tundayme, vivero de plantas de Tundayme, *Marcos Jimenez s.n.*, rec'd 29 XII 2019, Digital images, AMO! Tundayme: ECSA-Mirador, *Tobar s.n.*, digital image, AMO! (floral segments narrow).

DISTRIBUTION AND ECOLOGY: Presently known from three collections from the Cordillera del Cóndor, past the Refugio de vida silvestre El Zarza, and at the mine site of Tundayme, at 1440 m elevation. Epiphytic, flowering from January to April. The plants at El Zarza were collected with small black ants and is thus myrmecophilous. The two from Tundayme were photographed in the collection if the mine site, exact location of collection is unknown.

RECOGNITION: *Epidendrum deltoideoviridis* belongs to the Schistochilum Group, Secundum Subgroup which is characterized by the caespitose habit, the erect, simple, cane-like stems, a normally elongate peduncle of the inflorescence, an erect raceme of generally non-resupinate, showy, colorful flowers, and a lip adorned by a complex a callus. The species is recognized by the pale salmon colored flowers, the dorsal side darker, the purple-pink column and the green massive triangular callus, concave in the middle, changing to greenish yellow as it ages, the whole flower becomes orange as it is pollinated or wilts; sepals are 15 mm long. *Epidendrum azulensis* has a somewhat similar callus, but the species is much smaller in every way, the sepals 6 mm long, the flowers deep violet with the callus white, massive, formed by 3 pairs of tubercles, prominent, separated with a low keel that forms a canal at the center of the disk of the lip.

NOTE: The LCDP was taken with a NikonD850 Camera, an Af S MicroNikkor 105 mm 1:2.8GED lens and an arrangement of 3 Nikon speedlight SB-R200 flashes; the resulting images show a somewhat salmon-colored flowers, with a pale yellow callus. In contrast, the photograph was taken with natural mid-day sunlight in a greenhouse with no color filters with a XS 256 iPhone 12 Pro Max. The resulting color differences are surprising, the sepals are lighter, a pale salmon color, the column more pink-purple. Note should be taken that several buds that are just opening are differently colored, a strong orange, this appears to indicate that the flowers are wilting before opening, the flower at the top, while open is already orange. To the naked eye, the real color is closer to the iPhone image but intermediate. It appears that these plants can be autogamous, as indicated by the other collection in fruit, *Hágsater 15196*, which was pressed in the field and deposited at QCNE; it has fruits in formation. In cultivation, as can be seen from the photograph, several flowers are barely opening and have already turned orange, a signal of their fertilization before opening. A second collection has been located further north, at Tundayme, the color of the sepals and petals being very pale pink, but the callus equally green.

CONSERVATION STATUS: DD. Data deficient. Two localities are known, one relatively protected, the other where the mine has destroyed a large area of natural vegetation for the mine site has probably been destroyed.

ETYMOLOGY: From the Latin, *deltoideus*, triangular, and *viridis*, green, in reference to the green callus in fresh flowers which is quite unusual for the Schistochilum group, in both shape and color.

ACKNOWLEDGMENT: Collections by Hágsater 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., L. Valenzuela & A. Cisneros, 2020, *Epidendrum azulensis* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 13, *Icon. Orchid.* 17(2): pl. 1758.



Author: E. Hágsater

LCDP: R. Jiménez M. & A. Cisneros

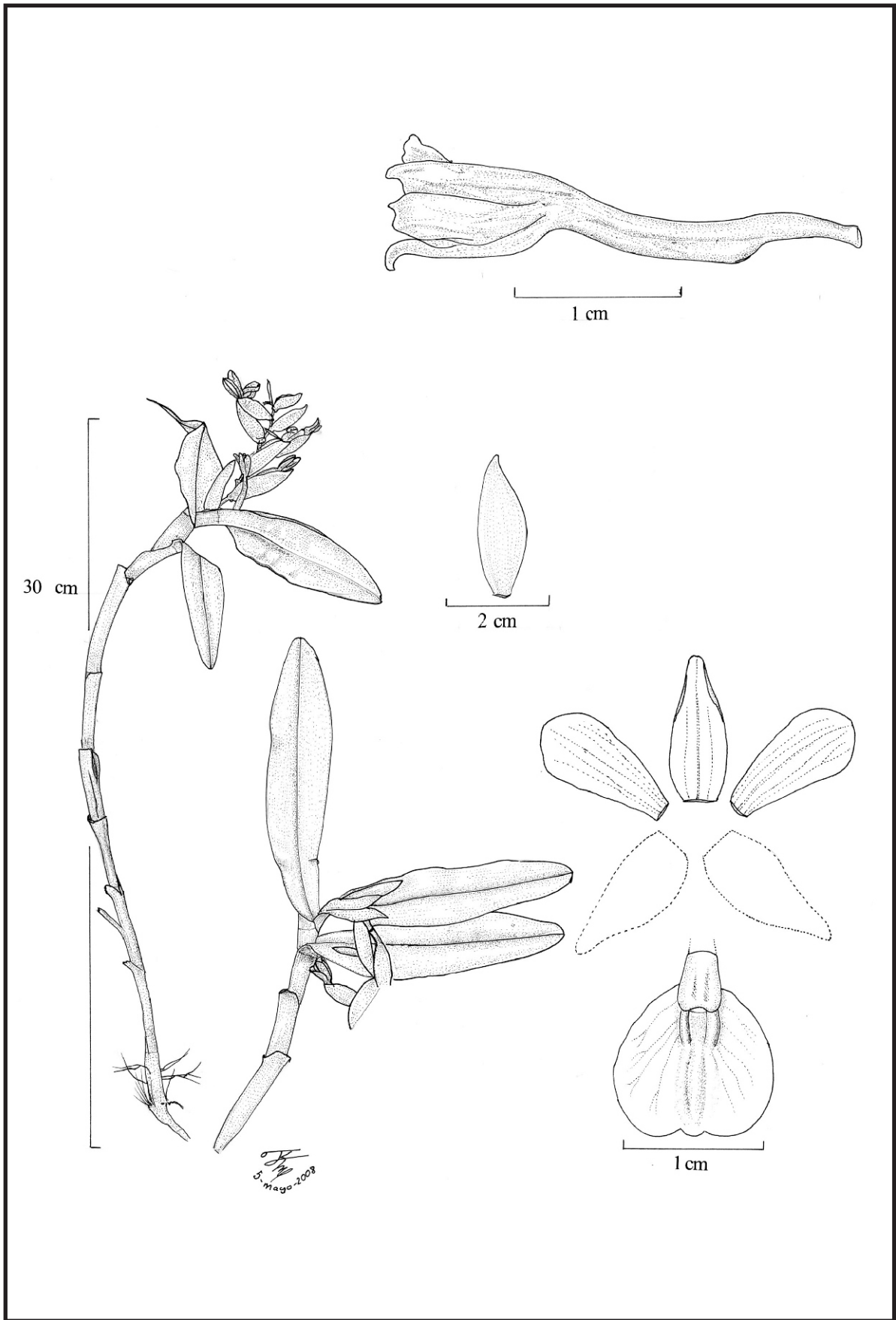
Photo: E. Hágsater

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1864



EPIDENDRUM DILOCHOIDES Rchb.f.

Plate 1865

EPIDENDRUM DILOCHIOIDES L.O.Williams, Bot. Mus. Leafl. 8(5): 106. 1940.

Type: HONDURAS: West coast of Honduras, September 1939, *Bernard Bevan s.n.* Holotype: AMES 57285! (illustration voucher).

Epiphytic, sympodial sub-erect, scandent **herb** to 30 cm long. **Roots** basal along the rhizomatous segment of the stem, scarce. **Stem** 25 x 0.5-0.8 cm, simple, cane-like, the basal part rhizomatous, short, the new growth produced from a lower mid-node of the previous stem, sub-erect, terete below, laterally compressed above, totally covered by non-foliaceous sheaths ca. 3 cm long, tubular, slightly inflated at the apex, scarious and becoming fibrous with time. **Leaves** 3, aggregate towards the apex of the stem, alternate, articulate; sheaths 10-12 mm long, tubular, laterally compressed, slightly dilated at the apex; blade 6-11 x 1.5-2.8 cm, elliptic to elliptic lanceolate, coriaceous, obtuse, with a minute dorsal keel, margin entire, spreading. **Spathes** lacking. **Inflorescence** 4-7 cm long, apical, arching nutant, simple, distichous, flowering only once, few-flowered; peduncle 2 cm long, short, totally hidden by 1-2 bracts 25-30 mm long, tubular at base, glumaceous, conduplicate, acute, imbricated; rachis ca. 4-5 cm, thin, terete, zigzag, nearly totally hidden by the floral bracts. **Floral bracts** 15-30 x 10-20 mm (the apical ones progressively smaller), nearly as long as the flower, ovate, glumaceous, conduplicate, acute. **Ovary** 18 mm long, thin, terete, unornamented, inflated ventrally forming a prominent, elongate vesicle along the apical 3/4. **Flowers** 8, simultaneous, resupinate, somewhat trumpet shaped; without data on color or fragrance. **Sepals** 11 x 5 mm, ovate-lanceolate, obtuse, fleshy, 3-veined, margin entire. **Petals** 10 x 4.0-4.5 mm, spreading, spatulate, apex rounded, slightly oblique, membranaceous, 5-veined, margin entire. **Lip** 10 x 11 mm, united to the column, obovate, entire, base cuneate, apex short emarginate and widely mucronate; calli not seen, disc with a pair of low, sub-parallel ribs nearly reaching the middle of the lip, and a low, wide mid-rib that reaches the apical mucro of the lip. **Column** 4 mm long, straight. **Clinandrium-hood** short, margin entire. **Anther** not seen. **Rostellum** not seen. **Nectary** deep, penetrating half the pedicellate ovary and forming a elongate, wide vesicle.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known presently only from the type, from the west coast of Honduras, with no further information. Flowering in December.

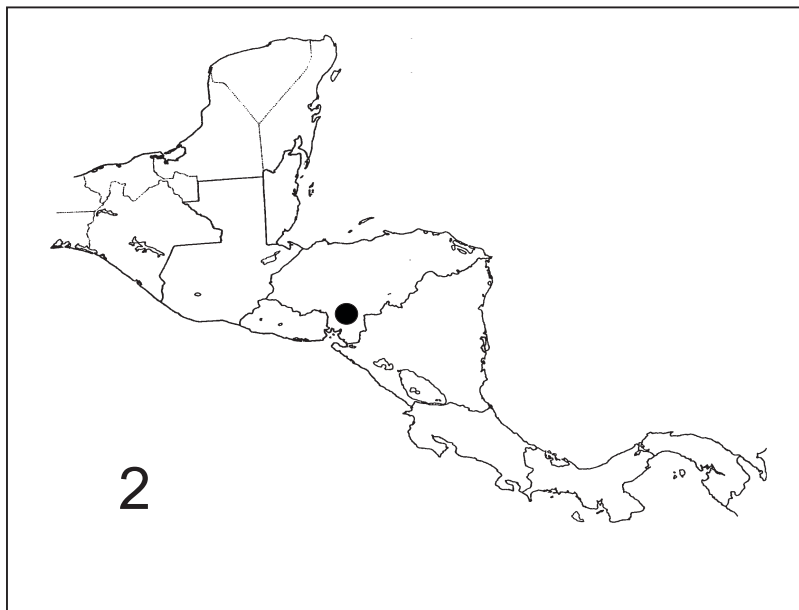
RECOGNITION: *Epidendrum dilochioides* belongs to the Polychlamys Group, Polychlamys Subgroup, which is characterized by the successive lateral growths, and the distichous, apical inflorescence with prominent, conduplicate, acute, glumaceous floral bracts. The species is recognized by the leaves 15-28 mm wide, the somewhat long inflorescence, the sepals 11 mm long, the spatulate petals slightly wider than the sepals, and the obovate lip, apically somewhat emarginate and mucronate. *Epidendrum cryptanthum* L.O.Williams also has a short, compact inflorescence but the inflorescence is paniculate, composed of 1-3 distichous branches (a feature which is not evident from the compact inflorescence, especially in pressed specimens), and the flowers are totally hidden within the imbricating glumaceous bracts, the sepals free, 9.0-11.5 mm long, the petals spatulate, rounded 3-4 mm wide, and the lip obovate-pandurate with the lateral margins involute, and the thin ovary, not inflated. *Epidendrum salpichlamys* Hágsater & E.Santiago has narrower leaves (less than 17 mm wide), a simple, sessile, compact, distichous inflorescence, imbricating floral bracts, trumpet-shaped, greenish yellow flowers with the sepals basally connate and abruptly reflexed above the middle, an oblong lip, and a thin non-inflated ovary.

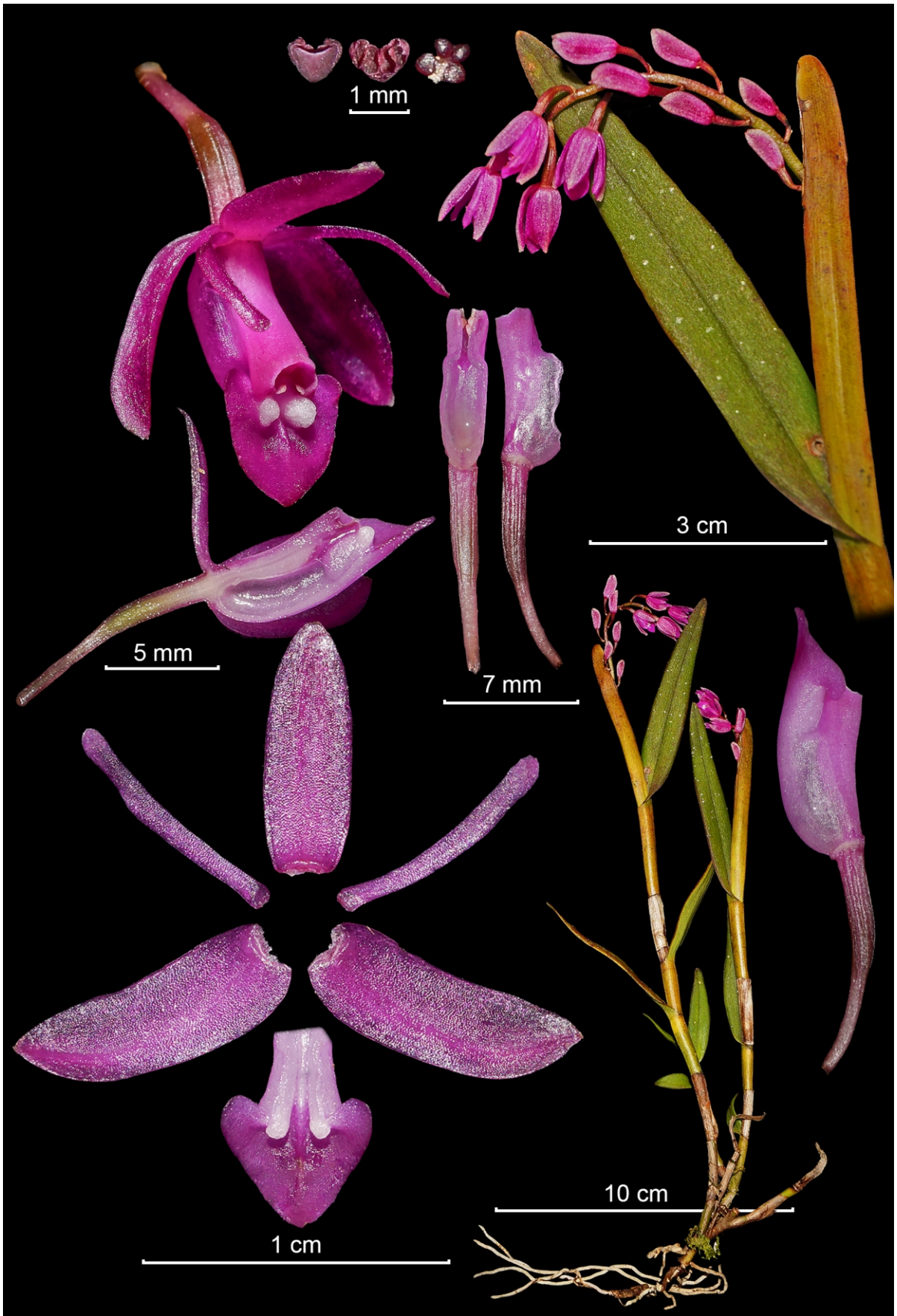
NOTE: The above description, though based on Williams' original and the type specimen and his sketches of floral segments, differs from the original by Williams in several aspects of the interpretation of the floral segments, in particular the lip which we consider to be entire, not 3-lobed, and the shape of the petals.

CONSERVATION STATUS: DD. Data deficient. Only the type is known without precise information on the locality where it was collected and no additional information.

ETYMOLOGY: In reference to the similarity of the floral bracts to those of some species of *Dilochia* Lindl. (Orchidaceae).

REFERENCES: Hágsater, E., & E. Santiago, 2006, *Epidendrum salpichlamys* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 5, *Icon. Orchid.* 8: pl. 883. Santiago, E., & E. Hágsater, 2007, *Epidendrum cryptanthum* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 6, *Icon. Orchid.* 9: pl. 924. Lindley, J., 1830, *Dilochia wallichii*, *Gen. Sp. Orchid. Pl.*: 38.





EPIDENDRUM DIOMMOIDES Hágsater, Edquén & E.Santiago

Plate 1866

EPIDENDRUM DIOMMOIDES Hágsater, Edquén et E.Santiago, *sp. nov.*

Type: PERU: San Martín: Rioja: Pardo Miguel Naranjos: Chisquilla, límite de San Martín y Amazonas, a espaldas del sector 7 Lagunas, 3326 m, 9 febrero 2020, *José Dilmer Edquén Oblitas 2061*. Holotype: HURP! (LCDP voucher).

Similar to *Epidendrum diommmum* Hágsater & Chocce but the inflorescence with up to 13 successive flowers, opening from the apex towards the base of the rachis (vs. inflorescence with up to 5 simultaneous flowers), sepals 8-10 mm long (vs. sepals 15.5-19 mm long), the lip 4.0-5.5 x 5.0 mm, triangular (vs. lip 8 x 10 mm, widely cordiform), and the calli parallel (vs. calli strongly divaricate).

Epiphytic, sympodial, caespitose, erect **herb**, 18-23 cm tall. **Roots** 1 mm in diameter, basal, thin, fleshy, white. **Stems** 10-13 x 0.2-0.6 cm, simple, cane-like, terete, thin, base covered by sheaths 10-22 mm long, non-foliar, tubular, white, scarious. **Leaves** 3-4, distributed along the apical 2/3 of the stem, alternate, articulate, coriaceous, erect nearly parallel to the stem, unequal in size, the lower ones smaller, medium green on both sides; sheaths 16-30 mm long, tubular, minutely striated, ochre; blade 3-7.5 x 0.7-1.1 cm, lanceolate, apex obtuse, minutely apiculate, apical margin entire. **Spathes** 1-2, 5-6.0 x 0.5-0.6 cm, tubular at the base, conduplicate towards the apex, laterally compressed, linear-oblong, obtuse, ochre. **Inflorescence** 7-12 cm long, apical, racemose, erect in the spathe, then arching at the rachis, laxly few-flowered; peduncle 3.5-5.5 cm long, terete, thin, erect, straight, hidden within the spathes; rachis 3.5-6.5 cm long, terete, thin. **Flowers** 10-13, opening in succession from the apex towards the base of the rachis, resupinate, magenta, with the calli white; fragrance not registered. **Floral bracts** 1-2 mm long, much shorter than the ovary, triangular, acute, embracing. **Ovary** 8-10 mm long, terete, thin, not inflated, furrowed along the apical half where it is slightly thicker. **Sepals** partly spreading, free, fleshy, oblong, obtuse, 5-veined, with a dorsal keel, apiculate, margin entire, spreading; dorsal sepal 8-9 x 3-3.5 mm, lateral sepals 9.3-10 x 3-4 mm, oblique. **Petals** 8-9 x 0.7-1.0 mm, partly spreading, free, linear, obtuse, 1-veined, oblique, margin entire, spreading. **Lip** 4.0-5.5 x 5.0 mm, united to the column, entire, triangular with a long claw, base cordate, apex obtuse, margin entire, spreading; bicallose, the calli fleshy, long with elevated rounded apex, parallel; disc with a narrow mid-rib that reaches the apex of the lip. **Column** 7.1-8.0 mm long, thin, slightly arched upwards, ventrally forming a long, inflated vesicle with the lip from the base of the column to its apex. **Rostellum** apical slit. **Lateral lobes of the stigma** small, ¼ the length of the stigmatic cavity. **Clinandrium-hood** short, margin entire. **Anther** 4-celled, cordiform, red wine color. **Pollinia** 4, lentil-shaped, wine-red; caudicles soft and granulose, as long as the pollinia, white, viscarium semi-liquid. **Nectary** shallow, without penetrating behind the perianth, forming a wide, elongate vesicle between the column and the lip, unornamented. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: PERU: Amazonas: Prov. Bongará: Distr. Yambrasbamba: Orquídeas Amazónicas, vivero alto, Alto Nieva, 2165 m, 2 XI 2019, *Hágsater 16311*, digital images, AMO! (Photo voucher).

DISTRIBUTION AND ECOLOGY: Known presently from northern Peru, from the border between Amazonas and San Martín, in the general area of Chisquilla, at 3326 m elevation in very wet, mossy relicts of high Andean scrub. Flowering from November to February.

RECOGNITION: *Epidendrum diommoides* belongs to the *Ventricosum* Group, characterized by the sympodial growth, the few narrow leaves, the racemose inflorescence subtended by 1-2 narrow, spatheaceous bracts, the delicate, purple flowers with an inflated nectary on the underside of the column, and the lip laminar and more or less cordate. The new species is recognized by the plants to 23 cm tall, the lanceolate, erect leaves, the inflorescence with up to 13 successive flowers opening from the apex towards the base of the rachis, the flowers magenta with white, parallel calli, the sepals 8-10 mm long, and the lip 4.0-5.5 x 5.0 mm, triangular. *Epidendrum diommmum* Hágsater & Chocce is vegetatively similar but the inflorescence has up to 5, simultaneous flowers, also magenta, with white strongly divaricate calli, the flowers larger, the sepals 15.5-19 mm long, and the lip 8 x 10 mm, widely cordiform. *Epidendrum leimebambense* Hágsater is vegetatively similar but the flowers are pale green with pale purple spots, and the column is thin, without forming an inflated vesicular nectary. *Epidendrum ventricosum* Lindl. is similar in the magenta color of the flowers, but the plants are smaller, the stems thinner, and the leaves somewhat narrower, 4-8 mm wide, linear-lanceolate. *Epidendrum amethystinum* Rchb.f. has very similar flowers in color, and the inflated nectary formed by the union of the column and claw of the lip, but the sepals are slightly longer, 10-11 mm long and ovate-oblong, the lip ovate with horn-like, incurved calli, the stems short, to 5 cm long, and the leaves shorter and wider, 3.0-5.3 x 0.8-2.2 cm, elliptic.

CONSERVATION STATUS: CR. Critically Endangered. The species is presently known from one locality in northern Peru, in remnants of high Andean scrub at the summit of the Andes on the border between the regions of Amazonas and San Martín.

ETYMOLOGY: From the Greek *two*, and *eye*, in reference to the white calli which stand out against the magenta color of the flowers, and the ending *-o*, resembling, in reference to the similarity of the species with the larger-flowered *E. diommmum*.

ACKNOWLEDGMENT: Type collection made under project "Efecto de la fragmentación de hábitats de bosque alto andino en diversidad de Orchidaceae y Bromeliaceae del anexo de Diosán, Distrito de Granadas, Amazonas" emitido bajo la resolución de Dirección General (RDG) N° 137-2018-SERFOR/DCGSPFFS; correspondiéndole el Código de Autorización N° AUT-IFL-2018-025.

REFERENCES: Hágsater, E., 1993, *Epidendrum leimebambense* in E. Hágsater & G. A. Salazar (eds.), *The Genus Epidendrum Icon. Orchid.* 2: pl. 151. Hágsater E., 2008, *Epidendrum ventricosum* in E. Hágsater & L. Sanchez S. (eds.), *The Genus Epidendrum*, Part 7, *Icon. Orchid.* 11: pl. 1194. Hágsater E., 2010, *Epidendrum amethystinum* in E. Hágsater & L. Sanchez S. (eds.), *The Genus Epidendrum*, Part 9, *Icon. Orchid.* 13: pl. 1302. Hágsater, E., & M. Chocce, 2009, *Epidendrum diommmum* in E. Hágsater & L. Sanchez S. (eds.), *The Genus Epidendrum Icon. Orchid.* 8: pl. 1238.



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

LCDP: J. D. Edquén & A. Cisneros

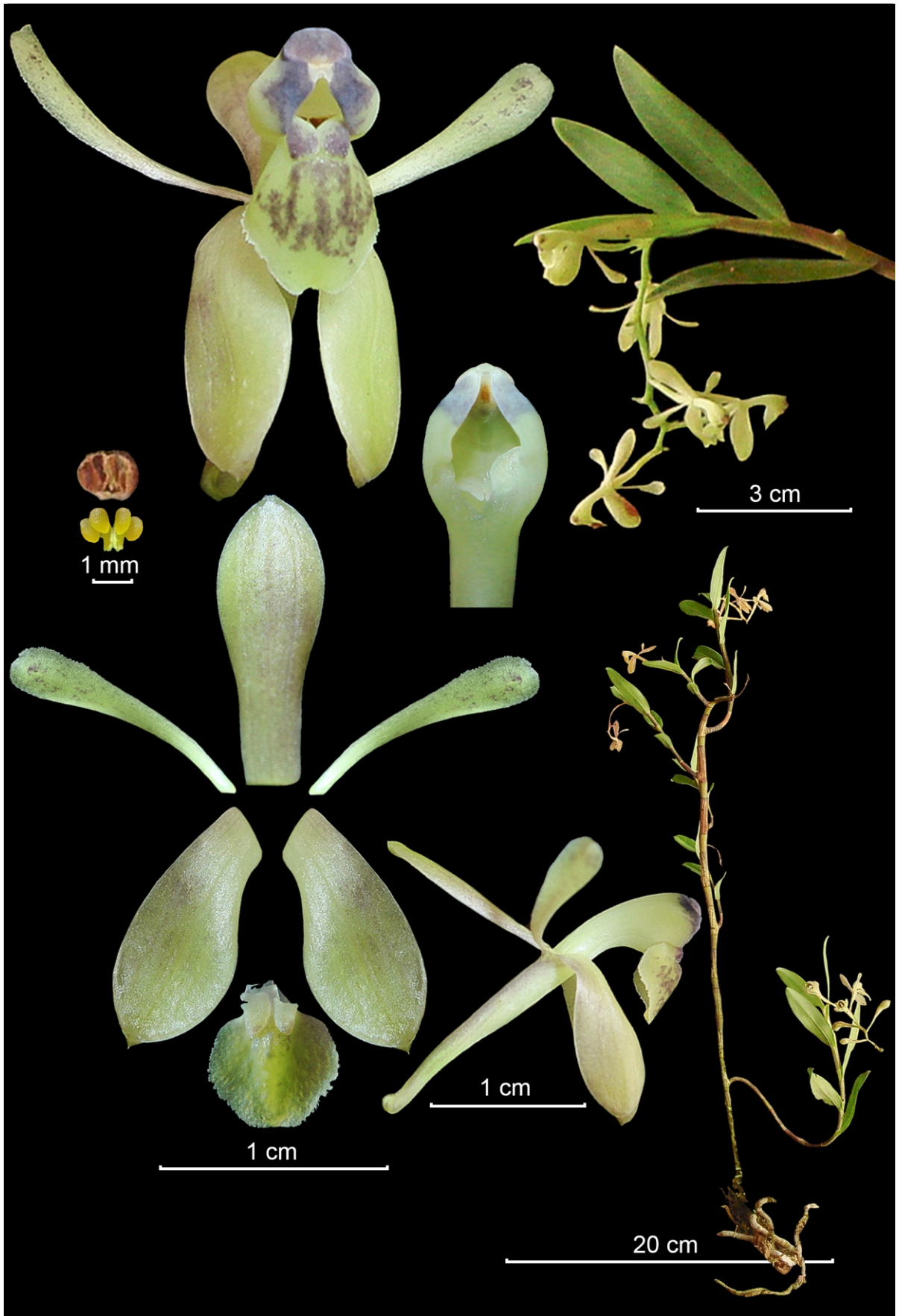
Photo: E. Hágsater

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1866



EPIDENDRUM EROSUM Ames & C.Schweinf.

Plate 1867

EPIDENDRUM EROSUM Ames & C.Schweinf., Schedul. Orchid. 8: 44-45, pl. 24. 1925.

Type: COLOMBIA: [Cundinamarca:] Páramo de Guasca, January 1920, *Bro. Aristide-Joseph A464*. Holotype: AMES 28128!
 Synonym: *Epidendrum holmnielsenii* Hágsater & Dodson, Icon. Orchid. 4: pl. 445, 2001. Type: ECUADOR: Azuay: at lake Zarugucho, 20 km west of Cuenca, 3000 m, 5 June 1958, *Calaway H. Dodson 414*. Holotype: SEL!

Epiphytic, monopodial, branching, erect herb, 40-58 cm tall. **Roots** 2 mm in diameter, basal from the primary stem, fleshy. **Stems** branching, the primary stem 30-41 x 0.3-0.5 cm, branches 4-25 x 0.2-0.4 cm, produced from the sub-apical internodes of the primary stem, and themselves producing short branches, from sub-apical internodes, cane-like, terete, thin. **Leaves** 8-9 on the primary stem, 4-6 on the branches, articulate, sub-coriaceous; sheaths 6-25 x 2-4 mm, tubular, striated, brownish purple; blade 2-10.5 x 0.7-1.9 cm, oblong-lanceolate to narrowly elliptic, apex obtuse, minutely apiculate, margin entire. **Spathe** lacking. **Inflorescence** 3-5 cm long, laxly few-flowered, peduncle 1 cm long, terete, thin; rachis 2-4 cm long. Flowers 8-9, pale green, turning yellow when mature, spotted blackish purple on the lip and apex of the column; without fragrance. **Floral bracts** 2-4 mm long, much shorter than the ovary, triangular-lanceolate, acuminate, embracing. **Ovary** 12-16 mm long, terete, thin at base, slightly dilated towards the perianth, without forming a vesicle, minutely striated, green spotted blackish-purple. **Sepals** 10.0-12.6 x 4-5 mm, slightly convex, narrowly obovate, unguiculate at base, apex obtuse, 3-veined, margin entire, slightly revolute; dorsal sepal free, spreading to slightly reflexed; lateral sepals partly spreading, united obliquely to the base of the column, parallel to each other, minutely apiculate. **Petals** 9.0-11.5 x 2-3 mm, spreading to reflexed, free, unguiculate at the base, linear-oblancoelate, apex rounded, 1-veined, margin erose, spreading. **Lip** 4.8-6.0 x 5-6 mm, united to the column, base truncate, entire, ovate-orbicular, convex without touching the central surface of the lateral sepals, margin erose, spreading; bicallose, the calli next to each other, ellipsoid, parallel. **Column** 9-10 mm long, arched downwards, the apex with a pair of truncate wings. **Clinandrium-hood** reduced, margin entire. **Anthor** 4-celled, reniform. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose, nearly as long as the pollinia; viscarium semi-liquid. **Capsule** 5-6 x 2.0-2.5 cm, globose; pedicel 1.5 cm long, body 2.7-3.0 x 2.0-2.5 cm; apical neck 0.8 cm long.

OTHER SPECIMENS: COLOMBIA: Antioquia: Mun. Sonsón, Vereda Chaverras, 2650-2750 m, 2 XII 1977, *Cogollo 11604*, JAUM! Mun. Urao, Vereda Páramo del Sol, Piedra del Oso, 3550 m, 3 III 2013, *Dominguez 58*, JAUM! Mun. Yarumal, Ratón Pelado, 2670-2720 m, 22 V 1983, *Escobar 2662*, SEL! Mun. Buritica, 2800-2860 m, 13 III 2000, *Molina 461*, HUA! Mun. Medellín, Cerro del Padre Amaya, 2990 m, 18 III 1987, *Zaruchi 4803*, HUA! **Bogotá:** Usaqué, reserva bosques de Torca, microcuenca Salitre, 2958 m, 30 V 2018, *Cabrera 5034*, JBB! Usme, carretera a Nazareth, 3200-3300 m, 16 II 2008, *Farfán 1138*, FMB! **Boyacá:** Mun. Moniquirá, vereda Colorado, sector alto, Río Pómea, 2200-2300, 9 VII 2001, *Dueñas 3083*, COL! Paipa, 3525 m, 10 IV 2013, *Fajardo 1450*, FMB! Ramiriquí: Alrededores del pueblo y hacia la Laguna Negra, 2345-3000 m, 12 X 1965, *Huertas 6217*, COL! entre Arcabuco y Villa de Leyva; quebrada Las Coloradas, arriba de El Carrizal, 3500 m, 31 VIII 1967, *Jaramillo 3151*, COL! Ibid. *Jaramillo 3153*, COL! Mun. Ventaquemada, 3322 m, 3 IV 2013, *Marín 5252*, FMB! **Cauca:** Mun. Inzá, vereda Río Sucio, 2700-2800 m, 1 V 2003, *Muñoz 1207*, CAUP! Ibid. *Muñoz 1255*, CAUP! El Tambo, 2500 m, 25 VI 1971, *Ortiz 488*, HPUJ! **Cundinamarca:** Parque Nacional Natural Chingaza, Bosque cerca de Chuza, *Barbosa 1523*, FMB! Ibid. Campamento Palacios, cerca de la Quebrada Colorada, 2980-3000 m, 8 II 1984, *Barbosa 2057*, FMB! Ibid. *Barbosa 2058*, FMB! Bosque Antonio Rico, Finca La Laguna, 3200 m, 10 II 1984, *Barbosa 2224*, FMB! Páramo de Guasca, 3220 m, 3 V 1972, *Cleef 3406*, COL! SEL! Páramo de Guasca, Paso del Guayabo, 3000 m, 24 IV 1932, *Cuatrecasas 3029*, MA x2! Páramo de Guasca, bosque en la Laguna, 3200 m, 25 IV 1932, *Cuatrecasas 3030*, MA! Páramo Chingaza, Piedras Gordas, 3325 m, 23 XII 1999, *García 38*, COL! Páramo de Chusques (Frente del Río Bogotá) arriba de Villapinzón, 3000-3500 m, 23 V 1951, *García-Barriga 13602*, COL! NY! Páramo de Guasca, 3250 m, 4 VI 1947, *Haught 5808*, COL! Páramo de Guasca, 3100 m, 21 III 1948, *Haught 6227*, COL! US! Páramo de Chingaza, Fómecue, 2900 m, 25 I 1961, *Huertas 5534*, COL! Ibid. 20 I 1966, *Huertas 6459*, COL! Calera, Parque Nacional Natural de Chingaza, quebradas de Piedras Gordas, 3200-3400 m, 24 V 1990, *Kubocz 204*, COL! Páramo de Guasca, 3300-3500 m, 17 III 1939, *Killip 34111*, AMES! MO! P! UC! US! Laguna de Chingaza, 3200 m, 17 XI 2003, *Mendoza 15468*, FMB! Fómecue, 3200 m, 20 II 1993, *Ochoa 10*, FMB! Mun. Subachoque, El Tablazo, 3302 m, 29 IX 2009, *Ordoñez 9*, JBB! Páramo de Guasca, 3200 m, 3 VI 1972, *Ortiz 4196*, POV! Páramo de Guasca, *Ospina 737*, JAUM! Ibid. *Ospina 741*, JAUM x2! Ubaque, IV 1933, *Pérez 1576*, COL! Vereda Santa Lucía, vía Guasca, 6 II 1994, *Porrás AMP-02*, FMB! Páramo de Guasca, 3000 m, 9 III 1955, *Renz 8353*, RENZ! **Magdalena:** Sierra Nevada de Santa Marta, alrededores de cabeceras de Río Sevilla, 3470 m, 30 I 1959, *Barclay 6681*, MO! Flanco Oeste de Sierra Nevada, 3200 m, 16 I 1954, *Romero 4547*, COL! **Nariño:** Puerres, vereda El Rosal, 3100 m, 6 VI 2006, *Baca Y367*, PSO! **Norte de Santander:** Mun. Toledo, 2100 m, 23 V 1982, *Luer 7957*, SEL! **Quindío:** Mun. Salento, salida al W del Rincón Santo, 13 XI 1984, *Barbosa 2870*, FMB! **Santander:** Violín-Paramo de la Rusia, 20 II 2013, *Hoba 13*, FMB! Ibid. *Hoba 18*, FMB! **ECUADOR: Morona Santiago:** Ave María Pass, ca. 3000 m, 3 III 1977, *Luer 1506*, SEL! (Illustration, AMO!) **Gualaquiza,** Bosque Protector Tambillo, 2710 m, 26 VI 2001, *Suin 1028*, AMO! **Zamora-Chinchipe:** road Loja-Zamora, km 18, 2500 m, 17 V 1967, *Sparre 16322*, S!

OTHER RECORDS: COLOMBIA: Without locality data, *Pfahl s.n.*, digital photo, AMO! (Photo voucher) **Antioquia:** Parque Nacional Natural Las Orquídeas, 3400 m, *Monsalve 243*, digital images AMO! Without locality data, 5 XII 2011, *Parra s.n.*, digital image, AMO! **Boyacá:** Chinavita, Cerro Mamapacha, 3100-3300 m, 27 II 2002, *Farfán 68*, digital image AMO! **Cauca:** Antigua via Florencia-Guadalupe, *Hoyos s.n.*, digital image, AMO! **Cauca:** El Tambo, "Charcoazul" 2500 m, 25 VI 1971, *Ortiz 488*, illustration HPUJ, xerox AMO! **Cundinamarca:** Páramo de Chingaza, sendero La Sierva, *Castro 320*, digital image, AMO! Choachi, *Gil s.n.*, digital image, AMO! La Calera, Parque Nacional Natural Chingaza, 3127 m, 23 XI 1015, *Hágsater s.n.*, digital image, AMO! Subachoque, sector El Tablazo, 3302 m, 19 VIII 2010, *Ordoñez 195*, digital image, AMO! Subachoque, Cerro El Tablazo, 3100 m, 12 XII 2016, *Rincón 810*, JBB! Cogua, *Susa s.n.*, digital image, AMO! Parque Nacional Chingaza, *Wessjohann s.n.*, digital image, AMO! **Huila:** San José de Isnos, Parque Nacional Natural Puracé, El Mármol, km 75.5 Popayán-San José de Isnos, 3068 m, 30 III 2018, *Hágsater 15672*, digital image, AMO! **Putumayo:** Without locality data, *Medina NI-252*, digital images, AMO! (LCDP voucher, pro parte) Ibid. 21 V 2015, *Moreno s.n.*, digital image, AMO! Páramo Sibundoy, 2700 m, *Coral s.n.*, digital image, AMO! San Francisco, Vereda Balsayaco, Hort. Casa de Ramiro Medina, 2168 m, 5 IV 2018, *Hágsater 15720*, digital image, AMO! Sibundoy, Vereda La Cumbra Baja, 2200 m, 10 VIII 2013, *Medina 19b*, digital images, AMO (LCDP voucher, pro parte).

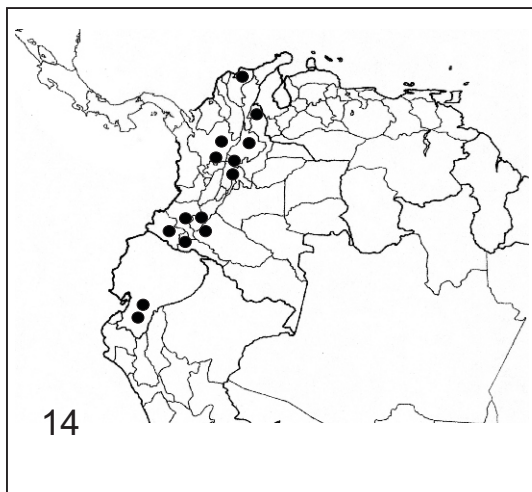
DISTRIBUTION AND ECOLOGY: Found along the top of the Cordillera Oriental, the Cordillera Central, the Cordillera Occidental, and Sierra Nevada de Santa Marta in Colombia and the Amazon slope of the Andes in southern Ecuador, epiphytic in wet and elfin forests at 2100-3550 m elevation. Flowering mainly from November to June, and August.

RECOGNITION: *Epidendrum erosum* belongs to the Andean Group, Cernuum Subgroup, characterized by the monopodial habit, cane-like stems with sub-apical branches which are considerably shorter than the main stems, coriaceous to sub-coriaceous leaves, and the fleshy flowers, the lip entire or 3-lobed. The species is recognized by the pale green flowers spotted blackish-purple on the lip and apex of the column, sepals 10.0-12.6 x 4-5 mm, lateral sepals parallel but not imbricated, petals 9.0-11.5 x 2-3 mm, spreading to reflexed, linear-oblancoelate with the base unguiculate, lip 4.8-6.0 x 5-6 mm, totally united to the column, ovate-orbicular. *Epidendrum sarcostalex* Rchb.f. & Wrasz. has similarly colored flowers but the flowers are larger, the lateral sepals 15-18 x 6-7 mm, parallel and slightly imbricated at the apex, the petals 14-16 x 3.5-4.0 mm, reflexed and oblancoelate, and the lip 8-9 x 9-10 mm, united to the basal 2/3 of the column, orbicular, sub-quadrate. *Epidendrum sisananense* Hágsater & E. Santiago has yellowish brown flowers, the lip and column yellow, sepals 12 x 3 mm, parallel without being imbricated, petals 11 x 1 mm, linear-oblancoelate, and the lip 5 x 6.5 mm, widely cordiform, the apex sub-acute. *Epidendrum sumapacense* Hágsater & E. Santiago has bright yellow or yellow-orange flowers, sepals 14 x 6.2 mm, petals 13.7 x 4.6 mm, partly spreading and narrowly obovate, and the lip 5.5 x 8 mm, sub-reniform.

CONSERVATION STATUS: NT. Not Threatened. The species is widespread from northern Colombia to southern Ecuador, and on the three Cordilleras and the Sierra Nevada de Santa Marta in Colombia, a range 1750 km long.

ETYMOLOGY: From the Latin, *erosus*, erose, having an irregular toothed or apparently gnawed margin, in reference to the erose margin of the lip.

REFERENCES: Hágsater, E., 2018, *Epidendrum sisananense*, in E. Hágsater & E. Santiago (eds.), The genus *Epidendrum* Part 12, *Icon. Orchid.* 16(1): pl. 1658 Santiago, E. 2004, *Epidendrum sumapacense*, in E. Hágsater & L. Sánchez S. (eds.), The genus *Epidendrum* Part 4, *Icon. Orchid.* 7: pl. 792. Santiago E. & E. Hágsater, 2007, *Epidendrum erosum*, in E. Hágsater & L. Sánchez S. (eds.), The genus *Epidendrum* Part 6, *Icon. Orchid.* 9: pl. 933. Santiago E. & E. Hágsater, 2009, *Epidendrum sarcostalex*, in E. Hágsater & L. Sánchez S. (eds.), The genus *Epidendrum* Part 8, *Icon. Orchid.* 12: pl. 1289.



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Authors: E. Santiago & E. Hágsater

LCDP: R. Medina T. & A. Cisneros

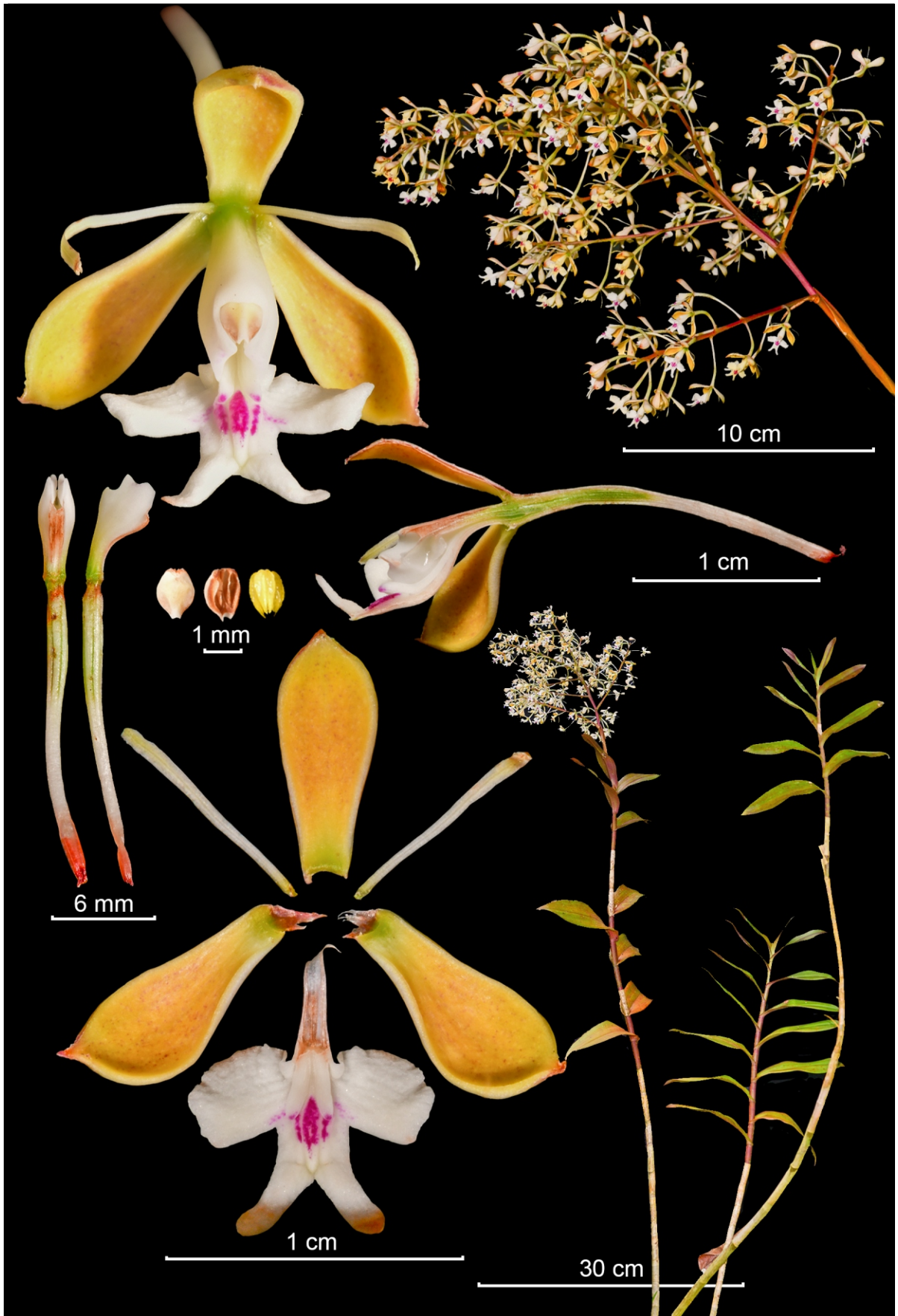
Photo: J. Pfahl

Editors: E. Hágsater & E. Santiago

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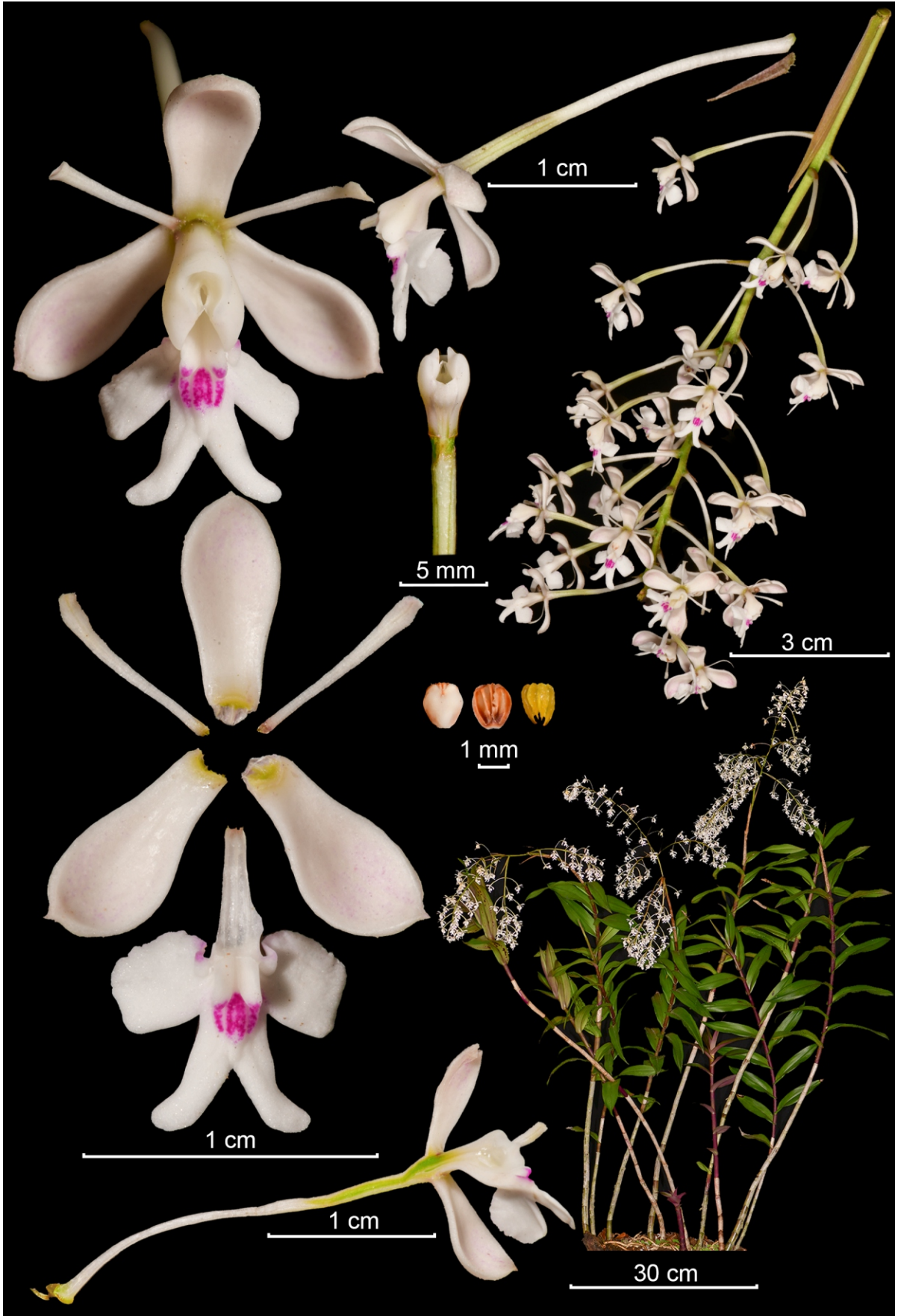
Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1867



EPIDENDRUM FALSILOQUUM Schltr.

Plate 1868



EPIDENDRUM FALSILOQUUM Schltr.

Plate 1868a

EPIDENDRUM FALSILOQUUM Rchb.f., Gard. Chron. n.s., 23:556 (1855).

Type: [COLOMBIA]: Without locality data, Hort. *William Bull s.n.* Holotype: W-R 2971! Sketch of flower prepared by L. A. Garay, xerox, AMO!

Terrestrial or epiphytic sympodial, caespitose, erect **herb**, 90-500 cm tall including the inflorescence. **Roots** basal, fleshy, white. **Stems** 70-90 x 0.7-0.9 cm, simple, cane-like, terete, thin; base covered by sheaths 25-50 mm long, non-foliar, tubular, white, scarious. **Leaves** 12-16, distributed along the upper half of the stem, alternate, articulate, sub-coriaceous, spreading; sheaths 25-40 x 7-9 mm, tubular, minutely striated, purple tinged, blade 9.5-20 x 2.5-3.5 cm, oblong-elliptic, apex shortly acuminate, margins entire, medium green, the underside pale-green to purple tinged. **Spathes** lacking. **Inflorescence** 25-35 cm long, apical, paniculate, erect to slightly arched, densely many-flowered; peduncle 8-10 cm long, erect, straight, terete, thin, provided with 2-3 bracts 7-10 mm long, tubular at base and conduplicate towards the apex, acuminate, partly imbricated; rachis 18-44 cm long, with 5-10 racemes of similar length, spreading, many-flowered, each subtended by a bract 0.3-1.6 cm long, narrowly triangular, acuminate. **Floral bracts** 17-20 mm long, much shorter than the ovary, narrowly triangular, acuminate, embracing. **Ovary** 17-20 mm long, terete, thin, minutely furrowed, with scarce minute papillae. **Flowers** simultaneous, resupinate, generally ochre-white with the lip white or white tinged pink-lilac, rarely sepals green tinged with red-brown, the disc with 3-5 purple-pink lines and the apex of the column with a pair of purple spots; fragrant. **Sepals** 7-10 x 2.5-4.0 mm, spreading, free, oblanceolate-spatulate, the apex obtuse, minutely apiculate, 3-veined, the apical half concave, margin entire, spreading. **Petals** 7-9 x 0.8-1.0 mm, free, partly spreading, with the apex slightly arched forwards, linear-filiform, the apex rounded, 1-veined, margin entire, spreading. **Lip** 6-8 x 7-10 mm, united to the column, 3-lobed, base cordate, margin spreading; bicallose, the calli fleshy, thin; disc with 3 parallel ribs, the central reaching the apical sinus; lateral lobes 2.7-3.3 x 3-4 mm, rectangular-sub-quadrate, slightly oblique, apex truncate, posterior margin undulate; mid-lobe 2.5-4.0 x 5.5-6.5 mm, the width of the mid-lobe less than that of the lip between the lateral lobes, bifid, formed by two divergent lobes, 3.3-4.0 x 0.9-1.1 mm, oblong, apex rounded. **Column** 5-7 mm long, straight, thin for the basal half, abruptly widening vertically for the apical half, with a triangular tooth on each side at the height of the rostellum. **Rostellum** apical, slit. **Lateral lobes of the stigma** prominent, $\frac{1}{2}$ the length of the stigmatic cavity. **Clinandrium-hood** reduced, margin entire. **Anther** ovoid, apex truncate, 4-celled, creamy white tinged brown. **Pollinia** 4, bird-wing type, strongly laterally compressed, the inner pair slightly shorter; caudicles soft and smooth, slightly shorter than the pollinia; viscarium semi-liquid. **Nectary** deep, penetrating half the pedicellate ovary, thin, not inflated, unornamented. **Capsule** not seen.

OTHER SPECIMENS & OTHER RECORDS: See next page.

DISTRIBUTION AND ECOLOGY: The species is apparently restricted to two localities, one around Bogotá, and the other near Salento, in Quindío, found as terrestrial and epiphyte, at 2400-3240 m altitude, growing together with other orchids such as *Epidendrum moritzii* Rchb.f., *Epidendrum karstenii* Rchb.f. and *Epidendrum excisum* Lindl. Flowering from January to October.

RECOGNITION: *Epidendrum falsiloquum* belongs to the Pseudepidendrum Group which is characterized by the caespitose plants, cane stems, the acute to acuminate leaves, the usually apical inflorescence, the mostly filiform petals, the lip usually 3-lobed (with 3 parallel fleshy keels), apical lobe often bifurcate, and 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. The species is recognized by the relatively small flowers, general ochre-white with the lip white or white tinged pink-lilac, the disc with 3-5 purple-rose lines, the sepals 7-10 mm long, obovate-oblanceolate, and the lateral lobes of the lip rectangular-sub-quadrate, the mid-lobe bifid, divaricate, but the width of the mid-lobe narrower than the width between the lateral lobes. *Epidendrum arnoldii* Schltr. is vegetatively similar but the flowers lilac-rose to fuchsia, the disc of the lip white, immaculate, the sepals 8.0-10.5 mm long, oblanceolate spatulate, and the lateral lobes of the lip dolabriform-trapezoid. *Epidendrum fastigiatum* Lindl. has sepals 9 mm long, oblanceolate, and the lateral lobes of the lip rounded, the width between the lateral lobes narrower than between the bifid mid-lobe with its strongly divaricate lobes. *Epidendrum coconucoense* Hágsater, E. Santiago & Uribe-Vélez has similar pink colored flowers, the sepals and lip blotched with purple, and the disc and calli purple.

CONSERVATION STATUS: EN Endangered. Known presently from several collections along Central and Eastern Andes, Colombia. The extent of occurrence estimated to be less than 5000 km² (2042 km²). The principal area of occurrence is already being pressured by urban area of Bogota metropolis and adjacent municipalities, so we inferred a decline area of occurrence, therefore as Endangered EN B1ab(i).

NOTES: The variation in the color of the flowers is between the ochre-white and the white tinged rose to purple, rarely sepals green tinged with red-brown, but vegetatively we have not found any significant difference, and the populations are sympatric. The original description by Reichenbach describes the flowers as "whitish-ochre... the lip is white with three linear acute depressed mauve keels... the calli white...". In the previously published Icon of *Epidendrum falsiloquum*, (Santiago & Hágsater, 2010: pl. 1330), the illustration was based on specimen *Ospina* 132 but does not correspond to this species; we have not been able to make a positive identification of that specimen.

ETYMOLOGY: From the Latin *falsus*, fake, and *loquutus*, speak, a conversation, in reference to the deceptive first view of the plant which is reminiscent of *Epidendrum verrucosum* Sw., a species of the Oerstedella Group, with a large panicle of white flowers, according to Reichenbach in the original description.

REFERENCES: Escobar, R., (Ed.) 1994, *Epidendrum sp.*, *Orquídeas Nativas de Colombia* 5: 772, fig. 909. Mutis, José Celestino, 1985, *Flora de la Real Expedición Botánica del Nuevo Reino de Granada*, 9(3), pl. 28. Hágsater, E., E. Santiago & C. Uribe-Vélez, 2018, *Epidendrum coconucoense* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 12, *Icon. Orchid.* 16(1): pl. 1610. Santiago, E., & E. Hágsater, 2009, *Epidendrum arnoldii* in Hágsater, E. & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 9, *Icon. Orchid.* 13: pl. 1304. Santiago, E., & E. Hágsater, 2010, *Epidendrum falsiloquum* in Hágsater, E. & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 9, *Icon. Orchid.* 13: pl. 1330. Ortiz V., P., & C. Uribe, 2007, *Epidendrum arnoldii* in *Gallery of Colombian Orchids* (CD), Bogotá.



Authors: E. Santiago & E. Hágsater

LCDP: C. Uribe V., F. Jordan & A. Cisneros

Photo: D. Haellerman

Editors: E. Hágsater & E. Santiago

Herbario AMO

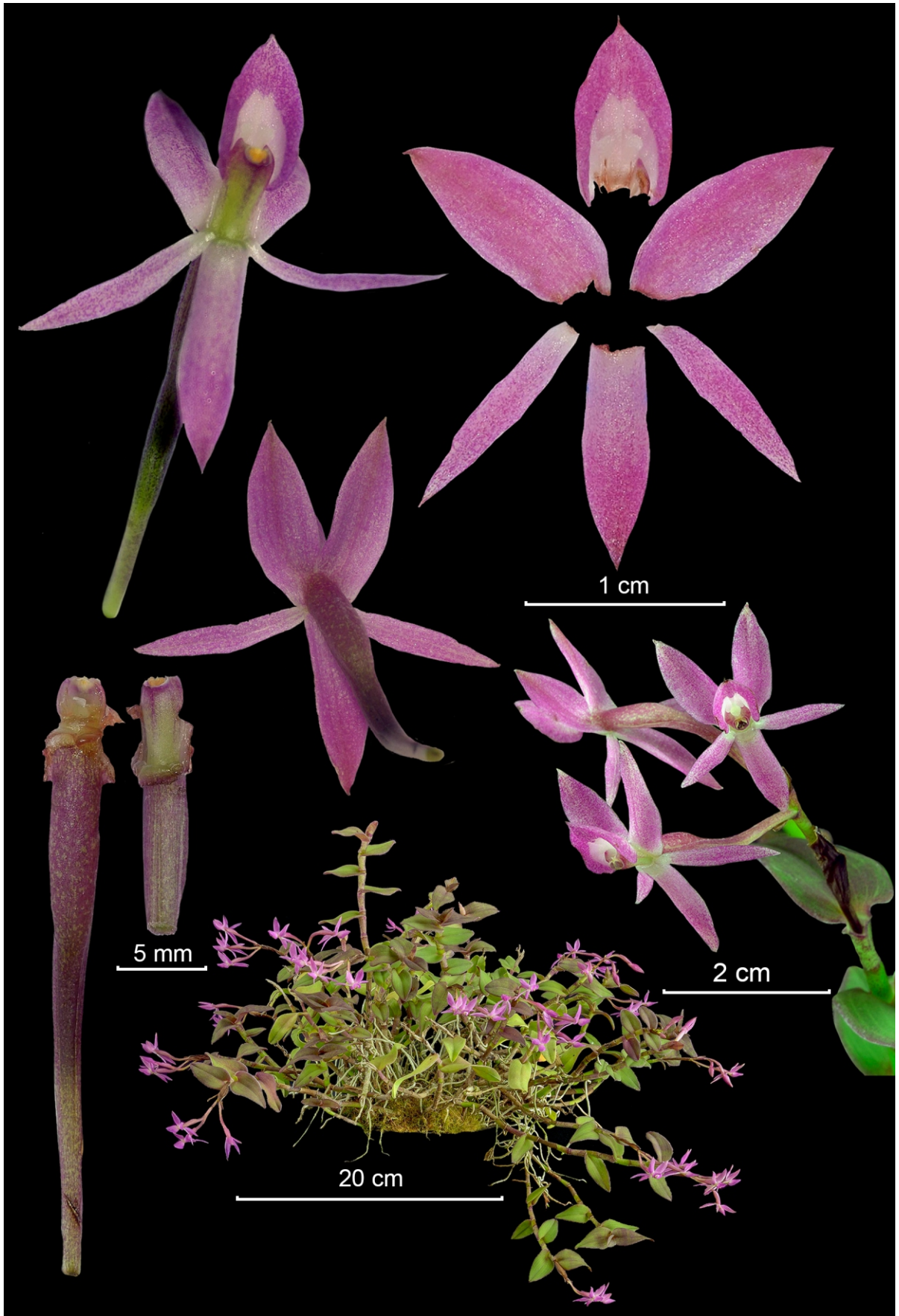
Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1868

EPIDENDRUM FALSILOQUUM Rchb.f., Gard. Chron. n.s., 23:556 (1855).

OTHER SPECIMENS: COLOMBIA: Without locality data, 9 V 1885, *Bulls s.n.*, water color K! Ibid. 24 II 1930, *Class s.n.*, P! Ibid. W-R 34605! Without locality data, 1783-1808, *Mutis 1765*, MA! **Cundinamarca:** Bogotá, 8000 ft, without collector data, W-R! Usaquéen, 2621 m, 30 VI 2016, *Castro 315*, COL! HUPJ! (Digital images of live flower, AMO!) Macizo de Bogotá, Quebrada de Chicó, 2650-2750 m, 1 VI 1939, *Cuatrecasas 5252*, COL! Savana de Bogotá, 1 VI 1916, *Dawe 214*, K x2! La Calera, *Escobar 5199*, (Escobar, 1994), AMO x2! (Spirit and illustration, AMO!) Usaquéen, Cerro de Torca, CED Nuevo Horizonte, 2699 m, 31 X 2017, *Fajardo 3895*, JBB! El Refugio, in the vicinity of Bogotá, 9400-10400 ft, 1 VII 1961, *Garay 140*, COL! Chía, Cerro de la Balvanera, 2800 m, 11 IX 1964, *García-Barriga 18099*, COL! El Salitre, en carretera Sopo-La Calera, 2700 m, 17 III 1996, *Hágsater 11505*, AMO! (spirit) near Bogotá, *Honbury-Tracy 5.6*, K! Pasca, 2300 m, 4 II 1883, *Lehmann 2490*, G! Cerro de Torca, 2626 m, 6 XII 2017, *Ordóñez 2368*, JBB! Vertiente de la Quebrada, La Vieja E de Bogotá, 2750 m, 2 III 1968, *Ortiz 50*, HPUJ! Chapinero, near Bogotá, 2800-2900 m, 18 IX 1917, *Pennell 2003*, NY x2! Hills of Chapinero, Sabana de Bogotá, 1 VI 1923, *Pring 220*, MO! Bogotá, 1 I 1925, *Schultze 165*, US! **Quindío:** Salento, Alto Río Quindío, Reserva La Montaña, 2900 m, 21-25 XI 1990, *Bernal 1937*, COL! **Quindío:** "Caldas" Salento to Laguneta, Old Quindío Trail, Cordillera Central, 2400-2700 m, 1 VIII 1922, *Killip 9131*, AMES x3! K! NY! US! (illustration, AMO) **Risaraldá:** "Caldas" Salento: Laguneta, 3000 m, 20 IV 1942, *Sneidern s.n.*, S! (illustration, AMO!)

OTHER RECORDS: COLOMBIA: Without locality data, *Arjona s.n.*, digital photo, AMO! Ibid. 2600 m, *Benavides s.n.*, digital photo, AMO! Cordillera Oriental, Vertiente occidental, 2200-3300 m, 6 V 2019, *Cristhian Kqa s.n.*, digital photo, AMO! Ibid. *Mutis 28*, 1985, [9(3): t. 28], watercolor published as *Epidendrum* leaf Lindl. **Cundinamarca:** Without locality data, *Frank Jordan s.n.*, digital images, AMO! (LCDP voucher, pl. 1868a, white) Vertiente de la Quebrada, La Vieja E de Bogotá, 2750 m, 2 III 1968, *Ortiz 50*, illustration, HPUJ! Bogotá, digital image (Ortiz & Uribe, 2007). Chía, 18 V 2009, *Pfahl s.n.*, digital image, AMO! Salto de Tequendama, 8 III 2015, *Pinzón s.n.*, digital image, AMO! Guasca, La Selva, 17 XII 2020, *Uribe s.n.*, digital images, AMO (LCDP voucher, pl. 1868, ochre) **Quindío:** Valle del Cocora, *Haelterman s.n.*, digital photo, AMO! (Photo voucher) Ibid. 1800 m, 11 VI 2014, *Moreno s.n.*, digital photo, AMO!



EPIDENDRUM FALSIQUISAYANUM Hágsater & E.Santiago

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

Type: ECUADOR: Imbabura: Otavalo-Selva Alegre, Hort. Ecuagenera, 2200 m, 26 I 2004, **José Portilla (Ecuagenera) sub Eric Hágsater 14029**, Holotype: Flowers in spirit, AMO! digital images, AMO! (Photo voucher.)

Similar to *Epidendrum bianthogastrum* Hágsater & Dodson, but with 3-4 pink-colored flowers, the base of the floral segments white (vs. 2 green flowers, tinged copper), the sepals 9-12 mm long (vs. sepals 8.5-9.5 mm long), and the lip narrowly cordiform (vs. triangular).

Terrestrial, sympodial, sub-caespitose, erect to straggling **herb**, 10-14.5 cm tall. **Roots** 1 mm in diameter, basal, produced from in between the leaves along the basal half of the stems, fleshy, thin, white. **Stems** 10-13 x 0.2-0.3 cm, simple, cane-like, terete, straight, the basal part forming a creeping rhizome, the rhizomatous part covered by sheaths 7-10 mm long, tubular, non-foliar, scarios. **Leaves** 6-12, distributed throughout the stems, distichous, alternate, articulate, dorsally green, ventrally red-purple, sub-coriaceous; sheaths 4-10 x 2-3 mm, minutely striated, pale green spotted red-purple; blade 1.5-3.3 x 0.7-1.3 cm, narrowly ovate, obtuse, minutely apiculate, apical margin erose. **Spathes** 1-2, 10-11 x 4-5 mm (not spread), tubular-conduplacate, narrow at base, gradually widened towards the obtuse apex. **Inflorescence** 2-3 cm long, apical, flowering only once, erect, laxly few-flowered; peduncle 1.0-1.5 cm, terete, thin, erect, straight, nearly totally hidden within the spathes; rachis 1.5 cm long. **Floral bracts** 3 mm long, much shorter than the ovary, narrowly triangular, acute, embracing. **Ovary** 15-30 mm long, terete, thin along the basal 2/3, thickened ventrally along the apical 1/3, furrowed, green towards the base, pink towards the apex. **Flowers** 3-4, non-resupinate, opening in succession by eventually all open at once, pink with the base of the floral segments white, especially the excavate part of the lip, immaculate, the calli white and immaculate; fragrance not registered. **Sepals** 9-12 x 3.5-5.0 mm, acute, minutely apiculate, 5-veined, margins entire, spreading; dorsal sepal free, reflexed, narrowly oblanceolate, margins slightly revolute; lateral sepals obliquely united to the basal 2/3 of the column, partly spreading, narrowly ovate, margins spreading. **Petals** 9-12 x 1.5-2.0 mm, spreading, free, narrowly elliptic, acuminate, 3-veined, margin entire, spreading. **Lip** 6-10 x 5-8 mm, united to the column, embracing the apex of the column without covering it, entire, narrowly cordiform, base cordate, apex acute, apiculate, margin entire, spreading; the basal half of the lip excavate, bicallose, the calli at the mid-length of the concave base, triangular, laterally compressed, opposite and leaning outwards. **Column** 5 mm long, straight. **Clinandrium-hood** short, margin entire. **Rostellum** apical, slit. **Lateral lobes of the stigma** prominent, half the length of the stigmatic cavity. **Nectary** penetrating 1/3 of the pedicellate ovary, forming an elongate vesicle. **Anth** reniform, 4-celled. **Pollinia** 4, obovoid, somewhat laterally compressed; caudicles soft and granulose, slightly longer than the pollinia. **Capsule** not seen.

OTHER SPECIMENS: ECUADOR: Imbabura: Vía Otavalo-Selva Alegre, 2200-2600 m, 14 II 1989, *Palacios* 3771, QCNE 30673!

OTHER RECORDS: ECUADOR: Without locality data, *Andys Orchids*, digital image, AMO! Cultivated plant purchased at Andy's Orchids under the name *Epidendrum bianthogastrum*, 13 III 2015, *Larry Mayse*, digital images, AMO! (LCDP voucher) <https://www.aos.org/sitf-blog/epidendrum-bianthogastrum-confirmed-to-be-epidend.aspx>. Andy's Orchids, digital image, received 16 II 2009, Andy's Orchids s.n., digital image, AMO!

DISTRIBUTION AND ECOLOGY: Endemic to western Ecuador in the Province of Imbabura, terrestrial on road bank, at 1400-2600 m elevation. Flowering from January to May.

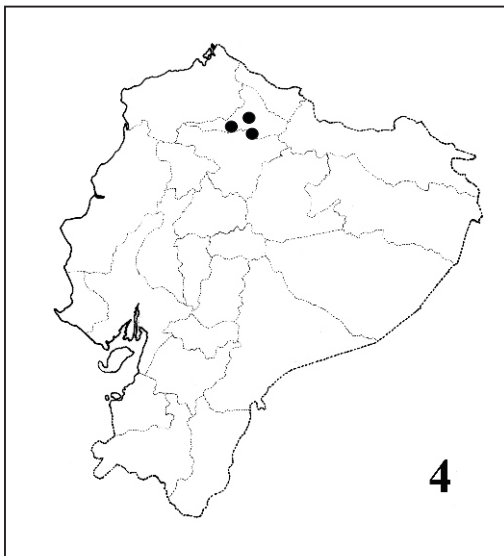
RECOGNITION: *Epidendrum falsiquisayanum* belongs to Quisayanum Group which is recognized by the plants with ovate to narrowly ovate leaves, apical, erect inflorescence with non-resupinate flowers, the peduncle nearly totally hidden by 1-2 tubular spathes, the lip entire embracing the column, and excavated towards the base reminiscent of *Malaxis*. The new species is recognized by the erect, 3-4-flowered inflorescence, flowers pink with the excavate base of the lip white, sepals 9-11 mm long, and the lip cordiform, embracing the apex of the column, and the margin a stronger pink. *Epidendrum bianthogastrum* Hágsater & Dodson has 2 green flowers tinged copper, sepals 8.0-9.5 mm long, and the lip triangular. *Epidendrum polyanthogastrum* Hágsater & Dodson has up to 7 copper-green flowers, sepals 8.0-9.5 mm long, the lip narrowly triangular, and the callus "T" shaped. *Epidendrum quisayanum* Schltr. has 3-4 fuchsia-colored flowers, the disc of the lip white and cordiform, with thickened veins radiating from the calli.

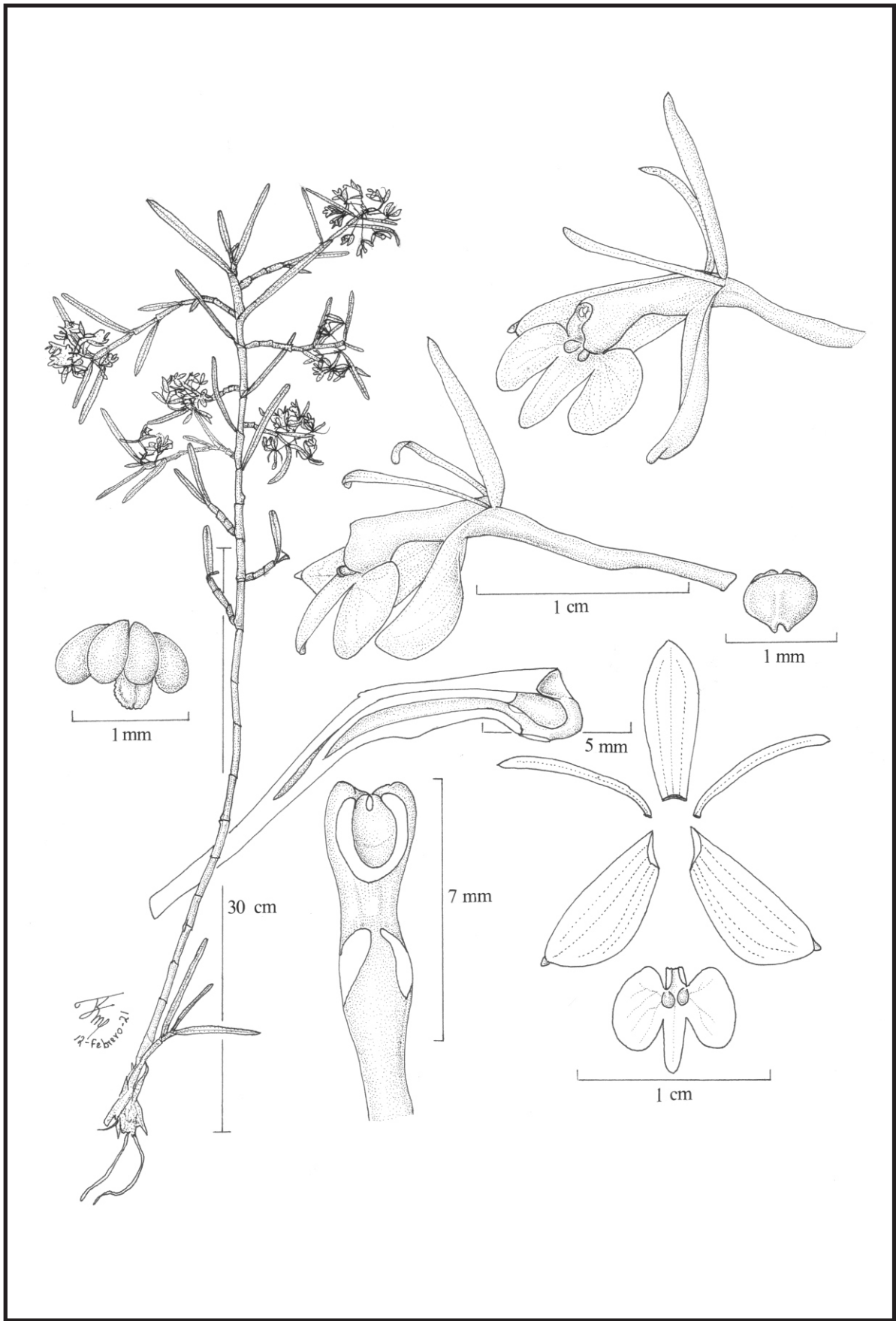
NOTE: The species appears to be sympatric with *E. quisayanum* in the area between Otavalo and Selva Alegre. *Epidendrum falsiquisayanum* is thought to be a possible hybrid between *E. quisayanum* and *E. polyanthogastrum*. This is a study which should be further explored.

CONSERVATION STATUS: CR. Critically endangered. The species is known from a very limited range of distribution. It seems to thrive in cultivation but is not easily available.

ETYMOLOGY: From the Latin *falsus*, false, and Quisaya, as the species has been confused due to the similarity to *Epidendrum quisayanum* Schltr. due to the similar color and size of the flowers.

REFERENCES: Hágsater, E. & C.H. Dodson, 1999, *Epidendrum polyanthogastrum* in The Genus *Epidendrum*, Part 2, in E. Hágsater, L. Sánchez S. & J. García-Cruz (eds.), *Icon. Orchid.* 3: pl. 373. Hágsater, E. & C.H. Dodson, 2001, *Epidendrum bianthogastrum* in The Genus *Epidendrum*, Part 3, in E. Hágsater & L. Sánchez S. (eds.), *Icon. Orchid.* 4: pl. 417. Santiago E. & E. Hágsater 2021, *Epidendrum quisayanum* in The Genus *Epidendrum*, Part 14, in E. Hágsater & E. Santiago (eds.), *Icon. Orchid.* 18(2): pl. 1889.





EPIDENDRUM FILIPETALUM Hágsater, E.Santiago & J.M.Vélez

EPIDENDRUM FILIPETALUM Hágsater, E.Santiago et J.M.Vélez, *sp. nov.*

Type: COLOMBIA: Antioquia: Municipio de Anorí: Corregimiento de Villa Fátima, Reserva Forestal La Forzosa. Camino a Cerro Care Perro, 1774 m, 13 May 2017, **Jorge Mario Vélez Puerta, Jorge A. Pérez Zabala & Curso Sistemática Vegetal 6372**.
Holotype: MEDEL 66628! Flowers in spirit: AMO! (illustration voucher) MEDEL!

Similar to *Epidendrum tenuicaule* F.Lehm. & Kraenzl. but the leaves truncate at the unequally bilobed apex (vs. apex of leaves acute), the inflorescence very short, ca 1 cm long, dense (vs. inflorescence 2.5-3.7 cm long, laxly flowered), flowers brown (vs. greenish yellow), petals filiform (vs. petals linear-lanceolate), and the lateral lobes of lip transversely elliptic, oblique, and mid-lobe oblong-cuneate with rounded apex (vs. lateral lobes dolabriform and mid-lobe rectangular, the apex truncate).

Epiphytic, monopodial, branching above, erect **herb** 47 cm tall. **Roots** 2 mm in diameter, basal from the primary stem, fleshy. **Stems** branching above, the branches short, produced above the middle of the primary stem; primary stem 47 x 0.2-0.3 cm, the branches 1.8-8.5 x 0.2-0.3 cm; the basal half covered by sheaths 21-24 mm long, non-foliar, tubular. **Leaves** 12 on the primary stem, 3-7 on the branches, alternate, articulate, sub-coriaceous, sub-spreading; sheaths 0.9-2.2 x 0.2-0.3 cm, tubular, striated; blade 2-6 x 0.2-0.4 cm, linear-lanceolate, apex truncate, unequally bilobed, margin entire, spreading. **Spathe** lacking. **Inflorescence** ca. 1 cm long, densely few-flowered; peduncle 0.3 cm long, terete, thin; rachis 0.7 cm long. **Flowers** 8-12, membranaceous, brown; fragrance not registered. **Floral bracts** 2-4 mm long, much shorter than the ovary, narrowly triangular, acuminate, embracing. **Ovary** 10 mm long, terete, very thin, slightly dilated behind the perianth. **Sepals** 8-9 x 2.5-3 mm, apex obtuse, minutely apiculate, margin entire, spreading; dorsal sepal free, spreading, oblanceolate, 3-veined; lateral sepals obliquely united to the base of the column, partly spreading, narrowly elliptic, 5-veined. **Petals** 8 x 0.6 mm, partly spreading, free, filiform, apex rounded, 1-veined, margin entire, spreading. **Lip** 5 x 8 mm, united to column, base cordate, 3-lobed, margin entire, spreading; bicallose, the calli large, fleshy, somewhat laterally compressed, disc with a narrow mid-rib that disappears before reaching the apex of the mid-lobe; lateral lobes 3 x 2 mm, transversely elliptic, oblique; mid-lobe 3 x 1.2 mm, oblong-cuneate with the apex rounded. **Column** 7 mm long, arched with the ovary, then straight, thinner at the middle, with a rounded wing at each side. **Clinandrium-hood** reduced, margin entire. **Anther** reniform. **Pollinia** 4, obovoid, slightly laterally compressed, caudicles soft and granulose, slightly longer than the pollinia; viscarium semi-liquid. **Nectary** shallow, penetrating about 1/4 of the pedicellate ovary. **Lateral lobes of the stigma** small, about 1/5 the length of the stigmatic cavity. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

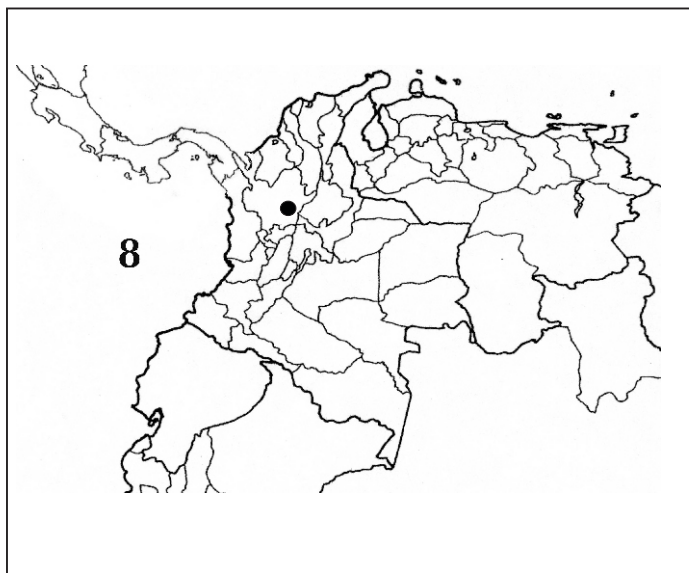
DISTRIBUTION AND ECOLOGY: Known presently from a single collection in northern Colombia, only from the northernmost part of the Cordillera Central of the Andes, E and NE of Medellín in Antioquia, epiphytic at 1774 m, altitude. Flowering in May. As this species grows in a confluence of the Nechí and Ponce River with annual rainfall of 3000-4000 mm elevation, the species would be expected in the eastern part of the Department of Caldas, and the SW of Bolívar, especially in the Serranía of San Lucas.

RECOGNITION: *Epidendrum filipetalum* belongs to the Andean Group, Cuniculatum Subgroup characterized by the monopodial, branching habit, adpressed leaf-sheaths, the linear-lanceolate leaves, and the 3-lobed lip. The species is recognized by the linear-lanceolate leaves with the apex truncate, the inflorescences dense and short, ca. 1 cm long, the brown flowers, the sepals 8-9 mm long, petals filiform, and the lip 5 x 8 mm, the lateral lobes transversely elliptic, oblique, mid-lobe oblong-cuneate, apex rounded. *Epidendrum tenuicaule* F.Lehm. & Kraenzl. has acute leaves, the inflorescence long, 2.5-3.7 cm long, the flowers greenish yellow, the sepals 6.8-7.2 mm long, the petals linear oblanceolate, and the lip 3.8 x 5 mm, lateral lobes dolabriform and the mid-lobe rectangular with apex truncate. *Epidendrum physopus* Kraenzl. has acute leaves, the flowers green to greenish yellow somewhat tinged red, the sepals 6-8 mm long, and the lateral lobes of the mid-lobe obliquely semi-ovate, but as long as the mid-lobe which is narrowly triangular.

CONSERVATION STATUS: CR. Critical Risk. Presently known from a single collection its Extent of its inferred occurrence is 1811 km², hence is less than 5000 km² with less than 5 known locations. However, consider that Antioquia has made greater efforts in developing the knowledge of its flora in the country. On the other hand, this area maintains high pressure on forests mainly due to mining and cattle grazing expansion. Therefore, the proposed category is Critical Risk CR by sub-criteria B1a applies (IUCN 2012).

ETYMOLOGY: From the Latin *filiformes*, thread-like, and *petalum*, petal, in reference to the very narrow petals which distinguish this species.

REFERENCES: IUCN, 2012, **Red List Categories and Criteria:** Version 3.1. Second edition, Gland, Switzerland and Cambridge, UK; iv + 32 pp. Santiago, E., & E. Hágsater, 2006, *Epidendrum tenuicaule* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 5, **Icon. Orchid.** 8: pl. 892. Santiago, E., & E. Hágsater, 2009, *Epidendrum physopus* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 8, **Icon. Orchid.** 12: pl. 1273.



Authors: E. Hágsater, E. Santiago & J. M. Vélez

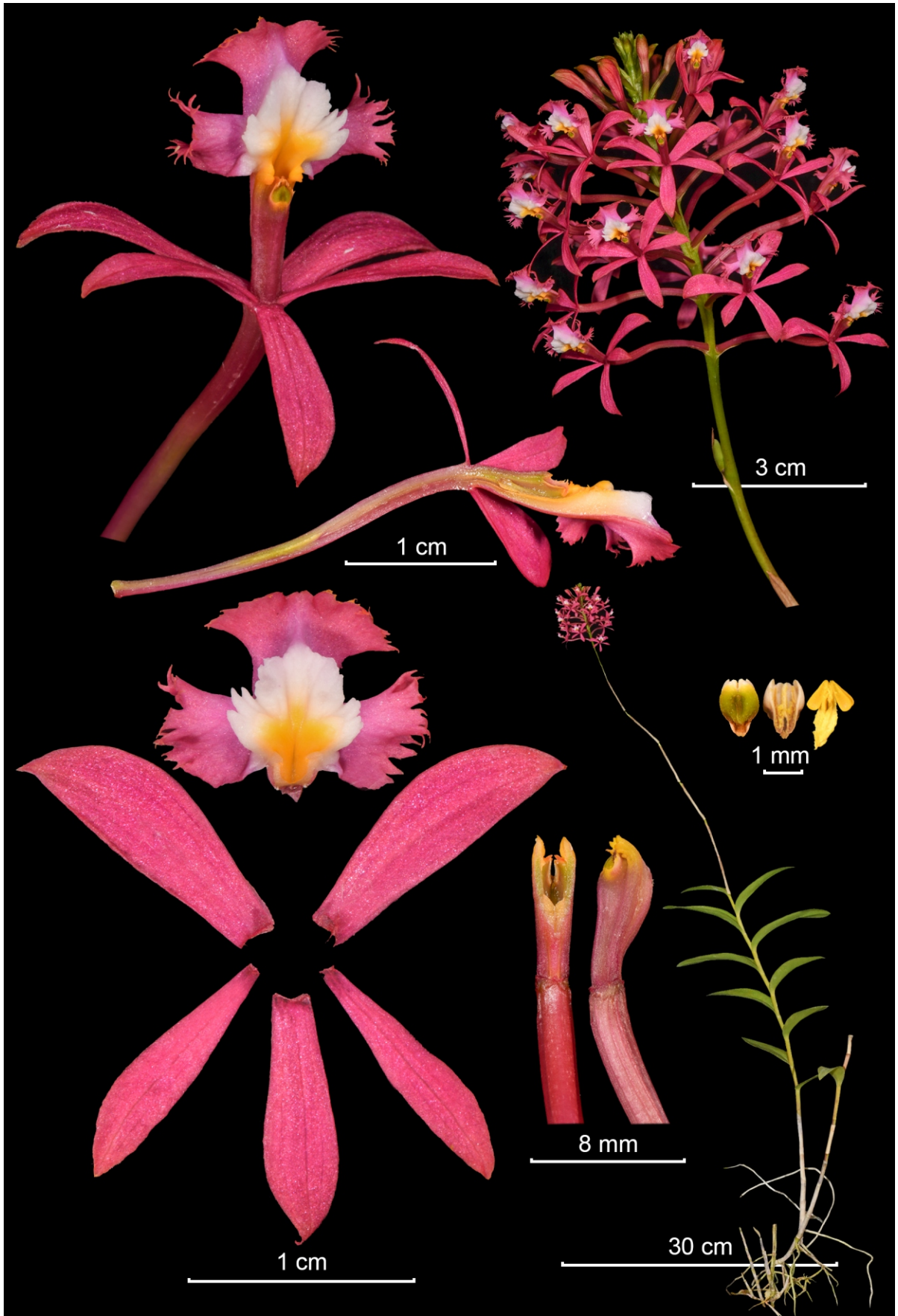
Illustrator: R. Jiménez M.

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1870



EPIDENDRUM FLABELLILOBATUM Hågsäter & Medina Tr.

Plate 1871

EPIDENDRUM FLABELLILOBATUM Hágsater et Medina Tr., sp. nov.

Type: COLOMBIA: Putumayo: San Francisco, camino en construcción San Francisco-Mocóa vía corta, 2427 m, 5 abril 2018, **Eric Hágsater, Ramiro Medina Trejo y Jaime Suárez 15745**. Holotype: HUP! (Digital images, 25 June 2020, flower in spirit, AMO! LCDP and Photo voucher).

Similar to *Epidendrum tulcanense* Hágsater & Dodson but the flowers pink-red, or Mexican pink, the lip somewhat paler towards the center, callus white, deep yellow at the jointure with the apex of the column which is dark wine-red, the apical margins deep yellow (vs. flowers orange red to deep red, the callus white), petals 12.5 x 2.8 mm, elliptic-lanceolate, narrow (vs. 13 x 4-6 mm, widely oblanceolate sub-spatulate, wide).

Epiphytic and terrestrial, sympodial, caespitose **herb**, 40-150 cm tall including the inflorescence, **Roots** 0.6-2.0 mm in diameter, basal, terete, fleshy, white. **Stems** 25-100 x 0.4-0.9 cm, simple, cane-like, terete, and somewhat laterally compressed towards the apex, thin, basal half covered by non-foliar sheaths. **Leaves** 4-9, distichous, distributed throughout the apical half of the stem, sheaths 2.0-3.5 cm long, tubular, smooth, papyraceous and scarious when dry; blade 5.5-10.5 x 2.2-2.8 cm, elliptic-lanceolate, articulate, apex narrowly rounded, unequally bilobed, coriaceous, smooth, medium green, margins entire. **Spathes** lacking. **Inflorescence** 42-50 cm long, racemose to pluri-racemose, producing new racemes from the subapical nodes of the peduncle; peduncle 33-45 cm long, elongate, straight, covered by ca. 7 bracts 4-5 cm long, tubular, imbricated, acuminate, yellow with brown dots; rachis 6-9 cm long. **Floral bracts** 2-5 mm long, decreasing in size, much shorter than the ovary, narrowly triangular, acuminate, embracing. **Flowers** ca. 40, successive, non-resupinate, up to 35 open at a time in various stages of anthesis, flowers pink-red, or Mexican pink, the lip somewhat paler towards the center, callus white, deep yellow at the jointure with the apex of the column which is dark wine-red, the apical margins deep yellow, anther green; fragrance none. **Ovary** 23-25 mm long, terete, thin, not inflated, pink-red, tinged green, paler towards the base, furrowed. **Sepals** 11.0-13.0 x 3.5-4.0 mm, spreading, elliptic-oblanceolate, obtuse, short apiculate, 5-veined, margin entire, spreading, lateral sepals slightly oblique, with a low dorsal keel. **Petals** 12.5 x 2.8 mm, spreading, elliptic-oblanceolate, apex obtuse, 3-veined, margin entire, spreading. **Lip** 9 x 12 mm, united to the column, 3-lobed, base cordate, distal margins fimbriate to irregularly lacinate, lateral margins entire, revolute, callus massive, prominent, erect, formed by 3 unequal tubercles, 1 pair of digitiform calli on the sides, 3-lobed, parallel and a large quadrate apical callus, terminating in a short keel, margin bicrenate; lateral lobes 5 x 5 mm, sub-quadrate to semi-flabelliform, lateral margins entire, revolute; mid-lobe 5.0 x 8.2 mm, flabelliform, apex more or less shallowly emarginate. **Column** 7-10 mm long, straight, and continued straight with the lip, terete, ventrally papillose, with a pair of apical wings, on the sides of the rostellum, triangular, tridentate. **Clinandrium hood** reduced, margin irregularly crenate. **Anther** cordiform, rugose, 4-celled. **Pollinia** 4, narrowly obovate, elongate, laterally compressed, unequal, the lateral pair about ¾ the length of the inner pair; caudicles soft and granulose, tetrads elongate, like a pile of roof tile, viscarium semi-liquid, transparent. **Rostellum** apical, slit. **Lateral lobes of the stigma** elongate, occupying 2/3 the length of the stigmatic cavity. **Nectary** 18 mm deep, penetrating 2/3 of the ovary, minutely papillose, the papillae arranged in longitudinal lines. **Capsule** not seen.

OTHER SPECIMENS: COLOMBIA: Cundinamarca: Strasse nach La Vega, 1800 m, 1 VI 1941, *Renz 3142*, RENZ! **Santander:** Zapatoca: Vereda La Cacica. Reserva Natural "MamaBertha", parte alta en límites con la RNSC La Montaña Mágica-El Poleo, 2200-2300 m, 6 X 2017, *Díaz-Rueda 1416*, MEDEL! (digital images of live flowers, AMO!) *Ibid.* *Díaz-Rueda 1417*, MEDEL! Tona, La Corcova, 1900 m, 12 X 1977, *Rentería 667(6)*, COL! MO! Encino, Reserva Biológica Cachalú, 1900-2250 m, 27 III 2002, *Salinas 68*, COL! Zapatoca, Vereda Bellavista, 2340 m, 27 VII 2001, *Velásquez 2469*, JAUM!

OTHER RECORDS: COLOMBIA: Cundinamarca: Supatá, Finca Cuzcangos, 2019 m, 15 I 2018, *Velásquez sub Hágsater 15440*, Digital images, AMO! **Huila:** San José de Isnos, La Marmolera, rec'd 26 II 2021, *Angulo s.n.* digital images, AMO! San José de Isnos, cultivada en casa, 1700 m, 30 III 2018, *Hágsater 15677*, digital image AMO! *Ibid.* *Hágsater 15679*, digital image, AMO! *Ibid.* *Hágsater 15680*, digital image, AMO! *Ibid.* *Hágsater 15684*, digital image, AMO! San Francisco, vereda San Pablo Bajo, hort. Ramiro Medina, *Hágsater 15710*, digital image, AMO! Pital, 28 IX 2020, *Arrigui s.n.*, digital image, <https://www.naturalista.mx/observations/61418154> *Ibid.* *Barreiro s.n.*, digital image, <https://www.naturalista.mx/observations/61446241> Oporapa, Serranía de Minas, 28 IX 2020, *Parra s.n.*, digital image, <https://www.naturalista.mx/observations/61475176> **Putumayo:** San Francisco, vereda Minchoy, 1900 m, *Jaramillo s.n.*, digital image, AMO! **Santander:** Curití, 1950 m, 28 I 2020, *Cutiérrez, s.n.* digital images, AMO! Arcabuco, 2500 m, 22 VII 2021, *J.Rojas s.n.*, digital images AMO! **Tolima:** Villarica: Hacia la vertiente occidental de la cordillera Oriental, 1700 m, 18 I 2020, *Rincón s.n.*, digital image series, AMO!

DISTRIBUTION AND ECOLOGY: Presently known from Colombia, along the Cordillera Oriental of the Andes from the departments of Santander, Cundinamarca, Tolima, Huila, and Putumayo, terrestrial and epiphytic at 1700-2450 m elevation. Flowering from October through June.

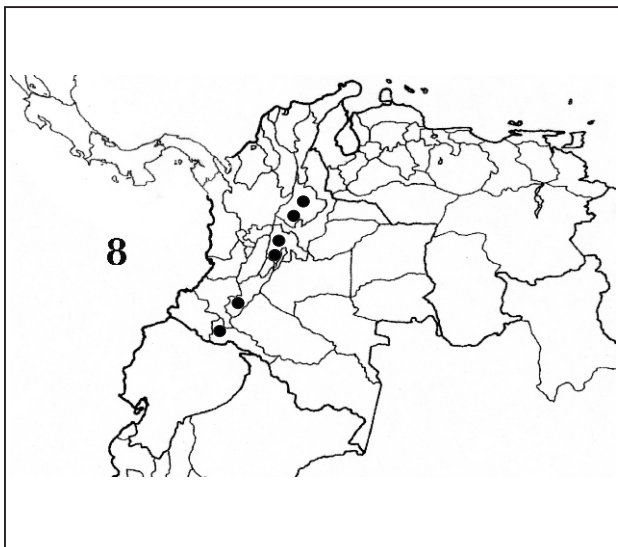
RECOGNITION: *Epidendrum flabellilobatum* belongs to the Schistochilum group, Secundum subgroup, which is recognized by the caespitose habit, simple stems, leaves oblong-lanceolate, coriaceous, bilobed, the elongate peduncle of the erect, pluri-racemose inflorescence, the flowers non-resupinate, and the callus complicated, pluri-tuberculate. The new species has flowers pink-red, or Mexican pink, the lip somewhat paler towards the center, callus white, deep yellow at the jointure with the apex of the column which is dark wine-red, the apical margins deep yellow petals 12.5 x 2.8 mm, elliptic-oblanceolate, narrow, and the lobes of the lip do not overlap, the mid-lobe is 5.0 x 8.2 mm, flabelliform, apex more or less shallowly emarginate, more or less bi-lobate. *Epidendrum tulcanense* has orange-red to deep red flowers including the column, and the massive callus is white, sepals 13 mm long, and the petals 13 x 4-6 mm, widely oblanceolate sub-spatulate. *Epidendrum holstii* Hágsater & Carnevali has crimson red to salmon or coral-red sepals and petals, and a pink to purple lip, and the wide lip mid-lobe usually overlaps with the lateral lobes, the margin spreading, the callus massive, yellow, the edges white; the flowers are relatively small, sepals 8-13 mm long. *Epidendrum acutilobum* Hágsater & Uribe-Velez has coral-red to lilac flowers, with a large white callus on the lip, sepals 20 x 4.8-5.0 mm, oblanceolate, petals 19 mm long, elliptic-lanceolate, the lip has a massive callus, formed by 3 unequal tubercles, with a pair of digital, bilobed calli on the sides and the main central body truncate to acute, reaching the middle of the mid-lobe, margin crenate, and the mid-lobe has an entire margin. *Epidendrum villahermosaense* Sierra-Ariza & Hágsater, from the Cordillera Central in Tolima, has similar colored flowers, but the flowers larger, sepals 18-22 mm long, and the lip has the retrorse lateral lobes deeply lacerate, spreading with the lateral margins entire and strongly revolute, the mid-lobe "Y" shaped, narrow at the base, and spreading towards the apex, with the lateral margins strongly revolute,

NOTE: The size of the plants depends on the exposure to direct sunlight. Epiphytic in trees the stems are very long, often horizontal in search of sun-light. When growing on rocky road banks the plants are short when they are early colonizers and become taller as other bushes start to compete for sunlight, the leafy stem growing until it is in full sunlight and the producing the elongate inflorescence so that the flowers are clearly visible above the surrounding vegetation.

CONSERVATION STATUS: DD. Data deficient. The known range along the Cordillera Oriental is of some 850 km. Plants are common locally, especially along recently disturbed road banks, as early colonizers.

ETYMOLOGY: From the Latin *flabellatus*, a fan-shaped, and *lobatus*, lobed, in reference to the fan-shaped mid-lobe of the lip, as compared to another species herein described, *Epidendrum acutilobum* Hágsater & Uribe Véléz, which has the mid-lobe of the lip triangular and acute.

REFERENCES: Hágsater, E., & C. Uribe-Véléz, 2021, *Epidendrum acutilobum* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 14; **Icon. Orchid.** 18(2): pl. 1849. Hágsater, E., & Duarte, J., 2020, *Epidendrum holstii* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 13; **Icon. Orchid.** 17(2): pl. 1770. Hágsater, E., 2013, *Epidendrum tulcanense* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 10; **Icon. Orchid.** 14: pl. 1491. Sierra-Ariza, M.A., & E. Hágsater, 2021, *Epidendrum villahermosaense* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 14; **Icon. Orchid.** 18(2): pl. 1897.



Authors: E. Hágsater & R. Medina

Herbario AMO

LCDP: R. Jiménez M. & A. Cisneros

Ciudad de México, MÉXICO



Photo: R. Jiménez M.

Editors: E. Hágsater & E. Santiago

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1871



EPIDENDRUM HAMATUM (Garay) Dressler

Plate 1872

EPIDENDRUM HAMATUM (Garay) Dressler, *Phytologia* 21(7): 441. 1971.

Basionym: *Stenoglossum hamatum* Garay, *Orquideología* 4(2): 72. 1969. Type: COLOMBIA: Cundinamarca: Supatá y San Francisco, 1500–2000 m, 11 noviembre 1956, **Mariano Ospina Hernández** 22. Holotype: AMES 86296! (HUH 105050).

Epiphytic, sympodial, caespitose, erect **herb**, 23–35 cm tall. **Roots** 2.5 mm in diameter, flexuous, white. **Stem** 8.0–10.0 × 0.5–0.8 cm, simple, cane-like, terete, the basal part covered by 2–4 non-foliar sheaths, 1–4 × 0.5–0.8 cm. **Leaves** 1–2, distichous, alternate, aggregate at the apex of the stem, green; sheaths 1–4 × 0.6–1.0 cm, tubular, membranous, pale green; blade 3–11 × 1.2–2.0 cm, oblong, apex unequally bilobed, unequal, when two the lower leaf very small, coriaceous, margins entire. **Spathes** 4.4–9.0 × 0.8–1.0 cm, oblong, laterally compressed, sides parallel, apex acute, green turning brown at flowering. **Inflorescence** 21–24 cm long, apical, erect, arching, racemose, densely many-flowered; peduncle 9.0 × 0.20 cm, rachis 12.5 cm long. **Floral bracts** ca. 1–2 mm long, much shorter than the ovary, triangular, acute. **Ovary** 5.0–5.9 × 1.0 mm, terete, furrowed. **Flowers** 24, the lip always oriented towards the apex of the rachis, pale white more or less suffused rose, except for the column which is white with rose spots at the apex and calli and disc of the lip, calli white, spotted rose; anther pale yellow. **Sepals** free, fleshy, glabrous, 3-veined, margins entire, spreading; dorsal sepal 5.0–9.0 × 2.0–3.0 mm, semi-reflexed in natural position, slightly cuneate, oblong, apex rounded and minutely apiculate; lateral sepals 6.0–12.0 × 2.0–3.8 mm, oblong-obovate, falcate, apex obtuse, with a low dorsal keel ending short aristate. **Petals** 5.0–9.0 × 0.5–1.0 mm, free, spreading, arched forward, linear-oblong, widening at the apex, apex rounded-truncate, 1-veined, margins entire. **Lip** 6.5–9.0 × 4.0–4.4 mm, united to the column, 3-lobed, incurved in natural position; lateral lobes 1.5 × 0.3 mm, very small, terete, acute, hamate, apex hook-like, forming a 180° arc; mid-lobe 6.4–9.0 × 1.6 mm, base cuneate basal to the calli, then linear-obcuneate, thickened, fleshy, the apex rhomboid, concave, obtuse; bicallose, calli conical, apex rounded, somewhat spreading, with a short mid-rib in between and somewhat surpassing the calli. **Column** 3.5–4.0 × 2.5 mm, short, thick, arched upwards dorsally, apex forming a pair of wide, prominent rounded wings; clinandrium-hood short, entire. **Clinandrium-hood** entire, truncate, margin minutely erose. **Anther** 7 × 9 mm, reniform, 4-celled. **Pollinia** 4, obovoid, somewhat laterally compressed; caudicles soft and granulose; viscidium viscosous. **Rostellum** apical, slit. **Nectary** wide, short, without reaching the base of the column, glabrous. **Lateral lobes of the stigma** large, as long as the stigmatic cavity. **Capsule** not seen.

OTHER SPECIMENS: COLOMBIA: Cundinamarca: Moniquirá, Vda. Colorado Alto, km 19 vía Barbosa, finca de Edgar Mojica, 2179 m, 29 XI 2020, *Rincón-González & Mojica 1900*, TOLI! LCDP, AMO! (LCDP voucher.) San Francisco, 2000 m, 10 I 1953, *Schneider 694*, COL! (sketch of floral details by D. Szlachetko's team, UGDA! Copy AMO!)

OTHER RECORDS: COLOMBIA: Boyacá: Moniquirá, Vda. Colorado Alto, km 19 vía Barbosa, 2179 m, 29 XI 2020, *Mojica, s.n.*, digital images, AMO! Paíta: entre Paíta y Gambita, 2200 m, rec'd 26 V 2016, *Moreno s.n.*, digital image, AMO! Paíta: entre Paíta y Gambita, 2200 m, 18 X 2013, *Romero s.n.*, digital images AMO! (Photo voucher.) **Santander:** Gambita, 2200 m, *Romero sub Jordan s.n.*, 12 XII 2020, digital images, AMO!

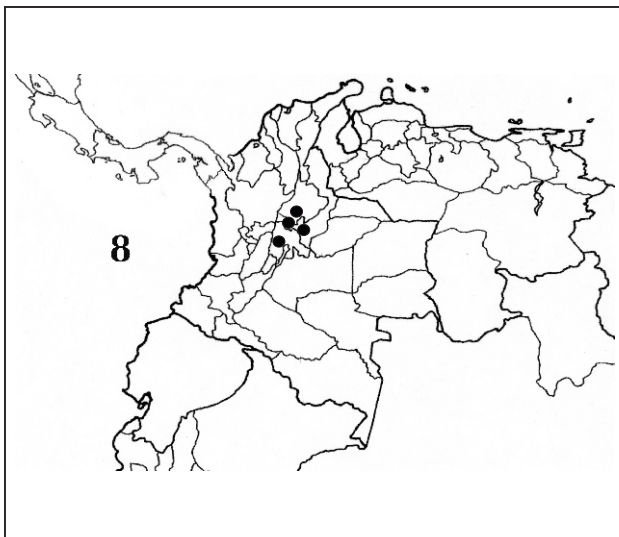
DISTRIBUTION AND ECOLOGY: Endemic to the Cundiboyacense highlands between north of Bogotá, Cundinamarca, and Boyacá on the border with Santander, epiphytic in large trees, at around 1700–2200 m elevation. Flowering from November to January.

RECOGNITION: *Epidendrum hamatum* belongs to the *Stenoglossum* Group, characterized by the caespitose habit, short, terete stems with 1–2 apical leaves, the inflorescence racemose, subtended by a prominent tubular, laterally compressed spathe, the flowers with the lip always oriented towards the apex of the rachis, and the lip usually with short, hooked lateral lobes. The species is recognized by the white flowers, sometimes the sepals slightly tinged pink, with rose spots on the apex of the column and calli and mid-rib of the lip, which ends in a rhomboid thickening. It has been confused with the new *Epidendrum leopardihamatum* Hágsater & Est. Domínguez, which is nearly identical in shape, but has green flowers dotted with brown, a light green column, and is well known in Antioquia in the Cordillera Central and the Cordillera Occidental of the Colombian Andes. The better-known species is *Epidendrum coryophorum* (Kunth) Rchb.f. which differs from the last by its pale purple flowers, sometimes with the apices of the sepals white. *Epidendrum machinense* M.F. Escal. & Rinc.-González is vegetatively similar, with flowers with yellow corolla stained purple-brown with yellow apices and a white lip and a column with numerous wine-red spots.

NOTES: This species has been confused since Garay's original description which included specimens of the green-flowered species from Antioquia mentioned among the specimens. That species, described in this volume as *Epidendrum leopardihamatum* Hágsater & Est. Domínguez, was illustrated by Sanchez and Hágsater (2009) in the *Icones* and has been well known in Antioquia under the name *E. hamatum*. It has also been published under the wrong name by Domínguez & Hágsater in *Species Orchidacearum* (2019). It is curious to note that while descriptions clearly indicate white flowers, the published material illustrate the green flowered species with numerous brown dots. Unidentified photographs of the true species with white flowers and rose markings have been going around for several years in Bogotá, without any proper identification, of a plant under cultivation by Alejandro Romero Medina, who passed away recently, and that plant is now at Finca Lindau with Frank Jordan. Luis de Pina photographed it when the plant was still with Romero and shared the images with Hágsater.

CONSERVATION STATUS: Endangered (EN). B1ab(i). The extend of occurrence is less than 5.000 km² (434 km²) and his range of the known. This area shows high fragmentation rate and only three locations in Boyacá and Cundinamarca and in southern Santander, on the western slope of the Cordillera Oriental of the Andes.

REFERENCES: Dodson, C.H., & P.M. Dodson, 1980, *Stenoglossum coryophorum*, in C. H. Dodson (ed.), *Orchids of Ecuador*, *Icon. Pl. Trop.* 4: pl. 400. Domínguez, E., & E. Hágsater, 2019, *Epidendrum hamatum*, in *Species Orchidacearum* 3(1): LCDP 28. Domínguez, E., & E. Hágsater, 2021, *Epidendrum leopardihamatum*, in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 14, *Icon. Orchid.* 18(2): pl. 1878. Dressler, R.L. & G.E. Pollard, 1971, Nomenclatural Notes on the Orchidaceae – IV, *Phytologia* 21(7): 433–443. Garay, L.A., 1969, El Genero *Stenoglossum*, *Orquideología* 4(2): 67–75. Rincón-González, M., & M.F. Escalante, 2020, *Epidendrum machinense* a new species from Colombia, *Phytotaxa* 435(1): 33–40. Sánchez S., L., & E. Hágsater, 2009, *Epidendrum coryophorum* in *The Genus Epidendrum*, Part 8, in E. Hágsater & L. Sánchez S. (eds.) *Icon. Orchid.* 12: pl. 1230. Sánchez S., L., & E. Hágsater, 2009, *Epidendrum hamatum* in *The Genus Epidendrum*, Part 8, in E. Hágsater & L. Sánchez S. (eds.) *Icon. Orchid.* 12: pl. 1252.



Authors: E. Hágsater, E. Domínguez & M. Rincón G. LCDP: M. Rincón G.

Herbario AMO

Ciudad de México, MÉXICO

Photo: A. Romero M. † Editors: E. Hágsater & E. Santiago

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1872



EPIDENDRUM HELLERIANUM A.D.Hawkes

Plate 1873

EPIDENDRUM HELLERIANUM A.D.Hawkes, *Orchid Digest* 30(8): 258. 1966.

Type: NICARAGUA: Chontales: Distr.: La Libertad, El Chamorro Mine [published as Chamorro], 1950 ft, December 1959, **Alfonse H. Heller 1075**. Lectotype (here designated): F 1968942! (the label only indicates "A. H. Heller 1075, Second Sheet"). Isolectotype: [labeled as "Sta. María Ostumas, A. H. Heller 1075, 1960"] (single flower in envelope, with copy of illustration "Epi. 1075"), SEL 123011 (With sketch of plant and floral details, and detailed notes and description of *Heller 1075*, unpublished).

Epiphytic, sympodial, caespitose. **herb**, 30-50 cm tall. **Roots** 1-3 mm in diameter, basal, thick, fleshy. **Stems** 24-35 x 0.1-0.2 cm, simple, cane-like, terete at the base, laterally compressed towards the apex, thin, arching, straight. **Leaves** 5-7, distributed along the apical half of the stem, articulate, alternate, grass-like, inserted at an angle of 45° from stem; sheaths 11-33 x 1-2 mm, tubular, laterally compressed, smooth, sometimes tinged with purple; blade 6-18 x 0.3-0.5 cm, linear, acuminate, minutely apiculate, margin entire, somewhat revolute, deep green adaxially, glaucous abaxially. **Inflorescence** 9-13 cm long, apical, elongate, slightly arching, racemose, producing new racemes over several years and thus pluri-racemose, lax, few-flowered; peduncle 8-10 cm long, filiform, strongly zigzag, provided with 4-7 tubular bracts 5-23 mm long, progressively shorter, that envelop it totally, somewhat ancipitose, acuminate, partly imbricated, green, progressively shorter; rachis 2.5-3 cm long, short, filiform. **Floral bracts** 1 mm long, much shorter than the ovary, ovate, acute. **Flowers** 3-11, successive, developing one at a time, resupinate, sepals and petals white to pale pink, lip white; fragrance not recorded. **Sepals** 25-30 x 3-4 mm, spreading, free, acute, 3-veined, margin entire, strongly revolute (except for the apical portion); dorsal sepal linear-oblong, the lateral sepals linear-oblancoolate. **Petals** 30 x 2 mm, spreading, free, linear, acute, 1-veined, margin entire, strongly revolute (except for the apical portion). **Lip** 16-17 x 16-18 mm, united to the column, shallowly 3-lobed, base truncate, the apex revolute, margins entire; bicallose, the calli erect, thin, somewhat divaricate, disc provided with 3 thin ribs, the mid-rib reaching the lip apex, the lateral pair disappearing before the mid-lobe; lateral lobes 8 x 10 mm, obliquely semi-ovate, apex sub-acute, somewhat rounded, with 3 or 4 radiating, thickened veins at the base of each lobe; mid-lobe 6-8 x 8-9 mm, triangular, acute. **Column** 15-17 mm long, thin, progressively widened vertically near the apex, elongate, straight, apex obliquely truncate, underside shorter than dorsal surface. **Climandrium-hood** short, margin subentire. **Anther** apical, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose, slightly longer than the pollinia. **Rostellum** apical, slit. **Lateral lobes of the stigma** obsolete. **Nectary** penetrating nearly ¼ of the ovary, forming a thin, elongate, ventral vesicle, smooth translucent. **Capsule** not seen.

OTHER SPECIMENS: NICARAGUA: Chontales: Distr. La Libertad, near Chamorro Mine, 1950 ft, *Heller 5825*, F 1968943! SEL! Illustration by Heller, K! [Hawkes, 1966: 259; (redrawn by) Hamer 1982: pl. 718]. Illustration and personal notes by Heller SEL! xerox at AMO! **COSTA RICA: Limón:** Cantón Pococí: W side of Río Colorado, 5 m, 25 I 1986, *Stevens 24044*, INB! Cerro Coronel, E of Laguna Danto, 20-170 m, 15 IX 1986, *Stevens 24598*, INB! MO! Ibid. 60-100 m, 15 III 1987, *Stevens 24850*, MO! S of Laguna Pereira, 2-4 m, 20 III 1987, *Stevens 25170*, MO! **PANAMA:** Without data, *Dressler 3689*, AMO! **Panamá:** Cerro Jefe, 26 VII 1970, *Dressler 3879*, AMO! Near Cerro Jefe, along a watershed of the Chagres River, ca. 1500 ft, 24 V 1955, *Walters s.n.*, AMES! **COLOMBIA: Antioquia:** Río Carepa, 12 km NE of Chigorodó, S of Turbo, ca. 100 m, 1 VI 1945, *Haught 4738*, US! (sterile).

OTHER RECORDS: NICARAGUA: Chontales: Babilonia Mine, 1900 ft, *Heller 6953*, Heller notes. (cited by Hawkes, 1966: 259; no specimen found). **COSTA RICA:** without locality, VI 2000, *Hall s.n.*, xerox of illustration, AMO! **Alajuela:** San Rafael Guatuso: cercanías de Pejibayé, 480 m, 15 X 2020, *Bohrman s.n.*, digital image, AMO! <https://www.naturalista.mx/observations/63535785> **Limón:** Tortuguero, 17 VI 1977, *Carmiol & Rodríguez 942*, slide of color illustration by R.L. Rodríguez, AMO! (Illustration voucher).

DISTRIBUTION AND ECOLOGY: Widespread along the Atlantic coast of Central America from Nicaragua south to Panama and into northern Colombia, in the Golfo de Urabá, from sea level to 600 m elevation. Flowering December-July.

RECOGNITION: *Epidendrum hellerianum* belongs to the Physinga Group which is characterized by to the generally small, caespitose plants, the inflorescence apical and racemose producing new racemes with time and thus pluri-racemose, the successive flowers opening one at a time on an elongate peduncle with acuminate bracts, the lip entire and the ovary with a prominent vesicle. The species is recognized by the long, narrow, grass-like leaves, 6-18 cm long, the strongly zigzag peduncle of the inflorescence, the large flowers (sepals 25-30 mm long) with linear to linear-oblancoolate sepals and petals, and the lip clearly 3-lobed. *Epidendrum ceticaudatum* M. Rincón-González, B. Villanueva et E. Santiago found in the Chocó de Colombia, is the most similar species, but has smaller flowers, the lip entire, bell-shaped, minutely apiculate, petals 13.2 x 1.1 mm long, lateral sepals slightly falcate, 13.7 x 2.2 mm long, and the slightly arched column of 8 mm long. *Epidendrum cystosum* Ames is vegetatively similar but the plants are much shorter, to 16 cm tall, with shorter leaves, the peduncle of the inflorescence straight, the ovary short with a small vesicle, the sepals 7-9 mm long, and the lip entire. All other species of this group, including *Epidendrum physodes* Rchb.f., *Epidendrum prostratum* (Lindl.) Cogn., and *Epidendrum macroclinium* Hágsater, have clearly smaller flowers, a short ovary, and an entire lip.

CONSERVATION STATUS: DD. Deficient. Apparently locally rare.

ETYMOLOGY: In honor of Alfonso Henry Heller (-1973) who lived in Nicaragua and collected and studied its native orchids and collected and prepared the type material.

REFERENCES: Hamer F., (1982) *Epidendrum hellerianum* A.D.Hawkes, in F. Hamer, *Orchids of Nicaragua*, Part 2, **Icon. Pl. Trop.** 8: pl. 718. The Marie Selby Botanical Gardens. Sarasota, FL. Hawkes, A.D. (1966) An Unusual New *Epidendrum* from Nicaragua, **Orchid Digest** 30(8): 259-260. Rincón-González, M., B. Villanueva & E. Santiago, 2015, *Epidendrum ceticaudatum* in E. Hágsater & L. Sánchez Saldaña, (eds.), *The Genus Epidendrum*, **Icon. Orchid.** 15(1): pl. 1511. Santiago, E., & E. Hágsater (2010) *Epidendrum cystosum*, in E. Hágsater & L. Sánchez Saldaña, (eds.), *The Genus Epidendrum*, Part 9, **Icon. Orchid.** 13: pl. 1325. Santiago, E., & E. Hágsater (2010) *Epidendrum macroclinium*, in E. Hágsater & L. Sánchez Saldaña, (eds.), *The Genus Epidendrum*, Part 9, **Icon. Orchid.** 13: pl. 1353. Santiago, E., & E. Hágsater (2008) *Epidendrum physodes*, in E. Hágsater & L. Sánchez Saldaña, (eds.), *The Genus Epidendrum*, Part 7, **Icon. Orchid.** 11: pl. 1159. Santiago, E., & E. Hágsater (2020) *Epidendrum prostratum*, in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 14, **Icon. Orchid.** 18: pl. 1833.



Author: E. Hágsater
Herbario AMO

Illustrator: R. L. Rodríguez †
Ciudad de México, MÉXICO



Photo: J. Bohrman
Editors: E. Hágsater & E. Santiago
ICONES ORCHIDACEARUM 18(2). 2021. Plate 1873



EPIDENDRUM HUTCHISONII Hágsater

Plate 1874

EPIDENDRUM HUTCHISONII Hágsater, Icon. Orchid. 3: pl. 336. 1999.

Type: PERU: Amazonas: Chachapoyas: Leimebamba: Cerros Calla Calla, east slopes, 21 km above Leimebamba on road to Balsas, 3150 m, 7 April 1964, **Paul C. Hutchison & Wolfgang Krahn 4936**. Holotype: AMES 103660! Isotypes: F! NY! (illustration, AMO! Hágsater 1999). UC! USM!

Epiphytic, sympodial, caespitose, sub-erect **herb**, 150-220 m tall. **Roots** 2.5-4.0 mm wide, basal, dense, fleshy, flat. **Stems** ca. 150-220 x 0.3-1.1 cm, simple, cane-like, terete, thin. **Leaves** 8-17, distributed along the apical 1/2 of the stem, distichous, spreading and mostly arching, recurved, coriaceous; sheaths 3-8.5 x 0.8-1.7 cm, tubular, striated, in some cases tinged red; blade 9-17.5 x 1.6-3.2 cm, narrowly lanceolate, acute, with a low dorsal keel, medium green on both sides, smooth, margin entire, spreading. **Spathes** 7.0-8.5 x 1.7-2.5 cm, one [with smaller large bracts usually subtending each branch of the raceme, thus at first sight 1-3], prominent, conduplicate, pale pink, elliptic, sub-acute, margin entire and slightly involute. **Inflorescence** 14-22 cm long, apical, paniculate, flowering only once, racemes very dense, heavy, and nutant; peduncle 6 cm long, short, terete, thick, with a large bract 7.5-8.5 x 1.7-2.5 cm at the base of each raceme, about as large as the spathes; rachis thick, terete, straight. **Floral bracts** 1-6 x 0.4 mm long, much shorter than the ovary, linear-triangular, acute, embracing. **Flowers** ca. 50-100 on the main raceme, fewer on the lateral racemes, nearly simultaneous, opening from the base of the raceme towards the apex, the apical raceme opening first; flowers pale green, slightly tinged purple on the dorsal side of the sepals, and purple clearly visible in the floral buds; fragrance sour-sweet. **Ovary** 8.8-15 mm long, terete, not inflated, unornamented. **Sepals** 7.0-14.5 x 2.5-6.0 mm, free, partly spreading at the base and then the apical half involute, elliptic-oblong, abruptly narrowed and acuminate, 4-5-veined, margin entire, spreading; the dorsal sepals slightly smaller, the lateral sepals slightly oblique. **Petals** 7.0-12.0 x 0.9-1.8 mm, free, partly spreading, oblanceolate, sub-acute to obtuse, slightly oblique and twisted at the base so as to be somewhat parallel to the dorsal sepal, or the lateral sepals, 1-veined, margin entire, spreading. **Lip** 4.5-6.2 x 7.0-8.5 mm, united to the column, sub-entire, reniform, to 3-lobed, base deeply cordate, with margins thin, erose, revolute, when 3-lobed the lateral lobes 4.5 x 7.7 mm, semi-orbicular, the mid-lobe 2 x 6 mm, transversely sub-rectangular, widely emarginate, the corners rounded; bicallose, the calli laminar, crescent shaped, with 1-3 low, rounded mid-ribs widening towards the apex. **Column** 6-9 mm long, straight. **Clinandrium-hood** reduced, margin entire. **Anther** reniform, with a low rib in front, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles short, granulose; viscidium semi-liquid. **Rostrum** apical, slit. **Lateral lobes of the stigma** small, occupying about 1/3 of the stigmatic cavity. **Nectary** short, barely penetrating the pedicellate ovary, not inflated, unornamented. **Capsule** not seen.

OTHER SPECIMENS: PERU: Amazonas: Chachapoyas: Cordillera Calla Calla, entre Leimebamba y Balsas, 3100 m, 1 VI 1963, López 4423, AMES! Leimebamba; Puchicana, 3000 m, XII 2015, Salas 112. HUT! (LCDP voucher). USM! Luya: Tingo, 22 II 1877, Sénége s.n., P x2! Bongará: Molinopampa until ca. 1 hour by car from Jumbilla, 2500-2900 m, 6 XI 2012, van der Werff 25243, HOXA! USM!

OTHER RECORDS: PERU: Amazonas: Chachapoyas, ruinas de Kuelap, photographed at upper nursery, Orquídeas Amazónicas, 3000 m, 2 IX 2019, Hágsater 16313, digital images, AMO! (This specimen has the largest flowers). Ruinas de Kuelap, 2 IX 2019 K. Villena s.n. digital images, AMO! Chachapoyas: Distr. Leimebamba: Cordillera de Yasgolga, 3000 m, VI 2021, Salas s.n., Digital images, AMO! (Photo voucher). Molinopampa-Rodriguez de Mendoza, 3000 m, VI 2021, Salas s.n., Digital images, AMO! San Martín: Bosque de Protección Alto Mayo, Edquén s.n., Digital images AMO!

DISTRIBUTION AND ECOLOGY: Widespread in the region of Amazonas in northern Peru from the Cordilleras de Calla Calla and Yasgolga around Leimebamba, north to Bongará and neighboring San Martín in the Bosque de Protección Alto Mayo, epiphytic and terrestrial at 3000-3100 m elevation. Flowering from April to January.

RECOGNITION: *Epidendrum hutchisonii* belongs to the Ferreyrae Group, which is characterized by the sympodial, caespitose habit, the cane-like stems with numerous leaves, the apical inflorescence subtended by 1-2 large spathes, and the nutant, heavy, racemose to paniculate inflorescence with numerous large, fleshy, attractive flowers. The species is recognized by the narrowly lanceolate, acute leaves 9-17.5 x 1.6-3.2 cm, the sepals 7.0-8.5 x 2.5-6.0 mm, elliptic-oblong, abruptly narrowed and acuminate, and the lip 4.5-6.2 x 7.0-8.5 mm, bicallose, the calli laminar, crescent shaped, with 1-3 low, rounded mid-ribs widening towards the apex. *Epidendrum baryanthum* Hágsater & Salas Guerr. has a large lip, sub-orbicular in outline, the margins revolute, with the mid-lobe short, wide, and deeply emarginate, thus bi-lobed, formed by two semi-orbicular small lobes, strongly revolute though not evident in natural position, the sepals 12-16 mm long, and the petals oblanceolate, sub-acute, 2.2-3.0 mm wide. It is similar to *Epidendrum ferreyrae* Hágsater & Ric.Fernández which has a clearly 3-lobed lip with the lateral lobes dolabriform and the mid-lobe sub-triangular, narrow, the sepals 15-18 mm long, and the column 10 mm long. *Epidendrum lesteri* Hágsater & Dodson has a lip 3-lobed, margin erose-crenate, the lateral lobes sub-reniform, the mid-lobe rectangular, comparatively large, the apex truncate, somewhat bilobed, short-apiculate, the sepals 16 mm long, and the petals oblanceolate, apically rounded, 2 mm wide. *Epidendrum orthoclinium* Hágsater & Dodson, has a 3-lobed lip, the lateral lobes semi-circular, margin dentate, mid-lobe spatulate, the sepals 11-12 mm long, the petals oblanceolate, narrow, acute, 1.2 mm wide, and the column arched upwards at the clinandrium-hood.

CONSERVATION STATUS: The species is presently known from the Region of Amazonas, Peru, from Leimebamba to Yambrasbamba, some 110 km in distant, from 7 localities. So, it would fit the category of CR, Critically Endangered.

ETYMOLOGY: In reference to the locality where the type was collected, the community of Puchicana, Leimebamba, Amazonas, Peru.

REFERENCES: Hágsater, E., & C.H. Dodson, 2001, *Epidendrum orthoclinium* in Hágsater, E. & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 3, **Icon. Orchid.** 4: pl. 466. Hágsater, E., & C.H. Dodson, 2004, *Epidendrum lesteri*, in Hágsater, E. & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 4, **Icon. Orchid.** 7: pl. 754. Hágsater, E., & M. Salas G., 2016, *Epidendrum baryanthum*, in Hágsater, E. & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 11, **Icon. Orchid.** 15(2): pl. 1572. Hágsater, E., & R. Fernández, 2007, *Epidendrum ferreyrae*, in Hágsater, E. & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 6, **Icon. Orchid.** 9: pl. 936



Authors: E. Hágsater & M. Salas G.

LCDP: M. Salas G.

Herbario AMO

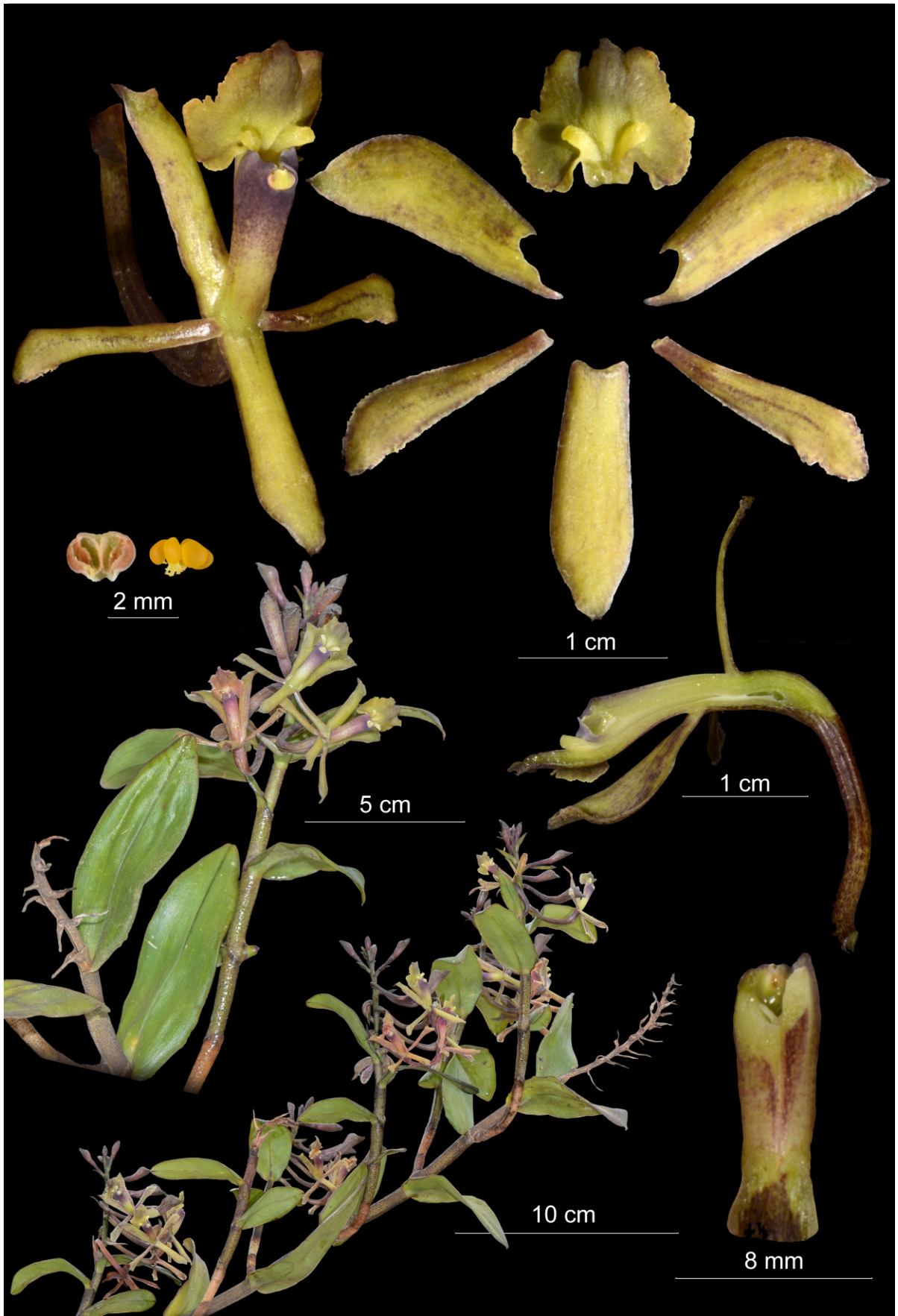
Ciudad de México, MÉXICO



Photo: M. Salas G.

Editors: E. Hágsater & E. Santiago

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1874



EPIDENDRUM KABIRII Hágsater & E.Santiago

Plate 1875

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

Type: ECUADOR: Azuay: Santa Isabel-Shagli-Huertas-Hornillos-La Cebada, entre Shagli y Huertas, 3298 m, 25 abril 2018, **Eric Hágsater, Gerardo A. Salazar, Diego Francisco Tobar Suárez, Itzi Fragozo Martínez & Kabir Montesinos 15872**. Holotype: QCNE! (LCDP & Photo voucher).

Similar to *Epidendrum montistoletanum* Hágsater & E.Santiago but the leaves spreading (vs. leaves sub-parallel to stem), flowers pale green, the column flushed purple along apical half (vs. green tinged purple-black to totally purple-black), and the lip clearly 3-lobed, slightly convex in natural position (vs. lip entire, sub-quadrate, concave in natural position).

Terrestrial monopodial, erect herb to 120 cm tall, with subapical branching. **Roots** basal from the primary stem, thick. **Stems** primary stem 120 x 0.65 cm, branches 8-30 x 0.4-0.6 cm, cane-like, terete, thin, erect, straight. **Leaves** numerous on the primary stem, 3-7 on the branches, distributed along the apical half of the stems, spreading, alternate, sub-coriaceous, medium green; sheaths 1.0-3.5 x 4.0-0.7 cm, tubular, minutely striated, rugose, green with small dark purple dots; blade 6.5-7.2 x 2.4-2.8 cm on the primary stem, 1.5-5.2 x 1.1-2.2 cm on the branches, elliptic to ovate-elliptic, obtuse, minutely apiculate, margins entire, spreading. **Spathes** lacking. **Inflorescence** 6.0-7.7 cm long, apical, erect, racemose, secund, sub-densely many-flowered; peduncle sessile; rachis 6.0-7.7 cm long, terete, thin straight. **Floral bracts** 4-10 mm, smaller than the ovary, narrowly triangular, acuminate, embracing. **Ovary** 23 mm long in totally developed flowers, terete, thick, strongly arched ventrally near the apex, slightly inflated ventrally above the arch, minutely furrowed. **Flowers** to 18, successive, non-resupinate, secund, pale green, irregularly marked with purple, especially dorsally, the column flushed purple along apical half; fragrance none perceived. **Sepals** somewhat fleshy, margins entire, slightly revolute; dorsal sepal 18-19 x 6-6.3 mm, spreading, free, oblanceolate, obtuse, 3-veined; lateral sepals 18-19 x 6-6.3 mm, partly spreading, obliquely united to the base of the column, oblanceolate, oblique, obtuse, short aristate, 5-veined. **Petals** 15-17 x 4.0-4.7 mm, spreading, free, narrowly obovate-spatulate, slightly oblique, obtuse, 1-veined, margin denticulate, strongly revolute. **Lip** 9-11 x 11-12 mm, united to the column, 3-lobed, base cordate, margin crenate, slightly convex, and vertical in natural position; bicallose, the calli fleshy, thin, divaricate; disc with a prominent, low, wide, mid-rib reaching the apex of the mid-lobe; lateral lobes 3-4 x 5.0-5.5 mm, transversely elliptic, mid-lobe 4.5-4.8 x 7.5-9 mm, rectangular, apex truncate, widely mucronate. **Column** 13 mm long, sub-cylindrical, apex obliquely truncate. **Clinandrium-hood** short, margin entire. **Rostellum** apical, slit. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose, somewhat longer than the pollinia; viscidium semi-liquid. **Lateral lobes of the stigma** prominent, 1/2 as long as the stigmatic cavity. **Nectary** shallow, penetrating the pedicellate ovary as far as the arch, slightly inflated behind the perianth. **Capsule** not seen.

OTHER SPECIMENS: ECUADOR: Azuay: Santa Isabel-Shagli-Huertas-Hornillos-La Cebada, entre Shagli y Huertas, 3298 m, 25 abril 2018, *Hágsater 15873*, QCNE! digital images, AMO! Cuenca-Machala, km 22, turn-off Patacocha, km 7, 3000 m, 18-19 VII 1990, *Jørgensen 91887*, QCA! QCNE! Oña: "Oriente" border; Eastern Cordillera, between Oña and the río Yacuambi, crest, 10000-11200 ft, 10 IX 1945, *Prieto P-292*, NY! S!

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known presently from the upper slopes of the Andes south of Cuenca and Loja, terrestrial in sub-páramo shrubs, at 2600-3300 m elevation. Flowering in April/July and October.

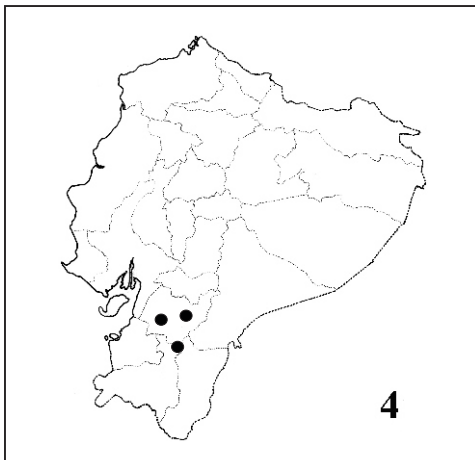
RECOGNITION: *Epidendrum kabirii* belongs to the Andean Group, Vernixium Subgroup which is characterized by the monopodial habit with sub-apical branching, erect inflorescences, laxly non-resupinate, spreading flowers, and the lip entire to 3-lobed and facing downwards. The new species is recognized by the leaves, elliptic to ovate-elliptic, spreading, flowers secund, pale green irregularly marked with dark purple, especially dorsally, with the column flushed purple along the apical half, the sepals 16-18 mm long, dorsal sepals 3 veined, the petals narrowly obovate-spatulate, the margin strongly revolute, the lip 3-lobed, slightly convex in natural position, and the ovary thick, 23 mm long. *Epidendrum montistoletanum* Hágsater & E.Santiago has leaves sub-parallel to the stem, flowers green tinged purple-black to totally purple-black, the petals spatulate with the margin slightly revolute, and the lip entire, concave in natural position. *Epidendrum chaoticum* Hágsater & E.Santiago has narrowly elliptic leaves, a few-flowered, sub-erect inflorescence, the flowers green suffused with pale yellowish purple, the sepals dorsally verrucose, apical margin erose, 7-veined, the petals linear-oblanceolate, partly spreading, 3-veined, the lip sub-entire, sub-quadrate, and the ovary thin, up to 30 mm long. *Epidendrum adamsii* Hágsater & Dodson has elliptic-lanceolate leaves, the flowers simultaneous, green, not secund, the sepals 15 mm long, the petals oblanceolate-spatulate with the margins revolute at the base, the lip 3-lobed, and the ovary thin, up to 32 mm long. *Epidendrum portotambillense* Hágsater & E.Santiago has orange-yellow flowers, the lip orange with a gray-brown overlay, entire, flabelliform, and the column 15 mm long and the sepals 14.5-16.7 mm long.

CONSERVATION STATUS: VU. Vulnerable. The species occupies a range of some 130 km in length, along the summit of the Andes where only spots of natural vegetation remain.

ETYMOLOGY: In honor of Kabir Montesinos González (1973-), of Cuenca, who is in charge of the gardens and maintaining plant diversity at the University of Cuenca, and who accompanied us and acted as a guide for collections in the province of Azuay. The name Kabir Das corresponds to a 15th Century Indian mystic poet and saint. Al-Kabir means "The Great" in Arabic.

ACKNOWLEDGMENT: Collections 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., & C.H. Dodson, 1993, *Epidendrum adamsii* in E. Hágsater & G.A. Salazar (eds.) The Genus *Epidendrum*, **Icon. Orchid.** 2: pl. 101. Hágsater, E., & E. Santiago, 2009, *Epidendrum chaoticum* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 8, **Icon. Orchid.** 12: pl. 1219. Hágsater, E., & E. Santiago, 2018, *Epidendrum montistoletanum* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 12, **Icon. Orchid.** 16(1): pl. 1645. Hágsater, E., & E. Santiago, 2021, *Epidendrum portotambillense* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 14, **Icon. Orchid.** 18(2): pl. 1888.



Authors: E. Hágsater & E. Santiago

LCDP: E. Hágsater & A. Cisneros

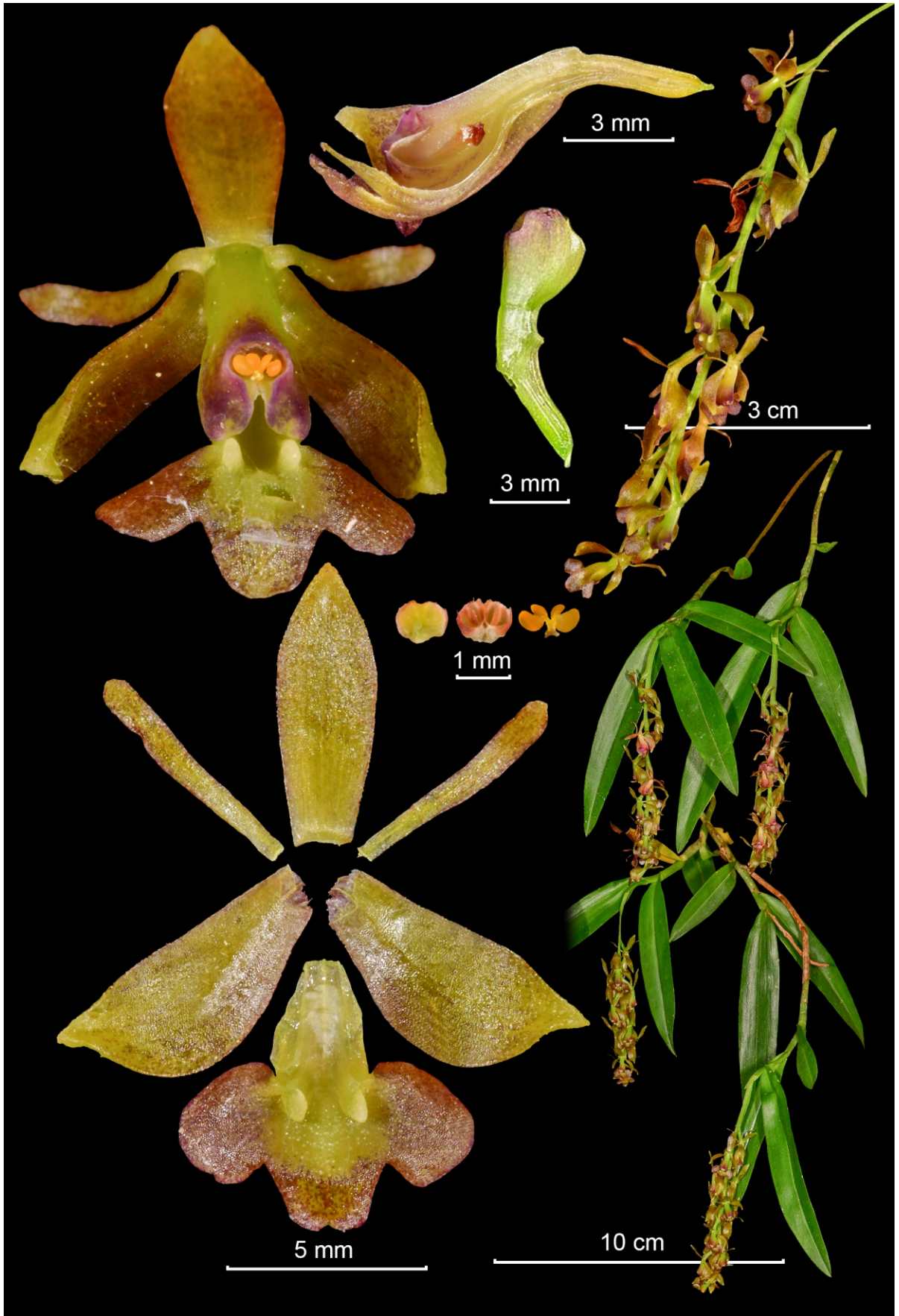
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Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1875



EPIDENDRUM KARSTENII Rchb.f.

EPIDENDRUM KARSTENII Rchb.f., *Linnaea* 41(1): 37. 1876.

Type: COLOMBIA: [Cundinamarca] Bogotá, 8100 ft, *Gustav Karl Wilhelm Hermann Karsten s.n.* Holotype: W! Isotype: W 52217!

Epiphytic, simpodial, **herb** where the new stem originates in a middle internode of the previous stem, 20-40 cm tall. **Roots** 2.0-3.0 mm in diameter, produced from the base of the primary stem, fleshy, thick, white. **Stems** 3.3-6.6 x 0.2-0.4 cm, cane-like, terete, thin, straight or slightly arched, the base covered by non-foliar sheaths 0.5-1.4 cm long, tubular, red-brown. **Leaves** 1-3, aggregate towards the apex of the stem, alternate, articulate, subcoriaceous, medium green, concolor; sheaths 6-12 x 2.0-4.0 mm, tubular, minutely striated; blade 1.5-8.0 x 0.5-0.8 cm, narrowly elliptic-lanceolate, acute, margin entire, spreading. **Spathe** lacking. **Inflorescence** 3.5-8.5 cm long, apical, racemose, arching-nutant, cylindrical, densely many-flowered; peduncle 1.0-2.5 cm long, thin, ancipitose, sometimes provided with a bract 3 mm long, tubular, ancipitose, obtuse; rachis 2.5-6.0 cm long, thin, laterally compressed. **Floral bracts** 2-6 mm long, nearly as long as the ovary, the apical ones somewhat shorter than the ovaries, triangular, acuminate, embracing. **Flowers** 8-11, simultaneous, resupinate, green to purple-brown when exposed to full sun, the calli and the disc of the lip green-yellow; without fragrance. **Ovary** 4-6 mm, terete, thin. **Sepals** 3-veined, margin entire, spreading; dorsal sepal 6-7 x 2.4-3 mm, free, recurved to reflexed, narrowly obovate, obtuse to sub-acute; lateral sepals 6-7.2 x 2.5-3.5 mm, partly spreading to spreading, obliquely united to the column, obovate, sub-acute, oblique. **Petals** 6 x 0.8 mm, reflexed, free, 1-veined, oblong-oblancheolate, the apex rounded, margin entire, spreading. **Lip** 3.3-4.2 x 4.8-7.3 mm, united to the column, 3-lobed, slightly convex, base cordate, margin entire, spreading; bicallose, the calli small, sub-spherical, somewhat laterally compressed, disc with 3 parallel ribs, the central one more evident, reaching the apex of the mid-lobe; lateral lobes 1.5-2.5 x 2.8-3 mm, descendent, obliquely rectangular, the corners rounded, mid-lobe 1.3-1.7 x 1.8-2.8 mm, sub-rectangular to trapezoid, the base wider than the apex, slightly emarginate. **Column** 5-6 mm long, straight, the apex somewhat curved upwards, thin at the base, widened towards the apex. **Clinandrium-hood** reduced, margin entire. **Nectary** penetrating 1/2 of the pedicellate ovary, thin, not inflated. **Anther** 4-celled, reniform, apex widely obtuse. **Rostellum** apical, slit. **Lateral lobes of the stigma** small, 1/5 the length of the stigmatic cavity. **Capsule** 2.3-3 x 0.8-1 cm, ellipsoid, pedicel 3-5 mm long, terete, thin; body 1.2-1.7 x 0.8-1.0 cm; apical neck 7-10 mm long.

OTHER SPECIMENS: COLOMBIA: Jardín Botánico de Bogotá, colección CEPAC ORQUÍDEAS. Localidad original desconocida, 15 II 2006, *Sarmiento 2155*, JBB! **Distrito Capital:** Suba, Hacienda Los Arrayanes, 2620 m, 28 IX 1971, *Jaramillo 5011*, COL! Quebrada Chicó, 3000 m, 5 IX 1943, *Schneider* 122*, AMES! Usaqué, 3000 m, 21 XI 1943, *Schneider 122/1*, COL! Suba, 2650 m, 6 I 1947, *Schneider 122/2*, COL! MA! Bogotá, 2700 m, 1851-1857, *Triana 570*, P! **Boyacá:** Villa de Leyva, "La Capilla", 2700 m, 14 XII 1968, *Ortiz 160*, HPUJ! Villa de Leyva-Arcabuco, Vda. Pan de Azúcar, Santuario de Flora y Fauna de Iguaque, 2700 m, 13 XII 2002, *Parra 265*, COL! **Cundinamarca:** Mun. La Calera, Carretera vía Club La Cima, 3027 m, 15 IV 2006, *Arévalo 532*, COL! *Ibid.* Arévalo 533, COL! *Ibid.* Arévalo 534, COL! Chía, 2690 m, 17 IV 1996, *Cortés 224-SC*, COL! Mun. Tenjo, Vda. Juayca, 2760 m, 2 VI 1998, *Dueñas 2906*, JBB! Mun. Tabio, 2700 m, 3 II 2008, *Farfán 1136*, FMB! El Sigra, carretera a Chocontá, 2800 m, 12 X 1972, *García-Barriga 20355*, COL! NY! Mun. La Calera, El Salitre, en la carretera Sopo-La Calera, 2700 m, 17 III 1996, *Hágsater 11516*, AMO! (slide and spirit). Entre Zipaquirá y Cogua, 2690 m, 14 V 1942, *Huertas 17*, AMES! (illustration AMO!) Zipaquirá, "La Caldera", 3000 m, 19 V 1942, *Huertas 1132*, AMES! (illustration, AMO!) COL! Mun. Soacha, Sibató, 2800 m, 3 II 1883, *Lehmann 2635*, G! Mun. Soacha, Sibató, 2600-2900 m, 1 III 1892, *Lehmann 7605*, AMES! K! Mun. Chocontá, Alto El Sigra, 6 IV 2006, *Sarmiento 2171*, JBB! Zwischen Chocontá und Machatá, umgebung der Panhöhe, 2800 m, 16 IV 1956, *Renz 8401*, RENZ! Mun. Chía, 10 I 1945, 3000 m, *Schneider 122*, AMES! Usaqué, 3000 m, 21 XI 1943, *Schneider 122/1*, COL!

OTHER RECORDS: COLOMBIA: Cundinamarca: Without locality data, 3000 m, 29 II 2020, *Haelterman s.n.*, digital photo, AMO! Guasca, 2700-2900 m, 15 I 2018, *Alfonso Acosta s.n.*, digital images, AMO! (Photo voucher) Mun. La Calera, Hacienda La Selva, 21 IV 2021, *Uribe s.n.*, digital photos, AMO! (LCDP voucher). **Boyacá:** Santuario de Flora y Fauna de Iguaque, 2500-2600 m, *Moreno s.n.*, digital images, AMO! Villa de Leyva, Santuario de Flora y Fauna de Iguaque, 2880 m, 17 II 2021, *Parra s.n.*, digital images, AMO!

DISTRIBUTION AND ECOLOGY: Endemic to the Cordillera Oriental of Colombia around Bogotá and north to Arcabuco in Boyacá. Epiphytic at 2600-3000 m elevation. Flowering from November to May.

RECOGNITION: *Epidendrum karstenii* belongs to the Incomptum Group which is characterized by the successive lateral growths produced from the middle of the previous growth, few leaves aggregate towards the apex of the stems, a short apical inflorescence with fleshy greenish to violet-green flowers with short ovaries, and the lip entire to 3-lobed. The species is recognized by the short plants and stems to 6.6 cm long, 1-3 leaves 1.5-8.0 x 0.5-0.8 cm, elliptic-oblancheolate, the dense, cylindrical, compact inflorescence, flowers green to purple-brown, sepals 6.0-7.2 mm long, dorsal sepal recurved to reflexed, the petals oblong-oblancheolate, and the lip 3-lobed, with the lateral lobes descendent, obliquely rectangular, and the mid-lobe trapezoid to sub-rectangular. *Epidendrum stenostachyum* Hágsater & E.Santiago has much branched stems produced from a long primary stem, the flowers green-yellow with purple dots, the sepals 7.0-7.7 mm long, and the lip entire, widely ovate-triangular, constricted at the apex.

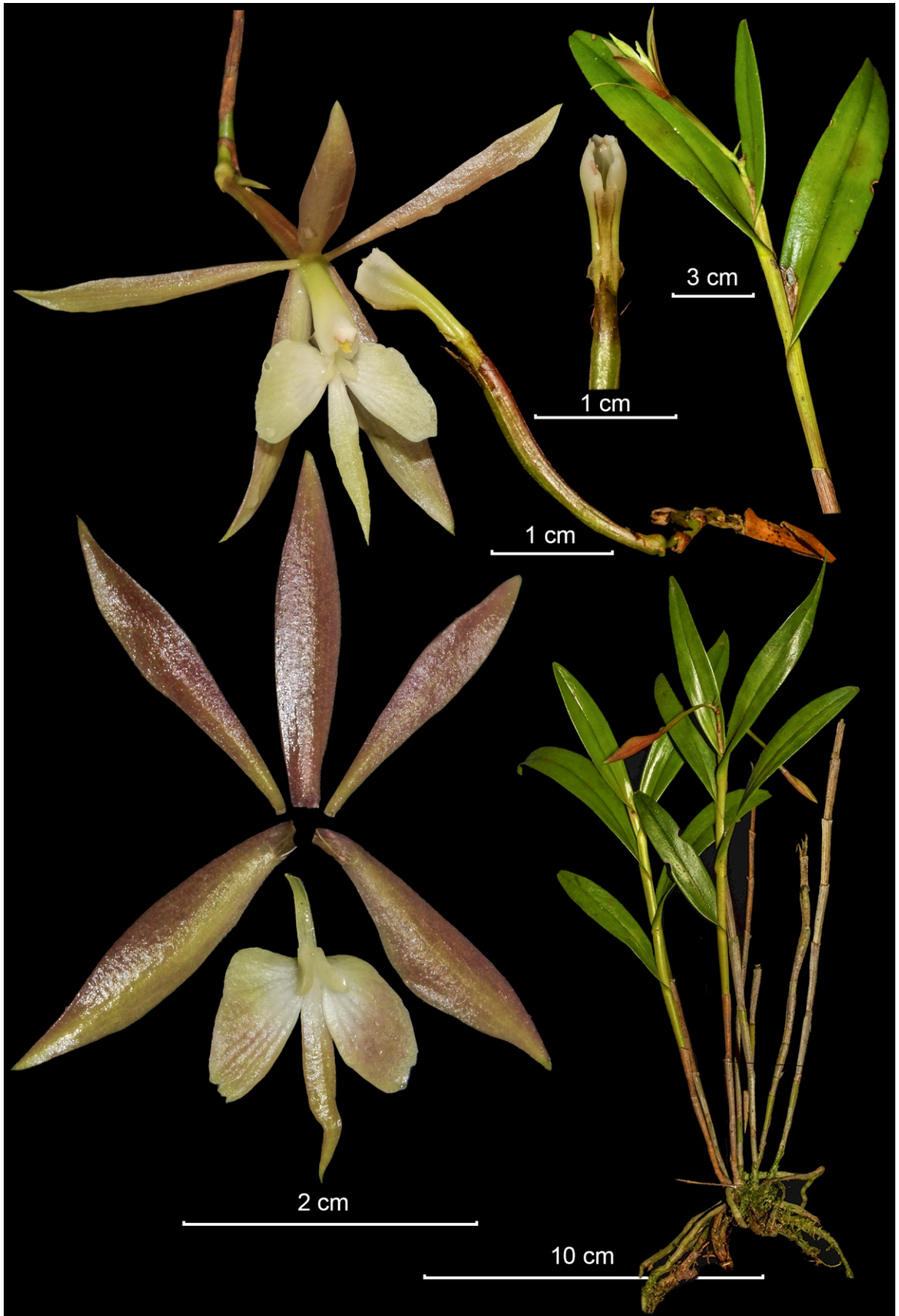
CONSERVATION STATUS: EN Endangered. The collections show it is found only in the Eastern Andes, Colombia. The extent of occurrence is estimated to be less than 5000 km² (1404 km²). The principal area of occurrence is around Bogotá City being pressured by urban growth and in the adjacent municipalities. We inferred a decline in the area of occurrence and, therefore classify this species as Endangered EN B1ab(i).

ETYMOLOGY: In honor of Gustav Karl Wilhelm Hermann Karsten (1817-1908), German botanist, mycologist and geologist who worked in Venezuela, Colombia, and Ecuador between 1844 and 1856. He published a series of papers on the Flora of Colombia (Karsten 1859-1862), among other works, describing 34 new taxa.

*NOTE: From the collecting data of *Schneider 122*, it is evident that he used the number for his species concept, adding a /1 or /2 for other collections of the same species in different localities and dates. That practice was common until about the mid-20th Century.

REFERENCES: Hágsater, E., 2007, *Epidendrum karstenii* in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 6, *Icon. Orchid.* 9: pl. 949. Karsten, H., 1859-1862, *Florae Columbiae: terrarumque asiaticentium specimina selecta in peregrinatione duodecim annorum observata*. 1-2 (1-3,1): 1-122, 1-40, pl. 1-60, 101-120. Apud Ferdinandi Duemmleri successores, Berolini. Santiago, E. 2004, *Epidendrum stenostachyum* in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 4, *Icon. Orchid.* 7: pl. 791.





EPIDENDRUM KRUKOFFII Hágsater, J.M.P.Cordeiro & Krahl

Plate 1877



EPIDENDRUM KRUKOFFII Hágsater, J.M.P.Cordeiro & Krahl

Plate 1877a

EPIDENDRUM KRUKOFFII Hágsater, J.M.P.Cordeiro et Krahl, *sp. nov.*

BRAZIL: Amazonas: Humaitá: Basin of Rio Madeira. Between Monte Christo and Santa Victoria on Rio Ipixuna, 15 November 1934, **Boris Alexander Krukoff 7251**, Holotype: RB! Isotypes: AMES x2! BR! F! FLAS! G x3! K x4! LE! MICH! MO x2! NY! S! U! (illustration voucher). US x2!

Similar to *Epidendrum porphyronoctrum* Hágsater & R.Jiménez, but the leaves though similar in size are medium green on both faces (vs. dark green above, purple on the underside), the flowers smaller, the ovary 22-30 mm long (vs. ovary 33-43 mm long), the sepals 18-26 mm long (sepals 39-46 mm long), and the mid-lobe of the lip 12-13 mm long (vs. mid-lobe 23 mm long).

Epiphytic, sympodial, caespitose, short **herb** ca. 20-40 cm tall. **Roots** 2-3 mm in diameter, basal, fleshy. **Stems** 12-28 x 0.15-0.35 cm, simple, cane-like, terete at base, laterally compressed above. **Leaves** 5-9, distributed along the apical half of the stems, sub-equal, the basal ones smaller, coriaceous, alternate, medium green on both sides; sheath tubular, laterally compressed, striated; blade 2.8-12 x 0.4-1.6 cm, 6-9:1 (length:width), narrowly elliptic, apex narrowly rounded, with a low dorsal keel, margin entire. **Inflorescence** apical, pluri-racemose, producing one flower at a time, flowering during several years, sessile; rachis short, to 2.5 cm long. **Floral bracts** 2-4 mm long, ovate-triangular, obtuse, much shorter than the ovary, amplexicaul. **Ovary** 22-30 mm long, terete, smooth, thin, unornamented. **Flowers** one at a time, successive, resupinate, flowers beige to brown, the column green and white towards the apex, lip white turning very pale green towards the margins and apical half of the mid-lobe; fragrance not registered. **Sepals** 18-26 x 4-5 mm, spreading, free, linear-lanceolate, acuminate, margin entire, revolute, 5-veined with numerous secondary veins and thus appearing to be 9 veined. **Petals** 22-26 x 2.5-3.7 mm, spreading, free, linear-elliptic, acuminate, 3-veined, margin entire, revolute. **Lip** 13-16 x 10-14 mm, united to the column, 3-lobed, base slightly cordate; bicolored; the calli laminar, prominent, with a thickened mid-rib running down the mid-lobe; lateral lobes 3-7 x 7.5-10 mm, obliquely oblong-elliptic, rounded, margin entire; mid-lobe 12-13 x 2.0-2.5 mm, ensiform, acuminate, margin entire. **Column** 7-11 mm long, thin, straight. **Clinandrium-hood** prominent, without surpassing the body of the column, margin entire. **Anther** ovate, 4-celled. **Rostellum** sub-apical, slit. **Nectary** 23 mm deep, penetrating 1/2 of the ovary, unornamented. **Capsule** pedicel short, body centered and occupying nearly the whole length, apical neck short.

OTHER SPECIMENS: BRAZIL: Amazonas: Jutai: Lago Castanho-Mirim, Igarapé Jutai, 17 VI 1973, *Albuquerque 689*, INPA! Anori, Lago do Castanho-Mirim, 22 VI 1973, *Albuquerque 825*, INPA! Novo-Japurá, Rio Japurá, margem direita, 9 XI 1982, *Amaral 374*, INPA! Manaus: Ponta Negra, *Coelho 64*, INPA! Coari, Lago do Coari, 24 II 1972, *Coelho 530*, INPA! Novo Airão: passando Manacapuru, ramal do Mineiro km 33, 110 m, 26 VII 2017, *Hágsater 15017*, (Spiri) AMO! Humaitá: Humaitá, near Livramento on Rio Livramento, 12 XI 1934, *Krukoff 7307*, AMES x2! G! K! MO! NY! S! U! Manaus: Paraqueuara, Igarapé, margem do rio, 27 VII 2017, *Cordeiro 1125*, EAN! (Digital images of live flower, AMO, EAN, Photo voucher). Manaus, Ponta Negra, área verde do condomínio Alphaville, 23 I 2016, *A.H.Krahl 539*, INPA! Digital images of live material, AMO! (LCDP voucher). Manaus, Ponta Negra, área verde do condomínio Alphaville, 25 III 2018, *D.R.P.Krahl 21*, INPA! Rio Negro: Araras acampamento da SIDERAMA, 16 VII 1963, *Loureiro s.n.*, INPA! Santa Isabel do Rio Negro: Igarapé do Daara, 14 X 1978, *Madison 254*, INPA! Rio Negro, Paranã Tauatu, acima de Manaus, 25 VI 1979, *Maia 32*, INPA! Rio Negro, Igarapé da margem direita, entre São Gabriel e a boca do Rio Curicuriari, 60 m, 29 VII 1991, *Martinelli 14579*, RB! Coari: Lago do Coape, 16 IV 1976, *Mello s.n.*, INPA! Tabatinga: Rio Solimões, Igarapé Preto, near Belém (ca 75 km upstream [downstream] from Leticia, Colombia), T III 1977, *Mori 9193*, INPA! NY! Entre os Rios Jutai e Amajau. Mata de Igarapé, 7 VII 1995, *Oliveira 2717*, INPA! MO! São Gabriel da Cachoeira, ad Rio Negro, I-VIII 1852, *Spruce 2391*, K x2! P! Margin of Igarapé Açu at crossing with BR319, Manaus-Porto Velho Road, *Prance 20602*, HB! NY! Tefé: Rio Solimões, west shore of Lago Tefé, sandy lake shore 17 II 1977, *Prance 24458*, INPA! NY! Manaus: Rio Negro, Ponta Negra, 11 IV 1972, *Schultes 26198A*, AMES! INPA! Novo Airão: Prox. ao acampamento de Monteiro, subindo o rio Iau, 30 VI 2000, *Souza 1086*, INPA! Small islets of Rio Negro within 100 km Upper stream from Manaus, 13 VIII 1987, *Tsugaru B-981*, NY! Nova Olinda do Norte, Comunidade Nossa Senhora dos Remédios: Margem direita do Rio Madeira, 18 IX 2011, *Viana 225*, INPA! **COLOMBIA: Amazonas:** La Pedrera, Rio Caquetá, 15 VII 1948, *Schultes 10214*, AMES!

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Widespread in the upper Amazon basin of Brazil and neighboring Leticia, Colombia, epiphytic on trees, Campinha alta on white sand, and on river banks and in flooded areas, (Igarapé) of the Solimões, Negro and Madeira, at 60-100 m elevation. Flowering throughout the year.

RECOGNITION: *Epidendrum krukoffii* 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 medium sized plants, 20-40 cm tall, medium green throughout with 5-6 narrowly elliptic leaves, apex narrowly rounded, blade 2.8-12 x 0.4-1.6 cm, 6-9:1 (length:width), the ovary 25-30 mm long, sepals 18-26 mm long, and the lateral lobes of the lip obliquely oblong-elliptic, rounded on both ends. *Epidendrum porphyronoctrum* Hágsater & R.Jiménez has stems 16-40 cm tall, 3-8 narrowly elliptic, acute leaves of similar size, 6.5-8.0 x 0.8-1.8 cm, dark green above, purple on the underside, an ovary 33-43 mm long, sepals 18-21 mm long, and a lip 12-14 x 12-14 mm, the lateral lobes ovate, with 6 thickened, radiating veins, mid-lobe 8.7-9.0 x 2.0 mm. *Epidendrum phlebonoctrum* Hágsater & R.Jiménez has short stems 9-11 cm long, laterally compressed, bright green, 5-6 unequal leaves, 1.5-7.0 x 1.1-2.3 cm, an ovary about as long as the sepals 39-46 mm long, a deeply 3-lobed lip with large yellow calli, and the lateral lobes with prominently raised veins radiating from the base, and sub-parallel, mid-lobe 23 x 2.5 mm. *Epidendrum longicolle* has laterally compressed stems with 5-12 linear-lanceolate, acuminate leaves, 10:1 to 20:1, 5-15 x 0.5-0.8 cm, sepals 28-30-42 mm long, lateral lobes of the lip joined to the mid-lobe through 1/3 to 1/2 its length, and an ovary 30-40 mm long. *Epidendrum minus* (Cogn.) Hágsater has (the holotype, from Peru) sepals 21 mm long, the ovary 32 mm long, and leaves to 8 x 1.3 cm, 6:1 (length:width), oblong, apically narrowly rounded. *Epidendrum bahiense* Rchb.f. (the type) has smaller flowers, sepals 20 mm long, an ovary 25 mm long, and proportionately longer and narrower leaves, 4-8 x 0.4-0.8 cm, 10:1.

NOTE: This species was included under *Epidendrum minus* by Sánchez & Hágsater (2010b), where that species was considered very widespread in the Amazon basin but has more recently been reevaluated as new information has become available. A new revision of that species is pending. Hágsater & Sánchez (2015: V) synonymized *E. minus* under *E. bahiense*. We here again recognize them as distinct species, which require further study. Unfortunately, the type of *E. bahiense*, was a cultivated plant sent by Consul Schiller to Stange who cultivated it in Hamburg and sent it to Reichenbach for identification, the exact origin is therefore unknown.

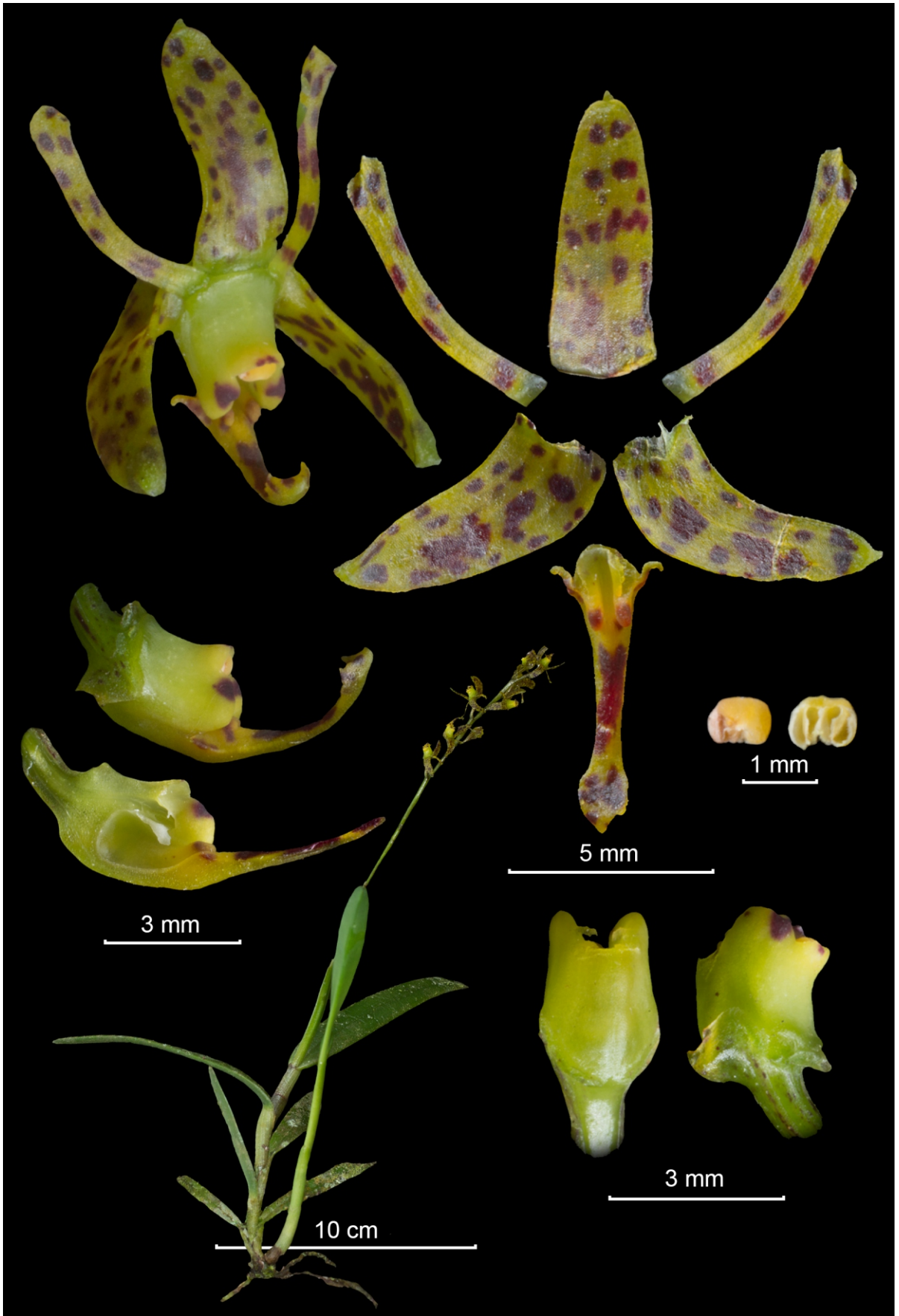
ETYMOLOGY: In honor of Boris Alexander Krukoff (1898-1983), Russian born, eventually arriving in the United States in 1925. As a botanist and plantation manager, he mounted eight major expeditions to South America and Africa between 1928 and 1955. He worked mainly for pharmaceutical and rubber companies. He collected 11,000 specimens and wrote 70 papers on economic botany and taxonomy.

CONSERVATION STATUS: LC. Least Concern. The species is widespread throughout the Amazon basin.

REFERENCES: Hágsater, E., & L. Sánchez S., 2015, *Epidendrum bahiense* in Appendix 2: Corrections to earlier volumes of Icones Orchidacearum, in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 11, **Icon. Orchid.** 15(1): V. Hágsater, E., & R. Jiménez M., 2018, *Epidendrum phlebonoctrum* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 12, **Icon. Orchid.** 16(2): pl. 1692. Hágsater, E., & R. Jiménez M., 2018, *Epidendrum porphyronoctrum* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 12, **Icon. Orchid.** 16(2): pl. 1697. Sánchez S., L., & E. Hágsater, 2010a, *Epidendrum longicolle* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 11, **Icon. Orchid.** 13: pl. 1350. Sánchez S., L., & E. Hágsater, 2010b, *Epidendrum minus* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 11, **Icon. Orchid.** 13: pl. 1358. Reichenbach, H.C., 1859, *Epidendrum bahiense* in Heber einige Garten-Orchideen, **Hamburger Garten-Blumenzeitung** 15: pl. 53.



Empty



EPIDENDRUM LEOPARDIHAMATUM Hágsater & Est.Domínguez

Plate 1878

EPIDENDRUM LEOPARDIHAMATUM Hágsater et Est. Domínguez, sp. nov.

Type: COLOMBIA: Antioquia: Municipality of Jardín, road to Reserva Natural Cueva del Esplendor, pluvial mountain forest, 2250 m, 10 October 2018, **Esteban Domínguez Vargas, Y. Cardona & L. Echeverry 1568** Holotype: JAUM! (LCDP voucher).

Similar to *Epidendrum hamatum* (Garay) Dressler but the flowers green heavily spotted brown, the column light yellow-green, with a few brown dots at the apex, and apex of calli (vs. flowers white with a pink hue and a few rose dots at the apex of the column and on the calli and lip mid-rib).

Epiphytic, sympodial, caespitose, erect **herb**, 10-32 cm tall. **Roots** 3 mm in diameter, flexuous, white and pale brown. **Stem** 8-10 × 0.6-1.0 cm, simple, cane-like, terete. **Leaves** 1-6, (6 on primary stem, 1-2 on successive stems) distichous, alternate, distributed throughout the stem, green; sheaths 1.0-4.0 × 0.6-1.0 cm, tubular, membranous, pale green; blade 3.0-13.0 × 0.8-1.5 cm, progressively larger, oblong, apex unequally bilobed, unequal, progressively larger, coriaceous. **Spathes** 4.4-8.2 × 0.4-0.6 cm, oblong, laterally compressed, sides parallel. **Inflorescence** 19-31 cm long, apical, erect to arching, racemose; peduncle 8-12 × 0.15-0.20 mm. **Flowers** 10-44, the lip always oriented towards the apex of the rachis, green, with small brown spots, except for the column, which is green with purple spots at the apex, calli yellow at base, then green spotted brown; anther pale yellow. **Floral bracts** ca. 1 mm long, much shorter than the ovary, triangular, acute. **Ovary** 4.5-6.0 × 0.9 mm, terete. **Sepals** free, fleshy, glabrous, narrowly cuneate, 3-veined, margins entire, spreading; dorsal sepal 6.0-6.5 × 2.0 mm, reflexed in natural position, apex rounded and minutely apiculate; lateral sepals 7 × 2.5 mm, falcate, apex obtuse, with a low dorsal keel ending short apiculate. **Petals** 6.5 × 0.7 mm, free, somewhat reflexed, linear-oblong, slightly widened at the obliquely truncate apex, 1-veined, margins entire. **Lip** 7.2 × 1.5 mm, united to the column, 3-lobed, incurved in natural position; lateral lobes 1 mm long, very small, retrorse, sub-terete, apex hook-like, hamate; mid-lobe 5.5 × 0.6-1.3 mm, linear-filiform, apex rhomboid, concave, acute; bicallose, elongate, parallel, rounded. **Column** 3 × 2 mm, short, thick, arched upwards, apex forming a pair of wide, prominent rounded wings; clinandrium-hood short, entire. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, somewhat laterally compressed; caudicles soft and granulese; viscarium semi-liquid. **Nectary** wide, short, without penetrating the pedicellate ovary, glabrous.

OTHER SPECIMENS: COLOMBIA: Antioquia: Rionegro, Santa Elena, camino entre Medellín y Rionegro, 2500 m, 2 X 1947, *Barkley 4*, AMES! Medellín, Parque Regional Arví, Vda. Mazo, Sector Potrerros, 18 V 2007, *Benavides 4094*, HUA! cult. Colomborquídeas *Escobar 5104*, spirit AMO! (digital image and illustration, 2008, AMO!) Medellín: Altavista, Vda. Aguas Frías, nacimiento quebrada Los Naranjos, 23 X 1996, *Giraldo 1160*, HUA! JAUM! (digital image of live inflorescence, AMO!) La Ceja, El Tabor, 2330 m, IX 1971, *Ortiz 532*, COL! HPUJ x2! (digital image of live inflorescence, AMO! water color illustration, HUPJ! digital image AMO!) La Ceja, Vda. El Tabor, 2330 m, IX 1971, *Ortiz 4177*, HPUJ! without data, *Ortiz s.n.*, HPUJ! Abriaquí, cultivada en Santandercito (Cund.), 11972, *Ortiz 4184*, HUPJ! Medellín, *Patin s.n.*, W! **Tolima:** Ibagué, Volcán Cerro Machín, alrededores del cráter, 2400 m, 27 V 2019, *Valencia 219*, TOLI!

OTHER RECORDS: COLOMBIA: Antioquia: Ebéjico, 1200 m, 4 VI 2020, *Alzate s.n.*, digital image, AMO! Abejorral, 1800 m, *Duque 1188*, photos, AMO! Ibid. 2250 m, 24 IV 2020, *Chica s.n.*, digital image, AMO! <https://www.naturalista.mx/observations/45328431> Without data, *G. Escobar s.n.*, digital images, AMO! Expo Medellín 2019, *Jordan s.n.* digital image AMO! Medellín, rec'd 27 IV 2021, *Efray Alzate s.n.*, digital images, <https://www.naturalista.mx/observations/49983446> Cult. *Libia Orquídeas s.n.* digital image, AMO! cult. Medellín, 2100 m, rec'd 30 IX 2014, *Mesa s.n.*, digital image, AMO! San Cristobal, rec'd 27 IV 2021, *S. Ospina s.n.*, digital image, <https://www.naturalista.mx/observations/22632437> (Photo voucher) Without data, rec'd 16 VIII 2016, *Uribe 1195*, digital image, AMO!

DISTRIBUTION AND ECOLOGY: The species is found in the areas around Medellín and Ibagué, on the Cordillera Central, and the Municipalities of Abriaquí, Urrao, and Jardín on the Cordillera Occidental, at 2100-2250 m elevation, epiphytic in wet montane forests. Flowering from May to January.

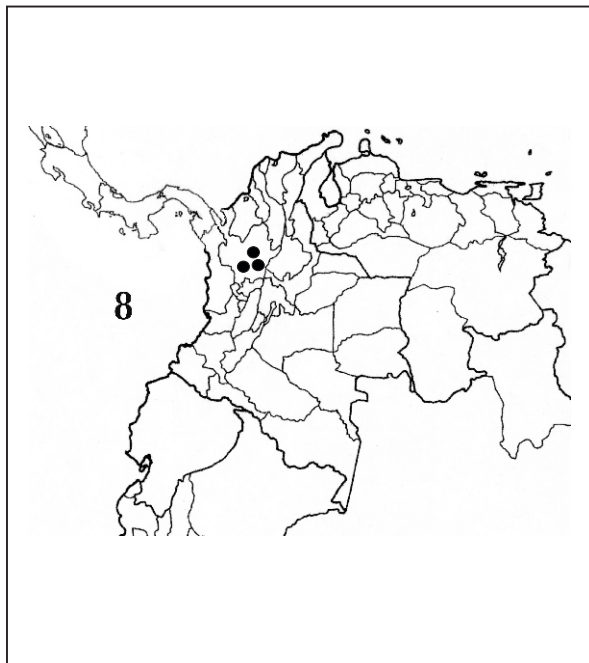
RECOGNITION: *Epidendrum leopardihamatum* belongs to the Stenoglossum Group which is characterized by the terete stem with 1-2 apical leaves, the narrow elongate spathe, the inflorescence erect to arching, with numerous flowers with the lip always oriented towards the apex of the rachis, and the lip usually 3-lobed, lateral lobes small, strongly falcate, hamate, and mid-lobe long, narrow, forming an upward arch and apically dilated into a triangular or rhomboid apex. This new species has green flowers totally covered by brown dots, the column light yellow-green, with a few brown dots at the apex. It has been confused with the rare *Epidendrum hamatum* (Garay) Dressler which is vegetatively very similar but the flowers are white slightly tinged pink, with rose dots at the apex of the column and base of the lip, and is endemic to north of Bogotá, Cundinamarca, and Boyacá in the Cordillera Oriental. The better-known species is *Epidendrum coryophorum* (Kunth) Rchb.f. which differs in having a simple lip and deep purple flowers with occasionally with the apices of the sepals white. *Epidendrum machinense* M.F. Escal. & Rinc.-González is vegetatively similar, with flowers with yellow corolla stained purple-brown with yellow apices and a white lip and a column with numerous wine-red spots.

NOTE: This species was incorrectly published as *Epidendrum hamatum* by Domínguez & Hágsater (Species Orchidacearum 3(1): 28). It was also used to compare with *Epidendrum machinense* by Rincón-González & Escalante (Phytotaxa 2020: 38, fig. 4C). The specimen of *Ortiz 4184* was cultivated at Santandercito (Cundinamarca) and said to have come from Abriaquí, has pale yellow flowers without any brown dots. It may correspond to another entity, or maybe a misplaced label.

ETYMOLOGY: From Leopard, the spotted African cat, and the Latin *hamatus*, hook-like, in reference to the brown spotted flowers of this species which has been confused with *Epidendrum hamatum*, which has the lateral lobes of the lip small and hooked.

CONSERVATION STATUS: DD. Data deficient. Apparently rather common in Antioquia, and further south to Tolima on the Cordillera Central.

REFERENCES: Domínguez, E., & E. Hágsater, 2019, *Epidendrum hamatum*, in **Species Orchidacearum** 3(1): LCDP 28. Garay, L.A., 1969, El Genero *Stenoglossum*. **Orquideología** 4(2): 67-75. Dressler, R.L. & G.E. Pollard, 1971, Nomenclatural Notes on the Orchidaceae – IV, **Phytologia** 21(7): 433-443. Rincón-González, M., & M.F. Escalante, 2020, *Epidendrum machinense* a new species from Colombia, **Phytotaxa** 435(1): 33-40. Sánchez S., L., & E. Hágsater, 2009, *Epidendrum coryophorum* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 8, **Icon. Orchid.** 12: pl. 1230. Sánchez S., L., & Hágsater, E. 2009. *Epidendrum hamatum* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 8, **Icon. Orchid.** 12: pl. 1252.



Authors: E. Hágsater & E. Domínguez

LCDP: E. Domínguez

Herbario AMO

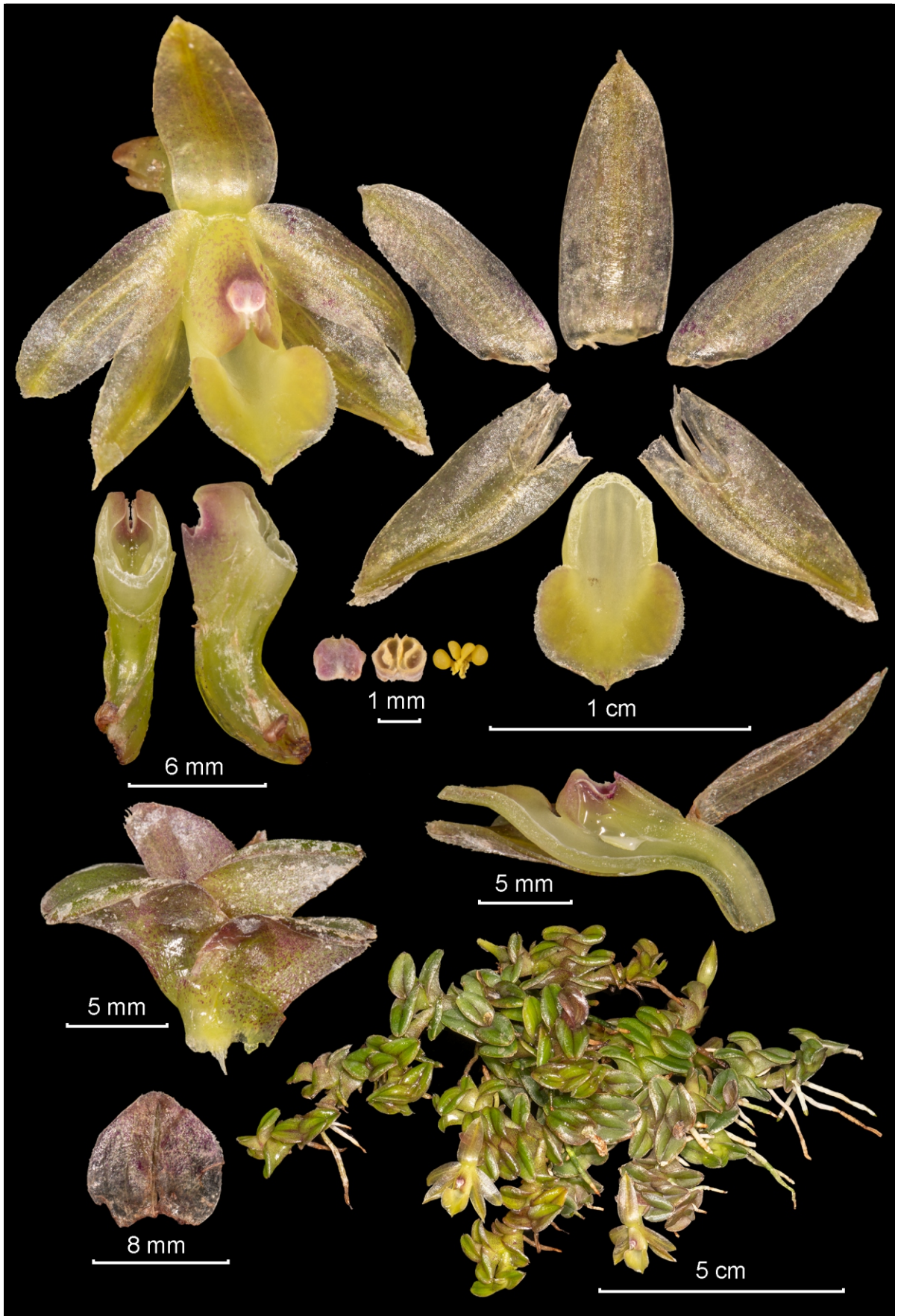
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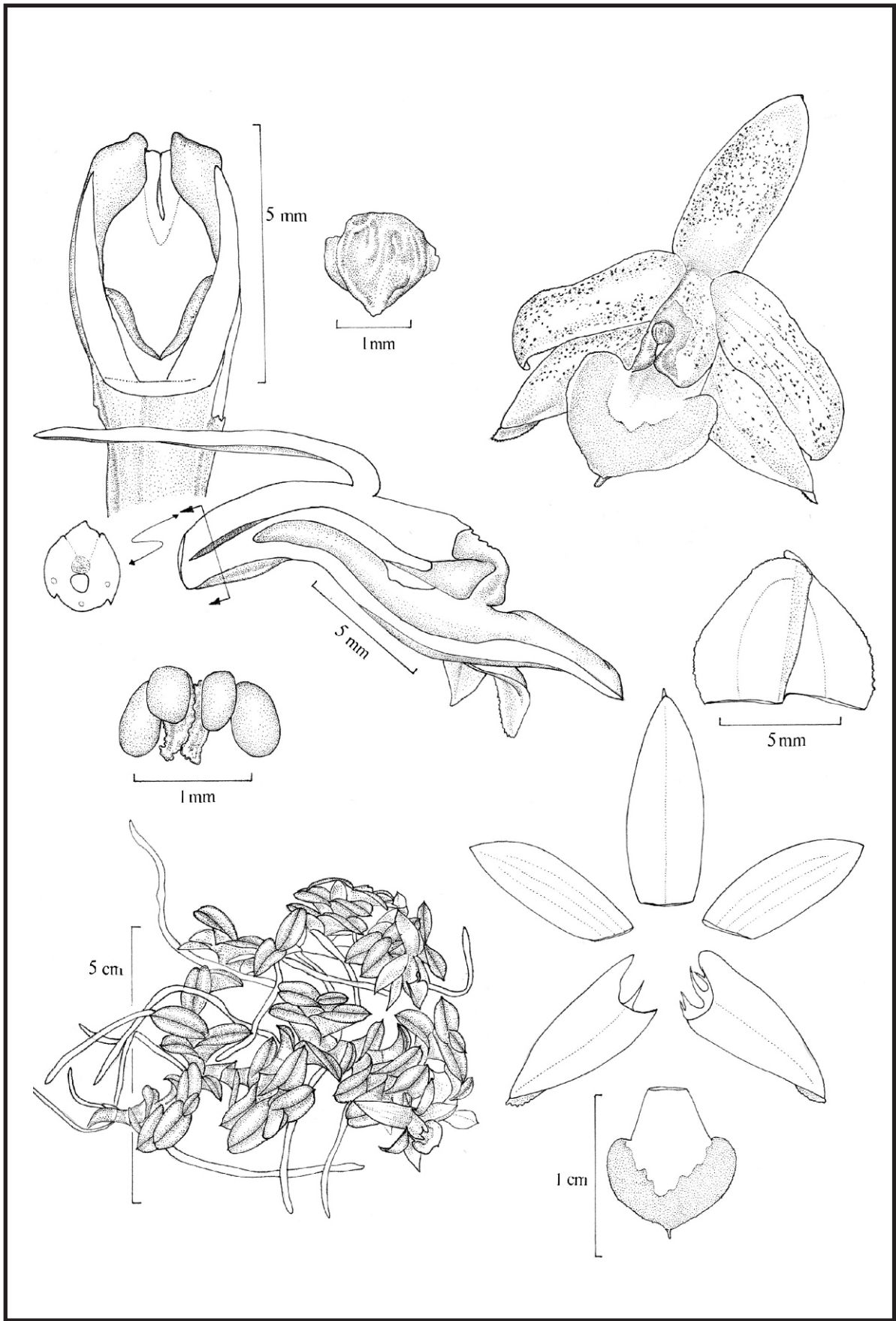
Photo: S. Ospina

Editors: E. Hágsater & E. Santiago

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1878



EPIDENDRUM LONGIREPENS (C.Schweinf.) C.Schweinf.



EPIDENDRUM LONGIREPENS (C.Schweinf.) C.Schweinf.

Plate 1879a

EPIDENDRUM LONGIREPENS (C.Schweinf.) C.Schweinf., Bot. Mus. Leafl. 16 (1): 12. 1953.

Basionym: *Epidendrum schlechterianum* Ames var. *longirepens* C.Schweinf., Bot. Mus. Leafl. 11(4): 115. 1943. Type: PERU: Loreto: Maynas: Mishuyacu*, near Iquitos, 100 m, April 1930, **Guillermo Klug 1274**. Holotype: US 1456070! Isotypes: AMES 61887! F 624992! NY 1047709!

Epiphytic, creeping, sympodial, caespitose **herb**, to 2 cm tall, forming large mats. **Roots** ca. 1 mm in diameter, thin, simple, distributed along the rhizome. **Stems** ca 1-2 cm tall, the rhizome creeping along the substrate, stem totally covered by foliar sheaths, new stem produced near the middle of the previous stem below the leaves. **Leaves** 6-7, distributed throughout the stem, progressively larger, fleshy succulent, pale to dark green sometimes tinged purple, non-articulate with the sheath; blade 3.0-13.0 x 4.0-7.5 mm, conduplicate at the base so that the stem appears laterally compressed, ovate-elliptic, apex bilobed, aristate, apical margin minutely erose, slightly revolute. **Spathes** lacking. **Inflorescence** single flowered. **Floral bract** up to 7 mm long, similar to the leaves but smaller, widely ovate when spread, with a prominent dorsal keel, margin minutely erose, brown tinged purple, translucent, sometimes accompanied by a very small bract to 3 x 2 mm, conduplicate. **Flower** single, sessile, translucent green appearing copper green due to small purple dots, clinandrium and anther purple; apparently without fragrance. **Ovary** 5-7 mm long, short, thick, slightly triquetrous, arcuate, with 3 low keels. **Sepals** narrowly ovate, acute, dorsally carinate, aristate, fleshy, 3-veined, margin minutely erose; dorsal sepal 8.9-12.0 x 3.4-4.5 mm, free, reflexed; lateral sepals 8.7-10 x 3-4 mm, partly spreading, obliquely united to the base of the column, somewhat falcate. **Petals** 8.0-10.0 x 2.8-3.5 mm, spreading, somewhat descending, but not covering the lateral sepals, oblong, acute, 3-veined, the apical part somewhat revolute, margin entire, spreading. **Lip** 5.0-5.4 x 5.5-7.2 mm, united to the column, cordiform-sub-orbicular, apex rounded, and apiculate, margin minutely denticulate, hyaline; ecallose. **Column** 3.9-6.0 mm long, short, thick, apex truncate with sub-quadrate, fleshy lobes. **Clinandrium hood** very short, with a sub-rectangular to triangular erose-denticulate process about 0.3 mm long. **Anther** 4-celled, ovoid-circular, short, apical margin entire, with the front sulcate and a low, rounded ridge down the middle. **Pollinia** 4, obovoid, laterally compressed, caudicles soft and granulose, somewhat longer than the pollinia, viscarium semi-liquid. **Rostellum** apical, slit. **Lateral lobes of the stigma** prominent half as long as the stigmatic cavity. **Nectary** deep, narrowly penetrating half of the pedicellate ovary, unornamented. **Capsule** not seen.

OTHER SPECIMENS: without locality, hort. AMO, received 1 IV 1984, pressed 29 VII 1993, J. & L. *Orchids* 484-175 sub/ *Hágsater 11109*, AMO! (illustration voucher). without locality, hort. AMO, received 1 IV 1984, photographed 13 V 2021, J. & L. *Orchids* 484-175 sub *Hágsater 11418*, digital images AMO! (specimen pressed 27 V 2020, AMO! LCDP voucher). Hort. Pennsylvania, Allegheny Co., Sewickley, *Wright 86-011*, CM! **COLOMBIA: Amazonas:** Trapecio Amazónico, along Río Loretoyacu, about 1 km upriver from Puerto Nariño, 281 1969, *Plowman 2324*, COL!

OTHER RECORDS: without locality, *Larry Mayse s.n.*, received 26 VII 2016, digital image, AMO! (Photo voucher).

DISTRIBUTION AND ECOLOGY: Upper Amazon basin, recorded from Colombia and Peru. Flowering in April and July.

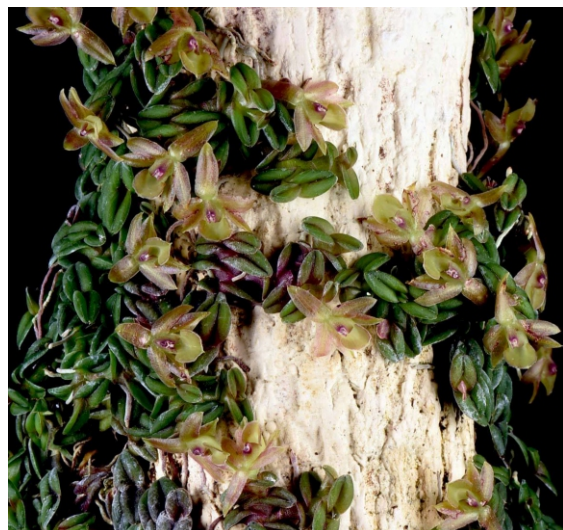
RECOGNITION: *Epidendrum longirepens* belongs to the Nanodes Group, characterized by the caespitose to creeping, sympodial plants with short stems completely covered by the base of the non-articulate, fleshy, imbricating leaves, and the sessile, few-flowered inflorescences. The species is recognized by the low, creeping habit which forms large mats, no more than 2 cm tall, the single flowered inflorescence with small flowers, the sepals 8.7-12.0 mm long, the lip cordiform-sub-orbicular, and the column 3.9-6.0 mm long. *Epidendrum schlechterianum* Ames has a two-flowered inflorescence with relatively long, greenish purple to olive green flowers tinged with red, the oblong-lanceolate, 17-20 mm long sepals, cordate-reniform, a minutely apiculate lip, and the column 10-14 mm long with the anther elongate, subacute and apically fimbriate. *Epidendrum uleanodes* Hágsater (Syn. = *E. schizoclinandrium*, D.E.Benn. & Christenson), widespread from the upper Amazon basin the Guianas and the base of the Andes, has compact plants to 7 cm tall, usually 2 [4] simultaneous flowers, sepals 12.5-14 mm long, the column with a pair of large, rounded wings on the sides, and a prominently fimbriate clinandrium-hood with the anther fimbriate at the rostrate apex. *Epidendrum congestum* Rolfe has taller compact plants to 5 cm tall, with compact plants, 2-3 simultaneous flowers, and the lip cordiform with the apex acute, and the anther widely ovoid and apically truncate, the margin somewhat dentate. *Epidendrum congestoides* Ames & C.Schweinf. also has plants to 4 cm tall, and a 2-flowered inflorescence, but the flowers are smaller, green to reddish green, the lip reniform-semi-orbicular, somewhat embracing the short column (4.5-5.8 [6.6] mm long) in natural position, and the anther is short, the margin fimbriate. *Epidendrum riverae* Hágsater, from the Urabá region in northern Colombia and Trinidad and Tobago, is similar, also having short stems and single flowers but the lip is much wider than long, widely cordiform, apex truncate, abruptly apiculate, the clinandrium-hood is bifid, margin fimbriate, and the anther long ovoid ending in a long, fimbriate appendage.

*NOTE: In researching the collections of Guillermo Klug (-1946) in 1930, they are generally noted as from the "Vicinity of Iquitos", and some as this one, also indicates Mishuyacu. We have been informed by Rafael Ruíz López from Iquitos (pers. comm, 2021), that the correct locality is "Tamshiyacu", a town on the opposite bank of the Amazon River some 30 km north of Iquitos, past the island of Timareo and before the Río Momona. His mother recalls having collected the species with her father in the 1970-80's when export of wild collected orchids was permitted in Perú by INRENA. That is about the time I got my clone from J. & L. *Orchids*.

ETYMOLOGY: From the Latin *longus* long, and *repens*, creeping, thus the long, creeping *Epidendrum*, in reference to the low, creeping habit that forms large mats in adult plants. The species is easily recognized in vegetative state.

CONSERVATION STATUS: DD. Data deficient. Though we have only been able to trace one herbarium collection with a clear locality from near Leticia (the type has a general locality). The species is widely available in the United States from commercial propagators, and well known in horticulture. See NOTE.

REFERENCES: Bennett Jr., D.E., & E.A. Christenson, 2001, *Epidendrum schizoclinandrium*, **Icon. Orchid. Peruvianum** pl. 653. Hágsater, E., 2019, *Epidendrum riverae*, in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 13, **Icon. Orchid.** 17(1): pl. 1751. Santiago, E., & E. Hágsater, 2007, *Epidendrum congestum*, in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 6, **Icon. Orchid.** 9: pl. 920. Santiago, E., & E. Hágsater, 2007, *Epidendrum congestoides*, in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 6, **Icon. Orchid.** 9: pl. 921. Santiago, E., & E. Hágsater, 2007, *Epidendrum schlechterianum*, in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 6, **Icon. Orchid.** 9: pl. 982.



Authors: E. Hágsater & R. Jiménez M.

LCDP: R. Jiménez M. & A. Cisneros

Illustrator: R. Jiménez M.

Photo: L. Mayse

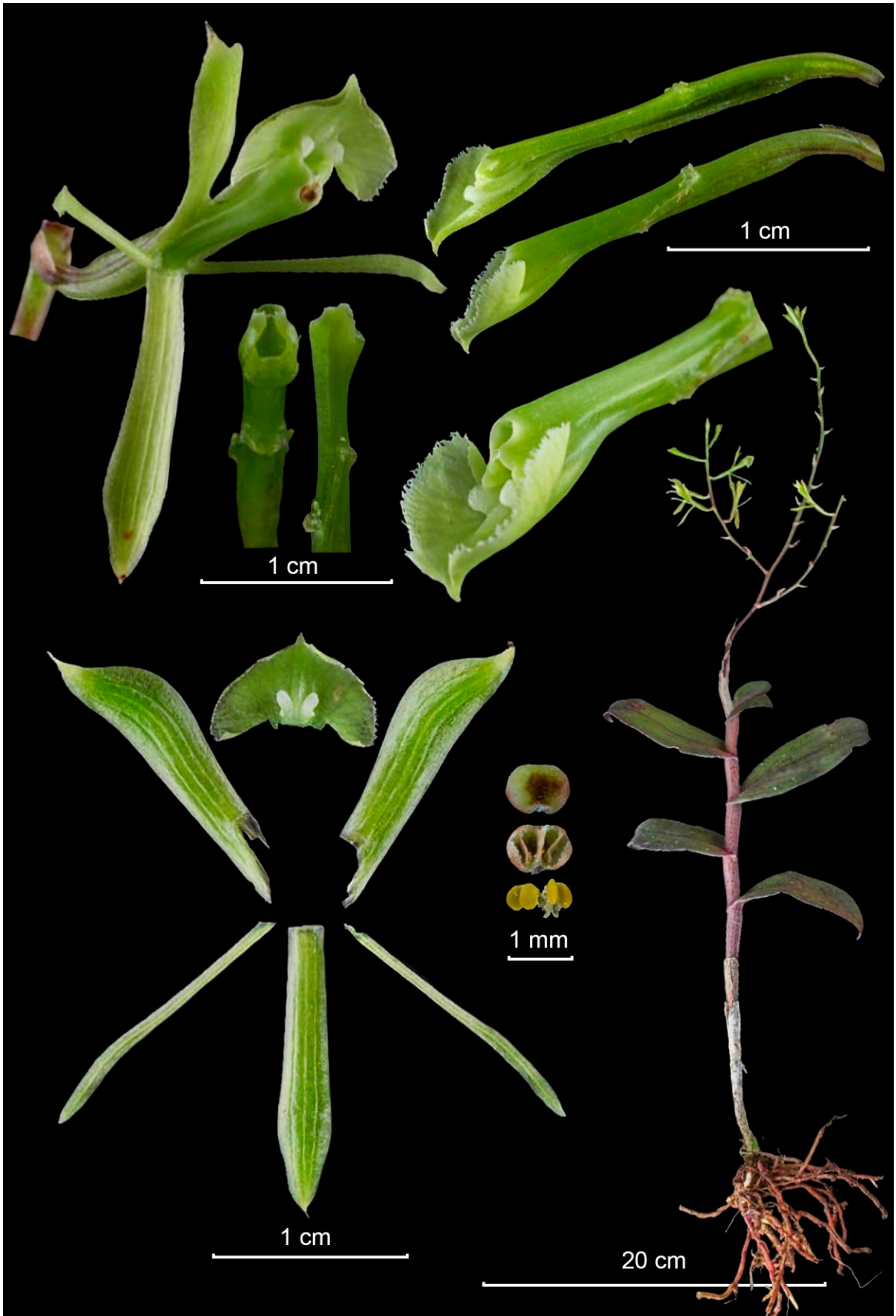
Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1879

Empty



EPIDENDRUM LUNATUS Hágsater, A.G.Díaz & Olórtegui

Plate 1880

EPIDENDRUM LUNATUS Hágsater, A.G.Díaz et Olórtegui, sp. nov.

Type: PERU: Amazonas: Prov.: Bongará: Distr.: Yambrasbamba, entre Progreso y Agua Dulce, 2050 m, 7 febrero 2021, *Sergio Olórtegui Chamoli & J. F. Montoya Quinto s.n.*, Holotype: CPUN 24427! (LCDP voucher).

Similar to *Epidendrum pseudospathoides* Hágsater & E. Santiago, but has bright green flowers, concolor (vs. flowers pale green sometimes with red lines along the dorsal surface of the sepals, lip pale green), and lip entire, semi-orbicular, lunate in general form, the basal margins somewhat retrorse, apex rounded, apiculate, with margin short fimbriate, slightly involute (vs. lip 3-lobed, apex emarginate, margin erose, spreading).

Epiphytic, sympodial, caespitose, erect, sometimes becoming pendulous, **herb**, 40-50 cm tall including the inflorescence. **Roots** 2.0-3.0 mm in diameter, basal, fleshy, thin. **Stems** 25-30 x 0.8-0.9 cm, simple, cane-like, laterally compressed, straight, the basal non-foliar sheaths 3.5 cm long, scarious. **Leaves** 5-6, alternate, articulate, distributed along apical 2/3 of the stem, coriaceous, base conduplicate; sheaths 2.1-2.7 x 0.8 cm, tubular, laterally compressed, green tinged purple, striated; blade 7.6-12.6 x 2.6-2.8 cm, lanceolate, acute, margin entire, slightly revolute at the apex, dark green above, purple beneath. **Spathe** 1, 6.2 x 0.8 cm, tubular at base and conduplicate, acute to acuminate. **Inflorescence** 25 cm long, apical, panicle, lax-flowered; peduncle 6.0-6.7 cm long, slightly laterally compressed, covered by the spathe; rachis 14.5-19.0 cm long, terete. **Floral bracts** 2.7-8 mm long, shorter than the ovary, decreasing, ovate-triangular, acuminate, embracing, green. **Flowers** up to 30, non-resupinate, successive, 4-7 open at any given time, bright green concolor; fragrance none registered. **Ovary** 10-16 mm long, terete, somewhat inflated ventrally along the apical 2/3, forming an elongate vesicle, furrowed. **Sepals** 3-veined, margin entire, revolute, dorsal sepal 14.6-15.0 x 2.9-3.3 mm, free, spreading, narrowly oblanceolate, apex acuminate, lateral sepals 15.6-17.0 x 3.4-3.8 mm, obliquely united to the basal 1/3 of the column, partly spreading, narrowly oblanceolate, oblique, acute to acuminate. **Petals** 14.5-15.0 x 0.8-1.1 mm, spreading, free, linear, apex acute, 1-veined, margin entire, spreading. **Lip** 5.0-7.3 x 7.8-8.5 mm long, united to the column, entire, base widely sub-cordate, semi-orbicular in general form, lunate up to 3/4 of circle, the basal margins somewhat retrorse, apex rounded, apiculate, margin short fimbriate, slightly involute; bicallose, calli prominent, fleshy, divergent, with a low, fleshy mid-rib running to the apex of the lip. **Column** 10.0-11.5 mm, straight, thin, slightly widening towards the apex. **Clinandrium-hood** reduced, margin entire. **Anther** redounded, 4-celled, unornamented. **Pollinia** 4, obovoid, laterally compressed, equal in size, caudicles soft and granulose, about as long as the pollinia, viscarium semi-liquid, transparent. **Rostrum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** shallow, penetrating 3/4 of the ovary, somewhat widened within the pedicellate ovary, unornamented. **Capsule** not seen, presumably with a short pedicel and a long apical neck.

OTHER SPECIMENS: PERU: Cajamarca: Cutervo: Parque Nacional de Cutervo, 2230 m, 22 II 2019, Díaz 273, PRG; *Ibid.* 22 IV 2019, Díaz 281, PRG! (LCDP and Photo voucher).

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known presently from two collections from northern Peru, in the Regions of Amazonas and Cajamarca, epiphytic at 2100-2230 m elevation. The two sites are some 135 km distant. Flowering from February to April.

RECOGNITION: *Epidendrum lunatus* belongs to the Philippii Group characterized by the sympodial, caespitose habit, the apical, erect, racemose to panicle inflorescence with a somewhat elongate peduncle covered by several spathe-like bracts, the successive non-resupinate flowers, and the 3-lobed lip formed by 4 semi-orbicular lobes, the mid-lobe is itself more or less bilobed at the apex, the outer margins of the lip more or less denticulate. The new species is recognized by the stems with 5-6 leaves 7.6-12. x 2.6-2.8 cm, dark green above, purple beneath, the inflorescence to 25 cm long, panicle, the peduncle totally covered by the spathe, the flowers green concolor, the sepals 14.6-17.0 mm long, and the lip semi-orbicular in general form, lunate up to 3/4 of circle, the basal margins somewhat retrorse, apex apiculate, margin short fimbriate, bicallose. *Epidendrum pseudospathoides* Hágsater & E. Santiago has stems with 4-8 leaves 4.2-11.9 x 1.9-3.8 cm, dark a green above, purple beneath, an inflorescence to 30 cm long, racemose, the peduncle totally covered with up to 4 bracts similar to the spathe but decreasing in size, the flowers green, sepals with dorsal red lines, the sepals shorter (11-14 mm long), and the lip 3-lobed, the lateral lobes dolabriform and mid-lobe sub-quadrate and emarginate, forming a pair of semi-orbicular lobules, slightly shorter than the lateral lobes. *Epidendrum freireanum* Hágsater & E. Santiago has stems with 3-4 leaves 3.7-7.0 x 1.1-2.0 cm, and inflorescence 11-20 cm long, sometimes pluri-racemose with a single small spathe, flowers brownish purple, the lip ivory white, the sepals 10 mm long, and a lip 3-lobed, the mid-lobe rectangular and widely mucronate. *Epidendrum odontospathum* Rchb.f. has elliptic leaves with the apex rounded, the sepals elliptic with apex rounded, minutely apiculate, the petals oblanceolate, rounded with margin crenulate towards the apex, and the lip with 3 low, fleshy ribs, lateral lobes obliquely reniform, mid-lobe semicircular, broadly redounded.

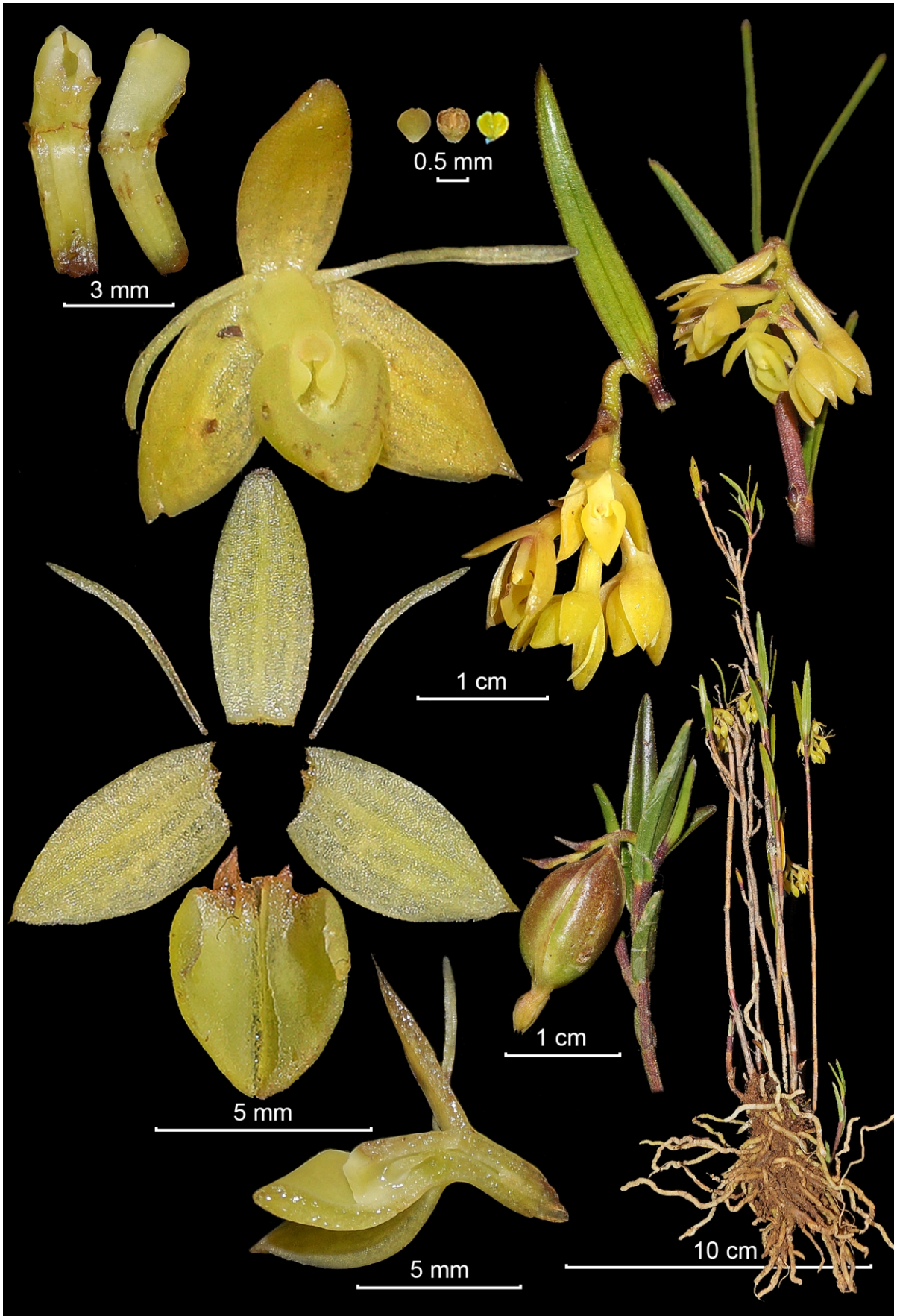
NOTE: Bennett & Christenson (1995) incorrectly identified their plate as *Epidendrum odontospathum*. It corresponds to what Hágsater & Santiago (2020) have recently described as *Epidendrum pseudospathoides*.

CONSERVATION STATUS: DD. Data deficient. Known presently from two localities in northern Peru.

ETYMOLOGY: From the Latin *lunatus*, crescent shaped, in reference to the shape of the lip, which is crescent shaped, like a half moon to 3/4 orbicular, a distinguishing feature of this species compared to closely related species.

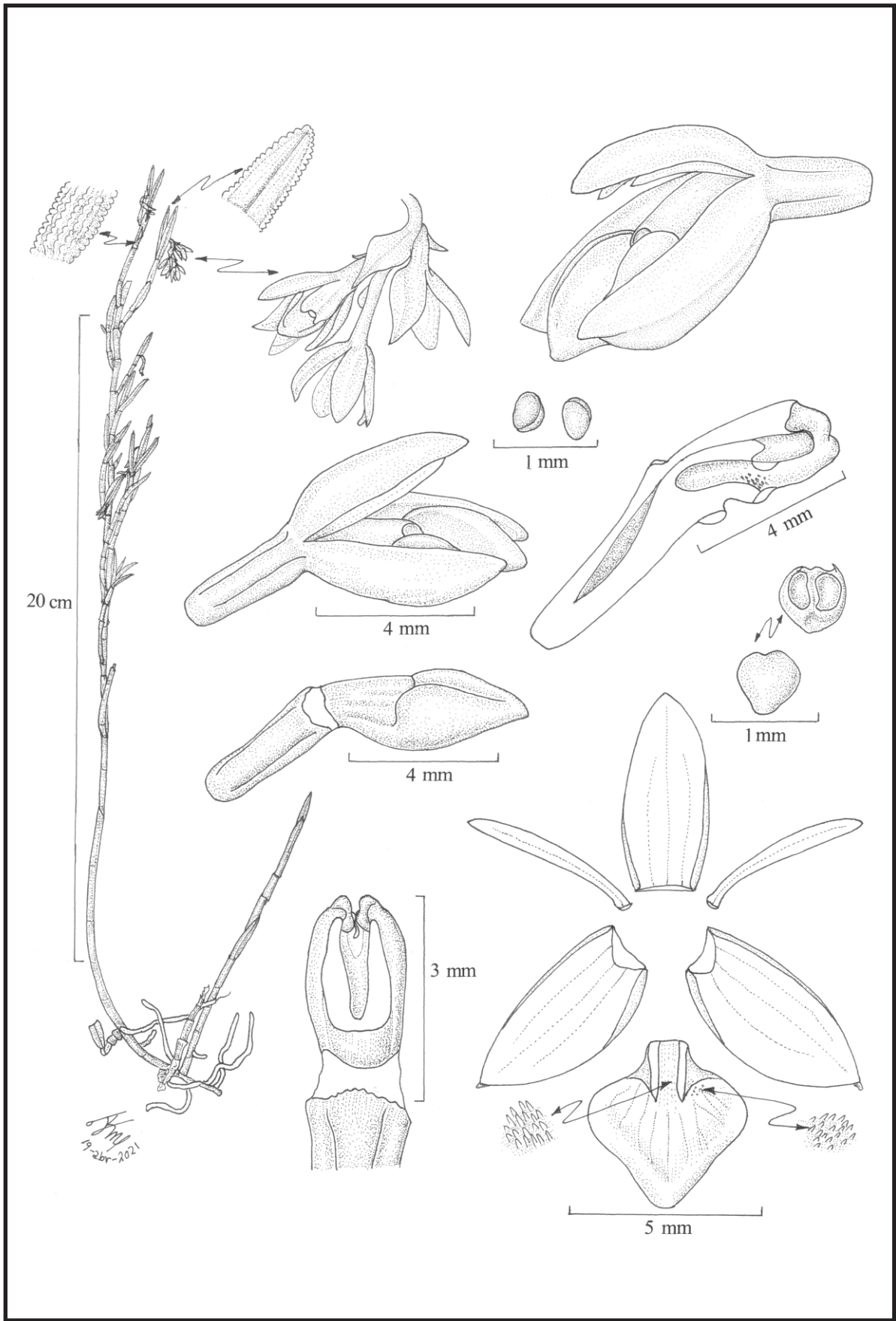
REFERENCES: Bennett Jr., D.E., & E.A. Christenson, 1995, *Epidendrum odontospathum* in *Icon. Orchid. Peruvianum* t. 247. Hágsater, E., & E. Santiago, 2018, *Epidendrum freireanum* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 12, *Icon. Orchid.* 16(1): pl. 1619. Santiago, E., & E. Hágsater, 2018, *Epidendrum odontospathum* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 12, *Icon. Orchid.* 16(1): pl. 1648. Hágsater, E. & E. Santiago, 2020, *Epidendrum pseudospathoides* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 13, *Icon. Orchid.* 17(2): pl. 1793.





EPIDENDRUM LUTEOSTENOPHYTON Hágsater, Edquén & E.Santiago

Plate 1881



EPIDENDRUM LUTEOSTENOPHYTON Hágsater, Edquén & E.Santiago

Plate 1881a

EPIDENDRUM LUTEOSTENOPHYTON Hágsater, Edquén et E.Santiago, *sp. nov.*

Type: PERU: Amazonas: Prov. Chachapoyas, Distr. Granada, Comunidad campesina de Diosán, 3438 m, 19 enero 2018, **José Dilmer Edquén Oblitas 352**. Holotype: HURP!

Similar to *Epidendrum stenophyton* Schltr. but the plants 13-30 cm tall, very branching above, (vs. plants 30-45 cm tall, scarcely branching) the inflorescence 1.6 cm long, with 2-5 yellow concolor flowers (vs. up to 3 cm long with 7-12 whitish yellow flowers), lateral sepals 6.5 x 3 mm, elliptic (vs. lateral sepals 7 x 2.3-2.5 mm, narrowly oblong, sub-falcate-oblique), petals linear, equally wide at base and apex (vs. petals linear with the base wider than the apex), and the lip apically rounded (vs. lip with the apex sub-acute).

Lithophyte and epiphytic, monopodial, **herb**, 13-30 cm tall, very branching above. **Roots** 1.5-2.5 mm in diameter, basal from the primary stem, fleshy, thin. **Stems** primary stem 13-22 x 0.2-0.3 cm, cane-like, with shorter secondary stems from the sub-apical internodes, terete, erect, straight, red-brown; basal half covered with non-foliar sheaths 1.0-1.2 cm, tubular, striated, scarious and becoming fibrous with time. **Leaves** numerous on the primary stem, 5-7 persistent and distributed along the apical half of the stem, 2-9 distributed throughout the branches, leaves coriaceous, sub-parallel to the stems, similar in size and shape, articulate, medium green, concolor; sheaths 0.2-1.2 x 0.2 x 0.3 cm, tubular, striated, verrucose, red-brown; blade 0.6-3.1 x 0.15-0.3 cm; linear-lanceolate, obtuse to sub-acute, margin denticulate, spreading. **Spathes** lacking. **Inflorescence** 1.6 cm long, apical, arching-nutant, few-flowered, flowering only once; peduncle 1.2 cm long, terete, arching, thin, verrucose; rachis 4 cm long, zigzag. **Floral bracts** 3-5 mm long, unequal in size, the basal ones longer than the ovary, the apical ones shorter than the ovary, narrowly triangular to triangular, acuminate, embracing, yellow-brown. **Ovary** 3.8-4.5 mm long, terete, furrowed, unornamented. **Flowers** 2-5, simultaneous, resupinate, yellow, concolor; fragrance not registered. **Sepals** partly spreading, free, slightly concave, obtuse, 3-veined, margin entire, spreading; dorsal sepal 5.1-6.0 x 2.2 mm, narrowly elliptic; lateral sepals 5.4-6.5 x 2.5-3.0 mm, elliptic, apiculate, slightly oblique. **Petals** 4.4-5.5 x 0.2 mm, partly spreading, free, filiform, apex obtuse, 1-veined, margin entire, spreading. **Lip** 3.4-4.5 x 4.0-5.0 mm, united to the column, embracing the column in natural position without covering it, base widely cuneate, transversely ovate to transversely trullate, apex rounded, margin entire, fleshy thick; ecallose; the disc sparsely pubescent in front of the rostellum. **Column** 3.0-3.5 mm long, thick, straight, with a pair of truncate wings at the apex. **Clinandrium-hood** reduced, margin entire. **Anther** ovoid, 2-celled. **Pollinia** 4, obovoid, the inner pair, wedge-shaped, half the size of the outer pair; caudicles soft and granulose, as long as the pollinia; viscarium semi-liquid, transparent. **Rostellum** sub-apical, split. **Lateral lobes of the stigma** small, less than half as long as the stigmatic cavity. **Nectary** short, without penetrating behind the perianth, wide, not inflated. **Capsule** 2.7 x 1.2 cm, ellipsoid, light green tinged red-brown in the basal half, sessile; body 2 x 1.2 cm; apical neck 7 mm long.

OTHER SPECIMENS: PERU: Amazonas: North side of Diosán-Molinopampa pass, 3300-3350 m, 2 VIII 1962, *Wurdack 1552*, AMES! US! (illustration voucher) USM!

OTHER RECORDS: PERU: Amazonas: Prov. Bongará, Distr. Granada, Bosque de Protección Alto Mayo, Laguna María Gandolán, propiedad de Darío Labajos Canlla, 19 I 2018, *Edquén 2112*, digital images AMO! (LCDP voucher). Bosque de Protección Alto Mayo, Granada a 7 Lagunas, sector Paco Rapra, vuelta en la ladera muy empinada, 3209 m, 19 III 2019, *Hágsater 16153*, digital image, AMO! (Photo voucher).

DISTRIBUTION AND ECOLOGY: Known presently from the area of the District of Granada, lithophytic on sandstone slabs in *Pajonal*, and epiphytic in *Polylepis* sp., in high altitude relict Andean forest patches, at 3200-3500 m elevation. Flowering from January to August.

RECOGNITION: *Epidendrum luteostenophyton* belongs to the Elleanthoides Group, Rhombochilum Subgroup which is characterized by the branching habit, small leaves, and a short and nutant inflorescence on a short thick peduncle. The species is recognized by the small habit and flowers, the inflorescence 1.6 cm long with 2-5 simultaneous, yellow flowers, the lateral sepals 5.4-6.5 x 3 mm, elliptic, the petals linear, and the lip transversely ovate to transversely trullate, apex rounded, fleshy. *Epidendrum stenophyton* has a 3 cm long inflorescence with 7-12 whitish yellow flowers, the lateral sepals 7 x 2.3 mm, narrowly oblong, falcate, oblique, and the lip rhombic-elliptic, sub-acute. *Epidendrum rhombochilum* L.O. Williams is vegetatively very similar, but the flowers are greenish yellow, the lateral sepals 6.5-7.5 x 3.0-3.5 mm, lanceolate to ovate-lanceolate, the petals filiform, and the lip rhombic to transversely rhombic with the apex acute. *Epidendrum citrinanthum* Hágsater, of the Frutex Group also has yellow flowers, the inflorescences are sessile, the leaves 0.7-1.4 cm long parallel to the stem, lanceolate-oblong, apex rounded, the sepals 4.5-5.0 mm long, and the lip widely reniform.

NOTE: In the plate, the view of the floral segments, the lip is not spread, the sides are upturned, so that the true shape is not visible, and it appears to be ovate. Note the in the illustration of the Wurdack specimen the lip is spread clearly transversely trullate.

CONSERVATION STATUS: DD. Data deficient. Known presently from a very small high Andean forest and *Pajonal* area.

ETYMOLOGY: From the Latin *luteus*, yellow, in reference to the yellow flowers, and *stenophyton*, slim-growing plant, from the Greek *steno*, narrow and *futon*, plant, which differentiates this species from *Epidendrum stenophyton* which has whitish yellow flowers.

ACKNOWLEDGMENT: Type material was collected under permit SERFOR: RESOLUCIÓN DE DIRECCIÓN GENERAL Nº 137 -2018-MINAGRI-SERFOR/DGGSPFFS, con Código de Autorización Nº AUT IFL-2018-025. Proyecto: "Efecto de la fragmentación de hábitats de bosque alto andino en diversidad y distribución de las familias Orchidaceae y Bromeliaceae, del anexo de Diosán, distrito de Granada-Amazonas, 2018".

REFERENCES: Hágsater, E., 2018, *Epidendrum citrinanthum*, in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 12, *Icon. Orchid.* 16(2): pl. 1670. Schlechter, F.R.R., 1921, *Epidendrum stenophyton*, in Die Orchideenflora der Südamerikanischen Kordillerenstaaten IV. Peru, *Repert. Spec. Nov. Regni Veg. Beih.* 9: 93. Williams, L.O., 1940, *Epidendrum rhombochilum* in *Orchid Studies* XIII, New or interesting orchids from Ecuador and Colombia, *Bot. Mus. Leafl.* 9(1): 11, t. 3, f. 4-7.



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

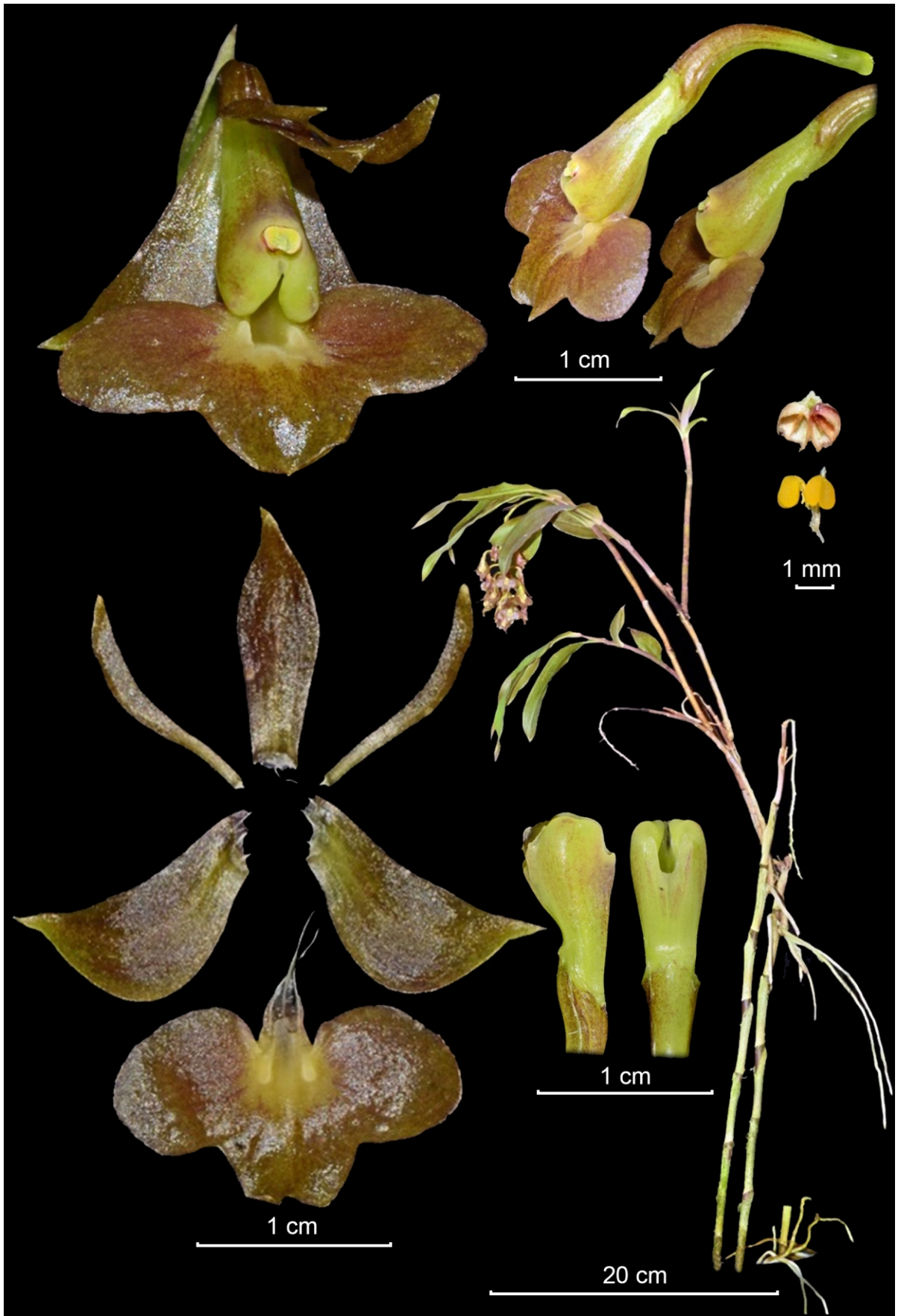
LCDP: J. D. Edquén & A. Cisneros

Illustration: R. Jiménez M.

Photo: E. Hágsater

Editors: E. Hágsater & E. Santiago

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EPIDENDRUM MACUCHIENSE Hágsater & E.Santiago

EPIDENDRUM MACUCHIENSE Hágsater & E.Santiago, Icon. Orchid. 15(1): pl. 1537. 2015.

Type: ECUADOR: Cotopaxi: 2 km E of Macuchi, on road from Quevedo-Latacunga, 1500 m, 10 October 1979, *Calaway H. Dodson 9238*. Holotype: SEL!

Epiphytic, sympodial, erect **herb**, new stems arising from sub-apical internode of previous stem. **Roots** 1.0-2.0 mm in diameter, basal, at base of each stem. **Stems** 16.5-38.7 x 0.2-0.7 cm, simple, cane-like, terete, erect, new stem originating from middle internode of previous stem, new stems gradually becoming thinner and shorter, covered by non-foliar sheaths, 3.9-6.4 x 0.3-0.7 cm, tubular, acute, green when fresh. **Leaves** 4, aggregate towards apex of stem, alternate, articulate, slightly recurved; sheaths 1.0-2.5 x 2.9-3.6 cm, tubular, brown, minutely striated, becoming fibrous with time; blade 3.5-10.8 x 0.8-1.5 cm, unequal in size, green with a brown tinge, lanceolate, acute, margin entire, spreading. **Spathes** lacking. **Inflorescence** 6-12.7 cm long, apical, flowering only once from mature stem, racemose, arching, nutant, from mature stem; peduncle 3.7 cm long, thin, somewhat laterally compressed; rachis 8.9 cm long, thin, laterally compressed. **Floral bracts** 4-14 mm long, about half as long as ovary, triangular, acuminate, embracing. **Ovary** 13-14 mm long, thin, terete, slightly ventrally inflated towards apex, arcuate, somewhat furrowed, green somewhat tinged brown towards the apex. **Flowers** ca. 12, simultaneous, resupinate, green to brown, column green tinged brown towards the apex; fragrance not registered. **Sepals** acuminate, slightly concave, glabrous, 5-veined, partly spreading, margin entire, spreading; dorsal sepal 11.4-13.4 x 4.0-4.2 mm, free, oblanceolate; lateral sepals 12.7-13.4 x 5.4-5.7 mm, nearly parallel to column and obliquely united to it, broadly sub-ovate, oblique, strongly falcate. **Petals** 10.8-12.5 x 1.0-1.1 mm, free, partly spreading, erect, appressed to margins of dorsal sepal, linear-oblanceolate, acute to obtuse, arcuate apically, 1-veined, margin entire, spreading. **Lip** 8.6-10 x 16.1-17.6 mm, united to column, deeply 3-lobed, fleshy, base deeply cordate slightly convex; bicallose, small, semi-orbicular, laterally compressed; disc with a low wide mid-rib, elongate, reaching apical sinus of lip; lateral lobes 6.6-7.5 x 5.2-7.8 mm, broadly elliptic to sub-orbicular, margin somewhat erose to entire; mid-lobe 3.2 x 5.0-7.1 mm, rectangular-cuneate, emarginate, apex forming two rounded lobes, margin entire. **Column** 10-11 mm long, straight, wider towards truncate apex. **Clinandrium-hood** reduced, margin entire. **Anther** widely ovoid, apex truncate, 4-celled. **Pollinia** 4, obovoid, laterally compressed, caudicles soft and granulose, longer than pollinia. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** penetrating half of ovary, wide, unornamented. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: ECUADOR: Bolívar: San Miguel, Bilován, Balsabampa, 800-1000 m, *Medina s.n.*, digital images, AMO! (LCDP and Photo voucher).

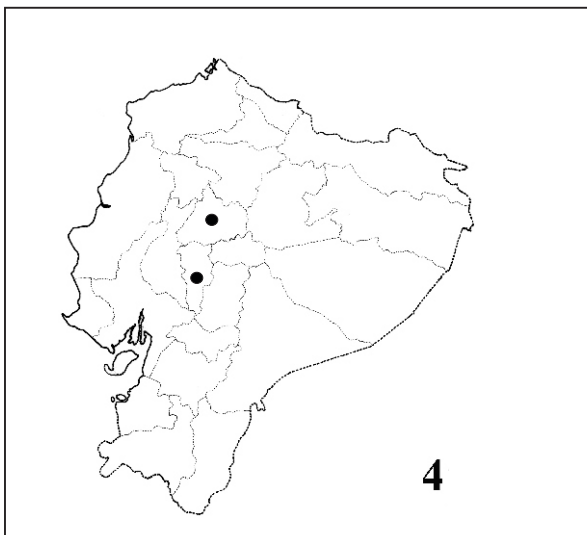
DISTRIBUTION AND ECOLOGY: Presently known from central Ecuador, on the western slope of the Andes in the Provinces of Cotopaxi and Bolívar, at 800-1500 m elevation. Epiphytic. Flowering in October.

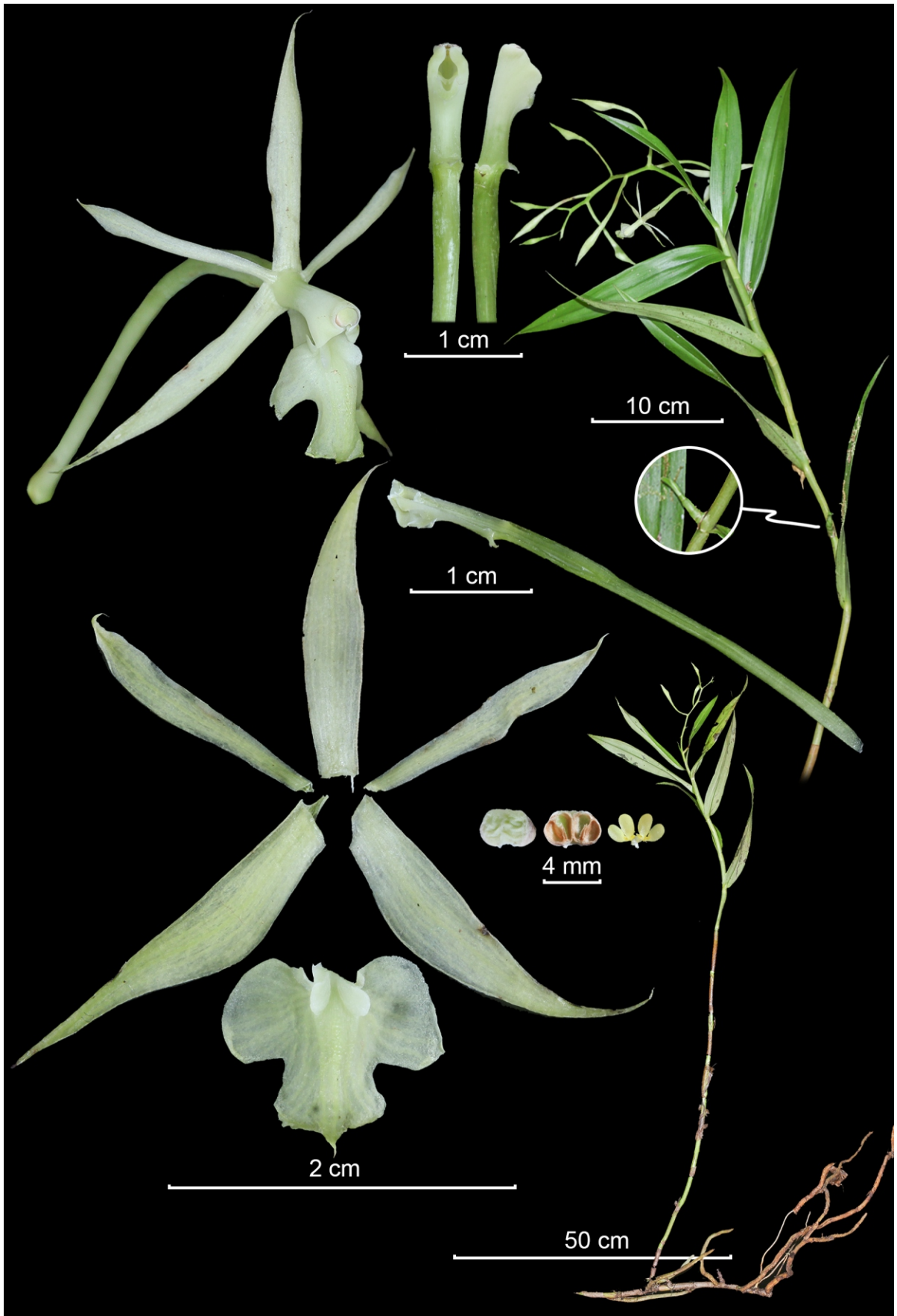
RECOGNITION: *Epidendrum macuchiense* belongs to the Incomptum Group which is characterized by the successive lateral growths produced from the middle of the previous growth, the few leaves aggregate towards the apex of the stems, a short apical inflorescence with fleshy green to violet-green to black flowers with short ovaries, and the lip entire to 3-lobed. The species is recognized by the green to brown flowers, the deeply 3-lobed lip, twice as wide as it is long, 8.6-10 x 16.1-17.6 mm, the lateral lobes broadly elliptic to sub-orbicular, the mid-lobe rectangular-cuneate, emarginate, and the thin, linear-oblanceolate petals 10.8-12.5 mm long. *Epidendrum marioi* Zambrano & Hágsater has oblong-elliptic leaves, an ovary about 15-16 mm long, furrowed ventrally, the sepals oblanceolate-elliptic, 3-veined, the petals with one vein with two lateral branches, a lip with lateral lobes obliquely and widely sub-orbicular, the mid-lobe larger, about 5.5-6.0 x 2.3-2.9 mm, and a shorter column, 7.0-7.7 mm long. *Epidendrum homoion* Hágsater & Dodson has a very similar shaped lip but larger, the lip 14-16 x 26-28 mm, the petals obtusulate which are much wider 8.5 x 6.0-6.5 mm, the sepals and petals green and the lip olive-green to purplish green. *Epidendrum boekei* Hágsater also has a 3-lobed lip but it is nearly as long as it is wide, 11-14 x 14-18 mm, the calli are narrower and divergent, the lateral lobes are slightly retrorse, the petals 11.5 x 3-6 mm, narrowly oblanceolate, apex rounded. *Epidendrum oenochromum* Hágsater & Dodson has burgundy-red colored flowers, the lip 10 x 16 mm, is proportionately wider than long, the lateral lip lobes are orbicular, and the petals 11.7 x 2.2 mm, oblong, wider.

CONSERVATION STATUS: DD. Data Deficient. Known from two collections.

ETYMOLOGY: In reference to the town of Macuchi, in the province of Cotopaxi, Ecuador, near where the type was collected.

REFERENCES: Hágsater, E., 2009, *Epidendrum boekei* in E. Hágsater (eds.), The Genus *Epidendrum*, Part 8, *Icon. Orchid.* 12: t. 1210. Hágsater, E., & C.H. Dodson, 1993, *Epidendrum homoion* in E. Hágsater & G.A. Salazar (eds.), The Genus *Epidendrum*, Part 1, *Icon. Orchid.* 2: t. 145. Hágsater, E., & C.H. Dodson, 2004, *Epidendrum oenochromum* in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 4, *Icon. Orchid.* 7: t. 768. Zambrano, J., E. Hágsater & R. Solano, 2021, *Epidendrum marioi*, in Miscellaneous new species in *Epidendrum* (Orchidaceae) from southwestern Ecuador, *Phytotaxa* 511(2): 128-130, fig. 14-15.





EPIDENDRUM MALDONADOENSE Hágsater & Dodson

Plate 1883

EPIDENDRUM MALDONADOENSE Hágsater & Dodson, *Icon. Orchid.* 4: pl. 456. 2001.

Type: ECUADOR: Carchi: above Maldonado, West of Tulcán, 1700-2000 m, 21 February 1978, *Carlyle A. Luer, Jane Luer & Alexander Hirtz 2701*. Holotype: SEL 025448!

Epiphytic, monopodial, erect **herb**, 111 cm tall, somewhat branching above. **Roots** 8 mm in diameter, basal, thick. **Stems** 95 x 0.3-0.8 cm, cane-like, erect, straight, the basal 2/3 with sheaths 2.7-7.0 cm long, tubular, non-foliar, brown, scarios, and becoming fibrous with time. **Leaves** 7-14, on the primary stem, secondary stems apparently also elongate and many-leaved, distributed throughout the stems, sub-erect in natural position, the apical leaf smallest, articulate; sheaths 0.7-7.0 x 0.3-0.8 cm, tubular, minutely striated, medium green; blades 6-23 x 0.6-2.7 cm, narrowly oblong-elliptic, acuminate, medium green, the underside paler. **Spathes** lacking. **Inflorescence** ca. 11-15 x 15 cm, apical, arching-nutant, racemose, laxly few flowered; peduncle 1-3 cm long, thin; rachis 9-10 cm long, flexuous. **Floral bracts** 5-8 mm long, much shorter than the ovary, linear triangular, acuminate, embracing. **Ovary** 17-60 mm long, thin. **Flowers** 8-9, resupinate, very pale green-white, base of column slightly greener; fragrance none registered. **Sepals** 17-23 x 3.6-5.0 mm, spreading, narrowly oblanceolate, long acuminate, 7-veined, margins entire, revolute; lateral sepals sometimes falcate. **Petals** 16-17 x 2.0-4.5 mm, spreading, slightly reflexed, oblanceolate, apex long-acuminate, 3-veined, apical margins minutely erose, lateral margins revolute. **Lip** 10-13 x 12-17 mm, united to the column forming a 90° angle with the column, base cordate, deeply 3-lobed, convex in natural position; bicallose, calli obovate, laminar, divergent, disc somewhat thickened, with a very low, wide mid-rib reaching the apex of the lip; lateral lobes 4.0-5 x 5.0-6.2 mm, revolute in natural position, sub-orbicular, margins entire, spreading, the forward margin straight; mid-lobe 4.3 x 6.1 mm, excluding the apiculus, transversely rectangular, base slightly narrower, apex prominently apiculate, margins entire, the lateral margins revolute, the apiculus 1.5 x 1.2 mm, triangular, acuminate. **Column** 9-10 mm long, straight, slightly constricted below the middle, apex obliquely truncate, with a pair of rounded wings on the sides next to the lip, somewhat involute. **Clinandrium** hood truncate to short, margin entire. **Rostellum** apical, slit. **Lateral lobes of the stigma** prominent, about 1/3 the length of the stigmatic cavity. **Anther** reniform, 4-celled, very pale green. **Pollinia** 4, obovoid, the inner pair somewhat larger, only slightly flattened on the inner side of each pair, pale yellow; caudicles very short, granulose; viscarium semi-liquid. **Nectary** penetrating 1/4 of the pedicellate ovary, narrow, unornamented. **Capsule** not seen.

OTHER SPECIMENS. COLOMBIA: Nariño: Ricaurte: Reserva Natural La Planada, a 7 km de Chucunes, 1800 m, 27 IX 1989, *Olga de Benavides 10989*, CAUP! PSO! Reserva Forestal Protectora Natural La Planada, 25 III 2021, *Reina-Rodríguez 3291*, PSO! (Digital images of live plant, AMO! (LCDP & Photo voucher).

OTHER RECORDS. COLOMBIA: Nariño: Ricaurte: Reserva Natural La Planada, *Ortiz Valdivieso s.n.*, digital image, AMO!

DISTRIBUTION AND ECOLOGY: Presently known from La Planada National Protective Forest Reserve and the northern Ecuadorean town of Maldonado, growing in cloud forest at 1700-2000 m elevation, a range of only 37 km, but in an area well protected by the native Awá population. Flowering from February to April.

RECOGNITION: *Epidendrum maldonadoense* belongs to the Andean Group recognized by the monopodial, branching habit, and the Maldonadoense Subgroup characterized by the scarcely branching plants, leaves narrowly elliptic and acuminate, the laxly few-flowered inflorescence, and the tepals long acuminate. The species has cane-like stems with numerous leaves narrowly oblong-elliptic, acuminate, distributed throughout the stem, and the apical, racemose, laxly-flowered inflorescence lacks any spathe, with large, star-like, very pale green-white flowers, the sepals 17-23 mm long, and the lip 3-lobed, the lateral lobes sub-orbicular-sub-quadrate, with the forward margin straight, and the mid-lobe transversely quadrate, with a prominent triangular apiculus. The flowers are somewhat reminiscent of *Epidendrum amblyantherum* Hágsater & E.Santiago in the color and 3-lobed lip, but the sepals are 15-22 mm long, elliptic, acute, and the callus of that species forms a "Y" shaped thickening.

CONSERVATION STATUS: CR. Critical Risk. Known presently from several collections along the border from above Maldonado, Carchi, Ecuador and La Planada National Protective Forest Reserve, Nariño, Colombia, a distance of only 32 km. The extent of occurrence estimated to be less than 100 km² (83 km²). The area, however, has been conserved by the Pialapí-Pueblo Viejo Awá native population in La Planada National Protective Forest Reserve, some parts are already being pressured by illicit crops on the Colombian side, so we inferred a decline area of occurrence, therefore as a Critic Risk CR B1b(ii, iii)c(iii).

ETYMOLOGY: In reference to the town of Maldonado, in north western Ecuador, near the Colombian border, where the type and many other interesting orchids have been collected.

REFERENCES: Hágsater, E., & C.H. Dodson, 2001, *Epidendrum maldonadoense* in Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 3, *Icon. Orchid.* 4: pl. 456. Hágsater, E., & E. Santiago, 2009, *Epidendrum amblyantherum* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 12, *Icon. Orchid.* 12: pl. 1203.



Authors: E. Hágsater, G. Reina-Rodríguez & E. Santiago LCDP: G. Reina-Rodríguez & A. Cisneros Photo: G. Reina-Rodríguez Editors: E. Hágsater & E. Santiago



EPIDENDRUM MICROSECUNDUM Hágsater & J.Duarte

Plate 1884

EPIDENDRUM MICROSECUNDUM Hágsater et J.Duarte, sp. nov.

Type: ECUADOR: Azuay: Cuenca: Chaguan, ca. km 25 desde Cuenca, 3176 m, col. 17 septiembre 2016, prensado en cult. 13 enero 2020, **Eric Hágsater, Gerardo A. Salazar, Francisco Tobar & Efrain Freire 14600**. Holotype: QCNE! Isotypes: AMO! MO! Clonotype: 26 septiembre 2019, AMO! (LCDP voucher).

Similar to *Epidendrum ptochicum* Hágsater & Dodson but the plants smaller, leaves ovate-elliptic, 1.8-3.5 cm long (vs. leaves 4.3-13 cm long, narrowly elliptic to lanceolate), flowers similar in size, sepals 8.0-10.0 mm long (vs. sepals 8-9 mm long), lip 7.0 x 12.2 mm (vs. lip 7.6 x 9.6 mm), callus massive, pluri-tuberculate formed by two pairs of lateral ribs, the basal one divergent, acute, the apical pair falcate, incurved, with a central subquadrate platform formed by a mid-rib, acute, short, with two short tubercles on each side (vs. callus massive, formed by 4 basal, finger-like structures, the lateral ones shorter, the central ones superposed on a 3-toothed, laminar structure, elongate and reaching the middle of the mid-lobe of the lip).

Terrestrial or epiphytic and myrmecophilous sympodial, caespitose **herb**, 16-52 cm tall including the inflorescence. **Roots** 0.7-1.2 mm in diameter, fleshy, white, at the base of stems. **Stems** 10-13 x 0.2-0.5 cm, short, simple, cane-like, terete, erect, covered by foliar sheaths. **Leaves** 8-15, distributed throughout the stem, sheaths 0.8-1.5 x 0.6-0.8 cm, tubular, slightly compressed, thin, smooth, papyraceous, becoming scariosus when dry, green; blade 1.8-5.0 x 1.0-2.1 cm, ovate-elliptic, apex obtuse to rounded, coriaceous, green, margin entire. **Spathe** lacking. **Inflorescence** 22-40 cm long, apical from mature stem, racemose to pluri-racemose, producing new racemes from the upper nodes of the peduncle; peduncle 18.5-36.0 cm long, green, elongate, terete, slightly flexuous, covered by gray tubular bracts 2.4-4.5 cm long, becoming scariosus when dry, striated, chartaceous, imbricating, acute; rachis 1.5-5.0 cm long. **Floral bracts** 0.2-1.0 mm long, decreasing in size apically, very small compared to the ovary, triangular, acuminate, chartaceous, embracing. **Ovary** 1.3-1.9 cm long, terete, thin, not inflated, pink with greenish overtones, darker towards the apex, erect, furrowed. **Flowers** 11-28, successive, with floral buds in various stages of development, eventually all open at the same time, non-resupinate, sepals and petals red, lip orange-red, callus orange, column darker red, anther yellow, pollinarium yellow; fragrance absent. **Sepals** 8.0-10.0 x 4.0-5.0 mm, spreading, elliptic, apex apiculate, 5-veined, margin entire, spreading, lateral sepals wider, oblique. **Petals** 8.2-10.0 x 3.8-4.0 mm, spreading, obrutellate-spatulate, apex apiculate, 5-veined, margin erose towards the apex. **Lip** 7.0 x 10.2 mm, united to the column, 3-lobed, base cordate, callus massive, pluri-tuberculate formed by two pairs of lateral ribs, the basal one divergent, acute, the apical pair falcate, incurved, with a central sub-quadrate platform formed by a mid-rib, acute, short, with two short tubercles on each side; lateral lobes 4.2-5.0 x 3.7-5.0 mm, spreading, sub-rectangular, the basal margin entire, progressively dentate to deeply lacinate; mid-lobe 3.8-4.0 x 6.2-7.0 mm, from a quadrate isthmus narrower than the prominent callus that covers it completely, apex deeply bifid, forming two flabelliform lobes, 2.5-3.1 x 1.5-1.8 mm, somewhat divergent, sub-quadrate, apical margin deeply lacinate. **Column** 6.0 x 3.0 mm, straight, slightly thickened towards the apex, minutely papillose, with a pair of thickened lateral lobes surpassing the body of the column and slightly curved upwards and adnate to the callus. **Clinandrium-hood** reduced, margin entire with a small apiculus in the middle. **Anther** 1.0 x 1.0 mm, cordiform, apex truncate, emarginate, 4-celled. **Pollinia** 4, obovoid, laterally compressed, equal; caudicles soft, like a pile of stacked tiles; viscarium semi-liquid. **Rostellum** apical, slit. **Lateral lobes of the stigma** small, occupying ¼ of the stigmatic cavity. **Nectary** penetrating half the pedicellate ovary, minutely papillose. **Capsule** not seen.

OTHER SPECIMENS: ECUADOR: Loja: Loja-Zamora road, 2-7 km W of the pass, 2400-2700 m, 17 VI 1979, *Løjntant 15042*, AAU! GB!

OTHER RECORDS: ECUADOR: Azuay: Cuenca: Chaguan, ca. km 25 desde Cuenca, 3176 m, col. 17 IX 2016, photographed 17 II 2017, *Hágsater 14601*, digital images AMO! (Photo voucher).

DISTRIBUTION AND ECOLOGY: Known presently from southern Ecuador, Azuay, south of Cuenca, and above Loja, towards the pass of Zamora, at 2400-3200 m elevation. Flowering apparently throughout the year.

RECOGNITION: *Epidendrum microsecundum* belongs to the Schistochilum Group, Secundum Subgroup, which is characterized by the caespitose habit, the erect, simple, cane-like stems, the normally elongate peduncle of the inflorescence, the erect raceme of generally non-resupinate, showy, colorful flowers, and the lip adorned by a complex a callus. The new species is recognized by the small habit, the short stems 10-13 cm tall, the red flowers, the callus orange-yellow, complex and wide, the flowers small, the sepals 8.0-10.0 mm long, oblanceolate, the petals obrutellate-spatulate, and the lip deeply 3-lobed, apical margins dentate to lacinate, with a large complex callus, the lateral lobes sub-rectangular, the mid-lobe apically bifid, forming two flabelliform lobes. In size it is equal to *Epidendrum azulensis* D.E.Benn. & Christenson which has longer, narrower leaves, deep purple-pink flowers, and a large white callus. *Epidendrum ptochicum* Hágsater is very similar but the callus is massive, formed by 4 basal, finger-like structures, the lateral ones shorter, the central ones superposed on a 3-toothed, laminar structure, elongate and reaching the middle of the mid-lobe of the lip, the apex of the column is yellow, and the orange color of the flowers is somewhat less deep, more yellow. *Epidendrum rauhii* Hágsater is slightly larger, but flowers are white with a yellow callus, flowers becoming yellowish when pollinated or aging, and the petals are obovate. All three species can be considered as dwarf species for the Schistochilum Group, with stems no more than 20 cm tall in optimum conditions. *Epidendrum sholletiae* Hágsater, L.Valenz. & J.Duarte is also short, plants 21-25 including the inflorescence, has red flowers with an orange callus, oblong-elliptic leaves, 1.4-2.7 x 0.4-0.8 cm, sepals 8.8-10.0 mm long, petals 10.2 x 3.2 mm, narrowly elliptic, the lip with a sub-quadrate to sub-flabellate lateral lobes, the margin irregularly lacinate, the lacinia short at base and progressively longer, mid-lobe very short, obtrapezoid, and a large callus.

CONSERVATION STATUS: DD. Data Deficient. Known from two localities between Cuenca and Loja in southern Ecuador.

ETYMOLOGY: From the Greek - small, and the Latin *secundus* which refers to the flowers turned to the same side, as observed in the original illustration of *Epidendrum secundum* Jacq., in reference to the small size of the plant of the species similar to *Epidendrum secundum* Jacq.

REFERENCES: Hágsater, E., 2004, *Epidendrum rauhii* in E. Hágsater & L. Sánchez S. (Eds.) *The Genus Epidendrum*, Part 5, **Icon. Orchid.** 7: pl. 786. Hágsater, E., 2006, *Epidendrum ptochicum* in E. Hágsater & L. Sánchez S. (Eds.) *The Genus Epidendrum*, Part 6, **Icon. Orchid.** 8: pl. 877. Hágsater, E., L. Valenzuela & A. Cisneros, 2020, *Epidendrum azulensis* in E. Hágsater & E.Santiago (Eds.) *The Genus Epidendrum*, Part 14, **Icon. Orchid.** 17(2): pl. 1797. Hágsater, E., L. Valenzuela & E. Santiago, 2020, *Epidendrum sholletiae* in E. Hágsater & E.Santiago (Eds.) *The Genus Epidendrum*, Part 14, **Icon. Orchid.** 17(2): pl. 1758.



Authors: E. Hágsater & J. Duarte

Herbario AMO

LCDP: R. Jiménez M. & A. Cisneros

Ciudad de México, MÉXICO



Photo: R. Jiménez M.

Editors: E. Hágsater & E. Santiago

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1884



EPIDENDRUM NATATOR Hágsater

Plate 1885

EPIDENDRUM NATATOR Hágsater, sp. nov.

Type: PERU: Pasco: Prov. Oxapampa, Distr. Huancabamba, Parque Nacional Yanachaga-Chemillén, Sector San Daniel, 2000 m, 8 II 2007, **Rodolfo Vásquez Martínez, Abel Monteagudo, Jose Luis Mateo & Valerio Flores 31697**, Holotype: HOXA! Isotypes: AMO! (illustration, AMO!) USM, HUT.

Similar to *Epidendrum armeniacum* Lindl. but the inflorescence relatively lax-flowered, with flowers spreading, (vs. inflorescence compact, the ovaries short and flowers clustered), flowers of the apex of the inflorescence opening first (vs. flowers from the base of the inflorescence opening first), the flowers with more widespread lateral sepals and out-stretched petals (vs. sepals and petals partly spreading), flowers twice as large, sepals 4-5.2 mm long (vs. sepals 1.9-2.3 mm long), and column with two prominent finger-like wings on the side (vs. column with a pair of subacute teeth on the sides).

Epiphytic, sympodial, caespitose, erect, **herb** ca, 16-60 cm tall. **Roots** 0.7-1 mm in diameter, basal, thin. **Stems** 15-37 x 0.3-0.6 cm, simple, cane-like, laterally compressed, straight, produced from a creeping rhizome. **Leaves** 3-4, distributed throughout the apical 2/3 of the stems; sheaths 3.4-5.6 x 0.3-0.6 cm, tubular, ancipitose, minutely striate; blade 5.0-16.5 x 0.8-1.4 cm, linear-lanceolate, acute, medium green, smooth, margin entire. **Spathes** 1-2, 3.4 x 0.4-0.5 cm, tubular, conduplicate, ancipitose, acute, imbricating. **Inflorescence** 10-23 cm long, apical, racemose, arching, fox tail-like, relatively laxly flowered, flowering only once, slightly longer than the apical leaf; peduncle 3.5-7.2 cm long, terete, thin, nearly totally covered by the spathes, much shorter than the leaves. **Floral bracts** 4-5 mm long, half as long as the ovary, linear-lanceolate, acuminate to acute. **Flowers** 25-60 open from the apex of the inflorescence towards the base, eventually all open simultaneously, resupinate, the lip always towards the apex of the inflorescence, ochre-yellow to brown, the column green at base and mostly white, anther ochre; fragrance not evident. **Ovary** 6-7 mm long, terete, thin, progressively thicker towards the apex but not inflated, furrowed. **Sepals** free, fleshy, margins entire, spreading; dorsal sepal 4.0 x 1.7 mm, partly spreading, mostly parallel to column, out-rolled longitudinally, sub-rhombic, acute, 3-veined; lateral sepals 5.2 x 1.7 mm, spreading widely, oblique sub-oblong-lanceolate, the lateral margins nearly straight, apex prominently aristate due to the prominent dorsal keel which surpasses the surface of the sepals. **Petals** 3.2-3.3 x 0.2-0.4 mm, free, partly spreading, but appear outstretched, linear-obcuneate, apex obliquely rounded, 1-veined, margin entire. **Lip** 2.0 x 1.5-1.8 mm, united to the column, 3-lobed, fleshy, base cordate; bicallose, the calli prominent, laminar, erect, divergent, separated by a thick short prominent mid-rib wedged in between the calli without surpassing them; lateral lobes 0.9-1.0 x 1.0 mm, reniform, upright in natural position, embracing somewhat the apex of the column, distal margin erose; mid-lobe 1.0-1.4 x 0.7 mm, triangular, sub-acute, smooth, margin entire. **Column** 2.5 mm long including the lateral lobes, straight, but forming an obtuse angle with the ovary at the base, with a pair of prominent quadrate lateral wings. **Clinandrium** hood reduced, margin irregular. **Pollinia** 4, obovoid, somewhat triangular, laterally compressed. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** short, wide, reaching the perianth and rounded at the end. **Capsule** not seen.

OTHER SPECIMENS: PERU: Pasco: Prov. Oxapampa, Distr. Huancabamba, Parque Nacional Yanachaga-Chemillén, Sector San Daniel, 2100 m, 11 II 2007, **Vásquez 31785**, HOXA! USM, MO.

OTHER RECORDS: PERU: Cusco: Urubamba: Chompipampa, altura del km 94.5 de la vía ferrea, 2450 m, 24 VII 2015, **Gustavo Ochoa s.n.**, digital image, AMO! **San Martín:** Moyobamba: Hort. Orquídeas Amazónicas, 31 X 2019, **Hágsater 16281**, digital image series, AMO! (LCDP voucher). **Junín:** Chanchamayo: Pichanaki, east margin of the Perené river, 1600 m, 1 XII 1994, **Bennett 6804**, MOL x2! [illustration *Alcántara 1099*, Bennett & Christenson: 1998]. Valle del Chanchamayo, San Ramón, 10 XII 2011, **Erica Morón s.n.** Digital images, AMO! (Photo voucher).

DISTRIBUTION AND ECOLOGY: Apparently widespread in Peru from San Martín to the area of Cusco, Urubamba, in reliefs of dense, high altitude Andean forest no more than 6 m tall, in very wet conditions, epiphytic or lithophytic at 1600-2450 m elevation. Flowering in July to February. In cultivation at Orquídeas Amazónicas in Moyobamba.

RECOGNITION: *Epidendrum natator* belongs to the *Alpicola* group and subgroup, which is characterized by the sympodial habit, the apical, racemose inflorescence subtended by 1-2 oblong, ancipitose, spatheaceous bracts, the flowers fleshy, petals narrow to filiform, and the lip united to the column, 3-lobed, mid-lobe usually triangular, the lip always oriented toward the rachis apex. The species is recognized by the relatively lax-flowered, open raceme, the apical flowers opening first, the sepals 4.0-5.2 mm long, lateral sepals and petals out-stretched, as the arms of a swimmer in butterfly stroke, with the outstretched lateral sepals similar to the legs, and column with two prominent quadrate wings at the apex on the sides. *Epidendrum armeniacum* Lindl. has short plants with a fox-tail inflorescence, minute flowers, the basal flowers opening first, sepals 1.9-2.3 mm long, very long, partly spreading, linear floral bracts which are longer than the flowers, and prominent calli which appear like two upright wings, within the upright lateral lobes of the lip; the callus platform is apically truncate and shallowly 3-lobed. *Epidendrum alopecurum* Schltr. also has smaller flowers, the sepals are 3.0-3.5 mm long, the segments proportionately narrower, and the platform of the callus is flat in natural position, entire, concave, ending in a triangular mid-lobe which continues as a central keel on the mid-lobe of the lip. *Epidendrum pucuoënsis* Hágsater & Dodson has similar size flower, sepals 3.8-4.6 mm long, the petals parallel to the column, the lateral lobes of the lip are orbicular, and the clinandrium-hood is long, funnel-shaped and emarginate, the margin entire. *Epidendrum tequendamae* F.Lehm. & Kraenzl. is similar but the lateral sepals are only partly spreading, the flowers about twice as large, sepals 7.0-8.5 mm long; the flowers start opening from the middle of the raceme towards the base and apex and are rapidly all open.

ETYMOLOGY: From the Latin *natator*, the swimmer, in reference to the peculiar position of the petals as the arms of a swimmer in butterfly stroke, with the outstretched lateral sepals similar to the legs, and the dorsal sepals close to the column as part of the body of the swimmer.

CONSERVATION STATUS: DD: Data deficient. Widely distributed in Peru, from Cajamarca and San Martín in to north to Cusco in the south. Very few herbarium specimens have been identified, but there are relatively numerous photographic records.

REFERENCES: Bennett Jr., D.E., & E.A. Christenson, 1998, *Epidendrum armeniacum* in E.A. Christenson (ed.), *Icon. Orchid. Peruvianum* pl. 451. Hágsater, E., 2016, *Epidendrum tequendamae* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 11, *Icon. Orchid.* 15(2): pl. 1597. Hágsater, E., & C.H. Dodson, 2001, *Epidendrum pucuoënsis* Hágsater & Dodson in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 3, *Icon. Orchid.* 4: pl. 476. Jiménez, I., J. Quezada & J.C. Bermejo, 2015, *Epidendrum alopecurum* in I. Jiménez et al., *Orquídeas de Cotapata, Parque Nacional Cotapata y alrededores, La Paz, Bolivia*, Rapid Color Guide # 361, version 1, image 35. Field Museum Chicago. https://fieldguides.fieldmuseum.org/sites/default/files/rapid-color-guides-pdfs/361_bolivia-orquideas_de_cotapata_1.pdf Vásquez Ch., R., & P. L. Ibsich (eds.), 2004, *Orquídeas de Bolivia, Diversidad y estado de conservación*, Editorial F.A.N., San Cruz de la Sierra, Bolivia, 649 pp.



Author: E. Hágsater

LCDP: E. Hágsater & A. Cisneros

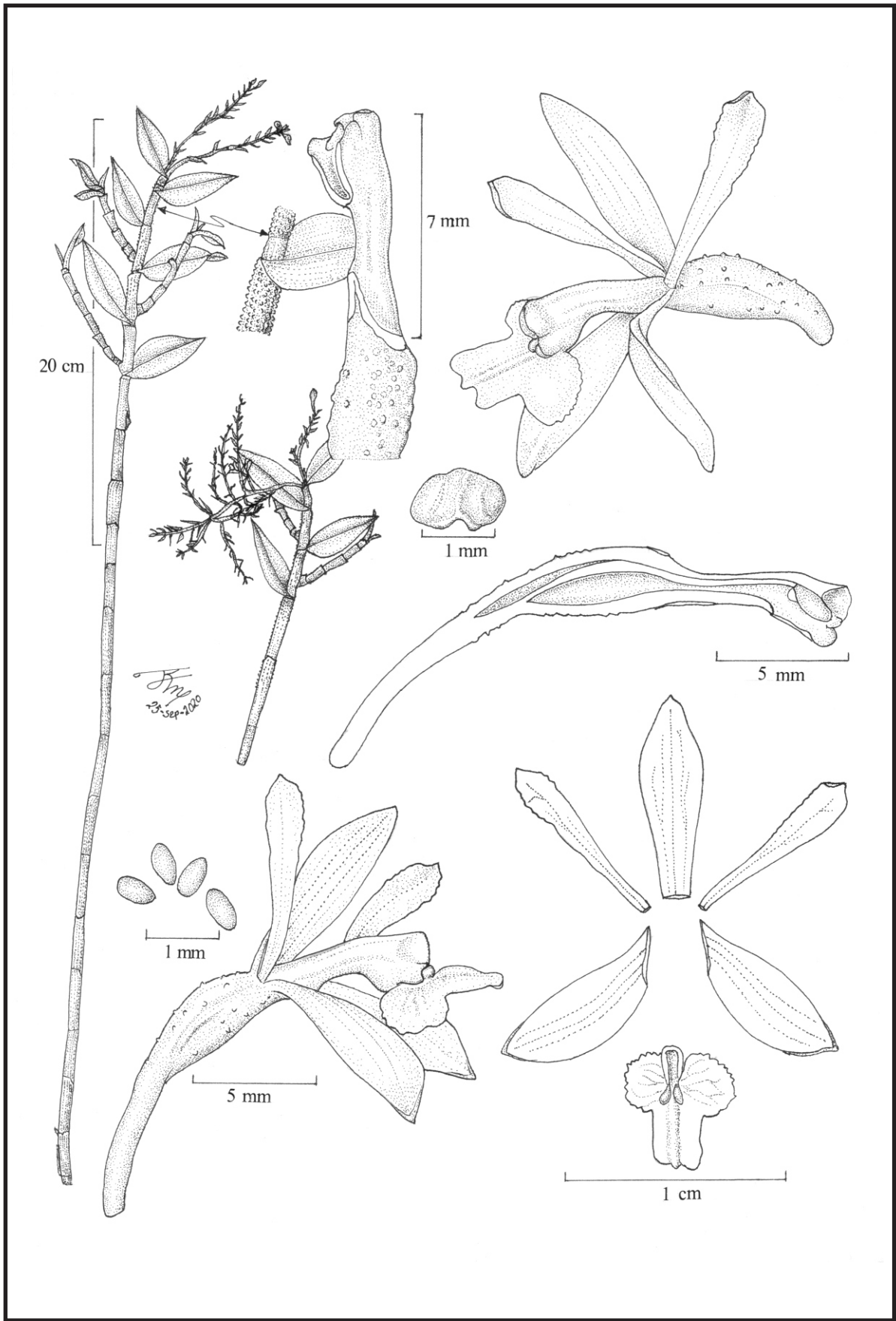
Photo: E. Morón

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1885



EPIDENDRUM PAPILLIVESICULATUM Hågsater & E.Santiago

EPIDENDRUM PAPILLIVESICULATUM Hągsater et E.Santiago, *sp. nov.*

Type: PERU: Huanuco: Prov. Marańón, between Huánuco and Pampayacu, E Andes, 13 January 1927, *Ryozo Kanehira 338*.
Holotype AMES! (illustration voucher.)

Similar to *Epidendrum scabrum* Ruiz & Pav. but the ovary papillose and inflated ventrally along the apical half (vs. ovary slightly inflated, unornamented), the lateral lobes of the lip hemi-orbicular, the margin denticulate (vs. lateral lobes of the lip dolabriform, margin erose), and the disc with a single mid-rib (vs. with 3 parallel ribs).

Terrestrial, monopodial **herb**, branching above, ca. 60 cm tall. **Roots** from the base of the primary stem only, not seen. **Stems** cane-like, terete, the basal half covered with non-foliar sheaths; primary stem 48 x 0.4-0.6 cm, branching from subapical internodes; secondary stems 4.5-6.3 x 0.3-0.4 cm, much shorter than the primary stem. **Leaves** 17 or more on the primary stem, distributed throughout, sub-coriaceous, sub-spreading, articulate, the lower ones deciduous when in flower; leaf sheaths 0.7-3.5 x 0.3-0.6 cm, tubular, the lower sheaths finely striated, the upper ones minutely verrucose; blade 3.5-5.5 x 1.3-1.7 cm on the main stem, ovate-lanceolate, acuminate, margin entire, spreading, secondary stems 2-leaved, blades 1.0-2.2 x 0.5-0.8 cm. **Spathe** lacking. **Inflorescence** 7.3-9.0 cm long, apical paniculate, with up to 5 racemes 3.0-5.5 cm long, sub-erect to arching, densely many-flowered; peduncle sessile; rachis 7.3-9.0 cm long, slightly sinuous. **Floral bracts** 3-8 mm long, shorter than the ovary, narrowly triangular, acute, embracing. **Ovary** 14-15 mm long, terete, thin, and unornamented at the base, the apical half ventrally inflated, papillose. **Flowers** ca. 80, successive, resupinate, without information on color or fragrance. **Sepals** 8.8-9.1 x 2.7-3.0 mm, apex obtuse, minutely apiculate, 3-veined, margin entire, spreading; dorsal sepal spreading, free, oblanceolate; lateral sepals partly spreading, obliquely united to the column, oblong-elliptic, slightly oblique. **Petals** 8.6 x 1.6 mm, partly spreading, free, narrowly oblanceolate, apex obtuse, 1-veined, apical margin erose, spreading. **Lip** 5.2 x 4.8 mm, united to the column, 3-lobed, base cordate; bicallose, calli obovoid, parallel, disc with a single mid-rib reaching the apical sinus; lateral lobes 2.2 x 2.8 mm, hemi-orbicular, margin denticulate; mid-lobe 2.4 x 2.1 mm, rectangular, apex truncate, apiculate, margin entire, spreading. **Column** 7 mm long, slightly arched, thin at base, somewhat widened towards the apex. **Clinandrium-hood** prominent without surpassing the body of the column, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, lentil-shaped; caudicles not seen. **Rostellum** apical, slit. **Lateral lobes of the stigma** small, 1/5 the length of the stigmatic cavity. **Nectary** penetrating 1/3 of the ovary, inflated behind the perianth, unornamented. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known presently only from central Peru, between Huánuco and Pampayacu, on the eastern slope of the Andes, terrestrial. Flowering in December-January.

RECOGNITION: *Epidendrum papillivesiculatum* belongs to the Andean Group, Fritzianum Subgroup, which is characterized by the monopodial stems branched above, the ovate to ovate elliptic or ovate lanceolate, acute to short-acuminate leaves, the lateral sepals obliquely united to the base of the column, and clearly 3-lobed lip. The species is recognized by the leaves of the primary stem 3.5-5.5 x 1.3-1.7 cm, ovate-lanceolate, sepals 8.8-9.1 mm long, the ovary ventrally inflated along the apical half forming a vesicle, papillose, the petals 8.6 x 1.6 mm, the lip with a single mid-rib, and the lateral lobes of the lip hemi-orbicular with the margin denticulate. *Epidendrum scabrum* Ruiz & Pav. is vegetatively similar, but the ovary is only slightly inflated and with scarce, low papillae, the petals 8.6-10 x 1.5-2.0 mm, and the lip with 3 parallel ribs and the lateral lobes dolabriform with the margin erose. *Epidendrum fritzianum* Hoehne has clearly racemose inflorescences, the flowers green, maculate with purple dots, the sepals dorsally verrucose, the lip with a semi-circular thickening on the disc, and the ovary not inflated and unornamented. *Epidendrum pittieri* Ames, endemic to Colombia, has yellow flowers, the inflorescence nearly always racemose, and the sepals 12-14 mm long, and the ovary not inflated and unornamented.

ETYMOLOGY: From the Latin, *vesicula*, vesicle, small bladder, air-cavity, and *papilla*, papillae, a nipple like growth on a surface, in reference to the clearly inflated nectary behind the perianth, forming a vesicle, and covered externally with papillae, which distinguishes this species from similar species.

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

REFERENCES: Ruiz L., H., & J.A. Pavón, 1798, *Epidendrum scabrum*, in *Syst. Veg. Fl. Peruv. Chil.* 1: 248. Santiago, E., & E. Hągsater, 2006, *Epidendrum scabrum*, in E. Hągsater & L. Sanchez S. (eds.), *The Genus Epidendrum Part 5, Icon. Orchid.* 8: pl. 886. Santiago, E., & E. Hągsater, 2009, *Epidendrum fritzianum*, in E. Hągsater & L. Sanchez S. (eds.), *The Genus Epidendrum Part 8, Icon. Orchid.* 12: pl. 1245. Santiago, E., & E. Hągsater, 2009, *Epidendrum pittieri*, in E. Hągsater & L. Sanchez S. (eds.), *The Genus Epidendrum Part 8, Icon. Orchid.* 12: pl. 1275.



Authors: E. Hągsater & E. Santiago

Illustrator: R. Jiménez M.

Editors: E. Hągsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1886

EPIDENDRUM PEPEPORTILLAE Hágsater, H. Medina et Cisneros, *sp. nov.*

Type: ECUADOR: Morona-Santiago: Cantón Taisha: Cordillera del Cutucú, carretero que conduce a Macuma, ca. 1200 m, cultivado en Ecuagenera, Gualaceo, 17 abril 2020, **Hugo Medina s.n.**, Holotype: HA! (LCDP and Photo voucher)

Similar to *Epidendrum enantilobum* Hágsater but flowers orange with lip yellow (vs. green to cream colored with lip white), shorter ovary, 7.5-10 mm long (vs. longer ovary, 9-14 mm long), sepals larger, 5.8-6.0 x 3.0 mm (vs. sepals 4.0-5.0 x 2.3-2.5 mm), base of the lip cordate (vs. base of the lip truncate), lateral lobes semi-orbicular-falcate (vs. strongly falcate), and the apical lobes divergent (vs. opposite).

Epiphytic, sympodial, caespitose **herb**, 27-42 cm tall. **Roots** 2.2 mm in diameter, basal, fleshy, thick, white. **Stems** 21-23 x 0.3-0.4 cm, cane-like, terete, covered with foliar sheaths. **Leaves** 15, distributed along the apical half of the stem, distichous, sub-erect to slightly arcuate, sub-coriaceous; sheath 20 x 4.0 mm tubular, striated when dry, medium green; blade 2.1-7.2 x 0.9-1.6 cm, widely lanceolate, acute to acuminate, smooth, margin entire, concolor, medium green. **Spathes** lacking. **Inflorescence** ca. 14 cm long, paniculate with 2 to 4 racemes, apical, arching, densely many-flowered; peduncle ca. 3.2 cm long, terete, slightly thick, short, partly hidden by 1 bract, ca. 3 cm long, linear-lanceolate, acuminate, embracing; rachis ca. 6-9 cm long, terete, slightly thick; racemes with 2 bracts at the base, 1.1-2.1 x 0.6-0.8 cm. **Floral bracts** 5-20 x 1-3 mm long, progressively shorter, somewhat longer than the ovary, linear-triangular, acuminate. **Flowers** 15-40 per inflorescence, simultaneous, resupinate, cup-shaped in natural position, orange colored, lip and column yellow, base of column green; fragrance none. **Ovary** 7.5-10 mm long, terete, thin, sparsely short pilose, furrowed along the apical half. **Sepals** 5.8-6.7 x 3.7 mm, partly spreading, free, very fleshy-coriaceous, concave, elliptic, obtuse, 3-veined, dorsally somewhat pustulate, margin entire, spreading. **Petals** 5.0-6.5 x 1.0-1.5 mm, partly spreading, free, coriaceous, oblanceolate, obtuse, smooth, 1-veined, margin entire, spreading. **Lip** 4.6-5.5 x 5.1-6.0 mm, united to the column, 3-lobed, base cordate, margins entire, spreading; biculose, calli digitiform, disc with three, low, parallel ribs, the mid-rib elongate and reaching the apical sinus of the mid-lobe, thickened at the base; lateral lobes 1.8-2.0 x 2.0 mm, semi-orbicular-falcate, obtuse, spreading; mid-lobe 2.5-2.9 x 1.9-2.2 mm, basal half rectangular, the apex bilobulate, lobules 3.0 x 0.5 mm, linear-triangular, acuminate, cirrate, sinuous and divergent the apices upcurved. **Column** 4 mm long, base thin and thickened towards the apex, arcuate, apex rounded with a triangular tooth on each side of the rostellum. **Clinandrium-hood** much reduced, margin entire. **Rostellum** apical, slit. **Anther** obovoid, 4-celled. **Pollinia** 4, obovoid, elongate, strongly laterally compressed, the inner pair shorter. **Lateral lobes of the stigma** not seen. **Nectary** not seen. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

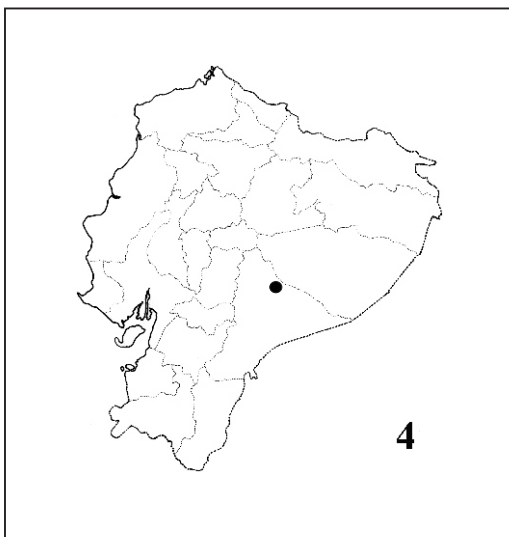
DISTRIBUTION AND ECOLOGY: Known presently from the northern end of the Cordillera del Cutucú, an Andean Tepui east of the Ecuadorean Troncal Amazónica and east of the Río Upano and the Río Zamora. It is relatively low at this end before reaching the Río Pastaza and the Río Santiago on the southern end separates it from the Cordillera del Cóndor (BirdLife International, 2020). Epiphytic at 1200 m elevation. Flowering in April.

RECOGNITION: *Epidendrum pepeportillae* belongs to the Bicirrhatum Group, a small group of species which has appeared recently and is characterized by the caespitose habit, the simple, leafy, short stems, the compact, nodding inflorescence, the conspicuous bracts about as long as the ovary, the numerous fleshy, green and/or white to orange flowers, with the mid-lobe deeply bilobulate, the lobules sometimes cirrate, and the pollinia thin, and unequal, the inner pair smaller, without being of the bird-wing-type. The new species is recognized by the orange flowers and yellow lip and apex of the column, the shorter ovary (7.5-10 mm long), and the lateral lobes semi-orbicular-falcate, obtuse with margin entire. *Epidendrum enantilobum* Hágsater has green to cream-colored flowers, lip and column white, the ovary about 9-14 mm long, and the lip with falcate-oblong lateral lobes, and the mid-lobe forming two opposite narrow ciliate lobes. *Epidendrum brachyblastum* Hágsater & Dodson has flowers deep green with lip snow white, lateral lobes of the lip narrow hemi-ovate, and the ovary about 15 mm long. *Epidendrum xelidonourum* Hágsater & H. Medina has very pale greenish white to ochre flowers, base of the sepals, petals and column green, column and lip white, lateral lobes of the lip form a ¼ circle, and the mid-lobe basal half sub-rectangular, slightly slimmer at the middle, apical half bilobed, lobes linear triangular, acuminate, arching-divaricate, reminiscent of the tail of barn swallows.

CONSERVATION STATUS: DD. Data deficient. Presently known from a single plant. This attractive species will hopefully be propagated by Ecuagenera in Gualaceo, Ecuador.

ETYMOLOGY: In honor of José "Pepe" Vicente Portilla Andrade (1966-) who established the nursery Ecuagenera Cia. Ltda. in Gualaceo, Azuay, Ecuador in May 1992 to promote the propagation of native orchid species of Ecuador and has done an outstanding job, reproducing many rare and previously unknown species.

REFERENCES: BirdLife International, 2020, Important Bird Areas factsheet: Cordillera de Kutukú. Downloaded from <http://www.birdlife.org> on 25/04/2020. Hágsater, E., 2018, *Epidendrum enantilobum* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 12, **Icon. Orchid.** 16(1): pl. 1616. Hágsater, E., & C. H. Dodson, 2004, *Epidendrum brachyblastum* in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 4, **Icon. Orchid.** 7: pl. 713. Hágsater, E., & H. Medina, 2018, *Epidendrum xelidonourum* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 12, **Icon. Orchid.** 16(1): pl. 1666.



Authors: E. Hágsater, H. Medina & A. Cisneros

LCDP: H. Medina

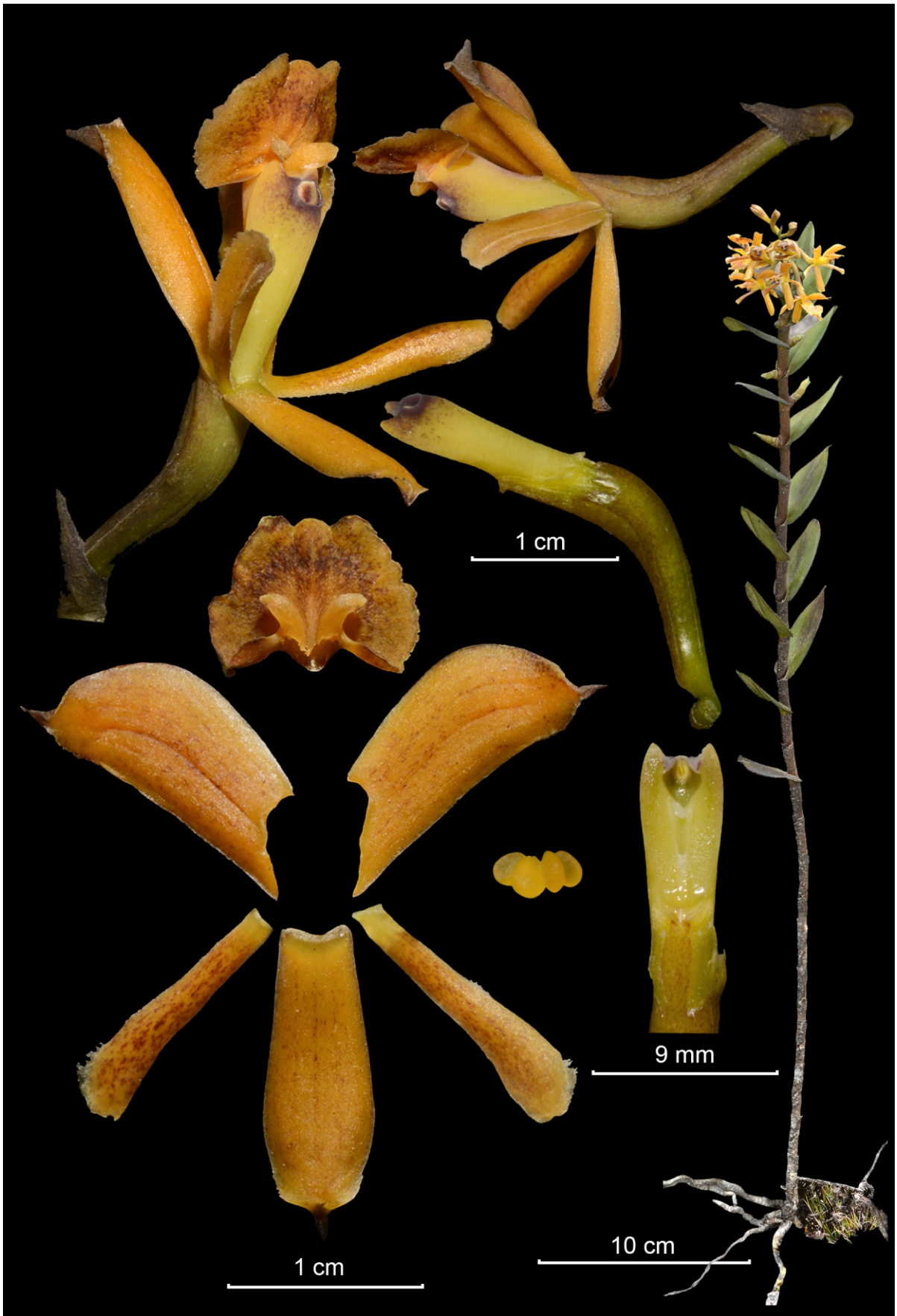
Photo: H. Medina

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1887



EPIDENDRUM PORTOTAMBILLENSE Hågsater & E.Santiago

Plate 1888

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

Type: ECUADOR: Azuay: Sigsig, Comuna San Miguel de Jima, Comuna Moya Pinzhuma, antes del Puerto Tambillo, 3382 m, 10 octubre 2018, **Eric Hágsater & Elizabeth Santiago Ayala 16007**. Holotype: QCNE! (LCDP & Photo voucher).

Similar to *Epidendrum montistoletanum* Hágsater & E.Santiago but the leaves sub-spreading (vs. leaves nearly parallel to the stem and imbricated), tepals orange-yellow with red-brown dots and the lip brown (vs. flowers green tinged black-brown to totally purple-black), lip sub-trapezoid, 8.3 x 10.5 mm (vs. lip sub-quadrate 9-12 x 9-13 mm), and the column with a pair of prominent rounded wings (vs. column with a pair of wings short and truncate).

Lithophytic and epiphytic, monopodial, erect **herb**, 47 cm tall, with subapical branching. **Roots** 3 mm in diameter, basal from the primary stem, fleshy, white. **Stems**: primary stem 42 x 06 cm, branches shorter, cane-like, terete, thin, erect, straight. **Leaves** 15, distributed along the apical half of the primary stem, sub-spreading, alternate, coriaceous, medium gray-green; sheaths 1.0-1.6 x 0.6 cm, tubular, minutely striated, rugose, brown; blade 3-5 x 1.7-2.0 cm, elliptic, apex rounded, unequally bilobed, minutely apiculate, margin entire, slightly revolute. **Spathe** lacking. **Inflorescence** 5 cm long, apical, erect, racemose, densely many-flowered; peduncle, sessile; rachis 5 cm long, terete, thick, straight. **Floral bracts** 5-9 mm long, much shorter than the ovary, narrowly triangular, embracing, brown. **Ovary** 23 mm long in totally developed flowers, terete, thick, arched, slightly inflated ventrally behind the perianth, minutely furrowed. **Flowers** 10, non-resupinate, opening in succession but eventually all open at the same time, secund, tepals orange-yellow with red-brown dots, lip orange with a gray-brown overlay forming a half circle around the disc, column pale green with apex and anther purple-brown; fragrance apparently none. **Sepals** fleshy, obovate-oblong, apex rounded, shortly aristate, margin entire, slightly revolute; dorsal sepal 14.5 x 6.0 mm, spreading, free, 3-veined; lateral sepals 16.7 x 6.3 mm, partly spreading, obliquely united to the column base, 5-veined. **Petals** 15 x 5 mm, spreading, free, narrowly oblanceolate, obtuse, 1-veined, margin crenulate-erose, strongly revolute. **Lip** 8.3 x 10.5 mm, united to the column, vertical and spreading in natural position, entire, sub-trapezoid, base cordate, apex truncate, widely mucronate, margin crenate, spreading, the basal margins involute; bicallose, the calli fleshy, narrow, divaricate; disc with a wide, low fleshy mid-rib reaching the apex of the lip. **Column** 15 mm long, thin, apex with a pair of prominent, rounded wings. **Clinandrium-hood** reduced, margin entire. **Rostellum** apical, slit. **Anther** reniform, 4 celled. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose; viscarium semi-liquid. **Lateral lobes of the stigma** not seen. **Nectary** penetrating about 1/3 of the pedicellate ovary. **Capsule** not seen.

OTHER SPECIMENS: ECUADOR: Morona-Santiago: Gualaquiza: Parr. San Miguel de Cuyes Comuna Moya Pinzhuma, antes del Puerto Tambillo, 3387 m, 10 X 2018, *Hágsater 16008*, QCNE! (digital images AMO) *Ibid.* Recolectado en la parte baja del Bosque Tambillo, 2500 m, 1 VII 1997, *Suin 254*, QCNEx2!

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known presently from three collections in southern Ecuador, atop the Cordillera Oriental of the Andes in the Azuay border with Morona Santiago. Lithophytic on road bank, and epiphytic in wet montane forest, at 2500-3390 m elevation. Flowering in October and November.

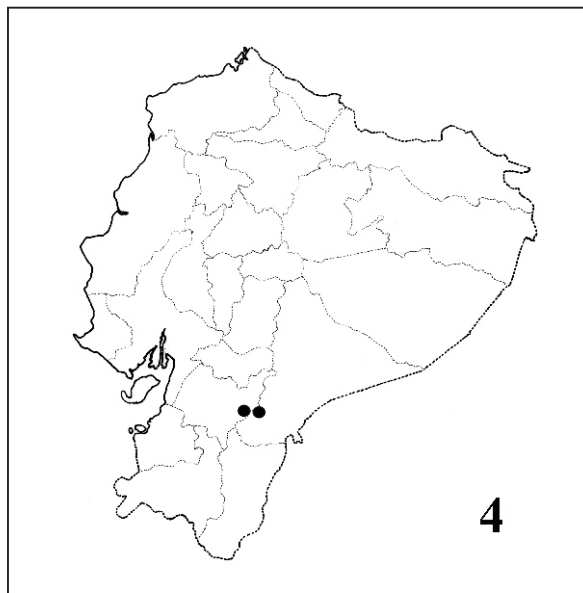
RECOGNITION: *Epidendrum portotambillense* belongs to the Andean Group, Vernixium Subgroup which is characterized by the monopodial habit with sub-apical branching, erect inflorescences, laxly non-resupinate, spreading flowers, and the lip entire to 3-lobed and facing downwards. The new species is recognized by the orange-yellow tepals, the lip orange with a gray-brown overlay, entire, sub-trapezoid, vertical in natural position, sepals oblanceolate, apex rounded and aristate, and the column 15 mm long with a pair of rounded wings. *Epidendrum montistoletanum* Hágsater & E.Santiago has the leaves sup-parallel to the stem, flowers green tinged black-brown to totally purple-black, the petals 3-veined, the lip is sub-quadrate and concave in natural position, and the column with short, truncate wings. *Epidendrum citrochlorinum* Hágsater & Dodson has narrowly elliptic leaves, pale green, concolor flowers, the petals 3-veined, the lip reniform, and the column 9 mm long with a pair of short truncate wings.

CONSERVATION STATUS: DD. Data deficient, known presently from three collections in southern Ecuador, all from the same protected area.

ETYMOLOGY: in reference to the locality where the type was collected, the Tambillo mountain pass, or Puerto Tambillo, on the border between the provinces of Azuay and Morona-Santiago.

ACKNOWLEDGMENT: Collections 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".

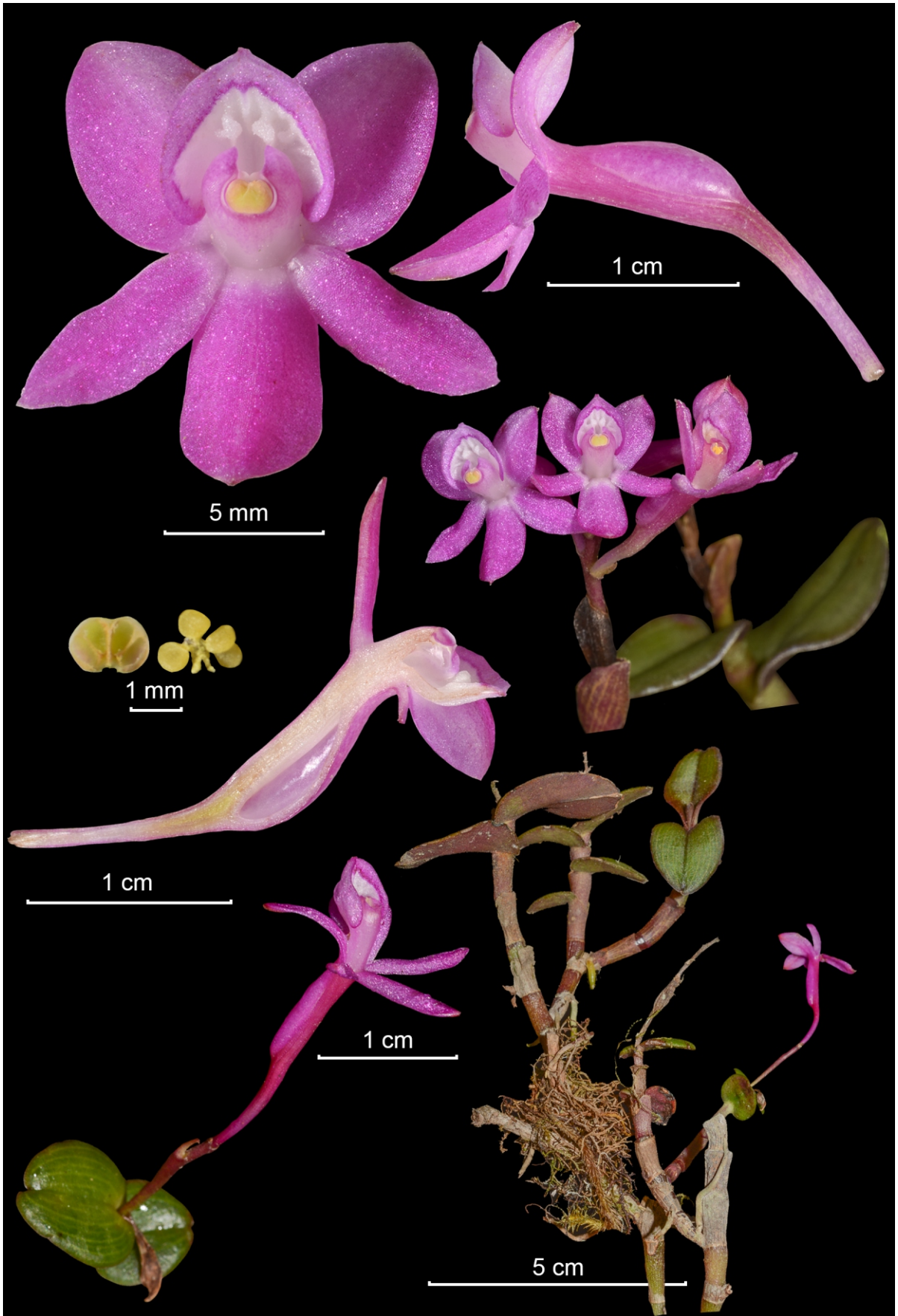
REFERENCES: Hágsater, E., & E. Santiago, 2004, *Epidendrum citrochlorinum* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, **Icon. Orchid.** 4: pl. 725. Hágsater, E., & E. Santiago, 2018, *Epidendrum montistoletanum* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 12, **Icon. Orchid.** 16(1): pl. 1645.



Authors: E. Hágsater & E. Santiago
Herbario AMO

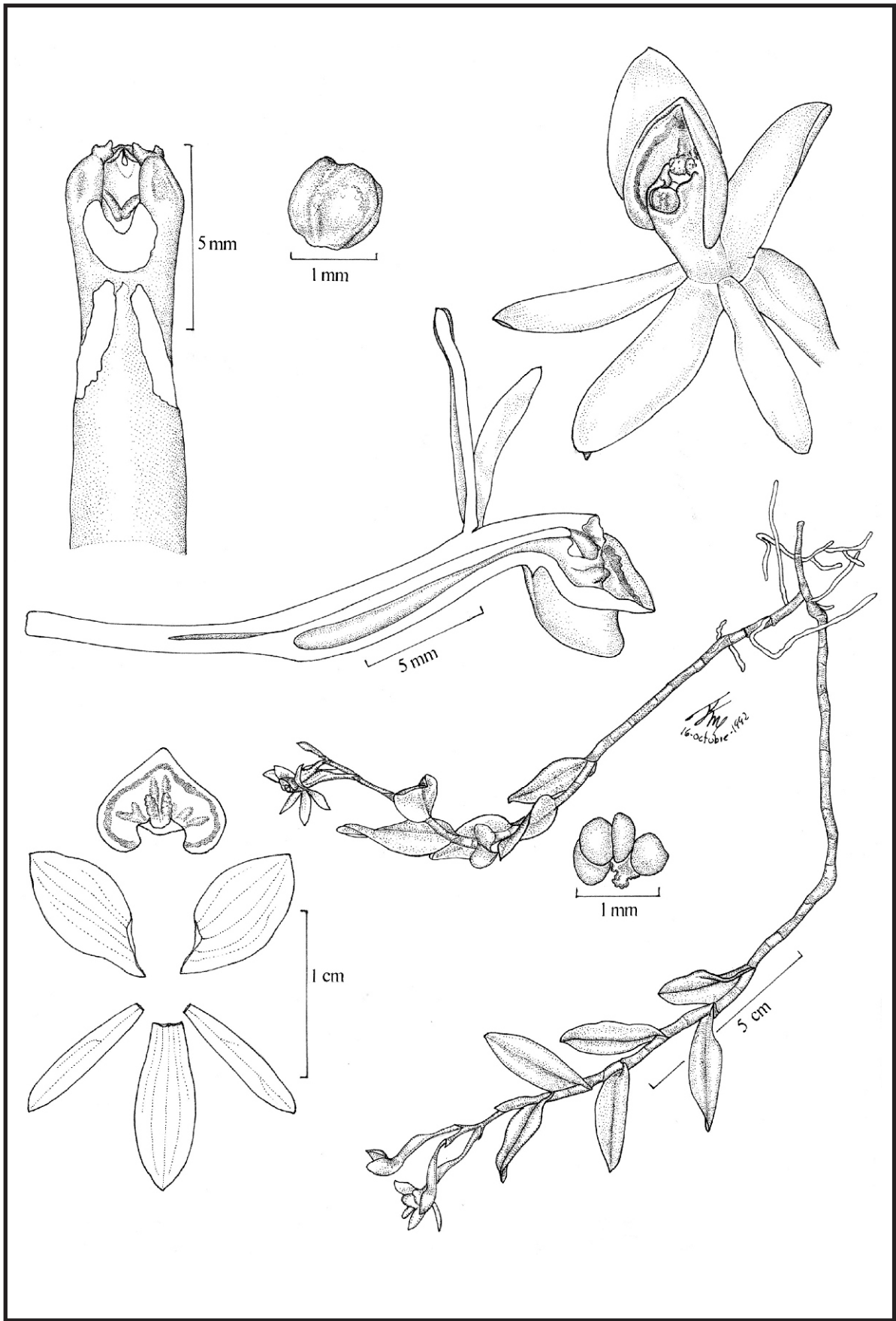
LCDP: E. Hágsater & A. Cisneros
Ciudad de México, MÉXICO

Photo: E. Santiago
Editors: E. Hágsater & E. Santiago
ICONES ORCHIDACEARUM 18(2). 2021. Plate 1888



EPIDENDRUM QUISAYANUM Schltr.

Plate 1889



EPIDENDRUM QUISAYANUM Schltr.

Plate 1889a

EPIDENDRUM QUISAYANUM Schltr. Repert. Spec. Nov. Regni Veg. 14: 392, 1916.

Type: ECUADOR: Pichincha: [Cantón Quito, Parroquia: San José de Minas] Ad Quisaya, February 1874, **Aloisi Sodiro 49**. Holotype: B (destroyed). Lectotype (here designated): BR!

Epiphytic or lithophytic, erect, sympodial, sub-caespitose **herb**, 8-15 cm tall. **Roots** 0.5-1.0 mm in diameter, basal, thin, white. **Stems** 3.5-13 x 0.2-0.5 cm, simple, cane-like, terete, straight to slightly curved, produced from a lower internode of the previous stem, becoming a creeping rhizome; base covered by sheaths 9-15 cm long, tubular, non-foliar, scarious. **Leaves** 5-6, distributed along the apical half of the stems, distichous, alternate, articulate, dorsal surface green, with the veins clearly marked in white, ventral surface reddish green, coriaceous; sheaths 0.8-1.5 x 0.2-0.5 cm, tubular, minutely striated, reddish brown to pale green tinged with reddish brown; blade 1.5-3.5 x 0.7-1.8 cm, ovate to oblong, apex obtuse, minutely apiculate, margin entire, spreading. **Spathe** 1, 20-25 x 5-6 mm (without spreading it), tubular, apex rounded, brown. **Inflorescence** 3-5 cm long, apical, flowering only once, erect, laxly few-flowered; peduncle 2.0-3.5 cm long, terete, thin, erect, straight, nearly totally hidden by the spathe; rachis 1.5-2.0 cm long. **Flowers** 3-5, non-resupinate, simultaneous, fuchsia with the disc of the lip white bordered with darker fuchsia before the margin which is itself fuchsia. **Floral bracts** 5-6 mm long, much shorter than the ovary, narrowly triangular, acuminate, embracing. **Ovary** 17.5-20.0 mm long, terete, thin along the basal half, thickened along the apical half, minutely furrowed, fuchsia colored, concolor. **Sepals** 5-veined, obtuse, minutely apiculate, margin entire, spreading; dorsal sepal 10-11 x 3.5-4 mm, free, spreading, narrowly obovate, slightly convex; lateral sepals 10-11 x 4.2-5 mm, obliquely united until 2/3 of the column length, partly spreading, ovate. **Petals** 9-10 x 1.5-2.5 mm, spreading, free, oblong, obtuse, 1-veined, margin entire, spreading. **Lip** 5-6.5 x 7.6-8.5 mm, united to the column, entire, embracing the column in natural position without covering it, widely cordiform when spread, base cordate, apex sub-acute, margin entire, spreading; bicallose, the calli white, immaculate, thin, disc with short, thickened ribs radiating from the calli. **Column** 5 mm long, straight. **Clinandrium-hood** short, margin entire. **Rostellum** apical, slit. **Lateral lobes of the stigma** prominent, half as long as the stigmatic cavity. **Nectary** penetrating half the ovary, slightly inflated, forming an elongate vesicle. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, somewhat laterally compressed; caudicles soft and granulose, slightly longer than the pollinia. **Capsule** not seen.

OTHER SPECIMENS & OTHER RECORDS: See next page.

DISTRIBUTION AND ECOLOGY: Endemic to the western slope of the Andes in central Ecuador, growing epiphytic and in moss on wet rocky cliffs at 2252-2950 m elevation. Flowering in from November to May.

RECOGNITION: *Epidendrum quisayanum* belongs to Quisayanum Group which is recognized by the plants with ovate to narrowly ovate leaves, the apical, erect inflorescence with non-resupinate flowers, the peduncle nearly totally hidden by 1-2 tubular spathes, the lip entire embracing the column and excavated towards the base reminiscent of *Malaxis*. The species is recognized by the leaves 1.5-3.5 x 1.0-1.8 cm, ovate, obtuse, coriaceous, dorsally green, underside reddish green, the 3-4 fuchsia-colored flowers with the disc of the lip white surrounded by a dark fuchsia band and then the lip margin paler, the sepals 10-11 mm long, obtuse, and the lip cordiform with thickened ribs radiating from the calli. *Epidendrum bianthogastrum* Hágsater & Dodson has leaves 1.1-3.2 x 0.5-0.9 cm, ovate, acute, 2, green flowers, tinged copper, sepals 8.0-9.5 mm long, acute, and a lip triangular with an excavated disc of the lip ornamented with minute papillae. *Epidendrum polyanthogastrum* Hágsater & Dodson has leaves 2.0-4.1 x 0.9-1.3 cm, ovate, obtuse to bilobed, sulcate, green to purple, concolor, 6-7 copper-green flowers, sepals 8.0-9.5 mm long, acute, and a lip narrowly triangular with the disc excavated, minutely papillose. *Epidendrum amplexigastrum* Hágsater & Dodson has a trilobed and cuneate lip, with the lateral lobes semi-obovate and directed forwards and embracing the column in natural position so that the lobes are tightly overlapping over the column and hiding its apex. *Epidendrum marsupiale* F. Lehm. & Kraenzl. has a lip with lateral lobes separated by deep sinuses and spreading in front of the column instead of embracing it and overlapping. *Epidendrum falsiquisayanum* Hágsater & E. Santiago has a 3-4-flowered inflorescence, flowers pink with the excavate base of the lip white, sepals 9-11 mm long, and the lip cordiform, embracing the apex of the column and the margin a stronger pink.

NOTES: In previous publications (Hágsater & Dodson 1999, 2001) this group was designated as the Megagastrum Group, but the recent publication of the Icon of that species (Santiago & Hágsater, 2019) clearly places *Epidendrum megagastrum* Lindl. in the Geminiflorum Group, so we here propose a new name for this Quisayanum Group. The watercolor and pencil illustration by Lehmann (plate 272, K!) shows resupinate flowers without any detail of the lip, so we believe that the illustration is in error as to the resupination of the flowers, as that species is restricted to the area west of Quito, and we know on no other similar species with fuchsia-colored flowers in that region; the specimen at W has a single non-resupinate flower. *Epidendrum falsiquisayanum* has 3-4 non-resupinate flowers, pink, with a more acute lip, and is similar to *Epidendrum polyanthogastrum*, which is on the internet under *E. quisayanum*, but is easily distinguished.

ETYMOLOGY: In reference to the town of Quisaya, where the type was collected. From the Quito-Cara language, *Quis* from *Quishi*, yesterday, and *Aya*, mother, thus Yesterday's Mother. Quisaya is the original name for the town of San José de Minas; the name was changed in the XVI century (Mora Padilla, 2014).

CONSERVATION STATUS: **CR.** Critically endangered. The species seems to thrive on rock faces with moss and running water, usually out of reach. The range of distribution is highly restricted. There seem to be numerous plants in cultivation from the number of photographs on the internet.

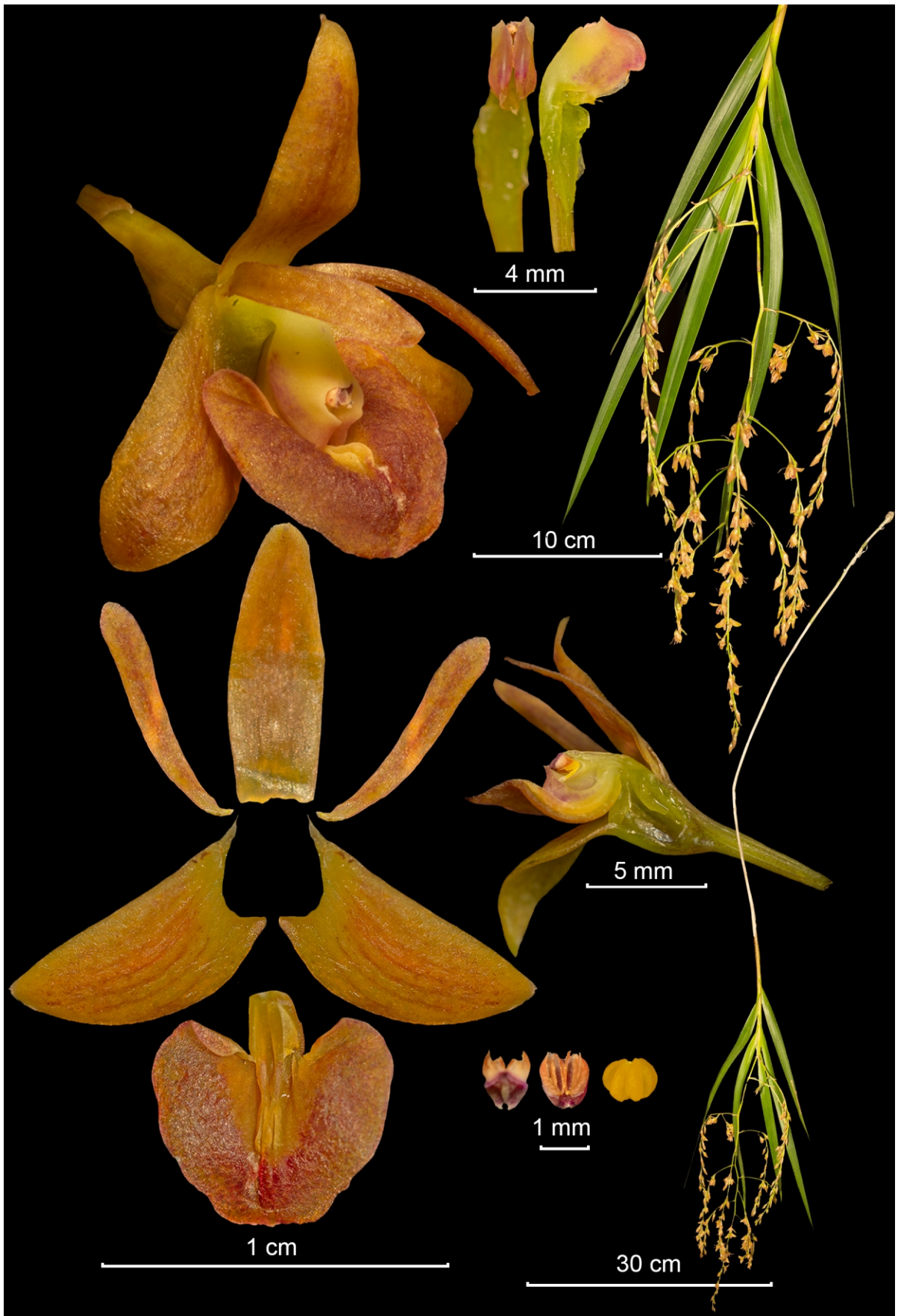
REFERENCES: Hágsater, E., & C.H. Dodson, 1999, *Epidendrum amplexigastrum* in The Genus *Epidendrum*, Part 2, in E. Hágsater, L. Sánchez S. & J. García-Cruz (eds.), **Icon. Orchid.** 3: pl. 304. Hágsater, E., & C.H. Dodson, 1999, *Epidendrum polyanthogastrum* in The Genus *Epidendrum*, Part 2, in E. Hágsater, L. Sánchez S. & J. García-Cruz (eds.), **Icon. Orchid.** 3: pl. 373. Hágsater, E., & C.H. Dodson, 2001, *Epidendrum bianthogastrum* in The Genus *Epidendrum*, Part 3, in E. Hágsater & L. Sánchez S. (eds.), **Icon. Orchid.** 4: pl. 417. Hágsater, E., G. Reina-Rodríguez & E. Santiago, 2021, *Epidendrum amplexigastrum* in The Genus *Epidendrum*, Part 14, **Icon. Orchid.** 18(2): pl. 1853. Mora Padilla, V.A., 2014, **Creación de una ruta turística ecológica como alternativa de desarrollo sostenible, comunitario y mejoramiento socioeconómico en la Parroquia San José de Minas, Cantón Quito**, Tesis de Grado, Universidad Tecnológica Equinoccial, Quito. Santiago, E., & E. Hágsater, 2019, *Epidendrum megagastrum* in The Genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(1): pl. 1739.



EPIDENDRUM QUISAYANUM Schltr. Repert. Spec. Nov. Regni Veg. 14: 392, 1916.

OTHER SPECIMENS: ECUADOR: Without locality data, 15-VI-1983, *Hirtz 1240*, SEL! **Imbabura:** Noroeste de Otavalo, cerca de Cuicocha, 2700 m, 28 XI 1984, *Dodson 15410*, MO! Cantón Cotacachi: Otavalo-Selva Alegre via Lago Cuicocha, 2950 m, 20 III 1986, *Dodson 16403*, MO! km 30 de Cuicocha-Selva Alegre, 2360 m, 6 XII 1986, *Hágsater 8965*, AMO! km 30 de Cuicocha-Selva Alegre, 2360 m, 6 XII 1986, pressed cult. 27 X 1992, *Hágsater 11117*, AMO x2! (Illustration voucher) *Ibid.* pressed cult. 18 IX 1995, *Hágsater 11117*, AMO! Selva Alegre, 1400 m, V 1989, *Hirtz 4247*, MO! QCNE! between Otavalo and Apuela, 2000-2500 m, *Luer 3919*, SEL! Between Volcán Cotacachi and Apuela, 2520 m, 3 XII 1970, *Madison 2316*, SEL! Vía de Cuicocha a Apuela, 2252 m, 15 IV 2018, *Salazar 10072*, QCNE! digital images, AMO! (LCDP voucher, *pro-parte*, plant). **Pichincha:** Reserva Geobotánica del Pululahua, 2000-2500 m, 26 II 1987, *Cerón 916*, MO! QCNE! *Ibid.* 1800-3356, 24 X 1987, *Cerón 2545*, MO! QCA! QCNE! Cantón Calacalí: km 16 carretera Calacalí pasando Hacienda Gallopelado, 2650 m, 4 IV 1985, *Dodson 15769*, AMES! MO! QCNE! km 42 Otavalo-Selva Alegre via Apuela, 2950 m, 6 XII 1986, *Dodson 16673*, MO! km 28 de Cuicocha-Selva Alegre, 2550 m, 6 XII 1986, *Hágsater 8962*, AMO! F! MO! QCA! QCNE! *Ibid.* pressed cult. 19 IX 1995, *Hágsater 8962*, AMO x3! (digital images, AMO!) Pululahua-La Liberia, 2700 m, XII 1983, *Hirtz 1405*, AMO x3! (digital image of live flower, flowers in spirit, AMO!) Road to Intag valley above Apuela, 2800 m, 4 V 1980, *Holm-Nielsen 23268*, AAU! Andes of Quito, *Jamieson s.n.*, W 1415! Bei Calacalí, Cordillera von Quito, 2000 m, 29 XI 1880, *Lehmann 294*, W 59089! W of Calacalí, 2500 m, 24 V 1979, *Løjtnant 13676*, AAU! Upper Intag Valley, 41-45 km from Cotacachi on road to Apuela, 2200-2400 m, 22 I 1988, *Molau 2660*, GB! Quisaya, *crecitur silv. vulc.* Pululahua, II 1874, *Sodiro 50*, BR! Quisaya, II 1874, *Sodiro s.n.*, BP 65885! QPLS! Prope Niebly, 2000 m, VII 1893, *Sodiro s.n.*, P!

OTHER RECORDS: COLOMBIA: Without data, probably from a cultivated plant exhibited at an exposition, *Carlos Uribe s.n.* digital image, AMO! (LCDP voucher, *pro parte*, flowers) **ECUADOR:** Without locality data, *Cabascango s.n.*, digital photo, AMO! **Imbabura:** km 26 de Cuicocha-Selva Alegre, 2600 m, 6 XII 1986, *Hágsater 8958*, Photographed & Spirit, AMO! km 26 de Cuicocha-Selva Alegre, 2600 m, col. 6 XII 1986, photographed in cult 2 V 2017, *Hágsater 9365*, Digital images AMO! km 28 de Cuicocha-Selva Alegre, 2550 m, 6 XII 1986, photographed in cult. 19 IX 1995, *Hágsater 8962*, digital photos, AMO! *Ibid.* 7 XI 2014, digital images, AMO! *Ibid.* 2 V 2017, digital images AMO! Cotacachi, Siempre Verde, 10 I 2013, *Reynolds s.n.*, digital image, AMO! (Photo voucher). km 21 de Cuicocha-Selva Alegre, 2900 m, 6 XII 1986, *Hágsater 8953*, digital images, AMO! **Pichincha:** bei Calacalí, Cordillera von Quito, *Lehmann 294*, [plate No. 272] watercolor K! tracing W 8050! (See specimen *Lehmann 294* above.)



EPIDENDRUM RECURVATUM Lindl.

EPIDENDRUM RECURVATUM Lindl., Edwards's Bot. Reg. 31(Misc.): 77. 1845.

Type: VENEZUELA: Mérida: heights of Bailadores, 6000 ft, June, **Jean Linden 1472**. Holotype: K-Lindl. Tracing at W 5872! Isotypes: W 49659! W 17162! (ex herb. A. Richard).

Epiphytic, sympodial, caespitose, erect to arching-pendent **herb** 50-115 cm tall. **Roots** 2-8 mm in diameter, somewhat flat, produced from the base of the stems, thin. **Stems** 13-67 x 0.2-0.6 cm, cane-like, terete, thickened at the very base; covered with sheaths 6.5-7.0 cm long, tubular, non-foliar, becoming fibrous. **Leaves** 3-5, distributed towards the apex of the stem; sheaths 0.7-3 x 0.5-0.6 cm, tubular, minutely striated; blades 12.7-20 x 0.6-1.2 cm, grass-like, linear-lanceolate, acuminate, dorsally somewhat carinate, margins entire, spreading. **Spathe** lacking. **Inflorescence** 9-30 cm long, from the apex of the mature stem, frequently paniculate and many-flowered, rarely racemose and few-flowered, arching pendent, with up to 10 racemes 7-16 cm long, distributed along the rachis, some racemes themselves branching, each raceme subtended by a bract 8-10 mm long, similar to the floral bracts; peduncle 1.0-1.5 cm long, thin terete, short; rachis 7-22.5 cm long, flattened, somewhat sinuous. **Floral bracts** 2.0-5.5 mm long, slightly shorter than the ovary, narrowly triangular-lanceolate, acuminate, embracing. **Flowers** 11-80, simultaneous, the lip always oriented towards the apex of the rachis, usually resupinate due to the arching-pendent inflorescence, pink to red to red-brown with maroon flush, the ribs on the lip pale yellow; fragrance not registered. **Ovary** 6-8 mm long, terete, furrowed, thin for 2/3 from the base, abruptly thickened towards the apex, forming a short ventral vesicle, short, globose and prominent, just behind the perianth. **Sepals** partly spreading, the apex slightly recurved, free, 5-veined, margin entire, slightly revolute; dorsal sepal 6-7 x 2.5-2.8 mm, oblong, apex rounded; lateral sepals, 6-8 x 3.5-3.8 mm, oblong-elliptic, apex obtuse, minutely apiculate. **Petals** 5.8-6.0 x 1.0-1.25 mm, free, partly spreading, nearly parallel to the column, linear-oblancoate, 1-veined, margin entire, spreading. **Lip** 6.0-6.5 x 6.5-7.0 mm, united to the column, entire, cordiform, base deeply cordate, apex truncate, margin erose, slightly revolute, convex, ecallose, disc provided with 3-narrow ribs, laminar, running parallel down the middle of the lip to near the apex, the mid-rib somewhat wider. **Column** 4 mm long, slightly arched, thin at base, abruptly wider at the apical 2/3, the apex with a pair of minute triangular teeth. **Clinandrium** short, margin entire. **Anther** ovoid, 4-celled. **Pollinia** 4, obovoid, laterally compressed, in two pairs; caudicles soft and granular, longer than the pollinia; viscarium semi-liquid. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** inflated, forming a sub-globose vesicle. **Capsule** 33 x 15 mm, ellipsoid, basal pedicel thin, 5 x 1 mm, body, 25 x 15 mm, apical neck short, 2 x 2 mm.

OTHER SPECIMENS: COLOMBIA: Valle de Cauca: Yotoco, Hato Viejo, 1800 m, 8 IV 2010, *Pérez 649*, VALLE! Digital images of live flowers, AMO! Cali, Farallones de Cali, predio La Yolanda, 1850 m, 6 VI 2018, *Reina-Rodríguez 2629*, CUV! **VENEZUELA:** Without locality, *Otto 865*, W x2! Parque Nacional El Ávila, entre Quebrada Gamboa y Papelón, 1600 m, 29 V 1976, *Manara s.n.*, VEN! **Miranda:** Baruta, sobre EL Hatillo (Oripoto), 1219 m, *Dunsterville 261*, AMES! (illustration published *Dunsterville & Garay 1958*, pl. 261) VEN! (only a single petal remains of the original flower.) **Distrito Federal:** Silla de Caracas, Ávila-Kette, Umgebung von Los Castillos (old Spanish trail Caracas-La Guaira), 1600 m, 4 VIII 1956, *Renz 8783*, RENZ! **Lara:** Cerca de San Angelito, sobre Sinaca y Anzoategui, carretera a Guárico, 1500 m, 5 IX 1966, *Steyermark 97458*, VEN! (in fruit).

OTHER RECORDS: COLOMBIA: Without locality, *G. Escobar 185*, (published *R. Escobar, 1994*), color slide of flowers AMO! (Photo voucher). **Valle del Cauca:** Reserva Natural Yotoco, *García-Revelo s.n.*, digital images, AMO! (LCDP voucher). Parque Nacional Los Farallones de Cali, 1800 m, 24 IV 2017, *Haelterman s.n.*, digital photo, AMO! **VENEZUELA:** Without locality data, *Moritz 865*, sketch, W 49660! (*pro parte*) **Distrito Federal:** Caracas, *Lansberg s.n.*, water color, W 49660! (*pro parte*).

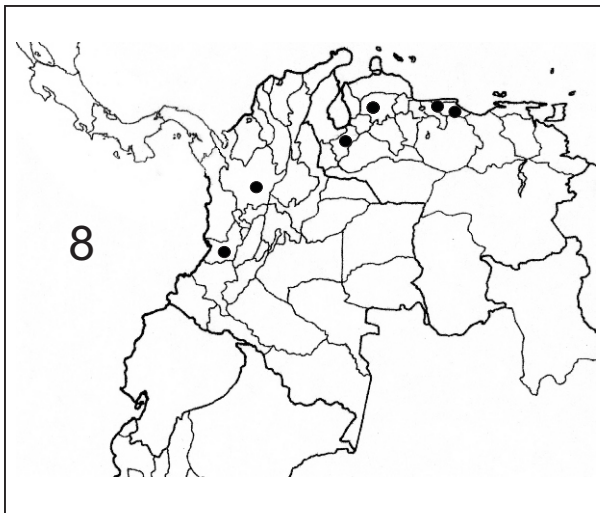
DISTRIBUTION AND ECOLOGY: Cordillera de los Andes and Cordillera Costanera in Venezuela, as well as three confirmed localities in the southern Cordillera Occidental in Colombia. Epiphytic at 1200-1850 m elevation. Flowering from April to September. Fruits in June.

RECOGNITION: *Epidendrum recurvatum* belongs to the *Recurvatum* Group which is characterized by the caespitose, sympodial habit, the several leaves distributed towards the apex of the cane-like stem, apical inflorescence without any spathe, racemose to paniculate, the flowers always oriented towards the apex of the rachis, petals narrower than the sepals, and the entire lip ecallose with parallel ribs down the middle. The species is recognized by the long terete stems, thickened at the base, with 3-5 grass-like leaves aggregate towards the apex of the stem, the usually paniculate inflorescence which is arching-nutant, the peduncle thin, rachis elongate, the flowers slightly fleshy, pink to red to red-brown, sepals oblong to oblong-elliptic, petals linear-oblancoate, and the lip entire, convex, cordiform, disc with 3 elongate ribs that reach the apical sinus. We have not found any species that shares this combination of characteristics. In our unpublished key to the groups of *Epidendrum*, it is closest to the *Amblostoma* group due to the vegetative features except for the somewhat thickened fusiform stems, and the prominent calli of the 3-lobed lip in that group. In fact, in the original description, Lindley compares *Epidendrum recurvatum* to *Epidendrum tridactylum* Lindl., except for the "rose-colored flowers, which are three to four times as large". The *Diothonea* group lack calli and has ribs on the disc of the lip, but the vegetative habit is monopodial and branching, and the column is anywhere from free to obliquely united to the lip as in *Epidendrum lloense* (Lindl.) Hágsater & Dodson.

CONSERVATION STATUS: VU. The extent of occurrence estimated to be less than 20,000 km². Currently the range is 14,000 km². The species appears to be widespread, from northern Venezuela to the southern Cordillera Occidental in Colombia, but rare. The proposed risk category is Vulnerable, as per sub-criteria B1ab (i) + 2ab(i) applies (IUCN 2012).

ETYMOLOGY: From the Latin *recurvatum*, bent back or backward, in reference to the branches of the inflorescence of the type at K which shows them spreading and then recurved.

REFERENCES: Bennett, D.E., & E.A. Christenson, 1993, *Epidendrum tridactylum* (as *Amblostoma tridactylum* (Lindl.) Rchb.f.) in E.A. Christenson (ed.), *The Orchids of Peru*, **Icon. Orchid. Peruvianum** pl. 1. *Dunsterville, G.C.K., & L.A. Garay, 1958*, **Venez. Orchid. III. [Dunsterville & Garay]** 1: 130-131. *Escobar, R., 1994*, **Orquídeas Nativas de Colombia**, 5: Suplemento Aa-Lepanthes: pl. 870, fig. 758, Editorial Colina, Medellín, Colombia. IUCN, 2012, **Red List Categories and Criteria**: Version 3.1. Second edition, Gland, Switzerland and Cambridge, UK; iv + 32 pp. *Santiago, E., & E. Hágsater, 2006*, *Epidendrum lloense* in E. Hágsater & L. Sánchez S. (eds.) *The Genus Epidendrum*, Part 5, **Icon. Orchid.** 8: pl. 851.



Authors: E. Santiago & E. Hágsater

LCDP: S. García R. & A. Cisneros

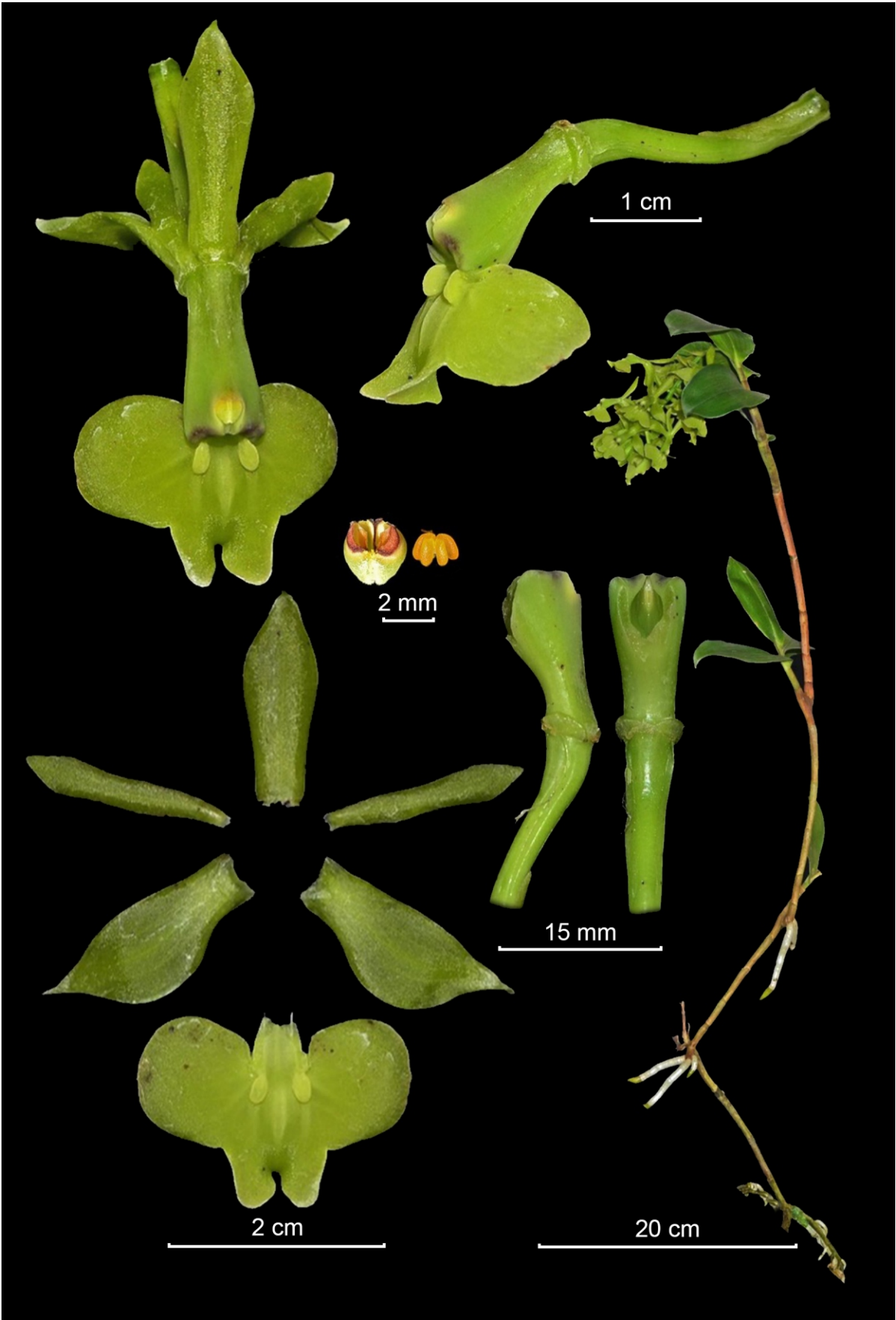
Photo: R. Escobar †

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1890



EPIDENDRUM REFLEXITEPALUM Hágsater, H.Medina & Cisneros

Plate 1891

EPIDENDRUM REFLEXITEPALUM Hágsater, H. Medina et Cisneros, *sp. nov.*

Type: ECUADOR: Napo: Quijos: Cuyuja: alrededor de Baeza y Cuyuja, 1900-2475 m, photographed 6 December 2017, pressed 31 October 2018, **Hugo Medina Troyani s.n.** Holotype: HA! (LCDP voucher).

Similar to *Epidendrum macuchiense* Hágsater & E. Santiago but the inflorescence is longer, 15.3 cm long (vs. inflorescence about 6 cm long), the ovary longer, 24 mm long (vs. shorter ovary, 13-14 mm long), the floral segments longer and strongly reflexed, the sepals 20.0-22.5 mm long, the petals 20 mm long (vs. floral segments smaller and partly spreading, sepals 11.4-13.4 mm, and petals 10.8-12.5 mm), and the column longer, 15.6 mm long (vs. shorter column, 10-11 mm long).

Epiphytic, sympodial, erect **herb**, the new stems arising from sub-apical internode of the previous stem. **Roots** 6.4 mm in diameter, thick, basal, at the base of each stem. **Stems** 17.3-26.0 x 0.5-0.6 cm, simple, cane-like, terete, slightly arcuate, the new stem originating from a middle internode of the previous stem, gradually becoming thicker and longer, covered by non-foliar sheaths, 2.2-5.0 x 0.6 cm, tubular, acute, scarious when dry. **Leaves** 3, aggregate towards apex of the stem, alternate, articulate, slightly recurved; sheaths 1.6-4.1 x 0.6-0.9 cm, tubular, minutely striated, becoming fibrous with time; blade 7.0-9.3 x 1.6-4.0 cm, unequal in size, oblong, acute, margin entire, spreading. **Spathes** lacking. **Inflorescence** 15.3 cm long, apical, flowering only once, racemose, arching, from mature stem; peduncle 3.5 cm long, thin, somewhat laterally compressed; rachis 10.9 cm long, somewhat thick, laterally compressed. **Floral bracts** 11.4-24.0 mm long, about half as long as the ovary, the apical bracts decreasing in length, triangular, acuminate. **Ovary** 24 mm long, thin, terete, slightly thicker at the apex, not inflated, arcuate, furrowed. **Flowers** ca. 12, simultaneous, resupinate, bright green, with purple spots at the apex of the column; fragrance not registered. **Sepals** 20.0-22.5 x 6.8-8.7 mm, free, glabrous, 5-veined, reflexed, margin entire, revolute; dorsal sepal, oblanceolate, mucronate; lateral sepals, broadly obovate, oblique, acute to acuminate. **Petals** 20 x 3.7 mm, free, strongly reflexed, oblong-lanceolate, acute, 1-veined, margin entire, slightly revolute. **Lip** 18 x 26 mm, united to the column, deeply 3-lobed, fleshy, slightly convex, base cordate; bicallose, small, prominent, sub-orbicular, slightly laterally compressed; disc with 3 low, thin, ribs elongate to reach the apical sinus of the lip, the mid-rib slightly more prominent; lateral lobes 10.9 x 12.5 mm, sub-orbicular, margin entire, spreading; mid-lobe 5.6 x 9.3 mm, sub-rectangular, deeply emarginate, forming two sub-rounded lobes, margin entire, spreading. **Column** 15.6 mm long, straight, thicker towards the apex. **Clinandrium-hood** reduced, margin entire. **Anther** ovoid, apex truncate, emarginate, 4-celled. **Pollinia** 4, obovoid, laterally compressed, caudicles soft and granulose, longer than the pollinia; viscarium semi-liquid. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** not seen. **Capsule** not seen.

OTHER SPECIMENS: ECUADOR: None seen

OTHER RECORDS: ECUADOR: Napo: alrededores de Baeza y Cuyuja, ca. 1900 m, cultivada en Ecuagenera, 16 X 2018, Hágsater 16965, digital images, AMO! (probably the pretype plant).

DISTRIBUTION AND ECOLOGY: Known presently only from around Baeza, Napo, at 1800-2475 m elevation.

RECOGNITION: *Epidendrum reflexitepalum* belongs to the Incomptum Group which is characterized by the successive lateral growths produced from the middle of the previous growth, the few leaves aggregate towards the apex of the stems, the short apical, arching, nutant inflorescence with fleshy greenish to violet-green flowers with short ovaries, and the lip entire to 3-lobed. The new species is recognized by the bright green flowers, the long ovary 24 mm long, the sepals and petals strongly reflexed, the oblong-lanceolate petals, the deeply 3-lobed lip, wider than longer, 18 x 26 mm, the lateral lobes sub-orbicular, and the sub-rectangular, strongly emarginate mid-lobe, and the long column, 15.6 mm long. *Epidendrum macuchiense* Hágsater & E. Santiago has green to brown flowers, a shorter ovary, about 13-14 mm long, sepals and petals partly spreading, the lateral sepals united obliquely to the column and the petals linear-oblongate, shorter, 10.8-12.5 mm long, a smaller, 3-lobed lip, 8.6-10 x 16.1-17.6 mm, the lateral lobes broadly transverse-elliptic to sub-orbicular, and the disc with a just one low, wide mid-keel. *Epidendrum homoion* Hágsater & Dodson has a very similar shaped lip, similar in size 14-16 x 26-28 mm, but has obtrullate petals which are much wider, 8.5 x 6.0-6.5 mm, the sepals and petals are green and the lip olive-green to purplish green. *Epidendrum oenochromum* Hágsater & Dodson has burgundy-red colored flowers, the lip is proportionately wider than long and smaller, 10 x 16 mm, the lateral lobes are orbicular, and the petals are oblong, wider 11.7 x 2.2 mm.

CONSERVATION STATUS: Known presently from a single locality.

ETYMOLOGY: From the Latin, *reflexus*, reflexed, bent abruptly backwards, and *tepalum*, the sepals and petals, in reference to the unusually reflexed sepals and petals of this species compared to others of the Incomptum Group.

REFERENCES: Hágsater, E., & E. Santiago, 2015, *Epidendrum macuchiense* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 11, **Icon. Orchid.** 15(1): pl. 1537. Hágsater, E., & C.H. Dodson, 1993, *Epidendrum homoion* in E. Hágsater & G. A. Salazar (eds.), *The Genus Epidendrum*, Part 1, **Icon. Orchid.** 2: pl. 145. Hágsater, E., & C.H. Dodson, 2004, *Epidendrum oenochromum* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 4, **Icon. Orchid.** 7: pl. 768.



Authors: E. Hágsater, H. Medina & A. Cisneros

LCDP: H. Medina

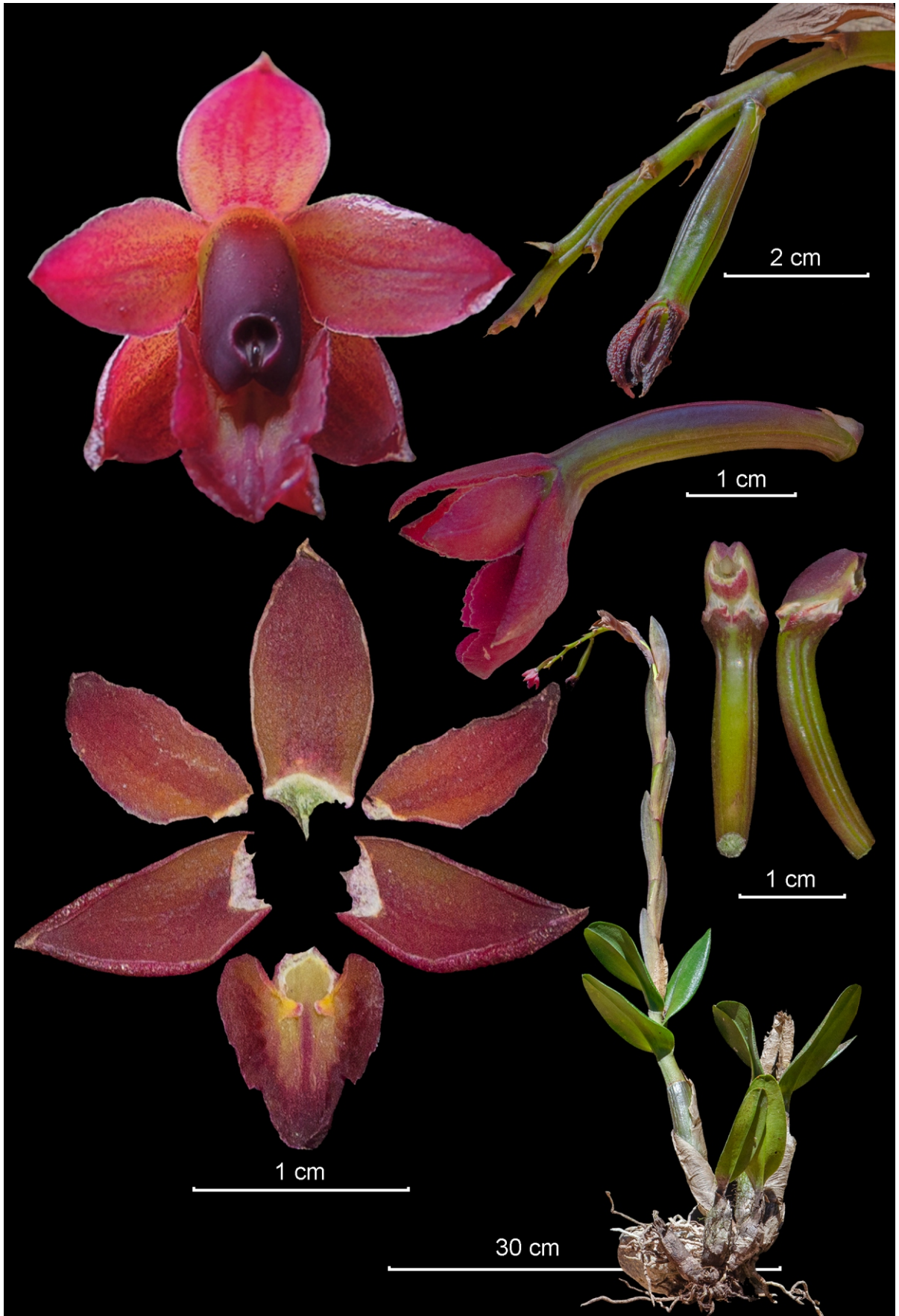
Photo: E. Hágsater

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1891



EPIDENDRUM REFRACTUM Lindl.

EPIDENDRUM REFRACTUM Lindl., Ann. Mag. Nat. Hist. 12: 398. 1843.

Type: VENEZUELA: Mérida: «Nouvelle Grenade» Sierra Nevada, Hautes Andes de Truxillo et Mérida, 1600-1700 m, août 1842, **Jean Jules Linden 618**. Lectotype (here designated): K! (specimen on the left with 4 flowers*; photograph at AMES!). Isolectotypes: BM! BR x2 [BR 13083120! & BR 13083137(single flower)] F x2! (F 1537645 & F 1466826). G x3! (det. A. Cogniaux, CNHM 24778 & CNHM 24778a). K x2! (specimen on the right with around 12 flowers, mounted with the lectotype & Herb. Hookerianum 1867). P x3 (P 00485004, P 00485005 & P 00485006)! W 52189!

Epiphytic, sympodial, caespitose **herb**, 52 cm tall including the inflorescence. **Roots** 1-3 mm in diameter, basal, fleshy. **Stems** 5-17 x 1.3-2.0 cm, simple, thickened into cylindrical pseudobulbs, erect; the base with 5 non-foliar, scarious, imbricating bracts 2.5-7.0 cm long. **Leaves** 1-4, sub-erect with respect to the stem, alternate, articulate, coriaceous, somewhat conduplicate at the embracing base; sheath 1.6-2.5 x 1.3-2.0 cm, tubular, ancipitose, minutely striated, slightly rugose, wide; blade 7-12 x 3-5 cm, widely ovate-oblong, apex rounded and short-bilobed, surface rugose, margin entire, slightly revolute. **Spathe** lacking. **Inflorescence** 25-42 cm long, apical, racemose, the peduncle erect but refracted, much surpassing the apical leaf; peduncle 12-31 cm long, wide, laterally compressed, slightly ancipitose, nearly totally hidden by up to 10 spaced bracts on the peduncle 2.0-11 x 0.3-1.5 cm, conduplicate, partly imbricated, with a prominent dorsal keel, basal half tubular semi-transparent, the apical half open, apex incurved, obtuse, margin entire, green, the apical bract wine-colored; the rachis 6.5-11 cm long, arching, laxly few-flowered. **Floral bracts** 2-4 mm long, prominent, gradually much shorter towards the apex of the rachis, much shorter than the ovary, triangular, acuminate, embracing. **Flowers** 4-12, simultaneous, resupinate, fleshy, bright to dark red over a yellow background; fragrance not registered. **Ovary** 22 x 2.0-4.0 mm, short, terete, thin, furrowed. **Sepals** 10.0-12.5 x 5.0-6.0 mm, elliptic, obtuse, minutely apiculate, 3-4-veined, margin entire, somewhat involute in mature flowers; dorsal sepal free, spreading, the lateral sepals obliquely united to the base of the column, partly spreading, somewhat oblique. **Petals** 10 x 4.5-5.0 mm, free, spreading, obliquely obovate, obtuse, 3-veined, the vein short-branched throughout, margin crenulate towards the apex, spreading. **Lip** 9.0-9.5 x 7.7-9.0 mm, united to the column, 3-lobed, concave especially basally, base cordate, margin erose, spreading; bicallose, the calli small, sub-quadrate, laminar, leaning towards each other; disc with 1, fleshy, low rib that reaches the apex of the mid-lobe; lateral lobes 2.5-2.7 x 5.0-6.3 mm, obliquely reniform to semi-orbicular; mid-lobe 3.5 x 3.0 mm, semi-circular to transversely rectangular, broadly rounded. **Column** 10-12 x 3-4 mm, straight, at soft 90° angle with the ovary. **Clinandrium-hood** short, margin entire. **Pollinia** 4, obovoid; caudicles soft and granulose, slightly longer than the pollinia. **Rostellum** apical slit. **Lateral lobes of the stigma** none seen. **Nectary** 15 mm long, shallow, penetrating 1/5 of the ovary, slightly inflated, unornamented. **Capsule** ellipsoid, pedicel thin, 11 mm long; body 30 x 21 mm; apical neck 6 mm long.

OTHER SPECIMENS: VENEZUELA: Mérida: 10,000-11,000 ft, IX 1846, *Funck & Schlim 1047*, BM! G! LE! P! W! Páramo San José, Zwischen Mucutuy und Puente La González, 3000 m, 5 XI 1949, *O. Renz 6050*, RENZ! Mérida, *Wagener 118*, W!

OTHER RECORDS: VENEZUELA: Mérida: Cordillera de los Andes, Páramo de San José, carretera San José del Sur a Mucutuy, 3120 m, 25 III 2021, *Jerez s.n.*, digital images, AMO! (LCDP and Photo voucher). Mérida, 12,000 ft, XII 1858, without author, drawing/watercolor W 52190! Sierra La Culata, C. Jerez, personal comm. 2021.

DISTRIBUTION AND ECOLOGY: Endemic to western Venezuela in the Cordillera de los Andes (Sierra Nevada) and Sierra La Culata above Mérida, epiphytic in elfin forest, at 1600-3120 m elevation. Flowering in November-March.

RECOGNITION: *Epidendrum refractum* belongs to the *Odontospatum* Group, which is recognized by the sympodial, caespitose habit, laterally compressed stems, successive flowers and a generally sub-erect, paniculate inflorescence, the peduncle with up to 10 prominent, conduplicate, ancipitose, bracts covering the lower part of the peduncle. The species is recognized by the short, thickened stems, with 1-4 ovate-oblong, coriaceous leaves aggregate towards the apex, the long peduncle of the inflorescence enveloped by bracts, prominently keeled dorsally, and the simultaneous bright wine-red flowers on a short rachis. It is somewhat reminiscent of *Epidendrum odontospatum*** Rchb.f. which has a wide, laterally compressed stem, wide, apically bilobed leaves, an inflorescence with several large, and conduplicate bracts spaced on an ancipitose peduncle, but has branches produced from each bract and flowers green, orange-yellow to brown.

NOTES: *For the lectotype designation, we have chosen the K-Lindley Herbarium specimen, which best fits the original description, mentioning 4- to 5-flowered raceme ("racemo brevi 4-5-floro cernuo"). **Bennett & Christenson (1995) misidentified as *Epidendrum odontospatum* the recently described *Epidendrum pseudospathoides* Hágsater & E. Santiago (2020). This was followed by Hágsater & Dodson in determining many herbarium specimens as *Epidendrum Odontospatum* in error. Santiago and Hágsater (2013) illustrated the true *E. odontospatum* as *E. refractoides* C. Schweinf. (1970), in error, which has been corrected recently as *Epidendrum odontospatum* by Hágsater & Santiago (2018).

CONSERVATION STATUS: CR. Critically vulnerable. The species has been collected very few times in the last 180 years, and never illustrated. The type collection consists of about 20 stems, as several sheets have more than one stem, so it must have formed large colonies at the time. We have not seen any digital image on the internet either. It appears to be strictly endemic to the Sierra Nevada and the Sierra La Culata of Venezuela at around 2600-3120 m altitude, in sub paramo elfin forest which are subject to periodic fires. The population seen includes numerous young plants.

ETYMOLOGY: From the Latin *refractus*, bent or curved back abruptly and strongly, in reference to the peduncle of the inflorescence which due to the large bracts that appear to be zigzag, though the peduncle itself is sinuous.

REFERENCES: Bennett Jr., D. E., & E. A. Christenson, 1995, *Epidendrum odontospatum*, **Icon. Orchid. Peruvianum** 247. Hágsater, E., & E. Santiago, 2018, *Epidendrum odontospatum*, in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 12, **Icon. Orchid.** 16(1): pl. 1648. Hágsater, E., & E. Santiago, 2020, *Epidendrum pseudospathoides*, in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 13, **Icon. Orchid.** 17(2): pl. 1793. Santiago, E., & E. Hágsater, 2013, *Epidendrum refractoides*, in E. Hágsater & L. Sánchez S., (eds.), *The Genus Epidendrum*, Part 10, **Icon. Orchid.** 14: pl. 1478. Schweinfurth, C., 1970, First Supplement to the Orchids of Peru, **Fieldiana: Bot.** 33: 1-80.



Authors: E. Hágsater, C. J. Jerez R. & M. Jerez R.

LCDP: C. J. Jerez R. & A. Cisneros

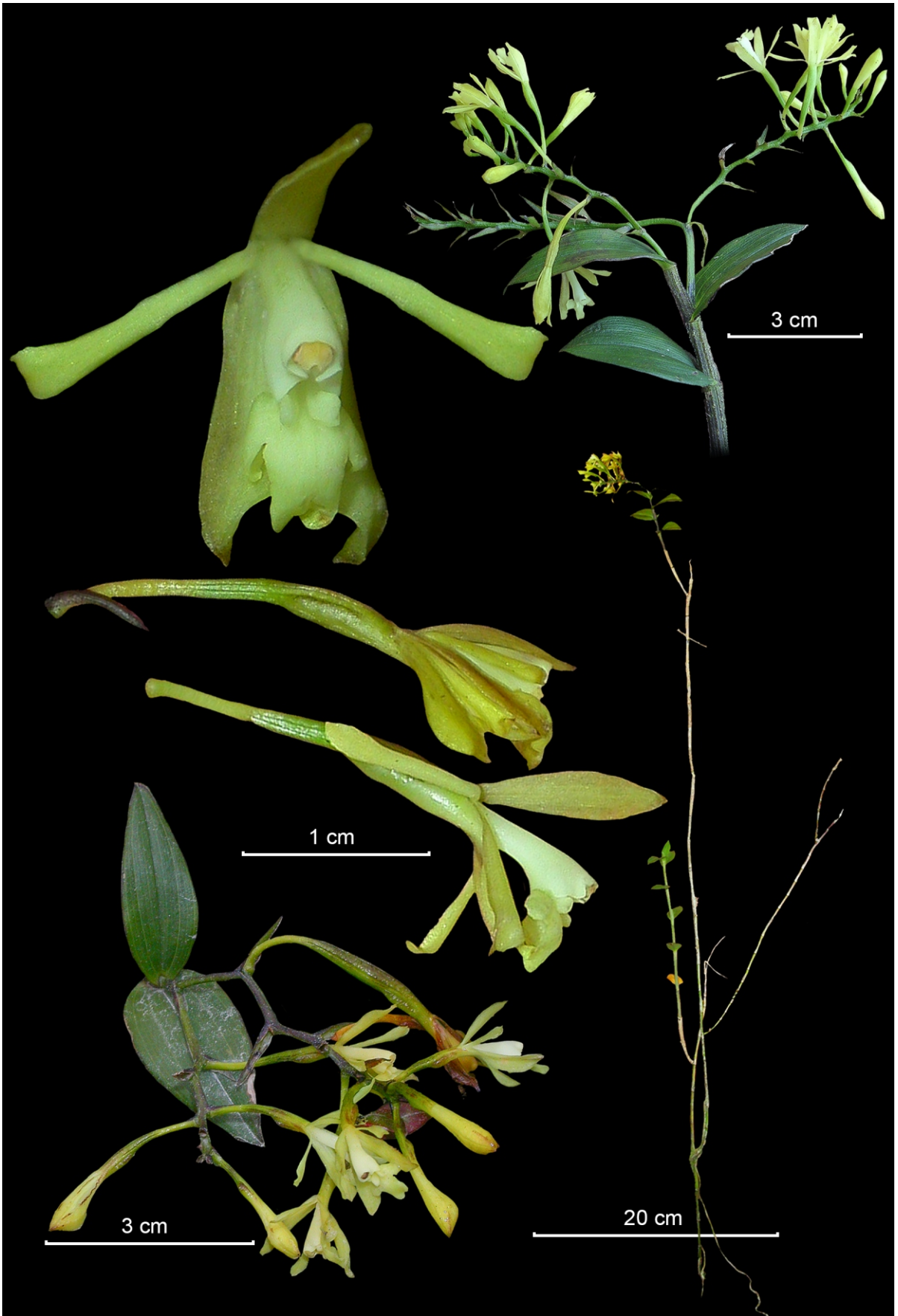
Photo: C. J. Jerez R.

Editors: E. Hágsater & E. Santiago

Herbario AMO

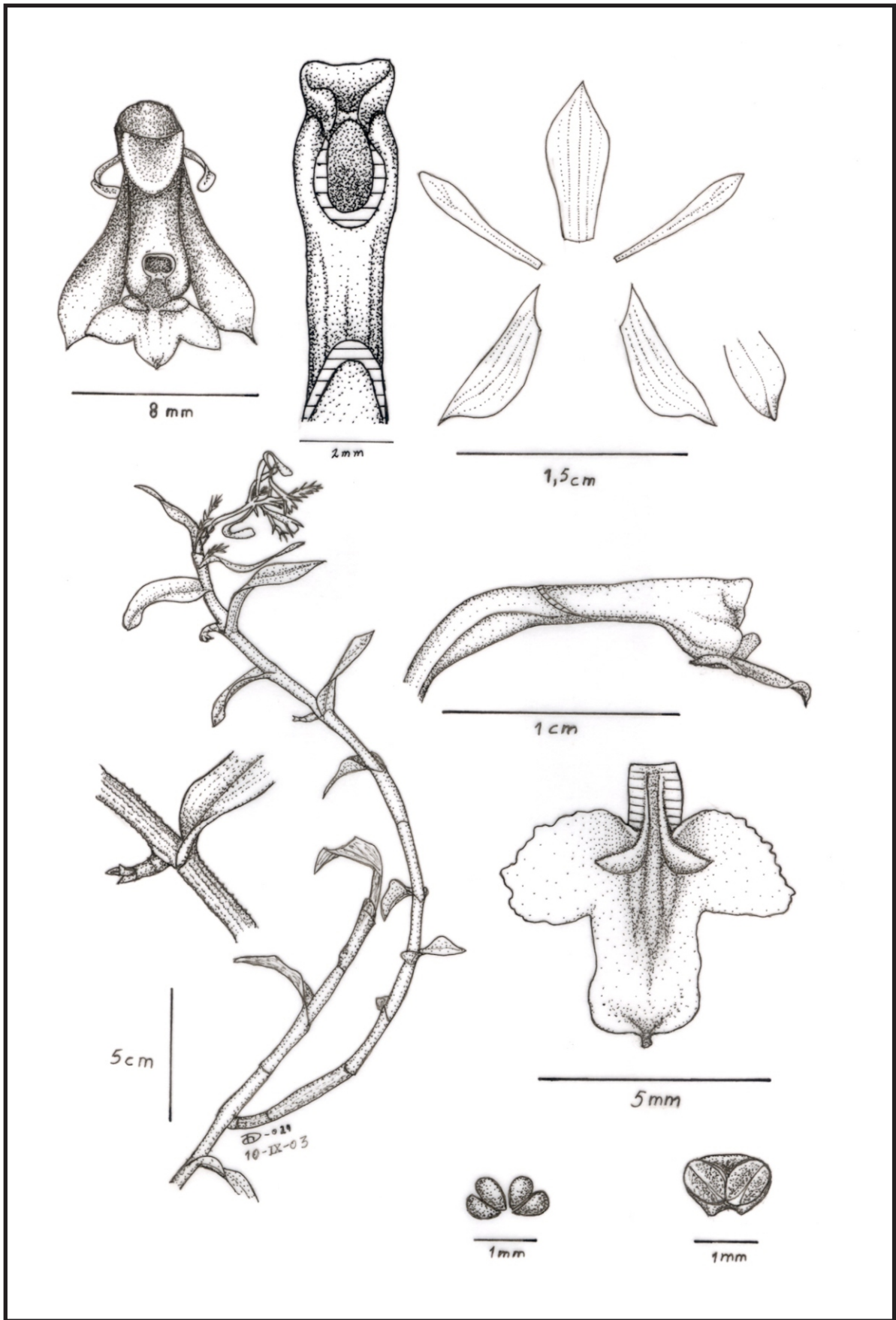
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ICONES ORCHIDACEARUM 18(2). 2021. Plate 1892



EPIDENDRUM SCABRUM Ruiz & Pav.

Plate 1893



EPIDENDRUM SCABRUM Ruiz & Pav.

EPIDENDRUM SCABRUM Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. 1: 248. 1798. (late December 1798).

Type: PERU: Huánuco: in Pillao et Muña, montibus saxosis, (collector & number not indicated). Lectotype: Designated by Schweinfurth (1944: 242-243): **Hipólito Ruiz López & José A. Pavón 4/82**. MA! (photographs of lectotype CNHM 029533, AMES! F! SEL!). Isolectotype: G! (pro parte*).

Synonyms: *Epidendrum loxense* F. Lehm. & Kraenzl. Bot. Jahrb. Syst. 26: 469. 1899. Type: ECUADOR: Loja, circa El Vaquo in Andibus orientabilibus Loxae, 3000-3300 m, **Friedrich Carl Lehmann 8194**. Holotype: K! Isotype: AMES! LE! US! (Illustration, AMO!). *Epidendrum cardiophyllum* Kraenzl., Bot. Jahrb. Syst. 37: 523. 1906. Type: PERU: Tarma, mountains west of Huacapistana, 2600-3000 m, **August Weberbauer 2082**. Holotype: B (destroyed). Photograph: F! NY! SEL!

Terrestrial, monopodial, erect **herb**, to 130 m tall, scarcely branching above. **Roots** 2.0-2.5 mm in diameter, scarce, thin. **Stems** cane-like, terete; primary stem 18-32 x 0.4-0.5 cm; secondary branches 26-30 x 0.4-0.5 cm, few, produced from the sub-apical internodes of the previous stems. **Leaves** up to 31 from the primary stem, 8-12 from the branches, distributed throughout, sub-coriaceous, sub-spreading, articulate, falling off with age; sheaths 1.0-3.5 x 0.4-0.6 cm, tubular, striated, rugose; blade 2.0-6.0 x 1.0-1.7 cm, ovate-lanceolate, acute, margin denticulate towards the apex, spreading. **Spathes** lacking. **Inflorescence** 4-7.7 cm long, apical, racemose to paniculate, with up to 2-5 racemes 3.0-5.5 cm long, sub-erect to arching, densely many-flowered; peduncle short; rachis 4-7.3 cm long, terete. **Floral bracts** 3-8 mm long, shorter than the ovary, narrowly triangular, acuminate, embracing. **Ovary** 14-16.7 mm long, terete, thin, scarcely, and minutely papillose along the apical half, ventrally slightly inflated along the apical 1/3. **Flowers** up to ca. 40, successive, resupinate, green-yellow, column white, all turning yellow with age; fragrance not registered. **Sepals** apically obtuse, minutely apiculate, 3-5-veined, margin entire, spreading; dorsal sepal 9.0-10.5 x 3-3.5 mm, spreading, free, oblanceolate; lateral sepals 8.2-10.7 x 3.0-3.3 mm, partly spreading, obliquely united to the column, oblong-elliptic, slightly oblique. **Petals** 8.6-10 x 1.5-2.0 mm, partly spreading, free, linear-oblanceolate, obtuse, 1-veined, margin rose at the apex, spreading. **Lip** 4.7-5.2 x 5.5-6.4 mm, united to the column, 3-lobed, convex, base cordate; bicallose, calli obovoid, divergent apically, disc with 3 narrow ribs that disappear on reaching the mid-lobe; lateral lobes 2-2.7 x 2.5-2.8 mm, dolabriform, margin erose; mid-lobe 2.1-2.8 x 2.3-3.0 mm, rectangular, apex truncate, apiculate, margin entire, spreading. **Column** 7-8 mm long, slightly arched, thin at the base and somewhat wider towards the truncate apex. **Clinandrium-hood** prominent, truncate, without surpassing the body of the column, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, lentil-shaped; caudicles not seen. **Rostrum** apical, slit. **Lateral lobes of the stigma** small, 1/5 the length of the stigmatic cavity. **Nectary** penetrating 1/3 the length of the pedicellate ovary, unornamented. **Capsule** not seen.

OTHER SPECIMENS & OTHER RECORDS: See next page.

DISTRIBUTION AND ECOLOGY: Widespread and common in southern Ecuador and south to central Peru on the eastern slope of the Andes, terrestrial at 2400-3500 m elevation, in wet montane forests. Flowering from July to January.

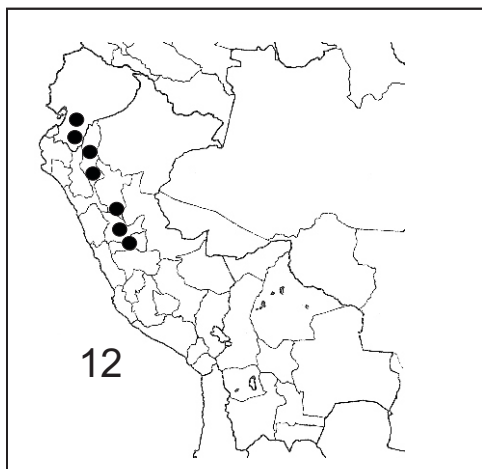
RECOGNITION: *Epidendrum scabrum* belongs to the Andean Group, Fritizianum Subgroup which is characterized by the monopodial stems branched above, the ovate to ovate elliptic, acute to short-acuminate leaves, the lateral sepals obliquely united to the base of the column, and the clearly 3-lobed lip. The species is recognized by the usually paniculate inflorescence, rarely racemose, with a very short peduncle and the racemes all about equally long, with up to ca. 40 green-yellow flowers, sepals 8.2-10.7 mm long, the lip 3-lobed, with the lateral lobes dolabriform and the margin erose, the disc 3-ribbed, these short, and the ovary slightly inflated ventrally, and scarcely and minutely papillose. *Epidendrum fritizianum* Hoehne is vegetatively very similar but the inflorescences racemose, with green flowers with purple spots, the sepals dorsally verrugose, the lip with a semi-circular protuberance on the disc, and the ovary neither inflated nor ornamented. *Epidendrum pittieri* Ames, endemic to northern Colombia, also has yellow flowers but the inflorescence is always racemose, the sepals 12-14 mm long, and the ovary neither inflated nor ornamented. *Epidendrum papillivesiculatum* Hágsater & E. Santiago is vegetatively similar but the ovary is clearly inflated and papillose, the lateral lobes of the lip are hemi-orbicular with the margin denticulate, and the disc of the lip has a single mid-rib.

***NOTES:** One of the isotypes at G is mounted together with *Holton 175*, *Epidendrum zipaquiranum* Schltr., and *Jameson 251*, the type of *Epidendrum scabrum* Ruiz & Pav. var. *parviflorum* Cogn. which corresponds to the recently described *E. acrolithophilum* Hágsater & E. Santiago (see Appendix 1, corrections to earlier volumen page II), and *Bang 1940* which is *Epidendrum bolivinaum* Schltr. The illustration published by Santiago and Hágsater (2006: pl. 886) as *Epidendrum scabrum* of *Dodson 15936* was mistakenly included and corresponds to the recently described *Epidendrum acrolithophilum* Hágsater & E. Santiago.

CONSERVATION STATUS: NT. Not Threatened. The species is common and widespread in Ecuador and central Peru.

ETYMOLOGY: From the Latin *scaber*, rough or gritty to the touch on account of numerous minute projections. In reference to the rugose leaf sheaths covering the stems.

REFERENCES: Hágsater, E., & E. Santiago, 2019, *Epidendrum acrolithophilum* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, **Icon. Orchid.**:17(1): pl. 1701. Santiago, E., & E. Hágsater, 2006, *Epidendrum scabrum*, in E. Hágsater & L. Sanchez S. (eds.), The Genus *Epidendrum* Part 5, **Icon. Orchid.** 8: pl. 886. Santiago, E., & E. Hágsater, 2009, *Epidendrum fritizianum*, in E. Hágsater & L. Sanchez S. (eds.), The Genus *Epidendrum* Part 8, **Icon. Orchid.** 12: pl. 1245. Hágsater, E., & E. Santiago, 2021, *Epidendrum papillivesiculatum* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 14, **Icon. Orchid.** 18(2): pl. 1886. Santiago, E., & E. Hágsater, 2009, *Epidendrum pittieri*, in E. Hágsater & L. Sanchez S. (eds.), The Genus *Epidendrum* Part 8, **Icon. Orchid.** 12: pl. 1275. Santiago, E., & E. Hágsater, 2009, *Epidendrum zipaquiranum*, in E. Hágsater & L. Sanchez S. (eds.), The Genus *Epidendrum* Part 8, **Icon. Orchid.** 12: pl. 1300. Schweinfurth, C., 1944, Notes on Tropical American Orchids II, **Bot. Mus. Leaflet**. 11 (8): 217-248.



Authors: E. Santiago & E. Hágsater

LCDP: F. Werner & A. Cisneros

Illustrator: D. Trujillo

Photo: F. Werner

Editors: E. Hágsater & E. Santiago

Herbario AMO

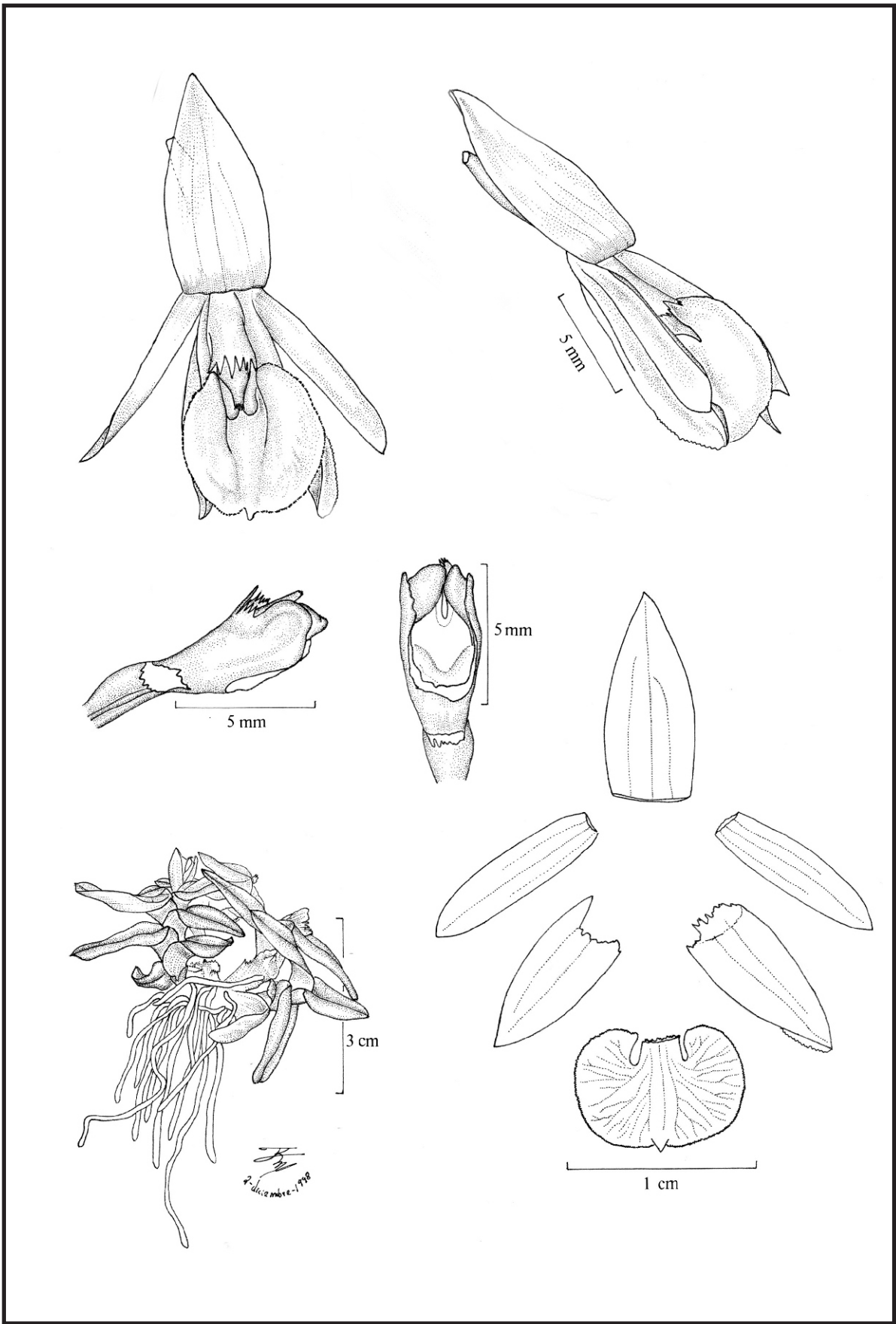
Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 18(2). 2021.

Plate 1893

EPIDENDRUM SCABRUM Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. 1: 248. 1798. (late December 1798).

OTHER SPECIMENS: ECUADOR: Loja: Loja-Saraguro, 23 VIII 1983, *Jaramillo 5886*, QCA! Saraguro-Loja, km 12.4, turn-off towards Fierro Urco, km 3.8-7.1, 3120-3390 m, 7 XII 1994, *Jørgensen 1301*, QCNE! Parque Nacional Podocarpus "El Tiro", 2800 m, 9 I 2002, *Lozano E-3*, LOJA! *Ibid.* 2950 m, 12 I 2002, *Lozano E-115*, LOJA! *Ibid.* 2700 m, 14 I 2002, *Lozano E-179*, LOJA! Limit of Parque Nacional Podocarpus, just E of pass on road Loja-Zamora, 2900 m, 17 I 1989, *Madsen 85551*, LOJA! QCA! QCNE! Parque Nacional Podocarpus, Cajanuma, 3150 m, 14 XI 2008, *Werner 2717*, AMO! **Sucumbíos:** camino al cerro El Mirador, 16 VIII 1978, *Jaramillo 621*, QCA! **Zamora-Chinchipe:** km 13 Loja to Zamora, 2800 m, 1 XI 1961, *Dodson 1476*, SEL! Unos 15 km al oriente de Loja, 2400 m, 27 XII 1947, *Espinoza 2291*, LOJA! Loja-Zamora Road at the pass, 2900 m, 12 II 1985, *Harling 21962*, GB! QCA! Carretera Loja-Zamora, 2500 m, 16 VIII 1983, *Jaramillo 5811*, QCA! just over the pass on the Loja-Zamora, 2700 m, 30 XII 1981, *Madison 7419*, QCA! MO! Few km east of Pass (El Tiro) between Loja and Zamora, 2650 m, 22 X 2004, *Werner 1244*, QCNE! **PERU: Amazonas:** Cordillera Colán SE of La Peca, 8050 ft, 6 X 1978, *Barbour 3766*, MO! SEL! **Huánuco:** Carpish, above Accamayo, 2800 m, 17 VII 1964, *Hutchinson 5926*, AMES! (illustration, AMO!) UC! USM! Chinchao, caserío de Huanacauré, 14 X 2011, *Mendoza 6323*, USM! Carpish, 9000 ft, 1 X 1942, *Sandeman 5071*, K! Distr. Chinchao, San Pedro de Carpish, 2908 n, 29 VII 2003, *Trujillo 158*, HURP! (illustration voucher, *DT 029*) Huallaga, 3100-3200 m, 1 I 1909, *Weberbauer 6828*, AMES! **Pasco:** Distr. Huancabamba, Sector Abra Yanachaga, 2932 m, 6 VIII 2011, *Arapa 92*, HOXA! USM! Abra Yanachaga, 2900 m, 15 X 2004, *Becerra 144*, HOXA! Abra Yanachaga, Quebrada Yanachaga, 2900-3100 m, 22 X 2004, *Becerra 273*, HOXA! Oxapampa, Abra Esperanza, 2790 m, 29 IX 2010, *Briceño 358*, HOXA! USM! Distr. Huancabamba, Misericordia Trail, Lanturachi-Sta. Bárbara, 2300-3300 m, 3 VII 1985, *Foster 10549*, F! MOL! SEL! Parque Nacional Yanachaga; N. of Oxapampa on side of road from Quillazú, 2000-3500 m, 25 VI 1988, *Foster 12253*, F! Sector Santa Bárbara-camino a Milpo, 3280 m, 26 VIII 2004, *Monteagudo 7000*, HOXA! MO! Entre el Río cueva blanca y Milpo, 2720 m, 20 IX 2004, *Monteagudo 7165*, HOXA! MO! SEL! Milpo, 2800 m, 23 IX 2004, *Monteagudo 7261*, HOXA! MO! *Ibid.* 2850 m, 25 IX 2004, *Monteagudo 7434*, HOXA! MO! Parque Nacional Yanachaga-Chemillén, 3170 m, 26 XI 2007, *Monteagudo 15993*, AMO! HOXA! USM! alrededor del campamento a Milpo, antiguo camino a Santa Bárbara, 3000 m, 22 X 2003, *Perea 874*, HOXA! MO! SEL! Santa Barbara-Milpo, 3000 m, 27 I 2004, *Vásquez 29105*, HOXA! MO! Milpo, 31 IX 2009, *van der Werff 22935*, HOXA! *Ibid.* 2950-3100 m, 1 XI 2009, *van der Werff 23007*, AMO! HOXA! **OTHER RECORDS: ECUADOR: Loja:** Saraguro, 2900 m, 7 XII 2003, *Werner 610*, digital photos, AMO! Parque Nacional Podocarpus, Cajanuma, 3150 m, 14 XI 2008, *Werner 2717*, digital images, AMO! (LCDP and Photo voucher, pro parte). **Zamora-Chinchipe:** East of Pass ("El Tiro") between Loja and Zamora, 2650 m, 22 X 2004, *Werner 1244*, digital images, AMO! (LCDP voucher, pro parte) **PERU: Amazonas:** Chachapoyas, 3000 m, *Salas s.n.*, digital image, AMO!



EPIDENDRUM ULEINANODES Hágsater

EPIDENDRUM ULEINANODES Hágsater*, Icon. Orchid. 3: pl. 392. 1999.

Type: BRAZIL: Amazonas: Manaus: Basin of Rio Negro, 7 January 1900, *Ernst Heinrich Ule 5276*. Holotype: SP! (ex Museo Goeldi 5248).

Synonym: *Epidendrum schizoclinandrium* D.E.Benn. & Christenson, Icon. Orchid. Peruvianum pl. 653. 2001. Type: PERU: Pasco: Oxapampa, along road to Pozuzo, 1840 m, 25 August 1978, *David and Amparo Bennett & A. Vargas P. 4473*. Holotype: MO!

Epiphytic, sympodial, caespitose herb to 6-7 cm tall. **Stems** 3-7 x 0.2-0.3 cm, erect, cane-like, flexuous, from the base of the previous stem. **Leaves** 6-13, distributed throughout the stem, progressively larger, succulent, rigid, non-articulate, persistent; sheath 0.5-1 cm long, tubular, laterally compressed, with veins visible in fresh material; blade 1.5-3.2 x 0.5-0.8 cm, lanceolate to oblong, acute to rounded, apiculate, green more or less tinged red-brown depending on exposure to sun. **Spathes** lacking. **Inflorescence** apical, sessile, compact. **Ovary** 3-4 mm long, trigonous, not inflated. **Flowers** usually 2-4, simultaneous, resupinate, green with the lip red-brown to the whole flower heavily dotted red-brown to purple. **Sepals** elliptic to lanceolate, acuminate, fleshy, 3-veined, margins entire, spreading; dorsal sepal 10.0-12.5 x 4.0-5.0 mm, free, reflexed; lateral sepals 10-14 x 2.5-4.3 mm, obliquely united to the column, partly spreading, oblique, with a low dorsal keel, the margin denticulate. **Petals** 10-12 x 2.5-3.5 mm, oblong elliptic, acuminate, oblique, 3-veined, margins sparsely short-ciliate, spreading. **Lip** 6.5-8.0 x 7.0-10 mm, entire, reniform, cordate, apex rounded with a small apiculus, fleshy, in natural position embracing the apex of the column to form midline channel with the lateral sides spreading flat, margins minutely erose dentate, spreading; ecallose. **Column** 5-10 mm long, straight, short, thick, with a prominent recurved wing on each side. **Clinandrium-hood** prominent, deeply fimbriate. **Rostellum** apical, slit. **Anther** 4-celled, narrowly ovoid, rostrate, elongate, apex narrowly truncate, deeply fimbriate. **Pollinia** 4, obovoid, somewhat triangular, laterally compressed; caudicles longer than the pollinia. **Nectary** not seen. **Capsule** not seen.

OTHER SPECIMENS: BRAZIL: Amazonas: Manaus-Caracará, km 61, Reserva Biológica de Campina do INPA, 15 III 1975, *Braga 2810*, INPA! *Ibid.* km 62, 9 XI 1975, *Braga 2947*, INPA! R.F.D. Picada PH, 11 VI 1958, *Coelho 15*, HB! Manacapuru, Jaiteua, *Dellome 41*, HB! BR-174, km 16 Rama do canoëiro, 24 V 2014, *Krahl 450*, INPA! Estrada BR-319 km 540, 20 IV 1976, *Monteiro 819*, INPA! **Pará:** *Wullschlaegel 1123*, BR! W! (sketch of flower by Szlachetko, AMO!) **COLOMBIA:** Caquetá: Solano, comunidad indígena Peña Roja, 280 m, 27 XI 1995, *Groenendijk 33*, COAH! **ECUADOR: Morona-Santiago:** Bomboinza, Misión Salesiana, *Sparre 19033*, S! (illustration, AMO! illustration voucher) **Pastaza:** 35 km SE de Curaray, 300 m, IX 1990, *Cudiño 745*, MO! QCNE! *Ibid.* *Cudiño 746*, QCNE! MO! (illustration AMO! flower at AMO!) **PERU: Amazonas:** Bagua: Between Quebrada Aramango and Punta Pomará, canyon of Río Marañón, 400 m, 3 X 1958, *Hutchison 1553*, UC! USM! **Huánuco:** Tingo María, 670 m, 29 X 1948, *Carpenter 103*, AMES! west of Tingo María, 25 IX 1962, *Schunke 6176*, F! MO! **Junín:** subiendo a mina Pichita-Caluga, 25 X 1984, *Fernández 160*, USM! Chanchamayo, Río Blanco-Chanchamayo, 1500 m, 17 XI 1906, *Köhler s.n.* ex Herb. L.A. Garay, USF! Río Blanco-Chanchamayo, 1500 m, 17 XI 1906, *Köhler s.n.*, HB! Hacienda Schunke above San Ramón, 1200 m, I 1924-1927, *Schunke s.n.*, F!

OTHER RECORDS: hort White Oakes Orchids, *Gerritsen s.n.*, digital image, AMO! **BRAZIL: Amazonas:** Novo Airão, passando Manacapuru, km 33, 26 II 2017, *Hágsater 15073*, digital images, AMO! (Photo voucher). **PERU: Amazonas:** Chachapoyas: Leimebamba, El Laurel, 3 VI 2016, *Salas s.n.*, digital image, AMO! **Junín:** Pachitea, Chaglla, 952 m, 23 VIII 2014, *Fernández s.n.*, digital images AMO! **San Martín:** Rioja: Pardo Miguel: Yurayacu, 1473 m, 27 VIII 2015, *Edquén 2133*, digital images, AMO! **Rioja:** Nueva Cajamarca, Segunda Jerusalén, ca. 900 m, Orquídeas Amazónicas, "E. schizoclinandrium 'Petaluma' CBR/AOS, Judy Carney sub Parsons s.n. Digital image, <https://www.flickr.com/photos/rpflovershots/50109149158/in/photolist-2jm2rh9-2jkwdo0-2jkw7Hf-2jkY9-2jkY9-2jkY9-2jraTRs-2jrdCXS/>

RECOGNITION: *Epidendrum uleinanodes* belongs to the Nanodes Group, characterized by the caespitose to creeping, sympodial plants, the short stems completely covered by non-articulate, fleshy, imbricating leaves, and the sessile, few-flowered inflorescences. The species is closely related to *E. schlechterianum* Ames and is distinguished by its smaller flowers, the lip in natural position embracing the apex of the column to form midline channel with the lateral sides spreading flat, margins minutely erose dentate, the prominently winged column and the deeply fimbriate clinandrium. *Epidendrum neodiscolor* Hágsater [Basionym: *E. discolor* (Lindl.) Benth. Non *E. discolor* A.Rich. & Galeotti], described and illustrated from a plant said to have originated in Rio de Janeiro but has been recently photographed in Trinidad (Hágsater, unpublished), has smaller flowers, the sepals 6.6-10.0 mm long, and the column does not have the prominent column wings or prominently fimbriate clinandrium. *Epidendrum oxynanodes* Hágsater has larger flowers, the sepals being some 2 cm long, but is distinguished by the long acuminate sepals and petals and the column not winged, the clinandrium entire. *Epidendrum schlechterianum* Ames has oblong, acute sepals and petals. Other species in this group such as *E. gonzalez-tamayoi* Hágsater, *E. congestum* Rolfe, *E. congestoides* Ames & C.Schweinf. and *E. longirepens* (C.Schweinf.) C.Schweinf., all have smaller flowers, the sepals being less than 12 mm long; none have the prominent wings at the apex of the column. *Epidendrum riverae* Hágsater has creeping habit, no more than 2 cm tall, is single flowered, sepals 10 mm long, column 6 mm long, sepals 10 mm long, oblong, apex somewhat rounded, acute, clinandrium-hood, bifid, margin fimbriate, anther long ovoid ending in a long, fimbriate appendage. *Epidendrum medusae* (Rchb.f.) Pfitzer has much large flowers with a prominent fimbriate lip.

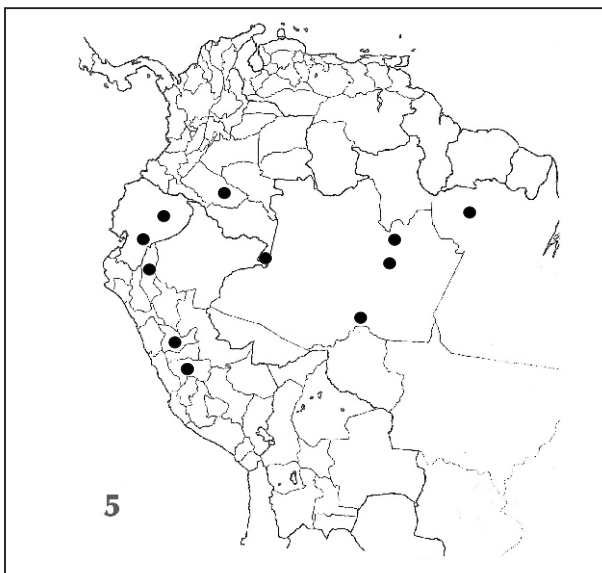
DISTRIBUTION AND ECOLOGY: Known from the upper Amazon basin, along the Río system of northwestern Brazil, from Pará west, and at the base of the Andes in Colombia, Ecuador, and Peru up to about 1500 m elevation. Growing in coffee trees and in tropical rainforest, as well as in campinha north of Manaus. Flowering in February to November.

CONSERVATION STATUS: LC. Least Concern. The species is widespread and apparently common from Manaus to the slopes of the Andes in Ecuador and Peru.

ETYMOLOGY: In honor of Ernst Heinrich Georg Ule (1854-1915), born in Halle, who trained as a gardener in Germany and emigrated to Brazil in 1883. He served as a traveling naturalist for the National Museum in Rio de Janeiro, and eventually its director. From 1900 to 1903 he was engaged in botanical research in the Amazon region of Brazil. He later returned to Germany as a scientific assistant at the Berlin Dahlem Botanical Garden and Museum (1913-1914). The name honors him for collecting the type, and *Nanodes*, the name proposed by Lindley as a new genus for the group of species to which this species belongs.

*NOTE: The original description and illustration was based on the illustration published by Hoehne in *Iconografía de Orquídeas do Brasil*, 1949. Tab. No. 115, Fig. 1.

REFERENCES: Dodson, C.H., & P.M. Dodson 1982, *Epidendrum medusae* [as *Nanodes Medusae*] in Orchids of Ecuador, *Icon. Pl. Trop.* 5: pl. 465. Hágsater, E., 1993, *Epidendrum neodiscolor* in *Orquídea (Mexico City) ser 2*, 13(1-2): 217. Hágsater, E., 1993, *Epidendrum gonzalez-tamayoi*, in E. Hágsater & G.Á. Salazar (eds.) *The Genus Epidendrum*, Part 1, *Icon. Orchid.* 2: pl. 136. Hágsater, E., 1999, *Epidendrum oxynanodes* in E. Hágsater, L. Sánchez S. & J. García-Cruz (eds.), *The Genus Epidendrum*, Part 2, *Icon. Orchid.* 3: pl. 363. Hágsater, E., 1999, *Epidendrum uleinanodes*, in E. Hágsater, J. García-Cruz & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 2, *Icon. Orchid.* 3: pl. 392. Hágsater, E., 2019, *Epidendrum riverae* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 13, *Icon. Orchid.* 17(1): pl. 1751. Santiago, E., & E. Hágsater, 2007, *Epidendrum congestoides* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 6, *Icon. Orchid.* 9: pl. 920. Hágsater E., & R. Jiménez M., 2021, *Epidendrum longirepens* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 14, *Icon. Orchid.* 18(2): pl. 1879. Lindley, J., 1932, *Nanodes discolor*, *Bot. Reg.* 18: pl. 1541. Santiago, E., & E. Hágsater, 2007, *Epidendrum congestum* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 6, *Icon. Orchid.* 9: pl. 921. Santiago, E., & E. Hágsater, 2007, *Epidendrum schlechterianum* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 6, *Icon. Orchid.* 9: pl. 982.

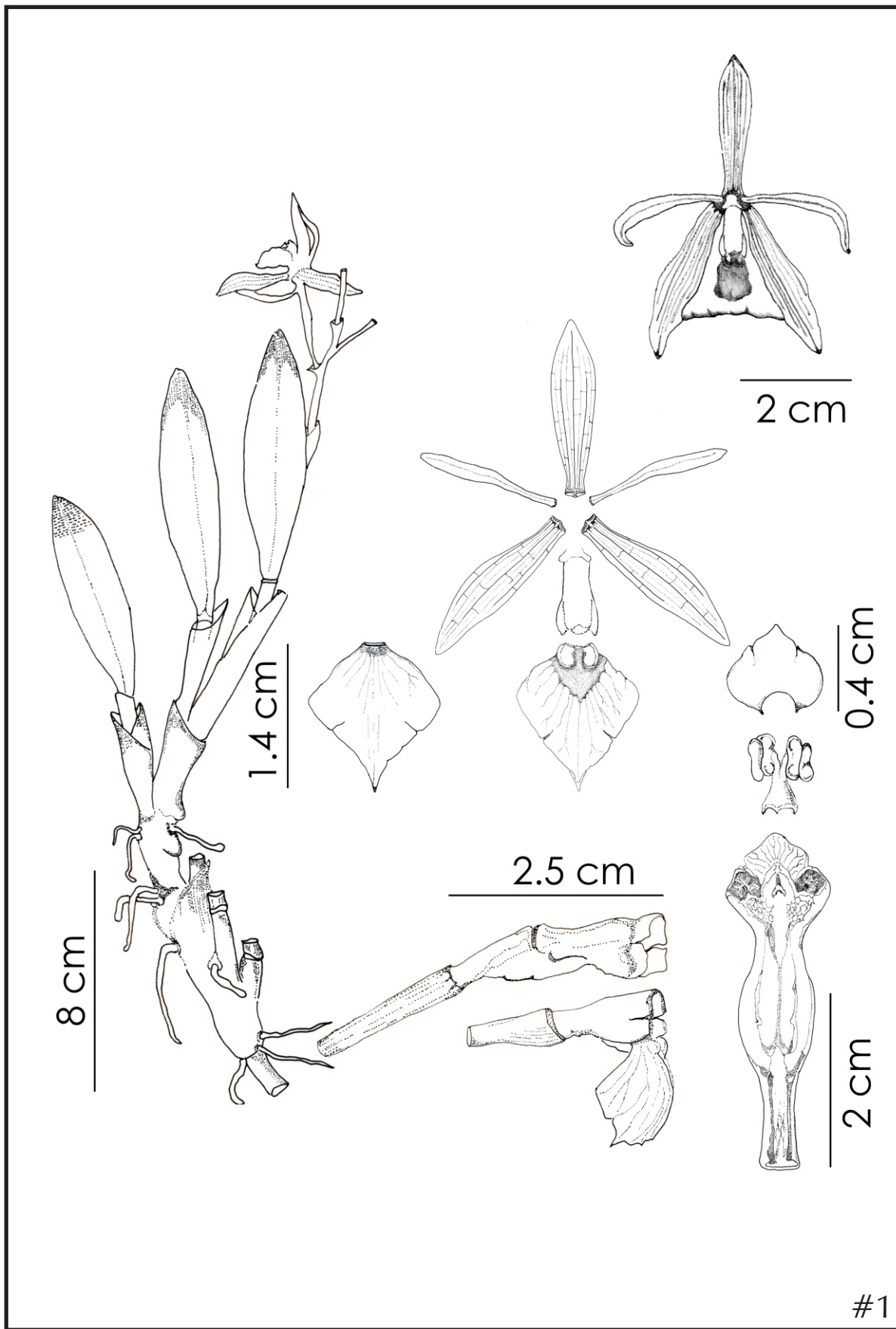


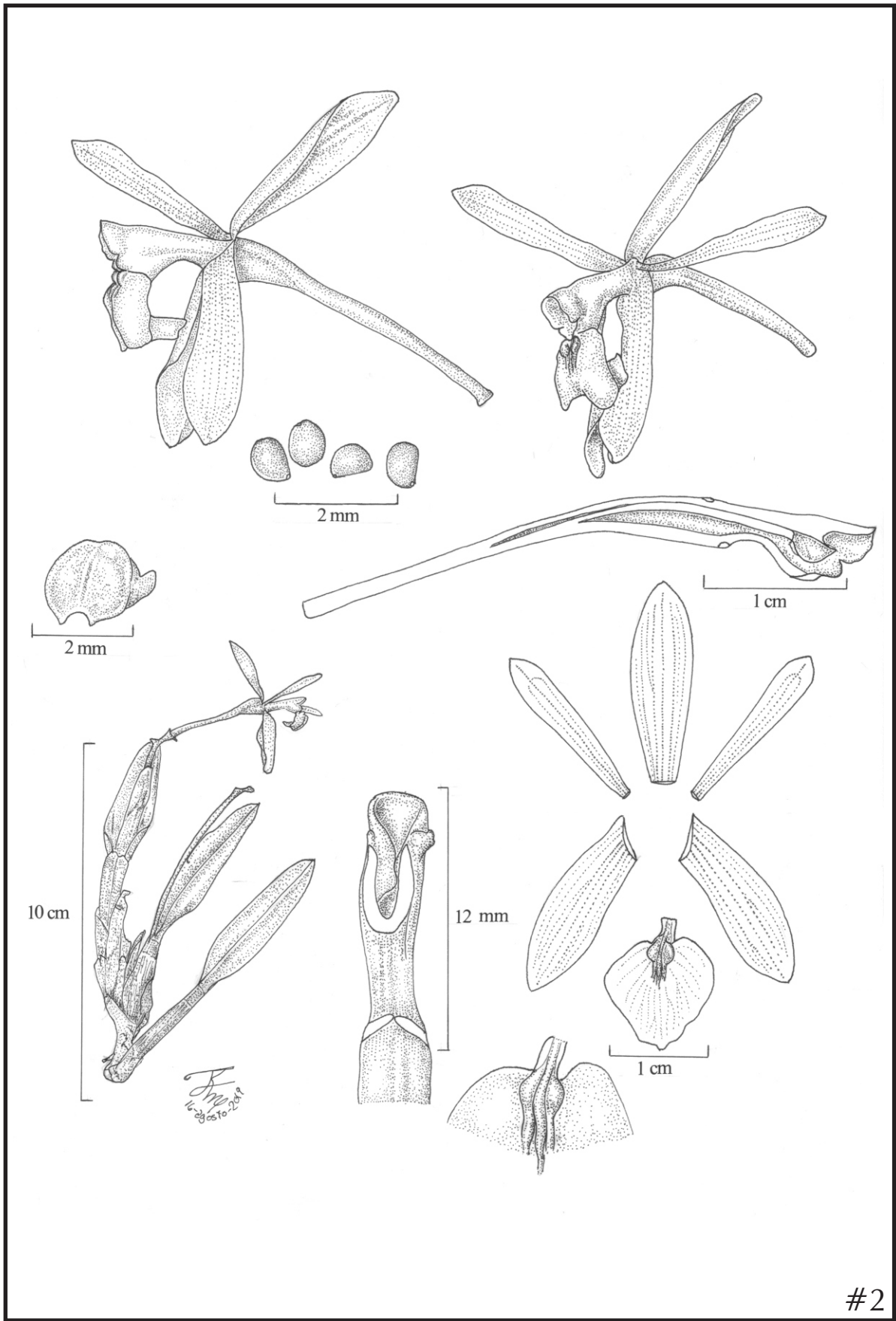
Author: E. Hágsater
Herbario AMO

Illustrator: R. Jiménez M.
Ciudad de México, MÉXICO



Photo: R. Parsons
Editors: E. Hágsater & E. Santiago
ICONES ORCHIDACEARUM 18(2). 2021. Plate 1894





#2

EPIDENDRUM VALE-RAMIROI L.Valenz., E.Santiago et Hągsater, sp. nov.

Type: PERU: Pasco: Oxapampa: Dist. Huancabamba; Buffer zone of the Parque Nacional Yanachaga Chemillén, sector Milpo, in sclerophyllous forest, 2972 m, 18 January 2011, **Edith Briceño & Carlos Mateo 672**. Holotype: HOXA! (illustration voucher #1).
Isotype: USM!

Similar to *Epidendrum magnisaxicola* Hągsater, Edquén & E.Santiago but the flowers with the sepals dorsally pink, yellowish white ventrally (vs. greenish yellow tinged brown), petals 18-20 x 1.0-2.0 mm, linear-oblancoolate (vs petals 25 x 4 mm, oblanceolate), lip yellow, rhombic, base cuneate, apex acuminate (vs. lip ovate-rhombic, base truncate, apex obtuse).

Epiphytic, rhizomatous, sympodial, caespitose, climbing **herb**, 8.0-13 cm, tall. **Roots** 0.5-2.2 mm, distributed throughout the rhizome, thin, white. **Stems** 2.8-6.0 x 0.6-0.8 cm, forming fusiform pseudobulbs, covered by 2-3 sheaths, 2.0-3.2 cm long, non-foliar, scarious, and becoming fibrous over time. **Leaf** 1, 4.2-8.0 x 1.0-1.8 cm, elliptic, apex obtuse, articulated, coriaceous, entire margin. **Spathes** 1, 4.2-4.5 x 0.7-0.8 cm, tubular, apex obtuse. **Inflorescence** 6.5-10.0 cm long including apical flowers, erect, longer than the leaf, few-flowered, racemose; peduncle 5.5-6.0 cm long, thin, erect, straight; rachis short, 1.0-1.5 cm long. **Floral bracts** 2 mm long, much shorter than the ovary, ovate triangular with the acute apex. **Ovary** 2.5-3.0 mm long, terete, thin, slightly inflated ventrally behind the perianth, slightly furrowed. **Flowers** 2-3, simultaneous, resupinate, alternate, petals and sepals dorsally pink, yellowish white ventrally, lip yellow, column yellowish white; fragrance not registered. **Sepals** 20-23 x 4.0-6.2 mm, spreading, free, oblanceolate, obtuse, 7-veined, the pair of shorter lateral veins unbranching, margin entire, spreading; lateral sepals oblique. **Petals** 18-20 x 2.0-3.0 mm, free, partly spreading, linear-oblancoolate, apex acute, 1-3-veined, without branching, margin entire, spreading. **Lip** 11-14 x 12.2 mm, united to the column, entire, rhombic, base cuneate, apex acuminate, strongly revolute in natural position so as to appear truncate; bicallose, calli fleshy, slightly globose, laterally flattened, with 3 short ribs in front. **Column** 10-12 mm long, short, thin at the base, gradually widening towards the apex with a pair of quadrate, fleshy wings at the sides, the lower corner sometimes rounded forming a truncate funnel with the clinandrium-hood. **Clinandrium-hood** prominent, entire, thin, margin entire. **Rostellum** apical, split. **Anther** sub spherical, the apex with a semi-circular notch, 4 celled. **Pollinia** 4, reniform, laterally somewhat flattened, broadly fleshy, broad; caudicles glabrous. **Lateral lobes of the stigma** occupy about half of the stigmatic cavity. **Nectary** penetrating nearly $\frac{1}{4}$ of the pedicellate ovary, inflated and forming a short vesicle at the apex of the ovary. **Capsule** not seen.

OTHER SPECIMENS: PERU: Pasco: Oxapampa: Distr. Oxapampa, Sector Chacos, alrededores de la laguna, 2700 m, 14 III 2005, Arias 217, HOXA! MO! (illustration voucher #2, AMO!).

OTHER RECORDS: PERU: Pasco: Oxapampa: Dist. Huancabamba; Cordillera Yanachaga, Selva Central, rec'd. 29 VI 2007 Becerra s.n., HOXA! Digital image, including views of flower in alcohol, AMO! (photo voucher).

DISTRIBUTION AND ECOLOGY: Presently only known from the sclerophyllous forests of the Milpo sector, in the Parque Nacional Yanachaga Chemillén, central jungle of Peru, in the Department of Pasco, Oxapampa province. Epiphyte at 2700-2972 m elevation; flowering from January to March.

RECOGNITION: *Epidendrum vale-ramiroi* belongs to the Saxicola Group characterized by having pseudobulbous stems, caespitose habit, a prominent spathaceous bract, an erect inflorescence with few purple or yellow flowers. The species is recognized for having petals and sepals dorsally pink, yellowish white ventrally, lip yellow, column yellowish white, sepals 20-23 mm long, oblanceolate, petals 18-20 x 2.0-3.0 mm, linear-oblancoolate, a lip rhombic with the base cuneate, apex acuminate, and an ovary inflated ventrally behind the perianth. *Epidendrum magnisaxicola* Hągsater, Edquén & E.Santiago, has the greenish-yellow flowers with sepals tinged brown, 24-25 mm long, petals 25 x 4.0 mm, oblanceolate, and the lip is rhombic-ovate with the base truncate and the apex obtuse. *Epidendrum microcattleyioides* D.E. Benn. & Christenson has yellow flowers with the margins white, sepals 12-13 mm long, the lip reniform, widely emarginate with a single mid-rib, and the ovary geniculate. *Epidendrum saxicola* Kraenzl. has purple flowers with a white lip tinged purple, sepals 15 mm long, petals 13 x 2.5 mm, and the lip sub-orbicular to obscurely pentagonal. *Epidendrum herreranum* C.Schweinf. has reddish brown flowers with the central surface of the floral segments yellow, the lip 3-lobed, the lateral lobes obliquely rounded-dolabriform, and the petals 19 x 11 mm, rhombic-spathulate. *Epidendrum milpoense* Hągsater & E.Santiago has green flowers, sepals 18-19 mm long, petals 16-17.5 x 5-7 mm, rhombic-spatulate, and the lip 11 x 15 mm, widely cordiform with a strongly cordate base, disc fleshy with 3 low ribs which reach the apex.

CONSERVATION STATUS: DD. Data deficient. Though there are only two specimens identified, we have photographic records showing the species ranging from Pasco to San Martín in northern Peru, a distance of some 600 km.

ETYMOLOGY: Dedicated to Ramiro Valenzuela Gamarra (1976-2018), the first author's brother, who, as a professional tour guide with a particular interest in learning about plants, participated in many botanical expeditions conducted by the Missouri Botanical Garden in Peru, collaborating in the botanical collections of many specimens, many of them orchids.

ACKNOWLEDGMENT: Thanks to Parque Nacional Yanachaga Chemillén (SERNANP), to Blgo. Genaro Yarupaitan, who granted us access to the area, under the collecting permit: **RJ-N°002-2012-SERNANP-JEF**. On the other hand, we would like to thank Ing. Rodolfo Vásquez Martínez, Director of the Missouri Botanical Garden of Peru, for allowing botanical explorations, in which many species have been discovered, as well as Blgo. Rocío del Pilar Rojas González for facilitating and obtaining the relevant permits to enter the Yanachaga Chemillén National Park. We thank Blgo. Maria Isabel Villalba for the numerous suggestions to improve this manuscript. Cesar Augusto Rojas Tello provided transportation for the exploration team to the study area and finally Carlos Mateo and Blgo. Edith Briceño for collecting of the type specimens.

REFERENCES: Bennett, D.E. & E.A. Christenson, 2001, *Epidendrum microcattleyioides*, in E.A. Christenson (ed.), **Icon. Orchid. Peruvianum** pl. 644. Hągsater, E., & B. Collantes, 2013, *Epidendrum herreranum*, in E. Hągsater & L. Sánchez S. (eds). The Genus *Epidendrum*, Part 10, **Icon. Orchid.** 14: t. 1438. Hągsater, E., & E. Santiago, 2019, *Epidendrum milpoense*, in E. Hągsater & E. Santiago (eds). The Genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(1): t. 1741. Hągsater, E., J.D. Edquén & E. Santiago, 2019, *Epidendrum magnisaxicola*, in E. Hągsater & E. Santiago (eds). The Genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(1): t. 1735. Kränzlin, F.W.L., 1905, *Epidendrum saxicola* in **Repert. Spec. Nov. Regni Veg.** 1: 187-188.



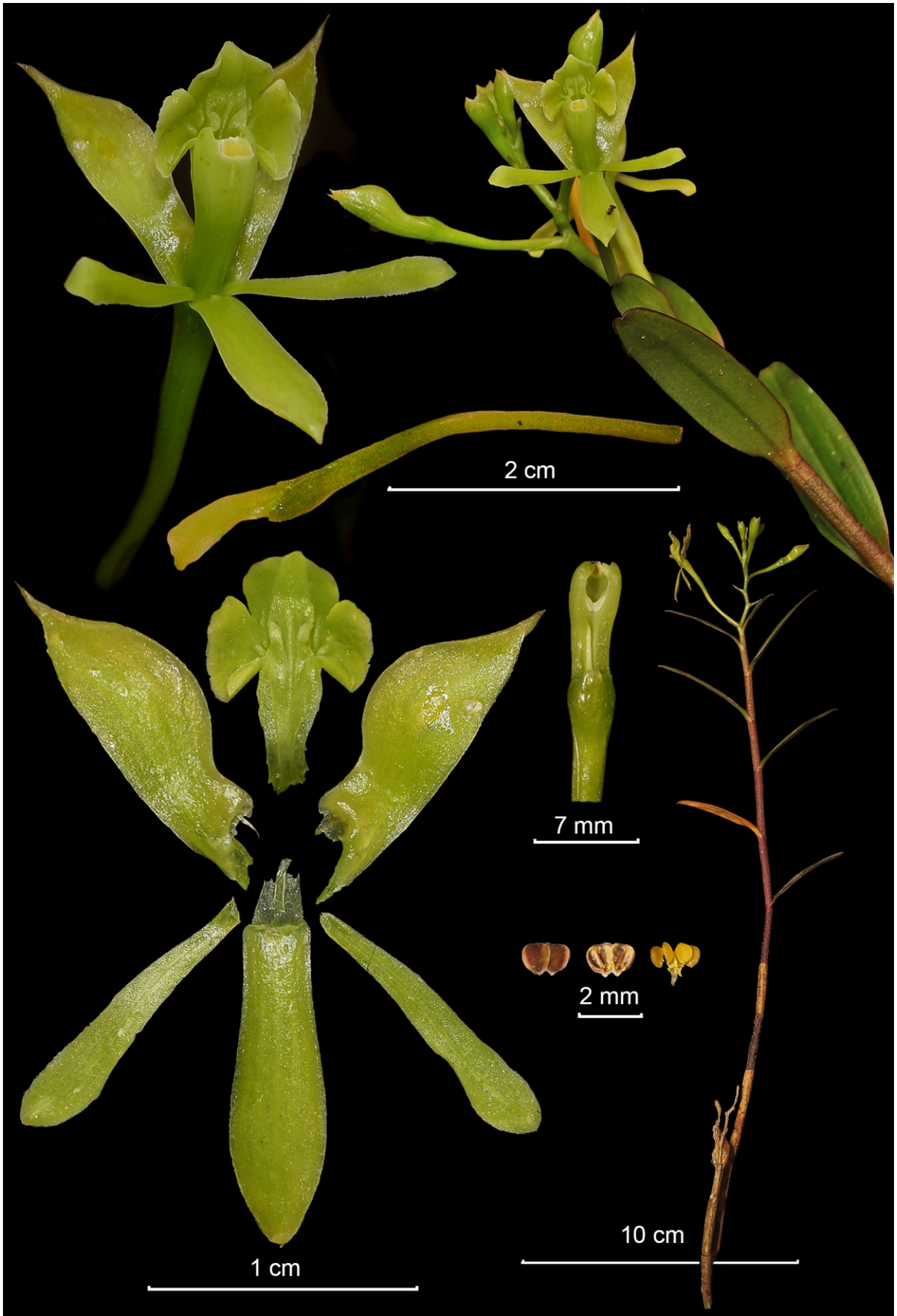
Authors: L. Valenzuela, E. Santiago & E. Hągsater

Illustrators: L. Valenzuela & R. Jiménez M.

Photo: E. Becerra

Editors: E. Hągsater & E. Santiago

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EPIDENDRUM VENCEREMOS Hágsater, E.Santiago & Edquén

Plate 1896

EPIDENDRUM VENCEREMOS Hágsater, E.Santiago et Edquén, sp. nov.

Type: PERU: San Martín: Prov. Rioja: Distr. Pardo Miguel Naranjo: Sector Venceremos, 1714 m, 25 noviembre 2018, *José Dilmer Edquén Oblitas 245*. Holotype: HURP! (LCDP & Photo voucher).

Similar to *Epidendrum elatum* C.Schweinf. but the leaves 1.7-3.8 x 0.5-0.8 cm, oblong (vs. leaves 3-16 x 1.8-4.0 cm (those of the main stem much larger than those of the branches)), flowers 8, yellow-green (vs. 20-35, green to yellow-green), ovary 25 mm long, (vs 35-42 mm long (type)), lateral sepals 13.8 x 4.5 mm (vs. lateral sepals 15-21 x 4.6-6.5 mm), lip 6.2 x 7.5 mm, disc with a wide, fleshy mid-rib with thickened, short veins (vs. lip 7-10 x 10-11 mm, disc with 3 low narrow ribs that reach the apex of the lip).

Terrestrial, monopodial **herb**, to 30 cm tall, branching from subapical internodes. **Roots** basal from primary stem only. **Stems** 30 x 0.3 cm, cane-like, thin, erect, straight. **Leaves** none seen on the primary stem, 7 on the branches, distributed along the apical half of the stems, spreading, alternate, coriaceous, medium green, the margin purple-black; sheaths tubular, minutely striated, rugose, red-brown; blade 1.7-3.8 x 0.5-0.8 cm, oblong-elliptic, apex rounded, slightly recurved, margin entire, spreading. **Spathes** lacking. **Inflorescence** 4 cm long, apical, erect, racemose, laxly few-flowered; peduncle sessile; rachis 4 cm long, terete, thin, slightly flexuous, green. **Floral bracts** 4-6 mm long, much shorter than the ovary, narrowly triangular, acuminate, embracing. **Ovary** 25 mm long in totally developed flowers (shorter in the floral buds), terete, thin, slightly dilated ventrally behind the perianth, furrowed. **Flowers** 8, successive, non-resupinate, yellow-green; without fragrance. **Sepals** somewhat fleshy, margin entire, spreading, 5 veined; dorsal sepal 12.5 x 3.8 mm, spreading, free, oblanceolate-oblong, apex rounded, apiculate; lateral sepals 13.8 x 4.5 mm, partly spreading, obliquely united to the base of the column, obliquely elliptic, narrowed at the medial 1/5, apex acuminate, aristate, the outer margin straight. **Petals** 12.3 x 2.5 mm, spreading, free, narrowly oblanceolate, apex obtuse, 3-veined, apical margin minutely denticulate, spreading. **Lip** 6.2 x 7.5 mm, united to the column, in a vertical, non-resupinate position, 3-lobed, base cordate, margins sub-entire, basal margin of the lateral lobes strongly involute; bicallose, the calli fleshy, laminar, flattened, curved outwards, divaricate; disc with two short thickened lamellar ribs on each side and a wide, fleshy mid-rib that reaches the apex of the lip, with a thin narrow rib on top of the broad mid-rib slightly longer than the calli; lateral lobes 2.5 x 4.2 mm, dolabriform; mid-lobe 2.5 x 4.3 mm, flabelliform, somewhat cuneate at base, widely rounded above, apically a short wide mucro made by the fleshy mid-rib. **Column** 9 mm long (dorsally), thin, somewhat thickened apically by lateral rounded wings, the apex truncate. **Clinandrium-hood** short, margin entire. **Rostellum** apical, slit. **Anther** reniform, 4-celled. **Pollinia** 4, obovate, laterally compressed; caudicles soft and granulose, slightly longer than the pollinia. **Lateral lobes of the stigma** prominent, 1/2 as long as the stigmatic cavity. **Nectary** shallow, barely penetrating the pedicellate ovary behind the perianth and forming a small elliptic vesicle ventrally. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Presently known from a single collection from northern Peru, in San Martín, on the eastern side of the Andes; terrestrial at 1714 m elevation. Flowering in November.

RECOGNITION: *Epidendrum venceremos* belongs to the Andean Group, Vernixium Subgroup which is characterized by the monopodial habit with sub-apical branching, erect inflorescences, laxly non-resupinate, spreading flowers, and the lip entire to 3-lobed and facing downwards. The new species is recognized by the leaves 1.7-3.8 x 0.5-0.8 cm, oblong, green with the margin purple-black, the inflorescence with 8 successive flowers yellow-green, erect, non-resupinate, lateral sepals 13.8 mm long, mucronate, the mucronate lip 6.2 x 7.5 mm, 3-lobed, the lateral lobes flabelliform, and the mid-lobe rectangular, the disc with a wide, fleshy mid-rib and short, fleshy thickened veins, and the ovary slightly inflated behind the perianth. *Epidendrum elatum* C.Schweinf. is widespread from Colombia to Bolivia, and much larger overall, the leaves 3-16 x 1.8-4.0 cm, those of the main stem much larger than those of the branches, flowers 20-35, green to yellow-green, lateral sepals 15-21 x 4.6-6.5 mm, lip 7-10 x 10-11 mm, disc with 3 low narrow ribs that reach the apex of the lip. *Epidendrum pozoi*, endemic to Ecuador, has leaves 5.5-9.5 x 0.9-1.2 cm, linear-elliptic, the apex bilobed, the inflorescence up to 17 green flowers, the lateral sepals 19-26 mm long, the lip 11-14 x 13-14 mm, with the lateral lobes sub-ovate-quadrate, and the mid-lobe slightly emarginate. *Epidendrum centronum* Hágsater & Dodson has very similar leaves, 6-9 x 0.8-1.3 cm, flowers green tinged brown, the sepals 20-21 mm long, and the lip 9 x 7 mm, panduriform with 3 thin parallel ribs. *Epidendrum deorsus* Hágsater & E.Santiago is endemic to central Peru and its leaves are 2.6-13 x 2.0-3.0 cm, oblong-elliptic, the flowers green turning ochre-yellow, horizontal, with the lip looking down, the sepals 21 mm long, and the lip 10 x 10 mm, cordiform with the calli sub-globose.

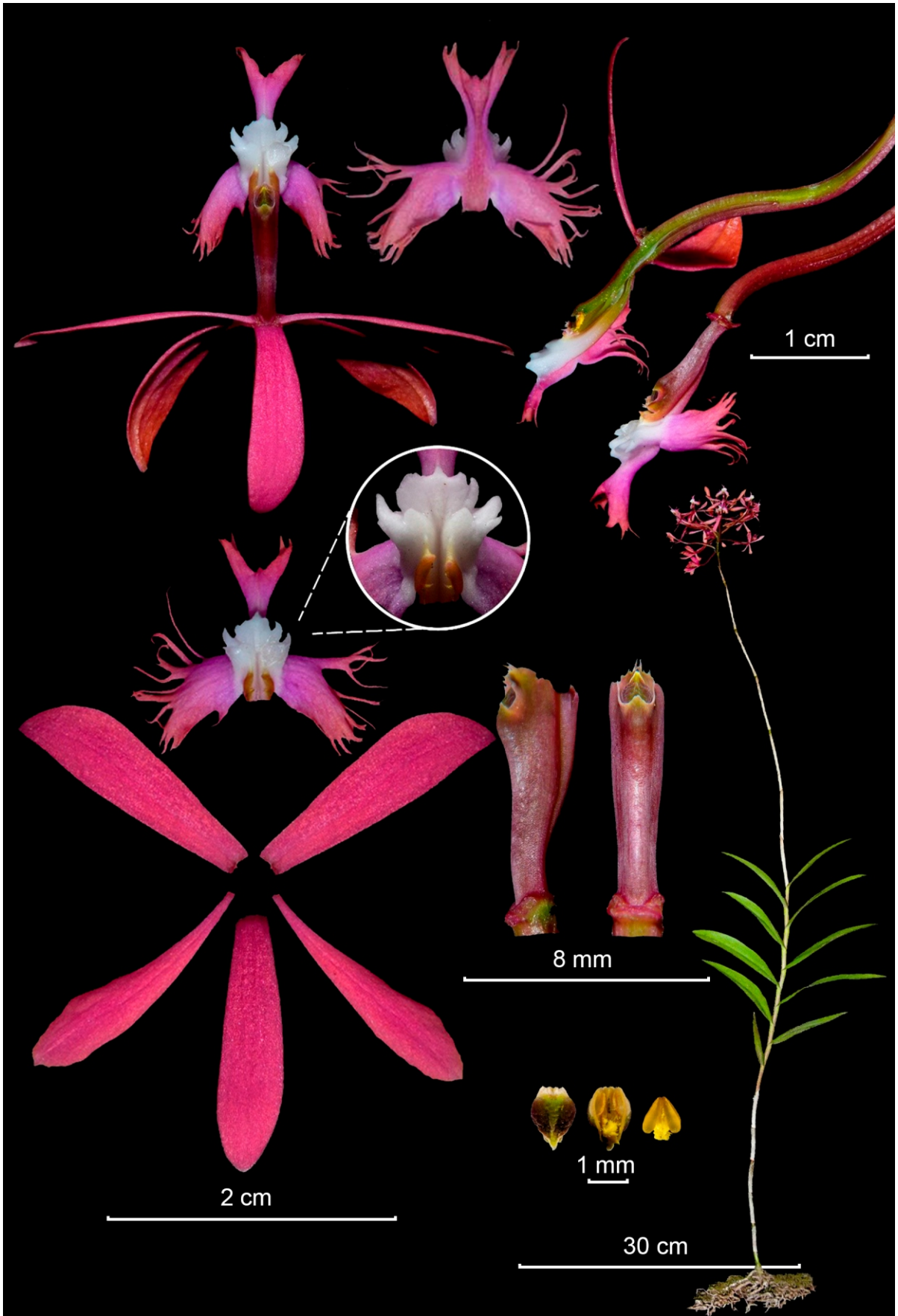
CONSERVATION STATUS: DD. Data deficient. Known presently from a single collection.

ETYMOLOGY: In reference to the sector Venceremos in the Region of San Martín, Province of Rioja, a very steep locality which is protected by both the government and local civic associations, and where many orchids have been discovered. It translates loosely into "we shall overcome" in English.

ACKNOWLEDGMENT: The type was collected under permit N° 006-2018-SERNANP-BPAM-JBPAM "Diversidad y distribución de orquídeas, en bosque no intervenido, parches o fragmentos y paisajes agro-intervenidos, en el Bosque de Protección Alto Mayo"

REFERENCES: Hágsater, E., & C.H. Dodson, 1993, *Epidendrum pozoi* in E. Hágsater & G. A. Salazar (eds.) *The Genus Epidendrum*, **Icon. Orchid.** 2: pl. 177. Hágsater, E., & E. Santiago, 2009, *Epidendrum centronum* in E. Hágsater & L. Sánchez S. (eds.) *The Genus Epidendrum*, Part 8, **Icon. Orchid.** 12: pl. 1217. Hágsater, E., & E. Santiago, 2019, *Epidendrum deorsus* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 13, **Icon. Orchid.** 17(1): pl. 1718. Santiago, E., & E. Hágsater, 2009, *Epidendrum elatum* in E. Hágsater & L. Sánchez S. (eds.) *The Genus Epidendrum*, Part 18, **Icon. Orchid.** 12: pl. 1240.





EPIDENDRUM VILLAHERMOSENSE Sierra-Ariza & Hågsater

Plate 1897

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

Type: COLOMBIA: Tolima: Villahermosa, Vda. La Linda, 1900 m, 15 abril 2019, **Mario Alexei Sierra-Ariza & José Mario Sierra Rincón 171**. Holotype: TOLI! (LCDP and Photo voucher.)

Similar to *Epidendrum imperator* Hágsater, but the flowers pink-crimson (vs. bright red), somewhat larger, sepals 17-19 mm long (vs. sepals 14-18 mm), the distal margins of the lateral lobes deeply lacinate (vs. margin of lateral lobes deeply dentate), and the mid-lobe "Y" shaped, bifid (vs. mid-lobe entire, sub-quadrate, obtuse).

Terrestrial, sympodial, caespitose **herb**, new stem originating from the base of the previous stem, 70-130 cm tall including the inflorescence. **Roots** 3 mm in diameter, basal, terete, fleshy, white. **Stems** 35-80 x 0.6-0.8 cm, simple, cane-like, slightly sinuous, terete, basal half covered by non-foliar sheaths. **Leaves** 8-12, distichous, distributed along the apical half of the stems; sheaths 2.5-5.0 cm long, tubular, smooth, papyraceous, scarious when dry; blade 6-14 x 2.0-3.3 cm, oblong-lanceolate, articulate, apex acute to unequally bilobed, coriaceous, smooth, dark green, margins entire. **Spathes** lacking. **Inflorescence** 20-60 cm long, racemose, cylindrical to sub-spherical; peduncle up to 50 cm long, elongate, straight, covered by 5-9 bracts, 2.0-4.5 cm long, white, scarious when dry, striated, papyraceous, imbricated, acute; rachis 3.5-8.0 cm long. **Floral bracts** 3-6 mm long, much shorter than the ovary, triangular, acuminate. **Flowers** ca. 25, successive, 6-14 open at a time, in different stages of anthesis, non-resupinate, flowers pink-crimson, becoming pinker around the callus, the column darker, the apical wings brown, anther brown with green, with a large white callus; fragrance none. **Ovary** 20-45 mm long, terete, thin, not inflated, crimson tinged green, curved, somewhat sigmoid. **Sepals** 17-19 x 4-5 mm, spreading, horizontal, apex acute, margin entire; dorsal sepal oblanceolate, 5-veined; lateral sepals oblong, apex oblique, 5- to 7-veined. **Petals** 17.2-20.0 x 3.8-4.0 mm, spreading, horizontal, oblanceolate sub-spatulate, slightly curved, obtuse, 5-veined, margin entire, serrate towards the apex, spreading. **Lip** 15.5 x 17 mm, united to the column, erect, 3-lobed, base deeply cordate, distal margin of lateral lobes deeply lacinate, callus massive, a pair of calli on the sides at base, callus formed by three unequal tubercles, each composed of three teeth, one of the teeth more developed which is the central lamellar body, all three arranged in the shape of a circular crown, the apical most tubercle with an overhanging central tooth that reaches the mid-lobe of the lip; lateral lobes 6.0-6.5 x 10.0-10.5 mm, more or less retrorse, obovate in outline, lateral margins strongly revolute, entire; mid-lobe 8.0 x 6.5 mm, "Y" shaped, apex widely bifid, lateral margins entire, strongly revolute, distal margins somewhat lacinate, the basal half narrow, the apical half 2-lobed, lobes sub-quadrate, fimbriate, mucronate in the apical sinus. **Column** 8-10 mm long, slightly arched outward dorsally, terete, minutely papillose, with a pair of apical quadrate, upcurved wings, distal margin minutely fimbriate, embracing the rostellum, with additional finger-like upturned wings adnate to the massive callus. **Clinandrium hood** reduced, dorsally triangular, margin entire. **Anther** cordiform, acute, rugose, 4-celled. **Pollinia** 4, narrowly obovate, elongate, laterally compressed, of equal size; caudicles soft and granulose, formed by elongate tetrads that appear as a pile of roof tiles; viscarium semi-liquid, transparent. **Rostellum** apical, slit. **Nectary** 25 mm deep, occupying more than half the length of the pedicellate ovary, minutely papillose. **Capsule** not seen.

OTHER SPECIMENS: COLOMBIA: Tolima: Fresno: Zwischen den Hausen Petaqueros und Guajita, 2700 m, 11 IV 1956, *Renz 8648*, *RENZ!* Ibagué: cañón del Combeima, entre Juntas y El Silencio, 1700-2500 m, 2014, *Rincón-González 259*, TOLI!

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known from the eastern slope of the Central Cordillera of Colombia in Department of Tolima, from near Ibagué north to Villahermosa. Growing as a terrestrial plant at 1700-2700 m elevation. Flowering from January and September.

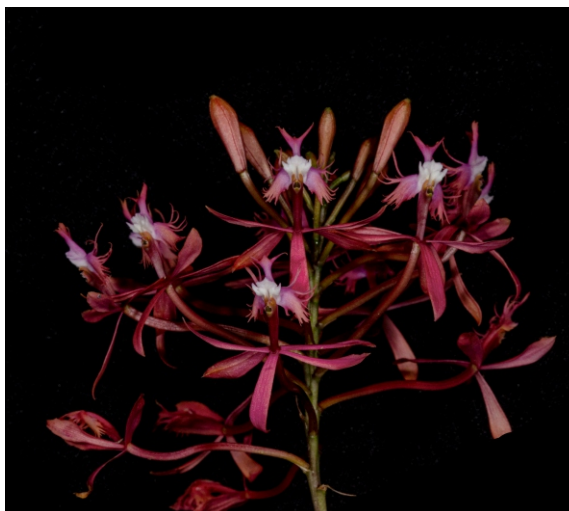
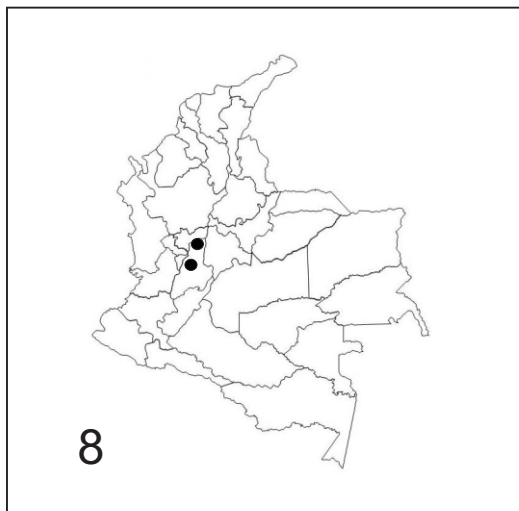
RECOGNITION: *Epidendrum villahermosaense* belongs to the Schistochilum Group, Secundum Subgroup, which is characterized by the caespitose habit, the erect, simple, cane-like stems, the normally elongate peduncle of the inflorescence, the erect raceme of generally non-resupinate, showy, colorful flowers, and a lip adorned by a complex a callus. The species is recognized by the pink-crimson flowers with a large wide, truncate callus, the sepals 17-19 mm long, the lateral sepals oblong, apex obliquely acute, the retrorse lateral lobes of the lip deeply lacerate, spreading with the lateral margins entire and strongly revolute, the mid-lobe "Y" shaped, narrow at the base, and spreading towards the apex, with the lateral margins strongly revolute. *Epidendrum imperator* from Antioquia has somewhat smaller, bright red flowers, sepals 14-18 mm long, the margins of the lateral lobes of the lip are deeply dentate, and the mid-lobe is entire, sub-quadrate and obtuse. A photograph of *Epidendrum imperator* was published in 1991 as *Epidendrum catillus* (Hágsater 1991). *Epidendrum acutilobum* Hágsater & Uribe-Vélez, from the Cordillera Oriental of Colombia, has pale pink-red flowers, with a large white callus on the lip, sepals 14.4 mm long, oblanceolate, petals 15.2 mm long, elliptic-oblanceolate; the massive callus prominent, formed by a massive truncate plate ending in 3 acute tubercles, with a pair of thick elliptic tubercles on top of the plate at the sides of the base that divergently terminate in acute points, the small lateral lobes of the lip, obliquely semi-flabellate, and the mid lobe of the lip triangular acute, margins entire. *Epidendrum flabellilobatum* Hágsater & Medina-Tr. is somewhat similar in color and floral shape but the flowers are smaller, sepals 11.0-12.5 mm long, the lip is quite distinct, lateral lobes sub-quadrate to semi-flabelliform, lateral margins entire, revolute, and the mid-lobe flabelliform, apex more or less shallowly emarginate; it ranges along the Cordillera Oriental of the Andes in Colombia.

NOTE: The plate does not show the lip in a spreading position, thus a view of the underside has been added to show how the lateral margins of the lobes are strongly revolute.

CONSERVATION STATUS DD. Data deficient. Known to date only on the eastern slope of the Cordillera Central of Colombia in the Department of Tolima for a range of some 75 km in distance.

ETYMOLOGY: in reference to the municipality of Villahermosa, department of Tolima (Colombia), where the type specimen was collected by the first author who has known the species since childhood.

REFERENCES: Hágsater, E., *Epidendrum catillus* 1991, in R. Escobar R. (ed.), *Orquídeas Nativas de Colombia* 2: 169, Fig. No. 176. Hágsater, E., 2004, *Epidendrum imperator* in E. Hágsater & L. Sánchez S. (eds.) *The Genus Epidendrum*, Part 4; *Icon. Orchid.* 7: pl. 748. Hágsater, E., & C. Uribe Vélez, 2021, *Epidendrum acutilobum* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 14; *Icon. Orchid.* 18(2): pl. 1849. Hágsater, E., & R. Medina T., 2021, *Epidendrum flabellilobatum* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 14; *Icon. Orchid.* 18(2): pl. 1871.



Authors: M. A. Sierra & E. Hágsater

LCDP: M. A. Sierra

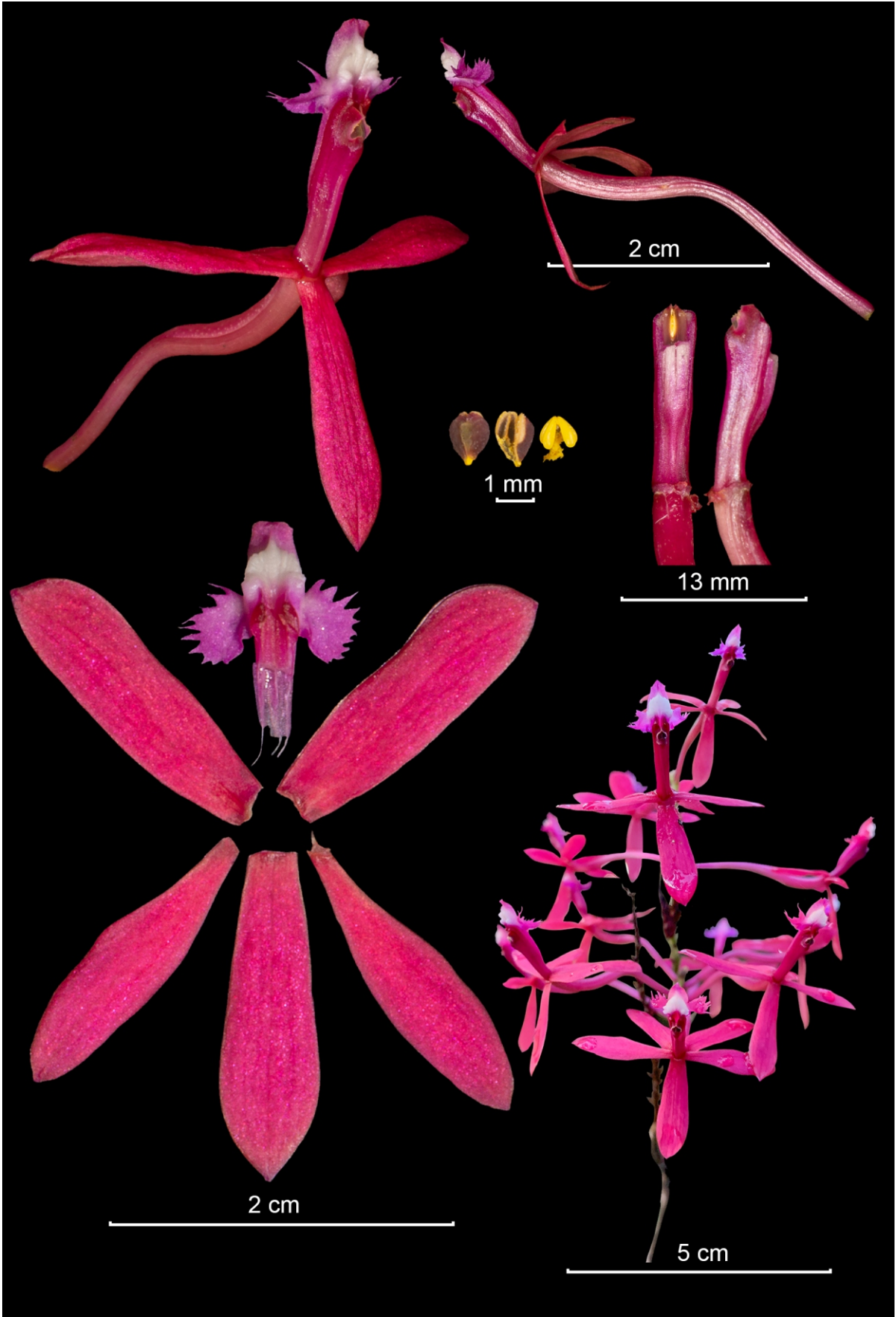
Photo: M. A. Sierra

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1897



EPIDENDRUM VINOSUM Schltr.

Plate 1898

EPIDENDRUM VINOSUM Schltr., Repert. Spec. Nov. Regni Veg. Beih. 9: 96. 1921. Mansfeld in Repert. Spec. Nov. Regni Veg. Beih. 57: t. 122, nr. 480. 1929.

Type: PERU: San Martín: Loreto, Im savannengehölz bei Moyobamba, 1000 m, August 1904, **August Weberbauer 4642**. Holotype: B, destroyed. Lectotype: here designated, illustration of flower of type published by Mansfeld: Repert. Spec. Nov. Regni Veg. Beih. 57: t. 122, nr. 480. 1929.

Epiphytic and terrestrial, sympodial, caespitose erect **herb**, 26-150 cm tall including the inflorescence. **Roots** ca. 2 mm in diameter, basal, terete, fleshy, white. **Stems** 11-100 x 0.6-1.3 cm, simple, cane-like, slightly sinuous, terete, thin, basal half covered by non-foliar sheaths. **Leaves** 10-22, distichous, distributed along the apical half of the stems; sheaths 2.4-4.4 x 0.2-0.6 cm, tubular, smooth, papery, scarious when dry; blade 2.8-7.5 x 1.4-3.6 cm, elliptic to lanceolate, articulate, apex rounded to unequally bilobed, coriaceous, smooth, medium green, margins entire. **Spathes** lacking. **Inflorescence** 12-100 cm long, racemose to pluri-racemose, producing new racemes from the upper nodes of the peduncle, cylindrical to sub-spherical; peduncle 6.5-84 cm long, elongate, straight, covered by 5-13 bracts, 2.5-5.3 cm long, yellow with brown dots, scarious when dry, striated, papery, usually somewhat imbricated, acuminate; rachis 3.3-8 cm long. **Floral bracts** 1-10 mm long, decreasing in length, much shorter than the ovary, narrowly triangular, acuminate, embracing. **Flowers** 10-28, successive, 3-12 open at a time, in different stages of anthesis, non-resupinate, flowers fuchsia varying in intensity to red, pink lip, the column much darker red including the column wings, anther green, and the callus white; fragrance none. **Ovary** 18-35 mm long, terete, thin, slightly inflated ventrally along the apical 2/5, coral-red, furrowed. **Sepals** spreading, horizontal, 5-veined, margin entire, spreading; dorsal sepal 19 x 6.0 mm, oblanceolate, obtuse, lateral sepals 15-19 x 5.0 mm, oblong, oblique at the apex, apiculate. **Petals** 15-19 x 4.6-4.8 mm, spreading, horizontal, oblanceolate, obtuse, 3-veined, margin entire, spreading. **Lip** 5-8 x 7.5-11 mm, united to the column, erect, 3-lobed, base cordate, lobes small, similar in size; callus large, as wide as the base of the mid-lobe, sub-quadrate, the apex apiculate ending in a short, high keel, the margin crenate, with a pair of sub-globose somewhat elongate calli on the sides, atop the platform, beneath the adnate column wings; lateral lobes to 4 x 5 mm, semi-orbicular, reflexed, sometimes much reduced, basal margin entire, lateral and apical margin deeply dentate; mid-lobe 4.0 x 3.5 mm, oblong, somewhat narrower at the apex which is triangular, obtuse to truncate, sometimes entirely triangular, acute. **Column** 10.6-13 mm long including the lateral finger-like wings, straight, thin, terete, with a pair of apical truncate wings, their apical margin minutely dentate, embracing the rostellum, and adnate to the callus. **Clinandrium hood** reduced margin somewhat erose. **Anther** cordiform, acute, rugose, 4-celled. **Pollinia** 4, narrowly obovate, elongate, laterally compressed, unequal, the outer pair slightly shorter than the inner pair; caudicles soft and granulose, formed by elongate tetrads that appear as a pile of roof tiles; viscarium semi-liquid, transparent. **Rostellum** apical, slit. **Lateral lobes of the stigma** occupying about 1/2 the length of the stigmatic cavity. **Nectary** narrow, somewhat thickened behind the perianth, penetrating about 2/5 the length of the pedicellate ovary, minutely papillose, the papillae arranged in longitudinal lines. **Capsule** not seen.

OTHER SPECIMENS: ECUADOR: Morona-Santiago: Parque Nacional Sangay, Entre el poblado 9 de Octubre y el río Abanico Upano, 1600 m, 29 IX 1996, *Cerón 32622*, QAP! 5 km antes de Plan de Milagro, sede Gualaceo, 1200 m, 28 IX 1984, *Dodson 15468*, MO! Mun. Limón, Cordillera del Cruzado, Puerto arriba de Plan de Milagro, 1800 m, 24 XI 1988, *Andreetta sub-Dodson 17833*, *sub-Hágsater 9753*, AMO! SW of military checkpoint in General L. Plaza Gutierrez, 2150, 27 X 1988, *Dorr 5906*, NY! QCA! QCNE! Cosanga-Tena, east slope, 2000 m, 1 XII 1985, *Luther 1013*, MO! SEL! Cordillera de Cutucú, along trail from Logroño to Yaupi, 1200 m, 1 XI 1976, *Madison 3222*, SEL! **Napo:** Cordillera de Guacamayos, 2120-2220 m, 3 VIII 1984, *Dodson 14878*, MO! *Ibid.* 1900-2100 m, 30 IV 1987, *Dodson 17081*, MO! *Ibid.* 1900-2100 m, 17 I 1990, *Dodson 18199*, MO! Sierra de Guacamayo, above Archidona, hort. Río Palenque, hort. Mexico City, *Dodson sub Hágsater 9765*, AMO! *Ibid.* 21 VI 1992, *Hágsater 9765*, AMO! Sierra del Guacamayo, 1800 m, Hort. Mexico City, 27 V 1995, *Hágsater 10849*, AMO! Cordillera de Guacamayo, 1645 m, 14 IV 2017, *Hágsater 15264*, QCNE! (Digital images of live flowers, AMO! (Photo voucher). Guacamayo range, Quito Tena, 1800 m, 1 III 1983, *Hirtz 846*, SEL! **Tungurahua:** Baños-Puyo km 14, 1600 m, 8 X 1961, *Dodson 920*, SEL! Arriba pedregal de Baños, 18 III 1919, *Penland 114*, AMES! Río Verde below Baños, 4000 ft, 1 VII 1939, *Sandeman 80*, K! **Zamora-Chinchipe:** Surmi, Comunidad Yawi, Faldas de la Cordillera del Cóndor, 1500 m, 12 VI 2005, *Quizpiz 1395*, LOJA! Parque Nacional Podocarpus, Guardería Río Bombuscaro, Sendero al Mirador, 1200 m, *Palacios 13284*, MO! QCNE! **PERU: Amazonas:** Rodríguez de Mendoza: 2 km al S de Mendoza, 1710 m, 12 VI 1982, *Fernández 37*, USM! Molinopampa: road from Chachapoyas to Mendoza, 2200 m, 20 X 2000, *Weigend 2000/885*, F! **San Martín:** Zepelacio, near Moyobamba, 1200-1600 m, XII 1933, *Klug 0.20*, AMES! K! NY! US! Moyobamba: procedente de "El Refugio", San Ramón, 2 VI 1983, *Fernández 228*, USM! Mount La Campana, 1430 m, 19 V 1925, *Melin 151*, S! Rioja, Pardo Miguel centro poblado Aguas Verdes, Abra 2, 1260 m, 24 VI 1998, *Sánchez Vega 9347*, F! *Ibid.* entre Aguas Verdes y desvío a San Pablo, 1220 m, 23 VI 1998, *Sánchez Vega 9445*, F! Jesus del Monte, 2000 ft, VIII 1938, *Sandeman s.n.*, K! OXF! Moyobamba: Mishiquiyacu, 1800 m, 21 VIII 1947, *Woytowski 34343*, MO! UC! Jepelacio: Vista Alegre, 1500 m, 10 VI 1947, *Woytowski 35282*, MO! UC!

OTHER RECORDS: PERU: Amazonas: Molinopampa, *Torres Paucar s.n.*, digital image, AMO! **San Martín:** *Edquén s.n.* digital image, AMO! Moyobamba: Waqanki Lodge, 860 m, 27 X 2019, *Hágsater 16269*, digital image series, AMO! *Ibid.* *Hágsater 16273*, digital image series, AMO! (LCDP voucher). Moyobamba, *Torres Paucar s.n.*, digital image, AMO! Vivero bajo, Río Mayo, Orquídeas Amazónicas. 1 XI 2019, *Hágsater 16371*, digital images, AMO!

DISTRIBUTION AND ECOLOGY: Widespread along the eastern slope of the Andes from around Moyobamba, San Martín, Peru, to Napo in Ecuador, terrestrial and epiphytic in wet montane forest and on rocky slopes at 1200-2200 m elevation. Flowering mainly from March to December.

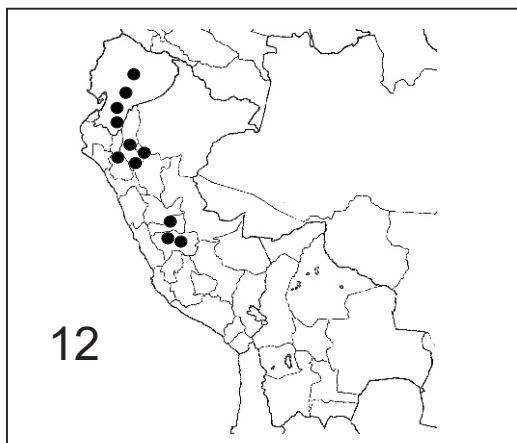
RECOGNITION: *Epidendrum vinosum* belongs to the Schistochilum group, Blepharoclinium subgroup, which is recognized by the caespitose habit, simple stems, leaves oblong-lanceolate, coriaceous, bilobed, the elongate peduncle of the erect, racemose inflorescence, the flowers non-resupinate, and the callus simple, elongate, fleshy, sulcate towards the base. The species has fuchsia varying in intensity to red flowers, callus white, sepals 15-19 mm long, lateral sepals oblong, dorsal sepal and petals oblanceolate and wider near the obtuse apex, the lip 3-lobed, the lateral lobes small, semi-orbicular, reflexed, mid-lobe oblong, somewhat narrower towards the apex which is triangular to truncate, and the callus as wide as the base of the mid-lobe, sub-quadrate, the apex apiculate ending in a short, high keel, the margin crenate, with a pair of sub-globose somewhat elongate calli on the sides, atop the platform, beneath the adnate column wings. It is similar to *Epidendrum acutilobum* Hágsater & Uribe Vélez which has coral-red flowers with a large white callus on the lip, sepals 14.4 x 4.0-4.4 mm, elliptic-oblanceolate, petals 15.2 x 3.0-3.2 mm long, elliptic-lanceolate, the massive callus prominent, formed by 3 unequal tubercles with a pair of digital, bilobed calli on the sides and the main central body truncate to acute, reaching the middle of the mid-lobe, margin crenate, and the lip mid-lobe has an entire margin. *Epidendrum hookerianum* Rchb.f. (basionym: *Epidendrum attenuatum* Lindl.) has 25 mm long tepals and a lip with 4 elongate lines forming the callus, lateral lip lobes semi-ovate, deeply fimbriate towards the apex of the interior margin, and the mid-lobe linear-lanceolate, margin sub-dentate. *Epidendrum glossaspis* Rchb.f. has pink-purple flowers with a large white callus, sepals 26-33 mm long, petals straight, linear-triangular, 1 mm wide, and the lateral lobes of the lip approximately half as long as the whole lip, rhombic, acuminate. *Epidendrum blepharoclinium* Rchb.f. has pink-violet flowers with a white callus and the lateral lobes of the lip approximately half as long as the whole lip, sub-rhombic, acuminate.

NOTE: The size of the plants is directly proportionate to the surrounding vegetation, the higher the bushes surrounding it the taller the plant, as the stem grows until it reaches full sunlight and then produces the peduncle of the inflorescence, so that the raceme of flowers is always in full sunlight. The epiphytic specimen *Klug 0.20* is the shortest one with everything smaller. The taller plants cultivated on the ground at the Waqanki Lodge in Moyobamba are tall and large, as they are in half shade under trees.

CONSERVATION STATUS: LC Least Concern. The species is widespread along some 600 km of the foot of the Andes and is an early colonizer and competes well with dense shrubs. It has been collected in numerous localities. It is occasionally cultivated within the area of its distribution where ample space is available, but seldomly cultivated due to the large space required by the tall plants.

ETYMOLOGY: From the Latin *vinosus*, wine-colored, in reference to the basic wine color of the flowers, fuchsia varying in its intensity to red.

REFERENCES: Hágsater, E., & Uribe-Vélez, 2021, *Epidendrum acutilobum* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 14; **Icon. Orchid.** 18(2): pl. 1849. Hágsater, E., & H. Medina, 2018, *Epidendrum glossaspis* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 12; **Icon. Orchid.** 16(1): pl. 1620. Hágsater, E., & E. Santiago, 2018, *Epidendrum blepharoclinium* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 12; **Icon. Orchid.** 16(1): pl. 1606. Lindley, J., 1853, *Epidendrum attenuatum* in Fol. Orchid. 3(Epidendrum): 69. Reichenbach, H.G., 1876, *Epidendrum hookerianum* in Orchidiographische Beiträge, *Linnaea* 41(1): 37.



Author: E. Hágsater

LCDP: E. Hágsater & A. Cisneros

Herbario AMO

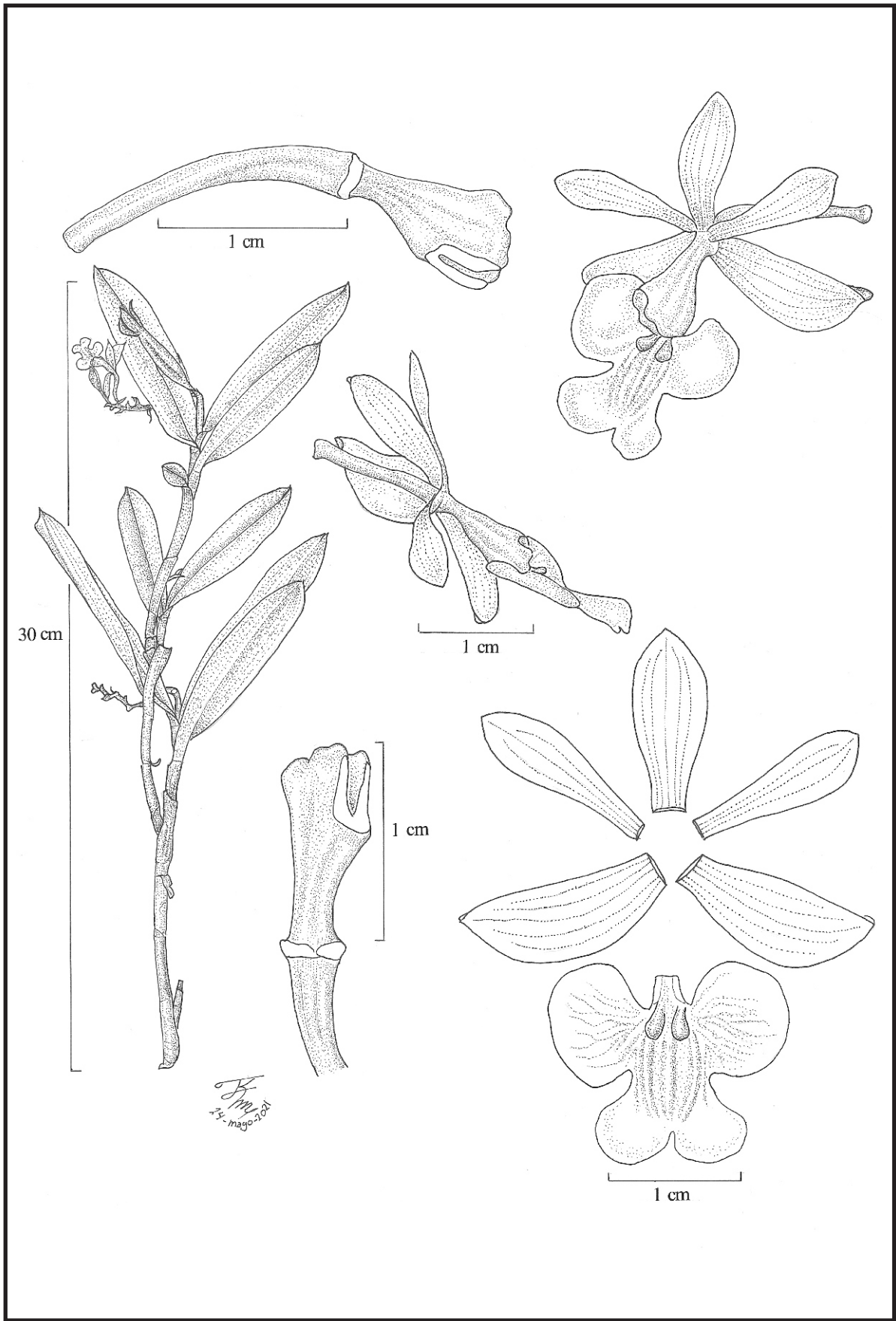
Ciudad de México, MÉXICO



Photo: E. Hágsater

Editors: E. Hágsater & E. Santiago

ICONES ORCHIDACEARUM 18(2). 2021. Plate 1898



EPIDENDRUM WEIGENDII Hágsater & Cisneros

EPIDENDRUM WEIGENDII Hágsater et Cisneros, sp. nov.

Type: PERU: Amazonas: Chachapoyas: Molinopampa: Road Chachapoyas to Mendoza, km 36, cloud forest, on sandstone, 2800 m, 5 June 1998, **Maximilian Weigend, Thassilo Franke, J. Skrabal & M. A. González B. 98/429**. Holotype: F 2211499! (illustration voucher; the main specimen, not the flowers in envelope which appear to belong to a different species). Isotype: USM 172497!

Similar to *Epidendrum tamaense* Foldats, but the flowers smaller (vs. flowers slightly larger), the lateral sepals about 15 mm long (vs. 15-20 mm long), the petals narrower, oblanceolate (vs. petals narrowly obtrullate), the lip 14.8 x 17.7 mm, with 3-low keels (vs. lip 20-24 x 29-33 mm, with a median keel), the calli conspicuous (vs. calli small), and the column 10 mm long (vs. column 10-14 mm long).

Epiphytic, sympodial, erect **herb**, the new stems produced from a middle internode of the previous stem. **Roots** fleshy, from the base of the primary stem or occasionally from the base of the upper stems. **Stems** 8-12.4 x 0.3-0.5 cm, erect, simple, cane-like, terete, basal 3/4 of the stem covered with non-foliar sheaths. **Leaves** 2-3, aggregate towards the apical quarter of the stem, erect, alternate; sheaths 1.3-2.5 x 0.3-0.5 cm, tubular, striated; blades 5.1-9.6 x 1.3-1.6 cm, unequal in size, oblong, acute, sub-coriaceous. **Spathes** lacking. **Inflorescence** 4.5-6.0 cm long, apical, from mature stem, racemose, arcuate; peduncle 1.4-2.3 cm long, somewhat laterally compressed, not ornamented, rachis 2.3-5 cm long, arching-nutant. **Floral bracts** 4-6 mm long, much shorter than the ovary, decreasing in size, triangular, acute, embracing. **Flowers** 7-11, opening in succession, until most open at the same time, resupinate, color not registered; fragrance not registered. **Ovary** 16-17 mm long, slightly inflated ventrally along the apical half, thin, terete, somewhat arcuate. **Sepals** free, spreading, fleshy, 5-veined, margins entire, spreading; dorsal sepal 13 x 5.4-6.0 mm, obovate, obtuse; lateral sepals 14.5-15.0 x 5.4-6.0 mm, obliquely oblong, somewhat falcate, sub-acute. **Petals** 13.5-14.0 x 4.3-4.5 mm, free, strongly reflexed, oblanceolate, sub-acute, fleshy, 3-veined, margin entire, spreading. **Lip** 14.8 x 17.7 mm, united to the column, deeply 3-lobed, fleshy, wider than long, base strongly cordate, apex emarginate, margin entire, spreading; bicallose, calli globose, slightly separate, conspicuous, disc with three parallel, thick, low ribs running down the middle, lateral ribs arching closer to the mid-rib at apex, reaching the apical sinus of the lip; lateral lobes 7.0 x 9.0 mm, semi-orbicular; mid-lobe 6.7 x 10.9 mm, formed by two small, semi-orbicular lobes, with a short, narrow isthmus 1.6 mm long. **Column** 10 mm long, somewhat thick towards the apex, truncate, straight. **Clinandrium-hood** reduced, margin entire. **Anther** not seen. **Pollinia** not seen. **Rostellum** not seen. **Lateral lobes of the stigma** not seen. **Nectary** apparently penetrating the apex of the pedicellate ovary. **Capsule** [a young capsule] 45 x 0.6 mm long, narrowly ellipsoid; pedicel 0.7 x 0.2 mm, body 25-30 x 0.6 mm.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known presently from a single collection from the region of Amazonas, Peru, near Molinopampa, epiphytic in cloud forest on sandstone at 2800 m elevation. Flowering in June.

RECOGNITION: *Epidendrum weigendii* belongs to the Incomptum group which is characterized by the successive lateral growths produced from the middle of the previous growth, the few leaves aggregate towards the apex of the stems, a short apical inflorescence with fleshy green to violet-green flowers with short ovaries, and the lip entire to 3-lobed. The new species is recognized by the oblong leaves, sepals 13-15 mm long, the lateral sepals somewhat falcate, the oblanceolate petals 13.5-14 mm long, and the lip 14.8 x 17 mm, wider than long, the lateral lobes semi-orbicular, mid-lobe formed by a pair of semi-orbicular lobules with a short isthmus. It is very similar to *Epidendrum tamaense* Foldats has larger flowers, the floral segments strongly reflexed, a strongly arcuate ovary, sepals about 15-21 mm long, lateral ones acute to acuminate with a conspicuous dorsal keel, petals obtrullate, and the lip longer, 20-24 mm long, with a median keel, the calli small, the mid-lobe obtuse. *Epidendrum boekei* Hágsater has narrowly elliptic leaves, a shorter ovary 14-19 mm long, floral segments smaller, sepals 12 mm long, spreading, with an inconspicuous dorsal keel, the lateral sepals acute, 6-veined, *tamaense* petals 11.5 mm long, narrowly oblanceolate, redounded, the lip 11-14 mm long, with lateral lobes obovate somewhat oblique, and the mid-lobe somewhat emarginate, and the column smaller, 7 mm long.

CONSERVATION STATUS: DD. Data deficient. Presently known from a single plant in a heavily deforested area.

ETYMOLOGY: In honor of Dr. Maximilian Weigend (1969-) German botanist, who studied phytochemistry of macroalgae in South Africa, and later collected in Venezuela, Colombia, Ecuador, and Peru in 1997, for his doctoral thesis "Nasa (Loasaceae) & the conquest of South America". He is currently Director of the Botanical Garden of the University in Bonn. He has participated in the Flora de Colombia project with Loasaceae.

REFERENCES: Hágsater, E., 2009, *Epidendrum boekei* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 8, **Icon. Orchid.** 12: pl. 1210. Hágsater, E., 2006, *Epidendrum tamaense* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 5, **Icon. Orchid.** 8: pl. 891. Foldats, E., 1968, *Epidendrum tamaense* in **Acta Bot. Venez.** 3: 328.



Authors: E. Hágsater & A. Cisneros

Illustrator: R. Jiménez M.

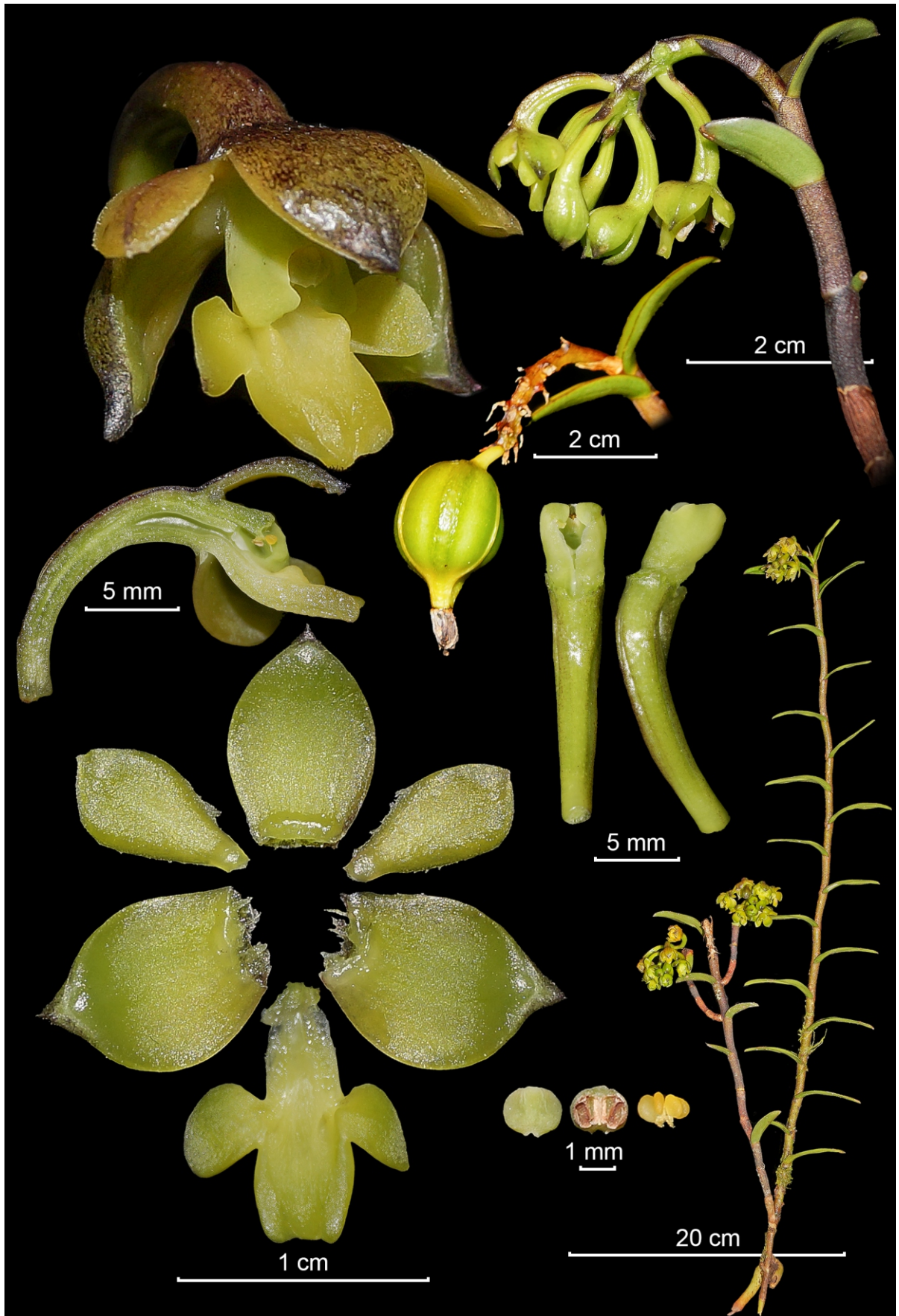
Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 18(2). 2021.

Plate 1899



EPIDENDRUM WURDACKII Hágsater, E.Santiago & Salas Guerr.

Plate 1900

EPIDENDRUM WURDACKII Hágsater, E.Santiago et Salas Guerr. *sp. nov.*

Type: PERU: Amazonas: Prov. Bongará, *Jalca* zone along Yambrasamba-Pomacocha trail between Yanayacu and Pomacocha, 2300-2400 m, 26 June 1962, **John Julius Wurdack 1074***. Holotype: USM 166358! Isotype: US 2403894! (illustration AMO! illustration voucher).

Similar to *Epidendrum inamoenum* Kraenzl. but the leaves spreading or nearly spreading to the stem (vs. sub-parallel), flowers yellow (vs. flowers green), lip clearly 3-lobed with the lateral lobes obliquely ovate and the mid-lobe sub-quadrate (vs. lateral lobes sub-ovate and the mid-lobe transversely rectangular).

Terrestrial, monopodial, branching, erect **herb** 60-70 cm tall. **Roots** 2-4 mm in diameter, basal from the primary stem, fleshy, white. **Stems** generally branching sub-apically, the primary stem 60-70 x 0.3-0.6 cm, the branches 5.5-16 x 0.3-0.4 cm, cane-like, terete, thin. **Leaves** 15-19 on the primary stem, 2-6 on the branches, alternate, articulate, coriaceous, spreading or sub-spreading; sheaths 9-36 x 3-6 mm, tubular, striated, rugose, brownish purple; blade 3.4-8 x 0.7-1.5 cm, lanceolate, obtuse, minutely apiculate, margin entire, slightly revolute. **Spathes** lacking. **Inflorescence** 2-5 cm long, densely few-flowered; peduncle 0.5-1 cm long, terete, thin; rachis 1.5-4 cm long. **Flowers** 9-13, yellow to yellowish green, the sepals tinged brownish purple dorsally; fragrance not registered. **Floral bracts** 2-4 mm long, much shorter than the ovary, triangular-lanceolate, acuminate, embracing. **Ovary** 15 mm long, terete, thin, slightly furrowed, usually strongly arched. **Sepals** partly spreading, free, slightly concave, margin entire, spreading; dorsal sepal 7.7-9.0 x 4-6 mm, oblong-obovate to elliptic, apex obtuse, minutely apiculate, 5-veined; lateral sepals 8.3-10 x 5-7 mm, elliptic, apex acute, somewhat mucronate, 6-veined. **Petals** 7.1-8.0 x 2.6-4 mm, partly spreading, free, spatulate, the apex obtuse, 3-veined, the lateral veins short branched, margin minutely erose, spreading. **Lip** 5.0-6.4 x 8.5-9.0 mm, united to the column, base cordate, 3-lobed; bicallose, the calli laminar, usually separate, but sometimes in the same raceme the calli leaning inwards (see photo), the disc fleshy with low ribs as a continuation of the calli, with a fleshy mid-rib that narrows and reaches the apex of the mid-lobe; lateral lobes 3.2-3.3 x 3.1-3.7 mm, obliquely ovate, margin minutely erose; mid-lobe 3.0-3.7 x 3-4 mm, sub-quadrate, apex forming a wide, shallow sinus, margin entire. **Column** 5 mm long, slightly arched, with a pair of truncate wings at the apex. **Clinandrium-hood** reduced, shallow, margin entire. **Anther** 4-celled, ovoid. **Pollinia** 4, obovoid, laterally compressed; caudicles not seen. **Nectary** short and narrow, penetrating $\frac{1}{4}$ of the ovary. **Capsule** 40 x 20 mm, globose, pedicel 8 mm long, terete, thin; body 20 x 20 mm; apical neck 12 mm long.

OTHERSPECIMENS: PERU: **Amazonas:** Ipaña-Las Palmas, 3065 m, 29 IV 2010, *Trujillo 479*, MOL! **Cajamarca:** Chota, Distr. Quercocoto, Hacienda La granja, 2545 m, 4 XII 2012, *González 2181*, USM! **Piura:** W of Huancabamba, 2500 m, 17 VIII 1980, *Luer 5394*, SEL! Huancabamba, Páramo de Cruz Chiquita, 2812 m, 16 I 2013, *Peyre 1355*, USM! Huancabamba, subiendo al cerro La Viuda, (Distr. Sondor), 2170 m, 21 VII 1975, *Sagástegui 8205*, NY! (Illustration, AMO).

OTHER RECORDS: PERU: **Amazonas:** Without locality data, *Damian s.n.*, digital image, AMO! Without locality data, 2900 m, *Chocce 4707*, digital photos, AMO! (Photo voucher) Luya, ACP Huiquilla, 3062 m, 13 IX 2009, *Chocce 5167*, digital images, AMO! Leymebamba, 2700-2825 m, *Salas 101*, digital image, AMO! Ipaña-Las Palmas, 3065 m, 29 IV 2010, *Trujillo 479*, digital image! **Cajamarca:** Chota, 8 VI 2015, *Díaz s.n.*, digital image, AMO! Chota-Las Palmas, *Edquén s.n.* digital images, AMO! **Lambayeque:** Incahuasi, Tugula, *Rodríguez-Martínez s.n.*, digital image, AMO! **San Martín:** Rioja: Pardo Miguel Naranjos, sector Chisquilla, a espaldas del Cerro Campanario, 3511 m, 15 I 2018, *Edquén 2123*, digital images, AMO! (LCDP voucher).

DISTRIBUTION AND ECOLOGY: Presently known on from northern Peru, from the Departments of Amazonas, Cajamarca, Piura, Lambayeque, and San Martín, on the western slope of the Cordillera Oriental, in the upper basin of the Río Marañón, specifically, the basin of the Río Utcubamba; in *Jalca*, at 2300-3511 m elevation. Flowering in December to August.

RECOGNITION: *Epidendrum wurdackii* belongs to the Andean Group, Cernuum Subgroup characterized by the monopodial habit, the cane-like stems with sub-apical branching, the branches shorter than the main stem, the coriaceous to sub-coriaceous leaves and fleshy flowers, and the lip 3-lobed. The species is recognized by the short, dense inflorescences, yellow to yellowish green flowers, the sepals dorsally tinged brownish purple dorsally, sepals 7.7-10 mm long, the lip clearly 3-lobed with the lateral lobes obliquely ovate and the mid-lobe sub-quadrate, bicallose, calli laminar, erect, with a pair with a pair of fleshy thickenings in front of the calli, and a low, wide mid-rib reaching the apical sinus of the lip. *Epidendrum jaramilloi* Hágsater & Dodson is endemic to Ecuador and is vegetatively similar, but the flowers are green, concolor, the sepals 9-10 mm long, and the lip bicallose with a wide mid-rib. *Epidendrum inamoenum* Kraenzl. is vegetatively very similar, but the leaves are sub-parallel to the stem, flowers green to greenish yellow with the dorsal surface of the sepals purple-brown, lip 3-lobed but the lobes sub-ovate and the mid-lobe transversely rectangular, bicallose, with a prominent "Y" shaped mid-rib. *Epidendrum amblyantherum* Hágsater & E.Santiago has oblong-elliptic leaves 5-15.5 x 2.2-3.7 cm, an lax-flowered inflorescence (6-14 cm long), pale green, yellow or yellowish ochre, sepals 16-22 mm long, and the lip bicallose, with a prominent "Y" shaped mid-rib.

*NOTE: The type collection was originally cited under *Epidendrum inamoenum* (Santiago & Hágsater, 2009). Further study of detailed images of live material received recently, and revision of sketches made from numerous specimens have convinced us that more than one entity was involved.

ETYMOLOGY: In honor of John Julius Wurdack (1921-1998), American botanist who collected extensively in Brazil, Jamaica, Peru, and Venezuela, and specialized in Melastomataceae, though he collected numerous orchids and ferns, including the type specimens. His orchid collections are housed at AMES, US, USM, VEN, and other herbaria.

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