

# ICONES ORCHIDACEARUM

Fascicle 17(2)  
THE GENUS EPIDENDRUM  
Part 13  
“Species New & Old in Epidendrum”

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# ICONES ORCHIDACEARUM

Fascicle 17(2), plates 1757 to 1800

## THE GENUS EPIDENDRUM

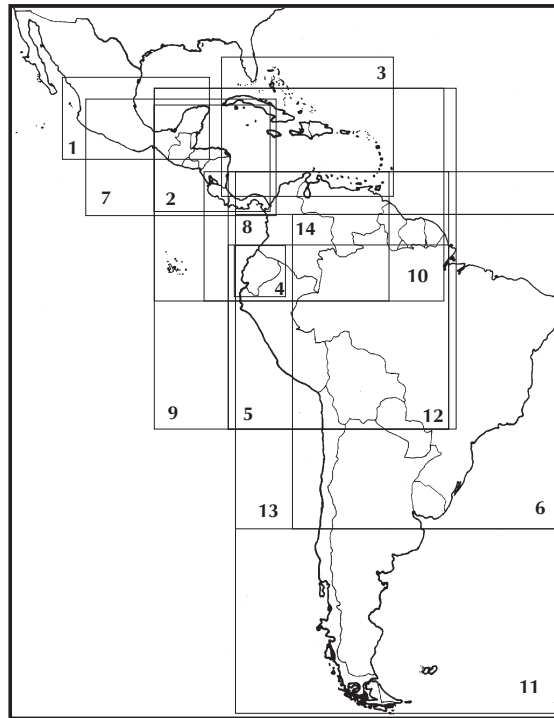
### Part 13

#### “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 17(2), plates 1757 to 1800

## THE GENUS *EPIDENDRUM* Part 13

### “Species New\* & Old in *Epidendrum*”

#### Index

FOREWORD.....	I
Dr. Carlos Simón García Esquivel.....	II-IV
Appendix 1: Corrections to earlier volumes and publication dates.....	V

<i>Epidendrum acjanacoense</i> Hágsater, E.Santiago & J.Duarte*	1757
<i>Epidendrum azulensis</i> D.E.Benn & Christenson.....	1758
<i>Epidendrum binasum</i> Hágsater & E.Santiago*.....	1759
<i>Epidendrum brenesii</i> Schltr. ....	1760
<i>Epidendrum breviyacuriense</i> Hágsater, H.Medina & J.Duarte*.....	1761
<i>Epidendrum campylonotum</i> Hágsater & Uribe Vélez*.....	1762
<i>Epidendrum chugurensis</i> Hágsater, E.Santiago, L.Dávila & Chilón*.....	1763
<i>Epidendrum constrictum</i> Hágsater & E.Santiago*.....	1764
<i>Epidendrum croceoserpens</i> Hágsater & Salas Guerr.*.....	1765
<i>Epidendrum curimarcense</i> Hágsater, W.C.Navarro & H.R.Quispe .....	1766
<i>Epidendrum galianoi</i> Hágsater, E.Santiago, J.Duarte & L.Valenz.*.....	1767
<i>Epidendrum geminisuborbiculatum</i> Hágsater, E.Santiago & Medina Tr.* .....	1768
<i>Epidendrum guanacastense</i> Ames & C.Schweinf. ....	1769
<i>Epidendrum holstii</i> Hágsater & Carnevali.....	1770
<i>Epidendrum huaytianum</i> Hágsater*.....	1771
<i>Epidendrum hurtadoi</i> Hágsater, Uribe Vélez & De Arcos*.....	1772
<i>Epidendrum incognitum</i> Hágsater, E.Santiago & J.Duarte*.....	1773
<i>Epidendrum kosnipataense</i> Hágsater, E.Santiago & J.Duarte*.....	1774
<i>Epidendrum lavendulum</i> Hágsater*.....	1775
<i>Epidendrum leucosmoalpicola</i> Hágsater & García-Llatas*.....	1776
<i>Epidendrum liguliferum</i> C.Schweinf. ....	1777
<i>Epidendrum lutescens</i> Hágsater, E.Santiago & J.Duarte*.....	1778
<i>Epidendrum maderoi</i> Schltr. ....	1779
<i>Epidendrum malmoense</i> Hágsater, C.Castro & Betancur* .....	1780
<i>Epidendrum montiargentatum</i> Hágsater, E.Santiago & Á.J.Pérez* .....	1781
<i>Epidendrum nasturtichilum</i> Hágsater & E.Santiago*.....	1782
<i>Epidendrum nigrivinosum</i> Hágsater, E.Santiago & Á.J.Pérez*.....	1783
<i>Epidendrum olmedoense</i> Hágsater*.....	1784
<i>Epidendrum pallidovirens</i> Hágsater, E.Santiago & J.Duarte*.....	1785
<i>Epidendrum paniculorugulosum</i> Hágsater & E.Santiago*.....	1786
<i>Epidendrum</i> × <i>pinheiroi</i> Hágsater*.....	1787
<i>Epidendrum pogonochilum</i> Carnevali & G.A.Romero.....	1788
<i>Epidendrum polygonatum</i> Lindl. ....	1789
<i>Epidendrum polystachyum</i> Kunth .....	1790
<i>Epidendrum porquerense</i> F.Lehm. & Kraenzl. ....	1791
<i>Epidendrum pseudomagnisaxicola</i> L.Valenz., E.Santiago & Hágsater*.....	1792
<i>Epidendrum pseudospathoides</i> Hágsater & E.Santiago*.....	1793
<i>Epidendrum renzii</i> Garay & Dunst. ....	1794
<i>Epidendrum repaskyae</i> Hágsater, E.Santiago & J.Duarte*.....	1795

<i>Epidendrum saxicola</i> Kraenzl. ....	1796
<i>Epidendrum sholletiae</i> Hágsater, L.Valenz. & J.Duarte* .....	1797
<i>Epidendrum trulliforme</i> Garay & Dunst. ....	1798
<i>Epidendrum wayqechaense</i> Hágsater, E.Santiago & J.Duarte* .....	1799
<i>Epidendrum yacuriense</i> Hágsater & H.Medina* .....	1800

# ICONES ORCHIDACEARUM

Fascicle 17(1-2), plates 1701 to 1800

## THE GENUS *EPIDENDRUM*

### Part 13

#### “Species New\* & Old in *Epidendrum*”

#### Index

<i>Epidendrum acjanacoense</i> Hágsater, E.Santiago & J.Duarte*	1757
<i>Epidendrum acrolithophilum</i> Hágsater & E.Santiago*	1701
<i>Epidendrum albomarginatum</i> Rchb.f.	1702
<i>Epidendrum ampliracemum</i> C.Schweinf.	1703
<i>Epidendrum apahuense</i> Mansf.	1704
<i>Epidendrum aquilalatum</i> Hágsater & E.Santiago*	1705
<i>Epidendrum azuayense</i> Hágsater & E.Santiago*	1706
<i>Epidendrum azulensis</i> D.E.Benn & Christenson.	1758
<i>Epidendrum beatricis</i> Hágsater & Uribe Vélez*	1707
<i>Epidendrum binasum</i> Hágsater & E.Santiago*	1759
<i>Epidendrum brenesii</i> Schltr.	1760
<i>Epidendrum brevicillosum</i> Hágsater & E.Santiago*	1708
<i>Epidendrum breviyacuriense</i> Hágsater, H.Medina & J.Duarte*	1761
<i>Epidendrum camilae</i> Collantes & Hágsater*	1709
<i>Epidendrum campylonotum</i> Hágsater & Uribe Vélez*	1762
<i>Epidendrum caranquii</i> Hágsater & Salas-Guerr.*	1710
<i>Epidendrum chloronanum</i> Hágsater & Cisneros*	1711
<i>Epidendrum choccei</i> M.E.Acuña, Hágsater & E.Santiago	1712
<i>Epidendrum chugureense</i> Hágsater, E.Santiago, L.Dávila & Chilón*	1763
<i>Epidendrum citroserpens</i> Hágsater, Cisneros & J.Duarte*	1713
<i>Epidendrum constrictum</i> Hágsater & E.Santiago*	1764
<i>Epidendrum coroshaense</i> Hágsater, Edquén & E.Santiago*	1714
<i>Epidendrum croceoserpens</i> Hágsater & Salas Guerr.*	1765
<i>Epidendrum cryptopateras</i> Hágsater & Courtinard*	1715
<i>Epidendrum cuencanum</i> Schltr.	1716
<i>Epidendrum curimarcense</i> Hágsater, W.C.Navarro & H.R.Quispe	1766
<i>Epidendrum cyparisii</i> Hágsater, Charly & Viscardi*	1717
<i>Epidendrum deorsus</i> Hágsater & E.Santiago*	1718
<i>Epidendrum</i> × <i>elongatum</i> Jacq.	1719
<i>Epidendrum falsigarayi</i> Hágsater & Karremans*	1720
<i>Epidendrum fruticetorum</i> Schltr.	1721
<i>Epidendrum galianoi</i> Hágsater, E.Santiago, J.Duarte & L.Valenz.*	1767
<i>Epidendrum garayi</i> Løjtnant	1722
<i>Epidendrum gelisii</i> Hágsater*	1723
<i>Epidendrum geminiflorum</i> Kunth	1724
<i>Epidendrum geminiochraceum</i> Hágsater, E.Santiago & Medina Tr.*	1725
<i>Epidendrum geminisuborbiculatum</i> Hágsater, E.Santiago & Medina Tr.*	1768
<i>Epidendrum grenadense</i> Hágsater & E.Santiago*	1726
<i>Epidendrum guanacastense</i> Ames & C.Schweinf.	1769
<i>Epidendrum holochilum</i> (Schltr.) Mansf. ex Hágsater	1727
<i>Epidendrum holstii</i> Hágsater & Carnevali	1770
<i>Epidendrum huaytianum</i> Hágsater*	1771
<i>Epidendrum hurtadoi</i> Hágsater, Uribe Vélez & De Arcos*	1772
<i>Epidendrum idroboi</i> Hágsater*	1728
<i>Epidendrum incognitum</i> Hágsater, E.Santiago & J.Duarte*	1773

<i>Epidendrum integrinum</i> Hágsater*	1729
<i>Epidendrum kosnipataense</i> Hágsater, E.Santiago & J.Duarte*	1774
<i>Epidendrum labrychilum</i> Hágsater, Edquén & E.Santiago*	1730
<i>Epidendrum lanioides</i> Schltr.	1731
<i>Epidendrum lavendulum</i> Hágsater*	1775
<i>Epidendrum leuconanum</i> Hágsater & L.Valenz.*	1732
<i>Epidendrum leucosmoalpicola</i> Hágsater & García-Llatas*	1776
<i>Epidendrum liguliferum</i> C.Schweinf.	1777
<i>Epidendrum lutescens</i> Hágsater, E.Santiago & J.Duarte*	1778
<i>Epidendrum macrolinizae</i> Hágsater, Cisneros & J.Duarte*	1733
<i>Epidendrum maderoi</i> Schltr.	1779
<i>Epidendrum magnicallosum</i> C.Schweinf.	1734
<i>Epidendrum magnisaxicola</i> Hágsater, Edquén & E.Santiago*	1735
<i>Epidendrum malmoense</i> Hágsater, C.Castro & Betancur*	1780
<i>Epidendrum mamapachae</i> Hágsater, F.O.Espinoza & E.Santiago*	1736
<i>Epidendrum maniespinosarum</i> Hágsater & F.O.Espinoza*	1737
<i>Epidendrum massif-hottense</i> Hágsater*	1738
<i>Epidendrum megagastrium</i> Lindl.	1739
<i>Epidendrum meracryptanthum</i> Hágsater & E.Santiago*	1740
<i>Epidendrum milpoëense</i> Hágsater & E.Santiago*	1741
<i>Epidendrum montiargentatum</i> Hágsater, E.Santiago & Á.J.Pérez*	1781
<i>Epidendrum montischillaense</i> Hágsater, E.Santiago & Zambrano*	1742
<i>Epidendrum morochoi</i> Hágsater*	1743
<i>Epidendrum nasturtichilum</i> Hágsater & E.Santiago*	1782
<i>Epidendrum neoporpax</i> Ames.	1744
<i>Epidendrum nigrivinosum</i> Hágsater, E.Santiago & Á.J.Pérez*	1783
<i>Epidendrum</i> × <i>obrienianum</i> Rolfe	1745
<i>Epidendrum olmedoense</i> Hágsater*	1784
<i>Epidendrum orbicordichilum</i> Hágsater & E.Santiago*	1746
<i>Epidendrum palalabrum</i> Hágsater*	1747
<i>Epidendrum pallidovirens</i> Hágsater, E.Santiago & J.Duarte*	1785
<i>Epidendrum paniculorugulosum</i> Hágsater & E.Santiago*	1786
<i>Epidendrum</i> × <i>pinheiroi</i> Hágsater*	1787
<i>Epidendrum pogonochilum</i> Carnevali & G.A.Romero.	1788
<i>Epidendrum polygonatum</i> Lindl.	1789
<i>Epidendrum polystachyum</i> Kunth	1790
<i>Epidendrum porquerense</i> F.Lehm. & Kraenzl.	1791
<i>Epidendrum praeteritum</i> Hágsater*	1748
<i>Epidendrum pseudomagnisaxicola</i> L.Valenz., E.Santiago & Hágsater*	1792
<i>Epidendrum pseudospathoides</i> Hágsater & E.Santiago*	1793
<i>Epidendrum puniceoluteum</i> F.Pinheiro & F.Barros.	1749
<i>Epidendrum renzii</i> Garay & Dunst.	1794
<i>Epidendrum repaskyae</i> Hágsater, E.Santiago & J.Duarte*	1795
<i>Epidendrum rimarachinii</i> Hágsater*	1750
<i>Epidendrum riverae</i> Hágsater*	1751
<i>Epidendrum rocioae</i> Hágsater & Vásquez*	1752
<i>Epidendrum saxicola</i> Kraenzl.	1796
<i>Epidendrum sholletiae</i> Hágsater, L.Valenz. & J.Duarte*	1797
<i>Epidendrum trullatum</i> Hágsater, L.Valenz. & E.Santiago*	1753
<i>Epidendrum trulliforme</i> Garay & Dunst.	1798
<i>Epidendrum tundaycirrhatum</i> Hágsater & Tobar*	1754
<i>Epidendrum vesicinatum</i> Hágsater & L.Valenz.*	1755
<i>Epidendrum wayqechaense</i> Hágsater, E.Santiago & J.Duarte*	1799
<i>Epidendrum xelidorimarachinii</i> Hágsater & E.Santiago*	1756
<i>Epidendrum yacuriense</i> Hágsater & H.Medina*	1800

# ICONES ORCHIDACEARUM

Fascicle 17(2), plates 1757 to 1800

## THE GENUS *EPIDENDRUM*

Part 13

Species New & Old in *Epidendrum*

### FOREWORD

In the short time since the publication of the first part of volume 17 last October, we have lost two close friends and outstanding orchidologists. Carlyle A Luer, in Sarasota, Florida, the Pleurothallid man. More recently Carlos Garcia Esquivel in Caracas, Venezuela, on April 10<sup>th</sup>, 2020, to whom we dedicate this issue. We reproduce a eulogy written by his close Venezuelan orchid specialists, Germán Carnevali, Ivón Ramírez and Gustavo Romero.

I met Carlos around 1975, and maintained correspondence with him since then, visiting him for the last time in January 2013 when I visited Venezuela together with Gustavo Romero. He was always enthusiastic, eager to have other opinions and knew the orchids of Venezuela and internationally well. It was in 1993 that Luis Sánchez and I dedicated *Epidendrum garcia-esquivelii* Hágsater & L.Sánchez, a member of the Difforme group, to Carlos, as he had given me the plant that we used as a type. We often traded plants and he was especially interested in Mexican *Encyclia*.

Of the 44 species monographed, 30 are new to science and 14 have been published elsewhere, at least one of them as recently as one month ago. One of the new ones is a natural hybrid, *Epidendrum* × *pinheiroi* Hágsater, from coastal southern Brazil, which has been thoroughly studied in the field, and is an example of population and natural hybridization dynamics in the Schistochilum Group throughout South America and the Lesser Antilles (the group is referred to as subgenus *Amphylottium* in Brazil). More examples of such natural hybrids are in the process of being studied. The fact that such natural hybrids are common in this group, should not be extrapolated to other *Epidendrum* groups.

Of the 44 species, 21 correspond to Peru, 12 each to Colombia and Ecuador, but 4 are found near the border between Ecuador and Peru, so they are bound to be found in the other country. Venezuela has 3, there are 2 each for Bolivia, Brazil and Costa Rica, and one each for Panama, Guyana and Cuba. Most are limited in their known distribution, but at least two are widely distributed from northern Colombia/Venezuela to Peru or Bolivia, and interestingly a species from the pacific coast of Costa Rica and Panama has appeared in the Amazon basin of Ecuador.

In this issue, we have tackled a group of species which have been lumped broadly under the name *Epidendrum saxicola* Kraenzl. and are distributed mainly in Peru and a few in Bolivia. As usual, it has taken extensive herbarium and field work, in addition to interacting with several local botanists and collectors, as well as photographers and searching the internet. We found a wonderful collection of images of live flowers and herbarium specimens at the Botanical Research Institute of Texas, BRIT, in Fort Worth, Texas, -- the work of Rebecca Repasky, currently a physician, but in her student days she studied the plant diversity at the Wayqecha Cloud Forest Research Station, in the Kosñipata Valley on the edges of the Manu National Park in Cusco, Peru. The increase in the availability of species images on the Internet by many Institutions and photographers is a valuable source of information. Without digital images of fresh flowers in color, it would have been impossible to recognize and delimit the species in this group. The result is 9 new species, mainly from Cusco and Pasco, which are proposed here. A couple of additional species are still in process and a few older ones are waiting for digital images from fresh flowers to be able to illustrate them.

We are now also working on digital interactive keys with DELTA (DEscription Language for TAXonomy) software version 30 September 2016 and later, published by Dallwitz and collaborators. In the Keys species are described using a matrix of more than 200 characters with their respective character state. By having all the characters available, it allows the determination of the specimen even if you do not have the important characters used for their determination, as happens with traditional dichotomous keys. Currently, the interactive keys for the species of the Macrostachyum, Difforme and Mancum groups are available on our site [www.herbarioamo.org](http://www.herbarioamo.org). We hope that orchid enthusiasts will use them to determine their dry or living material and can give us feedback to make the necessary adjustments to our matrixes. If you use them and do not come to a species illustration which coincides with your plant, it may always be a new, undescribed species. Do contact us!

We thank all the co-authors, photographers, illustrators and reviewers for helping us in this collaborative work.

Eric Hágsater

May 2020

Mexico City

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# A Eulogy for Carlos García Esquivel (1939-2020)\*

Germán Carnevali<sup>1,2,3</sup>, Ivón M. Ramírez-Morillo<sup>1</sup> & Gustavo A. Romero-González<sup>1,2</sup>

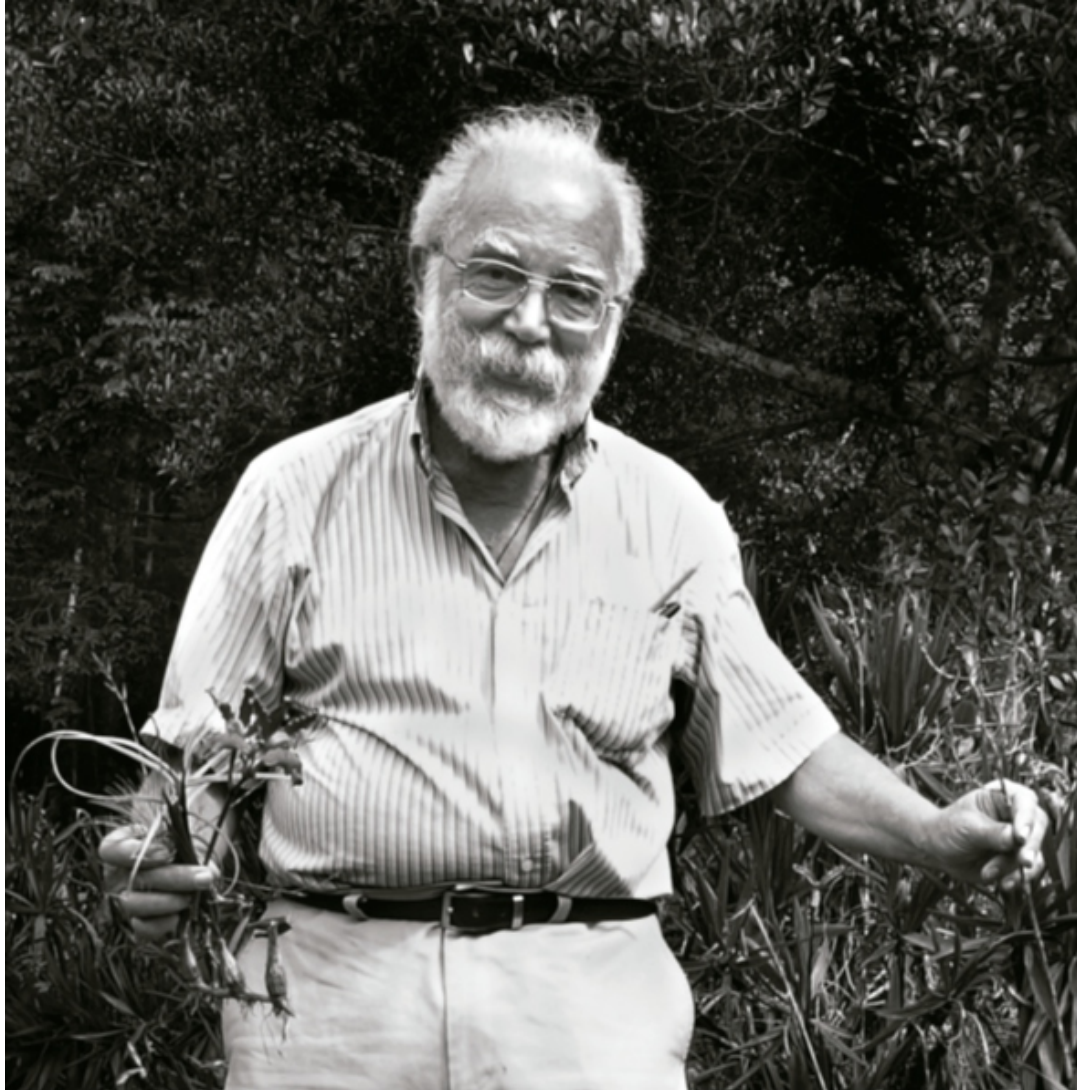


Photo by A. Zaslowski, Brazil, 2009.

Carlos Simón García Esquivel (CGE), commonly known by his orchid friends as “García Esquivel” or simply, “Esquivel” or “Dr. Esquivel”, was born in El Hatillo, Estado Miranda (at the outskirts of Caracas), Venezuela, in November 28, 1939. After his high school studies, in 1956, he became an associate of the La Salle Natural Sciences Foundation, where he begun collecting insects, orchids, and other plants. He entered medical school in 1956, at the Universidad de los Andes, Mérida, Venezuela, eventually obtaining his medical degree in 1960 at the Universidad Central de Venezuela in Caracas (he specialized in psychiatry and gastroenterology).

He collaborated with G.C.K. Dunsterville when the second volume of *Venezuelan Orchids Illustrated* was being prepared, where four of his orchid collections were treated, one of them named by Garay and Dunsterville after CGE for his efforts: *Epidendrum garcianum* Garay & Dunsterv. [now *Prosthechea garciana* (Garay & Dunsterv.) W.E.Higgins]. Eventually, 22 additional collections by CGE appeared in the following four volumes of this monumental work and, in the acknowledgments of the sixth and last volume, he was cited by the authors among a small group of “friends and colleagues” for their “...active participation and continuous interest”.

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*Prosthechea garciana*, one of the orchid species named after Carlos García Esquivel.  
Photo by F. Pupulin.

He also collaborated with Ernesto Foldats in the 1960's when the five volumes of Orchidaceae for the *Flora of Venezuela* were being prepared and eventually published in 1969 (the first volume) and 1970 (the four additional ones). CGE also collaborated with all subsequent Venezuelan orchid specialists (G. Carnevali, I. M. Ramírez-Morillo, G. A. Romero-González, and M. Speckmaier), all working in other countries today due to the diaspora of Venezuelan scientists, or with international experts interested in Venezuelan orchids (e.g., Eric Hágsater and collaborators at AMO for *Epidendrum*; Günter Gerlach for Stanhopeinae, and Carl Luer for the Pleurothallidinae), to whom he sent material and photographs as well as accounts of the habitats of the plants. Besides *Epidendrum garcianum*, he had four other species named after him: *Masdevallia garciae* Luer (syn: *Alaticaulia garciae* (Luer) Luer), *Pleurothallis garciae* Luer (= *Acianthera garciae* (Luer) Pridgeon & M.W.Chase), *Encyclia garcia-esquivelii* Carnevali & I.M.Ramírez, *Epidendrum garciaesquivelii* Hágsater & L.Sánchez, and *Kefersteinia carolorum* Carnevali & Cetzal (named both after him and his orchid friend Carlos Bello, of San Cristobal, Táchira). He was the co-discoverer of *Miltoniopsis santanaei* Garay & Dunsterv., the only Guayanan member of an otherwise west Andean genus; the plant was eventually named after Gustavo Santana, a fellow physician and orchid collector. We have two additional orchid species new to science that we planned to name after him, a species of *Rudolfiella*, and an *Anathallis*. He discovered many other species that were new to science at the time he collected them and further contributed documenting the distribution of many other orchid taxa.

His interests grew from Venezuelan orchids to the family worldwide, eventually acquiring an encyclopedic knowledge that was tapped by orchid scientists and *aficionados* alike. His orchid expertise spanned the taxonomy, distribution, and horticultural information for many orchids from all over the world, and also of people, places, and the history of Venezuelan orchid science and horticulture. He amassed a large and diverse orchid collection of his own, with an emphasis on species and primary hybrids. During part of his retirement, in the late 2000's, he held a job at the largest orchid nursery in Venezuela (Plantío La Orquídea, property of Enrique Graf), where he was in charge of the breeding program, and focused on selected orchid species and primary hybrids.

CGE was an activist in orchid societies, being a life-long member of several of them in Venezuela, and of international associations such as the American Orchid Society. He was frequently invited as a guest speaker and judge in orchid conferences, shows, and society meetings where he thrived sharing his knowledge with friends and fellow orchid lovers. In orchid shows, he would often be called upon to participate in the judgement of orchid species, both Venezuelan and from other countries. Many of us will remember him as a teacher and as a friend. He took genuine care of his friends (orchid and others) drawing from his experience as a psychiatrist and often provided needed council and support for them. He also was the ultimate collector: he wanted to possess the superlatives and diminutives of the genera he liked or aimed at having all of the members of a particular group (provided they could be grown under his conditions at his house in Caracas). He was particularly interested in *Coryanthes* and the mystery of its successful cultivation. CGE was also interested in *Encyclia*, *Schomburgkia*, and the Pleurothallidinae. If he was interested in an orchid species, we would become obsessed until obtaining it, often after years or decades of waiting. He kept his interest in insects (particularly Dynastid beetles) throughout his life, frequently asking friends and orchid aficionados to collect the beetles for him in their travels. Later in life, he developed an interest in parrots, doves, and cracid birds, and built a large collection of them. This ornithological collection (along with his orchid collection) demanded of him much time and effort, particularly during his last years, when he depended solely on his retirement money and the Venezuelan economy was less than buoyant.

As a physician, CGE would willingly share his knowledge and expertise, offering advice, and taking care of friends and relatives. He helped curing many seriously ill patients on a *pro bono* basis, just because they were his friends; a friend's friend or relative, or an orchid lover. As an individual, and even in the face of economic, family, and health hardship, CGE was always an engaging, jovial, cheerful, selfless person. He would attentively listen, closely staring at the eyes of his interlocutor, and showing genuine interest in him. You could always tell he was interested in the conversation by the way he would arch his brows while he listened. A conversation with CGE was always an adventure. He was a great storyteller, spinning engaging arguments, drawing from his almost photographic memory of people, places, and plants. His stories ranged from how he discovered and collected a particular plant, how he conceived a particular orchid cross (and what resulted from it) to the tales of how even his entire family would collaborate in the incubation and hatching of the eggs of his favorite birds. He would remember the names of his myriads of friends, even those that he had only met by mail.

He was the ultimate, old-fashioned, postal mail correspondent, even in the age of computers, e-mails, and the social media, which he would only reluctantly (and clumsily) use. His long letters were always meticulously handwritten with impeccable orthography and flawless calligraphy, and as a rule included a long list of the orchids he would like to obtain and what he would like to trade for them. For those of us who were lucky enough to receive these letters, they will be treasured and cherished as fond memories of a true friend that will be forever missed.

It is difficult to understand the history of Venezuelan orchidology during the last half century without CGE. He collaborated both with the orchid scientists and the orchid *aficionados* and was greatly cherished by both. He left a legacy of orchid knowledge as well as many friends and admirers who will miss his company and love for orchids.

CGE died Thursday, April 10, 2020, after the attack of thousands of Africanized honeybees in his house while taking care of his orchid collection in Caracas.



Carlos García Esquivel in his house in Caracas with a plant of *Orleanesia pleurostachys*, ca. 2012.  
Photo by G. Carnevali.

Acknowledgements. The authors would like to thank many individuals for their comments and suggestions to this homage, all friends of CGE. Among them, we would particularly like to acknowledge (in alphabetical order): María Belén Arreaza, Armando Betancourt, Gerardo Castiglione, César Fernández, Rafael Gorrochotegui, Ramón López, Armando Mantellini, Santos Michelena, Manfred Speckmaier, and Alek Zaslowski. The authors want to thank the staff of *Lankesteriana*, particularly Noelia Belfort, Adam Karremans, and Franco Pupulin for their interest and willingness that allowed us to put together this obituary in a matter of two days.

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

Eric Hágsater

**EPIDENDRUM** × **DOROTHEAE** P.H.Allen in Sánchez, L., & E. Hágsater, 2008, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 7, **Icon. Orchid.** 11: pl. 1119.

The name has changed to *Epidendrum* × **doroteae** P.H.Allen, and the holotype rediscovered, making the neotype superfluous. See Nelson, C.H. y E.Y. Guerrero, 2019, Redescubrimiento del holotipo de *Epidendrum* × *doroteae* P.H.Allen (Orchidaceae), CEIBA 50(1) 47-49. **Type: Hills east of the Yeguaire Valley, Department of Francisco Morazán, Honduras, 3200 ft. elevation in pine-oak woods. 28 October 1957. Only one plant seen, epiphytic on Quercus. [Paul & Dorothy] Allen 6786. Holotype EAP.**

**EPIDENDRUM FRUTICULUM** Schltr. in Santiago E., & E. Hágsater, 2009, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 8, **Icon. Orchid.** 12: pl. 1248.

The correct spelling of the specific epithet is *Epidendrum fruticulus*.

**EPIDENDRUM ORGYALE** Lindl. in Santiago E., & E. Hágsater, 2009, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 8, **Icon. Orchid.** 12: pl. 1268.

Specimen Hágsater 12350 corresponds to *Epidendrum citrochlorinum* Hágsater & Dodson, and the illustration as well, so both must be deleted. We do not have any illustration for *E. orgyale*.

**EPIDENDRUM PODOCARPENSE** Hágsater & E.Santiago, 2018 in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 12, **Icon. Orchid.** 16(2): pl. 1696.

New report for PERU: Piura: Huancabamba, El Carmen de la Frontera, Alturas de Nueva York, 3280-3555 m, 27 VII 2006, A. Cano 16709, USM!

**EPIDENDRUM PURPURASCENS** Focke in Sánchez, L., & E. Hágsater, 2008, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 7, **Icon. Orchid.** 11: pl. 1168.

The correct author citation is H.Focke, thus *Epidendrum purpurascens* **H.Focke**.

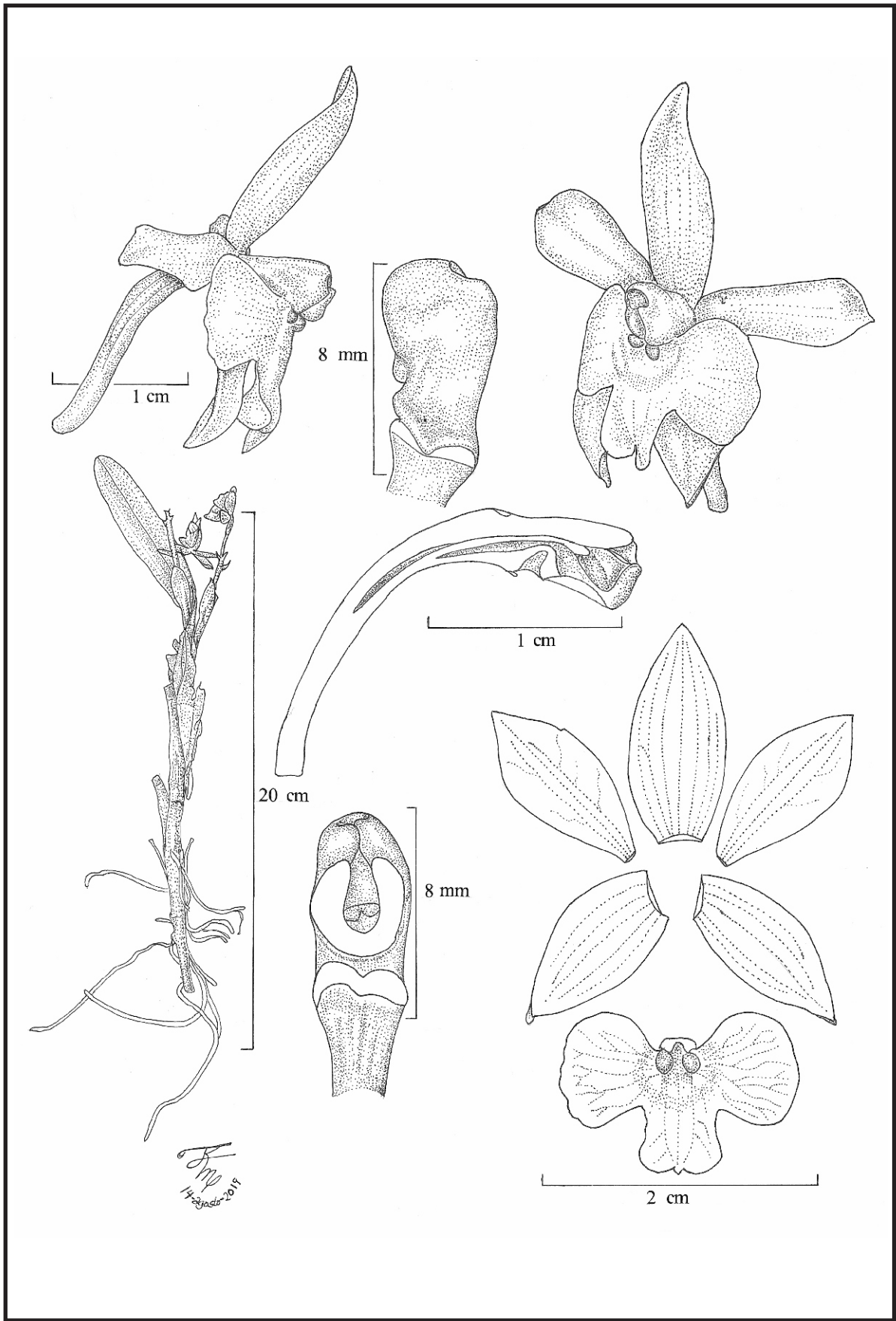
The specimens cited for Colombia correspond to the new *Epidendrum hurtadoi* Hágsater, Uribe Vélez & Arcos, published in this volume, and thus should be deleted there in Appendix page XXI.

**EPIDENDRUM SCABRUM** Ruiz & Pav. In Santiago E., & E. Hágsater, 2006, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 5, **Icon. Orchid.** 8: pl. 886.

Under Recognition, the species is compared to *Epidendrum platytilum* Schltr. The correct name there is *Epidendrum platyclinium* Hágsater & Dodson

### 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 is published on 11 May 2020



EPIDENDRUM ACJANACOENSE Hągsater, E.Santiago & J.Duarte

Plate 1757

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

Type: PERU: Cusco: Prov. Paucartambo, Parque Nacional del Manu, Acjanaco. Subida a Tres Cruces, 3400-3500 m, 3 mayo 1990, **Asunción Cano Echeverría 3364**. Holotype: USM! Isotype: MO! (illustration voucher).

Similar to *Epidendrum herreranum* C.Schweinf. but the leaves 4.0-8.2 x 1.3-1.8 cm (vs. hojas 9.5-12.7 x 1.6-2.2 cm), flowers purple brown (vs. flowers reddish brown), sepals 14-16 x 6-7 mm (vs. sepals 19.5-20.0 x 9-11 mm), petals 15 x 6.4 mm, obovate-elliptic (vs. petals 19 x 11 mm, rhombic-spatulate), and the lip 12 x 17.5 mm, lateral lobes sub-orbicular (vs. lip 12 x 27.6 mm, lateral lobes obliquely dolabriform).

Epiphytic, sympodial, caespitose, ascending herb, 15 cm tall including the inflorescence. **Roots** 0.3-0.6 mm in diameter, distributed along the rhizome, thin. **Stems** 4.5-5.0 x 0.6-0.8 cm, thin, forming fusiform pseudobulbs, furrowed and rugose, covered by a single sheath 5.2 cm long, membranaceous, acute, scarious, becoming fibrous with age, absent in old stems. **Leaf** 1, 4.0-8.2 x 1.3-1.8 cm, apical, articulate, coriaceous, crass, narrowly elliptic, apex obtuse, margin entire, spreading. **Spathe** 1, 2.5-2.7 cm long, apical, tubular, oblong, conduplicate, apex obtuse. **Inflorescence** 6.5-7.5 cm long including the flowers, apical from the developing stem, erect, racemose; peduncle 5 cm long, terete, thin, erect, straight, rachis 0.5-0.7 cm long. **Floral bracts** 2.0-4.0 mm long, much shorter than the ovary, triangular, acuminate, embracing. **Ovary** 1.6 cm long, terete, thin, arched, furrowed. **Flowers** 3, simultaneous, non-resupinate, purple-brown; fragrance not registered. **Sepals** 14-16 x 6.0-7.0 mm, spreading, free, elliptic, acute, margin entire, spreading; dorsal sepals 7-veined, lateral sepals 5-veined with a low short, apical dorsal keel. **Petals** 15 x 6.4 mm, spreading, free, obovate-elliptic, acute, 3-veined, the lateral veins short-branched, margin entire, spreading. **Lip** 12.0 x 17.5 mm, united to the column, 3-lobed, base cordate, margins entire; bicallose, the calli globose, small, fleshy; disc with a fleshy mid-rib reaching the apical sinus and forming the apiculus; lateral lobes 6.8-7.0 x 8.0-8.2 mm, sub-orbicular, mid-lobe 5 x 6 mm, sub-quadrate, apex short bilobed with a small apiculus in the sinus, the lobules rounded. **Column** 8 mm long, short, thick, constricted at the base, apex with a pair of wide, rounded lateral wings. **Clinandrium-hood** short, margin entire. **Rostellum** apical, slit. **Anther** not seen. **Pollinia** not seen. **Lateral lobes of the stigma** small, occupying 1/4 the length of the stigmatic cavity. **Nectary** penetrating 1/4 the ovary, narrow, constricted at the basal 1/3 of the column, unornamented. **Capsule** ellipsoid, 4.8 cm de largo, pedicel 8.0 mm, body 2.7-1.9 cm, apical neck 12.0 mm long.

**OTHER SPECIMENS:** PERU: Cusco: Prov. Paucartambo: Parque Nacional del Manu, Acjanaco, 3000-3100 m, 7 V 1990, *Cano 3561*, MO! USM!

**OTHER RECORDS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Known presently only from the top of the eastern Andean range in southern Peru at the entrance of the Manú National Park, at 3000-3500 m altitude, scarce and epiphytic in tall *pajonal* with abundant shrubs. Flowering in May.

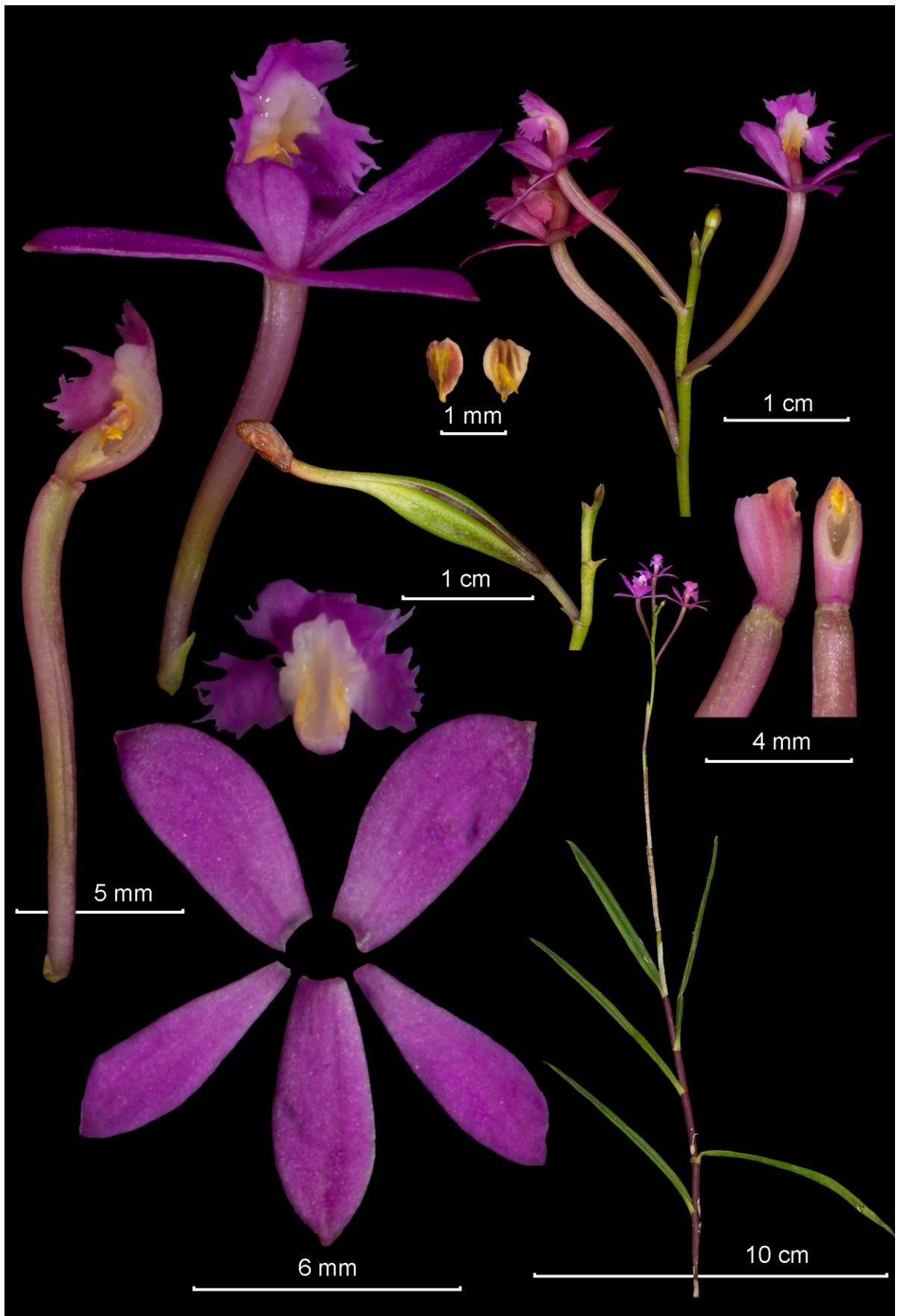
**RECOGNITION:** *Epidendrum acjanacoense* belongs to the Saxicola Group characterized by the fusiform pseudobulbous stems, the caespitose or scandent habit, the prominent spathe apically rounded, the few-flowered, erect inflorescence, the flowers purple or yellow, and surface of the vegetative structures often rugose. The new species is recognized by the purple-brown flowers, sepals 14-16 mm long, elliptic, petals 15 x 6.4 mm, obovate-elliptic, lip 3-lobed, lateral lobes sub-orbicular, base cordate, mid-lobe sub-quadrate, apex short bilobed with a small apiculus in the sinus. It is similar to *Epidendrum herreranum* C.Schweinf. which has yellow flowers tinged orange to reddish bronze, sepals 19.5-20.0 mm, ovate-elliptic, petals 19 x 11 mm, rhombic-spatulate, lateral lobes of the lip obliquely dolabriform with the inner margins truncate and the mid-lobe flabellate with the apex retuse and a pair of sub-orbicular lobules. *Epidendrum tetartociclum* Collantes & Hágsater has sepals pale-green to creamy green, petals and lip creamy green to citrus yellow, sepals 25-26 mm long, elliptic, petals 24 x 8 mm, oblong-elliptic to oblong-obtrullate, the lateral lobes of the lip shaped like a quarter circle, and the mid-lobe with quadrate isthmus, abruptly dilating into a pair of lobes which are rounded to sub-deltoid, apex retuse. *Epidendrum monzonense* Kraenzl. has brown sepals, 15 mm long, oblong, and the lip yellow, lateral lobes of the lip dolabriform, the mid-lobe widely obcordate, cuneate, with an apical mucronate sinus, the apiculus fleshy. *Epidendrum wayqechaense* Hágsater, E.Santiago & J.Duarte has creamy white flowers, sepals 13 mm long, obovate elliptic to elliptic, petals 13 x 2.5 mm, narrowly spatulate-oblancoolate, the lateral lobes of the lip dolabriform, and the mid-lobe sub-quadrate, revolute in natural position. *Epidendrum repaskyae* Hágsater, E.Santiago & J.Duarte has creamy white flowers with the disc yellow, sepals and petals arching forward and this forming a cup, sepals 11 mm long, petals 10 x 5 mm, lateral lobes of the lip sub-quadrate, corners rounded, and the mid-lobe sub-quadrate, apex truncate with the margin revolute, appearing emarginate.

**CONSERVATION STATUS:** DD. Data deficient. Presently known only from a couple of specimens from the same locality.

**ETYMOLOGY:** In reference to the Abra de Acjanaco at the entrance to the Manu National Park, where the species has been collected. According to local tradition the Quechua name *Acja* means Chicha (a fermented or non-fermented corn beverage), so *Acjanaco* would be derived from *Acjanacuy*, which means "Cordially serve yourself a Chicha". An *Abra* is a west-east pass across the Andes, where a ravine or a river crosses the Andes. The etymology of the word is debated, but apparently derives from the Quechua word "anti" which means east, as in *Antisuyu*, the eastern region.

**REFERENCES:** Collantes, B., & E. Hágsater, 2012, *Epidendrum tetartociclum* in E. Hágsater & L. Sánchez S. (eds), The Genus *Epidendrum*, Part 10, **Icon. Orchid.** 14: pl. 1487. Hágsater, E., & B. Collantes, 2013, *Epidendrum herreranum* in E. Hágsater & L. Sánchez S. (eds), The Genus *Epidendrum*, Part 10, **Icon. Orchid.** 14: pl. 1438. Kränzlin, F.W.L., 1905, *Epidendrum monzonense* in **Reperit. Spec. Nov. Regni Veg.** 1: 88. Hágsater, E., & E.Santiago, 2020, *Epidendrum repaskyae* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(2): pl. 1795. Hágsater, E., E. Santiago & J. Duarte, 2020, *Epidendrum wayqechaense* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(2): pl. 1799.





EPIDENDRUM AZULENSIS D.E.Benn. & Christenson

Plate 1758

**EPIDENDRUM AZULENSIS** D.E.Benn. & Christenson, *Icon. Orchid. Peruvianum* t. 452. 1998.

Type: PERU: Huánuco: Leoncio Prado: Cordillera Azul, 1480 m, 16 November 1986, *David & Aurora Bennett & Manuel Arias 3726*. Lectotype (here designated) MOL! Though Bennett & Christenson indicated USM as the place where the type was deposited, most of his material is found unlabeled at MOL.

Epiphytic, sympodial, caespitose **herb**, 20-50 cm tall including the inflorescence. **Roots** 1 mm in diameter, basal, terete, fleshy, white. **Stems** 3.0-8.4 x 0.4 cm, simple, cane-like, terete to slightly compressed towards the apex, thin, covered by foliar sheaths. **Leaves** 3-5, distichous, distributed along the upper 2/3 of the stem; sheaths 1.2-2.0 cm long, tubular, smooth, papyraceous when dry; blade 5.0-6.0 x 0.4 cm, linear-lanceolate, apex acute to obtuse, articulate, coriaceous, smooth, green, margins entire. **Spathe** lacking. **Inflorescence** 12.4 cm long, racemose to pluri-racemose, laxly flowered, cylindrical; peduncle 9.4 cm long, elongate, covered by 4 tubular, imbricated bracts 1.5 cm long, acute, scarious when dry, striated, papyraceous; rachis 1.9 cm long. **Floral bracts** 2.0-2.6 x 0.7-1.0 mm, much shorter than the ovary, decreasing in size, triangular, acuminate, embracing. **Flowers** ca. 5, successive, 3 open at a time, non-resupinate, deep violet, column pink, callus white, slightly tinged with pale yellow at the base; flowers turn red when pollinated or aging; fragrance none. **Ovary** 15 mm long, terete, thin, not inflated, rose colored tinged green, furrowed. **Sepals** 6.0-6.5 x 2.0-2.8 mm, spreading, apex obtuse to rounded, 5-veined, margin entire, spreading; dorsal sepal narrowly lanceolate-oblong, lateral sepals obovate-oblong. **Petals** 6.2 x 2.0 mm, extended, lanceolate, 3-veined, margin entire, spreading. **Lip** 3.9 x 5.2 mm, united to the column, 3-lobed, concave, arched ventrally in front of the column, base cordate, margin lacinate, 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; lateral lobes 1.8-1.9 x 1.6-2.0 mm, sub-ovate; mid-lobe 2.0 x 1.7 mm, sub-quadrate, emarginate, divergent, with an minutely apiculate sinus. **Column** 4.0 mm long, arcuate, wider at the apex, with a pair of apical recurved fleshy wings with margin erose. **Clinandrium-hood** very short, margin entire, leaving the anther totally exposed. **Anther** ovoid, apiculate, surface rugose, 4-celled. **Pollinia** 4, ovoid, bird-wing type, caudicles formed by a pile of elongate pollen tetrads like a pile of tiles; viscidium semi-liquid. **Rostellum** apical, split. **Lateral lobes of the stigma** short, occupying 1/4 of the stigmatic cavity. **Nectary** not seen. **Capsule** 3.0 x 0.3 cm, narrowly oblong, striated; pedicel 4.0 x 0.9 mm, body 1.6 x 0.3 cm, apical neck 0.5 cm long.

**OTHER SPECIMENS: PERU: Amazonas:** Prov.: Chachapoyas, Distr.: Granada, Comunidad campesina de Diosán; 2450 m, 14 VIII 2018, *Edquén 169*, HURP! (digital image of unmounted specimen and fresh flowers, AMO!) Prov. Tocáche: Distr. Pólvora: Sector Buenos Aires, Parque Nacional Cordillera Azul, 1075 m, 27 VIII 2017, *Valenzuela 32633*, HOXA! (digital images of fresh inflorescence: AMO! HOXA!) (photo voucher). Prov: Mariscal Benavides; Michina, 1420-1700 m, 2 IX 1998, *Vásquez 25404*, AMO! SEL! USM! **San Martín:** Mariscal Cáceres: Apisoncho Valley, 1600 m, 27 XI 1966, *Bennett 2131*, SEL!

**OTHER RECORDS: San Martín:** Prov. Moyobamba: Distr.: Jepelacio: Vallehermoso: Subyaquiro, cultivada desde hace 15 años en vivero bajo, Río Mayo, Orquídeas Amazónicas, 1 XI 2019, *Hágsater 16301*, digital images (LCDP voucher), AMO!

**DISTRIBUTION AND ECOLOGY:** Presently known from the eastern slope of the Cordillera Oriental of the Andes, along the geological fault of Angaiza and Paucartambo, from Rioja and neighboring Amazonas to northern Huánuco, bordering the Parque Cordillera de La Escalera and the Nacional Cordillera Azul, terrestrial at 1075-1450 m altitude. Flowering from July to November.

**RECOGNITION:** *Epidendrum azulensis* belongs to the Schistochilum Group, Secundum Subgroup, which is characterized by the caespitose habit, erect, simple, cane-like stems, a normally elongate peduncle of the inflorescence, an erect raceme of generally non-resupinate, showy, colorful flowers, and a lip adorned by a complex a callus. The species is recognized by the small plants, narrow linear-lanceolate leaves 4.0-6.0 x 0.4-1.5 cm, flowers dark pink to deep violet, column pink, callus white slightly tinged with pale yellow at the base, the lanceolate, acute petals, 6.2 x 2.0 mm, and the lateral lobes of the lip sub-ovate with margin lacinate. *Epidendrum sholletiae* Hágsater, L. Valenz. & J. Duarte has 21-25 cm tall plants including the inflorescence, red flowers with an orange callus, sepals 8.8-10.0 mm long, petals narrowly elliptic, a lip with sub-quadrate to sub-flabellate lateral lobes, the margin irregularly lacinate, the lacinia short at base and progressively longer, the mid-lobe very short, obtrapezoid, and a large callus. *Epidendrum rauhii* Hágsater also has small plants, flowers white with a yellow callus, becoming yellowish when pollinated or aging, and petals obovate.

**NOTE:** There is some variation in the shape of the lip and callus in the specimens here mentioned; the extreme forms apparently that of the type and the color plate here reproduced. Color of the flowers of this group changes and turns towards red after pollination or as flowers wilt, as can be seen from the photograph; this leads to mistaken notes on labels, which makes interpretation of color notes difficult. The Schistochilum Group has been studied extensively in Brazil (Assis *et al.*, 2013), as well as in Ecuador (Vega *et al.*, 2013) through chromosome microphotography and evidence of natural hybridization has been shown. There is a possibility that there may be some hybrid influence in *Epidendrum azulensis* which would explain the variation of the populations.

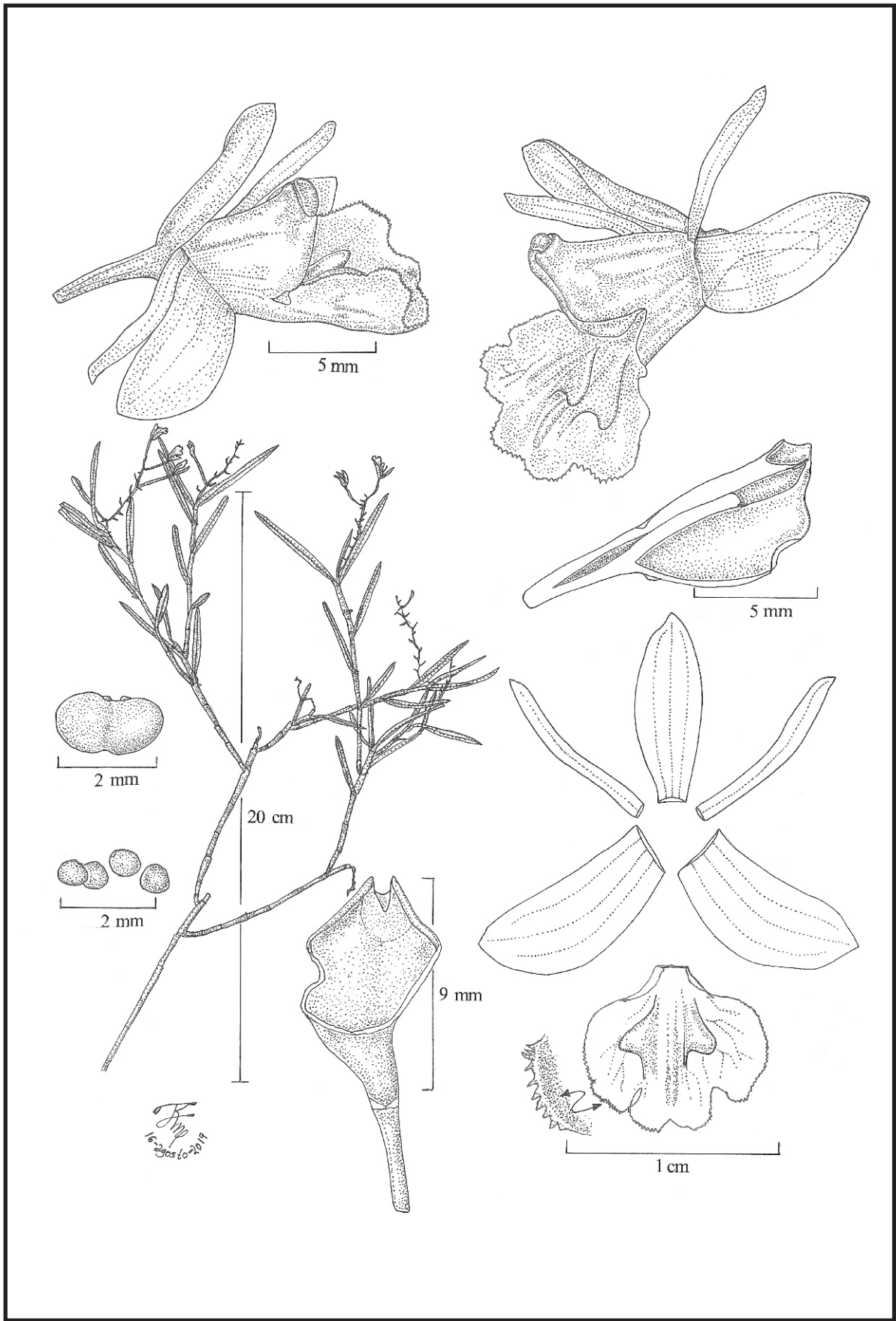
**CONSERVATION STATUS:** VU. Vulnerable. Appears to grow in disturbed habitats, along a range of over 500 km, and thus it complies with Criterion B1 for the VU (Vulnerable) applies (IUCN 2012).

**ETYMOLOGY:** In reference to the Cordillera Azul, east of the Andes in northern Ecuador, an Andean Tepui, where the species was collected.

**ACKNOWLEDGMENT:** The authors wish to thank Karol Villena for unlimited access to her live collections and her father Renato Villena Ruiz for guiding us in the Orquídeas Amazónicas nursery (Agro Oriente Viveros, S.A.C.) in Moyobamba.

**REFERENCES:** Assis, F.N.M. de, B.C.Q. Souza, E.M. Neto, F. Pinheiro, A.E.B. Silva & L.P. Felix, 2013, Karyology of the genus *Epidendrum* (Orchidaceae: Laeliinae) with emphasis on subgenus *Amphiglottium* and chromosome number variability in *Epidendrum secundum*, **Bot. J. Linn. Soc.**, 172: 329-344. Bennett, D.E., & E.A. Christenson, 1998, *Epidendrum azulensis*, **Icon. Orchid. Peruvianum** t. 452. Hágsater, E., 2004, *Epidendrum rauhii* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 5, **Icon. Orchid.** 7: pl. 786. Hágsater, E., L. Valenzuela G. & J. Duarte, 2020, *Epidendrum sholletiae* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(2): pl. 1797. Vega Y., Marques I., Castro S., Loureiro J., 2013, Outcomes of Extensive Hybridization and Introgression in *Epidendrum* (Orchidaceae): Can We Rely on Species Boundaries? *PLoS ONE* 8(11): e80662. doi:10.1371/journal.pone.0080662.





EPIDENDRUM BINASUM Hágsater & E.Santiago

Plate 1759



## *EPIDENDRUM BINASUM* Hágsater et E.Santiago, sp. nov.

Type: COLOMBIA: Antioquia: [Medellín:] Camino Real Antiguo al Boquerón de San Cristóbal, ca. 2500 m, 2 junio 1948, **Fred A. Barkley, Pedro Ramírez S. & Jairo Correa V. 105**. Holotype: MEDEL 852! (Illustration voucher). Isotypes: COL! MEDEL 1648! US!

Similar to *Epidendrum tropinectarium* Hágsater & E.Santiago but the column straight (vs. frequently arched), apex of the sepals obtuse (vs. acute to acuminate), margin of lip short ciliate (vs. dentate), lip obliquely united to the column with two nose-like prominent triangular parallel keels, free, laminar, apex narrowly rounded (vs. lip totally united to the column, with two small, laminar ribs fused at the base), column ventrally with a narrow slit (vs. column lacking any ventral slit).

Epiphytic, erect, monopodial, branching **herb**. **Roots** basal. **Stems** 4.0-15.0 x 0.2-0.4 cm, branching, the branches produced from apical internodes of the previous branches, cane-like, terete, thin, base covered by sheaths 0.4-1.5 cm long, tubular, non-foliar, scarious. **Leaves** 3-6, distributed along the apical 2/3 of the stems, alternate, sub-spreading from the stem, sub-coriaceous, unequal in size, the lower ones smaller; sheaths 0.5-1.8 x 0.2-0.4 cm, tubular, minutely striated; blade 1.2-4.7 x 0.2-0.4 cm, linear-lanceolate, apex obtuse, unequally bilobed, minutely apiculate, margin entire, spreading. **Spathe** lacking. **Inflorescence** 3.5-5.0 cm long, apical, racemose, slightly arching, lax-flowered; peduncle 0.4 cm long, terete, thin, straight, without bracts; rachis 3.1-4.6 cm long, slightly flexuous. **Floral bracts** 2-4 mm long, much shorter than the ovary, narrowly triangular, acuminate, embracing. **Flowers** 12-13 distributed laxly along the rachis, successive, creamy pink; fragrance not registered. **Ovary** 12 mm long, terete, thin, not inflated, unornamented. **Sepals** partly spreading, free, obtuse, minutely apiculate, 3-veined, margin entire, spreading; dorsal sepal 8.8 x 3.2 mm, elliptic; lateral sepals 9.4 x 4.0 mm, oblong-elliptic, oblique. **Petals** 9.2 x 1.0 mm, partly spreading, free, linear-oblong, oblique, obtuse, 1-veined, margin entire, spreading. **Lip** 6.6 x 8.6 mm, obliquely united to the basal half of the column, 3-lobed, base truncate, margin short ciliate; ecallose, disc with 2 prominent, laminar, nose-like keels, apically narrowly rounded, parallel in natural position, divaricate when spread, with a low central mid-rib, slightly thickened and reaching the apical sinus; lateral lobes 3.7 x 4.7 mm, hemi-orbicular; mid-lobe 1.6 x 3.7 mm, transversely rectangular, apex truncate, slightly emarginate, forming a pair of rounded lobes. **Column** 9 mm long, thickened, straight, the apex curved upwards at the clinandrium-hood. **Clinandrium-hood** short, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, lentic shaped. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** shallow, without penetrating the ovary, forming a wide cavity, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

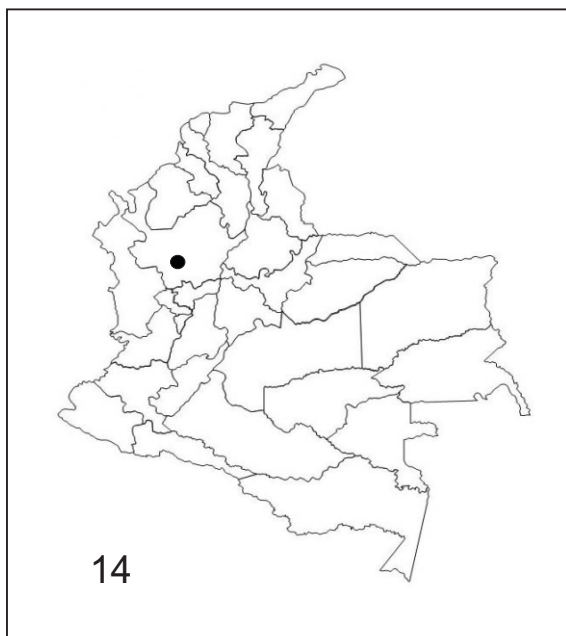
**OTHER RECORDS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Presently known only from the type, epiphytic at 2500 m altitude above Medellín. Flowering in June. However, the mapping of contiguous areas with forest relics at altitudes between 2000-2700 m in the western Andes reveals a potential area of 1252 km<sup>2</sup> in the departments of Antioquia and Caldas.

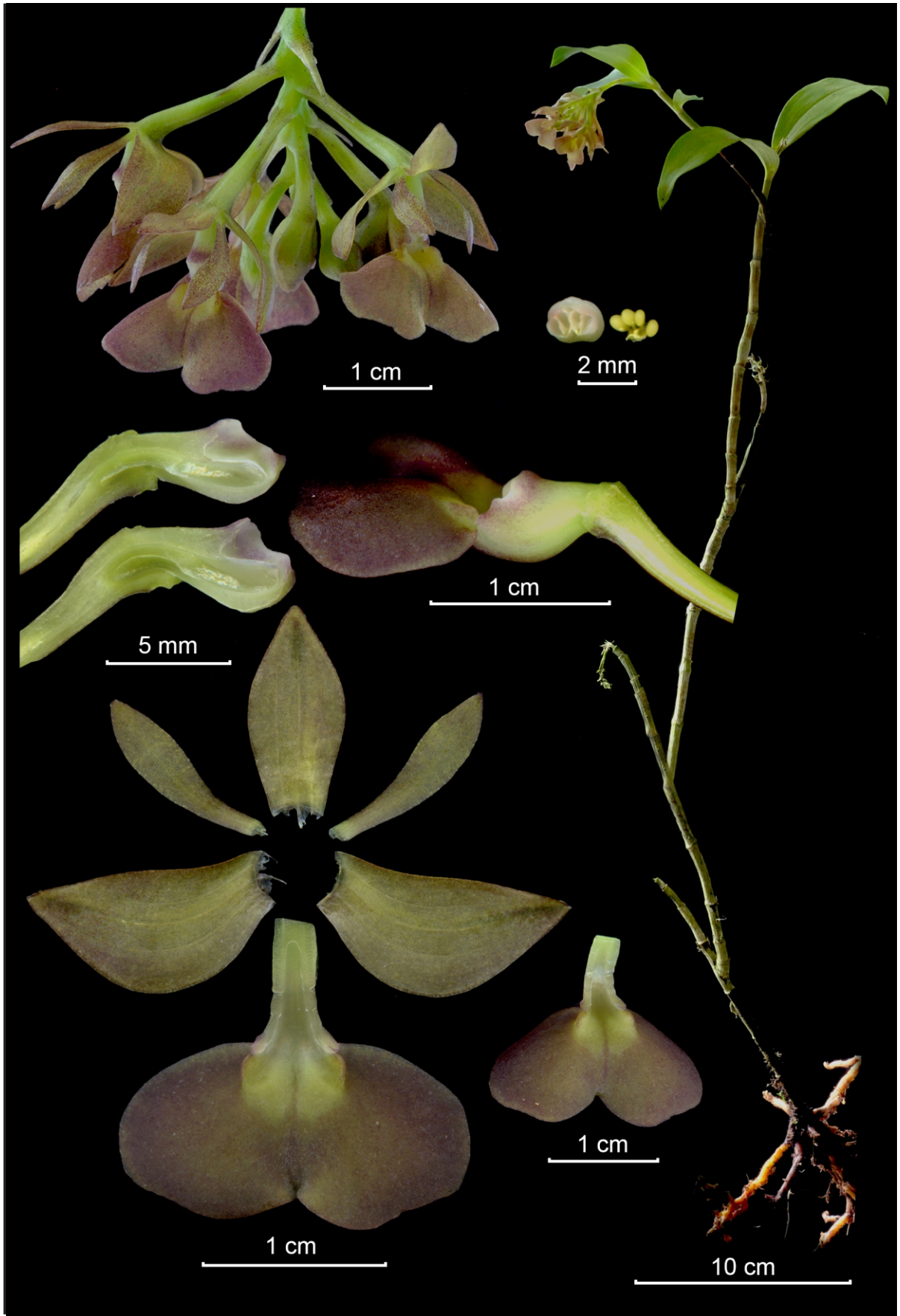
**RECOGNITION:** *Epidendrum binasum* belongs to the Diothonea Group and Subgroup which is characterized by the branching plants, the linear-lanceolate to oblong, bilobed leaves, the racemose, arching-nutant inflorescence, the membranaceous flowers (rarely fleshy), the entire to 3-lobed, ecallose lip with the margin erose without or with 1-10 thin, smooth to erose keels, the column completely to obliquely united to the lip, and the anther reniform. The new species is recognized by the thin stems and narrow linear-lanceolate leaves 1.2-4.7 x 0.2-0.4 cm, the lax-flowered inflorescence with a flexuous rachis, 12-13 creamy pink colored flowers, sepals 8.8-9.4 mm long, elliptic to oblong-elliptic, apex obtuse, the lip 3-lobed with the margin short ciliate, the disc with two prominent laminar, triangular, nose-like keels, and the column only partly and obliquely united to the lip. *Epidendrum tropinectarium* is vegetatively similar but the flowers are pale pink or brown-pink, sepals 10.6-11.4 mm long, oblanceolate to narrowly elliptic (the lateral sepals), apex acute to acuminate, the lip 3-lobed with the margin dentate, the disc with 2 short, thin, keels adnate at the base, and the column totally united to the lip. *Epidendrum dodsonii* Hágsater & E. Santiago has longer leaves, 5.5-11.6 cm long, a rachis of the inflorescence straight, flowers cream or creamy brown colored, sepals 7.0-7.6 mm long, petals 6.7 x 2.0 mm, narrowly ovate, the margin of the lip biserrate, and the disc with 5 narrow keels. *Epidendrum yarumalense* Hágsater & E. Santiago has shorter plants, to 20 cm tall, leaves lanceolate, inflorescences 3 cm long with 7-9 green flowers tinged red, sepals 8-12 mm long, the lip with the margin dentate, and the disc with 4-5 low keels.

**CONSERVATION STATUS:** CR Critical Risk. Presently known from a single collection, and its extent of occurrence is less than 5000 km<sup>2</sup> with less than 5 known locations. Antioquia is where greater efforts of collecting and knowledge of the flora of Colombia exists, and 72 years have passed without recording the presence of this species. On the other hand, this area maintains high pressure on forests mainly due to agricultural and cattle grazing expansion. Therefore, the proposed category is Critical Risk, based on sub-criteria B1a (IUCN 2001).

**ETYMOLOGY:** From the Latin *bi-*, two, and *nasus*, nose, in reference to the two very prominent keels of the lip which are nose-shaped when seen from the side.



**REFERENCES:** Santiago, E., 2004, *Epidendrum dodsonii* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum* Part 4, **Icon. Orchid.** 7: pl. 732. Santiago, E., 2004, *Epidendrum tropinectarium* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum* Part 4, **Icon. Orchid.** 7: pl. 797. Santiago, E., 2004, *Epidendrum yarumalense* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum* Part 4, **Icon. Orchid.** 7: pl. 799. IUCN, 2001, **IUCN Red List Categories and Criteria**, Version 3.1, IUCN Species Survival Commission, IUCN, Gland, Switzerland, ii + 30 pp.



EPIDENDRUM BRENESII Schltr.

Plate 1760

**EPIDENDRUM BRENESII** Schltr., Repert. Spec. Nov. Regni Veg. Beih. 19: 209. 1923.

Type: COSTA RICA: Alajuela: San Pedro de San Ramón, 1050 m, November 1921, **Alberto M. Brenes 118**. Holotype: B (destroyed). Lectotype (cited by Barringer (1986) and designated by E. Santiago & E. Hágsater (2006.): tracing of the type with floral details, mounted on *Standley 36573*, AMES 29339! Rejected and neotype designated by Karremans & Hágsater, (2010a). Neotype\*: COSTA RICA: Alajuela: La Palma de San Ramón, 1250 m, 14 November 1922, **Alberto M. Brenes 449(154)**, CR!

Epiphytic, sympodial, erect **herb**, 30-70 cm tall, the new stems arising from a sub-apical internode of the previous stem. **Roots** 1.5-3.0 mm in diameter, basal from the initial stem and sometimes from an upper stem, thick. **Stems** 5-30 x 0.2-0.5 cm, simple, cane-like, terete, straight, the new stem originating from a middle internode of the previous stem, gradually becoming thinner and shorter. **Leaves** 3-5, aggregate along the apical half of the stem, alternate, articulate, erect-spreading, unequal in size, the basal one generally smaller, sub-coriaceous; sheaths 11-17 mm long, tubular, minutely striated, becoming fibrous with time, light green tinged with purple; blade 2-8 x 1.3-2.5 cm, oblong, acute, margin entire. **Spathes** lacking. **Inflorescence** 2-4 cm long, apical, flowering only once, racemose to rarely paniculate, arching; peduncle 1.0-1.5 cm long, thin, laterally compressed, straight, light green tinged purple; rachis short, terete, thin, straight. **Floral bracts** 4-5 mm long, about half as long as the ovary, triangulate, acuminate, tinged purple. **Flowers** 8-12[40], successive, though several may be open at one time, resupinate, light green with purple tinge to deep purple, the column green; slight "banana-peel" fragrance at sundown. **Ovary** 8-13 mm long, terete, thin, not inflated, smooth, tinged purple. **Sepals** partly spreading, free, obovate-elliptic, acute, slightly concave, glabrous, 3-veined, margin entire, spreading; dorsal sepal 12 x 6 mm; lateral sepals 14.5 x 7.5 mm, oblique. **Petals** 12 x 2.5-3.0 mm, partly spreading, free, linear-oblancoate, acute, 3-veined, margin entire, spreading. **Lip** 8-10 x 15-19 mm, united to the column, entire, reniform, slightly convex, velutinous, short setose, densely covered by short, pointed trichomes, emarginate, the apex sometimes slightly 4-lobed, margin entire; bicallose, the calli formed by a pair of short, laterally compressed thickenings; disc with a low, wide keel that reaches the apical sinus. **Column** 6.5 mm long, thin at the base, gradually widened towards the apex, straight. **Clinandrium-hood** reduced, the margin erect, entire. **Anther** sub-reniform, 4-celled. **Pollinia** 4, obovoid, laterally compressed, caudicles soft and granulose, as long as the pollinia. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Capsule** not seen.

**OTHER SPECIMENS: COSTA RICA: Alajuela:** Valverde Vega, Bajos del Toro, Hacienda Río Toro, Reserva Biológica Privada Bosque de Paz, 1500 m, 27 XI 2010, *Karremans 3102* (JBL-liquid! JBL-digital images! AMO-digital images! LCDP voucher). Valverde Vega, Bajos del Toro, Hacienda Río Toro, Reserva Biológica Privada Bosque de Paz, 1500 m, Flowered in cult., XII 2007, *Muñoz s.n. sub Karremans 2188* (BdP!\*; BdP-digital images!; JBL-digital images!; AMO-digital images!) Ibid. Flower cult., I 2008, *Muñoz s.n. sub Karremans 2191* (JBL-spirit!) (photo voucher). Sarapiquí, 8 II 1966, *Lankester s.n. sub Rodríguez 366*, US! (voucher for *Rodríguez 366*, watercolor, xerox of watercolor, AMO) La Palma de San Ramón, 1250 m, 8 III 1930, *Brenes 11909a*, NY! **Cartago:** El Muñeco con Río Navarro, 1400-1500 m, 6 III 1926, *Standley 51664*, AMES! **Heredia:** Montaña Azul, entre Vara Blanca y Cariblanco, [col. 19 III 1982, pressed cult.] 23 I 1983, *Hágsater 6822*, AMO! Varablanca-Cariblanco, Montaña Azul, [col. 19 III 1982, pressed cult.] 22 II 1983, *Hágsater 6824*, AMO! (illustration) Vara Blanca, 2 km noreste de Alto del Roble, faldas al norte del Cerro Chompipe, Refugio de Vida Silvestre Cerro Dantas, márgenes de la Quebrada Grande, 1981 m, 14 IV 2005, *Bogarín 1513* (JBL-spirit!; JBL-digital images!; AMO-digital images!) **San José:** Dota, Cerro de las Vueltas, 2700-3000 m, 29 XII 1925, *Standley 43703*, AMES! La Hondura, 20 XI 1935, *Valerio 1191*, F!

**OTHER RECORDS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Endemic to the Cordillera Central of Costa Rica in the provinces of Alajuela and Heredia, epiphytic at 1250-3000 m altitude.

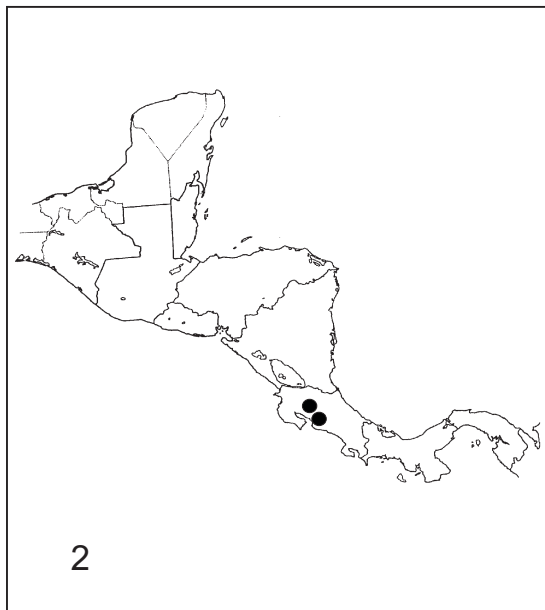
**RECOGNITION:** *Epidendrum brenesii* belongs to the Incomptum Group which is characterized by the successive lateral growths produced from the middle of the previous growth, the few leaves aggregate towards the apex of the stems, a short apical inflorescence with fleshy greenish to violet-green flowers with short ovaries, and the lip entire to 3-lobed. The species is recognized by the stems 2-5 mm thick, an inflorescence with 8-12[40] light green with purple tinge to deep purple flowers, and the reniform, velutinous, sometimes 4-lobed lip, 15-19 mm wide. *Epidendrum sotoanum* Karremans & Hágsater has greenish brown or yellow flowers and a deeply emarginated, very wide lip, 20-30 mm wide. *Epidendrum bisulcatum* Ames has short, thin stems 1.2-3.5 mm thick, a few-flowered inflorescence with 6-9 olive-green flowers, and a sub-orbicular lip, 11.0-12.5 mm wide, with an erose margin.

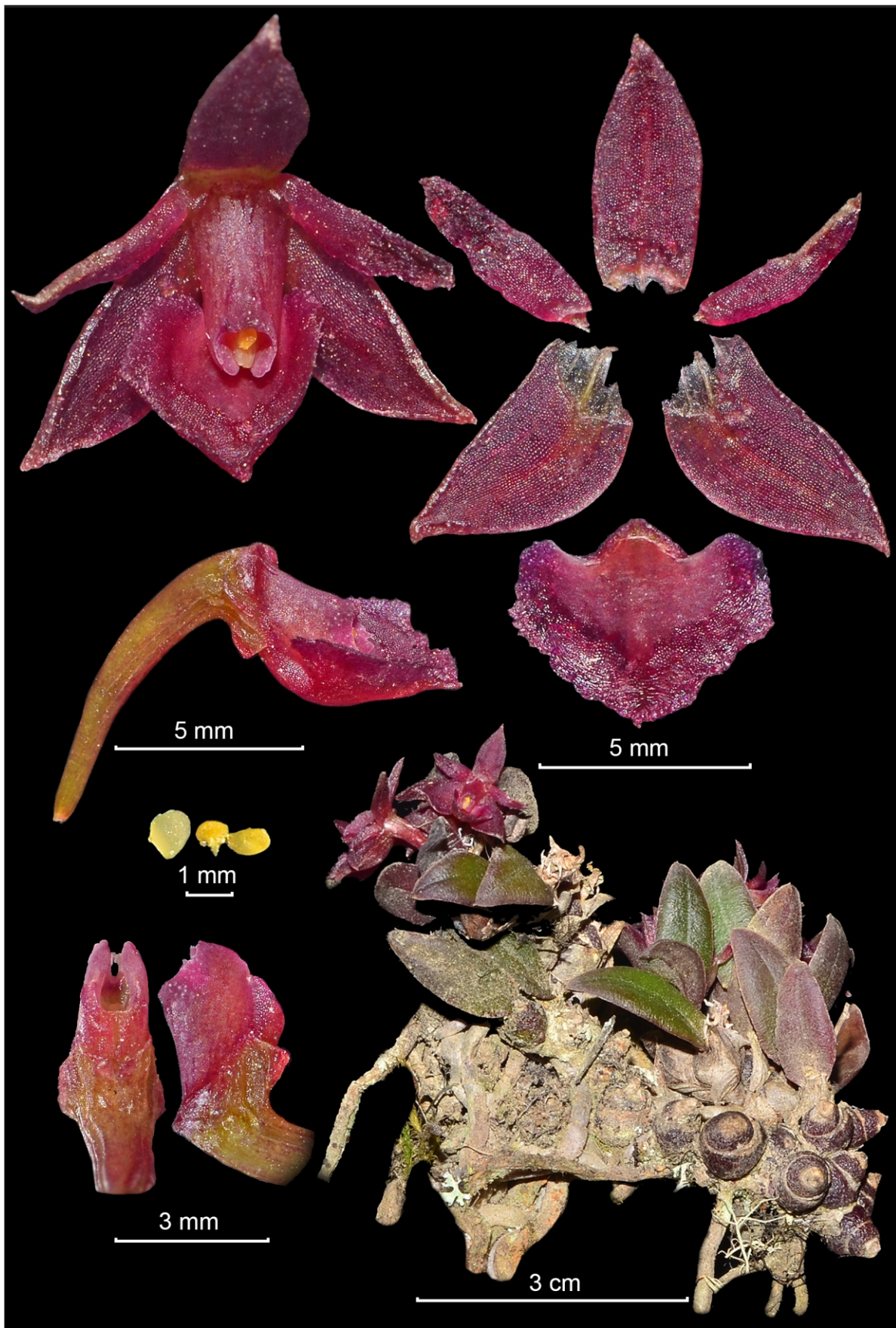
**CONSERVATION STATUS:** DD. Data deficient. Grows in disturbed areas on *Cupressus sp.*, as well as protected areas.

**\*NOTES:** Note that a different neotype is indicated by Karremans & Hágsater (2010a), rejecting the earlier lectotype (Santiago & Hágsater 2006). The argument was made that the original lectotype designated by Santiago & Hágsater in 2006, the illustration cited by Barringer, was a mixture of both *E. brenesii* and *E. sotoanum*. An additional correction is the species description; the description of *Epidendrum brenesii* in Santiago & Hágsater (2006), was a combination of the two species, therefore the description here presented is based solely on specimens of the true *E. brenesii*. The main differences are to be found in the color and size of the floral parts. BdP: Herbario Bosque de Paz, Zarcero, Alajuela, Costa Rica.

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

**REFERENCES:** Barringer, K., 1986, Schlechter's Costa Rican Types. I., *Fieldiana. Bot.* 17: 6-7. Hammel, B.E., et al. 2003, *Manual de Plantas de Costa Rica Vol. III*. Missouri Botanical Garden Press. pg. 121. Karremans, A.P. & E. Hágsater, 2010a, Confusion in *Epidendrum brenesii* Schltr., and a new Costa Rican species: *Epidendrum sotoanum* (Orchidaceae). *Lankesteriana* 9 (3): 403-409. Karremans, A.P. & E. Hágsater, 2010b, *Epidendrum sotoanum* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 9, *Icon. Orchid.* 13: pl. 1386. Santiago, E., & E. Hágsater, 2006, *Epidendrum bisulcatum* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 5, *Icon. Orchid.* 8: pl. 812. Santiago, E. & E. Hágsater, 2006, *Epidendrum brenesii* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 5, *Icon. Orchid.* 8: pl. 814.





EPIDENDRUM BREVIYACURIENSE Hágsater, H.Medina & J.Duarte

Plate 1761

**EPIDENDRUM BREVIYACURIENSE** Hágsater, H.Medina et J.Duarte, sp. nov.

Type: ECUADOR: Loja: Espíndola: Above Jimbura on the way to San Andrés, Yacuri, National Park, 3135 m, grown in the collection of Ecuagenera at Gualaquero, collected March 2017 and pressed November 2018. **Hugo Medina 360**, Holotype: HA! (LCDP and photo voucher).

Similar to *Epidendrum yacuriense* Hágsater & H.Medina but wine-red, globose pseudobulbs (vs. green ovoid pseudobulbs), leaves ovate, 1.3-1.9 x 0.6-0.7 cm, (vs. lanceolate, acute, 2.8-7.0 x 1.0 cm leaves), 4 flowers, resupinate, reddish-violet throughout (vs. flowers up to 6 simultaneous, non-resupinate, wine-red flowers with the column and margins and apex of sepals pale green), lip with a thin mid-rib from the base to the middle of the disc (vs. disc without any mid-rib).

Epiphytic, sympodial, caespitose **herb**, 7-10 cm tall. **Roots** 2 mm in diameter, basal, thin, white. **Stems** 0.6-1.0 x 0.6-0.75 cm, formed by 3 very short internodes, the last a pseudobulb, small, globose, compact, wine-red, homoblastic, covered when young by 2-3 non-foliar sheaths 6.0-8.0 x 6.0 mm, imbricated, embracing, somewhat striated when dry and lacking in old pseudobulbs. **Leaves** 1.3-1.9 x 0.6-0.7 cm, only 1 at the apex of the pseudobulb, coriaceous, ovate, 9, margin hyaline, erose. **Spathe** lacking. **Inflorescence** apical, racemose, sessile, peduncle abbreviated. **Flowers** 4, simultaneous, resupinate, reddish violet, concave base of lip somewhat deeper red; fragrance none registered. **Floral bracts** 1.9-2.2 x 0.6-0.8 mm, triangular, acuminate, embracing, much shorter than the ovary. **Ovary** 9.0 mm long, reddish yellow, thin, terete, somewhat arcuate towards the apex, not inflated, furrowed. **Sepals** 5.9-6.0 x 2.6-3.1 mm, partly spreading, free, fleshy, 3-veined, margin erose; dorsal sepal oblong-lanceolate, margin spreading; lateral sepals obliquely ovate, apex with a low dorsal keel, apical margins somewhat involute. **Petals** 5.0 x 1.5 mm, partly spreading, free, oblong-lanceolate, acute, 1-veined, margin spreading, somewhat erose. **Lip** 4.5 x 5.6 mm, united to the column, widely cordiform, apiculate, base cordate, slightly concave in natural position, margin irregularly dentate-erose; ecallose, with a thin mid-rib from the base to the middle of the disc. **Column** 4.2 mm long, short, thick, slightly arcuate upwards, forming a 120° angle with the apex of the ovary, apex obliquely truncate above, rounded below. **Clinandrium-hood** reduced, margin erose. **Anther** ovoid, yellow, 4-celled. **Pollinia** 4, obovoid, yellow; caudicles granulose. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma** very short. **Nectary** not seen. **Capsule** not seen.

**OTHER SPECIMENS:** ECUADOR: Loja: Espíndola, Jimbura, subiendo al puerto entre Jimbura y Zumba, 2975 m, 18 IX 2016, Hágsater 14634, MEXU! QCN!

**OTHER RECORDS:** ECUADOR: Loja: Espíndola: Jimbura: Parque Nacional Yacuri, 2975 m, Hágsater 14634, digital photo, AMO!

**DISTRIBUTION AND ECOLOGY:** Known presently only from Ecuador, Loja, the summit of the Cordillera of the Andes, on the western, dry side, in sub-paramo montane forest above Jimbura, Yacuri National Park at 3000-3135 m altitude. Flowering in March and September. The species is found within Amotape-Huancabamba Zone (Quintana *et al.* 2017).

**RECOGNITION:** *Epidendrum breviyacuriense* Hágsater, H.Medina & J.Duarte belongs to the Kaloptenix group, Serpens Subgroup characterized by the aggregate, globose pseudobulbs with fleshy-coriaceous leaves, a sessile inflorescence, and one or few fleshy, compact, star-shaped flowers, often burgundy red in color, lip entire, more or less cordiform. The new species is recognized by the wine-red, globose, homoblastic pseudobulbs with a single apical leaf, ovate, 1.3-1.9 x 0.6-0.7 cm, and the 4 simultaneous flowers, resupinate, reddish-violet, sepals 5.9-6.0 x 2.6-3.1 mm, lip widely cordiform, margin irregularly dentate-erose, and disc with a thin mid-rib from the base to the middle of the disc. *Epidendrum yacuriense* Hágsater & H.Medina has 1 lanceolate acute leaf 2.8-7.0 x 1.0 cm, and up to 6 simultaneous wine-red, non-resupinate flowers with the column and margins and apex of sepals pale green, sepals 6.3-6.7 x 2.7-2.9 mm, disc glabrous. It is vegetatively similar to *Epidendrum pachycoleum* Hágsater, O.Pérez & E.Santiago, but that species has green pseudobulbs, 2 elliptic leaves 1.0-2.5 x 0.5-1.0 cm, sepals 7.0-7.3 mm long, and lip with a prominent mid-rib reaching the apex of the lip. *Epidendrum macroillinizae* Hágsater, Cisneros & J.Duarte has a single apical leaf, 4.1-8.1 x 1.7-1.8 cm, and 2 pink-brown flowers, sepals 15-17 mm long, reflexed, petals 14 mm long. *Epidendrum platyphylloserpens* Hágsater is pendulous with 1 oblong-elliptic leaf 3.2-4.7 x 1.7-2.2 cm, and up to 9 successive reddish brown flowers, sepals 5-veined, 8.5 mm long. *Epidendrum serpens* Lindl. has 2-3 leaves per pseudobulb, 4-5 simultaneous flowers, and a sub-orbicular-ovate lip.

**ETYMOLOGY:** From the Latin *brevis*, short, and Yacuri, in reference to the Parque Nacional Yacuri, located on the border between Ecuador and Peru on the upper western summit of the Cordillera de los Andes, as this is a small leaved species very similar to *Epidendrum yacuriense*.

**CONSERVATION STATUS:** DD. Date deficient. Apparently restricted to the summit of the Andes in the Yacuri National Park, at 3135 m altitude in low forest just below the paramos.

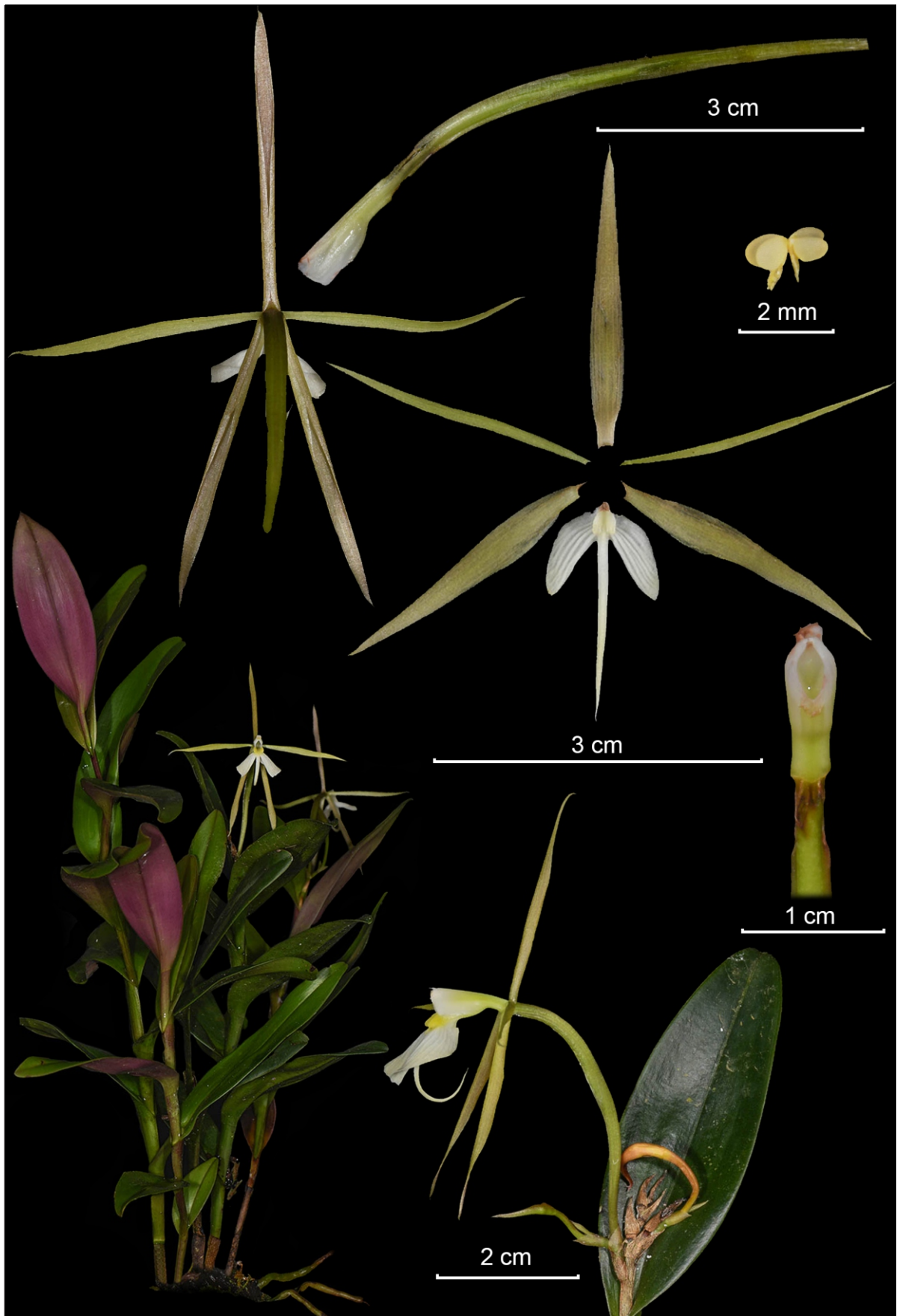
**ACKNOWLEDGMENT:** Type plant material collected under permit "Rescate, conservación, reproducción y manejo ex-situ de la flora del Ecuador," Ministerio del Ambiente autorización No 004-2016-IC-FLO DNB/MA"

**REFERENCES:** Hágsater, E., 2001, *Epidendrum platyphylloserpens* in E. Hágsater, L. Sánchez S. & J. García-Cruz (eds.) The Genus *Epidendrum* Part 3, **Icon. Orchid.** 4: pl. 473. Hágsater, E., & H. Medina, 2020, *Epidendrum yacuriense* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(2): pl. 1800. Hágsater, Cisneros & J.Duarte, 2019, *Epidendrum macroillinizae* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(1): pl. 1733. Hágsater, E., O. Pérez & E. Santiago, 2013, *Epidendrum pachycoleum* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum* Part 10, **Icon. Orchid.** 14: pl. 1466. Lindley, J., 1844, in *Epidendrum serpens* Lindl. in G. Bentham (ed.) **Pl. Hartw. [Bentham]**, p.149. Quintana, C., R.T. Pennington, C. Ulloa Ulloa & H. Balslev, 2017, Biogeographic barriers in the Andes: is the Amotape-Huancabamba zone a dispersal barrier for dry forest plants?, **Ann. Missouri Bot. Gard.** 102: 542-550.



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Photo: H. Medina Editors: E. Hágsater & E. Santiago  
ICONES ORCHIDACEARUM 17(2). 2020. Plate 1761



EPIDENDRUM CAMPYLOCTERNUM Hágsater & Uribe Vélez

Plate 1762

## EPIDENDRUM CAMPYLONOCTURNUM Hágsater et Uribe Vélez, sp. nov.

Type: COLOMBIA: Cauca: Bota Caucana, 11 marzo 2019, **Carlos Uribe Vélez s.n.**, Holotype: HPUJ! (LCDP and photo voucher).

Similar to *Epidendrum porphyreonocturnum* Hágsater & R. Jiménez, but the flowers about twice as large, sepals 30-37 mm long (vs. 18-21 mm long), lateral lobes of lip 12 x 4.2-4.8 mm, divergent, hemi-ovate, (vs. 7.5-10.0 x 4-5 mm, divergent, ovate), mid-lobe 21 x 1.3-1.8 mm, linear-triangular, acuminate, widely revolute in natural position (vs. 8.7-9.0 x 2.0 mm, linear-ensiform, acute, straight, sides somewhat revolute, apex spreading so as to apex appear somewhat rhomboid in natural position).

Epiphytic, sympodial, caespitose, erect **herb**, 20-30 cm tall including the inflorescence. **Roots** 2-3 mm in diameter, basal, fleshy. **Stems** 13-20 x 0.17-0.37 cm, simple, cane-like, terete at base, laterally compressed towards the apex, erect, straight. **Leaves** 5-8, distributed along the apical half of the stem, alternate, sub-equal, articulate; foliar sheaths 2-3 x 0.4-0.6 cm, laterally compressed, striated; blade 4.0-7.0 x 0.9-2.3 cm, elliptic, obtuse, apex narrowly rounded, sub-coriaceous, slightly dorsally carinate, upper side dark green, underside purple. **Spathes** lacking. **Inflorescence** 1.0-1.5 cm, long, apical, racemose, producing new racemes in successive years and the pluri-racemose producing one flower at a time per raceme; peduncle and rachis abbreviated. **Floral bracts** 4.0-4.2 mm long, much shorter than the ovary, triangular, acute, embracing. **Ovary** 48-53 x 3 mm, terete, apical half ventrally thickened, unornamented. **Flowers** several, successive, produced one at a time from a raceme, resupinate; sepals buff, petals pale green, lip white, calli yellow, column green at base, apex of column white; fragrance not registered. **Sepals** spreading, lanceolate, acuminate, 3-veined, the lateral veins 3-furcate, thus appearing 5-veined above the middle; margin entire, strongly revolute, so as to be tubular in natural position; dorsal sepals 30-35 x 3.9-4.4 mm, lateral sepals 33-37 x 5.0-5.1 mm, slightly oblique. **Petals** 28-36 x 1.5-1.8 mm, spreading, linear-lanceolate, acuminate, 3-veined, margin entire, spreading. **Lip** 25-27 x 13-15 mm, united to the column, deeply 3-lobed, base truncate, to slightly cuneate; bicallose, calli laminar, prominent; lateral lobes 12 x 4.2-4.8 mm, divergent, hemi-ovate, rounded, margin entire, surface with 4-5 thickened, sub-parallel veins, bifurcate towards the margins; mid-lobe 21 x 1.3-1.8 mm, 16:1 (length:width), linear-triangular, acuminate, widely revolute in natural position, margin entire, sides somewhat revolute. **Column** 10-12 x 2.0-4.5 mm, slightly arched, strongly dilated towards the apex. **Clinandrium-hood** prominent, margin erose-3-dentate. **Anther** transversely elliptic, unornamented, 4-celled. **Pollinia** 4, obovate, oblique, laterally compressed, pale yellow, caudicles soft and granulose, longer than the pollinia, viscidium semi-liquid. **Rostrum** apical, slit. **Lateral lobes of the stigma** long, about half as long as the stigmatic cavity. **Nectary** deep, penetrating half the pedicellate ovary, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

**OTHER RECORDS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Presently known from a single collection from southern Colombia, from the Bota Caucana, from the Cordillera Oriental of the Andes. Flowering in August.

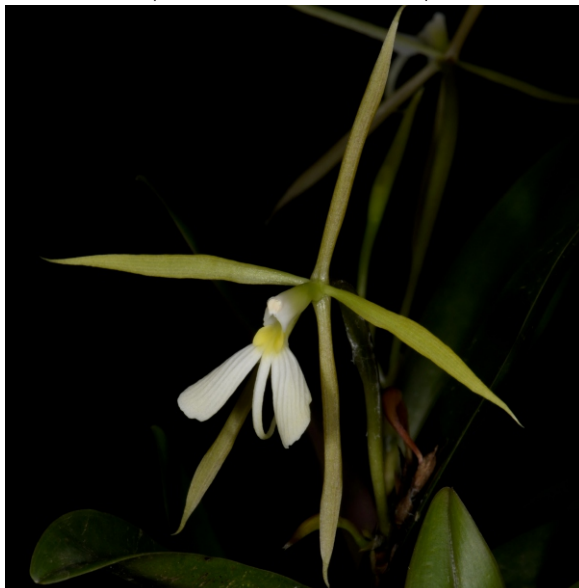
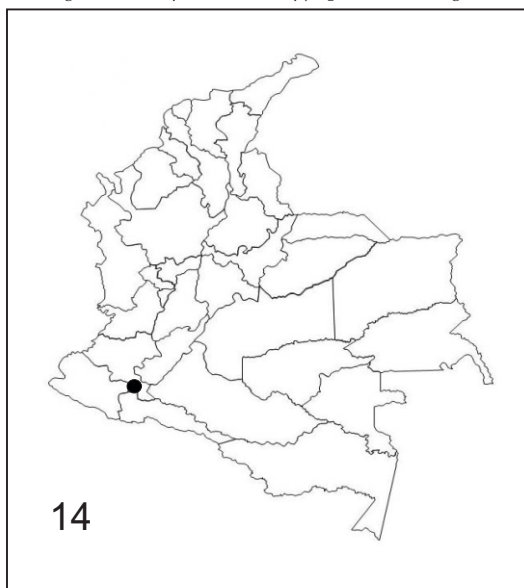
**RECOGNITION:** *Epidendrum campylocturnum* belongs to the Nocturnum Group which is characterized by the sympodial, caespitose plants, cane-like stems, short, racemose or pluri-racemose inflorescence without spathe, usually large star-shaped, successive flowers, with similar sepals and petals. The new species is recognized by the epiphytic habit, stems 13-20 cm tall, leaves 4.0-7.0 x 0.9-2.3 cm, elliptic, obtuse, apex narrowly rounded, sub-coriaceous, slightly dorsally carinate, upper side dark green, underside purple, ovary 53 mm long, sepals 30-37 mm long, lip 25-27 x 13-15 mm, lateral lobes hemi-ovate, with 4-5 thickened, subparallel veins, bifurcate towards the margins; mid-lobe 21 x 1.3 mm, 16:1 (length:width), linear-triangular, acuminate, widely revolute in natural position. It is similar to the smaller *Epidendrum porphyreonocturnum* which has stems 16-40 cm tall, 3-8 narrowly elliptic, acute leaves of similar size, 6.5-8.0 x 0.8-1.8 cm, dark green above, purple on the underside, ovary 48-53 mm long, sepals 18-21 mm long, lip 12-14 x 12-14 mm, the lateral lobes ovate, with 6 thickened, radiating veins, mid-lobe 8.7-9.0 x 2.0 mm, ratio 4:1 (length:width). *Epidendrum phlebonocturnum* has short stems 9-11 cm long, laterally compressed, bright green, 5-6 unequal leaves, 1.5-7.0 x 1.1-2.3 cm, ovary about as long as the 42-46 mm long sepals, deeply 3-lobed lip, with large yellow calli, and the lateral lobes with prominently raised veins radiating from the base and sub-parallel, mid-lobe 23 x 2.5 mm, ratio 10:1. Most other species do not have prominently raised veins on the lateral lobes of the lip, they are flat. In the area you can also find *Epidendrum platynocturnum* Hágsater & R. Jiménez has stems 6-12 cm long, laterally compressed, leaves 3-5 x 0.9-1.2 cm, narrowly elliptic, acute, dark green above, slightly reddish on the underside, ovary 31 mm long, sepals 15-16 mm long, lip 9.0 x 5.5 mm, shallowly elliptic with lobes proportionately wide, mid-lobe 4 x 2 mm, ratio 2:1. *Epidendrum minus* (Cogn.) Hágsater has stems 10-20 cm long, leaves 5.0-7.5 x 0.8-1.4 cm, green on both sides, ovary 30 mm long, sepals 21-24 x 4.0 cm (Cogniaux 1907), it is found at lower altitudes in the upper Amazon basin. *Epidendrum ramiro-medinae* Hágsater & L. Sánchez, also from Putumayo in southern Colombia, with the underside of the leaves purple, has larger flowers, ovary 75-78 mm long, sepals 90-100 mm long, lip mid-lobe 68-75 x 2.5-3.0 mm, ratio 25:1, ensiform, straight. *Epidendrum campyloglossum* P. Ortiz & Hágsater is very similar in size and color of the leaves but is found on the western slope of the Cordillera Occidental of the Andes, in addition that species is distinguished by the much wider petals, 4 mm wide, and the longer leaves, 10.0-11.5 cm long.

**CONSERVATION STATUS:** Data deficient. Known presently from a single collection, without a precise locality.

**NOTES:** In an earlier note, Hágsater & Sánchez (2015) had reduced *E. minus* to a synonym of *E. bahiense* Rchb.f., but after careful consideration in the present evaluation, it is evident that we had lumped together species of similar size, thought the color of leaves and ratio of length:width had not been considered. We thus consider them distinct species. See discussion under *Epidendrum phlebonocturnum* regarding the difference of that species and *Epidendrum minus* and *Epidendrum bahiense* Rchb.f.

**ETYMOLOGY:** From the Greek *καμπυλος*, bent, curved, and *nocturnum*, in reference to the mid-lobe of the lip which is curved under and backwards, in this species of the Nocturnum group. No to be confused with *Epidendrum campyloglossum* which shares the same feature and belongs to the same group, but is found on the western slope of the Cordillera Occidental of the Andes.

**REFERENCES:** Cogniaux, A., 1907, *Epidendrum nocturnum* (Jacq.) var. *minus*, **Bull. Soc. Roy. Bot. Belgique** 43: 323. Hágsater, E., & R. Jiménez M., 2018, *Epidendrum phlebonocturnum* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum Part 12*, **Icon. Orchid.** 16(2): pl. 1692. Hágsater, E., & R. Jiménez M., 2018, *Epidendrum platynocturnum* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum Part 12*, **Icon. Orchid.** 16(2): pl. 1693. Hágsater, E., & R. Jiménez M., 2018, *Epidendrum porphyreonocturnum* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum Part 12*, **Icon. Orchid.** 16(2): pl. 1697. Sánchez, L., & E. Hágsater, 2010, *Epidendrum minus* in E. Hágsater & L. Sánchez S. (eds), *The Genus Epidendrum Part 9*, **Icon. Orchid.** 13: pl. 1358. Ortiz, P. & E. Hágsater, 1999, *Epidendrum campyloglossum* in E. Hágsater & L. Sánchez S. (eds), *The Genus Epidendrum Part 2*, **Icon. Orchid.** 3: pl. 319.



Authors: E. Hágsater & C. Uribe Vélez

LCDP: C. Uribe V. & A. Cisneros

Photo: C. Uribe V.

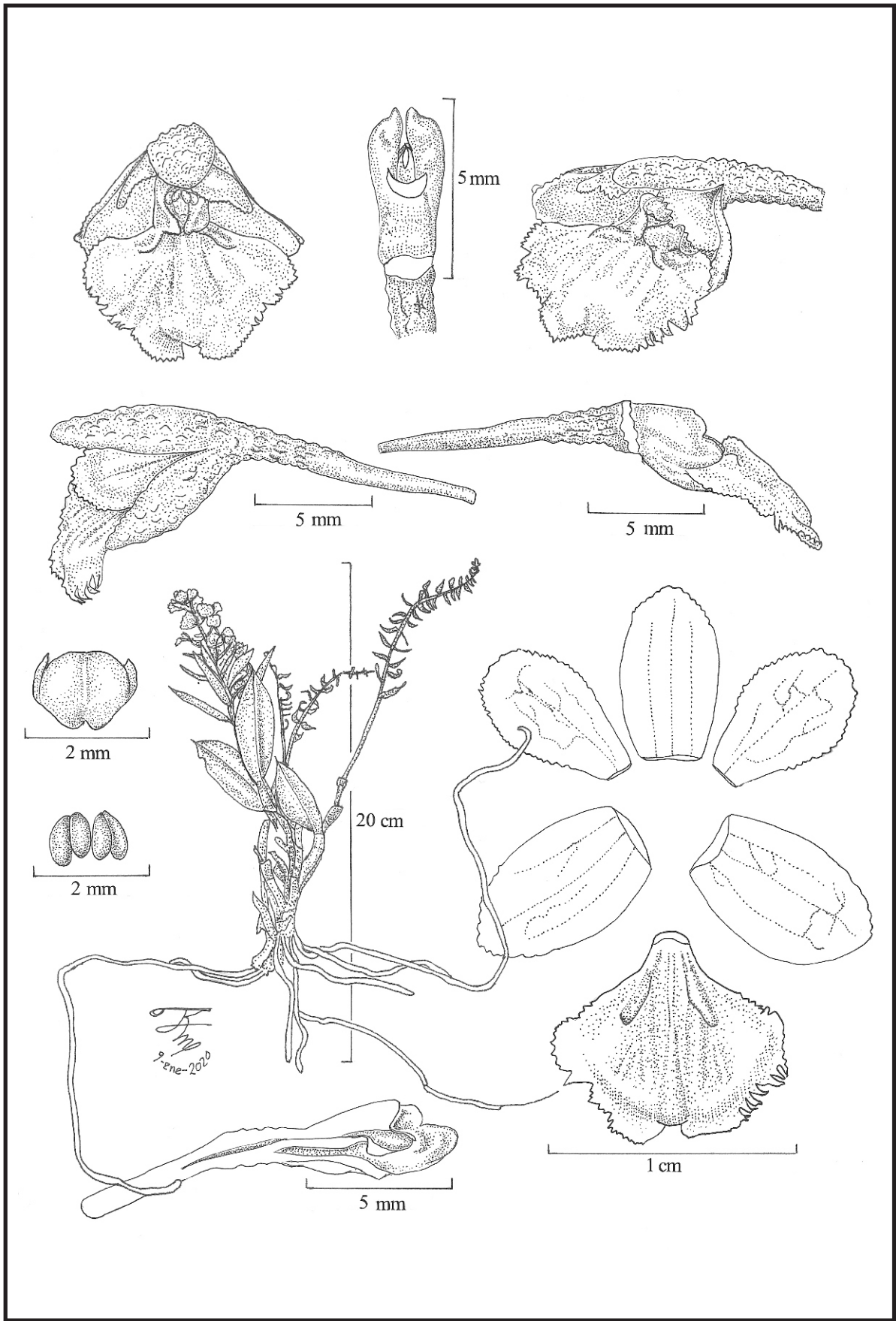
Editors: E. Hágsater & E. Santiago

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ICONES ORCHIDACEARUM 17(2). 2020.

Plate 1762



EPIDENDRUM CHUGURENSE Hágsater, E.Santiago, L.Dávila & Chilón

Plate 1763



**EPIDENDRUM CHUGURENSE** Hágsater, E.Santiago, L.Dávila et Chilón, *sp. nov.*

Type: PERU: Cajamarca: Prov. Hualgayoc: Distr. Chugur, 2850 m, 2700 m, 18 agosto 2017, **Cattia Denise Chilón Minchán & Luis Dávila Estela 018**. Holotype: CPUN! (illustration and photo voucher).

Similar to *Epidendrum aida-alvarezii* Hágsater but plant erect, leaves wider, 1.3-1.6 cm wide, (vs. plant pendulous, leaves narrow, 0.5-1.0 cm wide), flowers simultaneous, 20-36 greenish yellow (vs. flowers successive, 10-15, yellow), sepals dorsally pustulate (vs. sepals dorsally carinate), petals 4 mm wide, obovate, apical margin crenate (vs. petals oblanceolate, 1.2 mm wide, apical margin erose), and the lip pentagonal with irregularly dentate margin, the two prominent calli laminar, divaricate and a single thickened mid-rib (vs. obscurely 3-lobed, hexagonal, margin erose-denticulate, calli ellipsoid, disc 3-ribbed).

Epiphytic, sympodial, caespitose **herb**, 18 cm tall including the inflorescence. **Roots** 1.5-3.0 mm in diameter, basal terete, scarce. **Stems** 2.5-3.0 x 0.5-1.0 cm, forming fusiform pseudobulbs, smooth, green when young to slightly furrowed and tinged red when mature; covered by 2-3 sheaths 0.9-1.5 cm long, non-foliar, scarios and becoming fibrous through time. **Leaves** 1-2, apical, articulate, coriaceous, sub-parallel, green, concolor; blade 3.0-5.0 x 1.3-1.6 cm, elliptic, acuminate, margin entire, spreading. **Spathes** lacking. **Inflorescence** 9-14 cm long, apical, erect, densely many-flowered, racemose; peduncle 2.5-6.2 cm long, laterally compressed, thin, erect, straight, pale green; rachis 6.5-8.0 cm long. **Floral bracts** 4-31 mm long, embracing, acuminate, unequal in shape and size, the basal bracts sometimes very prominent, leaf-like, linear-lanceolate, coriaceous, dark green, much longer than the flower, gradually diminishing in size and then narrowly triangular, greenish yellow. **Ovary** 8.5-11.0 mm long, terete, thin, slightly dilated behind the perianth, greenish yellow tinged brown, smooth along the basal 2/3 and pustulate along the apical 1/3. **Flowers** 20-36, simultaneous, generally resupinate, greenish yellow, the lip creamy green slightly tinged pink, the margin greenish white, apex of the column and anther reddish pink; fragrance not registered. **Sepals** 6.8-7.5 x 3.8-4.8 mm, partly spreading, free, slightly concave, dorsally pustulate, elliptic, apex rounded, 3-veined, apical margin crenate, spreading. **Petals** 6.7 x 4 mm, partly spreading, free, obovate, apex rounded, 1-veined, the vein short branched, margin crenate, spreading. **Lip** 8.3 x 9.3 mm, united to the column, entire, pentagonal, base cuneate, apex slightly recurved in natural position, widely mucronate, forming a pair of small lobules, margin irregularly dentate; bicallose, the calli laminar, prominent, separated at the base and divaricate; disc with a single thickened mid-rib that disappears before the apical sinus. **Column** 5 mm long, thick, straight, with a pair of prominent rounded lobes at the apex which are involute and converge at the entrance of the nectary. **Clinandrium-hood** reduced; margin entire. **Rostellum** sub-apical, slit. **Anther** widely ovoid, the apex slightly emarginate, 4-celled. **Pollinia** 4, obovoid, unequal, the inner pair slightly smaller. **Lateral lobes of the stigma** prominent, occupying nearly 1/2 of the stigmatic cavity. **Nectary** shallow, without penetrating the ovary, not inflated, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

**OTHER RECORDS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Know only from the type, from fragmented montane forest of *Polylepis multijuga* Pilg. The herbaceous vegetation is predominantly made of *Coreopsis sherffii* S.F.Blake. Rainfall oscillates between 700 and 1000 mm. The rainy season is during the months of May to September. During the dry season the relative humidity is 40%, and during the rainy season it is 79%; low temperatures are characteristic, especially during the dry season, with minimums of 7°C and maximum of 21°C. It is found in Bh-mbt/Humid forest-Montane low tropical forest. Epiphytic, on tree trunks and branches of *P. multijuga*, at 2700 m altitude. Flowering in August.

**RECOGNITION:** *Epidendrum chugurense* belongs to the Rupestre Group, which is characterized by caespitose, sympodial plants, pseudobulbous stems with 1-4 fully developed leaves toward the apex, the lack of spathes at the base of an erect, racemose or paniculate inflorescence, and the lip ecallose or bicallose and with several fleshy thickened keels on the disc. The new species is recognized by the elliptic leaves, the many-flowered, racemose inflorescence with 20-36 greenish yellow flowers, the sepals dorsally pustulate, the petals 4 mm wide, obovate, apical margin crenate, and the lip pentagonal with irregularly dentate margin, with the two prominent calli laminar, divaricate and a single thickened mid-rib. *Epidendrum aida-alvarezii* has narrowly elliptic to oblanceolate leaves, 10-15 yellow flowers, petals 1.2 mm wide, oblanceolate, and a lip obscurely 3-lobed, hexagonal, with 2 ellipsoid calli and 3 parallel ribs on the disc.

**CONSERVATION STATUS:** DD. Data deficient. Only a single herbarium specimen is known. The general area has been inhabited for centuries and there are only scarce remnants of the original vegetation.

**ETYMOLOGY:** From the Culle language, spoken in Cajamarca before the arrival of Qechua with the Incas; *chugur*, which means "flowering plant" or "plant with flowering flowers", as when the District of Chugur was created there was an abundance of a plant known as *chugurcillo* (*Lupinus spp.*), whence the place name (Bruga 1983, Torres 2019: 170).

**REFERENCES:** Burga Larrea, C., 1983, Diccionario geográfico e histórico de Cajamarca (toponimia departamental). Servicio de Artes Gráficas S.A. Lima, Perú, 1656 pp. Hágsater, E., 2016, *Epidendrum aida-alvarezii* in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 11, **Icon. Orchid.** 15(2): pl. 1570. Torres Minchola, Denis Joel, 2019, Panorama lingüístico del departamento de Cajamarca a partir del examen de la toponimia actual. Tesis de Maestría. Pontificia Universidad Católica del Perú, Lima, Perú, 398 pp. <http://tesis.pucp.edu.pe/repositorio/handle/20.500.12404/15199>



Authors: E. Hágsater, E. Santiago, L. Dávila & C. D. Chilón

Illustrator: R. Jiménez M.

Photo: C. D. Chilón

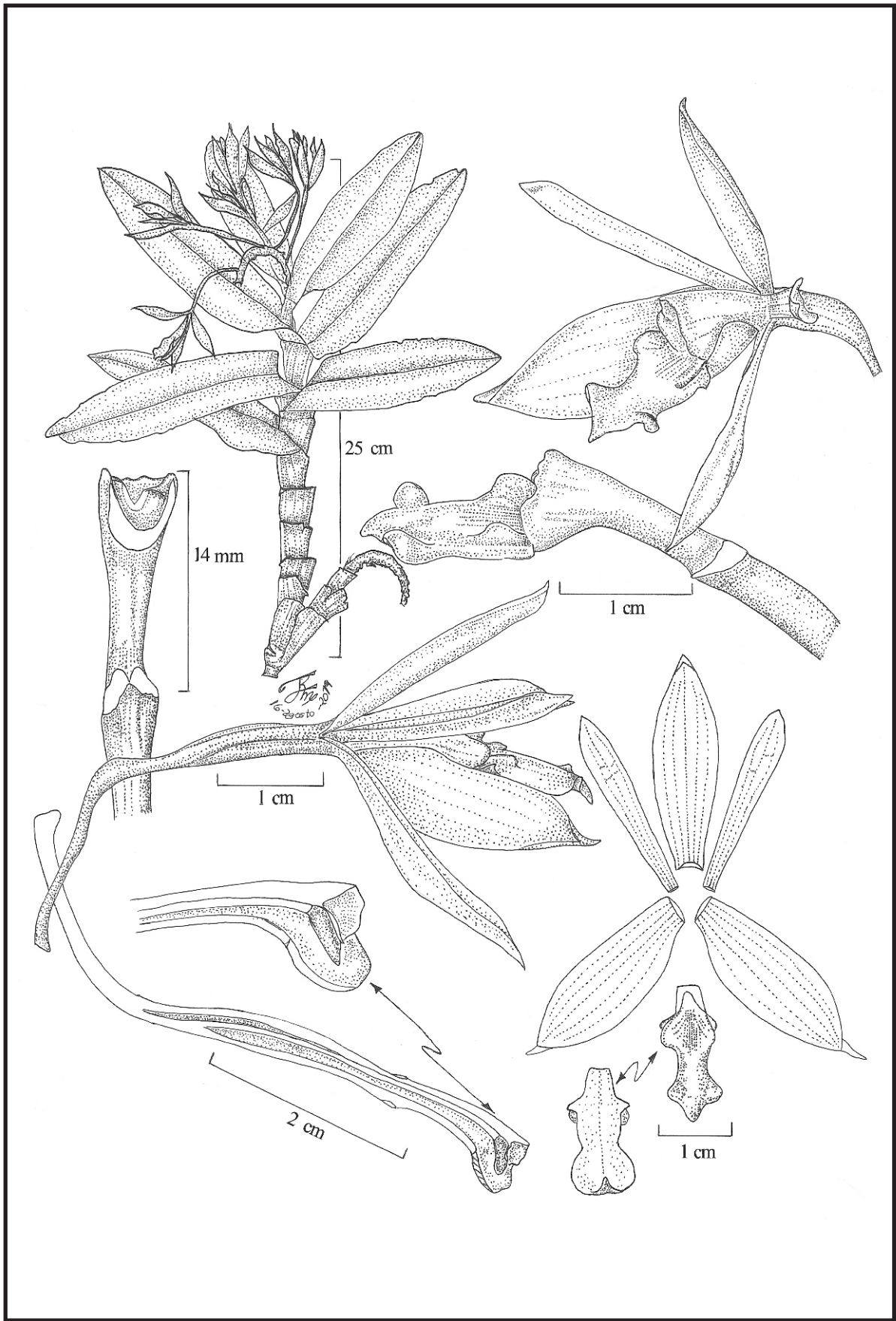
Editors: E. Hágsater & E. Santiago

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ICONES ORCHIDACEARUM 17(2). 2020.

Plate 1763



EPIDENDRUM CONSTRICTUM Hágsater & E.Santiago

Plate 1764

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

Type: COLOMBIA: Antioquia: Mun. Andes: Corregimiento: Santa Rita, camino desde El campamento La Señal hasta La Laguna, 3200-3600 m, 30 enero 2015, *José Dayan Acosta Arango, Daniel Mauricio Díaz Rueda, Andrés F. Jiménez Q., Juan Pablo Tobón, Vanessa Arias Z., Santiago Vélez & Rodrigo Restrepo 374*. Holotype: MEDEL 64003! (illustration and photo voucher).  
Flower in spirit, and digital images of live material: AMO!

Similar to *Epidendrum steyermarkii* A.D.Hawkes but the flowers brown outside, yellowish green inside, lip yellow and green (vs. greenish yellow with a white lip), sepals aristate (vs. sepals apiculate, lip 14.5 x 6 mm, sub-pandurate, apex with a pair of divaricate lobes near the apex, sub-triangular, obtuse (vs. lip 15-20 x 12-16.5 mm, clearly 3-lobed, the lateral lobes prominent, dolabriform).

Terrestrial, monopodial, branching, erect **herb**, to 135 cm tall. **Roots** basal. **Stems**: primary stem 135 cm tall, branches 25 x 1.0-1.8 cm, cane-like, terete at base and laterally compressed towards the apex, erect, straight; base covered with sheaths 1.0-3.2 cm long, tubular, non-foliar, scarious. **Leaves** 7-10 on the branches, distributed along the apical half of the stems, alternate, articulate, sub-parallel to the stem, somewhat imbricated, coriaceous, dark green, the margin reddish green, ventral surface with evident parallel veins; sheaths 1.0-2.3 x 1.0-1.8 cm, tubular, apex somewhat inflated when dry, but not infundibuliform, striated and strongly rugose, green tinged red; blade 8.2-12.5 x 3-3.5 cm, narrowly elliptic, apex obtuse, unequally bilobed, margin entire, spreading. **Inflorescence** 10 cm long (including the flowers), racemose, arching-nutant, laxly many-flowered; peduncle 0.5-1.0 cm long, terete, thick, straight; rachis 3.5 cm long, terete, thick, much shorter than the apical leaves. **Spathe** lacking. **Floral bracts** 3 mm long, much shorter than the ovary, widely triangular, acuminate, embracing. **Flowers** ca. 20, simultaneous, resupinate, brown outside, inside yellowish green, the veins marked in green, petals yellow tinged green, column brown at base, apex green, lip yellow at base, center and apex green, anther green; fragrance not registered. **Ovary** 37-40 mm long, terete, thin, minutely furrowed, slightly inflated ventrally along apical 1/3. **Sepals** partly spreading, elliptic, 5-veined, acute, aristate, fleshy, margin entire, slightly revolute; dorsal sepals 28 x 9 mm, free; lateral sepals 30 x 10, obliquely fused to the base of the column, sparsely granulose on the inner apical surface. **Petals** 26 x 4.6 mm, partly spreading, free, linear-oblancoolate, obtuse, 3-veined, margin entire, revolute. **Lip** 15 x 7.0 mm, united to the column, sub-pandurate in natural position due to the revolute margin in the middle, forming a constriction, oblong when spread (which is difficult because of the fleshy, stiff texture, thus canalicate when seen from behind) with a pair of lateral lobes behind the calli, acutely triangular, very small, base truncate, apex with a pair of divaricate lobes near the apex, sub-triangular, obtuse to narrowly, apex of the lip triangular, acute; bicallose, calli prominent, hemi-elliptic, fleshy, laminar, divergent, and with a wide, fleshy mid-rib running down to the apex of the lip; basal surface of lip minutely and sparsely granulose, including the calli. **Column** 14 mm long, slightly arched, dilated along the apical 1/3. **Clinandrium-hood** short, margin crenate. **Anther** reniform. **Pollinia** not seen. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** penetrating nearly half the pedicellate ovary, forming a slightly inflated, elongate vesicle, unornamented. **Capsule** not seen.

**OTHER SPECIMENS**: None seen.

**OTHER RECORDS**: None seen.

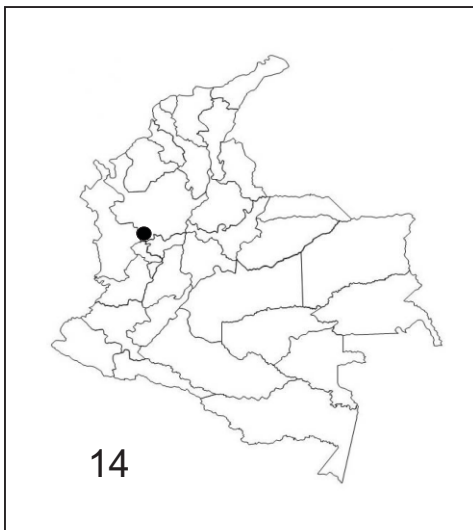
**DISTRIBUTION AND ECOLOGY**: Known presently from a single collection from the highest points on the Cordillera Occidental in the SW corner of Antioquia from the Farallones de Citará, near the border with the Chocó and Risaralda Departments, terrestrial in Páramo, among grasses and small bushes at 3200-3600 m altitude. Flowering in January.

**RECOGNITION**: *Epidendrum constrictum* belongs to the Andean Group and Cernuum subgroup which is characterized by the monopodial, branching habit, the erect cane-like stems with subapical branching, the racemose, nutant inflorescence, compact, fleshy flowers, and the lip three-lobed. The new species is recognized by the flowers brown outside, inside yellowish green, the veins marked in green, petals yellow tinged green, column brown at base, apex green, lip yellow at base, center and apex green, sepals 28-30 mm long, aristate, petals 26 x 4.6 mm, linear-oblancoolate, and the lip sub-pandurate with prominent hemi-elliptic, fleshy calli and a pair of divaricate lobes near the apex, sub-triangular, obtuse. *Epidendrum steyermarkii* has greenish yellow flowers with a white lip, sepals 26-35 mm long, minutely apiculate, petals 26-28 x 5-7 mm, oblancoolate to sub-spatulate, and a 3-lobed lip, the lateral lobes prominent, dolabriform. *Epidendrum cornicallosum* Foldats has similarly colored green flowers, but sepals 21-26 mm long, minutely apiculate, petals 19-21 x 8.5-12 mm, obovate, and a 3-lobed lip, lateral lobes transversely elliptic. *Epidendrum gerlachianum* Hágsater, O. Pérez & E. Santiago has a corymbose 6-flowered inflorescence of yellowish green flowers with a white lip, sepals 41-44 mm long, petals 40-41 x 6-7 mm, linear-oblong, and the lip clearly 3-lobed.

**CONSERVATION STATUS**: Critically Endangered. If we assume that it is endemic to the Farallones de Citará since until now no records confirm its presence to the north or south of the western Andes, though the area has not been well studied and is practically uninhabited. It is only present in the "Páramo" area above 3000 meters. Its present extension area is confined to less than 100 km<sup>2</sup>. It complies with Criterion B1ab(iii) for the CR category according to IUCN (2012). The effect of climate change moves the limit of the ecosystem to a higher altitude, therefore, areas with suitable habitat are lost and with it this species.

**ETYMOLOGY**: From the Latin *constrictus*, caused to contract or shrink, compressed, in reference to the inflorescence which barely surfaces from in between the apical leaves of the stem, thus the flowers are bunched. Additionally, the lip is constricted in the middle.

**REFERENCES**: Hágsater, E., O. Pérez & E. Santiago, 2013, *Epidendrum gerlachianum*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 10, *Icon. Orchid.* 14: pl. 1431. Santiago, E., & E. Hágsater, 2009, *Epidendrum cornicallosum*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 8, *Icon. Orchid.* 12: pl. 1229. Santiago, E., & E. Hágsater, 2009, *Epidendrum steyermarkii*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 8, *Icon. Orchid.* 12: pl. 1294. UICN, Unión internacional para la conservación de la naturaleza, 2012, Categorías y Criterios de la Lista Roja de la UICN: Versión 3.1. Segunda edición. Gland, Suiza y Cambridge, Reino Unido: UICN. vi + 34 pp.



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Illustrator: R. Jiménez M.

Photo: J. D. Acosta A.

Editors: E. Hágsater & E. Santiago

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Plate 1764



*EPIDENDRUM CROCEOSERPENS* Hágsater & Salas Guerr.

Plate 1765

**EPIDENDRUM CROCEOSERPENS** Hágsater et Salas Guerr., *sp. nov.*

Type: PERU: San Martín: Provincia: Rioja, Sector: Chisquilla, ingresando por la Comunidad Granada, próximo a las 7 lagunas, espaldas del Cerro Campanario, 3513 m, 1 March 2020, **José Dilmer Edquén Oblitas 1967**, Holotype: USM! Isotype: HURP!

Similar to *Epidendrum citrosepens* Hágsater, Cisneros & J. Duarte but with up to 6 orange flowers (vs. 2-3 greenish yellow flowers), sepals oblong-lanceolate, acuminate (vs. oblong-lanceolate, acute), petals ovate, acute (vs. oblong-lanceolate).

Epiphytic, caespitose, sympodial **herb**, 9 cm tall. **Roots** 2-3 mm in diameter, fleshy, thick, white. **Stems** 1.6-3.7 x 0.5-0.6 cm, a pseudobulb, ovoid, short, partly covered by non-foliar sheaths 1.3 x 0.5 cm, somewhat striated when dry. **Leaves** 1-3, 3.5-5.6 x 0.8-1.2 cm, at the apex of pseudobulb, lanceolate, acute, fleshy, coriaceous, above green, underside wine-red, with a dorsal keel, margin minutely erose, spreading. **Inflorescence** 14 mm long, apical, sessile, sub-umbellate, racemose with up to 6 flowers, much shorter than the leaf; peduncle reduced. **Flowers** 3-6, simultaneous, all facing upwards, orange, turning somewhat pink with age; fragrance not registered. **Floral bracts** 3.0 x 1.0 mm, shorter than the ovary, triangulate to ovate, acute. **Ovary** 11 mm long, terete, thin at the base, very thick along the apical half, forming an inflated ventral vesicle, smooth. **Sepals** the dorsal 5.2 x 2.7 mm, oblong-lanceolate, acuminate, partly spreading, free, fleshy, glabrous, 1-veined, margins erose, spreading, with a low keel at the apex, dorsally somewhat granulose; lateral sepals 6.0 x 3.4 mm, ovate. **Petals** 4.2 x 2.0 mm, partly spreading, free, ovate, acute, 1-veined, margins entire, spreading. **Lip** 3.1 x 5.0 mm, united to the column, widely cordiform, base sub-cordate, apex short apiculate, conduplicate in natural position, margin erose-crenulate, especially towards the sides; ecallose, disc with a low, thickened mid-rib, disappearing before reaching the apex. **Column** 2 mm, very short, forming an obtuse angle with the ovary. **Clinandrium-hood** much reduced, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, ovoid, laterally compressed; caudicles short, viscidium semi-liquid, semi-translucent. **Rostellum** not seen. **Lateral lobes of the stigma** not seen. **Nectary** penetrating 1/2 of the pedicellate ovary, widened. **Capsule** ovoid, green tinged wine-red, verrucose.

**OTHER SPECIMENS: Amazonas:** Chachapoyas: Distr. Granada, 3408 m, 18 IV 2019, *Edquén 1301*, CPUN!

**OTHER RECORDS: PERU: Amazonas:** Chachapoyas: Leimebamba, 3200 m, 16 VIII 2015, *Marcos Salas s.n.*, digital image, AMO! (LCDP and photo voucher).

**DISTRIBUTION AND ECOLOGY:** Known presently from three collections from northern Peru, San Martín and Amazonas, Central Cordillera of the Andes at 3200-3500 m altitude in the upper valley, source of the Utcubamba River, which runs north and joins the Marañón. Epiphytic, in high Andean forest relicts, especially *Polylepis sp.*, surrounded by "pajonales" (*Jalca*), with high humidity, trees completely covered by moss and floor covered with "Puyas" (Bromeliaceae). Flowering from March to August.

**RECOGNITION:** *Epidendrum croceoserpens* belongs to the Kaloptenix group, Serpens Subgroup characterized by the aggregate, globose pseudobulbs with fleshy-coriaceous leaves, and a sessile inflorescence, and one or few fleshy, compact, star-shaped flowers, often burgundy red in color, lip entire, more or less cordiform. The new species is recognized for having 1-3 leaves per pseudobulb, leaves lanceolate, to 5.1 cm long, green above, underside wine-red, margin minutely erose; flowers 3-6, facing upwards, orange, turning somewhat pink with age, petals 4.2 mm long, ovate, and lip with a low wide mid-rib. *Epidendrum yacuriense* Hágsater & H. Medina has more than 6 wine-red flowers, the column and apex of the sepals pale green, a single leaf per pseudobulb, petals 5.9 mm long, oblong-lanceolate, and the disc of the lip glabrous. *Epidendrum pachacutegianum* Hágsater & Collantes, has a single longer leaf, to 8.3 cm long, dark, dull green, flowers non-resupinate, grayish pink to pale copper pink, lip pink to creamy green, column creamy green with dorsal fuchsia spots near the base, and the margin of petals and lip minutely papillose. *Epidendrum citrosepens* Hágsater, Cisneros & J. Duarte, has 2 leaves per pseudobulb, a 2-3 flowered inflorescence, flowers yellowish green, a cordiform lip, short apiculate, the disc with a thick mid-rib, and a column about 5 mm long.

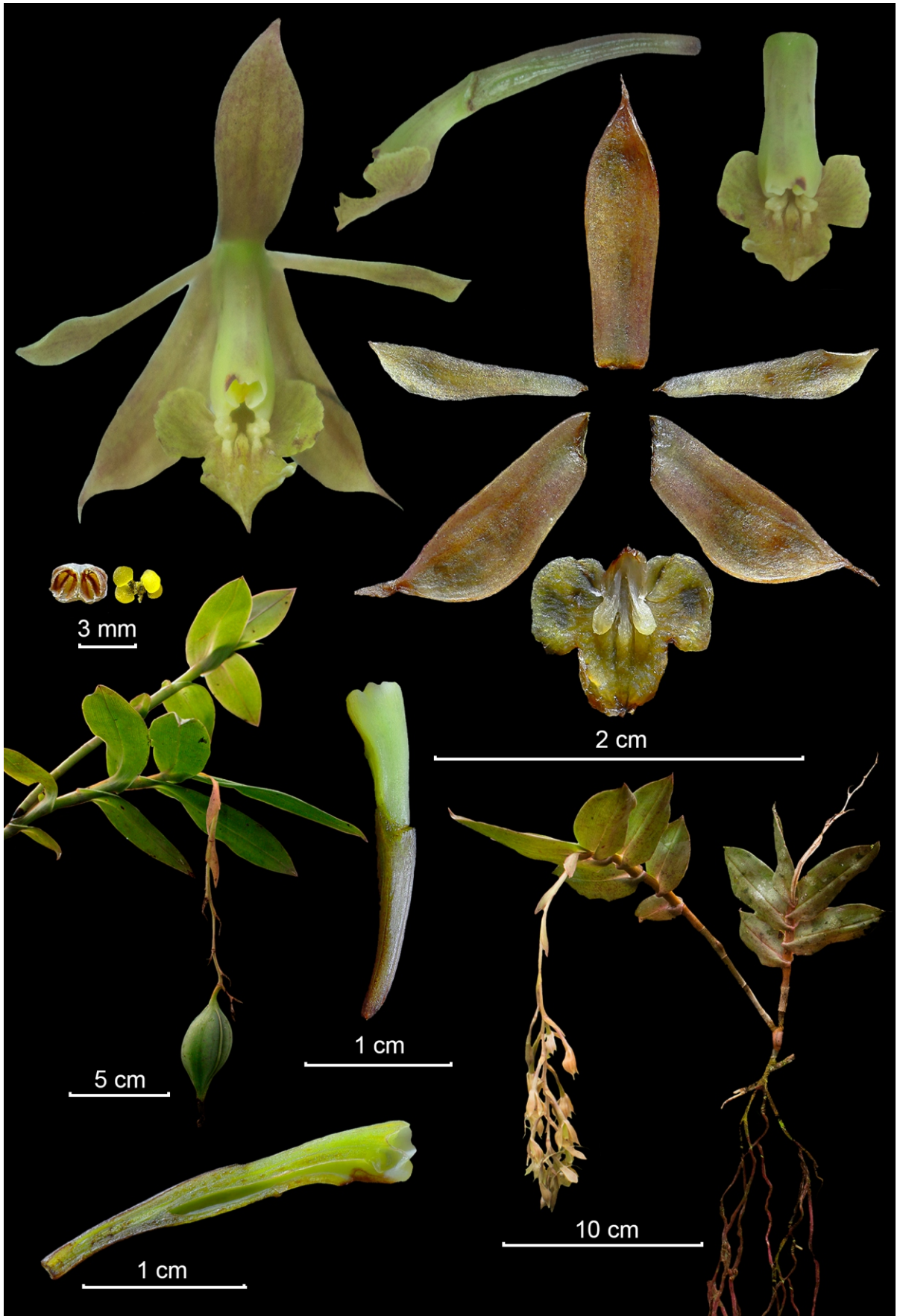
**ETYMOLOGY:** From the Latin *croceus*, saffron, and *serpens*, snake, in reference to saffron (orange) colored flowers of this species of the Serpens subgroup, due to the long line of alternating, wavy pseudobulbs typical of older plants.

**CONSERVATION STATUS:** DD. Data deficient. Known presently from two collections in a limited range in northern Peru.

**ACKNOWLEDGMENT:** Collection of type by José Dilmer Edquén made under project "Diversidad y distribución de orquídeas, en bosque no intervenido, parches o fragmentos y paisajes agro-intervenidos, en el Bosque de Protección Alto Mayo", emitido bajo el permiso (N.º 006-2018-SERNANP-BPAM-JBPAM).

**REFERENCES:** Hágsater, E., & B. Collantes, 2006, *Epidendrum pachacutegianum* in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum* Part 5, **Icon. Orchid.** 8: pl. 864. Hágsater, E., A. Cisneros & J. Duarte, 2019, *Epidendrum citrosepens* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum* Part 13, **Icon. Orchid.** 17 (1): pl. 1713. Hágsater, E., & H. Medina, 2020, *Epidendrum yacuriense* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(2): pl. 1800.





EPIDENDRUM CURIMARCENSE Hágsater, W.C.Navarro & H.R.Quispe

Plate 1766

**EPIDENDRUM CURIMARCENSE** Hágsater, W.C.Navarro & H.R.Quispe, *Lankesteriana* 20(1): 7-13, 2020.

TYPE: Peru. Junín: Prov. Jauja, Distr. Molinos; Curimarca River, 3450 m, coll. 17 March 2018, pressed 20 March 2018, **Wendy Carolay Navarro Romo & Harold Rusbelth Quispe Melgar 50**. Holotype: HOXA! (LCDP and photo voucher) Isotype: HUT!

Epiphytic, sympodial, scandent, erect to arching **herb**, ca. 30 cm long, of successive lateral growth. **Stems** 10-14 x 0.3-0.4 cm, produced from the middle of the previous stem (2nd to 4th internode, below the first leaf), cane-like, terete. **Leaves** 5-9 distributed throughout the upper half of the stem, spreading, sub-coriaceous; sheath 1.0 x 0.4 cm, tubular; blade 2.5-7.3 x 1.0-2.5 cm, elliptic, acute, smooth, margin entire, spreading. **Spathe** 2.3 x 0.5 cm, single, conduplicate, tubular below, open above, narrowly elliptic, acuminate, margin entire, light brown. **Inflorescence** 17.5 cm long, apical, racemose, arching, nutant, flowering only once; peduncle 5-8 cm long, elongate, ancipitose, provided with 2-3 bracts, up to 23 x 5 mm, similar to the spathe but progressively smaller and developed as the inflorescence grows, conduplicate, tubular below, open above, narrowly elliptic, acuminate, margin entire, light brown. **Floral bracts** 5-8 x 1 mm, shorter than the ovary, triangular, acute. **Flowers** 6-15, opening in succession, eventually most open together, greenish buff (turning reddish brown as they wilt), column and lip green, without fragrance. **Ovary** 12.5-16.0 mm long, terete, progressively thickened towards the apex. **Sepals** partly spreading, 3-veined; long apiculate, margins entire; **dorsal sepal** 16 x 4 mm, free, oblong, widened slightly near the apex, acuminate; **lateral sepals** 16 x 5 mm, obliquely united to the base of the column, obliquely oblong-ovate, acuminate. **Petals** 12 x 2.5 mm, partly spreading, free, oblanceolate, acute, somewhat oblique, the upper margin straight, 1-veined, margin entire. **Lip** 9 x 10 mm, united to the column, 3-lobed, the base slightly cordate, margin entire, bicallose, the calli divergent, prominent, digitiform, a low fleshy mid-rib runs down the middle of the mid-lobe to the apex with a pair of lower, shorter ribs on the side; lateral lobes 3 x 5 mm, transversely ovoid, rounded; mid-lobe 4 x 5 mm, sub-quadrate, apex rounded. **Column** 10 mm long, thick, straight, apex truncate. **Clinandrium hood** short, margin entire. **Anther** reniform, 4-celled. **Pollinia** obovoid, laterally compressed; caudicles granulose, short; viscidium semi-liquid. **Rostellum** apical, slit. **Lateral lobes of the stigma** short, the viscidium itself also short, about the same size as the clinandrium. **Nectary** penetrating half the ovary, smooth, not inflated, unornamented. **Capsule** 46 x 19 mm, ellipsoid, pedicel 7 mm long, short thin, body 36 x 19 mm, and neck ca. 3 mm long.

**OTHER SPECIMENS:** None seen.

**OTHER RECORDS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Known presently only from the type, from central Perú, Department of Junín, upper basin of the Río Curimarca, an affluent of the Río Uchubamba, on the upper eastern slopes of the Cordillera Oriental de Los Andes. In montane humid forest, epiphytic on *Polylepis canoi* W.Mend., *Oreopanax oroyanus* Harms and *Miconia* sp., at 3450 m altitude. Flowering in March.

**RECOGNITION:** *Epidendrum curimarcense* belongs to the Ampelospathum group which is recognized by the scandent habit, with new stems produced from the middle of the previous stems, roots produced at the base of the main stem, and occasionally from the base of the successive stems, an apical, arching, racemose inflorescence subtended by 1-2, large, acute spathes and flowers with a 3-lobed lip and 2 small, basal calli. The new species has short plants, ca. 30 cm tall, elliptic leaves 2.5-7.3 x 1.0-2.5 cm, a nutant, inflorescence, an elongate, ancipitose peduncle with a spathe, 2.3 x 0.5 cm, that is conduplicate and acuminate with similar but progressively smaller bracts spaced along the peduncle, flowers greenish buff, column and lip green, sepals 16 x 4-5 mm, and a lip 3-lobed, the base slightly cordate, lateral lobes transversely ovoid, rounded; mid-lobe sub-quadrate and the apex rounded. *Epidendrum ampelospathum* has plants up to 2.5 m tall, the stems with only 5-7 leaves, narrowly lanceolate leaves, 11.2-18.5 x 1.3-1.6 cm, and yellow to yellowish green flowers with very wide, trullate petals, and a 3-lobed lip, the base deeply cordate, lateral lobes reniform, obliquely orbicular, rounded; the mid-lobe triangular, apex truncate, rounded. *Epidendrum ampelomelanoxeros* Hágsater, E. Santiago & E. Parra has plants to 70 cm tall, a raceme with 17-26 flowers that are simultaneous, fleshy, greenish yellow tinged reddish, sepals 16-18 mm long, petals obliquely oblanceolate, acute, and dolabriform lateral lobes of the lip with the apical margin erose. *Epidendrum totoroense* J.S. Moreno, Hágsater, E. Santiago & Erazo has short, erect, stems produced from the base of the previous stem, to 7.5 cm tall, with 2-4 elliptic leaves, 2.5-5.0 x 1.3-2.0 cm, an erect inflorescence 13.5 cm long, flowers yellowish brown with the apex of the column and disc tinged purple, sepals 19 mm long, and the lateral lobes of the lip smaller than the mid-lobe; the flowers are very similar to those of the new species in color and proportions, but the plant habit is clearly different.

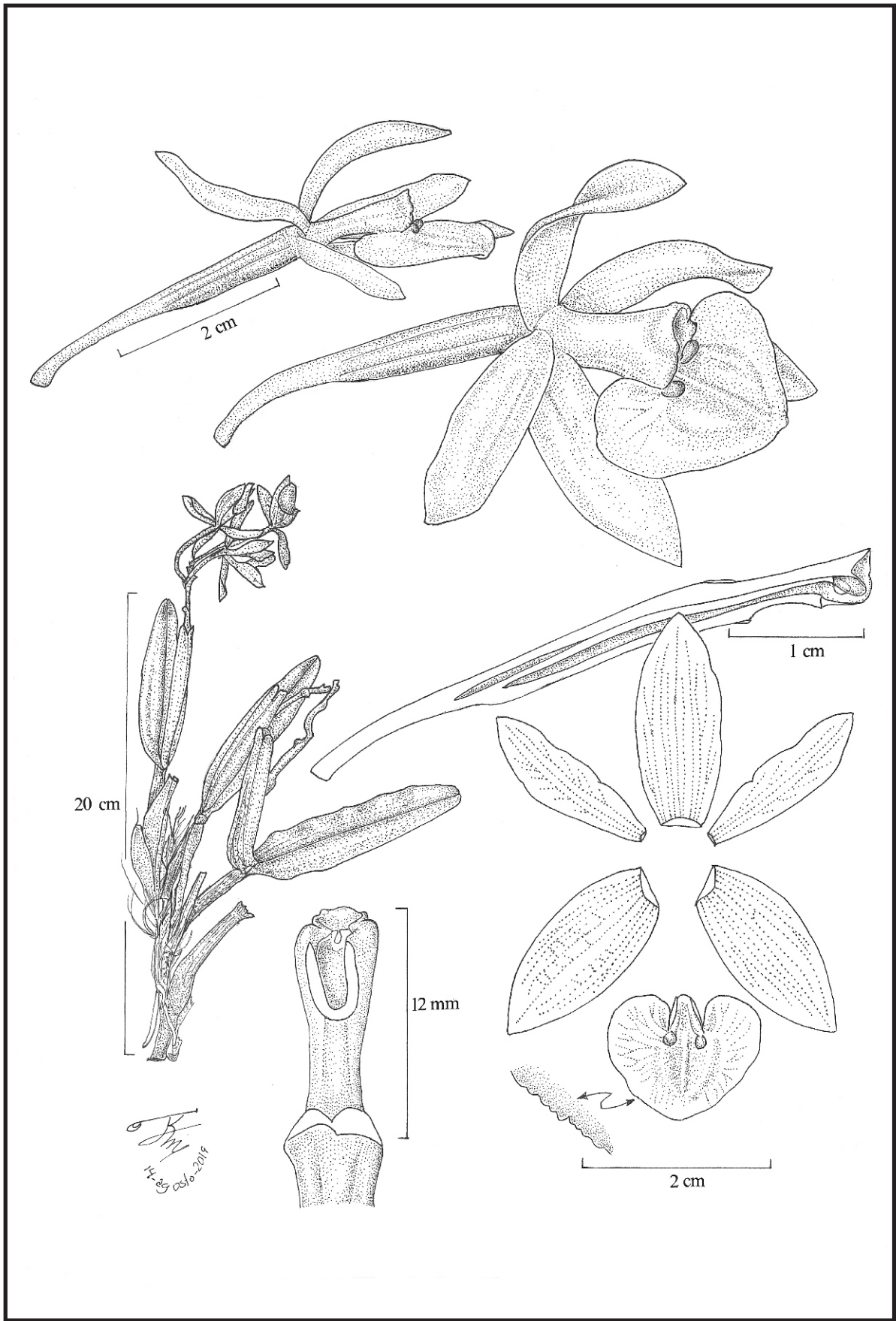
**CONSERVATION STATUS:** DD. Data deficient. Known presently only from the type.

**ETYMOLOGY:** In reference to the locality where the species was collected, in the basin of the Comunidad campesina de Curimarca/Jauja.

**ACKNOWLEDGMENT:** We thank the Servicio Nacional Forestal y de Fauna Silvestre for providing authorizations for research under the R.D.G. N°037-2017-SERFOR/DggSPFFS, and to Patricia Harding for the language edition.

**REFERENCES:** Hágsater, E., & C. H. Dodson, 2004, *Epidendrum ampelospathum* in E. Hágsater & L. Sánchez S. (eds.) *The Genus Epidendrum*, Part 4, *Icon. Orchid.* 7: pl. 703. Hágsater, E., E. Santiago & E. Parra, 2013, *Epidendrum ampelomelanoxeros* in E. Hágsater & L. Sánchez S. (eds.) *The Genus Epidendrum*, Part 10, *Icon. Orchid.* 14: pl. 1405. Moreno, J. S., E. Hágsater, E. Santiago & A. L. Erazo, 2016, *Epidendrum totoroense* in E. Hágsater & L. Sánchez S. (eds.) *The Genus Epidendrum*, Part 11, *Icon. Orchid.* 15(2): pl. 1598. Navarro, R., W. C., H. R. Quispe-Melgar & E. Hágsater, 2020, *Epidendrum curimarcense* (Orchidaceae), a new species from central Perú, *Lankesteriana* 20(1): 7-13.





EPIDENDRUM GALIANOI Hágsater, E.Santiago, J.Duarte & L.Valenz.

Plate 1767



**EPIDENDRUM GALIANOI** Hágsater, E.Santiago, J.Duarte et L.Valenz.

Type: PERU: Cusco: Prov. Paucartambo, Distr. Challabamba, Cerro Chapuyoc, Parque Nacional Manu, 3350-3450 m, 15 marzo 1991, **Asunción Cano Echeverría 4686**. Holotype: USM! Isotypes: F! (illustration voucher) MO!

Similar to *Epidendrum milpoëns* Hágsater & E.Santiago but with 5-6 yellow flowers per inflorescence, (vs. 2-3 green flowers), sepals 21-22 mm long (vs. sepals 18-19 mm long), petals 19-22 x 5.0-6.0 mm, narrowly elliptic (vs. petals 16-17.5 x 5.0-7.0 mm, rhombic-spatulate), and the lip with a disc slightly fleshy between the calli with a fleshy mid-rib reaching the apex of the lip (vs. disc of the lip with 3 parallel ribs that reach the apex of the lip).

Epiphytic, sympodial sub-caespitose, scandent **herb**, 15 x 20 cm tall. **Roots** 0.5-1.0 mm in diameter, distributed along the rhizome, thin. **Stems** 5.5-8.5 x 0.9-1.0 cm, thickened forming fusiform pseudobulbs, furrowed and rugose, covered by 3 progressively larger sheaths 3.4-7.1 cm long, membranaceous, scarious and becoming fibrous with age. **Leaf** 1, 9.1-11.7 x 2.1-2.4 cm, apical, articulate, coriaceous, green-brown, narrowly elliptic, obtuse, margin entire, slightly revolute. **Spathe** 1, 6.8 x 1.1 cm, at the apex of the pseudobulb, tubular, oblong, conduplicate, apex rounded, brown. **Inflorescence** 11.8 cm long including the flowers, apical, erect, racemose; peduncle 8 cm long, terete, thin, erect, straight, brown. **Floral bracts** 1.3-1.8 mm long, much shorter than the ovary, triangular-ovate, acute, embracing. **Ovary** 3.3 cm long, terete, slightly inflated ventrally along the apical half, straight furrowed. **Flowers** 5, simultaneous, non-resupinate, yellow; fragrance not registered. **Sepals** 21-22 x 8.0-12 mm, partly spreading, free, elliptic, obtuse, 6-veined (the outer veins short branched), margin entire, spreading. **Petals** 19-22 x 5.0-6.0 mm, partly spreading, free, narrowly elliptic, obtuse, 3-veined, (the outer veins short branched), margin entire, spreading. **Lip** 13.7 x 16 mm, united to the column, entire, widely cordiform when spread, base deeply cordate, basal margins bordering on the column upturned, apex slightly apiculate, slightly reflexed, margin erose; bicallose, calli small, globose, disc slightly fleshy between the calli, with a fleshy mid-rib reaching the apex of the lip. **Column** 12 mm long, thin at base, gradually widened towards the apex, straight, with a pair of lateral rounded wings surpassing the clinandrium-hood. **Clinandrium-hood** short, truncate, margin crenate. **Rostellum** apical, slit. **Anther** not seen. **Pollinia** not seen. **Lateral lobes of the stigma** occupying ¼ the length of the stigmatic cavity. **Nectary** penetrating half of the ovary, unornamented. **Capsule** not seen.

**OTHER SPECIMENS: PERU: Cusco:** Prov. Paucartambo, Dist. Kosñipata, Pillahuata, 3000 m, 11 XII 1942, *Vargas 3012*, CUZ! (only the specimen on the right side) Ibid. Prov. Convención, "El Dorado" 2900 m, 02 VIII 1943, *Vargas 3496*, CUZ! Ibid. Prov. Urubamba, Dist. Machu Picchu Wiñay Wayna, 2750 m, 5 III 1999, *Nauray 360*, CUZ! Ibid. Prov. Calca: Distr. Lares: Choquecancha, Arenal, 4137 m, 19 II 2005, *Valenzuela 5006*, MO! (illustration AMO) Calca: Lares: Suyo, 17 VI 2005, *Valenzuela 5678*, SEL! Pillahuata, Paucartambo, 2800 m, IX 1941, *Vargas 2181*, CUZ! Ibid. Paso del Águila, 2800 m, 4 IX 1965, *Vargas 16778*, CUZ!

**OTHER RECORDS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Widespread along the upper Amazon slope of the Andes in southern Peru, in the Department of Cusco, at 2900-4137 m altitude. Flowering from August to March.

**RECOGNITION:** *Epidendrum galianoi* belongs to the Saxicola Group characterized by the pseudobulbous stems, caespitose or scandent habit, the prominent spatheaceous bract apically rounded, few-flowered, erect inflorescence, the flowers purple or yellow, surface of the vegetative structures often rugose. The new species is recognized by de 5 flowered inflorescence, flowers yellow, sepals 21-22 mm long, elliptic, petals 19-22 x 5-6 mm, narrowly elliptic, and the lip 13.5 x 16 mm, widely cordiform when spread, calli globose, small, disc slightly fleshy between the calli, and a fleshy mid-rib reaching the apex of the lip. It is similar to *Epidendrum milpoëns* Hágsater & E.Santiago which has 2-3 green flowers per inflorescence, sepals 18-19 mm long, petals 16-17.5 mm long, rhombic-spatulate, and the disc of the lip with 3 parallel ribs that reach the apex of the lip. *Epidendrum microcattleyioides* D.E.Benn. & Christenson has 4 yellow flowers, sepals 12-13 mm long, petals 11 x 7.0 mm, obovate, and a reniform lip, widely emarginate. *Epidendrum saxicola* Kraenzl. has two purple flowers, the lip white, sepals 17-18 mm long, petals 15-18 x 2.5-3.0 mm, linear-oblancoate, and the lip sub-orbicular to obscurely pentagonal. *Epidendrum harmsianum* Kraenzl. has 1-2 yellow flowers, sepals 16 mm long, petals 14 x 4 mm, oblanceolate, and the lip transversely ovate-oblong.

**NOTE:** The original description of *Epidendrum microcattleyioides* indicates that the dorsal sepal measures 15 x 6.5 mm, and lateral sepals 22.5 x 7.5 mm. Analyzing a flower in spirit of the type, *Bennett 7939* at MOL shows that the flowers are smaller, sepals are 12-13 x 6-7 mm.

**CONSERVATION STATUS:** Apparently not threatened as it is widespread in the Department of Cusco and found in protected Natural Parks the Manu and Machu Picchu.

**ETYMOLOGY:** In honor of Washington Hilario Galiano Sánchez, M. Sc., (1951-) biologist at the San Antonio Abad National University of Cusco, and professor who inspired Luis Valenzuela Gamarra to follow a career in Botany. His most recent work has been in the vegetation of the forests of *Polylepis incarum* (Bitter) M.Kessler & Schmidt-Leb., and The Crassulaceae of Cusco.

**REFERENCES:** Bennett, D.E., & E.A. Christenson, 1998, *Epidendrum harmsianum*, in E.A. Christenson (ed), **Icon. Orchid. Peruvianum**, pl. 461. Bennett, D.E. & E.A. Christenson, 2001, *Epidendrum microcattleyioides*, in E.A. Christenson (ed.) **Icon. Orchid. Peruvianum** pl. 644. Hágsater, E. & E.Santiago, 2019, *Epidendrum milpoëns* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(1): pl. 1741. Montesinos-Tubée D.B., W. Galiano, D.F. Beltrán y A.C. Pinto. 2015. Vegetación de un bosque de *Polylepis incarum* (Rosaceae) en el distrito de Lampa, Puno, Perú. *Revista Peru. Biol.* 22(1): 87-96 doi: <http://dx.doi.org/10.15381/rpb.v22i1.11125> Pino, G., W. Galiano, P. Núñez V. & B. Kamm, 2017, The Crassulaceae of Cusco, Peru, Part I: subfamily Echeverioideae, **Cact. Succ. J. (U.S.)** 89(2): 52-73. Pino, G., W. Galiano, P. Núñez V. & B. Kamm, 2017, The Crassulaceae of Cusco, Peru, Part II: subfamily Sedoideae, **Cact. Succ. J. (U.S.)** 89(2): 52-73. DOI: 10.2985/015.089.0408. Santiago, E., J. Duarte & E. Hágsater, 2020, *Epidendrum saxicola* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum* Part 13, **Icon. Orchid.** 17(2): pl. 1796.



Authors: E. Hágsater, E. Santiago, J. Duarte & L. Valenzuela

Illustrator: R. Jiménez M.

Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(2). 2020.

Plate 1767



**EPIDENDRUM GEMINISUBORBICULATUM** Hágsater, E.Santiago et Medina Tr., sp. nov.

Type: COLOMBIA: Cauca: El Tambo, 2300 m, 6 August 1936, *Kjell von Sneidern 1086*. Holotype: NY! Isotypes: FI S x2!

Similar to *Epidendrum cuencanum* Schltr. but plants smaller, stems 7-16 cm long (vs. stems 17-20 cm long), leaves 2.8-6.7 x 1.7-4.0 cm, sub-orbicular, (vs. 4.5-9.0 x 1.5-4.3 cm, widely elliptic), sepals 17-19 x 5.0-5.5 mm, elliptic-lanceolate (vs. sepals 21.5 x 6.3 mm, lanceolate), petals 17-18 x 4.0-4.5 mm, narrowly sub-rhombic (vs. petals 20 x 2 mm, linear), and lip slightly 3-lobed (vs. lip entire, cordiform).

Epiphytic, sympodial, scandent herb 10-25 cm tall. **Roots** 2.3 mm in diameter, basal, produced along the rhizomatous base of each new stem, fleshy, thick, white. **Stems** 7-16 x 0.4-0.8 cm, simple, cane-like, produced from the middle of the previous stem, terete below, laterally compressed towards the apex; base covered by non-foliar sheaths 1.1-2.3 cm long, becoming fibrous and scarious with age. **Leaves** 2, aggregate towards the apex of the stem, alternate, articulate, coriaceous; sheath 0.6-3.0 x 0.4-0.8 cm, tubular, somewhat infundibuliform towards the apex when dry, minutely striated; blade 2.8-6.7 x 1.7-4.0 cm, sub-orbicular, apex bilobed, margin entire, spreading. **Spathe** 1-2, 3.5-4 x 1.2-1.7 cm, oblong-obovate, obtuse, conduplicate in natural position. **Inflorescence** 5.0-9.5 cm long (including flowers), apical, erect; peduncle 2.2-4.0 cm long, totally hidden within the spathe; rachis ca. 6 mm long. **Ovary** 30-40 mm long, terete, thin, not inflated, striated. **Floral bracts** 3 mm long, much shorter than the ovary, narrowly triangular, acute, embracing. **Flowers** 2-3, simultaneous, non-resupinate, pale green turning somewhat yellow; fragrance not registered. **Sepals** 17-19 x 5.0-5.5 mm, free, spreading, elliptic-lanceolate, acute, 7-veined, margin entire, revolute; lateral sepals minutely apiculate. **Petals** 17-18 x 4.0-4.5 mm, free, spreading, narrowly sub-rhombic, 3-veined, the lateral veins bifurcate at base so as to appear 5-veined, margin entire, spreading. **Lip** 15 x 16 mm, united to the column, embracing the apex without wholly covering it, slightly 3-lobed, base cordate, apex obtuse, margin entire; bicallose, calli parallel, laminar, narrowly triangular; disc with a low, wide mid-rib that disappears before reaching the apex of the lip; lateral lobes 5.0 x 7.0 mm, hemi-orbicular; mid-lobe 9.0 x 12 mm, widely triangular, the sides rounded especially towards the base, apex obtuse. **Column** 6-7 mm long, straight, thick. **Clinandrium-hood** short, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, lentil-shaped, yellow somewhat translucent. **Rostellum** apical, slit. **Lateral lobes of the stigma** short, along the inner edge of the circular stigmatic cavity. **Nectary** not seen. **Capsule** not seen.

**OTHER SPECIMENS: COLOMBIA: Valle del Cauca:** km 48 Cali-Buenaventura, 1500 m, 3 VII 1965, *Dodson 3233*, SEL!

**OTHER RECORDS: COLOMBIA: Putumayo:** Mun. San Francisco, Vereda San José del Chunga, localizada al occidente de este Valle (Sibundoy), 2300 m, 29 IV 2019, *Medina 182*, digital images, AMO! (LCDP and photo voucher).

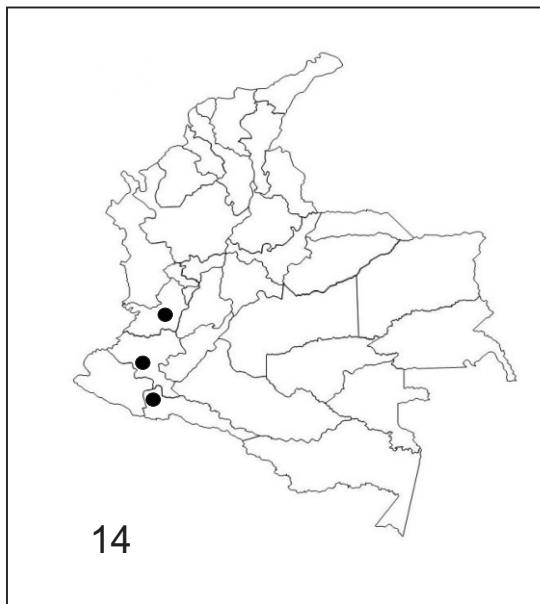
**DISTRIBUTION AND ECOLOGY:** Known presently from southern Colombia, from the eastern and western slope of the Macizo Colombiano, 1500-2300 m altitude, scrambling among bushes on ledges and in low forests. Flowering from April to August.

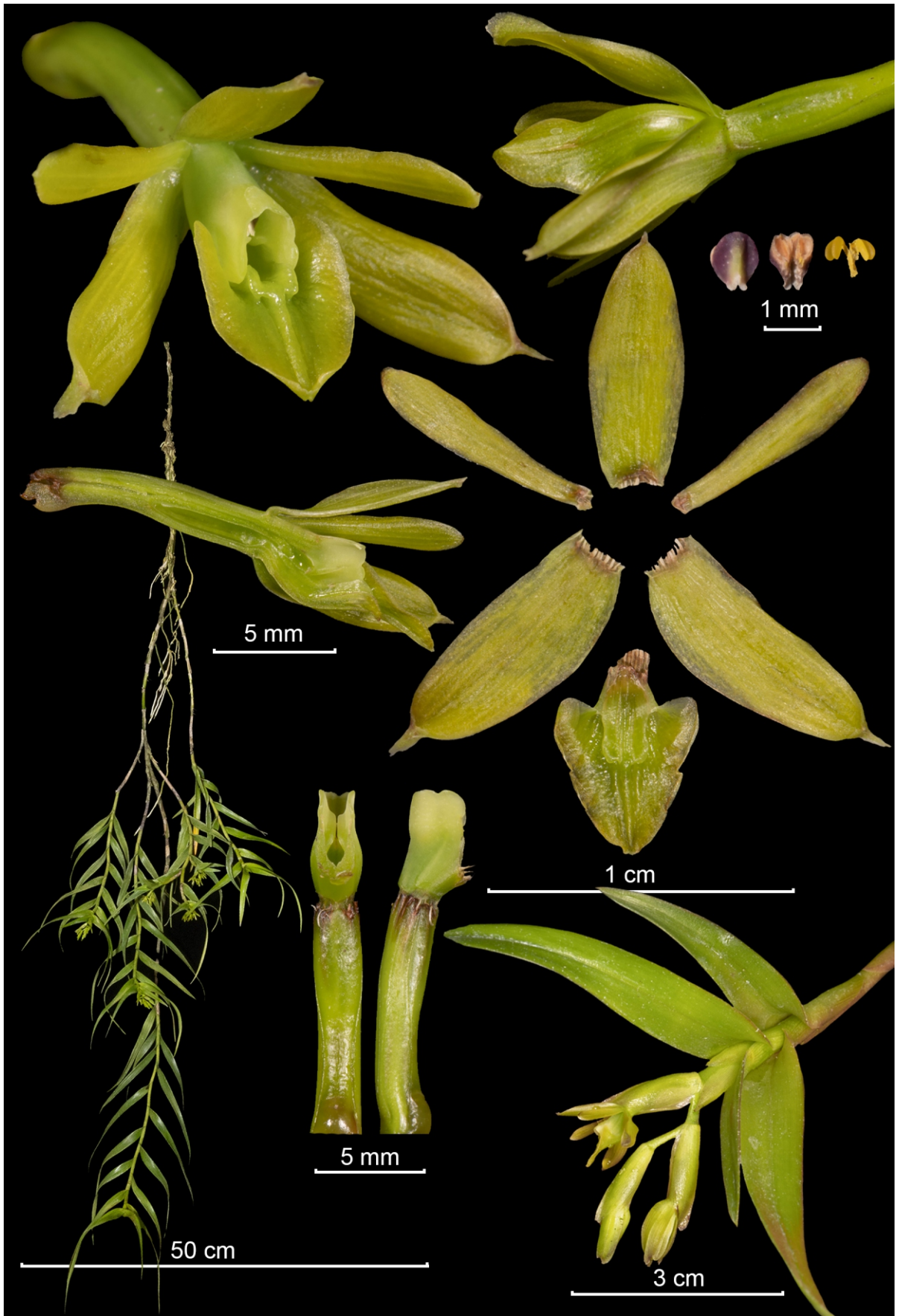
**RECOGNITION:** *Epidendrum geminisuborbiculatum* belongs to the Geminiflorum Group characterized by the sympodial habit, the creeping rhizome, the unbranched stem, 1-2 spathes, and a few-flowered inflorescence, the flowers non-resupinate, more than 2 cm in diameter, and the disc of the lip is not excavate, with a pair of laminar calli. The new species is recognized by the small plants, stems 7-16 cm long, leaves 2.8-6.7 x 1.7-4.0 cm, sub-orbicular, 2 pale green flowers turning yellow, sepals 17-19 x 5.0-5.5 mm, margins slightly revolute, petals 17-18 x 4.0-4.5 mm, narrowly sub-rhombic, and the lip 15 x 16 mm, slightly 3-lobed, lateral lobes hemi-orbicular. *Epidendrum cuencanum* is vegetatively similar but has the stems longer, 17-20 cm long, leaves 4.5-9.0 x 1.5-4.3 cm, widely elliptic, 2-5 flowers greenish white, sepals 21.5 mm long, petals 20 x 2 mm, linear, and a lip 13 x 12.5 mm, entire and cordiform. *Epidendrum geminiflorum* Kunth has stems 15-22 cm long, leaves 2.7-9.0 x 1.2-2.6 cm, oblong; 2[3] flowers green to greenish yellow, sepals 14-18 [21] x 3.5-4.5 mm, petals 14.4-16 [19] x 2.7-3.3 mm, narrowly lanceolate, and a lip 10-13 [16] x 8-12 mm, 3-lobed. *Epidendrum geminiochraceum* Hágsater, E.Santiago & Medina Tr., has leaves 3.0-13 x 1.2-3.3 mm, oblong; flowers orange to ochre-orange, sepals 21-23 x 6.5-8 mm, lanceolate, shortly acuminate, petals 18.3-19.0 x 4.0-6.0 mm, lanceolate, acuminate, and a lip 15-17 x 16.0-16.5 mm, 3-lobed, with a low mid-rib.

**CONSERVATION STATUS:** VU. Vulnerable. The species has only three known localities, all of them in cattle matrix, severely fragmented forests mixed with pastures and the extent of occurrence is less than 20,000 km<sup>2</sup> with only populations in southern Colombia. For this reason this taxon is included in the Vulnerable (VU) category, following criterion B1ab(iii) according to IUCN (Version 3.1, 2012).

**ETYMOLOGY:** From the Latin *geminus*, twins, *sub-*, near, and *orbiculatus*, circular, in reference to the twin flowered inflorescence typical of the geminiflorum group, and the nearly circular leaves that are typical of this species.

**REFERENCES:** IUCN, 2012, Red List Categories and Criteria: Version 3.1. Second edition. Gland, Switzerland and Cambridge, UK; iv + 32 pp. Santiago, E., & E. Hágsater, 2019, *Epidendrum cuencanum* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, *Icon. Orchid.* 17(1): pl. 1716. Santiago, E., & E. Hágsater, 2019, *Epidendrum geminiflorum* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, *Icon. Orchid.* 17(1): pl. 1724. Hágsater, E., E. Santiago & R. Medina T., 2019, *Epidendrum geminiochraceum* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 13, *Icon. Orchid.* 17(1): pl. 1725.





EPIDENDRUM GUANACASTENSE Ames & C. Schweinf.

Plate 1769

**EPIDENDRUM GUANACASTENSE** Ames & C.Schweinf., Sched. Orch. 10: 64. 1930

Type: COSTA RICA: Guanacaste: El Arenal, 485-600m, 18-19 January 1926, **Paul C. Standley & Juvenal Valerio 45089**. Holotype: AMES 33499! Isotype: AMES 33500! US 1493522!

Synonym: *Epidendrum cocleense* Ames, F.T.Hubb. & C.Schweinf., Bot. Mus. Leaflet 4(1): 6. 1936. Type: PANAMA: Coclé: El Valle de Antón, lower portion of valley and marshes along Río Antón, 500 m, 2 II 1935, **Abel A. Hunter & Paul H. Allen 389**. Holotype: AMES 41863! Isotypes: BM! BR! CAS 358175! F 1323124! G! K! MICH! MO 1090372! NY! P! S! SEL 9588! U 65726A! UC 790898! US 1976117!

Epiphytic, monopodial, pendent, branching herb, 60-300 cm tall, forming large masses. **Roots** 0.5-1.3 mm in diameter, thin, simple, from the base of the main stem, white. **Stems** 76-122+ x 0.5 cm, terete, flexuous, the primary stem covered by sheaths 3.8 x 0.5 cm, tubular, scarious when dry; secondary stems 35-38 x 0.3-0.4 cm, intermediate in length; tertiary stems 3.0-4.5 x 0.2-0.3 cm, very short, produced from the secondary stems. **Leaves** distributed throughout, distichous, linear-lanceolate, acute, margin entire, grass-like, deep green; numerous on the primary stem 12.5-15.0 x 0.8-1.1 cm; 6-17 on the secondary stems, blades 12.4-13.2 x 0.9-1.0 cm, distributed along the apical half; 3-4 on tertiary stems, blades 4.2-6.5 x 0.5-0.7 cm, unequal, one of the middle blades always longest. **Spathes** lacking. **Inflorescence** 2.0-3.7 cm long, apical, from secondary and tertiary branches, a loose spike, distichous, flowering only once; peduncle 0.9 cm long, short, covered with 2 bracts 1.1 x 0.6 cm, oblong-triangular, acute, imbricated; rachis 2.7 cm long, somewhat zigzag. **Floral bracts** 12-14 x 5.0-7.0 mm, longer than the ovary and covering it, imbricated, ovate-triangular, acute. **Flowers** 2-5, simultaneous, distichous, lip always facing the rachis, green, the apex of the sepals slightly tinged purple dorsally, anther purple with green overtones; without fragrance. **Ovary** 8-11 mm long, sessile, thick, terete, slightly inflated along the apical 3/4. **Sepals** 8.0-10.0 x 2.5-3.5 mm, slightly ovate-lanceolate, fleshy, partly spreading, 5-11-veined, margin entire, slightly revolute; aristate; lateral sepals with the dorsal keel prominent and elongate, margin erose. **Petals** 7.5-9.0 x 1.5-2.0 mm, partly spreading, linear-oblongate, obtuse, 3-veined, margin entire, spreading. **Lip** 5.0-6.0 x 4.5-5.0 mm, united to the column, cordate, triangular in general outline, acute, margin minutely erose; bicallose, 2 slanted laminar calli at the base, apically joined with a thin but elevated mid-rib running down to the apex of the lip, both forming a "Y". **Column** 4.8-5.0 mm long, short, thick, straight, apex undulate, fleshy lobes, green to yellowish-green at the apex. **Clinandrium hood** short, margin undulate. **Anther** 4-celled, obovoid-spherical, short, apical margin entire. **Pollinia** 4, obovoid, laterally compressed, caudicles soft and granulose, somewhat longer than the pollinia; viscidium semi-liquid. **Restellum** apical, slit. **Lateral lobes of the stigma** prominent, 1/3 the length of the stigmatic cavity. **Nectary** deep, penetrating 2/3 of the pedicellate ovary, unornamented. **Capsule** globose; body 7.0 x 6.0 mm; apical neck 4.0 x 1.0 mm, thin.

**OTHER SPECIMENS: COSTA RICA: Guanacaste:** La Tejona, 600 m, 25 I 1926, *Standley 46041*, AMES! US! El Arenal, 485 m, 18 I 1926, *Standley 45089*, AMES x3! US! **Puntarenas:** Río Ceibo, 150 m, 20 VIII 1985, *Hágsater 7645*, AMO! Golfo Dulce, 0 m, 19 VIII 1990, *Soto s.n.*, US! Coto, Golfo Dulce, 0 m, 17 II 1933, *Valerio 575*, CR! **PANAMA: Coclé:** Valle de Antón, 1000 m, 20 I 1951, *Griffin s.n.*, AMES x2! **Colón:** Boquerón, end of road near Río Boquerón, road is 2 km N of cement plant on Colón highway, ca. 26 km E of turnoff to end of road, 500 ft, 14 I 1978, *Hammel 923*, AMO! MO! PMA! **Panamá:** Altos de Pacora, La Eneida, region of Cerro Jefe, 25 XII 1967, *Dressler 3280*, AMO! MO! Cerro Jefe, 8 I 1969, *Dressler 3598*, AMO! **ECUADOR: Morona-Santiago:** along main road Puyo-Macas to Palora, departing main Puyo-Macas road 38 km SSE of Puyo, 9.8 km from main road, remnant forest in pasture, 1336 m, 20 VIII 2002, *Croat 86703*, AMO! QCNE! SEL! Huamboya, Parroquia Chinguaza, Carretera Macas-Puyo, cerca de Anguasha, 943 m, 12 IV 2017, *Hágsater 15255*, AMO! MEXU! MO! QCNE! Huamboya, Parroquia Chinguaza, Carretera Macas-Puyo, cerca de Anguasha, 943 m, 12 IV 2017, flowered in cultivation 24 II 2020, *Hágsater 15255*, AMO! ECUAMZ! MO! QCNE! (LCDP and photo voucher).

**OTHER RECORDS: PANAMA: Coclé:** Valle de Antón, Lower portion of valley and marshes along river Antón, 500 m, 2 II 1935, *Hunter 389*, illustration, AMO!

**DISTRIBUTION AND ECOLOGY:** Ranges along the lowland Pacific watershed from northwestern Costa Rica to central Panama, growing in riparian vegetation or mangroves, at 0-1000 m, and on the plain of the Troncal Amazónica between Puyo and Tena, on the western slope of the Andes, in remnants of 15 m tall premontane forest in pastures, hanging from the lower branches, at 946-1336 m altitude. Flowering from August to February. In Fruit from April to August.

**RECOGNITION:** *Epidendrum guanacastense* belongs to the belongs to the Ramosum Group which is characterized by the monopodial, branching stems, the spike-like, distichous inflorescence, and the single "Y" shaped callus, and the Isomerum Subgroup which is recognized by the pendent plants, very narrow, acuminate leaves, and 1 to rarely 5 flowers. The species is recognized by the leaves of the primary stem 12.5-15.0 x 0.8-1.1 cm, a 2-5-flowered distichous inflorescence, and sepals 8.0-10.0 mm long. The widespread *Epidendrum isomerum* Schltr. has linear leaves, but has a one-flowered inflorescence, linear-lanceolate, acuminate floral segments, and the lip linear-triangular.

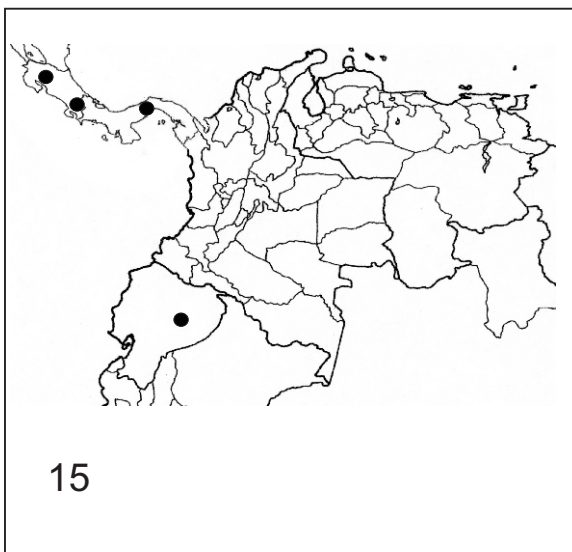
**NOTE:** The disjunct distribution from the Pacific coastal plain from Costa Rica and Panamá to the plain east of the Andes in central Ecuador is surprising, and can only be explained by this species having had an ancient widespread distribution crossing over from the Pacific to the Atlantic dry coastal plains and down the Orinoco to the foothills of the Andes, and having become two isolated populations.

**CONSERVATION STATUS:** NT. Not Threatened. The species is widespread and common along the Pacific coast of Costa Rica and Panama and known from only two localities, but it is probably generally overlooked by general collectors and of little interest for orchid collectors as it is difficult to find in flower, and the plants are large. The habitat where it has been collected in Ecuador is in pastures with old tall trees which are being progressively cut down for cattle grazing and agriculture.

**ETYMOLOGY:** In reference to the province of Guanacaste on the Pacific coast of north western Costa Rica, where the species was first collected.

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

**REFERENCES:** Hágsater, E., 1999, *Epidendrum isomerum* in E. Hágsater & G. A. Salazar (eds.), The Orchids of Mexico, Part 1, **Icon. Orchid.** 1: pl. 32. Sánchez S., L., & E. Hágsater, 2007, *Epidendrum guanacastense* in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 6, **Icon. Orchid.** 9: pl. 944.



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LCDP: R. Jiménez M. & A. Cisneros

Photo: R. Jiménez M.

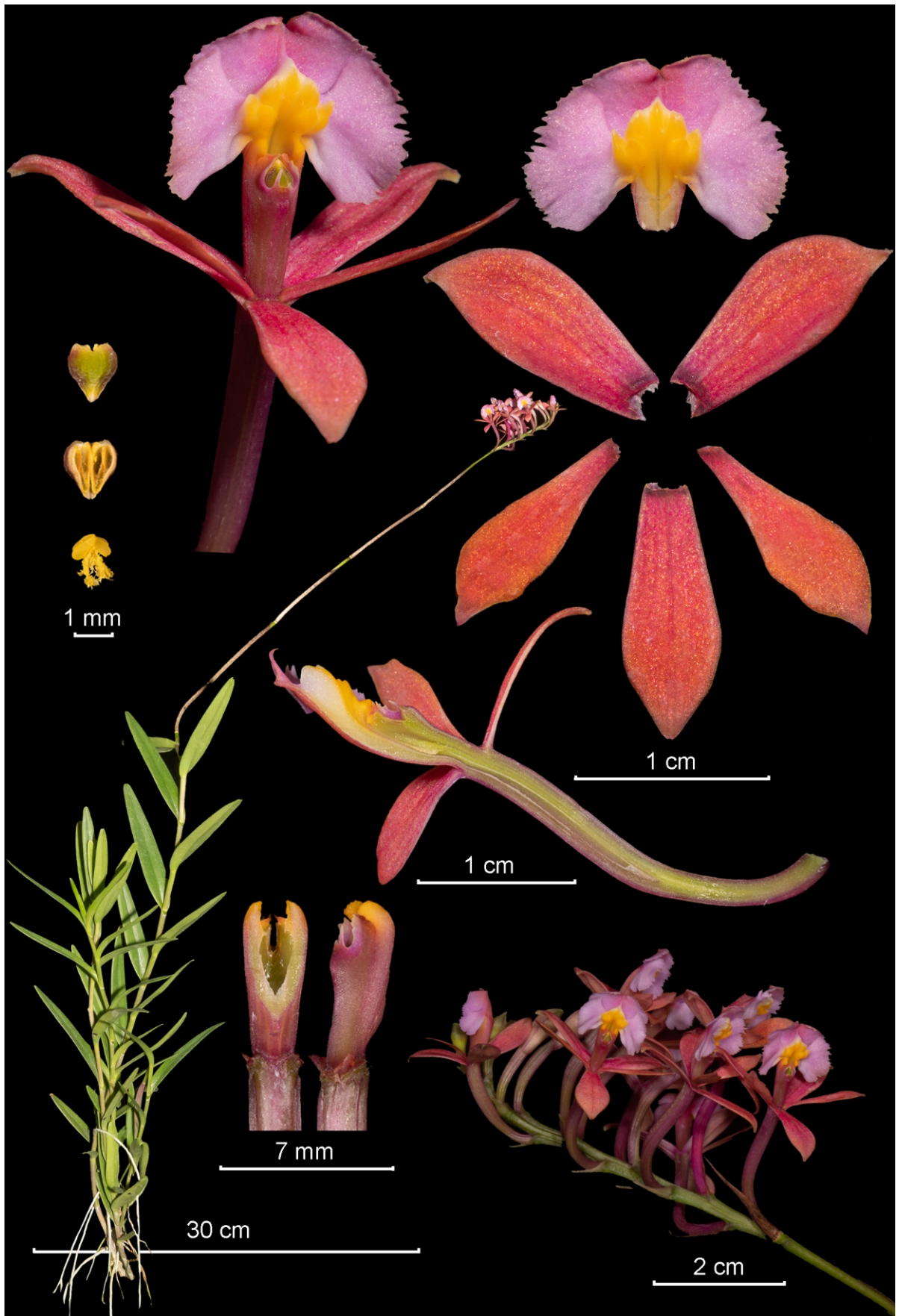
Editores: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(2). 2020.

Plate 1769



EPIDENDRUM HOLSTII Hágsater & Carnevali

Plate 1770

**EPIDENDRUM HOLSTII** Hågsater & Carnevali, Icon. Orchid. 16(1): pl. 1623. 2018.

TYPE: BRAZIL: Roraima: parte brasileira do Monte Roraima, 2681 m, 21 fevereiro 2017, **Leonardo Pessoa Felix, Joel Maciel Pereira Cordeiro & Eric Hågsater 16224**, Holotype: EAN! Isotypes: AMES! K!

Lithophytic, sympodial, caespitose **herb**, 50-90 cm tall including the inflorescence. **Roots** 1-2 mm in diameter, basal, terete, fleshy, thin, white. **Stems** 30-48 x 0.3-0.6 cm, simple, cane-like, slightly sinuous, terete to slightly compressed towards the apex, thin, covered by foliar sheaths. **Leaves** 9-15, distichous, distributed throughout the stem; sheaths 0.8-4.2 x 0.3-0.9 cm, tubular, smooth, green with red dots, papyraceous and scarious when dry; blades 3.0-10.8 x 1.0-2.4 cm, narrowly elliptic-lanceolate, articulate, apex obtuse to rounded, narrowly bilobed, coriaceous, smooth green, margins entire, spreading. **Spathes** lacking. **Inflorescence** 9-41 cm long, racemose becoming pluriracemose, producing new racemes over time from the upper nodes of the peduncle; peduncle 6-35 cm long, elongate, green, covered by 5 tubular bracts 5.9-6.9 cm long, yellow with brown dots, scarious when dry, striated, papyraceous, imbricated, acute; rachis 6.6 cm long. **Floral bracts** 4-11 x 2.0-2.5 mm, progressively smaller, much shorter than the ovary, triangular, acuminate. **Flowers** up to 17 or more, successive, with up to 11 open at any one time, non-resupinate, sepals and petals crimson red to salmon to coral red, lip pink to purple, callus yellow with white along the apical margin, column lilac tinged green, anther yellowish green tinged brown along the sides; fragrance none. **Ovary** 12-23 mm long, terete, thin, not inflated, lilac tinged green towards the base, slightly arched, furrowed. **Sepals** 8.0-13.0 x 3.0-5.2 mm, spreading, elliptic, acute, minutely apiculate, 7-veined, margin entire, spreading; lateral sepals oblique with a small dorsal keel. **Petals** 7.0-12.0 x 2.7-3.8 mm, partly spreading, rhombic-spatulate, 3-veined, the lateral veins short branched, margin entire, spreading. **Lip** 6.4-10.0 x 8.0-13.5 mm, united to the column, 3-lobed, base deeply cordate; callus massive, fleshy, formed by 7 unequal tubercles merged at the base, the central body formed by 3 tubercles, the middle part longer and prolonged into a low, short mid-ridge with a pair of lateral shorter tubercles, one on each side of the main body, slightly divergent, and two more, very short ones at the base atop the base of the lateral tubercles of the main body; lateral lobes 2.2-6.0 x 2.2-7.0 mm, superposed over the mid-lobe, flabellate, lateral margins entire, apical margin serrate-dentate; mid-lobe 3.1-5.0 x 6.1-10.0 mm, flabellate, bilobed, lateral margins entire, apical margin irregularly serrate-dentate. **Column** 7.5 mm long, straight, terete, slightly thickened towards the apex, ventrally papillose, with a pair of fleshy, yellow lateral lobes, recurved in front of the column. **Clinandrium hood** reduced, margin irregularly dentate, pale pink. **Anther** cordiform, apex obtuse, surface rugose, 4-celled. **Pollinia** 4, narrowly obovate, elongate, laterally compressed; caudicles longer than the pollinia, soft and granulose, like a pile of roof-tiles; viscidium semi-liquid. **Restellum** apical, slit. **Lateral lobes of the stigma** occupying 2/3 of the length of the stigmatic cavity. **Nectary** deep, penetrating half the pedicellate ovary, minutely papillose, the papillae arranged in rows. **Capsule** not seen.

**OTHER SPECIMENS: BRAZIL: Roraima:** Uiramutã; Roraima Tepui, alrededores del Hotel Coatí, cima del Roraima Tepui, 2705 m, col. 21 II 2017, pressed 23 I 2020, **Cordeiro 1103 sub Hågsater 15048**, AMO! (LCDP voucher). Ibid. Monte Roraima, Acampamento Quati, 2681 m, 21 II 2017, **Cordeiro 1103**, EAN! (digital photo of live inflorescence, AMO!) **GUYANA:** Roraima Tepui, La Proa camp, near Lake Gladys, 2800 m, 13 IV 1988, **Liesner 23269**, VEN! **VENEZUELA: Bolívar:** Cima del Roraima, 2700 m, 1 I 1977, **Delascio 4814**, VEN! Cumbre del Cerro Roraima, 2810 m, **Delascio 11880**, VEN! Kukenán-tepui, summit, 2550 m, 10 IV 1988, **Liesner 23074**, MO! VEN! Cerro Roraima, summit, 2280-2600 m, 27 III 1984, **Luteyn 9770**, NY! Cima del Roraima-Tepui; 2680 m, 18-III-2012, **Nozawa 1914**, CICY! SEL! VEN! Cima del Roraima-Tepui, alrededores del Campamento Hotel San Francisco, 2718 m, 26-III-2012, **Nozawa 1984**, CICY! SEL! VEN! Plateau of Auyán-Tepui, 300 m E of EDELCA station, 1850 m, 27 VII 1983, **Prance 28218**, INPA! MO! SEL! VEN! Mt. Roraima, SW facing quebrada near Rondón camp, 2050 m, 25 IX 1944, **Steyermark 58686**, AMES! Mt. Roraima, NW portion NNW of Summit camp, 2620-2740 m, 27 IX 1944, **Steyermark 58855**, AMES! Meseta del Jaua, Cerro Jaua, porción meridional, 2000 m, 27 II 1974, **Steyermark 109634**, VEN! Cerro Roraima, cumbre parte NE de Venezuela, inmediata al hito que marca frontera con Guyana y Brasil. Valley area, headwaters of Rio Arabapó, 2750-2800 m, 26 VIII 1976, **Steyermark 112519**, K! VEN! Macizo del Chimantá, altiplanicie en la base meridional de los farallones del Apacará-tepui, sector norte del macizo, 2200 m, 20 I 1983, **Steyermark 128273**, MO!

**OTHER RECORDS: BRAZIL: Roraima:** Uiramutã; Roraima-Tepui, alrededores del Hotel Coatí, 2705 m, 21 II 2017, **Hågsater 15040**, digital images, illustration and flower in spirit, AMO! **VENEZUELA: Bolívar:** Roraima-Tepui, **Haelterman s.n.**, digital image, AMO! Roraima, Roy McDermitt sub SELBY 77-1445 sub **Hågsater 6602**, digital images, AMO! (photo voucher). Without locality, **Weidmann s.n.**, published image as **Epidendrum elongatum** Jacq., (Romero, 1998).

**DISTRIBUTION AND ECOLOGY:** Endemic to the Pantepui Region of the Guiana Shield, atop the Roraima, Kukenán, and Auyán tepuis, and westwards towards the tepuis of the Chimantá Massif, and to the Meseta del Jaua. Lithophytic, 1850-2800 m altitude. Growing on compact sandstone, "arenisca," in extreme ecological and edaphic conditions: full sunlight, very wet conditions without topsoil, and with often cold nights, and windy conditions. Flowering mainly from January to March and extending to August and October.

**RECOGNITION:** *Epidendrum holstii* belongs to the Schistochilum group, Secundum subgroup, which is recognized by the caespitose habit, simple stems, leaves oblong-lanceolate, coriaceous, bilobed, peduncle elongate, erect, the inflorescence pluri-racemose, the flowers non-resupinate, and the callus complicated, plurituberculate. The species is recognized by the crimson red to salmon or coral-red sepals and petals and the lip pink to purple, the callus massive, yellow with edges white, the flowers are relatively small, and the sepals 8-13 mm long. *Epidendrum secundum* Jacq. has pink flowers with a massive yellow callus with edges white, flowers somewhat larger; it is not found atop the tepuis, but at the foot or on the slopes around the middle of the tepuis.

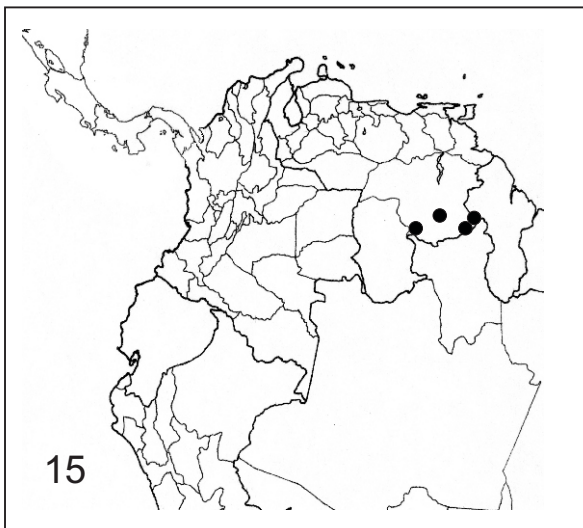
**NOTE:** The plant illustrated in the plate flowered in cultivation in Mexico City. It is somewhat different from the type with narrower lanceolate leaves 5.2-10.8 x 1.1-1.8 cm, larger sized flowers, sepals 12.8-13.0 x 5.1-5.2 mm, a lip larger, 10.0 x 13.5 mm, with overlapping lobes, and a paler color of the flowers, the sepals being more coral or salmon red instead of the bright red color of other flowers, such as the photograph reproduced here which had also been cultivated in Mexico City (photo, **Hågsater 6602**). These images plus the original one published (**Hågsater, 2018**), demonstrate the variation within this species, a common feature in the Schistochilum group apparently associated with natural hybridization which has been extensively studied in Brazilian populations (**Assis et al. 2013**). There is, however, no other species of this group atop the Roraima Tepui. There is an additional species atop the Auyán Tepui, with totally red flowers and a differently shaped totally yellow callus (**Kaes 3 & 9**, digital images, AMO! **Steyermark 93909**, AMES! P!), thus there are two species on that Tepui.

**CONSERVATION STATUS:** VU Vulnerable. Assuming that as stated by Steyermark (1979) only 63% of the Pantepui flora is endemic above 1500 m. *Epidendrum holstii* is only present in the "High Tepuy Belt" as expressed by Huber (1988), the area above 1800-2700 meters. Its present extension area is confined to less than 20,000 km<sup>2</sup>. In other words, it complies with Criterion B1 for the VU (Vulnerable) applies (IUCN 2001). It is also threatened by the effect of climate change, increased temperature and less rainfall, and unable to migrate to higher altitudes.

**ETYMOLOGY:** in honor of Bruce K. Holst (1957-), curator of the herbarium of the Marie Selby Botanical Gardens. Bruce collected extensively in Venezuela, including this species and pointed out there was a potential new species atop the Roraima Tepui in **Safort et al. 2014**, and provided essential information on its distribution.

**ACKNOWLEDGMENT:** The author thanks Guillermo Reina-Rodríguez for his aid in evaluating the conservation status of this species.

**REFERENCES:** Assis, F.N. de, B.C.Q. Souza, E. Medeiros-Neto, F. Pinheiro, A.E.B. Silva & L.P. Felix, 2013, Karyology of the genus *Epidendrum* (Orchidaceae: Laelinae) with emphasis on subgenus *Amphiglottium* and chromosome number variability in *Epidendrum secundum*. **Bot. J. Linn.** 172: 329-344. Hågsater, E., & G. Carnevali, 2018, *Epidendrum holstii* in E. Hågsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 12, **Icon. Orchid.** 16(1): pl. 1623. Huber, O., 1987, *Vegetación y flora de Pantepui, región Guayana*. **Acta Bot. Bras.** 1(2): 41-52. IUCN, 2001, **IUCN Red List Categories and Criteria**, Version 3.1, IUCN Species Survival Commission, IUCN, Gland, Switzerland, ii + 30 pp. Romero, G.A., 1998, "*Epidendrum elongatum*" in **Venezuela, Orchid Paradise** pg. 71, Armitano Editores, Venezuela: Caracas. Safont, E., V. Rull, T. Vegas-Vilarrúbia, B.K. Holst, O. Huber, S. Nozawa, Y. Vivas & A. Silva, 2014, Establishing a baseline of plant diversity and endemism on a neotropical mountain summit for future comparative studies assessing upward migration: an approach from biogeography and nature conservation, **Syst. Biodivers.** doi: [10.1080/14772000.2014.918061](https://doi.org/10.1080/14772000.2014.918061) Safont, E., Vegas-Vilarrúbia, T., & Rull, V., 2012, Use of Environmental Impact Assessment (EIA) tools to set priorities and optimize strategies in biodiversity conservation, **Biol. Conserv.** 149(1): 113-121. Steyermark, J.A., 1979, *Plant Refuge and Dispersal Centres in Venezuela: Their Relict and Endemic Element*, in K. Larsen & L.B. Holm-Nielsen (eds.) **Tropical Botany** pp. 185-221, Academic Press, Inc. Great Britain: London.



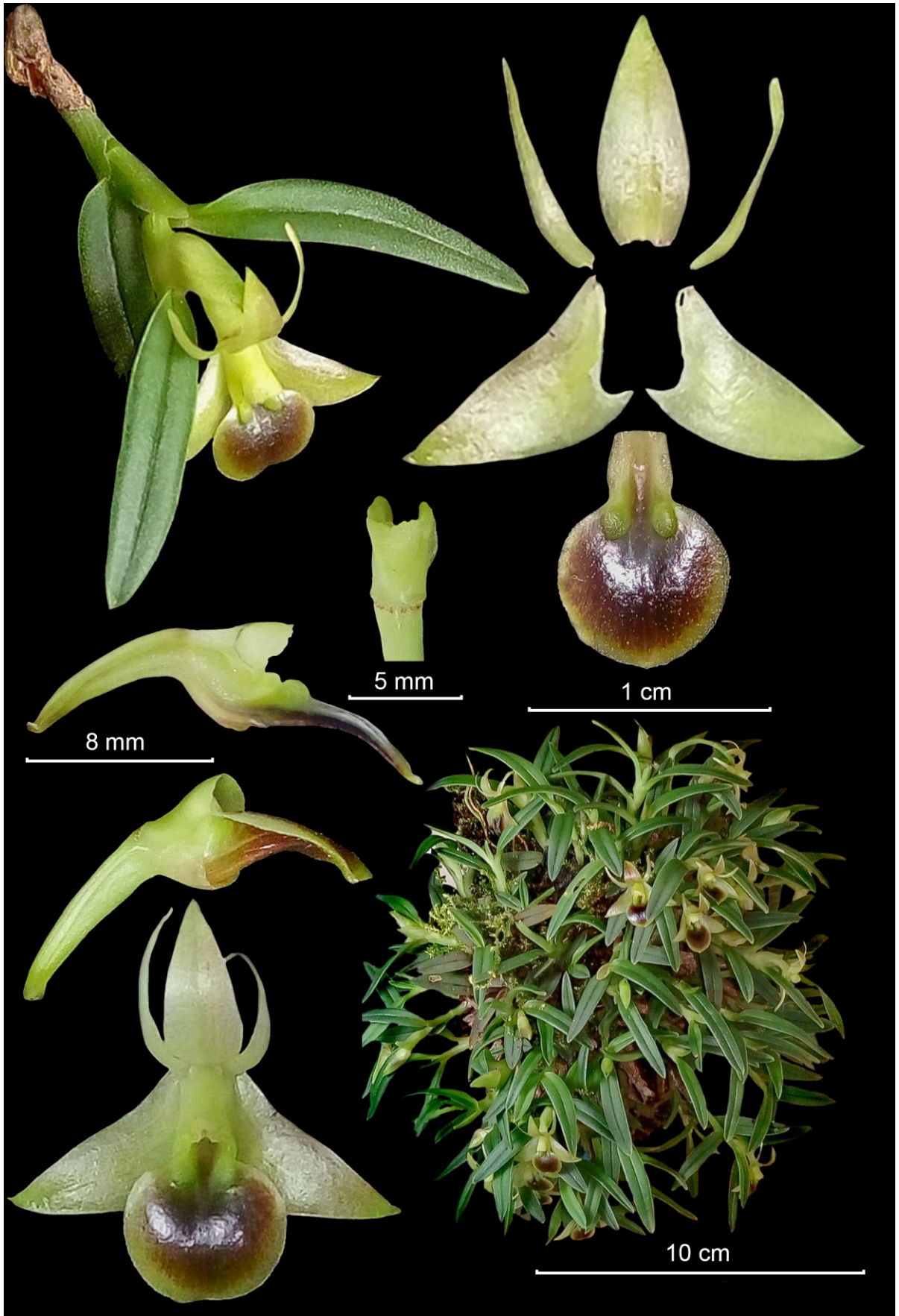
Authors: E. Hågsater & J. Duarte  
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Ciudad de México, MÉXICO

Photo: R. Jiménez M.

Editors: E. Hågsater & E. Santiago

ICONES ORCHIDACEARUM 17(2). 2020. Plate 1770



*EPIDENDRUM HUAYTIANUM* Hágsater

Plate 1771



*EPIDENDRUM HUAYTIANUM* Hágsater, sp. nov.

Type: PERU: Pasco: Oxapampa: caserío El Abra, fundo de Efraín Arana, 1814 m, cult. Centro Huaytianum de Estudio y Conservación de la Orquídea, 14 marzo 2020, *Abel Huayta Baltazar s.n.* Holotype: HOXA! (LCDP voucher).

Similar to *Epidendrum althaniorum* Hágsater & Collantes but the leaves oblong-lanceolate, flat, to 3 cm long (vs. ovate to lanceolate, semi-terete, to 5 cm long), flowers smaller, sepals 9.3-11.0 mm long (vs. sepals 12.0-16.6 mm long), and calli of the lip semi-globose, with a channel in between (vs. calli widely club-shaped, terminating in a pair of short keels, with a mid-rib surpassing the calli).

Epiphytic, sympodial, creeping **herb**, ca. 3-4 cm tall. **Roots** 0.3-0.6 mm in diameter, basal, fleshy, thin, white. **Stems** 2-3 x 0.3-0.4 cm, simple, cane-like, terete, erect to descendent. **Leaves** 2-3, distributed along the apical half of the stem, distichous, spreading, slightly arching, articulate, succulent; sheaths 6-10 mm long, tubular, somewhat widened towards the apex, laterally compressed, the upper ones somewhat infundibuliform; blade 23-30 x 4.5-6.5 mm, narrowly oblong-lanceolate, acute, margin entire. **Spathes** 1, ca. 10 x 5 mm, hemi-elliptic when spread, conduplicate in natural position, apex rounded and slightly oblique. **Inflorescence** apical, sessile, single-flowered. **Floral bracts** much shorter than the ovary and totally hidden by the spathe. **Flower** 1, resupinate, fleshy, pale green to pale bronze-green, with the lip dark red-brown to brown, lustrous, the margin pale green; fragrance not registered. **Ovary** 7-8 mm long, terete, thinly conical. **Sepals** free, partly spreading and progressively recurved above, acute, 3-veined, margin entire, spreading; dorsal sepal 9.3 x 3.9 mm, ovate-lanceolate; lateral sepals 11.0 x 4.3 mm, descending, obliquely adnate to the basal half of the column, oblique triangular-ovate. **Petals** 9.5 x 1.4 mm, erect-spreading at base, the progressively recurved, free, linear-triangular, acuminate, somewhat falcate upwards, curved, 1-veined, margin entire, spreading. **Lip** 6.5 x 7.3 mm, united to the column, entire, orbicular, slightly convex, margin slightly erose; bicallose, the calli prominent, semi-globose, with a channel in between; disc unornamented, slightly concave. **Column** 5 mm long and high, dorsally straight, thick. **Clinandrium-hood** prominent, semi-tubular, margin erose, hiding the anther. **Anther** spherical, 4-celled. **Pollinia** 4, obovoid, laterally compressed; viscidium semi-liquid. **Rostellum** in the middle of the column, split. **Lateral lobes of the stigma** very short. **Nectary** penetrating 2/3 of the pedicellate ovary, sigmoid and wide in the column, narrowly conical in the ovary, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

**OTHER RECORDS:** PERU: **Junín:** selva central, sin localidad, cult. en Lima, *Moron s.n.*, digital image, AMO! (Photo voucher).

**DISTRIBUTION AND ECOLOGY:** Presently known from cultivated plants only, from central Peru, around Oxapampa in the Department of Pasco. Flowering in February-March.

**RECOGNITION:** *Epidendrum huaytianum* belongs to the Porpax Group, which is characterized by the small, creeping plants with succulent leaves, single flowers mostly green with a usually shiny wine-red lip. The species is recognized by the short plants, 3-4 cm tall, 2-3 leaved stems, the leaves 23-30 x 4.5-6.5 mm, narrowly oblong-lanceolate, acute, sepals 9.3-11.0 mm long, lip orbicular with semi-globose calli and the disc unornamented and somewhat concave, and the column short and thick, with a very prominent clinandrium-hood that completely hides the anther, and the nectary is sigmoid in the column, wide. *Epidendrum althaniorum* has plants 4.5 x 10 cm tall, leaves 1.3-5.0 x 0.7-0.85 cm, ovate to lanceolate, semi-terete, sepals 12.0-16.6 mm long, an orbicular to widely transversely ovate lip, bicallose, the calli widely club-shaped, terminating in a pair of short keels; central keel fusiform, surpassing the lateral in front to about ¼ of the lip, and narrowly triangular, acuminate petals, which have a minutely papillose margin; the nectary is also sigmoid. *Epidendrum gnomus* Rchb.f. has an ovate lip, the margin dentate, and the column is narrower and the nectary straight. *Epidendrum mathewsii* Rchb.f. has erect stems, the leaves always spreading, somewhat canaliculated, and perpendicular to the axis of the stem, a bilobed lip, the base cordate and the apex emarginate, and the petals oblong, apically obtuse. *Epidendrum maxthomsonianum* Hágsater & Dalström has an orbicular lip, the margin minutely dentate, the column very short, oblique, presenting with a wide throat, the nectary wide, straight and short, and the petals are narrowly ovate, apically obtuse.

**ETYMOLOGY:** The epithet, a noun in apposition, refers to the Huaytianum Orchid Conservation Center of Oxapampa, Pasco, Peru, where the species is under cultivation and from which the type and LCDP plate were prepared. The surname Huayta in Quechua means flower and is relatively common in Peru.

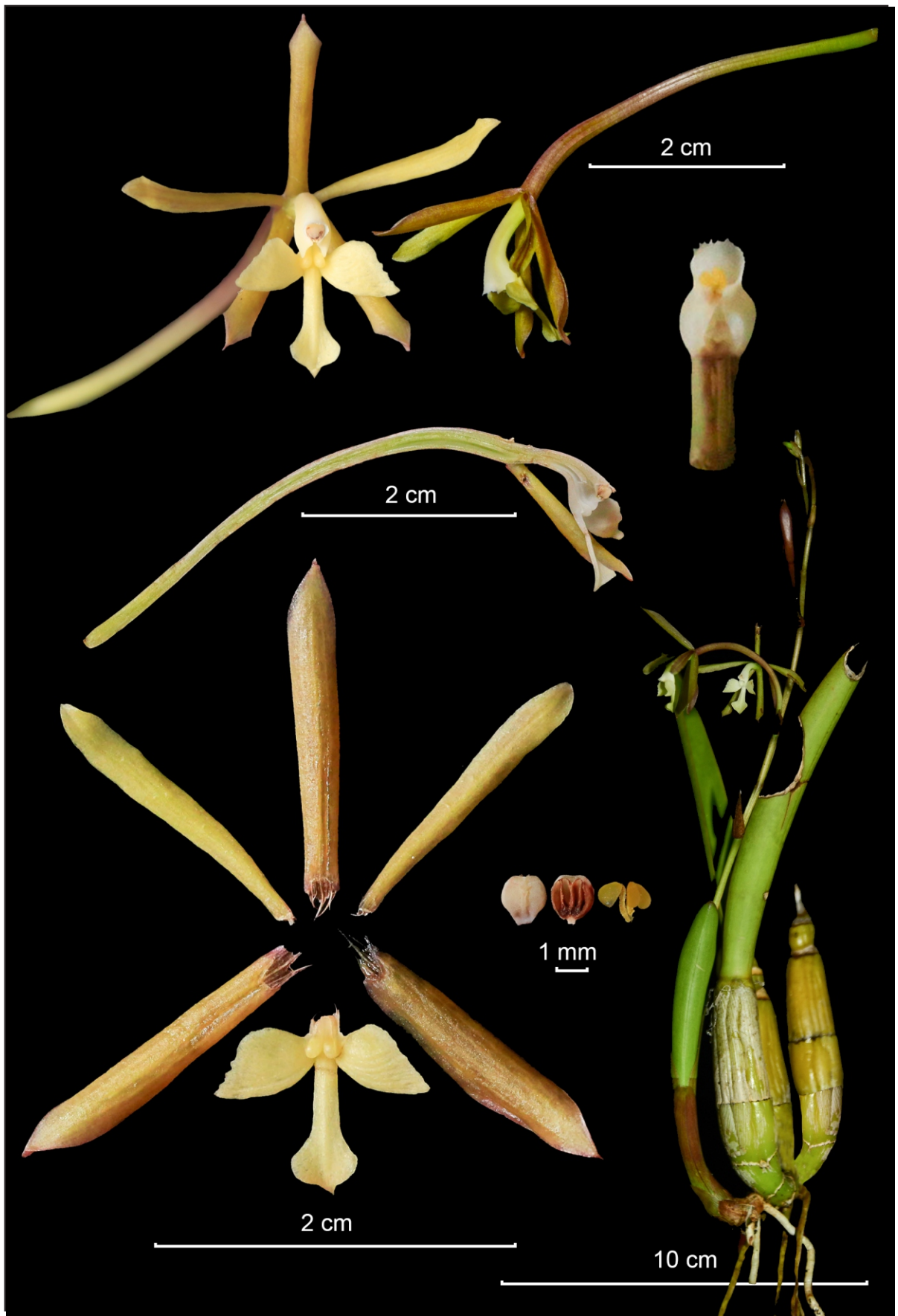
**REFERENCES:** Hágsater, E., 2008, *Epidendrum gnomus*, in E. Hágsater & L. Sánchez (eds.), The Genus *Epidendrum*, Part 7, **Icon. Orchid.** 11: pl. 1128. Hágsater, E., 2018, *Epidendrum mathewsii*, in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 12, **Icon. Orchid.** 16(1): pl. 1640. Hágsater, E., & S. Dalström, 2008: *Epidendrum maxthomsonianum*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 7, **Icon. Orchid.** 11: pl. 1140. Hágsater, E., & B. Collantes, 2013, *Epidendrum althaniorum* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 10, **Icon. Orchid.** 14: pl. 1403.



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Herbario AMO

LCDP: A. Huayta & A. Cisneros  
Ciudad de México, MÉXICO

Photo: E. Morón  
Editors: E. Hágsater & E. Santiago  
ICONES ORCHIDACEARUM 17(2). 2020. Plate 1771



EPIDENDRUM HURTADOI Hágsater, Uribe Vélez & De Arcos

Plate 1772

## EPIDENDRUM HURTADOI Hágsater, Uribe Vélez et De Arcos, sp. nov.

Type: COLOMBIA: Guaviare: San José del Guaviare, Ciudad de Piedra, litófito sobre piedra de arenisca de tepui, ca. 350 m, **Carlos Uribe Vélez s.n.** Holotype: HUPJ! (LCDP voucher).

Similar to *Epidendrum purpurascens* H.Focke but the pseudobulbs are compact, aggregate, sessile, close to one another, rhizome short and foot of stem obsolete (vs. pseudobulbs longer and thinner, and separated from each other by a thin rhizome continued into a thin pedicel of the pseudobulb), inflorescence produced from the immature growth, elongate, longer than the mature leaves (vs. the inflorescence is also produced from the immature growth and shorter than the mature leaf), sepals and petals greenish yellow tinged brown to brownish, lip and column white (vs. sepals and petals purple green with white lip).

Lithophytic, sympodial, caespitose **herb**, 22 cm tall including the inflorescence. **Roots** 1.5-2.3 mm in diameter, basal, aggregate from the short rhizome, fleshy, thick, white. **Stems** 6.2-7.4 x 1.4 cm, thickened to form fusiform pseudobulbs, homoblastic, furrowed, aggregate, sessile, close to one another, pale green, yellowing with age, covered by 3-4 non-foliar sheaths, scarios, papyraceous, becoming fibrous with time, absent in old pseudobulbs. **Leaves** 2-3, apical, erect, articulate, coriaceous, green; blade 9.4-10 x 2.0-2.5 cm, narrowly elliptic to elliptic-lanceolate, acute, somewhat conduplicate, margin entire, spreading. **Spathes** lacking. **Inflorescence** 19 cm long including the flowers, apical, erect, from the new, immature growth, racemose, somewhat longer than the mature leaves; peduncle 6.8 cm long, terete, thin, pale green to yellow, with 1 bract at the middle, similar to the floral bracts but somewhat larger, dark brown; rachis 11 cm long, terete, thin, straight to slightly arching. **Floral bracts** ca. 13 mm long, shorter than the ovary, progressively smaller, triangular, embracing, acuminate, dark brown. **Ovary** 4.3 mm long, terete, unornamented, thin, shallowly furrowed, base green, turning brown towards the apex. **Flowers** 4-10, simultaneous, resupinate, sepals and petals greenish yellow tinged brown to brownish, lip and column white, base of column green; fragrance not registered. **Sepals** 19-20 x 2.8-3.4 mm, partly spreading, free, linear-elliptic, 6-veined, acuminate, margin entire, revolute. **Petals** 17.2-19 x 2.1-2.5 mm, spreading and arching forward, free, linear-oblancoate, acute, 3-veined, margin entire, revolute. **Lip** 9.8-10 x 10-12 mm, united to the column, deeply 3-lobed, base slightly cordate; bicallose, calli prominent, pale yellow, hemi-obovoid, elongate, somewhat laterally compressed, fleshy, parallel; disc with a thin mid-rib that nearly reaches the apex; lateral lobes 5.5 x 3.6 mm, spreading, triangular, the forward edge being the longest, convex, lateral margins entire, spreading, distal margin irregularly erose; mid-lobe 7.8-8.0 x 3.7-5.0 mm, linear-spatulate, apiculate, the basal half or isthmus long and narrow, apex sub-rhombic, spoon shaped, concave, margins entire, spreading. **Column** 11.5 mm long, slightly arched to arcuate, thin at base, widened towards the apex. **Clinandrium-hood** prominent, margin dentate. **Rostellum** apical, slit. **Anther** sub-spherical, apex truncate, 4-celled, pale yellow to cream-colored with reddish tinge. **Pollinia** 4, obovoid, laterally compressed; caudicles longer than the pollinia. **Lateral lobes of the stigma** prominent, occupying half the stigmatic cavity. **Nectary** penetrating 1/3 of the pedicellate ovary, unornamented. **Capsule** not seen.

**OTHER SPECIMENS: COLOMBIA: Guaviare:** Mun. San José del Guaviare, Vereda Playa Guio, Sector Ciudad de Piedra, 414 m, 15 V 2014, *Castro 188*, COL! Serranía La Lindosa: sector los pozos, 414 m, 15 V 2014, *Castro 191*, COL! **Vaupés:** Río Kuduyarí, Savannah Yapobodá, 4 IX 1956, *Barclay 529*, AMES! COL! Mun. Mitú: comunidad de de Wacurabá, margen derecha del Caño Cuduyarí, Sabana de Yapobó, 400 m, 16 V 2006, *Cárdenas 18754*, COAH! Ibid. 26 IX 2007, *Cárdenas 21188*, COAH! Cerro de Yapobodá, headwater of Río Kuduyarí, 600 ft, 15 VIII 1960, *Garay 112*, COL! Caño Cubiyú. Comunidad Indígena La Sabana, on rock outcrop in sandstone savannah, 26 IV 1993, *Mariñán 1106*, MO! Río Kuduyarí, Cerro Yapobodá, 450 m, 5 X 1951, *Schultes 14206*, COL! Mitú and vicinity, Río Paraná-Pichuna, 27 VI 1975, *Zarucchi 1335*, AMES! COL! Mitú and vicinity; along Río Kubiuyú, 9 VII 1975, *Zarucchi 1411*, AMES! COL!

**OTHER RECORDS: COLOMBIA: Guaviare:** San José del Guaviare, 13 III 2015, *Cristian Castro s.n.*, digital image, AMO! Ibid. 4 IV 2017, *Christian De Arcos s.n.*, digital image, AMO! Ibid. Ciudad de Piedra, *Rincón s.n.*, digital image, AMO! Ibid. 23 X 2018, *Sauleda s.n.*, digital image, AMO! (Photo voucher). Ibid. *Villalba s.n.*, digital image, AMO!

**DISTRIBUTION AND ECOLOGY:** Widespread from the sandstone structures of the Ciudad de Piedra at 350-414 m altitude, in the State of Guaviare, a part of the Andean Tepuí, part of the Serranía de La Lindosa formed by sedimentary rock of the Araracuara formation (Cárdenas *et al.* 2008), and continuing as far as Mitú in the Vaupés. The species probably also occurs in the Chiribiquete mountain range in the departments of Guaviare, Caquetá and Amazonas and the Nukak Natural Reserve in Guaviare with a potential area of 6245 square kilometers including areas formed only by sandstone.

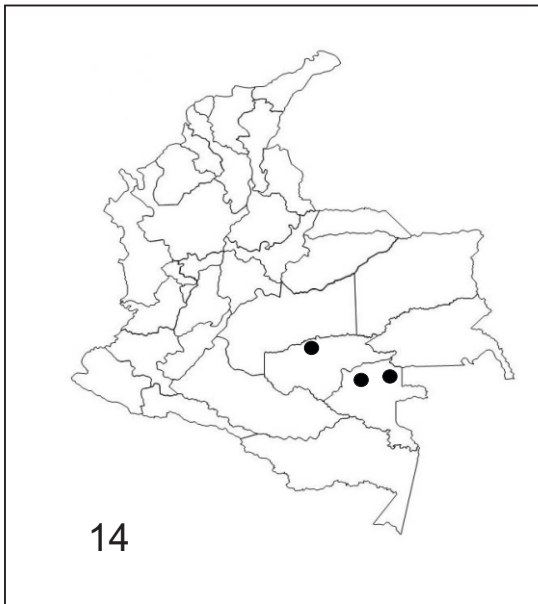
**RECOGNITION:** *Epidendrum hurtadoi* belongs to the Coilostylis Group which is characterized by the sympodial, caespitose plants, the stems forming a fusiform, pseudobulb, with an apical, racemose, distichous inflorescence, the peduncle covered by large bracts (but not spathaceous bracts), and flowers large, star-shaped, with long, narrow sepals and petals. The species is recognized by the compact plants, the pseudobulbs aggregate, sessile, close to one another, with erect, pointed leaves, the flowers with sepals and petals greenish yellow tinged brown to brownish, lip and column white, inflorescence produced from the immature growth, a short racemose inflorescence, the peduncle shorter than the mature leaves, sepals 19-20 mm long, petals linear-oblancoate, acute, lateral lobes of the lip outspread, triangular, and the forward margin convex, mid-lobe linear-spatulate, apiculate, the basal half or isthmus long and narrow, apex sub-rhombic, spoon shaped. *Epidendrum purpurascens* has stipitate pseudobulbs longer and thinner with a long thin pedicel, and separated from each other by a thin rhizome, the flowers are purple green with white lip, the inflorescence is also produced from the immature growth and shorter than the mature leaf, the lateral lobes of the lip triangular but not outspread, the base of the lip being cuneate. *Epidendrum viviparum* Lindl. has spreading, apically rounded leaves, the elongate peduncle of the inflorescence always much longer than the leaves, usually 3-4 times longer, sepals are 30 mm long, petals linear-elliptic, acuminate, and the lateral lobes of the lip are hemi-ovate, sub-parallel to the mid-lobe, with the inner margin concave; this species always forms a keiki from the old inflorescence.

**NOTE:** There are a couple of collections from around Puerto Ayacucho [Venezuela, Amazonas] *Carnevali 2312*, VEN, and as well as photographs taken by Gustavo Romero (AMO!) epiphytic on *Acianthella sprucei* Hook.f. bushes on granite rocks, at 200 m altitude, which we have not been able to place clearly in this species, and at least *Guanchez 1778*, MO! belongs clearly to *E. purpurascens*. A closer study of material in the field there would help to clarify their identity.

**ETYMOLOGY:** Andrés Hurtado García (1941-), born in Armenia, Colombia, Marista Brother, PHD in Literature from the Universidad Complutense de Madrid, journalist, photographer and ecologist by nature, he has lectured worldwide on conservation, founded Colombia Secreta, pioneer in ecotourism, the Ciudad de Piedra, and Puerta de Orión in the Serranía de La Lindosa, where the species was discovered.

**CONSERVATION STATUS:** VU Vulnerable. The species is common where it is found and appears to be widespread along the sandstone tepuis in Eastern Colombia. Its present extension area is confined to less than 20,000 km<sup>2</sup> and it is known in less than 10 locations it complies with Criterion B1a for the VU (Vulnerable) which therefore applies (IUCN 2012)

**REFERENCES:** Cárdenas López, D., N. Castaño Arboleda, M. Zubieta Vega & M. Jaramillo Echeverri, 2008, Flora de las formaciones rocosas de la Serranía de La Lindosa. Instituto Amazónico de Investigaciones Científicas -SINCHI-, Bogotá, Colombia. 164 pp. available from [sinchi.gov.co](http://sinchi.gov.co) Dodson, C.H. & R. Vásquez Ch., 1989, *Epidendrum viviparum* in C.H. Dodson (ed.) Orchids of Bolivia, **Icon. Pl. Trop.** ser II, 4: pl. 338. Sánchez S., L., & E. Hágsater, 2008, *Epidendrum purpurascens*, in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 7, **Icon. Orchid.** 11: pl. 1168.



Authors: E. Hágsater, C. Uribe V. & C. De Arcos

LCDP: C. Uribe V.

Photo: R. P. Sauleda

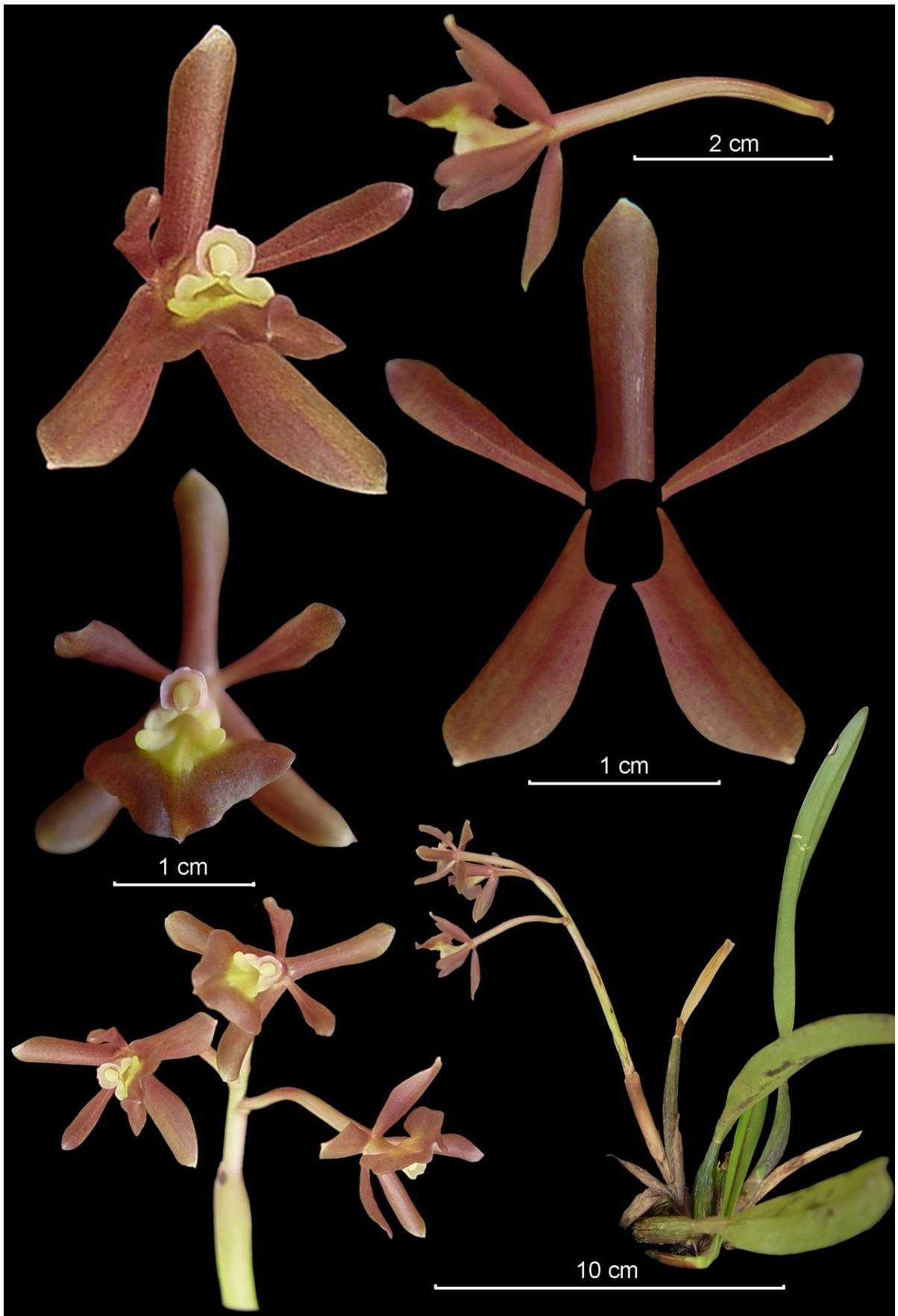
Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(2). 2020.

Plate 1772



EPIDENDRUM INCOGNITUM Hágsater, E.Santiago & J.Duarte

Plate 1773

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

Type: PERU: Hort. Gualaceo, Ecuador, 26 January 2004, **José Portilla sub Eric Hágsater 14042**. Holotype: in spirit, AMO! (LCDP and photo voucher).

Similar to *Epidendrum harmsianum* Kraenzl. but the flowers reddish brown, the disc of the lip yellow (vs. flowers sulphur-yellow), leaves 6-12 cm long (vs. 3.5-6.0 cm long), lip 12 x 15 cm, subentire, apex truncate (vs. 7-8 x 13 cm, transversely ovate-oblong).

Epiphytic, sympodial, caespitose **herb**, 10-15 cm tall. **Roots** basal, thick. **Stems** 3.0-5.0 x 0.4-0.8 cm, thickened to form fusiform pseudobulbs, furrowed and rugose; covered by 1-2 sheaths 2.0-3.0 cm long, scarious, becoming fibrous with time, lacking in old pseudobulbs. **Leaf** 1, apical, articulate, coriaceous; blade 6.0-12 x 0.9-1.2 cm, narrowly oblong-elliptic, apex sub-rounded, lemon-green, margin entire. **Spathes** 1, 2.0 x 0.5 cm, pale green, tubular, oblong, conduplicate, apex obtuse. **Inflorescence** 10 cm long including the flowers, apical, erect, racemose, laxly few-flowered, peduncle 5 cm long, terete, thin, erect, straight, pale green somewhat tinged brown; rachis 0.7 cm long. **Floral bracts** 2 mm long, much shorter than the ovary, widely triangular, apex acute, embracing. **Ovary** 2.7-3.0 cm long, terete, furrowed, same color as the sepals, not forming a thickened vesicle. **Flowers** 3, simultaneous, apparently resupinate, reddish brown, disc of the lip yellow; column light reddish brown with the apex yellowish pink; fragrance not registered. **Sepals** 15 x 6.0 mm, free, apex rounded, minutely apiculate, 7-veined, the lateral veins branching, margin entire, revolute, especially the basal half; dorsal sepals spreading, oblanceolate; lateral sepals partly spreading, oblong, slightly oblique. **Petals** 13 x 4.0 mm, partly spreading, free, oblanceolate, obtuse, 3-veined, margin entire, slightly revolute along the apical half. **Lip** 12 x 15 mm, united to the column, sub-entire, widely cordiform in general outline, spreading, base deeply cordate, apex truncate, minutely apiculate, margin entire; bicallose, calli obovoid, somewhat laterally compressed, yellow, divaricate; disc with a fleshy mid-rib reaching the apex of the lip. **Column** 9 mm long, slightly arched, thin at base, gradually widened towards the apex, with a pair of lateral sub-quadrate wings slightly rounded and surpassing the clinandrium-hood, divergent, parallel to the calli. **Clinandrium-hood** prominent, funnel-shaped, margin crenate, yellow with pink hue. **Rostellum** apical, slit. **Anther** ovoid, apex truncate, pale yellow. **Pollinia** not seen. **Lateral lobes of the stigma** not seen. **Nectary** not seen. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

**OTHER RECORDS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Known presently only from a cultivated plant without precise origin known.

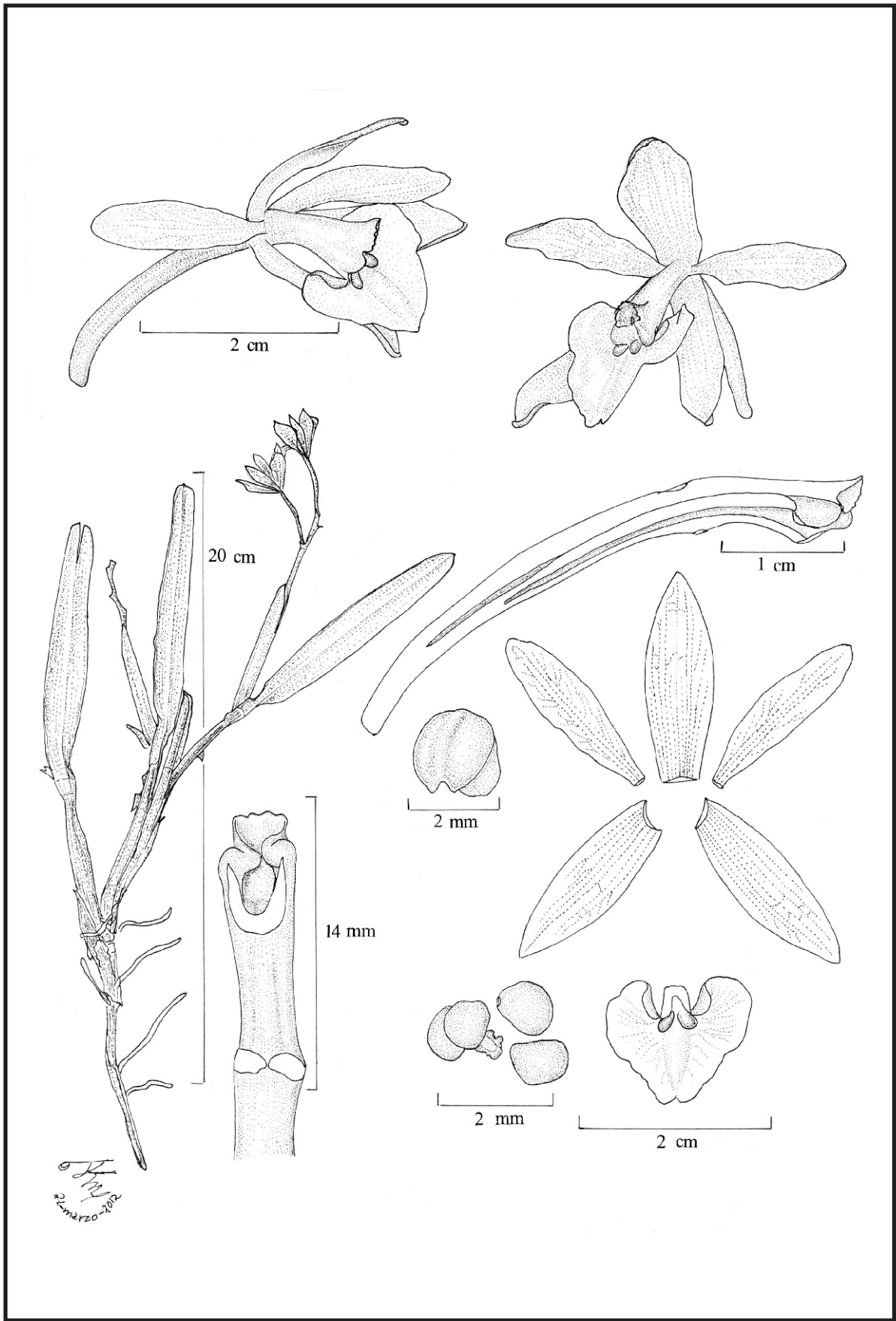
**RECOGNITION:** *Epidendrum incognitum* belongs to the Saxicola Group characterized by the pseudobulbous stems, caespitose or scandent habit, the prominent spathaceous bract apically rounded, few-flowered, the erect inflorescence, the flowers purple or yellow, and the surface of the vegetative structures often rugose. The new species is recognized by the reddish brown flowers with the disc yellow, leaves 6-12 cm long, petals 13 mm long, oblanceolate, lip widely cordiform apex truncate, ovary not forming any thickened vesicle, and the yellow column wings nearly parallel to the divaricate calli. It is similar to *Epidendrum harmsianum* which has sulphur-yellow flowers, shorter leaves, 3.5-6.0 cm long, petals 14 mm long, oblanceolate, and lip transversely ovate-oblong. *Epidendrum milpoënsis* Hágsater & E.Santiago has green flowers, petals 16-17.5 mm long, rhombic-spatulate, lip with 3 parallel ribs on the disc, ovary vesiculate, and column wings short, straight. *Epidendrum microcattleyioides* D.E.Benn. & Christenson has smaller yellow flowers, petals 11 mm long, obovate, and the lip reniform, widely emarginate. *Epidendrum saxicola* Kraenzl. has purple colored flowers, the lip white, petals 15-18 mm long, oblanceolate, and the lip sub-orbicular and obscurely pentagonal. *Epidendrum magnisaxicola* Hágsater, Edquén & E.Santiago has large flowers, sepals 24-25 mm long, pale greenish yellow, the sepals tinged brown, oblanceolate petals 25 x 4 mm, lip 13.5 x 11 mm, entire, ovate-rhombic, base truncate, revolute in natural position.

**CONSERVATION STATUS:** D. Data deficient. Known only from a cultivated plant without precise origin, probably from northern Peru.

**ETYMOLOGY:** From the Latin *incognitus*, unknown, in reference to the unknown origin of this species.

**REFERENCES:** Bennett, D.E., & E.A. Christenson, 1998, *Epidendrum harmsianum*, in E.A. Christenson (ed.), **Icon. Orchid. Peruvianum**, pl. 461. *Epidendrum saxicola* in **Repert. Spec. Nov. Regni Veg.** 1: 187. Bennett, D.E. & E.A. Christenson, 2001, *Epidendrum microcattleyioides*, in E.A. Christenson (ed.), **Icon. Orchid. Peruvianum** pl. 644. Hágsater, E. & E. Santiago, 2019, *Epidendrum milpoënsis* in E. Hágsater & E. Santiago (eds.) **The Genus Epidendrum**, Part 13, **Icon. Orchid.** 17(1): pl. 1741. Santiago, E., J. Duarte & E. Hágsater, 2020, *Epidendrum saxicola* in E. Hágsater & E. Santiago (eds.), **The Genus Epidendrum** Part 13, **Icon. Orchid.** 17(2): pl. 1796.





EPIDENDRUM KOSNIPATAENSE Hágsater, E.Santiago & J.Duarte

Plate 1774

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

Type: PERU: Cusco: Prov. Calca, Distr. Yanatile, 2600 m, 6 June 2007, *Isau Huamantupa Chuquimaco 9371*. Holotype: AMO 25902! (illustration voucher).

Similar to *Epidendrum milpoense* Hágsater & E.Santiago but the leaves 8.0-9.0 x 1.0-1.4 cm, oblong, apex truncate (vs. leaves 4.7-6.5 x 1.6-2.0 cm, narrowly elliptic, apex rounded), petals 20 mm long, narrowly elliptic (vs. petals 16.0-17.5 mm long, rhombic-spatulate), and the lip obscurely 3-lobed (vs. lip widely cordiform).

Epiphytic, sympodial, caespitose **herb**, 26 cm tall including the inflorescence. **Roots** 1.0-1.5 mm in diameter, basal, distributed along the rhizome, terete, thin, white. **Stems** 6.2-7.0 x 0.6-1.0 cm, forming fusiform pseudobulbs, covered by 2 sheaths, 5.0-8.5 cm long, non-foliar, scarios, becoming fibrous with time. **Leaf** 1, 8.0-9.0 x 1.0-1.4 cm, apical, coriaceous, oblong, apex truncate, minutely apiculate, margin entire, revolute in herbarium specimens. **Spathe** 1, 4.0-4.5 x 0.45-0.5 cm, tubular at base, conduplicate at the apex, oblong, obtuse. **Inflorescence** 10 cm long including the flowers, apical, erect, racemose; peduncle 5.7 cm long, thin, erect, straight; rachis 1.1-1.7 cm long. **Floral bracts** 2 mm long, much shorter than the ovary, widely triangular, acute, embracing. **Ovary** 31.5 mm long, terete, thin, furrowed, inflated ventrally along the apical half. **Flowers** 3-5, simultaneous, non-resupinate, apple green; fragrance not registered. **Sepals** spreading, free, arching forward, elliptic, acute, concave, 9-veined (the lateral veins short branched), margin entire, spreading except revolute at the very base; dorsal sepal 22 x 7.4 mm; lateral sepals 20 x 6.6 mm, minutely apiculate. **Petals** 20 x 5.5 mm, spreading, narrowly elliptic, obtuse, arching forward, 3-veined (the lateral veins short-branched), margin entire, spreading. **Lip** 13 x 15 mm, united to the column, obscurely 3-lobed, cordiform, base deeply cordate, apex obtuse, short emarginate, margin irregular, involute at base, then spreading throughout; bicallose, the calli small, globose, fleshy, slightly divaricate; disc with a fleshy, wide mid-rib that reaches the apical sinus. **Column** 14 mm long, slightly arched, thin, with a pair of apical rounded wings. **Clinandrium-hood** funnel-shaped, prominent, margin erose. **Rostellum** apical, slit. **Anther** sub-spherical, 4-celled. **Pollinia** 4, obovoid, laterally compressed. **Lateral lobes of the stigma** occupying 1/2 of the stigmatic cavity. **Nectary** penetrating half the ovary, slightly inflated, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** PERU: Cusco: Prov. Paucartambo: Distr. Kosñipata: Estación Biológica Wayqecha, between Paucartambo and Pilcopata, 2832 m, 12 XI 2005, *Repasky 123*, BRIT! Ibid. 3078 m, 23 II 2005, *Repasky 151*, BRIT! Ibid. 3108 m, 8 XII 2005, *Repasky 174* BRIT!

**OTHER RECORDS:** PERU: Cusco: Prov. Paucartambo: Distr. Kosñipata: Estación Biológica Wayqecha, between Paucartambo and Pilcopata, 2832 m, 12 XI 2005, *Repasky 123*, digital images, [http://atrium.andesamazon.org/collection\\_display\\_info.php?id=28472](http://atrium.andesamazon.org/collection_display_info.php?id=28472) (photo voucher) Ibid. 3078 m, 23 II 2005, *Repasky 151*, BRIT! [http://atrium.andesamazon.org/image\\_info.php?type=specimen&id=28487&scrollTop=0](http://atrium.andesamazon.org/image_info.php?type=specimen&id=28487&scrollTop=0) Ibid. 3108 m, 8 XII 2005, *Repasky 174*, digital images [http://atrium.andesamazon.org/collection\\_display\\_info.php?id=28508](http://atrium.andesamazon.org/collection_display_info.php?id=28508) Parque Nacional Manu, Inkatererra Hort. *Soto 14*, digital image, AMO! Zona de Amortiguamiento, Cusco, Perú, Orquídeas de la Reserva de Biosfera Manu, as *Epidendrum sp.4* photo 45, *Llacma*, [https://fieldguides.fieldmuseum.org/sites/default/files/rapid-color-guides-pdfs/1075\\_peru\\_orchids\\_manu.pdf](https://fieldguides.fieldmuseum.org/sites/default/files/rapid-color-guides-pdfs/1075_peru_orchids_manu.pdf)

**DISTRIBUTION AND ECOLOGY:** Known presently from two localities: in southern Peru, at the entrance of the Manu National Park in the Wayqecha Biological Station, and in the Valley of Yanatile in the Department of Cusco, epiphytic at 2600-3100 m altitude. Flowering in June and November to February.

**RECOGNITION:** *Epidendrum kosnipataense* belongs to the Saxicola Group characterized by the pseudobulbous stems, caespitose or scandent habit, the prominent spatheaceous bract apically rounded, the few-flowered, erect inflorescence, flowers purple or yellow, and the surface of the vegetative structures often rugose. The new species is recognized by the single oblong leaf 8.0-9.0 x 1.0-1.4 cm with the apex truncate, 3-5 apple green flowers, concolor, petals 20 mm long, narrowly elliptic, and the lip deeply cordiform with a single wide mid-rib that reaches the apex of the lip. *Epidendrum milpoense* Hágsater & E.Santiago has an elliptic leaf, 4.7-6.5 x 1.6-2.0 cm, proportionately shorter and wider, and apically bilobed, 2-3 apple green flowers, petals 16-17.5 x 5.0-7.0 mm, rhombic-spatulate, and the disc of the lip with 3 ribs running the length of the lip. *Epidendrum saxicola* Kraenzl. has oblong-elliptic leaves, the apex obtuse, 2 dirty pale purple-brown to pink flowers, the lip creamy white to yellow tinged purple, petals 15-18 mm long, linear-oblancoolate, and the lip sub-orbicular to widely cordiform and apiculate. *Epidendrum pallidovirens* Hágsater, E.Santiago & J.Duarte has leaves 3.0-6.4 x 0.8-0.9 cm, oblong apex obtuse, flowers 2-3, pale green, petals 13 mm long, spatulate, and the lip entire, strongly convex. *Epidendrum repaskyae* Hágsater, E.Santiago & J.Duarte has 3-4 creamy-white flowers with a yellow disc, sepals and petals cup-shaped, sepals 11 mm long, petals 10 x 5.0 mm, the lip shallowly 3-lobed, the lateral lobes sub-quadrate-rounded, mid-lobe sub-quadrate, apex truncate with the middle margin revolute so as to appear emarginate. *Epidendrum wayqechaense* is 2-flowered of similar color, sepals 13 mm long, petals 13 x 2.5 mm, narrowly spatulate-oblancoolate, the lip clearly 3-lobed with the lateral lobes dolabriform and the mid-lobe revolute in natural position.

**CONSERVATION STATUS:** DD. Data deficient. Known presently from a few collections from near the summit of the Amazon slope of the Andes in Cusco southern Peru, in wet montane forest at 2600-3100 m altitude. The range has few places where there are roads and thus few collections.

**ETYMOLOGY:** In reference to the District of Kosñipata, Province of Paucartambo, Department of Cusco, where the Wayqecha Biological Station is located and where there is a great diversity of orchids, and where Isau Huamantupa has his family reserve and orchid garden. A large part of the Manu National Park is also found there.

**REFERENCES:** Hágsater, E., & E. Santiago, 2019, *Epidendrum milpoense*, in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum* Part 13, *Icon. Orchid.* 17(1): pl. 1741. Hágsater, E., E. Santiago & J. Duarte, 2020, *Epidendrum pallidovirens*, in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum* Part 13, *Icon. Orchid.* 17(2): pl. 1785. Hágsater, E., E. Santiago & J. Duarte, 2020, *Epidendrum repaskyae* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 14, *Icon. Orchid.* 17(2): pl. 1795. Santiago, E., J. Duarte & E. Hágsater, 2020, *Epidendrum saxicola* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum* Part 13, *Icon. Orchid.* 17(2): pl. 1796. Hágsater, E., E. Santiago & J. Duarte, 2020, *Epidendrum wayqechaense* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 14, *Icon. Orchid.* 17(2): pl. 1799.



Authors: E. Hágsater, E. Santiago & J. Duarte

Illustrator: R. Jiménez M.

Photo: R. Repasky

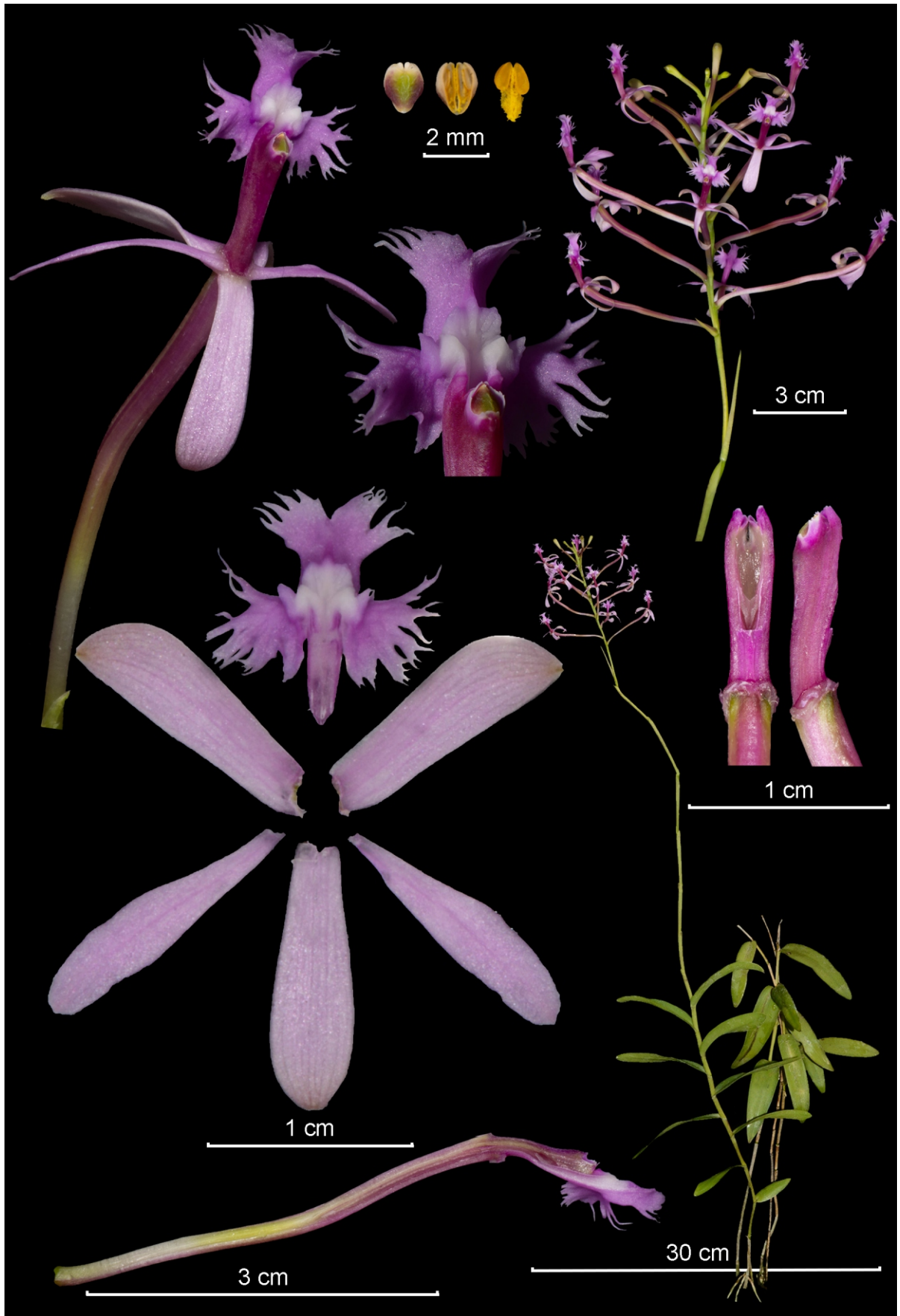
Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(2). 2020.

Plate 1774



EPIDENDRUM LAVENDULUM Hágsater

Plate 1775



*EPIDENDRUM LAVENDULUM* Hágsater, sp. nov.

Type: ECUADOR: Prov.: Napo: Cantón: Archidona: Carretera Archidona-Baeza hacia Francisco de Orellana, Torre de Transmisión eléctrica en filo de la montaña, 1308 m, colectado 2 noviembre 2017. Prensado 18 diciembre 2019, **Eric Hágsater & Marcos M. Jiménez León 15351**. Holotype: QCNE! (LCDP and photo voucher).

Similar to *Epidendrum vinosum* Schltr. but the flowers lilac (vs. salmon colored), and the lip 3-lobed, base cordate, margin fimbriate to irregularly serrate-dentate, lateral lobes semi-ovate (vs. lip 3-lobed, but like a tricorn, lateral lobes triangular somewhat reflexed, margins subentire), mid-lobe flabelliform, emarginate with an apiculate sinus. (vs. mid-lobe of the lip entire, small, narrow, rectangular, longer than wide, the apex obtuse).

Epiphytic, sympodial, caespitose **herb**, to 85 cm tall including the inflorescence. **Roots** 1-2 mm in diameter, basal, terete, fleshy, white. **Stems** 30-44 x 0.30-0.55 cm, simple, cane-like, slightly sinuous, terete to slightly compressed towards the apex, thin, covered by foliar sheaths. **Leaves** 7-10, distichous, distributed throughout the stem; sheaths 2.2-4.0 cm long, tubular, smooth, papyraceous when dry; blade 3.0-11.5 x 1.0-2.7 cm, lanceolate-oblong, apex obtuse to rounded, emarginate, articulate, coriaceous, smooth, green, margins entire. **Spathe** lacking. **Inflorescence** 40 cm long, racemose to pluri-racemose, producing new racemes from the upper nodes of the peduncle, laxly flowered, cylindrical; peduncle 33 cm long, elongate, covered by 8 tubular, imbricated bracts 3.5-5.5 cm long, acute, green with red dots, scarious when dry, striated, papyraceous; rachis 10 cm long. **Floral bracts** 4.5-10 x 2.0-2.5 mm, decreasing in size, much shorter than the ovary, triangular, acuminate, embracing. **Flowers** ca. 25, successive, 12 open at a time, non-resupinate, lilac, column lilac-purple, callus white slightly tinged with lilac; fragrance lacking. **Ovary** 39 mm long, terete, thin, not inflated, rose colored tinged green, paler towards the base, furrowed. **Sepals** 13.0 x 4.0-4.2 mm, reflexed, narrowly obovate-oblong, apex obtuse to rounded, 5-veined, margin entire, spreading; lateral sepals oblique. **Petals** 14.0 x 3.1 mm, reflexed, linear-lanceolate, 3-veined, margin entire, spreading. **Lip** 13.0 x 11.7 mm, united to the column, 3-lobed, base cordate, margin fimbriate to irregularly serrate-dentate, callus massive, formed by 2 basal sub-spherical calli, and a wide sub-quadrate platform with a slightly raised and protruding mid-rib; lateral lobes 4.5-5.0 x 4.0-4.5 mm, semi-ovate; mid-lobe 5.6 x 7.8 mm, flabelliform, emarginate, with an apiculate sinus. **Column** 11.2 mm long, straight, terete, with a pair of apical, recurved fleshy wings, minutely papillose ventrally. **Clinandrium-hood** very short, irregularly dentate, leaving the anther totally exposed. **Anther** cordiform, rugose, 4-celled. **Pollinia** 4, narrowly obovate, elongate, laterally compressed; caudicles longer than the pollinia, arranged like a pile of tiles, soft and granulose. **Rostellum** apical, slit. **Lateral lobes of the stigma** occupying 2/3 of the stigmatic cavity. **Nectary** deep, penetrating nearly half the ovary, minutely papillose, arranged in elongate lines. **Capsule** not seen.

**OTHER SPECIMENS: ECUADOR: Napo:** Archidona: [Orellana: Loreto:] Parque Nacional Napo-Galeras, Cordillera de Galeras, Sendero hacia Huamaní, 1000-1650 m 16 III 1997, *Alvarez 1634*, QCNE! Ibid. 1600 m, 6 IV 1996, *Neill 10564*, QCNE!

**OTHER RECORDS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Known presently only from the eastern slope of the Volcán Sumaco and foothills of the Andes, east of Quito, epiphytic in dense wet forest, at 1300 m altitude. Flowering in November to April.

**RECOGNITION:** *Epidendrum lavendulum* Hágsater belongs to the Schistochilum Group, Secundum Subgroup, which is characterized by the caespitose habit, 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 has a laxly-flowered inflorescence, an ovary 39 mm long, lavender-violet flowers with a white slightly tinged with lilac callus, a massive callus formed by 2 basal sub-spherical calli and a wide sub-quadrate platform with a slightly raised and protruding mid-rib, and a mid-lobe of the lip flabelliform, emarginate with an apiculate sinus. *Epidendrum vinosum* Schltr. has a more compact inflorescence, flowers salmon colored, but the lip forms a tricorn, the lateral lobes triangular, somewhat retrorse, and the mid-lobe is entire, small, narrow, rectangular, longer than wide, the apex obtuse.

**CONSERVATION STATUS: DD.** Data deficient. The species appears to be very rare, or as an epiphyte has seldomly been collected. It is possible that it could produce natural hybrids with *Epidendrum vinosum* Schltr. which is also found in the same general area.

**ETYMOLOGY:** from the Latin *lavendulus*, lavender-violet, in reference to this peculiar color for the flowers, where most species are either more purple, pink or salmon colored.

**REFERENCES:** Mansfeld, R., 1929, *Epidendrum vinosum* in *Figuren Atlas zu den Orchideenfloren der Südamerikanischen Kordillerenstaaten* von R. Schlechter, **Repert. Spec. Nov. Regni Veg. Beih.** 57: t. 122, nr. 480. 1929.



Author: E. Hágsater  
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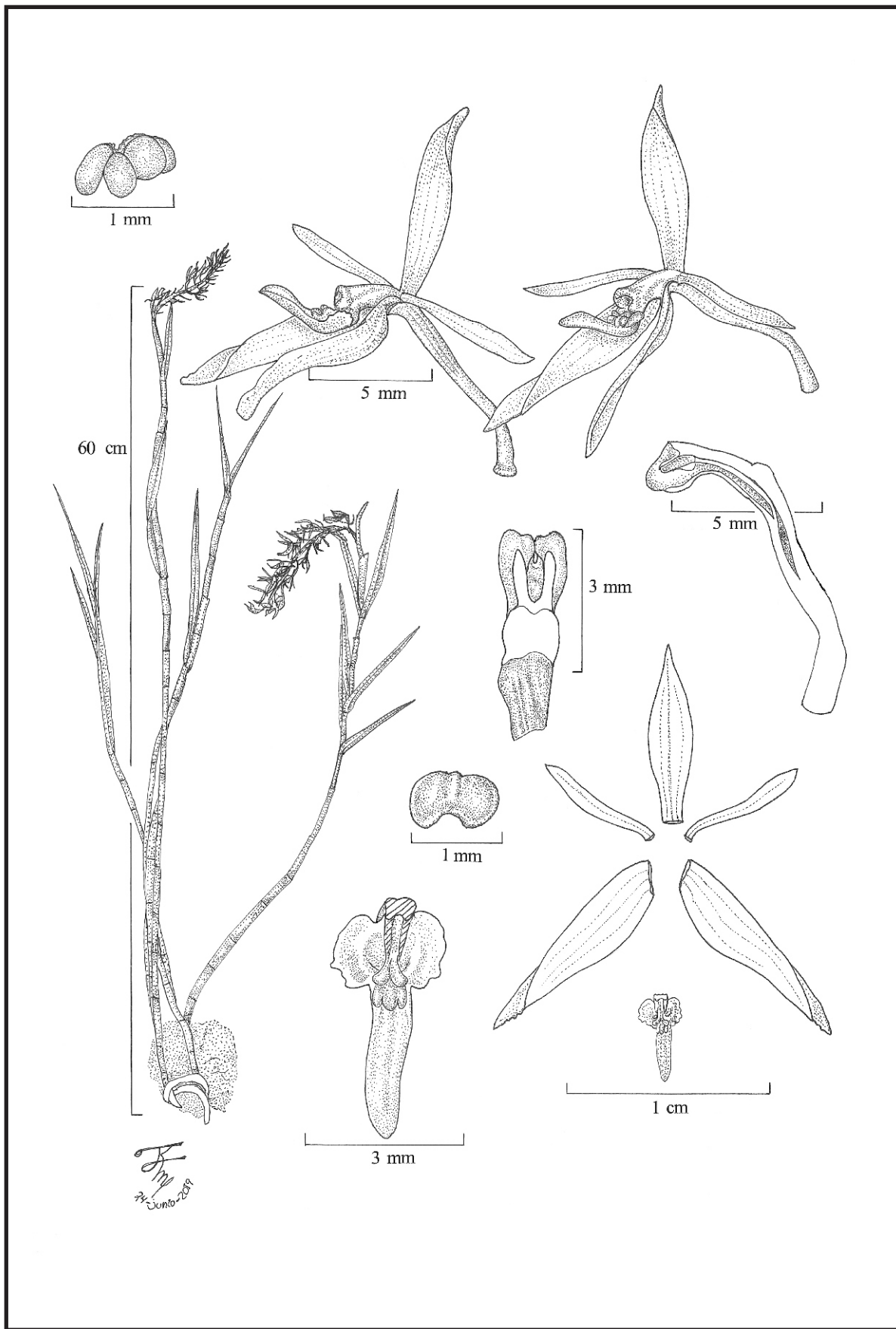
LCDP: R. Jiménez M. & A. Cisneros  
Ciudad de México, MÉXICO



Photo: R. Jiménez M.

Editors: E. Hágsater & E. Santiago

ICONES ORCHIDACEARUM 17(2). 2020. Plate 1775



EPIDENDRUM LEUCOSMOALPICOLA Hágsater & García-Llatas

*EPIDENDRUM LEUCOSMOALPICOLA* Hágsater et García-Llatas, sp. nov.

Type: PERU: Lambayeque: Prov. Ferreñafe: Dist. Kañaris: Bosque de Upaypíteq, 2600 m, 9 junio 2012, **Luis Felipe García Llatas 8886**, Holotype: HNOP! Isotypes: HNOP! USM! (illustration voucher).

Similar to *Epidendrum cornutum* Lindl. but the flowers white and very fragrant (vs. , yellowish green, not fragrant), leaves 6.5-11 x 0.45-0.55 cm, linear-lanceolate, (vs. leaves 7.0-13.5 x 0.8-1.4 cm, narrowly oblong-lanceolate), sepals 8.6-10.9 mm long (vs. sepals 10-12.3 mm long), petals 6.3 mm long, clearly shorter than the dorsal sepal (vs. petals 9.2 mm long, only slightly shorter than dorsal sepals), lateral lobes of lip 1.0 x 1.3 mm, sub-quadrate-dolabriform, margin slightly erose (vs. lateral lobes 1.6 x 3.5 mm, transversely and narrowly elliptic, margin crenate), mid-lobe 2.9 x 0.8 mm, oblong, thick, apex rounded (vs. mid-lobe 4.5 x 1.1 mm, narrowly triangular, acuminate). Epiphytic, sympodial, caespitose **herb**, 38-65 cm tall. **Roots** 3.5 mm in diameter, basal, thick. **Stems** 31-51 x 0.25-0.8 cm, simple, cane-like, terete, erect, straight. **Leaves** 8-10, distributed along the apical 2/3 of the stems, articulate, alternate, sub-erect, green; sheaths 2.0-3.0 x 0.3-0.8 cm, tubular, somewhat laterally compressed, minutely striated; blade 6.5-11 x 0.45-0.55 cm, linear-lanceolate, acuminate margin entire, spreading. **Spathes** 2, 3.7-4.2 x 0.4 cm, somewhat imbricated, covering the peduncle. **Inflorescence** 12-14 cm long, apical, racemose, arching, laxly flowered; peduncle 5 cm long, straight, totally covered by the spathes. **Floral bracts** 5-7 mm long, prominent, covering half the ovary, linear-triangular, acuminate, embracing. **Ovary** 7.8-9.0 mm long, terete, thin, unornamented. **Flowers** 30-35, simultaneous, resupinate, white, base of column green, very fragrant of "ladies' perfume". **Sepals** 8.6-10.9 x 2.0-2.6 mm, spreading, free, acuminate, 3-veined, margin entire, spreading; dorsal sepal oblong-elliptic; lateral sepals lanceolate, oblique, with a prominent dorsal keel, margin entire. **Petals** 6.3 x 0.9 mm, small, spreading, free, linear-oblancoate, acute, 1-veined, margin entire, spreading. **Lip** 4 x 2.1 mm, united to the column, 3-lobed, base cordate; bicallose, calli small, sub-globose, curved outward, divaricate, disc at base of the mid-lobe provided with 3 ribs, short, the mid-rib somewhat thicker; lateral lobes 1.0 x 1.3 mm, sub-quadrate-dolabriform, excavated towards the center, margin slightly erose; mid-lobe 2.9 x 0.8 mm, oblong, thick, apex rounded. **Column** 3 mm long, slightly arched, thin at base, thickened towards the apex. **Clinandrium-hood** short, margin entire. **Anther** reniform with a mid-rib in front, apex with a wide, rounded sinus, 4-celled. **Pollinia** 4, obovoid, laterally compressed, caudicles soft and granulose, short, viscidium semi-liquid. **Rostellum** apical slit. **Lateral lobes of the stigma** short, about half as long as the stigmatic cavity. **Nectary** shallow, penetrating about 1/6<sup>th</sup> of the pedicellate ovary, narrow, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** PERU: **Cajamarca:** Chota: a 1 km de Paraguay (Querecoto-La Granja) 2500 m, 8 VIII 1994, *Leiva 1414*, AMO! F! SEL! **San Martín:** Mariscal Cáceres: near La Playa, 2650 m, 30 VIII 1985, *Young 1523*, AMO! (illustration, AMO!) USM!

**OTHER RECORDS:** PERU: **Cajamarca:** Chota: Distr.: Querecoto, Bosque de Protección de Pagaibamba, 2600 m, 4 V 2018, *García-Llatas s.n.*, digital images, AMO! HNOP! (photo voucher).

**DISTRIBUTION AND ECOLOGY:** Known presently from northern Peru, on both sides of the Andes, epiphytic at 2500-2650, epiphytic in cloud forest, on *Ocotea* sp. Flowering from May to August.

**RECOGNITION:** *Epidendrum leucosmoalpicola* belongs to the Alpicola Group and Subgroup which is characterized by the simple, cane-like stems, 1-2 long, the narrow spathe, the fox tail-like inflorescence, and numerous flowers with a fleshy lip, a triangular mid-lobe, and roundish lateral lobes. The new species is recognized by the white flowers, very fragrant, leaves 8-10, narrow 6.5-11 x 0.45-0.55 cm, linear-lanceolate, sepals 8.6-10.9 mm long, petals 6.3 mm long, clearly shorter than the sepals, and the lateral lobes of lip sub-quadrate-dolabriform, margin slightly erose, mid-lobe of lip 2.9 x 0.8 mm, oblong, thick, apex rounded. *Epidendrum cornutum* Lindl. has 13-14 leaves, 7.0-13.5 x 0.8-1.4 cm, narrowly oblong-lanceolate, apex acuminate, sepals 10.0-12.3 mm long, petals 9.2 mm long, only slightly shorter than the dorsal sepal, and mid-lobe of lip 4.5 x 1.1 mm, narrowly triangular, acuminate. *Epidendrum dolichocaulum* Hágsater & A.G. Díaz has long stems, nearly 100 cm long, with 17-19 linear-lanceolate leaves to 9-15 x 0.8-1.2 cm, a relatively short, laxly flowered inflorescence, large yellow flowers, long sepals 15-20 mm long, and a long straight lip, mid-lobe 8.4 x 2 mm, with a relatively long mid-rib with a pair of shorter ribs in front of the calli. *Epidendrum roezlii* Hágsater has lanceolate leaves, sepals yellow-green, acute, 7-8 x 2.2-3.0 mm, and a lip apricot, the lateral lobes ovate with the margin denticulate. *Epidendrum tequendamae* F. Lehm. & Kraenzl. has narrower, longer, linear-lanceolate leaves, flowers similar in size and proportionately narrower, sepals 7.6-8.5 x 2.0-2.3 mm long, elliptic to linear-lanceolate, falcate petals, a the lip callus somewhat shorter, and the margin of the lateral lobes entire, column has very prominent long column wings which are rounded and notched above, with the clinandrium-hood very short, reaching only half the column length. *Epidendrum anthoceros* Rchb.f. has oblong leaves, spreading sepals 10-11 mm long, and lateral lobes of the lip erose-denticulate, mid-lobe linear-triangular, short acuminate. *Epidendrum aenigmaticum* Hágsater & Dodson has small flowers, ochre-orange colored inside, lateral sepals 6.8-7.5 mm long, and transversely ovate-elliptic lateral lobes of the lip are upright, with margin entire, and mid-lobe is short and wide.

**CONSERVATION STATUS:** DD. Data Deficient.

**ETYMOLOGY:** From the Greek , white , scent, and the Latin *alpicolus* living in the Alps, in this case high mountains, in reference to the very fragrant white flowers of this species of the Alpicola Group.

**REFERENCES:** Dunsterville, G.C.K., & L.A. Garay, 1976, *Epidendrum anthoceros*, **Venez. Orchid. III.** [Dunsterville & Garay] 6: 118-119. Hágsater, E. & C.H. Dodson, 2007, *Epidendrum aenigmaticum* in Hágsater, E. & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 6, **Icon. Orchid.** 9: pl. 902. Hágsater, E., 2016, *Epidendrum roezlii*, in Hágsater, E. & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 11, **Icon. Orchid.** 15(2): pl. 1596. Hágsater, E., 2016, *Epidendrum tequendamae*, in Hágsater, E., & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 11, **Icon. Orchid.** 15(2): pl. 1597. Hágsater, E. & A. Díaz, 2018, *Epidendrum dolichocaulum*, in Hágsater, E. & E. Santiago (eds.), *The Genus Epidendrum*, Part 12, **Icon. Orchid.** 16(2): pl. 1672.



Authors: E. Hágsater & L. García Llatas

Illustrator: R. Jiménez M.

Photo: L. García Llatas

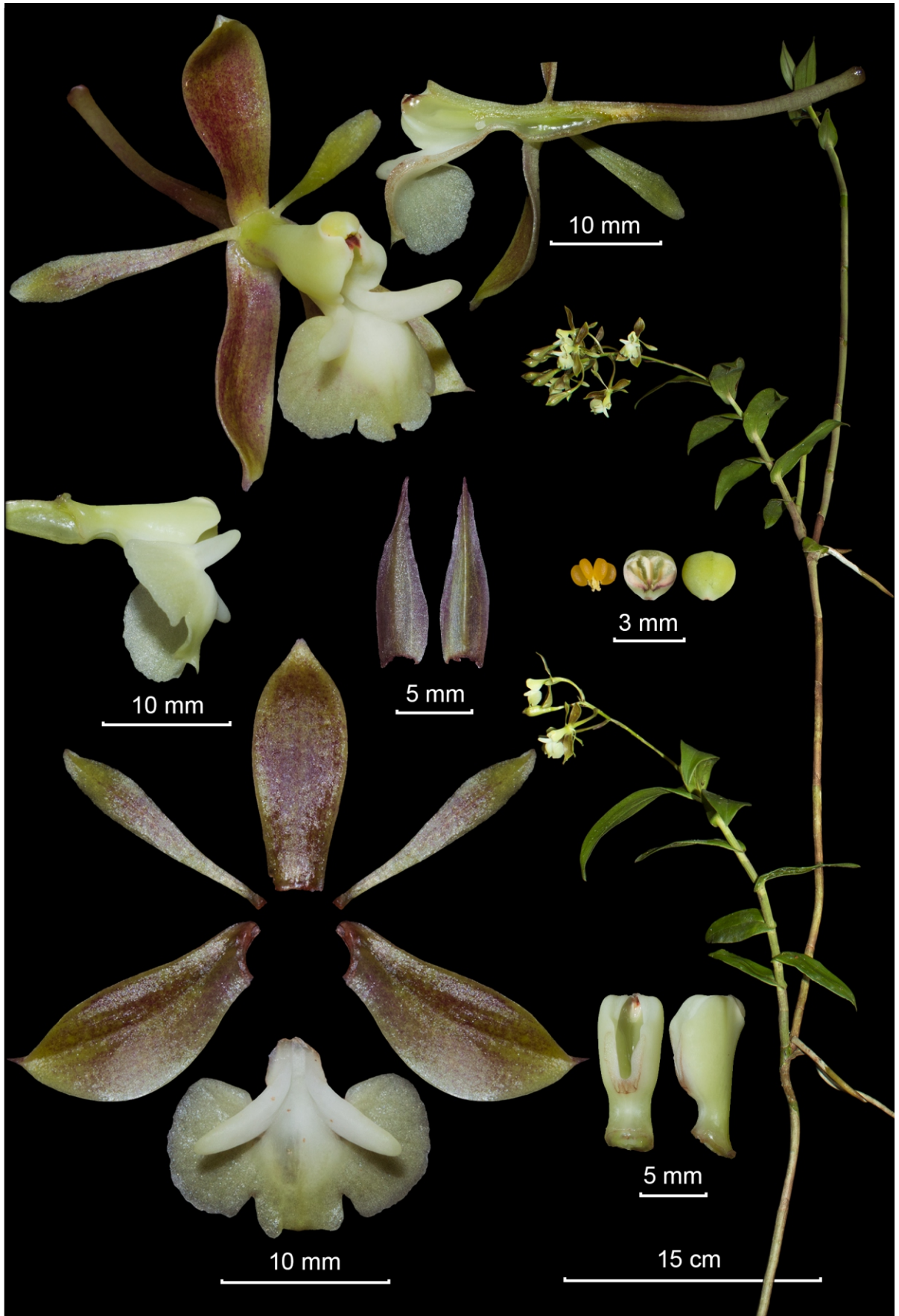
Editors: E. Hágsater & E. Santiago

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Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(2). 2020.

Plate 1776



EPIDENDRUM LIGULIFERUM C.Schweinf.

**EPIDENDRUM LIGULIFERUM** C.Schweinf., Bot. Mus. Leaf. 11(4): 92. 1943.

Type: PERU: Huánuco: Cani, seven miles NE of Mito, at about 2600 m altitude, April 16-26, 1923, **J. Francis MacBride 3543**.  
Holotype: F 534618! Isotype: AMES 61554!

Epiphytic, sympodial, erect **herb**, new stem originates from a sub-apical internode of the previous stem. **Roots** 2-3 mm in diameter, basal from the initial stem, occasionally from the base of the upper stems, scarce, white. **Stems** 25-37 x 0.2-0.5 cm, simple, cane-like, terete, slightly arched, covered at the base by sheaths 1.5-5.8 x 0.3-0.5 cm, tubular, non-foliar, minutely striated, reddish brown when young, becoming fibrous and scarious with age. **Leaves** 7-9, distributed along the apical half of the stems, alternate, articulate, spreading, unequal in size (the basal leaf generally smaller), green, concolor, sub-coriaceous; sheaths 1.5-2.0 x 0.2-0.5 cm, tubular, minutely striated, pale green; blade 4.2-12.5 x 1.0-2.0 cm, elliptic-lanceolate to oblong-elliptic, acute to acuminate, margin dentate, spreading. **Spathes** lacking. **Inflorescence** 14 cm long, apical racemose, laxly flowered, arching, peduncle 4.2-7.2 cm long, terete, thin, straight, pale green, provided with 2-3 bracts 2.2-3.1 cm long, decreasing in size, frequently imbricated, basal half tubular, apical half conduplicate, translucent with the margins reddish brown, margin erose; rachis 6.5 cm long, terete, thin. **Floral bracts** 9-16 mm long, about half as long as the ovary, triangular-lanceolate, acuminate, embracing, creamy green tinged red and turning dark brown with time. **Flowers** 9-11, simultaneous, resupinate, green, tinged brown on the dorsal surface of the sepals (turning ochre when mature), disc of the lip and calli white; fragrance none registered. **Ovary** 23-27 mm long, terete, thin, inflated ventrally behind the perianth. **Sepals** 15.3-16.9 x 5 mm, free, slightly fleshy, oblanceolate, acute, slightly concave at the apical half, margin entire, spreading; dorsal sepals spreading to somewhat reflexed, 3-veined with the lateral veins bifurcate from the base and thus appearing 5-veined; lateral lobes 7.5 x 8.5 mm, oblique. **Petals** 16 x 1.8 mm, reflexed, free, linear-oblanceolate, acute, 1-veined, margin entire, spreading. **Lip** 10 x 15.5 mm, united to the column, 3-lobed, base cordate, convex, margin erose, spreading; bicallose, the calli 4-6 mm long, horn-like and digitiform, very prominent, divergent, wide-spreading; disc fleshy with a low mid-rib that disappears before the apical sinus; lateral lobes 7.5 x 8.5 mm, dolabriform; mid-lobe 3.3 x 5.0 mm, sub-quadrate, widely mucronate, forming a pair of very small square lobes. **Column** 12 mm long, constricted at the basal 1/3, gradually widening towards the apex and the base, arching upwards. **Clinandrium-hood** reduced; margin entire. **Anther** ovoid, 4-celled. **Pollinia** 4, lentil-shaped; caudicles soft and granulose, longer than the pollinia. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** penetrating 1/5 of the ovary, slightly inflated, forming an elongate vesicle. **Capsule** not seen.

**OTHER SPECIMENS SEEN:** PERU: Huánuco: Pachitea, Umari, Wilca, 3175 m, 8 III 2012, *Mendoza 6512*, USM! (illustration and digital images by Delsy Trujillo, AMO!)

**OTHER SPECIMENS SEEN:** PERU: Huánuco: Pachitea, Umari, Punta Silla, 2911 m, 15 I 2020, *Yupanqui s.n.*, digital photos, AMO! (LCDP and photo voucher). Ibid., 6 km arriba de Tambillo, a 1 km del poblado de la Punta, 2500 m, 19 I 2020, *Zuñiga s.n.*, digital images, AMO!

**DISTRIBUTION AND ECOLOGY:** Presently known from a reduced area north of Huánuco, along the basin the Huallaga River, at 2600-3175 m altitude, in isolated remnant patches of dense Andean forest. Flowering in from January to March.

**RECOGNITION:** *Epidendrum liguliferum* belongs to the Incomptum group which is characterized by the successive lateral growths produced from the middle of the previous growth, the few leaves aggregate towards the apex of the stems, a short apical inflorescence with fleshy green to violet-green flowers with short ovaries, and the lip entire to 3-lobed. The species is recognized by the tubular, translucent bracts of the peduncle, green flowers tinged brown, the 3-lobed lip with a pair of square lobes at the apex of the mid-lobe, the very prominent digitiform, divergent calli, and the ovary forming an elongate vesicle behind the perianth. The Brazilian *Epidendrum niveum* E.M.Pessoa & M.R.Miranda (Pessoa et al. 2015) lacks the bracts of the peduncle and the inflorescence with 4 or fewer white flowers, lip obscurely 3-lobed with a pair of minute orbicular calli, and the mid-lobe of the lip emarginate.

**NOTE:** The original illustration of this species, plate VIII, fig. 5, shows the mid-lobe of the lip only slightly separated from the lateral lobes. However, all the specimens we have seen clearly show the mid-lobe well-formed and separate from the lateral lobes, though small.

**CONSERVATION STATUS:** DD. Data deficient. The present known range of distribution comes from small patches of Andean forest conserved among highly inhabited small farms. However, there are few roads across the Andes, and thus the range of distribution may be much wider.

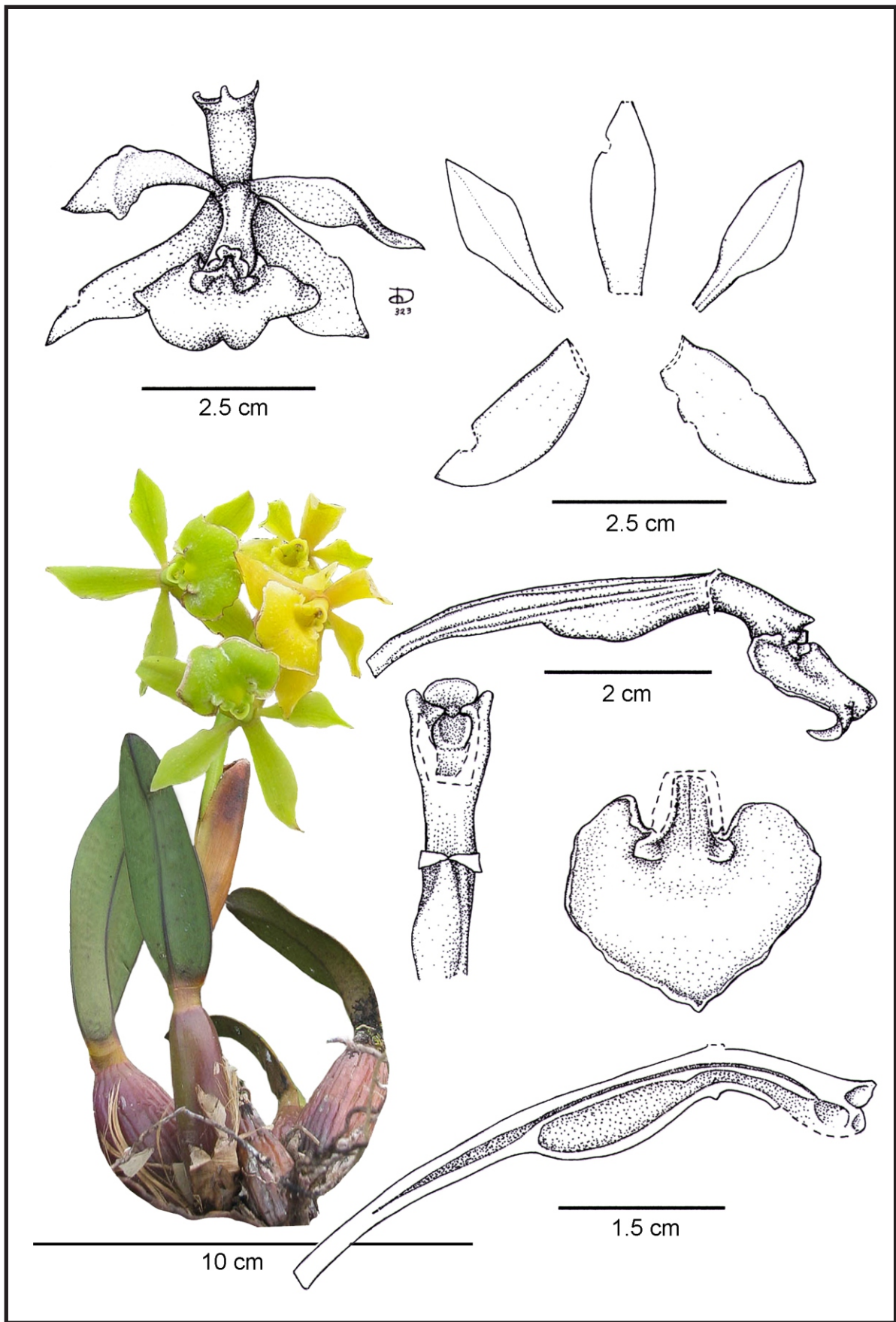
**ETYMOLOGY:** From the Latin *ligula*, little tongue, and the suffix *-fer*, carrying, bearing, thus bearing little tongues, in reference to the very prominent, divergent, digitiform calli.

**ACKNOWLEDGMENTS:** We wish to thank Alex Wilfrido Zuñiga Huamán, Luis Enrique Yupanqui Godo and Delsy Trujillo for sharing their material and bringing this species to our attention.

**REFERENCES:** Pessoa, E., M.R. Miranda & M. Alves, 2015, A new whitish flowered *Epidendrum* (Laeliinae-Orchidaceae) from the Atlantic Forest of southeastern Brazil, *Brittonia* 68(2): 116, pl. 1, figs. A-D. Schweinfurth, C., 1943, *Epidendrum liguliferum* in *Orchidaceae Peruvianae V*, **Bot. Mus. Leaf.** 11(4): 81-120, pl. VIII, figs. 4-5.



Authors: E. Santiago, E. Hágsater & L. E. Yupanqui G. LCDP: L. E. Yupanqui G. & L. A. Ocupa H. Photo: L. E. Yupanqui G. Editors: E. Hágsater & E. Santiago



EPIDENDRUM LUTESCENS Hågsater, E.Santiago & J.Duarte

Plate 1778

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

Type: PERU: Huánuco: Chinchao: cerca de Pillao, trocha del campamento (vértice 39) al cerro Negra Punta, 3000-3100 m, 18 octubre 2011, **Wilfredo Mendoza, Denise Sasaki & Delsy Trujillo 6384**. Holotype: USM! (illustration and photo voucher).

Similar to *Epidendrum milpoëns* Hágsater & E.Santiago but the flowers larger, sepals 25-26 cm long, convex (vs. sepals 18-19 mm long, flat), petals 24 x 7.0 mm (vs. petals 16.0-17.5 x 5.0-7.0 mm), lip 17 x 16 mm, obscurely pentagonal, apex rounded (vs. lip 11 x 15 mm, widely cordiform, apex obtuse), and calli laminar (vs. calli globose).

Epiphytic or lithophytic, sympodial, caespitose **herb**, 20 cm tall including the inflorescence. **Roots** basal, terete, thin. **Stems** 5.3 x 1.0-1.5 cm, forming fusiform pseudobulbs, each new pseudobulb produced from the base of the previous one, smooth, and reddish green when young, to furrowed and reddish brown when mature; covered by 2 non-foliar sheaths, 2.7-4.2 cm long, scariosus and becoming fibrous with age. **Leaf** 1, apical, articulate, coriaceous, green, the margin and dorsal keel blackish green, rugose ventrally; blade 6.4-8.0 x 1.9-2.3 cm, elliptic, apex rounded, unequally bilobed, minutely apiculate, margin entire, revolute in pressed specimens. **Spathe** 1, 6.5 x 1.0 cm, tubular at base, conduplicate, oblong, the apex rounded, minutely striated and rugose, light brown. **Inflorescence** 14 cm long, apical, erect, few-flowered, racemose, longer than the leaf; peduncle 7.5 cm long, terete, erect, straight, pale green; rachis 1.5 cm long, terete, thin straight, pale green.

**Floral bracts** 2 mm long, much shorter than the ovary, widely triangular, acute, embracing. **Ovary** 40 mm long, terete, thin along the basal 2/3, prominently inflated along the apical 1/3 forming a ventral vesicicle behind the perianth, furrowed, reddish orange, tinged green. **Flowers** 4, simultaneous, non-resupinate, apple green turning yellow; fragrance of carnation (*Dianthus* sp.) with clove (*Syzygium aromaticum* (L.) Merr. & L.M.Perry). **Sepals** 25-26 x 5.0-6.0 mm, spreading, free, slightly convex, apex sub-acute, fleshy, 5-veined, margin entire, spreading, dorsal sepals oblanceolate, lateral sepals elliptic, slightly oblique. **Petals** 24 x 7.0 mm, spreading, free, rhombic-spatulate, acute, 5-veined, lateral veins short branched, margin entire, spreading. **Lip** 17 x 16 mm, united to the column, entire, obscurely pentagonal, base deeply cordate, apex rounded, revolute in natural position, margin irregularly and shortly ciliate, turning white; bicallose, calli small, laminar, divaricate, very separated from each other; disc with a low mid-rib, elongate to reach the apex of the lip. **Column** 11 mm long, thin at base, gradually widened towards the apex. **Climandrium-hood** prominent, funnel-shaped, margin sub-crenulate. **Rostellum** apical, slit. **Anther** reniform, 4-celled. **Pollinia** not seen. **Lateral lobes of the stigma** not seen. **Nectary** penetrating 1/3 of the ovary, inflated. **Capsule** not seen.

**OTHER SPECIMENS: BOLIVIA: La Paz:** Valle de Zongo, entre Cahua y Zongo, 2800 m, 22 XI 1992, *Vásquez 1739*, LPB. Murillo, 24.5 km N of (below) the pass at the head of the Zongo valley, 3600 m, 16 IX 1984, *Solomon 12368*, MO! **Nor Yungas:** entre Chuspipata y Coroico, 2500 m, 24 XI 1992, *Vásquez 1751*, LPB. Parque Nacional Cotapata. 3050 m, 12 II 2001, *Krömer 1814*, LPB X2.

**OTHER RECORDS: BOLIVIA:** without locality, fig. 84, as *E. saxicola*, (Vásquez 2004, pg. 161 fig 84). **La Paz:** Parque Nacional Madidi, as *Epidendrum aff saxicola*, photo 61, <https://fieldguides.fieldmuseum.org/es/gu%C3%ADas/gu%C3%ADa/1226>. Ibid. Parque Nacional Cotapata y alrededores, as *Epidendrum saxicolum*, photo 63, [https://fieldguides.fieldmuseum.org/sites/default/files/rapid-color-guides-pdfs/361\\_bolivia-orquideas\\_de\\_cotapata\\_1.pdf](https://fieldguides.fieldmuseum.org/sites/default/files/rapid-color-guides-pdfs/361_bolivia-orquideas_de_cotapata_1.pdf) **PERU: Huánuco:** Prov. Huánuco: Pillao, 2013, *Deburghgraeve s.n.*, digital images, AMO! (photo voucher). **Junin:** San Ramón, Selva central, *Moron s.n.* digital photos, AMO!

**DISTRIBUTION AND ECOLOGY:** Known presently from two regions, one from central Peru and the others from western Bolivia, on the upper Amazon slope of the Andes, in High Andean forest and cloud forest, epiphytic or lithophytic 2500-3600 m altitude. Flowering in September and October.

**RECOGNITION:** *Epidendrum lutescens* belongs to the Saxicola Group characterized by the pseudobulbous stems, caespitose or scandent habit, the prominent spathe apically rounded, few-flowered, erect inflorescence, flowers purple or yellow, and surface of the vegetative structures often rugose. The species is recognized by the large, apple green flowers that turn yellow as they age, sepals 25-26 mm long, convex, petals 24 x 7 mm, rhombic-spatulate, acute, lip 17 x 16 mm, obscurely pentagonal, with laminar calli widely separated. *Epidendrum milpoëns* Hágsater & E.Santiago has 2-3 green flowers but much smaller, sepals 18-19 mm long, petals 16-17.5 x 5.0-7.0 mm, lip 11 x 15 mm, widely cordiform, obtuse, and calli small and globose. *Epidendrum microcattleyioides* D.E.Benn. & Christenson has 4 yellow flowers with the margins white, sepals\* 12-13 mm long, petals, 10.5 x 6.5 mm, obovate, apex obtuse-rounded, lip reniform with globose calli. *Epidendrum saxicola* Kraenzl. has 2 flowers with sepals 15-18 mm long, dirty pale purple brown to pink, petals and lip white tinged purple to pale green, petals 15-18 x 5-6 mm, linear-oblongate, lip sub-orbicular to widely cordiform. *Epidendrum magnisaxicola* Hágsater, Edquén & E.Santiago has 2 greenish yellow flowers, sepals tinged brown, sepals 24-25 mm long, petals 25 x 4 mm, oblanceolate, lip 13.5 x 11 mm, ovate-rhombic, base truncate.

\***NOTES:** The original description of *Epidendrum microcattleyioides* indicates that the dorsal sepal measures 15 x 6.5 mm, and lateral sepals 22.5 x 7.5 mm. Analyzing a flower in spirit of the type, *Bennett 7939* at MOL shows that the flowers are smaller, sepals are 12-13 x 6-7 mm. The specimens collected by Vásquez and Krömer from Bolivia were not seen but indicated by Vásquez (2004) (the private herbarium of Roberto Vásquez was transferred to LPB).

**CONSERVATION STATUS:** NT Not Threatened. The species, though few specimens have been found, seems to be fairly common in Bolivia and is expected to be distributed along the Andes at least as far as Huánuco in central Peru, a distance of 1130 km.

**ETYMOLOGY:** From the Latin *lutescens*, becoming yellow, in reference to the green flowers that turn yellow when they age.

**REFERENCES:** Bennett, D.E. & E.A. Christenson, 2001, *Epidendrum microcattleyioides*, in E.A. Christenson (ed.) **Icon. Orchid. Peruvianum** pl. 644. Vásquez Ch., R., 2004, Subtribu Laeliinae, in Vásquez Ch., R., & P.L. Ibsch (eds.), **Orquídeas de Bolivia, Diversidad y estado de conservación** 2: 78-345. Fundación Amigos de la Naturaleza (FAN-Bolivia), Santa Cruz de la Sierra, Bolivia. Hágsater, E., J.D. Edquén & E. Santiago, 2019, *Epidendrum magnisaxicola*, in E. Hágsater & E. Santiago (eds.), **The Genus Epidendrum**, Part 13, **Icon. Orchid.** 17(1): pl. 1735. Hágsater, E., & E. Santiago, 2019, *Epidendrum milpoëns*, in E. Hágsater & E. Santiago (eds.), **The Genus Epidendrum**, Part 13, **Icon. Orchid.** 17(1): pl. 1741. Santiago, E., J. Duarte & E. Hágsater, 2020, *Epidendrum saxicola* in E. Hágsater & E. Santiago (eds.), **The Genus Epidendrum** Part 13, **Icon. Orchid.** 17(2): pl. 1796.



Authors: E. Hágsater, E. Santiago & J. Duarte

Illustrator: D. Trujillo & A. Cisneros

Photo: G. Deburghgraeve

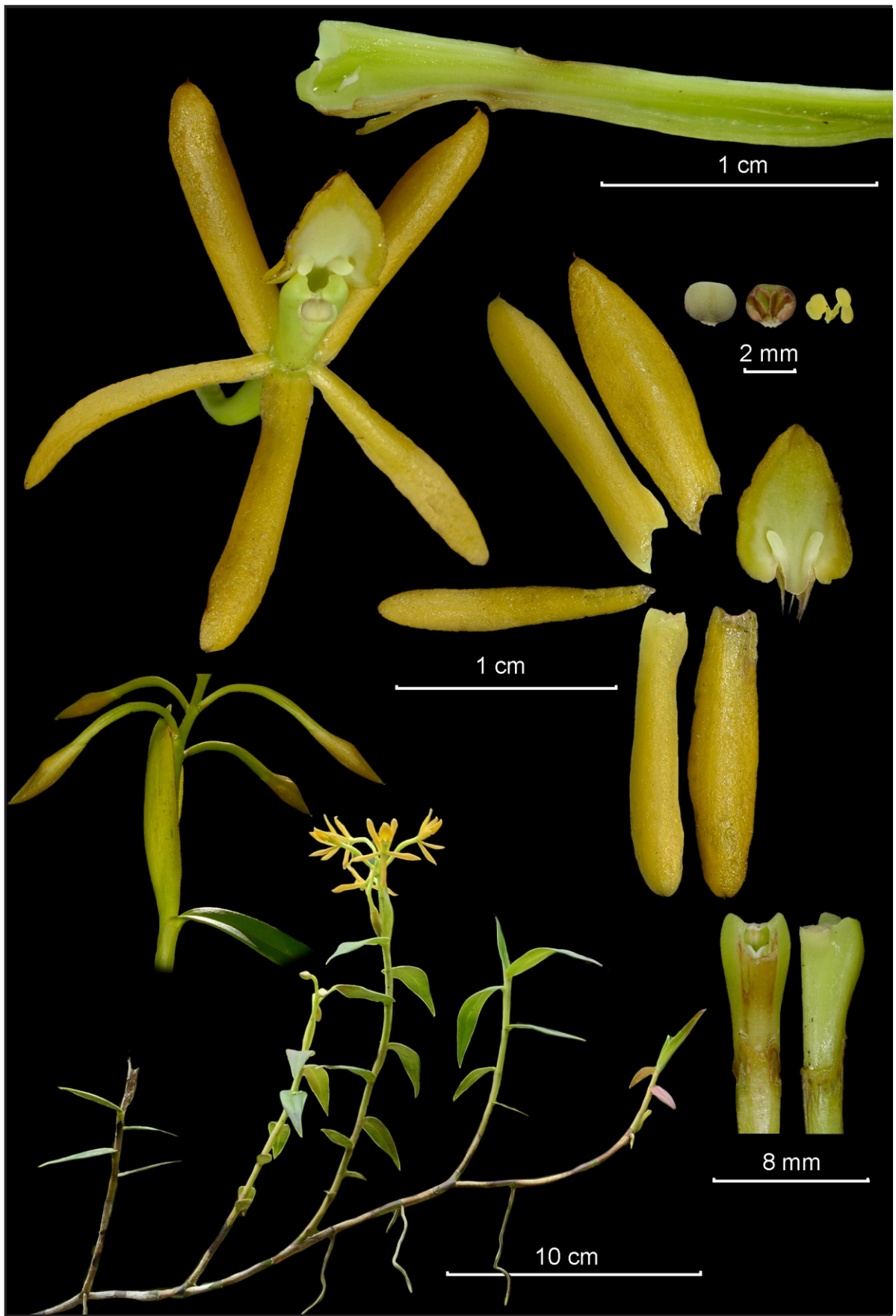
Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(2). 2020.

Plate 1778



EPIDENDRUM MADEROI Schltr.

Plate 1779



*EPIDENDRUM MADEROI* Schltr., Repert. Spec. Nov. Regni Veg., Beih. 7: 138. 1920.

Type: COLOMBIA: Antioquia, *M. Madero s.n.* Holotype B, destroyed. Tracing on flower in R. Mansfeld (1929). AMES 36087!  
Neotype (here designated): COLOMBIA: Tolima: Volcán Cerro Machín, Crater Machín, 2700 m, 4 junio 2019, *María Fernanda Valencia Escalante y Milton Rincón González 232*, TOLI 29005! (LCDP pro-parte, floral parts and photo voucher)

Epiphytic or terrestrial, sympodial, scandent herb, 34-55 cm tall. **Roots** scarce, produced from the rhizomatous part of the stem, thin, terete, white. **Stems** 15-55 x 0.35-0.6 cm, cane-like, terete, arching at the base to be erect, base covered with sheaths 10-26 mm long, tubular, non-foliar, scarious. **Leaves** 7-11, evenly distributed throughout the stem, sub-coriaceous, spreading; sheath 9-27 x 3.5-6.0 mm, tubular, pale green; blade 5-8 x 0.8-1.5 cm, lanceolate, acuminate, margin entire, spreading. **Spathe** 1, 2.0-5.5 cm long, tubular, apex conduplicate, acute, margin irregularly denticulate. **Inflorescence** 8-10 cm long, apical, racemose, erect, laxly few-flowered; peduncle 20-50 mm long, totally covered by the spathe; rachis 12 mm long, terete, thin, pale green. **Floral bracts** 2-4 mm long, much shorter than the ovary, triangular, acute, embracing. **Ovary** 20-26 mm long, terete, thin, slightly inflated ventrally along the apical 2/3, arched, pale green. **Flowers** 3-6, simultaneous, non-resupinate, fleshy, sepals and petals ochre yellow, the lip cream colored including the calli, with the margin ochre yellow; fragrance weak. **Sepals** 15.0-17.5 x 4-5 mm, oblong in natural position, narrowly elliptic when spread, apex narrowly rounded, minutely apiculate, 7-veined, margin entire, revolute; dorsal sepal spreading, free; lateral sepals partly spreading, obliquely united to the column. **Petals** 14-16 x 2.0-2.5 mm, spreading, free, oblanceolate, apex rounded, 5-veined, margin entire, slightly revolute at the base. **Lip** 8.0-9.5 x 6-7 mm, united to the column, entire, narrowly cordiform, base cordate, apex obtuse, margin slightly erose\*, rugose (except at the margins); bicallose, calli fleshy, somewhat laterally compressed, divaricate. **Column** 7-8 mm long, straight, obconical, a pair of sub-quadrate wings at the apex. **Clinandrium-hood** elongate, not surpassing the wings of the column, margin entire. **Anther** reniform, 4-celled, **pollinia** 4, lenticil-shaped; caudicles soft and granulose, as long as the pollinia. **Rostellum** apical, slit. **Lateral lobes of the stigma** prominent, half as long as the stigmatic cavity. **Nectary** penetrating 2/3 of the pedicellate ovary, slightly inflated, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** COLOMBIA: Antioquia: Mun. Envigado, Nacimiento de La Miel, costado SW de Higuérón, 2650 m, 26 IV 1996, Correa 773, COL! JAUM! Mun. La Unión, vereda Pantalión, finca Santa Teresita, 2490 m, 23 IV 1987, Escobar 99, MEDEL! Alto de Alegrías, 2000 m, 22 X 1884, Lehmann s.n., LE! "El Tabor" La Ceja, 2350 m, 17 X 1970, Ortiz Valdivieso 388, HPUJ! (illustration, xerox of illustration, AMO!) Santa Rosa, cabecera del Río Dolores, 2500 m, Ospina 989, JAUM x2! Cundinamarca: Salto de Tequendama, 2200m, 1 X 1938, Cuatrecasas 182, AMES! COL! F! US! Ibid. 2500 m, 8 III 1939, Killip 33995, AMES! COL! S! US! (illustration AMO!) Vereda San Antonio, Cabrera, 1800 m, 29 IV 1988, Ospina 1209, COL! Santander: Mun. La Belleza, vereda Vista Hermosa, 2380 m, 29 V 2017, Gutiérrez 43, JBB! (flower digital photo, AMO!)

**OTHER RECORDS:** COLOMBIA: Antioquia: alrededores de Urao, Domínguez s.n., digital images, AMO! (LCDP pro-parte, plant). Santa Elena, 2500 m, Duque 1039, photo, AMO!

**DISTRIBUTION AND ECOLOGY:** Widely distributed in northern Colombia, across a wide band that crosses from the Cordillera Occidental in Antioquia, the Cordillera Central in Antioquia and Tolima, and the western slope of the Cordillera Central in Cundinamarca and Santander. Terrestrial in moss, sometimes forming large masses, or epiphytic in Andean and cloud forest, at 1800-2700 m altitude. Flowering from October to May.

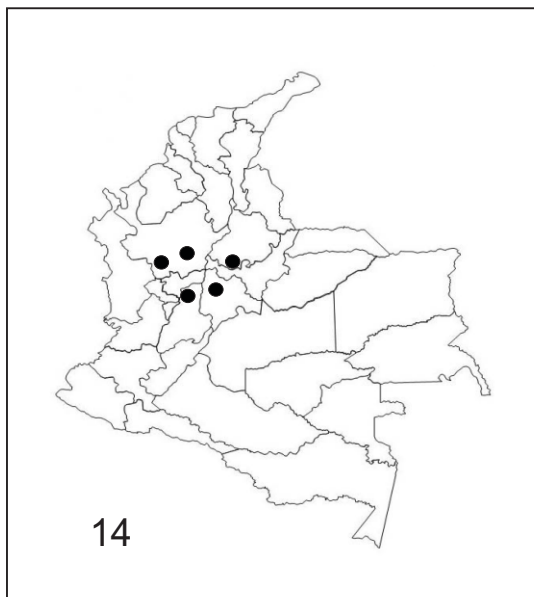
**RECOGNITION:** *Epidendrum madero* belongs to the Madero Group which is recognized by the erect, sympodial, scandent habit, several narrow leaves, a narrow, tubular, acute, spathaceous bract, several non-resupinate flowers on a short raceme, and an entire, bicallose lip. The species is recognized by the lanceolate, acuminate leaves, the erect inflorescence of 3-6 yellow flowers with the lip cream colored, sepals 15.0-17.5 mm long, narrowly elliptic with the margin revolute, petals oblanceolate, and the lip narrowly cordiform with the margin slightly erose. *Epidendrum urraoense* Hágsater is vegetatively very similar, but has 3-4 pink flowers, the lip and column white, sepals 17-18 mm long, elliptic-obovate, petals ligulate-oblanceolate, and the lip cordiform-obpandurate. *Epidendrum inornatum* Schltr. has leaves 6.0-10.5 x 0.3-0.5 cm, linear-oblong, up to 12 green flowers, sepals 5-6 mm long, and the lip 3.5 x 2.5 mm.

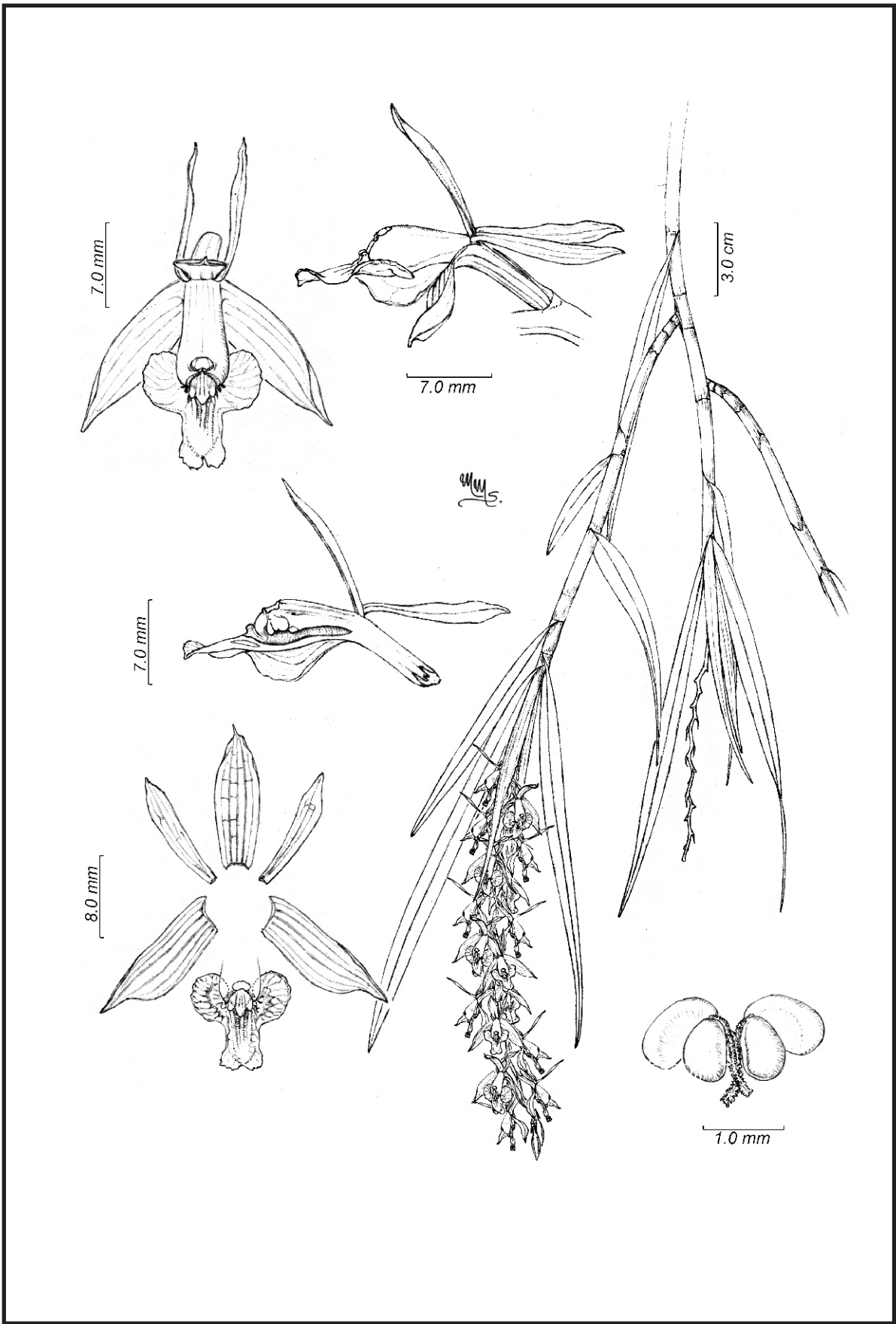
\*NOTE: In the illustration published under Nr. 188, in Mansfeld (1929), the margin of the lip is clearly undulate, but none of the images nor specimens seen show that, though the lip margin is somewhat erose.

**CONSERVATION STATUS:** NT. Not threatened: The species is widespread and found in protected areas and can form large masses.

**ACKNOWLEDGMENT:** The neotype collection was made for the undergraduate thesis of María Fernanda Valencia Escalante: "Inventario de las orquídeas y bromelias del Volcán Cerro Machín, Ibagué-Tolima" and awarded by the Asociación Colombiana de Botánica under ACB-01-2019.

**REFERENCES:** Hágsater, E., 1999, *Epidendrum urraoense*, in E. Hágsater, L. Sanchez S. & J. García-Cruz (eds.), The Genus *Epidendrum*, Part 2, Icon. Orchid. 3: pl. 394. Mansfeld, R., 1929, *Epidendrum madero*, in Figuren Atlas zu den Orchideenfloren der Sudamerikanischen Kordillerenstaaten von R. Schlechter, Repert. Spec. Nov. Regni Veg., Beih. 57: Fig. Nr. 188. Schlechter, F. R. R., 1917, *Epidendrum inornatum* Schltr., in Repert. Spec. Nov. Regni Veg., 15: 53.





EPIDENDRUM MALMOENSE Hágsater, C.Castro & Betancur

Plate 1780

**EPIDENDRUM MALMOENSE** Hágsater, C. Castro et Betancur, *sp. nov.*

Type: COLOMBIA: Boyacá: Mun. Tunja; vereda Barón Germania, Reserva Forestal Protectora El Malmo, ca. 200 m de la entrada de la reserva, 2800 m, 15 mayo 2017, **Cristian Castro 865**. Holotype COL! Isotypes HUA! UPTC! (illustration and photo voucher).

Similar to *Epidendrum prasinum* Schltr. but the leaves somewhat narrower, 0.4-0.6 mm wide (vs. leaves to 1.2 cm wide), petals linear-oblancoate-rhombic (vs. petals narrowly elliptic), lateral lobes of the lip semi-orbicular, oblique, forming a cordate base (vs. lateral lobes obliquely ovate), and the mid-lobe of the lip sub-quadrate-spatulate, forming a pair of semi-orbicular lobules at the apex (vs. mid-lobe narrowly triangular, apex obtuse).

Epiphytic, pendent, sympodial **herb**, up to 280 cm long. **Roots** thin, scarce, from the base of the primary stems, and scarce thereafter, especially as the plants get longer. **Stem** 30-100 x 0.4-0.5 cm, terete to slightly elliptic in cross section, lower part covered by tubular sheaths; new stems produced from a middle internode of the previous stem. **Leaves** 3-12, distichous, distributed along the apical ¼ of the stems; sheaths tubular, 2.7-4.2 x 0.4-0.6 cm, green to wine-red, glabrous; blade 18-23 x 0.6-0.9 cm, articulate, linear-lanceolate, acuminate, base cuneate, coriaceous, smooth, green, glabrous, margin minutely crenulate. **Spathes** 2, imbricated, the first 12 cm long, the second 9 cm long, lanceolate, acuminate, coriaceous, hay-yellow. **Inflorescence** 14-20 cm long, apical, racemose, pendent, peduncle terete to slightly compressed, rachis occupies 9/10 of the length of the inflorescence. **Floral bracts** 3.7-31.5 mm, shorter to twice as long as the ovary, lanceolate, acute, papyraceous, green glabrous. **Ovary** 8.8-14.1 mm long, pedicellate, olive green, glabrous, furrowed. **Flowers** up to 20, simultaneous, resupinate, olive green tinged wine-red, lip olive green with pale wine-red around the base, column pale green, becoming tinged wine-red when mature, anther salmon colored; fragrance apparently lacking. **Sepals** partly spreading, apex slightly concave, slightly thick, glabrous, 5-veined, margins entire; dorsal sepal 13.1-15.1 x 3.5-4.7 mm, elliptic, acuminate; lateral sepals 13.8-14.4 x 4.8-5.2 mm, elliptic-oblong, apex forming a short acuminate, oblique, triangular point. **Petals** 11.5-13.0 x 2.0-2.5 mm, strongly reflexed, linear-oblancoate-rhombic, slightly falcate, apex acute, papyraceous, glabrous, 3-veined. **Lip** 8.6-9.6 x 9.3-9.5 mm, united to the column, deeply 3-lobed, base deeply cordate, margins entire, spreading, except for the distal margin of the mid-lobe which is erose; bicallose, the calli divergent, sub-globose, laterally compressed, joined by a fleshy mid-channel which terminates in a triangular sub-acute point, 3 parallel ribs in front of the calli and mid-point, rounded, narrow and disappearing near the base of the mid-lobe; lateral lobes semi-orbicular, oblique, forming a cordate base, short, slightly thickened, radiating veins at the base, one noticeable thicker and like the 3 mid-ribs but shorter and bifurcate; mid-lobe sub-quadrate-spatulate, forming a pair of semi-orbicular lobules at the apex, the lobules 1.4 x 2.1 mm, these slightly bent upwards, the sinus apiculate. **Column** 7.7-8.5 x 3.7-4.0 mm, dorsally slightly arched, triangular in side view with the lip, somewhat flattened ventrally in cross-section. **Clinandrium-hood** very short, margin entire. **Anther** sub-apical, 4-celled. **Pollinia** 4, obovate, laterally compressed, unequal, the inner pair smaller; caudicles soft and granulose, forming two narrow bands slightly longer than the pollinia; viscidium semi-liquid. **Rostellum** apical, slit. **Lateral lobes of the stigma** short. **Nectary** short, without penetrating 1/3 of the pedicellate ovary, narrow, unornamented. **Capsule** globose, surface glabrous, waxy, olive green to pale green.

**OTHER SPECIMENS SEEN:** COLOMBIA: Boyacá: Mun. Tunja, Reserva Forestal Protectora El Malmo, ca. 200 m de la entrada de la reserva, 2800 m, 4 VII 2014, **Castro 205**, COL! Cundinamarca: "Facativá: Hacienda Cuatro Esquinas" [= Mosquera], 21 VII 1948, **Schneider 145**, COL! Bogotá Distrito Capital: Mun. Sumapáz, corregimiento de Nazareth, vereda Ánimas Bajas, riveras río el Chochal, 30 V 2019, **Castro 1827**, COL! alrededor de Bogotá quebrada de El Chicó, 3000 m, 30 IV 1945, **Schneider 145/1**, COL! Usaquén, 3000 m, 6 VI 1948, **Schneider 145/2**, COL! Localidad de Sumapáz, corregimiento de Nazareth, vereda Ánimas Bajas, 28 V 2019, **Urbano 2252**, JBB!

**OTHER RECORDS:** COLOMBIA: Cundinamarca: Mun. Guasca; Reserva Biológica El Encenillo, 3047 m, 10 VIII 2019, **Hágsater 16230**, digital images, sterile, AMO!

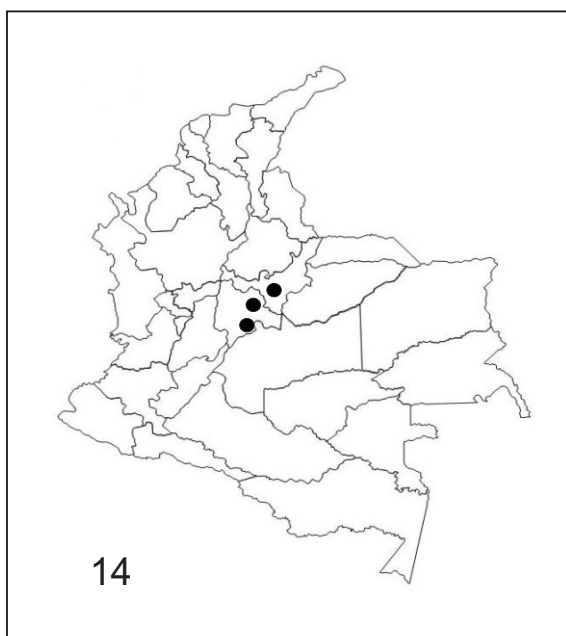
**DISTRIBUTION AND ECOLOGY:** This species prefers forests with trees of *Weinmannia*, *Ocotea*, *Morella*, and *Brunellia* the high-Andean forest. Known only from eastern Andean mountain ranges on its eastern side, from five locations; two with old records of forest currently very fragmented due to the proximity to Bogotá and subjected to constant anthropic pressure and two recent additional localities; one of the Protect Forest Reserve near the city of Tunja of the department of Boyacá, where only two mature individuals were found in fragmented areas, the other locality is in a fragmented riparian forest in the Sumapáz area of Capital District of Bogotá. The species is of slow growth and it is estimated that flowering occurs two years from the moment a lateral bud is generated to the anthesis. Flowering from April to July.

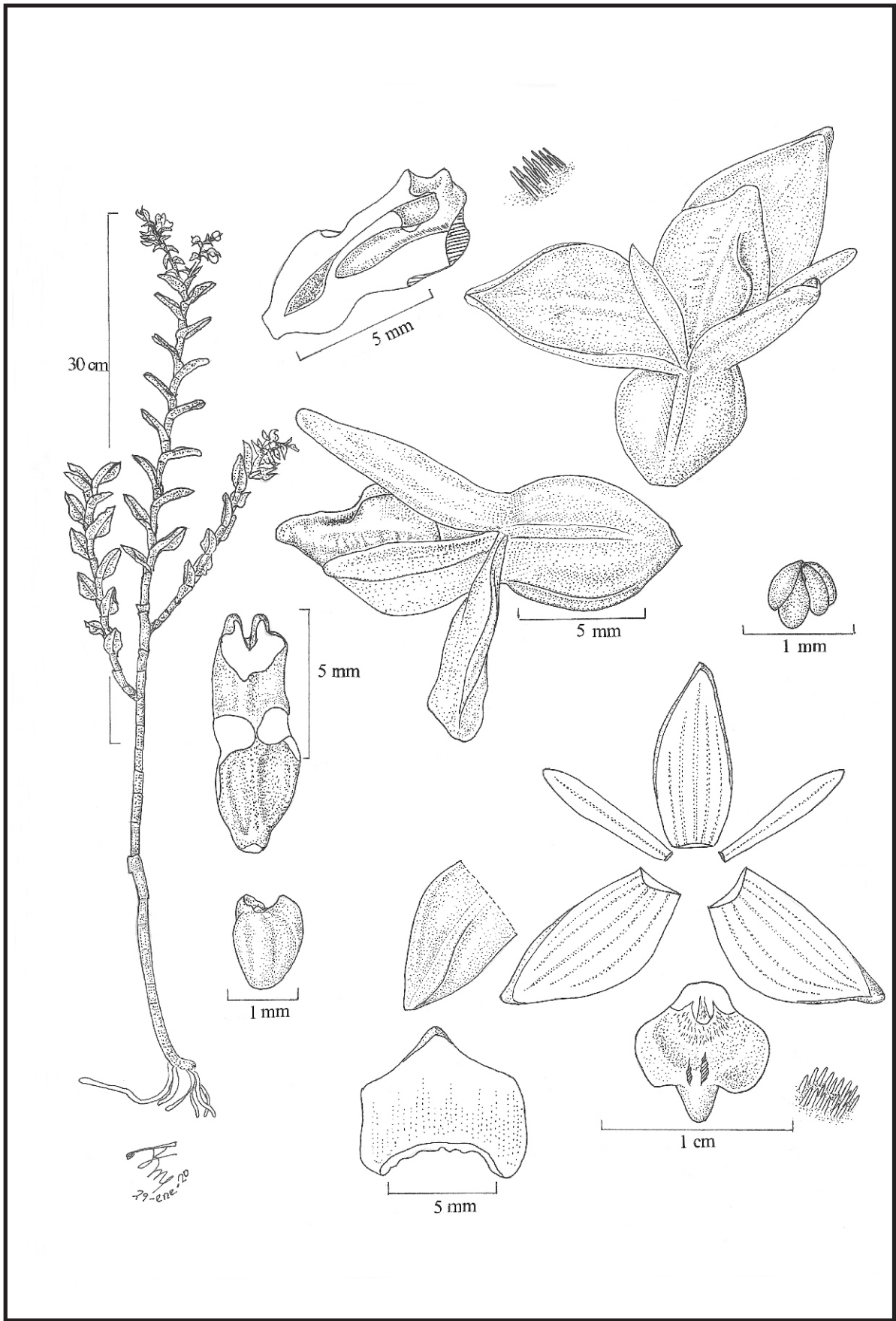
**RECOGNITION:** *Epidendrum malmoense* belongs to the Prasinum Group is recognized by the sturdy, pendent, straggling plants, the new stem produced from a middle internode of the previous stem, sub-coriaceous, narrowly lanceolate leaves, the inflorescence subtended by two large, conduplicate, imbricated acuminate spatheous bracts 5-12 cm long, and the lip is 3-lobed, cordate with roundish lateral lobes and a narrow triangular to rectangular mid-lobe. The new species has somewhat narrow leaves 0.6-0.9 cm wide, petals linear-oblancoate-rhombic, slightly falcate, apex acute, and the lip which has lateral lobes semi-orbicular, oblique, forming a deeply cordate base, the mid-lobe sub-quadrate-spatulate, forming a pair of semi-orbicular lobules at the apex, the lobules 1.4 x 2.1 mm, these slightly bent upwards, the sinus apiculate. *Epidendrum prasinum* has wider leaves up to 1.3 cm wide, petals narrowly elliptic, and the lip 3-lobed, lateral lobes obliquely ovate with the mid-lobe entire, narrowly triangular, obtuse.

**ETYMOLOGY:** in reference to the locality of El Malmo, where the species was first collected by the second author.

**CONSERVATION STATUS:** Critically endangered. The area occupied with current information of less than 5000 km<sup>2</sup>, so it complies with criteria (B1a) and also because only less than five locations are known, including two protected areas. It could be present in the large Protected areas such as Chingaza and Sumapáz. Several of the historic collection came from what is now the urban area of Bogotá.

**REFERENCES:** Hágsater, E., 2006, *Epidendrum prasinum* in E. Hágsater & L. Sánchez S. (eds.), The Genus *Epidendrum*, Part 5, **Icon. Orchid.** 8: pl. 874.





EPIDENDRUM MONTIARGENTATUM Hągsater, E.Santiago & . J.P rez

Plate 1781

*EPIDENDRUM MONTIARGENTATUM* Hágsater, E.Santiago et Á.J.Pérez, *sp. nov.*

Type: ECUADOR: Zamora-Chinchipec: Cantón: Nangaritza: Cordillera del Cóndor, Reserva Biológica Cerro Plateado, 2850 m, 24 August 2012, **Eduardo Cueva, David Neill & Mercedes Asanza 1865**. Holotype: ECUAMZ! (illustration voucher).

Similar to *Epidendrum stenocalymnum* Hágsater & G. Calatayud but the flowers red (vs. yellow to greenish-cream colored), petals linear-oblong (vs. petals oblanceolate), lip 3-lobed, lateral lobes transversely rectangular with the corners rounded (vs. lip entire, cuneate and apiculate), and with a single "U" shaped callus (vs. bicallose).

Lithophytic, monopodial, branching, erect **herb**, ca. 50 cm tall. **Roots** 1-2 mm in diameter, basal from the primary stem. **Stems**: primary stem 44 x 0.4-0.5 cm, branches 10-12 x 0.4-0.5 cm, cane like, erect, terete, thin, the base covered by sheaths 6-18 mm long, tubular, non-foliar. **Leaves** 15 on the primary stem, distributed along the apical half of the stem, 9-12 on the branches, distributed throughout, alternate, sub-spreading, coriaceous; sheaths 0.7-1.7 x 0.4-0.5 cm, tubular, minutely striated; blade 1.3-2.3 x 0.7-1.2 cm, all similar in size and shape, ovate, apex obtuse, minutely apiculate, margin entire, slightly revolute. **Spathes** lacking. **Inflorescence** 3.2-4.8 cm long including the flowers, apical, racemose to sometimes 2-branched, erect, laxly few-flowered; peduncle very short, rachis sessile, slightly flexuous. **Floral bracts** 3-10 x 4-12 mm, longer than the ovary, widely triangular, acuminate, embracing, slightly retrorse. **Flowers** up to 19, laxly distributed along the rachis, successive, non-resupinate, red; fragrance not registered. **Ovary** 3-4 mm long, ellipsoid, thick, furrowed. **Sepals** partly spreading, free, elliptic, acute, minutely apiculate, 5-veined, margin entire, spreading; dorsal sepals 9.4 x 4.2 mm, lateral sepals 10.5 x 5 mm, slightly oblique, with a prominent dorsal keel. **Petals** 7.8 x 1.4 mm, partly spreading, free, linear-oblong, obtuse, 1-veined, margin entire, spreading. **Lip** 7.3 x 7.0 mm, united to the column, fleshy, embracing the column and covering it, 3-lobed, base cuneate, margin entire, spreading; callus single, "U" shaped, pubescent, disc concave and pubescent; lateral lobes 3 x 4 mm, transversely rectangular, the corners rounded; mid-lobe 1.9 x 2.1 mm, sub-triangular, apex obtuse. **Column** 5 mm long, thick, straight, the apex arched slightly upwards. **Clinandrium-hood** short, margin entire. **Anthers** ovoid, 4-celled. **Pollinia** 4, ovoid, somewhat laterally compressed, especially the inner pair. **Rostellum** apical, slit. **Lateral lobes of the stigma** small, 1/3 the length of the stigmatic cavity. **Nectary** shallow, without penetrating the ovary, wide, pubescent in front of the stigmatic cavity, the pubescence leaning inwards. **Capsule** not seen.

**OTHER SPECIMENS: ECUADOR. Zamora-Chinchipec:** Reserva Biológica Cerro Plateado, cima del Cerro Plateado, 2900 m, 23 IX 2016, Pérez 10160, QCA! (photo voucher).

**OTHER RECORDS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Lithophytic, growing on sandstone at 2850 m, on an Andean tepui of sandstone of the Hollín Formation near the top of Cerro Plateado. Growing directly on sandstone and sandy soil, acid. It is found among herbaceous "paramuna" vegetation and low, dense brush dominated by terrestrial bromeliads and grasses, at 2850 m altitude, the highest point of the Cordillera del Cóndor. Flowering in August and September.

**RECOGNITION:** *Epidendrum montiargentatum* belongs to the Aquaticum Group which is characterized by the monopodial, branching habit, the distichous and erect arching-nutant inflorescence, fleshy flowers, and the disc of the lip and/or nectary often pilose. The new species is recognized by the red flowers, leaves 1.3-2.3 x 0.7-1.2 cm, ovate, floral bracts widely triangular and slightly retrorse, the lip 3-lobed with lateral lobes transversely rectangular, the corners rounded, and the single callus "U" shaped and pubescent. *Epidendrum stenocalymnum* is vegetatively similar but the flowers are yellow or greenish cream colored, lip entire, cuneate and apiculate, bicallose. *Epidendrum neillii* Hágsater & E.Santiago has oblong-elliptic leaves, greenish yellow flowers with the lip lime green, floral bracts not retrorse, and a lip entire, widely mucronate, bicallose. *Epidendrum campylorhachis* Hágsater & Dodson has narrowly elliptic leaves, flowers greenish yellow, floral bracts retrorse and a rachis markedly flexuous, the lip 3-lobed with the lateral lobes obovoid, and the callus is "V" shaped.

**CONSERVATION STATUS:** CR. Critically Endangered. The species is known from a single locality atop an Andean tepui, and though it is within the Reserva Biológica Cerro Plateado, and access is very difficult, climate change can affect the species as it is only found atop this unique tepui.

**ETYMOLOGY:** From the Latin *montis*, mountain, and *argentum*, silver, in reference to the only known locality where it has been found, the Cerro Plateado, a peak part of the Cordillera del Condor in southeastern Ecuador, near the Peruvian border.

**ACKNOWLEDGMENT:** The authors have known this species for some years due to the specimen at QCA and the digital images taken by Alvaro J. Pérez, but it was not until a recent visit to David Neill at ECUAMZ near Puyo, that a suitable specimen was identified with flowers which were not glued to the sheet and thus a flower was boiled and a detailed illustration possible. We thank both for sharing their material, and Francisco Tobar for facilitating access to the digital image.

**REFERENCES:** Hágsater, E., & G. Calatayud, 2004, *Epidendrum stenocalymnum* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum* Part 4, **Icon. Orchid.** 7: pl. 790. Hágsater, E., & E. Santiago, 2018, *Epidendrum neillii* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum* Part 16(1), **Icon. Orchid.** 12: pl. 1647. Hágsater, E., & C.H. Dodson, 2004, *Epidendrum campylorhachis* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum* Part 4, **Icon. Orchid.** 7: pl. 717.



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Illustrator: R. Jiménez M.

Photo: Á. J. Pérez

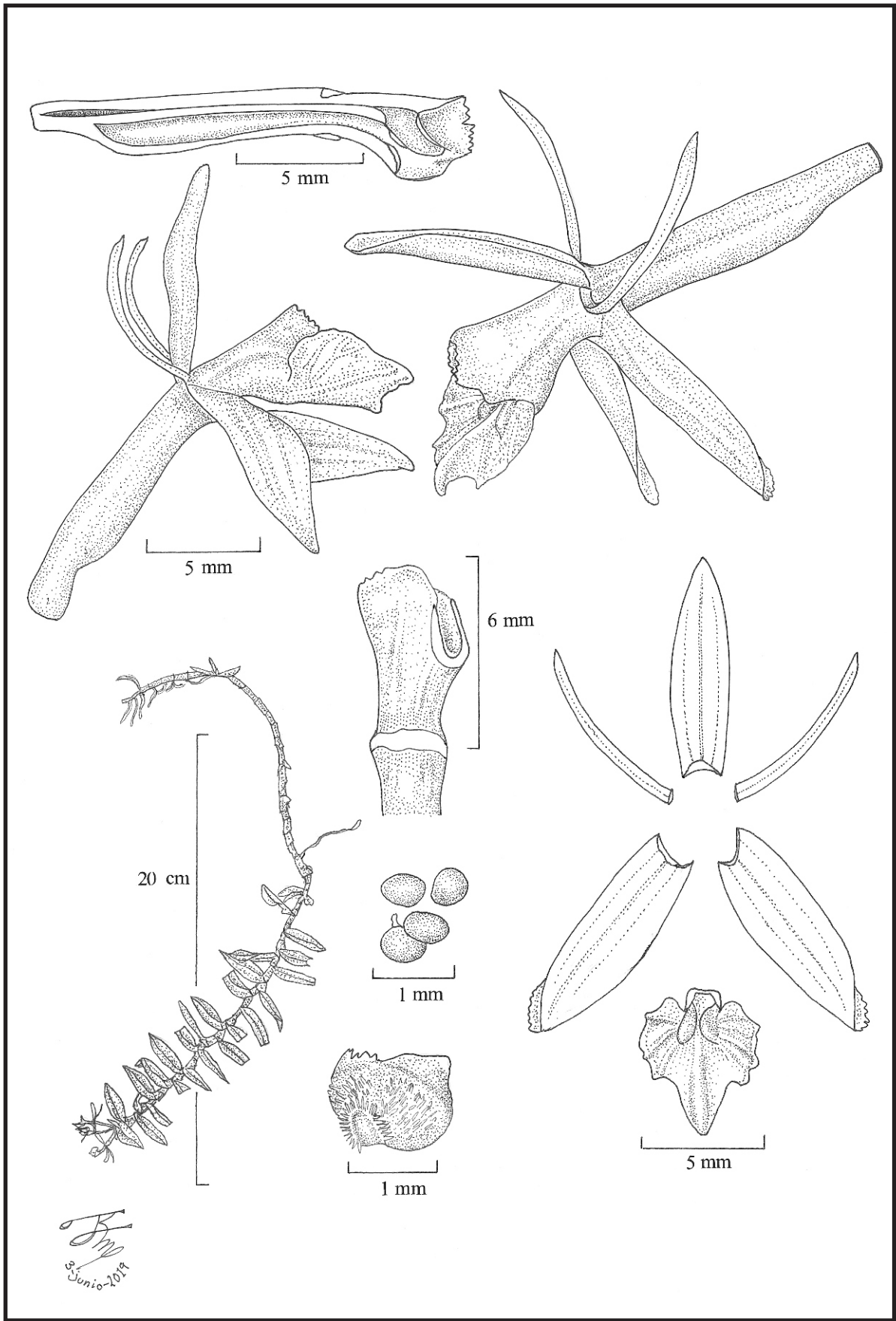
Editors: E. Hágsater & E. Santiago

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ICONES ORCHIDACEARUM 17(2). 2020.

Plate 1781



EPIDENDRUM NASTURTICILUM Hágsater & E.Santiago

Plate 1782

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

Type: PERU: Cajamarca: Prov. Jaén, Dist. Huarango. Caserío Selva Andina, borde de trocha, 1870 m, 15 August 2006, **Juan Perea & Valerio Flores 2620**. Holotype: USM! (illustration voucher). Isotype: MO!

Similar to *Epidendrum nanosimplex* Hágsater & Dodson but the sepals 9.0-9.5 mm long (vs. sepals 4.0-6.0 mm long), petals linear (vs. petals narrowly oblanceolate), lip shallowly 3-lobed, somewhat peltate, with an undulate margin (vs. lip entire, margins entire), and ovary forming an elongate vesicle (vs. ovary with a short vesicle).

Epiphytic, pendulous **herb**, with new stem produced sub-apically, 10-25 cm long. **Roots** 0.3-0.5 mm in diameter, basal, scarce. **Stems** 10-14 x 0.25-0.4 cm, laterally compressed. **Leaves** 20-25 per stem, distributed throughout the stems, articulate, distichous, spreading, fleshy, twisted so all are on the same plane as the stem as in *Dichaea*; sheaths 5.0-8.0 x 2.5-4.0 mm, tubular, laterally compressed, ancipitose, somewhat infundibuliform; blade 1.9-2.3 x 0.5-0.8 cm, lanceolate to ovate-lanceolate, acute, margin entire, spreading. **Inflorescence** 2 cm long including the flowers, apical, racemose, sessile; rachis 0.5 cm long, totally hidden by the floral bracts. **Flowers** 3, simultaneous, pendulous, resupinate, pale green; fragrance not recorded. **Floral bracts** 4-5 mm long, widely triangular, acute, embracing. **Ovary** 9-11 mm long, terete, thin at the basal  $\frac{1}{4}$ , slightly inflated along the apical  $\frac{3}{4}$  to form a ventral, elongate vesicle. **Sepals** 9.0-9.5 x 2.4-3.0 mm, spreading, free, oblong-elliptic, acute, 3-veined, margins entire, spreading; lateral sepals with a dorsal apical keel, its margin crenate. **Petals** 7.7 x 0.6 mm, spreading, free, linear, acute, falcate, 1-veined, margin entire, spreading. **Lip** 5.6 x 4.8 mm, united to the column, shallowly 3-lobed, ovate in general outline, eccentric and peltate, base cordate, margin spreading; bicallose, the calli prominent, hemi-ellipsoid, laterally compressed, fleshy, parallel; disc with a prominent mid-rib, elongate, reaching the apex of the mid-lobe; lateral lobes 1.7 x 3.4 mm, hemi-elliptic with 3 of radiating, arched, thickened veins on each lobe, margin undulate, extended at the apex of each vein; mid-lobe 2.2 x 2.5 mm, triangular, acute, narrowly rounded, margin entire, spreading. **Column** 6 mm long, straight, thin at base, gradually thickened towards the apex. **Column-hood** prominent, margin denticulate. **Anther** reniform, 4-celled, dorsal surface with strigose trichomes. **Pollinia** 4, lentil-shaped; caudicles much shorter than the pollinia; viscidium semi-liquid. **Rostellum** apical, slit. **Lateral lobes of the stigma** occupying  $\frac{1}{3}$  the length of the stigmatic cavity. **Nectary** penetrating  $\frac{3}{4}$  of the pedicellate ovary, slightly inflated, forming an elongate vesicle, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

**OTHER RECORDS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Presently known from a single specimen from the eastern slope of the Andes in northern Peru, epiphytic in semi-elfin wet primary forest, at 1870 m altitude. Flowering in August.

**RECOGNITION:** *Epidendrum nasturtichilum* belongs to the Nanum Group, which is characterized by the *Dichaea*-like horizontal or pendulous stems, the inflorescence produced by pairs of opposite flowers without spathes, but with prominent floral bracts. The new species is recognized by the pale green flowers, sepals 9.0-9.5 mm long, petals 7.7 x 0.6 mm, linear, falcate, the shallowly 3-lobed lip, which is overall somewhat peltate with a triangular mid-lobe with lateral lobes hemi-elliptic, having 3 radiating, arched, thickened veins on each lip lobe with an undulate margin, extended at the apex of each vein, and the ovary ventrally inflated along the apical  $\frac{3}{4}$ . *Epidendrum nanosimplex* has green flowers but the lip and apex of the column white, sepals 4.0-6.0 mm long, petals 3.5-4.5 x 1.0 mm, narrowly oblanceolate, lip entire without thickened veins and an entire margin, ovary with a short, thickened vesicle. *Epidendrum nanum* C.Schweinf. has sepals 9.5-11 mm long, petals 9.1 x 1.0 mm, linear, a lip clearly 3-lobed, the lateral lobes semi-ovate with the margin entire. *Epidendrum integrinum* Hágsater is vegetatively similar but has 6-8 flowers, sepals 9.3-9.6 mm long, petals 9.0 x 0.6 mm, oblique but not falcate, and a sub-entire lip, longer than wide, margin entire, lateral lobes much reduced.

**ETYMOLOGY:** In reference to the lip, χεῖλο, which somewhat resembles the peltate, eccentric leaves of *Nasturtium* W.T.Aiton, which have clearly marked radiating veins, and an undulate margin.

**REFERENCES:** Hágsater, E., 2019, *Epidendrum integrinum*, in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum* Part 13, **Icon. Orchid.** 17(1): pl. 1729. Hágsater, E. & C. H. Dodson, 1999, *Epidendrum nanosimplex* in E. Hágsater, L. Sánchez & J. García-Cruz (eds.), The Genus *Epidendrum*, Part 2, **Icon. Orchid.** 3: pl. 360. Schweinfurth, C., 1943, *Epidendrum nanum* in **Bot. Mus. Leafl.** 11: 102-103, pl. XI



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Illustrator: R. Jiménez M.

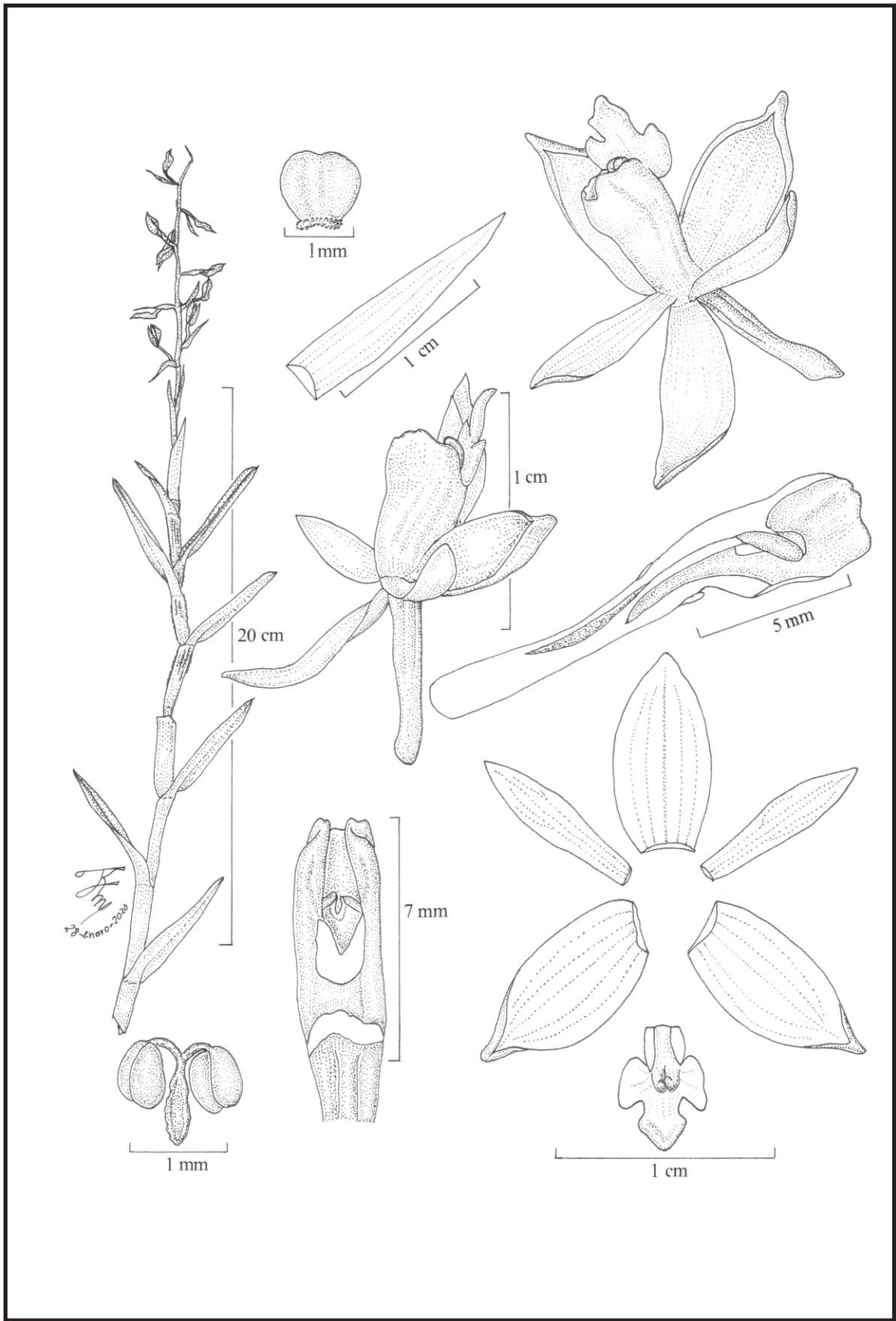
Editors: E. Hágsater & E. Santiago

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Plate 1782



EPIDENDRUM NIGRIVINOSUM Hágsater, E.Santiago & Á.J.Pérez

Plate 1783



*EPIDENDRUM NIGRIVINOSUM* Hágsater, E.Santiago et Á.J.Pérez, sp. nov.

Type: ECUADOR: Zamora-Chinchipec: Cantón Nangaritza, Cordillera del Cóndor, Reserva Biológica Cerro Plateado, cerca de la cima del Cerro, 2850 m, 24 August 2012, *Eduardo Cueva, David Neill & Mercedes Asanza 1863*. Holotype: ECUAMZ! (illustration voucher).

Similar to *Epidendrum clavadista* Hágsater & Collantes but the leaves 3.2-5.3 cm long (vs. leaves 3.0-13.5 cm long), flowers wine-red-black, column white (vs. flowers ochre yellow, the column white), the sepals 9-10 x 4.4-4.6 mm, elliptic, acute (vs. sepals 9.0-11.8 x 2.5-3.0 mm, narrowly elliptic to sub-lanceolate, acuminate), petals 8.4 x 2 mm, spreading (vs. petals 8.0-9.9 x 0.8-1.0 mm, generally parallel to the column), the column thickened (vs. column thin), and the mid-lobe of the lip with a short isthmus at the base and apex rhombic (vs. mid-lobe triangular, acuminate).

Terrestrial or lithophytic, branching **herb**, to 60 cm tall. **Roots** basal, fleshy. **Stems** <ca. 45 x 0.5-0.8 cm, cane-like, terete, slightly flexuous; branches shorter than the primary stem. **Leaves** 6-8 on the portions of stem seen, probably more on the primary stem, distributed throughout, sub-erect and curved so the apical half is spreading, coriaceous, base conduplicate; sheaths 0.7-3.0 x 0.5-0.8 cm, tubular, minutely striated, rugose; blade 3.2-5.3 x 0.3-0.7 cm, linear-lanceolate, apex acute, minutely apiculate, margin entire, slightly revolute. **Spathes** 1-3, 1.8-3.5 cm long, tubular, laterally compressed, acuminate. **Inflorescence** 10-14 cm long, apical, erect, racemose, the flowers sub-distichous, laxly few-flowered; peduncle 3.2-5.5 cm long, laterally compressed, erect, nearly completely covered by 2-3 bracts 1.8-3.1 cm long, tubular at base, conduplicate at the apex, ancipitose, acuminate, partly imbricated; rachis 6.7-8.2 cm long. **Floral bracts** 7-20 mm long, longer than the ovary, the basal bracts longer than the flower, linear-triangular, acuminate, embracing. **Ovary** 5-10 mm long, terete, thin, minutely furrowed. **Flowers** 9-11, successive, non-resupinate, fleshy, floral buds wine-red-black, tepals wine-red-black, column white, lip wine-red-black; fragrance not registered. **Sepals** spreading, free, elliptic, acute, 5-veined, margin entire, spreading; dorsal sepal 9 x 4.4 mm; lateral sepals 10 x 4.6 mm, apiculate. **Petals** 8.4 x 2.0 mm, spreading, free, oblong-oblancoate, acute, 3-veined (the lateral veins branched), margin entire, spreading. **Lip** 5.0 x 3.8 mm, united to the column, 3-lobed, base cordate, margin entire, spreading; bicallose, the calli globose, small, together, somewhat hidden under the clinandrium-hood, disc lacking any ribs; lateral lobes 1.5 x 2.3 mm, dolabriform; mid-lobe 2.3 x 2.1 mm, with a short isthmus at base, the apex rhombic, the corners rounded. **Column** 6.8 mm long, thick, slightly arched near the middle, the apical clinandrium-hood slightly arched upwards. **Clinandrium-hood** prominent, occupying about 1/3 the length of the column, continued into rounded lateral wings of the column, margin somewhat erose. **Rostellum** at the middle, at a 45° angle, slit. **Anther** ovoid, apex truncate, 4-celled. **Pollinia** 4, obovoid; caudicles soft and granulose, longer than the pollinia. **Lateral lobes of the stigma** prominent, occupying 1/2 of the stigmatic cavity. **Nectary** short, penetrating about 1/4 of the pedicellate ovary, not inflated, unornamented. **Capsule** not seen.

**OTHER SPECIMENS: ECUADOR. Zamora-Chinchipec:** Reserva Biológica Cerro Plateado, cima del Cerro Plateado, 2900 m, 23 IX 2016, Pérez 10156, QCA! (photo voucher).

**OTHER RECORDS:** None seen.

**DISTRIBUTION AND ECOLOGY:** apparently endemic to the summit of the Cerro Plateado, an Andean tepui of sandstone pertaining to the Hollín Formation, a part of the Cordillera del Condor in southeastern Ecuador, in acid, sandy soil, amongst paramo vegetation with dense low shrubs, in elfin forest dominated by terrestrial bromeliads, *Ilex* spp., *Symplocos neillii* B.Stähl and *Podocarpus tepuiensis* J.Buchholz & N.E.Gray, at 2850-2900 m altitude. Flowering in August-September.

**RECOGNITION:** *Epidendrum* belongs to the Herrenhusanum Group, recognized by the caespitose, sympodial habit, the erect racemose inflorescence subtended by a narrow, long spathe, and non-resupinate flowers. The new species is recognized by the slightly flexuous stems, leaves 3.2-5.3 cm long, linear-lanceolate, sub-distichous inflorescence, floral bracts 7-20 mm long, linear-triangular, the wine-red-black flowers with the column white, and the sepals 9-10 mm long, elliptic, apex acute. It is somewhat reminiscent of *Epidendrum clavadista* which has leaves 3.0-13.5 cm long, flowers ochre-yellow with the column white, sepals 9.0-11.8 cm long, narrowly elliptic to sub-lanceolate, acuminate, and the mid-lobe of the lip narrowly triangular, acuminate.

**CONSERVATION STATUS:** CR. Critically Endangered. The species is known from a single locality atop an Andean tepui, and though it is within the Reserva Biológica Cerro Plateado, and access is very difficult, climate change can affect the species as it is only found atop this unique tepui.

**ETYMOLOGY:** From the Latin *niger*, black, and *vinosus*, wine-colored, in reference the dark wine-colored flowers, with the exception of the snow-white column.

**REFERENCES:** Hágsater, E., & B. Collantes, 2018, *Epidendrum clavadista*, in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 12, *Icon. Orchid.* 16(1): pl. 1609.



Authors: E. Hágsater, E. Santiago & Á. J. Pérez

Illustrator: R. Jiménez M.

Photo: Á. J. Pérez

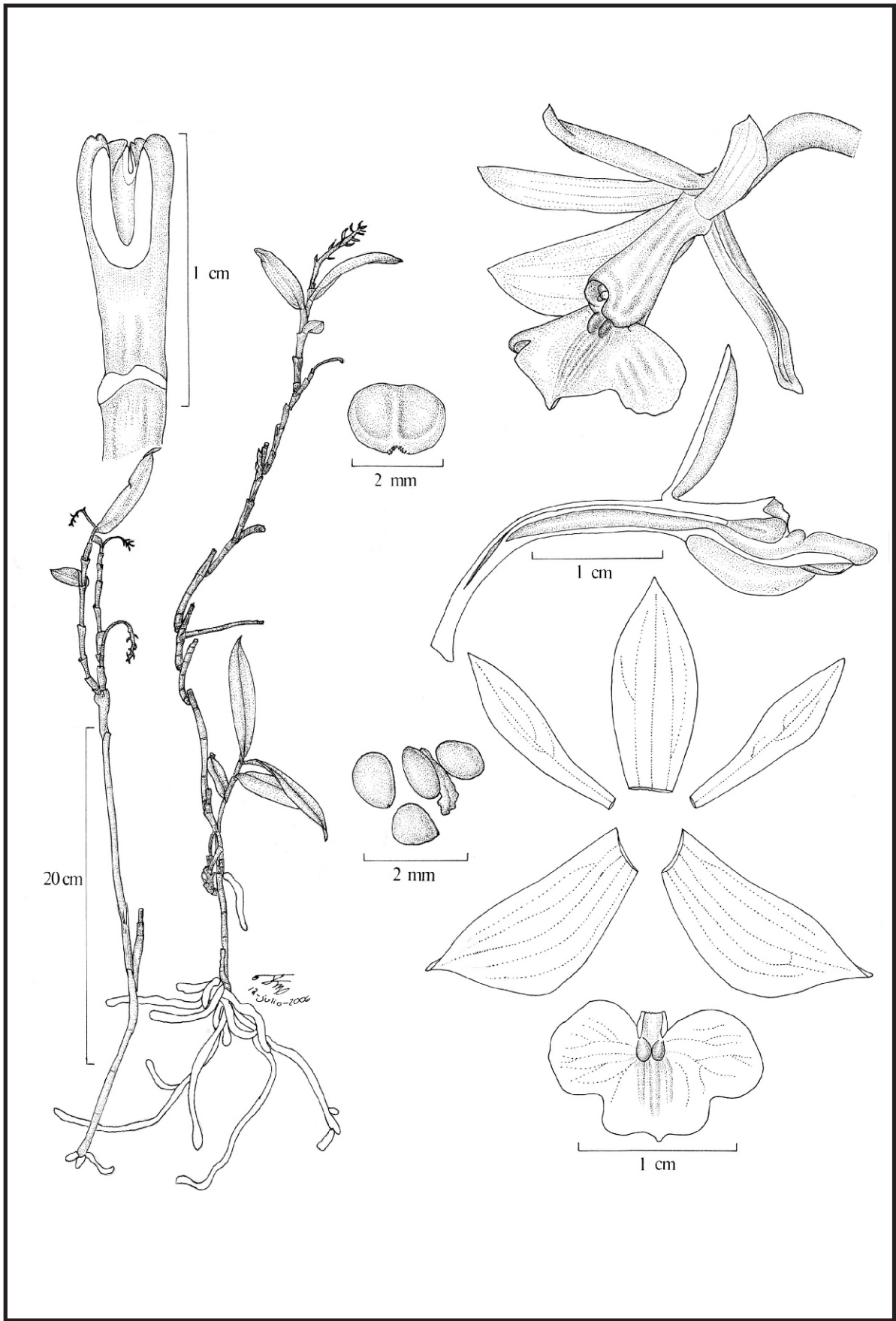
Editors: E. Hágsater & E. Santiago

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ICONES ORCHIDACEARUM 17(2). 2020.

Plate 1783



EPIDENDRUM OLMEDOENSE Hágsater

*EPIDENDRUM OLMEDOENSE* Hágsater, sp. nov.

Type: ECUADOR: Loja: east of Olmedo, in a patch of scrub, 5 February 1993, 2100 m, *Stig Dalström 1844*,  
Holotype: SEL 70330! (Illustration voucher).

Similar to *Epidendrum yambalense* Hágsater & Dodson, but the flowers reddish brown (vs. flower green, lip flushed with purple), and the lip more compact, the lateral lobes orbicular 5.0 x 6.0 mm (vs. sub-quadrate-semi-orbicular, longer 5.5 x 5.0 mm) and the mid lobe much wider than long, 2.0 x 7.0 mm (vs. mid-lobe subquadrate, about as wide as it is long, 4.0 x 6.0 mm).

Epiphytic, sympodial **herb** 45-58 cm tall, where the new stem appears from a sub-apical internode of the previous stem. **Roots** 3-4 mm in diameter, at base of primary stem, fleshy, thick, white. **Stems** 4-19 x 0.3-0.4 cm, simple, cane-like, terete, thin, straight, base covered by several sheaths 6-35 mm long, tubular, non-foliar, scarious. **Leaves** 3-4, aggregate towards the apex of the stem, alternate, distichous, articulate, sub-coriaceous; sheath 5-20 x 2-4 mm, tubular, minutely striated; blade 1.5-7.5 x 0.7-1.4 cm, elliptic, acute, margin entire. **Spathes** lacking. **Inflorescence** 3.0-4.8 cm long, apical, racemose, arching, few-flowered; peduncle 1.5-2.5 cm long, thin, ancipitose; rachis 0.5-3.3 cm, sinuous, thin. **Floral bracts** 3-6 mm long, shorter than the ovary, narrowly triangular, acuminate, embracing. **Flowers** 4-11, successive, though several can be open at one time, resupinate, reddish brown; fragrance not registered. **Ovary** 20 mm long, not inflated, terete. **Sepals** 13-14 x 5.0-6.0 mm, partly spreading, free, ovate-elliptic, acute, margin entire, spreading; dorsal sepal 3-veined with the lateral veins branching; lateral sepals 4-veined, the outer vein bifurcate near the base and thus appearing 5 veined. **Petals** 13 x 2.7 mm, spreading, free, 1-veined, branching on both sides, narrowly oblanceolate, acute, margin entire, spreading. **Lip** 8.9 x 13 mm, trilobate, united to the column, convex, base cordate, apex slightly emarginate and minutely apiculate, margin entire, the apical margin somewhat revolute; lateral lobes 5.0 x 6.0 mm, orbicular; mid-lobe 2.0 x 7.0 mm, rectangular; bicallose, the calli globose, disc with 3 parallel ribs, the mid-rib elongate reaching the apical sinus, the lateral pair shorter. **Column** 10 mm long, straight, thick. **Clinandrium-hood** short, margin entire. **Nectary** penetrating 3/4 of the pedicellate ovary, not inflated. **Anther** sub-orbicular, 4-celled, apex emarginate. **Pollinia** 4, orbicular. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Capsule** not seen.

**OTHER SPECIMENS SEEN:** None seen.

**OTHER RECORDS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Presently known from a collection from Olmedo, between Loma Redonda and Loma Piedra Sembrada. Epiphytic in scrub montane semi-deciduous forest with dense nightly fog at 2100 m altitude. Flowering in February.

**RECOGNITION:** *Epidendrum olmedoense* belongs to the Incomptum Group characterized by the successive lateral growths produced the middle of the previous growth, few leaves aggregate towards the apex of the stems, a short apical inflorescence, with fleshy flowers, lip entire to trilobed. The new species is recognized by the reddish brown flowers, sepals ovate-elliptic, dorsal sepal 3-veined, petals narrowly oblanceolate, 13 mm long, lip 3-lobed, lateral lobes orbicular, about 5.0 x 6.0 mm, the mid-lobe transversely rectangular (2.0 x 7.0 mm), bicallose, the disk of the lip with 3 parallel ribs, the mid one longer than the laterals. *Epidendrum yambalense* Hágsater & Dodson has green flowers, the lip flushed with purple, sepals oblanceolate, lip 3-lobate, the lateral lobes somewhat longer than broad, 5.5 x 5.0 mm, and the mid-lobe sub-quadrate, only slightly wider than long, 4.0 x 6.0 mm. *Epidendrum macuchiense* Hágsater & E.Santiago has smaller green flowers, petals linear-oblanceolate, about 10 mm long, bifurcate near the middle, lip trilobate, lateral lobes sub-orbicular, mid-lobe quadrate-cuneate 3.3 x 5.0 mm. *Epidendrum carchiense* Hágsater & Dodson has olive green flowers, dorsal sepal 5-veined with one secondary vein at each side of the main vein, petals 19 mm long, lip 3-lobed, the lateral lobes sub-ovate, about 8.0 x 9.0 mm, the mid-lobe trapezoid 3.0 x 8.0 mm.

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

**ETYMOLOGY:** In reference to the Cantón Olmedo, where the species was first collected.

**REFERENCES:** Hágsater, E., & C. H. Dodson, 1993, *Epidendrum carchiense* in E. Hágsater & G.A. Salazar (eds.) The Genus *Epidendrum*, Part 1, **Icon. Orchid.** 2: pl. 119. Hágsater, E., & C. H. Dodson, 1993, *Epidendrum yambalense* in E. Hágsater & G.A. Salazar (eds.) The Genus *Epidendrum*, Part 1, **Icon. Orchid.** 2: pl. 198. Hágsater, E. Santiago, 2015, *Epidendrum macuchiense* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 11, **Icon. Orchid.** 15(1): pl. 1537.



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ICONES ORCHIDACEARUM 17(2). 2020. Plate 1784



*EPIDENDRUM PALLIDOVIRENS* Hágsater, E.Santiago & J.Duarte

Plate 1785

## EPIDENDRUM PALLIDOVIRENS Hágsater, E.Santiago et J.Duarte

Type: PERU: Cusco: Prov. Paucartambo; Distr. Kosñipata: Wayqecha Cloud Forest Research Station, Kosñipata Valley, between Paucartambo and Pilcopata, 9 February 2006, 2609 m, **Rebecca E. Repasky, L. Ccoyo Cordova & M. Ccana Avendaño 233**. Holotype: BRIT! (LCDP voucher).

Similar to *Epidendrum milpoëns* Hágsater & E.Santiago but the flowers pale green (vs. flower deep green), sepals 14.0-15.0 mm long, (vs. sepals 18.0-19.0 mm long), petals 13.0 x 3.0 mm, spatulate (vs. petals 16.0-17.5 x 5.0-7.0 mm, rhombic-spatulate), and the lip strongly convex, the margins strongly revolute (vs. lip with the apex spreading to slightly reflexed).

Epiphytic, sympodial, caespitose, somewhat scandent **herb**, 10-13 cm tall. **Roots** 2 mm in diameter, distributed along the rhizome, thin, pink-white. **Stems** 3.3-4.0 x 0.3-0.5 cm, thin, forming fusiform, pale green pseudobulbs, covered by 2 membranaceous sheaths 1.8-2.0 cm long, somewhat imbricated, scarios, becoming fibrous with age, lacking in old pseudobulbs. **Leaf**, 1, apical, articulate, pale green, coriaceous; blade 3.0-6.4 x 0.8-0.9 cm, oblong, obtuse, margin entire, spreading. **Spathes** 1, 2.0-3.0 cm long, covering the basal 2/3 of the peduncle, tubular, oblong, conduplicate, apex rounded, pale green. **Inflorescence** 7.6-8.0 cm long including the flowers, erect, racemose, laxly few-flowered; peduncle 2.8-3.8 cm long, terete, thin, straight, erect, pale green; rachis 0.8-1.6 cm long. **Floral bracts** 1.3 mm long, much shorter than the ovary, triangular-ovate, acute, embracing. **Ovary** 2.1 cm long, terete, thin, erect, furrowed, ventrally inflated along the apical 1/3. **Flowers** 2-3, simultaneous, resupinate, pale green, apex of the column creamy white; fragrance not registered. **Sepals** 14.0-15.0 x 4.0 mm, spreading, free, apex rounded, 5-veined, lateral veins bifid and thus appearing 7-veined, somewhat convex, margin entire, spreading; dorsal sepals oblanceolate; lateral sepals oblong, slightly oblique. **Petals** 13.0 x 3.0 mm, spreading, free, spatulate, obtuse, 3-veined, margin entire, spreading. **Lip** 9.0 x 11.0 mm, united to the column, entire, strongly convex in natural position, widely cordiform, base cordate, apex obtuse, revolute and thus appearing emarginate, margin entire; bicallose, calli small, fleshy, somewhat laterally complanate, divaricate; disc with a short, thin mid-rib that disappears before the center of the lip. **Column** 8.0-9.0 mm long, thin at base, gradually widened towards the apex, straight, with a pair of lateral rounded wings, shorter than the clinandrium-hood. **Clinandrium-hood** prominent, slightly surpassing the apex of the column, margin crenulate. **Rostrum** not seen. **Anther** reniform, cream colored, tinged reddish cream. **Pollinia** not seen. **Lateral lobes of the stigma** not seen. **Nectary** penetrating 1/3 of the ovary. **Capsule** not seen.

**OTHER SPECIMENS: PERU: Cusco:** Prov. Paucartambo; Distr. Kosñipata: entre Esperanza y Pillahuata, 2680 m, 19 XI 1990, *Cano 3072*, USM x2! Estación Biológica Wayqecha, 2800-2950 m, 26 II 2004, *Janovec 2747*, USM! Ibid. 2894 m, 2 XII 2005, *Repasky 163*, BRIT! Digital images, [http://atrium.andesamazon.org/image\\_info.php?type=specimen&id=28499&scrollTop=90.90908813476562](http://atrium.andesamazon.org/image_info.php?type=specimen&id=28499&scrollTop=90.90908813476562)

**OTHER RECORDS: PERU: Cusco:** Prov. Paucartambo: Kosñipata, Estación Biológica Wayqecha, 2800-2950 m, 26 II 2004, *Janovec 2747*, digital images, [http://atrium.andesamazon.org/collection\\_display\\_info.php?id=55718](http://atrium.andesamazon.org/collection_display_info.php?id=55718) Ibid. 2950 m, 2 III 2011, *Hágsater s.n.*, digital images, AMO! Ibid. 13 III 2011, *Edward Hurme s.n.*, digital images, <https://www.naturalista.mx/observations/64415>, (photo voucher). Ibid. 3000 m, 17 III 2019, *Wilson s.n.*, digital images, <https://www.naturalista.mx/observations/36268023>, Ibid. 2900 m, 26 I 2016, *Noboa s.n.* digital images, <https://www.naturalista.mx/observations/2746893>.

**DISTRIBUTION AND ECOLOGY:** Known presently only from Peru, Cusco: Paucartambo, valley of Kosñipata; along the upper amazon slope of the Andes. Epiphytic, growing at 2609-3000 m altitude. Flowering from November to March.

**RECOGNITION:** *Epidendrum pallidovirens* belongs to the Saxicola Group characterized by the pseudobulbous stems, caespitose or scandent habit, the prominent spathaceous bract apically rounded, few-flowered, erect inflorescence, the flowers purple or yellow, and the surface of the vegetative structures often rugose. The new species is recognized by the 2-3, pale green flowers, the apex of the column creamy white, sepals 14-15 mm long, petals 13 x 3 mm, spatulate, lip strongly convex in natural position, apex obtuse, revolute and thus appearing emarginate. *Epidendrum milpoëns* Hágsater & E.Santiago has 2 green flowers, sepals 18-19 mm long, petals 16.0-17.5 x 5-7 mm, rhombic-spatulate, lip widely cordiform, apex spreading, never revolute. *Epidendrum harmsianum* Kraenzl. has 2 yellow flowers, petals 14 x 4 mm, oblanceolate, lip 13 x 7-8 mm, transversely ovate-oblong, base sub-cordate. *Epidendrum saxicola* Kraenzl. has 2 purple flowers with lip white, sepals 15 x 5-6 mm, petals 13.0 x 2.5 mm, narrowly spatulate-oblanceolate, lip 8 x 12 mm, 3-lobed. *Epidendrum repaskyae* Hágsater, E.Santiago & J.Duarte has 4 creamy white flowers, sepals 11-12 mm long, petals 10.0 x 5.7 mm, elliptic, lip 3-lobed with the mid-lobe sub-quadrate.

**CONSERVATION STATUS:** DD. Data deficient. Known presently from a single valley where it is common and bordering on the Manu National Park Biosphere Reserve where it should be protected.

**ETYMOLOGY:** From the Latin *pallidus*, pale, and *virens*, green, in reference to the pale green flowers that distinguishes this species from others of the same group.

**REFERENCES:** Bennett, D.E. & E.A. Christenson, 1998, *Epidendrum harmsianum*, in E.A. Christenson (ed), **Icon. Orchid. Peruvianum**, pl. 461. Hágsater, E., & E.Santiago, 2019, *Epidendrum milpoëns* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 13, **Icon. Orchid.** 17(1): pl. 1741. Hágsater, E., E. Santiago & J. Duarte, 2020, *Epidendrum repaskyae* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 14, **Icon. Orchid.** 17(2): pl. 1795. Santiago, E., J. Duarte & E. Hágsater, 2020, *Epidendrum saxicola* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum* Part 13, **Icon. Orchid.** 17(2): pl. 1796.





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

Type: COLOMBIA: Antioquia, Mun. Jardín, Reserva Natural Mesenia-Paramillo, 2690 m, 21 September 2009, **F. Vélez Santiago, Juan Pablo Tobón, José Dayan Acosta Arango, Natalia Delgado 58**. Holotype: MEDEL 62731 (illustration voucher).

Similar to *Epidendrum rugulosum* Schltr. but the inflorescence paniculate (vs. usually simple, rarely with a small branch), floral bracts narrowly triangular, never longer than the ovary (vs. floral bracts longer than the ovary), lateral lobes of the lip rectangular (vs. lateral lobes hemi-elliptic), callus laminar with apex bilobed (vs. callus "Y" shaped).

Terrestrial, monopodial, probably branching herb, up to 180 cm tall. **Roots** 2-3 mm in diameter, produced from the basal internodes of stems, scarce, fleshy, thick. **Stems** 80-180 x 0.7-1.2 cm, cane-like, terete, erect, straight; base covered by sheaths 4.0-6.5 cm long, tubular, non-foliar, minutely striated. **Leaves** ca. 16, distributed throughout the stem, erect-spreading, articulate, alternate, sub-coriaceous; sheaths 1.2-4.6 x 0.7-1.2 cm, tubular, minutely striated, rugose; blade 8.0-9.7 x 1.0-1.6 cm, similar in size and shape, lanceolate, apex obtuse, minutely apiculate with a low dorsal keel, margin entire. **Spathe** lacking. **Inflorescence** 22 cm long, apical, paniculate, erect, flowering only once; peduncle sessile or very short, 6 mm long; rachis 21.4-22.0 cm long, thin, terete, slightly flexuous, provided with 6 or 7 branches, 8.8-14.0 cm long (the basal ones sometimes themselves branched), laxly few-flowered, each raceme subtended by a bract 4 mm long, triangular-ovate, acute, embracing. **Floral bracts** 3-5 mm long, nearly as long as the ovary, spreading, always at a 90° angle to the rachis, narrowly triangular, acuminate, embracing. **Flowers** ca. 90, fleshy, distichous, non-resupinate, the lip always facing the rachis, simultaneous, yellow; fragrance not registered. **Ovary** 2.5-4.5 mm long, terete, thin, minutely furrowed. **Sepals** partly spreading, free, slightly concave, obtuse, 5-veined, unornamented, margin entire, spreading; dorsal sepal 9.3 x 3.0 mm, narrowly elliptic; lateral sepals 8.6 x 3.6 mm, elliptic, with a low dorsal keel. **Petals** 7.8 x 0.6 mm, reflexed, free, fleshy, linear, obtuse, 1-veined, margin entire, spreading. **Lip** 5.6 x 7.6 mm, united to the column and embracing it in natural position, covering the apex of the column, 3-lobed, base truncate, fleshy, margin entire; callus simple, laminar, bilobed at the apex; disc and callus minutely pubescent, lacking any mid-rib; lateral lobes 3.2 x 3.2 mm, sub-quadrate; mid-lobe 2.6 x 2.6 mm, very thick, an equilateral triangle, apex narrowly rounded. **Column** 5 mm long, the apex slightly curved upwards. **Clinandrium-hood** reduced, margin entire. **Anther** ovoid-globose, apex truncate. **Pollinia** not seen. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma** prominent, occupying 1/3 the length of the stigmatic cavity. **Nectary** shallow, without penetrating the ovary, pubescent in front of the stigmatic cavity. **Capsule** not seen.

**OTHER SPECIMENS: COLOMBIA: Chocó:** Bagadó: [Antioquia: Andes] Quebrada el Embudo-Quebrada La Mineral, 2100-2700 m, 15 III 1996, *Sánchez 2757*, MEDEL x2!

**OTHER RECORDS:** Nose seen.

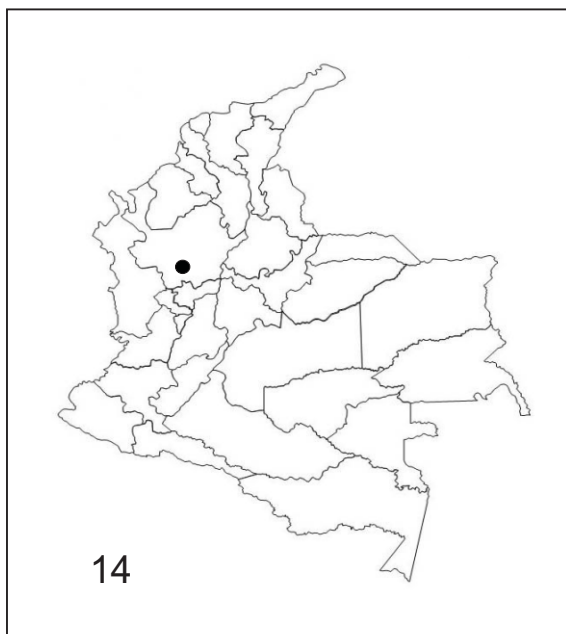
**DISTRIBUTION AND ECOLOGY:** Known presently only from the border areas between the Departments of Antioquia and Chocó, near Risaralda, an area which has not been accessible and where few botanical collections have been made. Terrestrial at around 2100-2700 m altitude. Flowering in March and September.

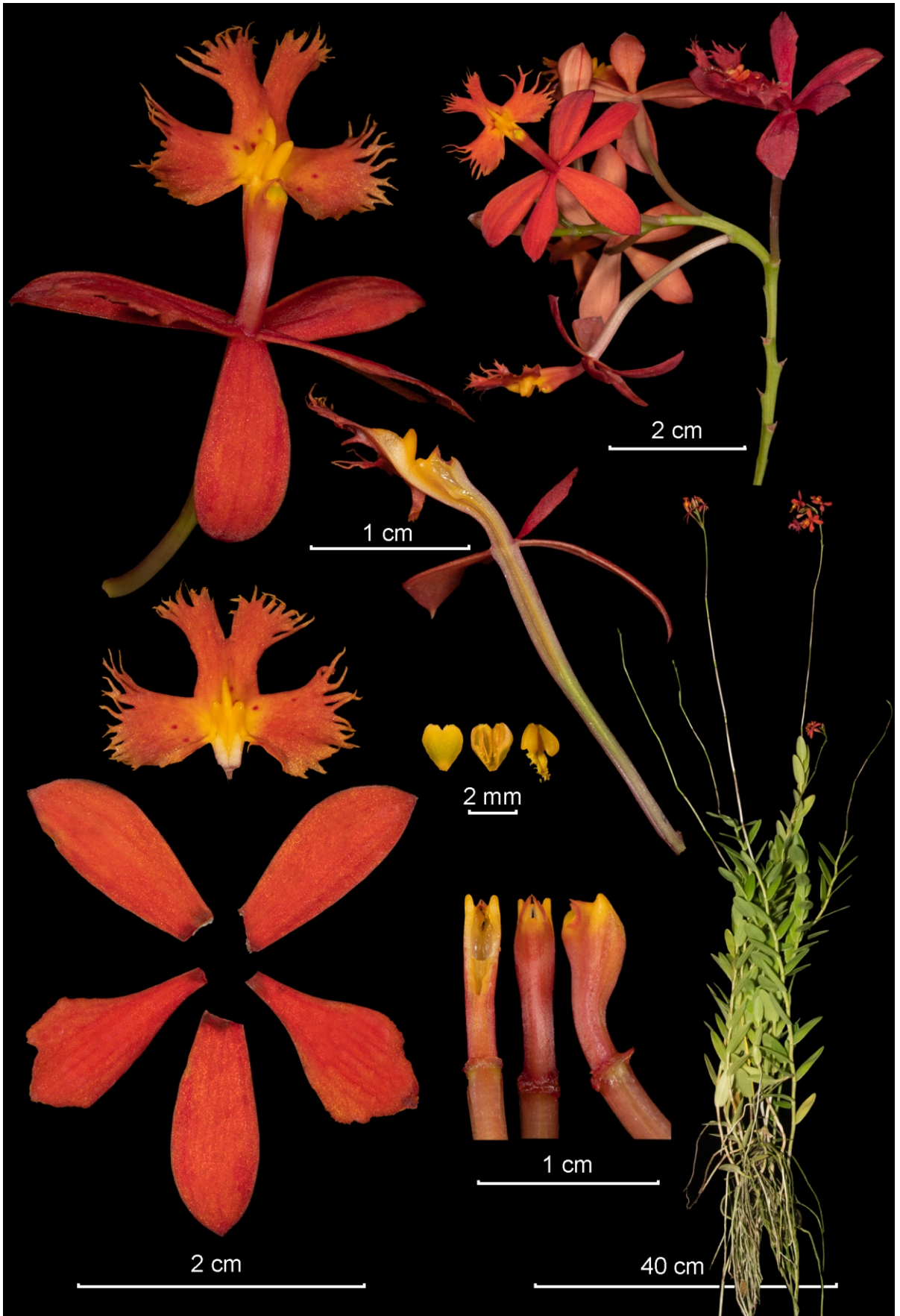
**RECOGNITION:** *Epidendrum paniculorugulosum* belongs to the Aquaticum Group which is characterized by the monopodial, branching habit, the distichous, erect inflorescence, fleshy flowers, and the disc of the lip and/or nectary often pilose. The new species is recognized by the paniculate inflorescence with up to 90 flowers on 6-7 branches, leaves 1.0-1.6 cm wide, the floral bracts nearly as long as the ovary, the lip clearly 3-lobed, the lateral lobes sub-quadrate, callus laminar, apically bilobed, disc and callus pubescent. *Epidendrum rugulosum* is vegetatively similar, but the inflorescences are simple, rarely with a smaller branch at the base of the peduncle, with up to 13 yellowish or pale green flowers, the floral bracts ovate-triangular and always longer than the ovary, the lip 3-lobed, lateral lobes hemi-elliptic, and callus "Y" shaped. Both species may be found in the same general area, as *Epidendrum rugulosum* is widespread and is found just south, in Risaralda, and north until Yarumal, in Antioquia, along the Cordillera Occidental de los Andes, but possibly at lower altitudes, 1500-1900 m. *Epidendrum lindae* Hágsater has oblong-elliptic leaves up to 3 cm wide, an inflorescence generally paniculate but few branched, floral bracts ovate-triangular, longer than the ovary and somewhat recurved, sepals 6-7 mm long, the lip similar to that of the new species but cuneate at the base, and the callus laminar, entire, the apex rounded.

**CONSERVATION STATUS:** DD. Data deficient.

**ETYMOLOGY:** This from the Latin *paniculatum*, branched, and *rugulosus*, rugose, in reference to the paniculate inflorescence which distinguishes this species from the common *Epidendrum rugulosum* both of which have rugose leaf sheaths.

**REFERENCES:** Santiago, E., & E. Hágsater, 2010, *Epidendrum lindae* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 9, **Icon. Orchid.** 13: pl. 1348. Santiago, E., & E. Hágsater, 2015, *Epidendrum rugulosum* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 11, **Icon. Orchid.** 15(1): pl. 1557.





**EPIDENDRUM × PINHEIROI** Hágsater

Plate 1787



## *EPIDENDRUM* × *PINHEIROI* Hágsater, nothosp. nov.

Hybrid formula: *Epidendrum puniceoluteum* F.Pinheiro & F.Barros × *Epidendrum fulgens* Brongn.

Type: BRAZIL: Probably from coastal Santa Catarina or São Paulo; cultivated in Puraquequara, Manaus, Amazonas by Luiz Carlos Castro dos Santos, 74 m altitude, received 27 February 2017; pressed in cultivation 17 February 2020, **Eric Hágsater, Leonardo Pessoa Félix, Joel Maciel Pereira Cordeiro, Erton Mendonça de Almeida & Luiz Carlos Castro dos Santos 15080**. Holotype: AMO! (LCDP voucher) K!

Intermediate between *Epidendrum puniceoluteum* and *E. fulgens*, the flowers upright, the lip in vertical position facing outwards, the sepals and petals red, lip orange-red turning to yellow at the disc with red dots, calli and mid-rib yellow, column red, apically yellow, and the anther green. As there is introgression with the parents, there will be a whole range of colors and positions of the flower between both parents in the extremes.

Terrestrial, sympodial, caespitose, to ca. 80 cm tall including the inflorescence. **Roots** 0.6-2.5 mm in diameter, basal, terete, fleshy, thin, white. **Stems** 42-68 x 0.3-0.5 cm, simple, cane-like, slightly sinuous, terete, thin, covered by foliar sheaths. **Leaves** 4.9-7.0 x 1.8-2.4 cm, articulate, elliptic, apex rounded, coriaceous, smooth, green, margins entire. **Spathes** lacking. **Inflorescence** ca. 20-41 cm tall, racemose; peduncle 17-28 cm long, elongate, green, covered by 6 tubular bracts 3.2-3.6 cm long, yellow with brown dots, scarious when dry, striated, papyraceous, imbricated, acute; rachis 9 cm long; producing kielies from the subapical nodes of the peduncle of the inflorescence. **Floral bracts** 1-4 mm long, much shorter than the ovary, decreasing in size, triangular, acuminate, embracing. **Flowers** ca. 12, successive, 3-6 open at any time, non-resupinate, sepals and petals red, lip orange-red turning to yellow at the disc with red dots, calli and mid-rib yellow, column red, apically yellow, anther green; fragrance none. **Ovary** 24 mm long, terete, thin, not inflated, red tinged green towards the base, slightly arched, furrowed. **Sepals** 14.5 x 6.0 mm, spreading, elliptic, apex acute, minutely apiculate, 7-veined, margin entire, spreading; lateral sepals oblique, with a small dorsal keel. **Petals** 13.5 x 7.2 mm, spreading, rhombic-spatulate, 3-veined (the lateral veins short branched), distal margin irregularly erose, spreading. **Lip** 10.2 x 17.2 mm, united to the column, 3-lobed, base slightly cordate, bicallose, the calli digitiform, not laminar, erect at 45° with a prominent, short mid-rib reaching the middle of the base of the mid-lobe; lateral lobes 7.8 x 7.2 mm, sub-quadrate, the distal margin laciniate; mid-lobe 7.6 x 10.5 mm, the basal half an isthmus, apical half bilobed, the lobes divergent, sub-quadrate, distal margin laciniate. **Column** 9.8 mm long, slightly arched, terete, slightly thickened towards the apex, a lateral lobe on each side at the apex, the margin minutely erose, embracing the anther, minutely papillose ventrally. **Clinandrium-hood** reduced; margin irregular dentate. **Rostellum** apical, slit. **Lateral lobes of stigma** occupying 2/3 the length of the stigmatic cavity. **Nectary** deep, penetrating half the pedicellate ovary, minutely papillose, the papillae arranged in longitudinal rows. **Capsule** not seen. (Measurements and details taken from the material grown in greenhouse conditions in Mexico City).

**OTHER SPECIMENS SEEN:** BRAZIL: São Paulo: Bertioga, litoral, 10 m, restinga, hort. Mexico City, 18 IV 1992, *Marcos Antonio Campacci sub Eric Hágsater 10235*. Holotype: RB! (photo voucher, illustration, AMO!).

**OTHER RECORDS:** Photographs of the two parents and the hybrid published by Pinheiro et al. (2013: 83, fig. F).

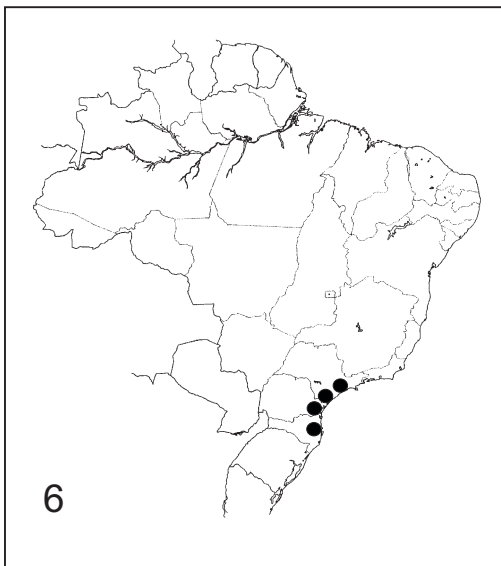
**DISTRIBUTION AND ECOLOGY:** The natural hybrid has been studied in detail by Pinheiro et al. (2010), including the ecological preferences, the distribution of the species, and the hybrid with introgression back to the parents. Found in *restinga* along the coast of Santa Catarina, Paraná and the southern tip of São Paulo state in Brazil. *Epidendrum fulgens* is found in the sand dunes close to the beach, and *E. puniceoluteum* in the swamp further inland, with the hybrids adapted to both habitats (Pinheiro 2010: 3983).

**RECOGNITION:** *Epidendrum pinheiroi* belongs to the Schistochilum Group, Calantherum Subgroup which is characterized by the caespitose habit, erect, simple, cane-like stems, the normally elongate peduncle of the inflorescence, the erect raceme of showy, colorful flowers generally resupinate, and a lip adorned by two calli and a median narrow keel. The hybrid is recognized by the red non-resupinate flowers, the lip orange-red, the anther green, the apical lobes of the column, calli and mid-rib of the lip yellow, the yellow spilling onto the disc of the lip with small red dots, the calli are digitiform and upright, not laminar, petals rhombic-spatulate, 7.2 mm wide, and the lip deeply 3-lobed, base somewhat cordate, lateral lobes sub-quadrate, mid-lobe a narrow isthmus in the basal half, apical half bilobed, these lobes divergent, sub-quadrate, the distal margin laciniate. *Epidendrum puniceoluteum*, from the southern coast of Brazil, restricted to swamps along the coast, is also very similar; the petals are elliptic, 4.0-7.7 mm, the wider and shorter column has shorter apical lobes, and lip with sub-quadrate calli and has a wider mid-rib. *Epidendrum fulgens* is more widespread along the coast throughout São Paulo, Paraná, Santa Catarina, and the northern half of Rio Grande do Sul, and has red flowers, the lip yellow dotted red, flowers non-resupinate, facing towards the center of the raceme, endemic to the *restinga* sand dunes along the coast from São Paulo to Santa Catarina.

**ETYMOLOGY:** In honor of Fábio Pinheiro (1978-), Brazilian biologist, assistant professor at the Universidade de Campinas, focused on understanding the evolution of reproductive barriers among lineages and populations in a phylogeographic context. He studies a diverse array of mechanisms such as hybridization, introgression and selection for divergent habitats to understand plant speciation within the Neotropical region. He has done important work in the genus *Epidendrum* in this context.

**CONSERVATION STATUS:** NT Not Threatened. The hybrid is widespread and common in a long stretch along the Atlantic coast of Brazil from southern São Paulo, Paraná, and Santa Catarina in *restinga*, both in the sand dunes next to the beach and the inland swamps beyond, running along the coast at sea level. Flowering throughout the year.

**REFERENCES:** Hágsater, E., 2019, *Epidendrum puniceoluteum* in E. Hágsater & E. Santiago (eds.), The Genus *Epidendrum*, Part 13, *Icon. Orchid.* 17(1): pl. 1749. Pinheiro, F., & F. Barros, 2006, *Epidendrum puniceoluteum*, uma nova espécie de Orchidaceae do litoral brasileiro. *Hoehnea* 33: 247-250. Pinheiro, F., & S. Cozzolino, 2013, *Epidendrum* (Orchidaceae) as a model for ecological and evolutionary studies in the Neotropics, *Taxon* 62(1): 77-88. Pinheiro, F., F.D. Barros, C. Palma-Silva, D. Meyer, M.R. Fay, R.M. Suzuki, C. Lexer & S. Cozzolino, 2010, Hybridization and introgression across different ploidy levels in the Neotropical orchids *Epidendrum fulgens* and *E. puniceoluteum* (Orchidaceae). *Molec. Ecol.* 19: 3981-3994.



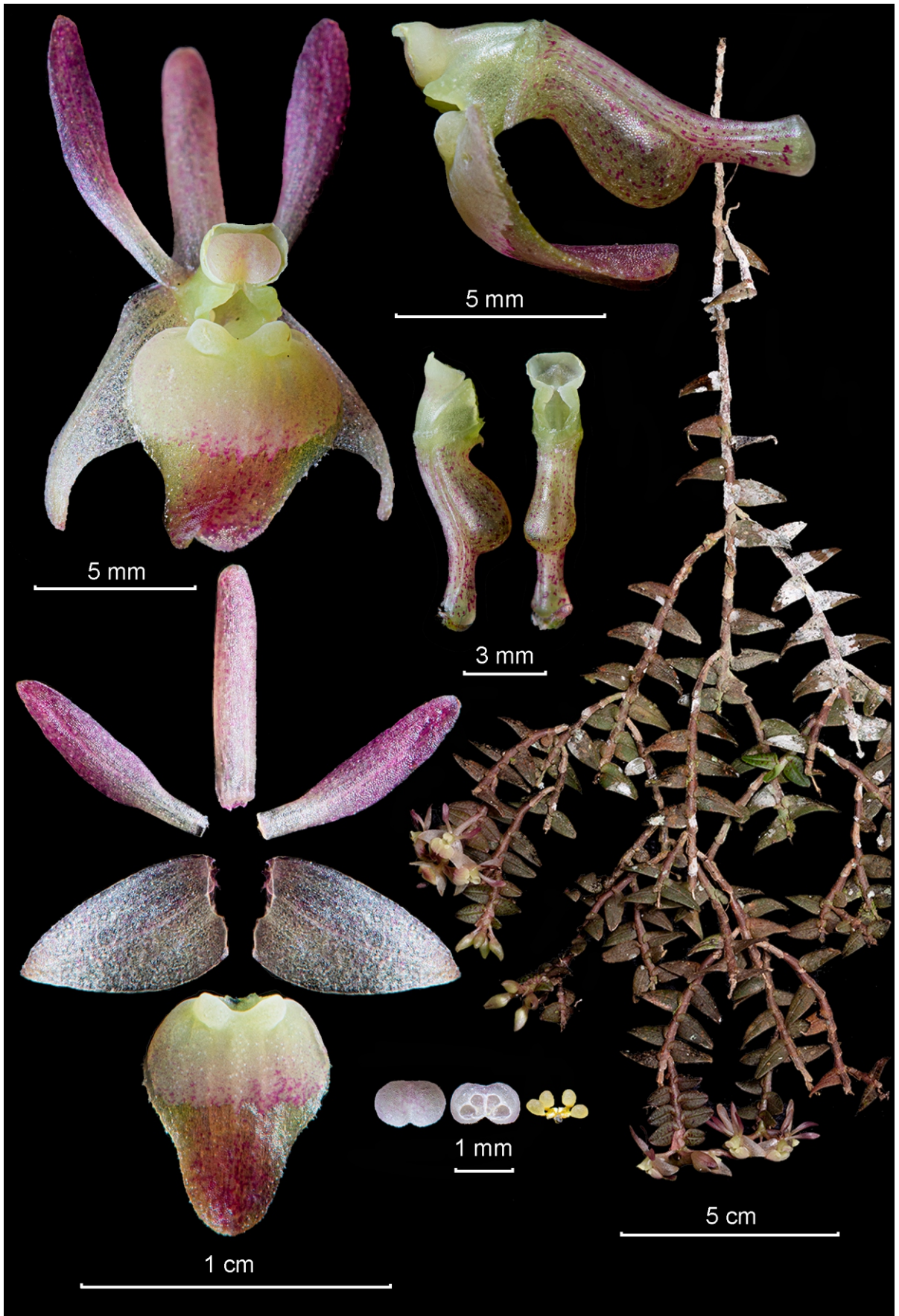
Author: E. Hágsater  
Herbario AMO

LCDP: R. Jiménez M. & A. Cisneros  
Ciudad de México, MÉXICO

Photo: R. Jiménez M.

Editors: E. Hágsater & E. Santiago

ICONES ORCHIDACEARUM 17(2). 2020. Plate 1787



EPIDENDRUM POGONOCILUM Carnevali & G.A.Romero

Plate 1788

**EPIDENDRUM POGONCHILUM** Carnevali & G.A.Romero, *Orchid. Venez. ed.* 2,3:1133-1134, 2000.

Type: Venezuela: Táchira: El Delirio, near Las Delicias, at about 1850 m, **Galfrid Clement Keyworth Dunsterville 1274**.  
Holotype: AMES!

Epiphytic, pendulous **herb**, 25 cm long. **Roots** 0.7-1.0 mm in diameter, basal, thin, white. **Stems** 2-12 cm long, terete at the base, somewhat laterally compressed towards the apex, thin, pendulous; the new stems originating from apical and sub-apical internodes of the previous stems. **Leaves** 7-22, distributed throughout the stems, the basal leaves deciduous in old stems, articulate, alternate, twisted at base so lies in the same plane as the stem, coriaceous, green with red tinge; sheaths 3-4 mm long, tubular to slightly infundibuliform in pressed specimens, minutely striated, green tinged red; blade 5-13 x 2-5 mm, narrowly ovate to lanceolate, apex obtuse, slightly bilobed, margin entire. **Spathes** 1-2, 5 mm long, elliptic, apex obtuse, oblique, conduplicate, somewhat imbricated at the base, blackish brown, totally covering the peduncle and rachis of the inflorescence. **Inflorescence** 1.0-1.2 cm long (including the flowers), apical, short, sub-umbellate, 4-flowered, the flowers in two opposite pairs at 90° of each other; peduncle 4 mm long, terete, thin; rachis 1 mm long. **Floral bracts** ca. 1-2 mm long, much shorter than the ovary, narrowly triangular, acute, embracing. **Ovary** 7-10 mm long, sigmoid, terete and thin at the base, forming a prominent vesicle along the apical half, about as wide as the pedicellate ovary, pale green with minute red dots. **Flowers** 4, simultaneous, resupinate, sepals and petals translucent, pale green tinged red when young, turning ochre-yellow after maturing, lip with calli and disc green, the apical half reddish purple; column greenish yellow, dotted red; fragrance none recorded. **Sepals** apically obtuse, 3-veined, margins entire; dorsal sepals 7.0-7.5 x 3.0-3.9 mm, free, recurved, oblong (in natural position), obovate-elliptic (when spread), margin revolute; lateral sepals 7.1-9.0 x 3.0-3.9 mm, obliquely united to the base of the column, spreading, oblong-elliptic, slightly oblique, margins spreading. **Petals** 7.8 x 1.8 mm, spreading, free, oblong, oblique, apex truncate, 3-veined, the lateral veins short, margin entire, slightly revolute at base. **Lip** 7.8-8.0 x 6.0 mm, united to the column, entire, ovate in general outline, the apical half slightly narrowed and abruptly recurved, base truncate, apex rounded, margin minutely erose, bicallose, the calli prominent, globose, with a thickened mid-rib reaching the middle of the lip. **Column** 3 mm long, short, thick, **Clinandrium-hood** prominent, surpassing the body of the column, margin denticulate. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** inflated, forming a prominent, curved, vesicle, wider than the pedicel, unornamented. **Anther** reniform with a wide sinus, 4-celled, creamy white with some pale red dots usually surrounding the face. **Pollinia** 4, lentil-shaped, laterally compressed; caudicles soft and granulose, as long as the pollinia; viscidium semi-liquid. **Capsule** not seen.

**OTHER SPECIMENS: COLOMBIA: Norte de Santander:** along river, between Ábrego and Sardinata, 1730 m, 12 XI 1981, *Luer 6687*, SEL! Villa Caro, *Múnera 15*, AMO! **Santander:** La Belleza: Vereda Vista Hermosa, 2380 m, 30 V 2017, *Gutiérrez 47*, JBB! (LCDP voucher).

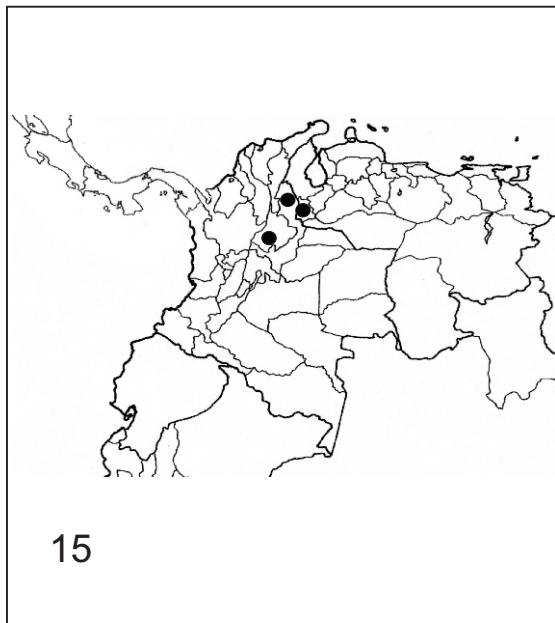
**OTHER RECORDS: COLOMBIA:** Without locality data, *Orquídeas Nativas de Colombia* 2: 170, photo B, No. 178 published as *Epidendrum renzii*! Ibid. cult. Finca al N de Bogotá, *Frank Jordan s.n.*, digital photo, AMO! Ibid., *Ortiz Valdivieso s.n.*, slide, AMO! Ibid. *Brett Maloney, SOCOLOR*, photo, AMO! **Norte de Santander:** Mun. Abrego: de Alto del Pozo a Villa Caro, 1730 m, *Colomborquídeas sub Hágsater 11673*, AMO! (flower in spirit, slide and illustration.) Ibid., 1730 m, 29 VII 2019, *Colomborquídeas sub Hágsater 16163*, digital photo, AMO! (photo voucher). **Santander:** La Belleza: Vda. Vista Hermosa 2350 m, 13 III 2016, *Haelterman s.n.*, digital photo, AMO!

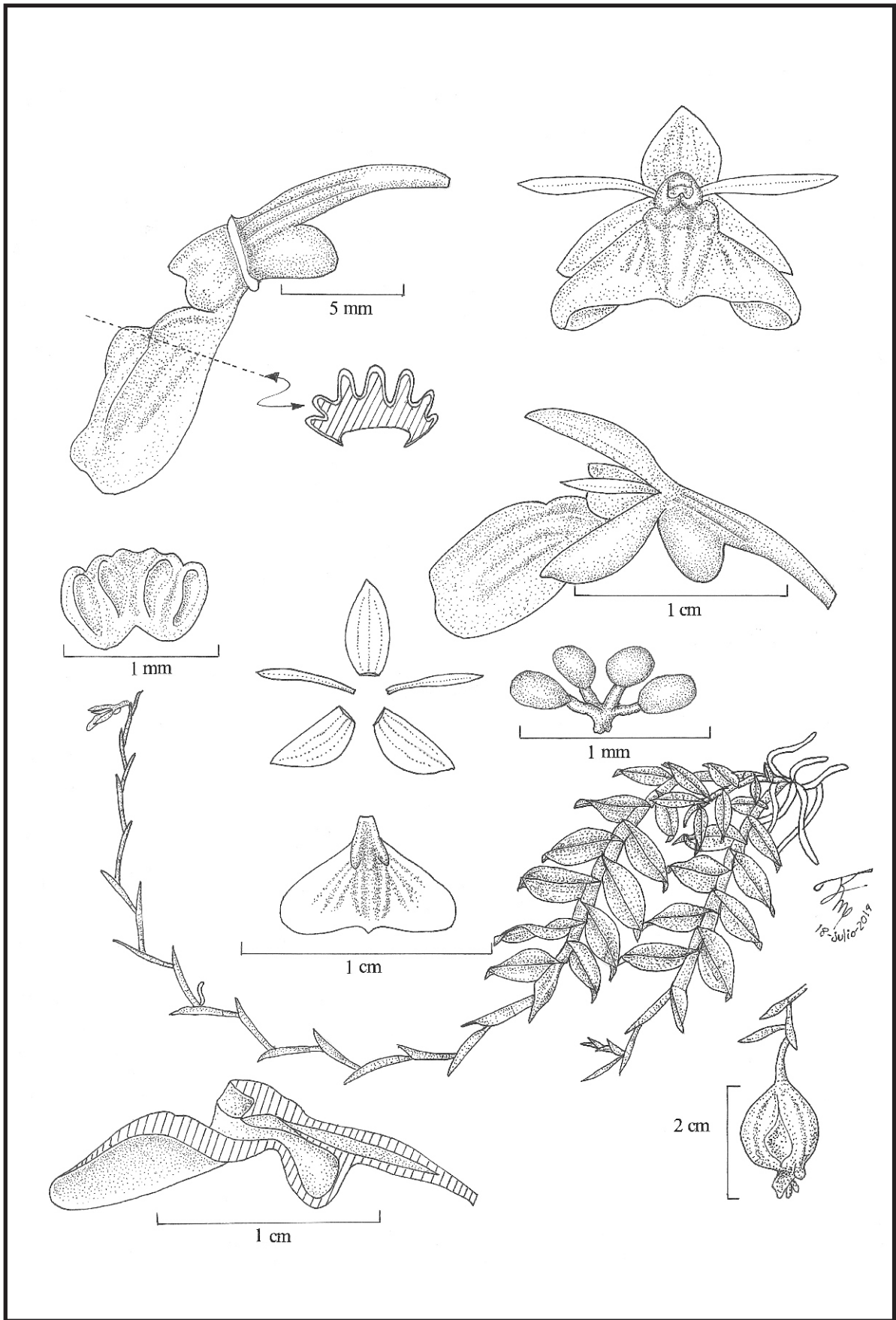
**DISTRIBUTION AND ECOLOGY:** Presently known from both sides of the Colombian-Venezuelan border in Norte de Santander and Santander in Colombia, mainly on the western upper slope of the Cordillera Oriental of the Andes in northern Colombia. In humid forests at 1700-2380 m altitude. Flowering from November to July.

**RECOGNITION:** *Epidendrum pogonochilum* belongs to the *Renzii* Group which is recognized by the branching, *Dichaea*-like plants, short inflorescences with two pairs of opposite flowers, 1-2 small spathes, and a prominent vesicle along the pedicellate ovary. The species is recognized by the pale green flowers with the apical half of the lip wine-red colored, the lip 8 x 6 mm, ovate somewhat narrowed in the middle and abruptly recurved, margin minutely erose, and the oblong petals, the nectary forms a vesicle wider than the pedicellate ovary. It is very similar to *Epidendrum renzii* Garay & Dunsterv., which has green to pale greenish brown flowers with purple dots of the dorsal surface of the sepals, lip 3.5-5.5 x 3.5-4.5 mm, oblong-elliptic, the margins rounded, apex truncate, petals oblanceolate, and the nectary forms a very prominent, scrotum-like vesicle which is about three times higher than the pedicellate ovary, forming a triangle, but narrow, not wider than the pedicel.

**ETYMOLOGY:** From the Greek , beard, and , lip in reference to the appearance of the lip.

**REFERENCES:** Escobar, R., 1991, *Epidendrum renzii* Garay & Dunsterv., *Orquídeas Nativas de Colombia* 2: 170, photo B, No. 178. Santiago, E., & E. Hágsater, 2020, *Epidendrum renzii*, in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum* Part 13, *Icon. Orchid.* 17(2): pl. 1794.





EPIDENDRUM POLYGONATUM Lindl.

**EPIDENDRUM POLYGONATUM** Lindl., Ann. Mag. Nat. Hist. ser 3, 1: 332. 1858.

Type: CUBA: [Hulgúin, Mpio. Mayari;] "Cuba Orientali", [On trees in dense woods, prope Monte Verde, prope La Prenda, 800 m], VII 1856-7, **Charles Wright 643**, Holotype: K! Isotype: AMES 73701! BM! BR! G x2! K! P! W 38954! (as *Wright R73*) W 13035 sketch of *Wright 643*! YU 000972!

Nomenclatural Synonyms: *Amphiglottis polygonata* (Lindl.) Acuña, Bol. Estac. Exp. Agron. Santiago de las Vegas 60: 101. 1938. *Physinga polygonata* (Lindl.) H. Dietr., Wiss. Zeitschr. Friedrich-Schiller Univ. Jena, Mat. Naturwiss. (Beitr. Phytotax. 6) 29 (4): 524. 1980. *Physinga polygonata* (Lindl.) Dod, Moscosoa 3: 101. 1984. Taxonomic Synonym: *Epidendrum polygonatum* Lindl. var. *latifolium* Cogn., Symb. Antill. (Urban) 6(3): 514. 1910. Type: CUBA: [Guantanamo:] Pinal de Sta. Anna, 800 m, **Heinrich Franz Alexander von Eggers 5053**, Holotype: BR!

Epiphytic, sympodial, caespitose, caulescent, sub-erect **herb**, 17-30 cm tall including the inflorescence. **Roots** 1.0-1.5 mm in diameter, basal, thin, fleshy. **Stems** 6.6-10.7 x 0.2-0.4 cm, short, simple, cane-like, slightly laterally compressed, straight. **Leaves** 5-12, evenly distributed throughout the stems, distichous, alternate, spreading, twisted at the base so as to be in the same plane as the stem; sheaths 0.5-1.7 x 0.2-0.4 cm, tubular, laterally compressed, smooth; blade 2.8-3.9 x 0.4-0.7 cm, narrowly ovate-lanceolate, acuminate, margin entire, coriaceous, green tinged purple. **Spathes** lacking. **Inflorescence** 6.0-21.1 cm long, apical, elongate, slightly arching, racemose at first flowering, then pluri-racemose; peduncle 4.7-7.0 cm long, arching, strongly zigzag, the apex of the sheaths free as the peduncle is bent in the opposite direction, provided with 5-15 bracts 5-10 mm long, diminishing in size towards the apex, tubular, slightly laterally compressed, acuminate, becoming fibrous with age, brown; rachis 1.7-3.8 cm long, zigzag, forming obtuse angles; occasionally producing a new plant from a middle internode of an old inflorescence. **Flowers** 4-11, successive developing one at a time, resupinate, sepals and petals pink, translucent, lip green-pink, callus and column green; fragrance not registered. **Floral bracts** 2.3 mm long, much shorter than the ovary, ovate-lanceolate, acuminate, embracing. **Ovary** 9-10 mm long, pedicellate, terete, thin, smooth, with an elongate, prominent, ventral globose vesicle behind the perianth, occupying 1/3 of the pedicel. **Sepals** 4-5 x 1-2 mm, spreading, somewhat concave, apex acute, 3-veined, margins entire, spreading; dorsal sepal free, obovate-lanceolate; lateral sepals connate towards the base, lanceolate-elliptic. **Petals** 4 x 0.5 mm, free, spreading, linear-lanceolate, acute, 1-veined, margin entire, spreading. **Lip** 5 x 12 mm, united to the column, widely triangular to orbicordiform, base widely cuneate, apex emarginate, apiculate in the sinus, the sides revolute in natural position, thus apron-like, margin entire; tricollose, slightly divaricate, 5 ribbed, the ribs fleshy, especially the middle 3, rounded, with the lateral radiating veins somewhat thickened. **Column** 3 mm long, thin at base, thickened towards the apex with a rounded lateral wing at the apex. **Clinandrium-hood** reduced, fleshy, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, strongly laterally compressed, the inner apical corner a 90° angle; caudicles in two pairs, slightly longer than the pollinia, granulose; viscidium semi-liquid. **Rostrum** apical, slit. **Lateral lobes of the stigma** small, about 1/3 the length of the stigmatic cavity. **Nectary** prominent, forming a globose, somewhat elongate, ventral vesicle behind the perianth, unornamented. **Capsule** 21 x 9 mm, pedicel filiform, 8 mm long, body 10 x 9 mm, ellipsoid, apical neck 3 mm long.

**OTHER SPECIMENS: CUBA: Guantanamo:** On sides and top of Yunque, 20 XII 1910, *Shafer 8009*, AMES! **Holgúin:** Pinares de Monte Verde to falls of rio Palenque, 16 II 1911, *Shafer 8867*, NY! **Santiago de Cuba:** La Prenda, 11 VII 1919, *Hioram 2556*, NY! Oriente, La Perla, 600 m, 9 II 1911, *Shafer 8548*, AMES! Ibid. 06 II 1911, NY x2!

**OTHER RECORDS: CUBA:** VII 1987, *Senghas s.n.*, digital images, RENZ, photo 604172! (photo voucher). *Borges s.n.*, digital image, IOSPE! Watercolour plate, *H. Dietrich* (Published: *Dietrich et al.* 2007) (illustration voucher).

**DISTRIBUTION AND ECOLOGY:** Known only from eastern Cuba, Flowering from July to April, throughout the year.

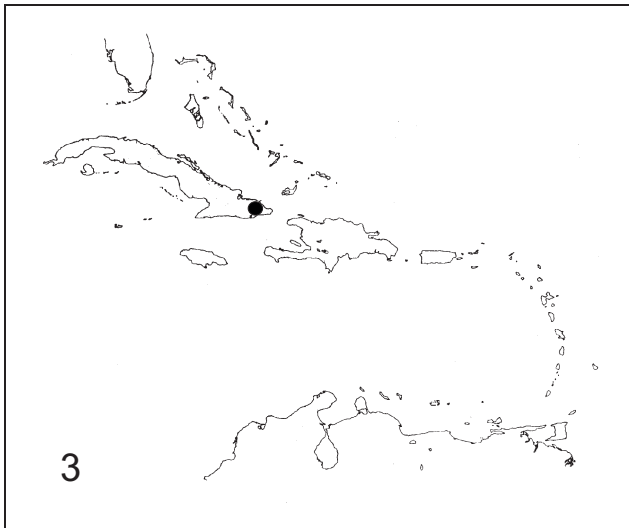
**RECOGNITION:** *Epidendrum polygonatum* belongs to the *Physinga* Group which is characterized by the generally small, caespitose plants, the inflorescence apical and racemose producing new racemes with time and thus pluri-racemose, the successive flowers opening one at a time on an elongate peduncle with acuminate bracts, the lip entire, and the ovary with a prominent vesicle. The species is recognized by the 5-12 leaved stem, leaves 2.8-3.9 x 0.4-0.7 cm, narrowly ovate-lanceolate, acuminate, and the zigzag inflorescence, the bracts of the peduncle 5-11 mm long, surpassing the internodes, sepals small, 4-5 mm long, translucent pink, and the lip 5 x 12 mm, widely triangular to orbicordiform, twice as wide as it is long. *Epidendrum massif-hottense* Hágsater, endemic to the south-western tip of Haiti, has longer leaves, 3.3-5.0 x 0.4-0.6 cm, very short bracts on the peduncle of the inflorescence, 1-3 mm long, much shorter than the internodes, and a lip 4.4 x 6.7 mm, reniform, base slightly cordate. *Epidendrum ceticaudatum* Rinc.-González, Villanueva & E. Santiago has arching stems 15-18 cm long, 4-8 leaves distributed along the apical half of stem, flowers larger, sepals 13-13.7 mm long, and a lip 6.2 x 9.6 mm, bell-shaped when spread. *Epidendrum physodes* Rchb.f. has leaves 3.5-7 x 0.6-2 cm, sepals 5-8 mm long, and a lip 3-5 x 4-7 mm transversely elliptic.

**CONSERVATION STATUS:** DD. Deficient. Apparently locally rare and found only on the eastern end of Cuba.

**ETYMOLOGY:** In reference to the peduncle of the inflorescence which is prominently zigzag.

**ACKNOWLEDGMENTS:** The illustration is based mostly on plate 32, published by Helga Dietrich (2007). Photograph by Karl Heinz Senghas reproduced from Swiss Orchid Foundation at the Herbarium Jany Renz, University of Basel, Switzerland.

**REFERENCES:** Dietrich, H., 1980, *Physinga* in *Wiss. Zeitschr. Friedrich-Schiller-Univ. Jena, Mat. Naturwiss. (Beitr. Phytotaxa)* 29(4): 523-526. Dietrich, H., *Physinga polygonata* in *Flora de Cuba* 12(1): 86-87. Dietrich, H., 2007, *Epidendrum polygonatum* [as *Physinga polygonata*] in *Orchidaceae I, Flora de la República de Cuba*, ser. A, 12(1): 86-87. A.R. Gantner Verlag, Ruggell, Liechtenstein. Hágsater, E., 2019, *Epidendrum massif-hottense* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 13, *Icon. Orchid.* 17(1): pl. 1738. Rincón-González, Villanueva & E. Santiago, 2015, *Epidendrum ceticaudatum* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 11, *Icon. Orchid.* 15(1): pl. 1511. Hágsater, E., 1987, *Epidendrum physodes*, *Orquídea (Mexico City)* 10(2): 322-323.



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Illustrator: R. Jiménez M.

Photo: K. H. Senghas †

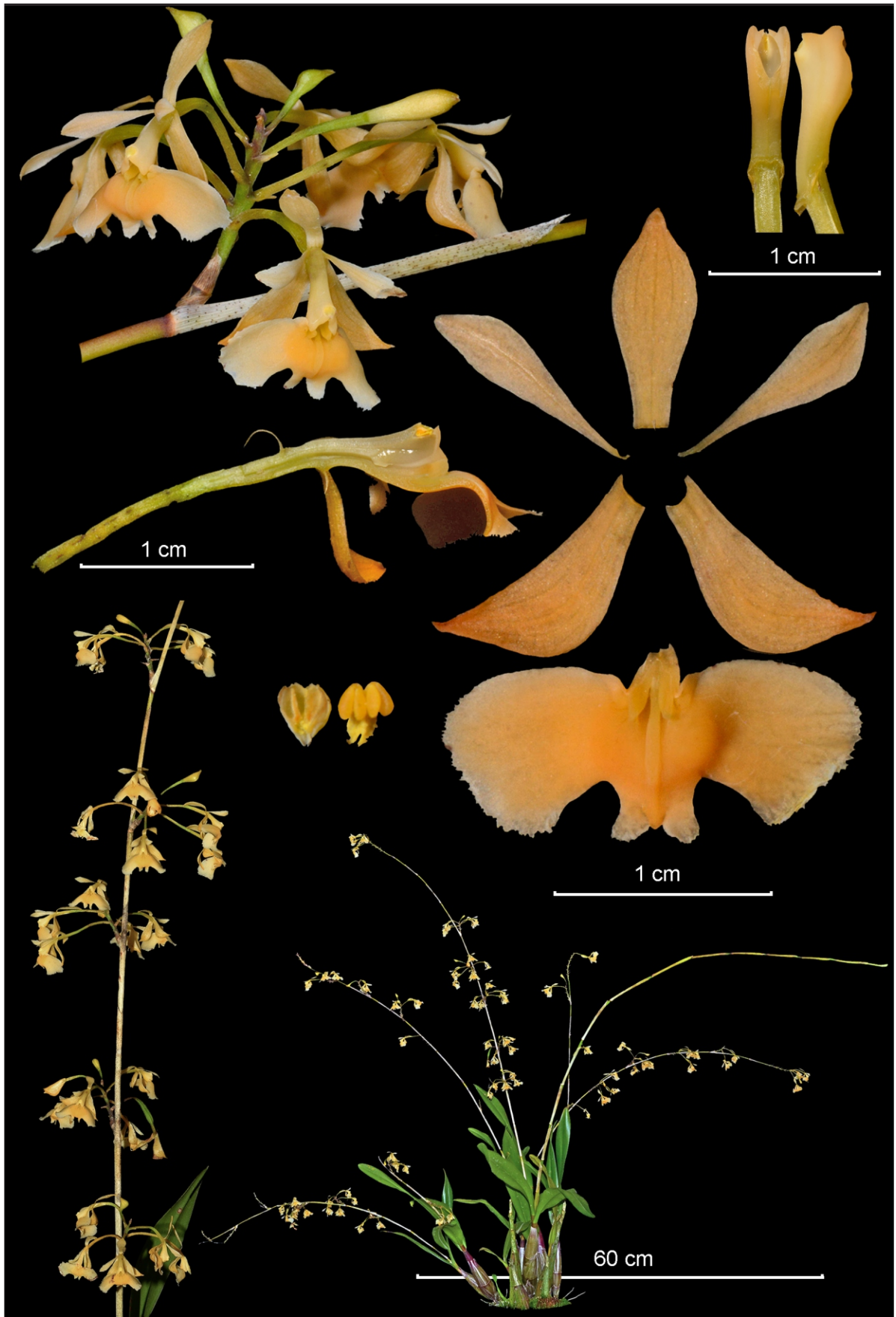
Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(2). 2020.

Plate 1789



EPIDENDRUM POLYSTACHYUM Kunth

Plate 1790

**EPIDENDRUM POLYSTACHYUM** Kunth, Nov. Gen. Sp. [H.B.K.] 1: 352-353. 1816.

Type: ECUADOR: Loja: Cajanuma (= Cerros de Caxanuma) [Crescit in sufrigidis Andinum Postoensium inter pagum Yayanquer et flumen Guaitara; sub coelo mitiori Provinciae Loxensis in convallibus Malacatensibus quae Cinchonam tolerant, 900-1080 hex. (Kunth, 1816)] **Aimé Jacques Alexandre Bonpland & Friedrich Wilhelm Heinrich Alexander von Humboldt 3425**. Holotype: P MNHN-P-P00669667! Illustration of flower of holotype with camera lucida made by C. Schweinfurth and sent to Dr. H. Humbert, at P, 19 October 1932, P! Isotypes: P x2! Non *Epidendrum polystachyum* Pav. ex Lindl. Gen. Sp. Orchid. Pl. 106. 1831. = *Epidendrum polyanthum* Lindl.

Epiphytic, sympodial, caespitose, erect **herb** 60 cm tall including the inflorescence. **Roots** 2 mm in diameter, fleshy, thick, white. **Stems** 6-10 x 1.4-1.8 cm, pseudobulbs, fusiform, thick, erect, straight, fluted, green with the apex wine-red; all covered with non-foliar sheaths 3.5-4.5 x 1.2-1.4 cm embracing, scariosus, very thin, like a veil. **Leaves** 2 aggregate at the apex of the stem, erect to slightly reflexed, spreading, slightly coriaceous; blade 7.6-18.6 x 1.8-3.8 cm, oblong-elliptic, apex rounded, margin entire, spreading, green, concolor. **Spathes** absent. **Inflorescence** 17-53 cm long, paniculate, lax, apical, erect to arcuate; peduncle 8.3-21.5 cm, long, terete, completely covered with sheaths 2.0-5.8 x 0.2-0.4 cm, tubular, acute, scariosus, embracing; rachis 9.3-39.8 cm, terete. **Floral bracts** 2 x 0.8 mm, much shorter than the ovary, triangular, acuminate, margin entire, greenish. **Ovary** 17 mm long, thin, not inflated, furrowed, green colored. **Flowers** 8 per raceme, successive, 3-5 open at once, resupinate, pale apricot-yellow, the disc of the lip darker in color, column somewhat tinged green towards base; without any apparent fragrance. **Sepals** 10-11 x 4 mm, free, 5-veined, acute to sub-acuminate, margin entire; dorsal sepal reflexed, elliptic-lanceolate; lateral sepals spreading, elliptic, slightly concave. **Petals** 11 x 2 mm, partly spreading, free, lanceolate-spatulate, acute, 3-veined, margin entire. **Lip** 7 x 20 mm, united to the column, deeply 3-lobed convex, base cordate; bicallose, calli ovate, laterally compressed, disk with a prominent but thin mid-rib that elongates to the sinus of the apex; lateral lobes 8 x 8 mm, redounded in general form, margin dentate; mid-lobe 2 x 3 mm, emarginated, forming 2 little lobes, margin dentate. **Column** 10 mm long, straight, with a rounded tooth on each side. **Clinandrium-hood** short, margin entire. **Anther** ovoid, acute, 4-celled. **Pollinia** 4, obovate, laterally compressed, caudicls soft and granulose, twice as long as the pollinia; viscidium semi-liquid. **Nectary** penetrating 1/4 of the ovary, not inflated. **Rostrillum** apical, slit. **Lateral lobes of the stigmatic cavity** small 1/3 the length of the stigmatic cavity **Capsule** none seen.

**OTHER SPECIMENS: ECUADOR: Loja:** purchased in Quito, 15 VII 1961, *Dodson 432a*, SEL! Malacatos, Valley of Malacatees, Vilcabamba, IX 1864, *Jameson s.n.*, E! K! Ibid. *Jamieson 6*, W! ibid. *Jameson 4/70*, K! **Zamora-Chinchipe:** Palanda: Río Vergel valley, 1500 m, 14 XI 2006, *van der Werff 22072*, LOJA! QCNE! **PERU: Amazonas:** Rodríguez de Mendoza, Mariscal Benavides, Michina, 1420 m, 2 IX 1998, *Vásquez 23798*, AMO! Ibid. *Vásquez 25418*, AMO! F! USM! **Cajamarca:** San Ignacio, Tabaconas, Culebras sector, 1660 m, 18 VIII 1993, *Bennett 6784*, MOLI! (illustration in IOP 647, 2001, xerox of illustration AMO!) Above Celendin, 2760 m, 1 VII 1987, *Bennett 3930*, CUZ! San Ignacio, San José de Lourdes, Buenos Aires, 2055 m, 13 XI 2000, *Calatayud 832*, CUZ!

**OTHER RECORDS: ECUADOR: Loja:** Malacatos, received 24 XI 2018, *Medina s.n.*, digital images (AMO!) Ibid. Valladolid pasando Malacatos, cult. Ecuagenera (Gualaceo), 16 IX 2018, *Hágsater 15953*, digital photos, AMO! (LCDP and photo voucher) **PERU: Cajamarca:** Jaén, carretera Jaén - La Palma Central, 22 VIII 2018, *Ocupa 217*, digital image and LCDP plate, AMO!

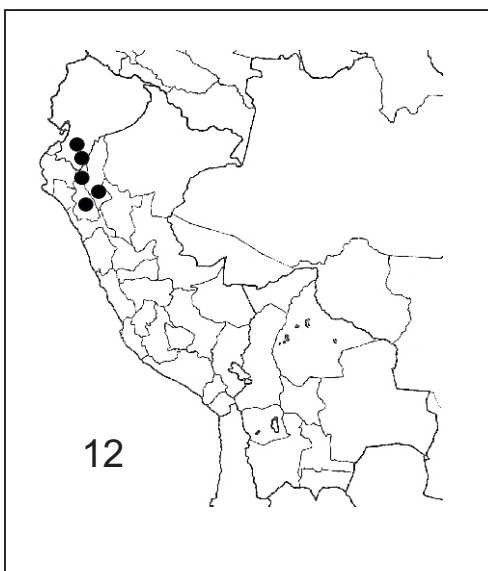
**DISTRIBUTION AND ECOLOGY:** Narrowly distributed along the inter Andean valley in southern Ecuador (Loja) and northern Peru (Cajamarca and Amazonas), in dry forests, at 1420-2760 m altitude. Flowering from July to November.

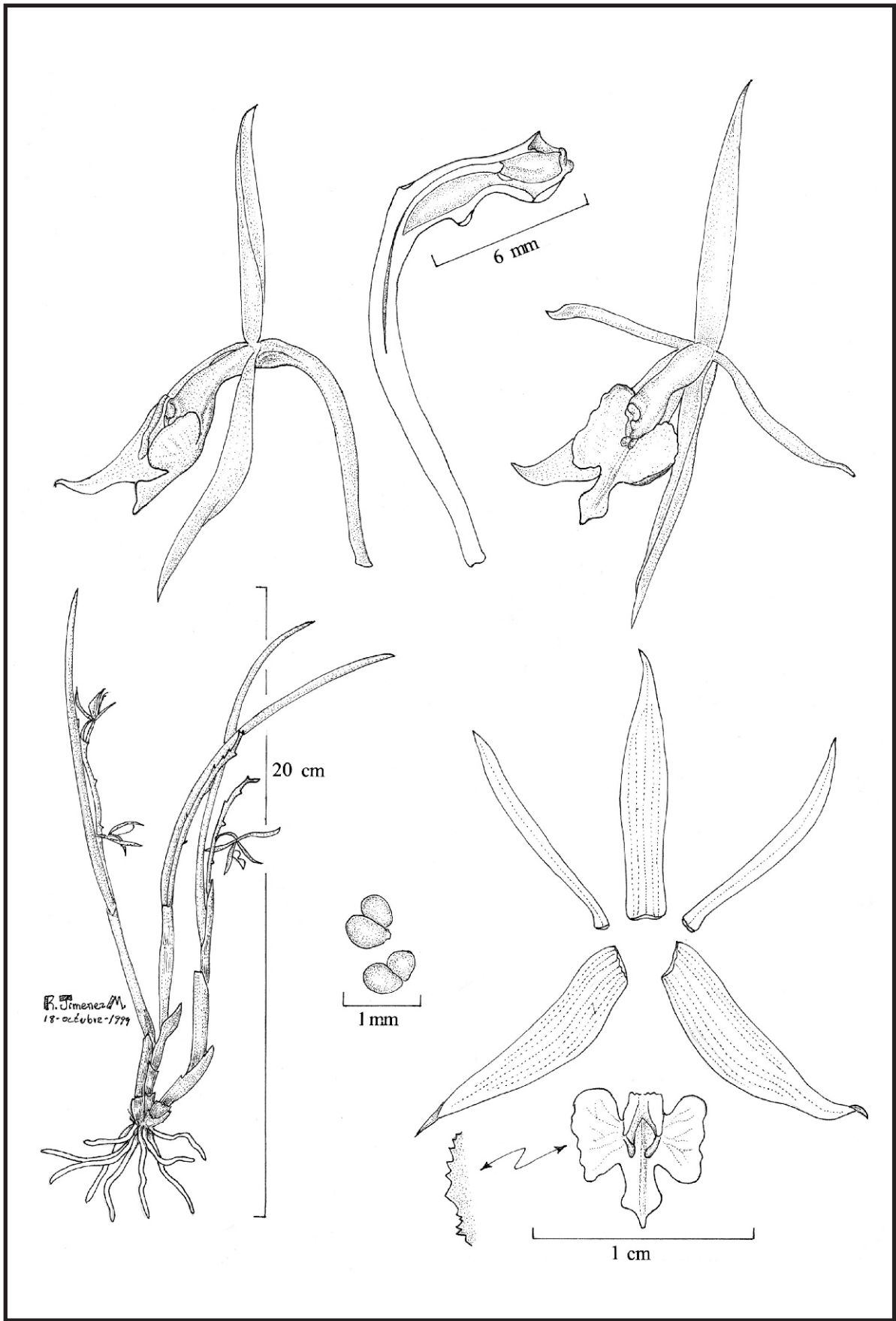
**RECOGNITION:** *Epidendrum polystachyum* belongs to the Blepharistes Group recognized by the caespitose habit, simple fusiform stems, oblong leaves, the lack of spathes, the erect to nutant inflorescences producing several short racemes from several nodes of the inflorescence, and the lip widely 3-lobed, somewhat reniform, the mid-lobe sub-quadrate and itself bilobed. The species is recognized by the 2 leaves, aggregate at the apex of the fusiform stem, the very long inflorescence, ca. 8 apricot-yellow flowers per raceme, in succession, sepals 10-11 x 4 mm apically acute to sub-acuminate, elliptic to elliptic-lanceolate, petals 11 x 2 mm, lanceolate-spatulate, apex acute, and the lip 7 x 20 mm. *Epidendrum morochoi* Hágsater has erect pseudobulbs, 1-2 leaves, has a very long inflorescence, flowers cream with disc of the lip and base of column pale green to yellow, sepals 8-9 x 3 mm, apically acute, petals 8.3 x 2 mm, oblanceolate, apex obtuse to rounded, and lip 6 x 15 mm, 3-lobed, mid-lobe with 2 little lobes with margin crenulate, wider than long. *Epidendrum pseudopolystachyum* D.E.Benn. & Christenson, from central to southern Peru on the eastern side of the Andes, has short plants, to 22 cm tall, the inflorescence only slightly longer than the leaves, 2-leaved, a swollen short ventral vesicle at the apex of the ovary behind the lateral sepals, and pale green-yellow flowers, the lip pale orange, lip 6.6 x 1.3 mm, with lateral lobes sub-quadrate, corners rounded. *Epidendrum blepharistes* Barker ex Lindl. is widespread from Costa Rica to Bolivia, has 4-10 leaves distributed along the upper half of the stem, a very long inflorescence, flowers white to lilac-pink, and a lip deeply 3-lobed, lateral lobes spreading, oblong-dolabriform, oblique, mid-lobe cuneate, retuse, bilobed, nearly as long as the lateral lobes.

**CONSERVATION STATUS: DD.** Data deficient. The species is restricted to the valleys in the Andes in southern Ecuador and adjoining northern Peru.

**ETYMOLOGY:** In reference to the inflorescence producing numerous short racemes.

**REFERENCE:** Bennett, D.E. & Christenson, E.A., 2001, *Epidendrum polystachyum* **Icon. Orchid. Peruvianum** pl. 647. Bennett, D.E. & Christenson, E.A., 2001, *Epidendrum pseudopolystachyum* **Icon. Orchid. Peruvianum** pl. 649. Santiago, E., & E. Hágsater, 2008, *Epidendrum blepharistes* in The Genus *Epidendrum*, Part 7, **Icon. Orchid.** 11: pl. 1105. Hágsater, E. 2019, *Epidendrum morochoi* in The Genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(1): pl. 1743.





EPIDENDRUM PORQUERENSE F. Lehm. & Kraenzl.

Plate 1791



**EPIDENDRUM PORQUERENSE** F.Lehm. & Kraenzl., Bot. Jahrb. Syst. 26(5): 461. 1899.

Type: COLOMBIA: [Valle del Cauca] Supra arboreas et rupes ad La Porquera, in Andibus civit. Cali, [Wächst am Bäumen um La Porquera, am Rio Dagua, leg. Cauca], 1600-1700 m, April 1886, **Friedrich Carl Lehmann 6416**. Holotype: K! The AMES 22565 specimen with the same number is labelled "Wächst am Bäumen in offenen Wäldern am Río Cajamarca und Río Garrapatos, west-Andes von Roldanillo, 1000-1600 m, September 1895" is evidently a different collection. There appears to be an illustration: "Lehm, Ic. Pl. t. 433", probably conserved at Kew with the Lehmann papers.

Epiphytic, sympodial, caespitose, sub-erect **herb**, 10.5-20.6 cm tall. **Roots** 0.3-0.9 mm in diameter, basal, fleshy. **Stems** 3.5-5.0 x 0.3-0.4 cm, from the base of the previous stem, simple, terete, thin when young, slightly thickened forming a fusiform pseudobulb when fully developed, enveloped when young by 3-5 scarious non-foliar sheaths 1-3 cm long. **Leaves** 1-2, apical, blade 4.4-13.9 x 0.1-0.3 cm, semi-terete, acuminate. **Spathes** lacking. **Inflorescence** 3.6-6.3 cm long, from apex of mature stem, flowering only once, racemose, erect, shorter than half the length of the larger leaf; peduncle 0.4-2.5 cm long, bare. **Flowers** 3-6, simultaneous, resupinate, lime-green, concolor to more or less tinged purple-rose; fragrance lacking. **Floral bracts** 0.5-1.0 mm long, much shorter than the ovary, triangular-ovate, embracing. **Ovary** 8-10 mm long, terete, slightly thickened towards the apex. **Sepals** 12.2-15 x 2-3 mm, free, spreading, narrowly oblong-lanceolate, acuminate, margins slightly revolute; dorsal sepal 5-veined; lateral sepals 6-7-veined, apex aristate. **Petals** 8-11 x 0.8-1.0 mm, spreading, free, linear, slightly oblique, acute, 3-veined, margin entire. **Lip** 6-7 x 6-7 mm, united to the column, 3-lobed, base strongly cordate, bicallose, calli laminar, divergent, with a low, narrow mid-rib; lateral lobes 2.2-3.0 x 4.2-4.3 mm, dolabriform, corners rounded, margin erose; mid-lobe 2.8-3.0 x 1.7-2.0 mm, sub-quadrate, apex triangular, acute, basal margin spreading, involute at the apex. **Column** 6 mm long, slightly arched, thin. **Clinandrium**-hood short, margin entire. **Nectary** penetrating shortly behind the perianth, somewhat constricted at the middle of the column, unornamented. **Rostellum** apical, slit. **Anther** not seen. **Pollinia** 4-obovoid, unequal in size and shape. **Capsule** 29 x 9 mm, ellipsoid, with a thin pedicel 4 x 2 mm, body 20 x 9 mm, apical neck 5 x 2 mm, thick.

**OTHER SPECIMENS:** COLOMBIA: **Antioquia:** Fuss des Salto de Guadalupe, 1000-1300 m, 24 IX 1884, *Lehmann 1989*, G! **Boyacá:** Briceño, Eastern Cordillera, 1800 m, 07 II 1946, *Schneider 42*, AMES! **Cundinamarca:** Región de Viotá-Cumaca [Cucumá], 1 IX 1962, *Fernández-Pérez 5923*, NY! COL! Fusagasugá, *Foster 1858*, AMES! COL! Soacha, San Claver, Santandercito, 1550 m, 20 XI 1967, *Ortiz 11*, HPUJ! Fusagasugá, 1800 m, 14 X 1956, *Ospina 11*, COL! Sasaima, San Bernardo, 1600 m, 17 IV 1949, *Schneider 42*, NY! Santandercito, Hacienda de San Claver, 1600 m, 12 X 1965, *Uribe 5412*, COL! **Huila:** Garzón, Río de Oro, 1000-1200 m, 26 XI 1994, *Ospina 1405*, COL! El Pital, 1500 m, 8 IX 1986, *Wolf 1261*, COL! MO! **Putumayo:** Mocoa, VI 1971, *Ortiz 4120*, HPUJ! **Risaralda:** El Pital, 1500 m, 8 IX 1968, *Wolf 1245*, COL! **Santander:** Barbosa, Río Suarez-tal, zwischen Chiquinquirá und Barbosa, Umgebung von Puente Nacional, 1600 m, 30 III 1956, *Renz 8537*, RENZ! Encino, Reserva Ecológica Cachatu, 1650 m, 13 VII, *Salinas 91*, COL! **Valle del Cauca:** Bajo Calima, Mtn. overlooking Calima Dam, 1650 m, *Folsom 10517*, AMO! (illustration voucher) MO! QCA! Yotoco, 04 IV 1980, *Guarín 133*, COL! MOZambique, north of La Cumbre, 16 IX 1922, *Killip 11271*, AMES x2! GH! K! NY! Ybalico, *Lehmann sub B.T. 121*, AMES x2! K! W! Las Pavas, prose; Cali, 5500 ft, XI 1877, *Lehmann 126*, W! am ober Río Dagua, 1500 m, 28 IX 1882, *Lehmann 1989*, G! Roldanillo and Río Cajamarca and Río Garrapatos, west-Andes von Roldanillo, 1000 m, 1 IX 1895, *Lehmann 6416*, AMES! K! Restrepo, borde de carretera Buga-Loboguerrero, 1600-1700 m, 22 III 2007, *Pérez 250*, VALLE! Yotoco, camino a El Dorado, ca. 1600 m, 22 III 2010, *Pérez 515*, VALLE! (illustration, AMO!) Buga: Qda. Pitingo, Vía Buga-Miravalle, Hda. El Albergue, 1210 m, 31 V 2010, in fruit, *Reina-Rodríguez 1130*, CUVCI! Dagua: Corr. El Chical, Finca el Edén, junto a la vía aérea de Potrerros, 1700 m, 1 IX 2013, *Reina-Rodríguez 1719*, FMB! **ECUADOR:** **Zamora-Chinchipec:** Area of Estación Científica San Francisco, Loja-Zamora, ca. 35 km from Loja, between ECSF and Río San Francisco, 1820 m, 25 IX 2003, *Werner 480*, CSCE! AMO! **PERU:** **Huánuco:** Prov. Huánuco, Campamento Boza, between Pumahuasi and Divisoria, c. 1000 m, 22 VIII 1940, *Asplund 13239*, S! (illustration, AMO!) **Pasco:** Oxapampa; Villarrica, 28 X 1986, *Hocking s.n.*, USM! **Junin:** Chanchamayo, San Ramón, 800 m, 20 V 1984, *Fernandez 326*, USM! **VENEZUELA:** **Táchira:** Umgebung von Providencia, 1000 m, 8 V 1951, *O. Renz 6894*, RENZ! Umgebung von Palo Grande gegen Capacho, 1400 m, 15 X 1953, *O. Renz 8041*, RENZ!

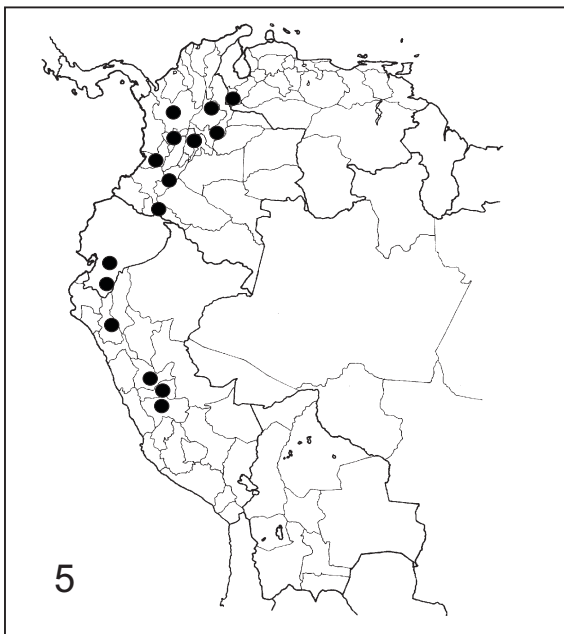
**OTHER RECORDS:** COLOMBIA: Without locality, 15 X 2014, *Palacio s.n.*, digital images, AMO! **Antioquia:** Jericó, 28 VII 2014, *Mesa s.n.*, digital images, AMO! Without locality, *Mesa s.n.*, digital images, AMO! **Cundinamarca:** Provincia de Sumapaz, 1700 m, 23 III 2017, *Vargas s.n.*, digital images, AMO! **Caldas:** Chinchiná, 1850 m, *Escobar 5333*, spirit, AMO! Without locality, *Mutis s.n.* illustration published by Mutis (1985), as *Epidendrum tipuloideum*, not the specimens cited, watercolor by Mariano Inojosa **Chocó/Risaralda:** Pueblo Rico, en límite con Chocó, ca. 1250 m, photo, illustration, *Duque 1475*, AMO! **Cundinamarca:** sin localidad, *Duque 922*, Photo, AMO! **Huila:** La Argentina, Valle entre Oporopá y La Argentina, 1540 m, 31 III 2018, *Hágsater 15696*, digital images, AMO! **Risaralda:** La Virginia, *McCullough sub OIC 17*, xerox, SEL! **Valle del Cauca:** El Cairo, Reserva Natural El Pital, carretera Buenos Aires-Alto Cielo, 1804 m, 6 XI 2011, *García 149*, digital images, AMO! Dagua, El Chical, Finca El Edén, 1700 m, 9 IX 2013, *Reina-Rodríguez 1719*, digital images, AMO! (photo voucher) Buga: Vía Buga-La Habana, después del Cruce, 1210 m, 08 III 2010, in fruit, *Reina-Rodríguez & Ramírez*, observation. Bolívar: La Josefina, Hda. Sector La Herradura, 1050 m, 05 VIII 2010, in flower, *Reina-Rodríguez & Moreno*, observation. Toro: Finca Guachal, 1200 m, 20 IV 2010, *Reina-Rodríguez et al.* **ECUADOR:** **Azuay:** Gualaceo, Ecuagenera, viveros en Gualaceo, 2240 m, 23 IX 2016, *Hágsater 14829*, digital images, AMO! **Zamora-Chinchipec:** Area of Estación Científica San Francisco, road Loja-Zamora, ca. 35 km from Loja, 2006, *Werner 292*, digital images, AMO! **PERU:** **Cajamarca:** San José de Lourdes, cerca del Cruce, caserío Villa Rica, 1670 m, 12 IX 2016, *Rimarachin s.n.*, digital images, AMO!

**DISTRIBUTION AND ECOLOGY:** Widely distributed from western Venezuela through Colombia to the Western, Central and Eastern Cordillera of the Andes and down the Cordillera into southern Ecuador and central Peru, at 800-2240 m altitude. Flowering from September through March.

**RECOGNITION:** *Epidendrum porquerense* belongs to the Tipuloideum Group which is characterized by the caespitose, sympodial habit, 1-2 apical leaves on a short stem, grass-like to thickened and fleshy to semi-terete, a short, racemose inflorescence, the flowers green, petals narrower than the sepals, and deeply 3-lobed lip. *Epidendrum porquerense* is recognized by the short thickened, fusiform pseudobulb covered by 3-5 non-foliar sheaths, 1-2 apical leaves coriaceous, sub-terete, canaliculate, flowers lime-green, concolor to more or less tinged purple-rose, petals shorter than the sepals, and the lip deeply 3-lobed, the margins of lateral lobes erose, mid-lobe sub-quadrate, apex triangular, acute with the margin involute. *Epidendrum tipuloideum* Lindl. has a fusiform, thin, terete pseudobulb, 1-2 grass-like leaves, petals longer, and flowers brownish white. *Epidendrum recurvatum* Lindl. has ensiform, mucronate, leaves, inflorescence usually paniculate, much longer than the leaves, and a lip entire, cordiform, the apex of the mid-lobe slightly emarginate. *Epidendrum costanense* Hágsater & Carnevali has grass-like leaves, peduncle with 2 basal spathes, somewhat inflated, 4-20 flowers, lateral sepals slightly aristate, petal margins erose, and a lip cordate, never 3-lobed, margins minutely erose, apex of mid-lobe acute. *Epidendrum brassavolae* Rchb.f. has very thin stems, a single coriaceous, nearly terete leaf, greenish pink flowers, sepals 3-veined, and a lip 3-lobed, mid-lobe longer and narrower, acute, disc with a mid-rib reaching the apical sinus, lateral lobes cordate, much smaller, apex elongate and acute.

**CONSERVATION STATUS:** LC. Least Concern. *Epidendrum porquerense* has more than 10 known localities and the extent of occurrence is more than 20,000 km<sup>2</sup> with populations in Venezuela, Colombia, Ecuador and Peru. and therefore widespread and abundant. For this reason this taxon are included in the category Least Concern (LC), according to IUCN (Version 3.1) (2012)

**REFERENCES:** Hágsater, E., & Carnevali, G. 1993, *Epidendrum costanense* in E. Hágsater & G. A. Salazar (eds.), The Genus *Epidendrum*, Part 2. **Icon. Orchid.**: pl. 124. IUCN. (2012). **IUCN Red List Categories and Criteria:** Version 3.1. 2<sup>nd</sup> ed. Gland, Switzerland and Cambridge, UK: IUCN. iv + 32 pp. Lindley, J., 1853, *Epidendrum tipuloideum* in **Fol. Orchid. Epidendrum**, 32, n. 98. Lindley, J., 1845, *Epidendrum recurvatum* in **Edwards's Bot. Reg.** 31: Misc. 77. Mutis, José Celestino, 1985, **Flora de la Real Expedición Botánica del Nuevo Reino de Granada (1783-1816)**, 9: Microspermae: Orchidaceae III, pl. 48. Spain: Madrid. Reichenbach, H.G., 1852, *Epidendrum brassavolae* in **Bot. Zeitung (Berlin)** 10(42): 729. Reina-Rodríguez, G.A., 2016. **Aportaciones al conocimiento de las orquídeas del Bosque Seco Tropical y escenarios de cambio climático en Colombia.** Disertación de tesis de doctorado. Facultad de Biología. Dept. Biología Evolutiva, Ecología y Ciencias Ambientales. Universidad de Barcelona. Barcelona, Spain. 278 pp.

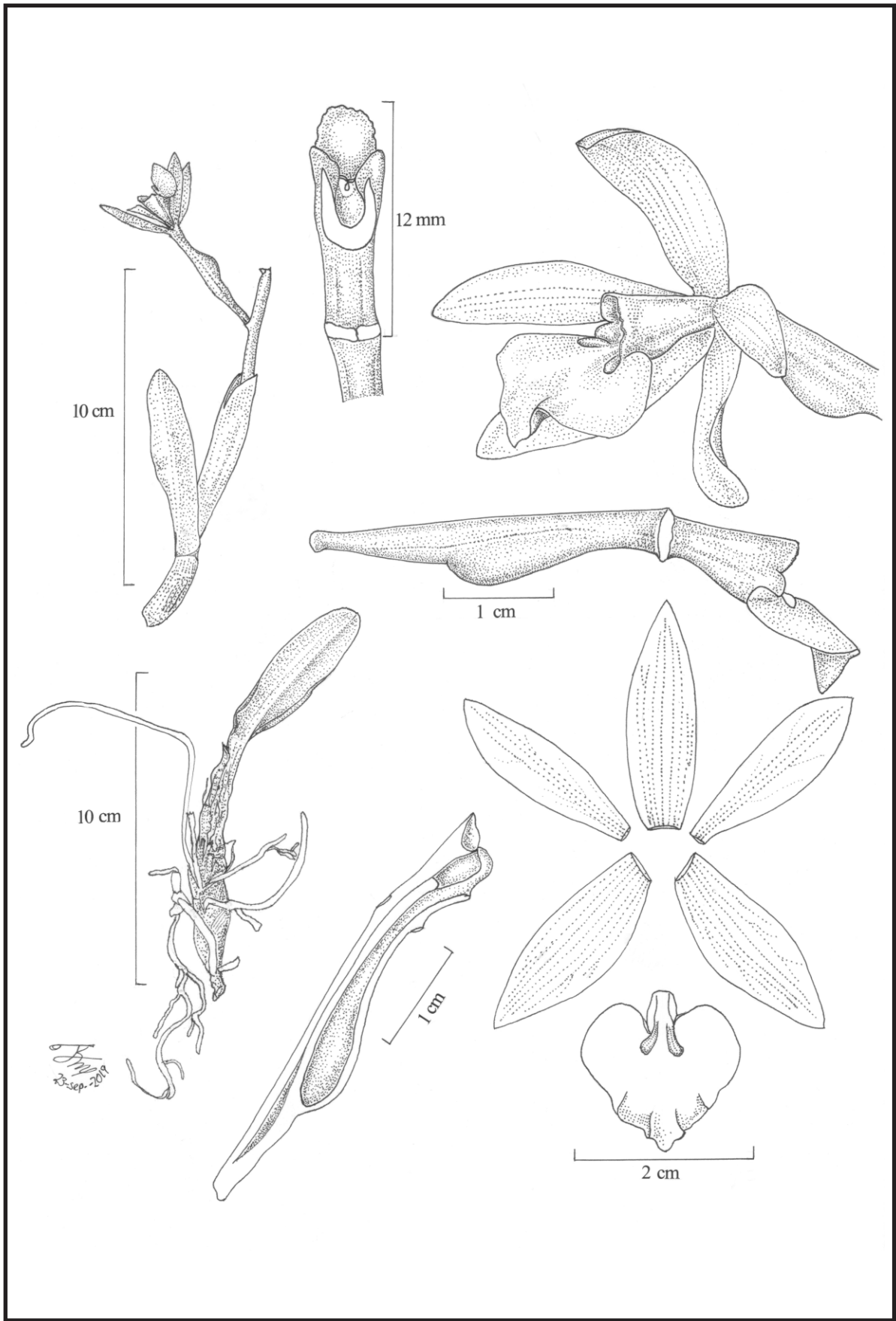


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EPIDENDRUM PSEUDOMAGNISAXICOLA L.Valenz., E.Santiago & Hągsater

**EPIDENDRUM PSEUDOMAGNISAXICOLA** L.Valenz., E.Santiago et Hágsater, sp. nov.

Type: PERU: Pasco: Prov. Oxapampa: Distr. Huancabamba: Buffer zone of the Parque Nacional Yanachaga Chemillén; sector Milpo. Sclerophyllous forest, 2850 m, 25 September 2004, **Abel Monteagudo Mendoza, Antonio Peña, Rolando Francis J. & C. Grob 7355** Holotype: HOXA! Isotypes: USM! HUT, MO! (illustration voucher).

Similar to *Epidendrum magnisaxicola* Hágsater, Edquén & E.Santiago but the flowers non-resupinate have red sepals, petals and lip creamy green (vs. flowers resupinate, greenish yellow with the sepals tinged brown), sepals 7-veined, 7.5-9.0 mm wide (vs. sepals 5-veined, 6.5-7.0 mm wide), petals oblong-elliptic, 6-7 mm wide, 3-veined, (vs. petals oblanceolate, 4 mm wide, 1-veined); lip 15-17 x (14.2) 17-20 mm, creamy green, triangular-cordiform, base cordate (vs. lip 13.5 x 11 mm, ovate-rhombic base truncate).

Epiphytic, sympodial, caespitose, **herb**, 15-20 cm tall including the inflorescence. **Roots** 0.5-2.2 mm in diameter, thin, distributed throughout the very short rhizome. **Stems** 4.5-5.0 x 1.0-1.2 cm, forming fusiform pseudobulbs, striated; covered by 4-tubular sheaths of different sizes, 1° (5.0 x 1.0 cm), 2° (3.0 x 1.2 cm), 3° (1.5 x 1.1 cm) y 4° (0.7 x 0.8 cm); translucent, becoming fibrous. **Leaves** 1, 5.5-7.0 x 1.5-1.9 cm, apical, articulate, coriaceous, elliptic, apex obtuse, unequally bilobed, margin entire. **Spathe** 1, 5.2-7.4 cm long, tubular, oblong, conduplicate, with rounded apex. **Inflorescence** 12-15 cm long including flowers, erect, racemose, few-flowered; peduncle 7.2-7.4 cm long; terete, robust, erect, as long as the spathe; short rachis, 1.8-2.0 cm long, robust. **Floral bracts** 0.8-1.0 mm long, almost inconspicuous, much shorter than the ovary, triangular, acute. **Ovary** 20-35 mm long, terete, straight, inflated ventrally along the middle, furrowed. **Flowers** 2, simultaneous, non-resupinate; sepals red, petals and lip creamy green and column creamy; fragrance not registered. **Sepals** 25-27 x 7.5-9.0 mm, partially spreading, free, oblong-elliptic, 7-veined, acute apex, margin entire. **Petals** 24-25 x 6-7 mm, partially spreading, free oblong-elliptic, apex acute, 3-veined, veins pennate. **Lip** 15-17 x (14.2) 17-20 mm, united to the column, entire, triangular-cordiform, corners rounded, base cordate, apex acute, margins sinuous towards the apex with 2 folds next to the apiculus; bicallose, calli fleshy, laterally compressed. **Column** 10-13 mm long, thinner towards the base and gradually wider towards the apex, straight, ending in a pair of quadrate wings. **Clinandrium-hood** prominent, flush with the apex of the column, slightly rounded, margin entire. **Rostellum** subapical slit. **Anther** sub-spherical, 4-celled. **Pollinia** not seen. **Lateral lobes of the stigma** small, occupying ¼ of the stigmatic cavity. **Nectary** penetrating nearly half of the pedicellate ovary, inflated and forming an elongate ventral vesicle beyond the middle of the ovary, without reaching the apex. **Capsule** not seen.

**OTHER RECORDS:** None seen.

**OTHER SPECIMENS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Presently only known from the sclerophyllous forests of the Milpo sector, in the buffer zone of the Parque Nacional Yanachaga Chemillén; central jungle of Peru; Dept. of Pasco, Oxapampa province. Epiphytic surrounded with populations of *Hypericum* spp., at 2800-2900 m. Flowering from August to September.

**RECOGNITION:** *Epidendrum pseudomagnisaxicola* belongs to the Saxicola Group characterized by the pseudobulbous stems, caespitose or scandent habit, a prominent spathe apically rounded, a few-flowered erect inflorescence, and the flowers purple or yellow. The new species is recognized by the sepals red, petals and lip creamy green and column cream colored sepals 25-27 x 7.5-9.0 mm, oblong-lanceolate, lip 15-17 x (14.2) 17-20 mm, triangular-cordiform, apex with 2 folds and the ovary, inflated in the middle forming an elongate vesicle that does not reach the apex of the ovary. *Epidendrum magnisaxicola* Hágsater, Edquén & E.Santiago has pale greenish-yellow flowers with brown-colored sepals 24-25 x 6.5-7.0 mm, and the lip 13.5 x 11 mm, ovate rhombic with the base truncate. *Epidendrum microcattleyioides* D.E.Benn. & Christenson has yellow flowers with the margin white, sepals 12-13 mm long, lip reniform, widely emarginate, with a single mid-rib, and a geniculate ovary. *Epidendrum saxicola* Kraenzl. has purple flowers with a white lip tinged purple, sepals 15 mm long, petals 13 x 2.5 mm, and a lip sub-orbicular to obscurely pentagonal. *Epidendrum herreranum* C.Schweinf. has yellow tinged orange to reddish bronze flowers, petals 17-23 x 5-10 mm, obovate-spatulate, and a lip 3-lobed, the lateral lobes obliquely semi-orbicular. *Epidendrum milpoense* Hágsater & E. Santiago has green flowers, sepals 18-19 mm long, petals 16-17.5 x 5-7 mm, rhombic-spatulate, the lip widely cordiform, base deeply cordate, disc fleshy with 3 low ribs which reach the apical sinus, and the ovary slightly inflated beyond the middle.

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

**ETYMOLOGY:** From the Latin *pseudo-* resembling, *magnis*, large, and *saxicola*, *saxum*, rock and *colére*, dwelling, thus rock-dwelling, in reference to the comparatively similarity of this species compared to *Epidendrum magnisaxicola*.

**ACKNOWLEDGMENT:** We thank the management of the Parque Nacional Yanachaga Chemillén (SERNANP), previously called INRENA (Instituto Nacional de Recursos Naturales), for facilitating entry to the area, through the collect permit; **N°19-C/C-2004-INRENA-IANP**. We also thank Ing. Rodolfo Vásquez M., Director of Missouri Botanical Garden of Perú, for allowing botanical explorations, in which many species have been discovered; as well as Blgo. Rocío del Pilar Rojas Gonzáles for obtaining the relevant permits to enter the Parque Nacional Yanachaga Chemillén. Blgo. María Isabel Villalba for suggestions that improved this manuscript; and Blgo. Abel Monteagudo for the collection of the orchid specimens and finally Cesar Augusto Rojas Tello who transferred the exploration team to the study area.



**REFERENCES:** Bennett, D.E., & E.A. Christenson, 2001, *Epidendrum microcattleyioides*, in E.A. Christenson (ed.), **Icon. Orchid. Peruvianum** pl. 644. Hágsater, E., & B. Collantes, 2013, *Epidendrum herreranum*, in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 10, **Icon. Orchid.** 14: pl. 1438. Hágsater, E., & E. Santiago, 2019, *Epidendrum milpoense*, in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 13, **Icon. Orchid.** 17(1): pl. 1741. Hágsater, E., J.D. Edquén & E. Santiago, 2019, *Epidendrum magnisaxicola*, in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 13, **Icon. Orchid.** 17(1): pl. 1735. Santiago, E., J. Duarte & E. Hágsater, 2020, *Epidendrum saxicola* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum* Part 13, **Icon. Orchid.** 17(2): pl. 1796.

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Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(2). 2020.

Plate 1792



*EPIDENDRUM PSEUDOPATHOIDES* Hágsater & E.Santiago

Plate 1793

**EPIDENDRUM PSEUDOSPATIOIDES** Hågsater et E.Santiago, sp. nov.

Type: ECUADOR: Bolivar: Road Guaranda-Chillanes, 2200 m, 7 December 1985, *Alex Hirtz 1579 sub Eric Hågsater 7728*. Holotype: QCNE! (illustration AMO!)  
 Clonotype: ECUADOR: Bolivar: road Guaranda-Chillanes, 2200 m, March 1984, *Alex Hirtz 1579*, AMO!

Similar to *Epidendrum odontospathum* Rchb.f., but has narrowly elliptical to oblanceolate, acute leaves (vs. leaves widely elliptic, apex rounded, unequally bilobed), flowers green with red lines along the dorsal surface of the sepals, lip pale green (vs. flowers green, orange-yellow to brown), petals linear (vs. oblanceolate), and lip margin erose-denticulate (vs. lip margin erose).

Epiphytic, sympodial, caespitose herb, 18-60 cm tall including the inflorescence. **Roots** 3.0 mm in diameter, basal, fleshy, thin. **Stems** 12-27 x 0.4-0.6 cm, simple, cane-like, laterally compressed, straight, covered by foliar sheaths, the basal sheaths 3.6 cm long, non-foliar, scarious. **Leaves** 4-8, alternate, articulate, distributed along apical 2/3 of the stem, coriaceous, base conduplicate; sheaths 1.9-4.1 x 0.6-1.0 cm, tubular, laterally compressed, green tinged purple, striated; blade 4.2-11.9 x 1.9-3.8 cm, narrowly elliptical to oblanceolate, acute, margin entire, slightly revolute, dark green above, purple beneath. **Spathe** 1, 8.5 x 0.4 cm, tubular at base and conduplicate at the apex, acute to acuminate. **Inflorescence** 6.0-30 cm long, apical, racemose in young plants to producing a new additional raceme in older plants, the second raceme from the base of the rachis, lax-flowered; peduncle 8.9 cm long, slightly laterally compressed, totally covered by 2-4 bracts, 2.4-4.0 cm long, similar to the spathe but smaller and decreasing, partly imbricated; rachis 8-13 cm long. **Floral bracts** 5.0-15 mm long, shorter than the ovary, ovate-triangular, acuminate, embracing, yellowish brown. **Flowers** 4-22, non-resupinate, successive, green, sepals with red lines on the dorsal surface, turning reddish brown as the flowers age, lip pale green; fragrance none. **Ovary** 10-12 mm, terete, somewhat dilated towards the apex, furrowed. **Sepals** 11-14 x 4.0-5.0 mm, margin entire, 5-veined; **dorsal sepal** free, spreading to slightly reflexed, oblanceolate-oblong, apex obtuse, margin revolute; **lateral sepals** obliquely united to the column, partly spreading, obovate-oblique, concave, dorsal keel towards the apex, aristate, margin entire, spreading. **Petals** 10-13 x 1.0 mm, spreading, linear, apex rounded, 1-veined, margin entire, spreading. **Lip** 9-12 x 11-14 mm, united to the column, 3-lobed, base cordate, margin erose-denticulate, especially towards the apex of the lateral lobes; bicallose, calli prominent, fleshy, divergent, with a low, fleshy mid-rib running to the apical sinus of the lip; lateral lobes 5.0 x 7.0 mm, dolabriform, posterior margin rounded; mid-lobe 4.0-6.0 x 5.0-7.5 mm, sub-quadrate, emarginate, the apex formed by a pair of semi-circular lobules. **Column** 8.0-13.0 mm, straight, somewhat thick. **Clinandrium-hood** short, margin entire. **Anther** obovate, 4-celled, unornamented. **Pollinia** 4, obovoid, laterally compressed, equal in size; caudicles soft and granulose; viscidium semi-liquid. **Rostellum** apical, slit. **Lateral lobes of the stigma** small. **Nectary** shallow, penetrating 1/5 of the ovary, unornamented. **Capsule** 15-19 x 5-6 mm, ellipsoid, with a thin pedicel and short apical neck.

**OTHER SPECIMENS: BOLIVIA: Cochabamba:** Chaparé: Camino a Tablas de Coraní, 1850 m, 30 XI 1979, *Vásquez 213*, SEL! (illustration, AMO!) **COLOMBIA: Cundinamarca:** alrededores de Supatá, 1800-2000 m, *Saldarriaga sub C. Uribe s.n.*, 17 II 2019, HPUJ! composite plate, AMO! (LCDP voucher). **ECUADOR: Azuay:** Cuenca, Turi, 2928 m, 3 III 2006, *Verdugo 737*, HA! Checa, propiedad de la coop. San Andrés, 3165 m, 11 VII 2006, *Verdugo 970*, HA! **Carchi:** Valle de Maldonado, km 53 Tulcán-Maldonado, 3150-3250 m, 17 V 1973, *Holm-Nielsen 5622*, AAU! **Imbabura:** Cordillera Oriental, La Floresta, cerca de Sigaspamba, 2834 m, 9 XI 1944, *Drew E-292*, AMES! **Loja:** Above Vitcabamba, 2400 m, 1 III 1985, *D'Alessandro 352*, MO! Jimbura to Zumba, 21 II 1986, *Embree 38*, QCNE! MO! Cerro Villonaco, 7-12 km west of Loja, 8,000-9,000 ft, 9 X 1944, *Wiggins 10980*, AMES, CAS x2, US! **Pichincha:** Volcán Illaló, subiendo por caserío Belén, 2800 m, 9 VIII 2014, *Cerón 74391*, QAP! Quito, Cerro Pillum Pamba, Cuenca alta del río Guayllabamba, 2430 m, *Cerón 79196*, QAP! **Morona Santiago:** San Miguel, Gualaquiza, 2000 m, 24 XII 1995, *Suin 24*, HA! **LOJA!** **Tungurahua:** Western slope of Volcán Tungurahua, 2400 m, 8 I 1986, *Dalström 1000*, SEL! **Zamora-Chinchipe:** Palanda; Cordillera del Cóndor, sector sur. Playones, cuenca alta del Río Vergel, 1880-2200 m, 17 III 2005, *Quizhpe 1124*, LOJA! Numbala, via Yangana-Cerro Toledo, 2109 m, 24 IV 2009, *Yaguana 40*, LOJA! **PERU:** without locality, 10 VII 1967, *Hutchison 6360-1*, SEL! **Piura:** Ayabaca; Cabecera de Huamba along trail to the Cordillera de Laguna Prieta, 3150 m, *Bennett 5898* MO! (illustration, Bennett & Christenson 1995, AMO!). **Cajamarca:** Contumazá, Bosque Cachil, 2500 m, 12 XI 1994, *Sagástegui 15418*, AMO. Ibid. 29 VII 1993, *Sagástegui 15004*, HAO! **Cusco:** between Paucartambo and Pilcopata, 2781 m, 5 XII 2005, *Repasky 191*, BRIT! **Pasco:** Oxapampa, Dist. Huancabamba, Parcela Oso Playa, 2300 m, 21 X 2009, *Valenzuela 13740*, USM!

**OTHER RECORDS: ECUADOR:** without locality, Hort. Ecuagenera, Gualaceo, 16 X 2018, *Hågsater 15976*, digital images, AMO! (photo voucher) without locality, *Cabascango s.n.*, digital image, AMO! Ibid. *Monteros s.n.*, digital image, AMO! Ibid. *Tobar s.n.*, digital image, AMO! **Azuay:** cerca de Shaglli, de Santa Isabel hacia arriba, Hort. Ecuagenera, 16 X 2018, *Hågsater 15956*, digital image, AMO! **Zamora-Chinchipe:** Nangariza, Guayzimi, Hort. Ecuagenera, 10 III 2003, *Medina sub Hågsater 13876*, spirit and LCDP, AMO! **PERU: Cajamarca:** Chota: Conchán: Cutervo-Chota, Carretera CA-105, 1 km en desviación de La Palma hacia Yantayo sobre CA-925, 2900 m, 4 XI 2019, *Hågsater 16343*, digital image, AMO! Ibid. *Hågsater 16347*, digital image, AMO! Ibid. *Hågsater 16348*, digital image, AMO! Norte de Cajamarca, 2200-2800 m, 14 II 2013, *Nauray s.n.*, digital image, AMO!

**DISTRIBUTION AND ECOLOGY:** Widespread along the Andes from the western slope of the Cordillera Oriental in Cundinamarca, Colombia, through Ecuador and Peru to Bolivia, (Cochabamba), epiphytic at 1800-3150 m. Flowering throughout the year.

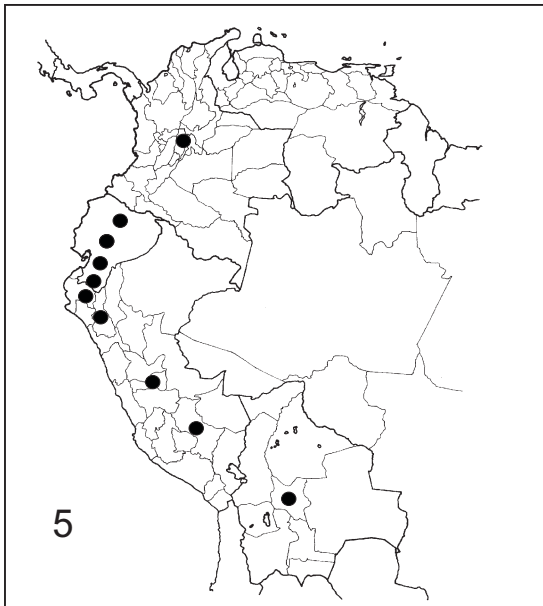
**RECOGNITION:** *Epidendrum pseudospathoides* belongs to the Philippii Group characterized by the sympodial, caespitose habit, the apical, erect, racemose to paniculate inflorescence with a somewhat elongate peduncle covered by several spathe-like bracts, the successive non-resupinate flowers, and the 3-lobed lip formed by 4 semi-orbicular lobes, the mid-lobe is itself more or less bilobed at the apex, the outer margins of the lip more or less denticulate. The new species is recognized by stems with 4-8 leaves 4.2-11.9 x 1.9-3.8 cm, dark green above, purple beneath, inflorescence to 30 cm long, the peduncle totally covered with up to 4 bracts similar to the spathe but decreasing in size, flowers green, sepals with dorsal red lines, sepals 11-14 mm long, and the lip 3-lobed, the lateral lobes dolabriform and mid-lobe sub-quadrate and emarginate, forming a pair of semi-orbicular lobules, slightly shorter than the lateral lobes. *Epidendrum freireanum* Hågsater & E.Santiago has stems with 3-4 leaves 3.7-7.0 x 1.1-2.0 cm, inflorescence 11-20 cm long, sometimes pluri-racemose with a single small spathe, flowers brownish purple, the lip ivory white, sepals 10 mm long, and a lip 3-lobed, the mid-lobe rectangular and widely mucronate. *Epidendrum odontospathum* has elliptic leaves with the apex rounded, sepals elliptic with apex rounded, minutely apiculate, petals oblanceolate, rounded with margin crenulate towards the apex, and the lip with 3 low, fleshy ribs, lateral lobes obliquely reniform, mid-lobe semicircular, broadly rounded. *Epidendrum lezlieae* R.Vásquez & Ibsch has tall plants, to 120 cm, a paniculate, erect inflorescence with greenish white flowers, petals linear-oblanceolate 14 x 1.2 mm, and a lip 3-lobed, base cordate, the posterior margin involute in natural position, calli prominent, laminar, and parallel when upright, divergent when spread. *Epidendrum spicatum* Hook. the only species of *Epidendrum* and endemic to the Galapagos, is very similar florally, only the inflorescence is short and compact; from a molecular point of view they are most closely related (Hågsater, unpublished).

**NOTES:** This species was wrongly identified by Bennett & Christenson (1995) as *E. odontospathum*, and this error led Hågsater and Dodson to often label other specimens under that name.

**CONSERVATION STATUS:** NT. Not Threatened. Widespread, and found at higher altitudes, in some cases in National Parks.

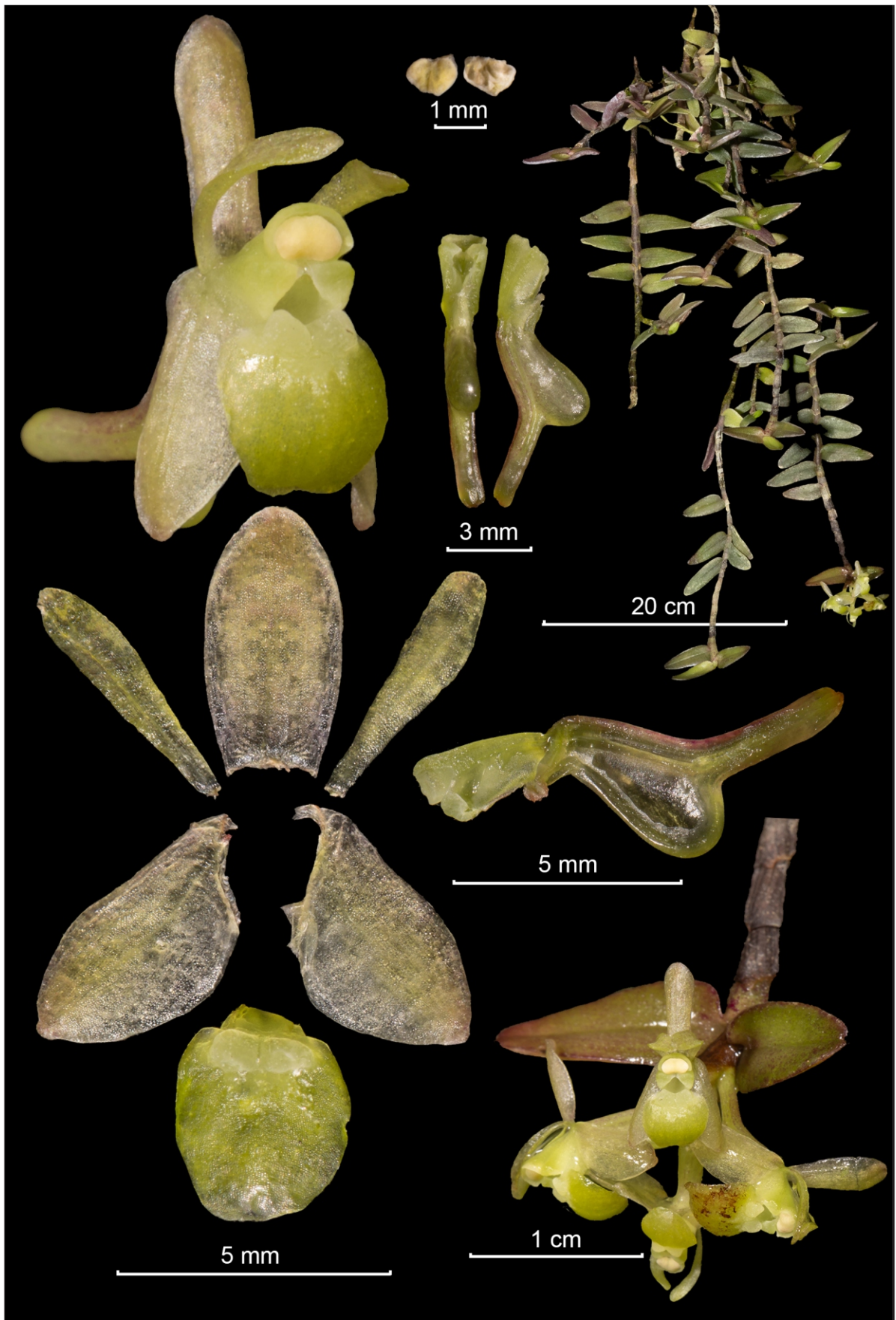
**ETYMOLOGY:** From the Greek *μειδο-*, false, resembling but no equal, *σπαθη*, a spathe, a flat blade, and *-οιδες*, resemblance, in reference to the resemblance of this species to *Epidendrum odontospathum*.

**REFERENCES:** Bennett Jr., D.E., & E.A. Christenson, 1995, *Epidendrum odontospathum* in *Icon. Orchid. Peruvianum* pl. 247. Hågsater, E., 2007, *Epidendrum spicatum* in E. Hågsater & L. Sánchez (eds.) *The Genus Epidendrum*, Part 6, *Icon. Orchid.* 9: pl. 990. Hågsater, E., & E. Santiago, 2018, *Epidendrum freireanum* in E. Hågsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 12, *Icon. Orchid.* 16(1): pl. 1619. Santiago, E., & E. Hågsater, 2018, *Epidendrum odontospathum* in E. Hågsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 12, *Icon. Orchid.* 16(1): pl. 1648. Vásquez, R.C., & P.L. Ibsch, 2003, *Epidendrum lezlieae* in *Revista Soc. Bol. Bot.* 4(1): 31-32, fig. 1, 4.



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Photo: E. Hågsater      Editors: E. Hågsater & E. Santiago  
 ICONES ORCHIDACEARUM 17(2). 2020.      Plate 1793



EPIDENDRUM RENZII Garay & Dunst.

Plate 1794

**EPIDENDRUM RENZII** Garay & Dunst., Venez. Orchid. Ill. [Dunsterville & Garay] 3: 110. 1965.

Type: Venezuela: Mérida, El Morro und Aricagua, quebrada Chorros Blancas, 2800 m, 15 Mai 1949, **Otto Renz 5565**. Holotype AMES! Isotypes: RENZ x 2!

Epiphytic, pendulous **herb**, 23-70 cm long. **Roots** 0.4 mm in diameter, basal, thin. **Stems** 2-16 cm long, terete at base, somewhat laterally compressed towards the apex, thin, pendulous; the new stem originating from apical and sub-apical internodes of the previous stem. **Leaves** 5-33, distributed throughout the stems, articulate, distichous, twisted at base so lies in the same plane as the stem as in *Dichaea*; coriaceous; sheaths 4-7 mm long, tubular to slightly infundibuliform in pressed specimens, minutely striated; blade 8-21 x 6-8 mm, narrowly ovate to lanceolate, apex obtuse, unequally bilobed, minutely apiculate, margin entire, spreading. **Spathes** 1-2, 5.0-6.0 mm long, elliptic, oblique, apex obtuse, conduplicate, somewhat imbricated at the base, totally covering the peduncle and rachis of the inflorescence. **Inflorescence** 2.0-2.5 cm long including the flowers, apical, short, sub-umbellate, 4-flowered, the flowers in two opposite pairs at 90° of each other; peduncle 2 mm long; rachis 0.5-1.0 mm long. **Floral bracts** ca. 1.5 mm long, much shorter than the ovary, widely triangular, acute, embracing. **Ovary** 7.0-7.5 mm long, terete and thin at base, forming a prominent scrotum-like vesicle along the apical half, at its widest (3.4 mm wide) about 3 times as wide as the pedicel of the ovary, pale green with minute red dots. **Flowers** 4, simultaneous, green to pale greenish brown, the sepals dorsally marked with small tenuous purple dots, lip and column pale green, calli and disc slightly paler green, anther creamy white. **Sepals** spreading, elliptic, obtuse, 3-veined, margin entire, slightly revolute; dorsal sepal 5-7 x 2.0-3.5 mm, free; lateral sepals 5-6 x 2.9-3.5 mm, obliquely united to the base of the column. **Petals** 5-7 x 1.3-1.7 mm, partly spreading, free, oblanceolate, obtuse, 3-veined, margin entire, slightly revolute at base. **Lip** 3.5-5.5 x 3.5-4.5 mm, united to the column, entire, oblong-elliptic, base and apex truncate, margin entire; bicallose, the calli prominent, globose, with a very short mid-rib. **Column** 3.0-5.0 mm long, thick. **Clinandrium-hood** prominent, slightly surpassing the body of the column, margin slightly erose. **Rostellum** apical, slit. **Lateral lobes of the stigma** insignificant. **Nectary** inflated, forming a prominent scrotum-like vesicle, unornamented. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles short. **Capsule** not seen.

**OTHER SPECIMENS: ECUADOR: Morona-Santiago:** Cantón: Limón Indanza: Santa Susana de Chivaza, 1200 m, cult. Ecuagenera, 23 IX 2016, cult. México City, Hágsater 14793, digital photo, AMO! **VENEZUELA: Mérida:** La Carbonera, Ejido-La Azulita, 2300 m, 4 III 1949, *O. Renz 5152*, RENZ x3! La Azulita, 2000 m, 5 IV 1949, *O. Renz 5185*, RENZ! La Carbonera, Ejido-La Azulita, 2300 m, 25 III 1949, *O. Renz 5235*, RENZ! Sierra de Mérida, zwischen El Morro und Aricagua, 2800 m, 15 V 1949, *O. Renz 5603*, RENZ!

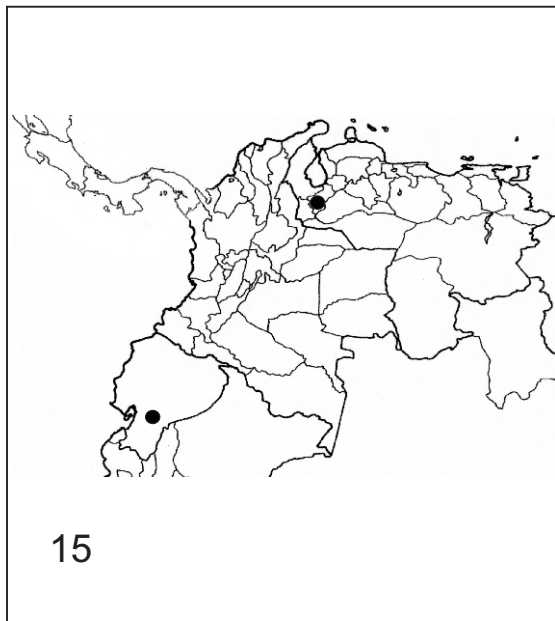
**OTHER RECORDS:** Without locality data, *Bruyere s.n.*, digital photos, AMO! Ibid. *Gruss s.n.*, digital photo, AMO! Ibid. *Niessen s.n. sub M. Turkel 9902*, digital photos and illustration, AMO! Ibid. *Jenny s.n.*, digital photos, AMO! (photo voucher) **ECUADOR: Morona-Santiago:** Chivaza, 1200 m, cult. Ecuagenera, 23 IX 2016, Hágsater 14793, digital photo, AMO! (LCDP voucher) **VENEZUELA: Mérida:** La Carbonera, 1500 ft, VII 1961, *Dunsterville 599*, illustration, K!

**DISTRIBUTION AND ECOLOGY:** Apparently restricted to the state of Mérida in Venezuela, on the Cordillera de Mérida, both north and south of the city, but also from Ecuador, near the Troncal Amazónica at 1200 m altitude. Epiphytic in humid forests at 2000-2800 m altitude un Venezuela. Flowering from March to July.

**RECOGNITION:** *Epidendrum renzii* belongs to the *Renzii* Group which is recognized by the branching, *Dichaea*-like plants, short inflorescences with two pairs of opposite flowers, 1-2 small spathes, and a prominent, scrotum-like vesicle along the pedicellate ovary. The species is recognized by the pale green flowers, the sepals pale greenish brown, petals oblanceolate, and the lip 3.5-5.5 x 3.5-4.5 mm, oblong-elliptic, nearly as wide as it is long, apex truncate, the nectary vesicle very prominent, about 3 times wider than the pedicellate ovary. *Epidendrum pogonochilum* Carnevali & G.A.Romero is very similar but the flowers have the apical half of the lip wine-red, sometimes diluted, lip 7.8-8 x 6 mm, ovate, the apical half somewhat narrowed and abruptly recurved, and the petals oblong, vesicle only twice as thick as the pedicellate ovary, not scrotum-like.

**CONSERVATION STATUS:** From the scarcity of the material available, the species appears to be restricted in distribution and rare. All the herbarium material we have seen was made by Otto Renz in 1949. However, we have seen live material from nurseries in Cali, Colombia, California and Gualaceo, Ecuador so presumably the range of distribution may be larger than herbarium specimens indicate. Material from Ecuador has somewhat smaller flowers (the lower range described above) is herewith illustrated in the LCDP.

**REFERENCES:** Santiago, E. & E. Hágsater, 2020, *Epidendrum pogonochilum*, in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum* Part 13, *Icon. Orchid.* 17(2): pl. 1788.





EPIDENDRUM REPASKYAE Hągsater, E.Santiago & J.Duarte

Plate 1795



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

Type: PERU: Cusco: Prov. Paucartambo, Distr. Kosñipata, Wayqecha Cloud Forest Research Station, Kosñipata Valley, between Paucartambo and Pillcopata, 2954 m, 7 December 2005, **Rebecca E. Repasky, S. M. Copeland, L. Coyo Cordova & M. Ccana Avendaño 176**. Holotype: BRIT! (LCDP and photo voucher)

Similar to *Epidendrum wayqechaense* Hágsater, E.Santiago & J.Duarte but the leaves 6.0-6.8 x 1.2-1.4 cm, narrowly elliptic (vs. leaves 5.2-7.1 x 0.8-0.9 cm, oblong), floral segments forming a cup (vs. segments partly spreading), petals 10.0 x 5.0 mm, elliptic (vs. petals 13.0 x 2.5 mm, narrowly spatulate-oblancoolate), lateral lobes of lip sub-quadrate (vs. lateral lobes dolabriform).

Epiphytic, sympodial, caespitose, shortly scandent **herb**, 13-18 cm tall. **Roots** 1.0-2.0 mm in diameter, distributed along the rhizome, thin. **Stems** 4.0-5.0 x 0.7-1.0 cm, thickened forming a fusiform pseudobulb, furrowed and rugose when mature, smooth when young, pale green; covered by 1-2 sheaths to 3.0-4.7 cm long, membranaceous, scarious and becoming fibrous with age. **Leaf** 1, apical, yellowish green, articulate, coriaceous, erect; blade 6.0-6.8 x 1.2-1.4 cm, narrowly elliptic, apex rounded, slightly bilobed, margin entire, slightly revolute. **Spathe** 1, 4.7-5.2 cm long, tubular, oblong, conduplicate, apex obtuse, yellowish brown. **Inflorescence** 6.0-8.0 cm long, apical, erect, racemose, laxly few-flowered; peduncle 4.0-6.3 cm long, terete, thin, erect, straight, yellowish green; rachis 1.7-2.0 cm long, terete, erect, and straight. **Floral bracts** 1.5-2.0 mm long, much shorter than the ovary, triangular-ovate, obtuse, embracing. **Ovary** 1.5-1.7 cm long, terete, furrowed, the basal 2/3 thin, the apical 1/3 ventrally inflated forming a vesicle. **Flowers** 3-4, simultaneous, non-resupinate, creamy white, the apex of the sepals yellow, calli and disc of the lip yellow; fragrance not registered. **Sepals** 11 x 5.0 mm, spreading but arching inward to form a cup together with the petals, free, fleshy, slightly concave, obovate-elliptic, apex obtuse with a low dorsal keel, margin entire, spreading. **Petals** 10 x 5.0 mm, elliptic, obtuse, margin entire, spreading. **Lip** 6.0-7.0 x 9.0-10.0 mm, united to the column, shallowly 3-lobed, base deeply cordate, margin erose-crenate; lateral lobes 3.0-4.0 x 3.5-4.0 mm, sub-quadrate; mid-lobe 2.0 x 3.0 mm, sub-quadrate, apex truncate, minutely apiculate, revolute in natural position and thus appearing emarginate; bicallose, the calli prominent, obovoid, falcate, divaricate; disc with a fleshy mid-rib reaching the apex of the lip. **Column** 7 mm long, thin at base, gradually widened towards the apex, slightly arched, with a pair of lateral sub-quadrate wings, apex somewhat rounded, slightly longer than the clinandrium-hood. **Clinandrium-hood** short, margin entire. **Rostellum** apical slit. **Anther** reniform, pale yellow to cream colored with reddish tinge. **Pollinia** not seen. **Lateral lobes of the stigma** not seen. **Nectary** narrow, penetrating 1/3 of the ovary. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

**OTHER RECORDS:** PERU: Cusco: Prov. Paucartambo: Distr. Kosñipata: Bordes de la Reserva de la Biosfera del Parque Nacional Manú, 28 X 2012, *Bone18zz s.n.*, digital photos, <https://www.naturalista.mx/observations/489218>

**DISTRIBUTION AND ECOLOGY:** Known presently only from the type, Peru, Cusco, Paucartambo at 2954 m altitude. Flowering from October to December.

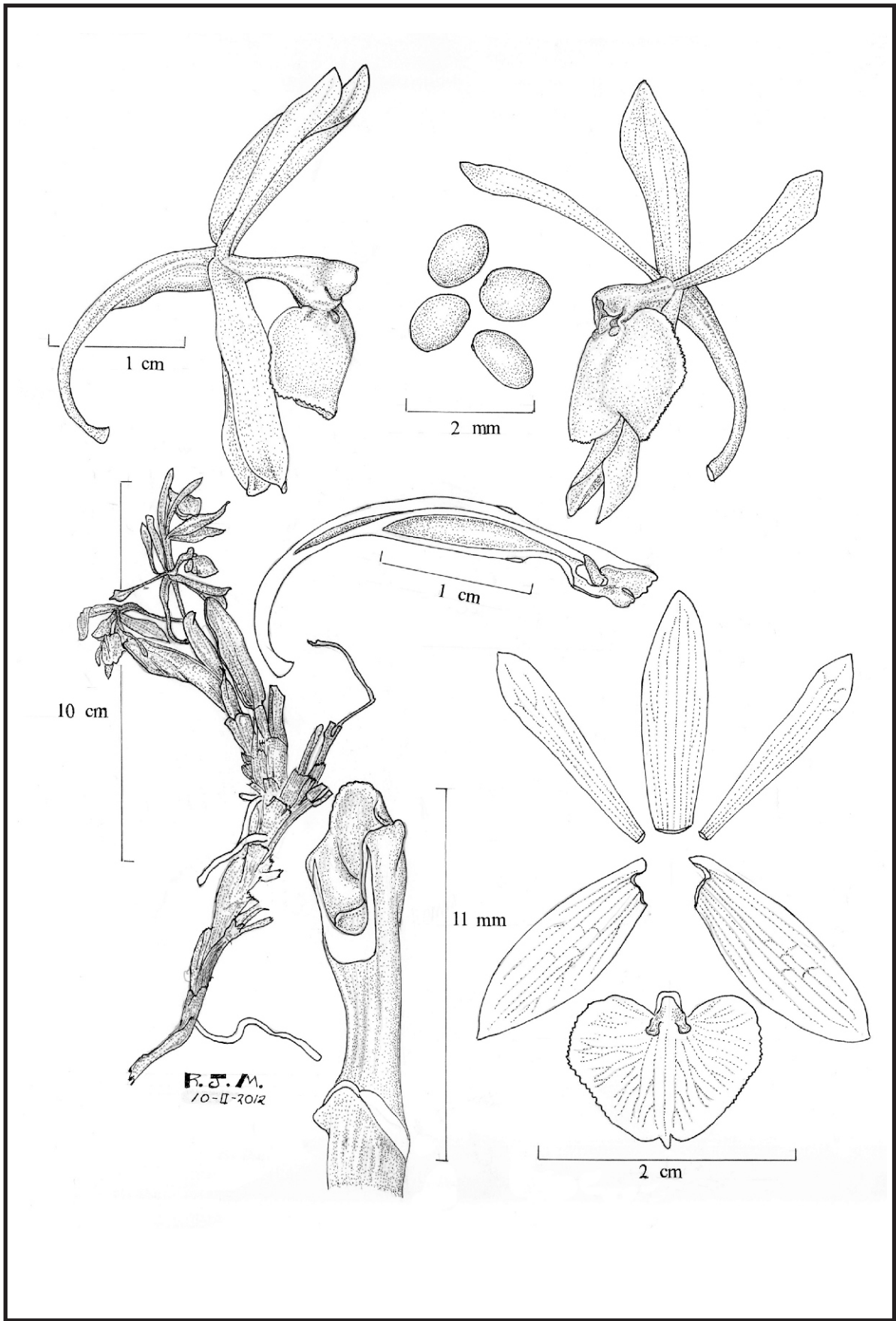
**RECOGNITION:** *Epidendrum repaskyae* belongs to the Saxicola Group characterized by the pseudobulbous stems, the caespitose or scandent habit, the prominent spathaceous bract apically rounded, the few-flowered erect inflorescence, the flowers purple or yellow, and the surface of the vegetative structures often rugose. The new species is recognized by the 3-4 creamy-white flowers with a yellow disc, sepals and petals cup-shaped, sepals 11 mm long, petals 10 x 5.0 mm, the lip shallowly 3-lobed, the lateral lobes sub-quadrate-rounded, mid-lobe sub-quadrate, apex truncate with the middle margin revolute so as to appear emarginate. It is similar to *Epidendrum wayqechaense*, but that species is 2-flowered of similar color, sepals 13 mm long, petals 13 x 2.5 mm, narrowly spatulate-oblancoolate, the lip clearly 3-lobed with the lateral lobes dolabriform and the mid-lobe revolute in natural position. *Epidendrum herreranum* C.Schweinf. has yellow flowers tinged orange to reddish bronze, sepals 18.0-23.5 x 7.0-10 mm, petals 17-23 x 5.0-10 mm, ovate-spatulate, lateral lobes of the lip semi-orbicular and the mid-lobe like an inverted "T". *Epidendrum tetartociclum* Collantes & Hágsater also has 4 green flowers with the lip yellowish green, sepals 25-26 mm long, petals 24 x 8 mm, oblong-elliptic to oblong-obtrullate.

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

**ETYMOLOGY:** In honor of the collector, Rebecca Elaine Repasky (1982-), at the time a student at the Botanical Research Institute of Texas, BRIT, in Fort Worth, Texas. Today she is a Medical Doctor as Rebecca Repasky Luke, specialized in pediatric neurology.

**REFERENCES:** Schweinfurth, C., 1943, *Epidendrum herreranum* in *Revista Acad. Colomb. Ci. Exact.* 5: 350. Collantes, B. & E. Hágsater, 2012, *Epidendrum tetartociclum* in E. Hágsater & L. Sánchez S. (eds), *The Genus Epidendrum*, Part 14, **Icon. Orchid.** 14: pl. 1487. Hágsater, E., E. Santiago & J. Duarte, 2019, *Epidendrum wayqechaense* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 14, **Icon. Orchid.** 17(2): pl. 1799.





EPIDENDRUM SAXICOLA Kraenzl.

**EPIDENDRUM SAXICOLA** Kraenzl., Repert. Spec. Nov. Regni Veg., Beih. 1: 187-188. 1906.

Type: PERU: Amazonas: [Prov. Chachapoyas: Distr. Molinopampa:] Östlich von Chachapoyas zwischen dem Tambo Ventillas und Piscohuañum, Grassteppe (dicht vielfach geschlossen mit vereinselten Strauchern), zwischen Steinen, 3300-3400 m, **August Weberbauer 4414**. Holotype: B, destroyed; photographs F! AMES! NY! SEL! Lectotype (here designated): MOL! (Digital image AMO!). Lithophytic, simpodial, caespitose, climbing **herb**, 12-14 cm tall. **Roots** 1.0-1.5 mm in diameter, distributed along the rhizome, thin, white. **Stems** 2.0-3.7 x 0.6-1.0 cm, thickened, forming a fusiform pseudobulb, furrowed and rugose; each pseudobulb produced from a climbing rhizome 4.5 cm long, nearly totally covered by a single sheath 2.3-4.3 cm long, membranaceous, scarious and becoming fibrous with age. **Leaf** 1, 4.7-6.0 x 1.5-1.8 cm, apical, petiolate, the petiole conduplicate, articulate, coriaceous, dorsally transversely rugose; blade oblong-elliptic, apex obtuse, slightly bilobed, margin entire, slightly revolute. **Spathe** 1, 2.5-3.6 x 0.4-0.6 cm, oblanceolate, conduplicate, apex rounded. **Inflorescence** 7-8 cm long (including the flowers), apical, erect, racemose, two-flowered; peduncle 3.2-4.0 cm long, laterally compressed, thin, erect, straight, slightly longer than the spathe; rachis 5 mm long, very short. **Floral bracts** 2 mm long, much shorter than the ovary, triangular-ovate, acute, embracing. **Ovary** 2.0-2.5 cm long, terete, furrowed, progressively inflated ventrally along the apical half of the ovary. **Flowers** 2, generally opposite, simultaneous, resupinate, sepals dirty pale purple brown to pink, petals and lip white tinged purple to pale green, column pale green to greenish white at the apex; fragrance not registered. **Sepals** 15-18 x 5.0-6.0 mm, spreading, oblong-elliptic, acute, 5-veined, lateral veins bifurcate and thus appearing 7-veined, margin entire, slightly revolute along the basal half: dorsal sepals free; lateral sepals obliquely united to the column. **Petals** 15-18 x 2.5-3.0 mm, spreading, free, linear-oblanceolate, obtuse, 3-veined, lateral veins short branched, margin entire, revolute along the basal half. **Lip** 9-11 x 10-14 mm, united to the column, entire, sub-orbicular to widely cordiform, apiculate, base slightly cordate, strongly convex, margin slightly crenulate, spreading; bicallose, the calli small, laminar, divergent, in front of the sides of the column. **Column** 11 mm long, straight, with a pair of square lateral wings, as long as the clinandrium-hood. **Clinandrium-hood** prominent, funnel-shaped, margin crenate. **Rostellum** sub-apical, slit. **Anther** hidden by the prominent clinandrium-hood. **Pollinia** 4, obovoid, laterally compressed. **Lateral lobes of the stigma** prominent, occupying half the length of the stigmatic cavity. **Nectary** penetrating half the pedicellate ovary, inflated forming a vesicle, especially behind the perianth, diminishing towards the middle of the ovary. **Capsule** not seen.

**OTHER SPECIMENS:** PERU: Amazonas: Chachapoyas; Leimebamba-Lajasbamba trail, 28 VI 1977, Boeke 2043, NY! MO! SEL! (illustration voucher). Chachapoyas; Chachapoyas-Mendoza, a little past Molinopampa, 2400 m, 15 III 1998, van der Werff 15025, MO! SEL! USM!

**OTHER RECORDS:** PERU: without locality data, Fernandez s.n., digital image, AMO! Amazonas: Chachapoyas, Valle de los Chilchos, Salas s.n., digital image, AMO! (photo voucher). Piura: Huancabamba: Huarmaca: Abra de Porcuya, 2200 m, Pongo s.n., digital images, AMO!

**DISTRIBUTION AND ECOLOGY:** As it is here delimited (see Note), known presently from a limited area in the southern part of the Departments of Amazonas and Piura in northern Peru. Lithophyte, growing in dense grass with shrubs, between rocks, at 2200-3400 m altitude. Flowering in March-July.

**RECOGNITION:** *Epidendrum saxicola* belongs to the Saxicola Group characterized by the pseudobulbous stems, the caespitose or scandent habit, the prominent spathe apically rounded, the few-flowered, erect inflorescence, the flowers mauve colored (orchid color) or yellow-green, and the surface of the vegetative structures often rugose. The species is recognized by the sepals dirty pale purple brown to pink, petals and lip white tinged purple to pale green, sepals 17-18 mm long, oblong-elliptic, petals 15-18 x 2.5-3.0 mm, linear-oblanceolate, and the lip sub-orbicular to widely cordiform with small globose calli. It is similar to *Epidendrum magnisaxicola* Hágsater, Edquén & E.Santiago which has greenish-yellow, concolor flowers, sepals 24-25 mm long, petals 25 x 4.0 mm, and a lip ovate-rhombic, base truncate. *Epidendrum milpoënsis* Hágsater & E.Santiago has green concolor flowers, sepals 18-19 mm long, petals 16.0-17.5 x 5-7 mm rhombic-spatulate, and the lip widely cordiform with 3 ribs on the disc. *Epidendrum harmsianum* Kraenzl. has sulphur-yellow flowers, sepals 16 mm long, petals 15 mm long, oblanceolate, and the lip transversely ovate-oblong, base sub-cordate.

**CONSERVATION STATUS:** CR Critical Risk. Presently known from a few collections, and its extent of occurrence is less than 5000 km<sup>2</sup> with less than 5 known locations. Therefore, the proposed category is Critical Risk, based on sub-criteria B1a (IUCN 2001).

**NOTE:** The name *Epidendrum saxicola* has been used for a number of species of similar vegetative habit and superficially similar flowers, disregarding the color notes and other details. Several new species are described in this and a previous volume, in addition to some older ones: *E. acjanacoense* Hágsater, E.Santiago & J.Duarte, *E. becerrae* Hágsater & E.Santiago, *E. galianoi* Hágsater, E.Santiago, J.Duarte & L.Valenz., *E. harmsianum* Kraenzl., *E. herreranum* C.Schweinf., *E. incognitum* Hágsater, E.Santiago & J.Duarte, *E. kosnipataense* Hágsater, E.Santiago & J.Duarte, *E. lutescens* Hágsater, E.Santiago & J.Duarte, *E. macrogastrum* Kraenzl., *E. magnisaxicola* Hágsater, E.Santiago & Edquén, *E. micro-cattleya* Schltr., *E. microcattleyioides* D.E.Benn. & Christenson, *E. milpoënsis* Hágsater & E.Santiago, *E. monzonense* Kraenzl., *E. pallidovirens* Hágsater, E.Santiago & J.Duarte, *E. pseudomagnisaxicola* L.Valenz., E.Santiago & Hágsater, *E. repaskyae* Hágsater, E.Santiago & J.Duarte, *E. tetartociclum* Collantes & Hágsater, and *E. waygechaense* Hágsater, E.Santiago & J.Duarte.

**ETYMOLOGY:** From the Latin *saxicola*, *saxum*, rock and *colére*, dwelling, thus rock-dwelling. Though originally published as "*saxiculum*", it should be used as a noun and thus is corrected to "*saxicola*".

**REFERENCES:** Kränzlin, F.W.L., 1916, *Epidendrum harmsianum*, in *Bot. Jahrb. Syst.* 54(117): 24. Bennett, D.E. & E. Christenson, 1998, *Epidendrum harmsianum*, in *Orchids of Peru*, *Icon. Orchid. Peruvianum* pl. 461. Hágsater, E., J.D. Edquén, & E. Santiago, 2019, *Epidendrum magnisaxicola*, in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum Part 13*, *Icon. Orchid.* 17(1): pl. 1735. Hágsater, E., & E. Santiago, 2019, *Epidendrum milpoënsis*, in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum Part 13*, *Icon. Orchid.* 17(1): pl. 1741.



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Photo: M. Salas G.

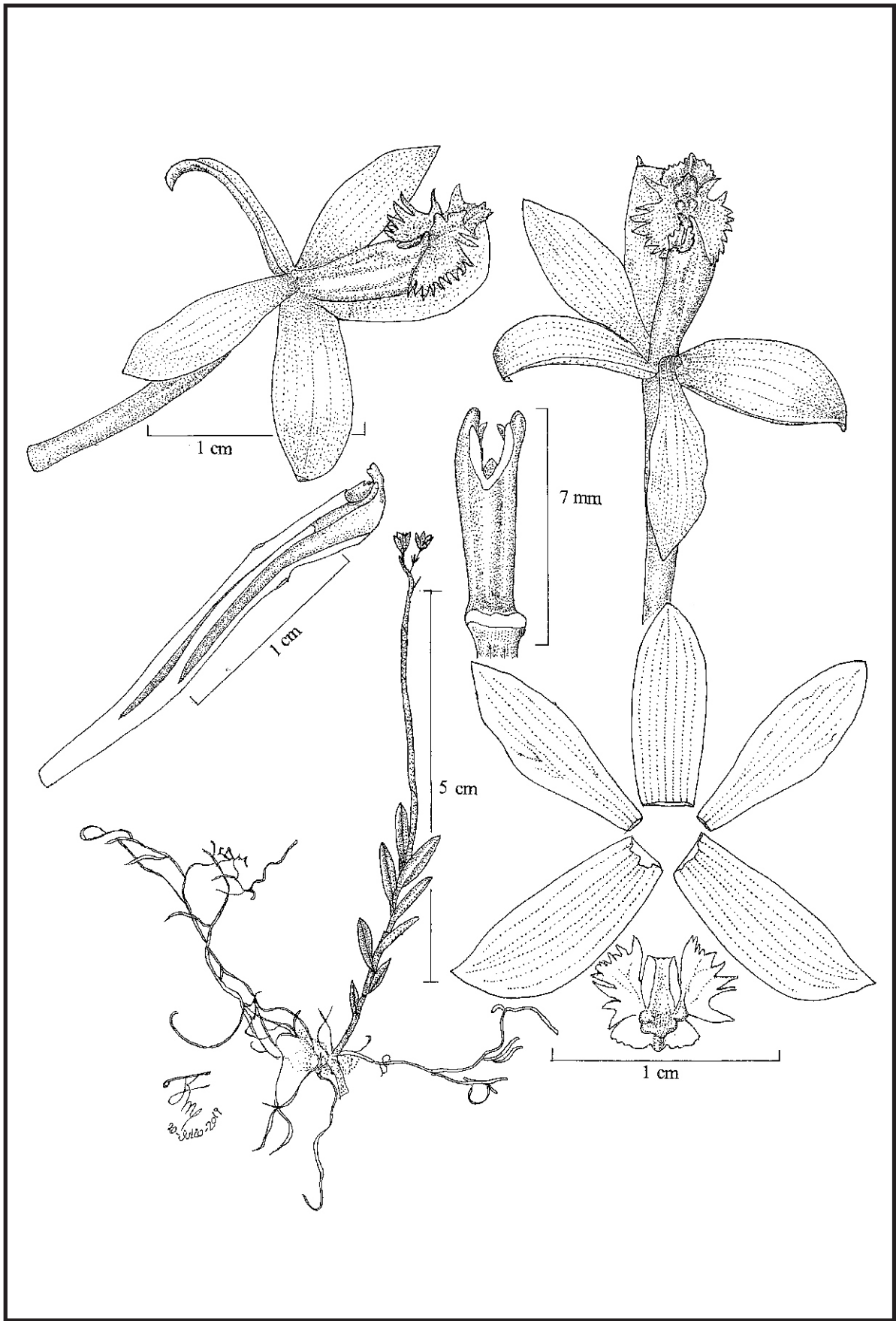
Editors: E. Hágsater & E. Santiago

Herbario AMO

Ciudad de México, MÉXICO

ICONES ORCHIDACEARUM 17(2). 2020.

Plate 1796



EPIDENDRUM SHOLLETIAE Hágsater, L.Valenz. & J.Duarte

Plate 1797

*EPIDENDRUM SHOLLETTIAE* Hágsater, L.Valenz. et J.Duarte, sp. nov.

Type: PERU: Pasco: Prov. Oxapampa, Distr. Oxapampa; sector Chacos, Bosque el Sho'Llet – Mirador la Princesa, 2639 m, 5 diciembre 2015, **Luis Valenzuela Gamarra, J. Flores & R. Zehnder 29352**. Holotype: HOXA! (illustration and photo voucher.)

Similar to *Epidendrum azulensis* D.E.Benn. & Christenson but the flowers red with an orange callus (vs. dark pink to deep violet, callus white), sepals 8.8-10.0 mm long, (vs. sepals 6.0-6.5 x 2.0-2.8 mm), petals 10.2 x 3.2 mm, narrowly elliptic (vs. petals 6.2 x 2.0 mm, lanceolate, acute), and the lip with sub-quadrate to sub-flabellate lateral lobes, the margin irregularly lacinate, the lacinia short at base and progressively longer, mid-lobe very short, obtrapezoid, and a large callus (vs. lip margin lacinate, callus massive, lateral lobes sub-ovate; mid-lobe sub-quadrate, emarginate, divergent, with a minutely apiculate sinus).

Epiphytic, sympodial, caespitose **herb**, 21-25 cm tall including the inflorescence. **Roots** 1-2 mm in diameter, thin, fleshy, white, at the base of the stems. **Stems** 9-10 x 0.3-0.5 cm, simple, cane-like, terete, erect, covered by foliar sheaths. **Leaves** 8-16, distributed throughout the stem; sheaths 0.8-1.1 x 0.3-0.4 cm, tubular, smooth, papyraceous, scarious when dry, reddish green to violet; blade 1.4-2.7 x 0.4-0.8 cm, oblong-elliptic, obtuse, fleshy, coriaceous, green somewhat tinged red, margin entire. **Spathe** lacking. **Inflorescence** 14 cm long, apical from mature stem, simple or pluri-racemose, producing new racemes from the upper nodes of the peduncle, racemose; peduncle, ca. 8 cm long, reddish green, elongate, terete, slightly flexuous, covered by tubular, bracts, yellow, scarious when dry, striated, papyraceous, imbricated, acuminate; rachis short, thin. **Floral bracts** 0.7 mm long, much shorter than the ovary, triangular, acuminate, embracing. **Ovary** 1.5 cm long, terete, thin, not inflated, red, concolor, erect, furrowed. **Flowers** 2-15, successive, 2-5 open at a time, flowers red, callus orange; fragrance none registered. **Sepals** spreading, margins entire, 7-veined; dorsal sepal 8.8 x 3.2 mm, oblong-elliptic, sub-acute; lateral sepals 10.0 x 4.0 mm, oblong-elliptic, oblique, acute. **Petals** 10.2 x 3.2 mm, sub-spreading, narrowly elliptic, obtuse, 3-veined, the lateral veins short-branched, margins entire. **Lip** 5.0 x 6.4 mm, united to the column, 3-lobed, base deeply cordate, concave, curved ventrally up in front of the column so as to hide the entrance of the cuniculus; callus complex, a broad quadrate callus with a channel in the middle leading to the cuniculus, two rounded, globose calli at the sides in front of the apex of the column, and a short mid-rib at the apex of the callus; lateral lobes 2.6 x 4.2 mm, sub-quadrate to sub-flabellate, margin irregularly lacinate, the lacinia short at base and progressively longer; mid-lobe 1.7 x 3.8 mm, very short, obtrapezoid, apex truncate, short apiculate, apical margin irregular short-dentate. **Column** 7 mm long, straight, slightly thickened towards the apex, with a pair of apical digitiform lobes on the sides, curved upwards, apex dentate, minutely papillose. **Clinandrium-hood** reduced, margin entire. **Anther** ovoid, acute, base slightly emarginate, 4-celled. **Rostellum** apical, slit. **Lateral lobes of the stigma** small, occupying ¼ of the length of the stigmatic cavity. **Nectary** penetrating half the pedicellate ovary, narrow, minutely papillose. **Pollinia** not seen. **Capsule** not seen.

**OTHER SPECIMENS: PERU: Pasco: Oxapampa: Distr. Chontabamba: Sector Suiza Baja, 2184 m, 20 V 2009, Velita 001A, HOXA!** (proparte, the small plant).

**OTHER RECORDS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Known presently only from central Peru, from the Department of Pasco, Province of Oxapampa, epiphytic on Andean Tepui, on small bushes in sclerophyllous forest in white sandstone, at 2184-2650 m altitude. Flowering from December to May.

**RECOGNITION:** *Epidendrum shollettiae* belongs to the Schistochilum Group, Secundum Subgroup, which is characterized by the caespitose habit, erect, simple, cane-like stems, a normally elongate peduncle of the inflorescence, an erect raceme of generally non-resupinate, showy, colorful flowers, and a lip adorned by a complex a callus. The new species has small plants, 21-25 cm tall plants including the inflorescence, red flowers with an orange callus, oblong-elliptic leaves, 1.4-2.7 x 0.4-0.8 cm, sepals 8.8-10.0 mm long, petals 10.2 x 3.2 mm, narrowly elliptic, and the lip with sub-quadrate to sub-flabellate lateral lobes, the margin irregularly lacinate, the lacinia short at base and progressively longer, mid-lobe very short, obtrapezoid, and a large callus. *Epidendrum azulensis* D.E.Benn. & Christenson also has small plants, narrow linear-lanceolate leaves 4.0-6.0 x 0.4-1.5 cm, flowers dark pink to deep violet, callus white, slightly tinged with pale yellow at the base; petals 6.2 x 2.0 mm, lanceolate, acute, and the lateral lobes of the lip sub-ovate with margin lacinate. *Epidendrum rauhii* Hágsater has white with a yellow callus flowers, yellowing when pollinated or aging and petals obovate. All three species can be considered as dwarf species for the Amphiglottium Group, with stems no more than 20 cm tall in optimum conditions.

**CONSERVATION STATUS: DD.** Data deficient. There are few collections of this species but it is found in protected areas of white sandstone of little use and thus have been conserved.

**ETYMOLOGY:** In honor of Sho'Llet, a beautiful Yánesha princess who, according to legend, lived in Oso'pen, the cloud forest, and who however was without sentiments and could not cry. Once while walking in the sacred mountain she was bitten by a poisonous snake. A young Yánesha warrior by the name Tze Zil rescued her while hunting, extracted the poison and cared for her until she recovered. He proposed marriage but she did not accept. The warrior died in a battle and in his last sigh he called her name. Sho'Llet wept for the first time and filled the seven lakes in the forest. The type specimen was collected in that forest, near Oxapampa. (Anonymous, 2017).

**REFERENCES:** Anonymous, 2017, <https://es.scribd.com/document/363875482/LEYENDA-LAS-LAGRIMAS-DE-SHO-LLET>. Hágsater, E., 2004, *Epidendrum rauhii* in E. Hágsater & L. Sánchez S. (eds.) *The Genus Epidendrum*, Part 5, **Icon. Orchid.** 7: pl. 786. Hágsater, E., L. Valenzuela & A. Cisneros, 2020, *Epidendrum azulensis* in E. Hágsater & E. Santiago (eds.) *The Genus Epidendrum*, Part 12, **Icon. Orchid.** 17(2): pl. 1758.



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Photo: L. Valenzuela

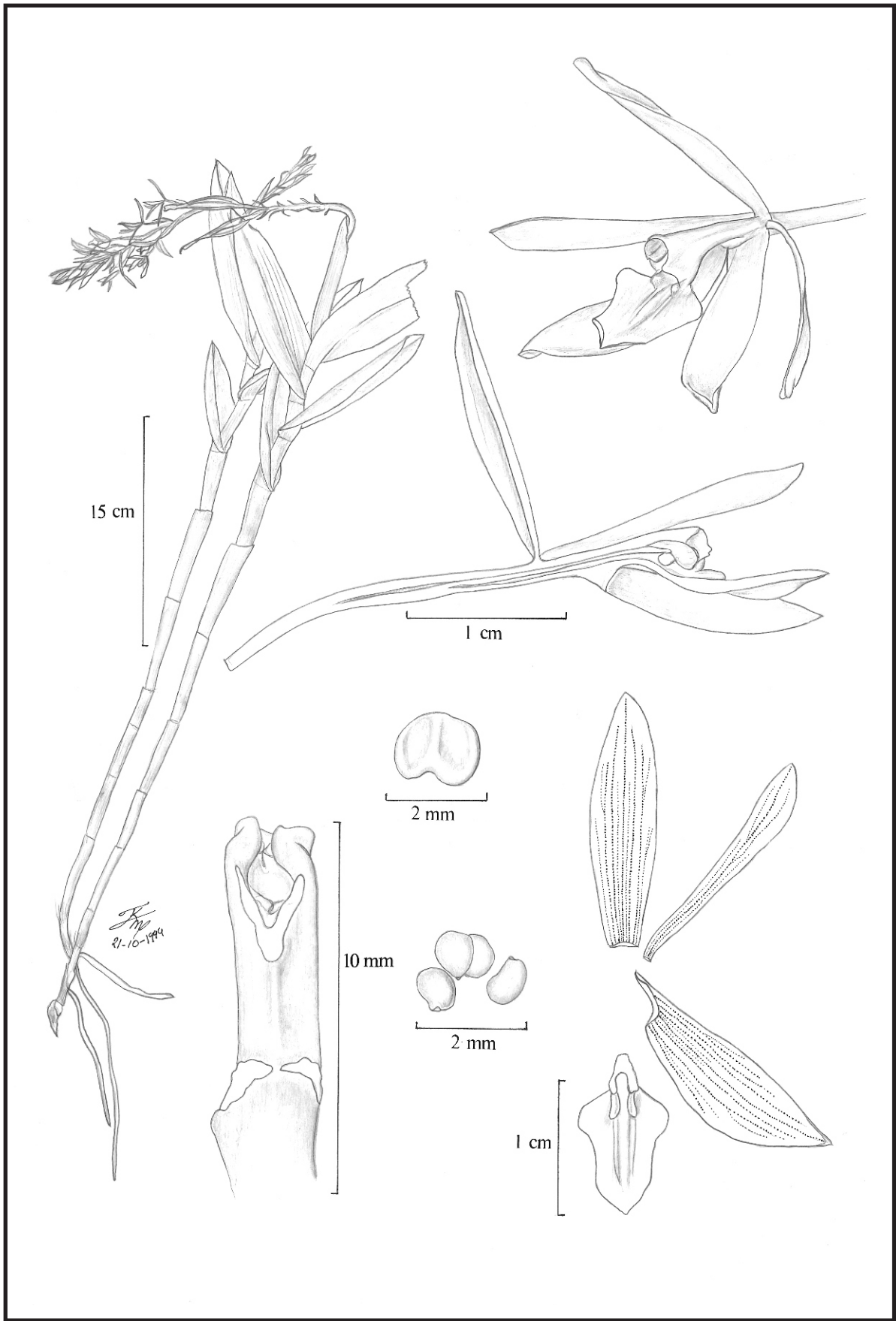
Editors: E. Hágsater & E. Santiago

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ICONES ORCHIDACEARUM 17(2). 2020.

Plate 1797



EPIDENDRUM TRULLIFORME Garay & Dunst.

**EPIDENDRUM TRULLIFORME** Garay & Dunst., Venez. Orchid. Ill. [Dunsterville & Garay] 6: 148. 1976.

Type: VENEZUELA; Edo. Mérida, La Mucuy, **Galfrid Clement Keyworth Dunsterville 1111**. Holotype: "AMES", no specimen found. Lectotype (here designated): Copy of published illustration "GCKD 4-69/8-71" and description, AMES 113037! (see notes).

Synonym: *Epidendrum reveloi* Hágsater & Dodson, Icon. Orchid. 2: t. 180. 1993.

Epiphytic, lithophytic and terrestrial, sub-caespitose **herb**, 30-60 cm tall. **Roots** 1-3 mm in diameter, from the base of the stems, simple. **Stems** 19.6-44.3 x 0.3-0.6 cm, erect, cane-like, laterally compressed above, produced near the base of the previous stem. **Leaves** 3-5, distributed along the apical 1/3 of the stem; sheaths 3.8-6.0 cm long, tubular, striated when dry, fibrous with time; blade 7.6-15.6 x 1.7-2.2 cm, unequal, progressively larger, elliptic-lanceolate, acute, dorsally carinate, margin entire. **Spathes** 1, 6.9-12.7 x 0.9 cm, narrow, acute, conduplicate, open on one side towards the apex, covering the whole of the peduncle. **Inflorescence** 17.7-31.8 cm long, apical, racemose to paniculate, arcuate, flowering only once, lax; peduncle 7.7-13 cm long; rachis 10-18.8 cm long. **Floral bracts** 7-13 x 1-2 mm, shorter than the ovary, linear-lanceolate, acuminate, embracing. **Flowers** 12-30, opening in succession, several open at one time, resupinate, green with some pink flushing to yellowish green with a green lip, the calli white; fragrance not registered. **Ovary** 20-21 mm long, thin, unornamented. **Sepals** 17-19 x 3-5.7 mm, margins entire, strongly revolute; dorsal sepal spreading, free, narrowly elliptic, acute, mucronate at the apex, 3-5-veined, the veins much branched from near the base; lateral sepals partly spreading, adnate to the base of the column, elliptic-lanceolate, falcate, margin entire. **Petals** 15-17 x 1.5-2.5 mm, spreading, narrowly oblanceolate, acute, margin entire, membranaceous, 1-veined. **Lip** 7-9 x 4-6 mm, entire to incipient 3-lobed, united to the column, sub-trowel-shaped to sub-hastate, cuneate at the base; bicallose, calli prominent, laterally compressed; the lateral lobes 1.2-2.5 x 2.5-3.0 mm, insignificant, rounded, somewhat protruding, margin entire, revolute; mid-lobe 5.7-6 x 3-4 mm, sub-rectangular, the apex short triangular, acute. **Column** 9-10 mm long, straight to slightly arched, thin. **Clinandrium-hood** short, entire. **Anther** reniform, with a low rounded rib in front. **Pollinia** 4, obovoid, laterally compressed. **Rostellum** apical, slit. **Lateral lobes of the stigma** small, 1/4 the length of the stigmatic cavity. **Nectary** penetrating 1/3 of the ovary. **Capsule** ellipsoid, 42 x 7-9 mm (immature), pedicel 12 mm long, thin, apical neck ca. 7 mm long.

**OTHER SPECIMENS: COLOMBIA: Cauca:** Páramo de Paletará, 3000 m, VI 1976, *Escobar 1277*, AMES! **ECUADOR: Napo:** Road Quito to Baeza, above Papallacta, 3100 m, 22 VI 1987, *Dodson 17202*, RPSC! (illustration voucher) N of Baeza, ca. 1500 m, 10 VIII 1978, *Luer 3220*, SEL! (illustration, AMO!) Quijos, km 27 Pifo-Baeza-El Chaco, 2100 m, 14 IV 1984, *Thurston 4023*. **QCNE! VENEZUELA:** Without locality, *Humbert s.n.*, NY! **Mérida:** Páramo de Canagá, 2500 m, 21 I 1922, *Jahn 907*, US! Zwischen Páramo La Negra und Pregonero, 2600 m, 17 VII 1951, *Renz 7236*, RENZ! Cabeceras Río Uribante, 38 km NE de Pregonero, 2700-2900 m, 28 IX 1981, *Steyermark 125446*, VEN! **Táchira:** Passhöhe zwischen Pregonero und Bailadores, 3000 m, 8 VI 1949, *Renz 5532*, RENZ! Zwischen Zumbador und Queniquea, 3000 m, 25 VIII 1949, *Renz 5785*, RENZ! Zwischen Passhöhe Paramo Zumbador und Queniquea, 2300 m, 8 X 1950, *RENZ 6543*, RENZ! Zwischen La Revancha und Las Delicias, 2700 m, 8 V 1957, *Renz 6903*, RENZ!

**OTHER RECORDS: COLOMBIA: Caldas:** Cerca de Villamaría, 1920 m, *Morales s.n.*, digital images, AMO! **Cauca:** Páramo de Paletará, 3000 m, VI 1976, *Escobar 1277*, digital image, AMO! **Cundinamarca:** Parque Nacional Natural Chingaza, *Robinson Galindo s.n.*, digital images by Carlos Uribe, AMO! (photo voucher). **ECUADOR: Napo:** Road Quito to Baeza, above Papallacta, 3100 m, 22 VI 1987, *Dodson 17202*, flowers in spirit, AMO! N of Baeza, ca. 1500 m, 10 VIII 1978, *Luer 3220*, flowers in spirit, AMO! km 27 Pifo-Baeza-El Chaco, 2100-3000 m, 14 IV 1984, *Beatrice & Thurston 4023 & Dodson 14267*, flowers in spirit, AMO!

**DISTRIBUTION AND ECOLOGY:** Widespread from the Andes in Venezuela along the Cordillera Oriental de Colombia to central Ecuador, often on road embankments, in the eastern slopes of the in Ecuador, above Papallacta, on lava flow. Epiphytic, lithophytic or terrestrial at 1500-3100 m altitude. Flowering from May to February.

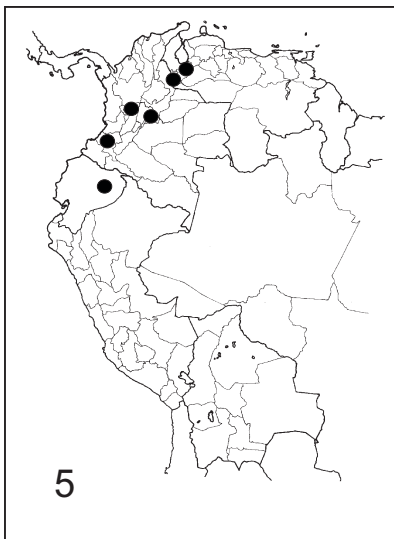
**RECOGNITION:** *Epidendrum trulliforme* belongs to the Trulliforme Group, characterized by the caespitose habit, simple cane-like stems, with few leaves along the upper half of the stem, racemose to paniculate inflorescence subtended by 1-2 prominent spathes covering the entire peduncle, lax, erect or arched and the bicallose, generally trilobate lip. The species has simple, slightly separated stems, 3-5 leaves, 1 narrow, acute spathe, a racemose to paniculate inflorescence, resupinate flowers with a trowel-shaped to somewhat hastate lip, 1-veined petals, sepals 17-19 mm long, and the flowers produced in succession, several being open at one time. It grows in Ecuador in the same area as *E. trilobochilum* Hágsater & Dodson, which has a clearly 3-lobed lip, the lateral lobes slightly smaller than the obtusely mid-lobe which is slightly emarginate and mucronate, and the flowers are produced simultaneously. *Epidendrum veroreveloi* Hágsater & Dodson has smaller (sepals 15 mm long), non-resupinate flowers, and an entire, oval lip. *Epidendrum carlos-uribei* Hágsater & E. Santiago has plants to 40 cm tall, brown-orange flowers with the lip and base of the petals yellow, sepals 17-21 mm long, margin revolute, petals with hyaline, erose margin, and a lip with a short fleshy mid-rib in between the calli, margin of the lip erose, lateral lobes sub-quadrate, the upper corner rounded, mid-lobe cuneate. *Epidendrum cocuyense* Hágsater & E. Santiago is vegetatively very similar, but the flowers are green tinged with purple, sepals 15-16 mm long, and the lip with a long mid-rib that reaches the apical sinus, lateral lobes are orbicular, margin entire, and the mid-lobe oblong.

**NOTES:** Regarding the type material, there is a second unnumbered sheet at AMES, which contains a copy of an earlier "GCKD 6-69", an unfinished version of the illustration, and a short type-written description prepared by Dunsterville. This illustration does not show the base of the plant, lacks the fruits, and shows two imbricating spathes instead of the single spathe of the 8-71 version, and the inflorescence is simple, racemose. The later version shows a paniculate inflorescence, instead of the simple 3-flowered original inflorescence. Other material: "Dunsterville 1111", spirit collection, SEL. This bottle has been analyzed by Antonio Toscano de Brito (August 17, 2017, pers. comm.); the bottle contains two almost disintegrated flowers. "One is certainly not an *Epidendrum*, the other seems to be *Epidendrum trulliforme* but is in a pretty bad shape. The lip is almost completely gone." It is thus unwise to try to lectotypify the species with these fragments. During a visit in February 2013 to the VEN herbarium in Caracas by the first author, no *Dunsterville* specimen was found for this species. The spirit collection however was not searched. In the description of *E. reveloi* as a new species, the specimen used as the type was not the plant illustrated. Further study has shown that the specimen used as the type corresponds to *E. trulliforme*, and thus the name *E. reveloi* was relegated to synonymy (Hágsater & Dodson, 2001b). The specimen illustrated, *Hágsater 10606*, was later used as the type for the new species *Epidendrum veroreveloi* Hágsater & Dodson.

**CONSERVATION STATUS:** DD. Data deficient. Though widespread, we have no information on the populations, which from the few collections registered, would suggest it is scarce.

**ETYMOLOGY:** Trulliforme: from the Latin *trulla*, trowel, and *forme*, shaped as, in reference to the trowel-shaped lip characteristic of this species.

**REFERENCES:** Hágsater, E., & C.H. Dodson, 2001, *Epidendrum reveloi* in E. Hágsater & G. A. Salazar (eds.) The Genus *Epidendrum*, Part 1, **Icon. Orchid.** 2: pl. 180. Hágsater, E., & C.H. Dodson, 2001, *Epidendrum trilobochilum* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 3, **Icon. Orchid.** 4: pl. 494. Hágsater, E., & C.H. Dodson, 2001, *Epidendrum veroreveloi* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 3, **Icon. Orchid.** 4: pl. 497. Hágsater, E., & E. Santiago, 2016, *Epidendrum carlos-uribei* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 11, **Icon. Orchid.** 15(2): pl. 1575. Hágsater, E., & E. Santiago, 2016, *Epidendrum cocuyense* in E. Hágsater & L. Sánchez S. (eds.) The Genus *Epidendrum*, Part 11, **Icon. Orchid.** 15(2): pl. 1578.



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ICONES ORCHIDACEARUM 17(2). 2020.

Plate 1798



EPIDENDRUM WAYQECHAENSE Hágsater, E.Santiago & J.Duarte

Plate 1799



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

Type: PERU: Cusco: Prov. Paucartambo, Distr. Kosñipata: Wayqecha Cloud Forest Research Station, Kosñipata Valley, between Paucartambo and Pillcopata, 2958 m, 30 November 2005, **Rebecca E. Repasky, S. M. Copeland, L. Coyo Cordova & M. Ccaña Avendaño 158**. Holotype: BRIT! Digital images, BRIT! AMO! (LCDP and photo voucher).

Similar to *Epidendrum microcattleyioides* D.E.Benn. & Christenson but leaves 5.2-7.1 x 0.8-0.9 cm, oblong (vs. leaves 9.0-11.5 x 1.8-2.0 cm, elliptic), inflorescence with 2 creamy white flowers (vs. inflorescence with 4 yellow flowers), petals 13 x 2.5 mm, narrowly spatulate-oblancoate (vs. petals 11 x 6.5 mm, obovate-spatulate) and lip 3-lobed (vs. lip entire).

Epiphytic, sympodial, sub-caespitose, scandent **herb** 10-15 cm tall. **Roots** 0.5-2.0 mm in diameter, distributed along the rhizome, thin. **Stems** 3.0-4.0 x 0.5-1.0 cm, thickened, forming fusiform pseudobulbs, striated and rugose, pale green, covered by 1 sheath 2.4 cm long, membranaceous, brown, scarious and becoming fibrous with age. **Leaves** 1, apical, pale green, articulate, coriaceous, the ventral surface rugose, blade 5.2-7.1 x 0.8-0.9 cm, narrowly oblong, apex rounded, minutely apiculate, margin entire. **Spathe** 1, 3.3-3.5 cm long, tubular, oblong, conduplicate, apex obtuse, yellow-brown. **Inflorescence** 7.0-7.5 cm long, apical, erect, racemose; peduncle 4.2 cm long, terete, thin, erect, straight, yellowish green; rachis 5 mm long. **Floral bracts** 2.0 mm long, much shorter than the ovary, triangular-ovate, acute, embracing. **Ovary** 1.7 cm long, terete, thin along the basal 2/3, then ventrally thickened along the apical 1/3, straight, furrowed. **Flowers** 2, simultaneous, non-resupinate, creamy white, disc of the lip with a pale yellow spot that disappears before reaching the apical sinus; fragrance not recorded. **Sepals** 13.0 x 4.0 mm, partly spreading, free, apex obtuse, 7-veined, margin entire, spreading; dorsal sepals obovate-elliptic, slightly convex in natural position; lateral sepals elliptic, slightly oblique and concave. **Petals** 13.0 x 2.5 mm, partly spreading, free, narrowly spatulate-oblancoate, apex obtuse, 5-veined (the lateral veins short-branched), margin entire, spreading. **Lip** 8.0 x 12.0 mm, united to the column, 3-lobed, base cordate, basal margin involute and conduplicate next to the column, otherwise spreading; lateral lobes 6.0 x 6.0 mm, dolabriform, margin erose-crenulate along the apical margin; mid-lobe 2.3 x 3.9 mm, revolute in natural position, especially the middle, sub-quadrate, apex truncate when spread, appearing emarginate because in natural position it is strongly revolute, thus appearing as formed by two widely triangular lobes; bicallose, the calli small, globose, fleshy, slightly divaricate, disc with a low triangular fleshy thickening which disappears at the apex of the mid-lobe. **Column** 7.0 mm long, thin at base, gradually thickened towards the apex, slightly arched. **Clinandrium-hood** prominent, without surpassing the body of the column, entire, margin entire. **Rostellum** apical, slit. **Anther** sub-spherical, cream colored tinged reddish. **Pollinia** not seen. **Lateral lobes of the stigma** not seen. **Nectary** presumably short, penetrating 1/3 of the ovary. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

**OTHER RECORDS:** PERU: Cusco: Paucartambo; Reserva de la Biosfera del Manu, *Llacma s.n.* as *Epidendrum sp. 2*, (Suclli *et al.* 2018.)

None seen.

**DISTRIBUTION AND ECOLOGY:** DD. Data deficient. At present known only from the type.

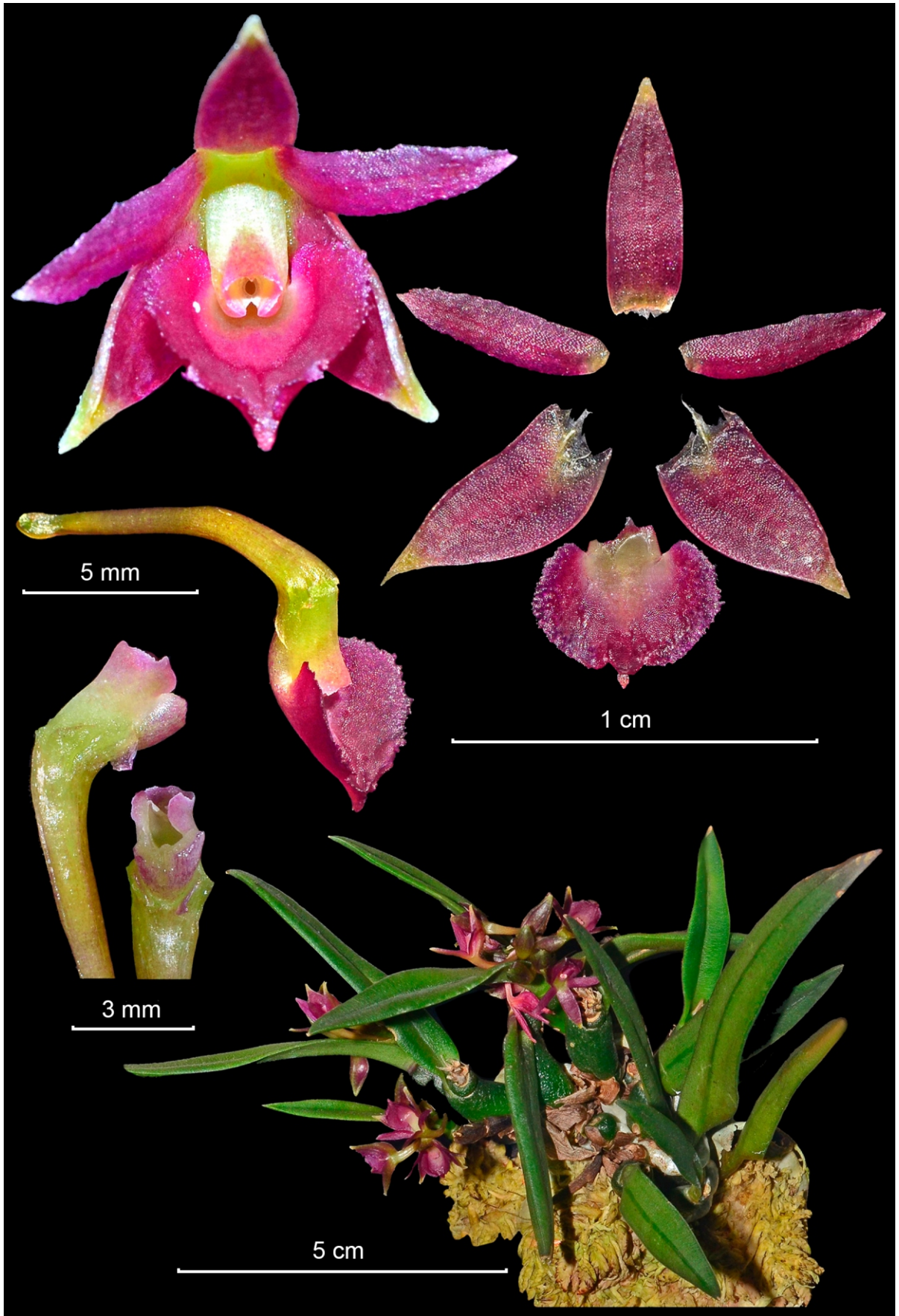
**RECOGNITION:** *Epidendrum wayqechaense* belongs to the Saxicola Group characterized by the pseudobulbous stems, caespitose or scandent habit, the prominent spathaceous bract apically rounded, few-flowered, erect inflorescence, the flowers purple or yellow, and the surface of the vegetative structures often rugose. The new species is recognized by the 2-flowered inflorescence with creamy-white flowers and a yellow spot on the disc of the lip; sepals 13 mm long, petals 13 x 2.5 mm, narrowly spatulate-oblancoate, lip 3-lobed, with the mid-lobe sub-quadrate when spread, in natural position appearing emarginate, as if formed by two triangular lobes. It is similar to *Epidendrum microcattleyioides* which has 4 yellow flowers, sepals 11.5-12.0 mm long, petals 11 x 6.5 mm, obovate-spatulate, a lip entire, reniform with the apex widely emarginate. *Epidendrum herreranum* C.Schweinf. has yellow flowers, tinged orange to reddish bronze, sepals 18.0-23.5 x 7.0-10.0 mm, ovate-elliptic, petals 17-23 x 5.0-10.0 mm, obovate-spatulate, and the mid-lobe of the lip an inverted "T", apex forming two divaricate lobes which overlap with the corners of the lateral lobes. *Epidendrum tetartociclum* Collantes & Hágsater has pale green to creamy green sepals, translucent to somewhat opaque, petals and lip creamy green to citrus yellow, sepals 25-26 mm long, elliptic, and petals 24 x 0.8 mm, oblong-elliptic to oblong-obtrullate. *Epidendrum repaskyae* Hágsater, E.Santiago & J.Duarte has 3-4 creamy white flowers, the sepals and petals forming a cup, sepals 11 mm long, petals 10 x 5 mm, elliptic, and the lip slightly 3-lobed.

**CONSERVATION STATUS:** Data Deficient. Known at present from a single collection.

**ETYMOLOGY:** In reference to the Wayqecha, Cloud Forest Research Station, where the species has been collected, though a bird observation station and lodge, it is found at the edge of the Manú National Park Biosphere Reserve which has important plant diversity. Wayqecha in the Quechua language translates as "small friend". [www.amazonconservation.org](http://www.amazonconservation.org)

**REFERENCES:** Bennett, D.E., & E.A. Christenson, 2001, *Epidendrum microcattleyioides* in E.A. Christenson (ed.) **Icon. Orchid. Peruvianum** pl. 644. Hágsater, E., & B. Collantes, 2013, *Epidendrum herreranum* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 10, **Icon. Orchid.** 14: pl. 1438. Collantes, B., & E. Hágsater, 2013, *Epidendrum tetartociclum* in E. Hágsater & L. Sánchez S. (eds.), *The Genus Epidendrum*, Part 10, **Icon. Orchid.** 14: pl. 1487. Hágsater, E., E. Santiago & J. Duarte, 2020, *Epidendrum repaskyae* in E. Hágsater & E. Santiago (eds.), *The Genus Epidendrum*, Part 13, **Icon. Orchid.** 17(2): pl. 1795.





EPIDENDRUM YACURIENSE Hágsater & H.Medina

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

Type: ECUADOR: Loja: Espíndola: Jimbura, 3020 m, col. diciembre 2016, cultivada en Ecuagenera, prensada junio 2018, **Hugo Medina 204**, Holotype: QCNE! (LCDP voucher).

Similar to *Epidendrum serpens* Lindl. but forming a compact plant (vs. a long chain of pseudobulbs forming a long zig-zag chain), with a single leaf at the apex of the pseudobulb and proportionately longer, 2.8-7.0 x 1.0 cm, up to 7 times longer than wide (vs. 2-3 leaves per pseudobulb, both apical and from basal bracts, proportionately shorter and wider, 3.2 x 1.2 cm, up to 3 times longer than wide), petals oblong-lanceolate (vs. petals linear-lanceolate); and lip widely cordiform, short apiculate (vs. lip sub-orbicular-ovate, not apiculate).

Epiphytic, caespitose, sympodial **herb**, 8-10 cm tall. **Roots** 3 mm in diameter, fleshy, white. **Rhizome** decumbent. **Stems** 0.7-2.0 x 0.5-0.6 cm, thickened into an ovoid pseudobulb, short, dark green, covered by non-foliar sheaths 1.4 x 1.0 cm, somewhat striated when dry. **Leaves** 2.8-7.0 x 1.0 cm, a single leaf at the apex of pseudobulb, lanceolate, acute, fleshy, coriaceous, smooth, dark green, margin entire, spreading. **Inflorescence** apical, sessile, sub-umbellate, racemose with up to 6 flowers, much shorter than the leaf; peduncle terete, thin, short, somewhat covered by 4 basal bracts 3-7 x 1-3 mm, widely ovate, acuminate, embracing. **Flowers** up to 6, opening in succession, eventually all open at once, non-resupinate, wine red, margins and apex of sepals sometimes pale green, column green to wine-red, base of lip pale; without fragrance. **Floral bracts** 1.5-2.4 x 0.4-1.2 mm, gradually shorter than the ovary, triangular-lanceolate, acuminate. **Ovary** 9-10 x 1.2-2.0 mm, terete, thin, smooth. **Sepals** the dorsal 6.3 x 2.7 mm, oblong-elliptic, partly spreading to spreading, free, fleshy, lanceolate, acuminate, glabrous, apparently 1-veined, margins entire, spreading; lateral sepals 6.7 x 2.9 mm, obliquely ovate. **Petals** 5.9 x 1.4 mm, spreading, free, oblong-lanceolate, acute, 1-veined, margins somewhat erose. **Lip** 4.7 x 5.6 mm, united to the column, widely cordiform, base cordate, apex short apiculate, somewhat concave in natural position, margin dentate, especially towards the sides; ecallose, disc glabrous. **Column** 3.5-4.1 x 2.2 mm, short, thick, slightly arcuate. **Clinandrium-hood** truncate, margin entire. **Anther** sub-spherical, 4-celled. **Pollinia** 4, obovoid, laterally compressed, yellow. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** shallow, without penetrating the ovary, unornamented. **Capsule** not seen.

**OTHER SPECIMENS: ECUADOR: Azuay:** Sevilla de Oro, The eastern Cordillera, 4-6 km north of the village of Sevilla de Oro, 9000-10000 ft., *Camp E-4701*, AMES! Nabón, El Progreso, near km 75, S of Cuenca, 3000 m, 17 VII 1977, *Luer 1726*, SEL! Illustration, AMO! Cuenca, Angas Parroquia Chaucha, márgenes del Río Angas, 3400 m, 2 VIII 1983, *Jaramillo 5459*, QCA! **PERU: Piura:** Abayaca, bosque de Huamba, 3030 m, 3 VI 1997, *Leiva 2007*, HAO!

**OTHER RECORDS: ECUADOR: Loja:** Espíndola, Jimbura, Cordillera de las Lagunitas, 3000 m, *Portilla sub. Hágsater 12272*, flowers in spirit, AMO! **Azuay:** Gualaceo, Ecuagenera, viveros en Gualaceo, 2240 m, 23 IX 2016, *Hágsater 14756*, digital photo, AMO! (photo voucher).

**DISTRIBUTION AND ECOLOGY:** Presently known from the border between Ecuador and Peru, near the Summit of the Cordillera Occidental, on the western, dry side, in sub-paramo montane forest above Jimbura, Loja, Ecuador, north to southern Azuay, and east of Abayca, Piura, Peru, at 2900-3400 m; growing epiphytic on small trees, *Myrcianthes* sp. and *Clusia* sp. Flowering from June to November.

**RECOGNITION:** *Epidendrum yacuriense* belongs to the Kaloptenix group, Serpens Subgroup, characterized by the aggregate, globose pseudobulbs with fleshy-coriaceous leaves, a sessile inflorescence, one or few fleshy, compact, star-shaped flowers, often burgundy red in color, and lip entire, more or less cordiform. The species is recognized by the single leaved pseudobulb, sub-umbellate sub-sessile inflorescence of up to 6 wine-red flowers, non-resupinate, 6.3-6.7 mm long sepals, petals oblong-lanceolate, acute, and the lip widely cordiform, base cordate, apex short apiculate, somewhat concave in natural position, margin dentate, especially towards the sides, ecallose. *Epidendrum pachycoleum* Hágsater, O.Pérez & E.Santiago has an erect plant, 1-2-leaved, aggregate, homoblastic pseudobulbs, elliptic leaves, the apical one often much reduced, sessile flowers produced in succession, sometimes 2 open at one time, and sepals 7.0-7.3 mm long. *Epidendrum serpens* Lindl. also has an erect plant, but 2-3 leaves per pseudobulb, leaves ovate-lanceolate, linear-lanceolate petals, and the lip sub-rounded-ovate. *Epidendrum platyphylloserpens* Hágsater, from Ecuador, has pendent leaf, oblong-elliptic, acute, up to 9 flowers opening in succession, several open at one time, and the sepals are 5-veined, 8.5 mm long. *Epidendrum brevityacuriense* Hágsater, H.Medina & J.Duarte has wine-red globose pseudobulbs, ovate leaves 1.3-1.9 x 0.6-0.7 cm, wine-red towards the margins, resupinate, reddish violet flowers, and the lip with a narrow mid-rib running down to the middle of the disc.

**ETYMOLOGY:** In reference to the Parque Nacional Yacuri located on the border between Ecuador and Peru on the Cordillera Occidental, and where the species has been collected on several occasions.

**CONSERVATION STATUS:**DD. Date deficient. The species is apparently common where it is found in protected parks and covering a range of some 220 km.

**REFERENCES:** Hágsater, E., 2001, *Epidendrum platyphylloserpens* in Hágsater, E., L. Sánchez S. & J. García-Cruz (eds.) The Genus *Epidendrum* Part 3, **Icon. Orchid.** 4: pl. 473. Hágsater, E., O. Pérez & E. Santiago, 2013, *Epidendrum pachycoleum* in Hágsater, E. & L. Sánchez S. (eds.) The Genus *Epidendrum* Part 10, **Icon. Orchid.** 14. pl. 1466. Lindley, J., 1844, in *Epidendrum serpens* Lindl. in G. Bentham (ed.), **Pl. Hartw. [Bentham]**, p.149. Hágsater, E., H. Medina & J.Duarte, 2020, *Epidendrum brevityacuriense* in E. Hágsater & E. Santiago (eds.) The Genus *Epidendrum*, Part 13, **Icon. Orchid.** 17(2). pl. 1761.



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