

ICONES ORCHIDACEARUM

Fascicle 19(1)

Plates 1901-1949

THE GENUS EPIDENDRUM

Part 15

“Species New & Old in Epidendrum”

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ICONES ORCHIDACEARUM

Fascicle 19(1), plates 1901 to 1949

THE GENUS EPIDENDRUM

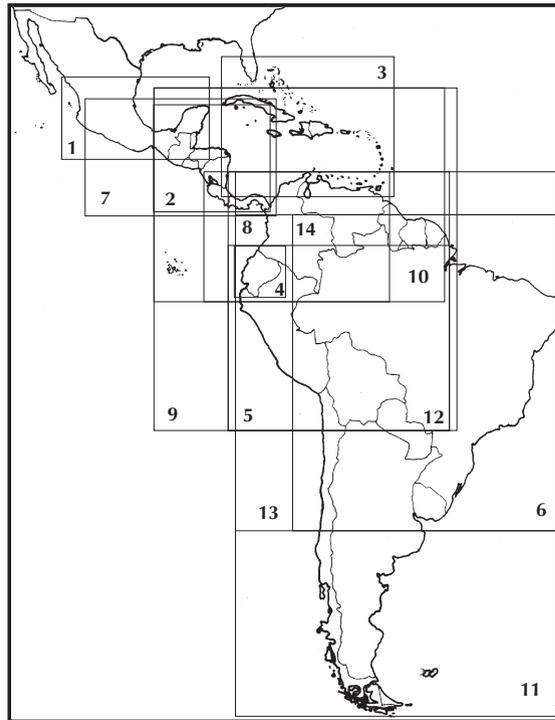
Part 15

“Species New & Old in Epidendrum”

Reference Map

TROPICAL AMERICA

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



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ICONES ORCHIDACEARUM

Fascicle 19(1), plates 1901 to 1949

THE GENUS *EPIDENDRUM* Part 15

“Species New* & Old in *Epidendrum*”

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THE GENUS *EPIDENDRUM*

Part 15

Species New & Old in *Epidendrum*

FOREWORD

We dedicate this issue to my long-time friend Rudolf Jenny, who passed away suddenly on August 10, 2021. During some 40 years we shared photographs and publications, publishing one species together, *Epidendrum lateritium* Hágsater & Jenny (Icon. Orchid. 13: pl. 1345. 2010), a species from southern Ecuador. IPNI registers 106 entities where Jenny appears as an author, including synonyms (69 are species and subspecies).

Aside from his work in such genera as *Gongora* and *Stanhopea*, he also worked to safeguard the herbarium of Janny Renz (RENZ) and brought together a huge amount of literature including unpublished theses, some of which I often supplied from friends and students. He often supplied relevant parts of publications which dealt with species of interest, first in paper copies by mail, and later scanned. Researchers today do not realize what a resource his providing publication would be as it is now relatively easy to download them from the internet. We often met at conferences, especially in the early years between 1984 and 1997 when Vinciane Dumont and I chaired the Orchid Specialist Group of the Species Survival Commission of the IUCN.

In this issue, we present 24 species new to science, originally published here, and another 10 recently published elsewhere but now adapted to the Icones format for rapid reference. A new natural hybrid *Epidendrum magnificum* × *anisatum* is illustrated without any formal status as it is a rare occurrence and does not form any population. Fifteen old species are illustrated with LCDP plates (Lankester Composite Digital Plate), which are becoming a standard feature whenever possible. This is especially important because the plates convey much more information than drawing or descriptions, though some minute details may be missed. The images used in the plates are increasingly available with access to high quality photography. Many people in the field prefer the use of photography and avoid collecting herbarium specimens often due to the difficulty in obtaining the necessary collecting permits. However, for the description of new species you need herbarium specimens for a valid description.

The 49 species presented are from Peru 18, Ecuador 11, Colombia 11, Mexico 6, Guatemala 3, Bolivia 2, Brazil 1, Belize 1, and Honduras 1. They do not add up to 49 because 2 are shared by two or four countries.

I wish to thank the many co-authors, photographers, illustrators and reviewers for their collaboration in making this collective effort possible.

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Rudolf Jenny at the European Orchid Council around 2015-2017. Unknown photographer

RUDOLF JENNY

July 26, 1953 – August 10, 2021

Veronika Jenny-Keller, Lorenz and Christoph Jenny, Carsten Hammer and Emil Lückel
Bern, Switzerland

Rudolf was born on July 26, 1953, in Bern, Switzerland. As his father was head of the Swiss Federal Nursery, Rudolf was exposed to a rich flora at an early age and even made a herbarium with ferns on his own. Soon, he discovered orchids in the greenhouses and developed a passion for these exotic plants; a passion which never faded.

As a trained chemist, Rudolf Jenny worked in the field of environmental and ozone technology until his retirement in 2008. As a hobby, Rudolf worked with orchids for more than 40 years and cultivated many tropical orchid plants in his large collection until 1995. Over many years, numerous trips took him to Central and South America for his studies on pollination techniques and taxonomy of orchids. He was especially fond of Costa Rica, where he took part in many expeditions with his friend Clarence Kl. Horich to whom he dedicated the orchids genus *Horichia* (*The Orchid*, 1981). He also dedicated other orchid genera like *Braemia* (*Die Orchidee*, 1985), or *Lueckelia* (*Australian Orchid Review*, 1999) to well-known orchid friends. Vice-versa, the orchid genus *Jennyella* was named after Rudolf, described by Lückel & H. Fessel (*Caesiana*, *Revista Italiana di Orchideologia*, 1999).

All together Rudolf Jenny wrote more than 600 articles published in many well-known orchid journals, including monographs on the genera *Gongora*, *Stanhopea*, *Paphinia* and *Sievekingia*. He also authored the three-part book series "...of men and orchids..." about the background of orchid names and the stories behind the discoverers and researchers. The third part has not been published yet.

As a regular participant and presenter at major orchid conferences such as the World Orchid Conference (WOC), the European Orchid Conference (EOC), and numerous other congresses, Rudolf was not only able to maintain his international relations, but also to pursue his passion for photography. Rudolf was also the founder and owner of *BibliOrchidea*, the world's largest and freely accessible database of orchid literature with over 165,000 entries, covering more than 90% of the existing orchid literature, including unpublished theses and other difficult to get papers.

Rudolf Jenny was an honorary member of the German Orchid Society (DOG) and the European Orchid Council (EOC), where he held the position of Secretary General since 2010. With his profound knowledge, he also supported the Jany Renz Herbarium at the University of Basel (RENZ) in Switzerland. In addition, Rudolf was an active member of the RHS Orchid Hybrid Registration Advisory Group (OHRAG), and a former member of the RHS Orchid Committee, both based in England.

Rudolf was a pillar of strength for his wife Veronika Jenny-Keller and his two sons Lorenz and Christoph. He was an extremely generous person who was lacking in anything petty. He loved spending his family vacation days in his small cottage in the mountains, and together his family also enjoyed traveling to numerous countries. Until his last day, Rudolf was an interesting and exciting conversationalist and family man.

He networked with countless orchid specialists worldwide, gladly answering questions of all kinds, and was happy when he could help – a lively exchange that gave him much pleasure. Profit thinking was unknown to him.

His *Gongora* monograph, which he co-authored with Günter Gerlach, is nearly ready for print. Rudolf was excited about publishing this new work.

Rudolf passed away completely unexpectedly on August 10, 2021.

Species dedicated to Rudolf Jenny:

Lepanthes jennyi Luer, *Lindleyana* 6: 73, fig. 1991.

Schlimia jennyana Lückel, *Orchidee* (Hamburg) 41: 68 (-69), figs. 1990.

Epidendrum rudolfii Karremans, *Harvard Pap. Bot.* 26(2): 359. 2021. Karremans, A.P., 2021, With great biodiversity comes great responsibility: the underestimated diversity of *Epidendrum* (Orchidaceae). *Harvard Pap. Bot.* 26(2): 299-369.

References: Jenny, R., 1981, *Horichia*: eine neue Gattung des Subtribus Gongorinae, *Orchidee (Hamburg)* 32(3): 106-109. Jenny, R., 1985, *Braemia*, eine neue Gattung der Gongorinae, *Orchidee (Hamburg)* 36(1): 36-38. Jenny, R., 1999, *Lueckelia*, a new genus in the Stanhopeinae, *Austral. Orchid Rev.* 64(4): 14-16. Lückel, E., & H. Fessel, 1999, *Jennyella*, a new genus in the subtribe Stanhopeinae, with notes on the genus *Houlletia*, *Caesiana* 13: 1-8.

IN MEMORIAM: RUDOLF JENNY (1953-2021)

Carlos Ossenbach
San José, Costa Rica

I first met Rudolf Jenny in person back in the early 2000s, during one of the seminars organized in Costa Rica by the Lankester Botanical Garden. A few years later I had the pleasure of being his guest in his house in Switzerland, and during the years he was several times our guest in Costa Rica. I felt always lucky to find somebody who shared my passion for history in general, and orchid history in particular.

When one begins writing about orchids, a search of the literature is the starting point. As Rudolf himself once wrote, the main difficulty at this moment is to reach an overview of the literature in connection with a project in an acceptable time and with acceptable effort. And once you start trying to solve this dilemma, you stumble sooner or later upon *Bibliorchidea*, Rudolf's brainchild, on which he began working in the late 1980s. *Bibliorchidea* is a freely accessible database, which in 2007 contained over 120,000 articles related to orchids from 12,000 different journals. It is undoubtedly the world's largest source of information if you are interested in any aspect of the Orchidaceae.

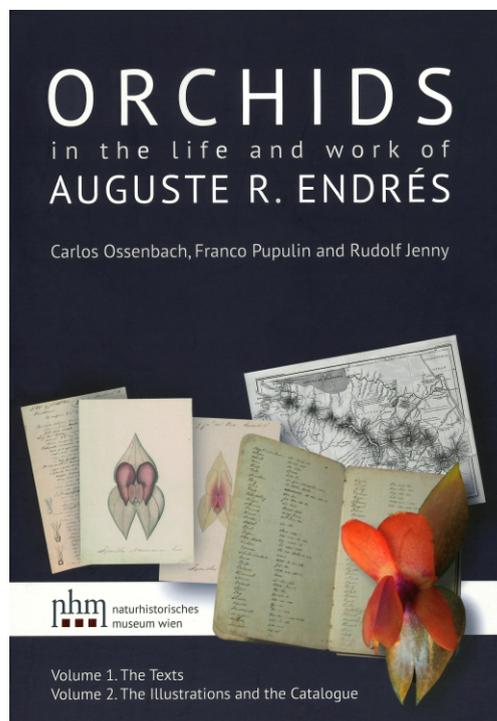
Out of this shared interest in history, a friendship developed that has endured. I vividly remember the first years -technology was still underdeveloped- when the postman arrived with thick envelopes bearing the postal stamp of Allmendingen, the suburb of Bern where Rudolf lived, containing dozens of photocopies of old, invaluable articles (I believe the first were Eduard Regel's accounts of Roezl's travels in tropical America published in *Gartenflora*, in 1874). I corresponded with Rudolf constantly over the past twenty years and felt particularly proud when Rudolf wrote asking for a piece of information about one or the other personage involved in the history of our favorite plant family, and I could provide it to him. Paraphrasing the popular saying "if it's not on the web it doesn't exist at all!" one could say that nothing worthy of mention can be found about orchid history that is not already stored in *Bibliorchidea*. For this reason, the Exchange of information was heavily out of balance, with 99% of it coming to me from Bern, and only small pieces going back to Rudolf in exchange.

I will always remember the endless discussions with Rudolf about specific projects, and soon we found ourselves involved in what would be a major project on which we worked for about 10 years: the search for the identity of the mysterious A.R. Endrés, a ghost that had been present for decades in the history of the orchids of Costa Rica and of whom we were only familiar by the thousands of illustrations, herbarium specimens and description of plants which landed in Vienna as part of Reichenbach's legacy. We were lucky to find as partners Franco Pupulin, at that time head of research at Lankester Botanical Garden, and of Ernst Vitek, Curator of the herbarium at the National History Museum in Vienna. Two reputed genealogists, Chris Bell Pucket of the Cincinnati Museum and Veronique Müller, of the Cercle Généalogique d'Alsace came in somewhat later, and filled in most of the gaps that were still open in the life of Endrés.

A few co-authored precursory articles appeared in 2010 and 2011, such as *Orchid itineraries of Augustus R. Endrés in Central America: a biographic and geographic sketch* (Ossenbach, Jenny & Pupulin, 2010), *Les ancêtres alsaciens d'Auguste Endrés (1838-1874), botaniste, orchidologue et naturaliste* (Ossenbach & Müller, 2010), and *Typi Orchidacearum ab Augusto R. Endresio in Costa Rica lecti* (Pupulin, et al. 2011). Soon thereafter, in 2013, the final *opus* on Endrés saw the light: the result -favored by the patronage of the Natural History Museum in Vienna- was a magnificent two-volume publication under the title *Orchids in the life and work of Auguste R. Endrés*, with the collaboration of Christa Riedl-Dorn and Ernst Vitek. It was a rewarding work, with Franco assuming most of the taxonomical work, Rudolf travelling to Vienna and assembling a large number of documents that were stored in the Reichenbach archives and myself exploring the routes in Costa Rica along which Endrés collected his orchids and researching into his family's prior life in the United States and the French region of Alsace.

Over the following years I worked with Rudolf on several minor projects, until in 2019 we decided to advance on the next of our favorite characters: the great Rudolf Schlechter and his network of correspondents and collectors in South America. What began as the idea of one single article, developed into a series of 6 articles comprising over 300 pages, which were published in *Lankesteriana* between 2019 and 2021 under the title *Rudolf Schlechter's South American orchids*. The final article of this series, which unfortunately Rudolf did not see in print, was published in late 2021.

The absence of Rudolf will leave a void in the daily life of all of us who share the pleasure of having been his friends. His death at the early age of 68 is an irreparable loss.



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REMEMBRANCES OF AN EXCITING PASSIONATE ORCHIDOPHILE: RUDOLF JENNY

Vinciane Dumont
Geneva, Switzerland

It was in the year 1979, during the Congress and Exposition of the European Orchid Council (EOC) in Zurich, Switzerland, that I met Rudolf Jenny for the first time. I was responsible for the exhibit of the Romandie (French Switzerland), and he was working with Charles Oertle, the Secretary General of the EOC. The average age of the participants was quite high, so it is natural that the younger would get together, among them Rudolf Jenny, Philip Cribb, and myself.

A few years later, I learned that Charles Oertle and Rudolf worked together on the lists of hybrids, as well as articles and books about orchids. With the appearance and popularization of computer science, Rudolf decided to create a software adequate to put on a computer his data base of orchid literature, thus facilitating its update. That was the origin of BibliOrchidea, but he had no idea of the extent that this work was going to take.

On my side, I had become the right hand of Charles Oertle, whom I succeeded a few years later. Rudolf was always active in the EOC and was very attracted by the orchids of Latin America, mainly those from Costa Rica, and I by those of Mexico, where I lived and learned to know the orchids thanks to Eric Hágsater, with whom I had the chance to share numerous expeditions into the field. We thus shared the same interests. Rudolf authored many articles in journals throughout the world, but also published the monographs on the genera *Gongora*, *Stanhopea*, *Paphinia* and *Sievkingia*.

With his photograph camera hanging around his neck, Rudolf loved searching in the tropical forests for new species which he described meticulously. He lectured in all the large international gatherings including the WOC (World Orchid Conference), the AOC (Australian Orchid Council), the APOC (Asia Pacific Orchid Conference) and the EOCCE (European Orchid Council Conference and Exhibition). We always took immense pleasure in meeting again.

In 2005, when I organized the great World Orchid Congress and Exposition at Dijon, France, Rudolf supplied us with valuable help contacting the numerous lecturers and scientists.

On the February 27, 2010, he was named Secretary General of the EOC. During his mandate he was able with diplomacy to attract into the EOC numerous new members countries of eastern Europe and the Mediterranean.

Since 2020, due to Covid-19, Rudolf and the EOC Committee inaugurated the ZOOM meeting, thus permitting many of the delegates from Associations to gather during our Annual General Meeting and other meetings. Often, due to lack of time and money, those who did not have the possibility to travel throughout Europe were able to attend. The dialogue and collaboration between the member associations improved and the EOC again became a useful and accessible tool.

The Swiss Orchid Foundation (SOF) was created in 2001, when the wonderful library and extraordinary herbarium of Jany Renz were donated to the University of Basel (RENZ). The SOF had the responsibility of keeping these jewels alive and known.

Rudolf Jenny, thanks to the support of Samuel Sprünger who directed the Foundation, classified, and photographed the whole collection to enrich Bibliorchidea and the SOF: a true synergism was born. Many renown scientists such as Professor Karl-Heinz Senghas sent Rudolf their treasures due to the threat that they may disappear after their passing.

Unfortunately, after a dozen years, the SOF encountered problems with the University of Basel, endangering all future collaboration. Rudolf then decided to give his BibliOrchidea a fresh start, separating it from the SOF.

It was the Fondation Orchidée, of which he was a member of the Board and which I preside, that took over the task of financing a new updated software. Today it is a larger database, free and the disposal of everyone with 165,000 entries, 90% of all the published and unpublished papers on orchids. It continues to be active on the Web, but with reduced services.

In his testament Rudolf designated a potential successor to resume and continue all the activities of BibliOrchidea. The Fondation Orchidée will do everything to ensure this as soon as possible, to continue this useful tool for the researchers of the entire world and thus perpetuating Rudolf's life work. We will make known the successor as soon as possible.

All his collaborators and many friends greatly regret his sudden passing.

... of men and orchids ...



Rudolf Jenny
2015

Part 1

... of men and orchids ...



Rudolf Jenny
2017

Part 2

References: Jenny, R., 1993, **Monograph of the genus *Gongora* Ruiz and Pavón**, 136 pp plus 23 pages of photographs and illustrations. Koeltz Scientific Books, Königstein. Jenny R., 2010, **The *Stanhopea* Book**, 495 pp. Jenny, R., 2015, **Of Men and Orchids 1**: 302 pp. Quito, Imprenta Mariscal. Jenny, R., 2017, **Of Men and Orchids 2**: 312 pp. Quito, Imprenta Mariscal. Jenny, R., 2018, **The *Paphinia* Book**, 240 pp. Jenny, R., **The *Sievkingia* Book**, in press.

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

Eric Hágsater

Epidendrum apuahuese Mansf., *Icon. Orchid.* 17(1): pl. 1704. 2019.

The title of illustration of plate 1704 is misspelled, and should be *Epidendrum apuahuese*, with a “u” after the ap...

Epidendrum dilochioides L.O.Williams, *Icon. Orchid.* 18(2): pl. 1865. 2021.

The title on the illustration is incorrectly attributed to Rchb.f., the text is correct, as L.O.Williams.

Epidendrum falsiloquum Rchb.f., *Icon. Orchid.* 18(2): pl. 1868 & 1868a. 2021.

The title of both plates incorrectly cites Schltr. as the author of the species, which is correct in the text as Rchb.f.

Epidendrum filipetalum Hágsater, E.Santiago & J.M.Vélez, *Icon. Orchid.* 18(2): pl. 1870. 2021.

Distribution and Ecology: the annual rainfall is indicated as “annual rainfall of 3000-4000 m elevation”, the correct expression is “annual rainfall of 3000-4000 mm”.

Epidendrum frons-bovis Kraenzl., *Icon. Orchid.* 13: pl. 1332. 2010.

The citation of the original publication indicates *Repert. Spec. Nov. Regni Veg.* 12(1): 181. 1906.

The correct volume is 1(12): 181. 1905.

Epidendrum hutchisonii Hágsater, *Icon. Orchid.* 18(2): pl. 1874. 2021.

Under Etymology: the text is incorrect and should be substituted for:

ETYMOLOGY: In honor of Paul Clifford Hutchison (1924-1975) senior botanist of the University of California at Berkeley, specialist in Cacti, who directed the botanical expedition to the Andes in 1963-64 during which this species was collected. His collections are located mainly at UC and USM, with duplicates at AMES, NY, and numerous other herbaria.

Epidendrum igneosiculum G.A.Romero, Carnevali & Hágsater, *Icon. Orchid.* 16(1): pl. 1627. 2018.

The Holotype is presently at AMO, as the National herbarium in Caracas VEN, has fallen to disrepair, and has been vandalized, so the material has not been sent until the situation permits.

Epidendrum krukoffii Hágsater, J.M.P.Cordeiro & Krahl, *Icon. Orchid.* 18(2): pl. 1877. 2021.

In Other Specimens: Brazil: Amazonas, specimen *Hágsater 15017*, the correct number is *15107*.

Epidendrum lindbergii Rchb.f., *Icon. Orchid.* 14: pl. 1450. 2013.

The main collection “Minas Gerais: Caldas: ad Rio de Machado prope Caldas, *G.A.Lindberg 534*, BR000006573521!” should be added as an Isolectotype. It is the most complete specimen, but was not seen by Reichenbach, and was determined by Cogniaux, with the full description of the species by Reichenbach attached.

See <https://www.gbif.org/occurrence/1839453891>. The Lindberg specimen bearing the sketch of a flower and description by Reichenbach is W-4350. The duplicate W-4349, is a stem without flowers, and the attached watercolor of a flower is a different collection Wallace of January 1883. Thus add to “Other Records: BRAZIL: Rio, 1 1883, *Wallace s.n.*, watercolor illustration of flower, W-8349!”

Epidendrum uleanodes Hágsater, *Icon. Orchid.* 18(2): pl. 1894. 2021.

Synonym: *Epidendrum schistoclinandrium* D.E.Benn. & Christenson. Holotype: MOL!

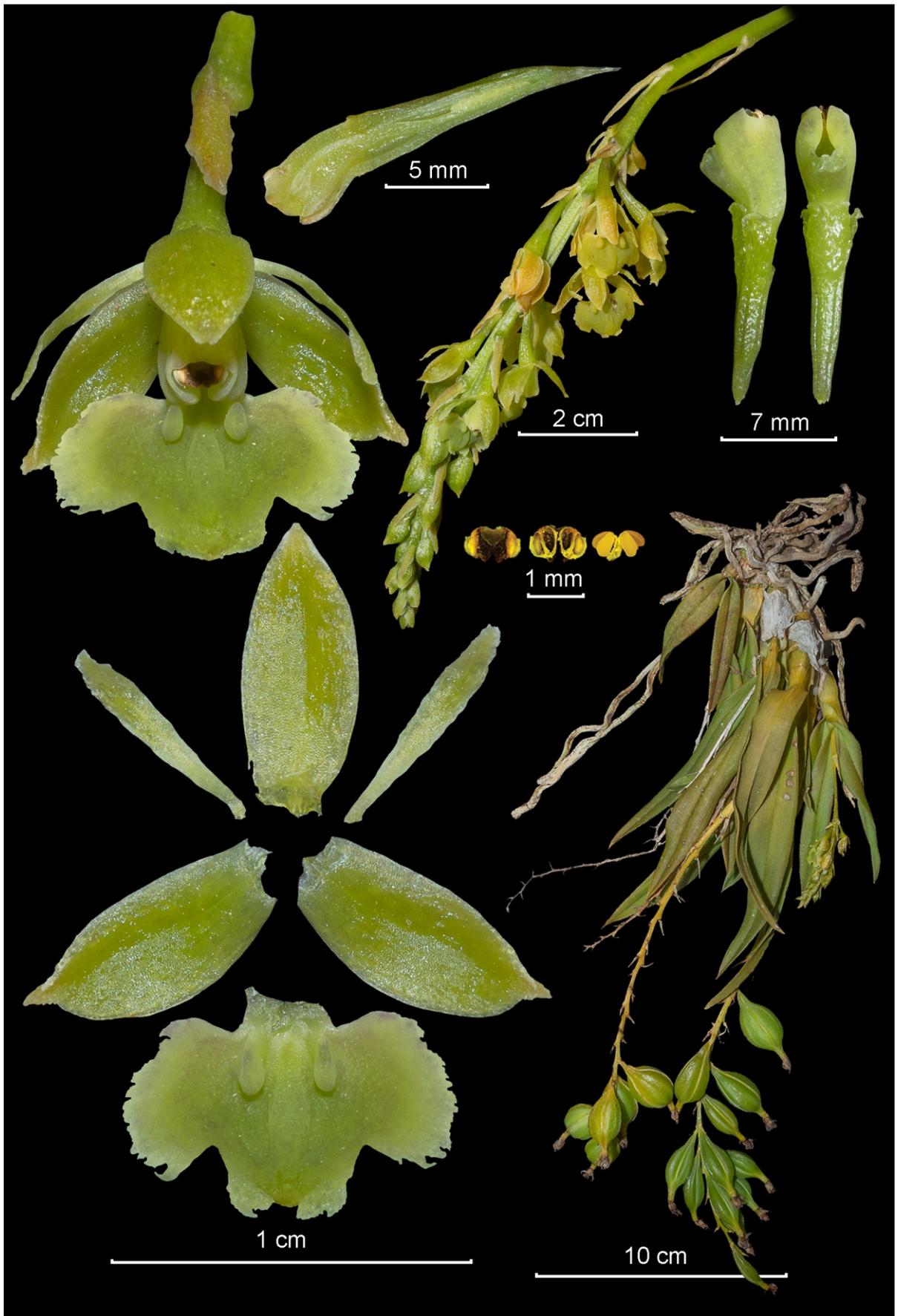
The holotype had already been corrected by Delsy Trujillo in Annotated list of the Orchidaceae types of the Bennett collection at the forestry herbarium MOL, *Lankesteriana* 14(1): 25. 2014, as being located at MOL and consisting of six flowers (one dissected) in spirit.

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

Under Recognition reference is made to the Indazense Group, the correct name is Indanzense Group.

Publication dates:

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



EPIDENDRUM ALEJANDRINAE Hågsater & H.R.Quispe

Plate 1901

EPIDENDRUM ALEJANDRINAE Hágsater & H.R. Quispe, Phytotaxa 541(3): 220. 2022.

Type: PERU: Huancavelica: Prov. Tayacaja: Distr. Andaymarca: Sune, 3900 m, 29 August 2021, **Harold Rusbelth Quispe-Melgar 125**. Holotype: HOXA! (LCDP and photo voucher).

Epiphytic, sympodial, caespitose, pendent **herb**, ca. 30 cm long. **Roots** 3 mm in diameter. **Rhizome** 1 cm long, short. **Stems** 2.0-3.2 x 1.0 cm, aggregate, short, green, thickened into an ovoid pseudobulb. **Leaves** 3, articulate; 2, produced from basal and middle internodes, and one from apex of pseudobulb; blade 8.0-12.0 x 1.0-1.6 cm, lanceolate, coriaceous, green, margin entire, crenate towards apex. **Spathes** lacking. **Inflorescence** 8.0-12.5 x 0.1-0.3 cm, apical, from mature stem, pendulous, flowers successive, ca. 10 flowers open at a time, pendent; peduncle 3.5-4.5 cm long, laterally compressed, ancipitose, straight, with nodes at base and 1 bract 1.5 cm long; rachis terete, straight and sulcate. **Floral bracts** 8-10 mm long, 1/2 length of ovary, triangular, long-acuminate, dorsally granulose, yellow with irregular lighter yellowish dots. **Ovary** clavate 13.0 x 0.6-3.0 mm, furrowed, with a small ventral swollen vesicle at apex. **Flowers** 15-25, successive, opening from base towards apex of inflorescence, resupinate, green, concolor; fragrance not registered. **Sepals** partly spreading, free, margin entire; dorsal sepal 9.0 x 3.6 mm, oblong-elliptic, minutely mucronate; lateral sepals 8.7 x 3.3 mm, elliptic-oblong, acute, with a prominent dorsal keel, 3-veined. **Petals** 7.0 x 1.1 mm, partly spreading, arching, forward in natural position, linear-oblong, sub-obtuse, 1-veined, margin entire, spreading. **Lip** 6.7 x 10 mm, adnate to column, 3-lobed, transversely cordiform-elliptic in outline, convex, base somewhat cordate, distal margins erose-denticulate; bicallose, calli elongate, parallel, 1.7 x 0.7 mm separated by thick mid-rib, disc with 3 parallel, broad and very low ribs, mid-rib reaching apical sinus, lateral ribs in front of calli and ending at base of mid-lobe; lateral lobes 3.0 x 4.8 mm, widely dolabriform; mid-lobe 2.0 x 4.4 mm, widely cuneate, apex emarginate. **Column** 5.6 x 3.4 x 3.2 mm, short, thick, obcuneate, apex forming an obtuse angle with lateral wings. **Clinandrium-hood** short, margin entire. **Rostellum** apical, slit. **Lateral lobes of stigma** small, in a small stigmatic cavity. **Nectary** penetrating 1/4 of pedicellate ovary, unornamented, forming a somewhat widened vesicle behind perianth. **Anther** transversely ellipsoid, apex emarginate, front papillose, brown with sides cream-colored, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose, as long as pollinia; viscarium semi-liquid. **Capsule** 39 x 17 mm; pedicel 7 x 1.5-5 mm, conical; body 27 x 17 mm, ellipsoid; apical neck 5 x 3.5 mm, thin.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known presently only from the Region of Huancavelica, in central Peru. The plant that served as type was collected in the upper part of the locality of Sune, near the Judas lagoon, in the middle Mantaro river basin, approximately 20 km from the Amaru-Huachocolpa-Chiuanana Cloud Forest Regional Conservation Area (RCA). It was found growing in a semi-humid forest dominated by *Polylepis albicans* Pilg. (Boza *et al.* 2019), epiphyte on a specimen of *Gynoxys*, an environment that is typical of the high Andean ecosystem surrounded by a matrix of grassland, with the presence of other genera such as *Escallonia* and *Lupinus*, at 3900 m elevation. Flowering in August.

RECOGNITION: *Epidendrum alejandrinae* belongs to the Rupestre group (Hágsater 2004), which is characterized by the caespitose, sympodial plant, the pseudobulbous stems with 1-4 fully developed leaves toward the apex, and lack of spathes at the base of an erect, racemose or paniculate inflorescence, the lip ecallose or bicallose and with several fleshy thickened keels on the disc. The species is recognized by the pendent habit, the flowers green, concolor, the sepals 8.7-9.0 x 3.3-3.6 mm, the lip flat, bicallose, calli elongate, parallel, 1.7 x 0.7 mm separate, thick, rounded, and the disc with 3 parallel, broad and very low ribs, the middle one reaching the apical sinus, the lateral ones in front of the calli and ending at the base of the mid-lobe. It is similar to *Epidendrum ochoae* Collantes & Hágsater, from Machu Picchu, Cusco, which has yellow-green flowers, irregularly tinged with purple dots, especially on sepals and lip, the sepals 6.5 x 3.5-4.0 mm, and the lip convex, bicallose, the calli prominent, ellipsoid, laterally somewhat compressed, somewhat divergent, the disc 3-carinate, the lateral ribs low, and the mid-rib prominent, forming a fleshy, irregular, obovoid protuberance which nearly reaches the apical sinus. *Epidendrum aida-alvareziae* Hágsater, from Cajamarca in northern Peru, has shorter, narrower leaves, 0.6-5.0 x 0.5-1.0 cm, the sepals 5.0-7.3 x 2.8-3.3 mm, and a shallow 3-lobed lip, the apical half looks more like a truncate pyramid in general outline, with the mid-lobe emarginate, bicallose, the calli prominent, ellipsoid, parallel, laterally somewhat compressed, the disc 3-ribbed, and the ribs low, parallel. *Epidendrum pachydiscum* Hágsater, from Huancabamba, Piura, also has smaller leaves, 1.3-4.1 x 0.7-1.2 cm, the sepals 5.3-5.8 x 2.4-2.5 mm, and the lip deeply 3-lobed, with the mid-lobe deeply bifid, the lobes somewhat divergent, sub-rectangular, oblique, the outer margin curved and entire, the inner margin dentate to short-fimbriate, the sinus widely mucronate, and the lip ecallose, with 3 well-defined, central ribs, the lateral pair somewhat shorter than the mid-rib.

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

ETYMOLOGY: Honoring the memory of Mrs. Alejandrina Melgar Sotomayor (1957-2020), mother of Harold R. Quispe-Melgar, who was born in the Region of Huancavelica and in life had a great passion for plants and their flowers, always inspiring a deep respect for nature.

REFERENCES: Collantes, B. & E. Hágsater, 2015, *Epidendrum ochoae*, in E. Hágsater & L. Sánchez S. (Eds.), *The Genus Epidendrum*, Part 11, *Icon. Orchid.* 15(1): pl. 1546. Hágsater, E., 2004, *Epidendrum pachydiscum*, in E. Hágsater & L. Sánchez S. (Eds.), *The Genus Epidendrum*, Part 4, *Icon. Orchid.* 7: pl. 773. Hágsater, E., 2016, *Epidendrum aida-alvarezii*, in E. Hágsater & L. Sánchez S. (Eds.), *The Genus Epidendrum*, Part 11, *Icon. Orchid.* 15(2): pl. 1570. Boza Espinoza T.E., H.R. Quispe-Melgar, & M. Kessler, 2019, Taxonomic Reevaluation of the *Polylepis sericea* Complex (Rosaceae), with the Description of a New Species. *Syst. Bot.* 44 (2): 324-334. Quispe-Melgar H.R., Y.S. Llacua-Tineo, F.N. Ames-Martínez, D. Huayta, K.L. Lagones Poma & E. Hágsater, 2022, *Epidendrum alejandrinae* (Orchidaceae: Laeliinae), a new species from the high Andean forests of central Peru, *Phytotaxa* 541(3): 217-224.



Authors: H. R. Quispe-Melgar & E. Hágsater

LCDP: H. R. Quispe-Melgar & A. Cisneros

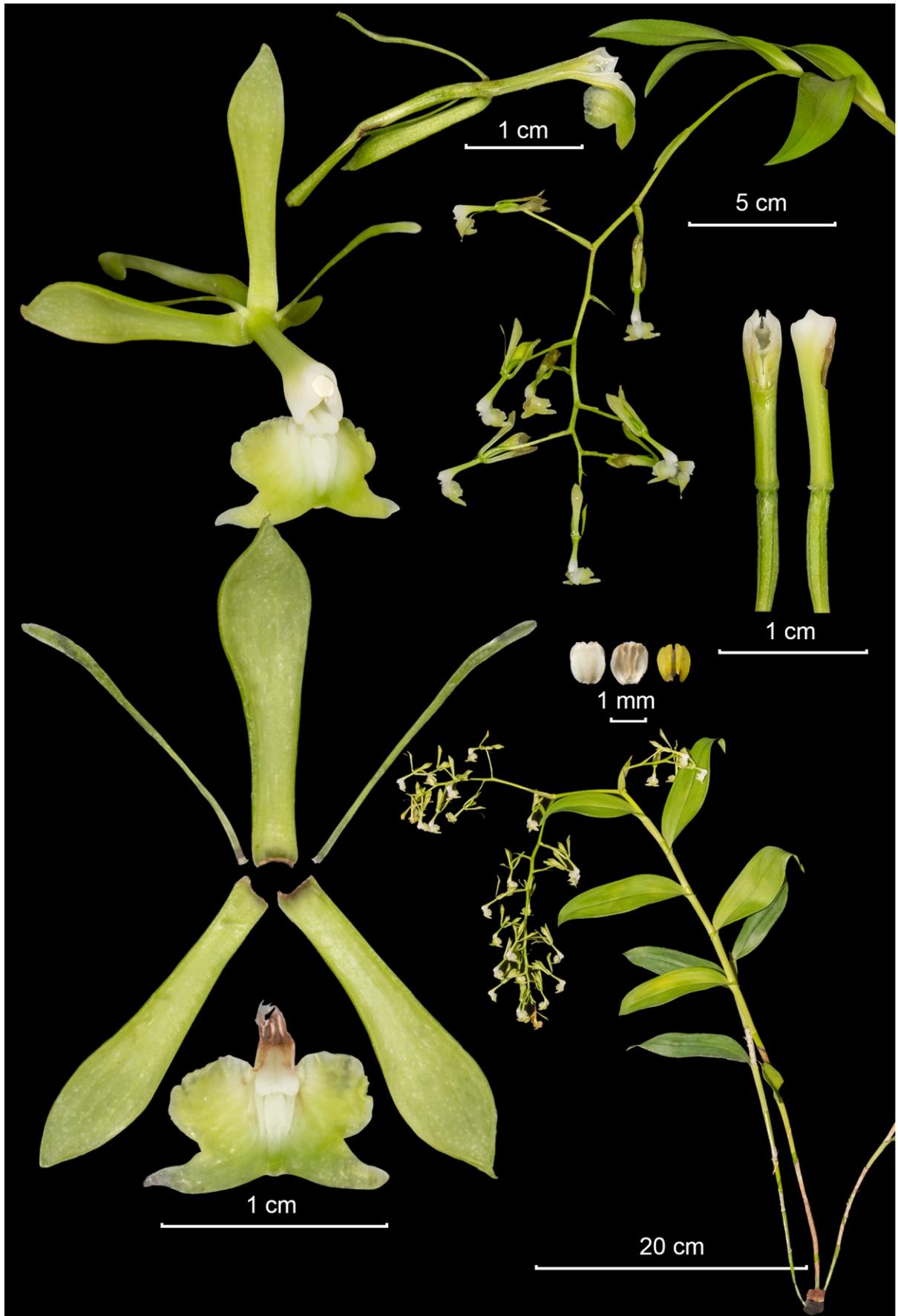
Photo: H. R. Quispe-Melgar

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 19(1). 2022. Plate 1901



EPIDENDRUM ALVAROPEREZII Hágsater, E.Santiago & J.Duarte

Plate 1902

EPIDENDRUM ALVAROPEREZII Hágsater, E.Santiago et J.Duarte, *sp. nov.*

Type: ECUADOR: Napo: Archidona: Cotundo: carretera Archidona-Baeza hacia Francisco de Orellana, Pachakutick, 1105 m, 2 noviembre 2017, prensado 18 octubre 2021, **Eric Hágsater & Marco Jiménez León 15417**. Holotype: QCNE! (LCDP pro-parte, & photo voucher). Clonotype: prensado 3 marzo 2018, AMO!

Similar to *Epidendrum sucumbiense* Hágsater & Dodson found at 1105-1200 m elevation, (vs. at 2100-2600 m elevation), has larger flowers, sepals 14-16 mm long (vs smaller flowers, sepals 6.3-6.8 mm long), the lip 6 x 10.5 mm, wider between the apices of mid-lobe, (lip 3.5-4.8 x 5.8-7.8 mm, equally wide between the lateral lobes and the apices of the mid-lobe), and the disc with 3 fleshy, parallel ribs, mid-rib wider and fleshier and reaching the apical sinus, lateral ribs shorter and thinner (vs. the disc with 5 parallel ribs, the middle 3 prominent).

Epiphytic, sympodial, caespitose **herb**, 20-50 cm tall including the inflorescence. **Roots** 0.5-2.0 mm in diameter, basal, fleshy, thin, white. **Stems** 12-31 x 0.2-0.5 cm, simple, cane-like, terete, thin, erect, straight. **Leaves** 6-13, distributed throughout the stem, articulate, alternate, sub-coriaceous; sheaths 0.9-3.6 x 0.2-0.5 cm, tubular, becoming scarious and fibrous upon drying, green; blade 3.5-11.0 x 0.8-3.0 cm, medium green on both sides, elliptic to narrowly elliptic, acuminate, margin entire, spreading. **Spathes** lacking. **Inflorescence** ca. 28 cm long, apical, arching-nutant, racemose to paniculate with up to 3 racemes; peduncle 6-8 cm long, terete, thin, short, with a single bract in the middle, 3.5 cm long, acuminate, conduplicate, embracing; rachis terete, thin; the racemes 7-10 cm long, laxly few to many-flowered, each the branches subtended by a bract 1.7-2.0 cm long, narrowly triangular, acuminate, embracing. **Floral bracts** 7-16 mm long, shorter than the ovary, triangular ovate, gradually shorter towards the apex, acuminate, embracing. **Ovary** 22-28 mm long, thin, straight, slightly arched towards the apex, not inflated, scarcely pustulate, slightly furrowed. **Flowers** 4-50, simultaneous, resupinate, pale green, apical half of column white and disc of lip white; fragrance none detected. **Sepals** 14-16 x 3.0-4.5 mm, free, reflexed, fleshy, narrowly oblanceolate-spatulate, obtuse, minutely apiculate, slightly concave towards apex, dorsally scarcely papillate, 3-veined, margin entire, spreading. **Petals** 12-14 x 0.6 mm, reflexed, free, filiform, slightly arched towards apex, apex rounded, 1-veined, margin entire, spreading. **Lip** 6 x 10.5 mm, united to column, 3-lobed, slightly convex, base cordate, margin undulate towards base, spreading, wider between apical lobes than between the lateral lobes; bicallose, calli elongate, digitiform, slightly divaricate; disc with 3 fleshy, parallel ribs, mid-rib wider and fleshier and reaching the apical sinus, lateral ribs shorter and thinner; lateral lobes 4 x 3-4 mm, semi-orbicular; mid-lobe 2 x 10 mm, bifid, forming two strongly divaricate in nearly 180° lobes, emarginate, the lobes 5.5 x 2 mm, obliquely triangular-falcate, apex sub-acute. **Column** 12.5 mm long, straight, thin at base, gradually widened beyond the middle, apex truncate. **Clinandrium-hood** reduced, margin entire. **Anther** ovoid, 4 celled. **Pollinia** 4, "bird-wing" type, laterally compressed, very flat and translucent, yellow; caudicles laminar, somewhat shorter than the pollinia; viscarium semi-liquid. **Rostellum** sub-apical, slit. **Lateral lobes of stigma** small, 1/3 the length of stigmatic cavity. **Nectary** shallow barely penetrating the ovary at perianth, unornamented. **Capsule** not seen.

OTHER SPECIMENS: ECUADOR: Napo: Archidona, Cotundo-Coca, *Dodson 17087A*, MO! Tena, Río Hollín, Cordillera de Huacamayos, 25 XI 1988, *Dodson sub Hágsater 9767*, (Illustration & spirit, AMO!) Archidona, Cotundo, carretera Archidona-Baeza hacia Francisco de Orellana, Pachakutick, 1105 m, 2 XI 2017, prensado 28 II 2019, *Hágsater 15416*, AMO! QCNE! (LCDP pro-parte, and digital images, AMO!) Faldas al sur del Volcán Sumaco, carretera Hollín-Loreto, km 31, Comuna Challua Yacu, 1200 m, 20 III 1989, *Palacios 4041*, (in bud) QCNE!

OTHER RECORDS: ECUADOR: Napo: carretera Archidona-Baeza hacia Francisco de Orellana, Pachakutick, 1105 m, 2 XI 2017, *Hágsater 15354*, note, AMO!

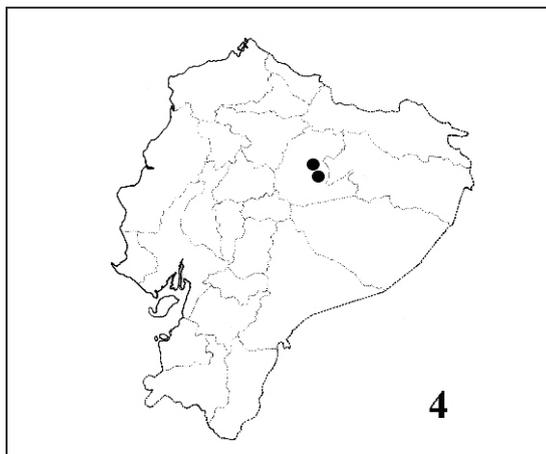
DISTRIBUTION: Presently known from the Cordillera de Guacamayo, and around the base of the Volcán Sumaco at 1105-1200 m elevation. Epiphytic in premontane rainforest. Flowering in March and October.

RECOGNITION: *Epidendrum alvaroperezii* 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 filiform petals, the lip usually 3-lobed (with 3 parallel fleshy ribs), the apical lobe often bifurcate, the "bird-wing" type pollinia, and Paniculatum Subgroup, which has green and white flowers, often marked with purple on the disc of the lip and apex of the column. The new species is recognized by the leaves medium green on both sides, the racemose to paniculate inflorescence with a peduncle 6-8 cm long, flowering only once with simultaneous flowers, the pale green flowers with the apical half of the column and disc of the lip white, immaculate, the sepals 14-16 mm long, reflexed, the petals 12-14 mm long, also reflexed, and the lateral lobes of the lip semi-orbicular and the mid-lobe formed by two strongly divaricate lobes, emarginate, the lobes 5.5 x 2 mm, obliquely triangular-falcate, apex sub-acute. It is similar to *Epidendrum sucumbiense* Hágsater & Dodson from northern Ecuador at 2100-2600 m elevation, has smaller flowers, sepals 6.3-6.8 mm long, obovate, petals 4.6-7.0 mm long, reflexed, the lip 3.5-4.8 x 5.8-7.8 mm, equally wide between the lateral lobes and the apices of the mid-lobe, the disc with 5 parallel ribs, the middle 3 prominent. *Epidendrum agoyanense* Hágsater & Dodson also found at middle altitudes (950-2400 m) from Tunguragua, Ecuador, south to Amazonas, Peru, also has medium green leaves, the paniculate inflorescence flowering only once, apple green flowers with the lip and apical half of the column white turning yellow, the sepals 9.5-12 mm long, spreading, the petals 9-11 mm, spreading, the lip 5.0-5.5 x 6.5-10 mm, somewhat wider between the lobes of the mid-lobe than the lateral lobes which are sub-quadrate, and the apical lobes somewhat united to the lateral lobes. *Epidendrum frons-bovis* Kraenzl. from Moyobamba in northern Peru, has flowers green-brown with the lip white, sepals obovate 9-10 mm long, and the mid-lobe very short and forming two horn-like lobes. *Epidendrum christensonii* Hágsater & E. Santiago from northern Peru and southern Ecuador near Valladolid has leaves 3-7.5 x 1.0-1.6 cm, narrowly lanceolate-elliptic, the flowers pale green with the lip and apex of column white, the sepals 7.6-8 mm long, the petals 8 mm long, spreading, the lateral lobes of the lip obliquely elliptic with the margin undulate, and the mid-lobe very short and divided into two linear-oblong lobes. *Epidendrum shigenobui* Hágsater, from Risaralda, Colombia, has small flowers, the sepals and petals yellow-green and the lip pale green, the dorsal sepal acute and the lateral sepals oblique, the petals 7.5 mm long, the lateral lobes of the lip semi-ovate, margin sinuate, and the lobes of the mid-lobe separated from the lateral lobes by shallow sinuses.

CONSERVATION STATUS: DD. Data deficient. Though there are protected areas in the region, the collections have been made in heavily intervened areas due to the expansion of agriculture and cattle grazing. Only material from a very limited area is known.

ETYMOLOGY: In honor of Biol. Álvaro Javier Pérez Castañeda (1977-), Ecuadorian Botanist, who has collected profusely in the Amazon region of Ecuador, in particular on the Cordillera del Condor and shared his materials and photographs with us for the description various species like *Epidendrum montiargentatum* Hágsater, E. Santiago & A.J.Pérez, and *E. nigrivinosum* Hágsater, E. Santiago & A.J.Pérez. He has published 28 species of Ecuadorian plants in different families.

REFERENCES: Hágsater, E., & Dodson, C.H., 1993, *Epidendrum agoyanense* in E. Hágsater & G.A. Salazar (eds.) *The Genus Epidendrum*, Part 2, **Icon. Orchid.** 2: pl. 102. Hágsater, E., & E. Santiago, 2013, *Epidendrum christensonii* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 10, **Icon. Orchid.** 14: pl. 1418. Kräenzlin, F.W.L., 1906, *Epidendrum frons-bovis* in **Repert. Spec. Nov. Regni Veg.** 1(12): 181. Hágsater, E., 1999, *Epidendrum shigenobui* in E. Hágsater, L. Sánchez S. & J. García-Cruz (eds.) *The Genus Epidendrum*, Part 2, **Icon. Orchid.** 3: pl. 380. Hágsater, E. & Dodson, C.H., 2001, *Epidendrum sucumbiense* in E. Hágsater & L. Sánchez S. (eds.) *The Genus Epidendrum*, Part 4, **Icon. Orchid.** 4: pl. 489. Santiago, E., & E. Hágsater, 2010, *Epidendrum frons-bovis*, E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 9, **Icon. Orchid.** 13: pl. 1332. Hágsater, E., E. Santiago & A.J. Pérez, 2020, *Epidendrum montiargentatum*, in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 13, **Icon. Orchid.** 17(2): pl. 1781. Hágsater, E., E. Santiago & A.J. Pérez, 2020, *Epidendrum nigrivinosum*, in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 13, **Icon. Orchid.** 17(2): pl. 1781.



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LCDP: R. Jiménez M. & A. Cisneros

Photo: R. Jiménez M.

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 19(1). 2022. Plate 1902

EPIDENDRUM AMOANUM Zambrano & Solano, *Phytotaxa* 511(2): 112, Figs. 1–3. 2021.

Type: ECUADOR. Loja: Cantón Loja, vía El Cisne-Ambocas-Portovelo, 2000 m, 2 January 2018, *Bosco Javier Zambrano Romero* 2273. Holotype: QCNE! Isotype: QCNE! [in spirit]. Digital images of pretype AMO! (LCDP & photo voucher).

Epiphytic, erect, sympodial, **herb**, up to 40 cm tall. **Roots** 2.0–3.0 mm diameter, scarce from base of stems, fleshy, flexuous, white. **Stems** up to 12.0 × 0.20–0.25 cm, cane-like, terete, erect to slightly curved, new stem produced from a middle or sub-apical internode and covered by 5–7 tubular, imbricated, persistent, chartaceous, grayish non-foliar sheaths. **Leaves** 6–8 per stem, distributed along apical half of stem, sub-coriaceous, distichous, sessile; sheaths 0.4–1.6 × 0.20–0.25 cm, longitudinally striated, tubular, persistent, chartaceous; blade 2.5–8.0 × 0.5–0.7 cm, oblong-lanceolate, obtuse, carinate at apex, channeled at base. **Spathes** lacking. **Inflorescence** arising from apex of stem, racemose, arching, shorter than apical leaf; peduncle 4.0–6.2 × 1.5–1.8 mm, terete, covered by conduplicate, persistent, chartaceous bract 2.0–3.0 × 1.5–1.7 mm; rachis 10–12.5 × 1.4–1.8 mm, terete, slightly pustulate. **Floral bracts** 1.5–4.5 mm long, narrowly triangular, acuminate, persistent, scarious. **Ovary** 7.0–7.9 × 1.2–1.5 mm, straight, terete, thin, longitudinally furrowed. **Flowers** 7–8, opening in succession, with floral buds in various stages of development, small, extended, non-resupinate, sepals yellow-amber, petals and lip yellow-amber suffused with brown, column light green, anther green-cream suffused with brown; without any fragrance perceived. **Sepals** fleshy, waxy, apex rounded, shortly apiculate, 3-veined, margin entire, spreading; dorsal sepal 3.4–3.8 × 2.5–2.7 mm, elliptic; lateral sepals 3.8–4.2 × 2.8–3.1 mm, obovate-elliptic, carinate dorsally. **Petals** 3.5–3.9 × 1.5–1.7 mm, fleshy, oblong, rounded, marginally erose near apex, 3-veined. **Lip** fleshy, fused to basal half of column, concave, sub-3-lobed, obliquely reniform-sub-quadrate, deeply cordate at base, margin erose, truncate at apex, 9-veined, with lateral veins branched, 3.8–4.5 × 5.3–5.5 mm; ecallose, with 7 thin, smooth ribs, central disc with 3 parallel, elongate ribs, about half as long as lamina, lateral ones, short and radiating; lateral lobes 3.0–3.3 × 1.4–1.5 mm, transversely elliptic; mid-lobe 0.5–0.8 × 2.3–2.5 mm, much smaller than lateral lobes, transversely hemi-elliptic. **Column** 2.5–3.0 × 2.0–2.2 mm, short, slightly curved, terete, thick, lobed marginally at apex, forming rounded wings. **Clinandrium-hood** short, margin slightly undulate. **Stigmatic cavity** ventral, concave, covered by a viscous substance. **Rostrum** apical, cleft. **Nectary** short, unornamented. **Anther** 0.7 × 1.4 mm, dorsal, trapezoid-reniform, glandular-papillose. **Pollinarium** 0.7 mm long, formed by 4 pollinia, cream-colored, sub-equal, obovate, laterally compressed; caudicles granulose; viscarium semi-liquid. **Capsule** not seen.

OTHER SPECIMENS: ECUADOR. Loja: Cantón Loja, vía El Cisne-Ambocas-Portovelo, 2000 m, 21 2018, *Zambrano B. s.n.* QCNE!

OTHER RECORDS: ECUADOR. Loja: probably road Celica-Pindal-Puyango, ca. 2000 m, 2017, *Hugo Medina* at Ecuagenera. Digital Image AMO!

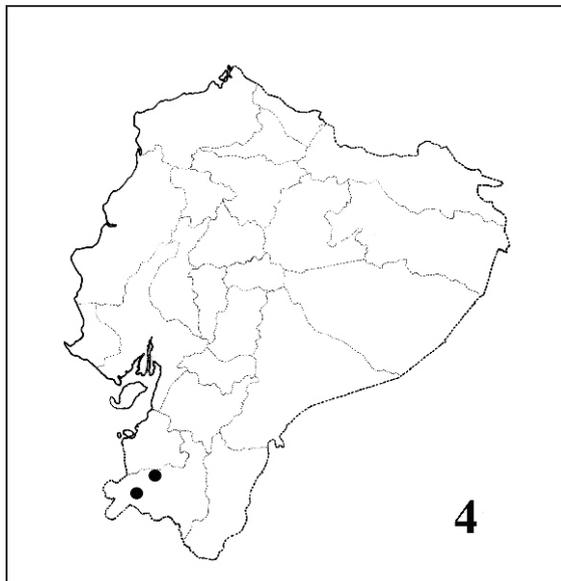
DISTRIBUTION AND ECOLOGY: Up to now, *E. amoanum* is only known from southwestern Ecuador, Loja province, road to El Cisne and probably Celica, at 2000 m elevation. The plant grows as an epiphyte on shrub branches of *Miconia* sp. and *Euphorbia* sp. The species has not been found in other localities, and it is necessary to consider it as restricted endemic. Flowering between January and August.

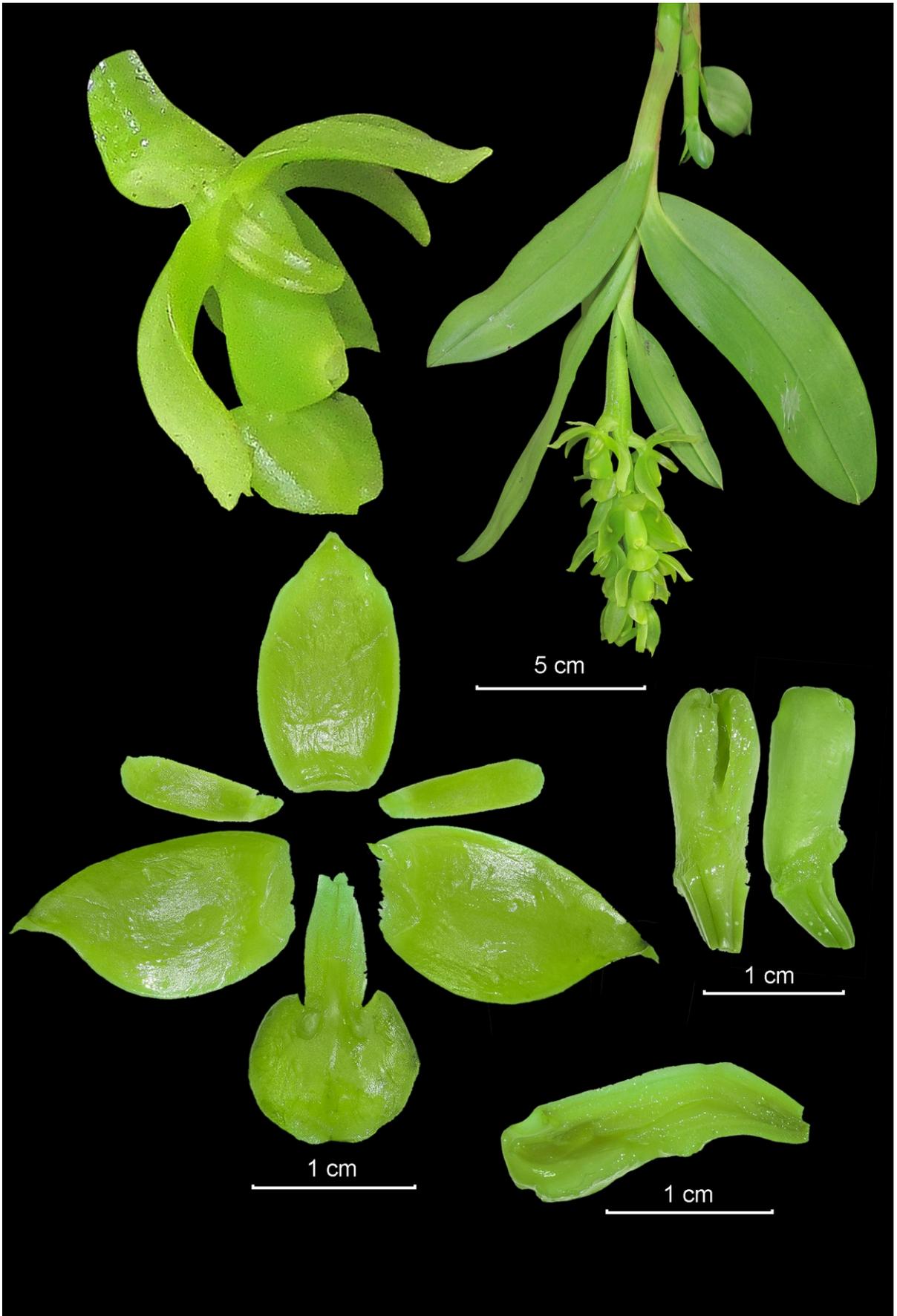
RECOGNITION: *Epidendrum amoanum* belongs to the Diothonea group, and Subgroup, characterized by the branching habit, linear-lanceolate to lanceolate, bilobed leaves, arching-nutant, racemose inflorescence, membranaceous or rarely fleshy flowers, the lip entire to 3-lobed, with an erose margin, ecallose, without or with 1–10 thin, smooth to erose keels, the column united to the lip from totally to obliquely free. The species is recognized by the oblong-lanceolate leaves, the yellow-amber flowers, the elliptic dorsal sepal, the petals oblong, erose and the sub-3-lobed lip with 7 minutely keels and truncate apex. The most similar species is the Peruvian *Epidendrum amaruense* Hágsater, Collantes & E. Santiago, but that species has smaller plants, 20.0 cm tall, linear-lanceolate leaves, 2.5–4.0 cm long, yellow to ochre-green, non-resupinate flowers, ovate dorsal sepal, 5.0 mm long, ovate petals, the blade of the lip 2-lobed and with 5-keels. The Ecuadorian *Epidendrum jativae* Dodson is also a similar species, but it differs by its non-resupinate flowers, greenish suffused with burgundy red to purplish brown, the dorsal sepal elliptic-obovate, 6.0 mm long, the petals 6.0 mm long, the entire lip with 3 keels and 4-lobed apex.

ETYMOLOGY: Named in honor of all the researchers of AMO Herbarium, in recognition of their outstanding contributions to the knowledge of the orchids of the Neotropics, especially the genus *Epidendrum*.

CONSERVATION STATUS: CR Critically endangered, as it is known from two neighboring localities.

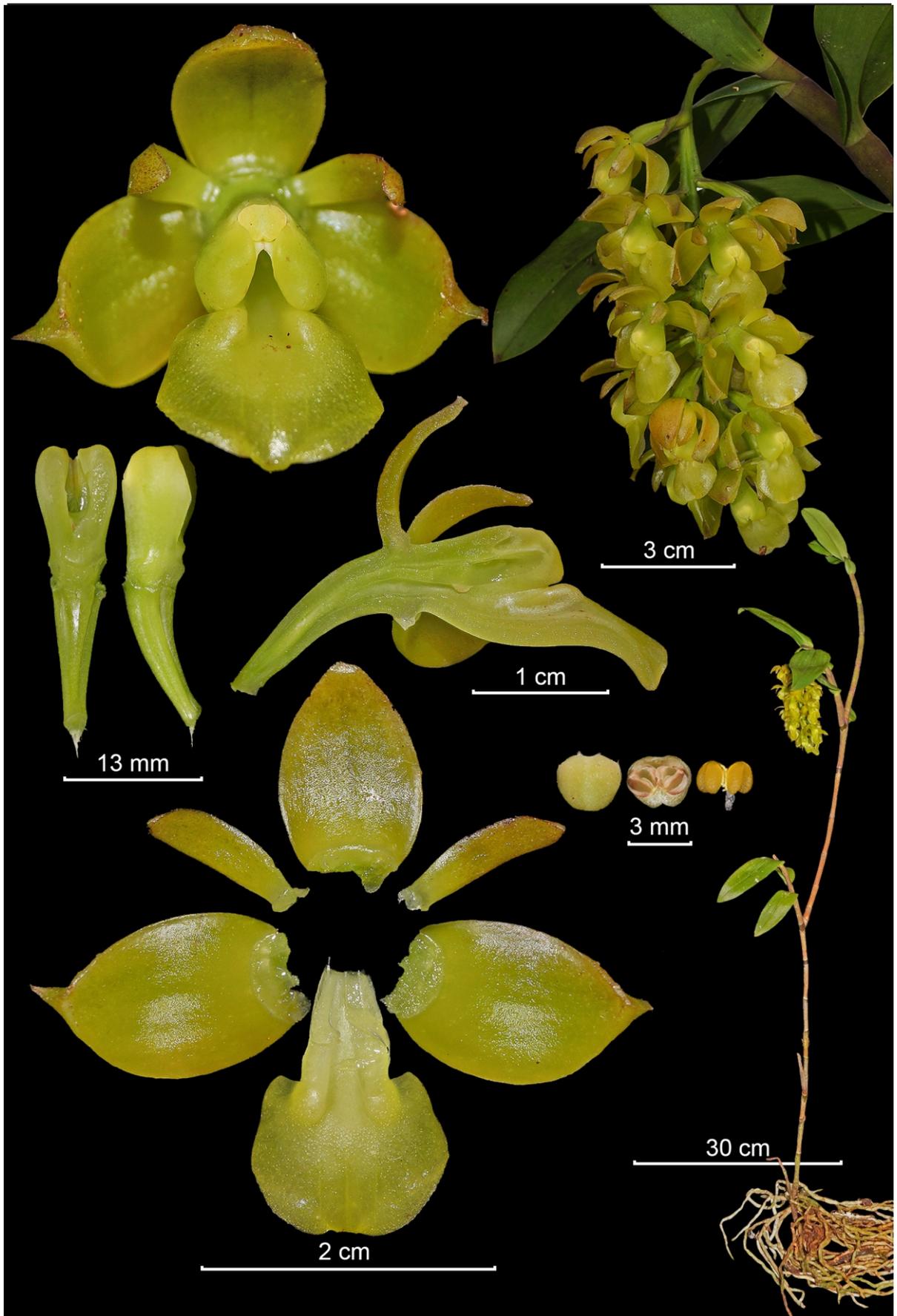
REFERENCES: Dodson, C.H. & Dodson, P.M. (1980) *Epidendrum jativae* Dodson. In C.H. Dodson (Ed.) Orchids of Ecuador, **Icon. Pl. Trop.** 4: pl. 85. Hágsater, E., B. Collantes & E. Santiago, 2006, *Epidendrum amaruense*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 5, **Icon. Orchid.** 8: pl. 805. Santiago, E., & E. Hágsater, 2006, *Epidendrum jativae*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 5, **Icon. Orchid.** 8: pl. 847. Zambrano R., B.J., E. Hágsater & R. Solano, 2021, *Epidendrum amoanum*, in Miscellaneous new species in *Epidendrum* (Orchidaceae) from southwestern Ecuador, **Phytotaxa** 511(2): 111–147. <https://doi.org/10.11646/phytotaxa.511.2.2>





EPIDENDRUM ANCHIHUAYENSE Hågsater & Rob.-Fern.

Plate 1904a



EPIDENDRUM ANCHIHUAYENSE Hágsater & Rob.-Fern.

Plate 1904b

EPIDENDRUM ANCHIHUAYENSE Hágsater et Rob.Fern., sp. nov.

Type: PERU: Dept. Ayacucho: Prov. La Mar: Distr. Anchiuay: Jaiyamonte, 3400 m, 23 mayo 2015, **Robin Fernández Hilario 936**. Holotype: MOL!
Isotype: HOXA! (LCDP & photo voucher).

Similar to *Epidendrum nephroglossum* Schltr. but the flowers entirely bright green, the tepals sometimes dorsally with a touch of yellow, or the dorsal apex of lateral sepals tinged purple (vs. flowers yellow), the lateral sepals 18.6-19.3 x 10.0-10.3 mm, elliptic, acute, mucronate, (vs. lateral sepals 16.5 x 9.3 mm, elliptic, obtuse), and the lip bicallose (vs. lip ecallose).

Epiphytic, sympodial, erect, **herb**, ca. 35 cm tall, with successive lateral growth, where each new stem originates from a central internode of previous stem. **Roots** not seen. **Stems** (9-) 12-16.5 x 0.5-0.55 cm, simple, terete, cane-like. **Leaves** 3-4, aggregate towards upper part of stems, unequal second leaf largest, progressively smaller, sub-coriaceous, medium green; tubular sheath 1.0-4.5 x 0.65-0.8 cm, minutely striated, green; blade 6.6-11.0 x 1.5-2.2 cm, oblong-elliptic, obtuse to acute, margin entire. **Spathes** lacking. **Inflorescence** 8.0-12.3 cm long, apical, from mature stem, flowering only once, racemose, arching-nutant, few-flowered and congested; peduncle 1.5-4.3 x 0.75 cm, laterally compressed progressively widened towards apex, without bracts. **Floral bracts** 5.0-7.5 mm long, prominent, basal ones as long as ovary, triangular, acute, embracing. **Flowers** 8-12, simultaneous, resupinate, entirely bright green, tepals sometimes dorsally with a touch of yellow, or dorsal apex of lateral sepals tinged purple; fragrance not registered. **Ovary** 6 x 3.4 mm, conical, terete, thick, furrowed. **Sepals** partly spreading, free, glabrous, fleshy, elliptic, 5-veined (pair of outer veins short-branched) margins entire, spreading; dorsal sepal 13.0-16.2 x 8.0-9.2 mm, apex acute; lateral sepals 15.0-19.3 x 7.5-10.3 mm, acute, short aristate, oblique, with a conspicuous dorsal keel its margin denticulate towards apex, margin entire. **Petals** 10.3-12.0 x 3.0 mm, partly spreading, free, fleshy, narrowly obtusely, apex rounded, 1-veined, vein short-branched throughout, margin entire, spreading. **Lip** 9.0-11.0 x 10.6-13.3 mm, united to column, fleshy, entire, orbicular to transversely elliptic, base cordate, apex mucronate, margin entire, sides revolute; bicallose, calli 2 x 1.2 mm, low, rounded, small, slightly divergent. **Column** 11.5-13.3 mm long, straight, thick, apex truncate. **Clinandrium-hood** reduced, margin entire. **Anther** sub-spherical to reniform, 4-celled, with a low rib in front. **Pollinia** 4, slightly obovoid; caudicles soft and granulate, as long as pollinia. **Rostrum** apical, slit. **Lateral lobes of stigma** 1/2 length of stigmatic cavity. **Nectary** cucullate, penetrating half short ovary, not inflated, unornamented. **Capsule** not seen.

OTHER SPECIMENS: PERU: Cusco: La Convención: Santa Teresa: Sacarsa sector Yanatile, Tambopata-Chaupimayo, 2916-3183 m, 10 IV 2022, Villafuerte 779, CUZ. (digital images AMO!) *Ibid.*, Villafuerte 783, CUZ. (digital images AMO!)

OTHER RECORDS: PERU: Amazonas: Chachapoyas: Chachapoyas-Leimebamba, 2750 m, rec'd 13 II 2015, *Salas s.n.*, Digital images, AMO! **Apurímac:** N. de Abancay, casi frontera con Cusco, *Collantes s.n.*, Digital image, AMO! **Cusco:** Cuenca Río Apurímac, Zona monumental del Parque Arqueológico de Choquequirao, margen derecha de la Cuenca del río Apurímac, 2900-3100 m, *René Farfán s.n.*, Digital images, AMO! La Convención, Vilcabamba, 3400 m, 21 I 2021, *Olazábal s.n.*, digital images, AMO! La Convención: P.N. Machu Picchu, 7 III 2011, *Ramírez s.n.*, digital image, AMO! **Huancavelica:** Tayacaja: Distr. Huachocolpa: inmediaciones de Huachocolpa, 30 XII 2004, *Collantes s.n.*, (Collantes 2014: 138) *Ibid.* 1 I 2005, *Collantes 1050*, digital image AMO! **Pasco:** Oxapampa, 25 VI 2021, *Zúñiga s.n.*, digital image, AMO! **San Martín:** Rioja: Pardo Miguel, Chisquilla, sector 7 lagunas, 3330 m, 28 I 2018, *Edquén 2127*, digital images, AMO! (LCDP voucher).

DISTRIBUTION AND ECOLOGY: Presently known from southern and northern Peru, epiphytic at 3330-3400 m elevation. Flowering in January and May.

RECOGNITION: *Epidendrum anchihuayense* 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 green to violet-green to black flowers with short ovaries, the lip entire to 3-lobed. The new species is recognized by the entirely bright green flowers with the lip orbicular to transversely elliptic, base cordate, bicallose, the lateral sepals 15.0-19.3 x 7.5-10.3 mm, acute, short aristate, oblique, with a conspicuous dorsal keel, margin entire, the petals 10.2-12.0 x 3.0 mm, shorter narrowly obtusely, rounded. *Epidendrum nephroglossum* has fleshy, yellow flowers sometimes tinged greenish at the base, the lateral sepals 16.5 x 9.3 mm, elliptic, obtuse, the reniform lip, cordate at the base, the apex shallowly emarginate (not visible unless the lip is extended), somewhat longer than wide, with a pair of fleshy, curved ridges at the base, and a low rib running at the bottom of the cucullum. *Epidendrum actinoglossum* Hágsater & E.Santiago has green flowers, the membranaceous lip is salmon yellow and the column tinged with purple towards the apex, the floral bracts are small, much shorter than the ovary, the lip reniform, the apex rounded, and the disc has radiating, thickened veins.

ETYMOLOGY: In reference to the District of Anchiuay, in the Province of La Mar, Department of Ayacucho, in the basin of the Apurímac River which is the border between the Ayacucho and Cusco regions, and an affluent of the Ucayali River through the Ene and Tambo rivers.

LOCAL NAME AND USE: Collantes (Personal comm., 2022) indicates that the local name in Quechua is “kh'uchi kh'uchi” which translates to “chancho-chancho” in Spanish (Peru), (pork-pork) due to the fleshy succulent flowers. He has seen it decorating a ladies' hat in Huachocolpa and among flowers at a banquet in Chihuana, Huancavelica.

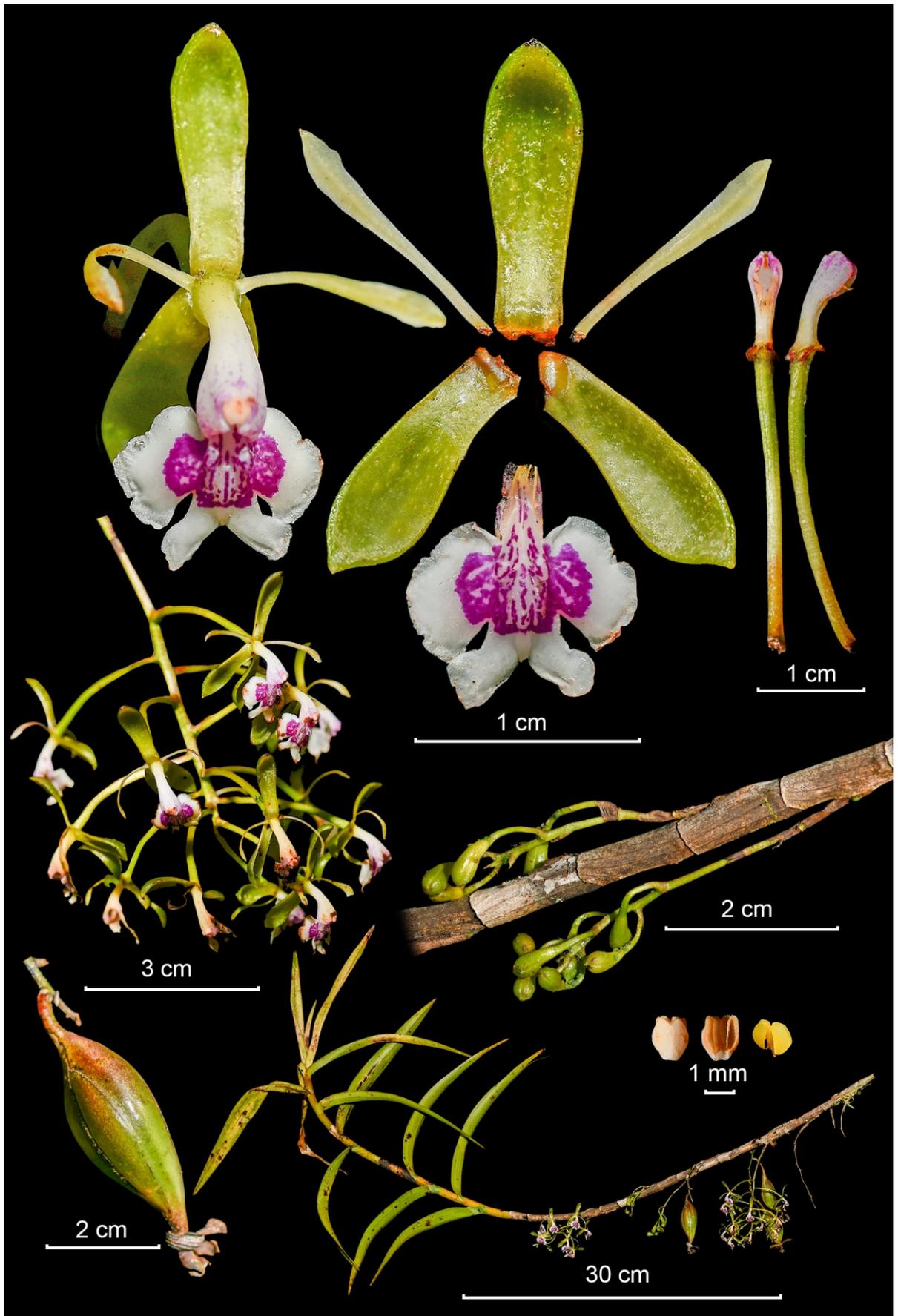
CONSERVATION STATUS: NT Not Threatened. The species is widespread and apparently common with a known range of 1600 km, from San Martín in the north to Cusco in the south, and especially on the upper eastern slope of the Andes and along the Apurímac River. At least seven localities are known.

ACKNOWLEDGMENT: The type was collected under permit N° 0095-2015-SERFOR-DGGSPFFS.

REFERENCES: Collantes M., B., 2014, **Huancavelica: Amaru, paraíso de orquídeas**, Gobierno Regional de Huancavelica, 338 pp. Hágsater, E., & E. Santiago, 2013, *Epidendrum actinoglossum* in E. Hágsater & L. Sánchez S. (Eds.), *The Genus Epidendrum*, Part 10, **Icon. Orchid.** 14: pl. 1401. Hágsater, E., & E. Santiago, 2013, *Epidendrum nephroglossum* in E. Hágsater & L. Sánchez S. (Eds.), *The Genus Epidendrum*, Part 10, **Icon. Orchid.** 14: pl. 1461. Schweinfurth, C., 1945, Notes on Tropical American Orchids II, **Bot. Mus. Leafl.** 11(8): 217-248. Schweinfurth, C., 1953, Novelty in the Orchid Flora of the Guayana Highlands II. **Bot. Mus. Leafl.** 20 (1): 1-24. Schweinfurth, C., 1959, Orchids of Peru, in **Fieldiana: Bot.** 30(2): 261-531. Schweinfurth, C., 1970, First Supplement of the Orchids of Peru, **Fieldiana: Bot.** 33: 1-80.



Empty



EPIDENDRUM BAMBUSITRICOLOR Collantes & Hågsater

Plate 1905

EPIDENDRUM BAMBUSITRICOLOR Collantes & Hągsater, *Icon. Orchid.* 13: pl. 1306. 2010.

Type: Peru: Huancavelica: Prov. Tayacaja; Distr. Huachocolpa: Chihuana, cloud forest, 2500-2600 m, January 2008 **Benjamín Collantes M. & Teodorico Espinal 63**. Holotype: USM! Digital image of live inflorescence, AMO! (Photo voucher).

Terrestrial, sympodial, caespitose, tall, erect **herb** to 3.5 m tall. **Roots** basal, thick. **Stems** 1.6 cm long, simple, cane-like, erect, straight, thick. **Leaves** numerous, distributed throughout stem, articulate, distichous, sub-coriaceous; sheaths 2.2-6.0 x 0.8-1.6 cm tubular; blade 16-40 x 1.6-3.7 cm, narrowly lanceolate, acuminate, margin entire. **Inflorescences** 9.5-17 cm long, lateral, produced from base of leaf-sheath from mature stem opposite the leaf, racemose, erect-arching, long; peduncle ca. 6-7.5 cm long, nearly totally covered by 4-5 tubular, acute bracts. **Floral bracts** 3-10 mm long, shorter than ovary, linear-triangular, acuminate, amplexicaul. **Flowers** 10-25 per raceme, opening in succession but all open at one stage, resupinate, sepals and petals and base of column green, apex of column and lip white, apex of column, calli and disc of lip spotted purple, splotch on disc darker and nearly solid; without fragrance. **Ovary** 15-25 mm long, thin, not inflated, minute and scarcely papillose. **Sepals** 12.5-13.0 x 4.0-4.5 mm; free, spreading, fleshy, oblanceolate, sub-obtuse, concave in apical half, dorsally minutely papillose, with a dorsal low keel, margin entire, spreading, lateral sepals minutely apiculate. **Petals** 13 x 1.7-2.9 mm, free, spreading, linear near base then oblanceolate, apex obtuse-rounded, 1-veined, margin entire, spreading. **Lip** 7-12 x 9-10 mm, united to column, 3-lobed, base cordate, margin entire, spreading, flat; bicallose, calli prominent, widely club-shaped, somewhat laterally compressed, parallel; disc thickened with parallel keels, lateral pair short and low, mid-rib prominent, elongate to apical sinus; lateral lobes ca. 3.0-3.5 x 5-6 mm dolabriform, spreading; mid-lobe 4.0-4.5 x 5-6 mm, bifurcate, forming a pair of slightly divaricate, oblong lobes, apex rounded. **Column** 8-10 mm long, slightly arching along basal half, thin, dilated towards apex. **Rostellum** apical, slit. **Clinandrium-hood** reduced, margin entire. **Anther** ellipsoid, with a keel in front, 4-celled. **Pollinia** 4, in two pairs, unequal, outer one smaller, curved, semi-ovoid, convex-flat; caudicles filiform. **Nectary** penetrating as far as base of dorsal sepals, narrow, smooth. **Capsule** 6.5 x 1.7 cm; ellipsoid; pedicel 1.0 cm long; body 4 x 1.7 cm; apical neck 1.5 cm long.

OTHER SPECIMENS: PERU: Junín: Prov. Chanchamayo, Chilpez, ca. 26 km S of San Ramón, 1650-1700 m, 19 X 1982, *Smith 2657*, MO! NY! USM! (Illustration, AMO!) **Pasco:** Dist. Oxapampa. Abra Villa Rica, 2000 m, 26 VIII 2005, *Rojas 3862*, MO!

OTHER RECORDS: PERU: Huancavelica: Prov. Tayacaja; Distr. Huachocolpa: Chihuana, cloud forest, 2500-2600 m, I 2008 *Collantes 63*, plant cultivated in "Jardín Turístico de Orquídeas de Chihuana" by Teodorico Espinal. (Collantes, 2014). **Pasco:** Oxapampa, Villarica, 1838 m, 29 IV 2021, *Edquén 5017*, digital images, AMO! (LCDP voucher)

DISTRIBUTION AND ECOLOGY: Known only from central Peru, on the upper basin of the Apurimac River, at 16500-2600 m elevation, terrestrial in cloud forest. Flowering August, October, January to April.

RECOGNITION: *Epidendrum bambusitricolor* belongs to the Bambusiforme Group, which is characterized by the caespitose habit, tall, bamboo-like canes with numerous long, acuminate leaves, and the numerous lateral racemose inflorescences. The species is recognized by the leafy, bamboo-like stems, the lateral inflorescences with showy, deep green and white flowers marked with purple, the sepals spreading, the lip 3-lobed, flat, with the mid-lobe bifurcate into a pair of divergent, oblong lobes. It is vegetatively reminiscent of *E. bambusiforme* Kraenzl. at first glance, but that species has greenish brown sepals and petals with the column and the lip white, often spotted with light brown dots and the mid-lobe of the lip is triangular and does not form narrow oblong lobes. *Epidendrum megalobambusiforme* Hągsater & M.Villafuerte has similarly colored flowers but the dorsal sepal is strongly reflexed, the lip strongly convex, and the ovary longer, 40-42 mm long, curved upwards. The flowers at first sight recall the coloring and shape of *Epidendrum atroscriptum* Hągsater of the Pseudepidendrum Group, Paniculatum Subgroup, but that subgroup has filiform petals and the lateral inflorescence is only present in *Epidendrum pseudopaniculatum* Dodson.

ETYMOLOGY: In reference to the superficial similarity of the species to *Epidendrum bambusiforme*, and the 3-colored flowers, green, white and purple which easily distinguish this species.

REFERENCES: Bennett, D.E., & E. Christenson, 1995, *Epidendrum bambusiforme*, *Icon. Orchid. Peruvianum* pl. 240. Collantes M., B., 2014, *Huancavelica, Amaru, Paraíso de Orquídeas*, 338 pp. Gobierno Regional de Huancavelica. Hągsater, E., 1993, *Epidendrum atroscriptum*, in E. Hągsater & G.A. Salazar (eds.), *Icon. Orchid.* 2: pl. 109. Hągsater, E., & M. Villafuerte, 2013, *Epidendrum megalobambusiforme* in E. Hągsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part. 10, *Icon. Orchid.* 14: pl. 1456. Santiago, E., & E. Hągsater, 2010, *Epidendrum pseudopaniculatum* in E. Hągsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part. 9, *Icon. Orchid.* 13: pl. 1379.

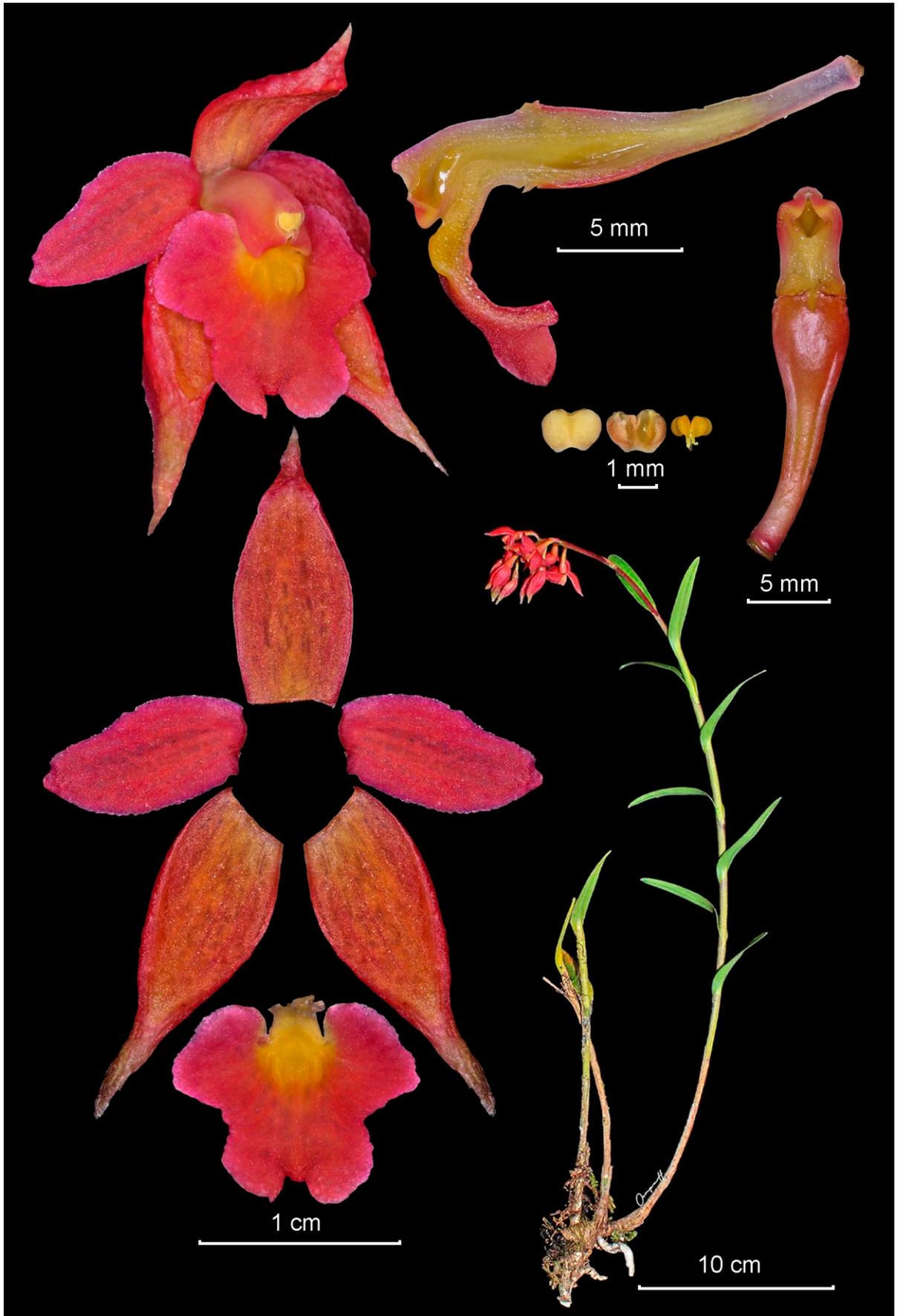


Authors: E. Santiago, E. Hągsater & J. D. Edquén O.

LCDP: J. D. Edquén O. & A. Cisneros

Photo: B. Collantes

Editors: E. Hągsater & E. Santiago



EPIDENDRUM BARRONEGRENSE Ocupa & Hågsäter

Plate 1906

EPIDENDRUM BARRONEGRENSE Ocupe et Hágsater, sp. nov.

Type: Amazonas: Prov. Chachapoyas: Distr. Leimebamba: Abra Barro Negro, carretera de Celendín hacia Leimebamba, Cordillera Calla Calla, 3424 m, 5 octubre 2020, **Luis Ocupe Horna 268**. HUT! (LCDP and photo voucher).

Similar to *Epidendrum jalcaense* Chocce, Dalström, Hágsater & J.Arnaiz, the sepals of similar size and shape, but the petals smaller, 10.5 x 5 mm (vs. petals 15 x 10 mm), and the lip smaller, 10.2 x 12.4 mm (vs. lip 13.5 x 17 mm) sepals brown-red, petals pink-red and lip with bright yellow disc (vs. flowers bright orange).

Epiphytic, erect, sympodial, caespitose **herb**, 38 cm tall. **Roots** 3 mm in diameter, basal, fleshy, white, thick. **Stem** 31 x 0.3-0.4 cm, simple, cane-like, terete, thin, arched. **Leaves** up to 8, distributed along upper half of stem, alternate, articulate, sub-coriaceous, medium green; sheaths 2-4 x 0.3 cm, tubular, striated, smooth; blade 4-5 x 0.6-0.8 cm, narrowly elliptic, apex subacute, mucronate, margin entire, spreading. **Spathes** lacking. **Inflorescence** 9 cm long including flowers, apical, racemose, sub-erect, arching, densely flowered; peduncle short, 6 cm long, terete, thin, straight; rachis thin, terete, straight. **Floral bracts** 5 mm long, much shorter than ovary, triangular, embracing. **Ovary** 12.5 x 1.2-3.1 mm, terete, progressively thickened ventrally towards apex, sulcate, bright red. **Flowers** 9, opening in succession, resupinate, sepals brown-red dorsally, somewhat paler inside, petals and lip pink-red with disc yellow including 5 basal ribs; without fragrance. **Sepals** free, partly spreading, ovate, acuminate, fleshy, 5-veined, margin entire; dorsal sepal 14 x 6 mm, lateral sepals 17.6 x 6 mm, aristate, with a prominent dorsal keel, apical margins involute. **Petals** 10.5 x 5 mm, free, spreading, oblong-ovate, slightly sigmoid, recurved, apex rounded, 5-veined, margin minutely erose, spreading. **Lip** 10.2 x 12.4 mm, united to column, 3-lobed, base cordate, margin erose; ecallose, disc with 5-7 prominent, low, rounded ribs, 3 middle ribs parallel, with mid-rib thicker, lateral ribs shorter and radiating; lateral lobes 3.6 x 5.5 mm, transversely semi-elliptic, distal margin straight, mid-lobe 4.0-4.6 x 7.6 mm, bilobed, apex broadly emarginate and apiculate, forming a couple of obliquely semi-circular lobes. **Column** 5.4 mm long, stout, thick, arched, apex truncate; stigma ventral, concave, covered by a viscous substance. **Clinandrium-hood** short, margin entire, fleshy. **Anther** reniform, 4-celled. **Pollinarium** formed by 4 pollinia, obovoid, yellow-orange, laterally compressed; caudicles in two pairs; viscarium semi-liquid. **Rostellum** apical, slit. **Lateral lobes of stigma** very thin. **Nectary** penetrating less than 1/2 ovary, wide, smooth. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: This species is only known from the type from the Abra Barro Negro in the region of Amazonas. This is a high mountain pass located 16 km from Leimebamba, in northern Peru. The ecosystem, which ranges from 3200 to 3600 meters above sea level, is tropical montane rainforest, which is characterized by the presence of many shrubs and few trees; the climate is rainy and cloudy.

RECOGNITION: *Epidendrum barronegreense* belongs to the *Aristisepalum* group, which has a caespitose habit, simple stems, sub-coriaceous leaves, a racemose inflorescence without spathes, and the sepals aristate. The new species is recognized by the brown-red and pink-red flowers with the disc of the lip bright yellow, the sepals 14-17.6 mm long, the petals 10.5 x 5 mm, and the column 5.4 mm long. It is very similar to *Epidendrum jalcaense* which is to 56 cm tall with bright orange flowers, has petals larger, 15 x 10 mm, ovate, wider than the sepals, the lip mid-lobe emarginate forming a couple of semi-orbicular lobes, and the column 10 mm long, stout and thick. *Epidendrum vegae* Chocce & Hágsater is a short, lithophytic herb with upright leaves, has larger red to bright orange flowers with a thin column 7.5 mm long, 5-veined sepals and petals, the lip 3-lobed with 3 low parallel ribs, and a very small, semi-orbicular, entire, mid-lobe. *Epidendrum camilo-diazii* Hágsater & Chocce has tall stems (to 90 cm), the flowers red to bright orange flowers, the lip bilobed, emarginate with a single wide, low, fleshy rib, and straight, obovate, emarginate petals. *Epidendrum aristoloides* Hágsater & Dodson has pale pink flowers, the lip cream colored, prominently 4-lobed, the lobes all semi-orbicular, and 11-13.5 mm long sepals. *Epidendrum birostratum* C.Schweinf. has leaves up to 15 mm wide, flowers brownish maroon, the column light green, lateral lobes the lip light green, the mid-lobe light maroon, the mid-lobe tridentate at the apex with a prominent 2-lobed callus and one mid-rib. *Epidendrum aristisepalum* Hágsater & Dodson has cream-green to brownish orange flowers, the column and disc of the lip cream with 3 ribs and the apical lip lobe rounded, and the leaves 7-11 mm wide.

ETYMOLOGY: In reference to the Abra Barro Negro, near Leimebamba, region of Amazonas, Peru.

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

REFERENCES: Chocce, M., S. Dalström, E. Hágsater & J. Arnaiz, 2010, *Epidendrum jalcaense* (Orchidaceae), a new species from Northern Peru, *Lankesteriana* 9(3): 529-531. Chocce, M., & E. Hágsater, 2010, *Epidendrum vegae* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 9, *Icon. Orchid.* 13: pl. 1397. Hágsater E., & M. Chocce, 2010, *Epidendrum camilo-diazii* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 9, *Icon. Orchid.* 13: pl. 1308. Hágsater, E., & B. Collantes M., 2015, *Epidendrum birostratum*, in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 11, *Icon. Orchid.* 15(1): pl. 1504. Hágsater, E., & C.H. Dodson, 2001, *Epidendrum aristoloides* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 3, *Icon. Orchid.* 4: pl. 413. Hágsater, E., & C.H. Dodson, 2001, *Epidendrum aristisepalum* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 3, *Icon. Orchid.* 4: pl. 413.



Authors: L. Ocupe H. & E. Hágsater

LCDP: L. Ocupe H.

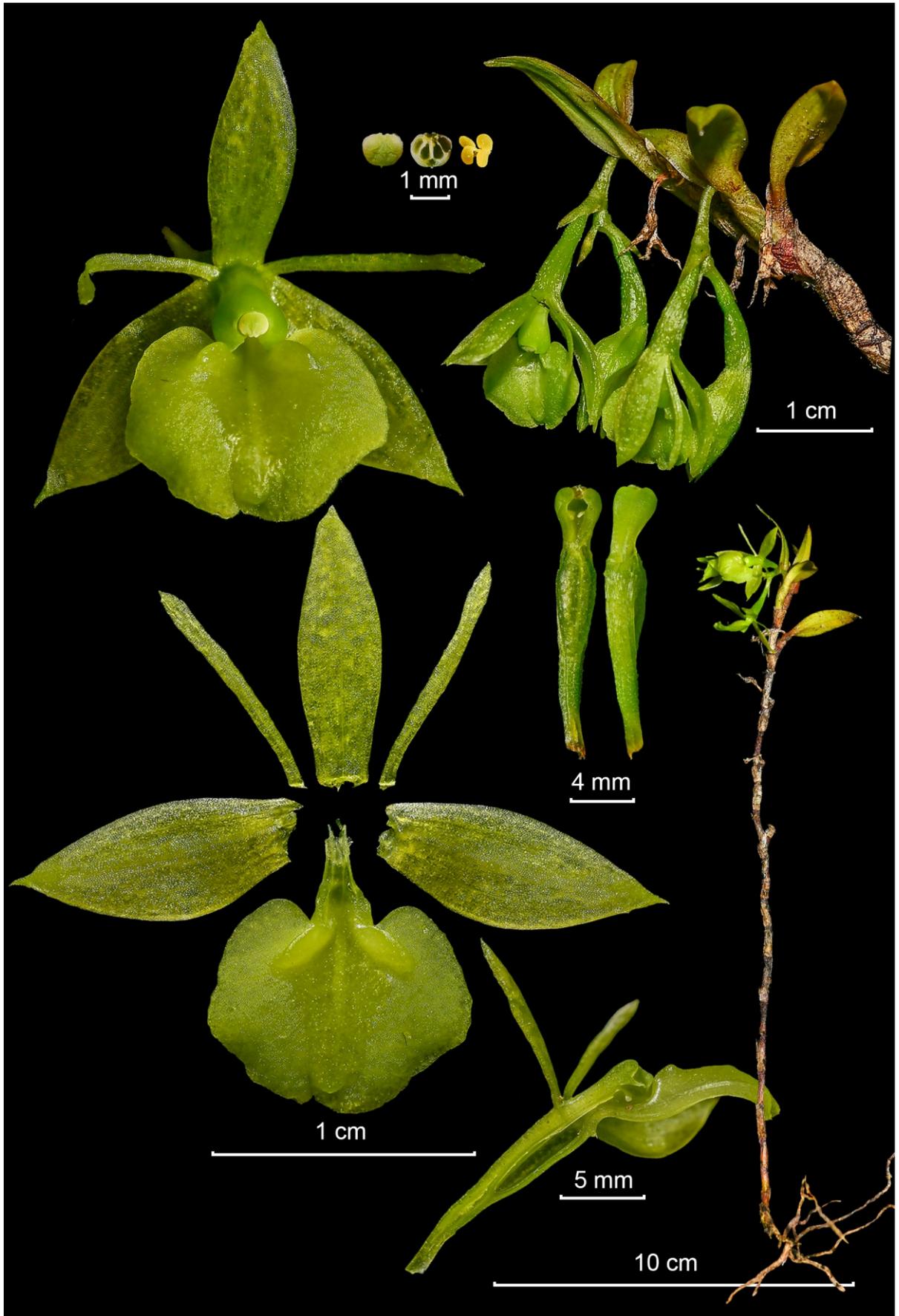
Photo: L. Ocupe H.

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 19(1). 2022. Plate 1906



EPIDENDRUM CARDENASII Hágsater

EPIDENDRUM CARDENASII Hágsater, *Icon. Orchid.* 3, pl. 320. 1999.

Type: BOLIVIA: Cochabamba: Ayopaya: Sailapata, 3500 m, November 1935, *Martín Cárdenas Hermosa 3301*. Holotype: AMES 46894! Isotype: AMO! (Illustration, AMO!)

Epiphytic, monopodial, branching **herb**, up to 30 cm tall. **Roots** 1.5-2.5 mm in diameter, basal from primary stem, fleshy thin, scarce. **Stems** cane-like, terete, erect, the primary stem 11.5 x 0.3 cm, the secondary stems 1.5-5.5 x 0.2-0.3 cm, produced from a subapical internode of the previous stem, short, scarcely branching; base of the stems with few sheaths, tubular, striated, non-foliar. **Leaves** ca. 10 on the primary stem, 1-5 on the branches, distributed throughout nearly the whole stems, similar in size and shape, coriaceous, medium green on both sides; foliar sheaths 3-12 mm long, tubular, minutely striated, rugose, infundibuliform, especially when dry; blade 1.6-5.1 x 0.3-0.7 cm, narrowly lanceolate, acute, aristate, margin entire, scarcely papillose at the apex, spreading. **Spathe** absent. **Inflorescence** 0.8-1.2 cm long, apical, racemose, arching-nutant, laxly few-flowered; peduncle 3.7-6 mm long, terete, thin, without bracts; rachis 5-6 mm long. **Floral bracts** 3-6 mm long, much shorter than the ovary, narrowly triangular, acuminate, embracing. **Ovary** 11-17 mm long, terete, basal half thin, apical half slightly inflated, forming a ventral, elongate vesicle, slightly papillose. **Flowers** 2-5, resupinate, simultaneous, green, turning yellow with age, concolor; fragrance reminiscent of lime, especially at night. **Sepals** free, spreading to partly spreading, narrowly elliptic, acute, minutely apiculate, 3-veined, the lateral veins branching and thus appearing 4-5-veined, margins entire, spreading; dorsal sepal 10.3-12 x 3-5 mm; lateral sepals 11.2-13 x 4.2-6 mm. **Petals** 9.5-12 x 1-1.5 mm, free, partly spreading, linear, acute, 1-veined, margin entire, spreading. **Lip** 8-10 x 10-12.5 mm, united to the column, slightly concave between the calli, entire, hexagonal in general outline, base cordate, apex truncate, emarginate resulting two small lobes 3.5 x 8 mm; bicallose, the calli prominent, laminar, strongly divaricate; disc with a mid-rib fleshy, wide, and elongate reaching the apical sinus. **Column** 4.5-5.3 mm long, straight, basal half thin. **Clinandrium-hood** short, margin entire. **Anther** reniform, 4-celled. **Pollinia** obovoid, laterally compressed, similar in size and shape; caudicles soft and granulose, shorter than the pollinia; viscarium semi-liquid, transparent. **Rostellum** apical, slit. **Lateral lobes of stigma** small. **Nectary** penetrating half the pedicellate ovary, slightly inflated behind the perianth and forming an elongate, narrow vesicle, unornamented. **Capsule** not seen.

OTHER SPECIMENS: BOLIVIA: Ayopaya, Sailapata, *Cárdenas 3290*, AMES x2! PERU: **Cusco:** Prov. Urubamba: a 88 km y 112 km de Cusco; Santuario Histórico de Machupicchu y Camino Inca, en Qorihuayrachina, Llulluchayoc, Ronkurakay, Phugupatamarca, Wiñayhuayna e Intipunco, 14 XII 1987, *Núñez 8320*, MO! USM! **Pasco:** Prov. Oxapampa; Distr. Huancabamba; Comunidad Campesina Santa Barbara (sector quebrada Cueva Blanca), 3420-3510 m, 16 VIII 2005, *Arias 464*, HOXA! MO! USM.

OTHER RECORDS: PERU: Without locality data, *Nauray s.n.*, digital image, AMO! *Ibid.* *Ramírez s.n.*, digital image, AMO! (Photo voucher). **Ayacucho:** Prov. La Mar, Chungui, 6 VI 2020, *Nadi s.n.*, digital photo, AMO! **Cusco:** without locality, *Galiano 325*, photo AMO! **San Martín:** Prov. Rioja, Distr. Pardo Miguel, Venceremos, 2103 m, 15 X 2021, *Edquén 5247*, digital images, AMO! (LCDP voucher).

DISTRIBUTION AND ECOLOGY: Known presently from Cochabamba, central Bolivia to San Martín, northern Peru. Epiphytic in wet montane forest, at 2100-3500 m elevation. Flowering from June to December.

RECOGNITION: *Epidendrum cardenasii* belongs to the Soratae Subgroup of the Scabrum Group which is characterized by the branching habit starting from a monopodial, primary stem, the leaf-sheaths infundibuliform, rugose, the leaves lanceolate, aristate, acute, the inflorescence racemose, sub-capitate on a short thin peduncle, and the lip bicallose. The species is recognized by the green flowers turning yellow, the sepals 10.3-13 mm long, elliptic with the margins spreading, widely mucronate, and the calli prominent and laminar with a lip mid-rib fleshy, wide, and reaching the apical sinus. *Epidendrum obliquum* Schltr., described from Bolivia, has smaller flowers, sepals 80-8.5 mm long, obovate with the margins revolute, petals 7.3 mm long, linear, the apex dilated and rounded, the lip reniform with the apex emarginate but not mucronate, and the calli globose and small, not divaricate.

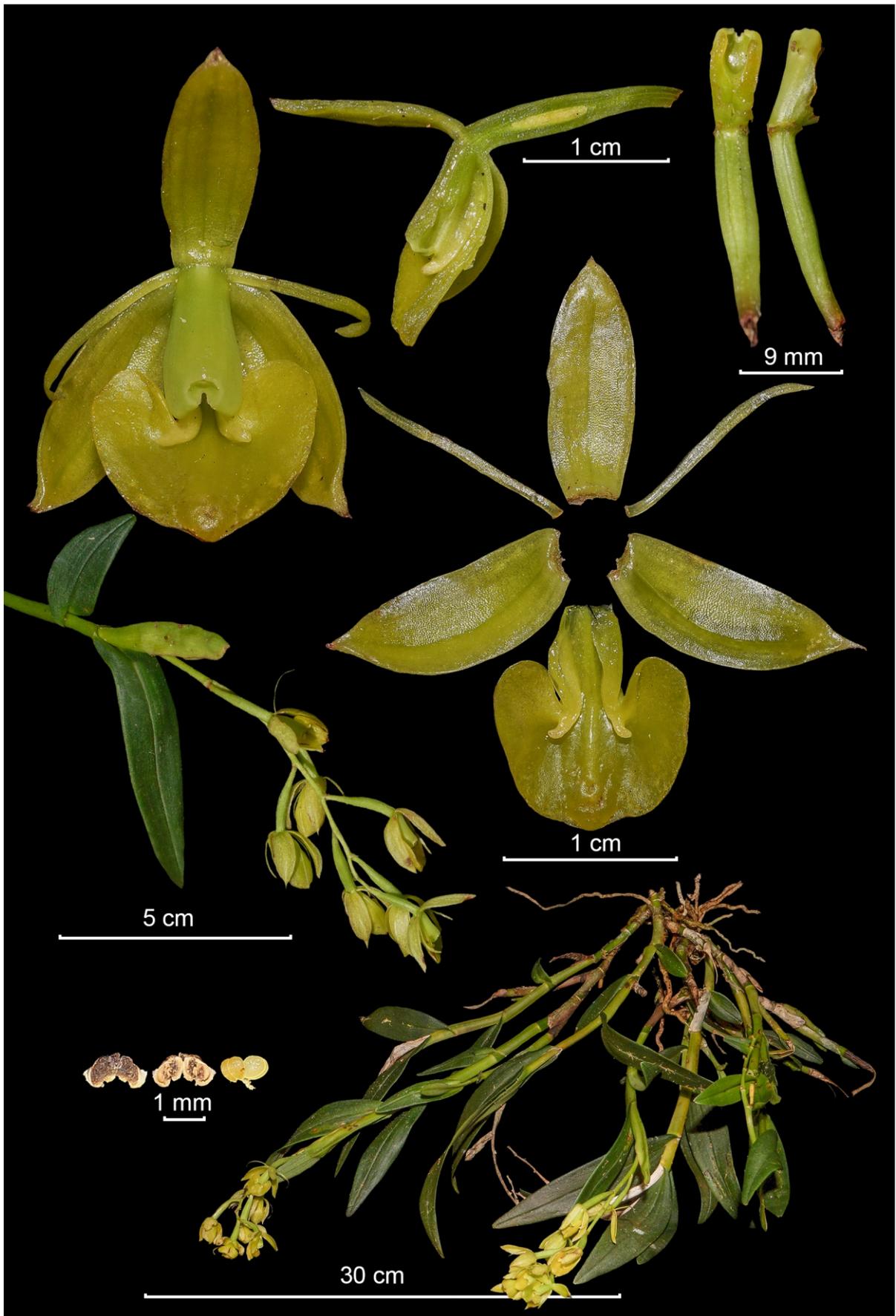
NOTE: The species was described originally from Bolivia and this report constitutes an addition to the Orchids of Peru. It was not included in the recent compilation published by Goicochea *et al.* (2019).

CONSERVATION STATUS: LC. Least Concern. The species ranges some 1740 km from Cochabamba to Rioja in San Martín, Peru, along the upper eastern slope of the Andes in wet montane forests, and thus is very widespread and though only five collection sites have been recorded it is certainly more common.

ETYMOLOGY: In honor of Martín Cárdenas, collector of Bolivian plants, especially from Cochabamba.

REFERENCES: Goicochea R., A., A.D. Gutiérrez R., A. Ruiz Ríos & M. Salas Guerrero, 2019, **Orquídeas del Perú: Relación de Especies y sus Sinónimos**, Corporación G y G E.I.R.L., Moyobamba, Perú. pp. 288. Hágsater, E., 1999, *Epidendrum cardenasii*, in E. Hágsater, L. Sánchez S. & J. García-Cruz (eds.) *The Genus Epidendrum*, Part 2, *Icon. Orchid.* 3: pl. 320. Santiago, E. & E. Hágsater, 2006, *Epidendrum obliquum*, in E. Hágsater & L. Sanchez S. (eds.) *The Genus Epidendrum*, Part 5, *Icon. Orchid.* 8: pl. 862.





EPIDENDRUM CHOCCHAWAICOENSE Hágsater & Edquén

Plate 1908

EPIDENDRUM CHOCCHAWAICOENSE Hágsater et Edquén, *sp. nov.*

Type: PERU: Amazonas: Provincia: Chachapoyas, Distrito: Granada, Comunidad campesina de Diosán, en el sector Chocchawaico y camino Bagazán. Bosque de relicto alto andino, creciendo sobre arbustos del género *Weinmannia*, 3186 m, 22 octubre 2018, *José Dilmer Edquén Oblitas 593*. Holotype: HURP! Digital images of pretype, AMO! (LCDP voucher).

Similar to *Epidendrum leimebambense* Hágsater but the plant sturdier, leaves coriaceous, 0.7-1.4 cm wide (vs. to 1.7 cm wide), flowers fleshy, yellow-green, immaculate (vs. flowers membranaceous yellow-green to green with pale purple spots).

Epiphytic, caespitose, sympodial, erect to sub-pendulous **herb**, 11-30 cm tall. **Roots** 2 mm in diameter, basal. **Stems** 8-13 x 0.4-0.6 cm, straight, somewhat laterally compressed; basal ¼ covered by sheaths 20 x 4 mm. **Leaves** 2-5, acute, coriaceous, distributed along apical ½-¾ of stem, progressively larger; sheaths 12-25 x 4-6 mm, tubular, striated; blade 2.8-12 x 0.7-1.4 cm, narrowly elliptic, apex narrowly obtuse. **Spathes** 1-2, 30-60 x 5-8 mm, sides slightly expanded towards obtuse or rounded apex. **Inflorescence** 12-13 cm long, racemose, few-flowered, arching nutant; peduncle 5 cm long, generally hidden within spathes; rachis 35-55 mm long. **Floral bracts** ca. 1 mm long, very small, triangular, obtuse, embracing. **Ovary** 13-19 mm long, not thickened by any nectary. **Flowers** 6-8, resupinate, yellow-green, immaculate, concolor, simultaneous. **Sepals** partly spreading, oblong, 5-veined, margin entire, spreading; dorsal sepal 14.0-14.5 x 5 mm, acute; lateral sepals 14-15 x 6 mm, apiculate with low dorsal keel near apex. **Petals** 12.3-13.0 x 0.8-0.9 mm, spreading, linear, acuminate, 1-veined, margin entire, spreading. **Lip** 10.0 x 11.5 mm, united to column, entire, widely cordiform, base deeply cordate, apex obtuse to widely rounded; bicallose, calli large, thin, divergent, arching outwards, with a low, wide, fleshy keel running whole length of lip. **Column** 8.5-9.0 mm, straight, forming vesicle with base of lip as far as insertion of perianth. **Clinandrium-hood** short, margin entire. **Rostellum** apical, slit. **Anther** reniform, 4-celled. **Nectary** prominent but short, formed by union of column and lip, wide, glabrous, shallow, without penetrating ovary, unornamented.

OTHER SPECIMENS: PERU: Amazonas: Prov. Chachapoyas, Distr. Granada, Comunidad campesina de Diosán, 3320 m, Páramo subalpino, parches arbóreos en bosque de neblina con abundantes musgos. 29 IV 2018, *Edquén 876*. HURP! Digital images of fresh material, AMO! (Photo voucher).

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Presently known from a single locality in northern Peru, on the eastern upper slope of the Andes, epiphytic at 3180-3320 m altitude in remnant high altitude Andean cloud forest on *Weinmannia*.

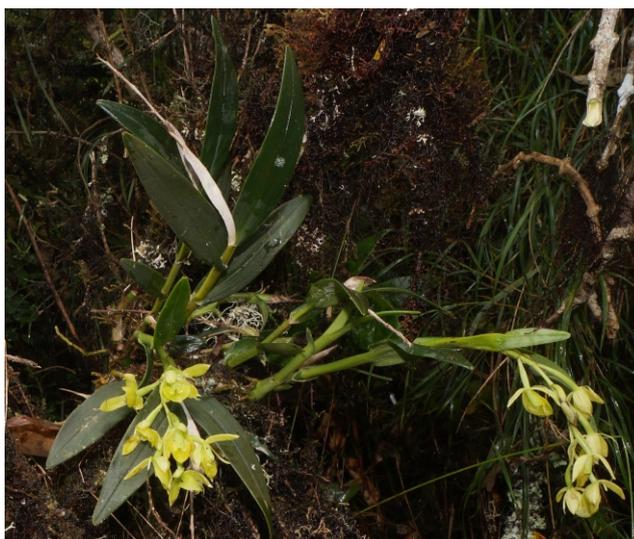
RECOGNITION: *Epidendrum chocchawaicoense* belongs to the *Ventricosum* group, characterized by the sympodial habit, few, narrow leaves, the racemose inflorescence subtended by 1-2 narrow, spathaceous bracts and the delicate, green to purple flowers with an inflated nectary on the underside of the column, and the lip laminar and more or less cordate. The new species is recognized by the more or less pendulous plants, the leaves 2.8-12 x 0.7-2.2 cm, the immaculate yellow-green flowers, the sepals 14-15 mm long, and the cordiform lip 10 x 11.5 mm, with large calli, divergent, arching outwards. *Epidendrum leimebambense* Hágsater, which grows south of Chachapoyas to southern Ecuador, is similar, but the flowers are larger, the sepals 14-16 mm long, the flowers yellow-green to green dotted with red-brown on inside of sepals, petals and both sides of lip, especially around the disc of the lip, lip cordiform, 8 x 11 mm, and the calli are smaller, and shorter. *Epidendrum diommum* Hágsater & Chocce has sub-caespitose habit, medium sized plants with terete stems, and magenta to wine-colored, non-translucent flowers with the calli bright white, the sepals 15 mm long, the lip 8 x 10 mm, and the leaves 3-11 x 0.7-1.3 cm.

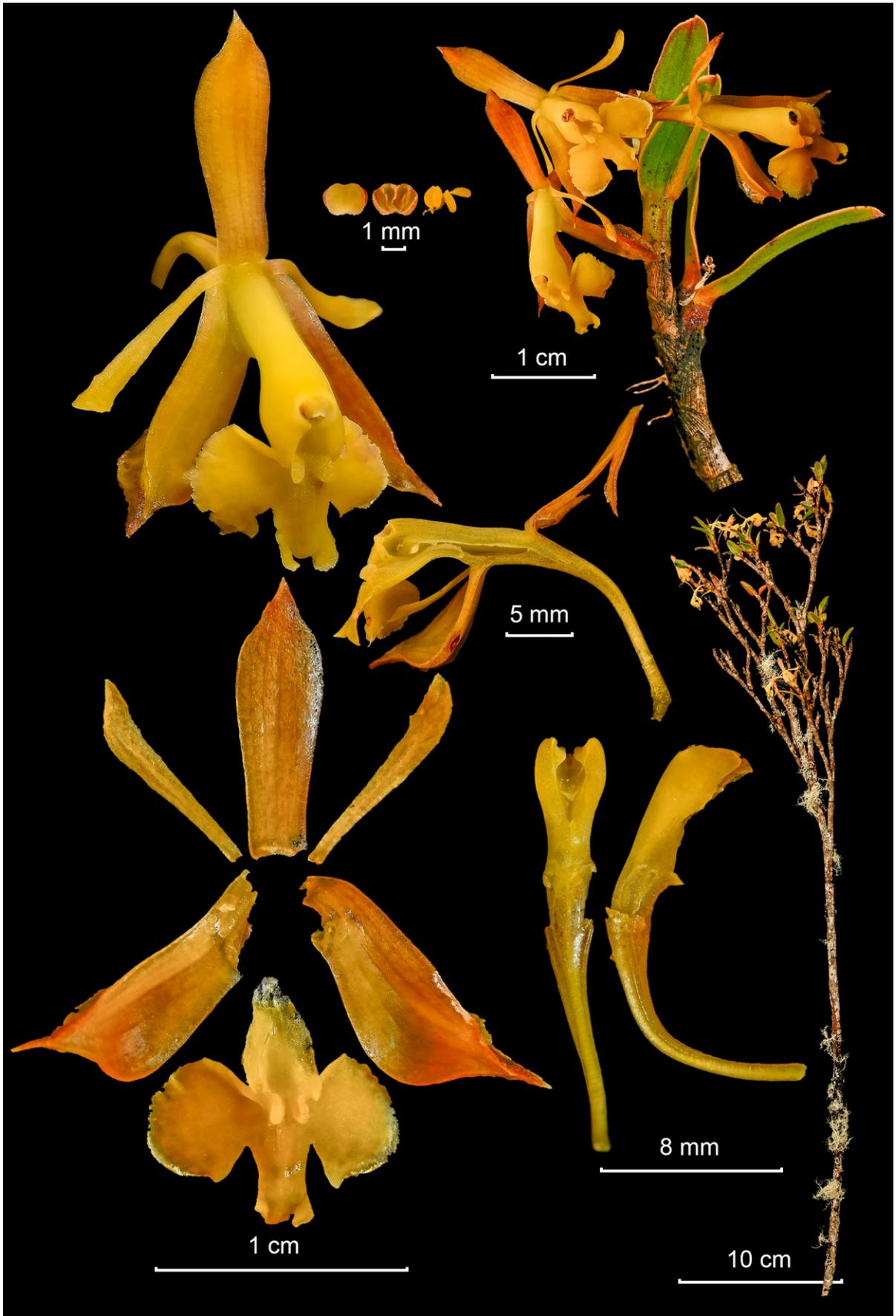
CONSERVATION STATUS: DD. Data deficient. Presently known from a single locality where 5 individuals were located.

ETYMOLOGY: From the Quichua language, *choccha*, a pot or sink where water disappears, and *waico*, a flat stone, thus a flat rock where water runs and falls into a sink. Deer come to that place for fresh water.

ACKNOWLEDGMENT: Type collected under permit RDG) N° 137-2018-SERFOR/DGGSPFFS; Código de Autorización N° AUT- IFL-2018-025

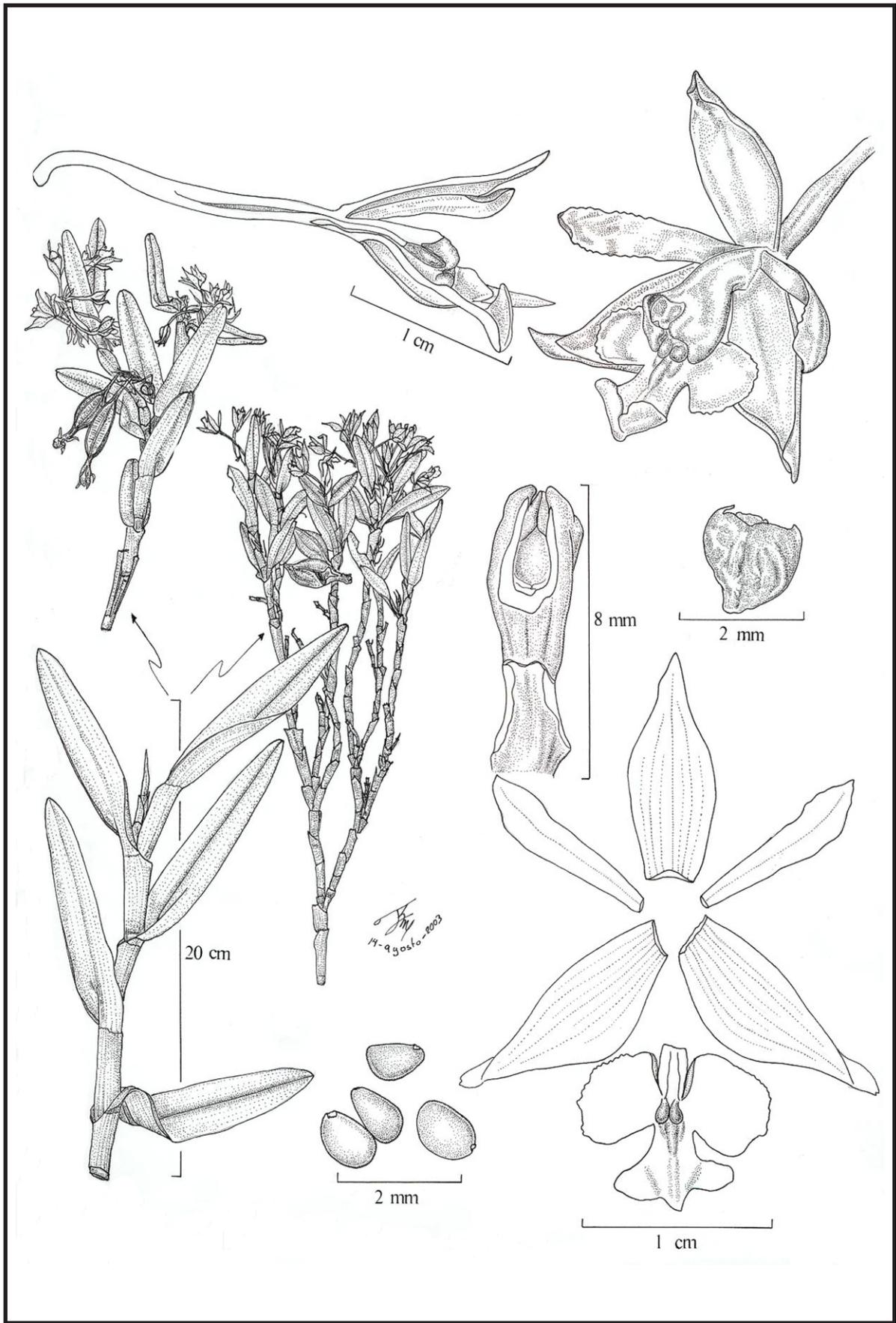
REFERENCES: Hágsater, E., 1993, *Epidendrum leimebambense* in E. Hágsater & G. A. Salazar (eds.) *The Genus Epidendrum*, Part 1, **Icon. Orchid.** 2: pl. 151. Hágsater, E., 2008 *Epidendrum ventricosum* in E. Hágsater & L. Sánchez S. (eds.) *The Genus Epidendrum*, Part 7, **Icon. Orchid.** 11: pl. 1194. Hágsater, E., & M. Chocce, 2009, *Epidendrum diommum* in E. Hágsater & L. Sánchez S. (eds.) *The Genus Epidendrum*, Part 8, **Icon. Orchid.** 12: pl. 1238.





EPIDENDRUM CHRYSOMYRISTICUM Hágsater & E.Santiago

Plate 1909a



EPIDENDRUM CHRYSOMYRISTICUM Hágsater & E.Santiago

Plate 1909b

EPIDENDRUM CHRYSOMYRISTICUM Hágsater & E.Santiago, *Icon. Orchid.* 7: pl. 723. 2004.

Type: PERU: Cusco: La Convención: near Camp 7, ca. 28 km walking distance NE from Hacienda Luisiana and the Apurimac River, 3400 m, 17 July 1968, **Theodore Robert Dudley 11213** Holotype: F 1728159! (Illustration voucher). Isotypes: MO 2151047! USM 166837!

Epiphytic or lithophytic, branching, erect **herb** to 180 cm tall. **Roots** 2.5-4.6 mm in diameter, basal, thick, fleshy. **Stems** profusely branched apically, erect, cane-like, terete, main stem 180 x 0.6-1.26 cm, somewhat flexuous, thick, secondary branches 4-6 x 0.2-0.27 cm, progressively thinner, each new stem produced from a subapical node of previous stem, sometimes branching 2-5 x 0.2-0.32 cm. **Leaves** ca. 50 on primary stem, distributed along apical half of stem, 2-4 on branches, distributed throughout; sheaths 4-22 mm de largo, infundibuliform, striated, rugose; blades of primary stem 2.8-11.5 x 1.0-2.2 cm; blades of secondary and tertiary stems 1.2-5.5 x 0.5-1.3 cm, lanceolate, to narrowly elliptic, sub-parallel, sub-acute, with a low dorsal keel, coriaceous, margin entire, those of main stem about twice as large as those of secondary stem, and up to six times larger than those of tertiary stems. **Inflorescence** 1.5-2.5 cm long, apical, racemose, flowering only once, arching-nutant; peduncle 3-4 mm long, terete, thin, short, without bracts; rachis 1.2-2 cm long. **Floral bracts** 5-11 mm de largo, about half as long as ovary, lanceolate, acuminate, apical bracts gradually shorter. **Flowers** 7, simultaneous, resupinate, bright golden yellow to slightly reddish, very fragrant. **Ovary** 7-20 mm long, terete, thin, smooth. **Sepals** 10-13 x 3.2-4.8 mm, partly spreading, obovate-elliptic, acuminate, 7-veined, margin entire, **lateral sepals** oblique, aristate, with a prominent dorsal keel. **Petals** 9-10 x 1.3-2.2 mm, partly spreading, free, linear-oblancoelate, acute, 1-veined, apical margin slightly irregular. **Lip** 6.4-8.4 x 8-10 mm; united to column, 3-lobed, base deeply cordate, lateral lobes larger than apical lobe; bicallose, calli small, globose; disco provided with three smooth keels, laterals shorter; lateral lobes 3.4-4.2 x 4-5 mm, forming a 45° angle with axis of mid-lobe, obliquely sub-rectangular, margin erose; mid-lobe 3.0-4.2 x 2.2-6.2 mm (when apex of mid-lobe spread), widely "T" shaped, with a cuneate isthmus and narrow perpendicular lobes, apex widely apiculate, margin entire. **Column** 8-9 mm de largo, straight, apex dilated, with prominent lateral rounded wings. **Clinandrium-hood** reduced, entire. **Rostellum** apical, slit. **Lateral lobes of stigma** small, about half length of stigmatic cavity. **Nectary** shallow, slightly penetrating ovary, narrow, smooth. **Anther** ovoid, 4-celled. **Pollinia** 4, obovoid, laterally compressed, unequal; caudicles soft and granulose, viscarium semi-liquid. **Capsule** not seen.

OTHER SPECIMENS: PERU: **Ayacucho:** La Mar: Between Tambo San Miguel and Ayna and Hacienda Luisiana, 3400-3600 m, 24 VIII 1968, *Dudley 12037* MO! **Cusco:** La Convención: Distr. Santa Teresa: Illaspay, Yerbabuenayoc, 3800 m, 24 IX 2005, *Huamantupa 7079*, MO! SEL! USM! Calca, Distr. Yanatile, 2800 m, 11 VI 2007, *Huamantupa 9916*, AMO!

OTHER RECORDS: PERU: **Ayacucho:** Prov. La Mar: Chungui, 6 VI 2020, *Nadi, s.n.*, digital photo, AMO! **Pasco:** Parte alta de Santa Marta, 3489 m, 30 IV 2021, *Edquén 5030*, digital photos, AMO! (LCDP & photo voucher).

DISTRIBUTION AND ECOLOGY: Endemic to Peru, presently known from the upper slopes of the Andes from Cusco through Ayacucho to Pasco, at 2800-3800 m elevation. Flowering from June to September

RECOGNITION: *Epidendrum chrysomyristicum* belongs to the Soratae Subgroup of the Scabrum Group which is characterized by the branching habit starting on a primary stem, infundibuliform, rugose leaf-sheaths, the leaves lanceolate, aristate, acute, the racemose subcapitate inflorescence on a short, thin peduncle, and the bicallose lip. The species can be recognized by the very tall, shrub-like habit, on a robust primary stem which has leaves considerably larger than those of the branches, the golden yellow to slightly reddish, very fragrant flowers, and the 3-lobed lip with a "T" shaped mid-lobe with a wide apicule, the sepals 10-13 x 3.2-4.8 mm, and lateral lobes forming a 45° angle with axis of mid-lobe. It resembles *Epidendrum fruticulosa* Schltr. which also has a deeply, 3-lobed lip, with the mid-lobe rectangular, twice as long as it is wide and bilobed at the apex, but narrow, and 8-9 mm long sepals and petals, the leaves of the branches are elliptic and rounded 5:1-2:1, proportionately different from those of the primary stem which are much longer, 10:1, and the lip forming a nearly 90° angle with respect to mid-lobe. *Epidendrum ypsilum* Hágsater & E.Santiago also has tall plants, to 185 cm tall, but the flowers are green-yellow dotted red, the lip is 3-lobed with radiating wine-red lines, and the sepals are 6.2-8 mm long.

*NOTE: When we published the new species *E. chrysomyristicum* we thought it was more widespread and included material from Bolivia, but after preparing an illustration of *Solomon 8344*, we have realized that it corresponds to *E. fruticulosa*, which is thus more widespread. Having had the opportunity to recently inspect the many specimens at HOXA, SEL, and USM corrections to those were also made. The range of distribution of *E. fruticulosa*, is much expanded and that of *E. chrysomyristicum* reduced.

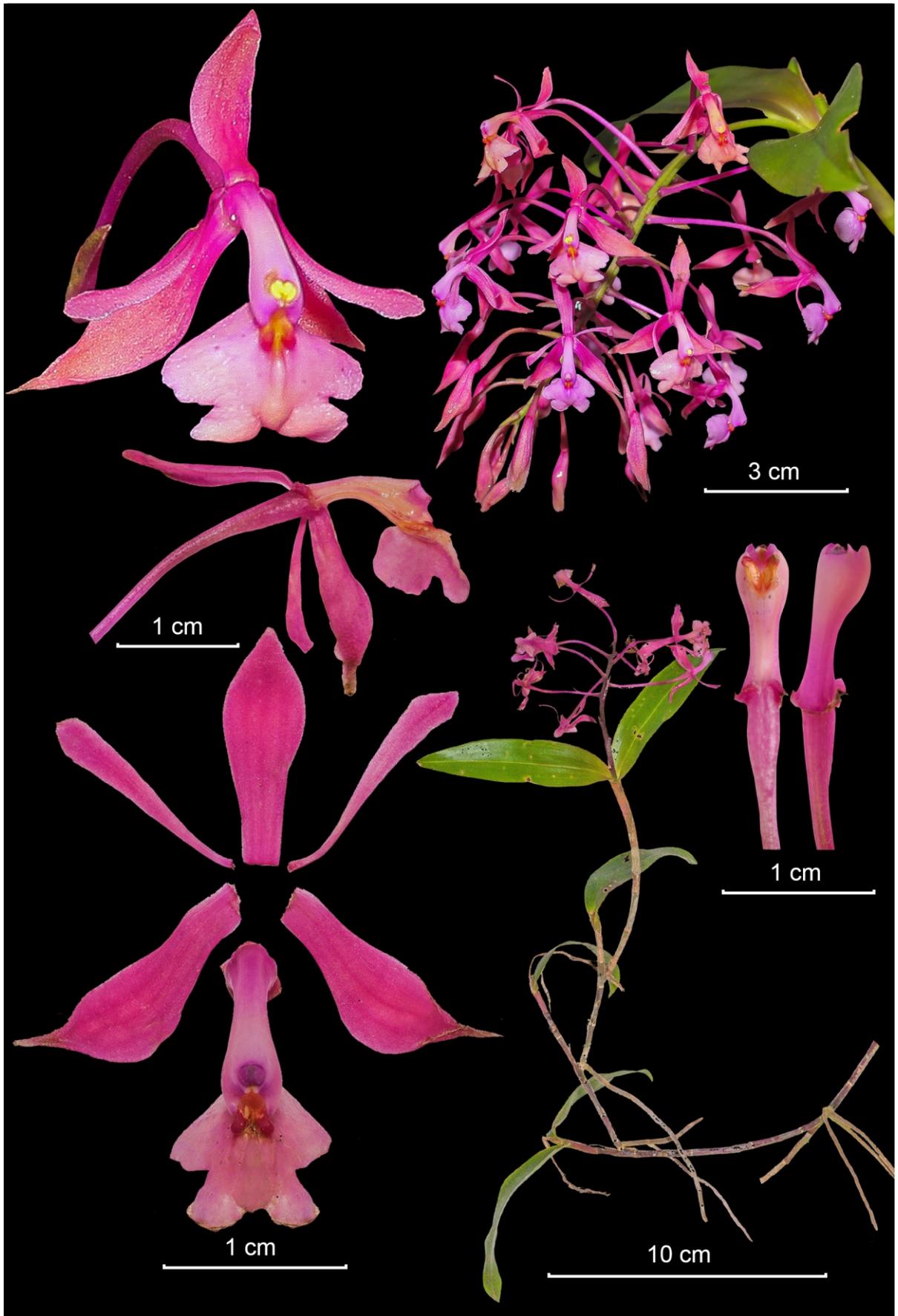
CONSERVATION STATUS: EN Endangered. The present known range is 450 km, with six known localities.

ETYMOLOGY: From the Greek - gold in compound words, and , fragrant, in reference to the bright yellow, fragrant flowers.

REFERENCES: Hágsater, E., & E. Santiago, 2006, *Epidendrum ypsilum* in E. Hágsater & L. Sánchez S. (eds.) *The Genus Epidendrum*, Part 5, *Icon. Orchid.* 8: pl. 900. Santiago, E., 2004, *Epidendrum chrysomyristicum*, in E. Hágsater & L. Sánchez S. (eds.) *The Genus Epidendrum*, Part 4, *Icon. Orchid.* 7: pl. 723. Santiago, E. & E. Hágsater, 2009, *Epidendrum fruticulosa*, in E. Hágsater & L. Sánchez S. (eds.) *The Genus Epidendrum*, Part 8, *Icon. Orchid.* 12: pl. 1248.



Empty



EPIDENDRUM CUCHUMATANENSE Grajeda, M.L.Maldonado & Hágsater

Plate 1910

EPIDENDRUM CUCHUMATANENSE Grajeda, M.L.Maldonado et Hågsater, sp. nov.

Type: GUATEMALA: Huehuetenango: Chiantla, Sierra de los Cuchumatanes, Finca San José y San Francisco las Flores, bosque Los Manzanales, 2620 m, 17 July 2021, **Rafael Grajeda-Estrada, Erick López, Rocío Silva & Jorge Velázquez 169**. Holotype: UVAL 22244! (pressed specimen and flowers in spirit). Isotype: AMO! (digital images of pretype, AMO! LCDP & photo voucher). Pretype: UVGO 1500! (UVG biological orchid collection where plant remains in cultivation).

Similar to *Epidendrum magnificum* Schltr. but the flowers successive, pink-red, with the column and lip pink and calli red to yellow (vs. flowers simultaneous, magenta overall, the disc of the lip white with the calli yellow), the floral bracts shorter, 6.8-11.7 mm long (vs. bracts 5-30 mm long), and the ovaries shorter, 28-38 mm long (vs. ovaries 18-53 mm long).

Epiphytic, sympodial, erect, climbing **herb**, 15-100 cm tall, new stem originates in a middle internode of previous stem. **Roots** 1.6-3.6 mm in diameter, basal in main and upper stems, white and fleshy. **Stems** 9.2-25 × 0.27-0.56 cm, cane-like, erect, terete, smooth, basal part covered by non-foliar sheaths. **Leaves** 2-4, aggregate towards apex of stems, distichous, articulate, sub-coriaceous, medium green, somewhat tinged red; sheaths 0.8-1.6 cm long, smooth; blade 6.4-15.1 × 2.1-4.6 cm, elliptic to lanceolate, acute, margin entire, spreading. **Spathe** lacking. **Inflorescence** 6.5-7.0 cm long, apical, racemose, arching-nutant, sub-cylindrical; peduncle 2.1-2.3 cm long, terete, with a small bract in middle. **Floral bracts** 6.8-11.7 × 0.6-1.2 mm, much shorter than ovary, triangular, acuminate, embracing. **Ovary** 28-38 mm long, terete, slightly inflated ventrally behind perianth, furrowed. **Flowers** 12-31, successive, first flowers wilted when last buds open, resupinate, pink-lilac, column and lip pale pink, with calli red to yellow. **Sepals** free, oblanceolate-elliptic, acute, 5-veined, margins entire, spreading; dorsal sepal 15.8-16.2 × 4.2-4.7 mm, reflexed, arching forward; lateral sepals 15.9-18.7 × 4.7-5.3 mm, spreading, oblique, concave distally, apex aristate with prominent dorsal keel, apical margin dentate. **Petals** 15.2-15.9 × 2.2-2.5 mm, spreading, arching forward, linear-oblanceolate apex rounded, 1-veined, margins entire, minutely erose towards apex. **Lip** 12.9-17.2 × 13.8-16.3 mm, united to column, convex, 3-lobed; lateral lobes 6.4-8.6 × 5-8 mm, dolabriform, transversely elliptic, margins somewhat erose; mid-lobe 3.0-3.1 × 4.2-4.8 mm, bilobed, emarginate, lobes strongly divergent, sub-quadrate, margins entire; bicallose, calli small, in front of column, sub-globose, slightly divergent; disc with prominent mid-rib, fleshy-thickened, reaching apical sinus. **Column** 10.7-11.8 × 1.7-3.4 mm, clavate, nearly straight, thin at basal half, widened vertically thereafter. **Clinandrium-hood** reduced, entire. **Anther** smooth without keel, 4-celled. **Pollinia** 4, obovoid, in two pairs, pale yellow. **Nectary** narrow, penetrating about one sixth of pedicellate ovary. **Capsule** not seen.

OTHER SPECIMENS: GUATEMALA: Huehuetenango: Chiantla: Sierra de los Cuchumatanes, Finca San José y San Francisco las Flores, aldea Buena Vista, bosque Los Manzanales, 2620 m, 18 VI 2018, *Grajeda-Estrada 94*, UVAL! (single pressed leaf and one flower). Cerro Huitz, between Mimanhuitz and Yulhuitz, Sierra de los Cuchumatanes, 1500-2600 m, 14 VII 1942, *Steyermark 48563*, AMES! F! Above San Juan Ixcoy, Sierra de los Cuchumatanes, 2400 m, 4 VIII 1942, *Steyermark 50024*, F!

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: The species is presently known from the region on the northern slopes of the Sierra de los Cuchumatanes, in a wet mixed forest at 2300-2850 m of elevation within the municipalities of San Pedro Soloma, San Juan Ixcoy and Chiantla. The type locality is in the community protected forest at Finca San José y San Francisco Las Flores, Chiantla, Huehuetenango. According to the Holdridge life zone system, this locality is a humid low montane tropical and very humid montane tropical forest. The tree species are predominantly *Pinus ayacahuite* C.Ehrenb. ex Schldl., oaks (*Quercus* spp.), *Prunus* sp., *Buddleja nitida* Benth., *Dendropanax arboreum* (L.) Decne. & Planch., and *Chiranthodendron pentadactylon* Larreat. It is found with other orchid species like *Rhynchosstele stellata* (Lindl.) Soto Arenas & Salazar, *R. bictoniensis* (Bateman) Soto Arenas & Salazar, *Maxillaria* sp., *Malaxis brachystachys* Rchb.f., *Corallophiza odonthorhiza* (Willd.) Poir, and *Calanthe calanthoides* (A.Rich. & Galeotti) Hamer & Garay. Epiphytic, flowering from June to August. The specimens from Bosque Los Manzanales were only observed at the same spot within the forest, with various young plants in nearby trees.

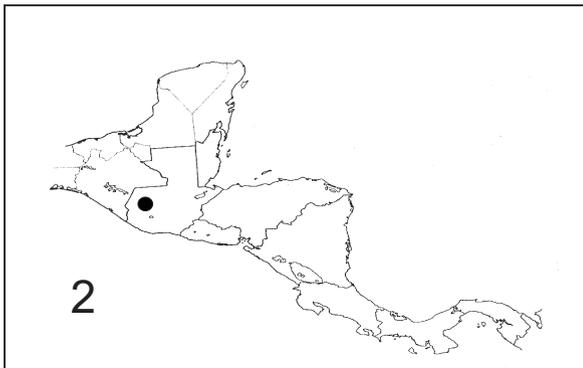
RECOGNITION: *Epidendrum cuchumatense* belongs to the Arbuscula Group, which is characterized by the successive lateral growths produced from the middle of the previous growth, the few leaves aggregate towards the apex of the stems, the apical inflorescence, arching-nutant, with brightly colored flowers with long ovaries, and the lip entire to 3-lobed. The new species is recognized by the successive flowers, though many may be open at one time, the pink colored column and lip with sepals pink-red and the calli red to yellow; and the ovaries 28-38 mm long. *Epidendrum fredmulleri* Hågsater from neighboring Chiapas, México, is recognized by the successive flowers, though many may be open at one time, with pink-lilac sepals and petals, the column, anther and lip lilac, with calli and base of lip ribs yellow, producing a yellow square at base of lip, and the fragrance of the flowers nocturnal and lasting till morning, sweet, floral, with citric note. *Epidendrum magnificum* from the Guerrero, Mexico, has overall larger size in habit, leaves to 20 cm long, with magenta to pink-lilac-colored flowers with the disc of the lip white and yellow calli, and the ovaries are 18-53 mm long. In the area of Huehuetenango, the sympatric *Epidendrum radioferens* Ames, F.T.Hubb. & C.Schweinf. is widespread and common but has wine-red flowers, the lip marked with yellow, and prominent radiating ribs on the lip. *Epidendrum polychromum* Hågsater has slightly smaller and purple-red flowers, with a column 2 mm shorter. *Epidendrum nicaraguense* Scheeren ex Hågsater also has simultaneous lilac flowers but with yellow calli, a white disc and the apex of the column darker lilac, and is found in Honduras, Nicaragua, El Salvador, and eastern Guatemala.

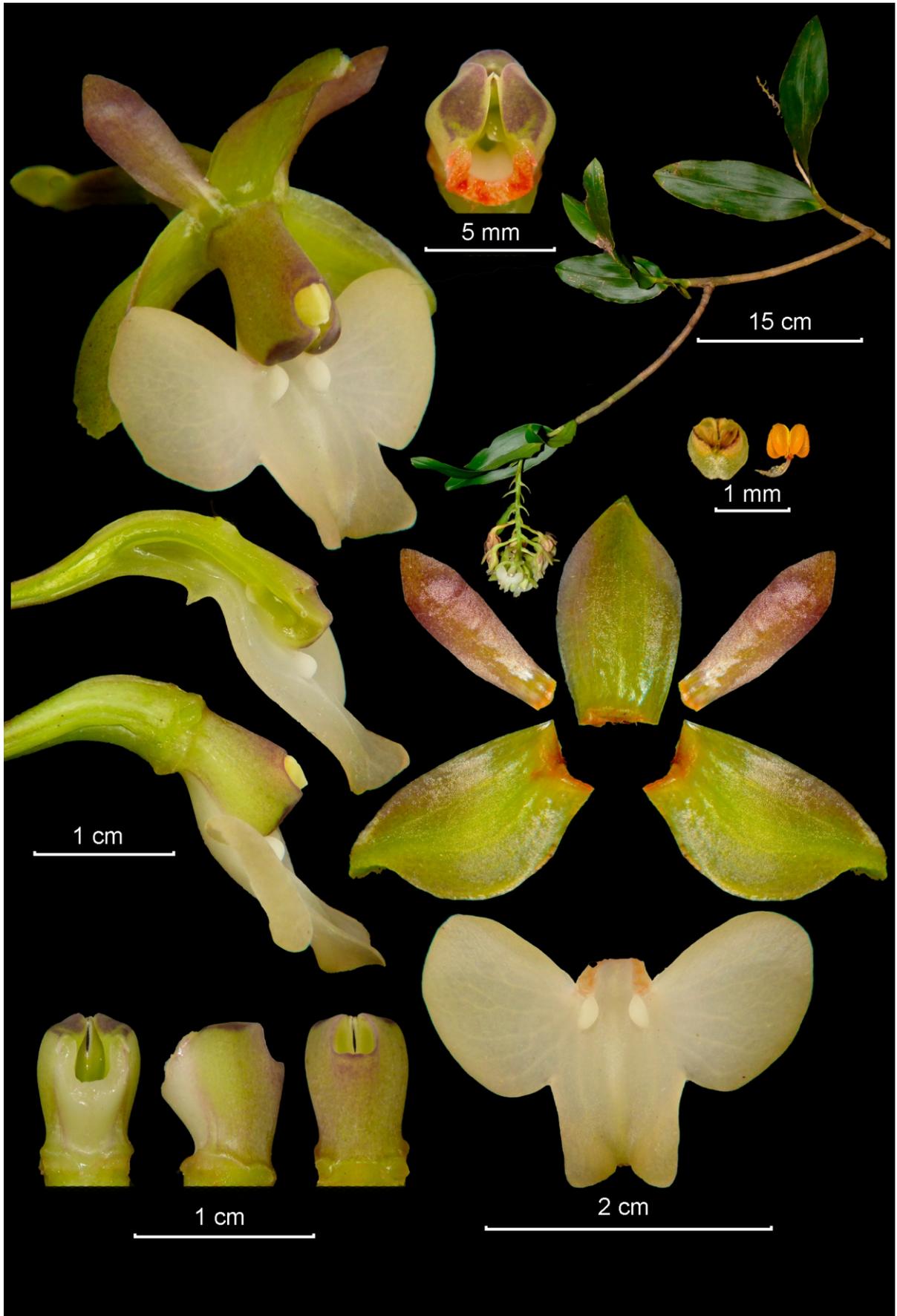
CONSERVATION STATUS: CE Critically Endangered. The species is presently known from three localities in northwestern Guatemala within a very limited range of 11 km between them, on the northern slopes of Sierra de los Cuchumatanes, Huehuetenango, in a remnant forest of a heavily fragmented landscape with agriculture, logging and grazing lands. The state of the forests where Steyermark collected the specimens in 1942 is unknown, we recommend more sampling in nearby forests to determine the size of the population.

ETYMOLOGY: In reference to the mountain range of Sierra de los Cuchumatanes in Huehuetenango, in northwestern Guatemala, the locality where the type was collected. The Sierra de los Cuchumatanes is the highest non-volcanic mountain range in Central America, at over 3,800 m of elevation. The name is derived from the Mam language "Cuchuj" united, and "Matán" with great force, thus "what was united with great force." Mam is a Mayan language spoken in northwestern Guatemala, and across the border into Mexico.

ACKNOWLEDGMENT: To the nine villages that protect this community forest, a few of the remaining mature forests in Sierra de los Cuchumatanes. To the organizations ICOZUNDEHUE and FUNDAECO help manage the site with sustainable development projects and low impact tourism. To Erick López, Rocío Silva and Jorge Velázquez for their help during the field trip, María Renée Álvarez for her support the registration process in the herbarium, and Zabdi López for caring the live plants in the UVG Botanical Garden.

REFERENCES: Cervantes, L., Hågsater, E., & M. Soto, 2002, *Epidendrum magnificum* in E. Hågsater & M. Soto (eds.), *Orchids of Mexico*, Part 2-3, *Icon. Orchid.* 5-6: pl. 575. GBIF.org (14 December 2021) **GBIF Occurrence Download** <https://doi.org/10.15468/dl.6h8vh6>. Hågsater, E., 1993, *Epidendrum nicaraguense*, in E. Hågsater & G.A. Salazar (eds.), *The Genus Epidendrum*, Part 1, *Icon. Orchid.* 2: pl. 162. Hågsater, E., 2022, *Epidendrum fredmulleri* in E. Hågsater & E. Santiago (Eds.), *The Genus Epidendrum*, Part 15, *Icon. Orchid.* 19(1): pl. 1912. Hågsater, E., & M. Soto, 2008, *Epidendrum radioferens*, in E. Hågsater & M. Soto (eds.), *Orchids of Mexico*, part 4, *Icon. Orchid.* 10: pl. 1023. IARNA-URL, 2018, *Ecosistemas de Guatemala basado en el sistema de clasificación de zonas de vida*. Universidad Rafael Landívar, Guatemala, 122 pp. Santiago, E. & E. Hågsater, 2010, *Epidendrum polychromum*, in E. Hågsater & L. Sánchez (eds.), *Icon. Orchid.* 13: pl. 1374.





EPIDENDRUM CUMANDAY Sierra-Ariza & Hågsater

EPIDENDRUM CUMANDAY Sierra-Ariza et Hågsater, sp. nov.

Type: COLOMBIA: Tolima: Murillo: Vda. Canaan, 2786 m, reserva forestal La Pradera, 19 julio 2021, **Mario Alexei Sierra-Ariza 289**. Holotype: JBB! (LCDP & photo voucher).

Similar to *Epidendrum boekei* Hågsater but with flowers green, the petals with a red-brown hue, column green, slightly tinged purple, especially at the apex, and the lip ivory white (vs. flowers pale green to yellowish green), ovaries longer, 18-25 mm long, (vs. ovaries shorter, 14-19 mm long), flowers larger, sepals 14-18 mm long (vs. sepals 12 mm long), lip similar in shape but larger, 19-21 x 25-27 mm (vs. lip 11-14 x 14-18 mm), and the column longer, 9-11 mm long, and thick (vs. column 7 mm long and thin).

Epiphytic, sympodial, **herb**, 90-130 cm tall, inclined to pendulous, each new stem originating from an intermediate internode of preceding stem. **Roots** 3-6 mm diameter, from base of plant and occasionally arising from lower stems, fleshy. **Stems** 10.5-25 x 0.9-1.4 cm, simple, cane-like, terete, slightly curved. **Leaves** 2-4, clustered towards apex of each stem; tubular sheaths up to 4 x 1 cm; blade 4-17 x 1.5-6.5 cm, oblong-elliptic, acute, entire margin, membranous, smooth, light green. **Spathes** lacking. **Inflorescence** 8-16 cm long, apical, arching nutant, racemose, acropetal, peduncle laterally compressed, arcuate. **Flowers** 14-20, successive, resupinate, basal flowers may die before the apical flowers reach anthesis, and fruits can occasionally be seen next to the young flowers; flowers green, petals with red-brown hue, green towards base, column green, slightly tinged purple especially at apex, and lip ivory white, when cut they rapidly present reddish oxidation, anther green, pollinia orange; fragrance not registered. **Floral bracts** 8-20 mm long shorter than ovary, lanceolate, acuminate. **Ovary** 18-25 mm long, conic, arched near apex, ventrally slightly inflated behind the perianth, furrowed. **Sepals** spreading, elliptic, acute, 5-veined, with conspicuous dorsal keels, glabrous, fleshy, margins entire, spreading; dorsal sepal 14-16 x 7-9 mm; lateral sepals 16-18 x 9-11 mm, oblique. **Petals** 14-16 x 4-6 mm, spreading to slightly reflexed, oblong-oblancoate, acute, 3-veined, margins entire, spreading. **Lip** 19-21 x 25-27 mm, united to column, deeply 3-lobed, base widely cordate, fleshy, entire margins; with two small laminar basal calli, laterally compressed, upright, semi-orbicular, disc with mid-rib, fleshy, reaching apical sinus; lateral lobes 12-14 x 9-13 mm, obliquely ovate somewhat reflexed in natural position; mid-lobe 7-9 x 8-10 mm, sub-quadrate, emarginate, forming two small somewhat involute lobes. **Column** 8-11 mm long, straight, short, thick, with truncate apex. **Clinandrium hood** reduced, margin entire. **Anther** ovoid, with blunt keel at front, papillose, 4-celled. **Pollinia** 4, obovoid, laterally compressed, outer pair slightly larger; caudicles soft and granulose, slightly longer than pollinia; viscarium semi-liquid, transparent. **Rostellum** apical, slit. **Nectary** deep, broad, penetrating 1/2 of ovary, smooth on inside. **Capsule** elliptic.

OTHER SPECIMENS: COLOMBIA: Tolima: Mun. Libano: 9 km de Murillo hacia Libano, 2320 m, 8 IV 1984, L. Albert de Escobar 4160, HUA!

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known from the eastern slope of the Central Cordillera of Colombia in the municipality of Murillo, Department of Tolima, as an epiphyte with a preference for trees of *Quercus humboldtii* Bonpl., (Colombian oak or Andean oak), at 2786 m elevation. Flowering in June-July.

CONSERVATION STATUS DD. Data deficient. Known presently from two collections at the foot of the Nevado de Ruiz in the Department of Tolima, on the eastern slope of the Cordillera Central, at 2320-2786 m elevation, and at a distance of some 17 km. This pretype plant was found in La Pradera forest reserve, a protected area.

RECOGNITION: *Epidendrum cumanday* 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 flowers green, petals with a red-brown hue, green towards base, column green, slightly tinged purple especially at apex, and lip ivory white, when cut they rapidly present reddish oxidation, the 14-18 mm long sepals, the deeply 3-lobed lip, the lateral lobes obliquely ovate, somewhat reflexed, the mid-lobe sub-quadrate and emarginate, about as wide as it is long. *Epidendrum boekei* Hågsater has the flowers pale green to yellowish-green, the ovary shorter, 14-19 mm long, the flowers smaller, sepals about 12 mm long, with petals narrowly lanceolate, a smaller lip, 11-14 x 14-18 mm, though similar in shape, and the shorter column, 7 mm long and thin. *Epidendrum homoion* Hågsater & Dodson has a shorter inflorescence (5-9 cm long), with green to olive green flowers, a lip with spreading semi-orbicular lateral lobes, somewhat oblique, with a sub-quadrate mid-lobe deeply emarginate, and the petals obtrullate, 6.0-6.5 mm wide near the apex.

ETYMOLOGY: The epithet *cumanday* is a noun in apposition; it is the name given by the Carrapa and Quimbaya pre-Hispanic peoples to the snow-capped Ruiz Volcano, which means White Mountain, that stands high above the locality where the type was collected.

ACKNOWLEDGMENTS: We thank the herbarium of the Botanical Garden of Bogotá (JBB) for allowing the accession of the type specimen to their herbarium collection. We also thank the forestry engineer Lina María Corrales and the students Juan Camilo Pavas and Miguel Caicedo for being part of the work team in the field trip where this species was discovered.

REFERENCES: Hågsater, E., & C.H. Dodson, 1993, *Epidendrum homoion* in E. Hågsater & G.A. Salazar (eds.) The genus *Epidendrum*, Part 1, *Icon. Orchid.* 2: pl. 145. Hågsater, E., 2009, *Epidendrum boekei* in E. Hågsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 8, *Icon. Orchid.* 12: pl. 1210.



Authors: M. A. Sierra-Ariza & E. Hågsater

LCDP: M. A. Sierra-Ariza

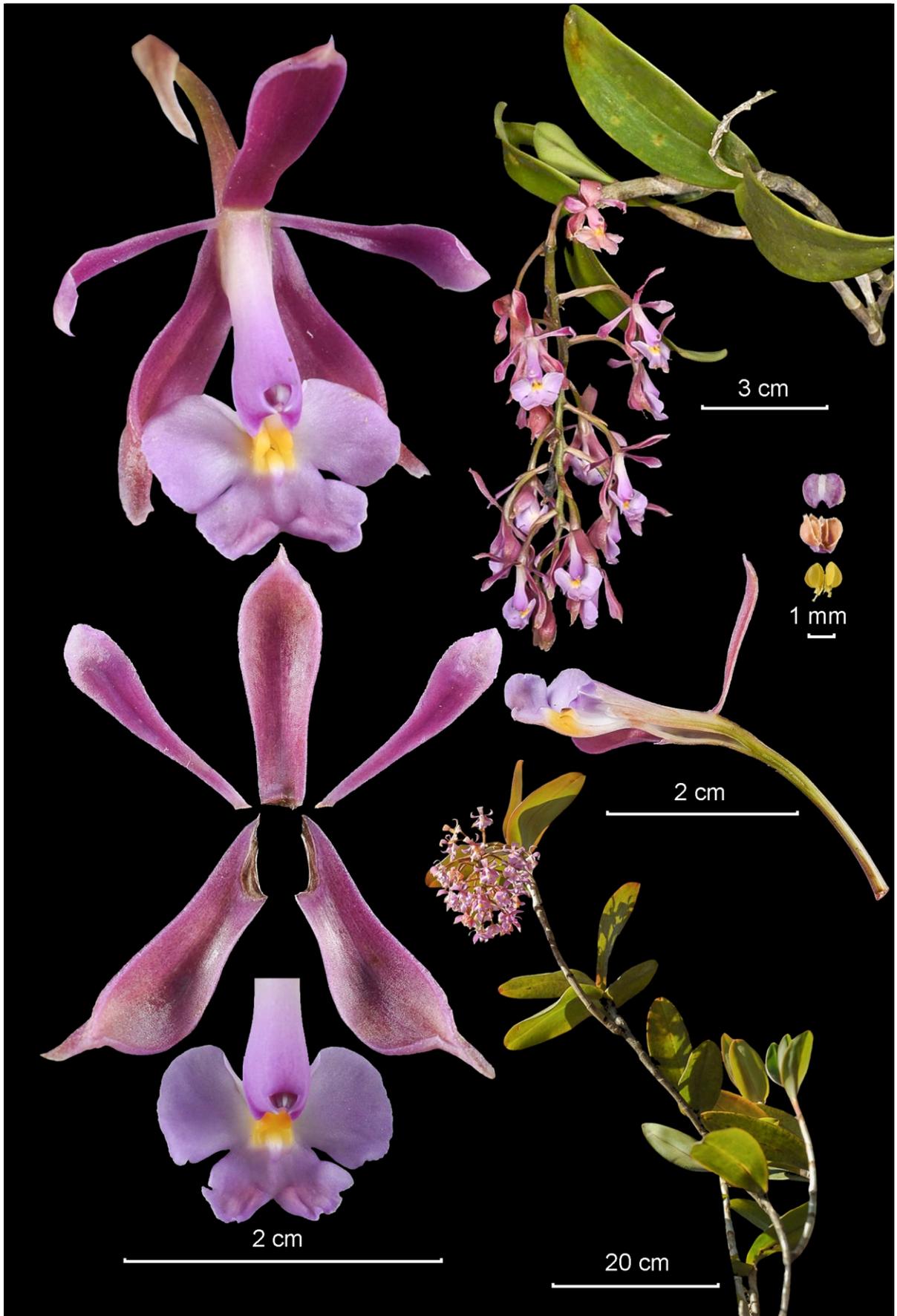
Photo: M. A. Sierra-Ariza

Editors: E. Hågsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 19(1). 2022. Plate 1911



EPIDENDRUM FREDMULLERI Hágsater

Plate 1912

EPIDENDRUM FREDMULLERI Hágsater, sp. nov.

Type: MEXICO: Chiapas: EL Porvenir, 2850 m, 22 febrero 2022, *Fred Muller s.n.* Holotype: AMO! (LCDP voucher & photo).

Similar to *Epidendrum magnificum* Schltr. but the sepals and petals pink-lilac, the column, anther and lip lilac, with calli and base of lip ribs yellow, producing a yellow square at base of lip (vs. flowers an even magenta to rose-lilac with base of lip white and only the calli yellow, not base of mid-rib), and the fragrance of the flowers nocturnal and lasting till morning, sweet, floral, with citric note (vs. flowers lacking any fragrance).

Epiphytic and lithophytic, sympodial, erect, climbing **herb**, 15-130 cm tall, new stem originates in a middle internode about 1/3 from base of previous stem. **Roots** 3-5 mm in diameter, basal in main and some upper stems, white and fleshy. **Stems** 7.5-20 × 0.5-0.6 cm, cane-like, erect, terete, smooth, basal part covered by non-foliar sheaths. **Leaves** 2-4, aggregate towards apex of stems, distichous, articulate, coriaceous, medium green; sheaths 0.8-2.4 cm long, smooth; blade 3.5-14 × 1.4-3.5 cm, 1.2-1.4 mm thick, elliptic, apex bilobed, margin entire, spreading. **Spathes** lacking. **Inflorescence** 12.3-15 cm long, apical, racemose, arching-nutant, sub-cylindrical; peduncle 2.3-3.5 cm long, terete, rachis 11 cm long. **Floral bracts** 10-18 × 4 mm, shorter than ovary, oblong, acute, embracing. **Ovary** 20-29 mm long, terete, slightly inflated ventrally behind perianth, furrowed. **Flowers** 15-31, opening in succession, first flowers wilted when last buds open, most open simultaneously, resupinate, sepals and petals pink-lilac, column, anther and lip lilac, with calli and base of lip ribs yellow, producing a yellow square at base of lip; fragrance nocturnal and lasting till morning, sweet, floral, with citric note. **Sepals** free, spreading, arching forward, becoming increasingly involute with age, oblanceolate, acute, 7-veined, with additional secondary veins, margins entire, spreading; dorsal sepal 16.7 × 5.8 mm; lateral sepals 19.7 × 5.4 mm, oblique, concave distally, apex aristate with prominent dorsal keel, apical margin entire. **Petals** 16.0 × 3.5 mm, spreading, arching forward, becoming increasingly involute with age, oblanceolate, apex narrowly rounded, 1-veined branching into 3 shortly above base, margins entire, spreading. **Lip** 11 × 15 mm, united to column, base prominently cordate, convex, 3-lobed, spreading, margins slightly revolute; lateral lobes 6.3 × 8.4 mm, dolabriform-semi-orbicular, margins somewhat sinuous, lobes close to slightly overlapping mid-lobe; mid-lobe 5 × 10 mm, bilobed, emarginate, with short wide apiculus, lobes 5 × 4 mm, strongly divergent, sub-quadrate, slightly oblique, margins entire; bicallose, calli in front of column, divergent, finger-like; disc with 3 parallel ribs, mid-rib fleshy-thickened, progressively wider, reaching apical sinus. **Column** 12.5 mm, clavate, straight, thin near base, widened vertically thereafter. **Clinandrium-hood** reduced, entire. **Anther** ovoid, 4-celled. **Pollinia** 4, obovoid, in two pairs, pale yellow. **Nectary** narrow at middle of column, widened toward base, penetrating about 1/6th of pedicellate ovary, unornamented. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: MEXICO: Chiapas: El Porvenir, 2850 m, 26 III 2010, *Muller s.n.*, Digital images, AMO!

DISTRIBUTION AND ECOLOGY: Presently known from one locality, from El Porvenir in the Sierra Madre de Chiapas, north of Motozintla, on a plateau which is surrounded by the Rio Gijalva and its affluents, which runs into the Gulf of Mexico, north of the continental divide of the Soconusco, at 2850 m elevation. Flowering from February to April.

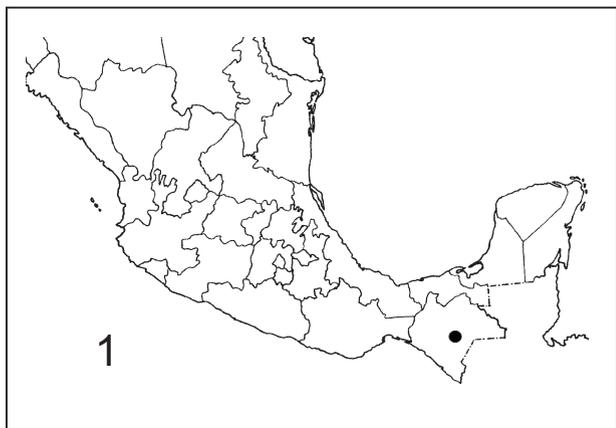
RECOGNITION: *Epidendrum fredmulleri* belongs to the Arbuscula Group, which is characterized by the successive lateral growths produced from the middle of the previous growth, the few leaves aggregate towards the apex of the stems, the apical inflorescence, arching-nutant, with brightly colored flowers with long ovaries, and the lip entire to 3-lobed. The new species is recognized by the successive flowers, though many may be open at one time, with pink-lilac sepals and petals, the column, anther and lip lilac, with calli and base of lip ribs yellow, producing a yellow square at base of lip, and the fragrance of the flowers nocturnal and lasting till morning, sweet, floral, with citric note. *Epidendrum cuchumatense* Grajeda, M.L.Maldonado & Hágsater has pink colored column and lip with sepals pink-red and the calli red and the ovaries 28-38 mm long. *Epidendrum magnificum* from the Guerrero, Mexico, has overall larger size in habit, leaves to 20 cm long, with magenta to rose-lilac-colored flowers with the disc of the lip white and yellow calli, and the ovaries are 18-53 mm long and lacking any fragrance. In Chiapas, the widespread *Epidendrum radioferens* Ames, F.T.Hubb. & C.Schweinf. is common but has wine-red flowers, the lip marked with yellow, and prominent radiating ribs on the lip. *Epidendrum polychromum* Hágsater has slightly smaller and purple-red flowers with a column 2 mm shorter. *Epidendrum nicaraguense* Scheeren ex Hágsater also has simultaneous lilac flowers but with yellow calli, a white disc and the apex of the column darker lilac, and is found in Honduras, Nicaragua, El Salvador, and eastern Guatemala.

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

ETYMOLOGY: In honor of Fred Muller (1973-), French naturalist and guide expatriated in Guatemala since 2007 where he does extensive field work in all Mesoamerica on many botanical families including Orchidaceae, his first passion for the past 40 years. He collected the type and brought it to our attention and supplied the photographic and type material.

ACKNOWLEDGMENT: Fred Muller wishes to thank Honorio López Roblero, owner of the land where the type was first photographed in March 2010 and collected now. At the time he accompanied Fred and Dra. Bárbara B. Moguel of UNAM in the research of the elusive *Pinguicula clivorum* Standl. & Steyerl. (Lentibulariaceae).

REFERENCES: Cervantes, L., E. Hágsater & M. Soto, 2002, *Epidendrum magnificum* in E. Hágsater & M. Soto (eds.), Orchids of Mexico, Part 2-3, **Icon. Orchid.** 5-6: pl. 575. Grajeda E., R., M.L. Maldonado & E. Hágsater, 2022, *Epidendrum cuchumatense* in E. Hágsater & E. Santiago (Eds.), The Genus *Epidendrum*, Part 15, **Icon. Orchid.** 19(1): pl. 1910. Hágsater, E., 1993, *Epidendrum nicaraguense*, in E. Hágsater & G.A. Salazar (eds.), The Genus *Epidendrum*, Part 1, **Icon. Orchid.** 2: pl. 162. Hágsater, E., 2022, *Epidendrum magnificum* in E. Hágsater & E. Santiago (Eds.), The Genus *Epidendrum*, Part 15, **Icon. Orchid.** 19(1): pl. 1921. Hágsater, E., & M. Soto, 2008, *Epidendrum radioferens*, in E. Hágsater & M. Soto (eds.), Orchids of Mexico, part 4, **Icon. Orchid.** 10: pl. 1023. Santiago, E. & E. Hágsater, 2010, *Epidendrum polychromum*, in E. Hágsater & L. Sánchez (eds.), **Icon. Orchid.** 13: pl. 1374.



Author: E. Hágsater

LCDP: F. Muller & A. Cisneros

Photo: J. Cornejo

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 19(1). 2022. Plate 1912



EPIDENDRUM GUAITARANUM Hågsäter, Reina-Rodr. & J.F.Torres

Plate 1913

EPIDENDRUM GUAITARANUM Hágsater, Reina-Rodr. et J.F.Torres, sp. nov.

Type: COLOMBIA: Nariño: Tangua: Vía 4G Pasto-Ipiales. Cuenca del río Bobo, afluente del Río Guaitara, en talud de carretera, 2335 m, 3 diciembre 2021, **Guillermo Reina Rodríguez & John Fredy Torres Martínez 3637**. Holotype: COL! (LCDP & photo voucher).

Similar to *Epidendrum melinanthum* Schltr. and has bright yellow flowers with a complicated callus, red-orange, and the dark red column (vs. flowers bright yellow, including callus, the column yellow-green), the petals obovate-obtrullate (vs. petals elliptic to sub-rhombic), the callus complex, massive, represented by a 9-tuberculate structure, tubercles unequal, basal lateral pair short, bidentate, thick, apical group truncate, formed by a pair of acute tubercles on sides, and a 3-tuberculate middle group, with central one acute, and lateral pair rounded (vs. callus composed of two thickened processes basally forming a triangular channel centrally embracing a circular middle callus).

Terrestrial and epiphytic, sympodial, cespitose, erect **herb** 90-100 cm including the inflorescence. **Roots** 1-2 mm in diameter, basal, fleshy, thin. **Stems** ca. 40 x 0.6 cm, simple, cane-like, terete, erect, straight, pale green, hollow in the central section. **Leaves** ca. 9, distichous, distributed throughout stem, alternate, articulate, green, unequal in size, basal and apical leaves somewhat shorter; sheaths 5.5 x 1.1-1.8 cm, tubular, minutely striated; blade 4.5-9.0 x 1.5-2.3 cm, narrowly elliptic-lanceolate to lanceolate oblong, apex sub-obtuse, coriaceous, dark green. **Spathes** lacking. **Inflorescence** 57 cm long, apical, racemose, raceme compact, densely many-flowered: peduncle 55 cm long, elongate, terete, covered by 3-4 bracts tubular, the basal bracts 4.3 cm long, acute, not imbricated, brown; rachis 9 cm long. **Flowers** numerous, successive, though many can be open at one time, non-resupinate, bright yellow, callus red-orange, column dark red, except for yellow clinandrium-hood, and red-orange column wings; without fragrance. **Floral bracts** much shorter than ovary, linear-triangular, acuminate, embracing. **Ovary** 14.4 x 1.2 mm, terete, thin, slightly inflated at middle, furrowed, dark red-brown. **Sepals** spreading, free, apices somewhat recurved, obovate-elliptic, 7-veined, margin entire, spreading; dorsal sepal 9.0-9.2 x 4.5-5.1 mm, apically rounded; lateral sepals 9.3-9.5 x 4.9-5.4 mm, oblique, minutely apiculate. **Petals** 9.2-9.5 x 5.5-6.0 mm, spreading, free, widely obovate-obtrullate, apex rounded, 5-veined, margins erose dentate towards apex, spreading. **Lip** 8.2 x 10.0 mm, united to column, deeply 3-lobed, base cordate, margin deeply fimbriate; callus complex, massive, represented by a 9-tuberculate structure, tubercles unequal, basal lateral pair short, bidentate, thick, apical group truncate, formed by a pair of acute tubercles on sides, and a 3-tuberculate middle group, with central one acute, and lateral pair rounded; lateral lobes 3.4 x 6.4 mm, transversely hemi-ovate; mid-lobe 4.6 x 6.1 mm, flabellate, separated from the lateral lobes by deep sinuses. **Column** 5.0 x 1.7 mm, straight, thin, with a pair of prominent wings at apex, these arched upwards, digitiform, truncate. **Clinandrium-hood** reduced, margin entire, slightly upturned, the anther sunken. **Lateral lobes of stigma** nearly half as long as stigmatic cavity. **Rostellum** apical, slit. **Anther** obovoid, the apex acute, with a narrow mid-rib, green, 4-celled. **Pollinia** 4, narrowly obovoid, similar in size; caudicles as long as the pollinia, formed by tetrads which look like a pile of roof tiles; viscarium semi-liquid. **Nectary** penetrating 3/4 of ovary, slightly inflated towards middle, papillose. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Presently known from the type locality only in southern Colombia, in the Department of Nariño and 2335 m elevation. Flowering in December. Growing terrestrial on road banks along grasses in full sun. This species grows in the transition between high altitude dry forest areas and ancient Andean forests that have disappeared due to human action. The widely distributed *Epidendrum melinanthum* is found in the same area.

RECOGNITION: *Epidendrum guaitaranum* belongs to the Schistochilum group, Secundum subgroup, which is recognized by the cespitose habit, the 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 species is recognized by the proportionately wider floral segments and especially the obovate-obtrullate petals, and the complicated callus, which turns red-orange, and the dark red column. *Epidendrum melinanthum* Schltr. has yellow flowers, the petals are narrower, and the callus has two incurved tubercles which embrace a central, more or less rounded middle body, column is yellow-green, and apparently the callus and column sometimes turn red when pollinated or lose their pollinarium, but this may not be consistent. *Epidendrum aura-usecheae* Hágsater, Rinc.-Useche & O. Pérez also has bright yellow flowers, but the column and callus turn rapidly red when pollinia are extracted or as the flower wilts, and the lip is deeply fimbriate with the fimbria in all directions, the lobes of the lip are not easily visible, and the leaves are narrowly elliptic-lanceolate, clearly narrower than most other species.

ETYMOLOGY: In reference to Río Guaitara, along the middle basin where the type was collected. The river basin has deep canyons and diverse microclimates, runs through 32 municipalities that represent 11% of the in the department of Nariño.

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

ACKNOWLEDGMENT: The authors wish to than the Concesionaria Unión Vial del Sur in charge of the construction of the Vía 4G Pasto-Rumichaca, for their support in the recent field work that led to the discovery of this species as well as that of *Epidendrum narinense* Hágsater, Reina-Rodr. & J.F.Torres.

REFERENCES: Hágsater, E., G. Reina-Rodríguez & J.F. Torres M., 2020, *Epidendrum narinense* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 15, **Icon. Orchid.** 19(1): pl. 1927. Hágsater, E., C. Rincón-Useche & O. Pérez, 2013, *Epidendrum aura-usecheae*, in E. Hágsater & L. Sánchez S. (Eds.) The Genus *Epidendrum*, Part 10, **Icon. Orchid.** 14: pl. 1410. Moreno, J.S., & E. Hágsater, 2017, *Epidendrum melinanthum*, **Species Orchid.** 1(1): LCDP 3.



Authors: E. Hágsater, G. Reina-Rodríguez & J. F. Torres

LCDP: G. Reina-Rodríguez

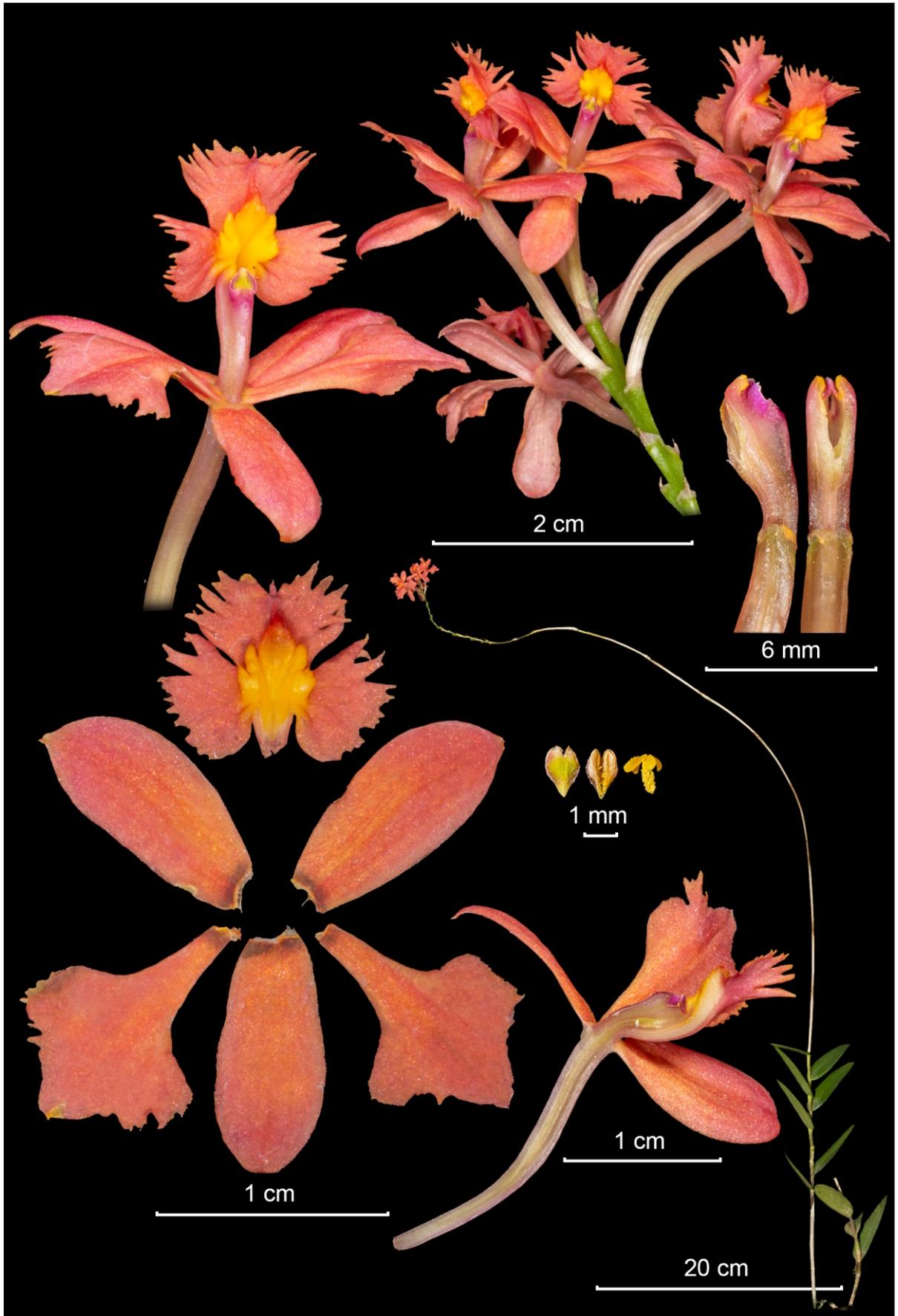
Photo: G. Reina-Rodríguez

Editors: E. Hágsater & E. Santiago

Herbario AMO

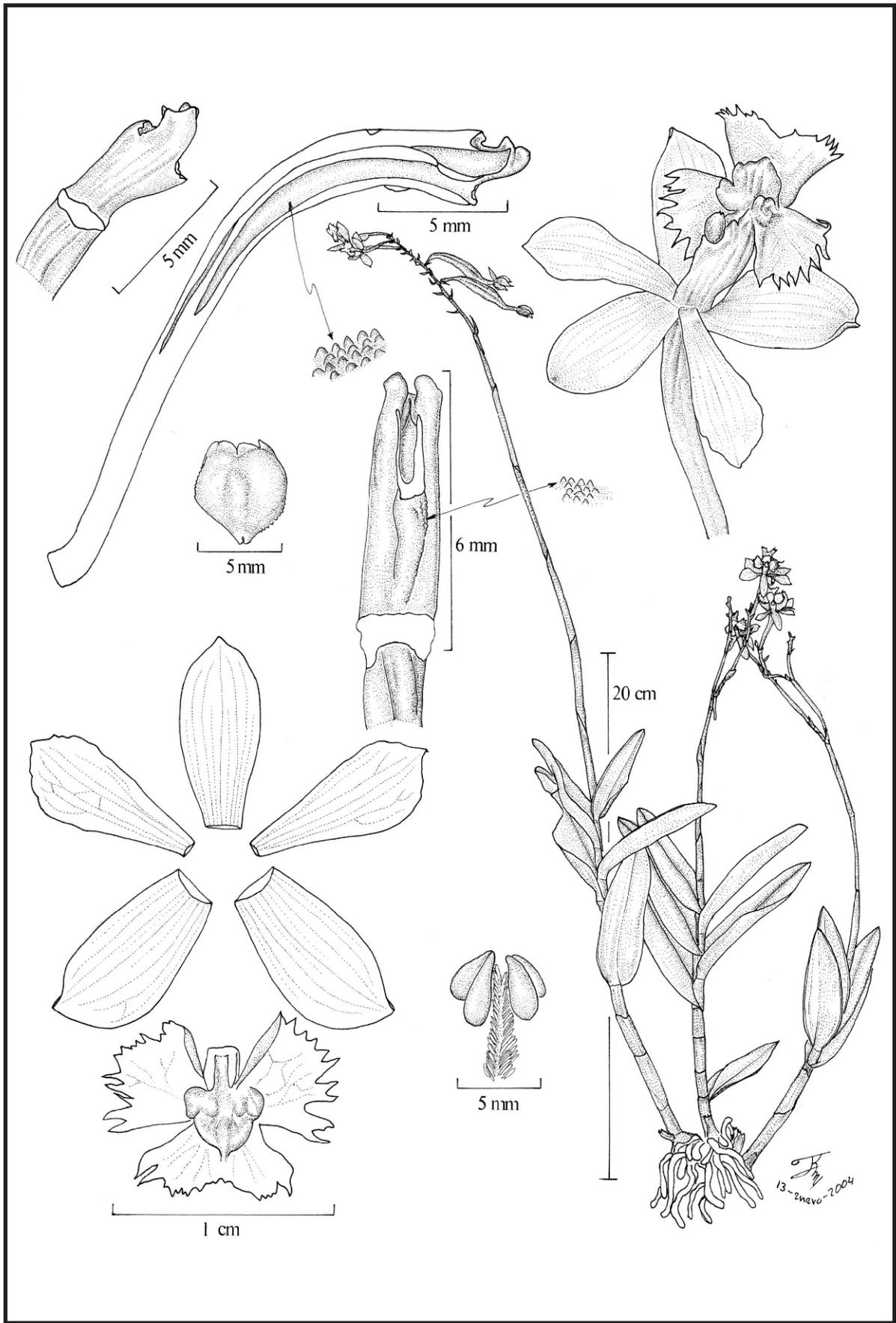
Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 19(1). 2022. Plate 1913



EPIDENDRUM HUAMBOENSE Hágsater, A.D.Gut. & Edquén

Plate 1914a



EPIDENDRUM HUAMBOENSE Hágsater, A.D.Gut. & Edquén

Plate 1914b

EPIDENDRUM HUAMBOENSE Hágsater, A.D.Gut. & Edquén, sp. nov.

Type: PERU: Cajamarca: Jaen: Distr. Colasay, 2700 m, 25 October 1961, *Felix Woytkowski 6974*. Holotype: MO 1793915! (illustration voucher, AMO!) Isotypes: AMES 90440! US 00051876!

Similar to *Epidendrum reflexilobum* C.Schweinf. but overall smaller, plants 25-35[75] cm tall including the inflorescence (vs. 40-120 cm tall), the sepals 8.3-12 x 3.4-5.4 mm, (vs. sepals 12.5-13.5 x 4.9-5.0 mm), the lateral lobes of the lip transversely sub-ovate, spreading, the apical margin sometimes revolute (vs. lateral lobes spreading, twisted 90° in natural position, obovate), callus semi-orbicular, rounded to apiculate, formed by 5 parallel ribs forming a single body, more or less evident at the apex of callus, mid-rib longest without reaching the apical sinus (callus 3-ribbed, forming a cuneate platform, with the mid-rib longest and reaching apical sinus).

Epiphytic, sympodial, caespitose **herb**, 25-35[75] cm tall including inflorescence. **Roots** 2 mm in diameter, basal, terete, fleshy, white. **Stems** 8-20 x 0.3 cm, simple, cane-like, terete to slightly compressed towards apex, thin, covered by foliar sheaths. **Leaves** 7-9, distichous, distributed along upper half of stem; sheaths 0.9-1.4 x 0.4 cm, tubular, smooth, green somewhat tinged red, papery when dry; blade 3.5-6.0 x 1.0-1.5 cm, oblong, apex unequally bilobed, articulate, coriaceous, smooth, medium green on both sides, margins entire. **Spathes** lacking. **Inflorescence** 12-24[55] cm long, racemose to pluri-racemose, laxly flowered; peduncle 9.5-20[45] cm long, elongate, covered by numerous tubular imbricated bracts 4.5 x 0.4 cm, acute, scarious when dry, striated, papery; rachis ca. 2-10 cm long. **Floral bracts** 2-7 mm long, much shorter than ovary, decreasing in size, triangular, acuminate to acute, embracing. **Flowers** ca. 5-17 per raceme, successive, 3-8 open at a time, non-resupinate, pale to bright red, callus yellow, anther green; fragrance none. **Ovary** 13-20 x 2 mm, terete, thin, not inflated, pale brown, furrowed. **Sepals** spreading, short apiculate, 7-veined, margin entire, spreading; dorsal sepal 8.3-11 x 3.4-4.7 mm, obovate-elliptic, apex obtuse; lateral sepals 8.5-12.0 x 4.3-5.4 mm, elliptic, oblique, apex obliquely rounded, sub-obtuse. **Petals** 8.8-12 x 3.7-8.5 mm, extended, oblanceolate-elliptic, [broadly spatulate, narrowly triangular basally, apical margin irregularly short dentate-laciniate (*Hágsater 16360*)], apex acute, 3-veined, lateral veins branching from base, margin entire, spreading. **Lip** 5.7-9.2 x 8.2-12.0 mm, united to column, deeply 3-lobed, in natural position mid-lobe flat, extended, lateral lobes spreading with apical margin often revolute, base cordate, distal margins irregularly laciniate; callus low, semi-orbicular, rounded to apiculate, formed by 5 parallel ribs forming a single body, more or less evident at the apex, mid-rib longest, without reaching apical sinus, with two divergent entire to bifid calli at base of lateral lobes; lateral lobes 3.5-3.8 x 5.2-6.5 mm, transversely sub-ovate, spreading in natural position, apex sometimes revolute; mid-lobe 3.0-4.8 x 6.4-8.0 mm, obcuneate, bifid, slightly divergent, deeply emarginate. **Column** 6 mm long, straight, wider at apex, red, yellow at apex, minutely papillose, with a pair of long, apical recurved fleshy, finger-like wings. **Clinandrium-hood** very short, margin entire, leaving anther totally exposed. **Anther** ovoid, acute, surface rugose, 4-celled. **Pollinia** 4, narrowly obovoid, laterally compressed, caudicles formed by a pile of elongate pollen tetrads like a pile of tiles; viscarium semi-liquid. **Rostellum** apical, split. **Lateral lobes of stigma** short, occupying half-length of stigmatic cavity. **Nectary** penetrating half pedicellate ovary, minutely papillose. **Capsule** not seen.

OTHER SPECIMENS: PERU: **Cajamarca:** Chota: Distr. Huambos: Bosque El Pargo, entre Huambos y Cochabamba, 2350 m, 12 X 1986, *Díaz 2116*, AAU! (partial illustration AMO!) MO! NY! *Ibid.*, cerca de Yamaluc, entre Llama y Chota, 1950 m, 14 VIII 1952, *Ferreira 8468*, AMES! Distr. Querocto, Hacienda La Granja, quebrada San Lorenzo, 2 XII 2012, *González 2102*, USM! Distr. Huambos: desviación de Huambos a Querecoto, 2383 m, col. 6 XI 2019, pressed 8 IV 2021, *Hágsater 16360*. CPUN! (a peloric form, LCDP voucher). Distr. Huambos: 2000 m, 9 IX 1956, *Soukup 4520*, US!

OTHER RECORDS: PERU: **Piura:** Huancabamba, 2500 m, 4 I 2022, *Deza s.n.*, digital images, AMO! (photo voucher). Ayabaca, 16 V 2016, *Soras s.n.*, Digital images, AMO! Ayabaca, rec. 23 V 2019, *Torres Paucar s.n.*, digital images, AMO!

DISTRIBUTION AND ECOLOGY: Presently known from northern Peru, in Cajamarca and Piura, along the basin of the Río Chotano, and north along basin of the Río Huancabamba, terrestrial along 1950-2700 m, usually along road banks. Flowering from August to April.

RECOGNITION: *Epidendrum huamboense* 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 short plants, usually 25-35[75] cm, the sepals 8.3-12 x 3.4-5.4 mm, the lateral lobes of the lip transversely sub-ovate, spreading, the apical margin sometimes revolute, the callus semi-orbicular, rounded to apiculate, formed by 5 parallel ribs forming a single body, more or less evident at the apex, mid-rib longest without reaching the apical sinus. *Epidendrum reflexilobum* is from the regions of Huánuco and Junín, and is overall larger, has red flowers with the callus yellow, the lateral lobes of the lip spreading, twisted 90° in natural position, and obovate. *Epidendrum macrocyphum* Kraenzl. has pink-purple flowers with a white callus formed by 3-5 straight parallel ribs on the mid-lobe, the mid-rib longest, nearly reaching the apical sinus, with two divergent bifid calli at the base of the lateral lobes, the longer segment projecting on the junction of the mid-lobe with the lateral lobes, and the lip in natural position with the mid-lobe flat, extended, the lateral lobes erect, embracing the entire column with outer margin strongly revolute.

CONSERVATION STATUS: DD. Data deficient. Presently known from few collections and localities with a range of 215 km, following the summit of the Cordillera de los Andes at its lowest elevation.

ETYMOLOGY: In reference to the District of Huambos in the province of Chota, region of Cajamarca in northern Peru, where the species has been collected and where many of the photographs and illustrations come from.

ACKNOWLEDGMENT: The type specimen was collected under permit granted to Astrid Domy Gutiérrez Ruíz D000568-2021-MIDAGRISERFOR-DGCSPPFFS. AUT-IFL-2021-063, Distribución e identificación taxonómica de la familia Orchidaceae en los departamentos de San Martín, Amazonas y Cajamarca.

REFERENCES: Hágsater, E., 2020, *Epidendrum reflexilobum* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 14, **Icon. Orchid.** 18(1): pl. 1835. Hágsater, E., & A. Cisneros, 2020, *Epidendrum macrocyphum* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 14, **Icon. Orchid.** 18(1): pl. 1819.



Authors: E. Hágsater, A. D. Gutiérrez & J. D. Edquén O.

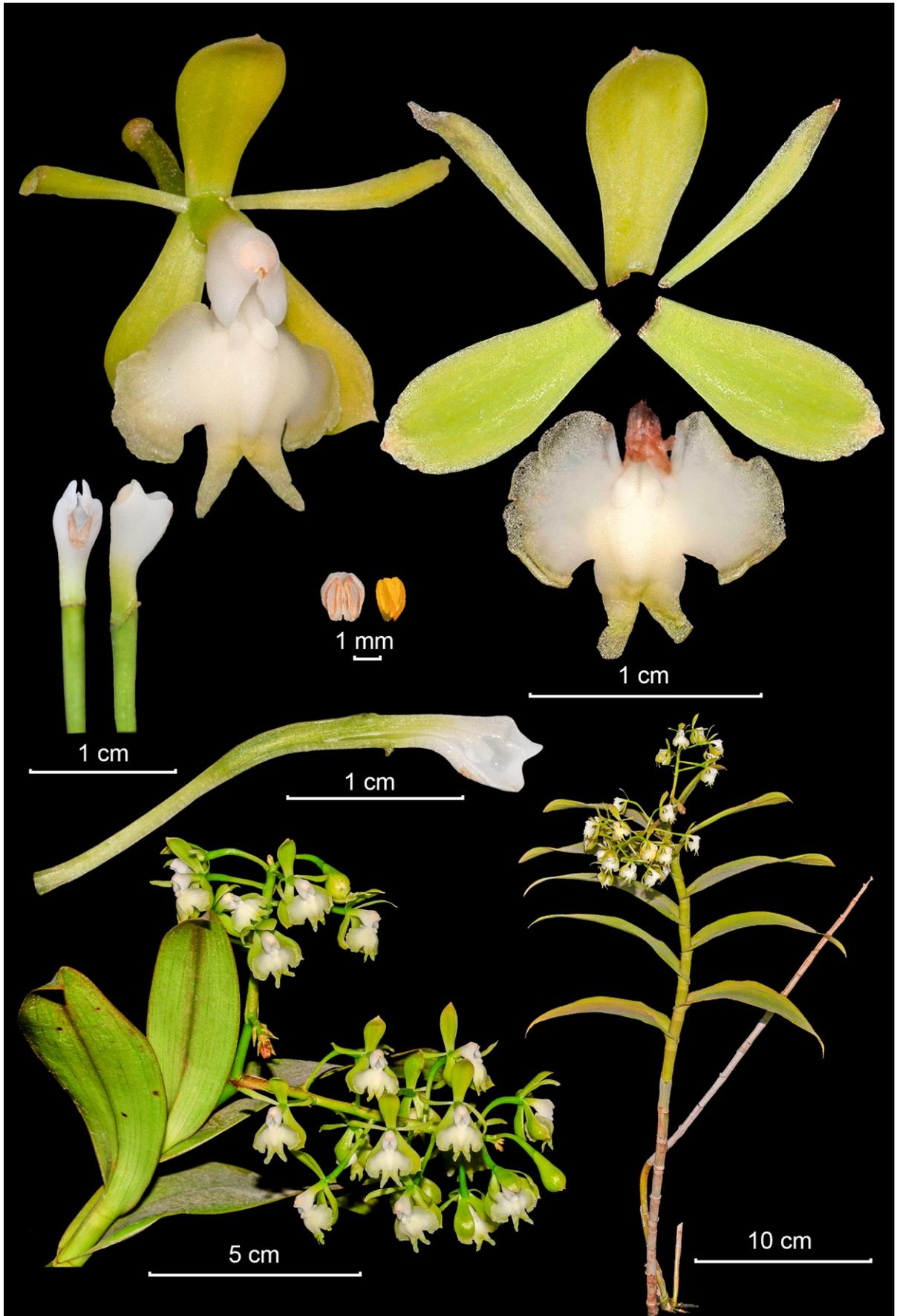
LCDP: R. Jiménez M. & A. Cisneros

Illustrator: R. Jiménez M.

Photo: L. R. Deza C.

Editors: E. Hágsater & E. Santiago

Empty



EPIDENDRUM HYALINISTHMI Hągsater, E.Santiago & Olórtegui

Plate 1915

EPIDENDRUM HYALINISTHMI Hágsater, E.Santiago et Olórtegui, *sp. nov.*

Type: PERU: Junín: Prov. Satipo, Distr. Pampa Hermosa, Selva Central, carretera 24A, al oeste de Satipo, ca. 1250 m, 6 diciembre 2021, *Sergio Olórtegui Chamolf s.n.* Holotype: USM! (LCDP voucher).

Similar to *Epidendrum isthmi* Schltr. but the plants shorter, ca. 35 cm tall (vs. plants 50-120 cm tall), the sepals 11-12 mm long, narrowly obovate, obtuse, short apiculate (vs. sepals 13-15.5 mm long, oblanceolate, spatulate, the apex sub-acute), the lip with flabellate lateral lobes and the mid-lobe with a pair of narrowly oblong-triangular lobes (vs. lip with the lateral lobes transversely rectangular or trapezoid and the mid-lobe with a pair of oblong lobes).

Terrestrial, sympodial, caespitose, erect **herb**, ca. 35 cm tall. **Roots** basal, fleshy. **Stems** 28 x 0.6 cm, simple, cane-like, terete, thin, erect, straight; base covered by sheaths 11-16 mm long, non-foliar, tubular, scarious and becoming fibrous. **Leaves** 10, distributed along apical half of stem, sub-spreading, slightly arching, alternate, articulate, coriaceous, medium green, concolor; sheaths 5.5-22 x 6 mm, tubular, minutely striated; blade 4.4-9.4 x 1.0-2.5 cm, narrowly elliptic, apex acute, margin entire, spreading. **Spathe** lacking. **Inflorescence** 8.5-30 cm long, apical from mature stem, erect to arching, few to many flowered, paniculate with 1-7 racemes; peduncle 1.5-4 cm long, terete; rachis 7-26 cm long, terete, straight. **Floral bracts** 2-5 mm long, much shorter than ovary, narrowly triangular, acuminate, embracing. **Ovary** 16-22 mm long, terete, thin, slightly arching at apex, furrowed. **Flowers** 26-100, simultaneous, resupinate, green turning yellow with age, apical half of column and lip white, margins of lip hyaline, pale green; fragrance not registered. **Sepals** 11-12 x 5 mm, partly spreading, narrowly obovate, apex slightly concave, obtuse, short apiculate, minutely papillose, 5-veined, margins entire, spreading. **Petals** 11 x 1.5 mm, partly spreading, free, linear-oblong, apex somewhat arching forward, obtuse, 1-veined, margins entire, spreading. **Lip** 10.7 x 12.3 mm, united to column, convex, 3-lobed, base cordate, margin entire, sub-entire, spreading; bicallose, calli small, obovoid, slightly divaricate; disc with three ribs, mid-rib wide, fleshy, triangular, reaching apical sinus, lateral ribs small; lateral lobes 4.7 x 7.7 mm, flabellate, mid-lobe 4.3 x 4.0 mm, transversely sub-rectangular at base, deeply narrowly emarginate at apex, and divided into a pair of narrowly oblong-triangular lobes, sub-parallel to divaricate, apices rounded. **Column** 9-10 mm long, straight, thin at basal half, strongly dilated vertically thereafter, apex bidentate. **Clinandrium-hood** reduced, margin entire. **Rostrum** apical, slit. **Anther** ovoid, 4-celled, **Pollinia** 4, dark yellow, bird-wing type, inner pair shorter, caudicles laminar; viscarium semi-liquid. **Lateral lobes of stigma** prominent, half as long as stigmatic cavity. **Nectary** shallow, barely penetrating pedicellate ovary, not inflated, unornamented. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: PERU: **Huánuco:** Without locality data, rec'd 9 VI 2017, *Yupanqui s.n.*, (AMO-DATA 144710) digital photo, AMO! (Photo voucher).

DISTRIBUTION AND ECOLOGY: Presently known only from central Peru, from the eastern slopes of the Andes, without a precise locality.

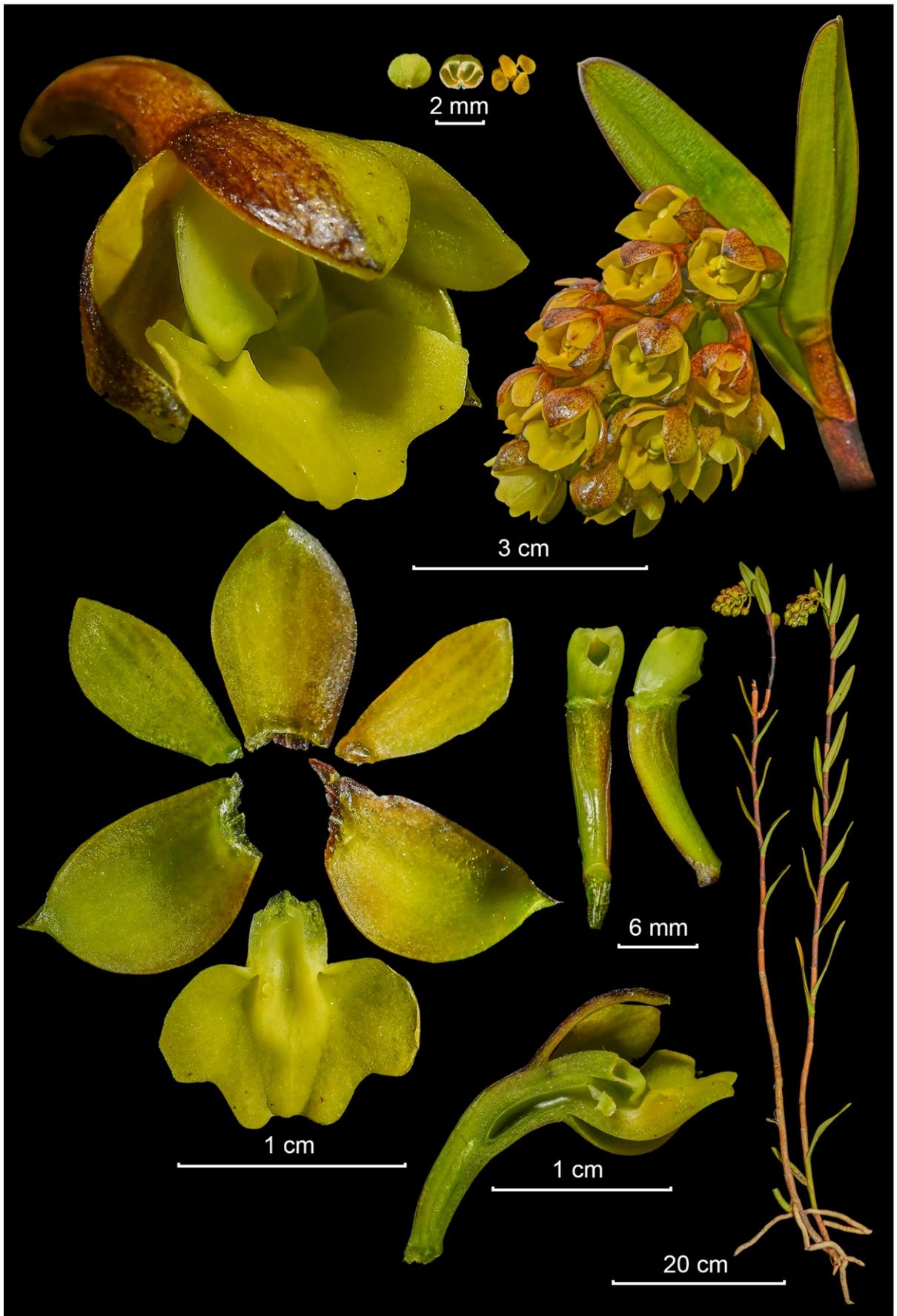
RECOGNITION: *Epidendrum hyalinisthmi* belongs to the Pseudepidendrum Group which is characterized by the caespitose plants, the cane-like stems, the acute to acuminate leaves, the usually apical inflorescence without any spathe though it may have several imbricated bracts, the mostly filiform petals, the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, and the "bird-wing" type pollinia, at least the inner pair, and Densiflorum Subgroup, where the short pedunculate inflorescence is paniculate, flowering only once, the flowers are green, the apex of the column and disc of the lip are with to creamy-white, the calli sometimes tinged purple, the petals are linear-oblong to linear-oblanceolate, never filiform, and the pollinia are unequal in shape, only the inner pair "bird-wing" like. The new species is recognized by the small plants, to 35 cm tall, with paniculate inflorescences with 26-100 simultaneous flowers, and sepals 11-12 x 5 mm, narrowly obovate, obtuse, short apiculate, and the lip 10.7 x 12.3 mm, the lateral lobes flabellate and the mid-lobe, narrow and deeply emarginate, forming a pair of narrowly oblong-triangular lobes, sub-parallel to divaricate. *Epidendrum isthmii* is florally similar but that species has plants to 120 cm tall, the sepals 13-15.5 mm long, oblanceolate-spatulate, sub-acute, the lip with the lateral lobes transversely rectangular or trapezoid and the mid-lobe widely emarginate, forming a pair of strongly divaricate lobes. *Epidendrum unguiculatum* (C.Schweinf.) Garay & Dunst. is found widespread in the region of the upper Amazon basin but is easily recognized by the 55 cm long inflorescence producing successive racemes with flowers totally green except for the white apex of the column and disc of the lip, and the larger flowers with sepals [16] 18-20 mm long.

CONSERVATION STATUS: DD. Data deficient. Presently known from the Central wet forests in Peru.

ETYMOLOGY: From the Latin *hyalinum*, hyaline, a glassy or transparent tissue, and *isthmi*, the species of the Densiflorum Subgroup which most resembles this new species. In reference to the margins of the lip which are translucent compared to the disc, which is fleshy, thickened and white.

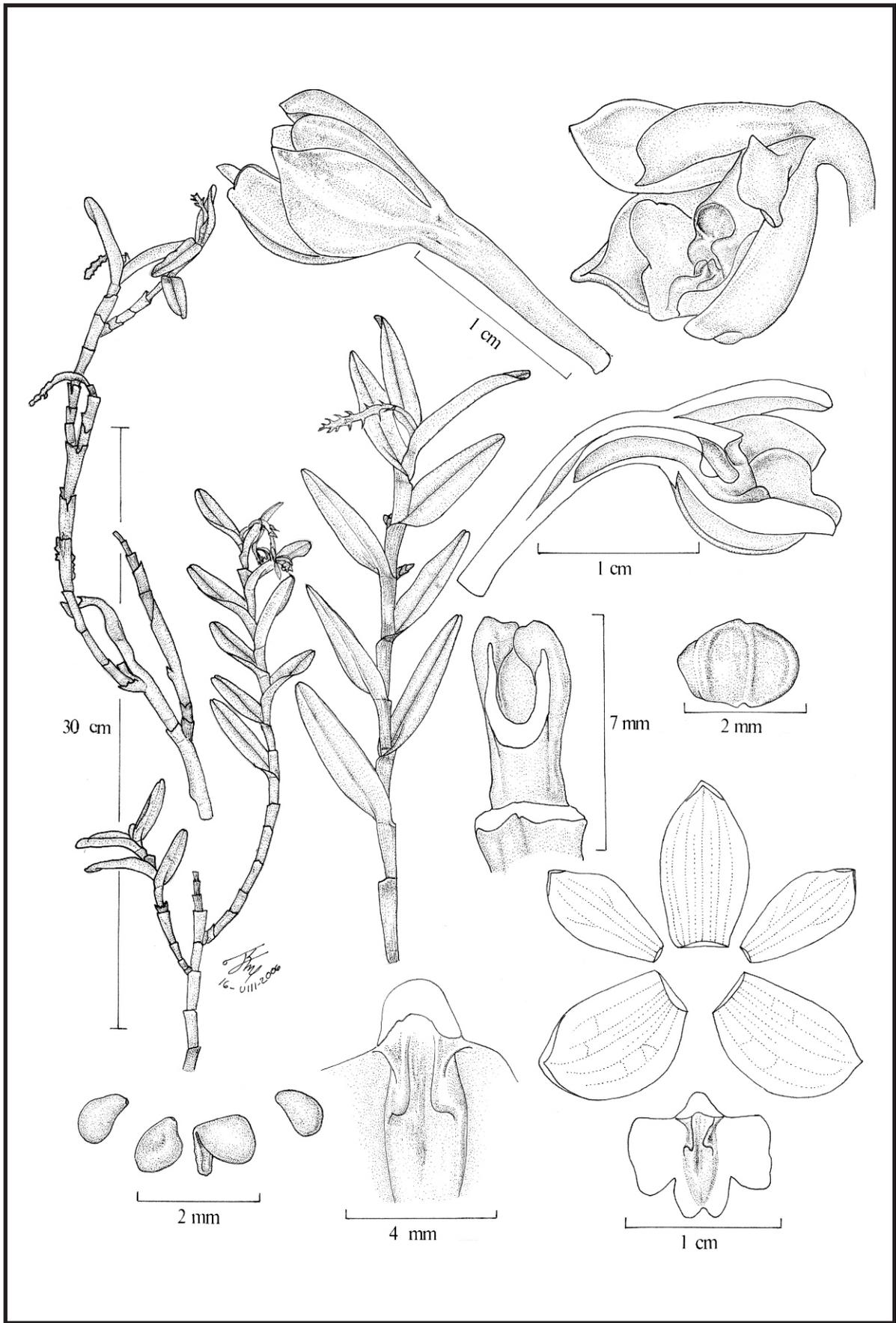
REFERENCES: Santiago, E., & E. Hágsater, 2008, *Epidendrum isthmi* in E. Hágsater & L. Sanchez S. (eds.), *The Genus Epidendrum*, Part 7, *Icon. Orchid.* 11: pl. 1132. Santiago, E., & E. Hágsater, 2013, *Epidendrum unguiculatum* in E. Hágsater & L. Sanchez S. (eds.), *The Genus Epidendrum*, Part 10, *Icon. Orchid.* 14: pl. 1492.





EPIDENDRUM INAMOENUM Kraenzl.

Plate 1916a



EPIDENDRUM INAMOENUM Kraenzl.

Plate 1916b

EPIDENDRUM INAMOENUM Kraenzl., Jahrb. Syst. 37(5): 525. 1906.

Type: PERU: Junín: Tarma; Berge östlich von Palca [Holotype indicates Berge östlich von Tarma], 2700-3000 m, **August Weberbauer 2456**. Holotype (identified by Christenson, 1994): HBG! (fragment). Photograph of original holotype at B (destroyed) (CNMH 18320): AMES! (HUH 00070435) F! NY! SEL!

Terrestrial, caespitose, branching **herb** 15-100 cm tall. **Roots** 2-3 mm in diameter, from base of primary stem, scarce at base of some branches, fleshy, thick. **Stems** cane-like, terete, erect, straight, branching sub-apically when mature; primary stem 13-30 x 0.5-0.7 cm, branches 17-18 x 0.3-0.6 cm, shorter than of main stem; base covered by tubular, non-foliar, scarious sheaths 0.5-2.2 cm long, becoming fibrous with time. **Leaves** numerous on main stem, 9-10 on branches distributed throughout stems, sub-erect, alternate, articulate, coriaceous, green, margin purple-black; sheaths 1.0-1.5 cm long, tubular, striated, minutely rugose, reddish purple; blades of primary stem 4-8 x 1.2-1.7 cm, narrowly lanceolate to lanceolate-elliptic, apex rounded, slightly bilobed, margin entire, spreading; those on branches 2.4-4.5 x 1.3-1.5 cm, slightly smaller than on main stem. **Spathe** lacking. **Inflorescence** [2]4-5 cm long, apical, flowering only once, racemose, arching-nutant, densely many-flowered; peduncle terete, thin, straight, short. **Floral bracts** 2.4 mm long, much shorter than ovary, triangular, acuminate, amplexicaul. **Flowers** [4-5]15-17, simultaneous, resupinate, very fleshy, green to yellowish green, dorsal surface of sepals purple-brown. **Ovary** 11-14 mm long, terete, thick, furrowed, not inflated. **Sepals** 9-12.2 x 4-7 mm, partly spreading, free, "oblong" to elliptic, obtuse, glabrous, 7-veined, some veins branching from the base so as to appear 9-veined, margin entire, spreading; lateral sepals slightly oblique. **Petals** 7-10 x 3.0-4.5 mm, partly spreading, free, "oblong" to widely spatulate, apex sub-obtuse, 3-veined, margin entire, spreading. **Lip** 6.0-7.7 x 5--11.5 mm, united to the column, 3-lobed, base slightly cordate, spreading, margin entire; bicallose, the calli sub-erect, laminar, with central sulcus between, each widening medially to meet the other to form wide mid-rib extending to apex of lip; lateral lobes 3.2-4 x 4-6 mm, sub-ovoid, slightly longer than the mid-lobe, mid-lobe 2.8-5.4 x 3.4-6 mm, transversely rectangular, slightly emarginate, with a wide, very short apiculus. **Column** 6-7 mm long, straight, thick, short. **Clinandrium-hood** reduced, margin entire. **Anthor** reniform, 4-celled, apex truncate, denticulate. **Pollinia** 4, obovoid, laterally compressed. **Rostellum** apical, slit. **Lateral lobes of stigma** prominent, half as long as stigmatic cavity. **Nectary** penetrating 1/3 of the ovary, not inflated, smooth. **Capsule** not seen.

OTHER SPECIMENS*: PERU: **Apurímac**: Andahuaylas, Quebrada N of Chincheros, 2800 m, 27 II 1939, *Stork 10756*, AMES! F! UC! **Ancash**: Huascarán National Park, 3600 m, 1 I 1985, *Smith 8952*, MO! (Illustration, AMO!) **Cusco**: Calca, 3900, 15 I 1980, *Vargas 23282*, CUZ! **Huánuco**: Huánuco and Pampayacu, 13 I 1927, *Kanehira 313*, AMES! **Junín**: Tarma, ca. 35 km NE of Tarma on road to San Ramón, ca. 2300 m, 17 XII 1978, *Dillon 1400*, AMO! NY! Carpapata, above Huacapistana, 2700-3200 m, 7 I 1929, *Killip 24418*, AMES! NY! US! Tarma; E of Palca; 2 km on road to Illic departing Tarma-Chanchamayo hwy., 5 km below Palca, 2750 m, 13 I 1987, *Stein 3812*, F! (Illustration voucher) MO! USM! **Pasco**: Yanahuasca, *McBride 1188*, AMES! F! **Piura**: Huancabamba, 2500 m, 17 VIII 1980, *Luer 5394*, SEL! **Puno**: Ollachea a Pte. Ackopampma, 3200-3450 m, 31 XII 1947, *Vargas 6992*, AMES! CUZ!

OTHER RECORDS: PERU: **Huánuco**: parta alta de Huánuco, 3270 m, 3 IV 2021, *Edquén 5001*, digital images AMO! (LCDP & photo voucher.) Prov. Dos de Mayo, camino a la Unión, 3200 m, *Rivas s.n.*, digital images, AMO! **Junín**: Without locality data, 1 XII 2013, *Farfán s.n.*, digital images, AMO! Tarma; Carpapata-Chanchamayo-Junín, 2300 m, I 2009, *Morón s.n.*, digital images, AMO!

DISTRIBUTION AND ECOLOGY: Endemic to Peru, ranging along the Andes on both sides of the river Marañón, in northern to central Peru, terrestrial at 2300-3600 [3900] m altitude. Flowering from December to August.

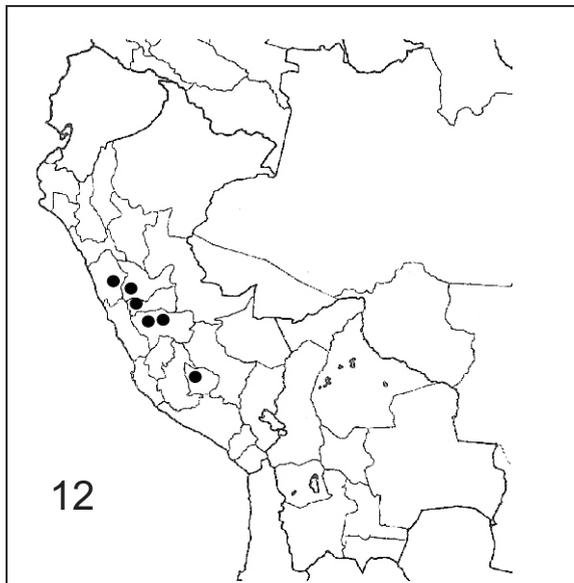
RECOGNITION: *Epidendrum inamoenum* belongs to the Andean Group, Renilabium Subgroup, which is characterized by the tall plants, the monopodial habit, the generally large, bilobed leaves, the racemose inflorescence, and the entire or 3-lobed lip with a channel at the base of the disc between the calli. The species is recognized by the sub-erect, lanceolate to lanceolate-elliptic leaves, green to yellowish green flowers, the sepals 9-12.2 mm long, and the calli sub-erect, laminar, with central sulcus between, each widening medially to meet the other to form wide mid-rib extending to apex of lip, and the lateral lobes of the lip longer than the mid-lobe. *Epidendrum jaramilloi* Hágsater & Dodson is vegetatively very similar, but the leaves are narrowly lanceolate, the sepals 8-13 mm long, the disc of the lip has a rounded fleshy thickening, and the lateral lobes of the lip are ovate, nearly as long as the mid-lobe. *Epidendrum mormontoyi* Collantes & Hágsater has slightly larger flowers, the sepals 14-15 mm long, the apex acute, and the lip proportionately longer than wide. *Epidendrum wurdackii* Hágsater, E. Santiago & Salas Guerr. is vegetatively similar but the leaves are spreading to sub-spreading, and the flower yellow with the lip clearly 3-lobed, the lateral lobes obliquely ovate and the mid-lobe sub-quadrate. *Epidendrum zipaquiranum* Schltr. endemic to Colombia, also has sub-erect leaves, flowers green-yellow to creamy yellow, and the lip has a pair of small calli, divaricate, the disc tricarinate with the ribs small and low.

*NOTE: Some of the specimens cited in the earlier Icon (Santiago & Hágsater 2009) have been eliminated in this publication because they correspond to another recently described as *Epidendrum wurdackii* (Hágsater, Santiago & Salas 2001). The difference between these species is indicated under recognition in this text.

CONSERVATION STATUS: DD. Data deficient.

ETIMOLOGY: From the Latin *inamoenus*, disagreeable, ugly, horrible.

REFERENCE: Christenson, E.A., 1994, Significant collections of Orchidaceae conserved in Herbarium Hamburgense (HBG), *Brittonia* 46(4): 344-354. Collantes M., B., & E. Hágsater, 2015, *Epidendrum mormontoyi*, in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 11, *Icon. Orchid.* 15(1): pl. 1542. Hágsater, E., & C.H. Dodson, 1993, *Epidendrum jaramilloi* in E. Hágsater & G.A. Salazar (eds.) The Genus *Epidendrum*, Part 1, *Icon. Orchid.* 2: pl. 149. Santiago, E., & E. Hágsater, 2009, *Epidendrum inamoenum* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 8, *Icon. Orchid.* 12: pl. 1255. Hágsater, E., E. Santiago & M. Salas G., 2021, *Epidendrum wurdackii*, in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 14, *Icon. Orchid.* 18(2): pl. 1900. Santiago E., & E. Hágsater, 2009, *Epidendrum zipaquiranum*, in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 8, *Icon. Orchid.* 12: pl. 1300. Weberbauer, A., 1911, Die Pflanzenwelt der peruanischen Anden, in Engler, A., & O. Drude (eds.) *Die Vegetation der Erde* 12(3): 246-248.



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LCDP: J. D. Edquén O. & A. Cisneros

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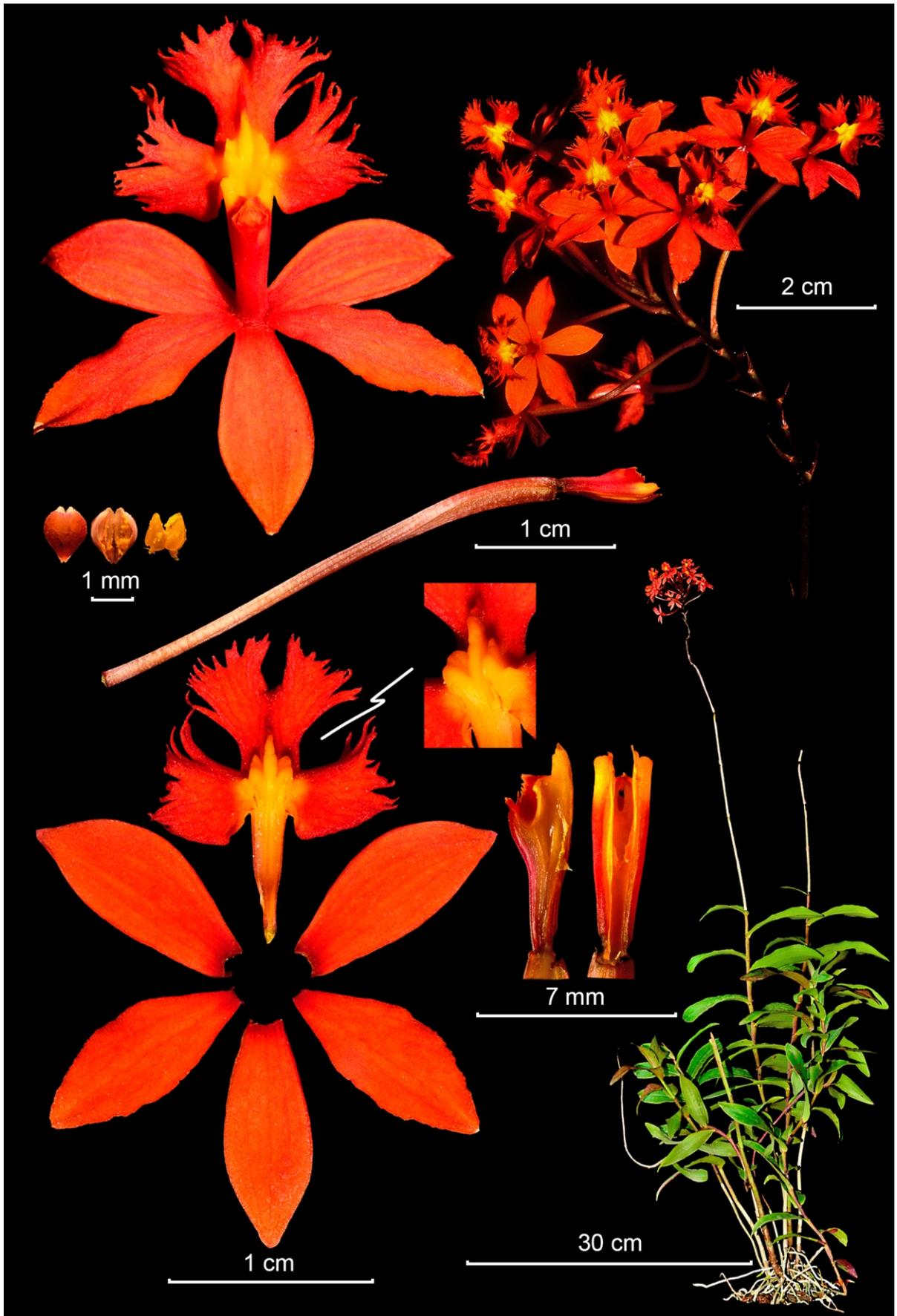
Illustrator: R. Jiménez M.

Photo: R. Farfán Z.

Editors: E. Hágsater & E. Santiago

ICONES ORCHIDACEARUM 19(1). 2022. Plate 1916

Empty



EPIDENDRUM × INAUDITUM Zambrano & Hágsater

Plate 1917

EPIDENDRUM × INAUDITUM Zambrano & Hágsater, *Phytotaxa* 511(2): 116. Figs. 4-6. 2021.

Hybrid formula: *Epidendrum laciniatum* Zambrano & Hágsater × *Epidendrum calanthum* Rchb.f. & Warsz.

Type: ECUADOR. El Oro: Cantón Piñas, sector Quebrada Oscura, vía a Moromoro, 1000 m, 12 August 2019, **Javier Bosco Zambrano Romero 2408a**
Holotype: QCNE! Isotype, QCNE! (LCDP voucher).

Terrestrial, sympodial, caespitose **herb**, to 150 cm tall including inflorescence. **Roots** 1.5–2.0 mm in diameter, from base of stems, fleshy, flexuous, white. **Stems** 20–120 × 0.4–0.6 cm, cane-like, terete, erect, lower half covered by 5–7 tubular, imbricated, persistent, chartaceous, gray non-foliar sheaths. **Leaves** 6–15 distributed along apical half of stem, fleshy, coriaceous, distichous, blades 5.5–11.0 × 1.6–3.3 cm, oblong-lanceolate, obtuse, oblique to slightly bilobed at apex, channeled at base; sheaths 1.5–3.6 × 0.4–0.6 cm, longitudinally striated, tubular, persistent, chartaceous. **Spathe** lacking. **Inflorescence** up to 60 cm long, apical, erect, racemose; peduncle 15–50 × 0.2–0.3 cm, terete, covered by chartaceous bracts 55–65 × 2–3 mm, conduplicate, persistent; rachis 3–4 × 0.2 cm, terete. **Floral bracts** 2–9 × 1–2 mm, much shorter than ovary, acuminate, persistent, scarious, amplexicaul. **Ovary** 25.0–36.0 × 1.5–1.8 mm, arching, terete, longitudinal sulcate. **Flowers** numerous, non-resupinate, 6–15, successive, several open at same time, with floral buds in various stages of development, sepals, petals and lip red-orange, lateral apices of column, calli and mid-rib yellow, yellow color spilling over to disc, turning totally red when old, anther yellow-red; no fragrance perceived. **Sepals** extended, margin entire, 7-veined, slightly reticulate; dorsal sepal 10–11 × 4.0–4.5 mm, oblanceolate-elliptic, acute, short apiculate; lateral sepals 10–11 × 4.5–5.0 mm, obliquely oblanceolate, acute, short apiculate, dorsally carinate. **Petals** 10–11 × 4.5–5.0 mm, extended, elliptic, acute to obtuse, margin somewhat undulate, 3-veined, with lateral veins branched. **Lip** 10–11 × 11–13 mm, slightly fleshy, deeply 3-lobed, fused to column, cordate at base; 4-callose, calli digitiform, in two superimposed pairs, one adnate to lip, another sub-erect at a 30° angle, with a thickened, short mid-rib that extends to distal end of isthmus of mid-lobe of lip; lateral lobes 5.0–6.0 × 6.0–7.0 mm, trapezoid, distally laciniate; mid-lobe 6.0–6.8 × 7.0–9.0 mm, flabellate from a short obtuse isthmus at base, apical half deeply bilobed, lobes divergent, oblong, distally lacinate, with a minute mucro in apical sinus. **Column** 6.0–7.5 × 1.6–2.0 mm, short, terete, with a digitiform, rounded lateral wings extending on each side, slightly divergent. **Clinandrium-hood** reduced, covering only base of anther, margin erose-denticulate. **Stigmatic cavity** ventral, concave, covered by a viscous substance. **Rostellum** apical, laminar, slit. **Nectary** long, penetrating about half ovary, minutely papillose. **Anther** 1.5 × 1.0 mm, dorsal, ovate, glandular-papillose, 4-celled. **Pollinia** 1 mm long, 4 pollinia, yellow, obovoid, sub-equal, caudicles imbricated, granulose; viscarium semi-liquid. **Capsule** not seen.

OTHER SPECIMENS: ECUADOR: El Oro: Cantón Piñas, sector Libertad, 1000 m, 12 XI 2007, *Zambrano 392*, QCNE! (digital images, AMO!)

OTHER RECORDS: ECUADOR: El Oro: Piñas: Moromoro, Monos, Catamayo-Alamor, 1047 m, 22 VIII 2015, *Tobar 1528*, (digital image, AMO!, Photo voucher).

DISTRIBUTION AND ECOLOGY: *Epidendrum × inauditum* is a rare natural hybrid known only from El Oro province, in southwestern Ecuador. It has been registered in two reduced areas on road to Libertad and on the way Moromoro-Machala, growing as a terrestrial on the organic matter and moss at 1000–1100 m in elevation. An additional unvouchered specimen was observed near the ranger station at Buenaventura reserve. Flowering in cultivation from April to November.

RECOGNITION: *Epidendrum × inauditum* belongs to the *Schistochilum* group and is recognized by the red-orange, non-resupinate flowers, elliptic petals with the margins somewhat undulate, and the lip with digitiform calli, in two superimposed pairs, and trapezoid lateral lobes and a flabellate mid-lobe. The natural hybrid is very rare since it has only been seen, photographed or collected a few times in a narrow area. The putative parent species are *E. laciniatum* and *E. calanthum*; which occur sympatric on the road to Moromoro and Libertad and bloom in the same season. *Epidendrum laciniatum* differs from the hybrid in the orange flowers, the lanceolate-elliptic dorsal sepal, the oblanceolate petals, and the lip with callus formed by 5 unequal tubercles. *Epidendrum calanthum* can be distinguished by the resupinate, pink flowers, marginally erose petals, and the bicallose lip with a longer, central mid-rib. To be noted, *E. laciniatum* has non-resupinate flowers with a complex callus and seems to have dominated in color and position over the resupinate *E. calanthum*. There is no evidence of the hybrid being fertile and reproducing or producing introgression with either of the parent species. Similar hybrids are not known from the Andean region. The color and non-resupinate flowers are reminiscent of the Brazilian *E. puniceoluteum* Pinheiro, which is distinguished by the larger sepals 11.3–18.0 mm long, the lip with a calli digitiform, entire, the sub-quadrate to sub-flabelliform lateral lobes, and a mid-lobe formed by a sub-oblong isthmus in the basal half. Another similar species is *Epidendrum cryptopateras* Hágsater & Courtinard from Martinique, which can be distinguished by the oblong-lanceolate dorsal sepal, the lip with a callus laminar, semi-elliptic, and the mid-lobe formed by a quadrate isthmus in the basal half. The natural hybrid between *E. cryptopateras* and *Epidendrum secundum* Jacquin is *Epidendrum × elongatum* Jacquin, whose both parent species have non-resupinate flowers, but the former has two calli and mid-rib, whereas *E. secundum* has a complex callus. The resulting hybrid with pink flowers, which turns orange when aging, backcrossed with both parents and thus *E. × elongatum* has a range of callus forms and dominates the populations on the islands of Martinique and Guadeloupe, the parents being very rare and nearly extinct. *Epidendrum × obrienianum* Rolfe a commonly cultivated artificial hybrid, differs in its crimson-red flowers, the oblong-lanceolate petals, the lip with a calli digitiform, entire, and the mid-lobe formed by a sub-quadrate isthmus in the basal half. The Peruvian *Epidendrum reflexilobum* C.Schweinf. differs in the oblong leaves, red flowers, the ovate-elliptic dorsal sepal, the petals oblanceolate or cuneate-spathulate, the lip with callus complex, formed by 3–5 straight, parallel ribs, the obliquely ovate lateral lobes, the obtuse mid-lobe, and the column with an entire clinandrium-hood. *Epidendrum × pinheiroi* Hágsater is a common natural hybrid between *E. puniceoluteum* and *E. fulgens* Brongniart from the coast of SE Brazil, is distinguished by the red flowers with lip orange and red dots, the rhombic-spathulate petals, and the mid-lobe formed by a sub-quadrate isthmus in the basal half. In this case both parents have non-resupinate flowers, and the two calli and a mid-rib, as the hybrid does.

ETYMOLOGY: The specific epithet is from the Latin *inauditus* “new or unknown,” referring to this new and rare natural hybrid plant in the field.

REFERENCES: Hágsater, E., 2019, *Epidendrum × elongatum* in E. Hágsater & E. Santiago (Eds.), The genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(1): pl. 1719. Hágsater, E., 2019, *Epidendrum puniceoluteum* in E. Hágsater & E. Santiago (Eds.), The genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(1): pl. 1749. Hágsater, E., 2020, *Epidendrum reflexilobum*, in E. Hágsater & E. Santiago (Eds.), The genus *Epidendrum*, Part 14, **Icon. Orchid.** 18(1): pl. 1835. Hágsater, E., 2020, *Epidendrum × pinheiroi*, in E. Hágsater & E. Santiago (Eds.), The genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(2): pl. 1787. Hágsater, E. & Cisneros, A., 2019, *Epidendrum × obrienianum* in E. Hágsater & E. Santiago (Eds.), The genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(1): pl. 1745. Hágsater, E. & Courtinard, P., 2019, *Epidendrum cryptopateras* in E. Hágsater & E. Santiago (Eds.), The genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(1): pl. 1715. Pinheiro, F. & Barros, F., 2006, *Epidendrum puniceoluteum*, uma nova espécie de Orchidaceae do litoral brasileiro. *Hoehnea* 33: 247–250. Zambrano R., J.B. & E. Hágsater, *Epidendrum laciniatum*, 2021, in B.J. Zambrano R., E. Hágsater & R. Solano, Miscellaneous of new species in *Epidendrum* (Orchidaceae) from southwestern Ecuador, *Phytotaxa* 511(2): 121. Hágsater, E., J.D. Edquén O. & A. Cisneros, 2022, *Epidendrum reflexilobum*, in E. Hágsater & E. Santiago (Eds.), The genus *Epidendrum*, Part 15, **Icon. Orchid.** 19(1): pl. 1935.



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LCDP: B. J. Zambrano R.

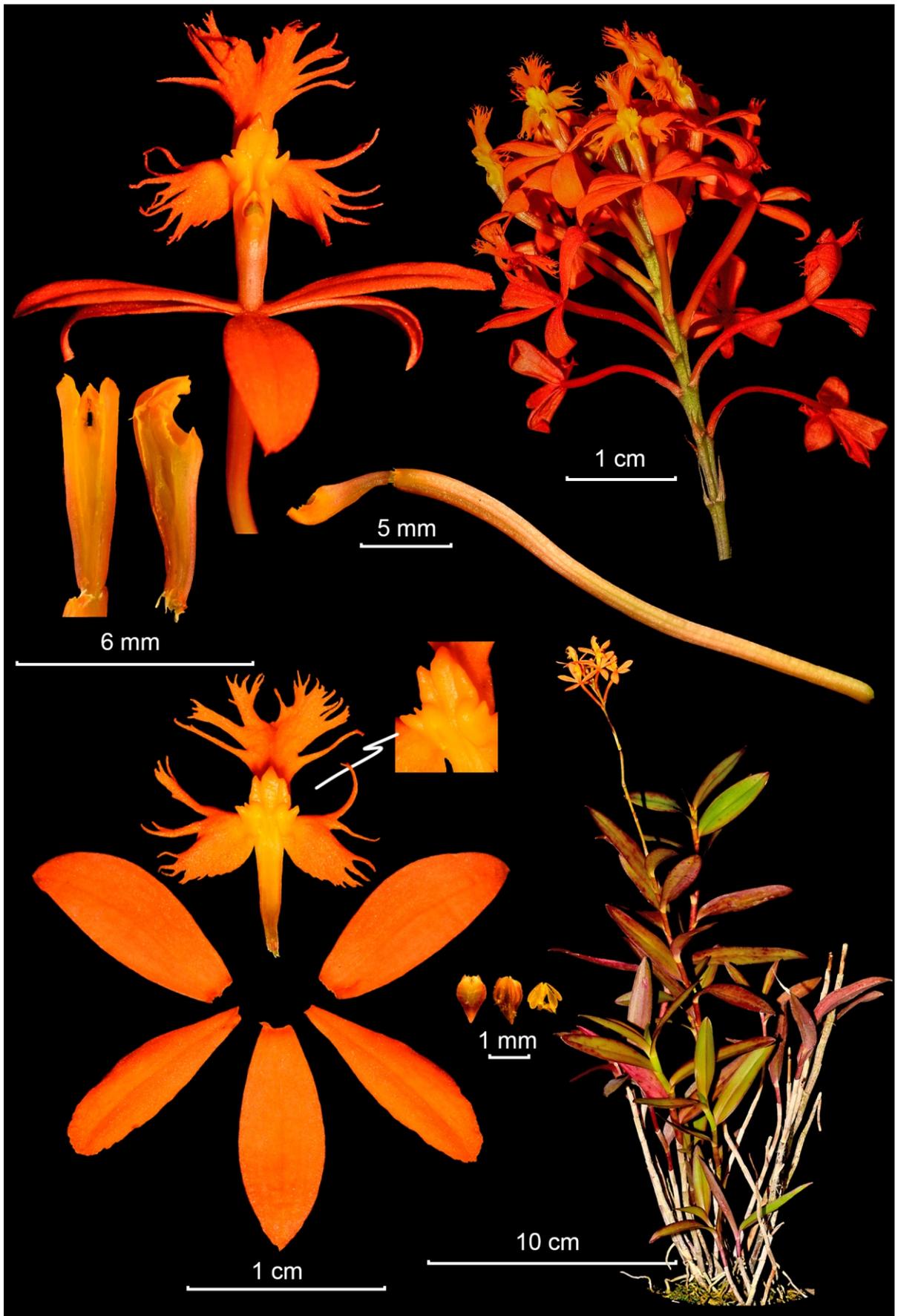
Photo: D. F. Tobar

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 19(1). 2022. Plate 1917



EPIDENDRUM LACINIATUM Zambrano & Hágsater

Plate 1918

EPIDENDRUM LACINIATUM Zambrano & Hágsater, Phytotaxa 511(2): 121, Figs. 8-10. 2021.

Type: ECUADOR. El Oro: Cantón Piñas, Moromoro, sector Quebrada Oscura, 900 m, 31 August 2007, **Bosco Javier Zambrano Romero 217**. Holotype in QCNE. Isotype in QCNE [in spirit]. (LCDP and photo voucher).

Epiphytic or terrestrial **herb**, erect, sympodial, caespitose, up to 150 cm tall including inflorescence. **Roots** 1.5–2.0 mm diameter, from base of stems, fleshy, flexuous, white. **Stems** 20–120 × 0.4–0.6 cm, cane-like, terete, erect, basal half covered by 7–13, imbricated, persistent, chartaceous, gray-brown non-foliar sheaths. **Leaves** 6–12, distributed along apical half of stem, fleshy, slightly coriaceous, distichous, sheaths 2.5–4.0 × 0.5–0.6 cm, longitudinally striated, tubular, persistent, chartaceous; blade 8.0–11.0 × 2.0–3.0 cm, oblong-lanceolate, obtuse, oblique to slightly bilobed at apex, channeled at base, green, purple on underside and margins. **Spathes** lacking. **Inflorescence** up to 80 cm long, apical, erect, a multi-flowered raceme; peduncle 15–70 × 0.2 cm, terete, covered by chartaceous bracts, 20–25 × 3–4 mm, conduplicate, persistent; rachis 2–6 × 0.2 cm, terete; floral bracts 2–7 × 1–2 mm, acuminate, persistent, scarious, embracing. **Ovary** 25–30 × 1.3–1.5 mm; arching, terete, longitudinal sulcate. **Flowers** numerous, 5 open at a time, with floral buds in various stages of development, small, extended, non-resupinate, sepals, petals and lip orange turning red-orange when old, callus yellow, column light purple suffused with orange, anther green-brown. **Sepals** slightly revolute on apical half, margin entire; dorsal sepal 10.0–11.5 × 3.8–4.3 mm, lanceolate-elliptic, acute, shortly apiculate, 5-7-veined, lateral veins branching, slightly reticulate; lateral sepals 10–11 × 4.0–4.5 mm; obliquely oblanceolate, obtuse, shortly apiculate, carinate dorsally, 7-veined, lateral veins branched, slightly reticulate. **Petals** 10.0–11.3 × 2.8–3.3 mm, slightly revolute at apex, obliquely oblanceolate, acute to obtuse, margin somewhat undulate, 5-veined, lateral veins branched. **Lip** 10–11 × 11–13 mm, deeply 3-lobed, fused to column, cordate at base; callus massive, formed by 5 unequal tubercles, acute, mid protuberance obovoid, apically triangular, not reaching sinus of apical lobe, lateral protuberances shorter, with another pair of basal, ovoid-triangular, acute, divergent structures, all forming a groove in the middle at base; lateral lobes 4.5–5.5 × 5.5–6.0 mm, trapezoid, distally deeply laciniate; mid-lobe 5–7 × 9–10 mm, flabellate with a narrow isthmus in basal half, apical half bilobed, lobes divergent, oblong, distally deeply laciniate, mucronate in apical sinus. **Column** 6.0–6.5 × 1.3–1.5 mm, short, slightly arched near base, terete, with digitiform, truncate lateral wings extending on each side, slightly divergent. **Clinandrium-hood** short, covering only base of anther, margin minutely undulate, lateral sides minutely dentate marginally. **Stigmatic cavity** ventral, concave, covered by a viscous substance. **Anther** 1.5 × 0.9 mm; dorsal, ovate, glandular-papillose. **Pollinia** 4, yellow, oblanceolate, sub-equal, laterally compressed; caudicles imbricated, granulose. **Rostellum** apical, laminar, slit. **Nectary** deep, penetrating about half the ovary, minutely papillose. **Capsule** not seen.

OTHER SPECIMENS: ECUADOR: El Oro: Cantón Piñas: Piñas to Machala, km 10, 1000 m, 19 VII 1979, *Dodson 8455*, SEL! Ibid. sector Monos, 1100 m, 11 IX 2007, *Zambrano 299*, QCNE! Ibid. sector La Garganta, 1100 m, 11 IX 2007, *Zambrano 301*, QCNE! Ibid. sector Libertad, 1000 m, 12 XII 2007, *Zambrano 390*, QCNE! Ibid. parroquia Moromoro, sector Quebrada Oscura, 1000 m, 06 XII 2008, *Zambrano 642*, QCNE! Ibid. sector El Placer-Palosolo, 981 m, 30 VI 2014, *Zambrano 1530*, QCNE! Ibid. camino antiguo Palosolo, 1241 m, 30 VI 2014, *Zambrano 1560*, QCNE! Cantón Atahualpa, sector Cerro Azul, 1013 m, 19 July 2019, *Zambrano 2402*, QCNE! Ibid. Hcda. Dauca, 650 m, 14 IX 1993, *Cornejo 515*, GUAY! QCNE!

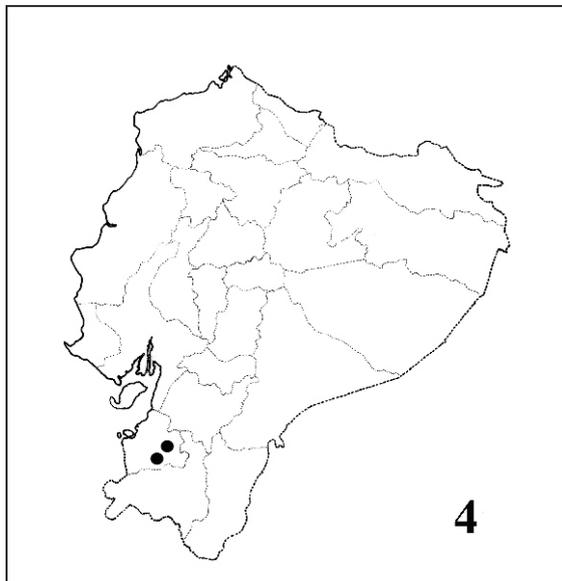
OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: The new species is only known from Piñas and Atahualpa in El Oro province, grows as an epiphyte on shrub branches of *Miconia* species, or rarely in organic matter and moss, at 650–1300 m in elevation. In cultivation flowered between May and August.

RECOGNITION: *Epidendrum laciniatum* 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 callus. The species is recognized by its oblong-lanceolate leaves, the light orange, non-resupinate flowers turning red-orange with age, the obliquely oblanceolate petals, and the lip with 5-tubercles, and the distal margins of the lateral and mid-lobe strongly laciniate. The most similar species is *Epidendrum ptotchicum* Hágsater, which is known to occur from Colombia to Peru, it differs in the deep orange to red flowers, the shorter dorsal sepal, 8–9 mm long, the obovate petals, the smaller lip 7.6 × 9.6 mm, bearing a callus with 7-tubercles, the mid-lobe scarcely laciniate not bilobed at the apex, and the column with an entire clinandrium-hood. The Ecuadorian *Epidendrum portokalium* Hágsater & Dodson, is similar in color but differs the lanceolate leaves, the orange-red flowers, the elliptic dorsal sepal, the petals 3-veined, the lip with a callus formed by 7-tubercles, the lateral and mid lobe fimbriate, and the shorter column 5 mm long.

ETYMOLOGY: From the Latin *laciniatus* “slashed into narrow divisions with taper-pointed incisions”, in reference to the distal margins of the lip.

REFERENCES: Hágsater, E., & C.H. Dodson, 2004, *Epidendrum portokalium* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 7, *Icon. Orchid.* 7, pl. 778. Hágsater, E., 2006, *Epidendrum ptotchicum* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 5, *Icon. Orchid.* 8, pl. 877. Zambrano R., B.J., E. Hágsater & R. Solano, 2021, *Epidendrum laciniatum* in Miscellaneous of new species in *Epidendrum* (Orchidaceae) from southwestern Ecuador, Phytotaxa 511(1): 111–147. <https://doi.org/10.11646/phytotaxa.511.2.2>



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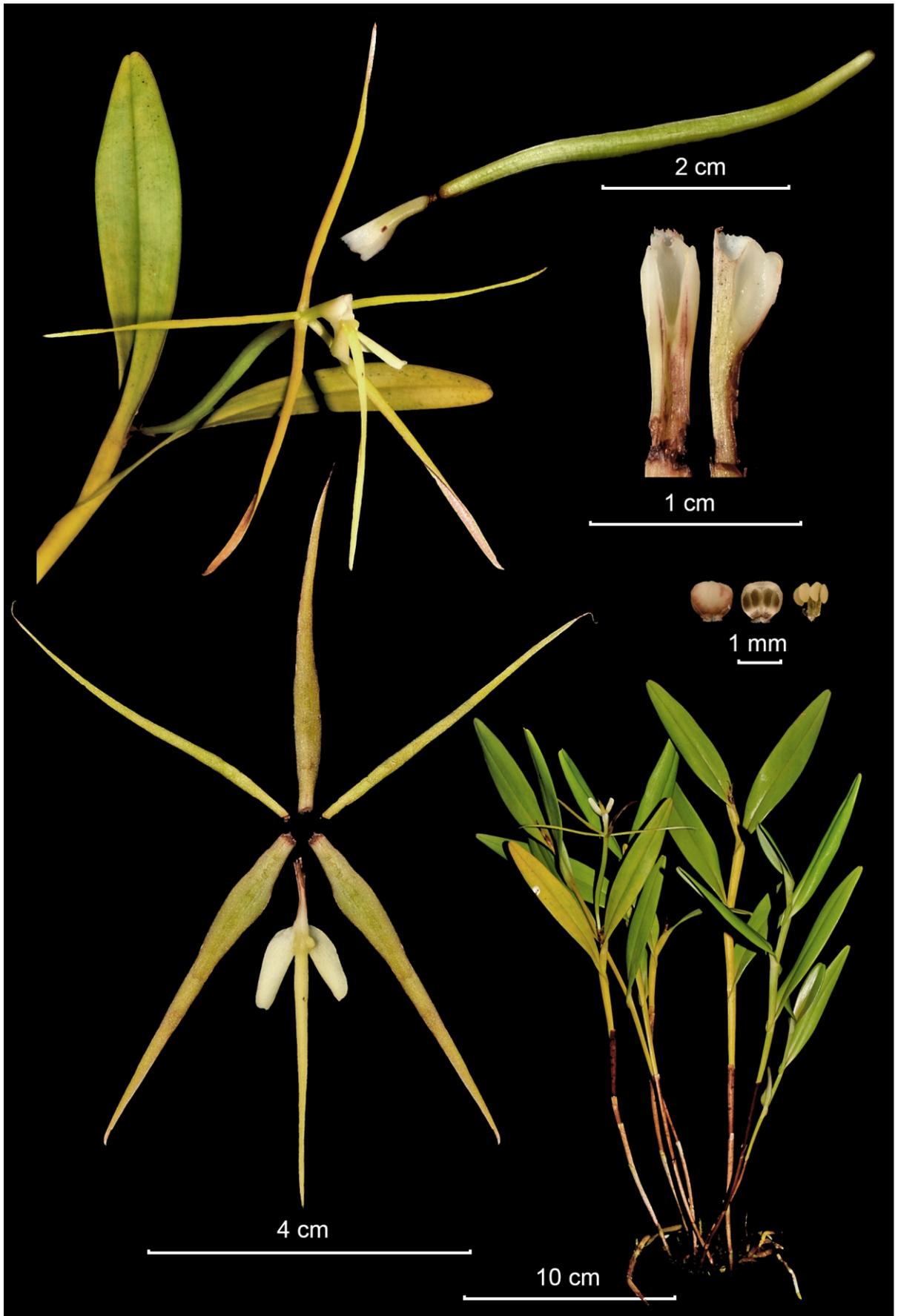
Photo: B. J. Zambrano

Editors: E. Hágsater & E. Santiago

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ICONES ORCHIDACEARUM 19(1). 2022. Plate 1918



EPIDENDRUM LEPTOPETALUM Zambrano & Hágsater

EPIDENDRUM LEPTOPETALUM Zambrano & Hágsater, *Phytotaxa* 511(2): 125, Figs. 11-13. 2021.

Type: ECUADOR: El Oro: Cantón Atahualpa, sector Daucay, 847 m, 01 July 2017, **Bosco Javier Zambrano Romero 1941**.
Holotype QCNE! (LCDP and photo voucher) Isotype QCNE!

Epiphytic, erect, sympodial, caespitose **herb**, up to 30 cm tall. **Roots** 2–3 mm in diameter, from base of stems, fleshy, flexuous, white. **Stems** 21 × 0.4–0.5 cm, cane-like, ancipitose, erect to slightly curved, basal half covered by 4–5 compressed, imbricated, persistent, chartaceous, gray-brown non-foliar sheaths. **Leaves** 3–4 distributed along apical half of stem; sheaths 1.0–3.5 × 0.3–0.4 cm, longitudinally striated, ancipitose, persistent, chartaceous; blades 7–8 × 1.0–1.6 cm, coriaceous, distichous, sessile, oblong-elliptic to lanceolate, obtuse, emarginate at apex, channeled at base, light green. **Spathes** lacking. **Inflorescence** apical from mature stem, erect, a raceme with successive flowers; peduncle 10–11 × 1.5–1.6 mm, terete, covered by a chartaceous bract, 5–6 × 1.5–1.6 mm, conduplicate, persistent; rachis 1.0–1.5 mm long, terete. **Floral bract** 6.5–7.0 mm long, acute, persistent, scarious. **Ovary** 45–48 × 2.5–2.7 mm, thin, terete, unornamented, thicker in the middle, furrowed. **Flowers** resupinate, sepals and petals spreading, yellow-green, dorsally tinged purple, lip cream with calli and mid-lobe pale yellow, column white suffused with green towards the base, anther white; producing a sweet nocturnal fragrance. **Sepals** fleshy, margin entire, revolute, 10-veined; dorsal sepal 44–48 × 3.5–4.4 mm, linear-lanceolate, oblique, long-acuminate; lateral sepals 44–48 × 4.8–6.4 mm, obliquely linear-lanceolate, long acuminate, carinate dorsally. **Petals** 44–46 × 1.8–2.4 mm, fleshy, linear-lanceolate, long-acuminate, margins entire, revolute, 5-veined, lateral veins very reduced. **Lip** 35–39 × 11.0–12.5 mm, fleshy, 3-lobed, fused to column, widely cuneate at base; bicallose, calli small, laminar, divergent, elliptic-ovate, rounded; lateral lobes 10.0–12.0 × 3.1–4.0 mm, hemi-ovate, slightly obtuse or truncate, inner margin straight, with thickened veins towards base; mid-lobe 30–32 × 1.8–2.3 mm, longer than lateral lobes, linear-triangular, long acuminate, margin entire. **Column** 10.5–11 × 2.7–3.0 mm, short, slightly arching, terete, lobed apically. **Clinandrium-hood** erose, covering anther. **Stigma** ventral, short, concave, covered by a viscous substance. **Rostrum** apical, laminar, slit. **Nectary** penetrating almost two-third of ovary, minutely striated longitudinally. **Anther** 0.9 × 0.9 mm, dorsal, obovate, glandular-papillose. **Pollinia** 4, 0.8 mm long, yellow, sub-equal, obovoid, laterally compressed, inner margin straight; caudicles granulate, longer than pollinia; viscarium semi-liquid. **Capsule** not seen.

OTHER SPECIMENS: ECUADOR: El Oro: Cantón Atahualpa: sector Daucay, 847 m, 01 VII 2017, *Zambrano s.n.*, QCNE! Cantón Piñas: sector Monos, 1000 m, 19 VIII 2019, *Zambrano 2417*, QCNE!

OTHER RECORDS: None seen.

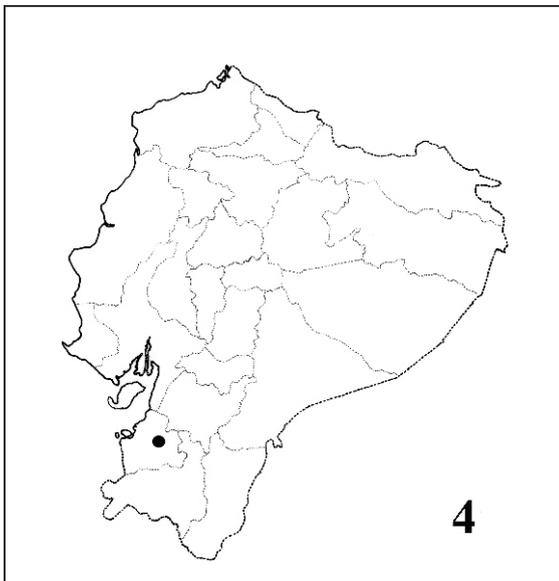
DISTRIBUTION AND ECOLOGY: This species is only known from two populations (Daucay and Monos) in El Oro province in SW Ecuador. It grows as an epiphyte on shrubs of *Carapa* Aublet, *Ocotea* Aublet and *Miconia* Ruiz & Pav. at 847–1000 m elevation. Flowered in cultivation between December and March.

RECOGNITION: *Epidendrum leptopetalum* 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 species is distinguished by the light green, oblong-elliptic to lanceolate leaves, the yellow-green flowers, the lip cream colored, the acuminate sepals, 44–48 mm long, petals 5-veined, the lip less than 39 mm long, with hemi-ovate, slightly obtuse or truncate lateral lobes, one third the length of the mid lobe, the calli small, elliptic-ovate, and the column 10.5–11.0 mm long. The most similar species is *Epidendrum litense* Hágsater & Dodson, from northwestern Ecuador, which is distinguished by the green flowers with the lip white, the smaller dorsal sepal, 28–35 mm, the 3-veined petals, the lip with triangular-falcate lateral lobes, and the shorter column, 7.0–8.0 mm long. *Epidendrum mininocturnum* Dodson, from the Chocó region of Colombia and Ecuador, differs in the smaller plants, less than 15 cm tall, flowers reddish-green to pink with a white lip, the shorter dorsal sepal, 27–28 mm long, the 3-veined petals, and the lip with obliquely semi-ovate lateral lobes. *Epidendrum condornocturnum* Hágsater & Tobar restricted to the southeast of Ecuador and possibly northern Peru, can be distinguished by the elliptic leaves, the larger petals, 67–87 × 3–4 mm, the lip longer than 50 mm, with larger, hemi-elliptic calli, the narrowly hemi-obovate lateral lobes, half as long as the mid-lobe, and the longer column 17–18 mm long.

CONSERVATION STATUS: DD. Data deficient. Presently known from two collections only.

ETYMOLOGY: The specific epithet is from the Greek **λεπτός** “fine, thin, slender”, and **πέταλον** “petal”, in reference to the slender petals.

REFERENCES: Hágsater, E., & C.H. Dodson, 1993, *Epidendrum litense* in E. Hágsater & G.A. Salazar (eds.) *The Genus Epidendrum*, **Icon. Orchid.** 2, pl. 1993. Sánchez, S., L., & E., Hágsater, 2010, *Epidendrum mininocturnum* in E. Hágsater & L. Sánchez S. (eds.) *The Genus Epidendrum*, Part 9, **Icon. Orchid.** 13, pl. 1357. Hágsater, E., & F. Tobar, 2018, *Epidendrum condornocturnum* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 12, **Icon. Orchid.** 16(1), pl. 1613. Zambrano R., B.J., E. Hágsater & R. Solano, 2021, Miscellaneous of new species in *Epidendrum* (Orchidaceae) from southwestern Ecuador, **Phytotaxa** 511(2): 111–147. <https://doi.org/10.11646/phytotaxa.511.2.2>



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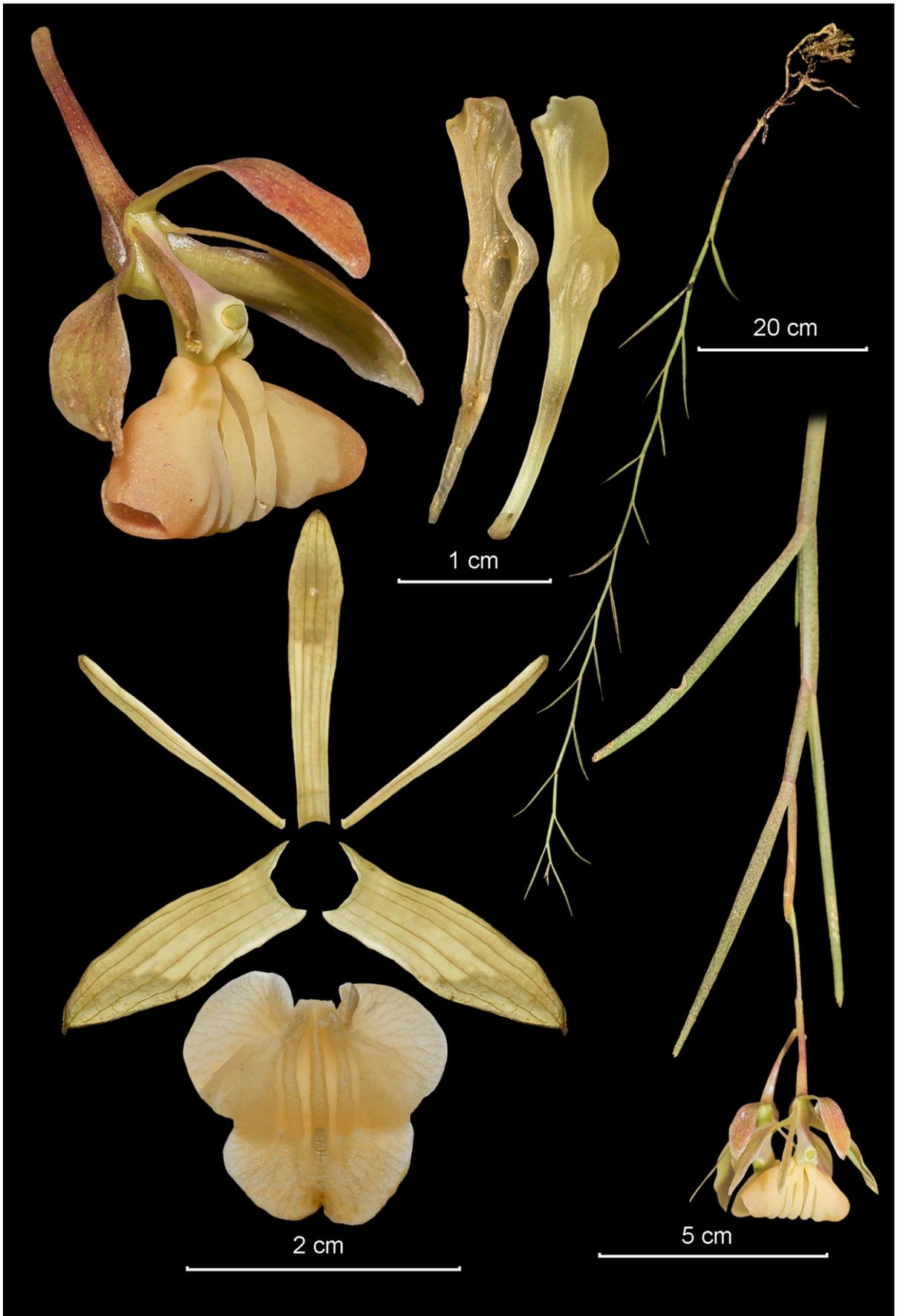
Photo: B. J. Zambrano

Editors: E. Hágsater & E. Santiago

Herbario AMO

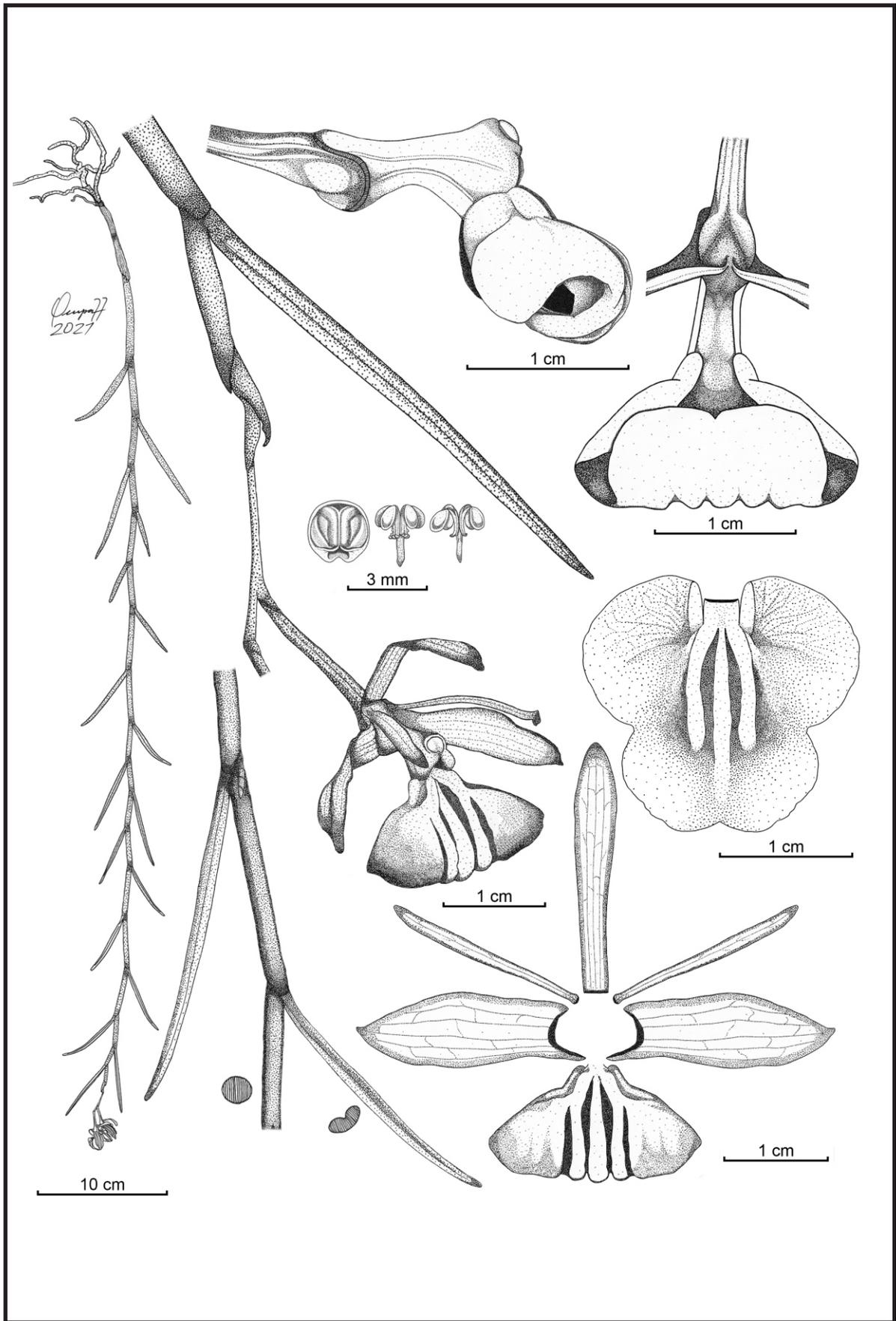
Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 19(1). 2022. Plate 1919



EPIDENDRUM LUFINORUM Ocuca & Hągsater

Plate 1920a



EPIDENDRUM LUFINORUM Ocupa & Hågsäter

Plate 1920b

EPIDENDRUM LUFINORUM Ocupa & Hągsater. *PhytoKeys* 184: 57, Figs. 1, 2, 4C. 2021.

Type: PERU: Cajamarca: San Ignacio: in a coffee plantation, close to the caserío Villa Rica, 1690 m, 3 April 2016, **Luis Ocupa Horna 211**.
Holotype: HUT! (Illustration, LCDP and photo voucher).

Epiphytic **herb**, monopodial, branching, pendulous, slender, about 72 cm long including inflorescence. **Roots** 2 mm in diameter, basal, white, fleshy. **Stems** ca. 65 cm long, terete in cross section, new shoots produced from sub-apical nodes of primary stem, enveloped by sheaths tubular, fleshy, articulated, green with vinaceous spotted, membranaceous near leaf abscission, articulate and leaf-bearing above. **Leaves** 5.5–7.2 × 0.38–0.4 cm, linear, sessile, distichous, fleshy, semi-terete, descending, facing downwards, sulcate adaxially, apex obtuse; sheaths 2.5–5.0 cm long, tubular, appressed, green with vinaceous spots as well as leaves. **Inflorescence** 7 cm long, apical, pendulous, 1–2-flowered, covered to mid portion by 3 successive, imbricating sheaths; peduncle ca. 4.4 cm long, terete, green with pale vinaceous spots; rachis 2 cm long, terete; sheaths 0.8–2.2 × 0.2–0.3 cm, green with vinaceous spots, ensiform, tubular, laterally compressed, ancipitose, apex acute, decreasing in size. **Floral bracts** 2.5 × 1.5 mm, fawn-colored with vinaceous spots, longitudinally triangular, minute, apex acuminate, base truncate. **Ovary** ca. 2 cm long, pedicellate, green with vinaceous spots, progressively thickened towards apex, slightly recurved, with 3 longitudinal furrows, one adaxially and two laterally, forming a ventral gibbous vesicle at apex with basal portion of column. **Flowers** 1–2, lax, pendulous, resupinate, unscented; sepals and petals green turning creamy ochre, abaxially tinged with reddish brown spots and white margin, lip cream, becoming amber as it ages, column light green with vinaceous dorsal side. **Dorsal sepal** 2.4 × 0.4 cm, free, oblong-oblancoelate, arched forward, 5-veined, slightly concave in middle portion towards apex, 3-canaliculate abaxially, margins attenuate, apex obtuse. **Lateral sepals** 2.3 × 0.75 cm, free, obliquely oblong-oblancoelate, arched forward, 5-veined, slightly convex at base to middle portion, margin slightly revolute, involute in middle portion towards apex, apex acute, dorsally keeled. **Petals** 2.2 × 0.2 cm, free, linear, slightly incurved, slender, 1-veined, longitudinally somewhat oblique, obtuse, margins slightly recurved. **Lip** 2.2 × 2.0 cm, 3-lobed, transversely cordate, apex emarginate, fleshy, rigid, strongly revolute in natural position, margin entire; ecallose, disc with 5 central, parallel, prominent, fleshy and thickened ribs, fused at base, disappearing in middle of mid-lobe, two most lateral ribs are much less prominent; lateral lobes 11.9 × 7.2 mm, semi-orbicular when expanded; mid-lobe 15 × 7.5 mm, bilobate. **Column** 13 × 4 mm, clavate, forming a prominent, ventral, gibbous vesicle at base with apical portion of ovary; clinandrium-hood much reduced, margin entire. **Anther** 2.5 × 2.1 mm, broadly elliptical, yellowish green. **Pollinia** 4, fulvous, in 2 nearly equal pairs, obovoid, flattened at interfaces, caudicles attaching them in pairs, granulose, viscarium semi-liquid, translucent. **Capsules** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: This species is currently known only from the type locality in the northern zone of Peru, near the base of the hill known locally as Cerro Parcos, in the village of Villa Rica, San José de Lourdes district. The habitat of *Epidendrum lufinorum* is within an area with high agricultural activity such as the cultivation of *Coffea arabica* L. (Rubiaceae Juss.). No more individuals of this species were found in the surrounding areas, but a fertile individual (holotype) and some other small specimens growing as epiphytes on the trunks of *C. arabica* plants, occasionally sharing the same phorophyte with other orchid species such as *Gongora aromatica* Rchb.f., *Masdevallia glandulosa* Königler, *Stenia calceolaris* (Garay) Dodson & D.E.Benn. and *Telipogon astroglossus* Rchb.f., which would support the hypothesis of a possible adaptation of this species to anthropized environments. However, its habitat continues to be fragmented as a consequence of tree felling, the expansion of agricultural crops and practices such as pruning and clearing coffee trees of epiphytic plants. *Epidendrum lufinorum* was observed flowering in April, at the end of the rainy season in that region.

RECOGNITION: *Epidendrum lufinorum* belongs to the *Laxicaule* group, which is characterized by the pendent plants, the stems branching, laterally compressed to ancipitose, wide, the leaves comparatively short, with short, racemose, few-flowered inflorescences, the flowers large, the lip usually with very prominent ribs. *Epidendrum lufinorum* is most similar to *E. laxicaule*, from which it differs in the shape and length of the dorsal sepal; the shape of the petals and the lip, the disc ribs position on the lip; shape of the vesicle formed between the ovary and the column as well as the cross-section of the stem. It is worth mentioning that the type specimen of *E. lufinorum* we collected was a young plant with the stem unbranched but had a new emerging secondary branch clearly visible in the photograph of the stem and leaf. *Epidendrum megalopentadactylum* Hągsater & Huayta has large, pendant plants, with ancipitose stems, the leaves reclining, distichous, fleshy, narrowly lanceolate, the flowers large, sepals 37–40 mm long, the flowers star-shaped, white, the sepals faintly tinged pink, the petals greenish white, and the lip with a very prominent 5-ribbed callus, reminiscent of a closed fist of 5 bulging fingers.

NOTE: There are two other undescribed species of this group for which only photographs are known and reproduced and compared in the original paper where this species is described. Unfortunately, no herbarium material is known.

CONSERVATION STATUS: Data deficient. Presently known from a single individual.

ETYMOLOGY: The epithet is an acronym formed by the first two letters of the names Luis (1966–), Fiorella (1993–) and Noemí (1970–), parents and sister of the first author, to whom he wishes to dedicate this species.

REFERENCES: Bennett, Jr., D. E., & E. A. Christenson, 1998, *Epidendrum laxicaule*, in *New Species of Peruvian Orchidaceae V, Lindleyana* 13(1): 31–56. Bennett, Jr., D. E., & E. A. Christenson, 1998, *Epidendrum laxicaule*, in *Orchids of Peru, Icon. Orchid. Peruvianum* t. 462. Hągsater, E., & A. Huayta B., 2018, *Epidendrum megalopentadactylum* in E. Hągsater & E. Santiago (Eds.) *The Genus Epidendrum*, Part 12, *Icon. Orchid.* 16(2): pl. 1683. Ocupa H., L., E. Hągsater & M. M. Jiménez, 2021, A new species of *Epidendrum* (Orchidaceae) of pendulous habit from Peru, *PhytoKeys* 184: 55–66.



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LCDP: L. Ocupa H. & A. Cisneros

Illustrator: L. Ocupa H.

Photo: L. Ocupa H.

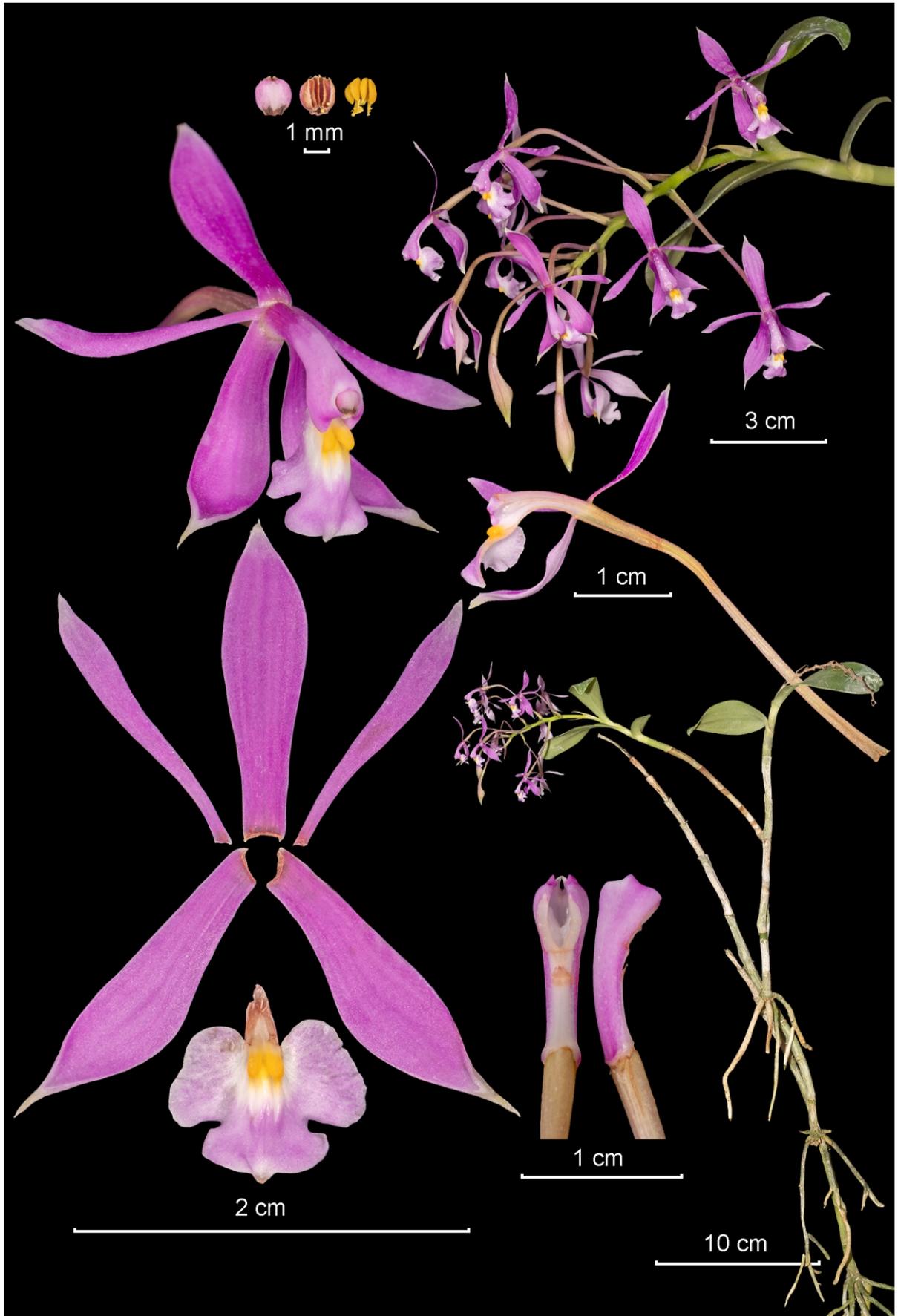
Editors: E. Hągsater & E. Santiago

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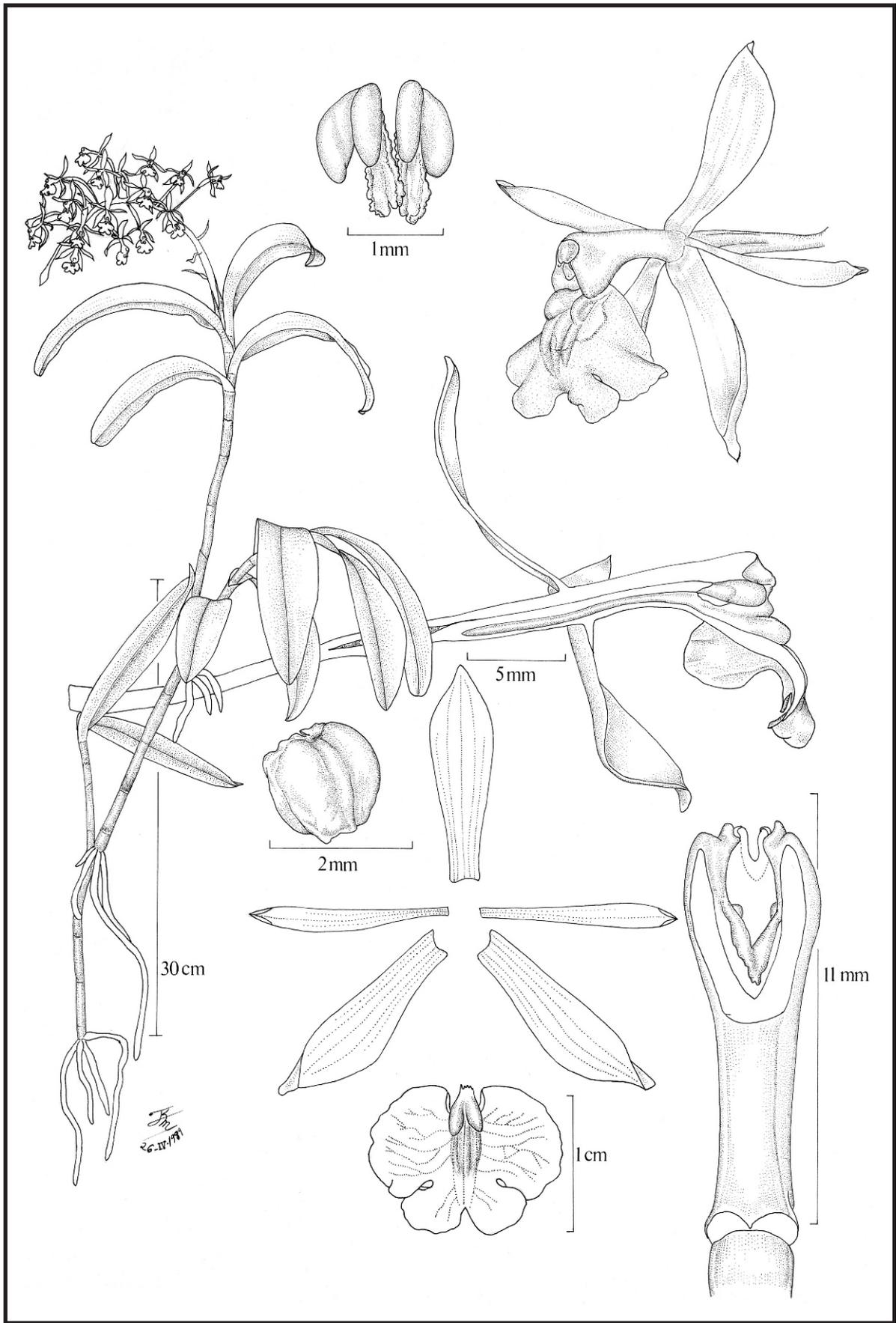
ICONES ORCHIDACEARUM 19(1). 2022. Plate 1920

Empty



EPIDENDRUM MAGNIFICUM Schltr.

Plate 1921a



EPIDENDRUM MAGNIFICUM Schltr.

Plate 1921b

EPIDENDRUM MAGNIFICUM Schltr., Beih. Bot. Centralbl. 36(2): 406. 1918.

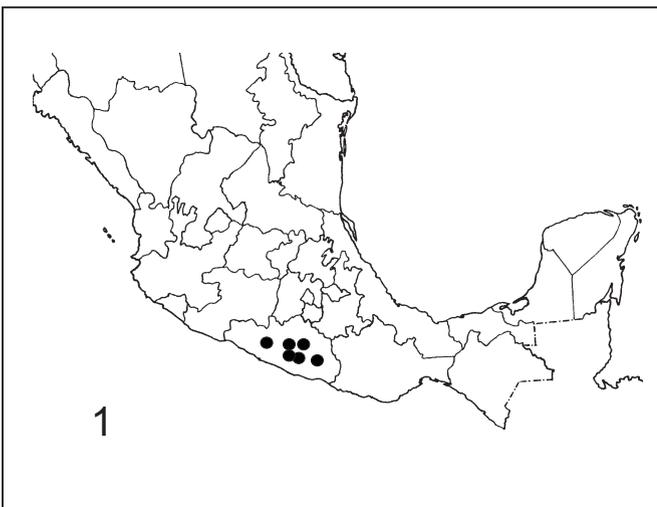
Holotype: México, Sierra Madre, 2000 m, 21 April 1899, **Eugène Langlissé 1003**. Holotype: B, destroyed. (Copy of illustration of Schlechter Herb. AMES (HUH 00070567!)) Lectotypes (designated by Cervantes, Hágsater & Soto, 2002: pl. 575): Lectotype: G! (specimen with dense raceme annotated by Schlechter). Isolectotypes: AMES 22653 [fragment of P 00466754, with sketch of flower], AMES 73426, AMES 22657! (two flowers), F 1540404! G! K! P 00466755! P 00466754! US 386323!

SYNONYM: *Epidendrum sylvettei* Hágsater, Orquídea (Mexico City) n.s. 4(5): 132. 1974. Type: MEXICO: Guerrero: Mun. Leonardo Bravo: Barranca Cruz de Ocote, entre Xochipala y Atoyac de Álvarez, 1900 m, 2 marzo 1972, **Eric Hágsater & Federico Halbinger 2435**. Holotype: MEXU! Isotypes AMES! ENCB! MEXU! *Ibid.* 6 marzo 1976, illustration AMO!

Epiphytic or lithophytic sympodial, erect, climbing **herb**, to 180 cm tall, new stem originates in a middle internode about 1/3 from base of previous stem. **Roots** 3-4 mm in diameter, basal in main and some upper stems, white and fleshy. **Stems** 15-55 × 0.6-1.0 cm, cane-like, erect, terete, smooth, basal part covered by non-foliar sheaths. **Leaves** 3-6, aggregate towards apex of stems, distichous, articulate, fleshy coriaceous, dark green; sheaths 2.5-5.5 cm long, smooth; blade 6.5-20 × 1.7-4.2 cm, narrowly elliptic to narrowly obovate, apex acute, margin entire, spreading. **Spathe** lacking. **Inflorescence** 15-30 cm long, apical from mature stem, racemose, arching-nutant, sub-cylindrical; peduncle 2.3-3.5 cm long, terete, rachis 25 cm long. **Floral bracts** 10-30 × 3 mm, about half as long as ovary, progressively shorter, triangular, acuminate, embracing. **Ovary** 18-53 mm long, terete, slightly inflated ventrally behind perianth, furrowed. **Flowers** 10-70, opening in succession, first flowers wilted when last buds open, most open simultaneously, resupinate, magenta to rose-lilac, the calli yellow and base of lip white, column magenta to rarely white, anther magenta to white; fragrance none. **Sepals** free, spreading, arching forward, acute, 7-veined, with additional secondary veins, margins entire, spreading; dorsal sepal 12-20 × 4-6 mm, somewhat reflexed at base, elliptic to elliptic-oblongate; lateral sepals 12-20 × 4-5 mm, elliptic, oblique, concave distally, apex aristate with prominent dorsal keel, apical margin entire. **Petals** 12-17 × 2-4 mm, spreading, arching forward, becoming increasingly involute with age, linear-oblongate to linear spatulate, acute, 3-veined, membranaceous, margins somewhat revolute. **Lip** 11-20 × 10-14 mm, united to column, base prominently cordate, convex, 3-lobed, spreading, margins slightly revolute; bicallose, calli in front of column, divergent, finger-like; disc with 3 parallel ribs, mid-rib fleshy-thickened, progressively wider, without reaching apical sinus; lateral lobes 4-5 × 3-8.3 mm, semi-orbicular, margins somewhat sinuous; mid-lobe 3-5 × 6.5-9.1 mm, bilobed, deeply emarginate, lobes divergent, sub-quadrate, rounded. **Column** 11-15 mm long, clavate, straight, thin near base, widened ventrally thereafter. **Clinandrium-hood** reduced, entire. **Anther** ovoid, with a rib running in front, 4-celled. **Pollinia** 4, obovoid, laterally compressed, sub-equal, in two pairs, pale yellow; caudicles soft and granulose, slightly longer than pollinia; viscarium semi-liquid, transparent. **Nectary** narrow at middle of column, widened toward base, penetrating about 1/4 of pedicellate ovary, unornamented. **Capsule** 30-40 × 12-18 mm, ellipsoid.

OTHER SPECIMENS: MEXICO: Guerrero: Mun. Atoyac de Álvarez: 4.5 km al oeste de Puerto del Gallo, camino a Atoyac, 1400 m, 28 IV 2007, *Ramírez Amezcua 1019*, IEB! Mun. General Heliodoro Castillo: Tres Caminos, 15.5 km al SO, 2030 m, 28 III 1998, *Calónico 8444*, FCME! Mun. Leonardo Bravo: Tres Caminos 0.76 al SO, 2120 m, 5 V 1997, *Calónico 8857*, FCME! IEB! Mun. Atoyac de Álvarez: 68 km al N de Atoyac de Álvarez, 5400 ft, 11 II 1989, *Catling M89.4*, AMO! 6.5 km al SE de Omiltemi, por el camino a La Soledad, 2300 m, 9 IV 1982, *Contreras 1044*, FCME! 4 km al SO de Tres Caminos, 2150 m, 27 VI 1997, *Cruz 1141*, FCME! Los Bajos, 27 II 1998, *Diego 7626*, 7627, FCME! 4.5 km al SO de Omiltemi, 2450 m, 2 IV 1985, *González 550*, AMO! Camino Ocotito-Jaleaca, desviación a la derecha en el km 6 antes de cruzar el río km 27, 1 VIII 1971, *Hágsater 1972*, AMO! (spirit). Barranca Cruz de Ocote, 1900 m, *Hágsater 2436*, AMO! *Ibid.*, 10 III 1980, AMO x2! US! *Ibid.* 30 III 1980, AMO! *Ibid.*, 9 I 1982, MO! *Ibid.* 14 III 1982, AMO! *Ibid.*, 3 abril 1984, AMO! 21 II 1986, AMO! *Ibid.*, 30 marzo 1987, AMO! *Ibid.*, 1 VII 1988, AMO! Omiltemi, 2600 m, 5 I 1977, *Hágsater 4147*, AMO! Barranca Cruz de Ocote, 1940 m, 14 II 1990, *Hágsater 4838*, AMO! Atoyac de Álvarez: El Gallo-Paraíso, 1840 m, 19 II 1978, *Hágsater 4387*, AMO! Barranca Cruz de Ocote, 1900 m, 1 IV 1986, *Hágsater 4838*, AMO! Cruz de Ocote, 1900 m 1 IV 1986, *Hágsater 6267*, AMO! Técpan de Galeana: Pie de la Cuesta-Toro Muerto *Hinton 11220* K! Cruz de Ocote, 1900 m, 16 VIII 1984, *Laboratorio de Biogeografía 1398*, FCME! ca. 3 km SE El Carrizal, camino a Puerto del Gallo, 2610 m, 25 III 1981, *Lorea 1168*, FCME! ca. 3 km NE de Cruz de Ocote, 2220 m, 25 V 1982, *Lorea 2036*, FCME! 9 km al S de Yerba Santa, 2170 m, 15 VII 1982, *Lorea 2089*, AMO! FCME! Al SO de Omiltemi, 2200 m, 16 III 1985, *Lozano 571*, 580, AMO! FCME x2! 4 km al O de Omiltemi, *Martínez 534*, MEXU! 2 km al SO de Tres Caminos, *Martínez 3926*, MEXU! Omiltemi, Méndez 320W, FCME!; 405 FCME! La Pastora, 2150 m, 4 I 1984, *Salazar 16*, AMO! Omiltemi, 2300 m, 4 V 1989, *Salazar 4201*, AMO! (Illustration voucher). *Ibid.* pressed 14 IV 1990, AMO! La Pastora, cerca de Filo de Caballos, 2250 m, 1 VII 1982, *Soto 1058*, AMO! 14 km al SO de Filo de Caballo, *Soto 8367*, MEXU! 28 km por el camino WSW de Filo de Caballos, 1800-1900 m, 10 VI 1985, *Thomas 3791*, FCME! NY! SEL! Malinaltepec: Ladera N del cerro Talpizahuac, a 200 m de la Desv. Tilapa-Tlaltenango 2110 m, 24 III 1982, *Velázquez 91*, FCME! 6 km NE de Cruz de Ocote, 2200 m, 12 III 1983, *Velázquez 197*, FCME! Tlacotepec: 15 km E de Puerto del Gallo, 1960 m, 25 IV 1983, *Velázquez 275*, FCME!

OTHER RECORDS: MEXICO: Guerrero: Coyuca de Catalán: El Aguacate, arriba La Ola, 2400 m, rec'd 13 IV 2019, *Cornejo s.n.*, Digital image, AMO! Leonardo Bravo: entre El Asoleadero y La Pastora, 2400 m, rec'd 5 IV 2016, *Esquivel s.n.*, digital image AMO! (Photo voucher). Leonardo Bravo: Cruz de Ocote, *Hágsater 2438*, digital images, AMO! km 185 del camino Atoyac de Álvarez-Xochipala, entre Asoleadero y La Pastora, 2450 m, 10 IV 2005, *Jiménez 2551*, digital image, AMO! Cruz de Ocote, 13 IV 2018, *Solano s.n.*, digital image, AMO!



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Illustrator: R. Jiménez M.

Photo: L. Esquivel

Editors: E. Hágsater & E. Santiago

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Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 19(1). 2022.

Plate 1921

DISTRIBUTION AND ECOLOGY: Restricted to Mexico, the Sierra Madre del Sur in the state of Guerrero, from near Tilapa in eastern Guerrero west to Omiltemi and 80 km west of the Teotepec peak, a range of 360 km along the Sierra Madre del Sur. Epiphytic and lithophytic in wet oak, pine-oak and mountain cloud forests, and in the karst area of Cruz de Ocote in a wet brush of *Oreopanax*, *Clusia*, *Bursera* and *Eugenia*, or *Oreopanax*, *Chiranthodendron pentadactylon*, *Persea*, *Licaria* and oaks, at 1400-2620 m elevation. Flowering from January to July.

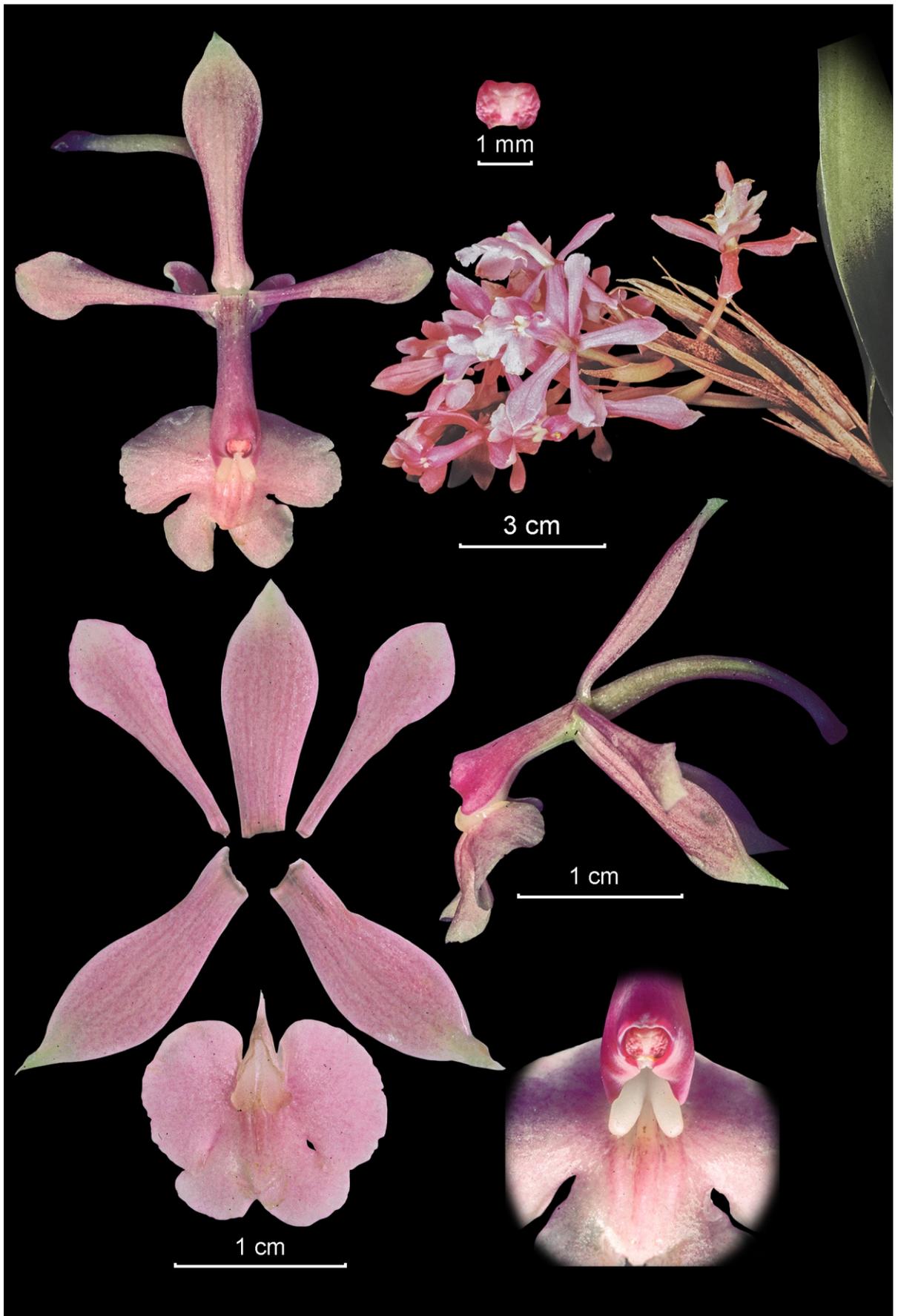
RECOGNITION: *Epidendrum magnificum*, belongs to Arbuscula group which is characterized by the successive lateral growths produced from the middle of the previous growth, the few leaves aggregate towards the apex of the stems, the apical inflorescence, arching-nutant, with brightly colored flowers with long ovaries, and the lip entire to 3-lobed. The species is recognized by the very attractive magenta to rose-lilac-colored flowers with yellow calli and the base of the lip somewhat white, as sometimes are the mid-ribs of the lip, or occasionally the column, without fragrance. *Epidendrum fredmulleri* Hágsater from Chiapas and west of the populations in Guerrero, has similarly colored flowers but the base of the lip and mid-ribs are yellow, and the flowers are notably fragrant at night till morning. *Epidendrum cuchumatanense* Grajeda, M.L.Maldonado & Hágsater from Guatemala has a pale pink colored column and lip with sepals pink-red and the calli red and the ovaries 28-38 mm long. *Epidendrum nicaraguense* Scheeren ex Hágsater also has simultaneous lilac flowers but with yellow calli, a white disc and the apex of the column darker lilac, and is found in Honduras, Nicaragua, El Salvador, and eastern Guatemala. In Oaxaca there are two closely related species with yellow and white flowers: *E. greenwoodii* Hágsater with white and yellow flowers, and *E. camposii* Hágsater, with pale pink to white flowers.

NOTE: There is a photograph of a specimen collected by Octavio Suarez in Oaxaca, next to a population of *Epidendrum greenwoodii*, which is similar to *E. magnificum*, but the sepals and petals are fuchsia, the column white and the lip white at base and mostly lilac. It looks superficially like *E. magnificum*, but due to the differences, and being far from the known range of the species, we have omitted it here. Oaxaca: Hort. Orquideario La Encantada, km 180 a Puerto Escondido, cerca de Cerro del Vidrio, Santa María Yolotepec. Digital image, AMO! The plant photographed by Cornejo at El Aguacate, 60 km further west from Toro Muerto, has somewhat brown sepals and petals. However, it should be noted that digital cameras have difficulty reproducing real colors in the pink to purple scale.

NATURAL HYBRID: A specimen collected in Omiltemi in the presence of both parents was collected by Salazar 1895 sub Hágsater 9364, flowers in spirit, AMO, and flowered in cultivation, digital images, illustration, AMO! *Epidendrum magnificum* × *E. anisatum* Lex. It is illustrated in another plate in this volume pl. 1922.

CONSERVATION STATUS: The habitat of this species has been rapidly fragmented by the felling of the forests for various crops, and in addition the species seems to have a limited range in the mountains west of Chilpancingo, Guerrero, and is very desirable due to its beautiful inflorescences, so we believe it should be placed among the Threatened species.

REFERENCES: Cervantes, L., E. Hágsater, & M. Soto, 2002, *Epidendrum magnificum* in E. Hágsater & M. Soto (eds.), Orchids of Mexico, Part 2-3, **Icon. Orchid.** 5-6: pl. 575. Grajeda E., R., M.L. Maldonado & E. Hágsater, 2022, *Epidendrum cuchumatanense* in E. Hágsater & E. Santiago (Eds.), The Genus *Epidendrum*, Part 15, **Icon. Orchid.** 19(1): pl.1910. Hágsater, E. 1987. Nuevas especies del grupo *Epidendrum arbuscula* de México y Centroamérica. **Orquídea (Mexico City)** n.s. 10(2): 337-353. Hágsater, E. 1993, *Epidendrum camposii* in E. Hágsater & G.A. Salazar (Eds.) **Icon. Orchid.** 2: pl. 118. Hágsater, E., 1974, Una nueva especie del Sur de México, *Epidendrum sylvestrii*. **Orquídea (Mexico City)** n.s. 4(5): 131-136. Hágsater, E., 1993, *Epidendrum nicaraguense* in E. Hágsater & G.A. Salazar (Eds.), The Genus *Epidendrum*, Part 1, **Icon. Orchid.** 2: pl. 162. Hágsater, E., 2022, *Epidendrum fredmulleri* in E. Hágsater & E. Santiago (Eds.), The Genus *Epidendrum*, Part 15, **Icon. Orchid.** 19(1): pl. 1912. Santiago, E., & E. Hágsater, 2008, *Epidendrum greenwoodii*, in E. Hágsater & L. Sánchez S. (Eds.), The Genus *Epidendrum*, Part 7, **Icon. Orchid.** 11: pl. 1129.



EPIDENDRUM MAGNIFICUM × ANISATUM

Plate 1922a



EPIDENDRUM MAGNIFICUM × ANISATUM

Plate 1922b

EPIDENDRUM MAGNIFICUM × ANISATUM

Hybrid formula: *Epidendrum magnificum* Schltr. × *Epidendrum anisatum* Lex.

Specimen: MEXICO: Guerrero: Chilpancingo de los Bravo: Parque Ecológico Estatal Omiltemi, ca. 27 km W de Chilpancingo: Cañada de Potrerillos, ca 2 km adentro desde el camino principal a Omiltemi, 2300 m, col. 3 Julio 1985, prensado 14 abril 1990, **Gerardo A. Salazar 1895**. AMO 11915! (LCDP, illustration and photo voucher).

Epiphytic, sympodial, climbing **herb**, to 120 cm tall including the inflorescence. **Roots** 3-5 mm in diameter, basal, from primary and upper stems, fleshy thick. **Stems** 22-45 × 0.5-1.0 cm, cane-like, terete, originating from the basal 2nd-4th node of the previous stem, slightly compressed above. **Leaves** 4-8, distichous, distributed along the apical half of stems; sheaths 3.5-6 cm long, tubular, smooth, blade 6-19 × 1.7-3.5 cm, narrowly elliptic, acute, sub-coriaceous, smooth dark green, margin entire, spreading. **Spathes** lacking. **Inflorescence** 11 cm long, apical from mature stem, flowering only once, racemose, arching, peduncle terete, straight, provided with numerous bracts 30-42 × 4 mm, not imbricated, straight, brown. **Floral bracts** 13-18 × 4-5 mm, as long as ovary to somewhat shorter, triangular, acuminate, embracing. **Ovary** 18-20 mm long, terete, not inflated, unornamented, furrowed. **Flowers** 10, resupinate, simultaneous, pink with disc of lip darker, calli white, column dark pink; fragrant diurnal and nocturnal, intense, agreeable, herbaceous, sweet, reminiscent of that of *Epidendrum anisatum* (Anisaldehyde, Hágsater & Holman, 1984). **Sepals** 15 × 5 mm, spreading, obovate-oblongate, acute, 5-veined, with additional secondary veins, margins entire, side margins revolute, lateral sepal apiculate. **Petals** 14 × 3 mm, spreading, obovate-spatulate, obtuse, membranaceous, 3-veined, margins entire, side margins revolute. **Lip** 10 × 14 mm, united to column, 3-lobed, bicallose, calli finger-like, divergent, disc with 3 low, rounded, parallel ribs, short, disappearing at base of mid-lobe; lateral lobes about as large as mid-lobe, margins entire, side margins somewhat revolute; lateral lobes sub-orbicular 5.2 × 7.4-7.6 mm, mid-lobe 5.0 × 7.6 mm, bilobed, deeply emarginate, lobes semi-orbicular. **Column** 10 mm long, straight, thin. **Clinandrium-hood** reduced, margin entire. **Rostellum** apical, slit. **Anther** reniform, base emarginate, apex truncate, 4-celled. **Pollinia** 4, sub-equal, hemi-obovoid, laterally compressed, rounded; caudicles in two pairs, soft and granulose, longer than the pollinia; viscarium semi-liquid, transparent. **Nectary** shallow, penetrating $\frac{1}{4}$ of the pedicellate ovary, unornamented. **Capsule** not seen.

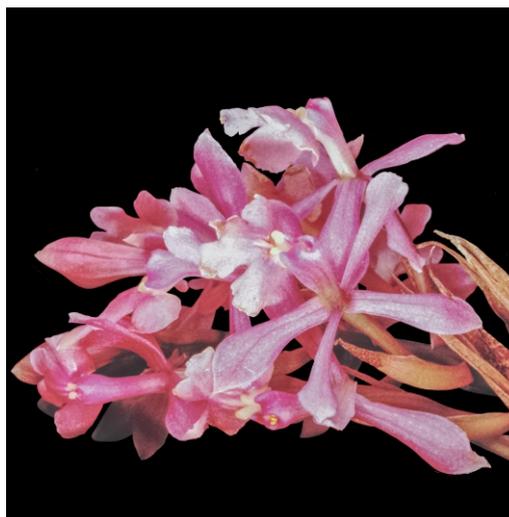
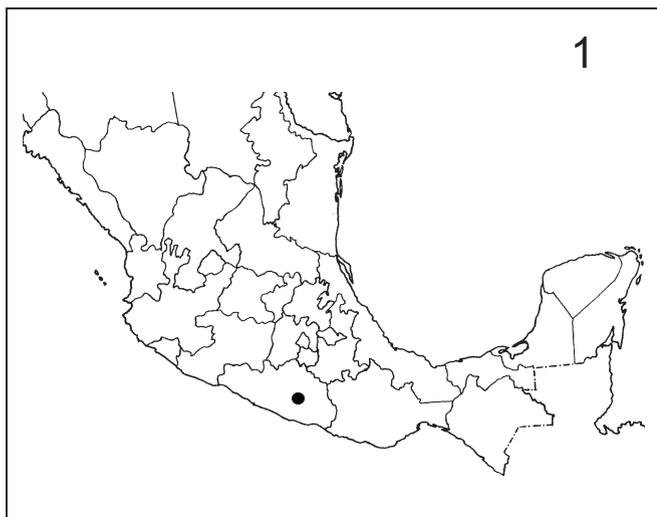
OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known from a single specimen, from the Parque Ecológico Estatal Omiltemi, Guerrero, in riparian montane mesophilous forest with *Clusia rosea*, *Oreopanax xalapensis*, and *Tilia* sp. among others, in contact with pine-oak forest at higher elevation, growing on a moss-covered tree, next to stream, next to a plant of *Epidendrum magnificum*. *Epidendrum anisatum* was found growing on rocks and trees in oak forest at somewhat higher elevation.

RECOGNITION: *Epidendrum magnificum* × *anisatum* is apparently a rare case of a natural hybrid between two sympatric species of two groups which are closely related and both belong to the Mexican clade ("Clade B" in Hágsater & Soto 2005: 244; Salazar & Hágsater, unpublished); the Anisatum group, to which *Epidendrum anisatum* belongs, and the Arbuscula group to which *Epidendrum magnificum* belongs. The hybrid is clearly intermediate both vegetatively as well as florally. The stems are produced from the 2nd-4th internode of the previous stem, the leaves are neither as narrow nor as wide as the parents, and peculiar is the inflorescence which has a short pedicel with numerous long non-imbricated bracts which are not present in either parent. In the case of *Epidendrum anisatum* the inflorescence is a short raceme that produces new racemes in successive years. In the case of *Epidendrum magnificum* the inflorescence is a long raceme, up to 30 cm long, which only flowers once and does not have bracts on the peduncle. The color of the flowers is clearly intermediate, pink instead of maroon or green tinged red.

REFERENCES: García-Cruz, J. & E. Hágsater, 1998, Revision of *Epidendrum anisatum* Group (Orchidaceae). **Proceedings of the 15th World Orchid Conference, Rio de Janeiro 1996**. Naturalia Publications, Turriers, France. pp. 223-234. Hágsater, E., 2022, *Epidendrum magnificum* in E. Hágsater & E. Santiago (Eds.), *The Genus Epidendrum*, Part 15, **Icon. Orchid.** 19(1): pl. 1921. Hágsater, E., & R.T. Holman, 1984, *Epidendrum durangense* Hágsater & Holman, Una nueva especie del occidente de México, **Orquídea (Mexico City)** n.s. 9(2): 299-312. Hágsater, E. & M. Soto, 2005, *Epidendrum*, in A.M. Pridgeon, P.J. Cribb, M.W. Chase & F.N. Rasmussen, **Genera Orchidacearum** 4 Epidendroideae (Part One): 236-251. McVaugh, R., 1985, *Epidendrum anisatum*, in **Flora Novo-Galiciana** 16, Orchidaceae 104-107.



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LCDP: G. A. Salazar. & A. Cisneros

Illustrator: R. Jiménez M.

Photo: G. A. Salazar

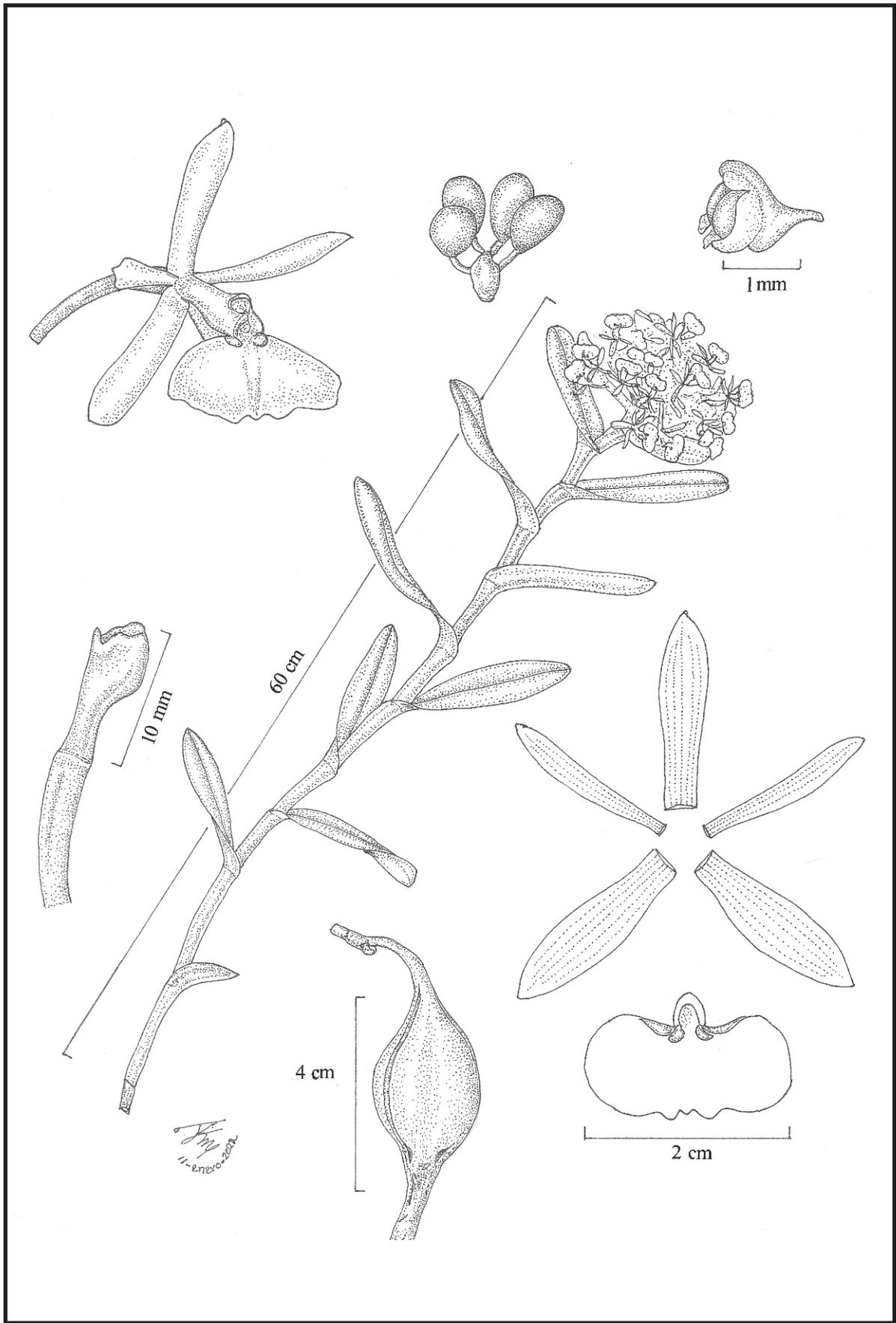
Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 19(1). 2022. Plate 1922

Empty



EPIDENDRUM MANUEL-LUCASIANUM Archila & Hągsater

Plate 1923a



EPIDENDRUM MANUEL-LUCASIANUM Archila & Hágsater

Plate 1923b

EPIDENDRUM MANUEL-LUCASIANUM Archila et Hągsater, sp. nov.

Type: GUATEMALA: Alta Verapaz, Ciudad de Cobán, colectado en un Aguacatal de la Estación Experimental de Orquídeas de la Familia Archila, 3 de junio de 2010, 1300 m, **Fredy Archila s.n.** Holotype: BIGU! Isotype: AMO! (Illustration & photo voucher).

Similar to *Epidendrum melistagum* Hągsater, but the plants larger, stems 40-70 cm tall (vs. stems 17-50 cm tall), the flowers larger, sepals 20 mm long (vs. sepals 14-16 mm long), the lip 10 x 20 mm, reniform and apex tridentate (vs. lip 9-11 x 15-17 mm, sub-reniform with an apical sinus), the lip bicallose, the calli clavate and parallel (vs. a single callus forming a truncate platform at the apex of the column), and the anther with a long narrow, semi-tubular projection in front (vs. anther with a short wide semi-tubular projection).

Epiphytic, caespitose, sympodial, aching pendent herb, 50-80 cm tall including inflorescence. **Roots** 2 mm in diameter, thick, fleshy, from base of stems. **Stems** ca. 40-70 x 1.5-2 cm, erect, becoming arching pendent, slightly sinuous, laterally compressed, acnicipitose. **Leaves** 7-11, distributed throughout stems, spreading, basal ones somewhat ascendent, distichous, articulate; sheaths 5-7 x 1.5-2.0 cm, laterally compressed, acnicipitose, medium green; blades unequal in length, progressively larger towards apex of stem, with exception of last which is somewhat bract-like; blades 2-16.5 x 1.5-4.0 cm, elliptic to ovate-elliptic, apex obtuse, unequally bilobed, medium green, margins entire, spreading; apical leaf much reduced, 3.0-4.5 x 2.2-3.0 cm, falcate, somewhat spathe-like, subtending sessile inflorescence. **Spathe** lacking. **Inflorescence** 12 cm in diameter, apical, sessile, sub-umbellate, with numerous bracts progressively smaller; rachis very short. **Floral bracts** 1-2 x 1.4 cm, progressively more translucent, elliptic to ovate to linear, acuminate. **Ovary** 44 x 3 mm, terete, somewhat thickened towards apex, furrowed. **Flowers** 18-23, forming a semi-spherical umbel, light green, concolor, simultaneous; fragrant at night, reminiscent of *Magnolia* and citrus, with presence of nectar. **Sepals** 20 x 7 mm, free, spreading, narrowly obovate, acute, 5-veined, margins entire, revolute; lateral sepals oblique, apex short aristate. **Petals** 15 x 3 mm, free, spreading, oblanceolate, acute, 3-veined, margins entire, somewhat revolute. **Lip** 10 x 20 mm, united to column, transversely reniform, base deeply cordate, apex tridentate, three points triangular; bicallose, calli clavate, parallel, with a low mid-rib running to apical triangular mid-lobe; margins entire, apical half revolute in natural position as are basal cordate lobes. **Column** 14 x 5.5 mm, dorsally straight, apex oblique, with a pair of prominent lateral wings forming a right angle next to calli. **Clinandrium-hood** somewhat galeate, covering base of anther, margin entire. **Rostellum** apical, slit. **Anther** galeate, with a prominent semi-tubular projection in front; 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose, short; viscarium semi-liquid. **Nectary** penetrating about 1/4th of pedicellate ovary, narrow. **Capsule** 4 x 2.2 cm.

OTHER SPECIMENS: None seen.

OTHER RECORDS: GUATEMALA: Alta Verapaz: Ciudad de Cobán, colectado en un Aguacatal de la Estación Experimental de Orquídeas de la Familia Archila, 2020, 1300 m, *Archila s.n.*, Digital images, AMO!

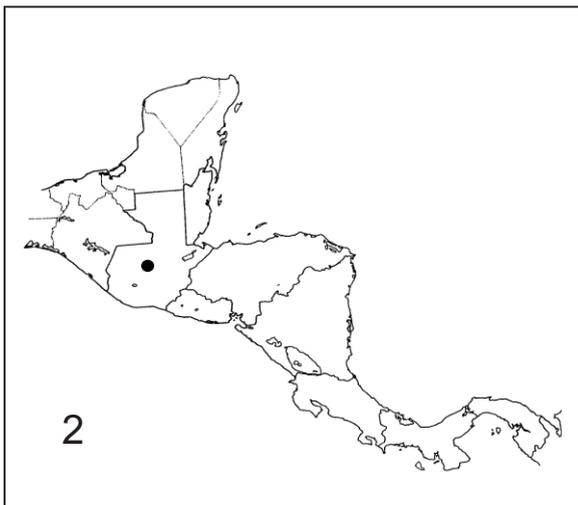
DISTRIBUTION AND ECOLOGY: Presently known from Alta Verapaz in Guatemala, growing in the city of Cobán, on *Persea americana* Mill., at 1300 m elevation. *Epidendrum manuel-lucasianum* is infrequent outside the city, but abundant in trees within the city. Flowering in May-June.

RECOGNITION: *Epidendrum manuel-lucasianum* 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 very tall stems, the tallest in the Difforme Group, ca. 40-70 cm tall, laterally compressed, acnicipitose, the large leaves, especially those at the middle of the stems, blades 2-16.5 x 1.5-4.0 cm, the sepals 20 mm long, the lip transversely reniform, base deeply cordate, apex tridentate, the three points triangular, bicallose, the clavate calli parallel, and the anther with a prominent semi-tubular projection in front. It is comparable to *Epidendrum melistagum* Hągsater which also has the stems laterally compressed, acnicipitose, but shorter stems, 17-50 cm long, smaller flowers, sepals 14-16 mm long, the lip 9-11 x 15-17 mm, sub-reniform with an apical sinus, a single callus forming a truncate platform at the apex of the column, and the anther has a short wide semi-tubular projection in front; it produces drops of honey on the lip, usually in front of the callus, and the flowers have a strong rancid nocturnal fragrance, reminiscent of sweat in tennis-shoes. Florally it is reminiscent of *Epidendrum chlorocorymbos* Schltr., but that species has terete stems 18-40 cm tall, leaves 3-10 x 1.0-2.5 cm, 5-20 simultaneous flowers with a nocturnal fragrance of yeast used in bread production, the sepals 13-19.3 mm long, and the lip, which also has a pair of clavate calli, 3-lobed, with sub-orbicular lateral lobes and the smaller mid-lobe short and wide, formed by two semi-circular lobes. *Epidendrum melistagoides* Hągsater & L. Sánchez has somewhat laterally compressed stems, not acnicipitose, 7-29 cm tall, the sepals 14-21.5 mm long, the lip 3-lobed, the lateral lobes ovate-elliptic, margin minutely dentate, and the mid-lobe transversely rectangular, emarginate and mucronate, the calli form a platform at the base and then divide into two divergent triangular acute calli, the anther does not have a projection in front; the fragrance at night is that of sweaty shoes and diurnal of over-ripened tropical fruit.

ETYMOLOGY: The species is dedicated to Manuel Lucas, curator of the Estepona Orchid Botanical Garden in Spain, in recognition of his enormous effort to preserve the botanical family Orchidaceae.

CONSERVATION STATUS: LC. Least Concern. The first author has observed the species since the age of eight, on native trees of *Persea americana* in his garden. It was then known as *Epidendrum difforme*. During the following two decades, he observed the species became more frequent on different tree species in urban areas; not so in the wild surrounding forests. The species has become very common, producing large masses of plants near commercial centers or buildings which are illuminated at night. In addition, plants growing in well illuminated places produce many seed capsules, unlike those growing without night light. These lights attract many moths which are attracted to the night-fragrant flowers which also produce nectar, and thus the high pollination success and massive numbers of plants.

REFERENCES: Hągsater, E., 1990, *Epidendrum melistagum*, in E. Hągsater & G.A. Salazar (eds.), *The Orchids of Mexico, Part 1, Icon. Orchid.* 1: pl. 35. Hągsater, E., & L. Sánchez S., 2008, *Epidendrum melistagoides* in E. Hągsater & L. Sánchez S. (eds.), *The Genus Epidendrum, Part 7, Icon. Orchid.* 11: pl. 1141. Hągsater, E., & L. Sánchez S., 2009, *Epidendrum chlorocorymbos* in E. Hągsater & L. Sánchez S. (eds.), *The Genus Epidendrum, Part 8, Icon. Orchid.* 12: pl. 1223.



Authors: F. Archila & E. Hągsater

Illustrator: R. Jiménez M.

Herbario AMO

Ciudad de México, MÉXICO

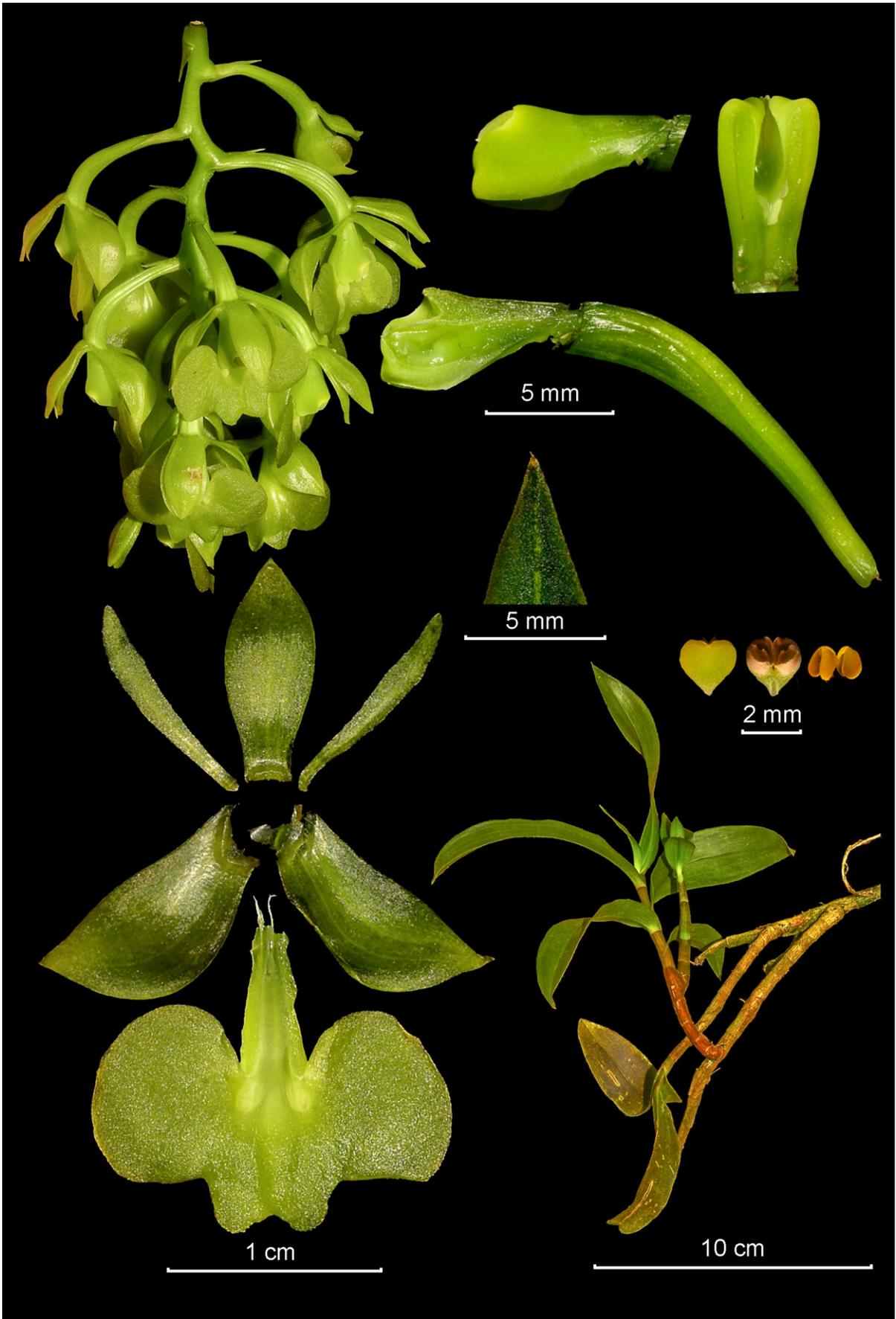


Photo: F. Archila

Editors: E. Hągsater & E. Santiago

ICONES ORCHIDACEARUM 19(1). 2022. Plate 1923

Empty



EPIDENDRUM MARIOI Zambrano & Hágsater

Plate 1924

EPIDENDRUM MARIOI Zambrano & Hágsater, *Phytotaxa* 511(2): 128. Figs. 14-16. 2021.

Type: ECUADOR: El Oro: Cantón Pasaje, cuesta a Chilla, 1275 m, 3 May 2017, **Bosco Javier Zambrano Romero 1905**. Holotype: QCNE! Isotype: QCNE! Digital images of pretype, AMO! (LCDP voucher).

Epiphytic, erect, sympodial **herb**, 25 cm tall. **Roots** 1.0-1.5 mm in diameter, emerging from base of primary stem, fleshy, flexuous, white. **Stems** up to 15 x 0.4-0.6 cm, cane-like, terete, erect to slightly curved, new stem produced from a middle or sub-apical internode of previous stem, lower part covered by 5-8 tubular, imbricated, persistent, chartaceous, gray-brown non foliar sheaths. **Leaves** 2.5-8.5 x 1.2-2.0 cm, 2-6 distributed along apical half of stem, slightly coriaceous, distichous, sessile, oblong-elliptic, acute; sheaths 0.5-1.3 x 0.4-0.5 cm, longitudinally striated, tubular, persistent, chartaceous. **Spathe** lacking. **Inflorescence** apical from mature stem, arching, a simultaneously flowered raceme; peduncle 6-15 x 2.0-2.3 mm, terete, covered by a chartaceous bract 7-11 x 2.3-2.5 mm, conduplicate, persistent; rachis 30-65 x 2 mm, terete, sinuous. **Floral bracts** 3.0-7.5 mm long, narrowly triangular, acute, embracing. **Flowers** 5-15, small, resupinate, sepals and petals green or green-brown, sometimes suffused with purple dorsally, lip green to green-brown, calli light green, column light green or green suffused with brown at apex, anther green or cream colored. **Ovary** 15-16 x 2.0-2.2 mm, slightly arching, terete, furrowed ventrally, thickened along apical third. **Sepals** partly spreading, fleshy, slightly translucent, concave, margin entire, 3-veined, with lateral veins branched, slightly reticulated; dorsal sepal 10.0-10.5 x 3.8-4.5 mm, oblanceolate-elliptic, acute; lateral sepals 11.5-12.0 x 5.2-5.8 mm, obliquely oblanceolate-elliptic, acute, apiculate, carinate dorsally. **Petals** 10.0-10.5 x 1.4-1.6 mm, partly spreading, fleshy, parallel to dorsal sepal, linear-oblanceolate, sub-acute, slightly arched to parallel with margin of dorsal sepal, margin entire, 1-veined, with branches on both sides. **Lip** 10.0-10.8 x 16.0-16.7 mm, fleshy, 3-lobed, fused to column, deeply cordate at base; bicallose, calli small, divergent, elliptic-ovate, rounded, disc with a prominent, thickened mid-rib reaching apical sinus; lateral lobes 8.0-8.5 x 6.2-6.6 mm, obliquely and widely sub-orbicular, rounded, margin entire; mid-lobe 2.3-2.9 x 5.5-6.0 mm, smaller than lateral lobes, bilobate, emarginate, forming a wide sinus. **Column** 7.0-7.7 x 3.5-4.0 mm, short, terete, progressively widening apically, apex forming a wide lobe on each side. **Rostellum** apical, slit. **Lateral lobes of stigma** small. **Clinandrium-hood** much reduced, margin entire. **Anther** 2 x 2 mm, dorsal, ovate, acute, glandular-papillose, 4-celled. **Pollinia** 4, yellow, sub-equal, widely elliptic, laterally compressed, inside surface of each pair flat, waxy, caudicles granulose; viscarium semi-liquid. **Nectary** penetrating one-third of ovary, unornamented. **Capsule** not seen.

OTHER SPECIMENS: ECUADOR: El Oro: Cantón Chilla, Loma de Valsa, 1672 m, 9 VI 2018, *Zambrano 2308*, QCNE! Digital image of inflorescence before pressing, AMO! (photo voucher).

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: *Epidendrum marioi* is presently only known from El Oro province, in remnant forest disturbed by human activities (cuesta a Chilla). The species grows as an epiphyte on branches of shrub of *Euphorbia* and *Myrcianthes* species at 1275-1672 m in elevation. In cultivation it flowered between April and June.

RECOGNITION: *Epidendrum marioi* belongs to the *Incomptum* group which is characterized by having erect successive lateral growths produced from the middle of the previous growth, few leaves aggregated towards the apex of the stems, the short apical inflorescence with fleshy green to violet-green flowers with short ovaries, and the lip entire to 3-lobed. The species is recognized by the oblong-elliptic leaves, the green to green-brown flowers, the dorsal sepal 3 veined, the petals linear-oblanceolate, 1-veined with two lateral branches, and the lip 10.0-10.8 x 16.0-16.7 mm, with lateral lobes obliquely and widely sub-orbicular, the scarcely emarginate mid-lobe, and the column 7.0-7.7 mm long. The most similar species are the Ecuadorian *Epidendrum macuchiense* Hágsater & E. Santiago, *Epidendrum homoion* Hágsater & Dodson, and *Epidendrum oenochromum* Hágsater & Dodson. *Epidendrum macuchiense* can be distinguished from *E. marioi* by the leaves narrowly lanceolate, the dorsal sepal 5-veined, the petals with one vein that is bifurcate near the middle, the lip with transverse-elliptic lateral lobes, and the column longer, 10 mm long. *Epidendrum homoion* differs in the dorsal sepal elliptic, the petals obtrullate, and the larger lip 14-16 x 26-28 mm with a deeply emarginate apex. *Epidendrum oenochromum* differs in the narrower leaves 0.6-0.8 mm, the flowers burgundy-red, the petals oblong, 3-veined, and the mid-lobe of the lip 1/3 the length of the lateral lobes.

CONSERVATION STATUS: Data deficient. Presently known from two close-by localities in southern Ecuador. That part of the country has been heavily deforested and affected by climate change with long dry spells.

ETYMOLOGY: In honor of Mario Javier Aguilar Atiencie (1978-), orchid grower from Marcabellí, Ecuador, who contributed to the discovery of this species.

REFERENCES: Hágsater E., & A. Cisneros, 2021, *Epidendrum macuchiense* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 14, *Icon. Orchid.* 18(2): pl 1882. Hágsater, E. & C.H. Dodson, 1993, *Epidendrum homoion* in Hágsater, E., & G.A. Salazar (eds.), *The Genus Epidendrum*, *Icon. Orchid.* 2: pl. 145. Hágsater, E. & E. Santiago, 2015, *Epidendrum macuchiense* in Hágsater, E., & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 11, *Icon. Orchid.* 15(1): pl. 1537. Hágsater, E. & C.H. Dodson, 2004, *Epidendrum oenochromum* in Hágsater, E., & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 4, *Icon. Orchid.* 7: pl. 768. Zambrano R., B.J., E. Hágsater & R. Solano, 2021, Miscellaneous of new species in *Epidendrum* (Orchidaceae) from southwestern Ecuador, *Phytotaxa* 511(1): 111-147. <https://doi.org/10.11646/phytotaxa.511.2.2>



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LCDP: B. J. Zambrano

Herbario AMO

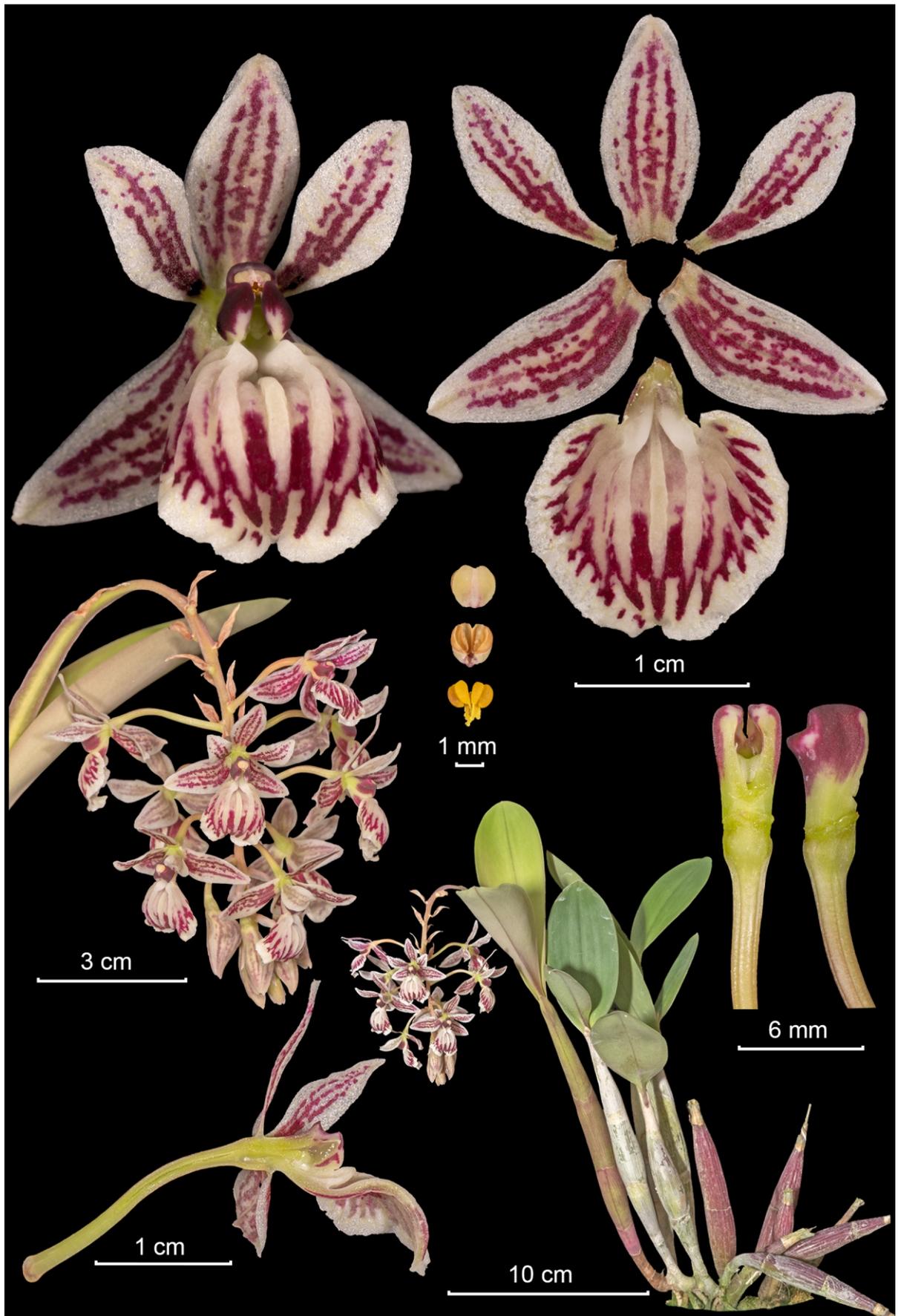
Ciudad de México, MÉXICO



Photo: B. J. Zambrano

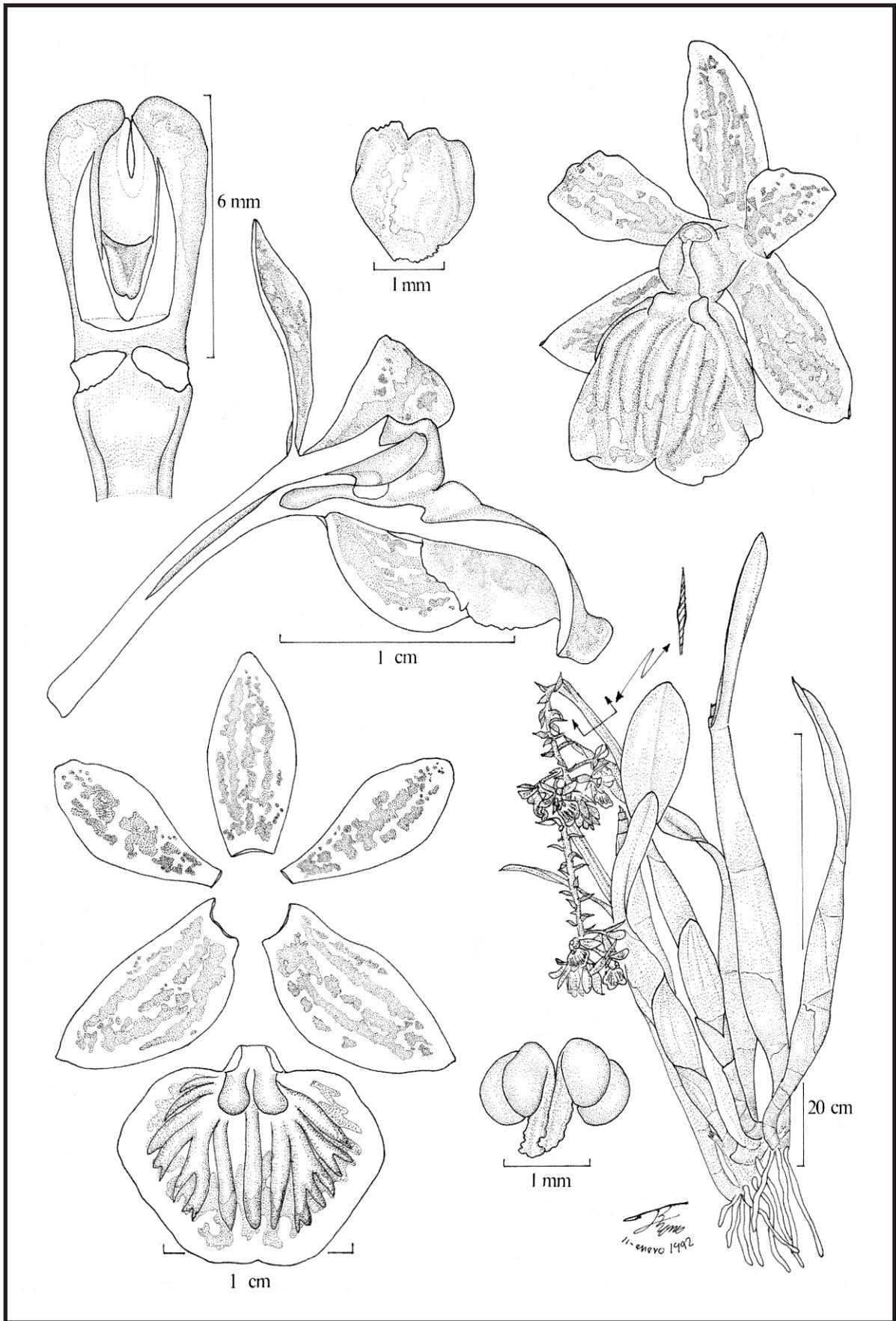
Editors: E. Hágsater & E. Santiago

ICONES ORCHIDACEARUM 19(1). 2022. Plate 1924



EPIDENDRUM MARMORATUM A.Rich. & Galeotti

Plate 1925a



EPIDENDRUM MARMORATUM A. Rich. & Galeotti

Plate 1925b

EPIDENDRUM MARMORATUM A.Rich. & Galeotti, Ann. Sci. Nat., Bot., sér. 3, 3: 21, t. 13. 1845.

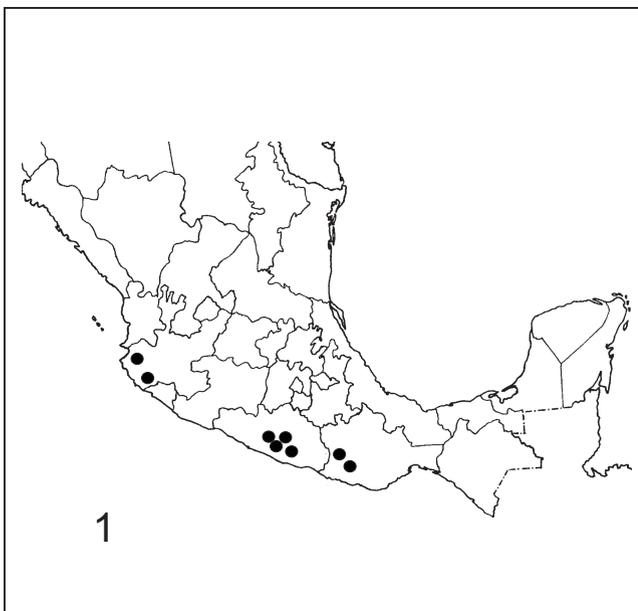
Lectotype: Designated by McVaugh (1985: 115): MEXICO: Oaxaca: [Santa Catarina] Juquila, Côtes de la Mer Pacifique, 6000-6500 ft, septembre 1840, **Henri G. Galeotti 5040**, W 51095! Isolectotypes [Here designated]: **Henri G. Galeotti 5040**, P 0048515! P 0048516!

In addition, there is an original watercolor made by Galeotti as N°89, W 19552! (a watercolor copy at AMES 25242! and a tracing of the watercolor at AMES 25243!)

Synonym: *Auliza marmorata* (A.Rich. & Galeotti) Braem, Orchidee (Hamburg) 32(1): 32. 1981.

Epiphytic, sympodial, erect **herb**, 11-30 cm tall including inflorescence, new stem originates at base of previous stem. **Roots** 1.0-2.5 mm in diameter, originating from rhizome, white and fleshy. **Stems** 9-18 × 1.2-2 cm, forming erect, fusiform pseudobulbs, smooth, basal part covered by non-foliar sheaths. **Leaves** 2, rarely 3, only at apex of stems, distichous, articulate, coriaceous, de color gray green with purple tinge on underside; sheaths 1-5 cm long, smooth; blade 4.0-9.5 × 2.0-3.4 cm, elliptic, obtuse, margin entire, spreading. **Spathe** lacking. **Inflorescence** 7-18 cm long, apical, racemose, arching-nutant; peduncle 4-8 cm long, flattened, 2-winged, sometimes with a small bract 7-2.2 cm long. **Floral bracts** 4-13 × 1.0-1.3 mm, triangular, acuminate, embracing. **Ovary** 18-23 mm long, terete, slightly inflated ventrally behind perianth, smooth, furrowed. **Flowers** 8-30, successive, up to 9 open at same time, up to 3 cm in diameter, first flowers wilted when last buds open, resupinate, background white, with abundant red blotches and thick stripes, keels of lip white, base of column green, apex red. **Sepals** free, spreading, ovate-elliptic, obtuse 5-veined, longitudinally concave along apical half, margins entire, spreading; dorsal sepal 12-13 × 5-6 mm, lateral sepals 13-14 × 5.5-7 mm, oblique, slightly falcate with a low dorsal keel, apex minutely apiculate. **Petals** 12-13 × 5-6 mm, free, partly spreading elliptic-spatulate, oblique, slightly falcate, apex obtuse, 3-veined, margins entire, spreading. **Lip** 10-13 × 14.3-16 mm, united to column, convex, entire, sub-orbicular, base slightly cordate, apex emarginate, margin entire, spreading; bicallose, calli thin, adjacent at base, divergent at apex; disc with 3-5 parallel ribs reaching apical sinus, lateral pair divided into short radiating ribs distributed on sides of lip. **Column** 5-6 × 2-3 mm, clavate, nearly straight, widened vertically in the distal half, wings very fleshy. **Rostellum** apical, slit. **Anther** smooth, without keel, spherical, base emarginate, 4-celled. **Pollinia** 4, obovoid, laterally compressed, in two pairs, pale yellow; caudicles soft and granulose, somewhat longer than pollinia; viscarium semi-liquid, transparent. **Nectary** narrow, penetrating about 4 mm of pedicellate ovary, wide. **Capsule** 54 × 17 mm, pedicel 6 × 1 mm, short, thin body 48 × 17 mm, ellipsoid.

OTHER SPECIMENS: MEXICO: Guerrero: Without locality data, 27 XI 1984, *Hágsater 6043*, AMO! Mun. General Heliodoro Castillo: Viento Frío, 2100 m, 2 XI 1972, *Hágsater 2574*, MEXU! Hueycantenango km 22, 1 XI 1975, pressed cult. 26 IX 1976, *Hágsater 4081*, AMO! (Illustration and slide, AMO) *Ibid.* pressed cult. 28 XII 1984, *Hágsater 4081*, AMO x4! *Ibid.* pressed cult. 15 VIII 1985, *Hágsater 4081*, AMO x3! Aprox. 4.5 km al NO de Tlacoapa, 2240 m, 31 V 1981, *Lorea 1265*, FCME! Camino Chilapa-Hueycantenango, a 5 km después de Alcozacán, 1900 m, 24 II 1991, *García-Cruz s.n.*, AMO *Ibid.* pressed cult. 10 X 1991, *García-Cruz s.n.*, AMO Camino Chilapa-Hueycantenango, a 5 km después de Alcozacán, 1900 m, 24 II 1991, *Jiménez 1178*, AMO! Camino Chilapa-Hueycaltenango, 7 km adelante de Alcozacán rumbo a Hueycaltenango, 1900 m, 24 II 1991, *Jiménez 1185*, AMO! Camino Chilapa-Hueycaltenango, 7 km adelante de Alcozacán rumbo a Hueycaltenango, 1960 m, 24 II 1991, pressed cult. 10 X 1991, *Jiménez 1202*, AMO! Parque Ecológico Estatal Omiltemi, ca. 27 km W de Chilpancingo: Bajando del Plan de Potrerillos hacia la Gruta del Borrego, 2300 m, 4 VI 1985, pressed cult. 15 XII 1987, *Salazar 3694*, AMO! Parque Ecológico Estatal Omiltemi, ca. 27 km W de Chilpancingo: Bajando del Plan de Potrerillos, hacia la Gruta del Borrego, 2300 m, 4 VI 1985, *Salazar 4530*, AMO! 6 km después de la desviación a Alcozacán, carretera a Hueycaltenango, 1940 m, 24 II 1991, pressed cult. 26 II 1991, *Sánchez 223*, AMO! 6 km después de la desviación a Alcozacán, carretera a Hueycaltenango, 1940 m, 24 II 1991, pressed cult. 26 II 1991, *Sánchez 229*, AMO! 5 km antes de Hueycaltenango, 1930 m, 24 II 1991, pressed cult. 26 II 1991, *Sánchez 258*, AMO! *Ibid.* pressed cult. 13 I 1993, *Sánchez 258*, AMO! (spirit) La Yerbabuena, cerca de Cruz de Ocoté, km 170 del camino Atoyac de Alvarez-Xochipala, 1800 m, 1 I 1983, *Soto 1002*, AMO! **Jalisco:** ca. 40 km en la brecha que va a Cuale (minas Zimapán), 1800-1900 m, 31 VIII 1991, *García-Cruz 506*, AMO! *Ibid.* *García-Cruz 507*, AMO! Entre Cuale y El Encino, 1550 m, 1 VI 1971, *González s.n.*, AMO! Al Oriente de Cuale por camino a La Herradura, Arroyo El Salto, 1500 m, 7 XI 1982, *González 1285*, IBUG x3! (Illustration, McVaugh 1985: 116, AMO!) von westlichen Mexiko, XII 1872, *Roezl* sub Ortgies, Bot. Gart. Zürich, W 51096! (Illustration part watercolor (Reichenbach 1881: t. 211.) W 10237!) Mun. Tecalitlán: km 5 camino Tecalitlán - Jilotlán, 1600 m, 3 I 1984, *Soltero 63*, IBUG! **Oaxaca:** km 44.5 del camino de Jamiltepec a Santiago Ixtayutla, unos 200 m antes de El Duraznal, 1459 m, 24 XI 1992, *Soto 7238A*, AMO! Límites de los Distritos de Juquila y Miahuatlán, km 32.6 de la brecha de Luz de Luna a Miahuatlán, que conecta las carreteras Mex. 131 y 175, 1950 m, 26 XI 1992, pressed cult. 4 IV 2003, *Soto 7529*, AMO! (digital images, AMO) Distrito de Jamiltepec, ca. km 41.6 del camino Jamiltepec - Ixtayutla, 1620 m, 24 XI 1992, *Soto 7576*, AMO!



OTHER RECORDS: **MEXICO:** Without locality data, *Guzmán s.n.*, digital photos, AMO! Sierra Madre del sur, *Salazar s.n.*, digital images, AMO! **Guerrero:** Casa Verde-Atoyac, km 98, Viento Frío, 2100 m, 3 XI 1972, *Dressler 2929*, slide, AMO! Viento frío, 1973, *Hágsater s.n.*, slide, AMO! Cruz de Ocote-Jaleaca, sobre lomo de bajada, abierto al poniente, 1830 m, 1 IX 1973, *Hágsater 3593*, slide, AMO! 5 km antes de Hueycantenango, 1930 m, 24 II 1991, *Sánchez 258*, illustration and spirit, AMO! **Jalisco:** San Sebastián, *A. Ramírez s.n.*, (illustration: Rosillo 1978: 1-2). Sierra de Manantlán, Las Joyas, *Saldaña s.n.*, flower card, AMO! (LCDP, AMO) **Oaxaca:** km 185, Sola de Vega-Puerto Escondido, X 1963, *Durant s.n.* (Pollard Notes). without locality data, Hort. Coatepec, Veracruz, *Jack Orquídea* sub *Hágsater 16755*, digital images, AMO! (LCDP voucher) km 184.7 Pto. Escondido, *Hágsater 1210*, slide, AMO! Mun: San Pablo Coatlán, San Francisco Coatlán, 1600 m, 11 I 2017, *Sandoval s.n.*, Digital images AMO! (Photo voucher).

DISTRIBUTION AND ECOLOGY: This species is endemic to the Pacific slope of the Sierra Madre del Sur, Mexico, known from the states of Jalisco, Guerrero, and Oaxaca, in temperate pine-oak forest between 1500-2300 m of elevation. It flowers from November to February.

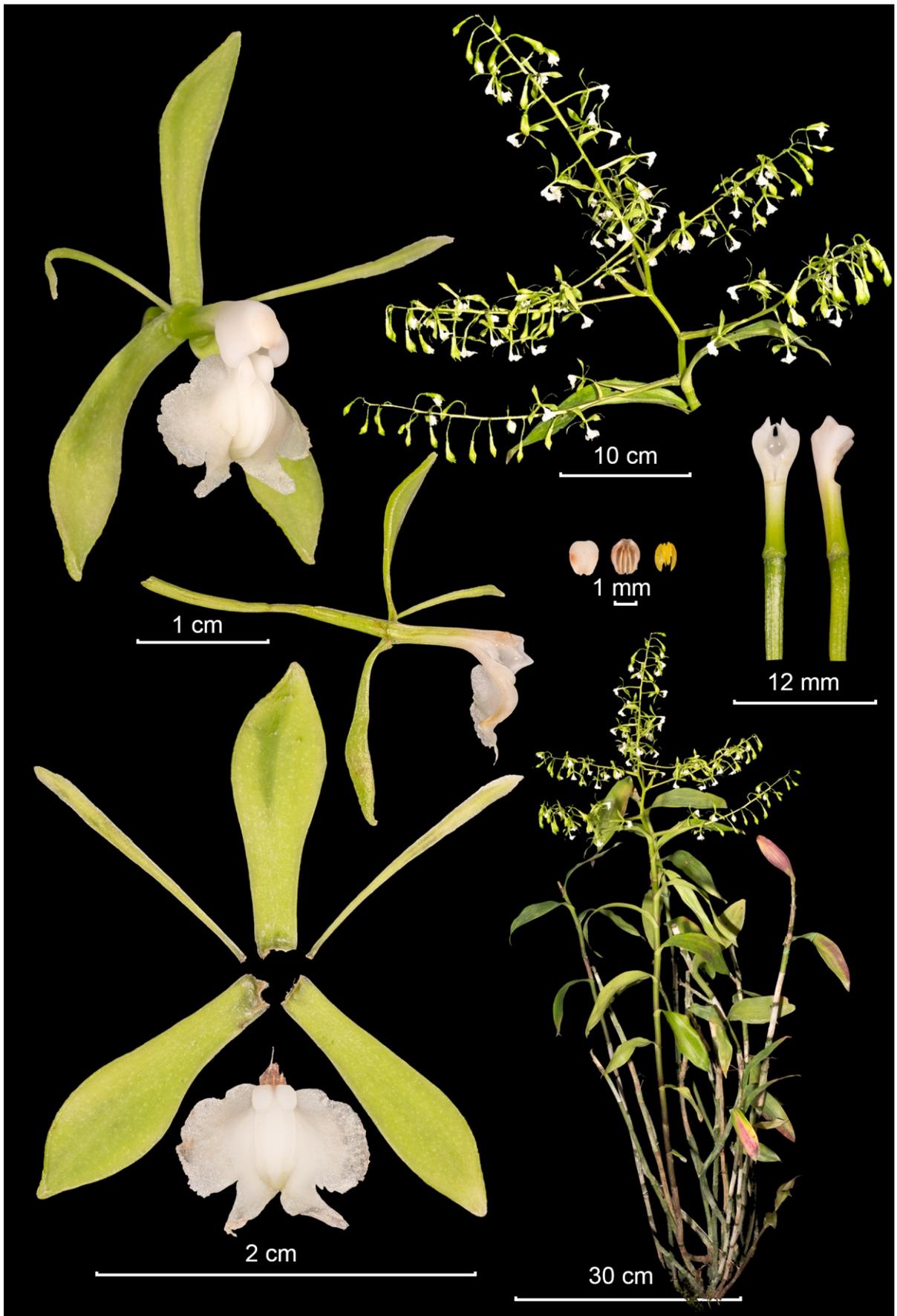
RECOGNITION: *Epidendrum marmoratum* is the basal species in any tree of the species of *Epidendrum* and does not have any closely related species it belongs to the monospecific Marmoratum group which is recognized by the sympodial habit, fusiform pseudobulbs with 2-3 apical leaves, the racemose, arching nutant inflorescence, the flowers white blotched wine-red, and the lip with prominent, thickened ribs. *Epidendrum costatum* A.Rich. & Galeotti of the Anisatum group, has slightly similar flowers with radiating thickened ribs on the lip, though more numerous and lower, the flowers are dark red or red-brown, and the stems are thin, cane-like, up to 40 cm tall, with 5-9 leaves aggregate along the apical 1/3 of the stems. *Epidendrum radioferens* Ames, F.T.Hubb. & C.Schweinf. of the Arbuscula group, is widespread and common, it has wine-red flowers, the lip marked with yellow, and a scandent habit.

PHYLOGENETICS: According to a phylogenetic analysis of combined nuclear (ITS) and plastid DNA sequences (*matK-trnK*), *E. marmoratum* is sister to all other *Epidendrum* species, although such position did not receive strong bootstrap support (Hágsater and Soto, 2005: 246). For contrast, a combined analysis of six plastid markers (*atpI-atpH*, *matK-trnK*, *trnH-psbA*, *trnL-trnF*, *trnS-trnM*, and *rps16* intron) plus the nuclear ITS region recovered *E. marmoratum* embedded in *Epidendrum*, as the strongly supported sister of a "Mexican clade" including representatives of the Arbuscula, Larnandra, and Falcatum groups (Hágsater et al., 2019). Such hypotheses, however, will have to be reassessed when an increased sample of both taxa and characters becomes available.

CONSERVATION STATUS: This species is not under protection by Mexican government. However, according to IUCN criteria, it falls under the Nearly Threatened category (NT; extent of occurrence = 32,250 km², area of occupation = 96 km²). It is frequently illegally collected and sold in local markets, mainly in Oaxaca. Fortunately, some growers have produced plants via *in vitro* culture, which are now available for sale at orchid exhibitions in Mexico.

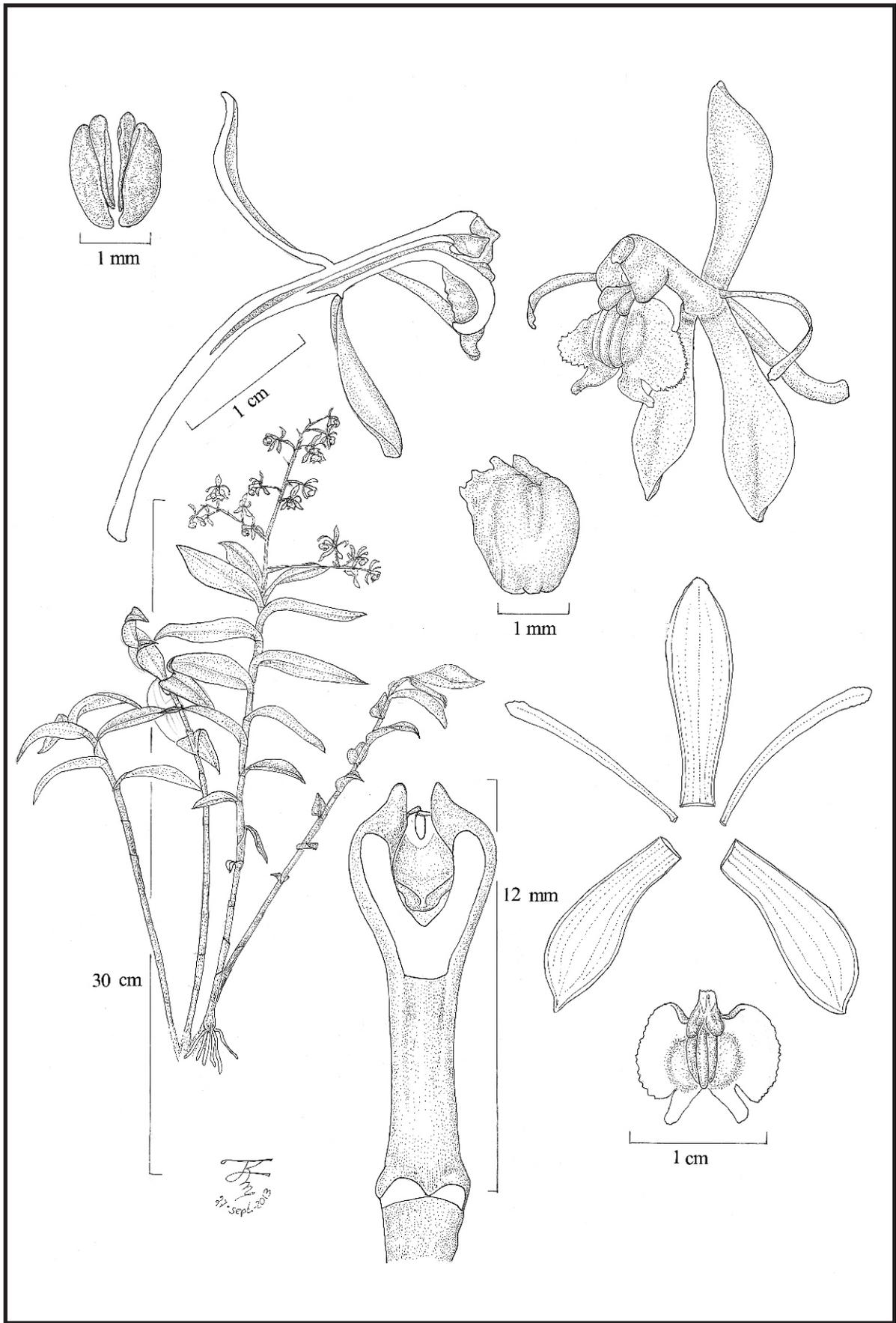
ETYMOLOGY: The name refers to the patchy distribution of the colors in the flowers.

REFERENCES: Braem, G., 1981, *Auliza marmorata*, **Orchidee (Hamburg)** 32: 32-33. Hágsater, E., 1975, *Epidendrum marmoratum*, **Orquídea (Mexico City)** 5(9): 274-280. Hágsater, E., 1977, *Epidendra Mexicana Pollardiana 2*; *Epidendrum costatum*. **Orquídea (Mexico City)** n.s., 6(11): 327-335. Hágsater, E., C. Granados Mendoza, G.A. Salazar, S. Quiroga-González, S. Magallón, C. van den Berg, E. Moriarty Lemmon & A.R. Lemmon. 2019. Phylogenomics of *Epidendrum*: untangling a Neotropical mega-diversification. in: A.M. Pridgeon y A.R. Arosamena (eds.), **Proceedings of the 22nd World Orchid Conference 2017**, 1: 249-254. Asociación Ecuatoriana de Orquídeología. Guayaquil. Hágsater, E. & M. Soto, 2005, *Epidendrum*, in A.M. Pridgeon, P.J. Cribb, M.W. Chase & F.N. Rasmussen (eds.), **Genera Orchidacearum** 4 Epidendroideae (Part One): 236-251. Hágsater, E., & M. Soto, 2008, *Epidendrum radioferens*, in E. Hágsater & M. Soto (eds.), *Orchids of Mexico*, part 4, **Icon. Orchid.** 10: pl. 1023. McVaugh, R., 1985, *Epidendrum marmoratum*, in **Flora Novo-Galiciana** 16, Orchidaceae 115-117. Pollard, G.E., personal notes, AMO! Reichenbach, H.G., 1881, **Xenia Orchid.** 3: 32-33, t. 211. Rosillo de Velasco, S. 1978. *Epidendrum marmoratum*, **Bol. Asoc. Orq. Guadalajara** 21: 1-2.



EPIDENDRUM MAYARUM Hágsater

Plate 1926a



EPIDENDRUM MAYARUM Hágsater

Plate 1926b

EPIDENDRUM MAYARUM Hágsater, sp. nov.

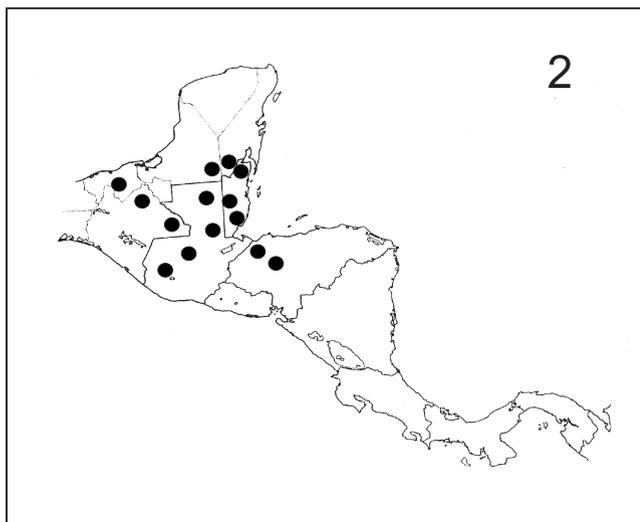
Type: MEXICO: Chiapas: Ocosingo: Entre Bonampak y el Río Lacanjá, selva alta perennifolia, 300-350 m colectado abril 2000, prensado en cultivo 24 junio 2021. **Miguel A. Soto, Susana Maldonado, Philipp Schluetter, Leonel López 9591**. Holotype: AMO! (LCDP voucher). Clonotype: pressed 17 February 2022, MEXU! Illustration 27 September 2013, no voucher, AMO!

Similar to *Epidendrum isthmi* Schltr. but the sepals 15.2-17.5 x 4-5 mm, narrowly oblanceolate, acute (vs. sepals 13-15.5 mm long, oblanceolate-spatulate, sub-acute), the petals 1 mm wide near the apex, not filiform (vs. petals 2 mm wide), the lip 7.5-8.9 x 9.5-10.8 mm, 3-lobed, totally white, (vs. lip 9.5 x 12 mm, 3-lobed), and the lateral lobes 3.5-4.1 x 6.0-7.2 mm, obliquely hemi-elliptic, rounded, margins erose-undulate, white with a green ring around the disc and towards the margins (vs. lateral lobes 4.6 x 8 mm, sub-rectangular to dolabriform, corners forming right angles).

Terrestrial, sympodial, caespitose, erect **herb**, 75-90 cm tall including inflorescence. **Roots** 3 mm in diameter, basal, fleshy, thin. **Stems** 50-66 x 0.5-0.9 cm, simple, cane-like, terete, thin, erect, straight; base covered by sheaths 1.1-5.5 cm long, non-foliar, tubular, scarious and becoming fibrous, gray-brown. **Leaves** 10-13, distributed along apical half of stem, sub-spreading, arching, alternate, articulate, coriaceous, medium green, slightly paler underneath, sometimes somewhat tinged purple when aging; sheaths 1.0-4.7 x 0.5-0.9 cm, tubular, minutely striated; blade 3.0-15.3 x 1.7-4.4 cm, elliptic, apex acute, margin entire, spreading. **Spathes** lacking. **Inflorescence** 20-40 cm long, apical from mature stem, erect, generally paniculate, racemes spreading, laxly few to many-flowered; base of each raceme subtended by a bract 2.5-5 cm long, narrowly triangular, acuminate; peduncle 1-4 cm long, very short, terete; rachis 17-36 cm long, terete, straight. **Floral bracts** 3-15 mm long, half as long to much shorter than ovary, narrowly triangular, acuminate, embracing. **Ovary** 18-25 x 0.1 mm, terete, thin, straight to slightly arching near apex, scarcely and minutely papillose, furrowed. **Flowers** up to 120, opening in succession, eventually all open together, resupinate, green turning yellow with age, apical half of column and lip white, immaculate, margins of lip somewhat hyaline; fragrance none. **Sepals** free, spreading to slightly reflexed, narrowly oblanceolate, apex slightly concave, acute, dorsally scarcely and minutely papillose, 5-veined, margins entire, spreading; dorsal sepal 15.2-17.5 x 4.2-5.1 mm, lateral sepals 16.3-16.7 x 4.0-5.1 mm. **Petals** 14.8-16 x 1.0-1.3 mm, free, spreading, somewhat arching forward, linear-oblanceolate, acute, 1-veined, margins entire, spreading. **Lip** 7.3-10.0 x 9.5-12.2 mm, united to column, convex, 3-lobed, base cordate; bicallose, calli small, obovoid, slightly divaricate; disc fleshy with three ribs, mid-rib higher, reaching apical sinus, lateral ribs nearly as long; lateral lobes 3.5-4.1 x 6.0-7.2 mm, obliquely hemi-elliptic, rounded, margins erose-undulate; mid-lobe 2-3 x 6.4-7.8 mm, sometimes touching lateral lobes, bifid, deeply emarginate, lobes 3.5-4.1 x 1.3-2.0 mm, divaricate, obliquely triangular to rectangular, acute to narrowly rounded, margins entire. **Column** 12.0-12.5 mm long, straight, thin at basal 2/3, strongly dilated ventrally thereafter, apex bidentate, a triangular tooth on each side. **Clinandrium-hood** reduced, margin entire. **Rostellum** apical, slit. **Anther** ovoid, 4-celled, **Pollinia** 4, dark yellow, bird-wing type, inner pair much shorter, caudicles laminar; viscarium semi-liquid. **Lateral lobes of stigma** prominent, half as long as stigmatic cavity. **Nectary** shallow, barely penetrating pedicellate ovary, not inflated, narrow, unornamented. **Capsule** 44 x 11 mm, ellipsoid, pedicel 14 mm long, body 26 x 11 mm, apical neck 4 x 2 mm.

OTHER SPECIMENS: BELIZE: Belize: Belize River, 1 II 1894, *Moloney* 7, K! **Cayo:** Mountain Pine Ridge, San Agustín, VIII 1936, *Lundell* 6760, MICH x3! **Stann Creek:** Sittee River, IX 1930, *Schipp* 596, AMES! F! **Toledo:** Near Mafridyale Creek, 12 II 1952, *Gentle* 7566, LL! (fr) **GUATEMALA:** Without locality data, *Bernoulli* 833, BR! **Alta Verapaz:** Tactic, 4 VII 1941, *Johnston* 1861, AMES! Cobán, 1400 m, *Tuerckheim* II 717, US! **Chiquimula:** Montaña Nonojá, E of Camotán, 600-1800 m, 11 XI 1939, *Steyermark* 31704, F! **Izabal:** Río Dulce, pressed cult. 21 VIII 1978, *Ackerman* 1298, SEL! E of Lake Izabal, at entrance to Río Dulce, 29 VI 1982, *May & Craig Orchids* 7116, SEL! **Quiche:** Chichicastenango, 1 X 1978, illustration, (no voucher), pressed cult. 23 VIII 1982, *Hágsater* 5338, AMO x2! *Ibid.* 19 IX 1984, MEXU! UVAL! *Ibid.* 1 X 1986, K! **Petén:** Tikal National Park, 24 VIII 1960, *Contreras* 1446, LL! Tikal National Park, bordering Islas de los Pavos, 1 1969, *Contreras* 8284, LL x2! NY! (fr) La Cumbre, km 141, 2 II 1971, *Contreras* 10452, LL x2! (fr) La Cumbre, Pusila road, 4 km E, 20 VIII 1976, *Lundell* 20248, LL! MEXU! **HONDURAS: Comayagua:** Lake Yojoa, 2000 ft, 6 IX 1932, *Edwards* 244, AMES x2! Siguatepeque, Custeca, 3700 ft, 4 X 1932, *Edwards* 275, AMES! **Cortés:** Río Lindo, 2200 ft, 14 IX 1933, *Edwards* 551, AMES x2! MO! *Ibid.* 2000 ft, 21 IX 1933, *Edwards* 560, AMES! **MEXICO:** without locality, *Orcutt* s.n., AMES! **Campeche:** Calakmul: Manuel Crescencio Rejón, El Danto, 10 IX 2004, *Ibarra* 265, AMO! (Spirit). **Chiapas:** S del Crucero San Javier, 295 m, 24 VIII 2002, *Aguilar* 2207, MEXU! Ocosingo, campamento El Burro, 288 m, 11 IV 2003, *Aguilar* 6231, MEXU! (fr) Bonampak, 256 m, 10 II 2003, *Álvarez* 3725, MEXU! Cascadas de Agua Azul, 28 VIII 1982, *Zamudio* 477, MEXU! **Oaxaca:** Santa María Chimalapa, col. 26 VII 1995, pressed 1 IX 1996, *Salazar* 5427, AMO! cerca de Tuxtepec, 7 XI 2002, *Soto* 10018, AMO! Without locality data, cult. Bot. Gard. Harv. Univ. *Russell* s.n., AMES! **Quintana Roo:** Othón P. Blanco, N de la Unión, 0-50 m, 27 I 1999, pressed cult. 3 XII 1999, *Sánchez* 552, AMO! Paso del Danto, 150 m al N del rancho de Don Crescencio Cruz, 5 km al N de la Unión, ca 0-50 m, 26 XI 1997, *Camevali* 4528, CICY! **Tabasco:** Teapa, 17 XI 1995, *Carrillo* 16, MEXU! *Ibid.* X 1990, *Ramón* 419, AMO!

OTHER RECORDS: without locality, hort US Natl Smithsonian Institution, *Nelson* s.n., GBIF digital images, AMO! **BELIZE:** without locality, *Halcrow*, illustration, published *Orchids of Belize*, 1967. **Toledo:** Orange Walk, 10-345 m, *Holst* s.n., Digital images, AMO! Orange Walk, Aguas Turbias, *Jan Meerman* s.n.: <https://www.naturalista.mx/observations/30316624> **GUATEMALA:** sin localidad, *Ibañez sub Yong* s.n., Digital image, AMO! (photo voucher) Alta Verapaz, 26 VII 2012, *Fonseca* s.n., Digital image, AMO! 14 VIII 2019, *Monzón* s.n., Digital images, AMO! **MEXICO: Quintana Roo,** La Unión, 1 XII 2015, *Romero* s.n., Digital images, AMO!



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Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 19(1). 2022. Plate 1926

DISTRIBUTION AND ECOLOGY: Ranging from northern Oaxaca, Tabasco, Campeche, Quintana Roo and Chiapas in southeastern Mexico to Belize, Guatemala, and Honduras, epiphytic in evergreen high rainforest. In the type locality it was associated with *Dialium guianense*, *Brosimum spp.*, *Ficus glabrata* and *Terminalia amazonia*. Ranging from 10-600 [1800] m elevation. Flowering in June to January.

RECOGNITION: *Epidendrum mayarum* belongs to the Pseudepidendrum Group which is characterized by the caespitose plants, the cane-like stems, the acute to acuminate leaves, the usually apical inflorescence without any spathe though it may have several imbricated bracts, the mostly filiform petals, the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, and the “bird-wing” type pollinia, at least the inner pair, and Densiflorum Subgroup, where the short pedunculate inflorescence is paniculate, flowering only once, the flowers are green, the apex of the column and disc of the lip are white to creamy-white, the calli sometimes tinged purple, the petals are linear-oblong to linear-oblancoolate, never filiform, and the pollinia are unequal in shape, only the inner pair “bird-wing” like. The new species is recognized by the 90 cm tall plants with paniculate inflorescences with up to 120 flowers opening in succession but eventually all open, sepals 15.2-17.5 x 4.0-5.1 mm, narrowly oblanceolate, acute, the lip 7.3-10.0 x 9.5-12.2 mm, totally white, immaculate, with fleshy disc, lateral lobes 3.5-4.1 x 6.0-7.2 mm, obliquely hemi-elliptic, rounded, margins erose-undulate, and the column 12 mm long. *Epidendrum isthmi* is florally similar but that species has plants to 120 cm tall, the sepals 13-15.5 mm long, oblanceolate-spatulate, sub-acute, the lip 9.5 x 12 mm, with the lateral lobes transversely rectangular or dolabriform, the corners forming a right angle and the lip is green around the disc and the margins and the petals 2 mm wide. *Epidendrum hyalinisthmi* Hágsater, E.Santiago & Olórtegui, from northern Peru, has small plants, to 35 cm tall, the sepals 11-12 x 5 mm, narrowly obovate, obtuse, short apiculate, and the lip 10.7 x 12.3 mm, the lateral lobes flabellate, and the mid-lobe narrow and deeply emarginate, forming a pair of narrowly oblong-triangular lobes, sub-parallel to divaricate. *Epidendrum isthmioides* Hágsater & E.Santiago is endemic to central Costa Rica with large plants, elliptic leaves with the veins clearly marked, (13-23 x 3-5 cm); the sepals and petals creamy green to light brown, the lip entirely white, the floral segments partly spreading, the sepals 9-10 mm long, the lip immaculate with a short isthmus between the lateral lobes and the mid-lobe.

NOTES: The species has been known to us for many years and suspected to be distinct from *Epidendrum isthmi* which is restricted to Costa Rica, Panama and northern Colombia and neighboring Venezuela, but we did not have enough material and only recently have we had a cultivated plant in flower to prepare a photographic series to prepare an LCDP and compare it with the other species. In the original Icones plate of *Epidendrum isthmi* we included all Mesoamerican material, which is here segregated. Neither species have been reported from El Salvador and Nicaragua. In Native Orchids of Belize (McLeish *et al.*, 1995), the authors included a photograph of *Epidendrum hondurensis* Ames (see Soto Arenas & Hágsater 2018) under *Epidendrum paniculatum*, and cite Schipp 596, as corresponding to *E. densiflorum* Hook. but these were considered at the time as synonyms of *Epidendrum paniculatum* Ruiz & Pav., now confirmed to be a Peruvian endemic (Santiago & Hágsater, 2013). The illustration provided is from a cultivated plant at Kew and does not correspond to either species.

ETYMOLOGY: In honor of the Mayan people who have inhabited the lowlands of the area where this species ranges, from northern Honduras to Belize and the lowlands of Tabasco and Chiapas. Their great civilization flourished between 250-900 AD which is considered the classic period, and they still continue to speak their native language to this date.

CONSERVATION STATUS: LC. Least concern. The species is widely distributed in the tropical lowlands of northern Mesoamerica, with numerous localities, and though there has been ample deforestation for cattle grazing, there remain numerous protected areas within its distribution. The species does not appear to be common.

REFERENCES: Behar, M., & O. Tinschert, 1998, *Epidendrum isthmi*, in **Guatemala y sus Orquídeas**, 240 pp. Bancafé, Guatemala. Hágsater, E., & E. Santiago 2008, *Epidendrum isthmi* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 7, **Icon. Orchid.** 11: pl. 1133. Hágsater, E., E. Santiago & S. Olórtegui C., 2008, *Epidendrum hyalinisthmi* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 15, **Icon. Orchid.** 19(1): pl. 1915. Halcrow, M. & M.L., 1967, *Epidendrum paniculatum* in **Orchids of Belize**, pg 57. Government of Belize. McLeish, I, N.R. Pearce, B.R. Adams & J.S. Briggs, 1995, as *Epidendrum paniculatum*, **Native Orchids of Belize**, 278 pp. Balkema/ Rotterdam/Brookfield. Santiago, E., & E. Hágsater, 2008, *Epidendrum isthmi* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 7, **Icon. Orchid.** 11: pl. 1132. Santiago, E., & E. Hágsater, 2013, *Epidendrum densiflorum* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 10, **Icon. Orchid.** 14: pl. 1423. Santiago, E., & E. Hágsater, 2013, *Epidendrum paniculatum* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 10, **Icon. Orchid.** 14: pl. 1467. Soto Arenas, M.A. & E. Hágsater, 2018, *Epidendrum hondurensis* in E. Hágsater & E. Santiago (Eds.), *The Genus Epidendrum*, Part 12, **Icon. Orchid.** 16(1): pl. 1625.



EPIDENDRUM NARINENSE Hágsater, Reina-Rodr. & J.F.Torres

Plate 1927

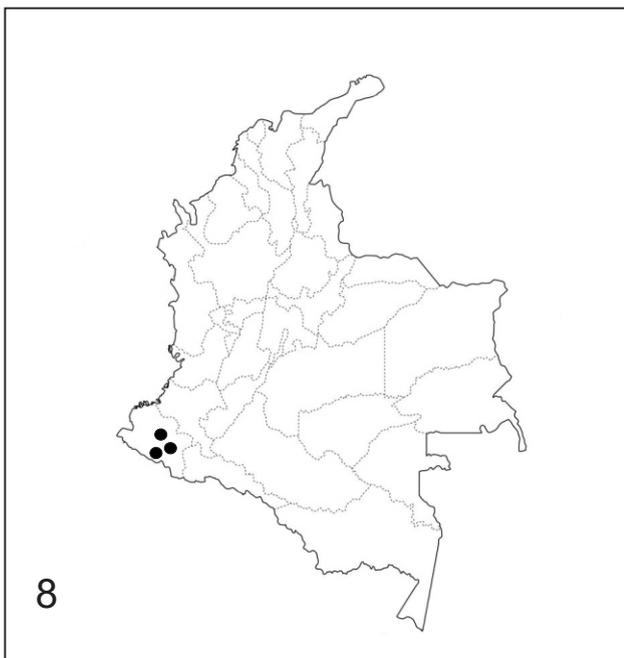
EPIDENDRUM NARINENSE Hágsater, Reina-Rodr. et J.F.Torres, sp. nov.

Type: COLOMBIA: Nariño: Tangua: Via 4G Pasto-Ipiales. Via alterna, destapada. Cuenca del río Bobo. Afluente del río Guáitara. Planta terrestre en talud de carretera, 2244 m, 28 octubre 2021, *Guillermo Reina Rodríguez, Carlos Vallejo & John Fredy Torres Martínez 3565*. Holotype: COL! (LCDP voucher).

Similar to *Epidendrum lavendulum* Hágsater but with relatively small, bright lavender flowers, callus white with central part yellow, column dark lavender (vs. flowers lavender-violet with a white slightly tinged with lilac callus), the 24 mm long ovary, (vs. 39 mm long ovary), the sepals 8.0-9.8 x 3.2-4.8 mm, spreading, obovate-elliptic, 7-veined, (vs. sepals 13.0 x 4.0-4.2 mm, reflexed, narrowly obovate-oblong, 5-veined), the petals 7.7-9.2 x 3.0-4.2 mm, widely obovate-obtrullate, 5-veined, margins erose dentate towards apex, (vs. petals 14.0 x 3.1 mm, linear-lanceolate, 3-veined, margin entire), and the callus complex, massive, variable even in same raceme, represented by a 7-tuberculate structure, tubercles unequal, basal lateral pair short, bidentate, thick, apical group truncate, formed by three acute tubercles on sides, with central one acuminate, and lateral pair narrower, acuminate, to main body of callus united into trapezoid structure, with mid-rib slightly surpassing the main body (vs. massive callus formed by 2 basal sub-spherical calli and a wide sub-quadrate platform with a slightly raised and protruding mid-rib).

Terrestrial and epiphytic, sympodial, caespitose, erect **herb** 40-155 cm including inflorescence. **Roots** 1.4-2.1 mm in diameter, basal, fleshy, thin. **Stems** 23-43 x 0.4-0.7 cm, simple, cane-like, slightly flattened, erect, straight, pale green, producing young plantlets, keikis, from upper internodes of inflorescence. **Leaves** 5-6, distichous, distributed throughout stem, alternate, articulate, spreading, green, unequal in size, basal and apical leaves somewhat shorter; sheaths 2.9-5.3 x 0.6-0.7 cm, tubular, minutely striated; blade 4.6-10.3 x 1.5-3.7 cm, narrowly elliptic-lanceolate to lanceolate-oblong, apex acute, coriaceous, dark green, margins sharp, entire, spreading. **Spathes** lacking. **Inflorescence** 21-90 cm long, apical, racemose, raceme compact, densely many-flowered; peduncle 25-44 cm long, elongate, terete, covered by 5-7 bracts 2.2-9.3 cm long, tubular, basal bracts longest, acute, not imbricated, greyish; rachis 5-7 cm long. **Flowers** 1.6 cm tall x 1.7 cm wide in natural position, numerous, successive, though many can be open at one time, non-resupinate, bright lavender, callus white with central part yellow, column dark lavender; without fragrance. **Floral bracts** 3-14 mm long, shorter than ovary, basal bracts longer progressively shorter, linear-triangular, acuminate, embracing. **Ovary** 19.9-24.0 x 1.8-2.0 mm, terete, furrowed, lavender. **Sepals** spreading, free, apices somewhat recurved, obovate-elliptic, 7-veined, margin entire, spreading; dorsal sepal 8.0-9.6 x 3.2-4.0 mm, apex rounded; lateral sepals 8.1-9.8 x 3.8-4.8 mm, apex minutely apiculate. **Petals** 7.7-9.2 x 2.5-4.8 mm, spreading, free, widely obovate-obtrullate, apex obtuse, 5-veined, margins erose dentate towards apex, spreading. **Lip** 4.7-7.5 x 7.0-9.4 mm, united to column, deeply 3-lobed, base cordate, margin deeply fimbriate; callus complex, massive, variable even in same raceme (see inserted photograph), represented by a 7-tuberculate structure, tubercles unequal, basal lateral pair short, bidentate, thick, apical group truncate, formed by three acute tubercles on sides, with central one acuminate, and lateral pair narrower, acuminate to main body of callus united into trapezoid structure, with mid-rib slightly surpassing main body; lateral lobes 2.7-4.7 x 3.0-6.0 mm, transversely hemi-ovate, turned upwards embracing column; mid-lobe 2.1-4.6 x 4.0-7.6 mm, flabellate, with a long narrow isthmus at base, then expanded into two widely divergent lobes with a wide sinus and apiculate at sinus, sides strongly revolute. **Column** 4.3-5.5 x 1.9-2.5 mm, straight, thin, with a pair of lateral wings surpassing body and upturned at apex, digitiform, truncate. **Clinandrium-hood** reduced, margin entire, slightly upturned, anther sunken. **Lateral lobes of stigma** nearly half as long as stigmatic cavity. **Rostellum** apical, slit. **Anther** obovoid, apex acute, with a narrow mid-rib, green, sides lavender, 4-celled. **Pollinia** 4, 1.1 mm long, narrowly obovoid, laterally compressed, similar in size; caudicles as long as pollinia, formed by tetrads which look like a pile of roof tiles; viscarium semi-liquid. **Nectary** penetrating 1/2 of pedicellate ovary, slightly inflated towards middle, papillose. **Capsule** not seen.

OTHER SPECIMENS: COLOMBIA: Nariño: Road between Pasto and Río Bobo, 19 VII 1957, *Barclay 4660*, COL! Road from Tuquerres to Ricaurte, valley of Río Cuaiquer, 2400 m, 22 XI 1981, *Gentry 34843*, COL! MO! SEL! Mun. Túquerres, camino de Balalaika a Yascual, 1800-2500 m, 21 I 1952, *Mora 382*, COL! Mun. Imués, Pasto-Tuquerres, km 43. El Bicundal, 2000 m, 21 VI 1962, *Mora 2117*, AMES! US! Mun. Contadero, Vda. Capulí, 2500 m, 25 II 2017, *Reina-Rodríguez 2236*, PSO! digital images, AMO! Mun. Iles: Vda. Villa Yolanda, vía Pasto-Ipiales, 2479 m, 25 II 2017, *Reina-Rodríguez 2245*, PSO! Mun. Iles: Vda. San Andrés, 2900 m, 3 III 2017, *Reina-Rodríguez 2270*, PSO! Mun. Contadero: Vda. Aldea de María, Vía Pasto-Ipiales, 2849 m, 6 III 2017, *Reina-Rodríguez 2285*, PSO! Mun. Tangua: Vía Pasto-Rumichaca, 2920 m, 2017, *Reina-Rodríguez 3428*, PSO! Tanguá: Vda. Cocha Verde: Vía 4G Pasto-Ipiales. Via alterna, destapada. Cuenca del río Bobo, 2036 m, 10 X 2021, *Reina-Rodríguez 3566*, PSO! Vía 4G Pasto-Ipiales. Sentido Sur-Norte. Desviación hacia El Cebadal, 2890 m, 28 X 2021, *Reina-Rodríguez 3568*, PSO! (Digital images AMO! Photo voucher). Mallama: Vía Tuquerres-Tumaco, próximo a la nariz del diablo, subcuenca del río Guavo, afluente del Guiza, 2381 m, 1 XI 2021, *Reina-Rodríguez 3569*, PSO! (digital images, AMO!) Mun. Tangua: Vía 4G Pasto-Ipiales, desviación antigua panamericana, Cuenca del Río Bobo, afluente del Guáitara, 2260 m, 3 XII 2021, *Reina-Rodríguez 3643*, PSO! *Ibid.* *Reina-Rodríguez 3644*, PSO! Imués: Region of Pedregal, highway between Pasto and Tuquerres, south of Yacuanquer, 2 VI 1946, *Schultes 7877*, AMES! K!



Authors: E. Hágsater & G. Reina-Rodríguez & J. F. Torres

LCDP: G. Reina-Rodríguez & A. Cisneros

Photo: G. Reina-Rodríguez

Editors: E. Hágsater & E. Santiago

OTHER RECORDS: COLOMBIA: Nariño: hort. Bogotá, Uribe s.n., digital image, AMO!

DISTRIBUTION AND ECOLOGY: Presently known from Sapuyes, Guáitara, Bermúdez and Guiza high basin in the inside and outside Andes pacific slope, southern Colombia, Nariño Department at 2000-2900 m elevation. Flowering from September to March. Growing terrestrial on road banks along grasses in full sun. This species grows in the transition between high altitude dry forest areas and ancient Andean forests that have disappeared due to human action.

RECOGNITION: *Epidendrum narinense* belongs to the Schistochilum group, Secundum subgroup, which is characterized by the cespitose habit, the simple stems, the 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 species is recognized by the bright lavender color of the relatively small flowers, flowers, the 19.9-24 mm long ovary, the sepals 8.0-9.8 x 3.2-4.8 mm, spreading, obovate-elliptic, 7-veined, the petals 7.7-9.2 x 2.5-4.8 mm, widely obovate-obtrullate, 5-veined, margins erose dentate towards apex, and the callus complex, massive, variable even in same raceme, represented by a 7-tuberculate structure, tubercles unequal, basal lateral pair short, bidentate, thick, apical group truncate, formed by three acute tubercles on sides, with central one acuminate, and lateral pair narrower, acuminate, to main body of callus united into trapezoid structure, with mid-rib slightly surpassing the main body. *Epidendrum lavendulum* Hágsater from the Amazon slope in northern Ecuador has an ovary 39 mm long, lavender-violet flowers with a white slightly tinged with lilac callus, the sepals 13.0 x 4.0-4.2 mm, reflexed, narrowly obovate-oblong, 5-veined, the petals 14.0 x 3.1 mm, linear-lanceolate, 3-veined, margin entire, and the massive callus formed by 2 basal sub-spherical calli and a wide sub-quadrate platform with a slightly raised and protruding mid-rib. *Epidendrum azulensis* D.E.Benn. & Christenson from the Cordillera La Escalera in central Peru, has much smaller plants, the stems to 8.4 cm tall, the narrow linear-lanceolate leaves 4.0-6.0 x 0.4-1.5 cm, the flowers dark pink to deep violet, column pink, callus white slightly tinged with pale yellow at the base, the sepals 6.0-6.5 x 2.0-2.8 mm, spreading, lanceolate-oblong to obovate-oblong, 5-veined, the petals 6.2 x 2.0 mm, lanceolate, acute, and the 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. *Epidendrum narinense* is found in the same general area with *Epidendrum guaitaranum* Hágsater, Reina-Rodr. & J.F.Torres, which has deep yellow flowers with a red column and callus.

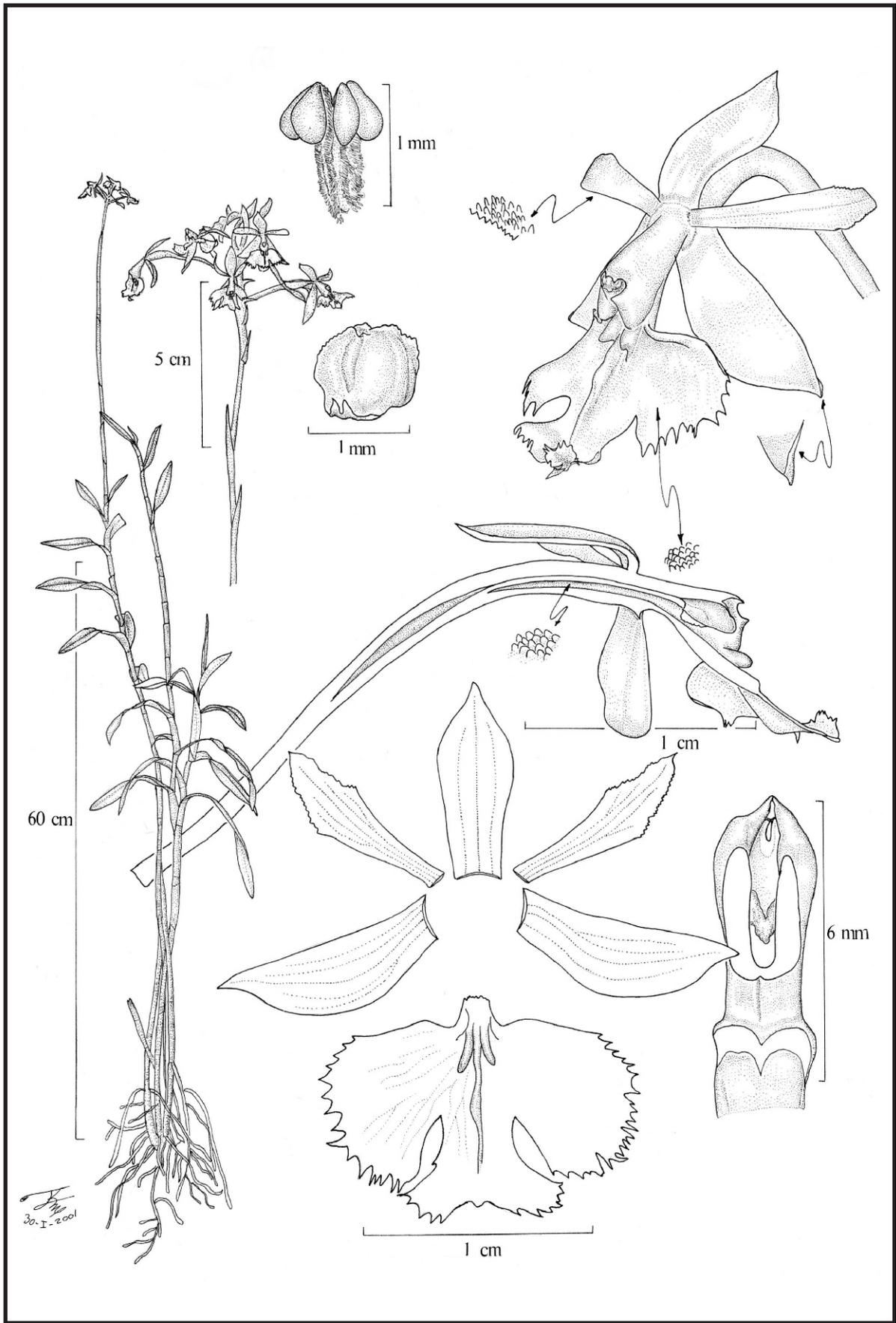
ETYMOLOGY: In reference to Nariño department, south-west of Colombia. The type was found during the environmental impact study of the Pasto-Rumichaca road area.

CONSERVATION STATUS: EN Endangered. The collections are known only from Nariño department in the south Andes of Colombia. The extent of occurrence estimated to be less than 5000 km² (582 km²). The principal area of occurrence is already around Pasto-Tuquerres City being pressured by urban area and adjacent municipalities, so we inferred a decline area of occurrence, therefore as Endangered EN B1b(i).

ACKNOWLEDGMENT: The authors wish to thank the Concesionaria Unión Vial del Sur in charge of the construction of the Vía 4G Pasto-Rumichaca, for their support in the recent field work that led to the discovery of this species as well as that of *Epidendrum guaitaranum*.

REFERENCES: Bennett, D.E., & E.A. Christenson, 1998, *Epidendrum azulensis*, **Icon. Orchid. Peruvianum** t. 452. Hágsater, E., 2020, *Epidendrum lavendulum*, in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 13, **Icon. Orchid.** 17(2): pl. 1775. Hágsater, E., G. Reina-Rodríguez & J. F. Torres M., 2020, *Epidendrum guaitaranum* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 15, **Icon. Orchid.** 19(1): pl. 1913. Hágsater, E., L. Valenzuela G. & A. Cisneros, 2020, *Epidendrum azulensis*, in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 13, **Icon. Orchid.** 17(2): pl. 1758.

Empty



EPIDENDRUM OBTRULLATUM Hágsater

EPIDENDRUM OBTROLLATUM Hágsater, sp. nov.

Type: ECUADOR: Carchi: Tulcán: Maldonado, km 3.2 al E de Maldonado hacia Tulcán 1605 m, collected 30 April 1993, cultivated and photographed 29 January 2001, **Eric Hágsater, Calaway H. Dodson, Norris H. Williams, Mark Whitten, Alvin Embree, F.L. Stevenson & Robert M. Chandler 11301**, Holotype: AMO A-3498 (spirit) (Illustration and photo voucher).

Similar to *Epidendrum calanthum* Rchb.f. & Warsz. but the flowers magenta, color evenly spread, calli and mid-rib yellow (vs. flowers rose, the lip darker with margins progressively lighter, calli and mid-rib yellow), the lip deeply 3-lobed (vs. lip sub-cordate, entire to shallowly 3-lobed), the lip 8.6-9.9 x 13.7-14.0 mm, considerably wider than long (vs. 9-11 x 11-13 mm, about as wide as it is long); the petals obtrollate, with wide, obtuse angles beyond the middle (vs. petals elliptic-lanceolate).

Terrestrial, caespitose, sympodial, erect, **herb** to 117 cm tall. **Roots** basal, fleshy, thin. **Stems** 71-78 x 0.6 cm, simple, cane-like, terete, thin, straight. **Leaves** numerous, ca. 12, distributed throughout apical 2/3 of stems; sheaths 2-5 x 0.6 cm, tubular, minutely striated; blades 6-15 x 1.1-1.5 cm, coriaceous, smooth, oblong-elliptic, apex rounded, slightly bilobed, margin entire. **Inflorescence** 32-34 cm tall, apical, racemose; peduncle 30-31 cm long, elongate, terete, thin, covered almost completely by 6-7 sheaths 2.7-5.5 x 0.2-0.6 cm tubular, acuminate; rachis 2-4 cm long, abbreviated, terete; producing successive racemes over several years. **Flowers** > 10, successive, 4-5 open at one time, resupinate, magenta with yellow calli and mid-rib, clinandrium hood more or less white; without fragrance. **Floral bracts** 2-4 mm long, much shorter than ovary, triangular, acute, embracing. **Ovary** 24-26 mm long, terete, thin, smooth, furrowed. **Sepals** spreading, free, narrowly elliptic, acute, with a minute dorsal keel, 3-veined, margin entire, spreading, dorsal sepal 8.6-8.7 x 3.3 mm, lateral sepals 10 x 3.1-3.2 mm, oblique. **Petals** 8.7 x 2.5 mm, spreading, free, narrowly obtrollate, acute, oblique, 3-veined, lateral veins branched above, basal margin entire, apical margin beyond mid-angle minutely erose-dentate, inner surface minutely papillose. **Lip** 8.6-9.9 x 13.7-14.0 mm, united to column, deeply 3-lobed, base truncate, apical margins dentate, basal and inner sinus margins entire, surface minutely papillose; bicallose, calli laminar, thin, short, obliquely obovate-orbicular, with a mid-rib that runs short of apical sinus; lateral lobes 5.6-6.0 x 6.4-6.8 mm, obovate-semi-orbicular, mid-lobe 4.3-4.5 x 6.8-7.1 mm, flabellate, widening from an isthmus and "Y" shaped, apex bilobed, with a shallow sinus, apiculate. **Column** 6 mm long, straight, apex truncate. **Clinandrium hood** short, bidentate. **Anther** ovate, ending in a pair of short, triangular, petaloid processes, 4-celled. **Pollinia** 4, obovoid, laterally compressed, caudicles longer than pollinia, formed by tetrads which appear as stacked roof-tiles; viscarium semi-liquid. **Rostellum** subapical, slit. **Lateral lobes of stigma** 1/4th the length of stigmatic cavity. **Nectary** penetrating 1/4 of the ovary, minutely papillose. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known presently only from the road above Maldonado, Mun. Tulcán, Carchi, on the border of Ecuador and Colombia, western slope of the Cordillera Occidental, at 1605 m elevation, terrestrial in secondary vegetation with *Phragmipedium caudatum* (Lindl.) Rolfe, *Epidendrum leucochilum* Link, Klotzsch & Otto, *Epidendrum echinatum* Løjtnant, *Epidendrum* aff. *secundum* Jacq. (hybrid syngameon). *Epidendrum calanthum* Rchb.f. & Warsz. is common in the area, and it is possible that the species here described has hybridized with *E. calanthum*; *Hágsater 14880* could be an example, though the colors of that specimen are similar to *E. calanthum*, rose-purple with the margins white and the calli and mid-rib yellow, the shape of the flowers and especially the petals are reminiscent of *E. calanthum*. Flowering in January.

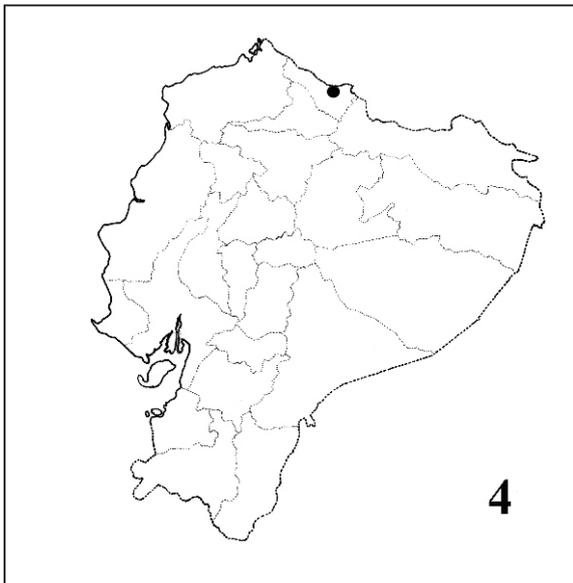
RECOGNITION: *Epidendrum obtrollatum* belongs to the Calanthum Subgroup of the Schistochilum Group, which is characterized by the caespitose habit, the simple, terete, stems, the leaves numerous, oblong-elliptic, bilobed, the mostly elongate inflorescence with a raceme of successive flowers, and the lip with two calli and a prominent, flexuous mid-rib. The new species is recognized by the resupinate, dark purple flowers with yellow calli and mid-rib, the column straight, the petals obtrollate with the apical margins beyond the mid-angles minutely erose-dentate, and the lateral lobes of the lip very wide, obovate-sub orbicular, larger than the mid-lobe. It closely resembles *Epidendrum calanthum* Rchb.f. & Warsz. which has flowers rose, the lip darker with margins progressively lighter, the calli and mid-rib yellow, the lip sub-cordate, entire to shallowly 3-lobed, 9-11 x 11-13 mm, about as wide as it is long, and the petals elliptic-lanceolate. *Epidendrum ibaguense*, which has very similar shaped flowers but is yellow to red with a straight column and generally larger, with prominent calli; has its range limited to northern Colombia and neighboring Táchira in Venezuela. *Epidendrum radicans* Pav. ex Lindl. has similarly colored flowers to the latter, but the column is longer and arched, the habit is creeping with roots all along the leafy stem; and it is distributed from valleys of the Río Magdalena and Cauca in Colombia to Mexico.

NOTE: It is important to note that I consider *E. calanthum* as ranging from northern Ecuador and Caquetá in Colombia to Bolivia. Most of the plants identified from Meta, Colombia, from the eastern slope of the Andes and all the way east to the state of Roraima, Brazil, corresponds to a different species which is under study.

ETYMOLOGY: From the Latin ob-, prefix, inversed, reversed, and *trullatus*, shaped like a bricklayer's trowel, in reference to the petals which are obtrollate.

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

REFERENCES: Hágsater, E., 1990, *Epidendrum radicans*, in Hágsater, E., & G.A. Salazar (eds.), The Orchids of Mexico, Part 1, **Icon. Orchid.** 1: pl. 40.



Author: E. Hágsater

Illustrator: R. Jiménez M.

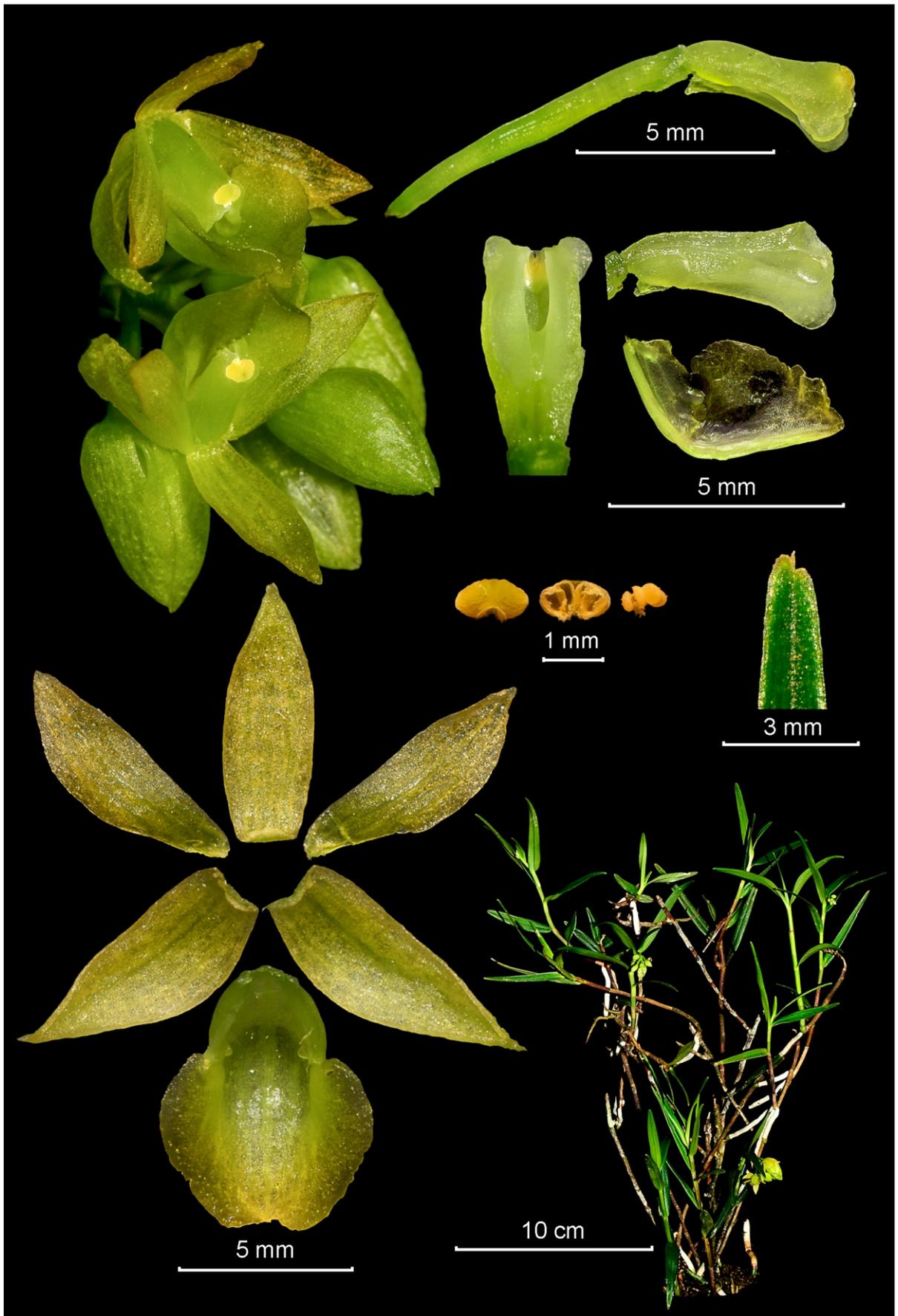
Photo: R. Jiménez M.

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 19(1). 2022. Plate 1928



EPIDENDRUM OROENSE Zambrano, E.Santiago & Hągsater

Plate 1929

EPIDENDRUM OROENSE Zambrano, E.Santiago & Hágsater, *Phytotaxa* 511(2): 132. Figs. 17-18. 2021.

Type: ECUADOR: El Oro: Cantón Portovelo, parroquia Morales, sector El Nudillo, 1962 m, 20 August 2018, **Bosco Javier Zambrano Romero 2364**. Holotype: QCNE! Isotype: QCNE-spirit! Digital images of pretype, AMO! (LCDP voucher).

Epiphytic, erect, sympodial **herb**, up to 30 cm tall. **Roots** 2-3 mm in diameter, from base of main stem or rarely from sub-apical stem, fleshy, flexuous, white. **Stems** up to 10 x 0.15-0.2 cm, cane-like, terete, erect, new stems produced from sub-apical internodes of previous stem, covered by 3-6 tubular, imbricated, persistent, chartaceous, gray-brown, non-foliar sheaths. **Leaves** 1.7-5.0 x 0.4-0.6 cm, 2-7 distributed along the apical half of stem, sub-coriaceous, distichous, narrowly lanceolate, obliquely bilobed, mucronate at apex, channeled at base; sheaths 0.5-1.5 x 0.15-0.2 cm, longitudinally striated, tubular, persistent, chartaceous. **Spathes** lacking. **Inflorescence** apical, racemose, shorter than apical leaf, arching; peduncle 4-5 x 0.8-1.0 mm, terete, pustulate, enclosed at the base by a chartaceous bract 3.0-3.5 x 0.7-0.8 mm, triangular-lanceolate, acuminate, persistent; rachis 4-5 x 0.7-0.8 mm, terete, pustulate. **Floral bracts** 3.0-5.0 mm long, narrowly triangular, acuminate, embracing. **Flowers** 5-8, successive, 2-open at same time, with floral buds in various stages of development, resupinate, sepals, petals, and lip light green or green-brown, column light green, anther green-cream colored; no fragrance perceived. **Ovary** 8-9 x 0.8-0.9 mm, pustulate, slightly arching, terete, longitudinally sulcate. **Sepals** membranous, translucent, scarcely pustulate on the adaxial surface, margin entire, 3-veined; dorsal sepal 7.0-7.5 x 2.5-2.7 mm, oblong-lanceolate, acute; lateral sepals 8.0-8.5 x 2.8-3.0 mm, slightly concave, obliquely lanceolate, shortly acuminate, somewhat involute towards apex. **Petals** 7.5-8.0 x 2.3-2.5 mm, partly spreading, lower margin obliquely fused to column over almost half of their length, translucent, elliptic, acute at base, oblique, margin entire, 3-veined. **Lip** 5.0-5.3 x 5.8-6.5 mm, united only to base of column and slightly embracing its apex, entire, base saccate, ovate, translucent, 7-veined, with lateral veins branched, with a pair of minute pustules on lateral inside where it is united to column, apex truncate, shortly apiculate, crenate along margin; ecallose. **Column** 4.0-4.5 x 2.0-2.2 mm, short, straight, with a pair of rounded wings at apex ventrally. **Rostellum** apical, slit. **Lateral lobes of the stigma** small. **Clinandrium-hood** reduced, margin entire. **Anther** 0.7 x 1.3 mm, reniform, glandular-papillose. **Pollinia** 4, light yellow, sub-equal, elliptic, laterally compressed, inner side of each pair flat, caudicles granulose; viscarium semi-liquid. **Nectary** shallow, without penetrating ovary, forming a wide cavity, unornamented. **Capsule** 8-10 x 7 mm, elliptic, with a persistent perianth.

OTHER SPECIMENS: ECUADOR: El Oro: Cantón Portovelo, parroquia Morales, sector El Nudillo, 1962 m, 20 VIII 2018, *Zambrano s.n.*, QCNE! Digital image of live inflorescence, AMO! (photo voucher).

OTHER RECORDS: None seen.

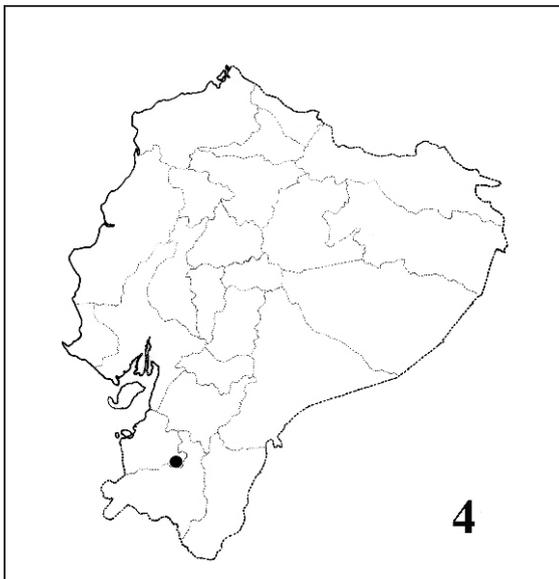
DISTRIBUTION AND ECOLOGY: Is only known from one locality (El Nudillo) in El Oro province. The plant grows as an epiphyte on branches of shrubs of *Miconia* sp. (Melastomataceae Juss.) at around 1900-2000 m in elevation. In cultivation flowered and fructifies between January and March.

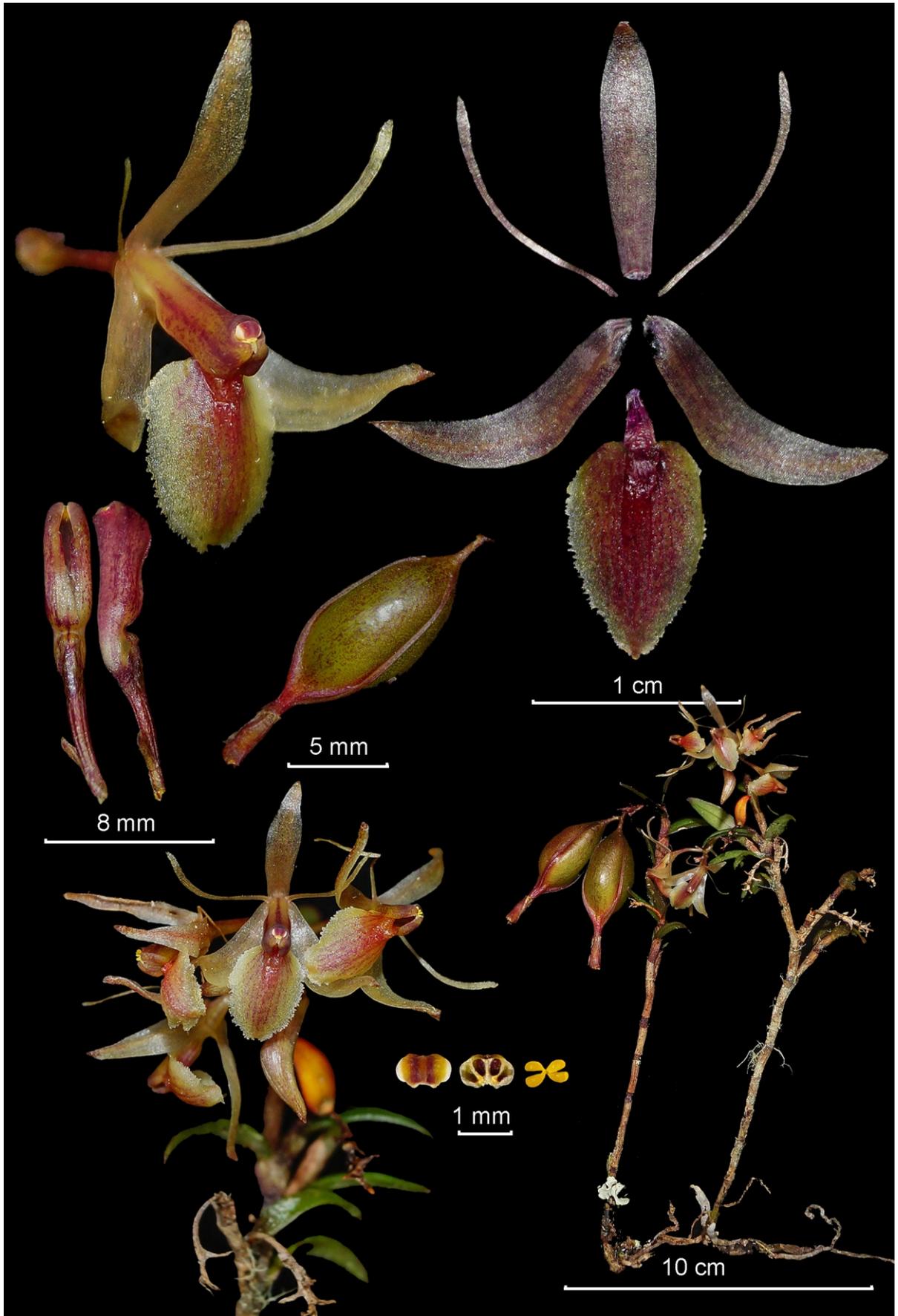
RECOGNITION: *Epidendrum oroense* belongs to the Diothonea Group and Subgroup which is characterized by the branching plants, the linear-lanceolate to oblong leaves with the apex bilobed, the racemose, arching-nutant inflorescence, the membranaceous flowers (rarely fleshy), the entire to 3-lobed, ecallose lip with the margin erose, without or with 1-10 thin, smooth to erose keels, the column completely free to obliquely united to the lip, and the anther reniform. The species is recognized by the light green to green-brown flowers with green pustules on the adaxial surface, the sepals oblong-lanceolate with an acute to acuminate apex, and the lip saccate with a pair of minute, lateral pustules, and a truncate, shortly apiculate apex. The most similar species is the Ecuadorian *Epidendrum aureoglobiflorum* Hágsater & Dodson, which can be distinguished by the yellow-green flowers, the elliptic sepals with an obtuse apex, and the non-saccate lip with a widely mucronate apex. Saccate lips are rare in *Epidendrum* and are usually considered a distinguishing feature of *Scaphyglottis* Poepp. & Endl. Another species with a saccate lip is the Colombian *Epidendrum saccatum* Hágsater which belong to the unrelated Elleanthoides group (Hágsater & Dodson 1993); it differs in its erose-dentate leaf margins, the elliptic dorsal sepal, the 1-veined petals, and the broader ovate lip.

CONSERVATION STATUS: Data Deficient. Only one site is known, in spite of the many years of collecting in the area.

ETYMOLOGY: In reference to the province El Oro, Ecuador, where the species was originally collected.

REFERENCES: Hágsater, E., 2001, *Epidendrum saccatum* in Hágsater, E., & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 3, *Icon. Orchid.* 4: pl. 483. Hágsater, E., & C.H. Dodson, 1993, *Epidendrum guacamayense* in E. Hágsater & G.A. Salazar (eds.), 1993, The Genus *Epidendrum*, Part 1, A century of new species in *Epidendrum*. *Icon. Orchid.* 2: pl. 139. Poeppig, E. & S. Endlicher, 1836, *Scaphyglottis* in *Nov. Gen. Sp. Pl. (Poeppig & Endlicher)* 1: 58-60. Santiago, E., 2004, *Epidendrum aureoglobiflorum* in Hágsater, E., & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 4, *Icon. Orchid.* 7: pl. 709. Zambrano R., B.J., E. Hágsater & R. Solano, 2021, Miscellaneous of new species in *Epidendrum* (Orchidaceae) from southwestern Ecuador, *Phytotaxa* 511(1): 111-147. <https://doi.org/10.11646/phytotaxa.511.2.2>





EPIDENDRUM OVATILABIUM Hágsater, E.Santiago & Edquén

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

Type: PERU: Amazonas: Prov. Chachapoyas: Distr. Granada: Comunidad campesina de Diosán, sector Canchi, 3100 m, 22 octubre 2018, **José Dilmer Edquén Oblitas 816**. Holotype: HURP! (LCDP voucher).

Similar to *Epidendrum constrictum* Hágsater, Chocce & E.Santiago, but with 4-8 flowers per raceme (vs. 3 flowers), the sepals 12.0-12.5 mm long, strongly falcate (vs. sepals 8-10 mm long, nearly straight), the petals 12.5 mm long with the apical half strongly arched upwards (vs. petals 8.5 mm long, totally straight), and the lip 10.2 x 6.3 mm, narrowly elliptic with the base truncate (vs. lip 7-8 x 8.5, orbicular and base cordate).

Epiphytic, monopodial, branching **herb**, 10-19 cm tall. **Roots** 2-3 mm in diameter, basal, thin, simple. **Stems** cane-like, laterally compressed, short branched beyond middle of primary stem 7.5-9 x 0.25-0.3 cm, branches 1-2.5 x 0.2-0.3 cm. **Leaves** 7-11 on primary stem, distributed throughout, only apical leaves remaining when branching, 3-4 on branches, aggregate towards apex of branches, alternate, articulate, sub-erect; sheaths 3-6 x 2-3 mm, tubular, striated, rugose, red; blades 1.0-1.5 x 0.35-0.5 cm, ovate-lanceolate, acute, coriaceous, medium green. **Spathe** lacking. **Inflorescence** 10-15 mm long, apical, arching-nutant, racemose, short, flowering only once, laxly few-flowered; peduncle 4-5 mm long, terete, thin. **Floral bracts** 2-3 mm, shorter than ovary, triangular-lanceolate, acute embracing. **Flowers** 4-8, simultaneous, resupinate, yellow to ochre with veins tinged red, column red and lip tinged red, especially along veins: fragrance not registered. **Ovary** 6-8 mm long, terete, thin, ventrally slightly inflated behind perianth, furrowed. **Sepals** 3-veined, margin entire, spreading, dorsal sepal 12 x 2.6 mm, free, spreading, oblong-ob lanceolate, obtuse; lateral sepals 12.5 x 3 mm, obliquely united to column, partly spreading, arching upwards and surpassing lip and column, oblong, strongly falcate, acute, minutely apiculate. **Petals** 12.5 x 0.5 mm, partly spreading, free, filiform, with apical half strongly arched upwards, obtuse, 1-veined, margin entire, spreading. **Lip** 10.2 x 6.3 mm, united to column, entire, narrowly elliptic, base truncate, apex rounded, apiculate, somewhat convex and perpendicular to column in natural position, margin minutely erose, spreading; bicallose, the calli small, fleshy, somewhat laterally compressed, parallel and joined, disc without ribs. **Column** 7-8 mm long, straight, arching upwards towards apex, ventrally inflated and abruptly constricted near base, where the lateral sepals join, forming an inflated nectary vesicle. **Anther** 4-celled, reniform, yellow with two central bands red-brown. **Pollinia** 4, obovoid; caudicles shorter than pollinia, soft and granulose; viscarium semi-liquid. **Rostellum** apical, slit. **Lateral lobes of stigma** small. **Nectary** barely penetrating pedicellate ovary, wide in column and constricted near base. **Capsule** 35 x 12 mm; ellipsoid, yellow-green, dotted red; pedicel 12 mm long, thin, body 20 x 12 mm; apical neck 3 mm long.

OTHER SPECIMENS: None seen.

OTHER RECORDS: PERU: **San Martín:** Rioja: Distr. Pardo Miguel Naranjos: sector Venceremos, 2711 m, 22 XII 2019, *Edquén 2311*, digital images, AMO! (photo voucher).

DISTRIBUTION AND ECOLOGY: Presently known only from the Bosque de Protección Alto Mayo, on the border between the regions of Amazonas and San Martín, at 3100 m elevation, epiphytic on Melastomataceae. Flowering in October.

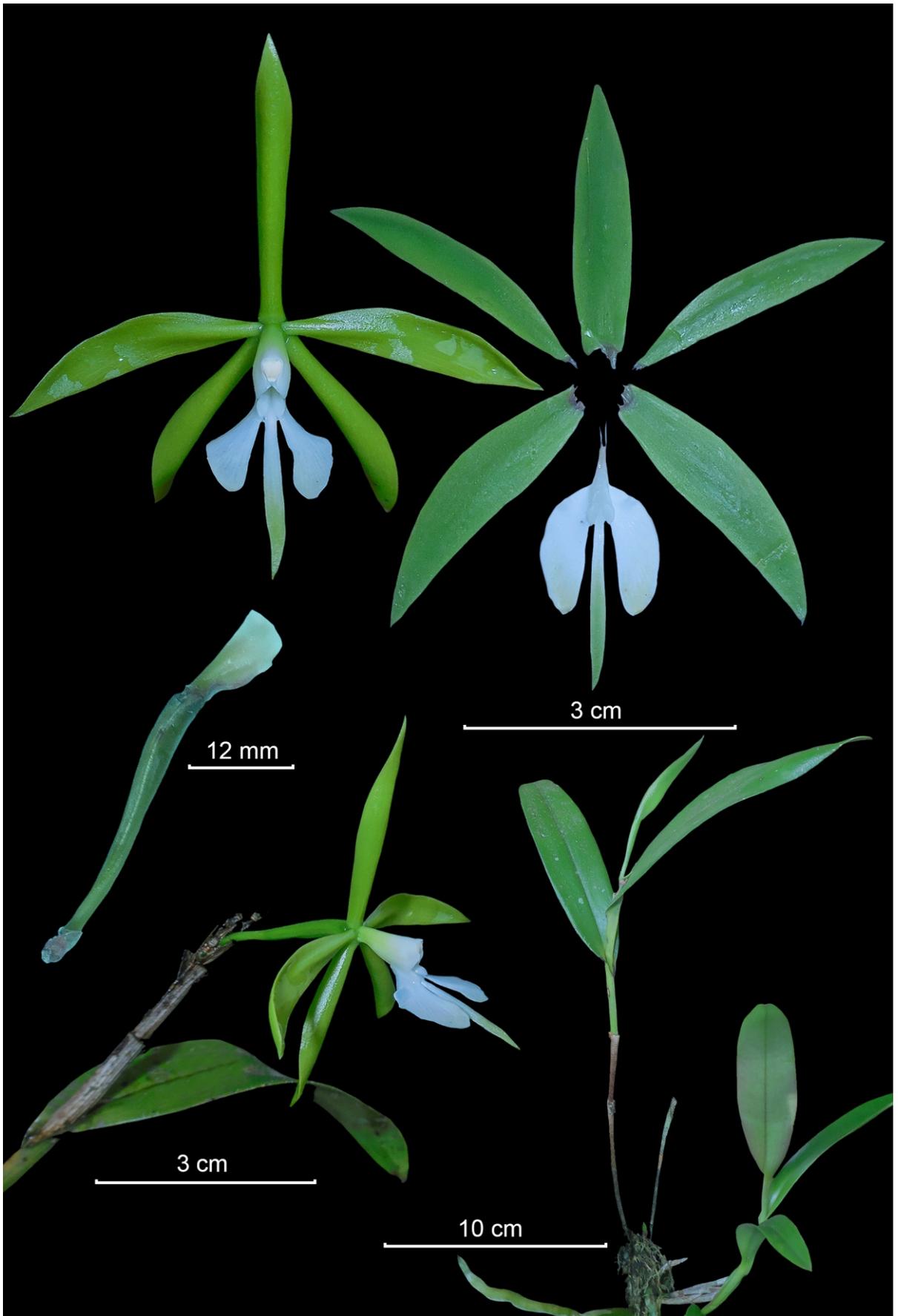
RECOGNITION: *Epidendrum ovatilabium* belongs to the Soratae Subgroup of the Scabrum Group which is characterized by the branching habit starting on a monopodial primary stem, the infundibuliform, rugose leaf-sheaths, the lanceolate, aristate, acute leaves, racemose subcapitate inflorescence on a short, thin peduncle, and the bicallose lip. The species is recognized by the ovate-lanceolate leaves 1.0-1.5 x 0.35-0.5 cm, the short inflorescence with 4-8 flowers, yellow to ochre, tinged red, the lateral sepals 12.0-12.5 mm long, oblong and strongly falcate, the petals filiform and strongly arched along the apical half, the lip 10.2 x 6.3 mm, narrowly elliptic, base truncate, and the disc red, and the column which is ventrally inflated except for a constriction near the base where the lateral sepals join. *Epidendrum constrictum* is very similar but the lateral sepals are shorter, 9.5-10 mm long, oblong and nearly straight, the petals straight and the lip 8.0 x 8.7 mm, orbicular and cordate at the base. *Epidendrum vesicolumna* Hágsater, E.Santiago & Edquén has the leaves 1.0-1.2 x 0.6-0.7 cm, ovate-lanceolate, the flowers ochre-yellow with the veins tinged red, the lateral sepals narrowly elliptic-ob lanceolate, not falcate, with the margins revolute, the petals slightly arched forward, the lip transversely elliptic, base cordate, prominently apiculate at the apex, and the column straight with the apex slightly arched downward, narrow along the apical 1/3, and a prominent elongate vesicle along the basal 2/3. *Epidendrum labrychilum* Hágsater, Edquén & E.Santiago has similarly colored flowers, but the leaves are 1.3-5 cm long, linear-lanceolate, the sepals 6 mm long, narrowly elliptic and slightly oblique, the petals filiform, slightly arched, the lip clearly 3-lobed, with the lateral lobes forming a double bladed axe, and the column forming a ventral vesicle along the basal 2/3 and penetrating the pedicellate ovary.

CONSERVATION STATUS: DD. Data deficient.

ETYMOLOGY: From the Latin *ovatus*, the longitudinal cross-section of an egg, and *labium*, lip, in reference to the egg-shaped lip characteristic of this species.

REFERENCES: Hágsater, E., M. Chocce & E. Santiago, 2009, *Epidendrum constrictum* in Hágsater, E. & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 8, **Icon. Orchid.** 12: pl. 1226. Hágsater, E., J. D. Edquén & E. Santiago, 2019, *Epidendrum labrychilum* in Hágsater, E. & E. Santiago (eds.), *The Genus Epidendrum*, Part 13, **Icon. Orchid.** 17(1): pl. 1730. Hágsater, E., E. Santiago & J. D. Edquén O., 2022, *Epidendrum vesicolumna*, in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*. Part 15, **Icon. Orchid.** 19(1): pl. 1944.





EPIDENDRUM PARECIENSE J.M.P.Cordeiro, L.P.Felix & Hágsater

EPIDENDRUM PARECIENSE J.M.P.Cordeiro, L.P.Felix & Hágsater, Botany (Ottawa) 113: 416. 2022.

Type: BRAZIL: Rondônia: Mun. Santa Luzia d'Oeste, at the confluence of the Boniara and Dois Irmãos rivers, 370 m, 29 April 2017, **Leonardo Pessoa Felix, Erton Mendonça Almeida & Thiago Espósito Oliveira Melo 16456** Holotype: EAN! Isotypes: HERBAM! AMO! K!

Epiphytic, caespitose, sympodial, erect **herb** 15-25 cm tall including inflorescence. **Roots** 2-4 mm in diameter, basal, fleshy. **Stems** 6-15 x 0.2-0.5 cm, simple, cane-like, laterally compressed, ancipitose towards apex, medium green. **Leaves** alternate, 4-5 in young stems, 2-3 in adult stems, distributed along apical 1/2-1/3 of stems, ascending, larger leaves at apex; sheaths 0.7-2.2 x 0.2-0.5 cm, tubular, laterally compressed, progressively longer towards apex of stems, slightly striated; blade 5.1-10.3 x 1.1-2.1 cm, length:width 5:1, elliptic to oblong-lanceolate, apex narrowed, slightly bilobed, coriaceous, medium green on both sides. **Spathe** lacking. **Inflorescence** apical, sessile, racemose, short, at base of apical leaves, becoming pluri-racemose through the years, producing one flower at a time per raceme in succession over several years; peduncle 0.5-1.2 cm long, hidden by apical leaves, eventually exposed; rachis 0.2-0.5 cm long. **Floral bracts** 3-6 x 1-3 mm, much shorter than ovary, triangular, acuminate, embracing. **Ovary** 30-35 x 2.5-4.2 mm, much shorter than apical leaf, terete, not inflated, furrowed, unornamented. **Flowers** 3.5-4.5 x 4.0-5.0 cm, successive, resupinate, rarely cleistogamous, sepals and petals bright green, column white to greenish white at base, lip white with apical half of mid-lobe bright green, calli white; fragrance not recorded. **Sepals** 30-37 x 5-8 mm, slightly reflexed, linear-lanceolate, acuminate, margin entire, strongly revolute. **Petals** 28-37 x 4.5-8 mm, oblong-linear, acute, margins entire, spreading. **Lip** 28-32 x 14-16 mm, united to column, deeply 3-lobed, base widely cuneate, general shape of lip when spread ovate, margins entire, spreading; bicallose, calli 4 x 1 mm, laterally compressed, prominent, divergent; lateral lobes 14-15 x 4.0-4.5 mm, oblique, semi-ovate, surface smooth; mid-lobe 20-22 x 2.0-2.5 mm, linear-lanceolate, surface smooth. **Column** 12.5 x 4.5 cm, slightly arched, gradually widening towards truncate apex. **Clinandrium-hood** slightly surpassing body of column, margin -3-dentate. **Anther** ovate, unornamented, 4-celled. **Pollinia** 4, obovate, laterally compressed, pale yellow. **Rostrum** apical, slit. **Lateral lobes of stigma** reduced. **Nectary** deep, penetrating half the length of ovary, unornamented. **Capsule** 45-50 x 17-18.5 mm, ellipsoid, body centered, occupying nearly its entire length, pedicel 8 x 1.5 mm, body 35 x 18 mm, apical neck 7 x 4 mm.

RECOGNITION: *Epidendrum pareciense* 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 small size of the plants, 15-25 cm tall, the 3-5 unequal, elliptic to oblong-lanceolate, ascending leaves, the largest at the apex, the large flowers with bright green sepals, petals, the apical half of the mid-lobe of the lip, the column and lip including the calli white, the 4.5-8 mm wide petals, and the chromosome number $2n = 40$. It is found in the Cerrado/Amazon rainforest ecotones, in the planaltos (highlands) and chapadas (rocky outcrops) dos Parecis (Mato Grosso and Rondônia, Brazil). *Epidendrum nocturnum* is widely distributed from Florida to Brazil and has the sepals and petals greenish yellow to yellowish white, with narrow petals 1.5-3.0 mm wide, and the chromosome number is $2n = 80$. *Epidendrum carpophorum* Barb.Rodr. has ovate to elliptic leaves, normally purple underneath and dark green above, with sepals and petals white and it is distributed along the coast of eastern Brazil. *Epidendrum bahiense* Rchb.f. has smaller flowers than *E. pareciense*, the petals greenish brown and the mid-lobe of the lip short. *Epidendrum micronocturnum* Carnevali & G.A.Romero has smaller plants, to 15 cm tall, and narrowly linear-elliptic leaves, with small flowers, and the sepals 15-20 mm long.

OTHER SPECIMENS: BRAZIL: Mato Grosso: Comodoro, Reserva das Nascentes do Abastecimento, 29 IV 2017, (fl.), *Felix 16435*, EAN! (LCDP & photo voucher); Itaúba, Usina Hidrelétrica Colíder, Lote D de supressão, 29 V 2017, (fl.), *Engels 5606*, HERBAM! *Ibid.* 23 V 2017, fl., *Engels 5497*, HERBAM! *Ibid.* 22 III 2017, (fl.), *Engels 5475*, HERBAM! *Ibid.* 3 V 2015, (fl.), *Engels 3852*, HERBAM! *Ibid.* 26 VIII 2014, fr., *Engels 2565*, HERBAM! Colíder, Usina Hidrelétrica Colíder, Lote B de supressão, 31 Mar 2017, (fl.), *Engels 5095*, HERBAM! *Ibid.* 21 Jan 2015, (fl.), *Engels 2849*, HERBAM! 1 IX 2014, (fr.), *Engels 3259*, HERBAM!

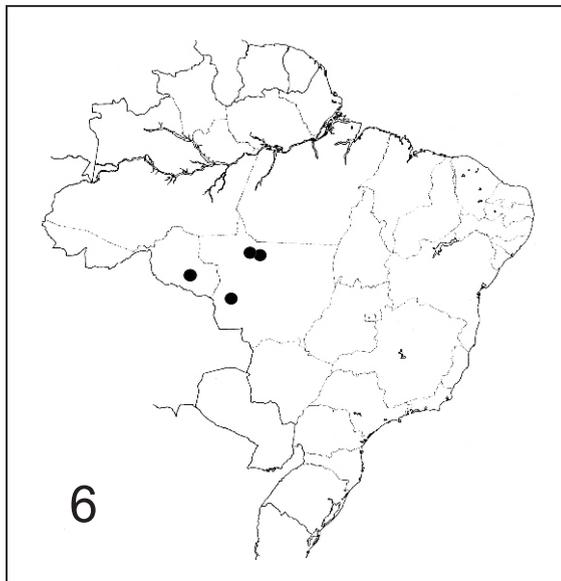
DISTRIBUTION AND ECOLOGY: The species has been found in the Cerrado/Amazon rainforest ecotones, in the highlands of Parecis (Mato Grosso and Rondônia, Brazilian states). It prefers shady places along riparian forests and in blackwater-flooded forests at 260-650 m altitude. Flowers have been observed from January to May, and fruits between July and October.

ETYMOLOGY: The specific epithet *pareciense* refers to the Parecis microregion of Brazil where the species occurs, associated with the highlands in the states of Mato Grosso and neighboring Rondônia.

CONSERVATION STATUS: LC. Least Concern. Populations are known from the municipalities of Santa Luzia d'Oeste, in Rondônia, and in the municipalities of Comodoro, Itaúba and Colíder in Mato Grosso, Brazil. Despite the common occurrence in these localities, the region is subject to strong anthropic pressure in recent years, with the expansion of cattle grazing and agriculture, which can diminish the number of individuals in natural populations.

CYTOGENETIC AND GENOME SIZE: Three individuals from the populations of Comodoro (MT) and Santa Luzia d'Oeste (RO), were $2n = 40$, and the mean chromosome size is $2.52 \mu\text{m}$, with $1C = 1.45 \mu\text{g}$ nuclear DNA.

REFERENCES: Cervantes, L., E. Hágsater & M. Soto, 2002, *Epidendrum nocturnum* in E. Hágsater & M. Soto (eds.), The Orchids of Mexico, Part 2, **Icon. Orchid.** 5-6: pl. 578. Cordeiro, Joel M. P., Mark, W. Chase, Eric Hágsater, Erton Mendonça Almeida, Lucas Costa, Gustavo Souza, Felipe Nollet & Leonardo P. Felix, 2022, Chromosome number, heterochromatin, and genome size support recent polyploid origin of the *Epidendrum nocturnum* group and reveal a new species (Laeliinae, Orchidaceae), **Botany (Ottawa)** 113: 409-421. Sánchez S., L., & E. Hágsater, 2010, *Epidendrum carpophorum*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 9, **Icon. Orchid.** 13: pl. 1313. Sánchez S., L., & E. Hágsater, 2010, *Epidendrum micronocturnum*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 9, **Icon. Orchid.** 13: pl. 1356.



EPIDENDRUM PLATYPETALUM Hágsater, Icon. Orchid. 4: pl. 472. 2001.

Type: COLOMBIA: Antioquia: El Retiro, Hda. Normandía, Cordillera Central, 2500 m, 2-3 diciembre 1956, *Mariano Ospina-Hernández 88*. Holotype: AMES 111454! (Illustration AMO!)

Epiphytic and lithophytic in moss, erect to sub-pendulous, sympodial, sub-caespitose **herb**, 13-28 cm tall. **Roots** 0.5-1.0 mm in diameter, scarce, from base of stems, thin, fleshy, white. **Stems** 7-25 x 0.14-0.4 cm simple, cane-like, terete. **Leaves** 5-15, distributed throughout stems, unequal, progressively larger, oblique; sheaths 1.0-1.3 x 0.3-0.4 cm, tubular, appressed, striated; blade 0.5-4.6 x 0.3-1.4 cm, narrowly ovate, acute, oblique, fleshy-sub-coriaceous, dark green. **Spathe** 1-2, 10-19 x 6.8-9.0 mm, conduplicate, semi-ovate, rounded, apiculate. **Inflorescence** 2.7-4.0 cm long, apical, racemose, 2-flowered, erect to semi-pendulous; peduncle 0.5 cm long, short, totally covered by spathes. **Floral bracts** 1 mm long, much shorter than ovary, triangular, acuminate. **Ovary** 21-23 x 1.7-4.0 mm, terete, thin, dilating towards apex forming a wide, ventral vesicle near apex, furrowed. **Flowers** 2, simultaneous, resupinate, sepals and petals green to green tinged with red, hyaline, lip green, fleshy, calli, mid-rib, and anther white; without fragrance. **Sepals** free, 3-5-veined, margins entire, somewhat revolute, dorsal sepal 20-23 x 6.2-7.5 mm, spreading, lanceolate-elliptic, apex rounded to obtuse; lateral sepals 18-20 x 7.0 mm, elliptic-oblong, acute, oblique. **Petals** 18.5 x 7.7 mm, spreading, paddle-like, widely elliptic, base narrow, obtuse, 3-veined, lateral veins branching from base so as to appear 5-veined, margins entire, spreading. **Lip** 14-16 x 14-19 mm, cordiform-quadrate, base deeply cordate, apex rounded to slightly emarginate, bicallose, calli small, globose, elongate, each with 1-2 short white ribs at apex, thus base of lip appears 3-5-keeled when seen from in front; disc with a low rounded mid-rib nearly reaching apex of lip. **Column** 6-9 mm long, short, straight, thick, with clinandrium-hood turned upwards. **Clinandrium-hood** prominent, slightly longer than body of column, entire, thickened, fleshy, margin entire. **Rostellum** apical slit. **Pollinia** 4, lentil-shaped, pale yellow, caudicles soft and granulose, about as long as pollinia, viscarium semi-liquid. **Anther** globose, 4-celled, white. **Lateral lobes of stigma** prominent, more than half length of stigmatic cavity, white. **Nectary** penetrating one-fourth of ovary, wide, narrowing behind perianth, unornamented. **Capsule** not seen.

OTHER SPECIMENS: COLOMBIA: Antioquia: Vda. Sta. Elena, 12 km al E de Medellín, 2400 m, 27 XII 1980, *Galeano 346*, COL! (illustration AMO!) Camino Caldas "Normandía", bosque de la sierra, 2000 m, *Ospina 61-15*, JAUM! San Andrés Cuerquia, Vda. El Catedral. Finca de Don Félix, 2422 m, XI 2013, *Hinestrosa 420*, JAUM!

OTHER RECORDS: COLOMBIA: without locality, *Ortiz V. s.n.*, sketch of flower, HPUJ! AMO! **Antioquia:** without locality, hort. Medellín, *Oscar Duque 1057*, photographs, AMO! arriba de Medellín, 2000, 15 XII 2012, *Mesa Londoño s.n.*, digital images, AMO! Medellín, *Uribe s.n.*, digital image, AMO! (photo voucher). San José de la Montaña, Quebrada Santa Inés, 2400 m, 6 X 2021, *Restrepo s.n.*, digital series, AMO! (LCDP voucher). Carretera San José de la Montaña vía San Andrés de Cuerquia, 2500 m, 3 VI 2019, *Restrepo s.n.*, digital image, AMO!

DISTRIBUTION AND ECOLOGY: Colombia, known presently from above Medellín north to San Andrés Cuerquia, at 2000-2500 m elevation, in mossy, humid montane forests. Flowering from September to December.

RECOGNITION: *Epidendrum platypetalum* Hágsater belongs to the Megalospatum group, recognized by the prominent spathe, the few, resupinate flowers, and the column united to the lip. It is recognized by the very wide, paddle-like petals, the small globose white calli with short ribs at their apex, and the long mid-rib on the cordiform-quadrate lip, and the short column with a prominent, fleshy, entire clinandrium-hood. *Epidendrum tigriphyllum* Hágsater, from the same area, has larger flowers (sepals 20-23 mm long), a fleshy, 4-lobed callus, and narrow, ligulate petals. *Epidendrum posadarum* Hágsater, also from the region above Medellín, has smaller flowers, the sepals 10-12 mm long, a deeply cordiform lip and a large fleshy callus, and the petals linear. *Epidendrum stahlia* Hágsater & E. Santiago has a smaller plant habit, narrower petals, and a longer column. *Epidendrum miradoranum* Dodson & D.E. Benn., from Peru, is terrestrial and erect, with larger flowers, (sepals 23-27 mm long), and oblanceolate petals. *Epidendrum calacaliense* Hágsater & Dodson, from Western Ecuador, is epiphytic and pendant, with a reniform lip, proportionately larger calli, a prominent keel on the lip, and linear, acute petals. The calli are reminiscent of the calli of *Epidendrum scutella* Lindl., with 4 short ribs in front of the calli, they are very low but can be seen in rehydrated material.

CONSERVATION STATUS: CR. Critically endangered. The species is only known presently from a limited range in the Cordillera Central of Colombia from above Medellín to San Andrés Cuerquia, a distance of some 90 km. The distribution matrix is highly fragmented due to cattle ranching and the urban frontier of Medellín and its metropolitan area. It has been recently collected near San Andrés where it is abundant in mossy montane humid forests.

ETYMOLOGY: From the Greek π , wide, and τ , petal, in reference to the wide petals which distinguish this species from similar species.

REFERENCES: Dodson, C. H. & D. E. Bennett Jr., 1989, *Epidendrum miradoranum*, in C. H. Dodson & D. E. Bennett Jr., Orchids of Peru, **Icon. Pl. Trop.** ser 2, 1: pl. 66. Hágsater, E., 1999, *Epidendrum tigriphyllum*, in E. Hágsater, L. Sánchez. S. & J. García-Cruz (eds.), The Genus *Epidendrum*, Part 2, **Icon. Orchid.** 3: pl. 387. Hágsater, E., 2001, *Epidendrum posadarum*, in E. Hágsater & L. Sánchez. S. (eds.), The Genus *Epidendrum*, Part 3, **Icon. Orchid.** 4: pl. 474. Hágsater, E. & C. H. Dodson 2001, *Epidendrum calacaliense*, in E. Hágsater & L. Sánchez. S. (eds.), The Genus *Epidendrum*, Part 3, **Icon. Orchid.** 4: pl. 424. Hágsater, E. & E. Santiago, 2020, *Epidendrum stahlia*, in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 10, **Icon. Orchid.** 18(1): pl. 1839. Santiago, E. & E. Hágsater, 2015, *Epidendrum scutella* in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 11, **Icon. Orchid.** 15(1): pl. 1559.



Authors: E. Hágsater & S. Restrepo S.

LCDP: S. Restrepo S.

Herbario AMO

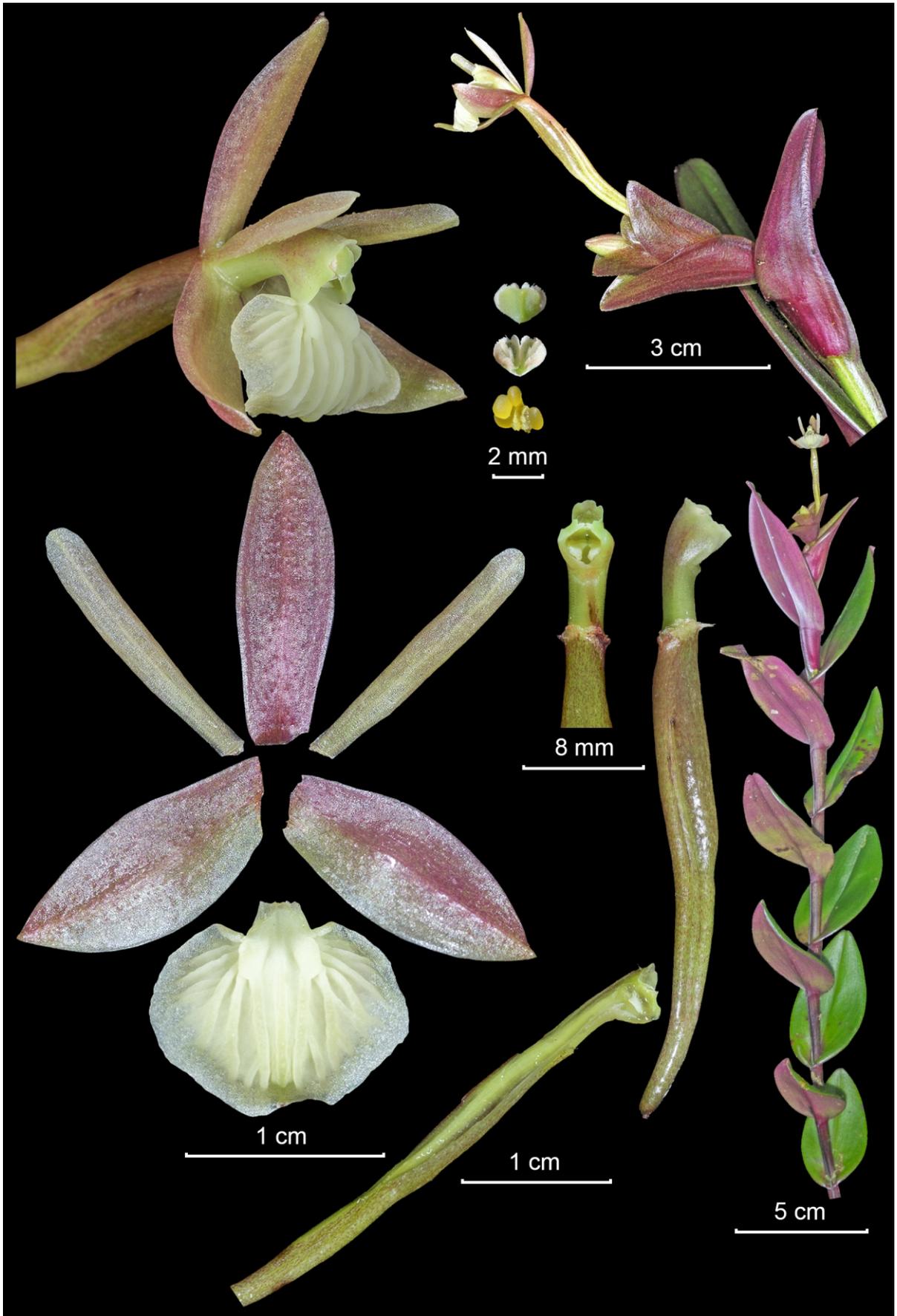
Ciudad de México, MÉXICO



Photo: C. Uribe V.

Editors: E. Hágsater & E. Santiago

ICONES ORCHIDACEARUM 19(1). 2022. Plate 1932



EPIDENDRUM PLURICOSTATUM Hágsater, Reina-Rodr. & J.Duarte

EPIDENDRUM PLURICOSTATUM Hágsater, Reina-Rodr. & J. Duarte, *sp. nov.*

TYPE: COLOMBIA: Nariño: Mun. Ricaurte: Reserva Forestal Protectora Nacional, La Planada, Resguardo Pialapi-Pueblo Viejo, cultivada en Orquidario, 1856 m, 8 VII 2021, **Guillermo Reina-Rodríguez, Carol Rojas-Florez, Kelly Ortiz, Irene Caicedo, Nohemy Nastacuas, Jairo Guanga & Betty Caicedo 3366**. Holotype: PSO! Digital images of pretype AMO! (LCDP voucher).

Similar to *Epidendrum phyllocharis* Rchb.f., but the flowers with different proportions, the sepals wider 13.6-15.6 x 4.9-6.0 mm (vs. sepals 13-15.4 x 2.7-3.0 mm), and the lip larger 8.5-11.0 x 11.0-13.3 mm, disc large, provided with numerous thickened veins radiating to near margin, some branching, three mid-veins converging near apex of lip (vs. lip 6.5-7 x 6.3-6.5 mm, disc provided with 5-7 low, smooth keels radiating from base to near apex of lip).

Epiphytic, sympodial, caespitose, erect **herb** ca. 39 cm tall including the inflorescence. **Roots** 2 mm in diameter, basal, scarce, thin. **Stems** 37 x 0.8-2.0 cm, simple, cane-like, terete at base, laterally compressed and ancipitose above, erect, straight. **Leaves** numerous, distributed throughout stems, alternate, articulate, erect-spreading, deciduous with time; sheaths 3-5 x 0.8-2.0 cm, tubular, somewhat infundibuliform, laterally compressed, ancipitose, minutely striated, purple to green; blade 5.6-6.3 x 2.7-3.2 cm, ovate to elliptic, apex rounded, narrowly bilobed, medium green, dorsally usually purple, coriaceous, margin entire, revolute. **Spathes** 2, unequal, one at apex of peduncle, ovate, dorsally keeled, apex rounded, base tubular, ancipitose, leaf-like, 30 x 20 mm (conduplicate), green to red-purple, second smaller, 26 x 8 mm (conduplicate), hemi-ovate, dorsally keeled, green to red-purple, similar to floral bracts but larger. **Inflorescences** 6 cm long, apical with several lateral inflorescences in mature stems, short, compact, few-flowered, distichous, producing new racemes from same inflorescences through time and becoming pluri-racemose; peduncle ca. 30 mm long, apical portion of inflorescence laterally compressed, ancipitose, short, covered at mid-length by 2 unequal spathes. **Floral bracts** 17 x 9.5 mm and progressively smaller, much shorter than ovary, ovate, conduplicate, obtuse, imbricated. **Ovary** 25.5-41 mm long, terete, smooth, ventrally inflated for apical half. **Flowers** several, developing one at a time per raceme, resupinate, sepals yellow tinged red, petals pale green, lip cream colored, column green minutely dotted red dorsally, anther green to whole flower pale green; fragrance not registered. **Sepals** spreading, free, elliptic, acute, 5-veined, margin entire, spreading; dorsal sepal 13.0-15.6 x 4.9-5.0 mm, lateral sepals 13.0-15.2 x 5.8-6.0 mm. **Petals** 12.0-14.0 x 1.9-2.5 mm, sub-parallel to column, free, narrowly oblong, apex rounded, slightly oblique, 3-veined, margin entire, spreading. **Lip** 8.5-11.0 x 11.0-13.3 mm, united to column, entire, transversely elliptic, base slightly cordate, margin entire, spreading somewhat hyaline; bicallose, calli thick, slightly divergent, and leaning outwards, disc large, provided with numerous thickened veins radiating to near margin, some branching, three mid-veins converging near apex of lip. **Column** 8.0-9.0 x 3.8 mm, thin at base, gradually thickened towards apex, slightly arched, apex truncate. **Clinandrium-hood** 2 x 1.7 mm, prominent, slightly surpassing body of column, margin erose. **Anther** widely ovoid, acute, 4 celled. **Pollinia** 1.2 mm long, obovoid, laterally compressed, caudicles soft and granulose, viscarium semi-liquid. **Rostellum** apical, slit. **Lateral lobes of stigma** very large, transverse to column, forming a narrow vertical passage into nectary. **Nectary** penetrating 1/2 of ovary, narrow, smooth. **Capsule** not seen.

OTHER SPECIMENS: COLOMBIA: Cauca: P.N.N. Munchique, V 1981, *Chaparro 99*, FMB! (sterile). El Tambo: P.N.N. Munchique, 65-68 km vía 20 de julio, 2000 m, 27 IV 1979, *Morales 154*, COL! El Tambo: P.N.N. Munchique, Cerro Charguayaco, 2450 m, 21 IX 2001, *Salgado 379*, CAUP! **Risaralda:** camino al cerro Moctezuma, 1926-2451 m, 10 I 2006, *Arévalo 463*, COL! P.N.N. Tatamá, Cerro Montezuma, 2500 m, 30 IX 2006, *Arévalo 641*, COL! carretera al Cerro Montezuma, 15 III 1986, *Bernal 1000*, COL! **Valle del Cauca:** Quereamal, 2011980, *Guarín 76*, COL! El Cairo, 2000 m, IV 1982, *Ortiz 4445*, HPUJ!

OTHER RECORDS: COLOMBIA: Caldas: Riosucio, 1900 m, 15 XI 2020, *Arango s.n.*, Digital Image, AMO! Riosucio, 1900 m, 31 I 2021, *Arango s.n.*, Digital Images, AMO! **Cauca:** Popayán, Calibío: Hort. Finca San Isidro, 1726 m, 29 III 2018, *Hágsater 15651*, digital images, AMO! **Risaralda:** Pueblo Rico, Cerro Montezuma, 18 XI 2012, *Calderon s.n.*, Digital images, AMO! Digital images! Montezuma, P.N.N. Tatamá, rec'd 19 I 2016, *Moreno s.n.*, Digital Images, AMO! Cerro Montezuma, 2000-2300 m, <https://www.jungledragon.com/specie/21554/epidendrum-brachypodum-epidendrum-brachypodum.html> **Valle del Cauca:** El Cairo: Serranía Los Paraguas, Las Amarillas, *Arango s.n.*, Digital image, AMO! **ECUADOR: Carchi:** Hort. Ecuagenera, IX 2003, *Hágsater 13837*, spirit, AMO! Digital images, AMO! Hort. Ecuagenera, 16 X 2018, *Hágsater 15960*, Digital images, AMO! Tulcán, El Chical, rec'd 7 X 2021, *Hirtz s.n.*, Digital Image, AMO! El Chical, Hector Yela en su orquidario La Casa Drácula, *Hirtz s.n.*, Digital images AMO! (photo voucher). **Imbabura:** Otavalo: Fundación Cielo Azul, muy cerca del Rio Guayllabamba con la represa Mandarayacu, 1200 m, *Baquero s.n.*, Digital images, AMO!

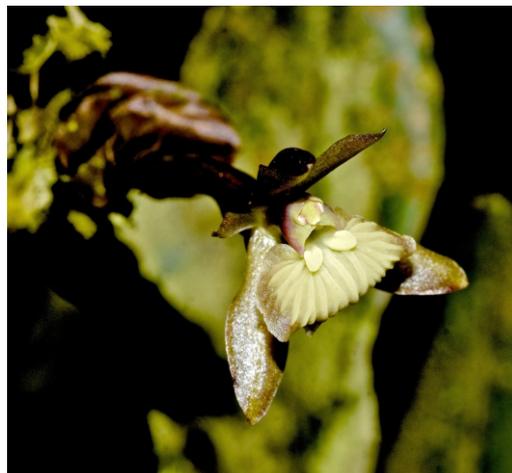
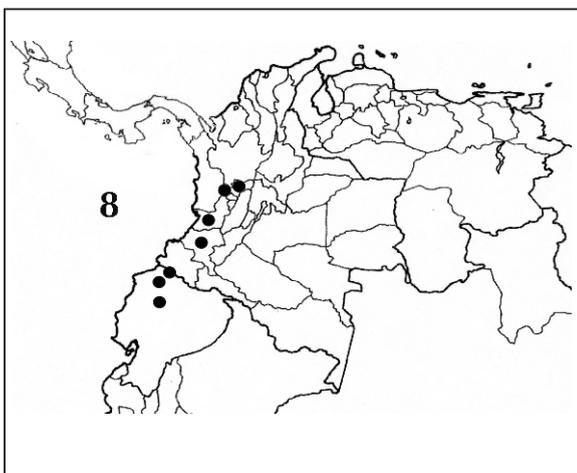
DISTRIBUTION AND ECOLOGY: Presently known from central Colombia, from Risaralda south, along the Cordillera Occidental, on both sides of the Cordillera, and into northern Ecuador on the Pacific slopes, at 1900-2500 m elevation in wet forest. Flowering throughout the year.

RECOGNITION: *Epidendrum pluricostatum* belongs to the Albertii Group which is characterized by the sympodial habit, the laterally compressed or ancipitose or somewhat fusiform-thickened stems, the apical or apical and lateral, distichous inflorescences, more or less with imbricating bracts on the peduncle, producing one flower at a time, and the Albertii Subgroup, which has apical and more commonly short, lateral inflorescences (the apical one with an ancipitose peduncle terminating in a conduplicate spathaceous bract somewhat larger but similar to the floral bracts) with several progressively longer, imbricating bracts covering the short peduncle and the flowers are membranaceous, delicate, generally successive, one developing at a time from each raceme. The new species is recognized by the short apical and lateral inflorescences with rounded floral bracts, with one or two prominent spathaceous bracts on the apical inflorescence, the petals narrowly oblong, and the lip 8.5-11.0 x 11.0-13.3 mm, united to column, entire, sub-cordiform, transversely elliptic, base slightly cordate, margin entire, spreading, bicallose, calli thick, slightly divergent, and leaning outwards, disc large, provided with numerous thickened veins radiating to near margin, some branching, three mid-veins converging near apex of lip. It has been confused with *Epidendrum phyllocharis* Rchb.f. which has flowers white or rarely pale green tinged with red, petals linear 1.7-2 mm wide and the lip pentagonal-subcircular with 5-7 radiating keels, truncate and minutely apiculate at the apex. *Epidendrum brachypodum* Hágsater has pale green to pale purple flowers with relatively wide sepals and petals, the petals spatulate-obtrullate, 5.4 mm wide, and the lip sub-rhombic-orbicular with a single prominent keel and somewhat thickened. *Epidendrum albertii* Schltr. is vegetatively very similar, with similar colored flowers, but the lip is ovate-oblong with an acute apex and the column strongly arched at the apex. *Epidendrum hexagonum* Hágsater & Dodson, from Ecuador, has larger plants, elliptic-oblancoolate leaves 13-18 cm long, green flowers with narrowly elliptic-oblancoolate petals 17-18 mm long, and the lip with a single central keel.

ETYMOLOGY: From the Latin *pluri-*, many, *costatus*, ribbed, with the lip having a many-ribbed disc, which distinguishes it from the species with which it has been confused for many years, *Epidendrum phyllocharis*.

CONSERVATION STATUS: NT Near threatened. Presently known Area of occupancy is around 2600 km², with more than 10 known locations present in two countries, with a range of some 600 km. It appears in at least two National Natural Parks in Colombia. Therefore, the proposed as near threatened (NT) applies (IUCN 2012).

REFERENCES: Hágsater, E., 2004, *Epidendrum brachypodum* in E. Hágsater & L.Sánchez S. (eds.), *The Genus Epidendrum*, Part 4, **Icon. Orchid.** 7: pl. 715. Hágsater, E., & C.H. Dodson, 1993, *Epidendrum hexagonum* in E. Hágsater & G.A. Salazar (eds.), *The Genus Epidendrum*, Part 1, **Icon. Orchid.** 2: pl. 144. Santiago, E., & E. Hágsater, 2007, *Epidendrum albertii* in E. Hágsater & L.Sánchez S. (eds.), *The Genus Epidendrum*, Part 6, **Icon. Orchid.** 9: pl. 903. Santiago, E., & E. Hágsater, 2007, *Epidendrum phyllocharis* in E. Hágsater & L.Sánchez S. (eds.), *The Genus Epidendrum*, Part 6, **Icon. Orchid.** 9: pl. 973.



Authors: E. Hágsater, G. Reina-Rodríguez & J. Duarte

LCDP: G. Reina-Rodríguez

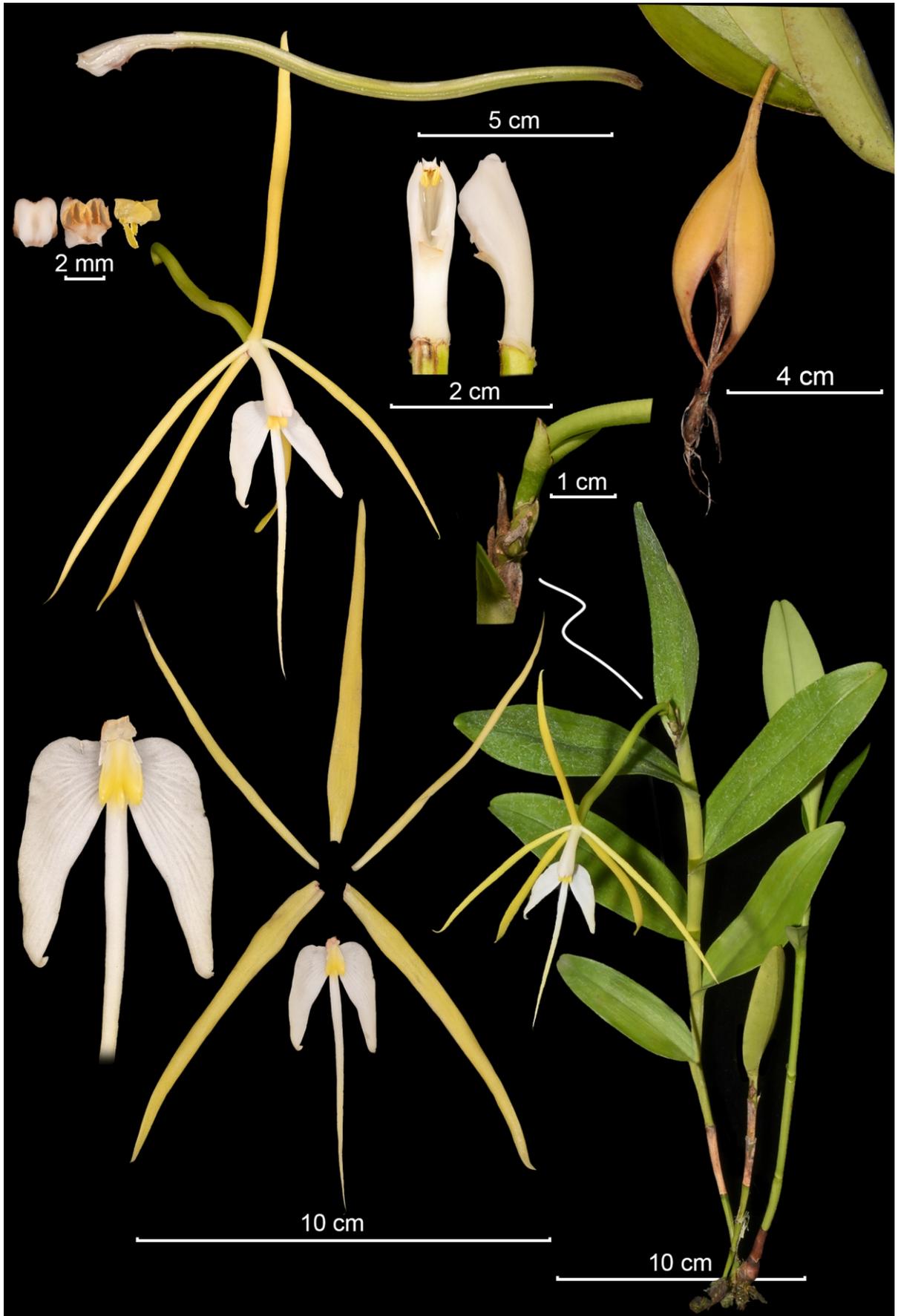
Photo: A. Hirtz

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 19(1). 2022. Plate 1933



EPIDENDRUM PUNINNOCTURNUM Hágsater & J.Duarte

Plate 1934

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

Type: ECUADOR: Pastaza: Cantón Santa Clara, Parroquia San José: camino a San José de Punín, 924 m, col. 4 noviembre 2017 en fruto (digital image at AMO!), cult. prensado 21 octubre 2020, *Eric Hágsater y Marco Marcelo Jiménez León 15393*. Holotype: QCNE! (LCDP & photo voucher).

Similar to *Epidendrum trapeziinocturnum* Bar.-Colm. & Hágsater but the stems laterally compressed but not ancipitose (vs. flattened stems, ancipitose above the middle), the leaves 6.0-12.8 x 2.4-4.0 cm (vs. leaves larger, 13.5-15.0 x 4.2-4.8 cm), the sepals and petals yellow, lip and column and anther white, lip with the apical half of mid-lobe tinged yellow, calli pale yellow (vs. flowers bright green with lip and calli white, lip with the apical half of mid-lobe tinged green, column creamy white), and the flowers smaller, sepals 77-88 mm long (vs. sepals 96-97 mm long), petals 77-85 mm long (vs. petals 95-97 mm long), and the lateral lobes of lip hemi-ovate, basally cordate and apically acute (vs. lateral lobes semi-lanceolate, basally cuneate and apically long acuminate).

Epiphytic, sympodial, caespitose, **herb**, 16-54 cm tall including inflorescence. **Roots** 3.5 mm in diameter, basal, fleshy. **Stems** 7-36 x 0.3-0.8 cm, simple, cane-like, laterally compressed towards apex without being ancipitose, straight, completely light green. **Leaves** 3-8, laxly distributed along apical 2/3 of stem, erect, coriaceous and with largest leaf located sub-apically; foliar sheaths 3.5-5.5 x 0.5-0.8 cm, laterally compressed and minutely striated longitudinally; blades 6.0-12.8 x 2.4-4.0 cm, length:width 3:1, oblong-elliptic, apex equally bilobed, minutely mucronate; light green on both sides. **Spathes** lacking. **Inflorescence** apical, racemose to pluri-racemose, producing one flower at a time; peduncle and rachis ca. 3.0 cm long, conspicuous. **Floral bracts** 9 x 9 mm, much shorter than ovary, embracing, triangular-semi-elliptic, obtuse. **Ovary** 87-122 x 4.5 mm, somewhat longer than sepals, terete, thin, not inflated, unornamented, furrowed; apparently autogamous. **Flowers** successive, usually one at a time, resupinate, sepals and petals yellow, lip and column and anther white, lip with apical half of mid-lobe tinged yellow, calli pale yellow; fragrance none diurnally, nocturnal not registered. **Sepals** 77-88 x 5.0-7.2 mm, spreading, linear-lanceolate, acuminate, 11-veined, margin entire, revolute. **Petals** 77-85 x 3.0-3.5 mm, spreading, descendent at a 45° angle to horizontal axis of flower, linear-elliptic, acuminate, 5-6 veined, margin entire, revolute. **Lip** 63-67 x 20-22 mm, united to column, 3-lobed, base slightly cordate, margin entire, spreading; bicallose, calli laminar 4 x 2 mm, rounded, prominent, nearly parallel but leaning slightly outwards, with a low, laminar mid-rib slightly longer than calli; lateral lobes 25.8-27 x 8.5-9.0 mm, hemi-ovate, basally cordate and apically acute, surface very slightly thickened on veins near base, separated from mid-lobe by deep, narrow sinus, margin entire, revolute towards apex; mid-lobe linear-triangular, 55-60 x 2.8-3 mm. **Column** 22-26 x 6.5-6.8 mm, slightly arching downwards, dilated towards oblique apex, with a short tooth on each side of clinandrium-hood. **Clinandrium-hood** slightly surpassing body of column, bidentate, a wide sinus in between teeth. **Anther** 4-celled, sub-cube, apex truncate, upper margin widely sinuous. **Pollinia** 4, sub-quadrate, strongly laterally compressed, translucent; caudicles in two pairs, granulose, longer than pollinia; viscarium semi-liquid. **Rostellum** apical, slit, apparently reduced, pollinarium in contact with stigmatic cavity after anthesis. **Lateral lobes of stigma** reduced. **Nectary** penetrating 4/5 length of ovary, 104 mm long from entrance of column, narrow, unornamented. **Capsule** 90 x 27 mm, ellipsoid, body somewhat displaced towards apex; pedicel 30 x 3 mm, body 46-57 x 26-27 mm, apical neck 14 x 3 mm.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Presently known from a single location on the hills east of the Troncal Amazónica in the Province of Pastaza, at 924 m elevation, in remnants of tropical rainforest. Epiphytic on tree at edge of cultivated field. Flowered in cultivation in October, collected with mature fruit in November.

RECOGNITION: *Epidendrum puninnocturnum* 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 light green plants 16-54 cm tall, the stems laterally compressed but not ancipitose, the leaves 6.0-12.8 x 2.4-4.0 cm, oblong-elliptic, the very long ovary, 87-119 mm long, the flowers yellow with the column and lip white and calli pale yellow, the sepals 77-88 x 5.0-6.5 mm, the lip 63-67 x 20-22 mm, lateral lobes 25.8-27 x 8.5-9.0 mm, hemi-ovate, acute, and the body of the capsule displaced towards the apex of the pedicel. It is very similar to *Epidendrum trapeziinocturnum* which is found in the Amazon lowland of Colombia, at ca. 100 m elevation, and has flattened stems, ancipitose above the middle, with large leaves 13.5-15.0 x 4.2-4.8 cm, oblong, the large flowers bright green with lip and calli white, the lip with the apical half of mid-lobe tinged green, the column creamy white, sepals 96-97 x 5-6 mm, and the lateral lobes of the lip, semi-lanceolate, basally cuneate and apically long-acuminate, the mid-lobe of the lip linear-triangular, 68-81 mm long. *Epidendrum condornocturnum* Hágsater & Tobar has similarly colored plants, light green, the stems laterally compressed, ancipitose towards the apex, a shorter ovary, 70-90 mm long, and the lip 56-77 x 14-24 mm, lateral lobes of the lip narrowly hemi-obovate, the mid-lobe of the lip ensiform, 47-67 mm long. *Epidendrum nocturnum* Jacq. is widely distributed from Florida to Bolivia, has terete stems, the ovary 50-70 mm long, about as long as the sepals which are 35-75 mm long, the petals 40-60 x 2-3 mm, the column 15-20 mm long, and the body of capsule occupying nearly the full length, centered. *Epidendrum tridens* Poepp. & Endl. which is lithophytic or terrestrial, has dark green leaves with the underside purple, the ovary is 60-100 mm long, the sepals 42-75 x 5-8 mm, and the petals 2.5-3.0 mm wide, linear-lanceolate, the lateral lobes of the lip semi-ovate, rounded, and the mid-lobe of the lip ensiform, 20-37 mm long.

NOTE: the original plant in the field was only 16 cm tall, but in cultivation after 3 years the new stem reached 37 cm in height. It took 3 years for the new growth to mature and flower in cultivation. The species appears to be autogamous, having quickly matured and produced a seed capsule in cultivation in an enclosed environment.

CONSERVATION STATUS: DD. Data Deficient. Presently known from a single specimen but expect to be widespread along the hills around the locality which are unfortunately being transformed into agriculture.

ETYMOLOGY: In reference to the town of San José de Punín, Pastaza, Ecuador, where the type was collected, and *nocturnum*, in reference to the group of species where this species is placed, and that in reference to the nocturnal fragrance typical of these Sphingid (Lepidoptera) pollinated species. Name not to be confused with the Parish of Punín, part of the city of Riobamba, Chimborazo, also in Ecuador, located at a much higher altitude in the inter Andean valley.

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: Barona-Colmenares, A. A. & E. Hágsater, 2020, *Epidendrum trapeziinocturnum* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum* Part 14, *Icon. Orchid.* 18(1): pl. 1840. Cervantes, L., E. Hágsater & M. Soto, 2002, *Epidendrum nocturnum* in E. Hágsater & M. Soto (eds.), The Orchids of Mexico, Parts 2-3, *Icon. Orchid.* 5-6: pl. 578. Hágsater, E. & F. Tobar, 2018, *Epidendrum condornocturnum* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum* Part 12, *Icon. Orchid.* 16(1): pl. 1613. Sánchez S. L. & E. Hágsater, 2015, *Epidendrum tridens* in E. Hágsater & L. Sánchez-Saldaña (eds.) The Genus *Epidendrum* Part 11, *Icon. Orchid.* 15(1): pl. 1565.



Authors: E. Hágsater & J. Duarte

LCDP: R. Jiménez M. & A. Cisneros

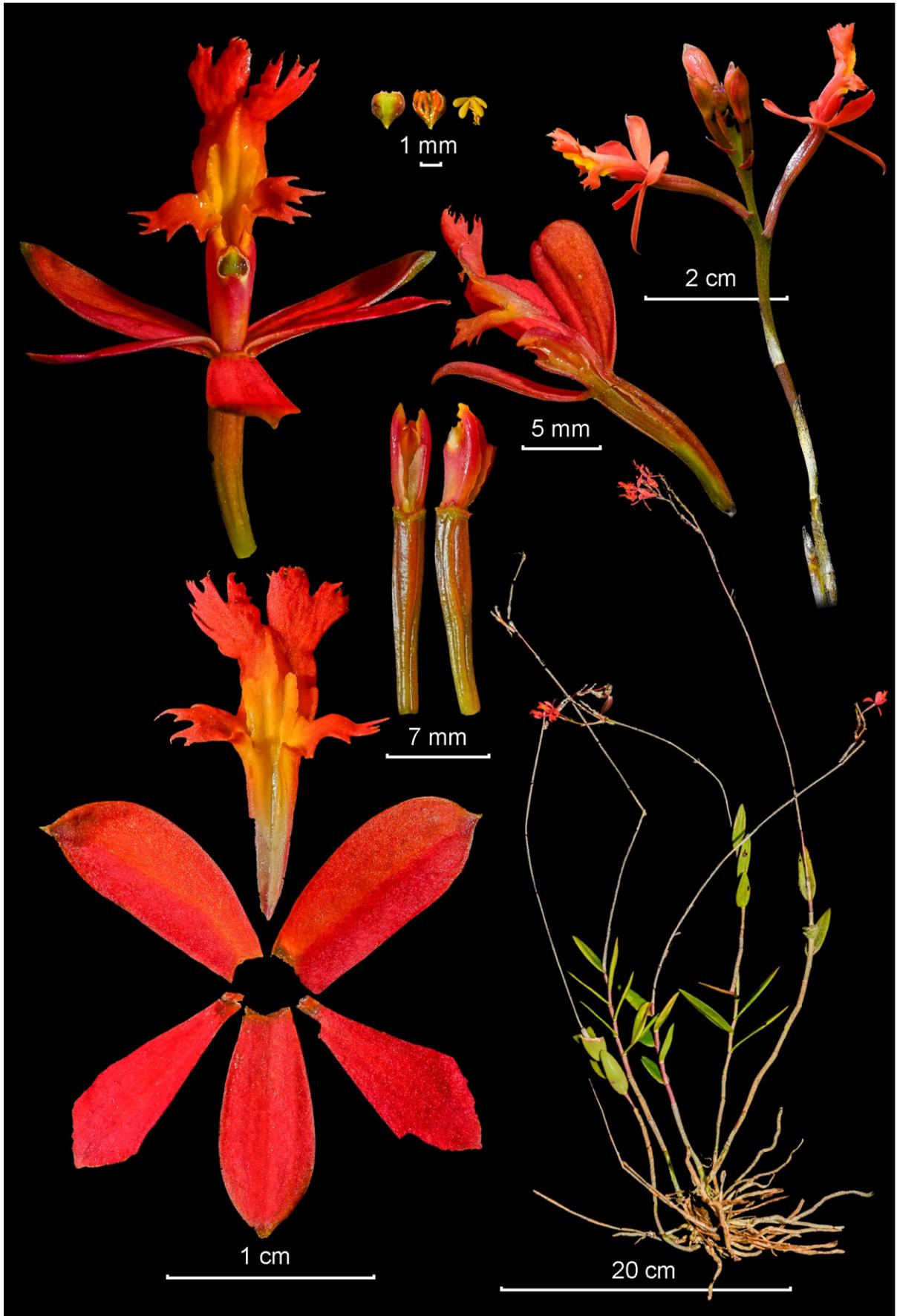
Photo: R. Jiménez M.

Editors: E. Hágsater & E. Santiago

Herbario AMO

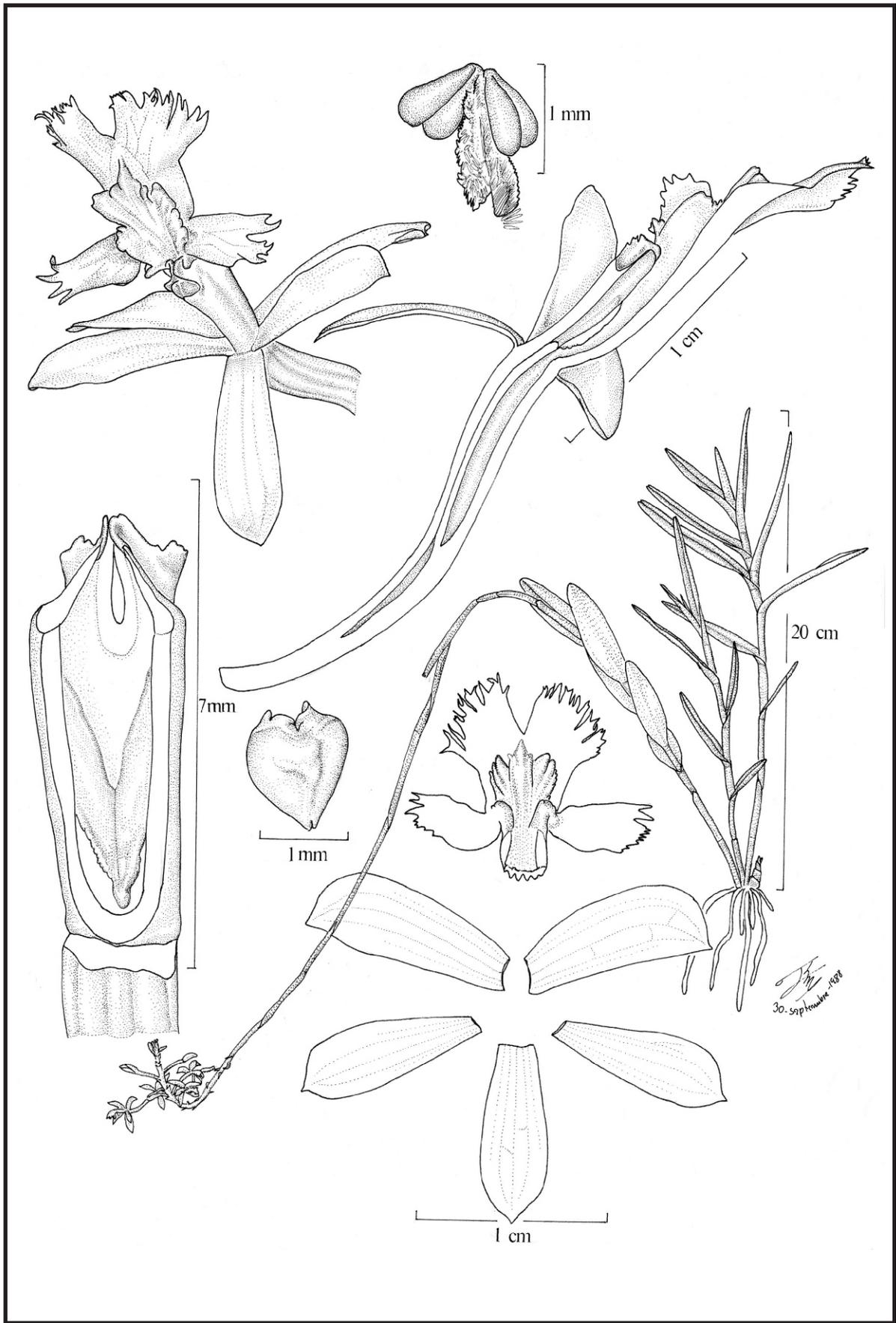
Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 19(1). 2022. Plate 1934



EPIDENDRUM REFLEXILOBUM C.Schweinf.

Plate 1935a



EPIDENDRUM REFLEXILOBUM C.Schweinf.

Plate 1935b

EPIDENDRUM REFLEXILOBUM C.Schweinf., Bot. Mus. Leafl. [Harvard University] 11(4): 112. 1943.

Type: PERU: Huánuco: [Pasco: Prov. Daniel Alcides Carrión:] Yanahuanca, on rocks among shrubs, 3070 m, 16-22 June 1922, **James Francis MacBride & William Featherstone 1290**, Holotype: F 517800! Isotype: AMES 61589!

Epiphytic, sympodial, caespitose **herb**, ca. 40-120 cm tall including inflorescence. **Roots** 5-6 mm in diameter, basal, terete, fleshy, white. **Stems** 19-37.5 x 0.4 cm, simple, cane-like, terete to slightly compressed towards apex, thin, covered by foliar sheaths. **Leaves** 7-12, distichous, distributed along upper 1/4 of stem; sheaths 4.4-6.0 x 0.4 cm, tubular, smooth, papyraceous when dry; blade 4.0-6.6 x 1.3-1.5 cm, oblong, apex unequally bilobed, articulate, coriaceous, smooth, green, margins entire. **Spathe** lacking. **Inflorescence** 34-79 cm long, racemose to pluri-racemose, laxly flowered, cylindrical; peduncle 30-66 cm long, elongate, covered by numerous tubular, imbricated bracts 4.5 x 0.4 cm, acute, scarious when dry, striated, papyraceous; rachis ca. 4.8 cm long. **Floral bracts** 4-15 x 0.7-3.0 mm, much shorter than ovary, decreasing in size, triangular, acuminate, embracing. **Flowers** ca. 10-20, successive, 4-6 open at a time, non-resupinate, red, callus yellow turning red when pollen is removed or as flowers age; fragrance none. **Ovary** 20-25 mm long, terete, thin, not inflated, red-violet, furrowed. **Sepals** spreading, apex obliquely rounded, short apiculate, 7-veined, margin entire, spreading; dorsal sepal 10.2-12.5 x 4.6-4.9 mm, ovate-elliptic, lateral sepals 10.8-13.0 x 5.1-5.8 mm, elliptic-oblong, oblique. **Petals** 10.6-13.5 x 4.0-5.0 mm, extended, oblanceolate or cuneate-spathulate, apex acute, 3-5-veined, margin entire or distal section erose, spreading. **Lip** 7.4-12.0 x 8.6-15.5 mm, united to column, deeply 3-lobed, in natural position mid-lobe flat, extended, lateral lobes sub-erect, facing outward, base cordate, distal margins lacinate; callus low complex formed by 3-5 straight, parallel ribs on mid-lobe, mid-rib longer nearly reaching apical sinus, with two divergent bifid calli at base of lateral lobes, longer segment projecting on junction of mid-lobe with lateral lobes; lateral lobes 4.0-6.5 x 2.0-5.0 mm, spreading, twisted 90° in natural position, obovate; mid-lobe 4.4-4.6 x 7.5-8.2 mm, obcuneate, bifid, slightly divergent, deeply and narrowly emarginate. **Column** 4.0-7.1 mm long, straight, wider at apex, with a pair of long, apical recurved fleshy wings with distal margins erose. **Clinandrium-hood** very short, margin entire, leaving anther totally exposed. **Anther** ovoid, apiculate, surface rugose, 4-celled. **Pollinia** 4, narrowly obovoid, laterally compressed, caudicles formed by a pile of elongate pollen tetrads like a pile of tiles; viscarium semi-liquid. **Rostellum** apical, split. **Lateral lobes of stigma** short, occupying 1/4 length of stigmatic cavity. **Nectary** penetrating half pedicellate ovary, minutely papillose. **Capsule** not seen.

OTHER SPECIMENS: PERU: Without data, *Bennett 3480*, MOL x2! **Pasco:** Cerro de Pasco: Huariaca, 3200 m, 26 VI 1940, *Asplund 11966*, S! **Huánuco:** Chinchao, abajo de Carpish hacia Huánuco, 11 IX 1960, *Acleto 172*, UC! Casapi, 1868, *Mathews s.n.*, W! Tingo María, Hort. Heidelberg Bot. Garten, hort. Mexico City, rec'd 26 VII 1982, AMO 10426-27-28! pressed 30 IX 1988, *Hágsater 6888*, AMO 12996! (Illustration voucher). *Ibid.* pressed 7 X 1988, AMO 13957! Pachitea, west of Pano, 2750 m, 7 VIII 1980, *Luer 5301*, SEL!

OTHER RECORDS: PERU: **Huánuco:** entre Churubamba y Chinchao, 2307 m, 17 XI 2019, *Yupanqui s.n.*, digital images AMO! Huánuco: without locality, 2909 m, 19 I 2020, *Yupanqui s.n.*, digital images, AMO! (photo voucher) Prov. Dos de Mayo, ruta a la Unión, 3200 m, 29 I 2017, *Rivas s.n.*, digital images, AMO! parte alta de Huánuco, terrenos de cultivo de papa, en humedal, litófito, 3270 m, 3 IV 2021, *Edquén 5002*, digital images, AMO! (LCDP voucher). Huánuco?, 3 XII 1994, *Bennett sub-Alcántara 1101*, illustration, copy AMO!

DISTRIBUTION AND ECOLOGY: Known presently from central Peru in the Departments of Huánuco and neighboring Pasco, terrestrial at 2900-3200 m altitude. Flowering from September to June.

RECOGNITION: *Epidendrum reflexilobum* 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 species is recognized from Huánuco and Junín Departments, and has red flowers with the callus yellow, the lateral lobes of the lip narrow and spreading, twisted 90° in natural position. It is similar to *Epidendrum macrocyphum* Kraenzl. which has pink-purple flowers with a white callus formed by 3-5 straight parallel ribs on the mid-lobe, the mid-rib longer nearly reaching the apical sinus, with two divergent bifid calli at the base of the lateral lobes, the longer segment projecting on the junction of the mid-lobe with the lateral lobes, the lip in natural position has the mid-lobe flat, extended, the lateral lobes erect, embracing the entire column with the outer margin strongly revolute.

NOTE: In a previous publication, Hágsater (2020), of dedicated to this species, Hágsater mistakenly illustrated it with a plate of what is now being described as a new species elsewhere.

CONSERVATION STATUS: DD. Data deficient, known presently from two regions in central Peru.

REFERENCES: Hágsater, E., 2020, *Epidendrum reflexilobum* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 14, **Icon. Orchid.** 18(1): pl. 1835. Hágsater, E., & A. Cisneros, 2020, *Epidendrum macrocyphum* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 14, **Icon. Orchid.** 18(1): pl. 1819. Schweinfurth, C., 1959, *Epidendrum reflexilobum*, in *Orchids of Peru*, **Fieldiana: Bot.** 30(2): 502-503.



Authors: E. Hágsater, J. D. Edquén & A. Cisneros

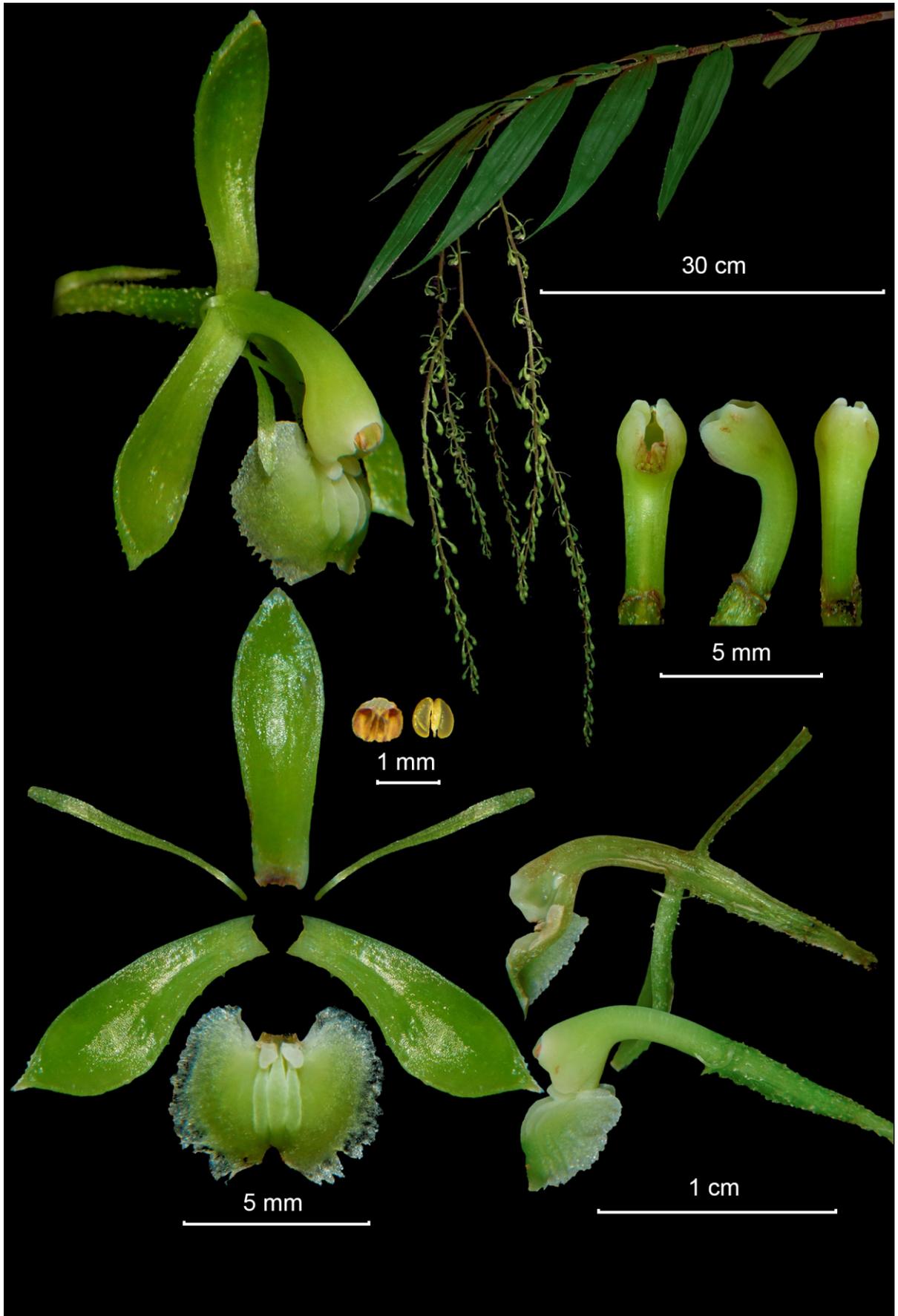
LCDP: J. D. Edquén & A. Cisneros

Illustrator: R. Jiménez M.

Photo: L. E. Yupanqui

Editors: E. Hágsater & E. Santiago

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EPIDENDRUM RIOAZUFRENSE Sierra-Ariza, Hågsater & E.Santiago

Plate 1936

EPIDENDRUM RIOAZUFRENSE Sierra-Ariza, Hągsater et E.Santiago

Type: COLOMBIA: Tolima: Villahermosa: Vda. Buena Vista, 2111 m, 17 marzo 2021, **Mario Alexei Sierra-Ariza 271**. Holotype: JBB! (LCDP & photo voucher).

Similar to *Epidendrum muricatoides* Hągsater & Dodson but the flowers green (vs. flowers ochre with the base of the column green and apex and lip creamy white), the sepals 8.0-8.5 mm long (vs. sepals 10-11 mm long), the lip convex with disc fleshy and the margins erose-dentate (vs. lip spreading, fleshy throughout and margins slightly erose), and the column strongly ventrally arched.

Epiphytic, sympodial, caespitose, **herb**, 90-120 cm tall. **Roots** ca. 3 mm in diameter, basal, thick, white. **Stems** 70-100 x 0.5-1 cm, simple, cane-like, terete, inclined; sheaths 4-6 cm long, non-foliaceous, tubular, smooth, fibrous. **Leaves** 12-15, distributed in mid-apical zone of stem, alternate, articulate, at a 45° angle with stem so that adaxial surface of leaf is upward facing; sheaths 1-4.5 x 0.5-1.0 cm, tubular, minutely striated, green with brown spots; blade 12-22 x 1.8-3.6 cm, lanceolate, acuminate, somewhat plicate, 7-veined, coriaceous, margin entire. **Spathe** lacking. **Inflorescence** 35-54 cm long, apical, paniculate, pendulous, densely many-flowered; peduncle 1-2 cm long, sub-terete, straight, without bracts; main rachis 15 cm long, sub-terete, zigzag shaped, densely muricate, tinged red, provided with 5 racemes 18-36 cm long, lax, apical branches shorter, each subtended by a bract 2-4.5 cm long, narrowly triangular, long-acuminate, embracing. **Floral bracts** 2-6 mm long, shorter than ovary, narrowly triangular, acuminate, embracing. **Ovary** 8-12 mm long, terete, thin, slightly dilated along apical half, densely muricate. **Flowers** ca. 160, successive, resupinate, totally green; fragrance sweet, faint, diurnal. **Sepals** spreading, free, fleshy, dorsally densely muricate, oblanceolate, apex acute, minutely apiculate, apical half slightly concave, margin entire, spreading; dorsal sepal 8 x 2.7 mm, 3-veined; lateral sepals 8.5 x 2.7 mm, 5-veined, slightly oblique downwards. **Petals** 7.0-7.4 x 0.7 mm, often strongly revolute, curving back, around lateral sepals, free, linear, apex truncate to obtuse, 1-veined, margin entire. **Lip** 5.0-6.3 x 4.8-5.5 mm, united to column, sub-orbicular, bilobed, base cordate, apex widely emarginate, forming two dolabriform lobes, margins membranaceous, slightly erose-dentate and hyaline; bicallose, calli small, finger-like, elongated, slightly divergent towards apex; disc very fleshy, with 3 parallel, thick ribs, that do not reach apex, mid-rib longest, with lesser, low thickened radiating short veins on sides of disc. **Column** 7 mm long, basal half thin, strongly widening at apex, strongly arching ventrally. **Clinandrium-hood** reduced, margin entire. **Anther** sub-spherical, yellow, 4-celled. **Pollinia** 4, "bird-wing" type, slightly yellow translucent, strongly laterally compressed, inner pair smaller; caudicles laminar, smooth, nearly as long as pollinia; viscarium semi-liquid. **Rostellum** apical, split. **Lateral lobes of stigma** small, 1/3 length of stigmatic cavity. **Nectary** short, penetrating about 1/3 of pedicellate ovary, somewhat inflated behind perianth, unornamented. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Known from the eastern slope of the Central Cordillera of Colombia in the basin of the Azufrado river, an affluent of the Lagunilla river, municipality of Villahermosa, department of Tolima. Epiphytic at 2111 m altitude. Flowering from March and April.

RECOGNITION: *Epidendrum rioazufrense* belongs to the Sodiroid Group which is characterized by the tall plants with thick cane-like stems, the leaves slightly plicate, thin, the lip slightly 3-lobed, the margin erose-dentate to fimbriate, and the dorsal surface of the sepals and ovary verrucose to muricate. The new species is recognized by the pendulous inflorescence with ca. 160 green flowers, the petals with the margins entire, the lip bilobed, the disc fleshy with borders with slightly thickened veins, the base cordate, apex widely emarginate, forming two dolabriform lobes, the margins slightly erose-dentate, and the column strongly arching ventrally. *Epidendrum muricatoides* has ochre colored flowers with the base of the column green and apex and lip creamy white, the lip is all fleshy, sub-quadrate and the margins spreading slightly erose. *Epidendrum calothyrsus* Schltr. has an erect, many-flowered, densely flowered inflorescence, the flowers ochre, the lip 3-lobed with the apex apiculate, and the column slightly arched with the apex bidentate. *Epidendrum sodiroid* Schltr. also has green to green-brown flowers, the lip white, and the disc red purple, the lip convex, the margins lacinate, the petals have the apical margins ciliate, and the column is straight and red purple. *Epidendrum cesarfernandezii* Carnevali & I. Ramírez has green flowers, and the lip is white (sometimes diffusely tinged pink), transversely elliptic, the margin finely fimbriate.

ETYMOLOGY: in reference to the Azufrado River basin, one of the main tributaries of the municipality of Villahermosa, department of Tolima (Colombia), where one of the authors applied his first research on orchids and where the type specimen was collected.

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

REFERENCES: Carnevali Fernández-Concha, G., & I. Ramírez-Morillo, 2003, *Epidendrum cesarfernandezii* in Nomenclatural Novelties in the Orchidaceae from Venezuela and Guyana, **Novon** 13(4) 405-418. Hągsater, E., & C.H. Dodson, 1993, *Epidendrum muricatoides* in E. Hągsater & G.A. Salazar (eds.), The Genus *Epidendrum*, Part 1, **Icon. Orchid.** 2: pl. 161. Santiago, E., & E. Hągsater 2020, *Epidendrum sodiroid*, in E. Hągsater & E. Santiago (eds.), The Genus *Epidendrum* Part 14, **Icon. Orchid.** 18(1): pl. 1838. Schlechter, R.; 1920, *Epidendrum calothyrsus* in Die Orchideenfloren der südamerikanischen Kordillerenstaaten 2: Colombia. II. Beschreibungen neuer Arten, **Repert. Spec. Nov. Regni Veg. Beih.** 7: 37-206.



Authors: M. A Sierra-Ariza, E. Hągsater & E. Santiago

LCDP: M. A. Sierra-Ariza

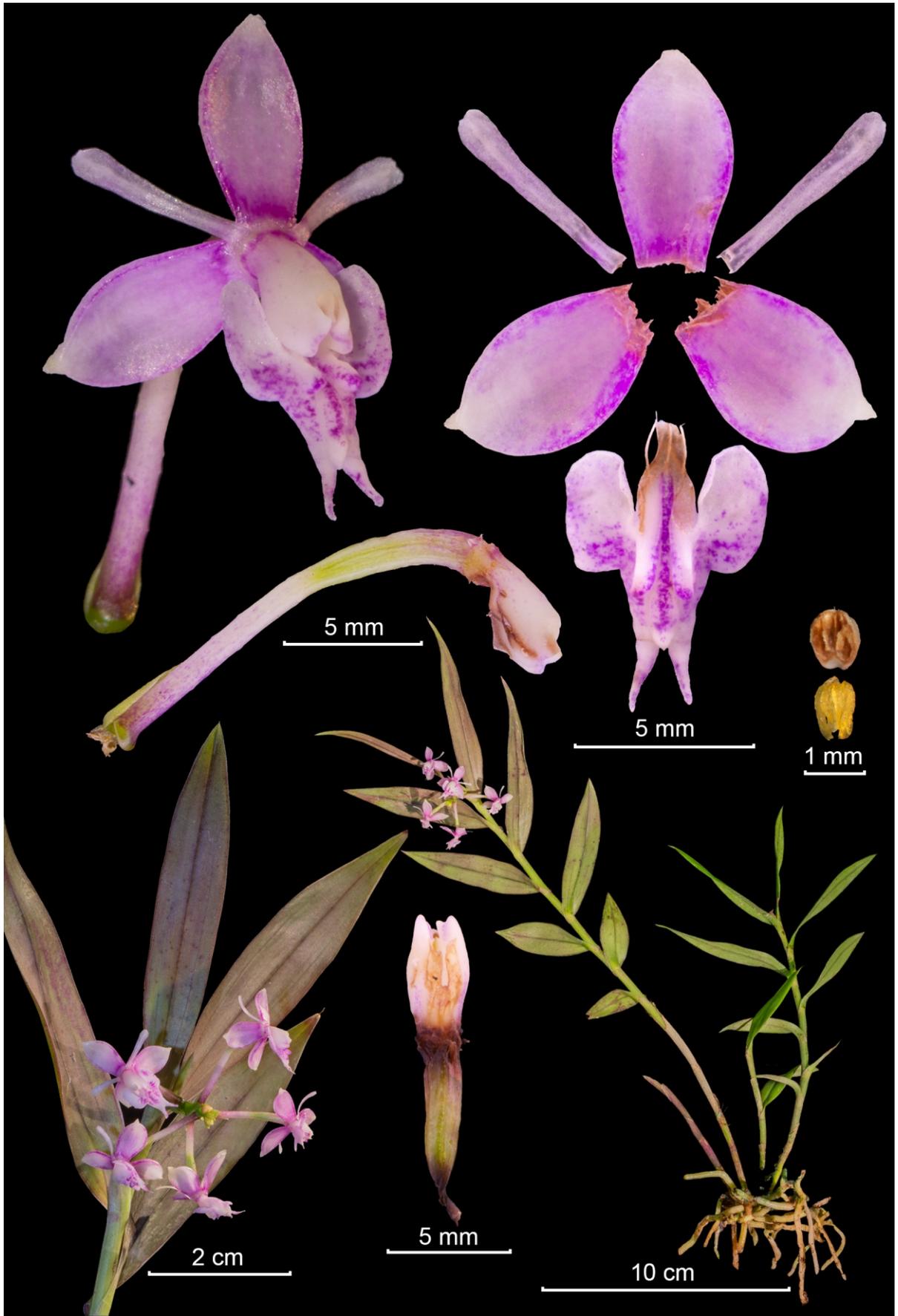
Photo: M. A. Sierra-Ariza

Editors: E. Hągsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 19(1). 2022. Plate 1936



EPIDENDRUM ROSEOBICIRRHATUM Hágsater & Hirtz

Plate 1937

EPIDENDRUM ROSEOBICIRRHATUM Hágsater et Hirtz, *sp. nov.*

Type: ECUADOR: Morona-Santiago: Gualaquiza: camino de San Miguel de Cuyes, hort. Quito, 21 mayo 2021, **Mario Portilla ex Alex Hirtz s.n.**
Holotype: QCNE! (LCDP and photo voucher)

Similar to *Epidendrum tundaycirrhatum* Hágsater & Tobar, but the flowers white more or less irregularly spotted magenta, especially towards the margins and mid part of the lip, column white with a slight magenta tinge towards the apex (vs. flowers green turning olive-green to brown, the lip and column white turning yellow), flowers smaller, sepals 6.1-6.4 mm long, obovate-elliptic (vs. sepals 9 x 3 mm, lanceolate-elliptic), petals 6.1 x 1 mm, narrowly oblong-obcuneate, apex rounded (vs. petals 8 x 4 mm, broadly oblanceolate to sub-spatulate, apex acute), the lateral lobes of the lip transversely oblong-elliptic, margin entire (vs. sub-dolabriform, margin undulate to erose), and lobes of the mid-lobe narrowly triangular, straight fleshy lobes (vs. lobes uncinata, cirrose, involute in natural position).

Epiphytic, sympodial, caespitose, erect **herb**, 17-28 cm tall including inflorescence. **Roots** 3 mm in diameter, fleshy, slightly thick, white. **Stems** 13-21 x 0.4 cm, terete, cane-like, thin, erect, simple; entirely covered by non-foliar sheaths 10-20 x 4 mm, tubular, acute, scarious when dry, thin. **Leaves** 8-9, distributed in apical half of stem, spreading, grass-like; blade 2.6-8.0 x 0.9-1.4 cm, lanceolate, acuminate, margin entire, extended, concolor, medium green. **Spathes** lacking. **Inflorescence** racemose, few-flowered, apical, arching-nutant, green; peduncle short, terete, slightly thick, covered by 2-3 unequal bracts; rachis short, green. **Floral bracts** ca. 3 mm long, short, embracing about 1/4 of ovary, progressively shorter towards apex of inflorescence, lanceolate to triangular, acute, embracing. **Ovary** 17 x 1.1 mm, thin, arcuate, not inflated, but somewhat thickened along apical 1/3, white-green tinged magenta. **Flowers** 5 per raceme, simultaneous, resupinate, lip generally oriented towards rachis, sepals and petals pink-white more or less irregularly spotted magenta, especially towards margins and mid part of lip, column white with slight magenta tinge towards apex; no fragrance registered. **Sepals** spreading to slightly reflexed, free, obovate-elliptic, acute, somewhat concave, margin entire, spreading; dorsal sepal 6.1 x 3.4 mm, 5-veined; lateral sepals 6.4 x 3.9 mm, 3-veined, dorsally carinate, and apex short aristate. **Petals** 6.1 x 1 mm, spreading, somewhat reflexed and arching forward, free, narrowly oblong-obcuneate, apex rounded, 1-veined, margin entire, spreading. **Lip** 7.5 x 5.7 mm, united to column, 3-lobed, flat in natural position, base deeply cordate; lateral lobes 2.0 x 3.5 mm, transversely oblong-elliptic, margin entire, inner margin slightly involute and shortly embracing column; mid-lobe 4.0 x 2.5 mm, basal half cuneate, then bifid, forming 2 prominent narrowly triangular, straight fleshy lobes, minutely apiculate in sinus; bicallose, calli digitiform, sub-parallel, slightly upturned at a 30° angle with lip, disk 3-ribbed, ribs elongated to apical sinus, mid-rib prominent especially at base, lateral ribs more or less hidden under calli. **Column** 4.3 mm long, ending in a pair of thick, rounded wings. **Clinandrium-hood** short, margin entire. **Anther** ovoid, apex truncate. **Pollinia** 4, bird-wing type, transparent, yellow, inner pair noticeably shorter, somewhat triangular in cross-section, wider above, outer pair larger and concave; caudicles not seen; viscarium semi-liquid. **Rostellum** apical, slit. **Lateral lobes stigmatic cavity** not seen. **Nectary** not seen. **Capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Presently known only from the eastern slope of the Andes in southern Ecuador. Flowering in May.

RECOGNITION: *Epidendrum roseobicirrhatum* 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, a compact, nodding inflorescence, the conspicuous bracts sometimes about as long as the ovary, the numerous fleshy, green and/or white flowers with the mid-lobe deeply bilobate, the lobules sometimes cirrose, and the pollinia thin and unequal, the inner pair smaller without being of the bird-wing-type. The new species is recognized by the sepals and petals pink-white more or less irregularly spotted magenta, especially towards margins and mid part of lip, the sepals 6.1-6.4 x 3.4-3.9 mm, obovate-elliptic, the petals 6.1 x 1 mm, narrowly oblong-obcuneate, the apex rounded, the lip with transversely oblong-elliptic lateral lobes, and the mid-lobe cuneate at the base and bifid at the apical half, the lobes narrowly triangular, fleshy, straight. *Epidendrum tundaycirrhatum* has tepals green turning olive-green and the lip white turning yellow, sepals 9 mm long, the mid-lobe of the lip cuneate at the base and bilobed forming two uncinata, cirrose lobes which are involute in natural position. *Epidendrum enantilobum* Hágsater has green to cream-colored flowers, lip and column white, sepals 4-5 mm long sepals, the lateral lip lobes falcate-oblong, and the mid-lobe forming two opposite narrow ciliate lobes. *Epidendrum xelidonourum* Hágsater & H. Medina has very pale green-white to ochre flowers, base of the sepals, petals and column green, column and lip white, the lateral lobes of the lip 1/4 circle, the mid-lobe basal half sub-rectangular, slightly slimmer at the middle, the apical half bilobed, and the lobes linear triangular, acuminate, arching-divaricate, reminiscent of the tail of barn swallows. *Epidendrum brachyblastum* Hágsater & Dodson has sepals 6.0-6.8 mm long, the lip with narrow hemi-ovate lateral lobes, and deep green flowers with lip and apical half of the column snow white. *Epidendrum hugomedinae* Hágsater has snow-white flowers with keels of the lip white tinged violet and the obcuneate mid-lobe formed by two, rounded, somewhat divergent, lobes. *Epidendrum bicirrhatum* D.E.Benn. & Christenson, from northern Peru, has pale cream-orange flowers with the base of the sepals and petals green, tips of the keels of the lip lavender, flowers of similar size, the sepals 4.6-5.2 mm long, and the lip has denticulate margins on sub-orbicular lateral lobes and cirrose lobules on mid-lobe. The Bolivian *Epidendrum ophidion* Dodson & R. Vásquez is quite similar to the latter, but has successive, yellow flowers with three purple lines on the disc, pustulate sepals 6-8 mm long, and dolabriform lateral lobes with a crenulate margin. *Epidendrum tiwinzaense* Hágsater & Dodson has green flowers with a white lip and the apical half of the column, the sepals some 7 mm long, and the lip terminating in a pair of cirrose lobes.

ETYMOLOGY: From the Latin *rosea*, pink, and *bi-* and *cirrhatum*, twice cirrose, having two filament or slender appendages, in reference to this rose-magenta over white flowers with to short thin apical lobes, typical of the Bicirrhatum Group.

CONSERVATION STATUS: Data deficient. The species is known from a single known locality, though it has been seen in cultivation several times.

REFERENCES: Bennet, Jr., D. E., & E. A. Christenson, 1998, *Epidendrum bicirrhatum* D.E.Benn. & Christenson, in **Icon. Orchid. Peruvianum** pl. 453. Dodson, C. H., & R. Vásquez, 1989, *Epidendrum ophidion* in *Orchids of Bolivia*, **Icon. Pl. Trop.** ser. 2, 4: pl. 331. 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., & C. H. Dodson, 2004, *Epidendrum hugomedinae*, in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 4, **Icon. Orchid.** 7: pl. 745. Hágsater, E., & C. H. Dodson, 2004, *Epidendrum tiwinzaense*, in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 4, **Icon. Orchid.** 7: pl. 795. Hágsater, E., & H. Medina, 2018, *Epidendrum xelidonourum*, in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 12, **Icon. Orchid.** 16(1): pl. 1666. Hágsater, E., & F. Tobar, 2019, *Epidendrum tundaycirrhatum* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 13, **Icon. Orchid.** 17(1): pl. 1754.



Authors: E. Hágsater & A. Hirtz

LCDP: F. Tobar & A. Cisneros

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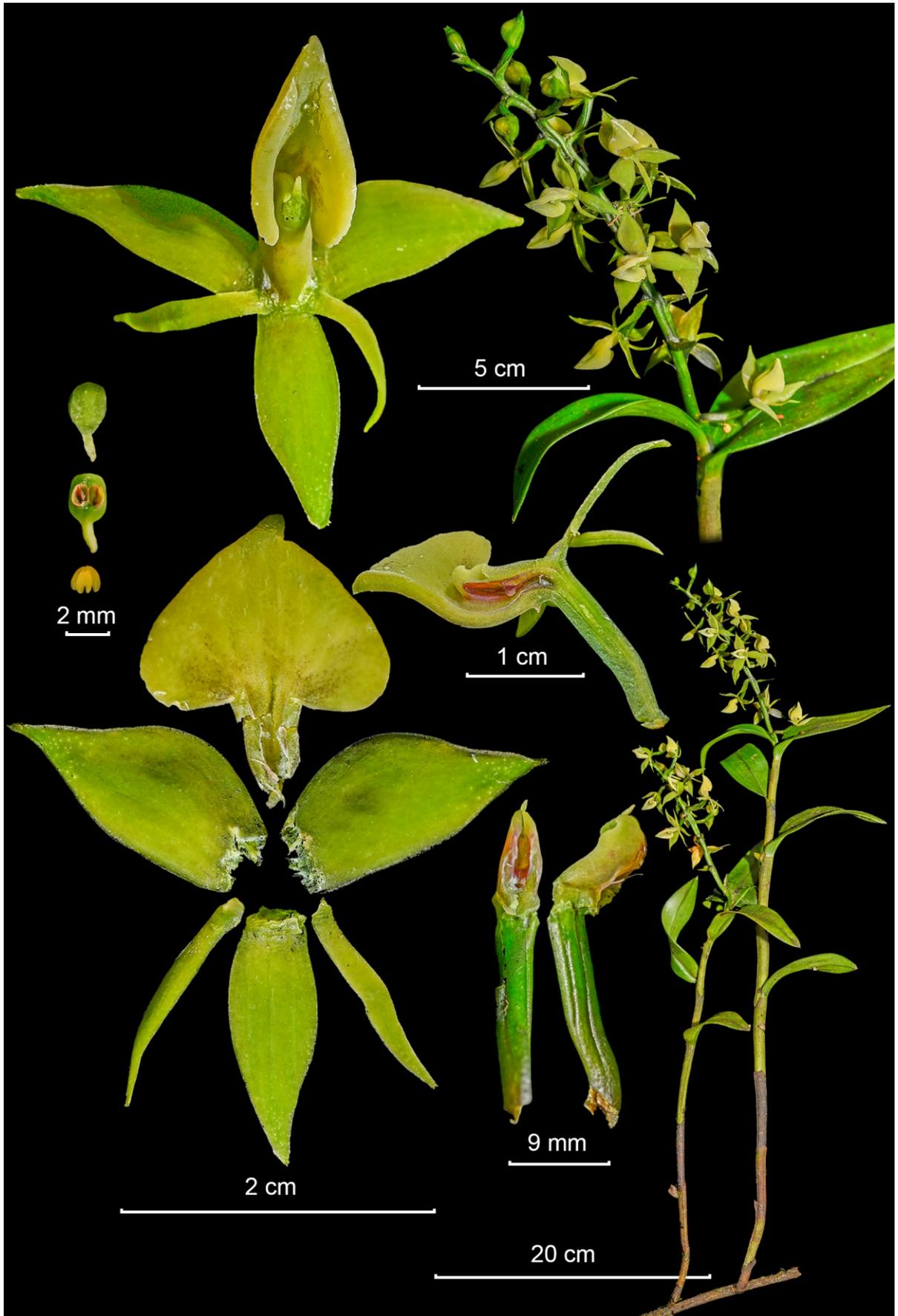
Ciudad de México, MÉXICO



Photo: F. Tobar

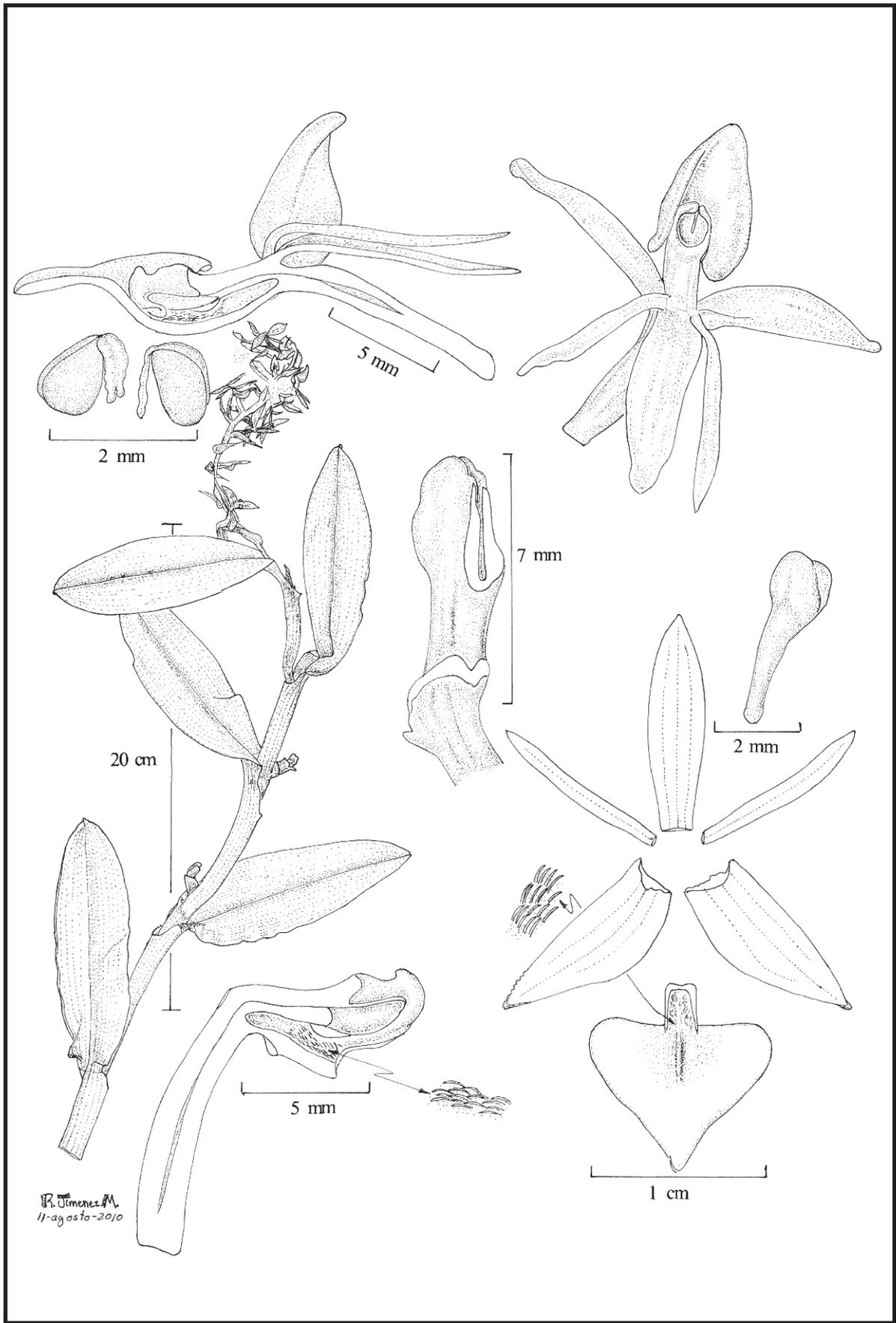
Editors: E. Hágsater & E. Santiago

ICONES ORCHIDACEARUM 19(1). 2022. Plate 1937



EPIDENDRUM ROSTRIGERUM Rchb.f.

Plate 1938a



EPIDENDRUM ROSTRIGERUM Rchb.f.

Plate 1938b

EPIDENDRUM ROSTRIGERUM Rchb.f., *Linnaea* 41(1): 38. 1876.

Type: PERU: Puno: Carabaya: Distr. Coasa: Sachapata, ad truncos arborum Sept 1854. **Willebald Lechler 2690**. Holotype: W 49718! Tracing AMES 38300! Isotype: GOET 008432!

SYNONYM: *Epidendrum probosantherum* Hágsater, *Icon. Orchid.* 13: pl. 1378. 2010.

Type: PERU: Pasco: Oxapampa: Huancabamba, Naciente de la Quebrada Amistad, Sector Santa Bárbara, Parque Nacional Yanachaga-Chemillén, 3350-3450 m, 14 agosto 2005, **Edgardo M. Ortiz, Samuel Vilca C., Carlos Arias C., Sergio Shuña S. y Hector Cristóbal E. 786**, Holotype: AMO 25721! (Illustration, AMO! illustration voucher.) Isotypes: HOXA! HUSA! MO! HUT! SEL! The following specimens are cited as duplicates in Tropicos, but correspond to another, yet unidentified species of the same group: AMAZ, USM (not found).

Terrestrial, monopodial **herb** to 100-150 cm tall, branching above. **Roots** basal from main stem, scarce from branches, fleshy, thick, white. **Stems**: primary stem 90-138 cm long, scarcely branching sub-apically, branches 28-40 cm long, cane-like, terete, thick, straight, erect. **Leaves** numerous on main stem, fewer on branches, distributed throughout apical 2/3, articulate, alternate; sheaths 40-80 x 6-12 mm, tubular, minutely striated, rugose, somewhat inflated towards apex; blades 7-12 x 2.9-3.3 cm, lanceolate or narrowly elliptic, obtuse, coriaceous, apical margin denticulate. **Inflorescence** 10-14 cm long, apical, racemose, erect, flowering only once, cylindrical; peduncle 5-15 mm long, terete, thin, straight; rachis 9.5-12.5 cm long, straight. **Floral bracts** 10-20 mm long, longer than ovary, lanceolate, acuminate, bracts gradually shorter towards apex. **Flowers** 15-23, simultaneous, non-resupinate, fleshy, rigid, green with lip yellow with purple spots. **Ovary** 9-17 mm long, short, thin, smooth, ribs prominent. **Sepals** free, spreading, acute or short acuminate, 3-veined, margin entire, spreading; dorsal sepal 10-15.5 x 3-5 mm, elliptic-oblong, lateral sepals 10.2-16 x 4.0-7.5 mm, ovate-oblong, slightly oblique. **Petals** 10.5-13 x 1.1-1.5 mm, free, spreading, linear, acute, nearly straight, 1-veined, margin entire, spreading. **Lip** 10-12 x 8.5-15 mm, united to column, entire, widely triangular, basal and lateral margins of nearly equal length, corners rounded, apex acute, concave in natural position, somewhat embracing apex of column without covering it, margin entire; ecallose, with a narrow keel down middle which ends at middle of lip, glabrous. **Column** 7-8 mm long, short, thick, apex lightly arched upwards, ending in a pair of lateral erect hooks. **Clinandrium-hood** reduced, entire. **Anther** elongate, body obovoid, prolonged into a process twice as long as body, cylindrical, reminiscent of a bird's beak, 4-celled. **Pollinia** 4, obovoid, sub-equal, laterally compressed; caudicles soft and granulose, as long as pollinia, viscarium semi-liquid. **Rostellum** near apex of body of column, slit. **Nectary** without penetrating ovary, pubescent in front of stigmatic cavity.

OTHER SPECIMENS: BOLIVIA: La Paz: Nor Yungas, 1.6 km E of Cotapata on the road between Unduavi and Yolosa, 3100 m, 20 II 1986, *Solomon 14911*, MO! (Illustration AMO!) **PERU: Amazonas:** Bagua: Cordillera Colán SE of La Peca, 8000 ft, 25 IX 1978, *Barbour 3565*, MO! USM! *Ibid.* 8050 ft, 6 X 1978, *Barbour 3780*, MO! (Illustration, AMO!) SEL! USM! *Ibid.* 7750 ft, 16 X 1978, *Barbour 4098*, MO! **Cajamarca:** Santa Cruz, Distr. Pulán, La Zanja, 2900 m, 7 VIII 2008, *Santa Cruz 2415*, USM! *Ibid.* *Santa Cruz 2425*, USM! **Huancavelica:** Tayacaja: Distr. Huachocolpa, arriba de Marcavalle, 3200, 20 IV 1964, *Tovar 4769*, UC! USM! **Huánuco:** Pachite: Distr. Chaglla: Tambo de Vacca, 13000 ft, 10 VI 1923, *Macbride 4897*, F! **Pasco:** Oxapampa: Dist. Huancabamba: Parque Nacional Yanachaga-Chemillén, Quebrada Yanachaga, 2100-2200 m, 27 I 2005, *Arias 103*, MO! Abra Yanachaga, 2900-3000 m, 18 II 2005, *Becerra 855*, HOXA! Sector San Daniel, 3260 m, *Hernani 518*, USM! cercanías al macizo de la Cordillera Yanachaga, trocha Erica, 3260 m, 22 IV 2007, *Monteagudo 13750*, HOXA! MO! *Ibid.* 3330 m, 24 IV 2007, *Monteagudo 13796*, AMO! HOXA! Remedición y Evaluación de arbustos y hierbas en Parcela Permanente Yanachaga 1.0 ha, 3170 m, *Monteagudo 16022*, HOXA! USM! Lanturachi, sector Santa Barbara, camino a Milpo, 2824 m, 10 X 2003, *Pera 692*, MO! (Illustration, AMO!) Sector Grapanazú. La Colmena "Trocha Erica", 3487 m, 22 V 2012, *Valenzuela 21191*, HOXA! Santa Barbara-Milpo, 3000 m, 27 I 2004, *Vásquez 29103*, HOXA! MO! Sector Quebrada Yanachaga, 2910 m, 16 II 2004, *Vásquez 29431*, HOXA! MO! SEL! sector San Daniel, en la trocha Erica, 3250-3450 m, 1 III 2008, *Vásquez 33857*, AMO! HOXA! USM! *Ibid.* 2700-3100 m, 1 III 2009, *Vásquez 35437*, HOXA! USM!

OTHER RECORDS: PERU: Pasco: Oxapampa; Huancabamba, Parque Nacional Yanachaga-Chemillén, 12 XI 2010, *Becerra s.n.*, Digital images, AMO! Oxapampa, Distr. Huancabamba, 3489 m, 30 IV 2021, *Edquén 5025*, digital images, AMO! (LCDP and photo voucher) Parque Nacional Yanachaga-Chemillén, 3260 m, *Monteagudo 13750*; photographs 44 (1), (2), (3), (4), (5) sepals and petals green tinged with purple, lip cream-colored, HOXA, duplicates at AMO! These images show an elongate anther, unlike the normal, obtuse or truncate anther. The full series of # 44 images are a mixed collection, the other plant having entirely green flowers, sepals and petals somewhat darker.

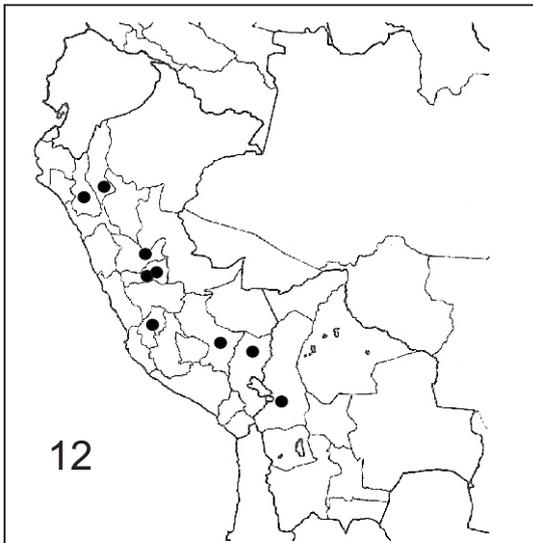
DISTRIBUTION AND ECOLOGY: Widespread from northern Peru in the Department of Amazonas to La Paz in Bolivia, along the upper eastern slopes of the Andes, terrestrial at 2325-3900 m elevation, in Wet Montane Forest and Elfin Forest. Flowering from August to May.

RECOGNITION: *Epidendrum rostrigerum* belongs to the Macrostachyum Group, which is characterized by the monopodial plants with sub-apical branching, the rugose leaf sheaths, the racemose inflorescence, and the fleshy flowers with a simple, conduplicate lip embracing the column, and the Macrostachyum Sub-group which has a cylindrical inflorescence with non-resupinate flowers, the lip entire, triangular to cordiform, and the nectary pubescent in front of the stigmatic cavity. The species is recognized by the large, scarcely branching plants, the lanceolate leaves, 7-12 cm long, the floral bracts longer than the ovaries, 10-20 mm long and the sepals 10-16 mm long, the petals linear, the lip widely triangular, the base truncate, and especially by the very prominent, elongate anther which ends in a process about twice as long as the body of the anther, cylindrical and reminiscent of the elephant's trunk or bird's beak. *Epidendrum oxycalyx* Hágsater & Dodson is somewhat similar but has linear-lanceolate acuminate petals, a narrower cordiform lip without neither calli nor any keel, is widespread from southern Colombia to northern Peru and has been reported from the same area as *E. rostrigerum*. In *Epidendrum orthophyllum* Hágsater & Dodson the lip is similarly widely triangular, nearly truncate at the base, the corners rounded, but it lacks the narrow keel and the sepals are wide, rhombic, and the anther is short, acute. *Epidendrum macrostachyum* Lindl., which also has linear petals, has a cordiform lip and successive flowers, though several are open at any one time; the anther is short and acute.

CONSERVATION STATUS: NT. Not Threatened. The species appear widespread in Peru and neighboring Bolivia, a range of 1600 km, with numerous localities detected.

ETYMOLOGY: From the Latin *rostrum*, a beak, like that of a bird, in reference to the apex of the anther which has an appendix making it long and bird-beak-like.

REFERENCES: Hágsater, E., 2010, *Epidendrum probosantherum* in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 9, *Icon. Orchid.* 13: pl. 1378. Hágsater, E., & C. H. Dodson, 1993, *Epidendrum orthophyllum*, in E. Hágsater & G.A. Salazar (eds.), The Genus *Epidendrum*, Part 1, *Icon. Orchid.* 2: pl. 168. Hágsater, E., & C. H. Dodson, 1993, *Epidendrum oxycalyx*, in E. Hágsater & G.A. Salazar (eds.), The Genus *Epidendrum*, Part 1, *Icon. Orchid.* 2: pl. 169. Santiago, E., & E. Hágsater, 2013, *Epidendrum macrostachyum*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 10, *Icon. Orchid.* 14: pl. 1454.



12



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

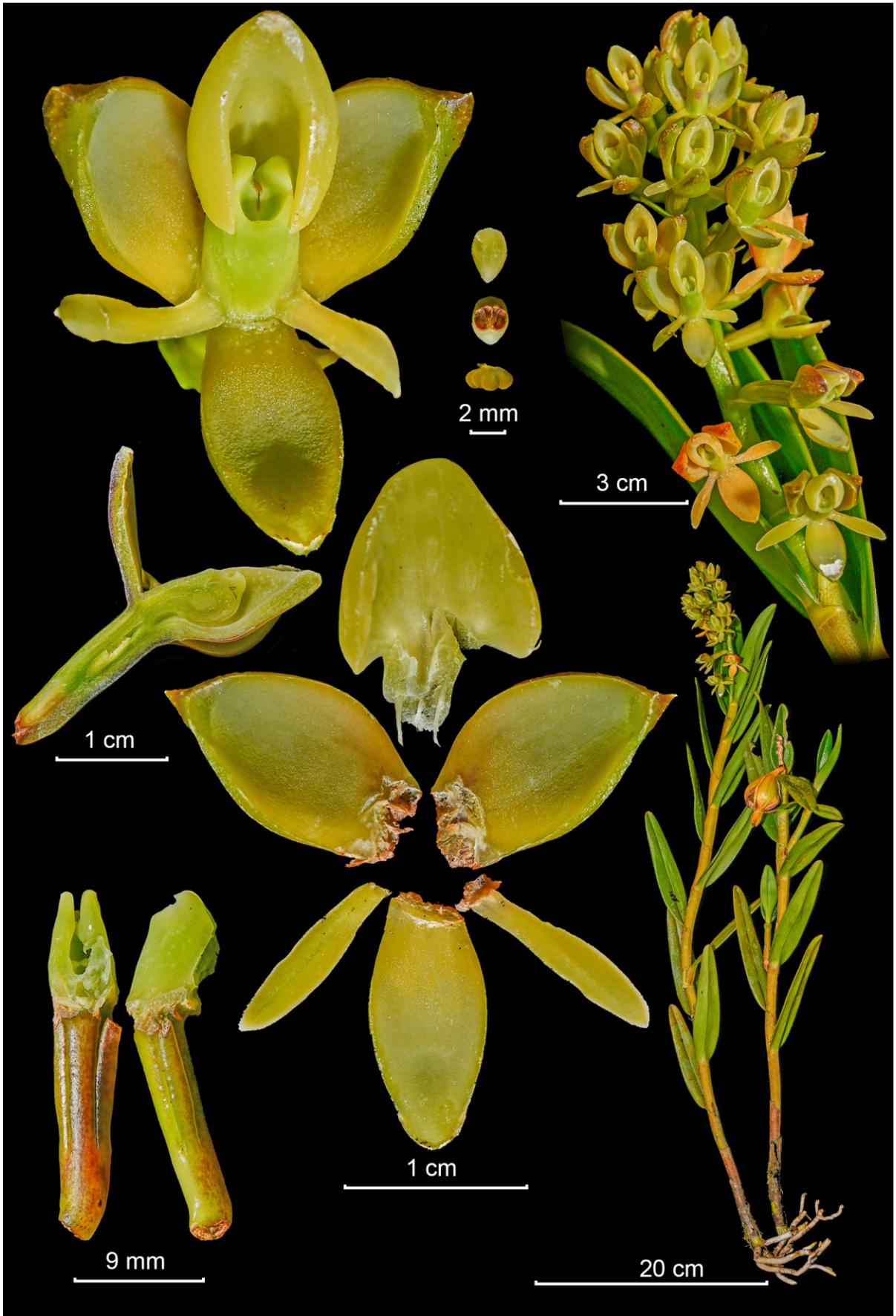
LCDP: J. D. Edquén O. & A. Cisneros

Illustrator: R. Jiménez M.

Photo: J. D. Edquén O.

Editors: E. Hágsater & E. Santiago

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EPIDENDRUM SARCOSTACHYUM Hágsater, E.Santiago & E.Becerra

Plate 1939

EPIDENDRUM SARCOSTACHYUM Hágsater, E.Santiago & E.Becerra, *Icon. Orchid.* 15(1): pl. 1558. 2015.

Type: PERU: Pasco: Prov. Oxapampa and Pasco, 2700 m, 7 March 1986, *Henk van der Werff, G. Zúñiga, R. Arce & William Pariona 8534*. Holotype: MO!

Terrestrial, monopodial, branching herb 60-120 cm tall. **Roots** 2-3 mm in diameter, produced from the base of the main stem, rare and scarce at the base of the branches, fleshy, thick. **Stems** primary stem 47-110 x 0.9-1.1 cm; branches (themselves also branched) 19-27 x 0.6-1 cm; cane-like, terete, erect, straight; base covered by sheaths 2-4 cm long, tubular, non-foliar, striated and rugose. **Leaves** ca. 12 or 13 on the main stem, 5-8 on the branches, distributed along the apical half of the stems; articulate, alternate, coriaceous, similar in size (except for the smaller apical leaf), erect, nearly parallel to the stem; sheath 12-42 x 6-11 mm, tubular, minutely striated, rugose; blades on the primary stem, 9-13 x 2.0-2.6 cm, on the branches 5.5-7.8 x 1.6-2.2 cm, lanceolate or elliptic-lanceolate, obtuse, margin entire, green, upper side lustrous, under side glaucous. **Spathes** lacking. **Inflorescence** 8.5-14 cm long, apical, racemose, erect, flowering only once, densely few-flowered; peduncle 10-20 mm long, terete, thin, erect, straight; rachis 7.5-11.5 mm long, terete, straight. **Floral bracts** 6-11 x 5-7 mm, slightly longer than the ovary, triangular-ovate, acute, amplexicaul. **Flowers** 11-18, simultaneous, non-resupinate, fleshy, yellow or green, the sepals dorsally tinged purple; fragrance not registered. **Ovary** 8-14 mm long, short, terete, thick, longitudinally striated, not inflated. **Sepals** obtuse, 3-veined, dorsally papillose (especially towards the apex), margin entire, spreading; dorsal sepal 10-13.5 x 4-6.4 mm, spreading, free, oblanceolate to oblong obovate, obtuse, slightly incurved; lateral sepals 10-14.3 x 5-8.6 mm, oblong, mucronate, partly spreading, obliquely united and parallel to base of column, oblique, very fleshy towards the apex. **Petals** 9-11.5 x 1.75-2.4 mm, free, spreading, linear-oblanceolate, obtuse, 1-veined, slightly oblique, margin crenate, spreading. **Lip** 7-10.8 x 8-13 mm, united to the column, entire, very fleshy, deltoid when spread, base sub-truncate to sub-cordate, apex obtuse,ymbiform in natural position, embracing the sides of the apex of the column; ecallose, without ribs, margin entire, spreading. **Column** 7-9 mm long, short, thick, the apex slightly turned upwards, with a pair of apical wings, the upper corner a right angle, the lower corner rounded. **Anther** ovoid, 4-celled. **Pollinia** 4, obovoid, caudicles soft and granulose, shorter than the pollinia; viscarium semi-liquid. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma** small. **Nectary** shallow barely penetrating the ovary, retrorsely pubescent in front of the stigmatic cavity. **Capsule** ellipsoid, 3.5-4 x 1.5-1.6 cm; pedicel 5-7 mm long, terete, short; body 21-24 x 15-16 mm; apical neck 8-10 mm long.

OTHER SPECIMENS: PERU: Amazonas: Luya, Camporedoondo, Tullanga, Cerro Huicaocunga o Condorpuna, 3310 m, 6 IX 1989, *Díaz 3819*, USM! Chachapoyas-Celendín road, between Leimebamba and Calla Calla, 3000 m, 27 V 1984, *Smith 7188A*, MO! Calla Calla slopes, 3-5 km SE of km 422, Leimebamba-Balsas, 3000-3200 m, 22 VIII 1962, *Wurdack 1756*, US! Luya, Distrito San Francisco del Yeso, Ipaña-Las Palmas, 3055 m, 28 IV 2010, *Trujillo 443*, MOL! (illustration, AMO!) Luya, Cordillera Calla Calla, leimebamba-Balsas, 3000-3200 m, 22 IV 1962, *Wurdack 1756*, US! **Cajamarca:** Jaén, San José de la Alianza-Rinconada, 2500 m, 17 III 2009, *Vásquez 226*, MOL! **Huánuco:** Chinchao, San Pedro de Carpish, Arriba del túnel, 3015 m, 25 VIII 2002, *Salinas 621*, USM! **Pasco:** Distr. Huancabamba, P. N. Yanachaga-Chemillén, parte alta de la trocha Erica, cercanías al macizo de la Cordillera Yanachaga, 3260 m, 22 IV 2007, *Monteagudo 13744*, AMO! HOXA! Oxapampa; Cordillera Yanachaga, Cerro Pajonal "chacos" 12 km SE of Oxapampa, 2700-2800 m, 7 X 1982, *Foster 9051*, MO! Oxapampa, trail to summit of Cordillera Yanachaga via Río San Daniel, 3150-3300 m, 12 VI 1984, *Smith 7707*, MO! QCA! USM! Parque Nacional Yanachaga-Chemillén, sector Grapanazú, 3487 m, 22 V 2012, *Valenzuela 21205*, HOXA! Santa Barbara, 11 III 2004, *Vásquez 29921*, MO! P. N. Yanachaga-Chemillén, Sector Santa Barbara, 3340 m, 11 III 2004, *Vásquez 29973*, MO! Sector Milpo, 2900 m, 18 III 2004, *Vásquez 30222*, MO! Ibid. sector San Daniel, en la trocha Erica, 3250-3450 m, 11 III 2008, *Vásquez 33832*, USM! Ibid. *Vásquez 33846*, AMO! USM! Distr. Huancabamba, P. N. Yanachaga-Chemillén, Sector Santa Barbara, Naciente de la Quebrada Amistad, 3350-3450 m, 14 VIII 2005, *Vilca 181*, USM! **Piura:** Huancabamba, Carmen de La Frontera; alturas de Nueva York, 3280-3555 m, 27 VII 2006, *Cano 16726*, USM!

OTHER RECORDS: PERU: Without locality data, *Salas s.n.*, digital image, AMO! **Amazonas:** Chachapoyas, Distr. Granada, Diosán, 30 V 2018, *Edquén s.n.*, digital photo, AMO (photo voucher). Ibid. sector 7 Lagunas, *Edquén 1717*, digital image, AMO! **Pasco:** P. N. Yanachaga-Chemillén, digital photo series, *Becerra s.n.*, AMO! Prov. Oxapampa: Distr. Huancabamba: parte alta de Santa Marta, 3489 m, 30 IV 2021, *Edquén 5024*, digital images AMO! (LCDP voucher).

DISTRIBUTION AND ECOLOGY: Known only from northern Peru, from Piura to Pasco, from near the summit of the Andes on the eastern slope, and the Cordillera Colán, at 2500-3500 m altitude; terrestrial, in clearings in wet cloud forest. Flowering in March, July, August-October.

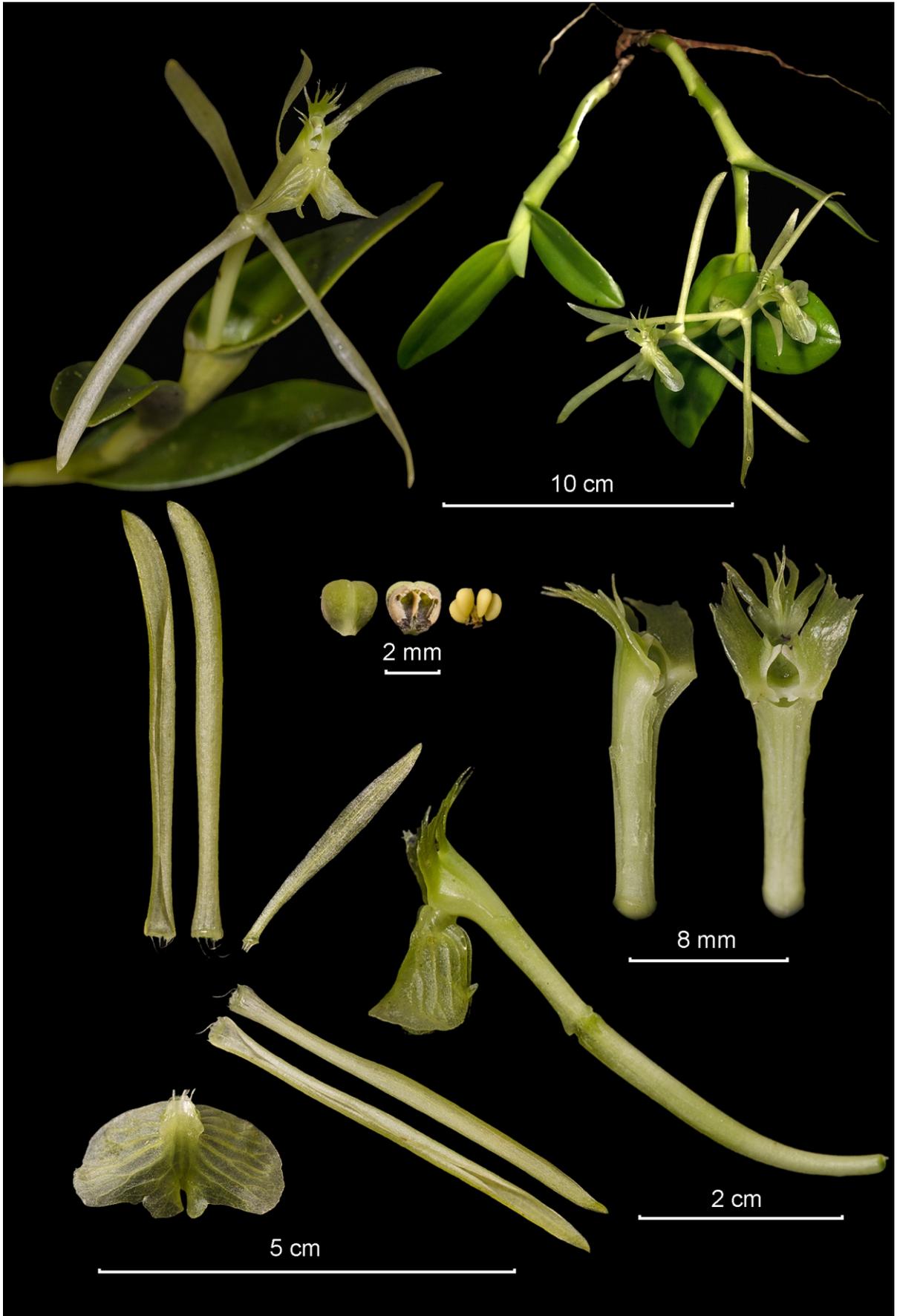
RECOGNITION: *Epidendrum sarcostachyum* belongs to the Macrostachyum Group, which is characterized by the monopodial plants with sub-apical branching, the rugose leaf sheaths, the large leaves generally spreading, the racemose, erect inflorescence, the fleshy flowers generally green to black (ripe olive colored), as well as yellow to pink to purple, with an entire, conduplicate, generally ecallose and pubescent lip embracing the column, and the nectary pubescent to papillose in front of the stigmatic cavity and at least at the base of the lip. The species is recognized by the lanceolate to elliptic-lanceolate, erect leaves, held nearly parallel to the stem, those on the main stem 9-13 x 2.0-2.6 cm, the upper side lustrous, the underside side glaucous; the relatively short inflorescence, 8.5-14 cm long, with simultaneous yellow to green flowers dorsally tinged purple towards the apex of the 10-14 mm long sepals, the lateral sepals are very fleshy and held nearly parallel to the column and obliquely united to it, and the petals are linear-oblanceolate, spreading. *Epidendrum macrostachyum* Lindl. has somewhat spreading leaves, those of the main stem 12.5-13 x 3-3.5 cm, a pyramidal inflorescence extending 16-30 cm long producing successive flowers ripe olive colored, the sepals and petals spreading and free, the dorsal sepal reflexed. *Epidendrum rostrigerum* Rchb.f. has oblong-elliptic, somewhat spreading leaves, those of the main stem 5-9 x 2.5-3 cm, the sepals 10 mm long, acuminate, and the anther with a rostrate apex clearly surpassing the apex of the column. *Epidendrum dermatanthum* Kraenzl. has linear-oblong leaves, 8.5-18 x 1.7-4 cm, inflorescence 8-14 cm long, with successive red-brown flowers, and the sepals 17-18 mm long, spreading. *Epidendrum coordinatum* Rchb.f. has very fleshy lateral sepals with the apex uncinately, the petals oblong, apex acute, falcate, the column straight with a pair of rounded wings, and the lip very fleshy, deltoid-cordiform, base cordate.

CONSERVATION STATUS: DD. Data deficient. It is found in protected parks at high altitude, and widespread from central to northern Peru.

ETYMOLOGY: From the Greek *σαρξ*, flesh, and *σταχυς*, ear of corn, in reference to the very fleshy lip of this species with inflorescences which are reminiscent of ears of corn, as constitutes the Macrostachyum Group.

REFERENCES: Santiago, E., & E. Hágsater, 2013, *Epidendrum macrostachyum* in E. Hágsater & L. Sánchez Saldaña (eds.), *The Genus Epidendrum*, *Icon. Orchid.* 14: t. 1454. Santiago, E., & E. Hágsater, 2015, *Epidendrum coordinatum* in E. Hágsater & L. Sánchez Saldaña (eds.), *The Genus Epidendrum*, *Icon. Orchid.* 15(1): t. 1514. Santiago, E., & E. Hágsater, 2015, *Epidendrum dermatanthum* in E. Hágsater & L. Sánchez Saldaña (eds.), *The Genus Epidendrum*, *Icon. Orchid.* 15(1): t. 1519. Santiago, E., & E. Hágsater, 2015, *Epidendrum rostrigerum* in E. Hágsater & L. Sánchez Saldaña (eds.), *The Genus Epidendrum*, *Icon. Orchid.* 15(1): t. 1556.





EPIDENDRUM SCHIZOSTELE Hágsater, J.S.Moreno & E.Santiago

Plate 1940

EPIDENDRUM SCHIZOSTELE Hágsater, J.S. Moreno et E. Santiago, sp. nov.

Type: COLOMBIA: Valle del Cauca: Municipio de Dagua, Corregimiento de El Queremal, km 55, via antigua a Buenaventura, El Descanso, Avistamiento de Aves "Doña Dora", 1500 m, 27 XI 2017, **Juan Sebastián Moreno 335**. Holotype: CAUP! (LCDP and photo voucher)

Similar to *Epidendrum sympetalostele* Hágsater & L. Sánchez, but with two, larger, simultaneous flowers, the petals 31-32 mm (vs. 4 successive flowers, petals 24 mm, sepals 35 mm), the base of lip widely cuneate (vs. base of lip widely cordate), and the clinandrium-hood and lateral wings of column very prominent, funnel-shaped, deeply lacinate (vs. clinandrium-hood slightly surpassing apex of column, semi-tubular, semi-elliptic, margin dentate, wings of column truncate).

Epiphytic, sympodial, caespitose, erect to pendulous **herb**, to 16 cm tall including inflorescence. **Roots** 1 mm in diameter, basal, fleshy, thin, scarce. **Stems** 8-9 x 0.5-1.0 cm, simple, cane-like, erect, laterally compressed, ancipitose, thin at base, widened towards apex, sinuous. **Leaves** 3-4, unequal in size, fleshy-coriaceous, medium green; sheaths 15-25 x 5-10 mm, infundibuliform, ancipitose; blade 5-7.5 x 1.5-3.2, elliptic to narrowly elliptic, apex obtuse, bilobed, margins entire, spreading. **Spathes** lacking. **Inflorescence** apical, sessile, with 2 simultaneous, large flowers. **Floral bracts** much shorter than ovary, hidden within apical leaf, triangular, embracing. **Ovary** 36 mm long, terete, thin, shallowly furrowed. **Flowers** 2, resupinate, simultaneous, pale green, translucent, concolor, turning pale yellow with age. **Sepals** 41-50 x 7 mm long, free, spreading, narrowly oblanceolate, apex acute, membranaceous, very thin, 3-veined, margins entire, strongly revolute, margins slightly overlapping dorsally thus tubular. **Petals** 31-32 x 3 mm (free portion), united basally to basal half of column, partly spreading and parallel to column, linear-oblanceolate, apex obtuse, very thin, translucent, veins clearly visible, 3-veined, margins entire, spreading. **Lip** 13.5 x 25 mm, united to column, strongly convex in natural position, forming an apron, with sides strongly revolute, slightly 3-lobed (mid lobe very short), base widely cuneate, obreniform, margins entire; bicallose, calli small, globose; disc with 3 parallel, narrow ribs ending before mid-lobe, with numerous parallel veins diverging at 45° from lateral ribs, and bifurcating apically on lateral lobes; lateral lobes 10 x 12 mm, semi-elliptic, oblique, folded longitudinally with upper most/basal margin at 45 degrees from lower most/apical margin; mid-lobe 2 x 8 mm, much smaller than lateral lobes, deeply emarginate, formed by two semi-orbicular lobes 2 x 4 mm. **Column** 26-28 mm long, straight, thin, with clinandrium-hood turned upwards; and a pair of prominent lateral wings, petaloid, obliquely rectangular, apex dentate, forming a large funnel with clinandrium-hood. **Clinandrium-hood** prominent, flabellate, deeply lacinate, forming a very prominent funnel with lateral wings of column, nearly flat, much surpassing column. **Anther** ovoid, apex truncate, 4-celled. **Pollinia** 4, ovoid, similar in size and shape, inner pair somewhat wedge-shaped; caudicles soft and granulose, as long as pollinia; viscarium semi-liquid. **Rostrum** apical, slit. **Lateral lobes of stigma** small. **Nectary** and **capsule** not seen.

OTHER SPECIMENS: COLOMBIA: Valle del Cauca: El Queremal, near La Elsa, km 66 Cali-Buenaventura, 1 VII 1965, *Dodson* 3220, SEL! (flower only, illustration, AMO! See note.)

OTHER RECORDS: COLOMBIA: Without data, Expo. Medellín 96, digital images, AMO! Without locality data, exhibida en Reunión de Medellín, *Mesa Londoño s.n.*, digital images, AMO! Without locality data, *Uribe s.n.*, digital images AMO! **Valle del Cauca:** Alto Anchicayá, 880 m, 30 XI 2016, *Constantino s.n.*, digital images, AMO!

DISTRIBUTION AND ECOLOGY: Known presently from the western slope of the Cordillera Occidental in southern Colombia in the Valle del Cauca, epiphytic in wet tropical forest at 880-1500 m altitude. Flowering in July-November.

RECOGNITION: *Epidendrum schizostele* belongs to the Difforme Group, which is characterized by the caespitose, sympodial plants, the fleshy, pale green to glaucous leaves, the apical inflorescence, sessile, rarely with a short peduncle, one to many-flowered and then corymbose, without spathaceous bracts, and the fleshy, green to yellowish green rarely white flowers. The species is recognized by the 2 simultaneous flowers, the very long petals, 31 mm long, adnate to the basal half of the column, the sepals 50 mm long, the margins strongly revolute, the lip with the base widely cuneate, and the very large clinandrium-hood and long apical wings of column being funnel-shaped and deeply lacinate. *Epidendrum sympetalostele** Hágsater & L. Sánchez has 4 successive, somewhat smaller flowers, petals 24 mm long, also adnate to the basal half of the column, sepals 35 mm long, the base of the lip widely cordate, and the clinandrium-hood slightly surpassing the apex of the column, semi-tubular, semi-elliptic, margin dentate. *Epidendrum putumayoense* Hágsater & L. Sánchez has sepals 24.5-25 mm long, the petals 23-23.5 x 2.5-3 mm, free, the lip 12-24 mm, 3-lobed, obtrapezoid in outline, clinandrium-hood prominent, semi-elliptic, irregularly dentate, and the wings of the column truncate.

*NOTE: The illustration originally published to illustrate *Epidendrum sympetalostele* (Hágsater & Sánchez, 1993) as indicated in the text, was a composition made from two different plants, the type was used for the plant, side view of column and ovary and floral dissection, but a photograph by Andrea Nissen was used for the lateral view of flower and closeup of lip and column which shows the apex of the column wings and clinandrium-hood, but these correspond to *Epidendrum schizostele* here described.

CONSERVATION STATUS: DD. Data deficient. The species is presently known from two localities 270 km distant, and appears to be very rare, or rarely collected. It has appeared in expositions in Medellín, but no locality is given and a sister species is found in Antioquia.

ETYMOLOGY: From the Greek σχιζο- deeply split, used in psychology for crazy, wildly eccentric, and στήλη, column, in reference to the wildly lacinate apex of the column which immediately permits recognition.

REFERENCES: Hágsater, E., & L. Sánchez S., 1993, *Epidendrum sympetalostele*, in E. Hágsater & G.A. Salazar (eds.), *The Genus Epidendrum*, Part 1, *Icon. Orchid.* 2: pl. 191. 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. Santiago, E., & E. Hágsater, 2022, *Epidendrum sympetalostele*, in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 15, *Icon. Orchid.* 19(1): pl. 1942.



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

LCDP: J. S. Moreno

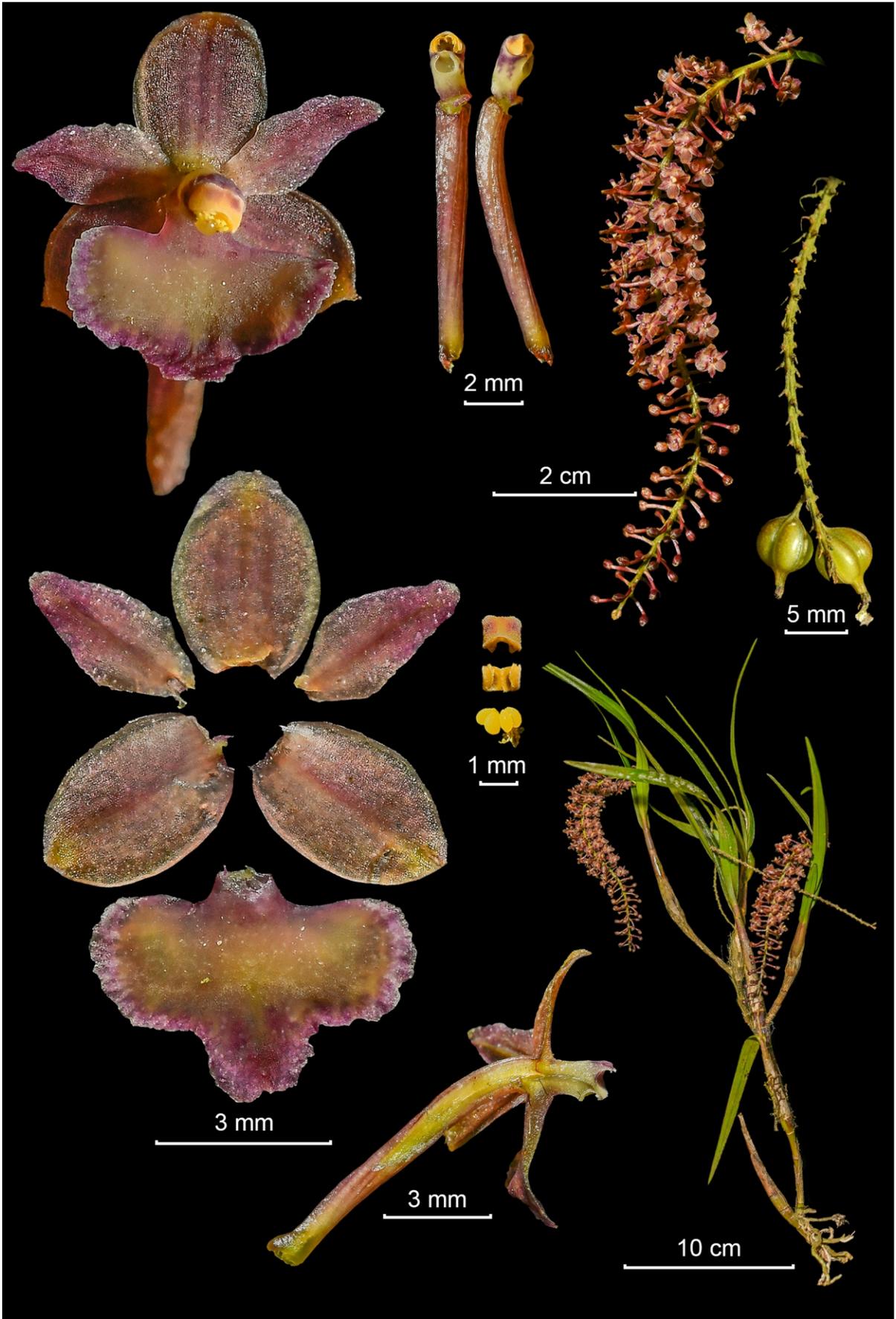
Photo: J. S. Moreno

Editors: E. Hágsater & E. Santiago

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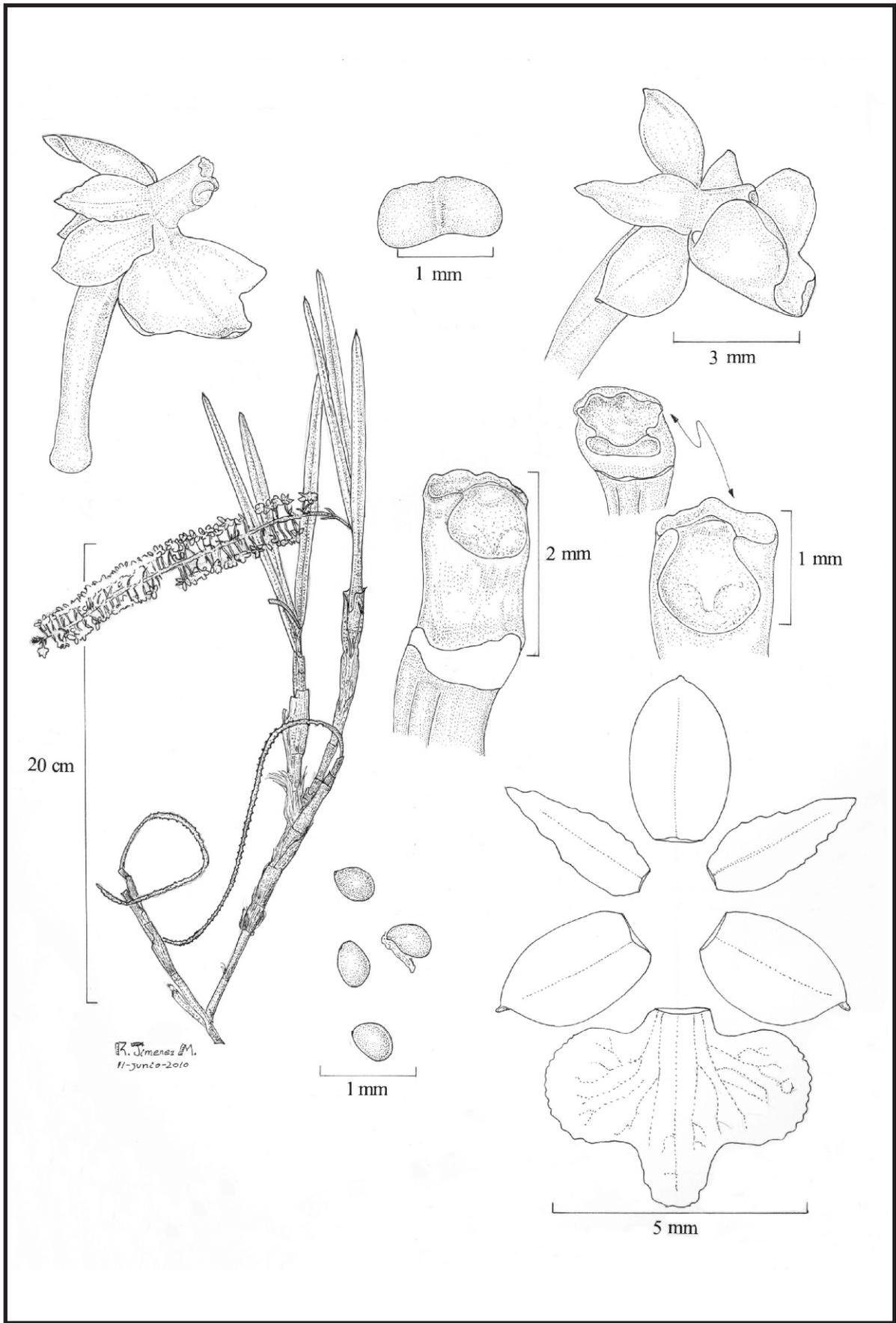
Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 19(1). 2022. Plate 1940



EPIDENDRUM SUBLIBERUM C.Schweinf.

Plate 1941a



EPIDENDRUM SUBLIBERUM C.Schweinf.

Plate 1941b

EPIDENDRUM SUBLIBERUM C.Schweinf., Bot. Mus Leafl. 15: 144. t. 44, 1952.

Type: PERU: Cusco: Prov. Paucartambo, Pillahuata, 3400 m, 10 diciembre 1942, **Julio César Vargas Calderón 3011**. Holotype: AMES!
Isotype: CUZ!

Synonym: *Scaphyglottis sublibera* (C.Schweinf.) Dressler, Taxon 13(7): 247. 1964. *Microepidendrum subliberum* (C.Schweinf.) Brieger, Orchideen (Schlechter), 3rd ed. 1(9): 33-56: 556. 1977, nom. nudum.

Epiphytic, monopodial **herb** with vertical, scandent growth, 40 cm tall. **Roots** 1-2 mm, produced from base of plant and occasionally from subsequent stems, thin. **Stems** 10-24 x 0.5-1.0 cm, thin, basal half cane-like, apical half somewhat thickened without becoming fusiform; covered by 5 tubular, non-foliar sheaths becoming fibrous with time. **Leaves** 2-4, aggregate at apex of stem, articulate, coriaceous; leaf sheaths 7-22 x 5-10 mm; tubular; occasionally apical sheath of stem produces a reduced foliaceous blade; blade 7.5-22 x 0.6-0.8 cm; linear-lanceolate, apex obtuse, minutely apiculate, margin entire. **Spathe** lacking. **Inflorescence** 8.5-26 cm long, apical, racemose, arching, densely many-flowered; peduncle 1.5-4.5 cm long, terete, thin, provided with 4 small, linear-lanceolate, acuminate, amplexicaul bracts, similar to floral bracts; rachis straight. **Floral bracts** 2.0-6.0 mm long, more than half as long as ovary, linear-lanceolate, long, acuminate, amplexicaul. **Ovary** 6-8 mm long, terete, thin, not inflated, unornamented. **Flowers** ca. de 120, opening in succession from base of inflorescence becoming simultaneous, non-resupinate, brown to pink colored, center of lip pale green. **Sepals** 3.2-3.8 x 1.8-2.5 mm, free, spreading to slightly reflexed, elliptic, obtuse, minutely apiculate, 3-veined, margin entire, spreading. **Petals** 3.2-3.5 x 1.1-1.5 mm, free, reflexed, lanceolate to ovate-lanceolate, acute to obtuse, 1-veined, margin slightly crenate. **Lip** 3.0-4.2 x 5.2-6 mm, totally free from column, 3-lobed, base short unguiculate, truncate, margin slightly crenate; ecallose, lateral lobes 2.0-2.3 x 2-2.2 mm; hemi-elliptic; mid lobe 1-1.3 x 1.5-2.0 mm, widely trapezoid, apex narrowly rounded. **Column** 2 mm long, short, straight. **Clinandrium hood** prominent, margin sub-entire. **Anther** reniform. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose, longer than pollinia; viscarium semi-liquid. **Rostellum** apical, entire, perpendicular to column. **Stigma** orbicular, concave, occupying lower half of apex of column. **Nectary** lacking, there is no union between column and lip. **Capsule** 14 x 7 mm, ellipsoid, with a short thin pedicel and short, thick, apical neck.

OTHER SPECIMENS: PERU: Without locality, *Collantes s.n.*, USM! **Cusco:** Urubamba, Machu Picchu, 2990 m, 25 IX 1982, *Peyton s.n.*, MO! *Ibid.* 2800 m, XI 1982, *Peyton 1338*, CUZ! Santuario de Sayacmarca, Machupicchu, 3200 m, 4 XI 1999, *Rizo-Patron s.n.*, USM! **Huancavelica:** Tayacaja, entre Marcavalle y Huachocolpa, 3600 m, IV 1963, *Tovar 4208*, USM! Paraje Chaupimonte, Distr. Huachocolpa, 3400 m, 13 II 1999, *Suárez s.n.*, USM! **Huánuco:** Caserío de Huanacaure, sendero terminal Vista Alegre Huanchac, 14 X 2011, *Mendoza 6346 B*, USM! digital photo, AMO! (Photo voucher). **Pasco:** Prov. Oxapampa, Dist. Huancabamba. Zona de Amortiguamiento del P. N. Yanachaga - Chemillén, sector Milpo, 2850 m, 24 IX 2004, *Monteagudo 7342*, MO! (Illustration, AMO) *Ibid.* 3000 m, 1 II 2005, *Monteagudo 8085*, MO!

OTHER RECORDS: PERU: Without locality data, *Collantes s.n.*, digital images, AMO! (photo voucher) **Cusco:** Parque Nacional del Manu, Inkaterra Hort. 13 VIII 2017, *Soto s.n.*, digital image, AMO! Machu Picchu (Alccamayo), 3400 m, IX 2013, *Equipo de Inkaterra Asociación Daniel Aucayallo s.n.*, digital images, AMO! **Huancavelica:** Tayacaja: Distr. Huachocolpa: inmediaciones de Huachocolpa y Bosque Amaru, 1999, *León s.n.* (Collantes 2014: 144, Fig. 62). **San Martín:** Rioja: Pardo Miguel Naranjo, Venceremos, 1803 m, 9 X 2021, *Edquén 5226*, Digital images, AMO! (LCDP voucher). Parque Nacional del Río Abiseo, 3250 m, *Salas s.n.*, digital images, AMO!

DISTRIBUTION AND ECOLOGY: Widespread in Peru along the upper eastern slopes of the Andes from San Martín in the north to Cusco in the south, a range of some 800 km. Epiphytic at 1800-3600 m elevation, in wet Andean elfin forest often on *Weinmannia* sp.

RECOGNITION: *Epidendrum subliberum* belongs to the Albomarginatum Group which is characterized by the monopodial, vertical, scandent, zigzag habit, the stems cane-like basally, somewhat thickened along the apical middle-half or third to form a fusiform pseudobulb, the new stem originating just below the thickened part of the previous stem, apically bifoliate, the leaves linear-lanceolate to linear-oblong, racemose to paniculate inflorescence, the rachis zigzag, the successive pale-translucent flowers with the lateral sepals obliquely united to the base of the column. The species is recognized by the smaller flowers, sepals 3.2-3.8 mm long, petals 3.2-3.5 x 1.1-1.5 mm, lanceolate to ovate-lanceolate, narrow, with the margin dentate and the lip with the base sub-cordate and the mid-lobe rounded. *Epidendrum subliberhombicum* Hágsater & E. Santiago has the sepals 3.5-5.2 mm long, the petals 3.5-4.7 x 1.8-3.2 mm, ovate rhombic, the margin slightly crenate, and the lip with the base truncate and the mid-lobe widely trapezoid. *Epidendrum albomarginatum* Rchb.f. has shorter, narrower leaves, 3-10.5 x 0.15-0.4 cm, a sometimes paniculate inflorescence, the sepals 6-8 mm long, the petals obovate-oblancheolate, the rachis zigzag, and the lip united throughout the length of the column.

CONSERVATION STATUS: DD. Data deficient. The species is widespread (800 km range), though uncommon, and found in patches of conserved high elevation Andean elfin *Pajonal* forest, and remnant wet montane forest. Eight localities are known.

ETYMOLOGY: From the Latin *sub*, under, less than, and *liber*, free, thus less than totally free, in reference to the lip which is nearly free of the column, or joined only at the base.

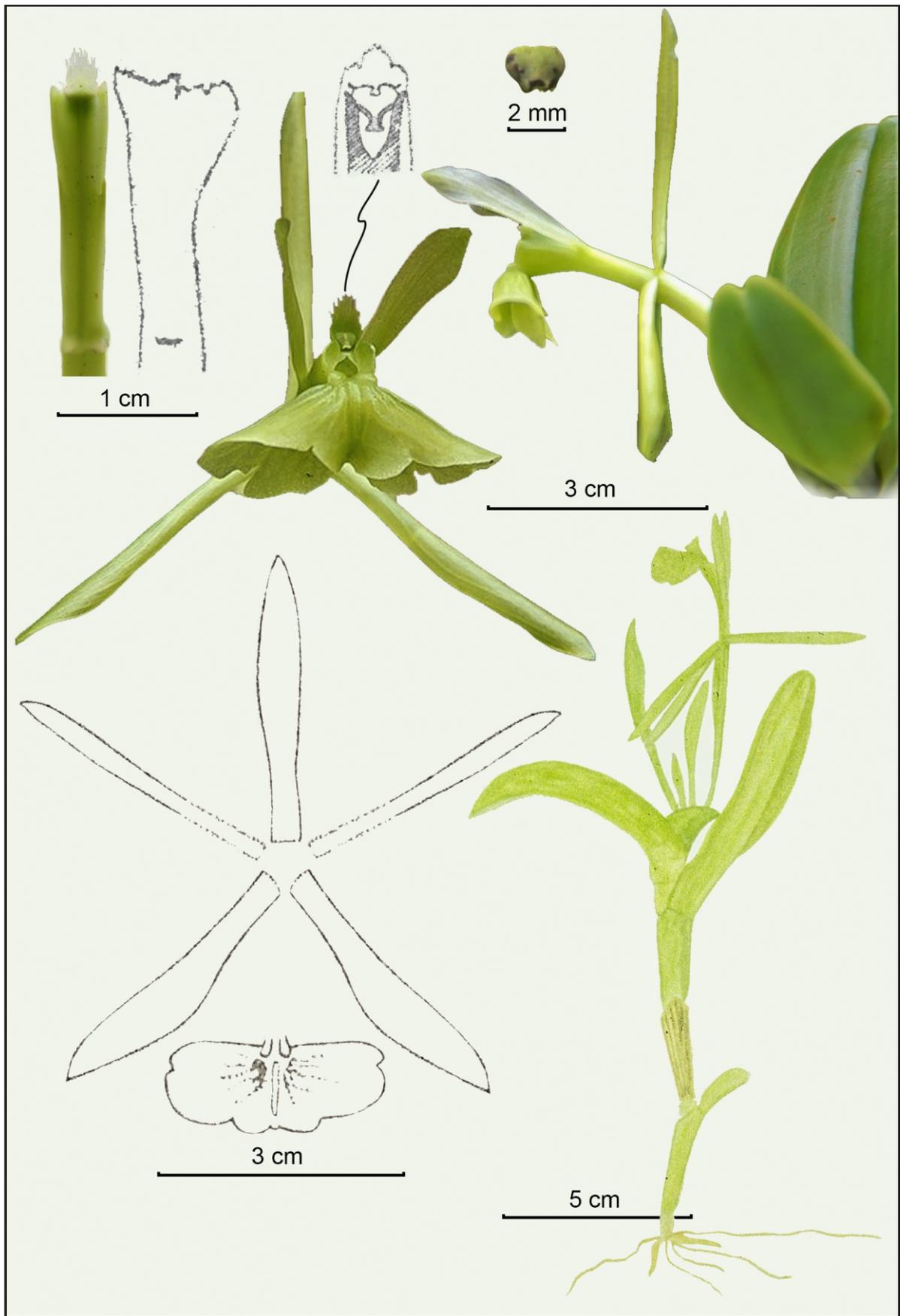
REFERENCES: Bennett, D. E., & E. A. Christenson, 2001, *Epidendrum subliberum* C.Schweinf., **Icon. Orchid. Peruvianum** pl. 656. Christenson E., 2003, **Machu Picchu: Orchids: A Manual to the Orchids of the Machu Picchu Historical Sanctuary**, PROFONANPE and Machu Picchu Program, p. 4. Collantes M., B., 2014, **Huancavelica: Amaru, paraíso de orquídeas**, Gobierno Regional de Huancavelica, 338 pp. Hágsater, E. & E. Santiago, 2010, *Epidendrum subliberhombicum*, in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 9, **Icon. Orchid.** 13: pl. 1391. Santiago, E., & E. Hágsater, 2010, *Epidendrum subliberum*, in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 9, **Icon. Orchid.** 13: pl. 1392. Santiago, E., E. Hágsater & J. D. Edquén, 2019, *Epidendrum albomarginatum*, in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 13, **Icon. Orchid.** 17(1): pl. 1702. Schweinfurth, C., 1952, *Orchidaceae Peruvianae IX*, **Bot. Mus Leafl.** 15(5): 139-170.



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

Illustrator: R. Jiménez M. Photo: W. Mendoza Editors: E. Hágsater & E. Santiago

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EPIDENDRUM SYMPETALOSTELE Hágsater & L.Sánchez

Plate 1942

EPIDENDRUM SYMPETALOSTELE Hágsater & L.Sánchez, *Icon. Orchid.* 2: pl. 191, 1993.

Type: COLOMBIA: Antioquia: San José del Nus, "El Socorro", ca. 1500 m, diciembre 1972, **Pedro Ortiz Valdivieso & Sergio Restrepo 603**. Holotype: HPUJ! Watercolor, HPUJ! (illustration voucher, pro-parte. See note).

Epiphytic, sympodial, caespitose, erect **herb**, to 19 cm tall including inflorescence. **Roots** 1 mm in diameter, basal, fleshy, thin, scarce. **Stems** 9 x 0.3-1.0 cm, simple, cane-like, erect, ancipitose above, thin, and terete at base, widens towards apex. **Leaves** 4-5, unequal in size, basal and apical blades smaller, fleshy-coriaceous; sheaths tubular, 13-15 x 5-10 mm, infundibuliform, ancipitose; blade 2.7-7.5 x 1.1-3.0 cm, elliptic, apex rounded, unequally bilobed, margin entire, spreading. **Spathe** lacking. **Inflorescence** sessile, with up to 4 successive flowers, buds in various stages of development when first flower opens. **Floral bracts** much shorter than ovary. **Ovary** 28 mm long, terete, thin at base, somewhat thickened towards apex, minutely furrowed. **Flowers** 4, resupinate, successive, pale green, concolor, turning pale yellow with age, fragrance not registered. **Sepals** 35 x 5 mm, free, spreading, narrowly oblanceolate with base unguiculate, apex sub-acute, 5-veined, margins entire, strongly revolute; lateral sepals slightly oblique. **Petals** 24 x 3 mm (free portion), basally united to basal half of column, partly spreading, parallel to column, linear-oblanceolate, apex obtuse, 3-veined, margin entire, free basal half revolute, then spreading. **Lip** 10 x 26 mm, united to column, widely apron shaped, with lateral lobes strongly revolute in natural position, slightly 3-lobed (mid-lobe very short), base truncate, margins entire; bicallose, calli small, globose; disc with a thin mid-rib that disappears before mid-lobe, with short thickened veins radiating at base of lateral lobes; lateral lobes 13 x 9 mm, semi-orbicular-sub-quadrate, apical margin somewhat emarginate; mid-lobe 1.5 x 9 mm, very short, wide, transversely rectangular-oblong, apex truncate, slightly emarginate. **Column** 19 mm long, straight, thin, clinandrium-hood turned slightly upwards, apical wings short and truncate. **Clinandrium-hood** prominent, semi-tubular, surpassing body of column, semi-elliptic, margin dentate. **Anther** ovoid, 4-celled. **Pollinia** 4, obovoid, similar in size and shape; caudicles soft and granulose, longer than pollinia; viscarium semi-liquid. **Rostellum** apical, slit. **Lateral lobes of stigma, nectary and capsule** not seen.

OTHER SPECIMENS: COLOMBIA: Chocó: Corregimiento de Puerto Pavel, a 3 km en la carretera Puerto Nuevo-La Victoria, 75 m, 21 XI 2010, *Cámara 1740*, COL! **Valle del Cauca:** Buenaventura, Consejo comunitario Alto y Medio Dagua, Quebrada El Salto, junto a vía del tren, 280 m, 27 I 2014, *Reina-Rodríguez 1775*, CUV! Digital images, AMO!

OTHER RECORDS: COLOMBIA: Chocó: vía entre Condoto e Istmina, 5 III 2015, *Machado s.n.*, digital images, AMO! (photo voucher.) *Ibid.* *Mesa s.n.*, digital images, AMO! **Valle del Cauca:** Buenaventura, Consejo comunitario Alto y Medio Dagua, comunidad Triana, pasando la Qda. El Oso. Entre la Qda. La Chiquita y Matapuerto, 250-300 m, 29 I 2014, *Reina-Rodríguez 1771*, digital images, AMO! (Illustration voucher, pro-parte)

DISTRIBUTION AND ECOLOGY: The distribution of this species seem disjunct, as San Jose del Nus is at 850 m altitude in the valley of the Río Magdalena, eastern Antioquia, while other specimens are found along the Pacific lowlands of the Chocó at about 50-300 m altitude, above Buenaventura, Valle del Cauca and near Puerto Pavel, on the Río Quito, an affluent of the Río Atrato, which runs north into the Caribbean at the Golfo de Urabá. Epiphytic in very wet tropical rainforest. Flowering in November-January.

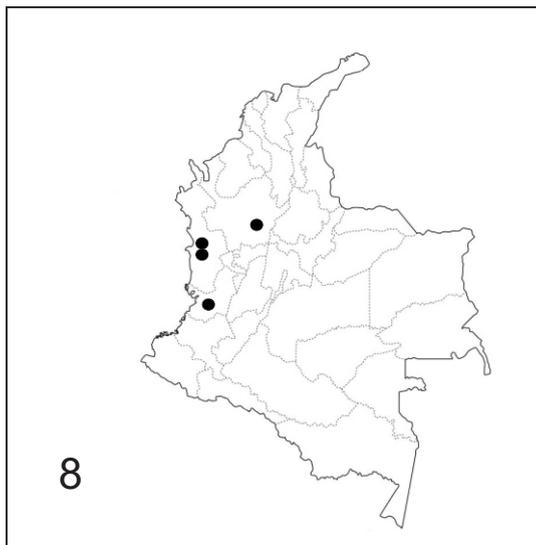
RECOGNITION: *Epidendrum sympetalostele* belongs to the Difforme Group, which is characterized by the caespitose, sympodial plants, the fleshy, pale green to glaucous leaves, the apical inflorescence, sessile, rarely with a short peduncle, with one to many-flowered and then sub-corymbose, without spathaceous bracts, fleshy, and the green to yellowish green rarely white flowers. The species is recognized by the 4 successive flowers, the buds in various stages of development, the petals 24 mm long (free portion), adnate to the basal half of column, thereafter parallel to it, the sepals 35 mm long, narrowly oblanceolate, the margins strongly revolute, the clinandrium-hood prominent, semi-tubular, semi-elliptic, margin dentate, column apical wings short and truncate, and the lip slightly 3-lobed, base truncate, mid-lobe transversely rectangular-oblong. It is very similar to *Epidendrum schizostele* Hágsater, J.S.Moreno & E.Santiago which has 2 simultaneous flowers, the petals also basally adnate to base of the column, 31 mm long, the sepals 50 mm long, the clinandrium-hood and apical wings of column forming a large, prominent funnel shaped, deeply lacinate structure.

NOTE: The illustration original published to illustrate this species (Hágsater & Sánchez, 1993), as indicated in the text, was a composition made from two different plants, the type was used for the plant, side view of column and ovary and floral dissection, but a photograph by Andrea Nissen was used for the lateral view of flower and closeup of lip and column which shows the apex of the column wings and clinandrium-hood, but these correspond to *Epidendrum schizostele* described separately in this same issue. The disjunct distribution of the species and the difference in altitudinal range of the type, with all the additional collections from the Pacific lowlands suggest that there may be a mistake in the labelling of the type which was probably cultivated by fathers Pedro Ortiz Valdivieso and Sergio Restrepo. In addition, no new material has been registered from the highlands of Antioquia, where numerous orchid collectors have been active for decades. The plate here provided is a composition of the watercolor and illustration by Ortiz Valdivieso of the type (plant and floral segments), with photographs by *Cullermo Reina-Rodríguez 1771*, (flower, column, and anther).

CONSERVATION STATUS: EN Endangered. The collections are concentrated in the pacific lowlands (excluding the highlands of Antioquia, see note). The extent of occurrence estimated to be less than 5,000 km² (3,897 km²). The principal area of occurrence is already around Buenaventura and Condoto City being pressured by deforestation and mining area, so we inferred a decline area of occurrence, therefore as Endangered EN B1b(i).

ETYMOLOGY: From the Greek prefix συμ- prefix indicating union, πεταλον petal, and στηλη, column, indicating the characteristic union between the petals and the column of this species.

REFERENCES: Hágsater, E., J.S. Moreno & E. Santiago, 2022, *Epidendrum schizostele*, in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 15, *Icon. Orchid.* 19(1): pl. 1942. Hágsater, E., & L. Sánchez S., 1993, *Epidendrum sympetalostele*, in E. Hágsater & G.A. Salazar (eds.) *The Genus Epidendrum*, Part 1, *Icon. Orchid.* 2: pl. 191, 1993.



Authors: E. Santiago & E. Hágsater

Illustrator: P. Ortiz V., G. Reina-Rodríguez & A. Cisneros

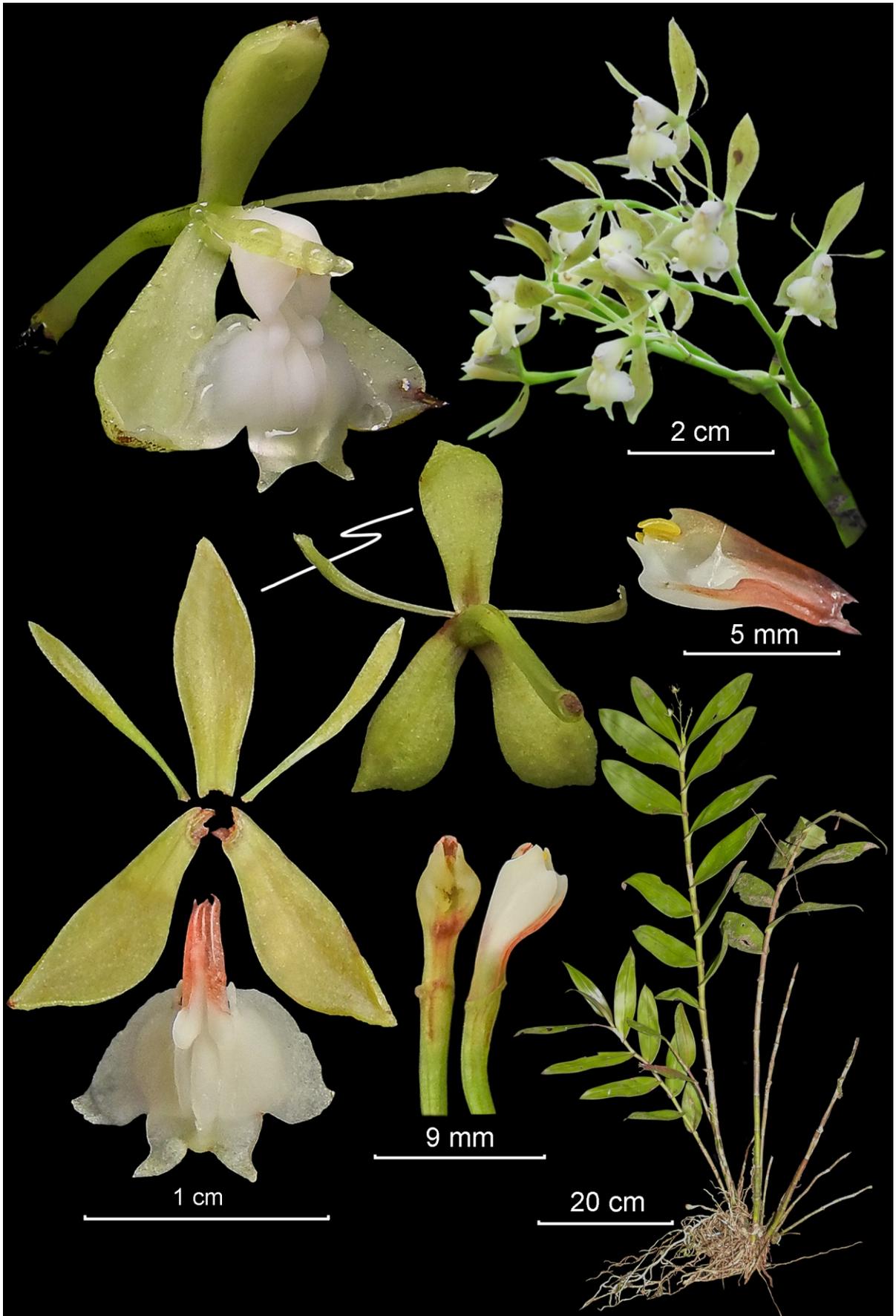
Photo: F. Machado

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 19(1). 2022. Plate 1942



EPIDENDRUM TAGAERI-TAROMENANE Hągsater, E.Santiago & J.J.Donoso

Plate 1943

EPIDENDRUM TAGAERI-TAROMENANE Hágsater, E.Santiago et J.J.Donoso, *sp. nov.*

Type: ECUADOR: Orellana: Cantón Aguariño: Parroquia Tiputini: Parque Nacional Yasuní, 209 m, 08 mayo 2021, **Juan Javier Donoso Tenemaza 312**. Holotype: QCNE! (LCDP and photo voucher).

Similar to *Epidendrum noackii* Cogn. but the plants somewhat larger, ca. 75 cm tall (vs. plants 35-50 cm tall), the leaves 7.3-15.5 x 2.7-5 cm, elliptic (vs. leaves 8-14 x 1.5-2.2 cm, narrowly elliptic-lanceolate), and the ovary and dorsal surface of the sepals scarcely papillose (vs. ovary and sepals glabrous), and the lateral lobes of the lip dolabriform, falcate apically (vs. obliquely-dolabriform, truncate apically).

Terrestrial, sympodial, caespitose, erect **herb** ca. 75 cm tall. Roots 1-2 mm in diameter, basal, fleshy, abundant. **Stems** 33-62 x 0.5-0.7 cm, simple, cane-like, terete, thin, erect, straight; base covered by sheaths 30-48 mm long, non-foliar, becoming scarious and fibrous with age. **Leaves** 14-17, distributed along apical half of stem, sub-spreading, alternate, articulate, sub-coriaceous, green; sheaths 0.5-4.0 x 0.5-0.7 cm, tubular, minutely striated, rugose, greenish yellow when young, turning brown at maturity; blade 7.3-15.5 x 2.7-5.0 cm, narrowly elliptic to elliptic, obtuse to acute, margin entire, spreading. **Spathes** lacking. **Inflorescence** 8.6 cm long, apical, erect, laxly few-flowered, paniculate, formed by two racemes 2.2-2.7 cm long, each subtended by a bract similar to that of peduncle but smaller, 0.7-1.3 cm long; peduncle 3 cm long, provided with 1 bract in the middle, bract 2.4 cm long, tubular at base, conduplicate towards apex, acute, membranaceous, translucent; rachis 5.5 cm long, terete, thin straight. **Floral bracts** 3-4 mm long, shorter than ovary, triangular, acuminate, embracing. **Ovary** 17-20 mm long, terete, thin, slightly arched near apex, scarcely papillose, furrowed. **Flowers** 10, simultaneous, resupinate, tepals greenish yellow, lip and apical half of column white; without fragrance. **Sepals** free, partly spreading, scarcely papillose dorsally, oblanceolate, somewhat concave towards apex, acute, 5-veined, margin entire, spreading; dorsal sepals 10.7-12.0 x 3.3-4.0 mm; lateral sepals 11.3-12.0 x 3.8-4.5 mm, oblique. **Petals** 10-11 x 0.9-1.0 mm, partly spreading, free, linear-oblanceolate, obtuse, 1 veined, margin entire, spreading. **Lip** 6.7-8.0 x 8.5-10.7 mm, united to the column, convex, 3-lobed, base truncate, margin entire, spreading; bicallose, calli small, thin, somewhat laterally compressed, disc fleshy, with 3 ribs, parallel, fleshy, mid-rib reaching apical sinus of mid-lobe; lateral lobes 2.7-3.0 x 4.5-6.5 mm, dolabriform, falcate apically; mid-lobe 2.3-2.7 x 4.7-4.8 mm, with a wide, short isthmus apically bifid, emarginate, lobes obliquely triangular, acute, slightly divaricate. **Column** 8-9 mm long, straight, thin at base, apex bidentate. **Clinandrium-hood** reduced, margin entire. **Rostellum** apical, slit. **Anther** ovoid, 4-celled. **Pollinia** 4, bird-wing-type. **Lateral lobes of stigma, nectary and capsule** not seen.

OTHER SPECIMENS: None seen.

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: Presently known from a single collection from the eastern Amazonian lowlands of Ecuador, at 209 m elevation, in the Parque Nacional Yasuní, near the Peruvian border. Flowering in September.

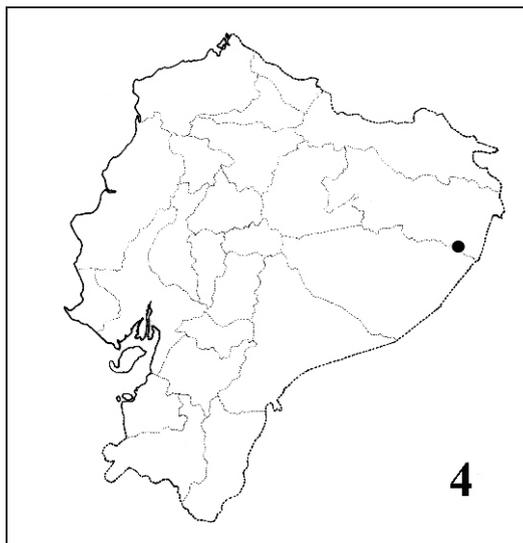
RECOGNITION: *Epidendrum tagaeri-taromenane* belongs to the Pseudepidendrum Group which is characterized by the caespitose plants, the cane-like stems, the acute to acuminate leaves, the usually apical inflorescence without any spathaceous bract, though it may have several bracts, the mostly filiform petals, the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and Densiflorum Subgroup, where the short pedunculate inflorescence is paniculate, flowering only once, the flowers are green, the apex of the column and disc of the lip are creamy-white, the calli sometimes tinged purple, the petals are linear-oblong to linear-oblanceolate, never filiform, and the pollinia are unequal in shape, only the inner pair "bird-wing" like. The new species is recognized by the plants to 75 cm tall, the leaves 7.3-15.5 x 2.7-5 cm, narrowly elliptic to elliptic, the short inflorescence 8.6 cm long, paniculate, laxly few-flowered, the peduncle with a 2.4 cm long bract at the middle, the sepals 10.7-12 mm long, dorsally scarcely papillose as well as the ovary, which is slightly arched near the apex, and the lateral lobes of the lip dolabriform, falcate apically. It is similar to *Epidendrum noackii*, ranging from southern Brazil and neighboring Argentina (Department of Misiones), which has shorter plants, 35-50 cm tall, leaves 8-14 x 1.5-2.2 cm, narrowly elliptic-lanceolate, and the sepals and ovary glabrous. *Epidendrum unguiculatum* (C.Schweinf.) Garay & Dunst. is found widespread in the same region of the upper Amazon basin but is easily recognized by the 55 cm long inflorescence producing successive racemes, the flowers totally green except for the white apex of the column and disc of the lip, and the larger flowers, sepals [16] 18-20 mm long, and the lateral lobes of the lip flabellate.

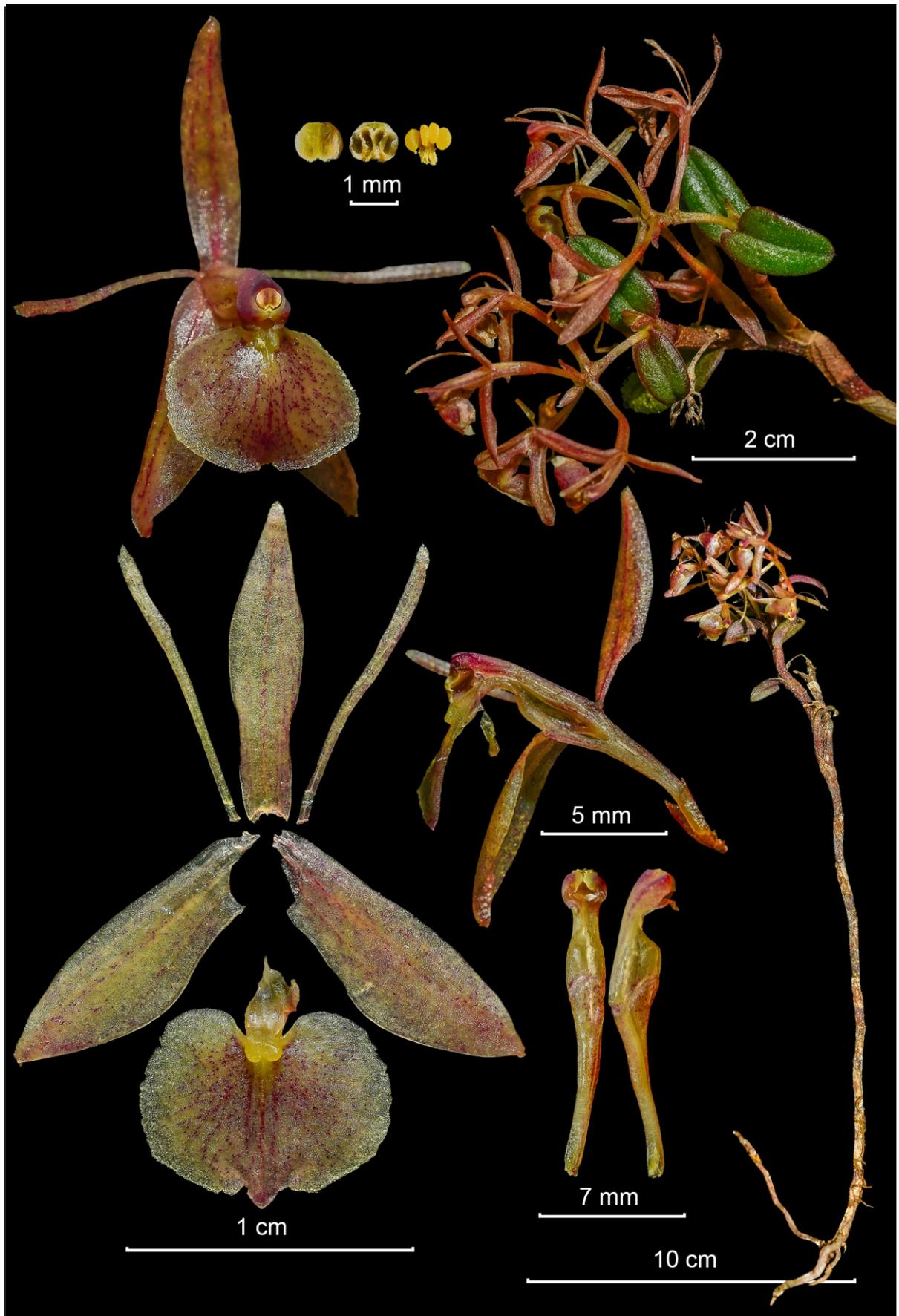
CONSERVATION STATUS: **DD. Data deficient.** Presently known from a single collection. The new species was found along a recently constructed road access within the Parque Nacional Yasuní. These road construction projects cause forest fragmentation, and the imminent destruction of the margins, thus putting at risk the survival of this kind of organism.

ETYMOLOGY: In honor of the last human groups who have remained in voluntary isolation that have inhabited the Yasuní forests. The call themselves Tagaeri/Taromenane and have a direct affiliation with the Waorani indigenous people, who were generically known as Auca. In some studies (WRM 2013), they mention that the Tagaeri would have disappeared due to causes related to diseases and internal conflicts, in the same way that it would be happening with the Taromenane. Tagaeri and Taromenane are nouns in apposition.

ACKNOWLEDGMENT: The plant was collected in the project "Nuevas contribuciones a la flora Orchidaceae del Ecuador." Javier Donoso wishes to thank the Calaway Dodson: Investigación y Conservación de Orquídeas del Ecuador Scientific Group, for supporting the research of Orchids in Ecuador; and the Ministerio de Ambiente, Agua y Transición Ecológica for the research permit MAAE-ARSFC-2021-1102.

REFERENCES: Santiago, E., & E. Hágsater, 2013, *Epidendrum noackii* in E. Hágsater & L. Sanchez S. (eds.), The Genus *Epidendrum*, Part 10, **Icon. Orchid.** 14: pl. 1462. Santiago, E., & E. Hágsater, 2013, *Epidendrum unguiculatum* in E. Hágsater & L. Sanchez S. (eds.), The Genus *Epidendrum*, Part 10, **Icon. Orchid.** 14: pl. 1492. WRM –2013, Ecuador: la Zona Intangible Tagaeri Taromenane del Yasuní, **Movimiento Mundial por los Bosques Tropicales WRM** Boletín 194. <https://wrm.org.uy/es/articulos-del-boletin-wrm/seccion1/ecuador-la-zona-intangible-tagaeri-taromenane-del-yasuni/>





EPIDENDRUM VESICOLUMNNA Hágsater, E.Santiago & Edquén

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

Type: PERU: Pasco: Oxapampa, Distr. Huancabamba, Sector Santa Bárbara. Camino a Huayllar, 3479 m, 28 noviembre 2006, **Lizeth Cárdenas & Rolando Francis 923**, Holotype: HOXA! Isotypes: CUZ, MO! USM!

Similar to *Epidendrum constrictum* Hágsater, Chocce & E.Santiago, but the sepals oblanceolate with revolute margins (vs. sepals oblong, flat, margins spreading), the lip transversely elliptic with the apex prominently apiculate (vs. lip orbicular, apex rounded), the column slightly arched downwards at the apex (vs. column arched upwards at apex), and the column narrowed at the apical 1/3 and forming a prominent translucent vesicle along the basal 2/3 (vs. column wide, strongly constricted near the base and forming a short vesicle behind the perianth).

Epiphytic, monopodial, branching, erect, becoming arching sub-pendulous **herb**, 28-50 cm tall. **Roots** 1-2 mm in diameter, basal. **Stem** cane-like, laterally compressed, branching along apical half of primary stem; primary stem 12-15 x 0.3 cm; branches 2-6 x 0.20-0.25 cm. **Leaves** of primary stem, not seen; 2-3 on branches, distributed towards apex, alternate, articulate, erect-spreading; sheaths 4-9 x 2-3 mm, tubular, striated, rugose, red-brown, blades 1.0-1.2 x 0.6-0.7 cm, ovate-lanceolate, acute, coriaceous, slightly arching, margin entire, spreading, medium green above, underside tinged red. **Spathes** lacking. **Inflorescence** ca. 8-10 mm long, apical, racemose, short, arching-nutant, flowering only once, laxly few-flowered; peduncle 2-6 mm long, terete, thin. **Floral bracts** 3-5 mm long, shorter than ovary, triangular-lanceolate, acute, embracing. **Flowers** 3-6, opening in succession eventually all open at one time, resupinate, ochre-yellow with veins tinged red, callus yellow, column red at apex; fragrance of lime, soft and agreeable. **Ovary** 8-11 mm long, terete, thin, ventrally inflated behind perianth. **Sepals** obtuse, 3-veined, margin entire, revolute; dorsal sepal 11 x 2.6 mm, free, spreading, narrowly oblanceolate; lateral sepals 11 x 3.6-4.0 mm, obliquely united to column, partly spreading, narrowly elliptic oblanceolate, oblique, minutely apiculate. **Petals** 9-10 x 0.5-0.6 mm, spreading, free, filiform, slightly arched forward, obtuse, 1-veined, margin entire, spreading. **Lip** 6.5-7.3 x 8.8-9.0 mm, united to column, entire, convex in natural position, transversely elliptic, base cordate, apex truncate, prominently apiculate, margin minutely erose, apex slightly revolute; callus biglobose, fleshy, disc with a mid-rib, thin and short. **Column** 7 mm long, straight, apex slightly arched downward, constricted at the 2/3 the length, apical 1/3 widened, forming a prominent vesicle along basal 2/3, reaching behind perianth, apical teeth/wings meet in middle under anther. **Clinandrium-hood** short, margin entire. **Anther** reniform, with a low rib in front, 4-celled. **Pollinia** 4, obovoid; caudicles soft and granulose, longer than pollinia; viscarium semi-liquid. **Rostrum** apical, slit. **Lateral lobes of stigma** small. **Nectary** penetrating behind perianth, forming a prominent vesicle at base of column. **Capsule** pedicel 7 x 1 mm, thin, body 20 x 23 mm globose, apical neck very short.

OTHER SPECIMENS: PERU: Pasco: Oxapampa, Distr. Huancabamba, Sector Santa Bárbara, Parque Nacional Yanachaga-Chemillén, 3200-3300 m, 29 I 2005, *Monteagudo 8000*, MO! Naciente de la Quebrada Cueva Blanca-Sector Santa Bárbara, Parque Nacional Yanachaga-Chemillén, 3420-3510 m, 16 VIII 2005, *Ortiz 812*, USM! Oxapampa, Huancabamba, Santa Barbara, Parque Nacional Yanachaga Chemillén, 3370 m, 29 Julio 2021, *Valenzuela 38178*, HOXA, MO, digital images, AMO! (photo voucher.) Oxapampa, Huancabamba, Santa Barbara, Parque Nacional Yanachaga Chemillén, 3370 m, 31 Julio 2021, *Valenzuela 38302*, HOXA, MO, USM (digital images, AMO!).

OTHER RECORDS: PERU: San Martín: Prov. Rioja, Distr. Pardo Miguel, Venceremos, 2098 m, 15 X 2021, *Edquén 5248*, digital images, AMO! (LCDP voucher).

DISTRIBUTION AND ECOLOGY: Presently known from central and northern Peru, on the upper eastern slope of the Andes, epiphytic at 2010-3500 m elevation. Flowering from July to January.

RECOGNITION: *Epidendrum vesicolumna* belongs to the Soratae Subgroup of the Scabrum Group which is characterized by the branching habit starting on a monopodial primary stem, the infundibuliform, rugose leaf-sheaths, the lanceolate, aristate, acute leaves, the racemose subcapitate inflorescence on a short, thin peduncle, and the bicallose lip. The species is recognized by the leaves 1.0-1.2 x 0.6-0.7 cm, ovate-lanceolate, the flowers ochre-yellow with the veins tinged red, the lateral sepals narrowly elliptic-oblanceolate, not falcate, with the margins revolute, the petals slightly arched forward, the lip transversely elliptic, base cordate, prominently apiculate at the apex, and the column straight with the apex slightly arched downward, constricted at the 2/3 and widened towards the apex, and a prominent elongate ventral vesicle along the basal 2/3. *Epidendrum constrictum* is very similar, but the sepals are flat with the margins spreading, the lip orbicular with apex rounded, and the column is wide with the apex arched upwards and an evident constriction near the base. *Epidendrum ovatilabium* Hágsater, E.Santiago & Edquén is vegetatively similar but the lateral sepals are oblong, strongly falcate, the petals have the apical half strongly arched, the lip is narrowly elliptic with the base truncate, and the column has the apex arched upwards, strongly constricted at the base.

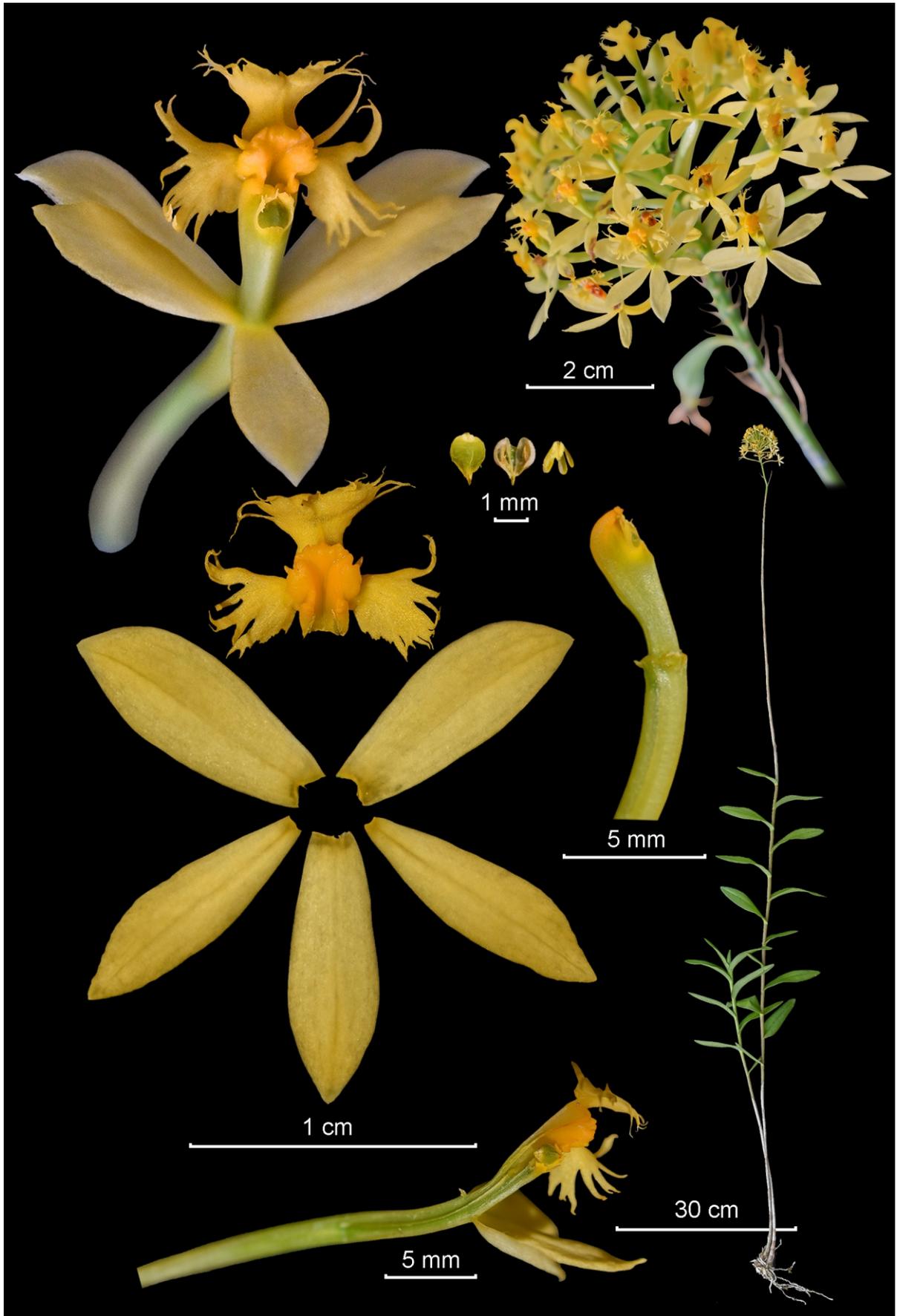
CONSERVATION STATUS: DD. Data deficient. Presently known from localities at a distance of 600 km.

ETYMOLOGY: From the Latin, *vesicula*, a vesicle, small bladder, air-cavity, and *columna*, column, in reference to the large central vesicle at the basal 2/3 of the column, which characterizes this species.

ACKNOWLEDGMENT: We wish to thank Luis Valenzuela from Oxapampa for sharing digital images of the species and constructive additions to the manuscript.

REFERENCES: Hágsater, E., M. Chocce & E. Santiago, 2009, *Epidendrum constrictum*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 8, *Icon. Orchid.* 12: pl. 1226. Hágsater, E., E. Santiago & J. D. Edquén O., 2022, *Epidendrum ovatilabium*, in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*. Part 15, *Icon. Orchid.* 19(1): pl. 1930.





EPIDENDRUM VIRIDIFLAVUM Hågsater & J.D.Medina

Plate 1945

EPIDENDRUM VIRIDIFLAVUM Hágsater et J.D.Medina, sp. nov.

Type: COLOMBIA: Huila: Mun. Palermo: Vda. Ospina Pérez: cultivado en jardín de la señora Analucía, 1230 m, 2 septiembre 2021, **Juan David Medina González s.n.** Holotype: SURCO! Digital images of pretype, AMO! (LCDP voucher).

Similar to *Epidendrum melinanthum* Schltr. but the flowers pale greenish yellow with the callus orange (vs. flowers bright yellow, callus same color), the callus composed of two spherical processes at the base, forming a triangular channel centrally, over a sub-trapezoid middle callus, more or less tridentate at the truncate apex (vs. callus formed by a central circular mound, embraced by a pair of crescent shaped processes).

Epiphytic and terrestrial, sympodial, caespitose **herb**, 140 cm tall including inflorescence, **Roots** 0.6-2.0 mm in diameter, basal, terete, fleshy, white. **Stems** 80 x 0.4-0.9 cm, simple, cane-like, terete, and somewhat laterally compressed towards apex, thin, basal half covered by non-foliar sheaths. **Leaves** 12, distichous, distributed throughout apical half of stem, sheaths 2.0-3.5 cm long, tubular, smooth, papyraceous and scarious when dry; blade 5.5-10 x 2.2-2.8 cm, elliptic-lanceolate, articulate, apex narrowly rounded, unequally bilobed, coriaceous, smooth, medium green, margins entire. **Spathe** lacking. **Inflorescence** 58 cm long, racemose to pluri-racemose, producing new racemes from subapical nodes of peduncle; peduncle 48 cm long, elongate, straight, covered by ca. 7 bracts 4-5 cm long, tubular, imbricated, acuminate, yellow with brown dots; rachis 10 cm long. **Floral bracts** 2-5 mm long, decreasing in size, much shorter than ovary, narrowly triangular, acuminate, embracing. **Flowers** ca. 40, successive, non-resupinate, up to 30 open at a time, flowers pale greenish yellow, massive callus orange, and column pale green, with apical wings orange, anther green; once pollinated apical wings of column close, and apex of column and callus turns red-brown; fragrance nocturnal, weak, sweet. **Ovary** 18 x 1.5 mm, terete, thin, not inflated, furrowed. **Sepals** 9.6-10 x 3.2-3.5 mm, spreading, elliptic-oblongate, acute, 5-veined, margin entire, spreading, lateral sepals slightly oblique, with a low dorsal keel. **Petals** 9.8 x 2.8 mm, spreading, elliptic-oblongate, apex obtuse, 3-veined, margin entire, spreading. **Lip** 6.7 x 8.3 mm, united to column, 3-lobed, base cordate, distal margins fimbriate to irregularly deeply laciniate, lateral margins entire, revolute; callus composed of two spherical processes basally forming a triangular channel centrally over a sub-trapezoid middle callus, more or less tridentate at truncate apex; lateral lobes 4.1 x 3.1 mm, sub-quadrate to semi-flabelliform, lateral margins entire; mid-lobe 3.5 x 7.0 mm, isthmus long and narrow, then widely triangular flabelliform, apex shallowly emarginate, apiculate. **Column** 6.8 x 1.8 mm, straight, and continued straight with lip, terete, ventrally papillose, with a pair of rounded apical wings on sides of rostellum, ending in a finger-like process transverse to column at its apex. **Clinandrium hood** reduced, margin irregularly crenate. **Anther** cordiform, acuminate, frontal surface rugose, 4-celled. **Pollinia** 4, narrowly obovate, elongate, laterally compressed, unequal, lateral pair about ¾ length of inner pair; caudicles soft and granulose, tetrads elongate, like a pile of roof tile, viscarium semi-liquid, transparent. **Rostellum** apical, slit. **Lateral lobes of stigma** elongate, occupying 2/3 length of stigmatic cavity. **Nectary** 15 mm deep, penetrating 1/2 of ovary, minutely papillose, papillae arranged in longitudinal lines. **Capsule** not seen.

OTHER SPECIMENS: COLOMBIA: Huila: La Plata, Vda. Belén, 25 km vía Belén, 1300 m, 5 VI 1982, *Morales 293*, COL! La Argentina: Vda. Aguablanca, subiendo después de cruzar el Río, 2443 m, 31 III 2018, *Hágsater 15700*, spirit, AMO!, digital images, AMO!

OTHER RECORDS: COLOMBIA: Huila: San José de Isnos, La Marmolera, hort. Popayán, 26 II 2021, *Angulo, s.n.*, digital image, AMO! La Argentina, Vda. San Roque, Serranía de las Minas, 1600 m, 30 IX 2013, *Boca Ne Gra s.n.*, digital image, AMO! casa saliendo de San José de Isnos, 1700 m, 30 III 2018, *Hágsater 15682*, digital image, AMO! (photo voucher).

DISTRIBUTION AND ECOLOGY: Known presently from cultivated plants on the eastern slope of Cordillera Central, in the Department of Huila, municipalities of Palermo and San José de Isnos, at about 1250-1700 m elevation. Flowering in February-March.

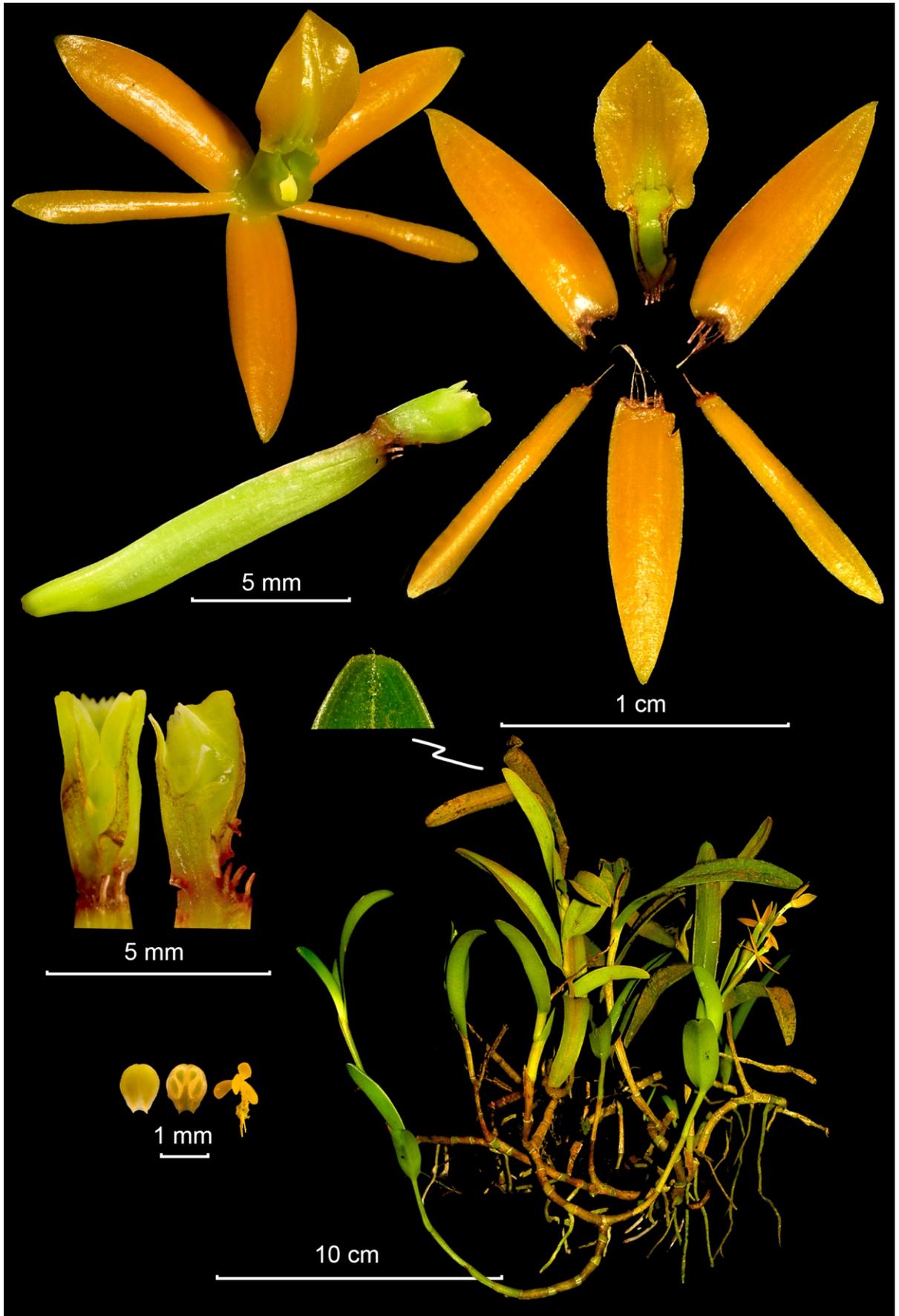
RECOGNITION: *Epidendrum viridiflavum* belongs to the Schistochilum group, Secundum subgroup, which is recognized by the caespitose habit, the simple stems, leaves oblong-lanceolate, coriaceous, bilobed, the elongate peduncle of the erect, pluri-racemose inflorescence, the flowers non-resupinate, and the callus complicated, pluri-tuberculate. The new species has pale greenish yellow, non-resupinate flowers with a large orange callus composed of two spherical processes at the base, forming a triangular channel centrally over a sub-trapezoid middle callus, more or less tridentate at the truncate apex; once pollinated the apical wings of the column close, and the apex of the column and callus turns red-brown. It is very similar to *Epidendrum melinanthum* Schltr. which has bright yellow flowers, the callus formed by a central circular mound, embraced by a pair of crescent shaped processes; once pollinated the whole column and callus become red. *Epidendrum aura-usecheae* Hágsater, Rinc.-Useche & O.Pérez also has bright yellow flowers, but the column and callus turn rapidly red when pollinia are extracted or as the flower wilts, and the lip is deeply fimbriate with the fimbria in all directions, the lobes of the lip are not easily visible, and the leaves are narrowly elliptic-lanceolate, clearly narrower than most other species.

CONSERVATION STATUS: DD. Data Deficient. *Epidendrum viridiflavum* is known from the eastern slope of the Cordillera Central, Huila Department at a range of some 140 km. With only two cultivated known plants and unknown wild populations we hope wild populations will be identified in future. For these reasons, we categorize this taxon as Deficient Data following the of the IUCN criteria (Version 3.1) (2012).

ETYMOLOGY: From the Latin *viridis*, green, and *flavus*, yellow, in reference to the flowers which are pale greenish yellow except for the bright orange callus, that distinguishes this species.

REFERENCES: Hágsater, E., C. Rincón-Useche & O. Pérez, 2013, *Epidendrum aura-usecheae*, in E. Hágsater & L.Sánchez S. (eds.) The Genus *Epidendrum*, Part 10, **Icon. Orchid.** 14: pl. 1410. IUCN, 2012, **Red List Categories and Criteria:** Version 3.1. Second edition, Gland, Switzerland and Cambridge, UK; iv + 32 pp. Moreno, J. S., & E. Hágsater, 2017, *Epidendrum melinanthum*, **Species Orchid.** 1(1): LCDP 3.





EPIDENDRUM VIRIDI-ochraceum Zambrano, Hågsäter & Solano

Plate 1946

EPIDENDRUM VIRIDI-OCRACEUM Zambrano, Hągsater & Solano. *Phytotaxa* 511(2): 135, Figs. 20-21. 2021.

Type: ECUADOR: El Oro: Cantón Piñas: Piedras, camino antiguo El Carmen-La Bocana, 237 m, 26 May 2014, **Bosco Javier Zambrano Romero 1321**. Holotype: QCNE! Isotype: QCNE! [in spirit]. Digital images of pretype AMO! (LCDP & photo voucher).

Epiphytic, erect, sympodial, rhizomatous **herb** up to 15 cm tall including inflorescence. **Roots** 1.0-1.5 mm diameter, emerging from rhizome, fleshy, flexuous, white. **Rhizome** 2.5-3.5 mm long between adjacent stems, terete, with 3-4 internodes, covered by imbricate, chartaceous, persistent sheaths. **Stems** 7.5 × 0.25-0.3 cm, cane-like, terete at base and laterally compressed above, erect, base covered by 2-3 laterally compressed, persistent, chartaceous, brown non-foliar sheaths. **Leaves** 3-4, distributed along apical half of stem, fleshy, coriaceous, distichous, articulate; sheaths 0.8-1.5 × 0.35-0.4 cm, longitudinal striated, persistent, chartaceous; blade 3.5-7.0 × 0.9-1.2 cm, narrowly oblong, obtuse, minutely mucronate at apex, channelled at base. **Spathe** lacking. **Inflorescence** up to 6.5 cm long, arising from apex of mature stem, erect, simple, distichous; peduncle 2.0-2.4 cm long, laterally compressed, covered by conduplicate, persistent, chartaceous bracts, 1.8-2.0 × 3.8-4.0 mm; rachis 2.5-3.0 cm long, laterally compressed. **Floral bracts** 8-10 × 3-4 mm, shorter than ovary, longitudinal striate when dry, laterally compressed, obtuse, persistent, scarious, with a prominent dorsal keel. **Ovary** 15.0-15.8 × 2.2-2.3 mm, straight, terete, slightly inflated ventrally nearly throughout, unornamented. **Flowers** 3-4, small, opening in succession and, eventually all open at one time, lip always oriented towards axis of rachis; sepals, petals and lip ochre-orange, callus green, column light green, anther cream colored suffused with green; fragrance sweet at night. **Sepals** spreading in natural position, fleshy, slightly convex longitudinally, margin entire, somewhat revolute; dorsal sepal 9.8-10.0 × 2.5-2.7 mm, oblong-lanceolate, acute, 8-veined, with lateral veins branched; lateral sepals 9.8-10.0 × 2.8-3.0 mm, obliquely oblong-lanceolate, acute, dorsally carinate, 9-veined. **Petals** 9.4-10.0 × 1.2-1.3 mm fleshy, spreading, linear-oblancheolate, acute but narrowly rounded at extreme apex, 3-veined, margin entire, somewhat revolute. **Lip** 5.8-6.2 × 3.8-4.1 mm, entire, fleshy, porrect, arched, fused to column, obovate-pandurate, acute, margin entire, basal margin involute, thus lip truncate at base, 10-veined, with lateral veins branched; with a transverse entire callus at base, sides slightly thickened, middle region shorter, truncate with a small hollow on each side of mid-rib, a narrow, low rounded mid-rib running down entire lip to apex, with a smaller, shorter rib on each side. **Column** 4.0-4.8 × 1.5-2.0 mm, short, straight, terete, apex truncate, with a small, rounded wing on each lower side, with a pair of oblique thickenings inside that close aperture to nectary. **Clinandrium-hood** prominent, dentate, with a protuberant mid-lobe, separated on each side by a deep cleft, covering anther. **Stigmatic cavity** ventral, concave, covered by a viscous substance. **Rostellum** apical, cleft. **Nectary** penetrating four-fifths of ovary, constricted at height of perianth, unornamented. **Anther** 1.1 × 0.9 mm, dorsal, obovate, apex truncate somewhat concave, glandular-papillose, 4-celled. **Pollinarium** 1 mm long, formed by 4 pollinia, yellow, sub-equal, obovate, laterally compressed, wax-like; caudicles granulose; viscarium semi-liquid. **Capsule** not seen.

OTHER SPECIMENS: ECUADOR: El Oro: Cantón Piñas: Piedras, vía El Carmen-La Bocana, 230 m, 26 V 2014, *Zambrano s.n.*, QCNE! Cantón Piñas: parroquia Capiro, sector Los Amarillos, 1100 m, 28 X 2019, *Zambrano 2435*, QCNE!

DISTRIBUTION AND ECOLOGY: Presently this species is known only from southwestern Ecuador, in El Oro province. The two known populations are in remnant forests disturbed by human activities on introduced trees in El Carmen-Los Amarillos in El Oro province. The species grows as an epiphyte on branches of *Citrus sp.*, *Ficus sp.*, and *Theobroma cacao* L. at 230-1100 m elevation. Flowering between April and July.

RECOGNITION: *Epidendrum viridi-ochraceum* belongs to the Spathiger group, which is characterized by the sympodial plants and distichous inflorescence, and the Rigidum subgroup which has distichous, non-secund, and mostly small flowers, the lip < 12 mm long. The species is distinguished by its narrowly oblong, not bilobed, mucronate leaves, the ochre-orange flowers with a sweet odor at night, the linear-oblancheolate, 3-veined petals, and the obovate-pandurate acute lip with an entire calli and three fleshy, parallel, low ribs. The most similar species is the Mesoamerican *Epidendrum cardiophorum* Schltr. which can be distinguished by its larger plants, up to 35 cm tall, the leaves narrowly elliptic, bilobed and not mucronate, the flowers green, the ovate-elliptic, 7-veined dorsal sepal, the oblancheolate, 5-veined petals, and the ovate-cordiform lip with a rounded apex. *Epidendrum angustisegmentum* (L.O.Williams) Hągsater, from Costa Rica and Panama, is also similar, but it can be distinguished by its elliptic leaves, the flowers yellow to yellow-green, the ovate dorsal sepal, the petals 0.5-1.0 mm wide, and the ovate, bicallose lip with a central keel at the middle. The Colombian *Epidendrum beatricis* Hągsater & Uribe Vélez, is different by its leaves with a bilobed apex, the flowers without fragrance, the dorsal sepal obtuse, 5-veined, the petals linear-oblong, rounded, and the lip sub-rectangular-ovoid, obtuse, and bicallose. *Epidendrum rigidum* Jacq., from Florida, the Antilles, and South America, differs by having flowers green, the dorsal sepal narrowly obovate, the petals narrowly oblancheolate, and the lip ovate, obtuse, bicallose. Finally, *Epidendrum viridium* Zambrano, Hągsater & Solano is different by its leaves narrowly oblong-elliptic, emarginate, the flowers green turned yellow-green when old, producing a camphorated-lemon odor, the dorsal sepal oblong-ovate, obtuse, 9-veined, the petals oblong with an obtuse apex, and the lip oblong-obovate, rounded, with short parallel ribs that do not run the entire lip.

ETYMOLOGY: The specific epithet derived from the Latin *viridi-* "green" and *ochraceus* "ochre", in reference to the column and green column and callus, and ochre-colored tepals.

CONSERVATION STATUS: CR Critically endangered, as it is known from two close localities.

REFERENCES: Hągsater, E., 1999, *Epidendrum angustisegmentum* in E. Hągsater L. Sánchez S., & J. García-Cruz (eds.) The Genus *Epidendrum*, Part 2, *Icon. Orchid.* 3: pl. 308. Hągsater, E., & C. Uribe Vélez, 2019, *Epidendrum beatricis*, in E. Hągsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, *Icon. Orchid.* 17(1): pl. 1707. Jiménez M, R., & E. Hągsater, 2010, *Epidendrum cardiophorum*, in E. Hągsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 9, *Icon. Orchid.* 13: pl. 1311. Zambrano R., B.J., E. Hągsater & R. Solano, 2021, *Epidendrum viridi-ochraceum*, in Miscellaneous new species in *Epidendrum* (Orchidaceae) from southwestern Ecuador, *Phytotaxa* 511(2): 111-147. Zambrano R., B.J., E. Hągsater & R. Solano G., 2022, *Epidendrum viridium*, in E. Hągsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 15, *Icon. Orchid.* 19(1): pl. 1947.



Authors: B. J. Zambrano, E. Hągsater & R. Solano

LCDP: B. J. Zambrano

Herbario AMO

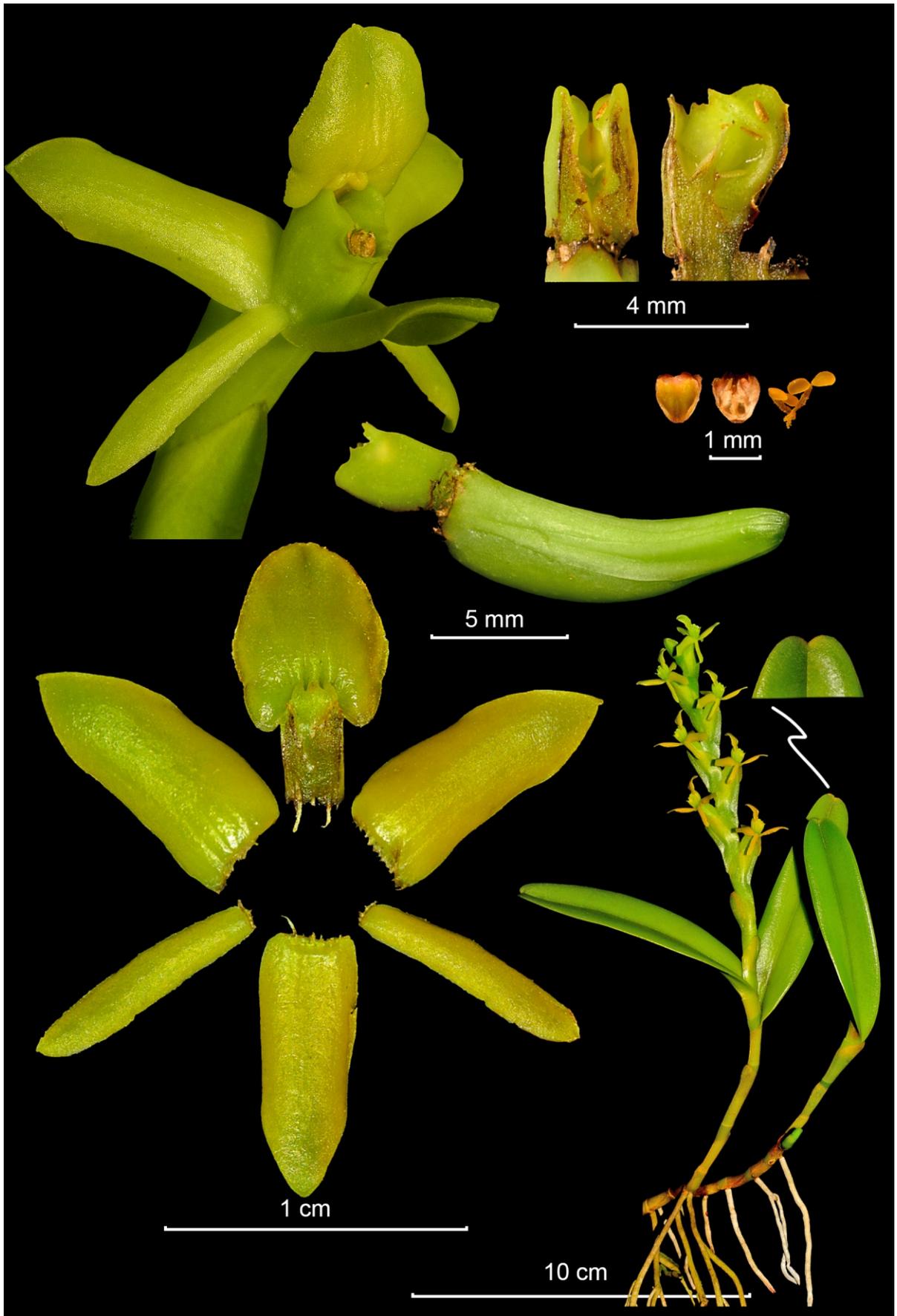
Ciudad de México, MÉXICO



Photo: B. J. Zambrano

Editors: E. Hągsater & E. Santiago

ICONES ORCHIDACEARUM 19(1). 2022. Plate 1946



EPIDENDRUM VIRIDIUM Zambrano, Hågsater & Solano

Plate 1947

EPIDENDRUM VIRIDIUM Zambrano, Hągsater & Solano, *Phytotaxa* 511(2): 139, Figs. 23-24. 2021.

Type: ECUADOR: El Oro: Cantón Piñas, Capiro, sector Conchicola, 669 m, 21 septiembre 2015, **Bosco Javier Zambrano Romero 1700**. Holotype: QCNE! Isotype: QCNE! [in spirit]. Digital images of pretype AMO! (LCDP voucher).

Epiphytic, erect, sympodial, rhizomatous **herb** up to 17 cm tall including inflorescence. **Roots** 1-2 mm diameter, emerging from base of stems, fleshy, flexuous, white. **Rhizome** 2.0-3.5 cm long between adjacent stems, abbreviated, terete, with 3-4 internodes, covered by imbricate, chartaceous, persistent sheaths. **Stems** 6.0 × 0.35-0.4 cm, cane-like, terete at base but then laterally compressed towards apex, erect, lower part covered by 2-3 laterally compressed, persistent, chartaceous, gray-green non-foliar sheaths. **Leaves** 2-3, distributed along apical half of stem, fleshy, coriaceous, distichous, articulate; sheaths 0.8-1.4 × 0.4-0.5 cm, longitudinal striated, persistent, chartaceous; blade 6.5-7.5 × 1.5-1.7 cm, narrowly oblong-elliptic, obtuse, emarginated, channeled at base. **Spathes** lacking. **Inflorescence** up to 11 cm long, arising from apex of mature stem, erect, simple, distichous; peduncle 30-32 mm long, laterally compressed, covered by conduplicate, persistent, chartaceous bracts 15-16 × 5-6 mm; rachis 6-8 cm long, laterally compressed. **Floral bract** 8-11 × 5-7 mm, as long as ovary, longitudinal striate when dry, laterally compressed, obtuse, persistent, scarious, with a prominent dorsal keel. **Ovary** 12.0-12.5 × 3.2-3.5, curved, terete, prominently inflated ventrally, unornamented. **Flowers** 3-7, 1-3-open at same time, small, lip always oriented towards apex of rachis, sepals, petals and lip light green turning yellow-green when old, callus green, column light green, anther cream suffused with green; fragrance camphorated-lemon at night. **Sepals** spreading, fleshy, margin entire, somewhat revolute; dorsal sepal 8.2-8.5 × 3.0-3.7 mm, oblong-ovate, obtuse, 9-veined; lateral sepals 8.5-9.5 × 3.8-4.2 mm, slightly reflexed, obliquely oblong-ovate, obtuse, carinate dorsally, 10-veined. **Petals** 8.0-8.3 × 1.5-1.7 mm, fleshy, somewhat reflexed, narrowly oblong, obtuse, 3-veined, margin entire, somewhat revolute. **Lip** 6.0-6.6 × 5.0-5.5 mm, entire, fleshy, porrect, arched, fused to column, oblong-obovate, rounded, marginally entire, slightly cordate at base, 10-veined, with lateral veins branched; with a transverse entire callus at base, sides slightly thickened, middle truncate with a small hollow to each side, with a narrow, low rounded mid-rib do not running entire lip, with a smaller, shorter rib on each side. **Column** 3.8-4.4 × 2.4-2.6 mm, short, straight, terete, apex truncate, with a rounded wing on each side next to lip. **Clinandrium-hood** prominent, forming a mid-lobe separate from sides, margin erose, covering anther. **Stigmatic cavity** ventral, concave, covered by a viscous substance, lateral lobes small. **Rostellum** apical, slit. **Nectary** penetrating half of ovary, constricted at height of perianth, unornamented. **Anther** 1.0 × 0.9 mm, dorsal, ovate-triangular, 4-celled, glandular-papillose. **Pollinaria** 1.0 cm long, pollinia 4, yellow, sub-equal, obovate, laterally compressed, wax-like; caudicles granulose; viscarium semi-liquid. **Capsule** not seen.

DISTRIBUTION AND ECOLOGY: Presently known only from southwestern Ecuador, El Oro province. The plant grows as an epiphyte on branches of *Ficus* sp., at 650-1100 m in elevation. Flowering between December and March.

OTHER SPECIMENS: ECUADOR: El Oro: Cantón Piñas: Capiro, sector Conchicola, 650 m, 21 IX 2015, *Zambrano s.n.* QCNE!

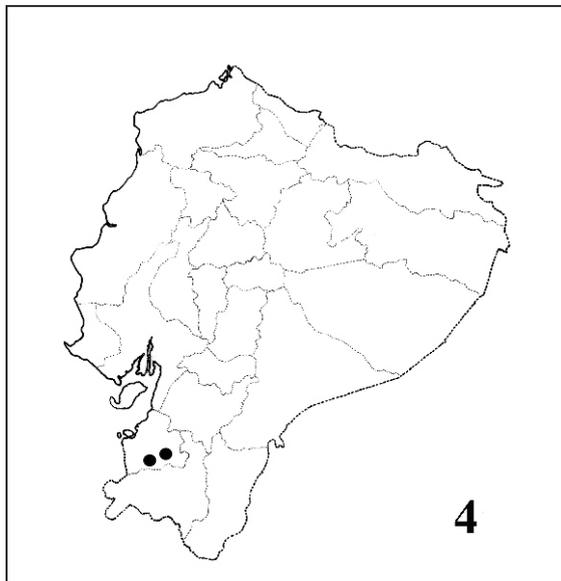
OTHER RECORDS: ECUADOR: El Oro: Entre Piñas y Zaruma, 1100 m, *Tobar s.n.*, digital image AMO! (photo voucher). The additional photo-specimen of *Tobar s.n.*, (digital image, AMO!) from Ecuador and published in Hągsater & Santiago (2019), was erroneously identified as *E. beatricis*.

RECOGNITION: *Epidendrum viridium* belongs to the Spathiger group, which is characterized by the sympodial plants and distichous inflorescence, and the Rigidum subgroup which has distichous, non-second, and mostly small flowers, the lip < 12 mm long. The species is recognized by its plants with 2-3 leaves per stem, the leaves narrowly oblong-elliptic, the petals narrowly oblong, 3-veined, and the lip oblong-obovate, rounded lip, with an entire calli with short parallel ribs. The most similar species is *Epidendrum rigidum* Jacq., which differs by having plants 10-12 cm tall, with 5-7 leaves per stem, the inflorescence 5-6 cm long, the flowers green, the dorsal sepal elliptic, 5 mm long, the petals 5 mm long, and the lip ovate, bicallose. *Epidendrum cardiophorum* Schltr. has larger plants, up to 35 cm tall, the leaves narrowly elliptic, the dorsal sepal ovate-elliptic, 7-veined, the petals narrowly oblanceolate, 5-veined, and the lip ovate-cordiform. The Colombian *Epidendrum beatricis* Hągsater & Uribe Vélez has its flowers ochre colored turning orange with age, without fragrance, the dorsal sepal 5-veined, the petals 1.2 mm wide, and the lip sub-rectangular-ovoid, bicallose. *Epidendrum angustisegmentum* can be distinguished by the leaves elliptic, the dorsal sepal ovate, the petals linear-oblanceolate, and the lip ovate, bicallose with a central keel at middle. Finally, *Epidendrum viridi-ochraceum* Zambrano, Hągsater & Solano differs by the leaves narrowly oblong, obtuse-mucronate, the flowers ochre-orange, with a sweet odor, the dorsal sepal oblong-elliptic, acute, 8-veined, the petals linear-oblanceolate, and the lip obovate-pandurate, acute, with three fleshy, parallel, low ribs, mid-rib running down the entire lip to apex.

ETYMOLOGY: The specific epithet is from the Latin *viridi-* "green", in reference to the color of the plant and flowers.

CONSERVATION STATUS: CR Critically endangered, as it is known from two close localities.

REFERENCES: Hągsater, E., 1999, *Epidendrum angustisegmentum* in E. Hągsater L. Sánchez S., & J. García-Cruz (eds.) The Genus *Epidendrum*, Part 2, *Icon. Orchid.* 3: pl. 308. Hągsater, E., & C. Uribe Vélez, 2019, *Epidendrum beatricis*, in E. Hągsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, *Icon. Orchid.* 17(1): pl. 1707. Jiménez M, R., & E. Hągsater, 2010, *Epidendrum cardiophorum*, in E. Hągsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 9, *Icon. Orchid.* 13: pl. 1311. Zambrano R., B.J., E. Hągsater & R. Solano, 2021, *Epidendrum viridium*, in Miscellaneous new species in *Epidendrum* (Orchidaceae) from southwestern Ecuador, *Phytotaxa* 511(2): 111-147. Zambrano R., B. J., E. Hągsater & R. Solano G., 2022, *Epidendrum viridi-ochraceum*, in E. Hągsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 15, *Icon. Orchid.* 19(1): pl. 1946.



Authors: B. J. Zambrano, E. Hągsater & R. Solano

LCDP: B. J. Zambrano

Photo: B. J. Zambrano

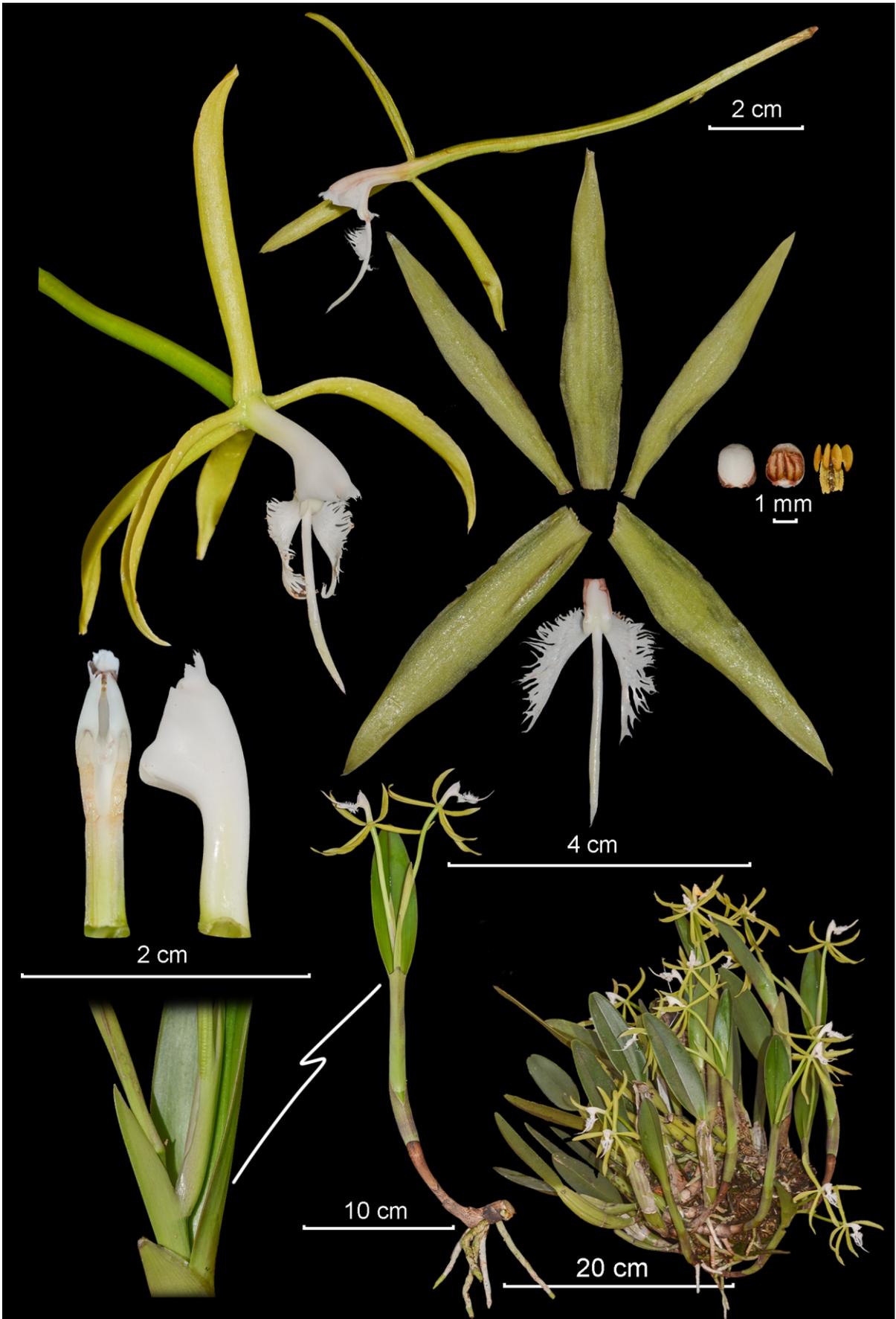
Editors: E. Hągsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

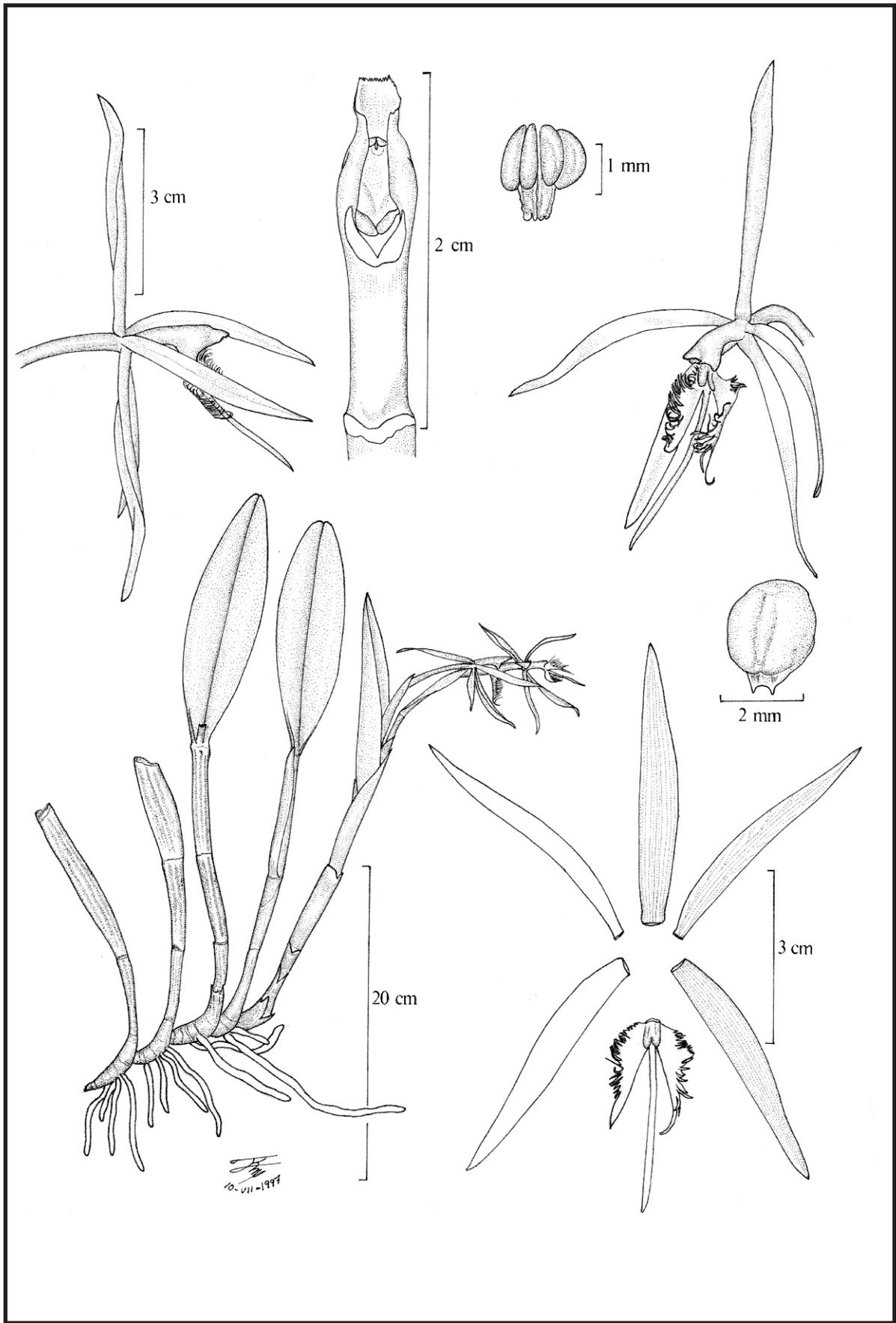
ICONES ORCHIDACEARUM 19(1). 2022.

Plate 1947



EPIDENDRUM VISCIDUM Lindl.

Plate 1948a



EPIDENDRUM VISCIDUM Lindl.

Plate 1948b

EPIDENDRUM VISCIDUM Lindl., Edwards's Bot. Reg. 26: (Misc.) 81. 1840.

Type: Mexico, imported by **Messrs. Loddiges 373**. Holotype: K!

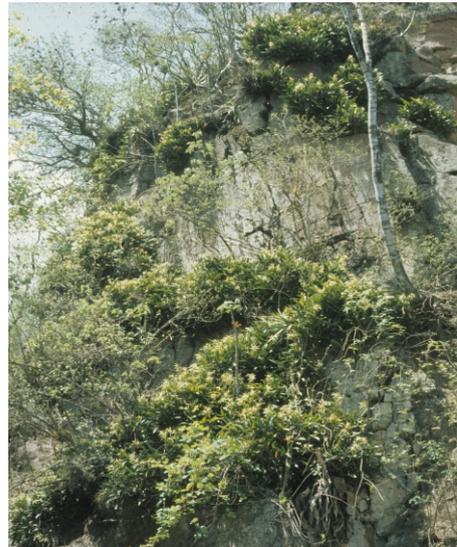
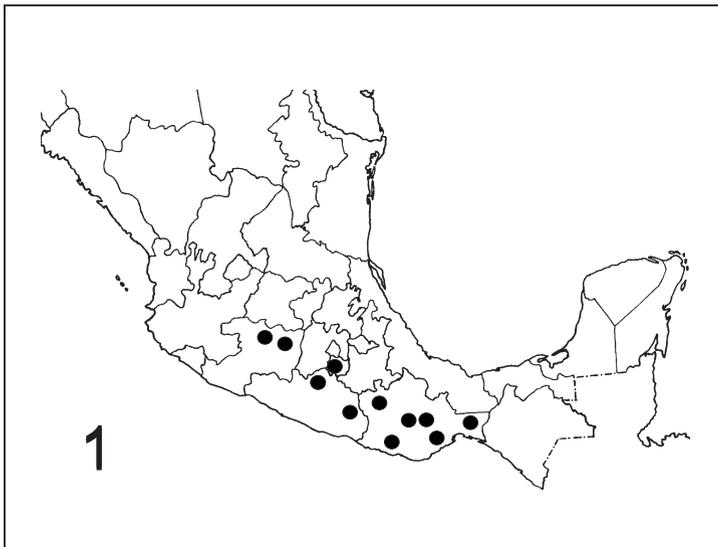
Synonym: *Epidendrum ciliare* var. *viscidum* (Lindl.) Lindl., Fol. Orchid. 2(Epidendrum): 30. 1853.

Lithophytic, sympodial, sub-cespitose **herb**, 20-35 cm tall including inflorescence. **Roots** 3-5 mm in diameter, up to ca. 20 cm long, from rhizome, fleshy, terete, white. **Rhizome** 2.5-3.0 × 1.0-1.2 cm, prostrate, completely covered by cataphylls 10.15 mm long, imbricating, rounded, dull white with dark brown margins. **Stems** 8-15 × 1.3-1.8 cm, thickened, narrowly fusiform, stipitate at base, slightly compressed laterally, often longitudinally sulcate when mature, formed by 3 main internodes, pale green, covered by 5-6 sheaths 2-8 cm long, two upper sheaths 4-8 cm long, fresh during flowering, pale green with wine-red venation and pale red tinge, widely obtuse, 3-4 lower sheaths 2.0-3.5 cm long, scarious dull white or brown at flowering, rounded; sheaths evanescent, completely disappearing after 1-2 years. **Leaf** single, 9-12 × 3.0-3.5 cm, apical, fleshy, coriaceous, rigid, strongly conduplicate at base, narrowly elliptic, apex rounded and slightly retuse. **Spathe** lacking. **Inflorescence** 11-15 cm long including flowers, apical, from immature stem, initiating anthesis before full expansion of leaf; peduncle 1.4-2.2 × 0.6 cm, short, laterally compressed, deep green, formed by two internodes, inferior 0.4-0.7 × 0.6 cm, superior 1.0-1.5 × 0.6 cm, with a bract 3.0-4.5 × 6-9 mm, strongly conduplicate, pale green with apex tinged wine-red; raceme abbreviated, few flowered, most commonly 2-flowered, rachis 10-15 × 2-3 mm, laterally compressed. **Floral bracts** 40-55 × 12-16 mm, similar to that of peduncle but margins hyaline, oblong-elliptic when spread, obtuse. **Ovary** 9.0-9.5 × 0.30-0.32 cm, terete, slightly sigmoid, furrowed. **Flowers** 1-3[4], simultaneous, resupinate, slightly ascending, sepals and petals pale green, lip, column and anther white, turning yellow with age, calli white turning pale orange; fragrance intense and agreeable at night, slightly spicy, reminiscent of that of *Polyanthes tuberosa*, described by Lindley as weak, like Cucumbers. **Sepals** 43-48 × 6.0-9.5 mm, spreading, incurved along apical 1/3-1/4, lanceolate, acuminate, margins strongly revolute. **Petals** 38-46 × 4.6-8.0 mm, spreading and incurved, narrowly elliptic, acuminate, margins somewhat revolute. **Lip** 29-33 × 11.5-17 mm, basally adnate to column, deeply 3-lobed; disc bicallose, calli 2.3-3.0 × 4 mm, oblong, convex, rounded, with a channel in between; lateral lobes 15-18 × 5.0-6.6 mm, semi-ovate, slightly incurved, narrowly acuminate, outer margins irregularly lacinate; mid-lobe 24-29 × 1.2-1.6 mm, linear, longitudinally convex, slightly incurved beyond middle, dorsally canaliculate, acuminate. **Column** 20-22 × 3.5-4 mm, slightly arched, laterally compressed, abruptly vertically widening beyond middle, apex oblique. **Clinandrium-hood** 2 × 2 mm, prominent, fimbriate. **Anther** ca. 2.0 × 1.8 mm, semi-globose, 4-celled. **Pollinia** 4, ca. 1.5 × 1.0 mm, laterally compressed, obliquely ovate, yellow; caudicles linear, soft and granulate, yellow, slightly longer than pollinia; viscarium semi-liquid, translucent. **Rostellum** apical, slit. **Lateral lobes of stigma** small. **Nectary** narrow, penetrating 2/5 of pedicellate ovary. **Capsule** ellipsoid, with thin pedicel and apical neck, turning black-brown when mature.

OTHER SPECIMENS SEEN: MEXICO: Guerrero: Prov. de Guerrero, 27 VIII 1899, *André s.n.*, BR! 10 mi NE of Taxco, 5800 ft, 10 VII 1940, *Hitchcock 7065*, DS! US! NE of Taxco, 5800 ft, 10 VII 1940, *Hitchcock 7090*, DS! US! Alcozauca de Guerrero, Cañada del Mini-yao, Rancho, 1740 m, 30 VIII 1989, *Rojas 86*, AMO! **Michoacán:** Ravins de Arúbaro, 4000 ft, 1840, *Galeotti 5216*, K! P! **Morelos:** Puente de Ixtla: 21.1 km después de la Tigra, rumbo a el Zapote, 1660 m, 2 XI 1989, *Espejo 3856*, AMO! IEB! Puente de Ixtla, El Zapote, 1650 m, 10 VII 1997, *Espejo 5676*, IEB! Puente de Ixtla, El Zapote, 1650 m, 10 VII 1997, *García-Cruz 727*, AMO x2! (Illustration voucher, AMO!) *Ibid.* press. 18 VII 1997, AMO! *Ibid.* press. 4 VIII 1997, AMO! UAMIZ! 12 km después de La Tigra rumbo a El Zapote, 950 m, 12 XI 1996, *Jiménez 1912*, AMO! Juitepec: Pedregal of El Tezcal, 1850 m, 1 VIII 1949, *Sawyer 7631*, F! **Oaxaca:** Ecorregión Sierra Mixe, Mun. Santo Domingo Tepuxtepec, "Rancho de Celso", 1305 m, 16 XII 2014, *Bernal-Ramírez 501* MEXU! Yavesia, 4500 ft, V 1945, *Galeotti 5358*, P! Talea, VIII 1844. *Galeotti 5359*, BR! Oaxaca, 4000 ft, *Galeotti 5359B*, BR x3! L! P! Dist. Ocotlán, Municipio San Jerónimo Taviche, *Hernández & Domínguez 76*, MEXU! Dist. Yauatepec, San Lucas Ixcotepec, 1338 m 23 VI 2010, *Maldonado 6*, MEXU! Dist. Yauatepec, San Lucas Ixcotepec, 1338 m 24 VI 2010, *Maldonado 10*, MEXU! Dist. Yauatepec, Arroyo de Pasle, 1496 m, 25 VI 2010, *Maldonado 37*, MEXU! Near Oaxaca City, 5500 ft, 25 V 1906, *Pringle 10186*, CM! E! ENCB! F! G x2! K! LE! M! MEXU! MINN! P! UC! US! W! Z! Mun. San Juan Mixtepec, Río Azucena, a 15 km NW de San Juan Mixtepec, 1700 m, 28 VIII 1988, *Reyes 555*, ARIZ! CIQRO, MEXU! TEX! Mun. San Juan Mixtepec, Río Azucena, a 15 km NW de San Juan Mixtepec, 1700 m, fragmento de planta llevada a cultivar, prensada en cultivo 6 VII 2021, *Reyes 555* sub *Salazar 10654* AMO! MEXU! SERO! (LCDP voucher). Yauatepec, Santa María Ecatepec, Arroyo Coyote a 2.74 en LR(E) de San Juan Acaltepec, 1507 m, 20 V 2010, *Velasco 4626*, MEXU!

OTHER RECORDS: MEXICO: Oaxaca: km 24.5 Mitla-Ayutla, 1540 m, 19 VI 1976, *Greenwood s.n.*, digital image AMO! (photo voucher).

DISTRIBUTION AND ECOLOGY: Endemic to Mexico, restricted to the Río Balsas Basin in the states of Oaxaca, Guerrero, Morelos, and Michoacán. Lithophytic in tropical deciduous forest, warm oak forest, or ecotones of tropical deciduous forest and pine-oak forest, at 400-1850 m elevation. Flowering from May to July. Mature capsules registered in December.



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Ciudad de México, MÉXICO

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Plate 1948

RECOGNITION: *Epidendrum viscidum* belongs to the Coilostylis group, which is characterized by the sympodial, caespitose plants, the stems forming a fusiform pseudobulb, the apical, racemose, distichous inflorescence, the peduncle covered by large bracts (but not basal spathaceous bracts), and the large, star-shaped flowers with long, narrow sepals and petals. *Epidendrum viscidum* is recognized by the usually 2[1-4]- flowered inflorescence produced from the immature stem, with the single apical leaf still incompletely expanded when the flowers open. It has been confused with *Epidendrum ciliare* L., a usually epiphytic but sometimes lithophytic tropical rain forest species, which is widely distributed from eastern Mexico* (Veracruz) to Peru, Brazil, and the Antilles, which produces an inflorescence with up to 10 flowers from the mature pseudobulb, has [1]2-3 leaves per stem and few bracts on the peduncle. *Epidendrum megalemmum* Carnevali & G.A.Romero flowers from the mature stem and the base of the inflorescence is enveloped in 5-10 imbricating bracts; this species is sympatric with *E. ciliare*, shares the same shape of the lip and occurs in the Lesser Antilles and northern South America. *Epidendrum cilioccidentale* Hágsater & L.Sánchez is found along the Pacific slope of the Sierra Madre del Sur and Sierra Madre Occidental, from Oaxaca to Sinaloa, and is recognized by the tightly imbricating bracts of the peduncle and the 2-6, simultaneous flowers, always produced from a mature pseudobulb which bears 1-2 leaves.

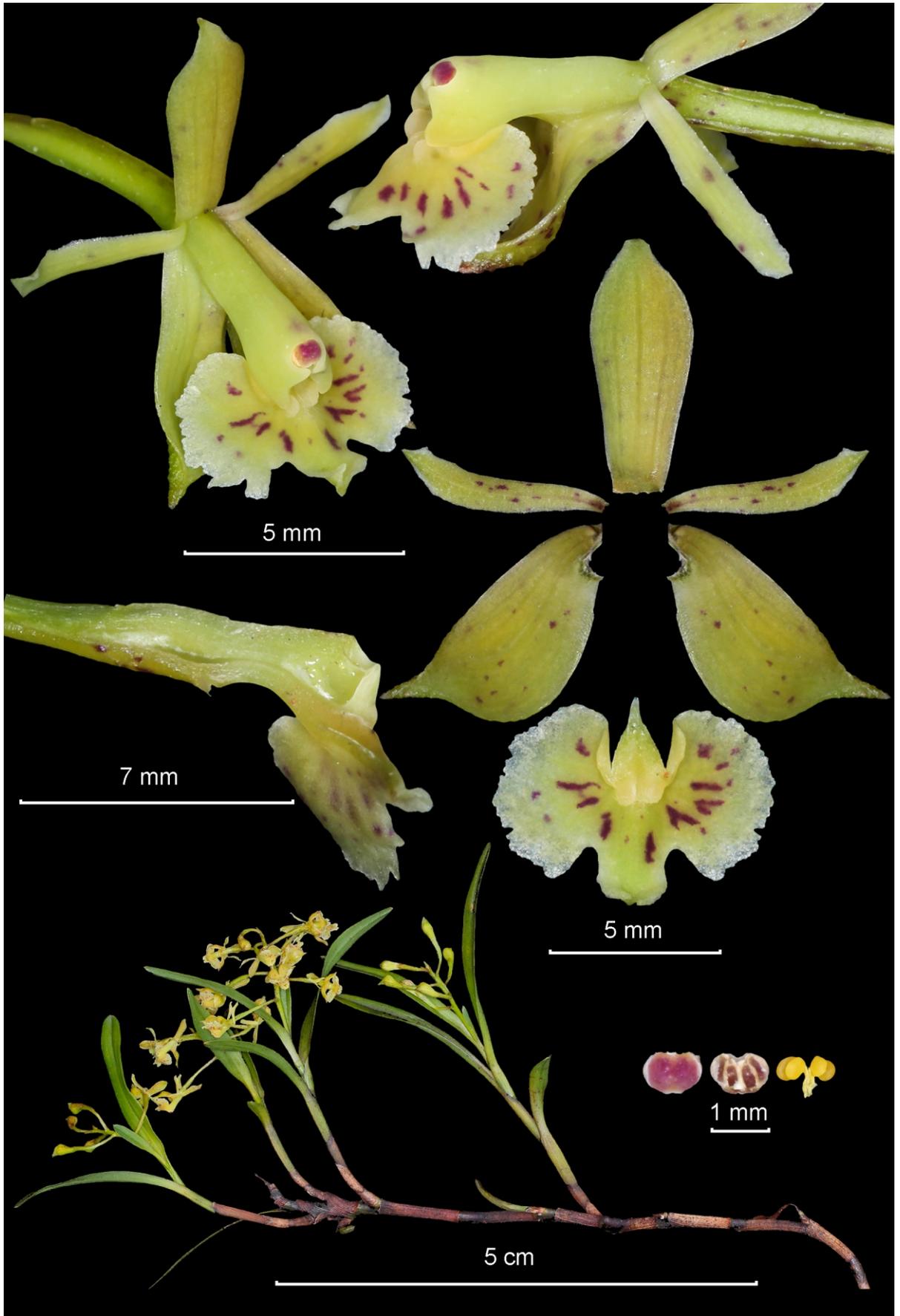
***NOTES:** In our plate of *E. ciliare* (Sánchez & Hágsater 2010) we considered *E. viscidum* as its synonym and included a drawing of the latter, and the corresponding specimens in the appendix. The plant illustrated in Loddiges' Botanical Cabinet, (Loddiges 1817: t. 10) which has a mature pseudobulb with 3 leaves, is *E. cuspidatum* G.Lodd. Hemsley (1883) indicates that there are specimens of *E. ciliare* var. *viscidum* in Guatemala as well as widespread in the West Indies and tropical South America. There seem to be some specimens from Mesoamerica flowering from a young stem with few flowers but require more study to understand the live material in the field.

ETIMOLOGY: From the Latin *viscidum*, sticky, in reference to the sticky substance that covers the floral bracts.

VERNACULAR NAME AND USES: Specimen *Bernal-Ramírez et al. 501*, MEXU! Indicates the local name as "pegamento" and "negochx" (Mixe language), indicating the artisanal use consisting of cooking the pseudobulbs on hot coals and the juices used as glue for the manufacturing of musical instruments.

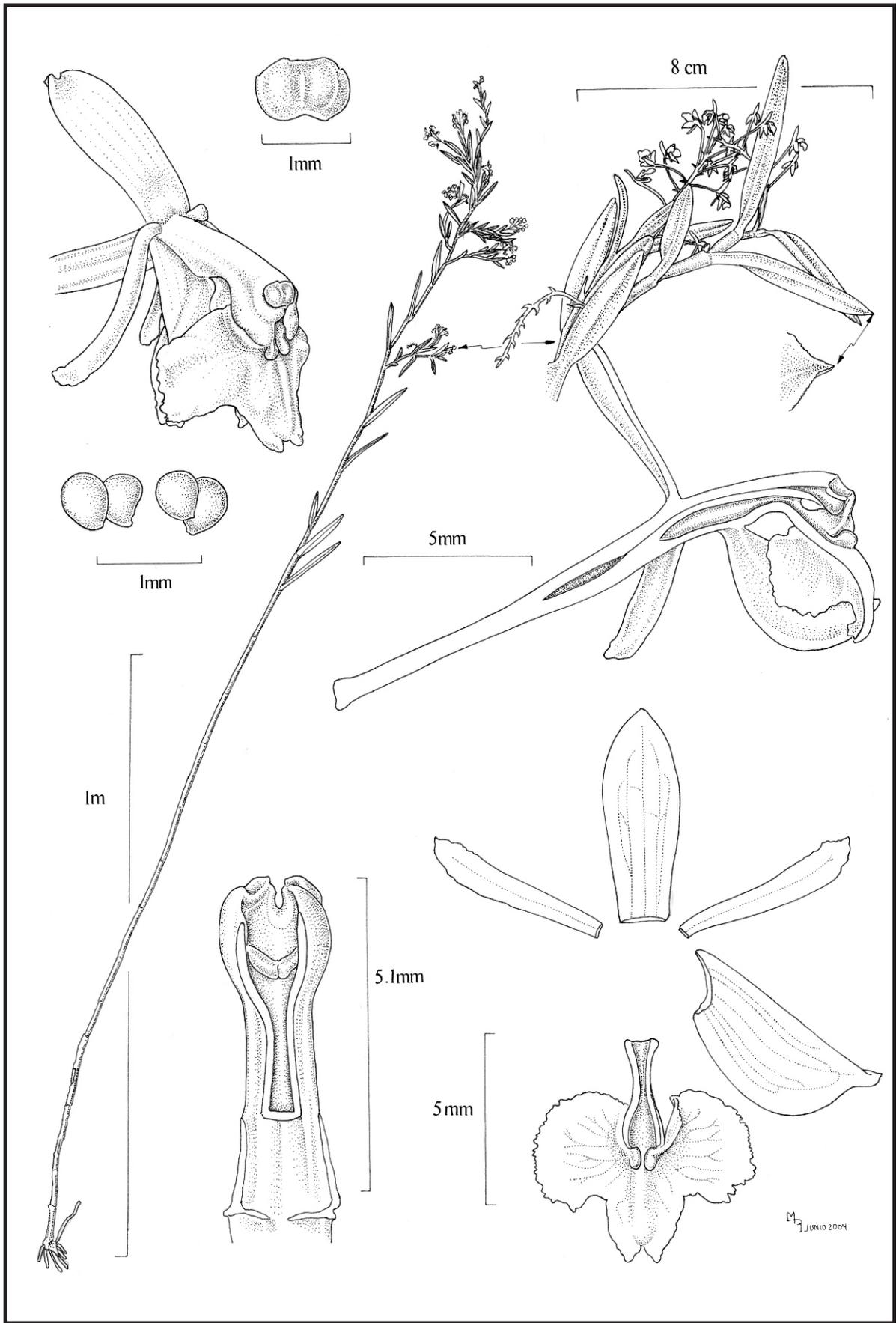
ACKNOWLEDGMENT: We want to thank Biól. Jerónimo Reyes Santiago, contemporary botanist of the Jardín Botánico del Instituto de Biología, Universidad Nacional Autónoma de México, Ciudad de México, who collected live material, brought it to our attention and shared it with Salazar.

REFERENCES: Hágsater, E. & L. Sánchez S., 2008, *Epidendrum cilioccidentale* in E. Hágsater & L. Sánchez S. (Eds.), The Genus *Epidendrum*, Part 7, **Icon. Orchid.** 11: pl. 1110. Hemsley, W.B., 1883, *Epidendrum ciliare* var. *viscidum* in F.D.C. Godman & O. Salvin (Eds.), **Biol. Centr. Am.; Bot** 3: 228. Loddiges, G., 1817, *Epidendrum cuspidatum* in C. Loddiges (Ed.), **Bot. Cab.** 1(1): t. 10. Lindley, J., 1840, Miscellaneous Notices of the Botanical Register, **Edwards's Bot. Reg.** 26: 1-89. Sánchez S., L. & E. Hágsater, 2010, *Epidendrum ciliare* in E. Hágsater & L. Sánchez S. (Eds.), The Genus *Epidendrum*, Part 9, **Icon. Orchid.** 13: pl. 1317. Sánchez S., L. & E. Hágsater, 2018, *Epidendrum megalemmum* in E. Hágsater & E. Santiago (Eds.), The Genus *Epidendrum*, Part 12, **Icon. Orchid.** 16(1): pl. 1641.



EPIDENDRUM YPSILUM Hágsater & E.Santiago

Plate 1949a



EPIDENDRUM YPSILUM Hágsater & E.Santiago

Plate 1949b

EPIDENDRUM YPSILUM Hágsater & E.Santiago, Icon. Orchid. 8: t. 900. 2006.

Type: PERU: Amazonas: Prov. Chachapoyas: middle eastern Calla Calla slopes, near km 415-418 of Leimebamba-Balsas road, 2900-3150 m, 20 August 1962, **John J. Wurdack 1735**. Holotype US 2403924! (Illustration voucher). Isotype: USM 167286!

Epiphytic, monopodial, branched, ascendent **herb**, to 185 cm tall. **Roots** 2.0-3.3 mm in diameter, basal, fleshy, white, thick. **Stem** profusely branched sub-apically, cane-like, terete erect, straight, primary stem 140 x 0.5-0.8 cm, branches 2.8-13 x 0.1-0.33 cm, also branching sub-apically; basal half covered by sheaths 10-25 x 2-8 mm, non-foliar, tubular, striate. **Leaves** numerous, distributed along apical half of stems, ca. 27 on primary stem, 3-10 on branches, alternate, articulate, sub-coriaceous, sub-erect, slightly arched, unequal in size, apical leaf always smaller; sheaths 0.4-3.5 x 0.2-0.8 cm, tubular to infundibuliform, striate, rugose, greenish yellow to brown; blades 5-12 x 0.6-1.1 cm, on primary stem; 1.3-6.7 x 0.3-0.7 cm, on branches, narrowly oblong to oblong-lanceolate, apex obtuse, apiculate, margin entire, spreading. **Spathe** lacking. **Inflorescence** 2.7-4.5 cm long, racemose, erect to slightly arching, sparsely flowered; peduncle 0.8-2.1 cm long, terete, slender; rachis 0.9-2.5 cm long. **Floral bracts** 3-6 mm long, much shorter than ovary, membranaceous, narrowly triangular, acuminate, embracing. **Ovary** 10-15 mm long, terete, thin, straight, 3-furrowed, greenish yellow with vinaceous dots. **Flowers** 5-20 per branch, opening in succession, though eventually all open simultaneously, resupinate or not, sepals, petals and lip yellow-green with sparse vinaceous dots, lip white towards margins, with vinaceous radiating short lines on disc, calli light yellow, column yellow-green; strong fragrance of honey and cloves. **Sepals** free, margins entire; dorsal sepal 6.2-7.0 x 2.3-3.0 mm, spreading to slightly reflexed, oblong-oblancheolate, apex obtuse, 5-veined, slightly convex, margin somewhat revolute; lateral sepals 7-8 x 2.7-3.5 mm, partly spreading, obliquely united to column, obovate, oblique, concave, unequal, aristate, apex acuminate, 7-veined, abaxially carinate, abaxially verrucose near to apex. **Petals** 6-7 x 0.9-1 mm, reflexed, free, linear-oblancheolate, sub-acute, margin slightly erose somewhat revolute. **Lip** 5-6 x 7-8 mm, 3-lobed, attached to column, base deeply cordate; bicallose, calli rounded, short; disc provided with a low keel, somewhat rugose and rounded at apex, elongate reaching apical sinus; lateral lobes 2.7-3.0 x 3.5-5.0 mm, flabelliform, margins irregularly crenate; mid-lobe 1.6-2.0 x 2.0-2.4 mm, sub-quadrate, apex generally emarginate, margin crenulate. **Column** 5-6 mm long, terete, smooth, slightly arching, thin at base, thickened ventrally towards apex. **Clinandrium-hood** short, margin entire. **Anther** sub-orbicular, 4-celled; anther cap reniform, cucullate, vinaceous. **Pollinia** 4, obovoid, yellow, laterally compressed; caudicles short, granulose; viscarium semi-liquid. **Rostellum** apical, slit. **Lateral lobes of stigma** small, occupying about 1/3 of stigmatic cavity. **Nectary** short, penetrating about 1/4 of pedicellate ovary, slightly inflated behind perianth, unornamented. **Capsule** not seen.

OTHER SPECIMENS: PERU: Amazonas: Prov. Chachapoyas, Distr. San Isidro de Maino, ACP Tilacancha, tierras de la comunidad campesina San Isidro de Maino, 3070 m, *Fernandez-Hilario 2149*, MOL! (digital images, AMO!) Abra Barro Negro, carretera de Celendín hacia Leimebamba, Cordillera Calla Calla, 3424 m, 6 X 2020, *Ocupa 269*, HUT! (LCDP and photo voucher).

OTHER RECORDS: None seen.

DISTRIBUTION AND ECOLOGY: This species is only known from two localities found in the province of Chachapoyas, Amazonas, northern Peru. These are high mountain passes in a range of some 40 km. The ecosystems, which range from 3070 to 3600 m elevation, are Tropical Montane Rainforest, which is characterized by the presence of many shrubs and few trees, and the climate is rainy and cloudy.

RECOGNITION: *Epidendrum ypsilum* belongs to the Soratae Subgroup of the Scabrum Group which is characterized by the branching habit starting on a monopodial primary stem, the infundibuliform, rugose leaf-sheaths, the lanceolate, aristate, acute leaves, the racemose subcapitate inflorescence on a short, thin peduncle, and the bicallose lip. The species is recognized by the plants to 185 cm tall, the stems sub-apically branched, leaves 5-12 cm long on the primary stem, narrowly oblong to oblong-lanceolate, the inflorescence 2.7-4.5 cm long, with up to 20 flowers yellow-green, dotted red, the sepals 6.2-8 mm long, the lip 3-lobed with radiating red-wine colored lines and the petals linear-lanceolate and reflexed. *Epidendrum stictoglossum* Hágsater & D.Trujillo has plantas to 130 cm tall, but the coriaceous leaves 2.2-5.3 cm long are nearly parallel to the stems, the flowers 7-9, the sepals are dorsally red-purple, and ventrally yellow and the yellow lip dotted red, the sepals 9-12 mm long, and the petals partly spreading.

ETYMOLOGY: From the Greek $\upsilon\psi\eta\lambda\omicron\varsigma$, tall, high, in reference to the very tall, thin vegetative habit of the plant.

CONSERVATION STATUS: DD. Data deficient. Known only from the type locality, where it has been collected twice.

REFERENCES: Hágsater, E., & E. Santiago, 2006, *Epidendrum ypsilum* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 5, *Icon. Orchid.* 8: pl. 900. Hágsater, E., & D. Trujillo, 2007, *Epidendrum stictoglossum* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 6, *Icon. Orchid.* 9: pl. 992



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Plate 1949

Empty