

# ICONES ORCHIDACEARUM

Fascicle 14  
THE GENUS EPIDENDRUM  
Part 10  
“Species New & Old in Epidendrum”

In memoriam Pedro Ortiz Valdivieso, S.J.

Eric Hágsater

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# ICONES ORCHIDACEARUM

Fascicle 14, plates 1401 to 1500

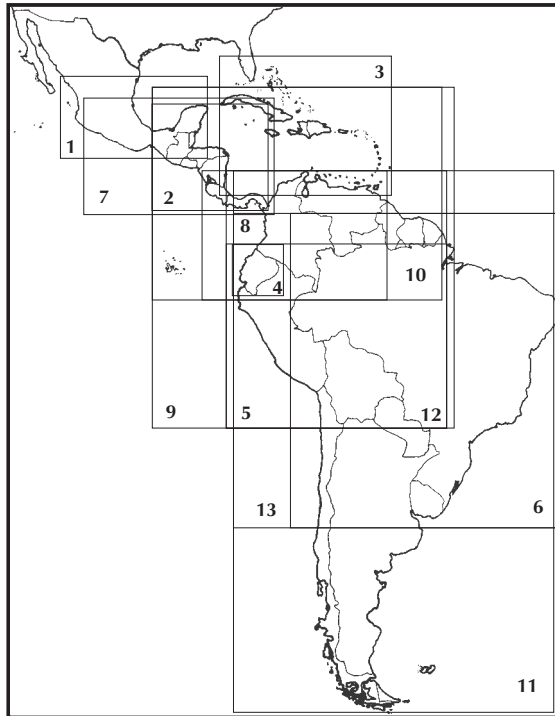
## THE GENUS EPIDENDRUM Part 10

“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 14, plates 1401 to 1500

## THE GENUS *EPIDENDRUM*

Part 10

Species New & Old in *Epidendrum*

In memoriam Pedro Ortiz Valdivieso, S.J.

### Foreword

We dedicate this volume to the memory of Father Pedro Ortiz Valdivieso, S.J., (31 January 1926 – 18 July 2012) who passed away last year in Bogota. He was an inspiration not only for Colombian orchidists, but for all who met him, and had the pleasure of visiting him or going out into the field with him. We had been corresponding since the early 70's; he shared his material with us, and we herewith dedicate a new species to him. He also co-authors two new species, shared his photographic material, and acted as a reviewer for several texts. In addition, we appreciate the Latin translation of the diagnoses, when that was still a requirement in the Botanical Code of Nomenclature.

In this volume we present three novelties. First all texts have been reviewed by at least two reviewers, a process which has definitely helped in catching mistakes, sometimes questioning the author's information or pointing out additional information which had not been originally considered. Second, we have added, where possible colored images of the species described. Third, the printed edition is published simultaneously with the electronic copy, which are identical. The electronic version is freely available to all at [http://www.herbarioamo.org/index\\_archivos/Fascicle14.pdf](http://www.herbarioamo.org/index_archivos/Fascicle14.pdf); whereas the printed copy is sent to libraries, as well as the subscribers and authors. The electronic texts are in searchable pdf form. The participation of 28 authors and co-authors, 12 illustrators, and 43 photographers is appreciated, as well as 32 reviewers.

Up to now we have used the abbreviation used by Tropicos of the Missouri Botanical Garden, **Icon. Orchid. (Mexico)**. However, the IPNI International Plant Nomenclature Index, a consortium including the Royal Botanic Gardens, Kew, and the Harvard University Herbaria indicate the abbreviation simply as **Icon. Orchid.** which we herewith adopt.

We herewith present 77 species new to science, distributed from Mexico, through Central and South America, as far as Argentina. They are distributed in Colombia (33), Peru (27), Ecuador (15), Costa Rica (5), Brazil (3), French Guiana (2), and one each from Argentina, Bolivia, Mexico, Panama, Paraguay, Surinam, and Venezuela. They do not add up because some species are reported from more than one country.

Much material from Colombia has been studied, in preparation for the Orchids of the Valle del Cauca, which will be published shortly by Dariusz Szlachetko *et al.*, where the team from the Herbario AMO has collaborated in the preparation of the genus *Epidendrum*. Much information has been provided by our Colombian collaborators, especially Oscar Alejandro Pérez Escobar and Edicson Parra Sánchez, but also many others.

We continue to work closely with several Peruvian botanists who have co-authored numerous species of that country, especially Benjamín Collantes Meza. We have been surprised to find the diversity between the northern, central and southern parts of Peru. Most of the older collections were made in the north, so having access to material from throughout the country, interesting differences appear. We illustrate the true *Epidendrum paniculatum* Ruiz and Pav. after piecing together the type material found in Madrid, and thanks to the help and information provided in part by Franco Pupulin and the curators of MA which we recently visited.

In tackling the Paniculatum Sub-group, we also took on the Brazilian species which have often been confused with that species, but represent a different group, the Densiflorum Group. Most specimens had been identified as *Epidendrum densiflorum* Hook., but aside from the new *Epidendrum andres-johnsonii* Hágsater & E.Santiago, we also recognize *E. brachythrysus* Kraenzl., *E. hassleri* Cogn, *E. lindbergii* Rchb.f., and *E. noackii* Cogn., all rather widespread in the southern half of Brazil and most down around Foz do Iguaçu, including neighboring Argentina and Paraguay. We wish to thank various Brazilian and Argentine amateurs and botanists for their information, and in particular Thiago E. C. Meneguzzo for his critical revision of this group. We wish to thank the curator of the herbaria CTES María Mercedes Arbo, as well as Irma Stella Insaurralde, Enrique Gandolla, and Miriam Valebella, all in Argentina.

A new sub-group within the Pseudepidendrum Group is established: the new Pluriracemosum Sub-group, which though similar to the Paniculatum Sub-group, it is recognized by the fact that it produces new racemes from the old inflorescence. The flowers are somewhat variable in color, from the basic green and white to purple-brown and pink and yellow. *Epidendrum unguiculatum* (C.Schweinf.) Garay & Dunst. and *E. iguagoi* Hágsater & Dodson belong here, together with the new *E. pluriracemosum* Hágsater & E.Santiago, *E. humantupanorum* Hágsater & E.Santiago, and *E. oenochrochilum* Hágsater, Ric.Fernández & E.Santiago.

Finally, *Epidendrum hemihenomenum* Hágsater & Dodson is illustrated from new material from Peru. The original drawing and description had been prepared from a poor flower in alcohol and photographs from Ecuador. This adds and corrects various details. Other corrections and additions to previously published icons are found in the appendix.

Eric Hágsater

Mexico City, May 2013.

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"I found the gene of love in the orchids, the same that must awaken the heart in human beings"

**PEDRO ORTIZ VALDIVIESO S.J.**  
**January 31, 1926 – July 18, 2012**

**Germán Ortiz Plata\***

We are fortunate to have known and shared moments in our lives with Father Pedro Ortiz, a special person who taught us to appreciate the marvels of creation and with his life showed us what we can achieve with faith and perseverance.

Since an early age, he left his native Santander to pursue the Jesuit road, initially in the United States and later in various European countries. He was ordained as priest in Austria, and later studied a Doctorate in Sacred Scriptures in the Pontifical Institute in Rome.

As translator of the Bible and facilitator of critical instruments for its study, he was part of a team that produced the latest Spanish version edited by the United Biblical Societies, entitled "Dios habla hoy". In churches across Colombia today, every Sunday you listen to the Gospels of the New Testament which were translated into a version adapted to the popular language of this country. Many Colombian priests were his alumni in the Faculty of Theology at the Pontifical Xavierian University, of which he was a professor and dean for many years.

His studies lead him to learn over 10 languages and several dead ones, tools necessary for his professional work. Maybe that is why his discourse was characterized by its precision and effectiveness. He did not dedicate his time to banalities, and his search for the reason behind things was rigorously scientific. In addition to his outstanding work, he liked sciences and art, such as painting, photography, music and writing, astronomy, technology and botany. His taste for science lead him to study orchids. He enjoyed nature, esthetical taste and had scientific curiosity, which were all joined in the beauty of orchids which captivated him for the rest of his life.

He explored mountains and books like a scholar, photographed and illustrated like an artist, and studied and classified orchids with the patience of a researcher, and taught us with generosity and dedication. In spite of his deep knowledge of Colombian orchids, he never considered any plant as his own; the fact leaves us food for thought. His answers to the most simple or complicated query, made by friends and strangers alike, were never late in arriving. His legate to orchidology, more than his teachings in direct conversation, correspondence or lectures has been compiled in numerous books and articles, where he authored 105 taxa, covering new genera, species, varieties and combinations.

In spite of his saying he was no more than an amateur orchidophile, during his last years he worked on the Orchid Molecular Botanical Expedition project, supported by the Pontificia Universidad Javeriana. His objective in this field was the evaluation of genetic variability in Colombian orchids, extracting several DNA molecular markers.

He has left us his work, enthusiasm, his dedication and commitment, detachment, and love for people and things done, reminding us of the phrase that as a follower of St. Ignatius of Loyola guided his life "*Know, love, serve Christ and be happy with God forever*".

References: Without author, 2012, Bibliographia Orchidologica Ortiziana, **Lankesteriana** 12(2): 84-92. Ortiz Plata, Germán, 2012, Pedro Ortiz Valdivieso, **Orquideología** XXIX(2): 141-142.

Photographic credit: We were unable to determine the photographer, the digital image was found on Father Ortiz´s computer after he passed away. This article is translated from the original cited above; published with permission of the author and the editor.

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# ICONES ORCHIDACEARUM

## Fascicle 14, plates 1401 to 1500

### THE GENUS *EPIDENDRUM*

#### Part 10

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

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## APPENDIX 1: Additional information to texts of plates

The original text of specimens for *Epidendrum leave*, included specimens which have now been recognized as pertaining to the new species *Epidendrum hypoporphyreum* Hágsater, E. Santiago & E. Parra, described in this volume; thus the original list of specimens must be amended:

### **EPIDENDRUM LAEVE Lindl.**

**Icon. Orchid. 13: pl. 1344. 2010.**

**OTHER SPECIMENS: COLOMBIA:** Without locality, W-R 49528! Ibid. W-R 49530! Without locality, *Linden 1286*, G! BR! W-R x3! **Antioquia:** Without locality, *Jameson s.n.*, K-L! Ibid. *Lewis s.n.*, K-L! Medellín, II 1931, *Archer 1596*, US! Boquerón de San Cristóbal, ca. 2500 m, 2 VI 1948, *Barkley 103*, US! Boquerón de San Cristóbal, 3 VIII 1965, *Barkley 35413*, AMES x2! ENCB! La Tumba, Uramita-Peque, 2500-2650 m, 3 IV 1983, *Bernal 549*, COL x2! Caramanta-Supia, 2140-2420 m, 16 X 1988, *Betancur 1088*, MO! Santa Elena, III 1935, *Daniel 1389*, AMES! Piedras Blancas, 2350 m, 23 IX 1995, *Fonnegra 5641*, MO! Urrao, 2000 m, col. 9 VIII 1986, *Hágsater 7301*, AMO! Ibid. 21 VI 1992, *Hágsater 7301*, AMO x3! Caldas-Santa Barbara, 2500 m, 1 XI 1955, *Hatheway 1585*, AMES! Boquerón, Medellín-Palmitas, 2300-2500 m, 12 V 1946, *Hodge 6834*, AMES! Boquerón, Medellín-Palmitas, 2300-2500 m, 22 III 1948, *Johnson 18C480*, US! Santa Helena, Medellín-Rionegro, ca. 2500 m, VIII 1945, *Molina 33*, US! Medellín, 1500 m, *Metcalfe 30035*, AMES! UC! Alto El Chuzcal, cultivado en Colomborquideas, El Retiro, 2400 m, 19 X 1988, *Múnera 236*, AMO! El Cedro, 2400 m, 13 VIII 1969, *Ortiz Valdivieso 4057*, HPUJ! Piedras Blancas, Medellín-Guarne, 2300-2400 m, *Ospina 201*, JAUM! Quindío, 10 XII 1887, *Schmidtchen s.n.*, W-R 14053! Sonsón, 20 VII 1928, *Toro 1228*, NY! Salgai, 20 VII 1928, *Toro 1274*, NY! Santa Barbara, VI 1931, *Tracey 405*, K-L! Medellín, Las Palmas, ca. 2100 m, 11 I 1952, *Uribe 2252*, COL! NY! U! La Ceja, 2500 m, 30 VII 1959, *Uribe 3344*, AMES! MO! Alto de Ventanas, 2700-2790 m, 29 X 1988, *Zarucchi 6921*, MO! **Caldas:** [Tolima] vereda Libano, Quebrada Negra, 2400 m, 11 VII 1982, *Albert de Escobar 2119*, HUA! Manizales, 2400 m, 6 IV 1956, *Renz 8583*, RENZ x2! Manizales-Papaya, 2200 m, 10 IV 1956, *Renz 8637*, RENZ x2! Cerro Tatama, 2600-2800 m, *Pennell 10360*, AMES! Laguneta Salento, 2800 m, 20 IX 1942, *Sneidern 3026 bis*, AMES! S! **Cauca:** La Playa, near headwaters of Río Guengue, 2300 m, 8 I 1944, *Core 196*, US! (Falta mapear) Cabeceras del Río Palo, 2700-2800 m, 13 XII 1944, *Cuatrecasas 19194*, AMES x2! MO! NY! US! Paisabamba and Vulcan de Sotará, 2500-2800 m, *Lehmann 6282*, K-L! "Calaguala", Coconuco, 2500-2800 m, 14 VII 1922, *Pennell 7127*, AMES x2! NY! US! **Risaralda:** Pereira, Parque Ucumari, 1900 m, 19 II 1990, *Croat 70783*, COL! Ibid. II 1989, *Franco 2803*, COL! Ibid. 2450-2650 m 24 VII 1989, *Galeano 107*, COL! Ibid. 30 VI 1990, *Galeano 463*, COL! Ibid. 2200-2450 m, 14 VI 1989, *González 1637*, COL! Ibid. 2610 m, 11 X 1989, *Rangel 5417*, COL! Ibid. *Rangel 5475*, COL! **Nariño:** Isla La Corota, 2800 m, 4 II 1986, *Benavidez 6157*, COL! Pasto, 2620 m, 24 I 1976, *Luteyn 4989*, COL! Puruguai, Pasto, 2500 m, *Triana 576*, P! (Illustration voucher). US! Puruguai, 2500 m, 1853, *Triana 1371*, COL! P! W-R! **[Quindío:]** Lagunetas, 25 XI 1853, *Holton 178*, K-L! NY! Salento, 11 III 1973, *André 2334*, K! **Tolima:** Herveo, Letras-Padua, ca. 2800 m, 25 VIII 1983, *Albert de Escobar 3607*, MO! Mariquita, Azufral to Machín 1200 m, *Linden 1286*, K-L! Quebrada Cajamarca to "Mermillon", new Quindío Trail, 14 VIII 1922, *Killip 9754*, AMES! US! Toche, 2300 m, 19 V 1942, *Sneidern 3059*, AMES! NY! S! **Valle del Cauca:** Hoya del río Cali, Pichindé, 2160 m, 26 X 1944, *Cuatrecasas 18276*, AMES x2! F! Nogales, *Jiménez 15*, CUCV Cuenca del Río Cali, cercanías de Peñas Blancas, 23 I 1963, *López Figueiras 8303*, VALLE x3! Río Nima, above Tenjo, 1800 m, 2 X 1974, *Mass 1831*, AMES! SEL! U!

**OTHER RECORDS: COLOMBIA:** Without locality data, published in *Orquídeas Nativas de Colombia* vol. 2, pg. 175, photo 190.

**Antioquia:** Pasando el puerto [del Cerro del Padre Amaya], 2380 m, 19 V 1986, *Escobar 7251*, AMO!

The following lists of specimens were either omitted in the original edition, or are additions to the published text.

### **EPIDENDRUM CALYPTRATOIDES Hágsater & Dodson**

**Icon. Orchid. 4: pl. 426. 2001.**

**OTHER SPECIMENS: COLOMBIA: Caldas:** Amarguras, above Salento along trail between Romerales y Salento, 3000 m, 30 IX 1948, *Hawkes 436*, AMES! K! US! **Cauca:** Macizo Colombiano, Páramo de Las Papas, entre El Boquerón y la Hoyola, 3000-3100, *Idrobo 3920*, COL! Ibid. 3200-3510 m, 7 IX 1958, *Idrobo 3938*, COL! Vulcan de Sotara, near Popayan, 3000 m, *Lehmann 6251*, K! **Nariño:** Olaya, *André s.n.* K! Bei Pasto, 9000 ft, 13 VI 1878, *Lehmann s.n.*, W-R 69278! (Illustration AMO) **Putumayo:** Lado sur de la Laguna de Cocha, Quebrada de Santa Lucía, 2850 m, 8 I 1941, *Cuatrecasas 11845*, COL! US!

**OTHER RECORDS: COLOMBIA: Cundinamarca:** Vertiente oriental de la Cordillera Oriental, Veda. Concepción, 3000-3100 m, *Farfán s.n.*, digital image and sketch, AMO!

### **EPIDENDRUM CORYOPHORUM (Kunth) Rchb.f.**

**Icon. Orchid. 12: pl. 1230. 2009.**

**OTHER SPECIMENS:** Without locality: AMES 17798! Ibid. W 52159! Ibid. W 52161! Ibid. 23 XI 1962, *Dressler s.n.*, SEL! Sur America, Hort. Lot. Gart. 9 XI 1982, *Hágsater 6876*, AMO! **COLOMBIA:** Without locality, *Humboldt 1599*, P! **Antioquia:** Cultivado en Colomborquideas *Escobar 5046*, AMO! **Antioquia/Choco:** De Urrao a Carmen de Atrato, 2500 m, I 1995 pressed 30 I 1998 *Hágsater 11663*, AMO x3! Ibid. pressed 7 V 1999, AMO! **Cauca:** Central Cordillera von Popayán, 1750-2000 m, 28 X 1882, *Lehmann 2070*, G! LE! US! Ibid. 29 X 1884, G! **Nariño:** El Encano. Isla La Carota, 2800 m, 6 V 1988, *Benavides 796*, COL! El Encano, La Cocha, Isla de La Corota, 2900 m, 16 VI 1964, *Mora 3086*, AMES! **Putumayo:** 1.5 km E Sibundoy, 2200 m, 5 V 1963, *Bristol 927*, AMES! US! Sibundoy, 2300 m, 1 IV 1977, *Ortiz 928*, HPUJ! **Quindío [Tolima?]:** Parque Nacional de Cocora, Quebrada Sta. Lucía, 3000 m, 8 V 1990, *Franco 3109*, COL! **ECUADOR:** Without locality, *Sodiros s.n.*, QPLSx4! Ibid. *Stevenson 308*, SEL! Route de Papallacta & Baeza, 2470 m, 13 V 1986, *Huttel 742*, QCA! Andensis, 8000 ft, *Jameson 466*, E! **Azuay:** 1-8 km north of the village of Sevilla de Oro, 8000-9000 ft, 27 VII 1943, *Camp E-4374*, AMES! MO! QCNE! Sx2! SEL! km 22 partidero a Patacocha, 3080 m, 8 VIII 1986, *Freire 284*, QCA! Below Patacocha, 4-5 km by trail S of Hda. Tarqui at Irquis, 2900-3000 m, 29 I 1988, *Molau 2731*, GB! QCA! QCNE! Near river above Sigsig, 3000 m, 6 V 1981, *Kuhn 46*, SEL! Gualaceo-General Plaza (Limón) road, 10-13 km W of the pass, 3000-3150 m, 10 VI 1979, *Løjtnant 14442*, AAU! **Cañar:** Cerro Yanguán NE of Pindilig, 3100 m, 13 XII 1980, *Holm-Nielsen 29305*, AAU! **Carchi:** Tulcán Colonia Huaqueña, Loma El Corazón, 3000 m, 8 VII 1992, *Tipaz 1573*, QCNE! **Imbabura:** Cordillera Occidental, Along trail between Pinan and Irubi, N of Volcan de Cotacachi, 8500 ft, 15 III 1944, *Drew E-123*, AMES! Cordillera Oriental, La Floresta near Sigsipamba, 9300 ft, 6 X 1944, *Drew E-262*, AMES! Along the new road west of Otavalo, 3000 m, 7 II 1979, *Luer 3897*, SEL! Reserva Ecológica Cotacachi-Cayapas, Cotacachi Reserva Ecológica Cotacachi-Cayapas. Laguna de Cuicocha. Islote Teodoro Wolf, 3100-3300 m, 30 VIII 1991, *Peñañiel 286*, QCNE! Ibid. *Peñañiel 319*, AMO! QCNE! Ibid. *Peñañiel 325*, QCNE! *Peñañiel 337*, QCNE! Ibid. 3350-3400 m, 1 II 1992, *Peñañiel 952*, MO! QCNE! [Sucumbios], Al este de Pimampiro, Cerro Plan de Azucar, 3800 m, *Zak 3811*, MO! **Loja:** Saraguro, Carretera Loja-Saraguro, colecciones en la Loma del Oro, siguiendo la via que conduce a las Antenas Militares, 2800 m, 23 VIII 1983, *Jaramillo 5844*, QCA! **Morona-Santiago:** Gualaquiza, Area de Bosque Vegetación Protectora

Tambillo, 2710 m, 26 VI 2001, *Suin 1020*, AMO! QCNE! Km 17 SW of Sigsig (Prov. Azuay) on road to Chinguinda. Area know locally as Ataruq, 2860 m, 20 VI 1989, *Dorr 6379*, QCA! **Napo**: Cuyuja, km 74 Quito-Tena, 2000 m, *Dodson 13992*, MO! SEL! Km 92 Quito to Baeza, 1850 m, *Dodson 15887*, MO! Cuyuja, Km 78 Quito to Baeza, 2800 m, *Hirtz 1777*, QCNE! Baeza, near the road north of Baeza, ca. 1500 m, 10 VIII 1978, *Luer 3221*, SEL! Tayacaja Baeza, Parte alta del Río Machangara, 2200-2300 m, 9 V 1990, *Palacios 5007*, QCNE! Quijos, Valle alto del Río Quijos, 5 km al Sur de Cuyuja, Finca Agroecológica Antisana, 2850 m, 16 VI 1998, *Vargas 1858*, QCNE! Ibid. *Vargas 1860*, MO! QCNE! Carretera Quito-Baeza, near Cuyuja, 2400-2600 m, *Van der Werff 9613*, MO! QCNE! **Pichincha**: Without locality, Ibid. 3400 m, 23 V 1999, *Jaramillo 21150*, QCA! Reserva Geobotánica Pululahua, Calacalí, Parroquia Calacalí, camino a Lulumbamba, 2000-2500 m, 26 II 1987, *Ceron 903*, MO! QCNE! Ibid. *Cerón 910*, MO! QCA! QCNE! Ibid. Camino del Hospital Sincholhua, 1800-3356 m, 13 V 1987, *Cerón 1363*, MO! QCA! QCNE! Reserva Geobotánica Pululahua, Calacalí, Parroquia Calacalí, 2500-2700 m 11 II 1989, *Cerón 6159*, MO! QCNE! Quito, Reserva Geobotánica del Pululhua, Parroquia Calacalí, 2900 m, 21 V 1991, *Cerón 14867*, QCNE! Km 87 Quito to Santo Domingo (old road), 1400 m, 15 VI 1967, *Dodson 3750*, AAU! F! SEL! Km 62, Quito-Santo Domingo via nueva por Tandapi, 2300 m, *Dodson 15568*, MO! QCA! km 78 Santo Domingo to Quito via Tandapi, along road to electric tower, 2600 m, 2 III 1986, *Dodson 16338*, RPSC! Tandapi, 2000 m, XII 1983, *Hirtz 1386*, AMOx2! Western slope of Mt. Illiniza, 3000 m, *Hirtz 3075*, MO! Vía Mitad del Mundo-Calacalí-Hda. El Cisne, 31 III 1979, *Jaramillo 894*, AAU! QCA! QCNE! Pasto, Versant occidental du Corazón, 2000 m, 13 I 1881, *Lehmann 363*, Gx2! LE! W! New road Quito-Santo Domingo, 2000 m, 1 III 1975, *Luer 286*, SEL! Cayambe Alugunchu [Quebrada Alunguncho?], *Sodiro s.n.*, QPLS! **Tungurahua**: Without locality, 8200 ft, 1 V 1877, *Lehmann s.n.*, W! Mt. Tungurahua, 2500 m, *Hirtz 1846*, MO! In Valle de Chaupe above Baños, 2200 m, 24 VII 1975, *Luer 494*, SEL! Caserío Runtún, ca 3-4 km from Baños, 28 IV 1969, *Lugo 1221*, AMES! GB!

**OTHER RECORDS**: Without locality: Hort. Heidelberg B.G., *Hágsater 6876*, Illustration AMO! Illustration MEXU! flowers in spirit AMO!  
**COLOMBIA**: Orquídeas Nativas de Colombia vol 5, suplemento, pg 763, foto 883 Foto de Rodrigo Escobar. **Antioquia**: Cultivado en Colaborquideas *Escobar 5046*, flowers in spirit AMO! slide color AMO! **Antioquia/Choco**: De Urrao a Carmen de Atrato (Antioquia/Chocó) N W 2500 m I 1995 *Hágsater 11663*, slide color AMO! **Putumayo**: Sibundoy, 2300 m, 1 IV 1977, *Ortiz 928*, Illustration POV! **ECUADOR**: Peru [Ecuador]: **Pichincha**: Tandapi, 2000 m, XII 1983, *Hirtz 1386*, flowers in spirit AMO! **Napo**: Cuyuja, Km 78 Quito to Baeza, 2800 m, *Hirtz 1777*, slide color AMO! Western slope of Mt. Illiniza, 3000 m, *Hirtz 3075*, slide color AMO!

**EPIDENDRUM NORA-MESAE Hágsater & O.Pérez.**

Icon. Orchid. 13: pl. 1362.2010.

**OTHER SPECIMENS**: **COLOMBIA**: Valle del Cauca: Finca Zingara, Corregimiento La Dividera, 6 km al N de la carretera Cali-Buenaventura, 1960 m, 13 XII 1985, *Gentry 53267*, CUVC MO! Municipio de Yumbo, DAPA alto, 18-20°C aprox., 1800 m, 28 VI 2009, *Pérez 256 VALLE!* El Cairo, Cerro del Inglés, Serranía de los Paraguas, 2260 m, 5 I 1987, *Silverstone 2987*, CUVC! MO!

**EPIDENDRUM ORIPICORANENSE Hágsater & E.Santiago**

Icon. Orchid. 13: pl. 1365. 2010.

Add to distribution Ecuador: Loja, S of Yangana, N of pass, cloud forest, 2750 m, 1 XI 1982, *Luer & Escobar 8249*, SEL! (Illustration, AMO!)

**EPIDENDRUM SCHMIDTCHENII Hágsater & E. Santiago**

Icon. Orchid. 12: pl. 1290. 2009.

New record COLOMBIA: Antioquia, Munic. of Sonson, at the pass Tres Cruces, east of Sonson, 2750 m, 30 IV 1983, *Luer 8897*, SEL! (Illustration AMO) Flowers are noted as light purple.

**EPIDENDRUM TRIALATUM Hágsater**

Icon. Orchid. 11: pl. 1189. 2008.

**OTHER SPECIMENS**: **NICARAGUA**: Without locality, Hort. AMO ex FLAS, pressed 19 XII 1990, *Hágsater 9230*, AMO! Ibid. pressed 3 I 1991, AMO x2! Ibid. pressed 2 X 1992, AMO! Ibid. pressed 21 XII 1995, AMO x4! Ibid. pressed 21 XII 1995, *Hágsater 9238*, AMO x4!  
**Estelí**: En la Laguna de Miraflores camino a Estelí-Miraflores, 1850 m, 29 VIII 1982, *Martinez 1932*, MEXU! **Jinotega**: Region de Las Mercedes, sierra east of Jinotega, 1200-1500 m, 3 VII 1947, *Standley 10645*, F! **COSTA RICA**: **Alajuela**: Reserva Forestal de Arenal Río Negro de Chiquito, 1500 m, 16 II 1990, *Bello 1882*, INB! MO! Reserva Biológica de Monteverde, Río Peñas Blancas, *Haber 7985*, INB! MO! Reserva Forestal de Arenal, Cordillera de Tilarán, Falda Norte del Volcán Arenal, camino a Tabacón, 500-600 m, 18 I 1994, *Lépiz 134*, INB x2! **Heredia**: New road to the north of Quebrada Tigre, from Finca El Plástico to ca. 1.5 km NE there of (ca. 8 km SW of Las Horquitas), 450-550 m, 14 II 1986, *Grayum 6495*, MO! SEL! **Guanacaste**: Road side northeast of Tilarán, Atlantic slope, 600-650 m, *Dodge 7149* AMES! Tilaran, Arriba de la presa El Arenal, col. 9 III 1983, pressed 17 II 1993, *Hágsater 7093*, AMO x2! Lago El Arenal, 21 XII 1983, *Hágsater 7180*, AMO! CR! MEXU! US! Tilarán, Tilarán-El Arenal, carr. 142 Km 27, a la vista del nuevo lago, 630 m, 26 I 1988, *Hágsater 9470*, AMO x4! CR! Tilarán, arriba de la Presa de El Arenal, col. 9 III 1983, pressed 21 II 1997, *Hágsater 10430*, AMO x2! Ibid. pressed 15 XI 1991, *Hágsater 10431*, AMO x2! Ibid. pressed 17 II 1993, AMO x4! Ibid. pressed 22 II 1993, AMO x3! Ibid. pressed 21 II 1997, AMO x2! Ibid. pressed 1 XI 1998, AMO! El Silencio, Tilarán, 12 II 1963, *Jiménez 385*, CR! F! Santa Elena to Tilaran road, Florida, ca. 1100 m, 17 II 1984, *Khan 1127*, CR! MO! Río Naranjo, 5 I 1975, *Taylor 18128*, ILL! NY! US! W slope of Cerro Nubes, ca. 2 Km E of El Silencio de Tilarán, ca. 900 m, 26 I 1985, *Grayum 5013*, AMES! AMO! CR! MO! SEL! Vicinity of Tilarán, 500-650 m, 10 I 1926, *Standley 44172*, US! Ibid. 44174, AMES! US! Ibid. 44396, AMES! US! El Silencio near Tilarán, ca. 750 m, 13 I 1926, *Standley 44798*, AMES! US! Ibid. 44800, AMES! US! El Arenal, 485-600 m, 18 I 1926, *Standley 45276*, AMES x2! US! Los Ayotes, near Tilaran, 600-700 m, 21 I 1926, *Standley 45587*, AMES! US! Los Angeles, near Tilaran, 600-700 m, *Standley 45628*, AMES! Tilaran, La Tejona, N of Tilaran, 600-700 m, 25 I 1926, *Standley 46073*, US! El Arenal, 18-19 I 1926, *Standley 46056*, AMES! US! Quebrada Serena, southeast Tilaran, ca. 700 m, 27 I 1926, *Standley 46331*, AMES! US! Ibid. 46339, AMES! El Arenal, 1 II 1976, *Utley 3883*, F! Ca. 5 km east of Tilarán, above Laguna de Arenal, 900-1000, 13 II 1963, *Williams 24552*, G! About 5 Km east of Tilarán, above Laguna de El Arenal, 900-1000 m, 13 II 1963, *Williams 24562*, F! LL!  
**PANAMÁ**: **Coclé**: Hills North of Valle de Anton, 800-1000 m, 2 I 1941, *Allen 2287*, AMES! Ibid. 1 I 1941, 2293, AMES! La Mesa, El Valle de Antón, 1 XI 1976, *Butcher s.n.*, AMO! Norte de El Copé, pressed 29 III 1983, *Hágsater 6297*, AMO! F! Ibid. pressed 21 XII 1983, AMES! F! K! MO! ca. 15-20 km NE of North of El Cope, near continental divide and down Atlantic slope, 750-900 m, 23 VI 1988, *McPherson 12631*, MO! La Pintada towards Toábre, largest peak in vicinity, 600-1000 m, 15 II 1981, *Sytsma 3621*, MO! SEL! **Chiriquí**: On right side of road just beyond and down from Continental Divide, along Fortuna Dam-Chiriquí Grande Rd., ca. 900 m, 21 I 1985, *Read 85-32*, US! **Panamá**: Cerro Campana, trail leading to cross, 2700-2900 ft, 14 II 1981, *Sytsma 3537*, MO! Distrito Capira, cerro Campana, ca. 900 m, *Werff 6230*, AMO! MO!

**OTHER RECORDS**: **NICARAGUA**: **Zelaya**: (Atlántico Norte: Cerro Saslaya) Selaya, 3400 ft, IV 1963, *Heller 4810*, Illustration SEL! Xerox copy AMO!



## CONTINUED: APPENDIX 1: Additional information to texts of plates

As a consequence of recent research we have established a new Pluriracemosum Subgroup under the Pseudepidendrum Group, which is where the following species should be placed, so the text should update the original.

### **EPIDENDRUM IGUAGOI Hágsater & Dodson**

**Icon. Orchid. 4: pl. 446. 2001.**

**OTHER SPECIMENS: ECUADOR: Napo:** between Tena and Archidona, 12 X 1939, *Asplund 9284*, QCA! S! km 6 Tena to Puerto Napo, 450 m, 18 VI 1983, *Dodson 14074*, SEL x2! Ibid. cult at Selby Botanical Gardens SEL 83-218, flower cult. VIII 1985, *Dodson 14074*, SEL 55055! margen izquierdo del Río Napo colecciones en camino de Campanacocha-Dayono, 360-400 m, 22 VIII 1980, *Jaramillo 3790*, AAU! QCA! La Cruz, Arajuno, Puerto Misahualli, on the Río Napo, ca. 500 m, VII-IX 1984, *Suarez 50*, RPSC!

**OTHER RECORDS: ECUADOR: Napo:** without locality data, *Hágsater 9042*, spirit, AMO! near Misahualli, on the Río Napo, 450 m, VIII 1984, *Linderberg Suarez 50*, illustration published as *Epidendrum bifalce* Schltr. en Icon. Pl. Trop. II: pl. 462. 1989.

**DISTRIBUTION AND ECOLOGY:** Found in the lower Amazon basin of central Ecuador, at 360-500 m altitude, epiphytic, 18 m high on trees in tropical humid primary forest on red soil. Flowering June to January.

**RECOGNITION:** *Epidendrum iguagoi* belongs to the Pseudepidendrum Group, Pluriracemosum Subgroup, which produces at first flowering a racemose, few-flowered inflorescence on a long peduncle, and usually produces new, successive racemes over the years, the rachis is elongate, and thus lax-flowered, the flowers bicolored, basically green to brown with the lip white to purple, spotted or not. The species is recognized by the reddish-green flowers with a yellow lip, the sepals strongly reflexed (nearly parallel to the ovary), the lip has narrowly transversely ovate lateral lobes, and the mid-lobe is divided into a pair of narrowly triangular, recurved lobes, the ovary slightly geniculate. *Epidendrum oenochrochilum* Hágsater, Ric.Fernández & E.Santiago has purple-brown flowers with the lip pink or yellow, the lip is somewhat 3-lobed, with the mid-lobe very short, and the ovary straight. *Epidendrum huamantupanorum* Hágsater & E.Santiago has slightly reflexed, copper-green sepals, the lip is sub-entire, hyaline white, the calli and ribs lavender colored. *Epidendrum pluriracemosum* Hágsater & E.Santiago and *Epidendrum maroniense* Hágsater & E.Santiago (which are found in the French Guyana and Surinam) have green flowers with the apex of the column and the lip White.

## APPENDIX 2: Corrections to earlier volumes of Icones Orchidacearum:

Eric Hágsater

### ***Epidendrum aristoloides* Hágsater & Dodson**

**Icon. Orchid. 4: pl. 413. 2001.**

The size of the lip (Spanish) should read: **Labelo** 4-lobado, 8.6 x 12 mm; .... Not 8.6 x 1.2 mm

### ***Epidendrum imperator* Hágsater.**

**Icon. Orchid. 7: pl. 748. 2004.**

As stated, the name had been previously used by John Day in his notebooks, so the author citation should be *Epidendrum imperator* Day ex Hágsater.

### ***Epidendrum steyermarkii* A.D.Hawkes**

**Icon. Orchid. 12: pl. 1294. 2009.**

**NOTE:** The above-mentioned collection **Funck [& Schlim] 1184**, W-R, (a single flower and one leaf) corresponds to *Epidendrum leucochilum* Link, Klotzsch & Otto. The collection number on the label is incorrect, and corresponds to **Funck & Schlim 1084** which is cited by Reichenbach in Ann. Bot. Syst. 6: 369. 1862, under the synonym *Epidendrum flavidum* Lindl. The locality, scribbled on the label by Reichenbach corresponds to [VENEZUELA: Mérida:] Entrée du Páramo El Tambor. Another collection, the true **Funck & Schlim 1184**, is cited elsewhere as *Oncidium anomalum* Rchb.f.; see Ann. Bot. Syst. 6: 805-806. 1863.

### ***Epidendrum yanachagaense* Hágsater**

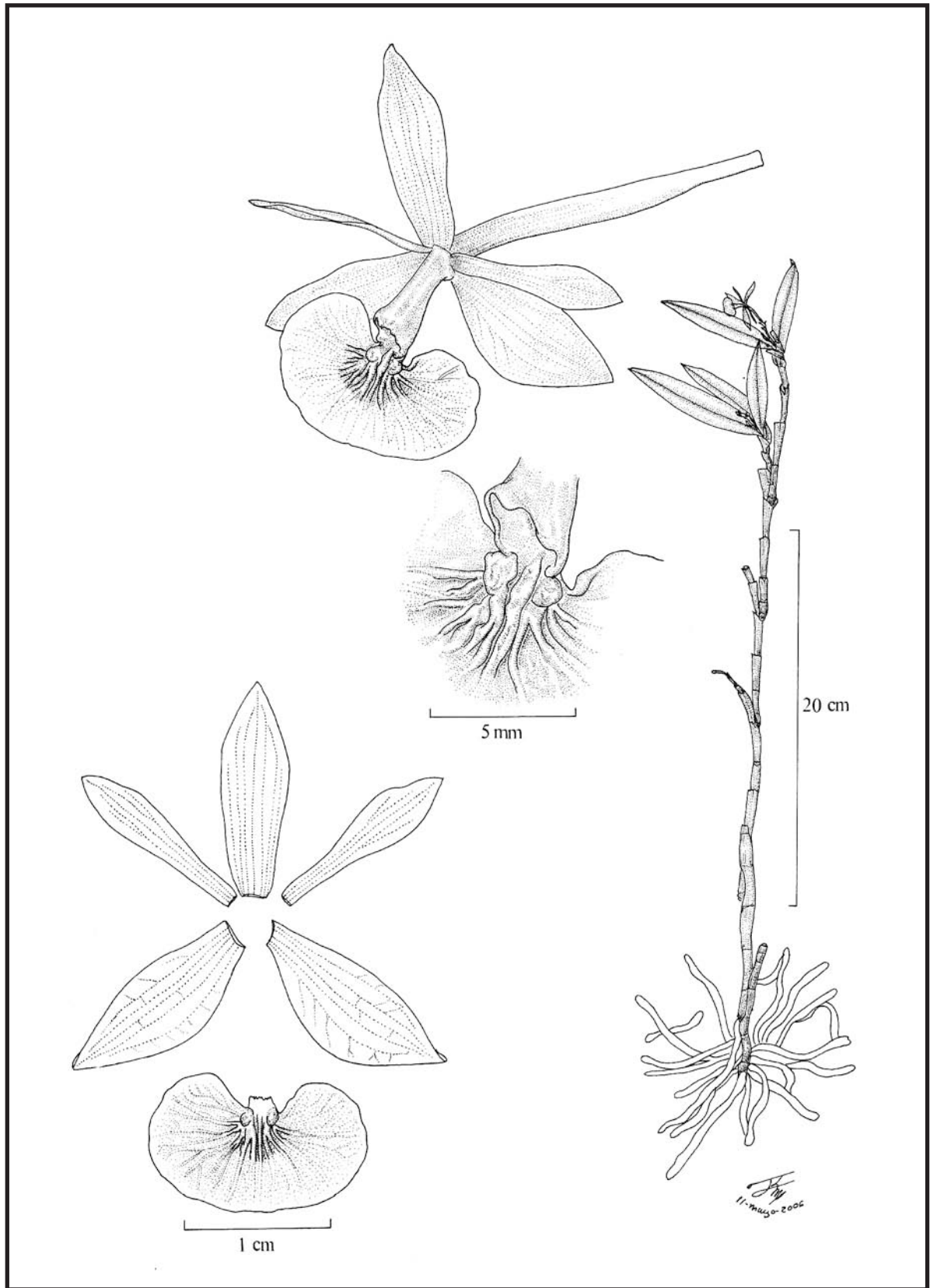
**Icon. Orchid. 13: pl. 1400. 2010.**

The collector's number of the type should be **Edgardo Ortíz V., ...245, ...** not **2454**

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Volume 13 was published on 10 December 2010  
Volume 14 is published on 31 May 2013



*EPIDENDRUM ACTINOGLOSSUM* Hágsater & E.Santiago

Plate 1401

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

Type: PERU: Junín: [Chanchamayo:] East of Quimiri Bridge, near La Merced, 800-1300 m, 1-3 June 1929, *Ellsworth P. Killip & Albert C. Smith 23853*. Holotype: US! (Illustration voucher).

Simile *Epidendri nephroglossi* Schltr. sed inflorescentiis valde brevibus, floribus membranaceis, viridibus, labello flavo-roseo, bracteis floralibus valde brevibus relative ad ovarium et labello reniformi, non emarginato, ornato pluribus venis incrassatis brevibus radiantibus inde a basi, et clinandrio prominente.

Epiphytic, sympodial, erect **herb**, ca 36 cm tall, where the new growth originates from a sub-apical internode of the previous stem. **Roots** 1.5-3.5 mm in diameter, from the base of the plant, from the primary stem, fleshy, thick. **Stems** 4-11 x 0.15-0.3 cm, simple, cane-like, terete, thin, short, straight, the basal 2/3 covered by tubular, non-foliar sheaths, 10-14 mm long. **Leaves** 2-3, aggregate towards the apex of the stems, unequal in size (the basal one shorter), sub-coriaceous, articulate; sheath 0.5-2.4 x 0.3-0.4 cm, tubular, minutely striated; blade 5-8 x 1.1-1.7 cm, narrowly elliptic, acute, margin entire. **Spathaceous bract** lacking. **Inflorescence** 1.1-1.7 cm long excluding the flowers; apical, flowering only once, racemose, arching-nutant, few-flowered, short; peduncle thin, laterally compressed, straight, without bracts. **Floral bracts** 2-4 mm long, much shorter than the ovary, narrowly triangular, acuminate, amplexicaul. **Flowers** 4-5, apparently successive, resupinate, membranaceous, green or the sepals green, the lip salmon yellow, the column greenish white with the apex tinged purple; fragrance not registered. **Ovary** 22-26 mm long, terete, thin, not inflated, unornamented. **Sepals** 14-16 x 4.5-6 mm, spreading, free, glabrous, acute, margin entire, spreading; the dorsal sepal narrowly obovate-ob lanceolate, 7-veined; the lateral sepals obliquely obovate, with a minute dorsal keel, 5-veined, the lateral veins short-branched. **Petals** 13-14 x 3.3-4.1 mm, spreading, free, oblanceolate-spatulate, acute, 3-veined, the lateral veins bifurcate, margin entire, spreading. **Lip** 8.3-9.8 x 14-15 mm, united to the column, entire, reniform, base cordate to deeply cordate, apex rounded, not emarginated, margin entire, spreading; bicallose, the calli small, orbicular, fleshy, the disc with numerous short, thickened veins, radiating from the base of the lip. **Column** 7.5-10 mm long, straight, thin. **Clinandrium-hood** prominent, though without surpassing the body of the column, margin crenate. **Anther** and **pollinia** not seen. **Rostellum** apical, slit. **Lateral lobes of the stigma, nectary** and **capsule** not seen.

**OTHER SPECIMENS: ECUADOR: Zamora-Chinchipec:** River Zamora, 1100 m, 26 VII 1960, *Dodson 163*, SEL!

**DISTRIBUTION AND ECOLOGY:** On the lower eastern slope of the Andes in Central Peru, Junín, from the basin of the Río Chanchamayo and southern Ecuador, the Río Zamora, epiphytic at 800-1300 m altitude. Flowering in June and July.

**RECOGNITION:** *Epidendrum actinoglossum* belongs to the Arbuscula Group which is characterized by the erect habit with successive lateral growths produced from the middle of the previous growth, few leaves aggregate towards the apex of the stems, roots generally only from the base of the primordial stem, and the Incomptum Subgroup which has a short apical inflorescence with fleshy yellowish to green to violet-green to black flowers with short ovaries, the lip entire to 3-lobed. The species is recognized by the green flowers, or the sepals green and the lip salmon-yellow, the apex of the column tinged purple and the prominent clinandrium-hood, the floral bracts are much shorter than the ovary, and the lip is reniform, rounded, the apex is not emarginate, and the disc has numerous, short, thickened veins, radiating from the base of the lip. *Epidendrum nephroglossum* Schltr. has yellow flowers sometimes tinged greenish at the base, prominent floral bracts nearly as long as the ovary, the reniform lip, cordate at the base, the apex shallowly emarginate (not visible unless the lip is extended), somewhat longer than wide, with a pair of fleshy, low calli at the base, and the disc is glabrous, without any thickened veins.

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

**ETYMOLOGY:** From the Greek ακτινος radiating, radius, spoke of a wheel, and γλωσσα, tongue, in reference to the lip which is thickened in the center by radiating veins, especially visible in dried material.



Authors: E. Hágsater & E. Santiago

Illustrator: R. Jiménez M.

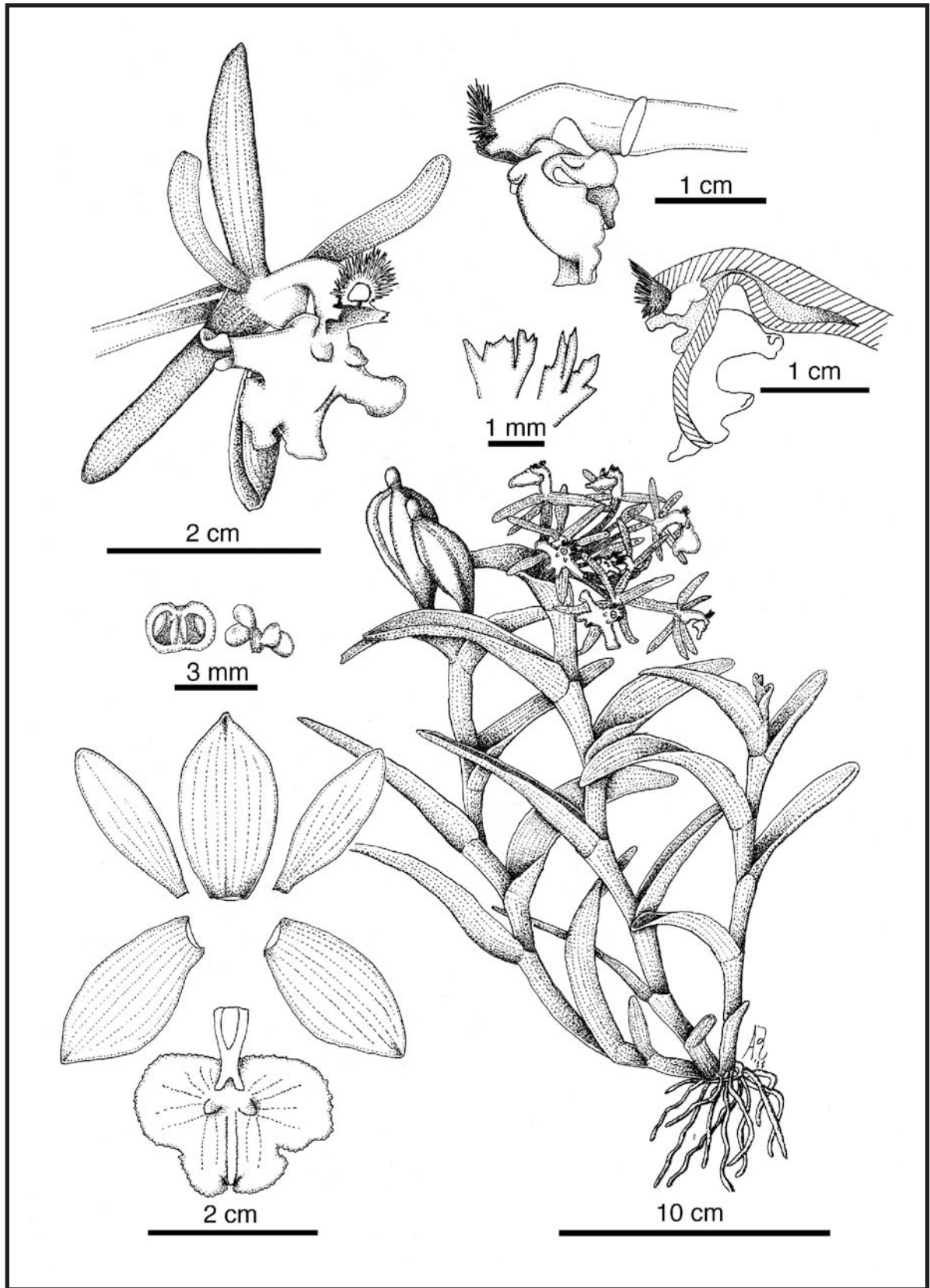
Editors: E. Hágsater & L. Sánchez S.

Herbario AMO

México, D.F. MÉXICO

ICONES ORCHIDACEARUM 14. 2013.

Plate 1401



EPIDENDRUM ALIENIFERUM Karremans & Bogarín

Plate 1402

**EPIDENDRUM ALIENIFERUM** Karremans & Bogarín, Lankesteriana 12(1): 27. 2012.

Type: COSTA RICA: Puntarenas: Coto Brus, Sabalito, Mellizas, entre Finca Gemelas y Finca Mellizas, 8°53'32.53" N 82°46'17.83" W, 1412 m, bosque muy húmedo premontano, epífita en árboles en potreros y cafetales "florentem invenimus ad agros Coffeae et in pascuis supra Acnistus prope opidum Mellizas", 18 Abril 2011, **Adam P. Karremans, D. Bogarín & D. Jiménez 3970**. Holotype: CR! Isotype JBL! (Spirit).

Epiphytic, sympodial, caespitose, erect, **herb**, up to 25 cm tall including the inflorescence. **Roots** basal, fleshy, filiform. **Stems** 14-20 x 0.2-0.4 cm, simple, cane-like, terete, somewhat flattened. **Leaves** 4-8(9), distributed throughout the stem; sheaths 2.0-3.0 cm long, tubular, somewhat laterally flattened, rugose; blades 2-10 x 2.5-3.2 cm, elliptic, obtuse, succulent, smooth, green, margin entire, somewhat parallel to the stems. **Spathaceous bract** lacking. **Inflorescence** apical, from the mature stem, corymbose, flowering only once; peduncle reduced. **Floral bracts** 5 mm long, more shorter than the ovary, acute. **Flowers** 4-10, simultaneous, resupinate, greenish; fragrance not registered. **Ovary** 40-50 mm long, terete, inflated at the apex, unornamented. **Sepals** partly spreading, slightly bent backwards, elliptic, obtuse, 7-veined, margin entire, revolute; **dorsal sepal** 21-22 x 11-12 mm, **lateral sepals** 20-22 x 10-11 mm, oblique. **Petals** 20-22 x 6-7 mm, partly spreading, elliptic, obtuse, 5-veined, margin entire, somewhat revolute. **Lip** 22 x 22-23 mm, united to the column, 3-lobed, base cordate, margins crenulate, revolute, the lip appearing cross-like in natural position; bicallose, the calli subglobose, short; the disc with a low central rib; lateral lobes 10 x 10 mm, widely ovate-elliptic; middle-lobe 5 x 12 mm, sub-quadrate, emarginate. **Column** 13-15 mm long, strongly constricted and arching downwards at the middle, substantially thickened basally, sub-terete, with a pair of arm-like, truncate, wings, the apical margin short fimbriate. **Clinandrium-hood** erect, spreading, very prominent, funnel-shaped, margins radially fimbriate; **Anther** transverse-elliptic, 4-celled, 3 mm wide. **Pollinia** 4, obovoid, laterally compressed, caudicles short, granulose. **Rostellum** near the apex of the column, slit. **Lateral lobes of stigma** 1/3 the length of the stigmatic cavity. **Nectary** short, barely penetrating the ovary, smooth. **Capsule** ellipsoid, 60-70 mm long, pedicel 16-20 mm long, body 34-40 x 16-24 mm, apical neck reduced.

**OTHER SPECIMENS: COSTA RICA: Puntarenas:** Coto Brus, Sabalito, Mellizas, entre Finca Gemelas y Finca Mellizas, 1412 m, 18 IV 2011, *Karremans 3971*, JBL! (Spirit) Z.P. Las Tablas. Cuenca Térraba-Sierpe. Estación Progreso, S. Finca Palmital, 1440 m, 24 V 1999, *Alfaro 183*, CR! INBIO!

**OTHER RECORDS: COSTA RICA: Puntarenas:** Coto Brus, Sabalito, Mellizas, entre Finca Gemelas y Finca Mellizas, 1412 m, 18 IV 2011, digital photo by Karremans based on Karremans Collection (AMO!)

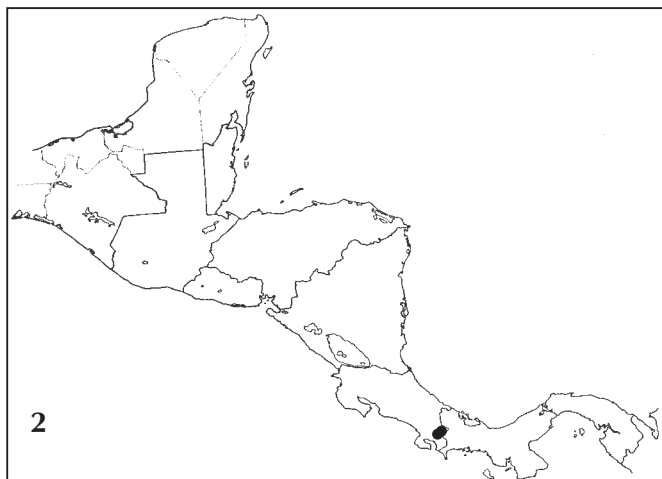
**DISTRIBUTION AND ECOLOGY:** Endemic to Costa Rica, however, most probably found also in Panama, as the type species was collected very close to the border. It is known only from the southernmost portion of the Pacific slope of the "Cordillera de Talamanca". Epiphytic in primary and secondary humid premontane forest, at around 1400-1450 m elevation. Flowering recorded in April in the field and in May under cultivation.

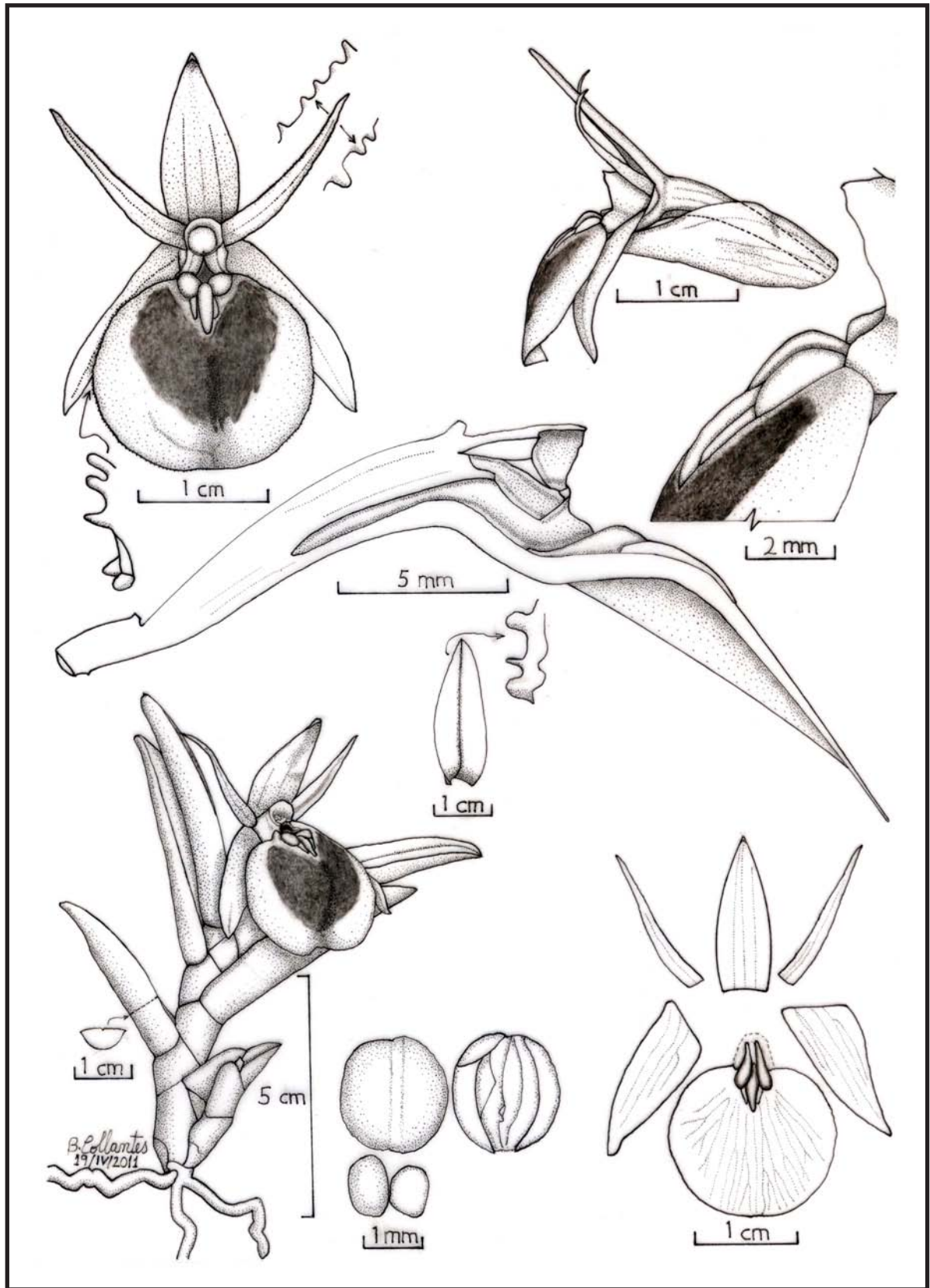
**RECOGNITION:** *Epidendrum alieniferum* belongs to the Difforme Group which is characterized by the caespitose, sympodial plants, fleshy, pale green to glaucous leaves, apical inflorescence, sessile, rarely with a short peduncle, one-flowered to many-flowered, and then corymbose, without spathaceous bracts, fleshy, green to yellowish-green rarely white flowers. The species is distinguished by the terete stems, 4-10 simultaneous flowers, sepals 20-22 x 10-12 mm, the column constricted and bent in the middle, the prominent, lacerate, funnel-shaped clinandrium-hood and the lip with margins crenulate and sides revolute to give it an anthropomorphic shape. *Epidendrum lagenocolumna* Hágsater & L. Sánchez has smaller flowers (sepals 13-18 mm long), the linear petals, the margin of the lip entire, the base of the column making it just a somewhat wider, clinandrium obsolete. *Epidendrum firmum* Rchb.f. is also similar, however it is much smaller in both plant and flower size (sepals 13-14 mm long), has linear petals, the margin of the lip sinuous, is not thickened at the base of the column and does not have such a prominent erect lacerate clinandrium, the calli prominent and elongate, very divergent, fleshy, acute.

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

**ETYMOLOGY:** From the Latin "*alienus*", alien, stranger, and "*fero*", bearing. In allusion to the frontal view of the folding of the lip and column apex in natural position, which looks like little green human-like figures; bearing strange beings.

**REFERENCES:** Hágsater, E., & Sánchez, L. 1993. *Epidendrum lagenocolumna*. In Hágsater, E., J. García-Curz & L. Sánchez (eds) *Icon. Orchid.* 2: t. 150. Sánchez, L., & Hágsater, E. 2007. *Epidendrum firmum*. In Hágsater, E. & L. Sánchez Saldaña (eds) *Icon. Orchid.* 9: t. 937.





EPIDENDRUM ALTHANIORUM Hágsater & Collantes

Plate 1403

## *EPIDENDRUM ALTHANIORUM* Hágsater et Collantes, *sp. nov.*

Type: PERU: Cusco: Prov. Urubamba: Dist. Machu Picchu, zona de amortiguamiento del Santuario Histórico de Machu Picchu, Bosque de Neblina, cultivado por Moisés Quispe y Ermitaño Quispe Batallanos en el Jardín de Orquídeas, 25 junio 2004, Centro de Conservación *in situ* del **Inkaterra Machu Picchu Pueblo Hotel 91**. Holotype USM! (Illustration voucher, plate Collantes N<sup>o</sup> 27, photo voucher).

Species similis *Epidendri mathewsii* Rchb.f. sed labello circulari, margine minute papilloso, petalis lineari-triangularibus, petalorum marginibus minute papillosis.

Epiphytic, caespitose, sympodial, dwarf herb, 4.5-10 cm. **Roots** 0.5-1 mm in diameter, from the basal rhizome, thin, white. **Stems** 2.7-10 x 0.3-0.4 cm, cane-like, simple, terete, thickened, without forming pseudobulbs, erect, straight, oblique. **Leaves** 5-6, distichous, coriaceous, blade 1.3-5 x 0.7-0.85 cm, ovate to lanceolate, semi-terete, minutely apiculate, margin entire to minutely papillose towards the apex. **Inflorescence** apical, very short, sessile, single-flowered. **Floral bract** 8-19 x 5-7 mm, longer than the ovary, hemi-ovate, semi-translucent. **Flower** single, resupinate, sepals, petals and column pale green (lemon green); lip pale green with a cordate dark red spot on the disc; calli and keels pale green; without fragrance. **Ovary** 13-15 x 2-3 mm, terete, thin, smooth and slightly thickened towards the apex. **Sepals** free, partly spreading, ovate-lanceolate, acute, conspicuously 3-veined, with two inconspicuous veins near the margins of the lateral sepals; dorsal sepal 12-14.6 x 4.5-5.3 mm, lateral sepals 13-16.6 x 5-6.6 mm, oblique. **Petals** 12-15 x 1-1.8 mm, free, spreading, linear-triangular, slightly falcate towards the base, margins minutely papillose, conspicuously 1-veined, with a pair of short lateral veins. **Lip** 13.5-14 x 12-16.6 mm, united to the column, entire, orbicular to widely transversely ovate, margin minutely papillose; bicallose, the calli widely club-shaped, terminating in a pair of short keels; central keel fusiform, surpassing the lateral in front to about 1/4 of the lip. **Column** 4 mm long, short, dilated towards the apex. **Rostrum** apical, slit. **Clinandrium-hood** conspicuous, projecting beyond the anther, margin entire. **Anther** sub-spherical, with a low keel in front, 4-celled. **Pollinia** 4, in two unequal pairs, the larger pair ellipsoid, complanate, convex-flat, the inner pair widely obovate, complanate, convex-flat. **Lateral lobes of the stigma** not seen. **Nectary** penetrating the ovary somewhat beyond the middle, not inflated, unornamented. **Capsule** not seen

**OTHER SPECIMENS: PERU: Cusco:** Urubamba: Huyro, Aguas Calientes, Machu Picchu, cult. jardín Inkaterra, 2040 m, 22 V 2011, Carmen Soto & German Villena S. 10, USM 250301! Distr. Echarate, Papelpata, 1434 m, 17 V 2007, Calatayud 3855, AMO! CUZ, HUT, MO, USM. Aguas Calientes, cult. jardín Inkaterra, 2040 m, 1 VII 2004, Quispe & Collantes 44, USM 246446!

**OTHER RECORDS: PERU: Cusco;** La Convención; near Quillabamba, June 1996, no specimen prepared (Collantes, pers. comm., 2011).

**DISTRIBUTION AND ECOLOGY:** Presently known from southern Peru, from the eastern slope of the Cordillera Oriental of the Andes in the Department of Cusco, along the basin of the Rio Urubamba from Quillabamba to Machu Picchu, at up to 1900 m altitude. Epiphytic in cloud forest on *Inga adenophylla* "pacay mono", *Persea americana* "palta", and in disturbed forests on *Coffea arabica*. Flowering in April-June, and September-October.

**RECOGNITION:** *Epidendrum althaniorum* 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 orbicular to widely transversely ovate lip, neither cordate nor emarginated, and the narrowly triangular, acuminate petals, which have a minutely papillose margin. *Epidendrum gnomus* Rchb.f. has an ovate lip, the margin dentate. *Epidendrum mathewsii* Rchb.f. has erect stems, the leaves always spreading, somewhat canalculated, and perpendicular to the axis of the stem, a bilobed lip, the base cordate and the apex emarginate, the petals oblong, apically obtuse. *Epidendrum maxthompsonianum* Hágsater & Dalström has a circular lip, the margin minutely dentate, the column very short, oblique, presenting with a wide throat, the petals are narrowly ovate, apically obtuse. *Epidendrum porpax* Rchb.f. from Mesoamerica, has arching pendant stems, the leaves always facing one side, somewhat like in *Dichaea*, and the lip is bilobed, cordate at the base and emarginate at the apex, the petals are narrowly oblong, obtuse, the margin crenate-denticulate towards the apex.

**LOCAL NAME:** *Puka sonqo*, in the Quechua language, red heart, in reference to the shape of the red spot on the lip of the flower.

**ETYMOLOGY:** In honor of Sheikh Hamad bin Khalifa Al-Thani, Emir of Qatar, and Sheikha Mozad bint Nasser Al-Missned, Chairperson of the Qatar Foundation for Education, Science and Community Development; for their support to conservation in Peru.

**REFERENCES:** Collantes, B., et al., 2007, **Orquídeas en Inkaterra Machu Picchu Pueblo Hotel**, fig. 44, pg. 136-137; Inka Terra Asociación, Lima, Perú. Hágsater, E., 2008: *Epidendrum gnomus* Schltr., in Hágsater, E. & L. Sánchez (eds.) **Icon. Orchid.** 11: pl. 1128. Hágsater, E., & S. Dalström, 2008: *Epidendrum maxthompsonianum* Hágsater & Dalström, in Hágsater, E. & L. Sánchez (eds.) **Icon. Orchid.** 11: pl. 1140. Santiago, E., & E. Hágsater, 2010: *Epidendrum porpax* Rchb.f., in Hágsater, E. & L. Sánchez (eds.) **Icon. Orchid.** 13: pl. 1375.



Authors: E. Hágsater & B. Collantes

Illustrator: B. Collantes

Photo: B. Collantes

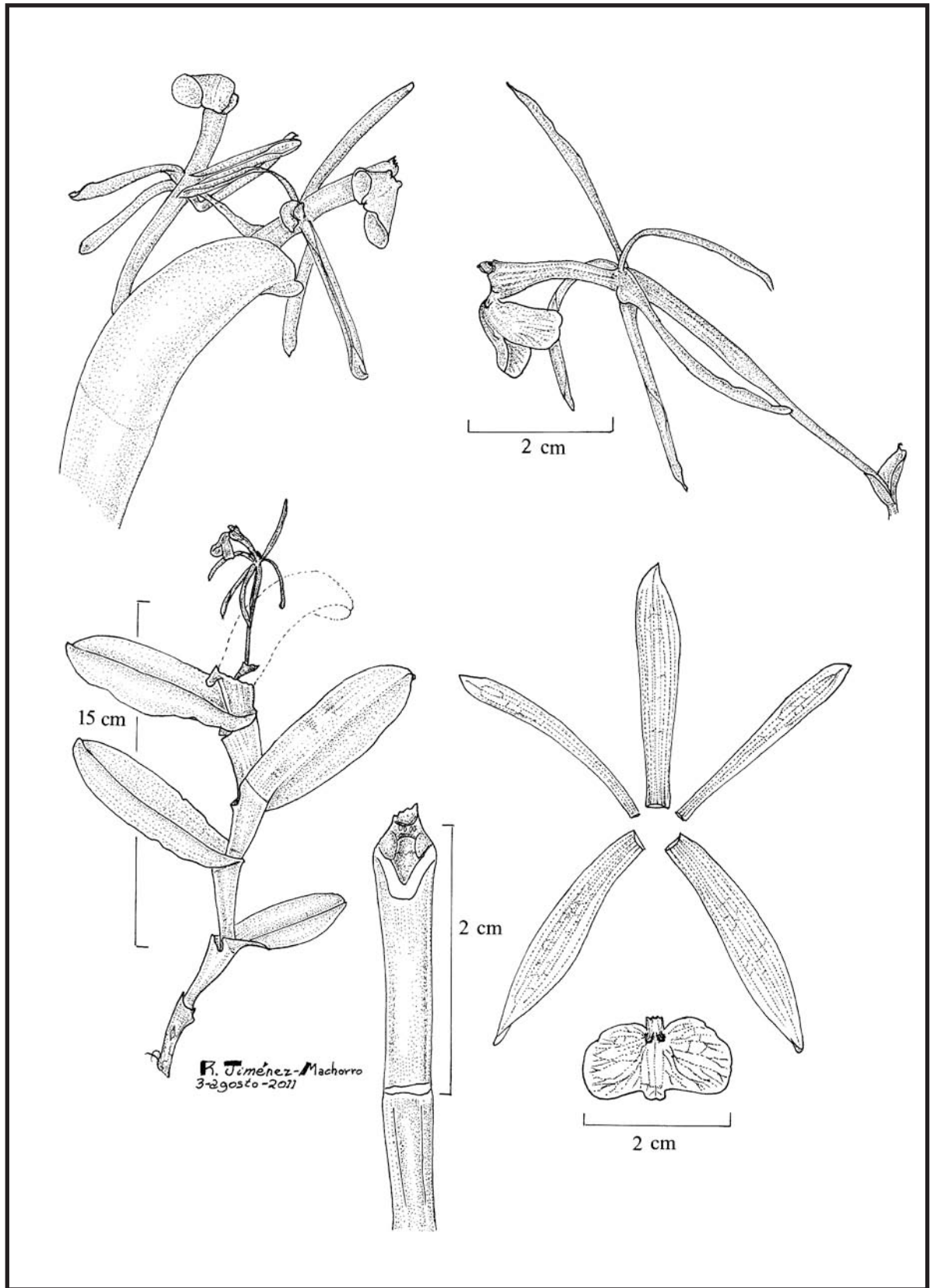
Editors: E. Hágsater & L. Sánchez S.

Herbario AMO

México, D.F. MÉXICO

ICONES ORCHIDACEARUM 14. 2013.

Plate 1403



EPIDENDRUM AMARAJIENSE V.P.Castro & L.C.Menezes

Plate 1404



**EPIDENDRUM AMARAJIENSE** V.P.Castro & L.C.Menezes, Boletim CAOB 76: 67. 2009. Type: BRAZIL: Pernambuco\*: Amaraji, ca. 20 km do mar, 600 m, col. Jaime Veiga Filho, floração em cultivo, 7 Agosto 2009, **Vitorino P. Castro Neto 127 sub L.C. Menezes UB 104**. Holotype: UB! Digital images AMO!

Homotypic synonym: *Epidendrum pernambucense* V.P.Castro & L.C.Menezes, Boletim CAOB 75: 35. 2009, *nom. illeg.*, non *Epidendrum pernambucense* Cogn., Fl. Bras. (Martius) 3(6): 569. 1906.

Epiphytic, sympodial, caespitose **herb**, 15 cm tall including the inflorescence. **Roots** basal, fleshy, thin. **Stems** 6.5-7.0 x 0.3-0.5 cm, simple, cane-like, ancipitose, straight to slightly flexuous. **Leaves** 5-6, distributed throughout the stem; sheath 2.5-3.0 x 1.0-1.5 cm, infundibuliform, laterally compressed, ancipitose, smooth; blade 5.5-9.0 x 1.8-2.8 cm, elliptic, retuse, coriaceous, smooth, green, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescence** apical, from the mature stem, sessile, corymbose, flowering only once. **Floral bracts** 7 mm long, much shorter than the ovary, triangular, acute, scarious. **Flowers** 2, simultaneous, resupinate, green; fragrance not registered. **Ovary** 45-50 x 2.5-3 mm, terete, not inflated, unornamented. **Sepals** free, linear-elliptic, acute, margin entire, revolute, sub-coriaceous, glabrous, 7-veined, with a pair of secondary veins so as to appear 9-veined; the **dorsal sepal** 34 x 7 mm, partly spreading, ascending; the **lateral sepals** 33 x 6 mm, spreading, descending, oblique. **Petals** 30 x 2.5 mm, recurved, free, linear-oblancoolate, acute, membranaceous, revolute in 1/3 distal portion, 3-veined, margin entire, spreading. **Lip** 11 x 18 mm, united to the column, reniform, 3-lobed, base cordate; bicallose, the calli small, short; lateral lobes 10 x 8 mm; obovate, rounded, margin revolute, undulate; mid-lobe 2 x 4 mm, much smaller than the lateral lobes, rectangular, entire. **Column** 20 mm long, straight, long, dilated towards the apex. **Clinandrium-hood** short, margin slightly erose. **Anther, Pollinia, rostellum** and **capsule** not seen.

**OTHER SPECIMENS: BRAZIL: Pernambuco:** Jaqueira, RPPN Frei Caneca, 29 V 2012, fl., Pessoa 935, UFP (digital images of plant in flower, AMO!)

**DISTRIBUTION AND ECOLOGY:** Endemic NE Brazil, from the State of Pernambuco. Epiphytic in remnants of Mata Atlântica, at 600 m altitude. Flowering in July-August.

**RECOGNITION:** *Epidendrum amarajiense* belongs to the Difforme Group which is characterized by the caespitose, sympodial plants, fleshy, pale green to glaucous leaves, apical inflorescence, sessile, rarely with a short peduncle, one to many-flowered and then corymbose, without spathaceous bracts, fleshy, green to yellowish-green rarely white flowers. The species is recognized by the laterally compressed, ancipitose stems, 2 large flowers, sepals 33-34 mm long, recurved petals and reniform lip, 11 x 18 mm, with a very small rectangular mid-lobe, lateral lobes obovate with the margin undulate, a long, straight column and slightly erose margin of the clinandrium-hood. *Epidendrum anatipedium* L.Sánchez & Hágsater, known only from further north, in the State of Ceará, also has large flowers, sepals 36 mm long, the petals parallel to the column, and obtuse lip with the apex 3-lobed, the lobes triangular, an arched column, and a prominent, erose, clinandrium-hood. *Epidendrum carvalhoi* Toscano also endemic to Brazil, from the State of Espírito Santo, has long, narrow sepals and petals, (sepals 37-55 mm long), the lip is obreniform, 3-lobed, mid-lobe small, short and wide, rounded, apiculate. *Epidendrum latilabre* Lindl. is widely distributed along the Mata Atlântica of Brazil, sepals are 18-33 mm long, petals spreading, lip is 4 times wider than long, lateral lobes sub-quadrate, mid-lobe wide and deeply emarginate, forming a pair of lobes, and the prominent clinandrium-hood has a deeply lacerate margin. *Epidendrum oldemanii* Christenson is endemic to the French Guyana and has smaller flowers, sepals 14-16.5 mm long, spreading petals, a bilobed, transversely reniform lip with the margin sinuous and sub-globose calli. *Epidendrum amapense* Hágsater & L.Sánchez, from Northern Brazil and the French Guyana has 1-2, smaller flowers, sepals 14-17 mm long, spreading petals, semi-ovate lateral lobes with the margin slightly erose, mid-lobe is short and wide, (1.2 x 3.0 mm), emarginate, the column slightly arching with the margin of the clinandrium-hood deeply erose-dentate. *Epidendrum pseudodifforme* Hoehne & Schltr. also endemic to coastal Brazil has terete stems, 5-8 small flowers, sepals 12-13 mm long, spreading petals, a 3-lobed lip with the margin crenulate, and the mid-lobe with a wide sinus forming 2 rounded lobes.

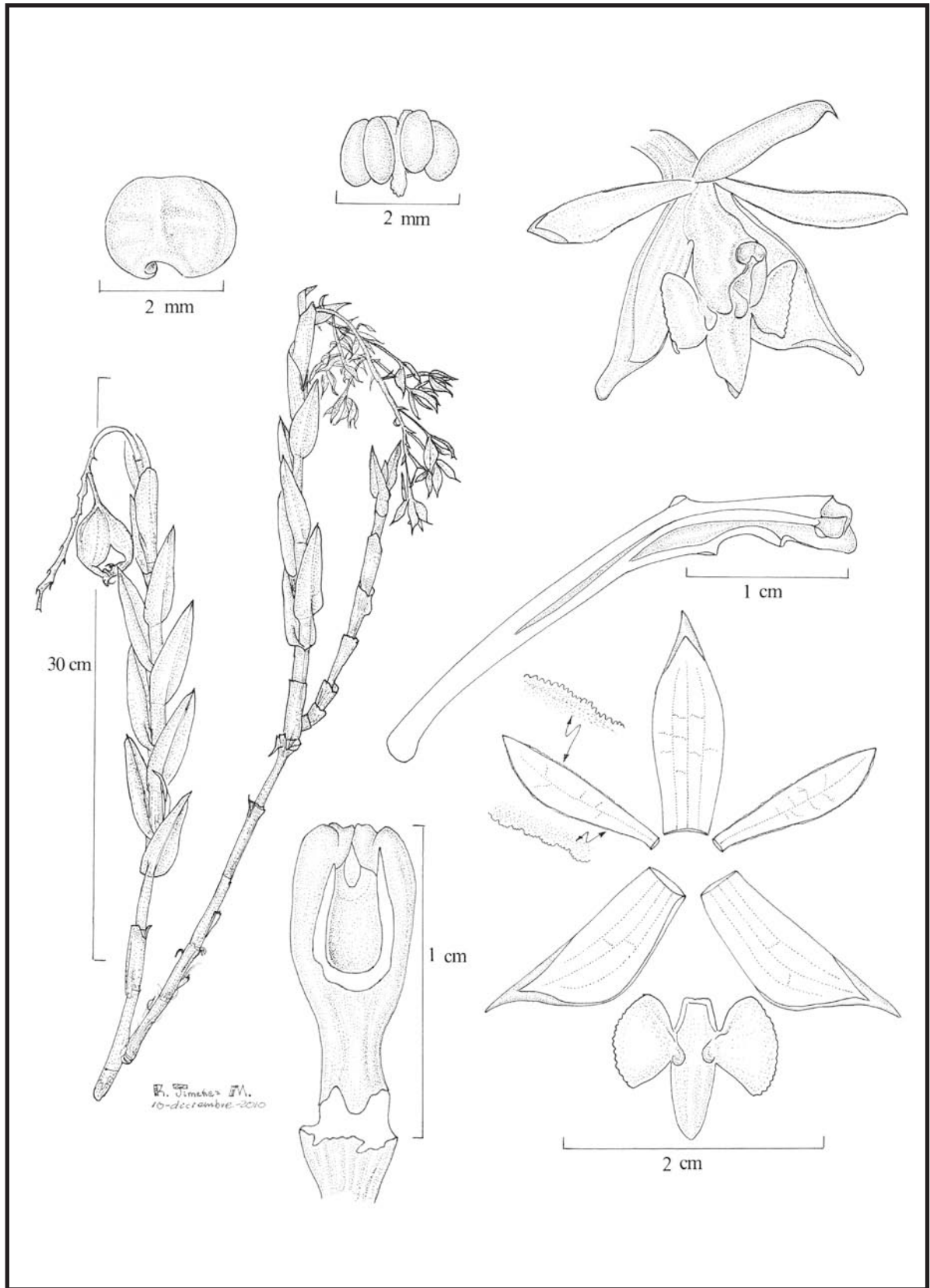
**\*NOTE:** The full type information does not appear on the herbarium label and protologue, but was provided by the co-author, Thiago E. C. Meneguzzo, who actually mounted the specimen, and had seen the pretype in flower in the collection of L. C. Menezes. The holotype was prepared from an old stem, with the apical leaf missing. For purpose of the illustration, the apical leaf has been indicated, and the flower positioned at the apex of the stem. The image of the apical leaf and two flowers was prepared from a photograph of the pretype, as shown in the original publication.

**CONSERVATION STATUS:** DD: Data deficient. Known only from the type. The area around Amaraji has been highly disturbed due to agriculture and cattle grazing.

**ETYMOLOGY:** In reference to the Municipality of Amaraji, in the State of Pernambuco, where the species was collected.

**REFERENCES:** Castro Neto, V. P. & Menezes, L. C. 2009. Uma nova espécie de *Epidendrum* do Pernambuco. **Bol. CAOB** 75: 35-38. Castro Neto, V. P. & Menezes, L. C. 2009. Nova combinacao nomenclatural: *Epidendrum amarajiense*. **Bol. CAOB** 76: 67.





EPIDENDRUM AMPELOMELANOXEROS Hágsater, E.Santiago & E.Parra

Plate 1405

**EPIDENDRUM AMPELOMELANOXEROS** Hágsater, E.Santiago et E.Parra, *sp. nov.*

Type: COLOMBIA: Valle del Cauca; Mpio. Pradera: I.P. Bolo Azul, Finca La Cabaña, 3350 m, 4 octubre 1989, *Stella Sarría, A. Agudelo y C. Galvis 268*. Holotype: CUVC! (Illustration voucher).

Similar to *Epidendrum melanoxeros* Hágsater & Dodson but with scandent habit, the leaves shorter, ovate-lanceolate to lanceolate, the apex acute; flowers tinted reddish, the calli somewhat smaller; flowers dry dark brown.

Epiphytic or terrestrial, sympodial, scandent **herb**, to 70 cm tall, with successive lateral growth. **Roots** 1-4 mm in diameter, basal from the primary stem, rarely above, fleshy, white. **Stems** 30 x 0.4-0.9 cm, simple, produced from the middle of the previous stem, cane-like, terete, erect, base covered by tubular sheaths 10-28 x 7-9 mm, non-foliar, minutely striated, becoming fibrous with time. **Leaves** 6-18, sub-erect, alternate, articulate, coriaceous, the upper side of the blade dark green-purple; sheath 2.0-3.0 x 0.6-1.0 cm, tubular, minutely striated; blade 4.2-11.5 x 1.0-3 cm, narrowly ovate-lanceolate to lanceolate, apex acute, minutely apiculate, margin denticulate. **Spathaceous bracts** 2, 5-7 x 1.7-2.0 cm (when spread), tubular, open on one side along the apical half, and then conduplicate, the apex rounded. **Inflorescence** 18-24 cm long, apical, racemose, arching-nutant, laxly many-flowered; peduncle 6-7 cm long, thin, laterally compressed, erect, straight. **Floral bracts**: the basal ones 25-30 x 4-6 mm, the rest 4-7 mm long, prominent but much shorter than the ovary, linear-lanceolate, acuminate, amplexicaul. **Flowers** 17-26, simultaneous, resupinate, fleshy, greenish yellow with tinged reddish; fragrance not registered. **Ovary** 21-26 mm long, terete, thin, not inflated, unornamented. **Sepals** 16-18 x 5.5-6 mm, free, partly spreading, acuminate, dorsally aristate, 3-veined, margin entire; the dorsal sepal narrowly obovate; lateral sepals oblong, oblique. **Petals** 14-15 x 2.5-3 mm, partly spreading, free, oblanceolate, acute, 1-veined, oblique, margin crenulate, spreading. **Lip** 10 x 12 mm, united to the column, 3-lobed, base deeply cordate; bicallose, the calli small, orbicular; disc with a single mid-rib, thin, low, disappearing before reaching the apex of the mid-lobe; lateral lobes 4.8-5.5 x 7.5-9 mm, dolabriform, margin apical, erose; mid-lobe 5-5.8 x 2.5-3.5 mm, oblong-triangular, the apex rounded, margin entire. **Column** 10 mm long; straight, thin, the apical sides truncate. **Clinandrium-hood** short, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid; caudicles soft and granulose, as long as the pollinia. **Rostellum** apical, slit. **Lateral lobes of the stigma** small, half as long as the stigmatic cavity. **Nectary** shallow, penetrating just behind the perianth, slightly inflated, without forming a vesicle, unornamented. **Capsule** 5.5 x 3 cm; ellipsoid, green tinged with purple; pedicel 15 cm long; body 3.8 x 3 cm; apical neck obsolete.

**OTHER SPECIMENS: COLOMBIA: Caldas:** Quebrada de Peñas Blancas, 29 km N de Manizales, 3365 m, 18 X 1944, *St. John 20820*, AMES x2! NY x2! UC! US! **Valle del Cauca:** Mpio. Tuluá, Barragán, Páramo de Paramillo, Alto La Italia, 17 IX 1988, *López 75*, TULV 5251!

**DISTRIBUTION AND ECOLOGY:** Known only from the Cordillera Central in southern Colombia, from Caldas to the Valle del Cauca. Terrestrial or epiphytic on "Guayabo noro", and on mossy trunks of remnant trees along streams; at 3350-3400 m altitude. Flowering in September-October.

**RECOGNITION:** *Epidendrum ampelomelanoxeros* belongs to the Ampelospatum 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 spathaceous bract, and flowers with a 3-lobed lip and 2 small, basal calli. The new species is recognized by the 16-18 mm long, acuminate sepals, obliquely oblanceolate, acute petals, and by the dolabriform lateral lobes of the lip, the apical margin erose. It resembles *Epidendrum ampelospatum* Hágsater & Dodson, from the Cordillera Oriental in southern Ecuador, which has smaller flowers, sepals 10.5-14 mm long, short-oblong, sub-acute, minutely apiculate, petals widely ovate-sub-trullate, rounded, 5-veined, and the lateral lobes of the lip reniform, obliquely orbicular, rounded; flowers dry dark brown in herbarium specimens. The flowers are similar to those of *Epidendrum melanoxeros*, but the vegetative habit is caespitose, the new stem produced from the base of the previous stem, leaves narrowly elliptic, apex rounded, the flowers yellowish green; the flowers dry black in herbarium specimens. *Epidendrum klotzschianum* Rchb.f. has tall stems, to 2 m tall, produced from the base of the previous stem, leaves lanceolate, 17.5-25 cm long, the inflorescence is densely many-flowered, the flowers fuchsia to ochre tinged with pink.



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

**ETYMOLOGY:** From the Greek *αμπελος*, climbing plant, vine, in reference to the climbing modular habit of the plant, and *E. melanoxeros* due to the similarity of the shape of the flowers of that species.

Authors: E. Hágsater, E. Santiago & E. Parra

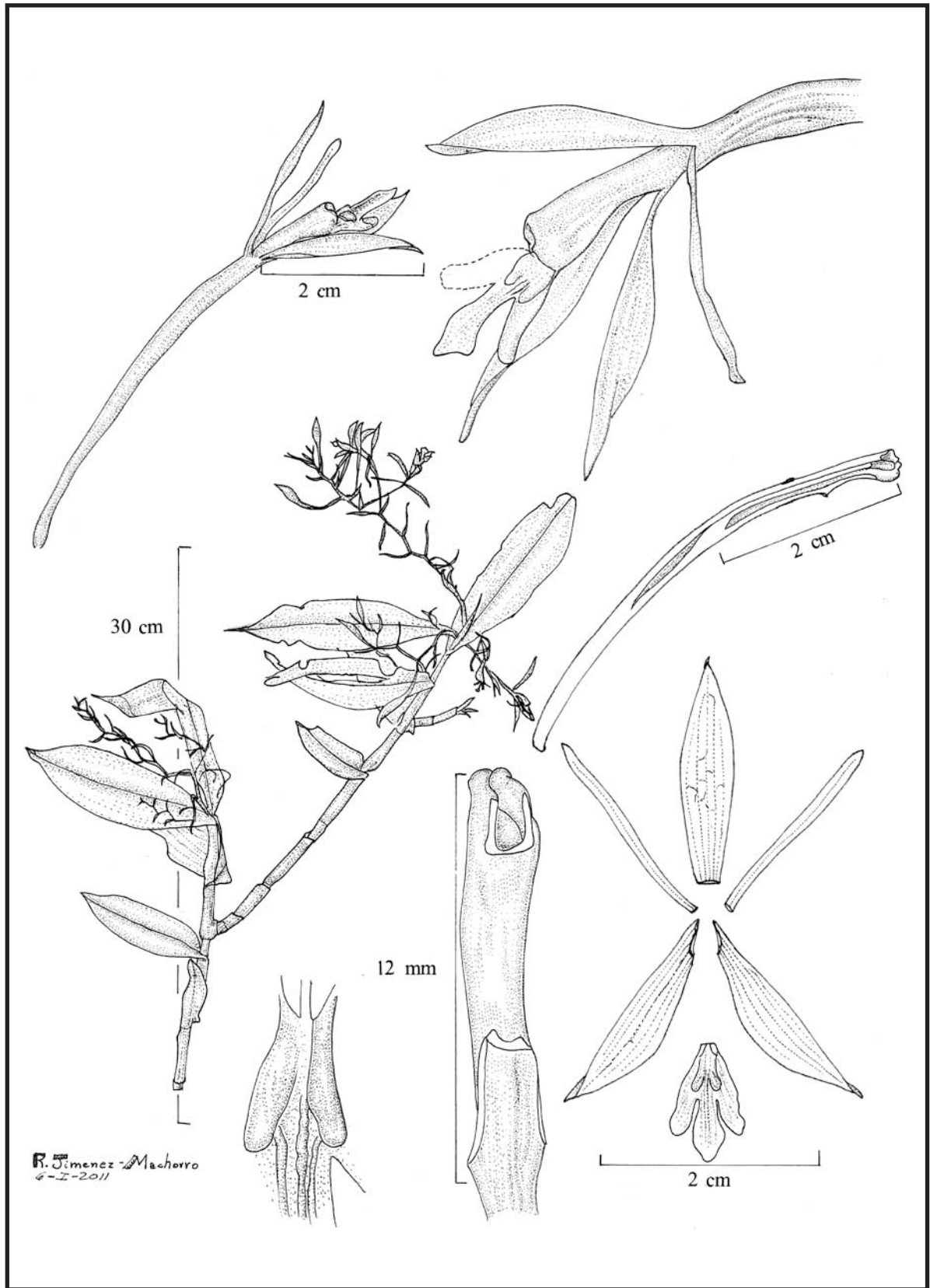
Illustrator: R. Jiménez M.

Editors: E. Hágsater & L. Sánchez S.

Herbario AMO

México, D.F. MÉXICO

ICONES ORCHIDACEARUM 14. 2013. Plate 1405



**EPIDENDRUM AMPLEXIRISARALDENSE** Hágsater & E.Santiago

Plate 1406

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

Type: COLOMBIA: Risaralda: Municipio de Santa Rosa de Cabal; Cordillera Central, vertiente occidental, Hacienda Berlín, 2890 m, 30 January 1980, **Roberto Jaramillo Mejía, Thomas van der Hammen, Sonia Salamanca, Antoine M. Cleef & Orlando Rangel 6117**. Holotype: COL 218110! (Illustration voucher).

Simile *Epidendrum alexii* Hágsater & Dodson, sed floribus viridescens et rachidi inflorescentiae flexuoso, ovario non inflato, labelli basi cuneata et lobulis lateralibus oblique oblongis margine integro.

Epiphytic, sympodial, erect **herb**, where each new stem originates from a sub-apical internode of the previous stem.

**Roots** not seen. **Stems** 13-20 x 0.4-0.6 cm, simple, cane-like, terete, thin, straight; the base covered with non-foliar sheaths, 10-33 mm long. **Leaves** 5, distributed along the apical half of the stem, articulate, unequal in size, the basal leaf smaller, then progressively larger towards the apex; sheath 15-33 mm long, tubular, minutely striated when dry; blade 4-11.7 x 1.5-3.2 cm, elliptic, short acuminate, margin entire, spreading. **Spathaceous** bract lacking. **Inflorescence** 10-15 cm long, apical, flowering only once, paniculate, with 2-3 short branches, lax, few-flowered; peduncle short, sub sessile, rachis flexuous. **Floral bracts** 5-18 mm long, prominent, much shorter than the ovary, gradually shorter towards the apex of the rachis, linear-lanceolate, acuminate, amplexicaul. **Flowers** 20-30, successive, resupinate, greenish; the flexuous rachis; fragrance not registered. **Ovary** 27-30 mm long, terete, thin, not inflated, unornamented. **Sepals** 20 x 4.7 mm, partly spreading, narrowly elliptic, short acuminate, with a prominent dorsal keel, 5-veined, margin entire, spreading; the **dorsal** sepal free; **lateral** sepals obliquely united to the base of the column, oblique. **Petals** 20 x 1.3 mm, free, linear, sub-obtuse, 1-veined, margin entire, spreading. **Lip** 11 x 7 mm, united to the column, 3-lobed, base cuneate, margin entire, spreading; bicallose, the calli thin, elongate to nearly the base of the mid-lobe; disc with 3 ribs in between the calli and which disappear before reaching the apex of the lip; lateral lobes 2 x 8 mm, obliquely oblong, rounded; mid-lobe 5.5 x 3 mm, oblong-rhombic, minutely apiculate. **Column** 12 mm long, thin, straight. **Clinandrium-hood** short, fleshy, margin entire. **Nectary** shallow, penetrating  $\frac{1}{4}$  of the ovary, not inflated, unornamented. **Anther** and **pollinia** not seen. **Rostellum** apical, slit. **Lateral lobes of the stigma** and **capsule** not seen.

**OTHER SPECIMENS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Known only from central Colombia, from the western slope of the Cordillera Central in Risaralda, epiphytic at 2890 m altitude in *Weinmannia sp.* and *Clusia sp.* forest. Flowering in January.

**RECOGNITION:** *Epidendrum amplexirisaraldense* belongs to the Arbuscula Group which is characterized by the erect plants where the new stems originate from the apical internodes of the previous stem, and the Amplexicaule Subgroup which has short-acuminate leaves and lax, few-flowered, paniculate inflorescences with prominent floral bracts. The species is recognized by the lax, greenish flowers distributed along the flexuous rachis, the ovary does not form a vesicle, the cuneate base of the lip and the obliquely oblong lateral lobes of the lip. *Epidendrum alexii* Hágsater & Dodson is vegetatively similar but the flowers are white, the rachis straight, the ovary forms a minute vesicle just behind the perianth, the base of the lip is slightly cordate with the lateral lobes triangular-dolabriform and the margin erose. *Epidendrum amplexicaule* Lindl. has the flowers aggregate towards the apex of the rachis, a truncate base of the lip, sub-quadrate lateral lobes of the lip with the margin dentate and strongly divaricate with respect to the mid-lobe which is ob-deltate with the apex truncate.

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

**ETYMOLOGY:** From the Latin, *amplexus*, embracing, in reference to the vegetative similarity of this species to *E. amplexicaule*, and Risaralda, the Colombian Department where the type was collected.



Authors: E. Hágsater & E. Santiago

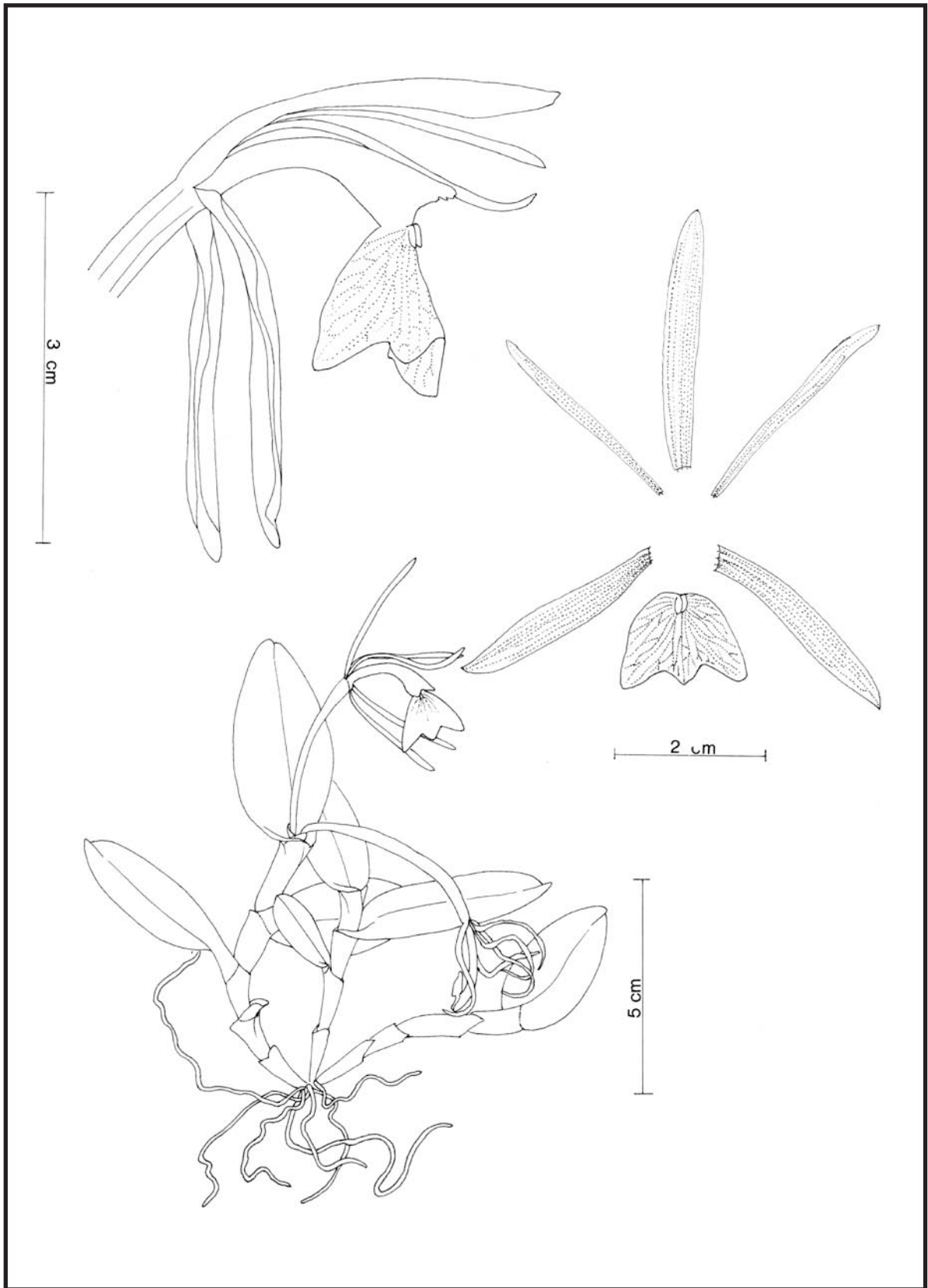
Illustrator: R. Jiménez M.

Editors: E. Hágsater & L. Sánchez S.

Herbario AMO

México, D.F. MÉXICO

ICONES ORCHIDACEARUM 14. 2013. Plate 1406



EPIDENDRUM ANATIPEDIUM L.Sánchez & Hágsater

Plate 1407

**EPIDENDRUM ANATIPEDIUM** L.Sánchez & Hágsater, Orquídea (Mexico City). 13(1-2): 291. 1993.

Type: BRAZIL: Ceará: sítio Pé da Ladeira, 3 km east of Guaramiranga, 550 m, in shade on trees, 24 March 1945, **Hugh C. Cutler 8325**. Holotype: AMES 63095! (Illustration voucher).

Epiphytic, sympodial, caespitose **herb**, 12-15 cm tall including the inflorescence. **Roots** 0.3-1 mm diameter, basal, fleshy, thin, thick. **Stems** 6.5-7.0 x 0.3-0.5 cm, simple, cane-like, laterally compressed towards the apex, straight to slightly flexuous. **Leaves** 3-4, distributed throughout the stem; leaf sheath 0.7-1.5 cm long, laterally compressed, smooth; blade 2.0-5.5 x 0.8-2.4 cm, ovate-elliptic, retuse, coriaceous, smooth, green\*, margin entire, spreading. **Spathaceous bracts** lacking. **Inflorescence** apical, from the mature stem, sub-umbellate, flowering only once, sessile. **Floral bracts** 3 mm long; much shorter than the ovary, triangular, acute, scarious. **Flowers** 3\*, simultaneous, resupinate, green; fragrance not registered. **Ovary** 39-46 x 2-3 mm, terete, long, curved, not inflated, unornamented. **Sepals** free, linear-elliptic, acute, margin-entire, revolute, sub-coriaceous, glabrous, 7-veined; the **dorsal sepal** 35.7 x 4.5 mm, partly spreading, ascending; the **lateral sepals** 30 x 4.6 mm, spreading, descending, oblique. **Petals** 32 x 1.8 mm, parallel to the column, free, linear, acute membranaceous, 3-veined, margin entire, spreading. **Lip** 12 x 14 mm, united to the column, obtrapezoid, 3-lobed along the apical margin, base slightly cordate, margin entire, spreading; bicallose, the calli prominent, elongate; lateral lobes 5 x 3 mm, triangular, divergent, acute to rounded, margin entire; mid-lobe 2.2 x 2.7 mm, much smaller than the laterals, triangular, acute. **Column** 21-22 mm long, arching, dilated towards the apex. **Clinandrium-hood** prominent, straight, margin erose. **Anther, pollinia, rostellum, lateral lobes of the stigma, nectary** and **capsule** not seen.

**OTHER SPECIMENS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Endemic to Brazil, presently known only from the state of Ceará. Epiphytic in shade at 550 m altitude. Flowering in March.

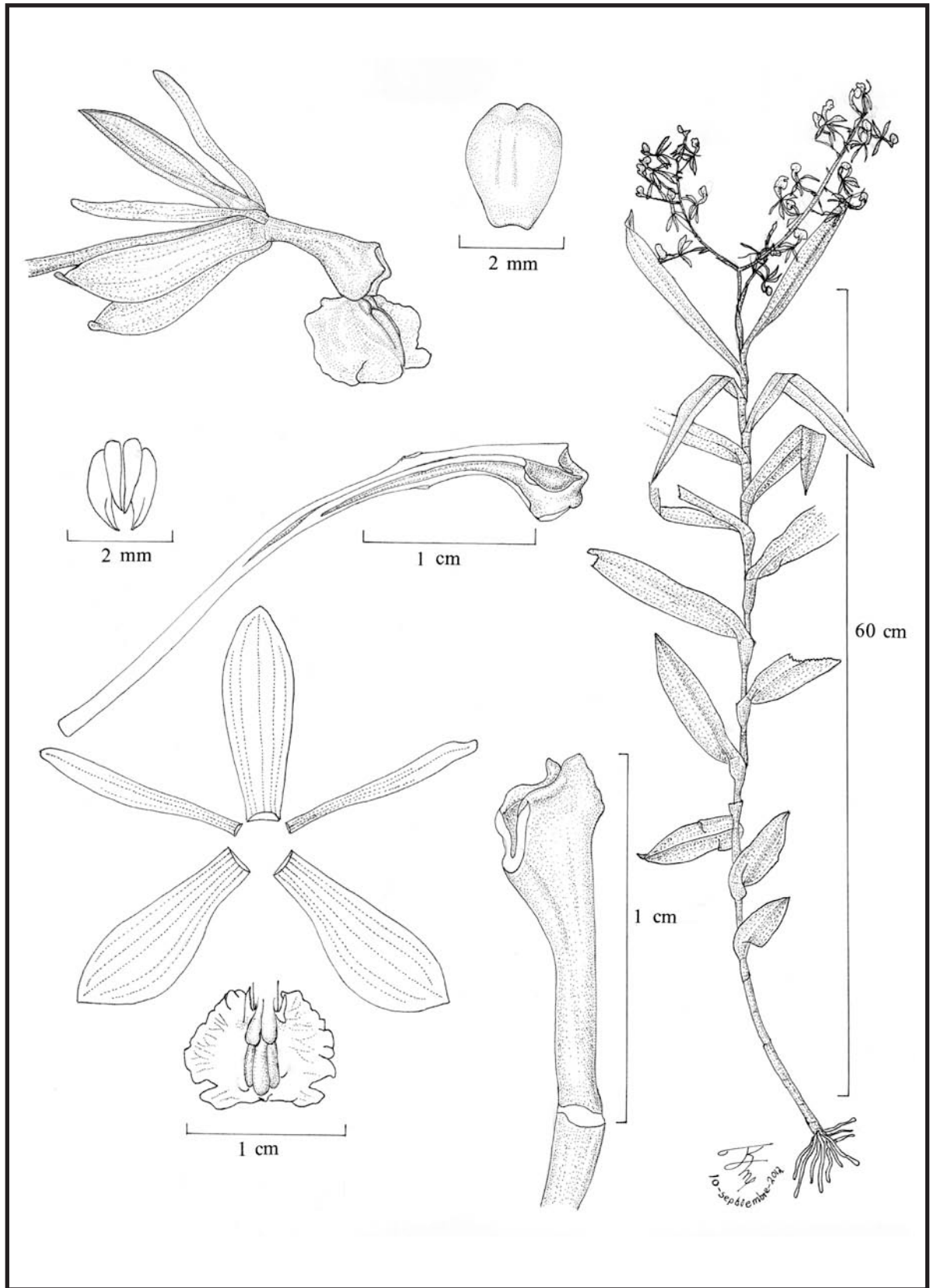
**RECOGNITION:** *Epidendrum anatipedium* belongs to the Difforme Group which is characterized by the caespitose, sympodial plants, fleshy, pale green to glaucous leaves, apical inflorescence, sessile, rarely with a short peduncle, one-flowered to many-flowered, and then corymbose, without spathaceous bracts, fleshy, green to yellowish-green rarely white flowers. The species is distinguished by the laterally compressed stems, large flowers, sepals 30-35 mm long, obtrapezoid lip, the apical margin 3-lobed, the three lobes triangular, the mid-lobe smaller than the lateral lobes, column long, arching, clinandrium-hood prominent, erose. It is similar to *Epidendrum amarajiense* V.P. Castro & L.C. Menezes for Pernambuco state is similar in size, but the sepals are somewhat wider, petals recurvate, column is straight, clinandrium hood is short, and the lip is reniform is 11 x 18 mm, much wider than long. *Epidendrum carvalhoi* Toscano also endemic to Brazil, from the State of Espírito Santo, has long, narrow sepals and petals, (sepals 37-55 mm long, petals 30-40 mm long), the lip is obreniform, 3-lobed, mid-lobe short, rounded, apiculate, calli elongate, divergent. *Epidendrum oldemanii* Christenson which is endemic to the French Guyana and has smaller flowers, elliptic sepals 14-16.5 mm long, lip bilobed, transversely reniform, margin sinuous, and the calli sub-globose. *Epidendrum amapense* Hágsater & L.Sánchez is found in NE Brazil and the French Guyana, has similarly smaller flowers, sepals 14-17 mm long, a 3-lobed lip, the lateral lobes semi-ovate, obtuse, slightly erose, the mid-lobe transversely rectangular, emarginated, with a wide mucro in the sinus, clinandrium-hood deeply erose dentate. *Epidendrum latilabre* Lindl. is widely distributed along the coast of Brazil, has 18-33 mm long sepals, a transverse oblong, 3-lobed lip, up to 4 times as wide as it is long, the lateral lobes sub-quadrate, the mid-lobe transversely rectangular, deep and widely emarginated, forming a pair of lobes, column straight, and the clinandrium-hood deeply lacerate. *Epidendrum pseudodiforme* Hoehne & Schltr., endemic to the coast of Brazil, has terete stems, a 5-8-flowered inflorescence, the flowers simultaneous, smaller, sepals 12-13 mm long, lip 3-lobed, obscurely 4-lobed, margin crenulate; the mid-lobe with a wide sinus forming 2 lobes.

\***NOTE:** In addition to the two flowers shown in the illustrated type specimen there is a third in the envelope. The dry leaves are light green.



**CONSERVATION STATUS:** DD: Data deficient. Known only from the type. This part of NE Brazil has not been well sampled. Google maps shows that the area has been heavily deforested.

**ETYMOLOGY:** From the Latin *anas* = duck, and *pedes* = foot, in reference to the lip which looks like the foot of a duck.



*EPIDENDRUM ANDRES-JOHNSONII* Hágsater & E.Santiago

Plate 1408



**EPIDENDRUM ANDRES-JOHNSONII** Hágsater et E.Santiago, *sp. nov.*

Type: ARGENTINA: Misiones: Iguazú, Puerto Bernberg, [on] Guatambú, [230 m], 7 May 1992, **Andres Johnson 288**. Holotype: CTES! (Illustration voucher, plant). Isotypes: SI, AMO! (Only flowers and illustration by A. Johnson, illustration voucher, flower).

Similar to *Epidendrum densiflorum* Hook. but the leaves narrower, inflorescence laxly few-flowered, ovary longer, the mid-lobe of the lip divided into a pair of divaricate, rectangular-oblong lobes with the apices obtuse.

Epiphytic and terrestrial, sympodial, caespitose **herb**, ca. 80 cm tall. **Roots** 1.5-2.5 mm in diameter, basal, fleshy, thin, white. **Stems** ca. 50-75 x 0.4-0.8 cm, simple, cane-like, terete, thin, erect when young, arching by the weight of the inflorescence, straight. **Leaves** 14, alternate, articulate, spreading, subcoriaceous, unequal in size (the basal ones shorter and the apical ones narrower), green, ventrally sub-lustrous; sheaths 2-4.8 x 0.5-1.0 cm, tubular, smooth, green; blade 5.2-16.7 x 1.3-2.9 cm, narrowly elliptic, acute, margin entire. **Spathaceous bract** lacking. **Inflorescence** 25 cm long, apical, paniculate, arching, laxly many-flowered; peduncle 3 cm long, terete, thin, straight, short, totally hidden by a prominent tubular bract 4 cm long; rachis 22 cm long, terete, thin, straight; provided with 3 short, lax-flowered racemes, 8-13 cm long; each subtended by a basal bract 1.2-2.6 cm long, ovate-lanceolate, acute, amplexicaul. **Floral bracts** ca. 2-3 mm long, much shorter than the ovary, triangular, acuminate, amplexicaul. **Ovary** 26 mm long, terete, thin, not inflated, unornamented. **Flowers** 40-50, simultaneous, resupinate, pale green with the apex of the column and the lip white, occasionally the disc tinged with a pale lilac spot; fragrance not registered. **Sepals** 13.0-14 x 4.3-4.8 mm, spreading, free, narrowly obovate, obtuse, slightly concave at the apical half, 5-veined, margin entire, spreading; lateral sepals oblique. **Petals** 13.2-13.5 x 1.5-2 mm, spreading, free, linear-oblongate, the apex rounded, 3-veined, margin entire, spreading. **Lip** 7.0-7.5 x 9.3-11 mm, united to the column, somewhat 3-lobed, orbicular overall, slightly convex in natural position, somewhat reflexed in relation to the column, base cordate; bicallose, thin, small, parallel; disc provided with 3 parallel ribs, fleshy, the mid-rib reaching the apical sinus, lateral lobes 3.7-4.2 x 5.6-6.2 mm, narrowly obovate, margin strongly erose; mid-lobe 1.5 x 7.8 mm, short and incipient, widely emarginate, bilobed, the lobes 1.5 x 3.7 mm, divaricate, rectangular-oblong, the apices obtuse, arching slightly forward. **Column** 9-10.7 mm long, thin at the base, gradually dilated towards the apex, slightly arching, apex bidentate. **Clinandrium** reduced, margin entire. **Anther** ovoid, apex truncate, 4-celled. **Pollinia** 4, bird-wing type, the inner pair smaller. **Rostrum** apical, slit. **Lateral lobes of the stigma** small, less than 1/3 the length of the stigmatic cavity. **Nectary** shallow, penetrating 1/4th of the ovary, not inflated, unornamented. **Capsule** not seen.

**OTHER SPECIMENS: ARGENTINA: Misiones:** Without locality data, *Enrique Gandolla s.n.*, AMO! Dept. Guaraní; Reserva Antropológica y Cultural Papel Misionero, a 2 km de la ruta 15, hacia arroyo Soberbio y a 1 km del Predio de la UNaM, 6 V 2001, *Keller 923*, CTES! **BRAZIL: Mato Grosso do Sul:** Corumbá, Morro Santa Cruz, Cultivada na Seção de Orquidário do Instituto de Botânica sob. n° 17439, 4 XI 2002, *Barros s.n.*, SP 409468! **Minas Gerais:** Coronel Pacheco, Fazenda da Liberdade, 11 II 1942, *Heringer 929*, SP 46357! **Pará:** Alto Tapajós, Rio Cururú, *Egler 1334*, HB! MG! **Paraná:** Carachú, 29 X 1909, *Dusén 8889*, AMES x2! F x2! K! NY x2! P! S! Restinga muito baixa, puerto do canal SW de Pontal do Sul, 20 VII 1967, *Lindeman 5745*, HB! U! Sapopema, Salto das Orquídeas, 29 III 1997, *Kinupp 352*, SP 338828! Município de Guaíra, Parque Nacional de Sete Quedas, 17 III 1982, *Muniz 381*, SP! **Rio de Janeiro:** Município de Parati, Praia do Jabaquara, cultivada no Jardim Botânico de São Paulo, 3 XII 1965, *Targas s.n.*, SP 118405! **São Paulo:** Município de Botucatu, Cultivada no Jardim Botânico de São Paulo, 21 X 1965, *Brollo s.n.*, SP 118322! Iguapé, Estação Ecológica Juréia-Itatins, 16 V 1991, *Catharino 2743*, SP! Teodoro Sampaio, Reserva Estadual do Morro do Diabolo, 26 VIII 1986, *Martuscelli s.n.*, SP 320154! Cananéia, Ilha do Cardoso, restinga alta, próximo ao vilarejo de Maruja, 22 VI 1989, *Romaniuc-Neto 847*, SP! Guarujá: 31 X 1931, *Zoëga s.n.*, SP 28426!

**OTHER RECORDS: ARGENTINA: Misiones:** Without locality data, *Enrique Gandolla s.n.*, digital image and spirit, AMO! (Photo voucher).

**DISTRIBUTION AND ECOLOGY:** Ranging from Misiones, Argentina north into Brazil, (to Mato Grosso do Sul, Minas Gerais & Rio de Janeiro), from sea level to about 500 m altitude, epiphyte or terrestrial, growing under humid conditions and in total shade. Flowering February to December.

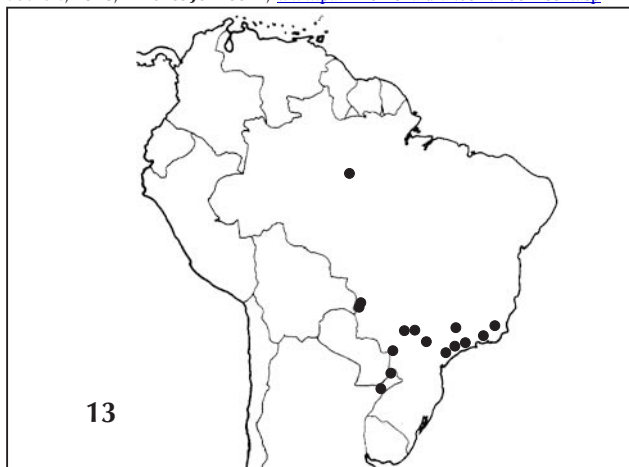
**RECOGNITION:** *Epidendrum andres-johnsonii* belongs to the Pseudepidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, without any spathaceous bract, though it may have several bracts, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and Densiflorum Subgroup where the short-pedunculate inflorescence is paniculate, flowering only once, flowers are green, the apex of the column and disc of the lip creamy-white, the calli sometimes tinged purple, the petals are linear-oblong to linear-oblongate, never filiform. The species is recognized by the narrowly elliptic leaves (5.2-16.7 x 1.3-2.9 cm), the inflorescence paniculate and lax-flowered, with 3 few-flowered branches, the ovary thin and elongate, 26 mm long, the mid-lobe of the lip divided into a pair of divaricate, rectangular-oblong lobes, with the apices obtuse. *Epidendrum densiflorum* has elliptic leaves (10-17 x 3-5 cm), a densely many-flowered (with up to 250 flowers) inflorescence, somewhat smaller flowers, the lip has sub-quadrate, dolabriform lateral lobes and the mid-lobe divided into a pair of obliquely triangular, acute lobes, and the ovary is shorter, 11-17 mm long. *Epidendrum hassleri* Cogn. has a clearly 3-lobed lip, the lateral lobes dolabriform, wider than the mid-lobe which is widely emarginate, forming a pair of linear lobes. *Epidendrum noackii* Cogn. has very thin stems, leaves narrowly elliptic-lanceolate (8-14 x 1.5-2.2 cm), inflorescence short, generally racemose and few-flowered, and the lip clearly 3-lobed with width of the mid-lobe much narrower than between the lateral lobes.

**CONSERVATION STATUS:** DD. Data deficient. Apparently rare and narrowly endemic; however the species has been confused with other closely related species in the area (see Note).

**NOTE:** Johnson was aware that there were several species involved under the name *E. paniculatum* Ruiz & Pavón. The senior author visited him in September 1996, and Johnson shared his material of the genus *Epidendrum* with the hope of elucidating the confusion within this group in the region. Johnson (2010) deposited several specimens and prepared several illustrations of flowers, all cited as *Epidendrum* cf. *aff. paniculatum*. However, Johnson 322 is *Epidendrum hassleri* Cogn., (illustration, Johnson 2001, pg. 89) and Johnson 192 is *E. noackii* Cogn. Thus we recognize 4 species of this group from Misiones-Iguazú: *E. densiflorum*, *E. hassleri*, *E. noackii*, and Johnson 288 is *E. andres-johnsonii*. The Densiflorum subgroup also includes *E. brachythyrus* Kraenzl., and *E. isthmii* Schltr. from Central America. *Epidendrum lindbergii* Rchb.f., though similar belongs to the Viridipurpureum group, characterized by the presence of a spathaceous bract and the relatively wide petals.

**ETYMOLOGY:** In honor of Andrés "El Gringo" E. Johnson (1956-2009), native of Buenos Aires, he graduated as a Park Ranger from the Escuela de la Administración de Parques Nacionales in 1979, and dedicated his life as a conservation officer for the Fundación Vida Silvestre Argentina, living and studying orchids in his native Argentina from his home near Iguazú, as well as in the Province of Santa Cruz and in San Pablo de Valdéz, Patagonia.

**REFERENCE:** Johnson, A.E., 2001, *Las Orquídeas del Parque Nacional Iguazú*, 282 pp., Fundación Vida Silvestre Argentina, Buenos Aires. Various authors, 2010, "Andrés Johnson", [www.patrimoniounatural.com/AJohnson.asp](http://www.patrimoniounatural.com/AJohnson.asp)



Authors: E. Hágsater & E. Santiago

Illustrator: R. Jiménez M.

Photo: E. Gandolla

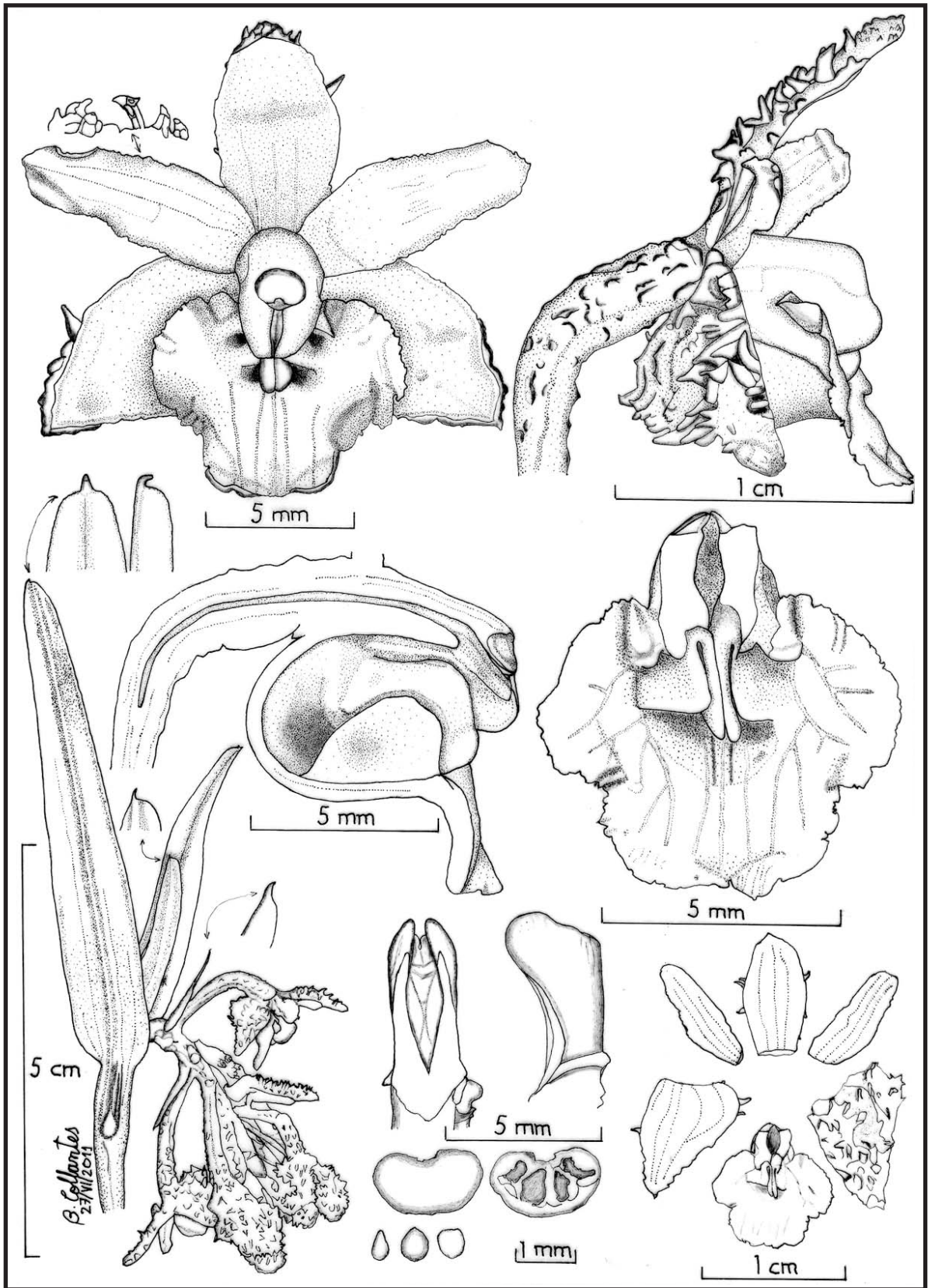
Editors: E. Hágsater & L. Sánchez S.

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ICONES ORCHIDACEARUM 14. 2013.

Plate 1408



EPIDENDRUM ASTETEI Hagsater, Collantes & Mormontoy

Plate 1409

**EPIDENDRUM ASTETEI** Hágsater, Collantes et Mormontoy, *sp. nov.*

Type: PERU: Cusco: Prov. Urubamba: Dist. Machu Picchu: Santuario Histórico de Machu Picchu, Sayacmarka, 3780 m, 22 febrero 2011, **Carmen Soto y Rolando Mormontoy 16**. Holotype: USM! (Illustration voucher; digital image of flowers in spirit, AMO!). Isotype: CUZ! (digital image AMO!)

Species haec *Epidendro trachypentatropo* Hágsater & E.Santiago similis sed foliis angustioribus inflorescentia densus, pauciflora, floribusque duplo maioribus, petalis lanceolatus-oblongis, trinervis, labelo multinervis quasi omnino columnae adnato, disco duo paribus costis laminiformis, prior par sigmoideus plicatus, costa media hemicordata (4 x 2.5 mm), posterior par sigmoideus differt.

Lithophytic, monopodial, branching **herb** 57 cm tall. **Roots** basal, from the primordial stem. **Stems** ca. 10 x 0.4 cm, branching, the new stem produced from an apical internode of the previous stem, cane-like, terete, thin, erect. **Leaves** 5, distributed along the apical half of the stem, distichous, articulate, sub-coriaceous; sheath tubular, conspicuously many-veined; blade 2.2-5.8 x 0.3-1.0 cm, linear-lanceolate to lanceolate oblong, apex sub-obtuse to sub-acute, minutely apiculate to ancistrous. **Spathaceous bract** lacking. **Inflorescence** apical, racemose, arching-nutant, short, densely few-flowered, peduncle 5 x 2 mm. **Floral bracts** 3-9 mm long, prominent, the lower ones over half as long as the ovary, the apical ones half as long, narrowly triangular, amplexicaul. **Flowers** 11, opening in succession, the basal ones at anthesis, the apical ones in bud, flowers small, natural spread 1.6 x 1.6 cm, resupinate, sepals, petals and lip pale purple; fragrance not registered. **Ovary** 17 mm long, terete, thin at the base, slightly thickened towards the apex, not inflated, ornate with pustulate to sub-aculeate papillae. **Sepals** free, spreading, dorsally prominently uncinata, these conical and sub-conical, margin entire, spreading; the **dorsal** sepal 9-10 x 4-4.5 mm, oblong-elliptic, sub-obtuse, 3-veined; the **lateral** sepals 10 x 9 mm, oblique, transversely hemi-cordate, 5-veined, wider at the base than the dorsal sepal. **Petals** 8.5-9 x 3-4 mm, spreading, free, lanceolate-oblong, apex rounded, 3-veined, margin minutely erose. **Lip** 8 x 5 mm, nearly totally united to the column, 3-lobed, many-veined-anastomotic, basally sac-like, margin erose; ecallose, disc with two pairs of blade-like ribs, the inner pair well developed, sigmoid-folded, with the anterior borders visible below the apex of the column as a pair of folded calli, with a prominent hemi-cordate mid-rib (4 x 2.5 mm) hidden in between the inner sides of the inner pair; the basal pair smaller in size, sigmoid; lateral lobes of the lip 4.5 x 2 mm, hemi-ovate, margin irregular; mid-lobe 5.5 x 3 mm, transversely sub-rectangular, sub-retuse. **Column** 5 x 3 mm, short, dorsally straight, ventrally arcuate, with a pair of apical, prominent, oblique auriculate wings. **Clinandrium-hood** short, margin entire. **Anther** transversely reniform, 4-celled. **Pollinia** 4, obovoid, sub-pyriform when seen from the side. **Rostellum** apical, slit, with a minuscule oval foramen. **Nectary** widely rounded, forming a sac at the base of the lip, without penetrating the ovary. **Capsule** not seen.

**OTHER SPECIMENS:** PERU: Cusco: La Convención, Distrito Vilcabamba, Yupancca, Camino a Chuanquiri, 3000 m, 25 II 2007, Valenzuela 9048, AMO! MO.

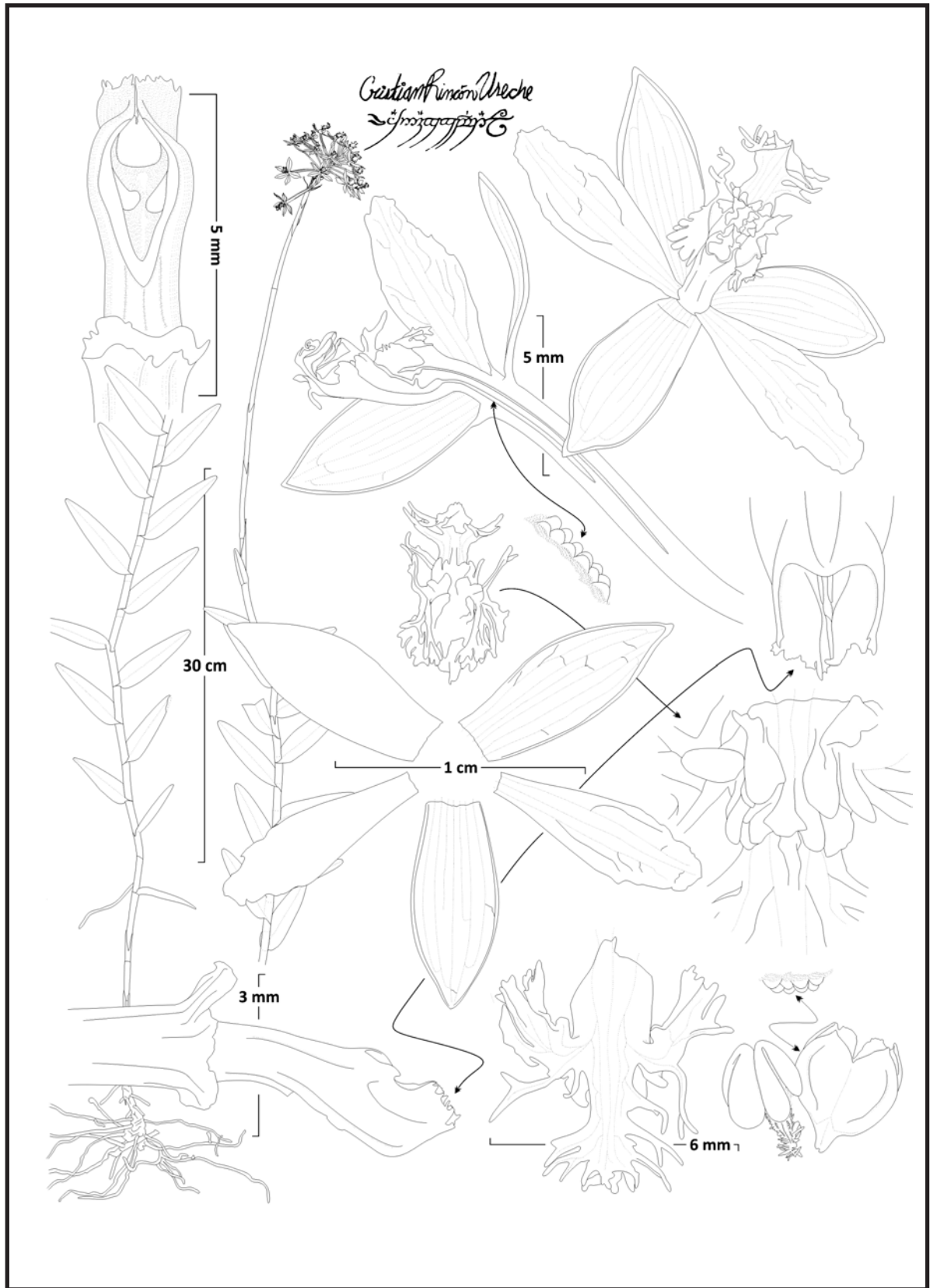
**DISTRIBUTION AND ECOLOGY:** Known only from southern Peru, from the Cordillera Oriental of the Andes, from the province of Cusco, in the Santuario Histórico de Machu Picchu; lithophytic at 3000-3780 m altitude. Flowering in February.

**RECOGNITION:** *Epidendrum astetei* belongs to the Diothonea Group and Subgroup which is characterized by the branching plants, linear lanceolate to oblong, bilobed leaves, racemose, arching-nutant inflorescence, membranaceous flowers (rarely fleshy), the entire to 3-lobed, ecallose lip with the margin erose without or with 1-10 thin, smooth to erose ribs, the column completely to obliquely united to the lip, the anther reniform. The species is recognized by the sac-like, hemi-spherical base of the lip, the disc with two pairs of blade-like ribs, the anterior pair well developed, sigmoid-folded, with the inner (knees) edges intrusive in the stigmatic cavity, and the continuation bent at approximately 80°, becoming adnate laterally outwards; the anterior edges are visible from outside the flower as two contiguous calli below the apex of the column; in between, hidden, like a central brick is another hemi-cordate rib. *Epidendrum trachypentatropis* Hágsater & E.Santiago has small reddish flowers, dorsally muricate sepals 5.5-5.7 mm long, and the sack-like lip nearly totally united to the column, with 5 prominent, unequal, flat, laminar keels hidden below the column. *Epidendrum trachysepalum* Hágsater has up to 9-11, pale pink to yellowish brown flowers with wine-red veins, the sepals are strongly muricate, the lip totally free from the column and is adorned with 3 thin, ribs at the base of the lip, the lateral pair is "U" shaped, and the mid-rib only appears on the disc, so on the disc it appears to be 5-ribbed. *Epidendrum cryptotropis* Hágsater, Collantes & E.Santiago has yellowish green flowers with the edges of sepals and petals and the veins marked with purple, sepals 10-12 mm long, dorsally smooth, the lip entire, sub-pandurate. *Epidendrum trachydipterum* Hágsater, W.Nauray & E.Santiago has linear-lanceolate leaves 5.5-7.3 x 0.35-0.5 cm, the inflorescence is lax and few-flowered, petals linear and the lip has 5 laminar ribs.

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

**ETYMOLOGY:** In honor of Dr. Fernando Astete Victoria, Anthropologist-Arqueologist and Director of the Parque Arqueológico Nacional de Machu Picchu, for his defense in the ecology of the area and its protection for the past 20 years.





EPIDENDRUM AURA-USECHEAE Hagsatér, C.Rincón-Useche & O.Pérez

Plate 1410

**EPIDENDRUM AURA-USECHEAE** Hágsater, C. Rincón-Useche et O. Pérez, *sp. nov.*

Type: COLOMBIA: Cundinamarca: Municipio de Junín; Vereda San Rafael, ca. 1600 m, ca. 23° C, 20 Abril 2011, **Cristian Camilo Rincón Useche 003**. Holotype: COL! (Illustration voucher). Isotype: CUVC!

Simile *Epidendri xanthini* Lindl. sed margine apicali petalorum undulato, callo acervato labelli composito 12-14 tuberculis inaequalibus et margine labelli profunde fimbriato, fimbriis geniculatis quaquaversum fingentibus plane absentiam ordinis.

Terrestrial or lithophytic, sympodial, caespitose, erect **herb**, 54-142 cm tall including the inflorescence. **Roots** fleshy, 0.7-2.1 mm, basal, thick. **Stems** 38-105 x 0.35-0.86 cm, simple, cane-like, erect when young, arching when mature, purple at the base, pale purple in the middle, apically green. **Leaves** 26 distichous, alternate, dark green, distributed throughout upper 2/3 of the stem; sheaths 19.6-34.8 x 3.7-8.6 mm, tubular, striated; blade 3-12 x 0.7-2.0 cm, narrowly elliptic-lanceolate, apex obtuse, faintly bilobed, coriaceous, smooth, green, unequal in size, the lower and upper leaves smaller. **Spathaceous bract** lacking. **Inflorescence** apical, racemose, successive, pluriracemose (producing new racemes through the time); each raceme compact, many-flowered, dense, peduncle elongate, terete up to 42.5 cm long; covered by several tubular, acute, imbricating bracts, 4.2-7 cm long. **Flowers** numerous, successive, 12-16 open at one time, non-resupinate, yellow, callus yellow to orange in mature flowers, column orange; no fragrance recorded. **Floral bracts** 3.1-12 mm long, much shorter than the ovary, triangular, acuminate. **Ovary** 3.27-3.95 cm long, thin, terete, not inflated. **Sepals** 8.3-9.2 x 3.2-3.8 mm, spreading, free, elliptic, slightly acute at the apex, 6-7-veined, margin entire; the **lateral** sepals with a low raised, dorsal keel. **Petals** 9 x 3.2 mm, free, spreading, obovate-spatulate, obtuse, margin erose along the apical half, basal half entire, 3-veined, lateral veins branching from the middle. **Lip** 7.5-8 x 6.5-7 mm spreading, united to the column, 3-lobed, base deeply cordate, margin deeply fimbriate, in natural position the fimbriae are geniculate in all directions, appearing in total disorder; the calli complex, massive, occupying the isthmus and base of the lip, represented by a structure of 12-14 unequal tubercles, the basal pair and lateral pair more prominent; disc without keels; lateral lobes 2 x 4.2 mm, trapezoid, deeply emarginate towards the posterior margin, almost forming a pair of additional lobes, appearing to be 5, anterior margin folded horizontally; mid-lobe 3.3 x 3.4 mm, deltate, base forming an elongate isthmus, apex slightly folded toward the adaxial part of the lip. **Column** 4.0-4.7 mm long, short, slightly arched, thin, with a pair of prominent apical, upturned wings, the apical margin truncate, and irregularly dentate. **Clinandrium** reduced, margin entire. **Rostellum** apical, slit. **Lateral lobes of the stigmatic cavity** prominent, occupying 1/3 of the cavity. **Anther** obovoid, apiculate, papillose, 4-celled. **Pollinia** 4, obovoid, laterally compressed, sub-equal, caudicles longer than the pollinia, formed by tetrads which appear like a pile of roof tiles. **Nectary** penetrating 1/3 of the ovary, papillose. **Capsule** narrowly elliptic, pedicel 11-14 mm long, apical neck short.

**OTHER SPECIMENS: COLOMBIA: Antioquia:** Quebrada at head-waters of Río Tenche, near Carolina, 2080 m, 15 V 1944, *Core 719*, US! W slope of Cordillera Occidental, 50 km NW of Antioquia and 75 km SE of Uramita, 1810 m, 9 X 1977, *Gentry 20292*, COL! MO! SEL! Mun. Frontino, km 10 of road Nutibara-Murrí, 1970 m, 26 IX 1987, *Zarucchi 5814*, MO! **Boyacá:** entre Santamaría y Piedra-campana, 800-1100 m, 20-25 VII 1964, García-Barriga 18084, AMES! COL! Arcabuco-La Cumbre; ca. Serranía El Peligro, margen de carretera que conduce a Moniquirá, 2600 m, 02 IX 2011, Pérez 1162, VALLE! **Cundinamarca:** Alto de Quemara, Gazaunta Valley, 10 km NW of Medina, 1430 m, 5 X 1944, *Grant 10380*, COL! US! WIS! **Santander:** alrededores de Bucaramanga, 1500 m, 27 VIII 1948, *Araque 18S174*, AMES! MEDEL! US! along road to Tona, 3 km off Bucaramanga-Pamplona, 1950 m, 3 V 1983, *Croat 56401*, MO x2! Mpio. de Virolín, 1800 m, 6-12 V 1986, *Fernández Alonso 6203*, COL! (illustration, AMO!) between Piedecuesta and Las Vegas, 1200-2000 m, 19, XII 1926, *Killip 15473*, AMES! NY! US! Bucaramanga, ca. 1000, 16 II 1927, *Killip 19341*, AMES! NY! US! La Corcová (Tona), 1866 m, 12 X 1977, *Rentería 650* (6), COL! MO!

**OTHER RECORDS: COLOMBIA:** Digital images by Pedro Ortiz Valdivieso, published in Gallery of Colombian Orchids as *Epidendrum secundum* (*xanthinum*), CD, Bogotá, 2007. **Antioquia:** Guadalupe, *Camilo-Sánchez s.n.*, digital images by *Camilo-Sánchez*, AMO! Amalfí, Vélez *s.n.*, digital images, AMO! **Cundinamarca:** Tenjo, *Hurtado s.n.*, digital images by Ana B. Hurtado, AMO! **Valle del Cauca:** vía al mar km 13, 1400 m, 8 XI 2007, *J. Farfán s.n.*, digital image, AMO!

**DISTRIBUTION AND ECOLOGY:** Widespread in Colombia, registered north of Bogotá, in Antioquia, and Valle del Cauca in the south; in rocky outcrops in grassland and among low shrubs at 1200-2600 m altitude. Forming large populations and apparently not hybridizing (Farfán, pers. comm. 2011). Flowering in January to May.

**RECOGNITION:** *Epidendrum aura-usecheae* belongs to the Secundum Group which is recognized by the caespitose habit, numerous coriaceous leaves, and generally an elongate peduncle to a pluri-racemose inflorescence, brightly colored flowers generally pollinated by hummingbirds, and the caudicles of the pollinarium granulose, the tetrads appearing like a loose pile of roof-tiles, without any spathaceous bracts; and Elongatum Sub-group, recognized by the non-resupinate flowers with a complicated callus. This species is lithophytic with yellow flowers, the margins of the lip deeply fimbriate with the fimbria bent in all directions, giving an impression of total disorder; the column wings are prominent, bent upwards and apically truncate, the margin irregularly dentate. It is color-wise very similar to *Epidendrum xanthinum*, described from Minas Geraes, Brazil, which has the margins of the larger lip (7-8 x 9-10 mm), spreading flat, and deeply dentate. *Epidendrum melinanthum* Schltr. described from the Valle del Cauca has a much simpler callus formed by 3 tubercles, the lip is T shaped, with a deeply dentate margin, and the mid-lobe bifid, into two square, somewhat divergent lobes with a mucro in the sinus. The more common species in the area north of Bogotá is the purple-pink *Epidendrum arachnoglossum* Rchb.f. *Epidendrum fimbria* Rchb.f. has orange colored flowers, shorter leaves, ca. 3.5-7 cm long, the lateral lobes of the lip are semi-ovate with the margin lacerate, and the mid-lobe is cuneate with the dentate.

**NOTE:** It is curious that this entity appears to be widespread in Colombia. The shape and general disorder of the fimbria of the lip are easily visible feature, even in herbarium specimens, as are the generally narrow leaves.

**ETYMOLOGY:** Named in honor to Aura Delia Useche Barbosa, mother of the second author, who always has given him her knowledge and unconditional love and is his inspiration and moral support on field trips.

**CONSERVATION STATUS:** NT. Not threatened. Widespread and common in northern Colombia, growing in disturbed habitats and among grasses in full sunlight.

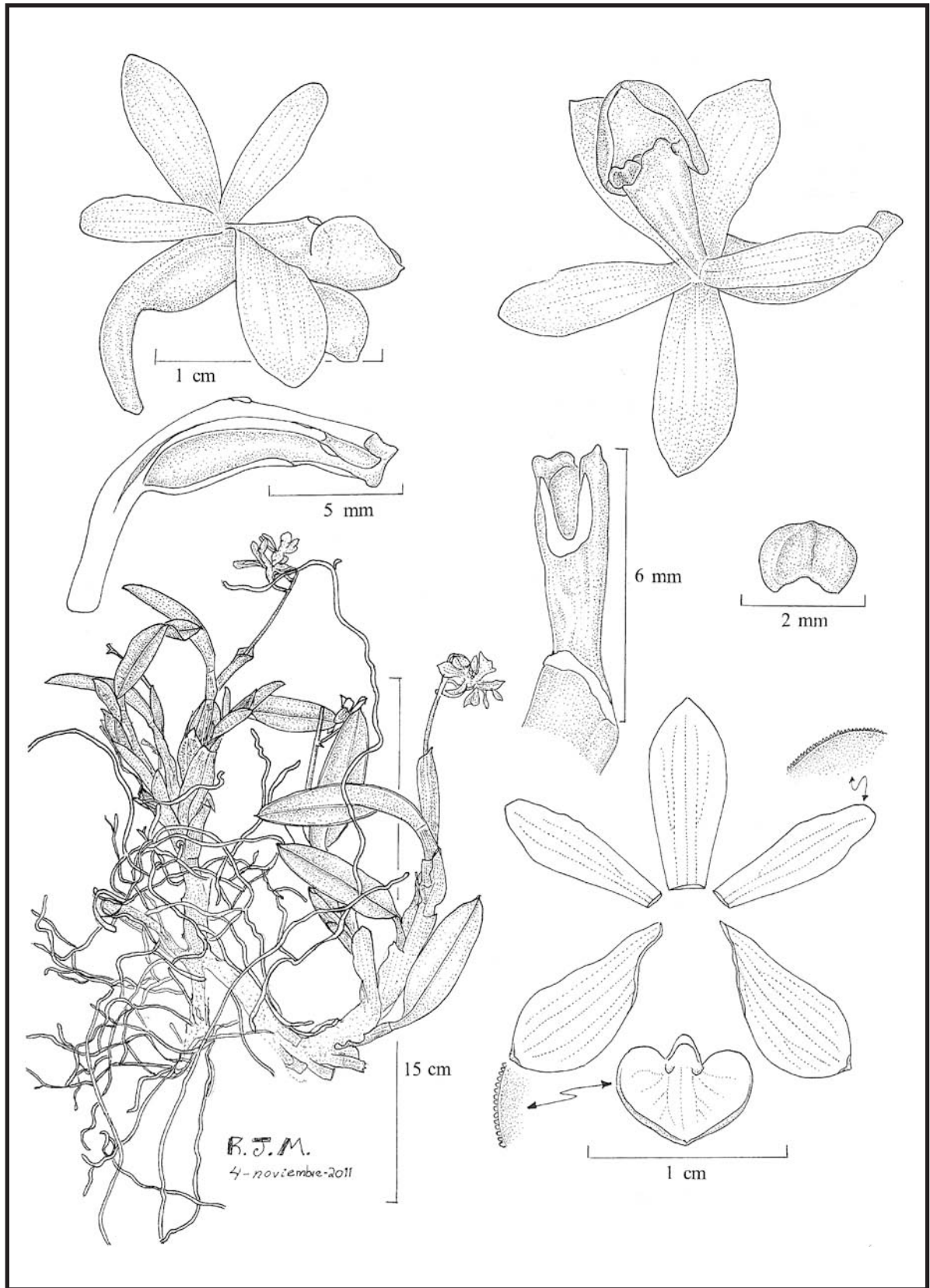


Authors: E. Hágsater, C. Rincón-Useche & O. Pérez Illustrators: C. Rincón-Useche & O. Pérez Photo: O. Pérez Editors: E. Hágsater & L. Sánchez S.

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ICONES ORCHIDACEARUM 14. 2013. Plate 1410



EPIDENDRUM BECERRAE Hágsater & E.Santiago

Plate 1411

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

PERU: Pasco: Oxapampa: Dist. Huancabamba. Parque Nacional Yanachaga-Chemillén, 3170 m, 26 XI 2007, **Abel Monteagudo, Antonio Peña, V. Flores, R. Rivera 15984**. Holotype: USM! (Illustration voucher). Isotypes: AMO! AMAZ, HOXA, HUT, MO, MOL. Digital image of pretype, AMO!

Simile *Epidendri micro-cattleyae* Kraenzl. sed floribus non resupinatis, petalis oblanceolatis, labello cordiformi columnae connato per totam extensionem, sepalis lateralibus connatis et columnae oblique iunctis, columna recta, truncata, exalata et ovario brevior et arcuato.

Epiphytic, monopodial, ascending **herb**, to 11 cm tall per growth excluding the inflorescence. **Roots** 0.5-0.7 mm in diameter, distributed along the rhizome, thin. **Stems** 3-4.5 x 0.3-0.4 cm, forming a fusiform, heteroblastic pseudobulb, the new pseudobulb produced from a rhizome about 1-2 cm long, nearly totally covered by 1-2 non-foliar, scarious, striated, strongly rugose foliar sheaths, 1.5-3 cm long, becoming fibrous with time. **Leaves** 1, 3-5.5 x 1-1.3 cm, apical, articulate, coriaceous, narrowly elliptic to lanceolate-elliptic, apex sub-obtuse, minutely apiculate, margin entire. **Spathaceous bract** 1.5-3 cm long, single, at the apex of the pseudobulb, just below the leaf and opposite to it, apex rounded to a right angle on one side. **Inflorescence** 4.5-6 cm long, apical, racemose, erect, several-flowered; peduncle 2.8-4 cm, slightly longer than the apical leaf, laterally compressed, thin, erect, straight, mauve colored; rachis 6-10 mm long, very short. **Floral bracts** 1 mm long, small, much shorter than the ovary, triangular-ovate, acute, amplexicaul. **Flowers** 2-3, simultaneous, non-resupinate secund, mauve colored, the lip somewhat lighter; fragrance not registered. **Ovary** 9-10 mm long, terete, thin, ventrally inflated along the apical half, arching, unornamented, mauve (orchid) colored. **Sepals** 9-10 x 3.4-4.3 mm, narrowly obovate, obtuse, margin entire, spreading; the **dorsal** sepal free, spreading, 4-veined, the **lateral** sepals connate, and obliquely united to the column, oblique, with veins branching above the middle, appearing to be 5-veined. **Petals** 9 x 2.6-3 mm, free, spreading, oblanceolate, apex rounded, 2-veined, one of the veins branching so as to appear 3-veined, margin minutely papillose, spreading. **Lip** 4.8 x 6.8 mm, united to the column, entire, widely cordiform, base cordate, margin minutely papillose, somewhat involute, thus the lip somewhat cup-shaped; bicallous, the calli sub-globose, small. **Column** 6 mm long, short, straight, apex truncate. **Clinandrium-hood** short, margin entire. **Rostellum** apical, slit. **Anther** reniform. **Pollinia** not seen. **Lateral lobes of the stigma** not seen. **Nectary** cuniculate, penetrating half the ovary, wide throughout, unornamented. **Capsule** 24 x 6 mm, ellipsoid; pedicel 2 mm long, terete, very short; body 16 x 6 mm; apical neck, 6 mm long.

**OTHER SPECIMENS: PERU: Pasco:** Oxapampa: Dist. Huancabamba. Parque Nacional Yanachaga-Chemillén, Quebrada Yanachaga, 3170 m, 13 XI 2009, *Acuña-Tarazona 228*, MO, USM. Abra Yanachaga, 2900 m, 15 X 2004, *Becerra 137*, HOXA! MO! USM. Ibid.: 2900-3100 m, 22 XI 2004, *Becerra 271*, AMAZ, HOXA! HUY, MO! MOL, USM. Ibid.: 3000-3100 m, 20 II 2005, *Becerra 878*, HOXA! USM. Ibid.: sector San Daniel, parte alta de la trocha Erica, 3260 m, 10 XI 2007, *Hernani 505*, AMO! Ibid.: Bosque de ceja de selva, 3110 m, 5 XII 2003, *Monteagudo 6488*, HOXA! Ibid.: Refugio Abra Esperanza, 2910 m, 12 X 2006, *Monteagudo 12804*, HUT, MO! USM. Ibid.: Cercanías al macizo de la Cordillera Yanachaga, 3300 m, 24 IV 2007, *Monteagudo 13815*, HOXA! Digital images of live plant and flowers, AMO! (Photo voucher.) Ibid.: Quebrada Yanachaga, 2910 m, 16 II 2004, *Vásquez 29425*, HOXA! MO! Ibid.: Abra Yanachaga, 2900 m, 20 VIII 2004, *Vásquez 30451*, MO! USM.

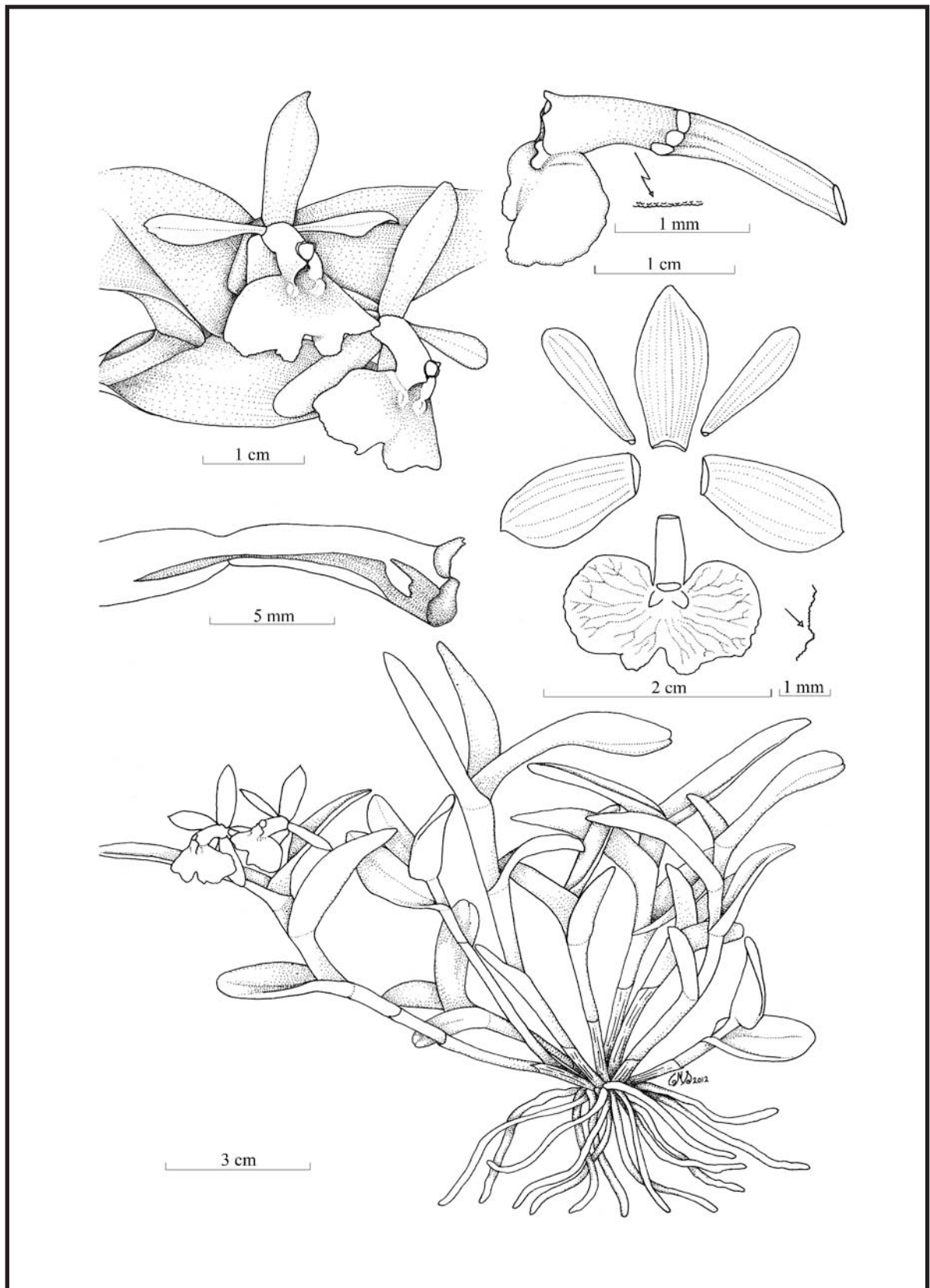
**OTHER RECORDS: PERU: PERU:** Pasco: Oxapampa: Dist. Huancabamba. Parque nacional Yanachaga-Chemillén, Quebrada Yanachaga, *Acuña-Tarazona 256*, Digital images of live plant and flowers, AMO! Ibid. *Becerra 271*, sketch of flower, AMO!

**DISTRIBUTION AND ECOLOGY:** Endemic to central Peru, known only from Pasco, from the Parque Nacional Yanachaga-Chemillén, epiphytic and terrestrial in sphagnum moss in montane primary forest at 2900-3300 m. Flowering in November.

**RECOGNITION:** *Epidendrum becerrae* belongs to the Saxicola Group characterized by the pseudobulbous stems, racemose inflorescence subtended by a prominent spathaceous bract, and few, showy flowers, either resupinate or non-resupinate. The species is recognized by the creeping habit, fusiform, uni-foliate pseudobulbs, the erect, few-flowered inflorescence, non-resupinate, second, purple flowers, the petals oblanceolate, the cordiform lip united to the column throughout. It is somewhat reminiscent of *Epidendrum micro-cattleya*, but that species has 2 flowers, with the lip oriented inwards, towards each other, the petals about as wide as the sepals, and the lip produced from a sigmoid claw at the middle of the column, the column itself with a pair of prominent, short, wide, dolabriform wings. *Epidendrum saxicola* Kraenzl. has somewhat larger flowers, sepals 15 mm long, a prominent, funnel-shaped clinandrium-hood, and the convex lip is 10 x 10 mm, sub-orbicular, somewhat pentagonal with the margin crenulate and spreading from the column, without embracing it. *Epidendrum microcattleyioides* D.E.Benn. & Christenson has 4 non-resupinate, yellow flowers, the margin white, the flowers crowded at the apex of the peduncle, which does not surpass the surrounding spathaceous bract, the lip is reniform with the apex widely emarginate, the petals wide, obovate-spatulate, the lateral sepals are not obliquely joined to the column, and the ovary is geniculate.

**ETYMOLOGY:** In honor of Edwin Becerra González (1979-), Peruvian botanist and orchid taxonomist associated with the Universidad Mayor Nacional de San Marcos and Missouri Botanical Garden. He has collected this species several times and shared his digital images with us. His thesis is entitled "Diversidad de Orchidaceae en el Sector Parque Yanachaga-Chemillén, Pasco-Perú". He is specialized in orchid taxonomy, ethnobotany and conservation.





*EPIDENDRUM BOGARINII* Karremans & C.M.Sm.

Plate 1412



**EPIDENDRUM BOGARINII** Karremans et C.M.Sm., *sp. nov.*

Type: COSTA RICA: Cartago: Turrialba, Tayutic, El Seis (Damaris), orillas del Río Shara y Quebrada El Seis, 9°48'13.8"N 83°26'35.9"W, 1163 m, epífitas en árboles a orillas de la quebrada, bosque muy húmedo premontano, "ad ora fluvii supra arbores ad El Seis vicum ad viam versus Llanos del Quetzal", 17 Junio 2011, **Adam P. Karremans, Diego Bogarín & Melania Fernández 3400**. Holotype: JBL-Spirit D4778! (Illustration voucher).

*Epidendro anastasioi* Hágsater *simile*, sed planta minore, inflorescencia biflora, floribus minoribus, sepalis et petalis latiores, ovario columnaue rugosis differt.

Epiphytic, sympodial, caespitose, erect **herb**, up to 10 cm tall. **Roots** basal, fleshy, filiform. **Stem** 8 cm tall, simple, cane-like, terete, erect. **Leaves** 3-5, distributed along the upper half of the stem, especially close to the apex, green; leaf sheath tubular, infundibuliform, minutely rugose; blades 2.5-4.0 x 1.0-1.5 cm, ovate to narrowly-ovate, obtuse bilobed, articulate, variable in size, the lower one smaller. **Spathaceous bracts** lacking. **Inflorescence** apical, from the mature stem, sub-umbellate, lax, flowering only once; peduncle reduced. **Floral bracts** much shorter than the ovary, acute, amplexicaule. **Flowers** 2, simultaneous, resupinate, greenish; fragrance not registered. **Ovary** 11 mm long, terete, not inflated, minutely glandular. **Sepals** free, spreading, slightly bent backwards, elliptic, obtuse, 9-veined, margin entire, strongly revolute; the **dorsal** sepal 10 x 6 mm; the **lateral** sepals 12-13 x 6 mm, oblique. **Petals** 12 x 3 mm, spreading, narrowly-obovate to spatulate, obtuse, 3-veined, margin entire. **Lip** 12 x 18 mm, united to the column, 3-lobed, base cordate, margin erose, spreading; bicallose, the calli subglobose, divergent; lateral lobes 7-8 x 8-9 mm, widely ovate-elliptic; mid-lobe 1 x 7 mm, deeply emarginated forming a pair of small, semi-orbicular lobes. **Column** 9 mm long, slightly arching, sub-terete, ventrally minutely glandular. **Clinandrium-hood** short, erect, margins radially erose. **Anther** transverse-elliptic, 4-celled. **Pollinia** 4, obovoid, laterally compressed. **Rostrum** near the apex of the column, slit. **Nectary** short, barely penetrating the ovary, smooth. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

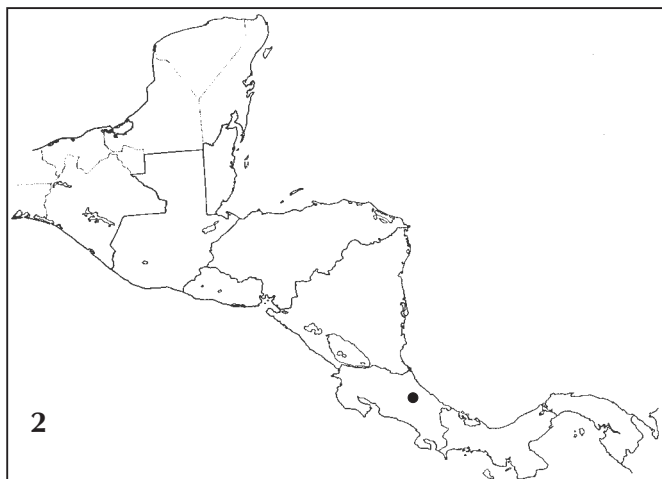
**DISTRIBUTION AND ECOLOGY:** Known only from the type, which was found in El Seis on the road to Llanos del Quetzal in Turrialba, Cartago, Costa Rica. It grows epiphytically on trees of disturbed humid premontane forest, at around 1160 m elevation. Flowering in cultivation in November.

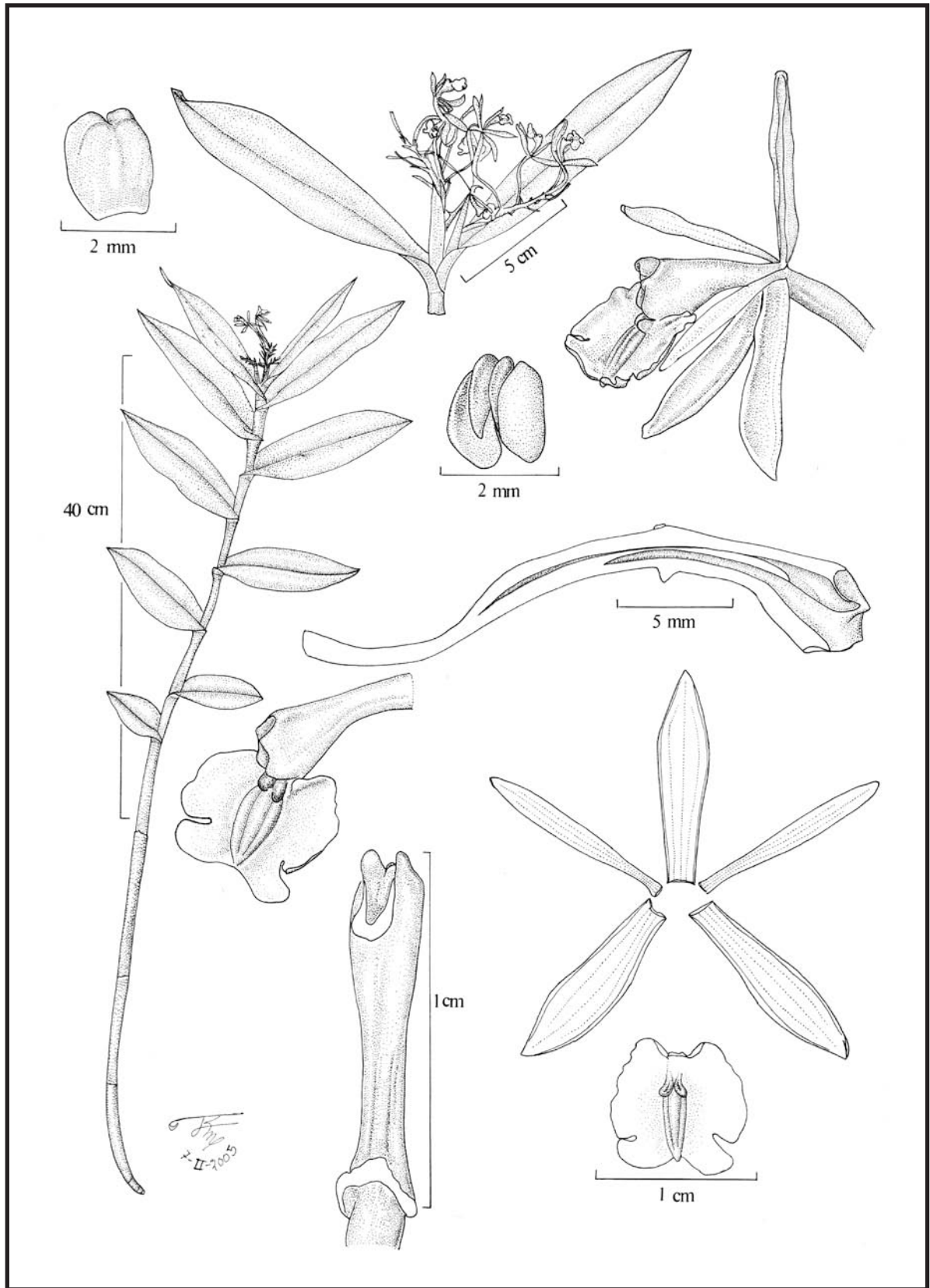
**RECOGNITION:** *Epidendrum bogarinii* belongs to the Difforme Group which is characterized by the caespitose, sympodial plants, fleshy, pale green to glaucous leaves, apical inflorescence, sessile, rarely with a short peduncle, one-flowered to corymbose, without spathaceous bracts, fleshy, green to yellowish-green rarely white flowers. The species can be recognized by the small plants, with 3-5 leaves with infundibuliform sheaths, two, simultaneous flowers, sepals 10-13 mm long, a minutely rugose ovary and column (ventrally), and a 3-lobed lip, erose margins, mid-lobe deeply emarginate, forming two semi-orbicular lobes. It is most similar to *Epidendrum anastasioi* Hágsater which has larger plants with more and larger elliptic leaves (4.5-7 cm long), many-flowered inflorescences (15-22 flowers), a glabrous ovary and column, narrower sepals and petals and a wide sinus between the apical lobes of the lip. *Epidendrum chlorocorymbos* Schltr. has much larger plants, does not have infundibuliform leaf-sheaths, many-flowered inflorescences, 5-20 larger flowers (sepals and petals 13-19.3 mm long) and the lip margin is entire. *Epidendrum carnevalii* Hágsater & L.Sánchez from the Caribbean slope of Colombia and Venezuela has taller, laterally compressed stems (14-25 cm long), with 4-12 leaves, inflorescences have 5-10 flowers and sepals are 13-18 mm long, the column and ovary are papillose, the lip has 1-3 thickened veins on the disc, margin is undulate, and the mid-lobe is short, emarginate, forming a pair of wide, divergent lobes. *Epidendrum difforme* Jacq. is endemic to the Windward Antilles of Montserrat, Guadeloupe, Dominica, Martinique, St. Lucia, St. Vincent and Trinidad & Tobago; ancipitose stems are 4-10 leaved, inflorescence 2-5-flowered, lip is bicallose, the calli small, parallel, disc is thickened to form a low rib, margin of the lateral lobes is entire to crenate, that of the mid-lobe is entire, ovary and column are glabrous, and the clinandrium hood is funnel-shaped, the margin erose-dentate.

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

**ETYMOLOGY:** The name honors our good friend Diego Bogarín (1982-) who accompanied the collection and documented the plant, allowing this study. Bogarín is a staff member of the Lankester Botanical Garden, student of orchids, and has extensively collected, documented, illustrated and photographed orchid diversity in Costa Rica.

**REFERENCES:** Hágsater, E. 1993. *Epidendrum anastasioi* in E. Hágsater & G. A. Salazar (eds) **Icon. Orchid.** 2: pl. 106. Sánchez, L. & E. Hágsater. 1999. *Epidendrum carnevalii* in E. Hágsater, L. Sánchez S. & J. García-Cruz (eds) **Icon Orchid.** 3: pl. 321. Hágsater, E. & L. Sánchez S. 2006. *Epidendrum difforme* in E. Hágsater & L. Sánchez S. (eds) **Icon. Orchid.** 8: pl. 827. Sánchez, L. & E. Hágsater. 2009. *Epidendrum chlorocorymbos* in E. Hágsater & L. Sánchez S. **Icon. Orchid.** 12: pl. 1223.





**EPIDENDRUM BRACHYTHYRSUS** Kraenzl.

Plate 1413

**EPIDENDRUM BRACHYTHYSUS** Kraenzl., Kongl. Svenska Vetenskapsakad. Handl. 46 (10): 59. pl. 9. 1911.

Type: BRAZIL: Minas Gerais: prope Las Caldas [Caldas], supra saxa umbrosa humo tecta, **Hjalmar Mosén 4408**. Lectotype (here designated): S! (Illustration voucher).

Sympodial, caespitose, erect **herb**, ca. 75 cm tall. **Roots** basal. **Stems** ca. 70 x 0.5-1 cm, simple, cane-like, terete, thin, erect, straight. **Leaves** up to 10, alternate, spreading, articulate, sub-coriaceous, unequal in size the basal ones shorter; sheaths 1.4-3.6 x 0.5-1 cm, tubular, smooth; blade 10.5-15.5 x 2-3.7 cm, oblong-elliptic, acute, margin entire. **Spathaceous bract** lacking. **Inflorescence** 4.3-5 cm long, apical, slightly paniculate, erect, shorter than the apical leaf, laxly few-flowered; peduncle sub-sessile, hidden by 2-3 prominent bracts 3.0-3.5 cm long, widely triangular, acuminate and partly imbricated, decreasing in size; rachis 4.3-5 cm long, thin, straight. **Floral bracts** 3-8 mm long, prominent, much shorter than the ovary, linear-lanceolate, long-acuminate, amplexicaul. **Ovary** 20-33 mm long, terete, thin, not inflated, unornamented. **Flowers** 8-13 per raceme, simultaneous, resupinate, green with the apex of the column and the disc white, calli white to slightly tinged purple; fragrance slight, sweet (Meneguzzo, 2012). **Sepals** 12-13 x 3.3-3.6 mm, spreading, free, fleshy, oblanceolate, obtuse, 3-veined, margin entire, spreading. **Petals** 12 x 1.5 mm, spreading, free, linear-oblong, obtuse, 3-veined, margin entire, spreading. **Lip** 8 x 8.4 mm, united to the column, convex, shallowly 3-lobed, base slightly cordate; bicallose, the calli small, sub-globose, slightly divaricate; disc fleshy, provided with 3 parallel ribs, elongate to the apical sinus of the lip; lateral lobes 3.6 x 6.3 mm, elliptic-dolabriform, margin slightly crenate; mid-lobe 3 x 7.2 mm, short, narrowly separated from the lateral lobes, bilobed, apex emarginate, with an apicule in the middle, the lobes slightly divaricate, each lobe 3.3 x 2.4 mm, obliquely rectangular, apex rounded. **Column** 11 mm long, straight, basal half thin, gradually dilated towards the apex, the apex bidentate. **Clinandrium-hood** reduced, margin entire. **Anther** ovoid, apex truncate, 4-celled. **Pollinia** 4, laterally compressed, unequal in shape, the inner pair bird-wing type, the outer pair lentil-shaped; caudicles not seen. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** shallow, barely penetrating behind the perianth, not inflated, unornamented. **Capsule** not seen.

**OTHER SPECIMENS: BRAZIL: Distrito Federal:** Without locality data, 8 VIII 1964, *Heringer 8725*, HB! Brasília, Córrego Taquara, Reserva Ecológica do Roncador, 1 XI 1978, *Heringer 689*, HB! Parque do Guarã, Fundação Zoobotânica, 27 VI 1961, *Heringer 8447-645*, HB! IBGE [Meneguzzo, 2012]. road Brasília to Taguatinga, 12 IX 1964, *Prance 59016*, GH! HB! NY! U! US! **Espírito Santo:** pr. Venda Nova, 12 III 1976, *Zappi 5*, HB! **Minas Gerais:** Paraopeba, 16 II 1956, *Heringer 5381*, HB x2! **Paraná:** 20 km SSW of Cava Funda, Rio Tricolor, 15 V 1867, *Lindeman 5308*, U! **Rio de Janeiro:** Brasília, cult. Rio de Janeiro, 12 XI 1852, *R. 18*, W-R 49564! [only the inflorescence on the right, the specimen on the left is *Epidendrum floribundum* Kunth]. Cult. Brésil, XI 1852, Herb. Em. Desvaux, No. 18, W-R 49560! [As "*Epidendrum smilacinum* A. Rich.", only flowers in envelope on far right, mounted with several other collections.]

**OTHER RECORDS:** Without locality, cultivated in the Jardin Botanique de la Ville de Lyon, France, photos by David Scherberich, *jbvLyon 32977*, Digital images, AMO! (Photo voucher.) **BRAZIL: São Paulo:** Serra do Japi, (Pansarin 2010).

**DISTRIBUTION AND ECOLOGY:** Endemic to southern part of Brazil, in the Planalto Central Brasileiro and in the Serra do Mar from Espírito Santo to Paraná states. Flowering from May to November. According to Pansarin (2003, Fig. D, 2010) pollinated by *Hypothyris ninonia* (Nymphalidae: Ithomiinae); the species was misidentified as *Epidendrum paniculatum* Ruiz & Pav.

**RECOGNITION:** *Epidendrum brachythysus* belongs to the Pseudepidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, without any spathaceous bract, though it may have several bracts, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and Densiflorum Subgroup where the short-pedunculate inflorescence is paniculate, flowering only once, flowers are green, the apex of the column and disc of the lip creamy-white, the calli sometimes tinged purple, the petals are linear-oblong to linear-oblanceolate, never filiform, and the pollinia unequal in shape, only the inner pair "bird-wing" like. The species is recognized by the thin stems (0.5-1 cm in diameter), the lax-flowered inflorescence shorter than the apical leaf, sepals oblanceolate, obtuse, 12-13 mm long, petals linear-oblong, 1.5 mm wide; the lip as wide between the lateral lobes and the lobes of the mid-lobe. *Epidendrum noackii* Cogn. has shorter stems, 35-50 cm tall, with narrow leaves, 1.5-2.2 cm wide, sepals ligulate-oblanceolate, acute, petals linear; the lip is wider between the lateral lobes than between the lobes of the mid-lobe. *Epidendrum hassleri* Cogn. from Paraguay and Argentina, has robust stems 1.0-1.5 cm in diameter, sepals spatulate-oblanceolate, petals linear-oblanceolate to linear oblong, and the lip wider between the lateral lobes than between the lobes of the mid-lobe. *Epidendrum densiflorum* Hook has a much larger inflorescence, much longer than the apical leaf, clearly and densely branched, sepals 10-13 mm long, petals linear-oblanceolate, 1 mm wide, and the lip narrower across the mid-lobe than across the lateral lobes.

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

**ETYMOLOGY:** From the Greek βραχύς, short, and τῦρσος, a thyrses, or panicle with cymose branches, in reference to the branched inflorescence.

**REFERENCES:** Meneguzzo, T. E. C., 2012, pers. comm. Pansarin E.R., 2003, Biologia reprodutiva e polinização em *Epidendrum paniculatum* Ruiz & Pavón (Orchidaceae). **Rev. Bras. Bot.** 26: 203-211. Pansarin, E. R., & L. Micheliunas Pansarin, 2010; **The family Orchidaceae in the Serra do Japi, São Paulo State**; p. 126; Springer Verlag, Wien, as *Epidendrum paniculatum* Ruiz & Pav.



Authors: E. Santiago & E. Hågsater

Illustrator: R. Jiménez M.

Photo: D. Scherberich

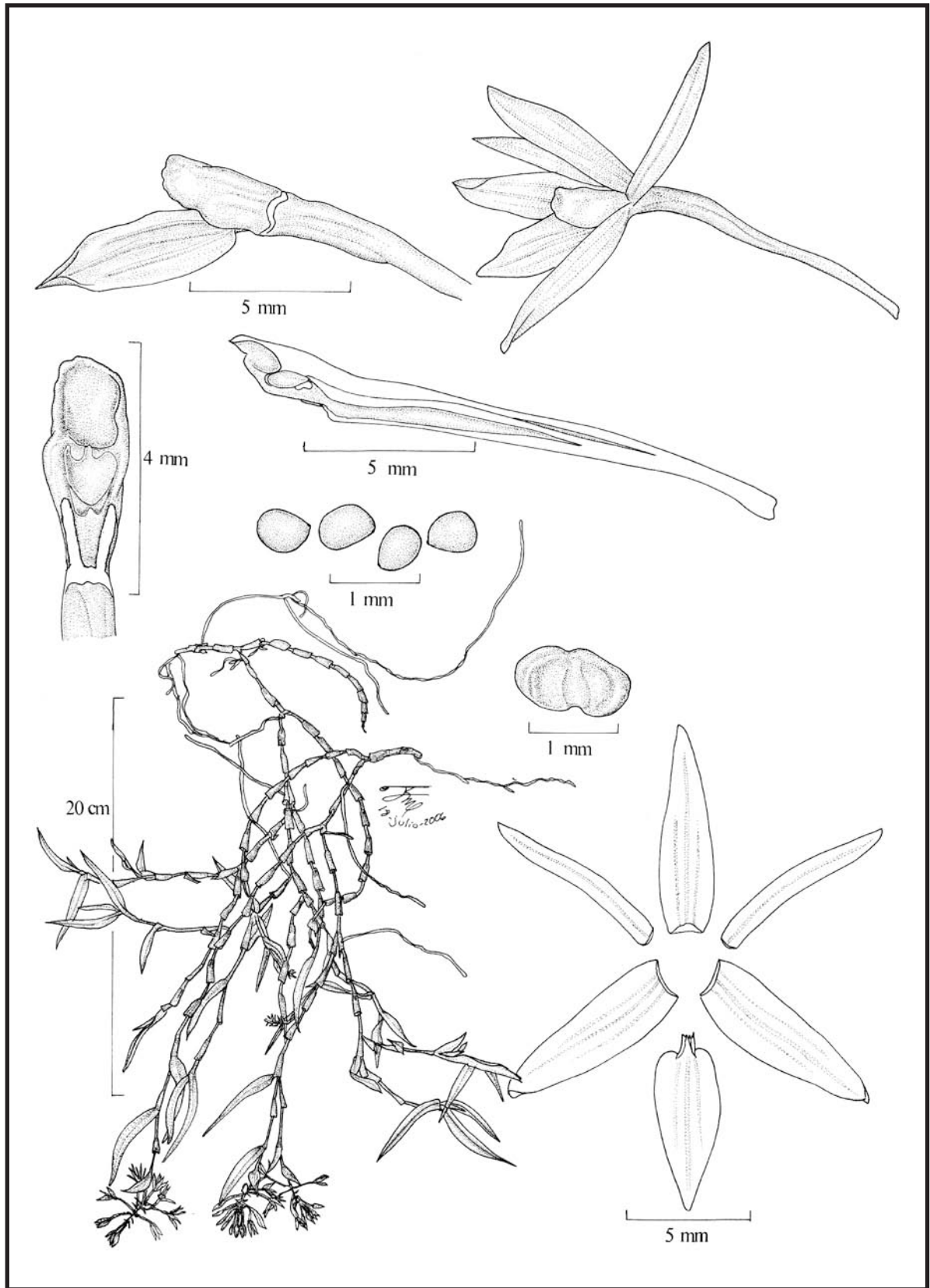
Editors: E. Hågsater & L. Sánchez S.

Herbario AMO

México, D.F. MÉXICO

ICONES ORCHIDACEARUM 14. 2013.

Plate 1413



EPIDENDRUM CALYPTRECTYLOSUM Hagsater & E.Santiago

Plate 1414

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

TYPE: COLOMBIA: Cauca: Páramo de las Barbillas, epiphytic in cloud forest, 3150 m, 13 November 1982, *Carlyle A. Luer & Rodrigo Escobar 8357*. Holotype: SEL 47142! (Illustration voucher).

Similar to *Epidendrum calyptratum* F.C.Lehm. & Kraenzl. but the flowers larger, the lip lanceolate to oblong, ecallose.

Epiphytic, pendent, repent-caespitose **herb**, ca. 30 cm long. **Roots** 0.3-0.6 mm in diameter, very few, from the base of each stem, thin, white. **Stems** 13-25 x 0.1-0.2 cm, simple, originating from around the basal 1/3 of the previous stem, cane-like, terete, thin, slightly sinuous, the base covered by 2-3 infundibuliform, non-foliar sheaths, 5-8 x 2.5-3.2 mm. **Leaves** 5-7, distributed throughout the apical 2/3 of the stems, alternate; foliar sheaths 9-11 x 2-3 mm, tubular, laterally compressed, minutely striated when dried, covering about half the internode; blade 2-5 x 0.3-0.7 mm, articulate, unequal in size, about 7:1 (length:width) somewhat spreading, linear-lanceolate, falcate, apex acuminate, apical margin minutely papillose. **Spathaceous bracts** 1 or 2, 1-2 x 0.4-0.6 cm (without spreading), acuminate, conduplicate, oblique, the apical margin minutely papillose. **Inflorescence** 2.5-5 cm de largo, apical, racemose, sub-umbelliform, short, pendulous, laxly few-flowered; peduncle 1.5-2.5 cm long, thin, laterally compressed, straight, partly hidden by the spathaceous bracts. **Floral bracts** 2-5 mm long, much shorter than the ovary, triangular-lanceolate, acuminate, amplexicaul. **Flowers** 6-17, simultaneous, resupinate, light green; fragrance not registered. **Ovary** 12-14 mm long, terete, thin, not inflated, slightly striated. **Sepals** 7.8-9 x 2.2-2.7 mm, partly spreading, free, lanceolate, acute, 3-veined, margin entire, spreading, the lateral sepals with a dorsal keel. **Petals** 7.8 x 1 mm, partly spreading, free, linear, oblique, acute, 1-veined, margin entire, spreading. **Lip** 6.4 x 2.6 mm, united to the base of the column, entire, base slightly cordate, lanceolate to oblong, acute, margin entire, revolute at the apex; ecallose, disc provided with 3 low ribs, the mid-rib disappearing towards the middle of the lip, the lateral pair shorter. **Column** ca. 4 mm long, short, thick, straight. **Clinandrium hood** prominent, comprising about 1/3 of the length of the column, straight, fleshy, margin entire. **Anther** reniform, with a dorsal keel. **Pollinia** 4, ovoid; caudicles not seen. **Rostrum** at the apical 2/3 of the column, slit. **Lateral lobes of the stigma** small, less than half the length of the stigmatic cavity. **Nectary** penetrating 1/2 of the ovary, not inflated, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** COLOMBIA: **Nariño:** Ipiales; east of La Victoria, in cloud forest, 3000-3200 m, 4 XI 1979, *Luer 4652*, SEL 29508! (Illustration, AMO!)

**DISTRIBUTION AND ECOLOGY:** Known only from southwestern Colombia, on the upper eastern slope of the Cordillera Oriental, from the Ecuadorean border north to the Páramo de Barbillas, epiphytic in [dwarf] cloud forest, at 3000-3200 m altitude. Flowering in November.

**RECOGNITION:** *Epidendrum calyptrectylosum* belongs to Megalospathum Group characterized by the caespitose but branching habit, many-leaved stem, fleshy, oblique leaves, a short, few flowered, raceme subtended by large semi-ovate spathaceous bracts, resupinate flowers, the column more or less united to the lip, and the Inornatum Sub-group, which has long, 3-8, narrow leaves, 8:1-20:1, and a simple, lip. The species is recognized by the linear-lanceolate, falcate leaves, the many-flowered (6-17), sub-umbelliform inflorescence, with one or two ovate, acuminate spathaceous bracts, the minutely striated ovary which is not inflated, sepals 7.8-9 mm long, the lanceolate to oblong, acute lip with the base slightly cordate, ecallose, and the very prominent clinandrium-hood with the margin entire. *Epidendrum calyptratum* has an ovate, acute lip with 2 minute calli, and the sepals are 6 mm long, and 10-12 flowers. *Epidendrum schmidtchenii* Hágsater & E. Santiago has fewer flowers (7), the ovary is inflated behind the lateral sepals forming a short vesicle, and has 3 ribs, the ribs being 2-winged, with the margin of the wings erose, the lip is oblong-elliptic, sub-rectangular, the base truncate, with a callus. *Epidendrum calyptratoides* Hágsater & Dodson has a narrowly semi-lanceolate spathaceous bract, the ovary is inflated, forming a somewhat elongate vesicle, 3-ribbed, the ribs 2-winged and erose, sepals ovate, lip elliptic and bicallous, and the clinandrium-hood is only slightly longer than the body of the column, the leaves are comparatively longer, 14:1 (length:width).

**ETYMOLOGY:** From the Greek *καλυπτρα*, a veil, in reference to the closely related *E. calyptratum*, the prefix *εξ-* (*εκ-* in front of consonants), lacking, and *καλλος*, callus, in reference to the main difference between the two species.

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

**REFERENCES:** Hágsater, E. & C. H. Dodson, 2001, *Epidendrum calyptratoides*, in E. Hágsater & L. Sánchez S. (eds), The Genus *Epidendrum*, part 3, *Icon. Orchid.* 4: pl. 426. Hágsater, E., & E. Santiago, 2009, *Epidendrum schmidtchenii* in E. Hágsater & L. Sánchez S. (eds), The Genus *Epidendrum*, part 8, *Icon. Orchid.* 12: pl. 1290.



Authors: E. Hágsater & E. Santiago

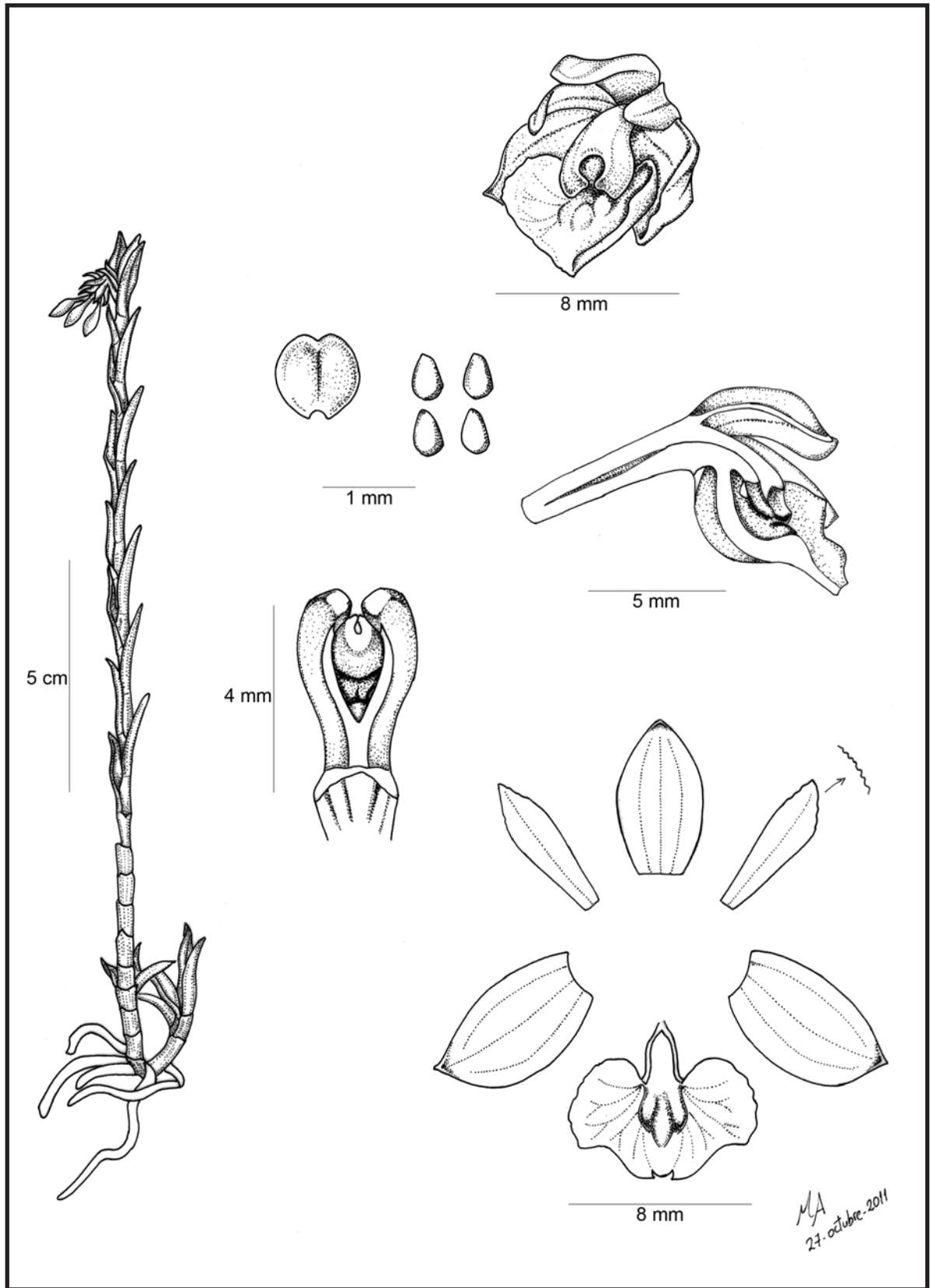
Illustrator: R. Jiménez M.

Editors: E. Hágsater & L. Sánchez S.

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ICONES ORCHIDACEARUM 14. 2013. Plate 1414



EPIDENDRUM CHACHAPOYARUM Chocce-Peña, Hągsater, Acuña-Tarazona & Vega-Vera Plate 1415

**EPIDENDRUM CHACHAPOYARUM** Chocce-Peña, Hągsater, Acuña-Tarazona et Vega-Vera, *sp. nov.*

Type: PERÚ: Amazonas: Prov. Bongará: San Carlos: Cocachimba, pajonal, cerca a la parte alta de la Catarata Gocta, 2860 m, 18 September 2009, **Miguel Chocce-Peña, Nanette Vega-Vera, C. Bustamante, E. Chillquillo y H. Yalta 5187**. Holotype: USM! (Illustration voucher).

Similar to *E. vegae* Chocce & Hągsater, but flowers are smaller, yellow, sepals 3-nerved, petals 1-nerved, lip sub-trilobate, the mid-lobe wide and emarginate, with a mucro in the sinus, and bicallose with a thickened rib disappearing before it reaches the mid-lobe.

Terrestrial **herb**, erect, sympodial, caespitose, to 18 cm tall. **Roots** 2-3 mm in diameter, basal, thin, fleshy. **Stems** 16.3 x 0.3 cm, simple, cane-like, terete, thin, erect, straight. **Leaves** 16, distributed throughout the apical 2/3 of the stem, alternate, articulate, coriaceous, amplexicaul, partly imbricating, parallel to the stem; sheaths 9-10 x 3-4 mm, tubular, striated, minutely rugose, brown; blade 1.5-2 x 0.5-0.6 cm, lanceolate, green, apex sub-obtuse, margin entire. **Spathaceous bract** absent. **Inflorescence** 2 cm long, apical, racemose, arching, densely few-flowered; peduncle 3 mm long, short, straight; rachis thin, terete, arching. **Floral bracts** 3.5-6 x 1-2.5 mm, shorter than the ovary, triangular, acuminate, amplexicaul. **Ovary** 6-7 mm long, terete, thin, minutely striated. **Flowers** ca. 11, successive, the buds developing progressively, 3 open at one time, nutant, resupinate, yellow, without fragrance. **Sepals** free, partly spreading, slightly concave, fleshy, elliptic, apex sub-acute, with a dorsal keel, 3-nerved, margin entire; lateral sepals 7.5 x 5 mm; dorsal sepal 6.5 x 4 mm. **Petals** 6.5 x 2 mm, partly spreading, free, oblanceolate, acute, 1-veined, apical margin erose. **Lip** 5 x 8 mm; united to the column, base cordate, sub-3-lobed; bicallose, the calli prominent, fleshy, elongate, parallel and similar to the rib but somewhat shorter; disc with a thickened mid-rib, similar to calli, disappearing before the mid-lobe of the lip; lateral lobes semi-orbicular, margin erose; mid-lobe emarginate, with a rounded mucro in the sinus, margin entire. **Column** 4 mm long, arched. **Clinandrium-hood** short, margin entire. **Rostellum** sub-apical, slit. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, laterally compressed. **Nectary** short, not penetrating the ovary, shorter than the column, smooth.

**OTHER SPECIMENS: PERU: Amazonas:** Prov. Bongará: San Carlos: Cocachimba, pajonal de Jalca, cerca a la parte alta de la Catarata Gocta, 2898 m, 18 IX 2009, *Chocce-Peña 5189*, USM!

**DISTRIBUTION AND ECOLOGY:** Known only from the type locality in Bongará Province, Amazonas, Peru, where it is uncommon. Terrestrial herb in grassland (*Jalca*), at 2870-2898 m altitude. Flowering in September.

**RECOGNITION:** *Epidendrum chachapoyarum* belongs to the Coronatum group, Aristisepalum subgroup, which has a sympodial, caespitose habit, simple stems, sub-coriaceous leaves, a racemose inflorescence without spathaceous bracts, and aristate sepals. The species is terrestrial, has short stems (to 18 cm), yellow flowers, sepals 3-veined, petals 1-veined, the sub-3-lobed lip is bicallose, the calli elongate, and a thickened rib in between, disappearing before the mid-lobe. It is closely related to *Epidendrum vegae* is a short, lithophytic herb, has large red to bright orange flowers with a short (7.5 mm), thin column, 5-veined sepals and petals, the lip 3-lobed with 3 low parallel ribs, and a very small, semi-orbicular, entire mid-lobe. *Epidendrum jalcaense* Chocce-Peña, Dalström, Hągsater & Arnaiz, which is epiphytic and much taller (to 56 cm), has petals 6-veined, the 3-lobed lip has 3-5 ribs, the mid-lobe is emarginate forming a couple of semi-orbicular lobes, and the 10 mm-long column is stout and thick. *Epidendrum camilo-diazii* Hągsater & Chocce-Peña has tall stems (to 90 cm), bright orange-red flowers, bilobed, emarginate lip with a single wide, low, fleshy rib, and straight, obovate petals, sepals and petals 5-veined, and a long (10 mm), straight column.

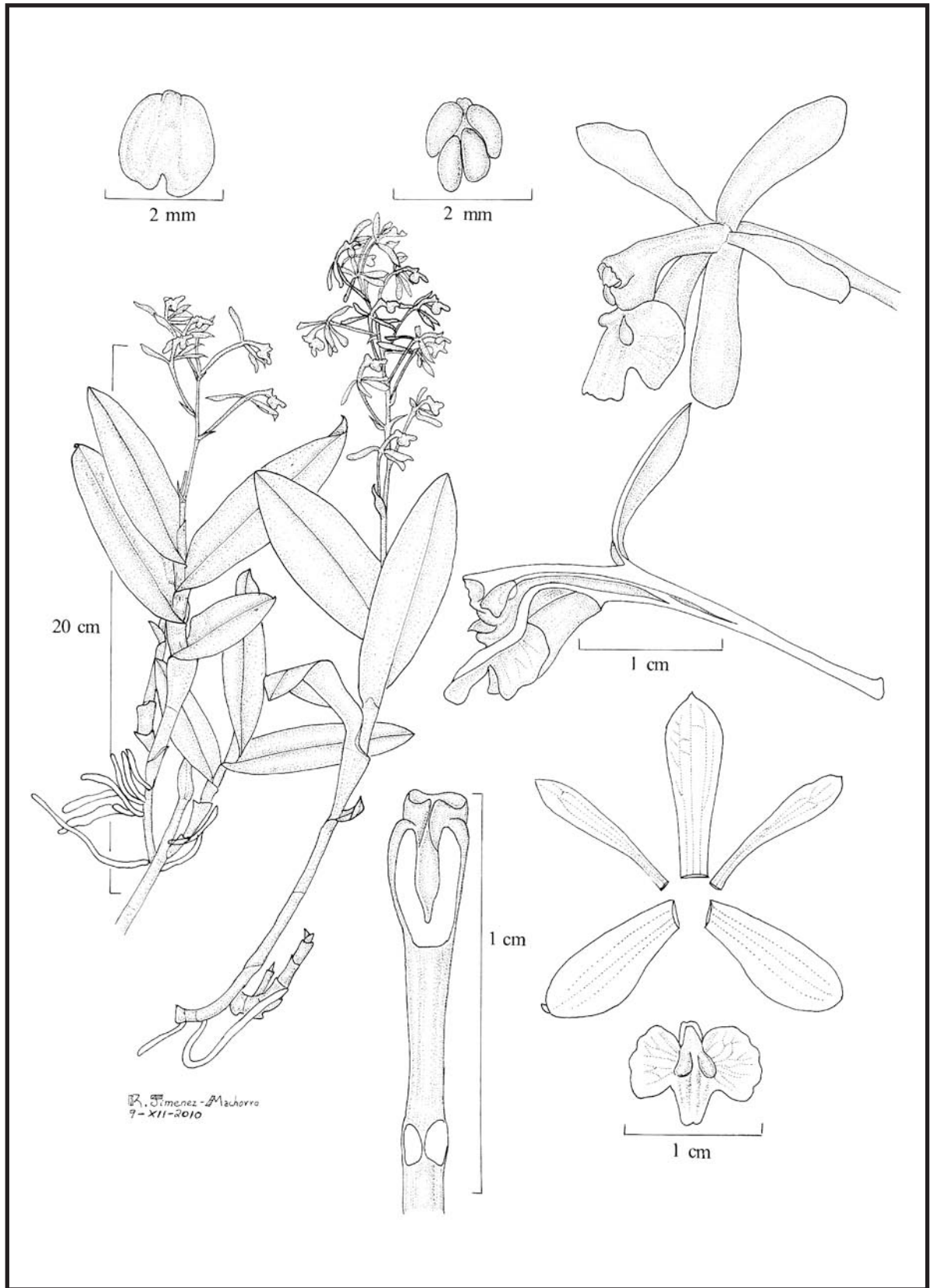
**CONSERVATION STATUS:** DD. Data deficient. Known only from the type locality.

**ETYMOLOGY:** In honor to the Chachapoyas (people of the clouds), a pre-Columbian civilization that developed in the regions of Amazonas and San Martín, in northeastern Peru during the IX-XV centuries. Many sites can still be seen, manifestations of their grandiose past, including the fortress of Kuelap.

**ACKNOWLEDGEMENTS:** We thank the staff at the San Marcos Herbarium (USM); APECO (Peruvian Association for Conservation) and CI (Conservation International) both institutions supported this work through the "Becas María Koepcke" program.



Authors: M. Chocce-Peña, E. Hągsater, M. Acuña-Tarazona & N. Vega-Vera Illustrator: M. Acuña-Tarazona Photo: M. Chocce-Peña Editors: E. Hągsater & L. Sánchez S.



EPIDENDRUM CHALMERSII Hagsater & Ric.Fernández

Plate 1416



**EPIDENDRUM CHALMERSII** Hágsater et Ric.Fernández, *sp. nov.*

Type: PERU: Cuzco: Paucartambo, carretera Paucartambo-Pillcopata, aprox. a 10 km pasando Paucartambo, 3050 m, 31 October 2007, **Ricardo Fernández & Ian Chalmers 3479**. (Photo voucher). Holotype: USM! Isotype: AMO! (Illustration voucher).

Simile *Epidendri ampliracemi* C. Schweinf. sed foliis brevioribus et angustioribus inflorescentia minore et pauciflora, floribus minoribus et apice labelli truncato et bilobato.

Terrestrial, sympodial, caespitose **herb**, 20-30 cm tall. **Roots** ca. 3 mm in diameter, basal, thick, white. **Stems** 9-15 x 0.3-1.0 cm, simple, cane-like, terete at the base, laterally compressed towards the apex, erect, straight. **Leaves** 3-4, erect-spreading, alternate, articulate, coriaceous, unequal in size (the basal one smaller); sheath 1-2.5 cm long, tubular, minutely striated; blade 5-9.5 x 2.2-2.8 cm, elliptic, apex sub-obtuse, margin entire. **Spathaceous bract** 14-15 x 4-5 mm, 1, tubular, narrow, somewhat ancipitose, acute. **Inflorescence** 6-7.5 cm long, apical, racemose, erect, laxly few-flowered; peduncle 3.5 mm long, thin, laterally compressed. **Floral bracts** 6-12 mm long, prominent, but shorter than the ovary, narrowly triangular, acuminate, amplexicaul. **Flowers** 6-10, simultaneous, resupinate, fleshy, colored creamy green, sepals and petals dorsally tinged brown, the ovary greenish brown. **Ovary** 16-21 mm long, short, terete, not inflated, striated. **Sepals** 11.5-13 x 4-4.5 mm, free, spreading, 3-veined, margin entire, revolute; the dorsal sepal oblanceolate, sub-obtuse, apiculate, the lateral sepals obovate-ob lanceolate, oblique, apex rounded, minutely apiculate. **Petals** 12 x 2.3 mm, spreading, free, narrowly oblanceolate, obtuse, 3-veined, slightly oblique, margin entire, somewhat revolute. **Lip** 7 x 9.5 mm, united to the column, 3-lobed, base cordate, somewhat convex; bicallose, the calli prominent, sub-globose, slightly divergent; disc with 3 fleshy ribs, the mid-rib high and prominent, the lateral pair low and short; lateral lobes 4 x 5 mm, ovate-elliptic, margin erose; mid-lobe 3 x 3 mm, smaller than the lateral lobes, rectangular-oblong, apex truncate, emarginate, and minutely bilobed, margin entire. **Column** 10 mm long, slightly arching, basal half thin, gradually widened towards the apex. **Clinandrium-hood** prominent (without surpassing the body of the column), margin denticulate. **Anther** ovoid, 4-celled. **Pollinia** 4, obovoid; caudicles soft and granulose, somewhat shorter than the pollinia. **Rostellum** apical, slit. **Lateral lobes of the stigma** small, occupying 1/3 the length of the stigmatic cavity. **Nectary** shallow, just penetrating behind the perianth, not inflated, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

**OTHER RECORDS: PERU: Cuzco:** photo by R. Valencia published as *Epidendrum ampliracemum* (Christenson, 2003). Photo by B. Collantes, as *E. ampliracemum*, (Collantes et al. 2007).

**DISTRIBUTION AND ECOLOGY:** Known from the type and various published images, from the summit of the Cordillera Oriental in southern Peru, province of Cuzco; terrestrial among short bushes on slope, in high mountain páramo, at 3050 m altitude. Flowering in October.

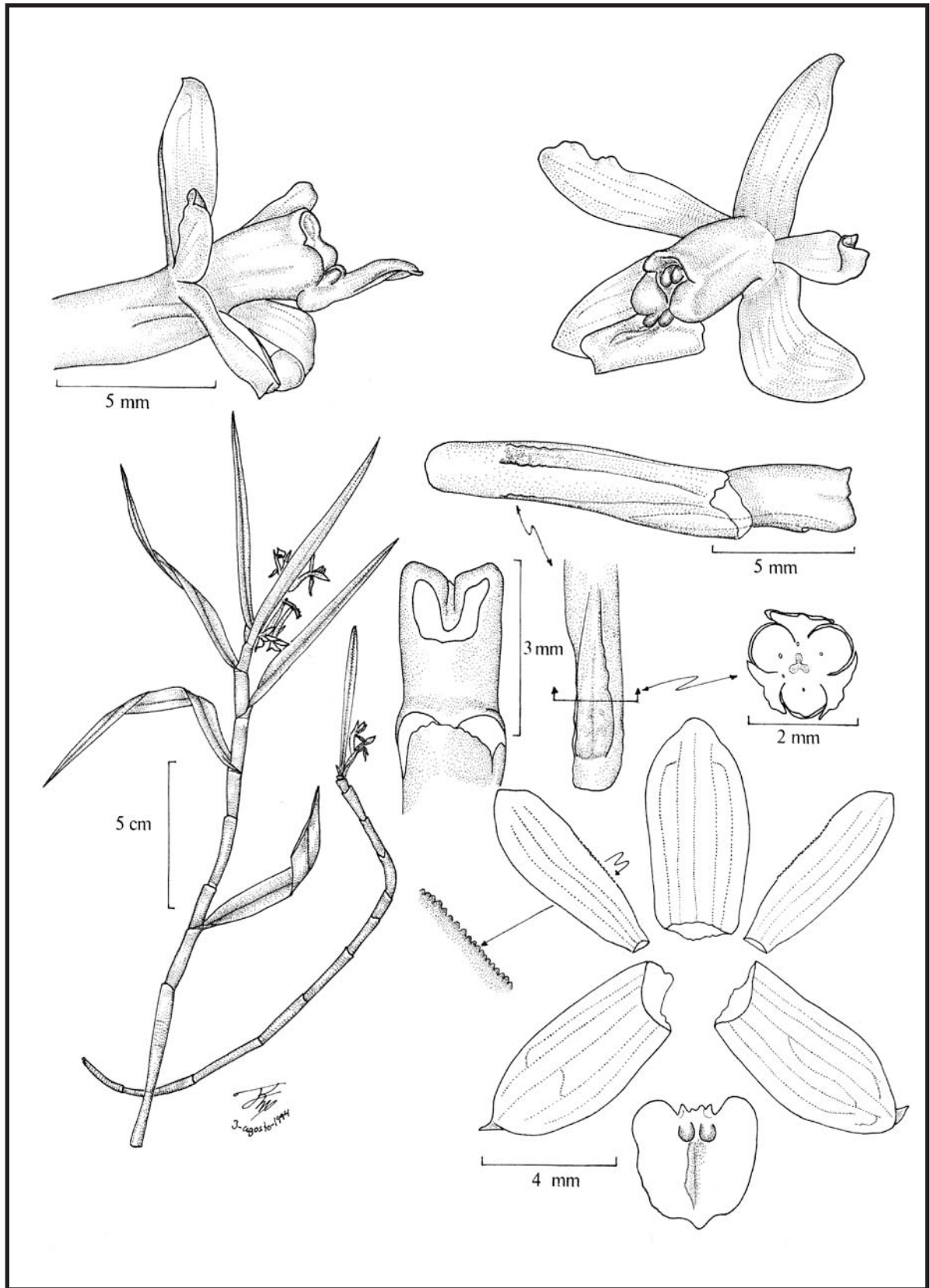
**RECOGNITION:** *Epidendrum chalmersii* belongs to the Ampliracemum Group which is characterized by the simple, cane-like, few-leaved stems, with a single, tubular, tight spathaceous bract at the base of a racemose, simple, erect inflorescence, the flowers resupinate. The species is recognized by the relatively small plantas (20-30 cm tall including the inflorescence), with 3-4 elliptic leaves 5-9 x 2-3 cm, the 6-10 flowered inflorescence, lateral sepals obovate-ob lanceolate, 11 mm long, and the mid-lobe of the lip truncate and minutely bilobed at the apex. *Epidendrum ampliracemum* has larger leaves, 6-13 x 4 cm, a many-flowered inflorescence, elongate (19 cm long) lateral sepals oblanceolate (17-18 mm long), and the mid-lobe cuneate, sub-obtuse, minutely apiculate.

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

**ETYMOLOGY:** In honor of Ian Chalmers of Editor of The Orchadian, published by the Native Australasian Orchid Society of Australia. He has published extensively on orchids, and participated in the collection of the type.

**REFERENCES:** Christenson, E. A., 2003, *Epidendrum ampliracemum*, **Manual de las Orquídeas del Santuario Histórico de Machu Picchu**, PROFONANPE, Lima, Perú. Collantes, B., C. Soto & J. Koechlin, 2007, **Orchids in Inkaterra at Machu Picchu Pueblo Hotel**, Lima, Peru, p. 133.





EPIDENDRUM CHLOIDOPHYLLUM Rchb.f. ex Hágsater & Dodson

Plate 1417

**EPIDENDRUM CHLOIDOPHYLLUM** Rchb.f. ex Hágsater et Dodson, *sp. nov.*

Type: ECUADOR: [Pichincha:] in valle Lloensi, 8000 ft, April, **William Jameson 499**. Holotype. P! (Illustration voucher). Isotypes: AMES 73788! E! G!

Species *Epidendrum inornatum* Schltr. similis sepalis oblongis ellipticis, petalis latioribus anguste oblanceolatis, apice rotundato, 3-nervatis, labello tam lato quam longo differt.

Epiphytic, scandent-erect, **herb.** **Roots** 1.5-2.5 mm, scarce, along the scandent part of the stem, fleshy, thin. **Stems** 9.5-16 x 0.35-0.45 cm, cane-like, terete, produced from an intermediate internode of the previous stem, the basal nodes scandent. **Leaves** 9, erect, distributed along the apical half of the stem; sheath 0.6-3 cm long, tubular, striated, finely rugose; blade 3.2-8.5 x 0.3-0.9 cm, linear-lanceolate, acuminate. **Spathaceous bract** 1, 2.5 cm long, obovate, long-acuminate, conduplicate. **Inflorescence** apical, short, half the length of the leaves; peduncle 1.8 cm long, straight to slightly arching. **Floral bracts** 1-2 mm long, inconspicuous, linear-acuminate. **Flowers** generally 5, simultaneous, color and fragrance not recorded. **Ovary** 12-13 mm long, rugose at the base and ribs two-winged, the apical half ventrally slightly inflated forming a low, small vesicle. **Sepals** spreading, oblong-elliptic, obtuse, sub-coriaceous, straight, 5-veined; apical sepal 6 x 3 mm; the laterals apically keeled and apiculate, 7 x 3 mm. **Petals** 6 x 2 mm, spreading, narrowly oblanceolate, obtuse, 3-veined, margin finely crenulate due to rounded marginal cells. **Lip** 3.7 x 3.7 mm, united to the column, entire, sub-cordiform to sub-quadrata, obtuse, apiculate; bicallose, calli globose, disc with a thickened rib towards the apex. **Column** 3 mm long, straight, thick, ending in fleshy rounded lobes on each side. **Clinandrium-hood** short, covering the anther but not surpassing the body of the column. **Anther** and **pollinia** not seen. **Nectary** prominent, penetrating half of the ovary, swollen behind the perianth. **Capsule** not seen.

**OTHER SPECIMENS: COLOMBIA: Cauca:** Paletará, 3000 m, 6 II 1884, *Lehmann 3568*, G! **ECUADOR: [Pichincha:]** in valle Lloensi, 8000 ft, *Jameson sub J.P. Couthouy 9*. Paratype: AMES 4351! Tracing by Reichenbach f. at W-R!

**DISTRIBUTION AND ECOLOGY:** Known only from the type and paratype (possibly the same collection) from northern Ecuador, and a single collection from southern Colombia, in the interandean valley, at 2000-3000 m altitude. Flowering from February to April.

**RECOGNITION:** *Epidendrum chloidophyllum* belongs to the *Inornatum* Group which has a scandent rhizome, erect habit, linear-lanceolate leaves and short, 4-7-flowered inflorescence subtended usually by 1-2 prominent, acute to acuminate, sub-imbriating sheaths. The species is recognized by the 3-veined, narrowly oblanceolate petals, the apex rounded, the lip 3.7 x 3.7 mm. *Epidendrum inornatum* Schltr. has lanceolate-oblong, acute sepals, linear, oblique 1-veined petals, and the lip 3.5 x 2.5 mm. The illustrations by Dunsterville (1976) and Foldats (1970) represent another, undescribed species.

**CONSERVATION STATUS:** DD. Data deficient. Since the species was found near the capital city of Quito, it may very well be extinct. No recent collection has been found.

**ETYMOLOGY:** from the Greek *χλωη*, young green grass, and *φυλλον*, leaf, in reference to the grass-like leaves. The name was used by Heinrich Gustave Reichenbach f. on herbarium specimens.

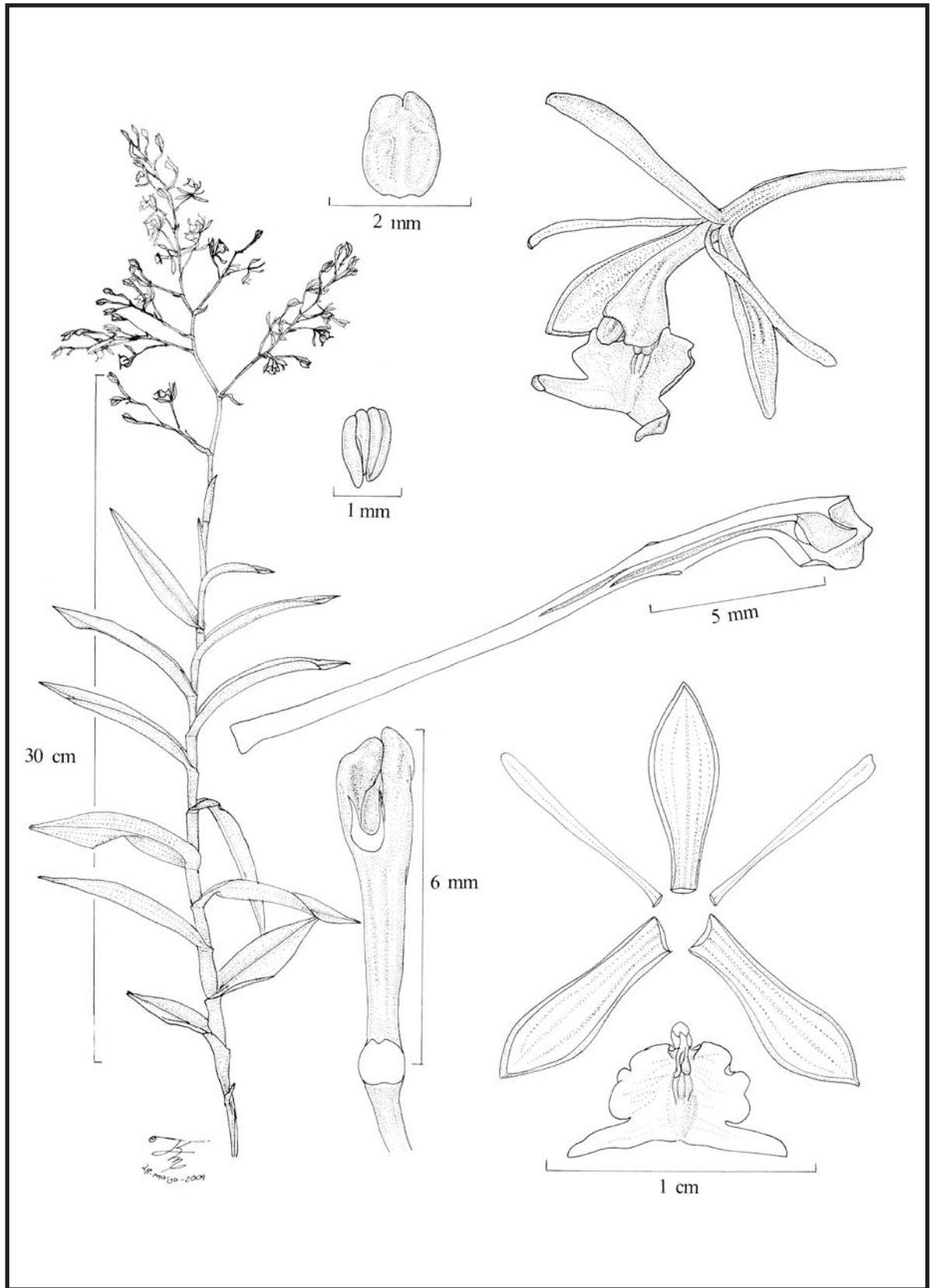
**REFERENCES:** Dunsterville, G.C.K., and L.A. Garay, 1976, *Venezuelan Orchids Illustrated* 6: 129. Foldats, E., 1970, *Orchidaceae*, en Tobias Lasser, *Flora de Venezuela* 15(3): 287-289.



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Herbario AMO

Illustrator: R. Jiménez M.  
México, D.F. MÉXICO

Editors: E. Hágsater & L. Sánchez S.  
ICONES ORCHIDACEARUM 14. 2013. Plate 1417



*EPIDENDRUM CHRISTENSONII* Hágsater & E.Santiago

Plate 1418

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

Type: PERU: San Martín: Road from Moyobamba to Nieva, km 395, 4800 ft, 5-10 February 2002, *Eric Christenson, M. Turkel, R. Villena, U. Alvarado, C. Macedo* 2025. Holotype: USM! (Illustration voucher).

Simile *Epidendrum paniculatum* Ruiz & Pav. sed floribus aliquantulum minoribus, basi labelli truncata, labello immaculato lobulis lateralibus oblique ellipticis margine undulato et lobo medio lobulis fortiter divaricatis, rectis, nec falcatis.

Terrestrial, sympodial, caespitose, erect herb 100-120 cm tall. **Roots** basal, thin. **Stems** 26 x 0.5 cm, simple, cane-like, terete, thin, erect, straight; the basal half covered by non-foliar, scarious, tubular, sheaths, 2.2 cm long. **Leaves** 13, distributed throughout the stem, distichous, articulate, erect-spreading, unequal in size (the basal and apical ones smaller); sheaths 1.7-2.3 x 0.3-0.7 cm, tubular, minutely striated; blade 3-7.5 x 1-1.6 cm, narrowly lanceolate-elliptic, shortly acuminate, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescence** 20 cm long, apical, paniculate, erect, lax-flowered; peduncle 3.5 cm long, thin, somewhat laterally compressed, erect, straight, covered by 2 tubular, acute, partly imbricating bracts, 2.3-2.7 cm long; rachis 4.3-7.6 cm long, terete, thin, with 8-10 sub-spreading, lax-flowered racemes, each raceme subtended by a narrowly triangular, acuminate bract, 5-12 mm long. **Floral bracts** 2 mm long, small, much shorter than the ovary, narrowly triangular, acuminate, amplexicaul. **Ovary** 12-13 mm long, teretes, thin, not inflated, unornamented. **Flowers** ca. 50, simultaneous, resupinate, pale green with the lip and the apex of the column white, immaculate. **Sepals** 7.6-8 x 2.5 mm, spreading, free, fleshy, oblanceolate-spatulate, acute, margin entire, spreading; dorsal sepal 5-veined, lateral sepals 3-veined. **Petals** 8 x 0.7 mm, spreading, free, filiform, 1-veined, margin entire, spreading. **Lip** 4.2 x 8 mm, united to the column, 3-lobed, base truncate, slightly convex; bicallose, the calli small, sub-globose; disc provided with 3 parallel ribs, thin, short, rounded, united into one wide, fleshy rib; lateral lobes obliquely elliptic, margin undulate; mid-lobe very short, deeply bilobed, the lobes linear-oblong, obtuse, margin entire, strongly divergent, straight, forming a 180° degree angle between them. **Column** 6 mm long, short, slightly arching, thin at the base, gradually widened towards the apex, apex bidentate. **Clinandrium-hood** margin entire. **Anther** ovoid, apex truncate, 4-celled. **Pollinia** 4, "bird-wing-type", the inner pair slightly smaller. **Rostellum** apical, slit. **Lateral lobes of the stigma** prominent, occupying 1/2 of the stigmatic cavity. **Nectary** shallow, just penetrating the ovary, not inflated, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** PERU: **Cajamarca:** Prov. San Ignacio, La Palma, 1800 m, X 1990, *Patroni* 231, AMO! San José de Lourdes. Poblado de los Llanos, 1860 m, 10 X 2006, *Perea* 2790, AMO! USM! **Loreto:** [Ucayali:] Prov. Coronel Portillo. Distrito Padre Abad. La Divisoria, cerca a Río Chino, 1400-1600 m, 11 VII 1976, *Schunke* 9222, NY! (Illustration AMO). **San Martín:** Carretera Tarapoto-Yurimaguas, 800-900 m, 18 IV 1984, *Ferreira* 20072, USM! San Roque, 1350-1500 m, I-II 1930, *Llewellyn Williams* 7732, F! **ECUADOR: Zamora-Chinchi:** Yangana to Valladolid, cerca de Valladolid, 10 IX 1999, *Hágsater* 12314, AMO! F! MO! QCA! QCNE! USM! *Ibid.*, hort. 22 IX 2000, AMO! (Illustration, AMO). *Ibid.* *Hágsater* 12316, AMO!

**OTHER RECORDS:** PERU: **Amazonas:** Between Leimebamba and Chachapoyas, *Morón s.n.*, digital photo, AMO!

**DISTRIBUTION AND ECOLOGY:** Known from northern Peru and southern Ecuador, near Valladolid, from the basin of the Río Huallaga, and the upper reaches of the Río Marañón, terrestrial at 1400-1600 m altitude. Flowering in January-February, and July.

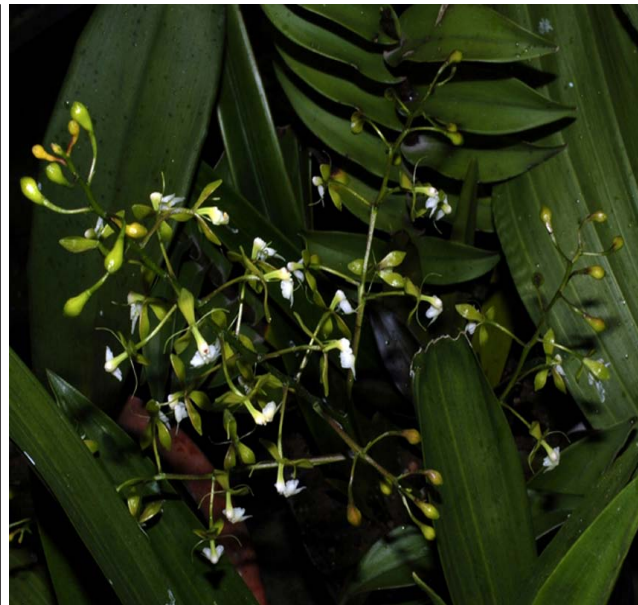
**RECOGNITION:** *Epidendrum christensonii* belongs to the Pseudepidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and Paniculatum Subgroup, which has filiform petals, all pollinia "bird-wing" type, green and white flowers, often marked with purple on the disc of the lip and apex of the column. The species is recognized by having small flowers, sepals 7.6-8 mm long, the green flowers with the lip and apical half of the column white, immaculate, the base of the lip is truncate, the lateral lobes obliquely elliptic with the margin undulate, the mid-lobe divided into a pair of linear-oblong, strongly divaricate, straight lobes. *Epidendrum paniculatum* Ruiz & Pavón has somewhat larger flowers, sepals 12-13 mm long, the green and white flowers strongly marked with reddish on the disc of the lip; the base of lip is deeply cordate, the lateral lobes sub-orbicular with the margin sub-entire and the mid-lobe is formed by a pair of prominent, falcate, linear-oblong lobes. *Epidendrum agoyanense* Hágsater & Dodson has larger plants, larger and wider leaves (4-16 x 1.6-4.7 cm); sepals 9.5-12 mm long, the lateral lobes of the lip are sub-quadrate, and the width of the lip is equal between the lateral as between the apical lobes. *Epidendrum parviflorum* Ruiz & Pavón has smaller flowers, sepals 5 mm long, green and white, immaculate, the disc has a single callus which is bilobed at the apex. *Epidendrum vallsioletanum* Hágsater & E.Santiago, found near Valladolid, Ecuador, has short plants, about 35 cm tall, green and white flowers, with brown dots on the base of the lip, the sub-quadrate lateral lobes of the lip with the apical margin erose, the single callus apically bilobed and the papillose ovary.

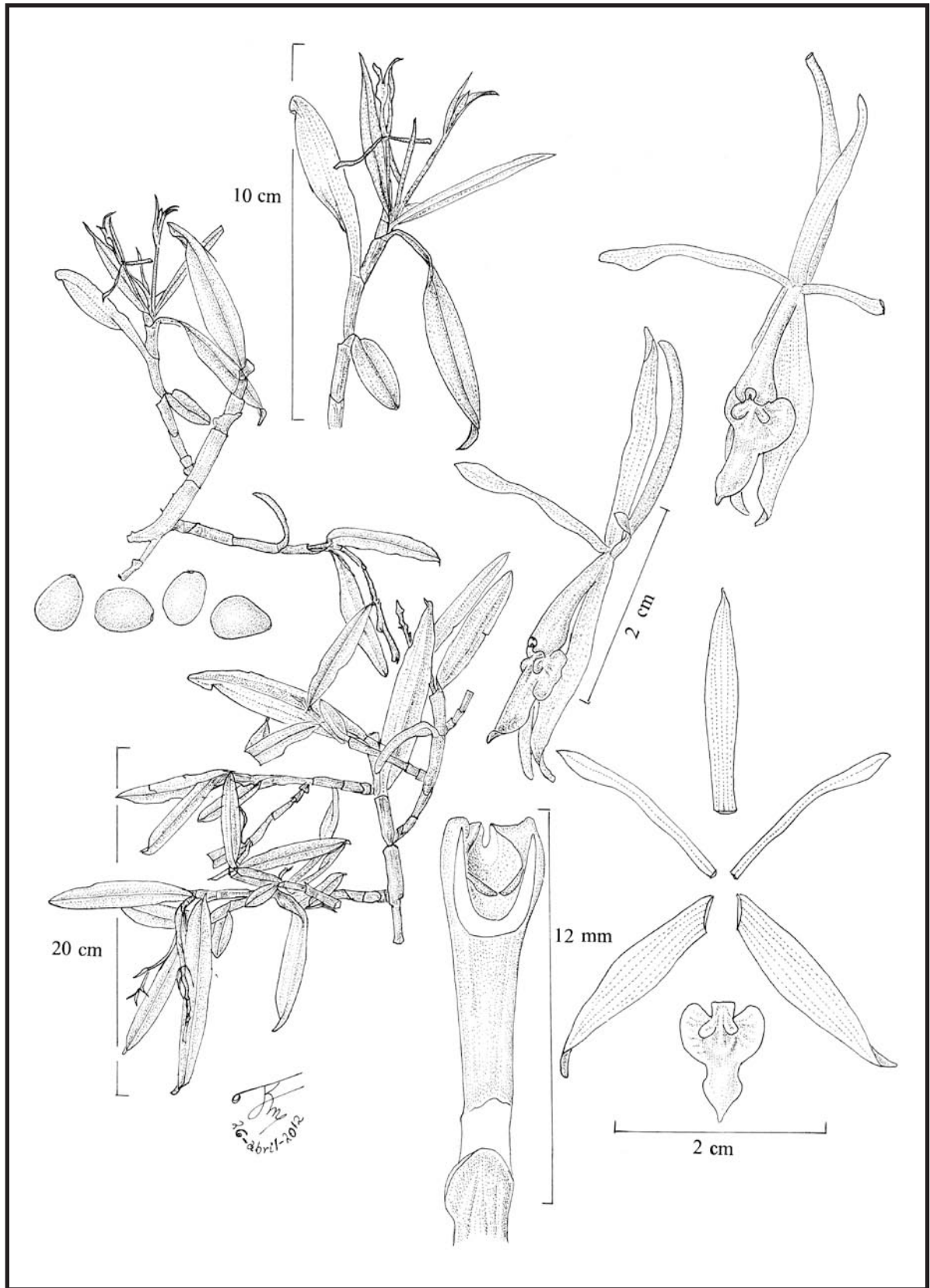
**NOTE:** The type is the plant illustrated by Christenson (2005) as representing the real *Epidendrum paniculatum*. However recent work by Franco Pupulin (pers. comm.) in the herbarium of the Botanical Garden in Madrid (MA) has brought to light not only several of the original specimens of Ruiz & Pavón, but also several illustrations prepared during their expedition, one of which we have now been able to compare to modern Peruvian collections, and thus have identified what we think is the true *Epidendrum paniculatum* described and illustrated elsewhere in this volume.

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

**ETYMOLOGY:** In honor of Eric A. Christenson (1956-2011), American botanist dedicated to the study of Orchids world-wide. Though often controversial, he collaborated with local students, and published numerous papers in both scientific and popular orchid journals. He was working on the genus *Maxillaria* at the time of his death at his home in Brandenton, Florida. He often shared his *Epidendrum* manuscripts with the senior author, especially regarding the species of Peru.

**REFERENCES:** Carr, George F., 2011, In Memory of Eric Christenson, Ph.D., *Orch. Digest* 75(3): 119. Christenson, Eric A., 2005, *Epidendrum paniculatum*, *Orchid Rev.* 113(1263): 134-135.





EPIDENDRUM COLANENSE Hágsater & E.Santiago

Plate 1419

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

Type: PERU: Amazonas: Bagua: Cordillera Colán, SE of La Peca, 7750-8075 ft, 16 October 1978, **Philip Barbour 4100**. Holotype: SEL! (Illustration voucher). Isotype: MO!

Similar to *Epidendrum pichincha* Schltr. but the petals linear, the distal third falcate and expanded, the lateral lobes of the lip auriculate, calli sub-globose, and the disc with a semi-circular thickening in front of the calli, column longer, with a pair of small teeth at the sides of the anther.

Epiphytic, monopodial, branching **herb**, 70-200 cm tall. **Roots** not seen. **Stems** branching, cane-like, terete, erect, straight; the main stem 0.7-0.8 cm thick, the branches 6.5-11 x 0.3-0.5 cm, the basal half covered by tubular, non-foliar sheaths 5-17 mm long, striated, rugose. **Leaves** numerous on the main stem, 2-5 per branch, distributed along the apical half of the branches, erect-spreading, distichous, articulate, alternate, sub-coriaceous, unequal in size (the basal one shorter); sheaths 0.7-3 cm long, tubular, striated, rugose; blades oblong, obtuse, margin entire, the blades on the main stem somewhat larger, 11-12 x 2 cm, those of the branches 2-10 x 0.8-1.5 cm. **Spathaceous bract** lacking. **Inflorescence** apical, flowering only once, racemose, slightly arching, laxly few-flowered, 5-7 cm long, (occasionally producing a pair of flowers on a very short, sessile inflorescence on a branch): peduncle 15 mm long, sub-terete, thin, short, provided near the base with a bract 13 mm long, oblanceolate, acute. **Floral bracts** 8-12 mm long, prominent, shorter than the ovary, linear-lanceolate, long acuminate, amplexicaul (the bracts of the sessile flowers nearly as long as the ovary, 26 mm long). **Flowers** 7-10, simultaneous, resupinate, greenish yellow; fragrance not recorded. **Ovary** 20-35 mm long, terete, thin, not inflated, unornamented. **Sepals** 20-22 x 3.2-4.6 mm, partly spreading, free, linear-elliptic, acuminate, with a prominent dorsal keel, 5-veined, margin entire, spreading. **Petals** 18 x 1.8 mm, partly spreading, free, linear, the apex slightly expanded, the apical 1/3 falcate, acute, 1-veined, margin entire, spreading. **Lip** 11 x 8 mm, united to the column, 3-lobed, base cordate, margin entire; bicallose, the calli small, sub-globose; disc with a low mid-rib which disappears at the semi-circular thickening of the disc in front of the calli; lateral lobes 3.2 x 5.5 mm, auriculate; mid-lobe 5.5 x 3.7 mm with a short isthmus at the base, the apex triangular-ovate, apiculate. **Column** 12 mm long, straight, thin, somewhat dilated towards the apex, with a pair of small teeth on the side of the anther. **Clinandrium-hood** reduced, margin entire. **Anther** not seen. **Pollinia** obovoid. **Rostellum** apical, slit. **Lateral lobes of the stigma** small. **Nectary** and **capsule** not seen.

**OTHER SPECIMENS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Known only from northern Peru, from the Cordillera Colán, part of the Cordillera Oriental of the Andes, upper basin of the Río Marañón, epiphytic in humid cloud forest at 2300-2400 m altitude. Flowering in October.

**RECOGNITION:** *Epidendrum colanense* belongs to the Andean Group, Cernuum Subgroup, characterized by the monopodial branching habit, cane-like stems, branching sub-apically, the branches shorter than the main stem, leaves coriaceous to sub-coriaceous and fleshy flowers, the lip entire or 3-lobed. The species is recognized by the linear petals, falcate and somewhat expanded at the distal 1/3, the lateral lobes of the lip auriculate, the calli sub-globose and the disc with a semi-circular thickening in front of the calli, column 12 mm long, with short teeth on each side. *Epidendrum pichincha* has linear-lanceolate or linear-oblong petals oblique at the base, the lateral lobes of the lip are obliquely ovate to dolabriform, calli laminar, column 6-7 mm long, and the apex of the column has a pair of prominent sub-rectangular wings. *Epidendrum sumacoense* Hágsater & Dodson has somewhat smaller flowers, sepals 13-15 mm long, oblanceolate petals with a rounded apex and erose margin, the lateral lobes of the lip obliquely ovate, and the column is 6 mm long with a pair of very prominent, rounded wings.

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

**ETYMOLOGY:** In reference to the Cordillera de Colán, in northern Peru, a semi isolated segment of the Cordillera Oriental of the Andes east of the Río Marañón, and straddling the provinces of Bagua and Utcubamba. A part of this mountainous system has been decreed Zona Reservada by the Peruvian Government on 6 March 2002.

**REFERENCES:** Dodson, C. H., 1989, *Epidendrum pichincha* Schltr., in **Icon. Pl. Trop.** ser. 2, 5: 480. E. Santiago & E. Hágsater, 2009, *Epidendrum pichincha* Schltr., in E. Hágsater & L. Sánchez S., **Icon. Orchid.**: 12: 1274. 2009.



Authors: E. Hágsater & E. Santiago

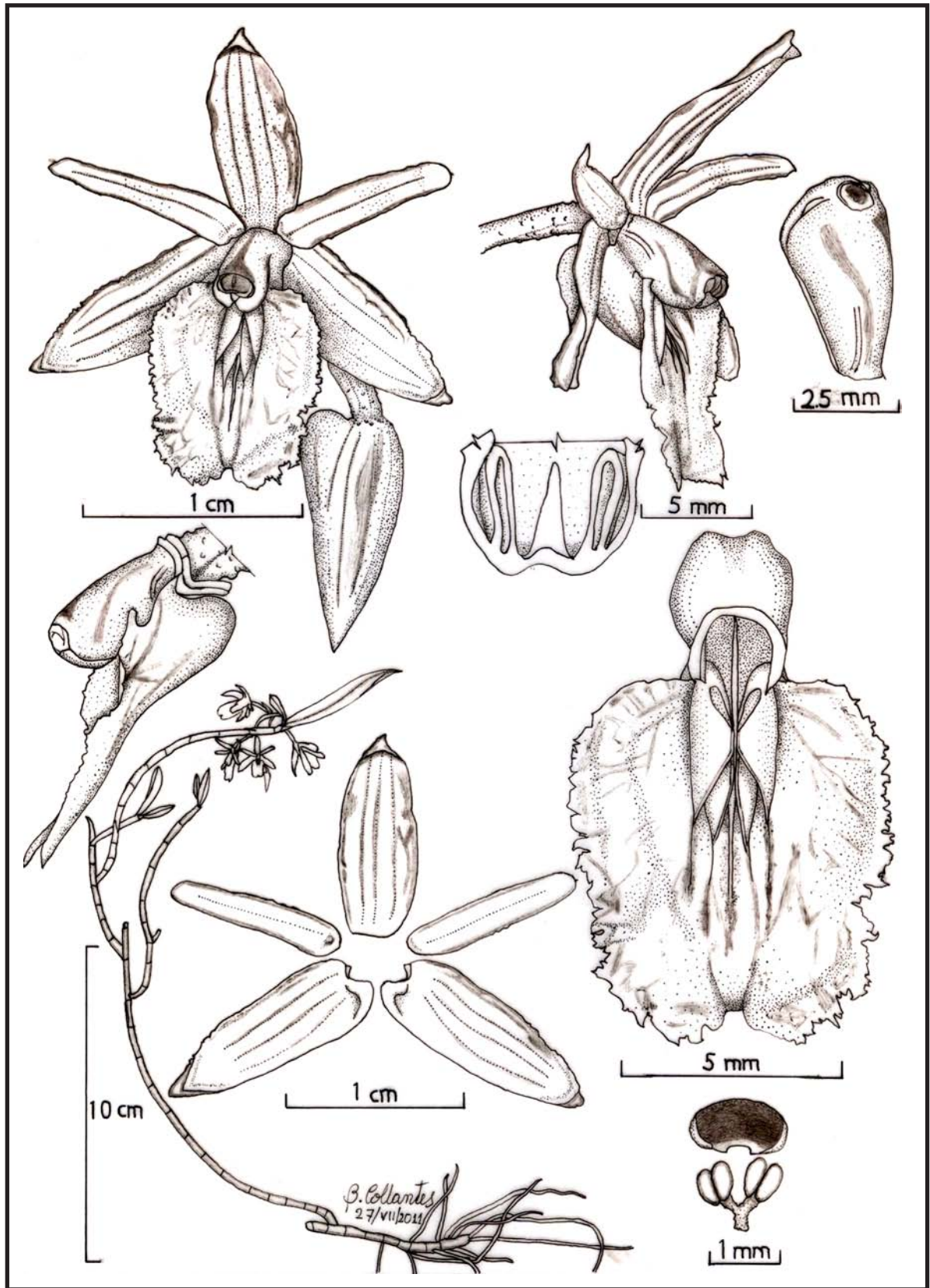
Illustrator: R. Jiménez M.

Editors: E. Hágsater & L. Sánchez S.

Herbario AMO

México, D.F. MÉXICO

ICONES ORCHIDACEARUM 14. 2013. Plate 1419



EPIDENDRUM CRYPTOTROPIS Hágsater, Collantes & E.Santiago

Plate 1420



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

Type: PERÚ: Huancavelica: Bosque Amaru, 2500-2700 m, September 1999, *Reden Suárez & Gissela Alegría ex Bennett 7945*.

Holotype: MOL! (Illustration voucher.) Digital photos of flower of pretype taken by B. Collantes, AMO! (Photo voucher.)

Similar *Epidendrum trachysepalum* Hágsater sed sepalis inornatis, labello fere totaliter columnae adnato; praedito 5 costis laminaribus, lateralibus in basi coalitis litteram U inversam efformantibus, angustam atque plicatam, prominentibus in basi sacci labelli.

Epiphytic and terrestrial, monopodial, branching **herb**, ca. 30 cm tall. **Roots** 2 mm diameter, basal from the primary stem, fleshy. **Stems** 2-12 x 0.15-0.3 cm, branching, produced from the apical internodes of the previous stem, terete, thin, straight. **Leaves** generally 2 at the apex of the branches, distichous, articulate, sub-coriaceous, unequal in size; sheath 7-10 x 1.5-3 mm, tubular, minutely striated; blade 1-4 x 0.4-0.7 cm, narrowly lanceolate, the apex sub-obtuse, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescence** ca. 1 cm long, apical, racemose, arching, very short, few-flowered, sub-dense, flowering only once, peduncle sub-sessile. **Floral bracts** 5 mm long, much shorter than the ovary, triangular, acute. **Flowers** 7, simultaneous, resupinate, yellowish green, with the borders and veins purple, the lip and apex of the column tinged purple, as well as a dorsal stripe and lateral lines on the column; fragrance disagreeable, of dirty, sweaty clothes. **Ovary** ca. 6 mm long, sub-triquetrous, not inflated, scarcely postulate, pale green with purple lines. **Sepals** 10 x 3.7 mm, free, unornamented, narrowly ovate, acute, mucronate, 3-veined, margin spreading; dorsal sepal partly spreading, margin entire; **lateral** sepals 12 x 5 mm, spreading, oblique, base concave, apical margin minutely and slightly erose-denticulate. **Petals** 9 x 2.2 mm, partly spreading, free, linear-lanceolate, sub-obtuse, apiculate, 1-veined, margin entire, minutely denticulate towards the apex, spreading. **Lip** 8.5 x 7 mm, nearly totally united to the column, entire, sub-pandurate, with a pair of lateral lobes slightly suggested, base truncate, sac-like, apex emarginate, apiculate, margin hyaline, irregularly dentate; ecallose, disc provided with 5 ribs which disappear towards the apical half of the lip, but are very prominent towards the sac-like base of the lip, where they are hidden under the column; the lateral ribs are united at the base in the shape of a narrowly inverted "U", plicate and hollow, the central rib is hidden, straight, and smooth. **Column** ca. 5 mm long, slightly arching near the base, thick, with a prominent column-foot. **Clinandrium-hood** reduced, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid; caudicles granulose. **Rostellum** apical, slit. **Lateral lobes of the stigma**, not seen. **Nectary** ample, short, rounded, forming the basal sac of the lip. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

**OTHER RECORDS:** PERU: **Huancavelica:** Bosque Amaru, 2500-2700 m, 16 IX 1999, illustration by M. Pastorelli, based on [*Reden Suárez & Gissela Alegría ex Bennett 7945*, in Bennett & Christenson (2001)].

**DISTRIBUTION AND ECOLOGY:** Known only from central Peru, in Huancavelica, from the Bosque Amaru, on the Cordillera Occidental, epiphytic and terrestrial at 2500-2700 m altitude. Flowering in August-September.

**RECOGNITION:** *Epidendrum cryptotropis* belongs to the Diorthonea Group and Subgroup which is characterized by the branching plants, linear lanceolate to oblong, bilobed leaves, racemose, arching-nutant inflorescence, membranaceous flowers (rarely fleshy), the entire to 3-lobed, ecallose lip with the margin denticulate-erose without or with 1-10 thin, smooth to erose ribs, sometimes very prominent and like an inverted "L" or narrowly "U" shaped, the column completely to obliquely united to the lip, the anther reniform. The species is recognized by the yellow greenish flowers with veins and edges lined purple, the sepals dorsally glabrous (10-12 mm long), the column thick, nearly totally united to the lip and with a column foot that forms a sac-like prominence at the base of the sub-pandurate lip, the margin hyaline, dentate, the disc with 5 laminar keels which become prominent within the sac of the lip, under the column, the lateral ribs are united at the base in the shape of a narrowly inverted "U", the central rib is hidden, straight, and smooth. *Epidendrum heterothoneum* (Rchb.f. & Warsc.) Hágsater & Dodson, has up to 13 flowers, partly spreading, acuminate sepals and petals which are nearly as long as the lip, the column is thick and bidentate at the apex, does not have a column foot nor a sac-like lip and the lip lacks any keels. *Epidendrum trachysepalum* Hágsater has up to 10 yellowish brown flowers with reddish veins, the sepals (9.5-11 mm long) are strongly muricate, the lip totally free from the column and is adorned with 5 thin ribs, at the base of the lip the lateral pair is united and narrowly "U" shaped, and the mid-rib is shorter and only appears on the disc. *Epidendrum trachypentatropis* Hágsater & E.Santiago has smaller flowers, sepals (5.5-5.7 mm long) are dorsally ornate with the apices muricate, the lip is united to the column and has 5 prominent, short, straight, free, unequal ribs in shape and size hidden under the column. *Epidendrum astetei* Hágsater, Collantes & Mormontoy has pale purple flowers, the inflorescence short and dense, sepals 9-10 mm long, a 3-lobed lip and the column a pair of prominent wings at the apex. *Epidendrum trachydipterum* Hágsater, W.Nauray & E.Santiago has greenish brown flowers, the sepals (ca. 10-11 mm long) dorsally ornate with spine-like appendages, lip united to the column, deeply 3-lobed, the mid-lobe forming two lobes separated by a deep, narrow sinus, the disc with 5 parallel, laminar ribs, the apex of the column with a pair of prominent rounded wings.

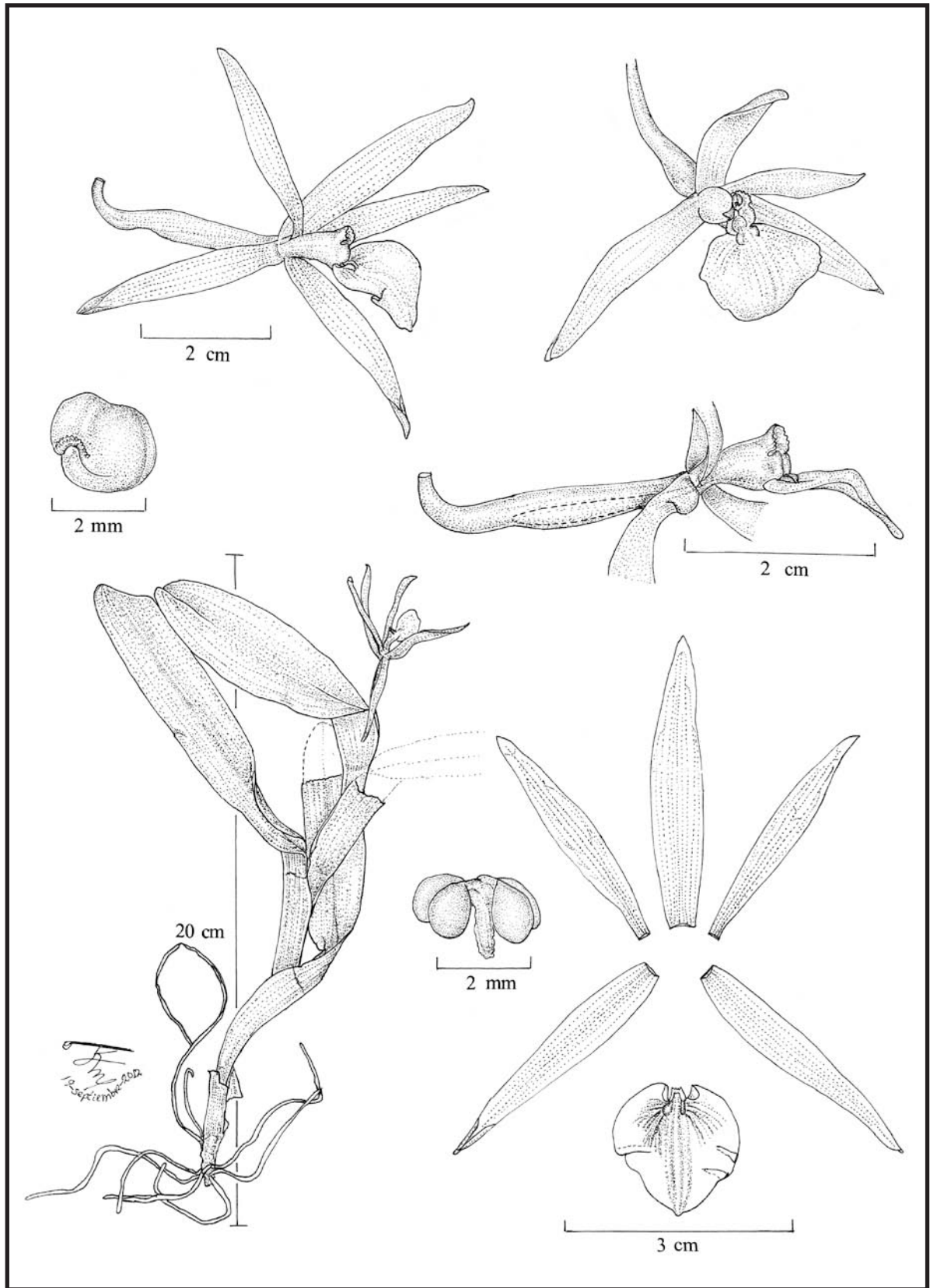
**CONSERVATION STATUS:** DD. Data deficient. Known only from the type.

**ETYMOLOGY:** From the Greek κρυπτος, hidden, and τροπις, keel of a ship, in reference to the prominent ribs of the lip which are hidden within the sac-like base, under the column, and which distinguish this species.

**REFERENCE:** Bennett, D.E., and E.A. Christenson, 2001. As *Epidendrum heterothoneum*, in *Orchids of Peru*, **Icon. Orchid. Peruv.** pl. 638.



**Authors:** E. Hágsater, B. Collantes & E. Santiago **Illustrator:** B. Collantes **Photo:** B. Collantes **Editors:** E. Hágsater & L. Sánchez S. **Herbario AMO** **México, D.F. MÉXICO** **ICONES ORCHIDACEARUM 14. 2013. Plate 1420**



*EPIDENDRUM DARIENSE* Hágsater, Kolan. & L.Sánchez

Plate 1421

**EPIDENDRUM DARIENSE** Hágsater, Kolan. et L.Sánchez, *sp. nov.*

Type: PANAMA: Prov.: Darién: About 10 km from Pavarandó, about 150-200 m, 29 March 2012, *Marta Kolanowska 410*.

Holotype: AMO! (Illustration voucher, digital images) Isotype: UGDA (flower in spirit)!

Similar to *Epidendrum hunterianum* Schltr. but the plants small, ovary terete, flowers produced in succession, one at a time, small, lip ovate-cordiform, calli small, laminar, disc with three central ribs reaching the apex, and several radiating, thickened, veins covering the disc of the lip.

Epiphytic, sympodial, caespitose, erect **herb**, ca. 19 cm tall. **Roots** 0.5-0.8 mm in diameter, basal, filiform. **Stems** 15 x 0.3-0.4 cm, simple, cane-like, terete at base, laterally compressed above, ancipitose, flexuous. **Leaves** 3-4, distributed throughout the stem; foliar sheath 2-3 cm long, ancipitose, smooth; blade 8-12 x 2.5-2.7 cm, elliptic-lanceolate, apex bilobed, sub-coriaceous, smooth, green, margin entire. **Spathaceous bract** absent. **Inflorescence** apical, from the mature stem, flowering only once, sessile. **Flowers** up to 3, successive, produced one at a time, resupinate, green; fragrance not registered. **Ovary** 36 x 3.2 mm, forming a ventral vesicle behind the perianth, occupying the apical 2/3 of the ovary, terete, unornamented. **Sepals** free, spreading, glabrous, lanceolate, acute, sub-coriaceous, 7-veined, margin entire, spreading; dorsal sepal 38 x 6.5, somewhat cucullate, lateral sepals 36 x 4.5 mm. **Petals** 30 x 4.2 mm, free, partly spreading (diffuse), glabrous, narrowly elliptic-lanceolate, acute, 5-veined, membranaceous, margin entire, spreading. **Lip** 17 x 16 mm, united to the column, base cordate, recurved in natural position, entire, ovate-cordiform, apex obtuse, rounded, margin entire; bicallose, calli small, laminar; disc with 3 central ribs prolonged to the apex of the lip, and several radiating, thickened veins on the disc. **Column** 11 mm long, conical, progressively dilated towards the apex. **Clinandrium-hood** prominent, funnel-shaped, entire, margin erose. **Anther** sub-reniform, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles granulose, somewhat longer than the pollinia. **Rostellum** apical, slit. **Nectary** deep, penetrating somewhat beyond the middle of the ovary. **Lateral lobes of the stigma** and **column** not seen.

**OTHER SPECIMENS:** None seen.

**DISTRIBUTION AND ECOLOGY:** This species is known so far only from the type locality. The small population of few specimens was found growing epiphytically on the small branch of the fallen tree in the wet lowland forest. About 150-200 m altitude. Flowering in March.

**RECOGNITION:** *Epidendrum dariense* belongs to the Difforme Group which is characterized by the caespitose, sympodial plants, fleshy, pale green to glaucous leaves, apical inflorescence, sessile, rarely with a short peduncle, one to many-flowered and then corymbose, without spathaceous bracts, fleshy, green to yellowish-green rarely white flowers. The species is recognized by the small (19 cm tall) plants, stems laterally compressed, ancipitose, successive flowers, produced one at a time, ovary terete, with an elongate swollen ventral vesicle occupying the apical 2/3 of the ovary, lip entire, ovate-cordiform, recurved in natural position, with 3 parallel ribs running down the entire length and additional radiating thickened veins covering the disc. It is similar to *Epidendrum hunterianum*, native to the Atlantic lowlands of Costa Rica and Panama, has tall (25-38 cm) erect stems, 5-8 leaves, a triquetrous ovary with a ventral vesicle occupying the apical 1/4 of the ovary, 4-6 simultaneous, smaller flowers (sepals 16-17 mm long), lip without thickened veins or ribs. *Epidendrum pendens* L.O.Williams is pendant, growing at 800-1000 m in Costa Rica and Panama, has taller, many-leaved (8-12) stems (29-56 cm), apical and lateral inflorescences with 1, rarely 2, simultaneous, large, gray-green flowers (sepals 50-53 mm long), un-inflated ovary, and a 3-lobed lip with numerous thickened veins covering the disc. Other species with a swollen vesicle behind the perianth and thickened veins are *Epidendrum platytilum* Schltr., endemic to Ecuador with wide leaves (2.3-3.4 cm), 1-2 simultaneous, large flowers (sepals 35-40 mm long), and a fimbriate clinandrium-hood. *Epidendrum kerryae* Hágsater & L.Sánchez is found in the lowlands of western Colombia and Ecuador, has 42 cm tall erect stems with 3-11 leaves, 1-2-simultaneous flowers, a triquetrous ovary, and the disc of the lip with only central, somewhat thickened ribs. Other species of the Difforme Group with thickened veins on the lip include *Epidendrum vulgoamparoanum* Hágsater & L.Sánchez, *E. acroamparoanum* Hágsater & L.Sánchez, *E. romero-castannedae* Hágsater & L.Sánchez, and *E. yojoaënsis* Hágsater & L.Sánchez, but have simultaneous flowers, a 3-lobed lip and do not have a swollen vesicle in the ovary.

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

**ETYMOLOGY:** In reference to the Province of Darien, in south-eastern Panama, where the species has been collected.

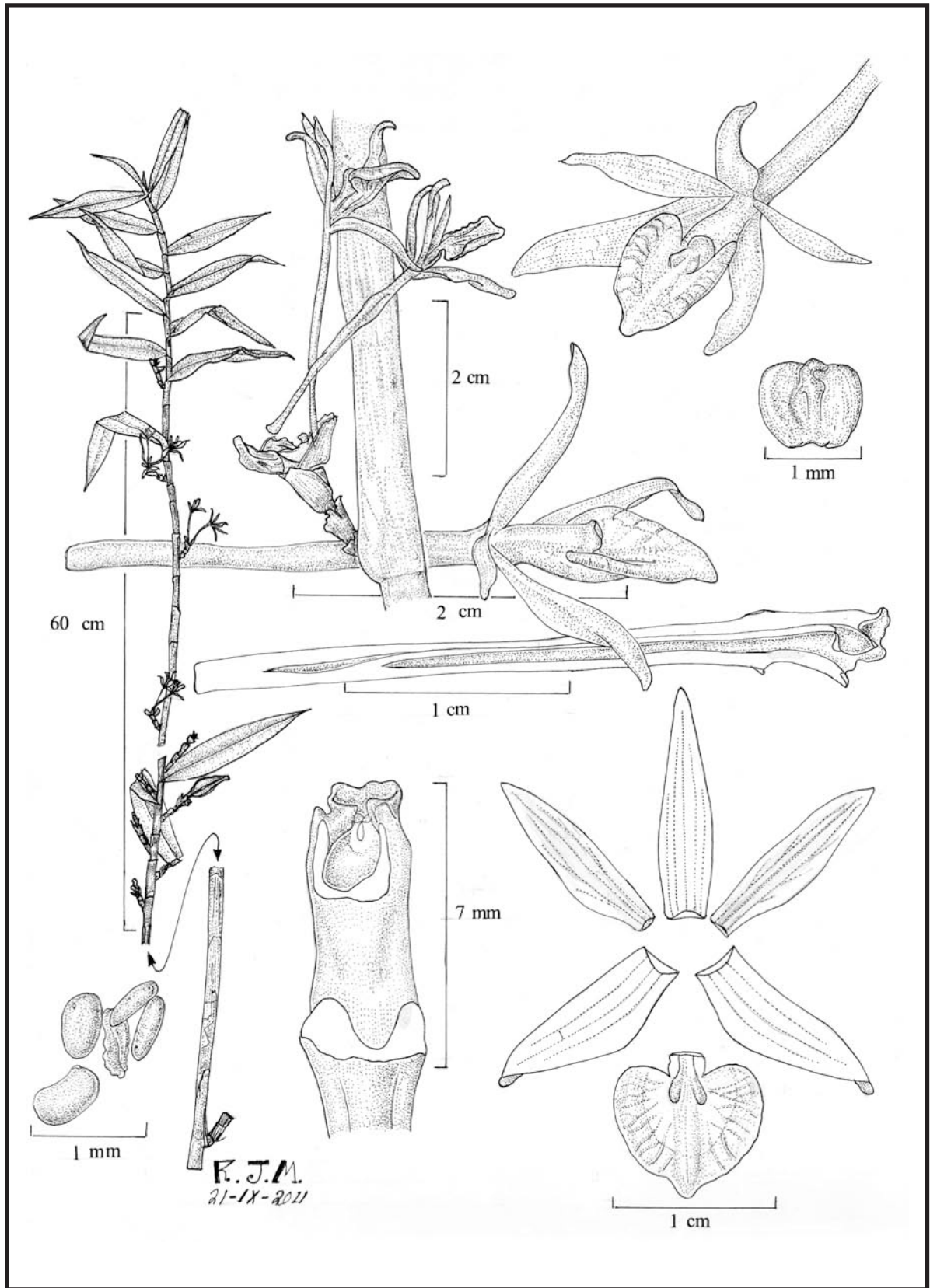


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ICONES ORCHIDACEARUM 14. 2013. Plate 1421



EPIDENDRUM DENDROMACROOPHORUM Hagsater, E.Santiago & O.Pérez

Plate 1422

**EPIDENDRUM DENDROMACROPHORUM** Hágsater, E.Santiago et O.Pérez, *sp. nov.*

Type: COLOMBIA: Valle del Cauca: 18 km below Queremal on Road to Anchicaya, 1100-1200 m, 4 October 1982, *James Folsom 10448*. Holotype: AMO! (Illustration voucher).

Similar to *Epidendrum dendrobii* Rchb.f. but the lateral inflorescences much longer, with larger flowers, the sepals and petals acute apically, the lip cordiform, and a much longer ovary.

Terrestrial, caespitose, sympodial, branching **herb** ca. 400-500 cm tall. **Roots** not seen. **Stems** ca. 400 tall, branching, the main stem 1.0-1.3 cm in diameter, the branches much shorter, 0.4-0.5 cm in diameter; cane-like, terete, erect, covered towards the base by non-foliar sheaths 7.3-7.8 x 1.0-1.5 cm, tubular, minutely striated, scarious. **Leaves** numerous, distributed throughout the stems, articulate, alternate, spreading, unequal in size (those on the main and secondary stems long and wide, 17 x 3.2 cm, those on the tertiary stems shorter and narrower, 10-13 x 1.5-2.2 cm); sheaths 1.6-4.2 x 0.4-0.7 cm, tubular, minutely striated; blade elliptic, acuminate, membranaceous, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescences** 2-4 cm long, lateral, numerous, originating from the middle of the internodes, through the foliar sheaths, racemose to pluri-racemose (producing new racemes from the apex of the peduncles), laxly few-flowered; peduncle 1.5-3 cm long, laterally compressed, totally hidden by 3-5 bracts 3-10 mm long, tubular, minutely striated, scarious, the basal ones slightly imbricated. **Floral bracts** 8-9 mm long, much shorter than the ovary, cymbiform, amplexicaul. **Flowers** 2-6, disposed helicoidally along the short rachis, yellow-green the apex of the column, calli and disc of the lip white, lip bright yellow; fragrance not registered. **Ovary** 25-45 mm long, terete, thin, not inflated, unornamented. **Sepals** 13-15 x 3.3-4.2 mm, free, acute, margin entire, revolute; the dorsal sepal spreading, triangular-lanceolate, 5-veined; lateral sepals partly spreading, oblong, oblique, aristate, 3-veined, with a short dorsal keel. **Petals** 12-14 x 1.75 mm, partly spreading, free, oblanceolate, acute, 3-veined, margin entire, revolute. **Lip** 8.4-10 x 8-9.3 mm, united to the column, entire, cordiform, base slightly cordate, apiculate, margin entire, revolute, thus sub-quadrate in natural position, due to the revolute lateral and apical margins; bicallose, the calli small, sub-laminar, slightly divergent; disc with a low rib reaching the apicule. **Column** 7 mm long, short, thick, arching upwards at the clinandrium-hood. **Clinandrium-hood** short, slightly surpassing the body of the column, arching upwards, margin erose. **Anther** sub-reniform, 4-celled. **Pollinia** 4, sub-obovoid, laterally compressed, unequal in size and shape (the inner pair smaller); caudicles soft and granulose, as long as the inner pollinia. **Nectary** penetrating more than half of the ovary, thin, not inflated, unornamented. **Capsule** ellipsoid, 6.5 x 1.4 mm; body 4 x 1.4 mm; pedicel 10 mm long; apical neck 15 mm long, perianth persistent.

**OTHER SPECIMENS: COLOMBIA: Cauca:** El Tambo, La Costa, 1300 m, 26 VII 1936, *Sneider 855*, AMES! F! NY! S! **Chocó:** San José del Palmar, Cerro del Torrá, vertiente oriental vereda de Río Negro, 1620 m, 26 VIII 1988, *Ramos 1568*, MO! **Nariño:** Ricaurte to Altaquer, km 81-88 on road Tuqueres to Tumaco, 1100 m, 22 VII 1989, *Dodson 18094*, AMO! Junin-Barbacoas road, 2-10 km N of Junin, 900-1000 m, 26 VII 1986, *Gentry 55293*, MO! Barbacoas, Corregimiento Santander (Buenavista) a Barbacoas, 200-840 m, 3 VIII 1948, *García-Barriga 13160*, COL! US! **Valle del Cauca:** Queremal, 20 I 1980, *Guarin 70*, COL 211868! VALLE! Hwy. El Queremal-Buenaventura (old road from Cali), 1300 m, 6 II 1984, *Juncosa 1992*, MO! NY! VALLE! El Queremal, vía antigua al mar. 30° C. aprox. ca. 1500 m, 29 XII 2010, *Pérez 1053*, VALLE x4! **ECUADOR: Esmeraldas:** Lita-San Lorenzo, km 18, 850 m, 28 XII 1990, *Dodson 18592*, RPSC! (MO) **Pichincha:** Dos Rios, km 84 Camino viejo via Chiriboga, Quito-Santo Domingo, 1150 m, 8 IV 1984, *Dodson 14185*, MO! QCNE! RPSC! (MO)

**OTHER RECORDS: COLOMBIA: Valle del Cauca:** El Queremal, vía antigua al mar. 30° C. aprox. ca. 1500 m, 29 XII 2010, digital images, *Pérez 1053*, AMO! (Photo voucher).

**DISTRIBUTION AND ECOLOGY:** Endemic to the Pacific slope of the Cordillera Occidental in southern Colombia and northern Ecuador, terrestrial at 840-1600 m altitude. Flowering in July to February.

**RECOGNITION:** *Epidendrum dendromacrophorum* belongs to the Pleuranthium Group, characterized by the caespitose habit, cane-like and elongate stems, several short, lateral inflorescences, and the Dendrobii Subgroup which has several flowers per raceme, and a short or reduced clinandrium-hood. The species is characterized by the long lateral inflorescences with 4-6 flowers helicoidally disposed along the rachis, the very long ovary, 25-42 mm long, cymbiform floral bracts, and the cordiform, apiculate lip. *Epidendrum dendrobii* Rchb.f. has smaller flowers, and shorter inflorescences and ovaries, a reniform, emarginate lip and oblanceolate petals with the apex rounded. *Epidendrum dendroaggregatum* Hágsater & E.Santiago (= *Epidendrum aggregatum* Lindl., non Roxb. ex Steud.) has sub-sessile inflorescences with small flowers, sepals ca. 7-8 mm long, and a 6 mm-long ovary. *Epidendrum phragmidoides* Hágsater (which grows sympatrically in the type locality) has much shorter stems, sub-sessile, 1-flowered inflorescences, a short (6 mm) ovary thickened along the apical half, tubular, imbricating floral bracts and the lip is somewhat 3-lobed, the base truncate, the clinandrium-hood semi-tubular, much longer than the body of the column.

**CONSERVATION STATUS:** DD. Deficient.

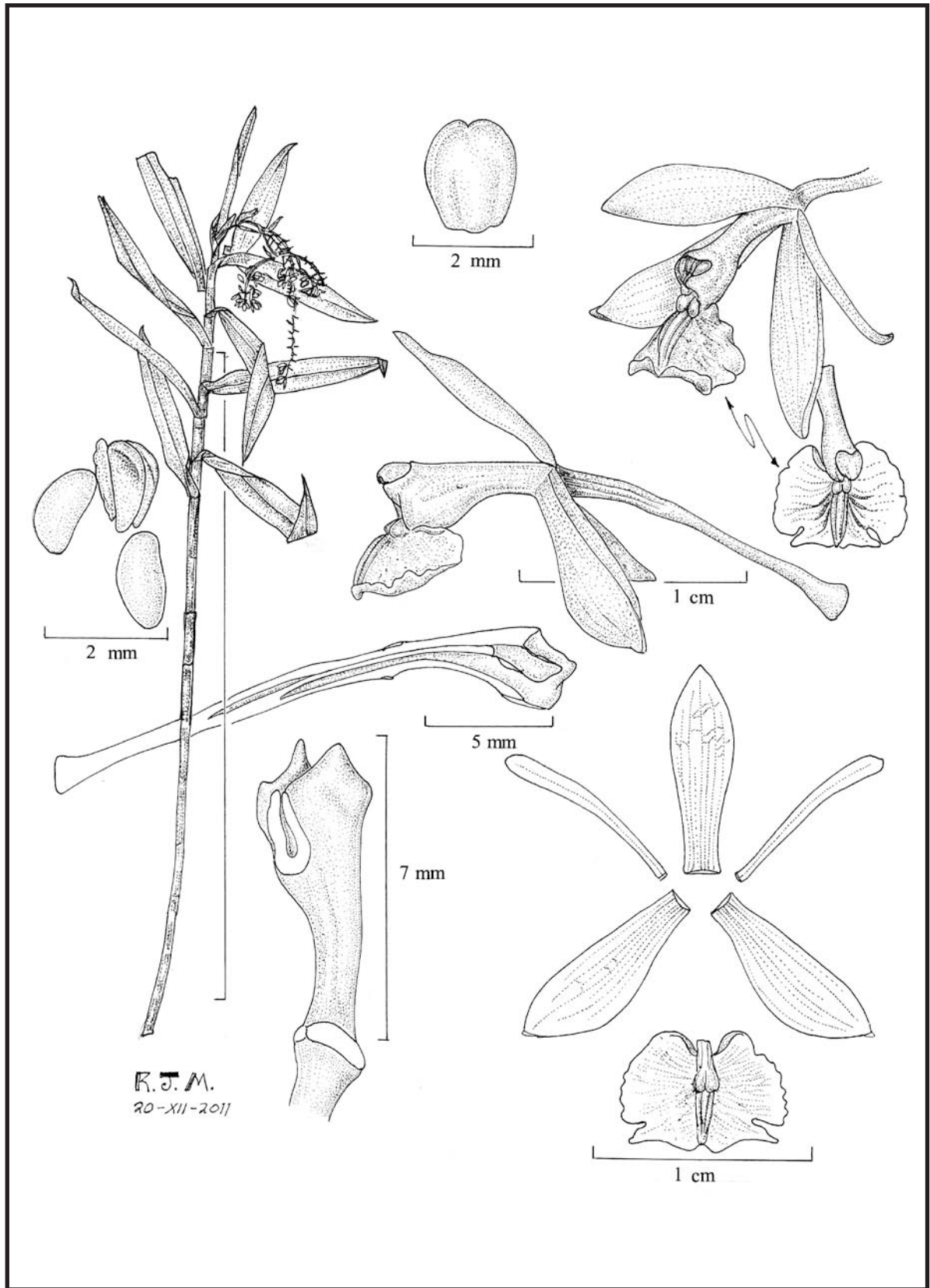
**ETYMOLOGY:** δένδρον, tree, μακρός, large, and ωοθόρον, ovary, in reference to the tree like, branched stems and the long ovaries which distinguish this species, from the similar species, *Epidendrum dendrobii*.



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ICONES ORCHIDACEARUM 14. 2013. Plate 1422



EPIDENDRUM DENSIFLORUM Hook.

Plate 1423

**EPIDENDRUM DENSIFLORUM** Hook., Bot. Mag. 66: t. 3791, 1840.

Type: hort. Woburn, [native of Mexico, whence it was sent by Mr. Parkinson to the Woburn collection, where it blossomed ... in September 1839, Parkinson s.n.]. Lectotype, designated by Szlachetko et al. (2012, pg 140): K-L (K000583839)! ex Herb. Hooker. The country of origin of this cultivated plant was certainly mislabeled, as this species occurs only in South America, and mainly in Brazil. The illustration in Bot. Mag. 66, t. 3791 was evidently prepared from the lectotype. Leslie A. Garay prepared a sketch from a flower of the lectotype, copy AMO!

Epiphytic, sympodial, caespitose herb, ca. 100-200 cm tall. **Roots** basal, fleshy, thin. **Stems** ca. 70-180 x 1.5-2 cm, simple, cane-like, teretes, robust, erect, straight. **Leaves** numerous, alternate, spreading; sheaths 1.5-6.3 x 1.5 cm, tubular, smooth; blade 10-17 x 3-5 cm, articulate, elliptic, acute, coriaceous, margin entire. **Spathaceous bract** lacking. **Inflorescence** 30-45 cm long, apical, paniculate, erect, densely-, many-flowered; peduncle thin, straight, short, 1 cm long; rachis 29 cm long, thin, straight, provided with 9-10 deflexed, densely-, many-flowered racemes, each subtended by a narrowly triangular, long-acuminate bract, 1.0-1.6 cm long. **Floral bracts** 4-5 mm long, much shorter than the ovary, narrowly triangular, long-acuminate, amplexicaul. **Ovary** 11-17 mm long, terete, thin, not inflated, unornamented. **Flowers** ca. 250, simultaneous, resupinate, greenish brown, the lip and apical half of the column white. **Sepals** 10-13 x 3-5.5 mm, spreading, free, oblong-obovate, obtuse, the apical half slight concave, 5-veined, margin entire, spreading; lateral sepals oblique. **Petals** 10-11 x 1-1.5 mm, spreading, free, linear-oblancoolate, apex rounded, 1-veined, slightly oblique, margin entire, spreading. **Lip** 6-10 x 8-13 mm, united to the column, slightly 3-lobed, orbicular in outline, slightly convex in natural position, base cordate, apex emarginate, margin erose; bicallose, the calli small, parallel, sub-globose; disc with 3 parallel, fleshy ribs, the mid-rib reaching the apical sinus; lateral lobes 3 x 5 mm, sub-quadrate-dolabriform; mid-lobe 1.2 x 6 mm, short, separated from the lateral lobes by a short, wide isthmus, emarginate, bilobed, the lobes 1.2 x 2.5 mm, opposite, obliquely triangular, acute. **Column** 7 mm long, thin at the base, gradually dilated towards the apex, slightly arched. **Clinandrium-hood** reduced, margin entire. **Anthor** ovoid, apex truncate, 4-celled. **Pollinia** 4, obovoid, flattened, concave, not bird-wing type, about equal in size, caudicles not seen. **Rostellum** apical, slit. **Lateral lobes of the stigma** occupying 1/2 the length of the stigmatic cavity. **Nectary** penetrating 1/3 of the ovary, narrow, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** Without data, greenhouse, 6 V 1901, AMES 7179! Without locality data, W-R 9361! Without locality data, 25 I 1985, hort. SEL 78-444, Hågsater 6604, AMO! Ibid. 6 IV 1988, Hågsater 6604, AMO! Ibid. 2 IV 1990, Hågsater 6604, AMO! **BRAZIL: Amazonas:** Rio Curuquetê, Cachoeira República, 24 VII 1971, Prance 14571, AAU! HB! MG! MO! NY! U! **Distrito Federal:** Reserva Ecológica do IBGE, Serra dos Pireneus, 7 X 1981, Heringer 7360. R! Petropolis, Spannagel 285, SP 29297! Brasília, Região Central Mata do Córrego Acampamento, Parque Nacional do Brasília, próximo às Piscinas, 1 m, 8 V 1998, Walter 4260, CEN! **Espirito Santo:** pr. Domingos Martins, X 1973, Seidel 1078, HB! **Goiás:** region of the southern Serra Dourada, 20 km E of Formoso, Dawson 15061, AMES! K! MO! UC! **Mato Grosso do Sul:** Campo Grande, 27 IX 1940, Foster 1092, AMES x2! (Illustration voucher). **Minas Gerais:** pr. Bom Jardim de Minas, 18 XI 1962, Saléh 71, HB! Serra do Henrique, pr. Rio Novo, Schwacke 11950, BR! RB 37118! **Rio de Janeiro:** Recreio dos Bandeirantes, 22 X 1938, Alston-Lutz 163, BM! **Rondônia:** Basin of Rio Madeira, Serra dos Murales, 14 km NNW of junction of Rios Abunã and Madeira, Prance 6011, HB! **Paraná:** Jaguariáhyva [Jaguariáiva], 14 V 1915, Dusén s.n., S! Morretes, 31 VII 1915, Dusén s.n., F! NY! **São Paulo:** Morro da Pedras, pr. Iguape, Brade 8159, HB! Ipanema, Cultivado no Jardim Botânico de São Paulo, flower cult. 17 X 1932, Hoehne s.n., SP! Ibid. Hoehne 29825, NY! SP! Teodoro Sampaio, Reserva Estadual do Morro do Diabolo, 14 VIII 1989, Martuscelli s.n., SP 315198 Matta, Bocaina, Comm. Geogr. e Geol. prov. S. Paulo 3249, BR! São Paulo, Weir s.n., W-R 55278! **Santa Catarina:** Without locality data, Rimann 16, W-R 6287!

**OTHER RECORDS: ARGENTINA: Misiones:** cult., Carlos W. Fritz, digital image, AMO! **BRAZIL:** Without locality data, D. Holland Baptista s.n., digital image, AMO! **Rio de Janeiro:** 30 km de Rio, Mata Atlântica, 600-1000 m, Cabral s.n., digital image, AMO!

**DISTRIBUTION AND ECOLOGY:** Widespread in Brazil from the Mata Atlântica, through the Planalto Central Brasileiro to the Basin of the Rio Madeira, down as far as Santa Catarina, and down to Iguazú [Iguazú], and the basin of the Rio Paraná, where it has also been found in Argentina; epiphytic ranging between 50-600 m altitude; also found in neighboring Argentina (Misiones). Apparently flowering throughout the year. According to Pansarin (2003, fig. 1. A-C) the species, misidentified as *E. paniculatum* Ruiz & Pav. is pollinated by nocturnal moths of the Arctiidae family and *Hypothyris ninonia* (Nymphalidae: Ithomiinae).

**RECOGNITION:** *Epidendrum densiflorum* belongs to the Pseudepidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, without any spathaceous bract, though it may have several bracts, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and Densiflorum Subgroup where the short-pedunculate inflorescence is paniculate, flowering only once, flowers are green, the apex of the column and disc of the lip creamy-white, the calli sometimes tinged purple, the petals are linear-oblong to linear-oblancoolate, never filiform, and the pollinia unequal in shape, only the inner pair "bird-wing" like. The species is recognized by the tall, robust stems, dense inflorescences with up to 250, relatively small greenish brown flowers, the lip white, sepals 10-13 mm long, the lip slightly 3-lobed with the lateral lobes sub-quadrate-dolabriform, the mid-lobe short and forming a pair of obliquely triangular, acute lobes. *Epidendrum noackii* Cogn. has very thin stems, inflorescences short and few-flowered, racemose to few-branched-paniculate, sepals 13 mm long and the lip wider between the lateral-lobes than between the lobes of the mid-lobe. *Epidendrum hassleri* Cogn. has many-flowered, lax inflorescences, the lip clearly 3-lobed, with the mid-lobe forming a pair of linear lobes. *Epidendrum andres-johnsonii* Hågsater & E.Santiago has a lax, fewer-flowered inflorescence (40-50 flowers), somewhat narrower leaves (1.3-2.9 cm wide) and column 9-10.7 mm long. *Epidendrum lindbergii* Rchb.f. though confused with this species has a spathe and wider petals and thus belongs to the Viridipurpureum Group, and has 10 mm long sepals, wide, petals oblancoolate-spatulate, 10 x 3 mm, an entire lip, reniform with the base deeply cordate, and the apex widely emarginate and a pair of short incisions on the sides so as to suggest an incipient, short mid-lobe. *Epidendrum dipus* Lindl. has a pair of very prominent spathes at the base of the inflorescence, which paniculate with fewer flowers, petals narrowly spatulate, lip clearly 3-lobed with the mid-lobe slightly narrower than the width between the lateral lobes. *Epidendrum nutans* Sw., endemic to Jamaica, has a clearly 3-lobed lip with the mid-lobe much narrower than the width between the lateral lobes, emarginate and forming a pair of small triangular lobes.

**NOTES:** In a recent paper Pinheiro & Cozzolino (2013) have illustrated the variations of flowers of "*Epidendrum densiflorum*", however, the image in Fig. 1: D, corresponds to *E. hassleri*; and those featured in the electronic supplement, would have to be evaluated together with the vegetative habit to understand each entity. Pabst & Dungs (1975) mistakenly cited the author of the binomial as Lindley. This mistake was followed by Batista & Bianchetti (2003; [www.scielo.br/scielo.php?pid=S0102-33062003000200003&script=sci\\_arttext](http://www.scielo.br/scielo.php?pid=S0102-33062003000200003&script=sci_arttext)), this note refers only to the name, not the specimens identified and illustrated by these authors.

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

**ETYMOLOGY:** From the Latin *dense*, densely, and *flor*, flower, in reference to the densely, many-flowered inflorescence.

**REFERENCES:** Pabst, G.F.J., & F. Dungs, 1975, **Orchidaceae Brasilienses** 1. Batistam, J.A.N. & L. De B. Boanchetti, 2003, Lista actualizada das Orchidaceae do Distrito Federal, **Acta Bot. Bras.** 17(2) 183-201. Pansarin, E. R., & L. Michelinas Pansarin, 2010, **The family Orchidaceae in the Serra do Japi, São Paulo State, Brazil**; p. 127; as *Epidendrum paniculatum* Ruiz & Pav. Pansarin E.R. (2003) Biologia reprodutiva e polinização em *Epidendrum paniculatum* Ruiz & Pavón (Orchidaceae). **Rev. Bras. Bot.** 26: 203-211. Pinheiro, F., & S. Cozzolino, 2013, *Epidendrum* (Orchidaceae) as a model system for ecological and evolutionary studies in the Neotropics, **Taxon** 62(1): 77-88. Ibid. Electr. Suppl. Szlachetko, D.L. et al., 2012, **Orchids of French Guiana**, A.R.G. Gantner Verlag K.G., Ruggell, Lichtenstein, 409 pp.



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Photo: M. R. Cabral

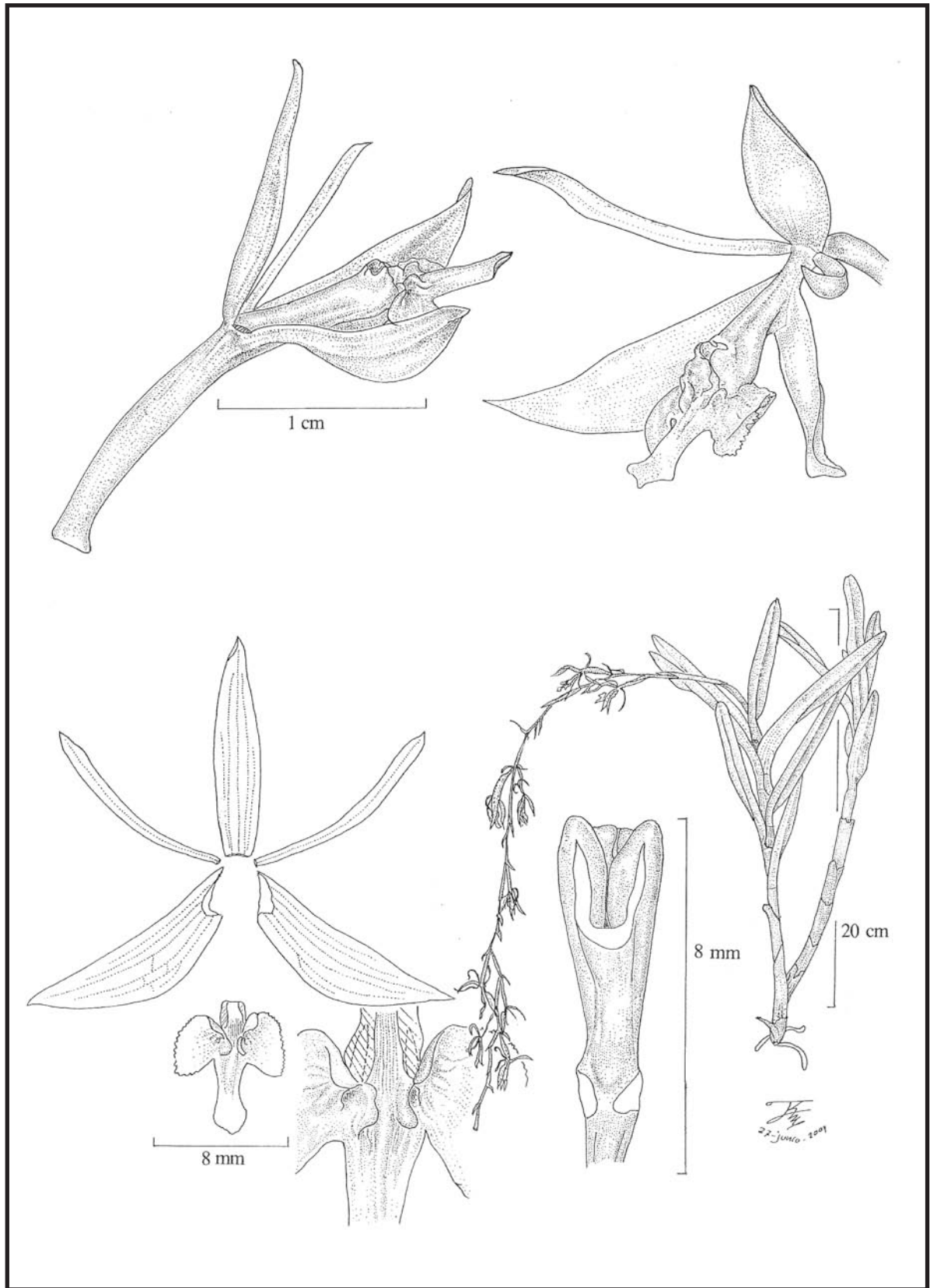
Editors: E. Hågsater & L. Sánchez S.

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ICONES ORCHIDACEARUM 14. 2013.

Plate 1423



EPIDENDRUM DOLICHOTRYOIDES Hágsater, E.Santiago & Chocce-Peña

Plate 1424



**EPIDENDRUM DOLICHOBOTRYOIDES** Hágsater, E.Santiago et Chocce-Peña, *sp. nov.*

Type: PERU: Amazonas: middle eastern Calla Calla slopes, near km 411-416 of Leimebamba-Balsas road, elev. 3100-3250 m, 11 VII 1962, **John J. Wurdack 1309**. Holotype: US! (Illustration voucher). Isotypes: AMES! USM!

Simile *Epidendrum vidal-senegei* Hágsater, sed floribus minoribus, lobulo medio labelli oblongo, praedito isthmo in parte centrali et apice subrhombico, margine integro, aliquantulum involuto in apice.

Epiphytic, sympodial, caespitose **herb**, 20-25 cm tall excluding the inflorescence. **Roots** ca. 2 mm in diameter, basal, fleshy, white. **Stems** 2-20 x 0.4-0.7 cm, simple, cane-like, laterally compressed, erect; base covered by non-foliar, tubular, scarious sheaths, 1.3-3 cm long. **Leaves** 7-12, distributed along the apical half of the stems, sub-erect, alternate, articulate, sub-coriaceous; sheath tubular, 1-2.5 x 0.4-0.6 cm, minutely striated; blade 5.2-9 x 0.6-1 cm, oblong-lanceolate, apex sub-obtuse, somewhat bilobed, margin minutely crenate. **Spathaceous bract** 1-2, tubular, 2.4-5.5 cm long, acute, covering nearly the whole of the peduncle. **Inflorescence** apical, 30-33 cm long, racemose, arching-nutant, lax, few-flowered, elongate, longer than the vegetative part; peduncle 6 cm long, thin, laterally compressed, somewhat ancipitose. **Floral bracts** 3-12 mm long, prominent but shorter than the ovary, narrowly triangular, acuminate, amplexicaul. **Flowers** 30-40, simultaneous, resupinate, pale orange-brown. **Ovary** 7-13 mm long, terete, thin, not inflated, unornamented. **Sepals** 11-13 x 2.5-3.7 mm, partly spreading, free, oblong-elliptic, short-acuminate, 5-7-veined, margin entire, spreading; the lateral sepals oblique, slightly falcate, with a short-aristate dorsal keel. **Petals** 11-12.8 x 0.8-1 mm, partly spreading, free, linear-oblancoate, acute, 1-veined, oblique, margin entire, spreading. **Lip** united to the column, 3-lobed, 7 x 5.5-6.5 mm, base cordate; bicallose, the calli small, fleshy, somewhat laterally compressed; disc with a single, low keel that disappears before reaching the apex of the mid-lobe; lateral lobes 2.5-3.5 x 2-3.5 mm, obliquely ovate, margin minutely erose, the basal margin somewhat involute; mid-lobe 4.0-4.5 x 2 mm, oblong, somewhat constricted at the middle and sub-rhombic apically, margin entire, apex somewhat involute. **Column** 7.5-8 mm long, straight, basal half thin, gradually widened towards the apex, the sides of the apex truncate. **Clinandrium-hood** reduced, margin entire. **Anther** not seen. **Pollinia** not seen. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** not seen. **Capsule** not seen.

**OTHER SPECIMENS: PERU: Amazonas:** Prov. Luya: Área de Conservación Privada Huiquilla, epifita, bosque montano, 2883 m altitude, 19 II 2010, *Chocce 5565*, (specimen and flowers in spirit) USM!

**OTHER RECORDS: PERU: Amazonas:** Prov. Luya: Área de Conservación Privada Huiquilla, epifita, bosque montano, 2883 m altitude, 19 II 2010, *Chocce 5565*, digital images, AMO! (photo voucher.)

**DISTRIBUTION AND ECOLOGY:** Known presently from the Calla Calla Mountains and north to ACP Huiquilla, in the Cordillera Oriental of the Andes in northern Peru, at 2880-3250 m altitude. Flowering in July and February.

**RECOGNITION:** *Epidendrum dolichobotryoides* belongs to the Pergracile Group which is characterized by the sympodial, caespitose to sometimes somewhat creep habit, stems cane-like, simple, several leaved, with an elongate apical, racemose, lax-flowered inflorescence, the flowers star-shaped, membranaceous, the lip 3-lobed, not fleshy thickened, bicallose, the mid-lobe rectangular to triangular, the lateral lobes dolabriform to semi-orbicular. The species is recognized by the 11-13 mm long sepals, the mid-lobe of the lip oblong, somewhat constricted at the middle and sub-rhombic apically, margin entire, apex somewhat involute. *Epidendrum vidal-senegei* Hágsater has larger flowers, sepals 13-16 mm long, the mid-lobe of the lip is rectangular, with the apex acute, retuse, 3-4 times longer than broad. *Epidendrum pergracile* Schltr. has smaller flowers, sepals 7 mm long, a triangular mid-lobe of the lip, and the lateral lobes form a straight angle with the mid-lobe.

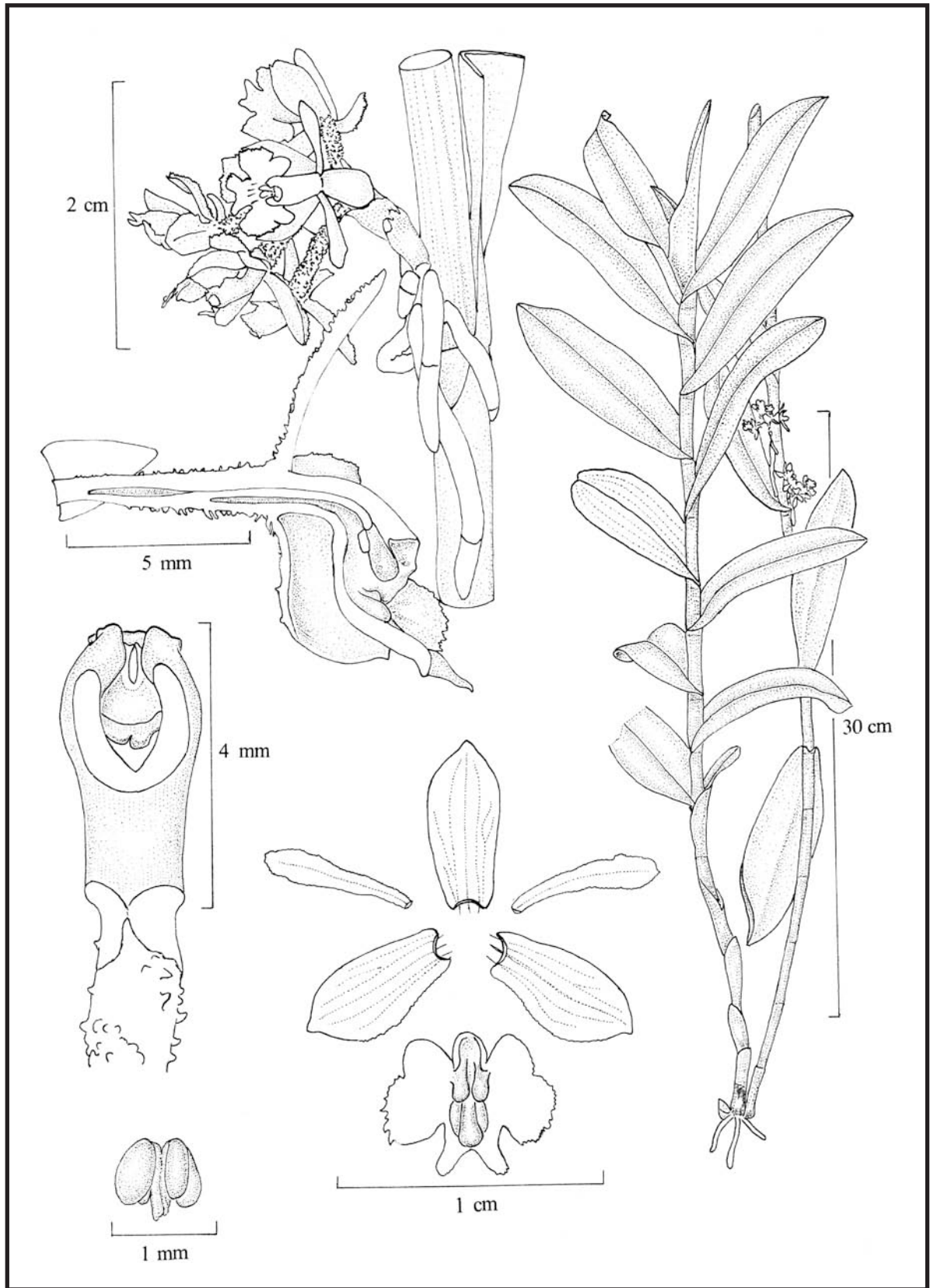
**CONSERVATION STATUS:** DD. Data deficient.

**ETYMOLOGY:** From the Greek *δολιχος* long and *βοτρυοειδης*, like a bunch of grapes, thus a raceme, in reference to the elongate raceme that distinguishes this species.

**REFERENCES:** Hágsater, E., 1999, *Epidendrum vidal-senegei*, in E. Hágsater, L.Sánchez S. & J. García-Cruz (eds.), **Icon. Orchid.** 3: t. 396. Hágsater, E., & C. H. Dodson, 2001, *Epidendrum gracilibracteatum* in E. Hágsater & L.Sánchez (eds.), **Icon. Orchid.** 4: t. 440.



Authors: E. Hágsater, E. Santiago & M. Chocce-Peña Illustrator: R. Jiménez M. Photo: M. Chocce-Peña Editors: E. Hágsater & L. Sánchez S. Herbario AMO México, D.F. MÉXICO ICONES ORCHIDACEARUM 14. 2013. Plate 1424



**EPIDENDRUM ECHINATUM** Løjtnant

Plate 1425

**EPIDENDRUM ECHINATUM** Løjtnant, Bot. Notiser. 130: 324. 1977.

Type: ECUADOR: Cotopaxi: Quevedo-Latacunga road, 800-950 m, 5 April 1973, **Lauritz B. Holm-Nielsen, Stig Jeppesen, Bernt Løjtnant & Benjamin Ollgaard 3001**. Holotype: AAU! Isotypes: AMES! HB! K-L! MO! S! SEL!

Terrestrial or epiphytic, sympodial, caespitose **herb**, to 150 cm tall. **Roots** basal and from the base of the lateral inflorescences, fleshy, thin, white, 1-2 mm in diameter. **Stems** simple, 150 x 0.4-1 cm, cane-like, terete, thin, erect, straight; the basal 1/3 covered by tubular, non-foliar sheaths, 4 cm long, becoming fibrous with time. **Leaves** numerous, distributed along the apical 2/3 of the stem, alternate, articulate, erect-spreading, ventrally tinged reddish purple; sheaths tubular, 1.5-3.5 x 0.4-1 cm, minutely striated; blade narrowly obovate, acute, 7.3-15 x 1.9-4.5 cm, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescences** lateral, racemose, short, 3 cm long, slightly arching, densely many-flowered, produced from the base of the sheath of the leaf opposite the leaf; peduncle terete, thin, straight, 1 cm long, totally covered by 4 tubular, acuminate, imbricating bracts, 3-4 mm long; rachis, 1-2 cm long, totally hidden by the flowers, short. **Floral bracts** much shorter than the ovary, 2-3 mm long, narrowly triangular, long-acuminate, amplexicaul. **Ovary** 7-10 mm long, terete, thin, echinate. **Flowers** 12-15 per raceme, simultaneous, facing away from the rachis, greenish white or white, without fragrance. **Sepals** spreading, free, obovate, obtuse, 6-7 x 2.5-3.5 mm, fleshy, dorsally echinate, slightly concave, margin entire, spreading; dorsal sepal 3-veined, lateral sepals oblique, 5-veined. **Petalis** partly spreading, free, linear-oblancoolate, obtuse, 6-7 x 1-1.3 mm, 3-veined, apical margin erose, spreading. **Lip** united to the column, 3-lobed, 5 x 6.5 mm, base cordate; bicallose, the calli sub-globose; disc provided with 3 parallel, fleshy ribs which disappear at the apical sinus of the lip; lateral lobes dolabriform, bilobed, 3 x 4 mm, the margin erose; mid-lobe sub-quadrate, deep and widely emarginate, 2 x 3 mm, divided into a pair of oblong, slightly divaricate lobes, apices rounded, margin sub-entire each lobe 1.5 x 8 mm. **Column** 4-5 mm long, thin at the base, gradually widened towards the apex, arched. **Clinandrium-hood** short, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, ovoid; caudicles soft and granulose, slightly larger than the pollinia. **Rostellum** apical, slit. **Lateral lobes of the stigma** prominent, occupying 1/3 the length of the stigmatic cavity. **Nectary** penetrating 1/3 of the ovary, not inflated, unornamented. **Capsule** ellipsoid, 28 x 11.5 mm, pedicel short, 7 mm long, body 16 x 11.5 mm, apical neck 4.5 mm long, perianth persistent.

**OTHER SPECIMENS: ECUADOR: Carchí:** km 3.2 al E de Maldonado hacia Tulcán, 1605 m, 30 IV 1993, *Hágsater 11300*, AMO! **Cotopaxi:** Tenehuerte, Río Pilalo, km 52-53, Quevedo-Latacunga, 750-900 m, 14 X 1981, *Dodson 11884*, SEL! km 34 Quevedo-Latacunga, 600-1500 m, pressed cult. 15 XI 1985, *Hágsater 7755*, AMO! (Illustration and photo voucher). **Esmeraldas:** Bilsa Biological Station, Mache Mountains, 35 km W of Quinindé, 5 km W of Santa Isabel, 400-600 m, 4 X 1994, *Clark 147*, MO! QCNE! SEL! Ibid. 9 V 1995, *Clark 839*, QCNE! Ibid. 500 m, 25 IX 1996, *Clark 2947*, QCNE! **Pichincha:** Km 6 old road Sto. Domingo via Quito via Chiriboga, near Dos Rios, 1200 m, *Dodson 16375*, MO! QCNE! Road Santo Domingo-Quito, Cornejo Astorga (Tandapi), 1000-1200 m, 7 V 1968, *Harling 9154*, AMES! GB! Tandapi, Quito-Santo Domingo, 1500 m, III 1983, *Hirtz 832*, SEL! Old road Quito-Santo Domingo, SW of Chiriboga, km 89-90 from Quito, ca. 1100 m, 8 VII 1979, (in fruit) *Løjtnant 15658*, AAU! **Los Ríos:** Km 12 road from Patricia Pilar to 24 de Mayo, Montañas de Ila, 540 m, 7 X 1976, *Dodson 6604*, SEL! along ridge line near La Centinella at km 12 on road from Patricia Pilar to Flor de Mayo, Montañas de Ila, 600 m, 16 VII-11 VIII 1977, *Dodson 6826*, SEL! Collections from path following ridge line at El Centinella at crest of Montañas de Ila on road from Patricia Pilar to 24 de Mayo, 6 X 1979, *Dodson 8863*, SEL!

**OTHER RECORDS: ECUADOR:** Without locality, Cult. Ecuagenera, photo by *Harding*, AMO! (Photo voucher)

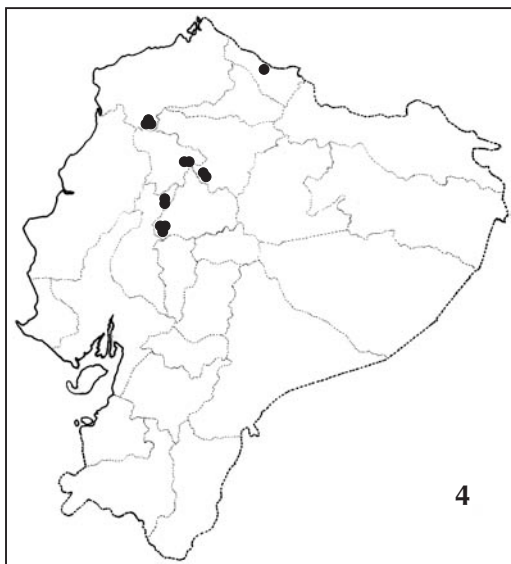
**DISTRIBUTION AND ECOLOGY:** Known only from the Pacific slope of the Cordillera de los Andes in northern and western Ecuador, expected in bordering Colombia, epiphytic and terrestrial, at 400 to 900 [1600] m altitude. Flowering from April to October.

**RECOGNITION:** *Epidendrum echinatum* belongs to the Bambusiforme Group which is characterized by the caespitose habit, tall, bamboo-like canes with numerous long, acuminate leaves, and the numerous lateral, racemose inflorescences. The species is recognized by the narrowly obovate leaves, the short, dense inflorescences 2-3 cm long, producing roots at the base of each inflorescence, the greenish white, small flowers (sepals 7 mm long) with the equinate sepals and ovary, the lip clearly 3-lobed. *Epidendrum bambusiforme* Kraenzlin has narrowly lanceolate leaves, greenish brown sepals and petals with the column and lip white, often spotted with light brown dots, the mid-lobe of the lip is deltate, sepals 13 mm long. *Epidendrum bambusitricolor* Hágsater & Collantes is endemic to Peru, has large plants, stems to 3.5 m tall, leaves narrowly lanceolate, long inflorescences (9.5-17 cm long) unornamented sepals and petals, and larger, fleshy flowers (sepals 12.5-13 mm long), the flowers are green and white with a deep purple blotch on the disc of the lip. *Epidendrum megalobambusiforme* Hágsater & M. Villafuerte has still taller plants, to 5 m tall, narrowly lanceolate leaves and elongate inflorescences (7-22 cm long), glabrous sepals, delicate flowers green with the white lip with pale purple dots and lines on the disc and the apex of the column, and prominent, sub-orbicular calli, with the lip strongly convex. *Epidendrum muricatoides* Hágsater & Dodson has similar flowers and ornamentation on the sepals and ovary, but the inflorescence is strictly apical and paniculate, and belongs to the Goodspeedianum Group.

**CONSERVATION STATUS:** DD. Data deficient. Apparently uncommon throughout its range

**ETYMOLOGY:** From the Latin *echinatus*, armed with numerous rigid hairs or straight prickles or spiny projections, from *echinus* hedgehog or sea-urchin, in reference to the dorsal ornamentation of the sepals and ovary which characterize this species.

**REFERENCES:** Dodson, C.H. & P.M. Dodson, 1980, *Epidendrum echinatum* in C. H. Dodson. **Icon. Plant. Trop.** t. 79. Løjtnant, B., 1977, *Epidendrum echinatum*, **Bot. Notiser** 130: 323-324.



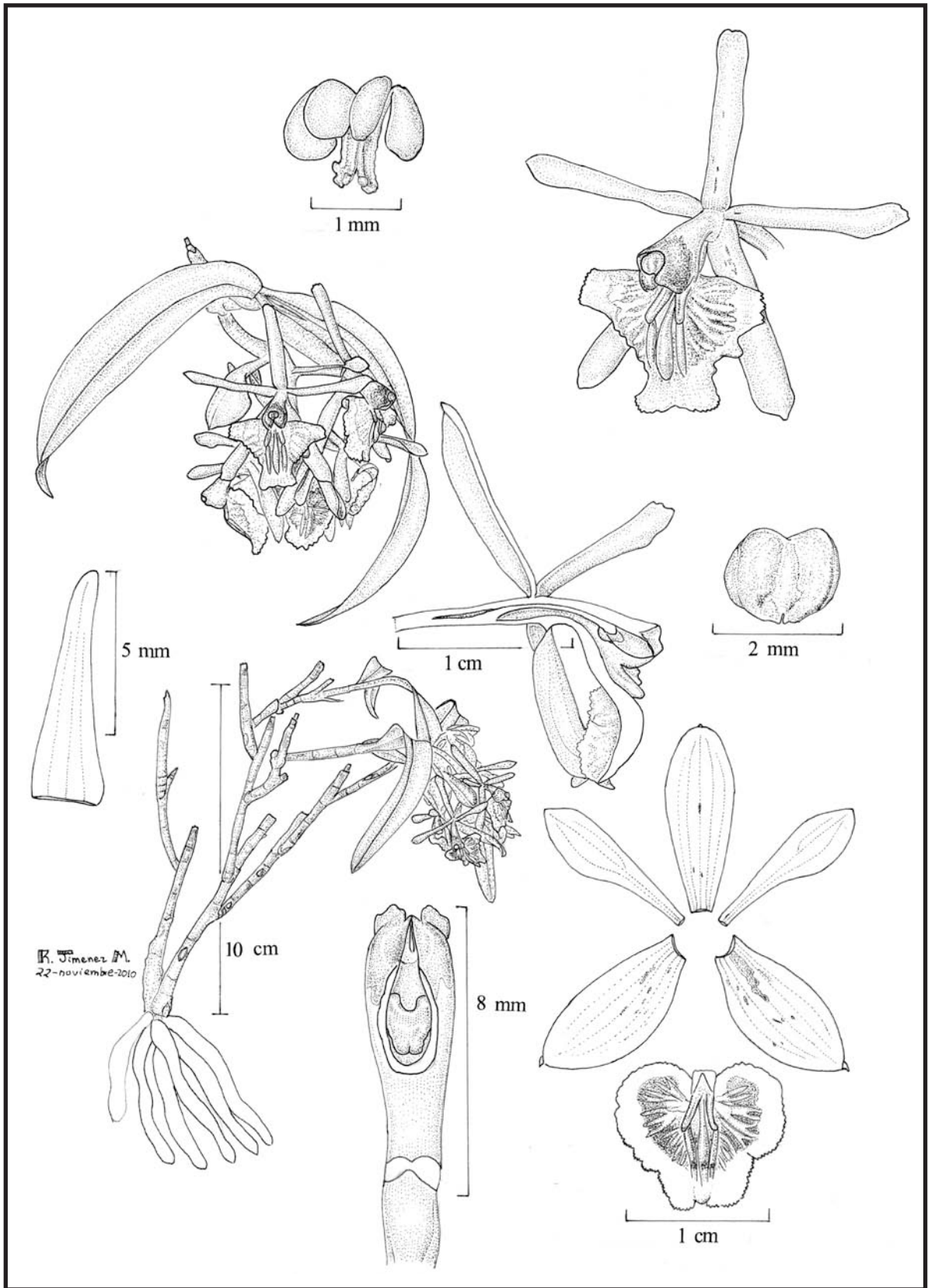
Author: E. Hágsater  
Herbario AMO

Illustrator: E. Hágsater  
México, D.F. MÉXICO

Photo P. Harding

Editors: E. Hágsater & L. Sánchez S.

ICONES ORCHIDACEARUM 14. 2013. Plate 1425



EPIDENDRUM EDUARDO-PEREZII Hágsater & E.Santiago

Plate 1426

**EPIDENDRUM EDUARDO-PEREZII** Hágsater et E.Santiago, *sp. nov.*

Type: MEXICO: Oaxaca: San Miguel Tenango, 1700 m, en bosque de encino, agosto 2010, **Eduardo Alberto Pérez García sub E. Hágsater 14421**. Holotype: AMO! (Illustration and photograph voucher.) Digital images of pretype, AMO!

Simile *Epidendrum skutchii* Ames, F.T.Hubb. & C.Schweinf. sed plantae minores, foliis brevioribus, anguste lanceolatis, floribus pallide viridibus, apice columnae rubro-purpureo, disco labelli plus minusve suffuso rubro-purpureo, labello leviter 3-lobato ornato carinis prominentibus radiantibus.

Epiphytic, erect, sympodial **herb**, 20 cm tall; the new stem originates from a middle internode of the previous stem. **Roots** 3-4 mm, produced only at the base of the plant, fleshy, thick, white. **Stems** 2-6.5 x 0.2-0.35 cm, ascending to diffuse, terete, branched, cane-like, thin, straight; the basal half covered by 3 non-foliar, scariose sheaths 1.0-1.4 cm long. **Leaves** 2-3, aggregate towards the apex of the stem, articulate, distichous; with tubular sheaths 4-5 x 0.25-0.35 cm; the blade 3.7-7 x 0.6-1 cm, narrowly lanceolate, sub-coriaceous, apex acute, arcuate in natural position, margin entire. **Spathaceous bract** lacking. **Inflorescence** 3-5 cm long, apical, from the mature stem, flowering only once, racemose, arcuate-nutant, compact, few-flowered, sub-spherical; peduncle 1.6-2.6 cm long, laterally compressed, straight, with a single, basal, amplexicaul bract 8-10 mm long, narrowly triangular, acuminate; rachis laterally compressed, zigzag. **Floral bracts** prominent, 4-10 mm long, almost as long as the ovary, gradually shorter towards the apex of the rachis, narrowly triangular, acuminate, amplexicaul. **Ovary** 7-10 mm long, terete, thin, not inflated, unornamented. **Flowers** 7-8, resupinate, simultaneous, sepals and petals pale green, basally sometimes slightly tinged purple; column bicolor, pale green at the basal two thirds and red-purple at the apical third, lip variously tinged red-purple with the margin, calli and keels pale green, another green; without fragrance. **Sepals** 13 x 4.8-5.4 mm, free, obovate-elliptic, rounded, minutely apiculate, 5-veined, margin entire, strongly revolute; the dorsal sepal spreading to slightly reflexed, the lateral sepals spreading, with a low, smooth, dorsal keel towards the apex. **Petals** 12 x 3 mm, free, spreading, oblanceolate-spatulate, slightly oblique, 2-veined, the mid-vein branched in the middle, so as to appear 3-veined, margin entire, strongly revolute. **Lip** 10 x 12-13 mm, united to the column, slightly 3-lobed, convex, base cordate, margin irregularly dentate; bicallose, the calli laminar, the calli elongate, somewhat divergent; disc with 3 central, prominent keels, the mid-keel thickened, and radiating, bifid ribs produced by the thickening of the veins; lateral lobes 5.3 x 7.5 mm, hemi-ovate, margin irregularly dentate; mid-lobe 2.8 x 6.4 mm, short, transversely oblong, retuse to slightly bilobed, margin dentate. **Column** 8 mm long, straight, obconic, thick. **Clinandrium-hood** short, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, laterally compressed, sub-equal, obovoid; caudicles soft and granulose, longer than the pollinia; viscidium semi-liquid. **Rostellum** sub-apical, cleft, elliptic. **Nectary** long, penetrating slightly beyond the base of the perianth, just behind the perianth, not inflated, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

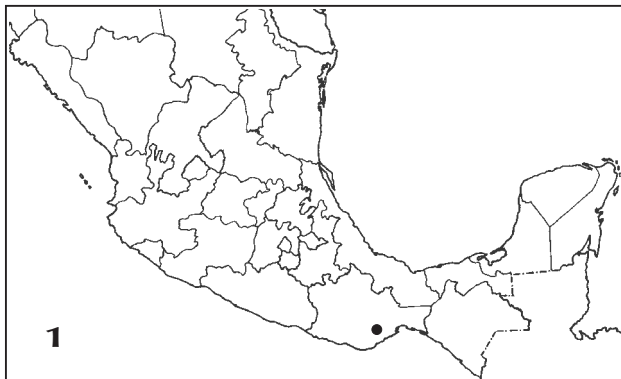
**DISTRIBUTION AND ECOLOGY:** Endemic to Mexico, known only from the type locality in Oaxaca State, at the eastern end of the Sierra Madre del Sur, near the Isthmus of Tehuantepec; on *Quercus* sp. at 1700 m altitude. Flowering in November.

**RECOGNITION:** *Epidendrum eduardo-perezii* belongs to the Magnoliae Group which is characterized by the sympodial growth mode, sometimes with branching stems, membranaceous to sub-coriaceous leaves, delicate, relatively small flowers, the lip bicallose, with few to many ribs on the disc of the lip, and the predominantly Mexican Propinquum Subgroup which is characterized by the bush-like habit with thin stems, membranaceous leaves, racemose, few flowered compact, inflorescence, and the mostly yellow or pale green flowers. The species is recognized by the short stems with 2-3 narrowly lanceolate, fleshy, leaves 3.7-7 cm long, green flowers with the apex of the column and the disc of the lip red-purple, with many green radiating thickened-veins. The plant habit is reminiscent of a short *Epidendrum skutchii* Ames, F.T.Hubb. & C.Schweinf., but that species has up to 1.2 m tall plants, the stems are longer and thinner, linear to linear-lanceolate, acuminate leaves 5.5-17 cm long, and the flowers are greenish yellow, slightly tinged with purple, it also has radiating ribs on the lip, but not as prominent. The flowers are somewhat reminiscent of *Epidendrum radioferens* (Ames, F.T.Hubb. & C.Schweinf.) Hágsater, but the plants of that species are taller and more robust, 2 m tall, with 2-6 elliptic leaves 5.5-19 x 1.4-6 cm, with intense red-purple colored flowers, the lip transversally revolute and the radiating keels cream to yellow colored. *Epidendrum lignosum* La Llave & Lex. is superficially similar, but the flowers of that species, only have 3, low, parallel ribs on the disc, and do not have the prominent radiating ribs, the flowers are also somewhat smaller, sepals 8-11 mm long; the leaves are fleshy, linear-elliptic.

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

**ETYMOLOGY:** In honor of Eduardo Alberto Pérez García (b. 1968-) botanist and orchid enthusiast, who has collaborated in several projects with the Herbario AMO, and who collected the material from which the type specimen was prepared. His thesis described the vegetative architecture of *Epidendrum* (Pérez, 1993). He is presently at the Facultad de Ciencias, Universidad Nacional Autónoma de México.

**REFERENCE:** Santiago, E., & E. Hágsater, 2008, *Epidendrum lignosum* in E. Hágsater & L.Sánchez, (eds.) **Icon. Orchid.** 11: pl. 1138. Pérez G., E. A., 1993, **Arquitectura Vegetal en Epidendrum (Orchidaceae)**, Thesis, Universidad Nacional Autónoma de México, México, D.F.



Authors: E. Hágsater & E. Santiago

Illustrator: R. Jiménez M.

Photo: E. Pérez G.

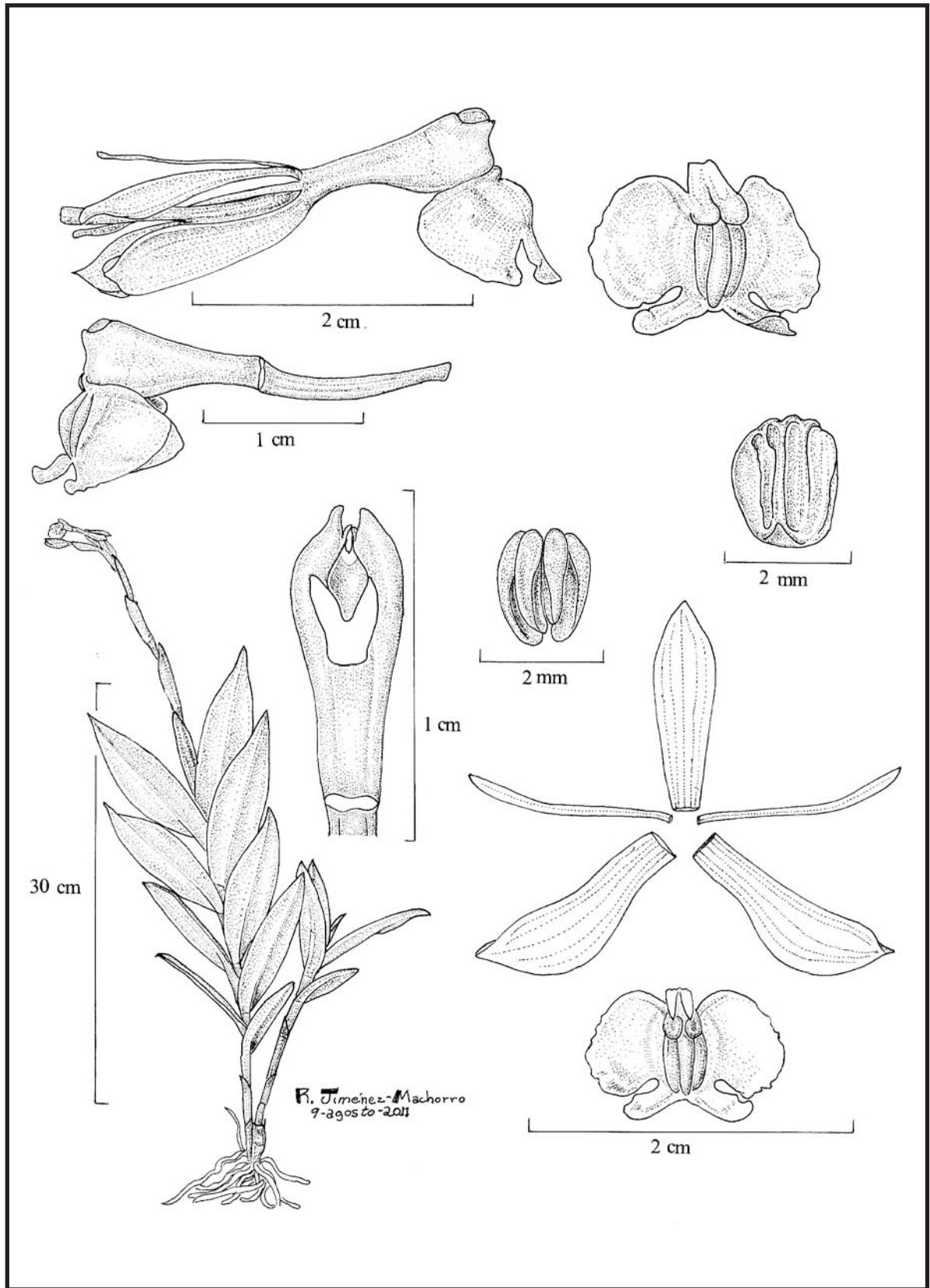
Editors: E. Hágsater & L. Sánchez S.

Herbario AMO

México, D.F. MÉXICO

ICONES ORCHIDACEARUM 14. 2013.

Plate 1426



EPIDENDRUM ESERALDENSE Hágsater, H.Medina & E.Santiago

Plate 1427

**EPIDENDRUM ESMERALDENSE** Hágsater, H.Medina et E.Santiago, *sp. nov.*

Type: ECUADOR: Esmeraldas: El Cristal, debajo de Lita, 1200 m, April 2003, flowered in the collection of Ecuagenera at Gualaceo, 2 July 2007, **Hugo Medina 70**. Holotype: (only flowers) QCNE! digital images of pretype, AMO!

Simile *Epidendri caloglossi* Schltr. sed floribus maioribus, dense aggregatis in rachidi inflorescentiae, columna longiore praedita binis alis truncatis in apice, labello leviter cordato in basi, lobulis lateralibus dolabriformibus.

Epiphytic, sympodial, caespitose, erect **herb** ca. 25 cm tall. **Roots** ca. 1.5 mm in diameter, basal, thin, white. **Stems** 12.5 x 0.2-0.5 cm, simple, cane-like, teretes, thin, erect, straight; the base covered by tubular, non-foliar, scarious sheaths, 8-17 mm de largo. **Leaves** 9, coriaceous, erect-spreading, alternate, articulate, tinged purple, unequal in size (the basal ones smaller); sheaths 1.1-1.7 cm long, tubular, minutely striated, purple; blade 2.5-7 x 1.2-1.9 cm, elliptic-lanceolate, short-acuminate, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescence** 12.5 cm long, apical, elongate, erect, racemose, producing new racemes (during several years) from the apex of the same peduncle, and therefore pluri-racemose, pluri-annual, few-flowered; peduncle 11 cm long, thin, laterally compressed, erect, straight, provided with 4 tubular, ancipitose, acute bracts 19-30 mm long, that nearly totally cover it, of decreasing length, scarious; rachis 1.5 cm long, very short. **Floral bracts** 2-5 mm long, much shorter than the ovary, narrowly triangular-lanceolate, acuminate, amplexicaul. **Ovary** 18 mm long, terete, thin, not inflated, slightly arching in the middle, minutely striated. **Flowers** 8, simultaneous, very showy, densely aggregated at the apex of the inflorescence, glabrous, sepals and petals ochre-green, the column green along the basal half, white towards the apex (tinged purple behind the clinandrium), calli and ribs of the disc whitish, the rest of the lip magenta. **Sepals** 12-13.5 x 3.5-4 mm, reflexed, free, oblanceolate-spatulate, unornamented, margin entire, spreading; the **dorsal** sepals 3-veined, the **lateral** sepals 5-veined, slightly oblique. **Petals** 12 x 1 mm, slightly reflexed, free, filiform, obtuse, 1-veined, margin entire, spreading. **Lip** 8.5 x 11 mm, united to the column, 3-lobed, base cordate; bicallose, the calli small, globose; disc provided with 3 central ribs, elongate to the apical sinus; lateral lobes 5 x 6.5 mm, dolabriform, margin erose, spreading; mid-lobe 3 x 8 mm, bilobed, shaped into a "V", forming a pair of oblong lobes, their apices rounded, margin entire, spreading, each lobe 4 x 1.5 mm. **Column** 11 mm long, straight, thin at the base, gradually widened towards the apex, with a pair of minute teeth at the apex and a pair of truncate wings below. **Clinandrium-hood** reduced, margin entire. **Rostrum** apical, slit. **Lateral lobes of the stigma** not seen. **Anther** globose, 4-celled. **Pollinia** 4, bird-wing type, laterally compressed, sub-equal, caudicles slightly longer than the pollinia; viscidium semi-liquid, transparent. **Nectary** and **capsule** not seen.

**OTHER SPECIMENS:** None seen.

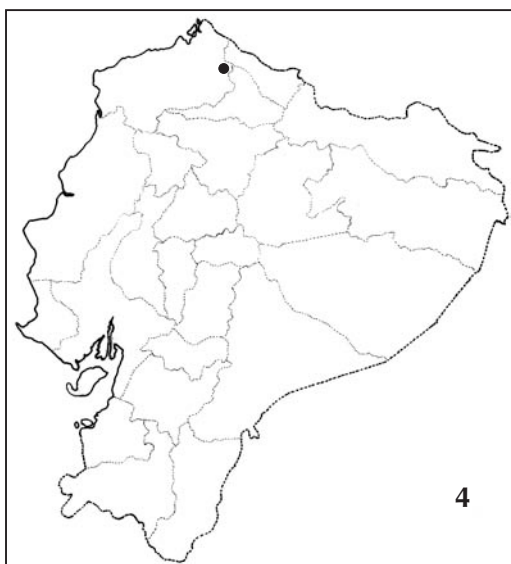
**DISTRIBUTION AND ECOLOGY:** Known only from the province of Esmeraldas in NW Ecuador, epiphytic in very wet forest at 1200 m altitude. Flowering in July.

**RECOGNITION:** *Epidendrum esmeraldense* belongs to the Pseudepidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and Turalvae Subgroup which has a racemose and few-flowered inflorescence on an elongate peduncle, usually producing new racemes over the years and thus pluri-racemose, the rachis very short, and thus compact flowered. The species is recognized by the purple, elliptic-lanceolate leaves, the elongate inflorescence and very short rachis, with 8 simultaneous flowers aggregate at the apex, peduncle covered by 4 tubular, ancipitose bracts, the flowers greenish-brown with the lip "magenta" with the calli and ribs whitish; lateral lobes of the lip dolabriform. *Epidendrum rodrigo* Hágsater (from northern Colombia) has taller plants, (to 70 cm tall), olive-green flowers with the lip pink; the mid-lobe of the lip forms a pair of oblong-falcate, rounded lobes. *Epidendrum turalvae* Rchb.f. has longer, linear-lanceolate leaves (7-18.5 cm long), purple-brown flowers, the lip green, hyaline, translucent, the disc often with an irregular solid purple splotch. *Epidendrum caloglossum* Schltr. has some 5 flowers laxly distributed along the rachis, somewhat smaller sepals (10 mm long), the deeply cordate lip is 13 x 15 mm when spread, and the column 6 mm long, the wings of the column are more prominent, rounded.

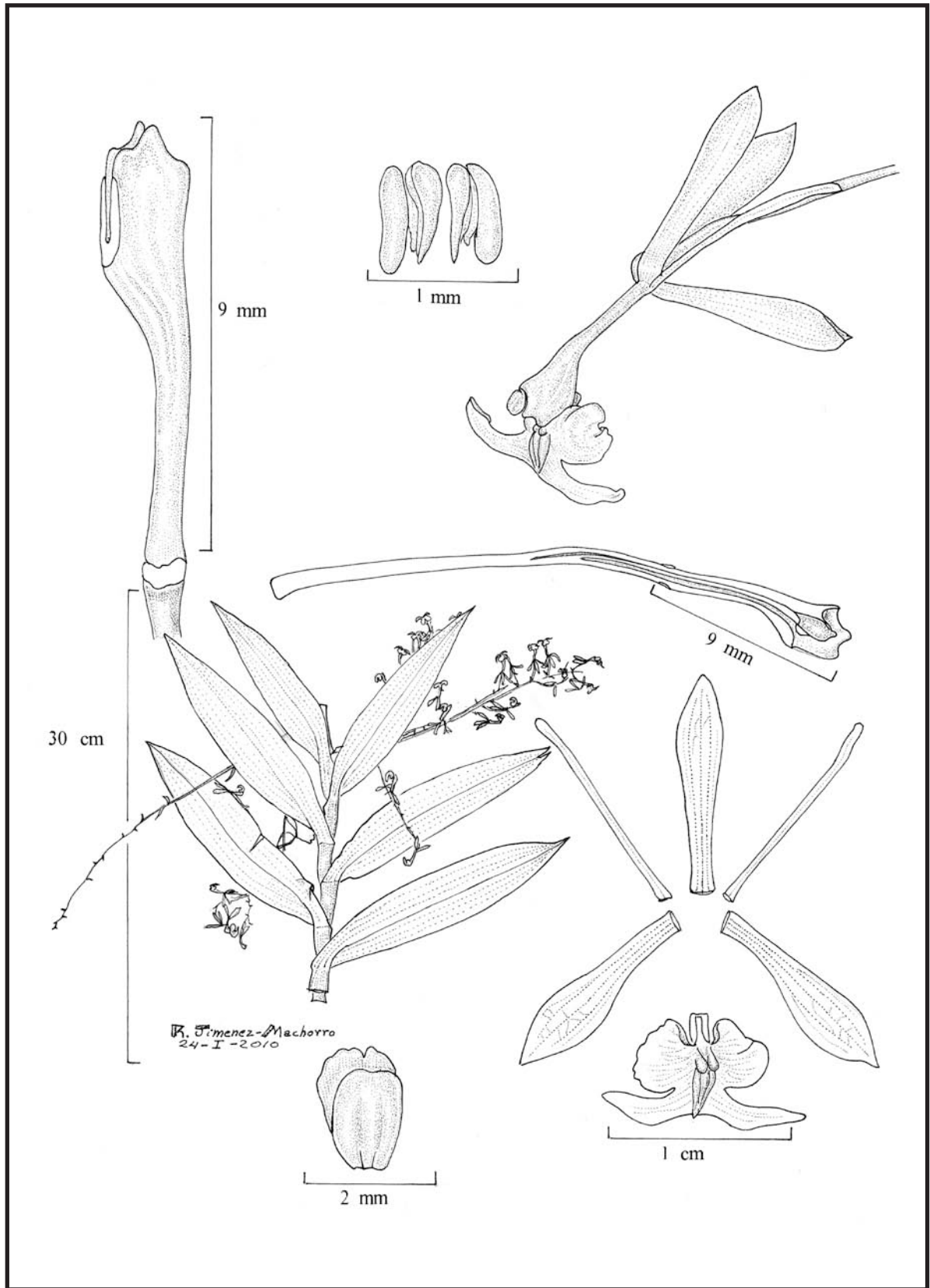
**CONSERVATION STATUS:** DD. Data deficient. Known presently only from the type collection.

**ETYMOLOGY:** In reference to the Province of Esmeraldas, the northwestern Province of Ecuador, which slopes down the Andes towards the Pacific Ocean and is part of the Chocó, with very high rainfall throughout the year.

**REFERENCES:** Hágsater, E., 1993, *Epidendrum rodrigo* Hágsater, in E. Hágsater & G.A. Salazar (eds.), *The Genus Epidendrum*, Part 1, *Icon. Orchid.* 2: pl. 181. Santiago, E., & E. Hágsater, 2008, *Epidendrum turalvae* Rchb.f., in E. Hágsater & L. Sánchez (eds.), *The Genus Epidendrum*, Part 7, *Icon. Orchid.* 11: t. 1193.



Authors: E. Hágsater, H. Medina & E. Santiago. Illustrator: R. Jiménez M. Photo: H. Medina. Editors: E. Hágsater & L. Sánchez S.



EPIDENDRUM FLORIBUNDUM Kunth



**EPIDENDRUM FLORIBUNDUM** Kunth, Nov. Gen. Sp. Pl. 1: 353. 1816.

Type: [PERU:] Bracamorensis inter Amazonum flumen pagum Puyaya et urbem Jaen, alt. 230 hexap. [421 m]\*. Floret Augusto.

**Humboldt, Bonpland & Kunth s.n.** Lectotype (here designated): Herbar de l'Amérique équatoriale (Mexique!), *Kunth s.n.*, P!

Isolectotype: (*Humboldt*) IX, filed under "*Styloglossum paniculatum*", B-W! Illustration by *A. Bonpland*, P, published in Nov. Gen. Sp. Pl. 1: pl. 86. 1816. Corresponds well with the lectotype. [The specimen at P labelled *Epidendrum floribundum* sp.n. 3630, "Jaen", with a small "type" label does not correspond to this species.]

Epiphytic, sympodial, caespitose, tall **herb**. **Roots** basal, thin. **Stems** simple, cane-like, teretes, erect, straight, tall, 0.3-0.4 cm in diameter. **Leaves** numerous, alternate, articulate; sheath tubular, 2.5-3.3 cm long, striated, glabrous; blade narrowly elliptic, 10-12 x 2.6-3 cm, acuminate, sub-membranaceous, glabrous, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescence** apical, paniculate, 15-20 cm long, flowering only once, with some 5 spreading, lax, few-flowered branches 2.5-8 cm long, each subtended by a basal, narrowly triangular, acuminate bract, 2-3.8 cm long; peduncle 5 cm long, straight, thin, provided with a tubular, acuminate bract near the base. **Floral bracts** 6-12 mm long, about half as long as the ovary, linear-triangular, acute, amplexicaul. **Flowers** ca. 40, simultaneous (though some of the apical flowers are still in bud when the first open), resupinate, sepals green, petals and lip white; fragrance nor registered. **Ovary** 13-17 mm long, terete, thin, not inflated, unornamented. **Sepals** 10.5 x 2-3 mm, reflexed, free, narrowly oblanceolate, base unguiculate, apex acute, 3-veined, margin entire, spreading. **Petals** 10 x 0.5 mm, partly spreading, free, filiform with the apex slightly dilated, obtuse, 1-veined, margin entire, spreading. **Lip** united to the column, 3-lobed, 4-6 x 13-15 mm, base deeply cordate, wider at the mid-lobe than between the lateral lobes, margin entire; bicallose, the calli small, sub-globose, disc provided with 3 elongate, acute ribs which reach the apical sinus; lateral lobes semi-orbicular to sub-quadrangle, 3 x 4 mm; mid-lobe 2 x 13-15 mm, bilobed and strongly divaricate, the opposite lobes linear, obtuse. **Column** 6-7 mm long, straight, base thin, gradually dilated towards the apex. **Clinandrium-hood** reduced, margin entire. **Anther** reniform, 4-celled. **Pollinia** not seen. **Rostellum** apical, slit. **Lateral lobes of the stigma, nectary and capsule** not seen.

**OTHER SPECIMENS:** PERU: Without data, 114, W-R 5812! Without locality data, *Ferreyra* 24, USM! Ibid. *Warszewicz s.n.*, W-R 49519! Ibid. *Warszewicz s.n.*, W-R 49527! Ibid. *Calatayud s.n.*, AMO! (Illustration, AMO!). **Huánuco:** cerca de Tingo María, 700-800 m, 18 VII 1948, *Ferreyra* 4236, UC! US! (Illustration voucher). USM! Pozuzo, 2000 ft, 20 VI 1923, *MacBride* 4603, AMES! Cuchero, XII 1829, *Poeppig* 1602, W! W 49562! (fragment, flowers on the upper left-hand corner). **Junín:** Chanchamayo, carretera San Ramón-Vitoc-Moyobamba, 17 V 1984, *Fernández* 322, USM! Chanchamayo, San Ramón-Vitoc road, 940 m, 23 III 1984, *Smith* 6510, MO! USM!

**OTHER RECORDS:** PERU: **Junín:** Chanchamayo: without locality data, hort. Sofía Arevalo, flowered 21 VII 2011, digital image by *Ricardo Fernández*, AMO! (Photo voucher).

**DISTRIBUTION AND ECOLOGY:** Known only from northern and central Peru from the basin of the upper Marañón and Huallaga rivers, epiphytic, growing at 450-1200 m altitude. Flowering from June to August.

**RECOGNITION:** *Epidendrum floribundum* belongs to the Pseudepidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and Paniculatum Subgroup, which has filiform petals, all pollinia "bird-wing" type, green and white flowers, often marked with purple on the disc of the lip and apex of the column. The species is recognized by the leaves 10-12 x 2.6-3 cm, lax-flowered inflorescences, relatively long floral bracts, 6-12 mm long, the small, green flowers with petals and lip white, sepals 10 mm long, the lip narrower between the sub-quadrangle to sub-orbicular lateral lobes than between the apices of the mid-lobe which is formed by a pair of linear, strongly divaricate, opposite, straight lobes. *Epidendrum macroceras* Schltr. has shorter floral bracts, 1-4 mm long; the lateral lobes of the lip are dolabriform, and the mid-lobe is formed by a pair of divaricate, falcate, oblong lobes. *Epidendrum angaritae* Hágsater from northern Colombia, has spreading, greenish brown sepals, the white lip tinged with purple, and somewhat larger flowers (sepals 15-17 mm long). *Epidendrum paniculatum* Ruiz & Pavón grows at higher altitudes in northern Peru and neighboring Ecuador, has greenish flowers the lip white with the disc marked with reddish, the mid-lobe of the lip is emarginate producing a pair of opposite, oblong, falcate lobes. *Epidendrum christensonii* Hágsater & E.Santiago, also found in northern Peru and neighboring Ecuador, has somewhat smaller flowers, sepals 7.6-8 mm long, the 3-lobed lip with the mid-lobe separated from the lateral lobes by shallow sini, column 9 mm long. *Epidendrum lilacinoides* Hágsater & E.Santiago has purple flowers with a white lip, the mid-lobe of the lip emarginate forming a pair of linear-oblong, straight lobes. *Epidendrum paniculovenezolanum* Hágsater & E.Santiago has the dorsal surface of the leaves intense purple colored, larger, greenish brown flowers (sepals 13-18 mm long), the lip white, immaculate. *Epidendrum paniculo-lateribilobum* Hágsater, Ric.Fernández et E.Santiago has shorter floral bracts, 1-6 mm long, the lip is nearly as wide between the clearly bilobed lateral lobes as between the slightly divaricate lobes of the mid-lobe.

\*NOTE: France officially adopted the metric system in 1794. Before that, however, 1 toise was 6 pieds (feet), equivalent to 1.949 m, so 230 hexapieds would be about 421 m altitude.

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

**ETYMOLOGY:** Form the Latin, *floribundus*, profusely flowering, abundant flowers, in reference to the many-flowered panicle common to this species and most of the close relatives.



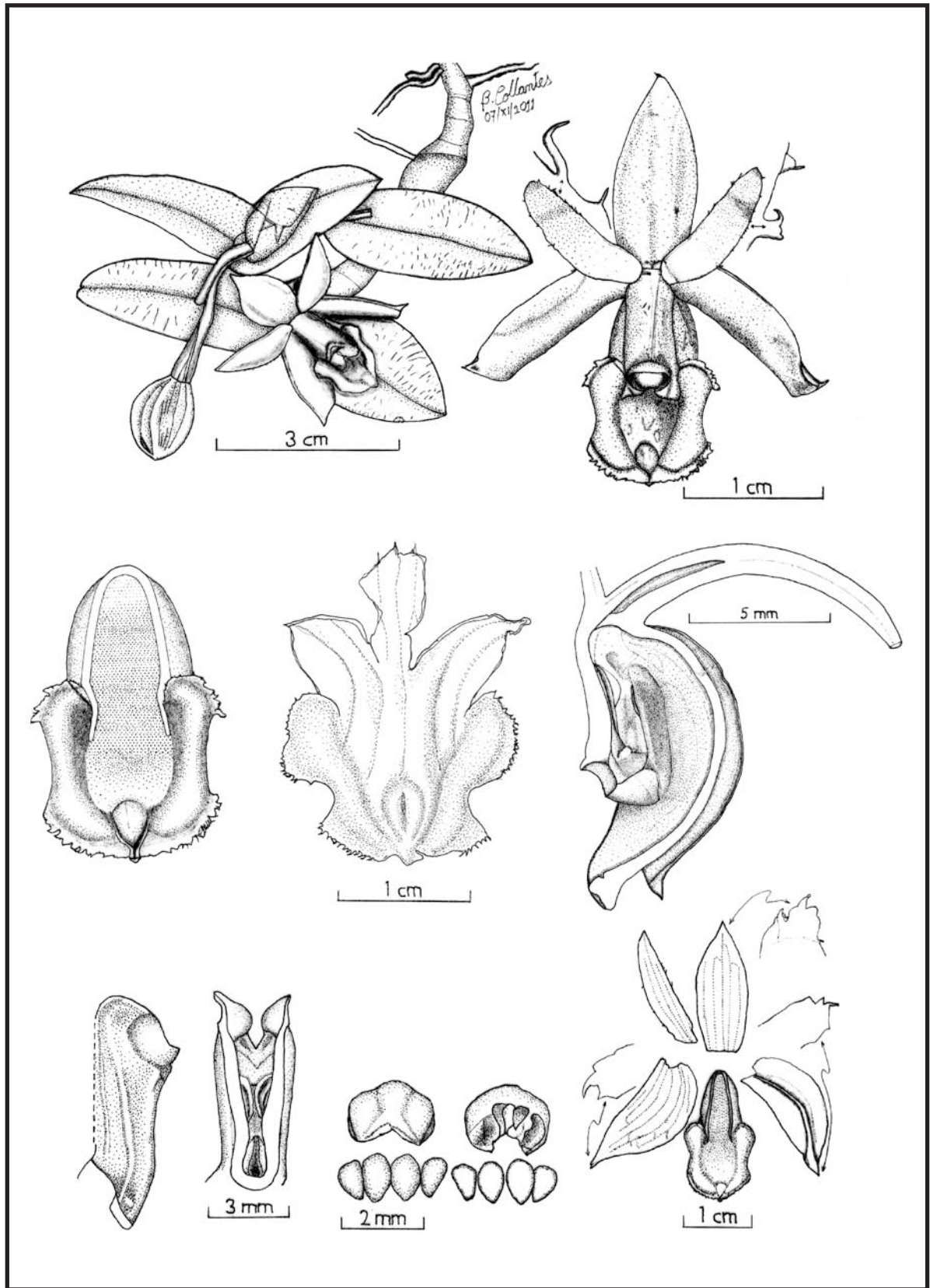
Authors: E. Santiago & E. Hágsater  
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Photo: R. Fernández

Editors: E. Hágsater & L. Sánchez S.

ICONES ORCHIDACEARUM 14. 2013. Plate 1428



EPIDENDRUM FRECHETTEANUM D.E.Benn. & Christenson

**EPIDENDRUM FRECHETTEANUM** D.E.Benn. & Christenson, Icon. Orchid. Peruv. t. 637, 2001.

Type: PERU: Hyancavelica: Tayacaja; Cedroyoc, 2400 m, 15 February 1999, **M. León et al. 2990**. Holotype: "Herb. Bennettianum" not found. Neotype (here designated): PERU: Pasco: Prov. Oxapampa. Dist. Huancabamba. Parque Nacional Yanachaga Chemillen. Abra Yanachaga, 3000 - 3100 m, 20 II 2005; **Edwin Becerra et al. 862**; Neoholotype: HOXA! Neoisotypes: MO, USM, (not seen).

Epiphytic, sympodial, caespitose **herb**, ca. 5 cm tall. **Roots** thin, fleshy, from a short, descendent rhizome, internodes 6-10 x 6-7 mm, the recent rhizome covered by creamy green sheaths, which become scarious-evanescent. **Stems** 1.2-1.6 x 0.6-0.7 cm, heteroblastic, of 2 internodes, terete, bifoliate. **Leaves** 2, 2-5 x 1.2-1.8 cm, aggregate towards the apex of the stem, elliptic, apiculate, base conduplicate, very coriaceous, surface transversely minutely rugose, greenish yellow to dark green, the underside purple, with a pale green central vein. **Spathes** 1.5 x 1 cm, prominent, conduplicate, wide, acute. **Inflorescence** apical, sessile. **Flowers** 1-5, large for the size of the plant, resupinate, sepals and petals fleshy, brown to wine-red, basally pale green; lip dark brown to wine-red towards the margin, the basal margin tinged creamy green-brown, margins purple. **Ovary** 19 mm long, arcuate, terete. **Sepals** spreading, acute, 5-veined; dorsal sepal 14-19 x 6 mm, oblong-oblancoate, apex recurved with a minute, tri-dentate keel; lateral sepals 16-22 x 7-9 mm, hemi-ovate, oblique, apex conduplicate, ending in a dorsal keel with minute falcate teeth. **Petals** 13-18 x 3-4 mm, hemi-oblong-elliptic, oblique, acute, margins with scarce, minute cilia and cone-like appendages. **Lip** 13 x 18 mm (when spread), united to the column, 3-lobed, base cordate, in natural position pandurate to sub-pandurate, deeply concave, sac-like, the sides widely revolute, apical margins of the lobes minutely erose-dentate with scarce, ciliate appendages, the lateral margins concave, entire, revolute; ecallose, with a sub-apical, fleshy-thickened rib terminating in a short apicule; lateral lobes 4 x 7 mm, transversely rectangular, apically revolute, separated from the mid-lobe by a wide isthmus the sinii widely rounded; mid-lobe 6 x 12 mm, transversely rectangular-flabellate, the apex formed by a wide, fleshy apicule. **Column** 8 mm long, erect, robust, geniculate, forming an angle of ca. 120° with the axis of the ovary, dorsally slightly arcuate near the base, with a pair of apical, divergent, rounded wings. **Rostrum** apical, slit. **Clinandrium-hood** prominent, somewhat upturned, margin entire. **Lateral lobes of the stigma** elongate and arcuate, the margins irregularly papillose. **Anther** 2 x 1.5 mm, reniform, 4-celled. **Pollinia** 4, the larger ones 1.1 x 0.5 mm, the outer pair smaller, obovoid, complanate, more or less convex-flat, caudicles connivent, oblong. **Capsule** wide, ellipsoid.

**OTHER SPECIMENS: PERU: Pasco:** Prov. Oxapampa. Dist. Huancabamba. Parque Nacional Yanachaga Chemillen. Zona de Amortiguamiento. 2100 - 2200 m. 13 I 2005; **E. Becerra 424**; HOXA! USM. Ibid., Sector Chacos, 2265 m, 10 II 2004; **R. Vásquez 28800**; HOXA! USM. Ibid., Sector Quebrada Yanachaga, 2265 m, 10 II 2004; **R. Vásquez 29254**; HOXA! MO, USM. Ibid., Sector Quebrada Yanachaga, 1700 - 2265 m, 17 II 2004, **R. Vásquez 29518**. HOXA! USM.

**OTHER RECORDS: PERU: Cusco;** Santuario Histórico de Machu Picchu, Jardín de Orquídeas de Inkaterre, Centro de Conservación *in situ* N° 87, cult. *in situ*. Photo, 2 III 2008, AMO! **Huancavelica:** Prov. Tayacaja; Distr. Huachocolpa, Chihuana Sector Chinchipata, frente a Amaru, aprox. 2700 m, 2 III 2008, **Collantes & T. Espinal 1125-c**. USM! (Flower in spirit, illustration voucher). **Pasco:** Parque Nacional Chemillén, **Edwin Becerra s.n.**, digital images of live plants and floral segments in spirit, AMO! **San Martín:** km 389 Moyobamba-Progreso, ca. 1700 m, II 2002, **Marni Turkel & Christenson s.n.**, <http://www.orchidspecies.com/epidfrecheteaum.htm> (23 III 2013) Ibid. <https://picasaweb.google.com/111565844854752638532/EpidendrumMiniatureSpp> (23 III 2013).

**DISTRIBUTION AND ECOLOGY:** From the Cordillera Oriental, from northern to southern Peru; epiphytic in cloud forests, at 1700-3100 m altitude. Epiphytic on tree trunks in cloud forest. Flowering from December to March.

**RECOGNITION:** *Epidendrum frechetteanum* belongs to the Kockii Group which is characterized by the caespitose habit, with 1-2 fleshy-succulent leaves, 1-2-spathaceous bracts, flowers resupinate or not, with a prominent 3-lobed or entire lip, ecallose. The species is recognized by the descending plant habit, 1-5 simultaneous, resupinate, brown to wine-red flowers, the petals with scarce, minute ciliate appendages, the apical margins of the lobes of the lip minutely erose-dentate, the sides of the isthmus concave, margins entire. *Epidendrum latorreorum* Chocce-Peña, Hágsater & Dalström has similar plants, but with one leaf and its flowers are non-secund, larger, greenish copper colored and the lip 3-lobed, the ovary only slightly curved. *Epidendrum kockii* Hágsater & Dodson has two leaves, but its stems shorter, flowers larger, resupinate, brown with a burgundy-red, large, wide, obreniform, bicallose lip.

**NOTE:** The original description indicates single flowered, however we have records of up to 5 simultaneous flowers. The lip is 3-lobed, wider than long, but only when spread; the margins of the lip were described as entire, but that is only true for the isthmus where the sides are concave; the apical margins of the lobes are minutely erose-dentate with scarcely ciliate appendages. The herbarium of Bennett was eventually deposited between MOL and USM, our records of both show that no specimen of this collection is extant, we thus designate a Neotype.

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

**REFERENCES:** Chocce-Peña, M., E. Hágsater & S. Dalström, 2009, *Epidendrum latorreorum* Chocce-Peña, Hágsater & Dalström in E. Hágsater & L. Sánchez S. (eds.) **Icon. Orchid.** 12: t. 1259. Hágsater, E., & C.H. Dodson, 1999, *Epidendrum kockii* Hágsater & Dodson in E. Hágsater & L. Sánchez S. (eds.) **Icon. Orchid.** 3: t. 343.



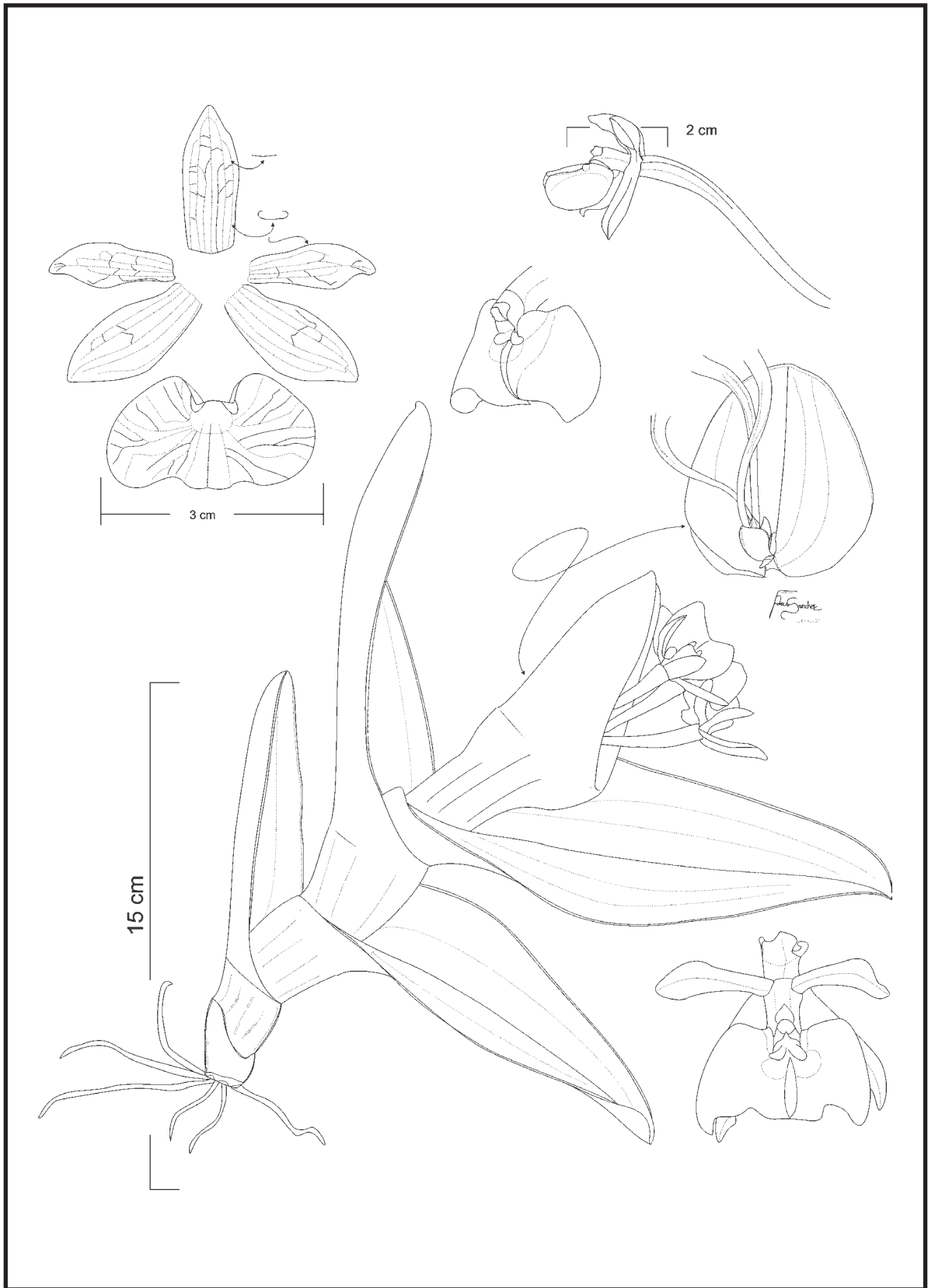
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ICONES ORCHIDACEARUM 14. 2013. Plate 1429



EPIDENDRUM FUSAGASUGAËNSE E.Parra, Hågsater & L.Sánchez

Plate 1430

**EPIDENDRUM FUSAGASUGAËNSE** E.Parra, Hágsater et L.Sánchez, *sp. nov.*

Type: COLOMBIA: Cundinamarca, Fusagasugá, cerro del Sutagao, 1900 m, 16 Diciembre 2010, **Edicson Parra Sánchez**

315. Holotype: VALLE! (Illustration voucher). Digital images, AMO!

Similar to *Epidendro microcephalum* Hágsater & L.Sánchez but the stems flexuous, flowers larger, margin of the leaves yellow, petals obliquely elliptic, lip with a low rib and a deep green blotch at the base of the lip, in front of the calli, column straight.

Epiphytic, sympodial, caespitose **herb**, 24.7-34.7 cm tall including the inflorescence. **Roots** basal, fleshy, thin. **Stems** 19-28 x 0.8-1.2 cm, simple, cane-like, strongly laterally compressed, ancipitose, flexuous. **Leaves** 5-7, distributed throughout the stem; foliar sheath 3-6 x 1.5-3.2 cm, ancipitose, infundibuliform, smooth; blade 8-12 x 2.5-7.3 cm, widely elliptic, lanceolate, apex bilobed, coriaceous, with a low dorsal keel, bright green, margin entire, yellow. **Spathaceous bract** lacking. **Inflorescence** apical, sessile, flowering only once, sub-corymbose, peduncle inconspicuous. **Floral bracts** 8-12 x 5-7 mm, much shorter than the ovary, triangular, acute. **Flowers** 3-5, successive, resupinate, pale green becoming bright green towards the disc of the lip; fragrance slight. **Ovary** 4.7-6 x 0.3-0.5 cm, terete, dilated towards the apex, unornamented. **Sepals** 20-22 x 7-9 mm, spreading, free, glabrous, sub-coriaceous, apex rounded, 5-veined, margin entire, slightly revolute; dorsal sepals elliptic, lateral sepals obliquely elliptic-ovate. **Petals** 18-20 x 5-6 mm, spreading, oblique, widely elliptic, apex rounded, margin entire, slightly revolute, sub-coriaceous, 4-veined. **Lip** 11-15 x 30-34 mm, united to the column, widely obreniform, base cordate, apical margin shallowly 3-lobed, margin entire; disc with a central low rib reaching the apex of the lip, and with a dark green spot at the base, in front of the calli and prolonged along the central rib; bicallose, the calli small, sub-globose, divergent; lateral lobes 10 x 16 mm, surpassing the mid-lobe at the apex, ovate, entire; mid-lobe 1 x 7 mm, emarginate, entire, truncate, without forming lobes, the apical margin appears sinuous. **Column** 9-10 mm long, straight, thin. **Clinandrium-hood** prominent, margin erose. **Anther, pollinia, rostellum, lateral lobes of the stigma, nectary and capsule** not seen.

**OTHER SPECIMENS: COLOMBIA: Cundinamarca:** Fusagasugá: Cerro del Fusacatán, 1900 m, 25 X 2011, *Parra 610*, COL! VALLE! Hacienda "San Pablo", 1900 m, 18 VIII 1957, *Schmidt-Mumm 1*, AMES 105026! COL 88145!

**DISTRIBUTION AND ECOLOGY:** Endemic to Colombia, known presently only from the western slope of the Cordillera Oriental of the Andes, in the Province of Fusagasugá. Epiphytic at 1900 m altitude, in disturbed, wet forests. Flowering from August to December.

**RECOGNITION:** *Epidendrum fusagasugaense* belongs to the Difforme Group which is characterized by the caespitose, sympodial plants, fleshy, pale green to glaucous leaves, apical inflorescence, sessile, rarely with a short peduncle, one to many-flowered and then corymbose, without spathaceous bracts, fleshy, green to yellowish-green rarely white flowers. The species can be recognized by the wide, ancipitose, laterally compressed stems, wide, elliptic-lanceolate leaves, the margin yellow, large green flowers, sepals 20-22 mm long, with a deep green spot on the disc of the widely obreniform lip, base deeply cordate, apex shallowly 3-lobed. It is similar to *Epidendrum microcephalum* Hágsater & L.Sánchez, known only from Venezuela, which has taller stems (24-35 cm), wider leaves (2.3-6 cm) and smaller flowers, sepals 10-12 mm long, linear-oblancoate petals, lip 7-9 x 13-14 mm, parallel calli, and an arching column 7-8 mm long. *Epidendrum upanodiforme* Hágsater & L.Sánchez from eastern Ecuador and northern Peru, has stems to 60 cm tall, smaller flowers (sepals 15-20 mm long), linear-ovate petals, and the mid-lobe of the lip surpasses the lateral lobes and forms two semi-circular lobes, the column is arched. *Epidendrum vasquezii* Hágsater & L.Sánchez is known from Bolivia and neighboring Brazil has narrower leaves (1.5-2.5 cm), larger flowers also with a deep green disc, sepals 31-33 mm long, narrowly obovate, acute, the lip is bilobed, disc 3-ribbed, column arched. *Epidendrum yaracuyense* Carnevali & G.A.Romero endemic to Venezuela has narrowly obovate sepals and petals, an entire lip, and arched column with the clinandrium-hood erose-dentate.

**CONSERVATION STATUS:** DD. Data deficient. The species is apparently very rare.

**ETYMOLOGY:** In reference to the Province of Fusagasugá, Department of Cundinamarca, where the type and other specimens have been collected.

**REFERENCES:** Carnevali, G. & G. A. Romero, 2000, *Epidendrum yaracuyense*, in Romero, G. A. & G. Carnevali, **Orchids of Venezuela; An Illustrated Field Guide**, 2nd ed.: 1135. Hágsater, E. & C. H. Dodson, 1999, *Epidendrum upanodiforme*, in Hágsater, E., Sánchez, L. & J. García-Cruz, **Icon. Orchid.** 3. pl: 393. Hágsater, E. & L. Sánchez, 1999, *Epidendrum microcephalum*, *ibid.* pl. 356. Hágsater, E. & L. Sánchez, 2006, *Epidendrum vasquezii*, in Hágsater, E. & L. Sánchez S., **Icon. Orchid.** 8: pl. 896.



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

Illustrator: E. Parra

Photo: E. Parra

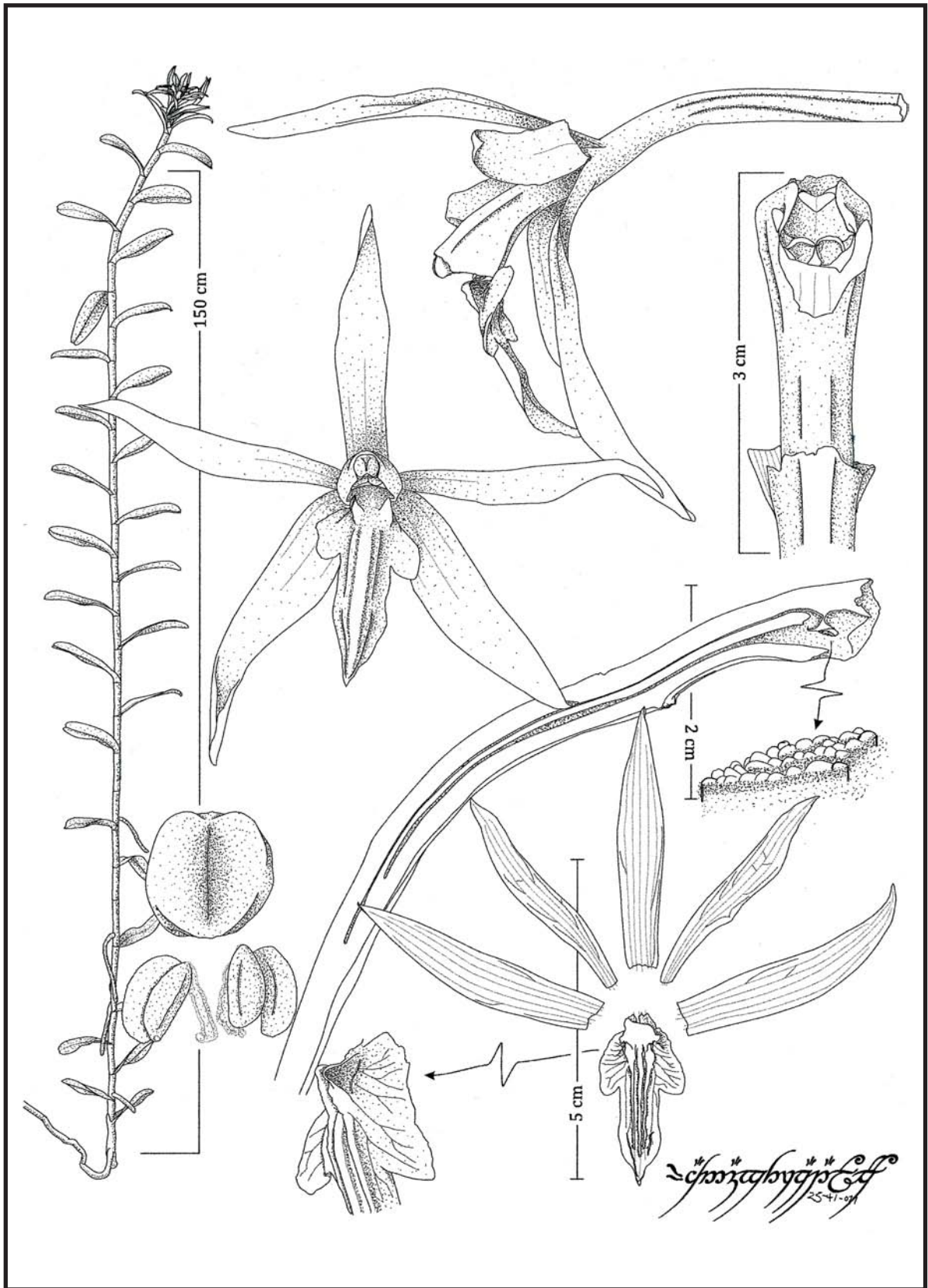
Editors: E. Hágsater & L. Sánchez S.

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ICONES ORCHIDACEARUM 14. 2013.

Plate 1430



EPIDENDRUM GERLACHIANUM Hágsater, O.Pérez & E.Santiago

Plate 1431

**EPIDENDRUM GERLACHIANUM** Hágsater, O. Pérez et E. Santiago, *sp. nov.*

Type: COLOMBIA: Cundinamarca: Municipio de Guasca; Páramo de Guasca, junto a la carretera que conduce a Ubalá, ca. 3100 m, ca. 7° C, 22 July 2011, **Oscar Alejandro Pérez Escobar & Gustavo Morales 1104**. Holotype: CUVCI (Illustration and photo voucher). Digital images of pretype, AMO!

*Epidendrum steyermarkii* A.D.Hawkes simile, sed inflorescentia corymbosa subsubsessile, floribus majoribus, sepalis lanceolatis oblongis acuminatis marginibus revolutis, petalis linearis oblongis, callis prominentibus triangulis recedit.

Terrestrial, monopodial, erect **herb**, to 170 cm tall. **Roots** 2.7-7.5 mm in diameter, produced along the basal 1/3 of the stem, fleshy, thick, scarce. **Stems** cane-like, 1.63 x 0.56-1.2 cm, simple when young, branching near the apex with time, terete, erect, straight. **Leaves** numerous, 29 in the type, alternate, articulate, coriaceous, deciduous, similar in size and shape; sheaths tubular, 28-58 x 10.9-14.5 mm, striated and rugose, ochre-colored, somewhat tinged reddish; blade elliptic to lanceolate, 3.1-12.1 x 1.8-3 cm, apex rounded, short bilobed, margin entire, green with the margin tinged reddish, somewhat lustrous. **Spathaceous bract** lacking. **Inflorescence** (5 cm long including the flowers), apical, corymbose, flowering only once, erect, compact, few-flowered; peduncle 2 mm long, very short, obsolete, terete, thick, bare; rachis very short, 17 mm long. **Floral bracts** 9.3 mm long, much shorter than the ovary, narrowly lanceolate, acute, amplexicaul. **Flowers** 6, successive, but eventually all open at one time, resupinate, yellowish green; the column and lip white including the calli; fragrance not registered. **Ovary** 39-40 mm long, teretes to slightly flattened ventrally, not inflated, unornamented. **Sepals** 41-44 x 9 mm, oblong-lanceolate, acuminate, aristate, free, spreading, fleshy, 5-veined, margin entire, somewhat revolute; lateral sepals obliquely fused to the basal part of the column, slightly oblique. **Petals** linear-oblong, 40-41 x 6-7 mm, free, spreading, slightly convex, acuminate, 3-veined, branching somewhat below the middle, margin entire, somewhat revolute. **Lip** united to the column, 3-lobed, 27 x 14 mm, base truncate, fleshy; bicallose, the calli prominent, triangular, laminar; provided with 3 smooth, elongate ribs which disappear before reaching the apex of the mid-lobe; lateral lobes widely reniform-truncate, 5 x 10 mm, spreading, short, the corners narrowly rounded, margin slightly erose; mid-lobe oblong, 15 x 7 mm, apex obtuse, the apical 1/3 slightly bent downwards towards the adaxial surface of the lip, apiculate, margin entire. **Column** 23 mm long, slightly arched, robust, widened towards the apex. **Clinandrium-hood** short, margin entire. **Anther** sub-spherical, the apical half exposed and surpassing the apex of the column, 4-celled. **Pollinia** 4, obovoid, laterally compressed, unequal, the inner pair slightly smaller; caudicles soft and granulose, as long as the pollinia. **Rostellum** apical, slit. **Lateral lobes of the stigma** prominent, occupying 1/3 of the stigmatic cavity, papillose. **Nectary** not inflated, minutely papillose, penetrating 2/3 of the ovary. **Capsule** not seen.

**OTHER SPECIMENS: COLOMBIA: Cundinamarca:** Nemocón, 2750 m, 21 IV 1968, *García Barriga 19379*, COL!

**OTHER RECORDS: VENEZUELA: Táchira:** Páramo La Negra, photo published as *Epidendrum steyermarkii* (Morillo, 2011). *Morillo s.n.*, digital image, AMO!

**DISTRIBUTION AND ECOLOGY:** presently known from the eastern Cordillera of the Andes, in Cundinamarca, Central Colombia, in the Páramo de Guasca, at 3100 m altitude and neighboring Venezuela; growing as a terrestrial along the road-side, in bush vegetation dominated mainly by *Befaria*, *Gaultheria* and *Chusquea* species.

**RECOGNITION:** *Epidendrum gerlachianum* belongs to the Andean Group and Cernuum subgroup, which is characterized by the monopodial, branching habit, the erect cane-like stems with a sub-apical branching, racemose, nutant inflorescence, compact, fleshy flowers, with the lip three-lobed. The species is recognized by the tall, erect, stem, erect, compact inflorescence, the large flowers with oblong-lanceolate sepals 41-44 mm long, linear-oblong petals 40-41 mm long, and the mid-lobe of the lip oblong, obtuse and apiculate, the apical 1/3 somewhat bent downwards towards the ventral surface of the lip, 15 mm long. It is similar to *Epidendrum steyermarkii* A.D.Hawkes, which has lax-flowered inflorescence, 5-7 cm long peduncle and rachis; large flowers with oblanceolate to oblong-elliptic sepals 26-35 mm long, oblanceolate to sub-spatulate petals 26-28 mm long, mid-lobe of the lip oblong and apiculate, 11-14 mm long. *Epidendrum pichinchae* Schltr. has taller plants, 2 m high, branched above, smaller flowers, the floral segments long-acuminate, lateral sepals falcate, [15]18-21 mm long, the mid-lobe of the lip sub-rhombic towards the apical half, with a long, parallel-sided isthmus, and a prominent apiculus.

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

**ETYMOLOGY:** In honor of Günter Gerlach (Germany, 1953- ), Scientific Director of the living collection at the Botanische Garten München, in recognition of his contribution to the taxonomy and phytochemistry of the Subtribe Stanhopeinae. He is an authority of the genus *Coryanthes* and is currently working on the systematics of several genera in Catasetinae and Zygopetalinae.

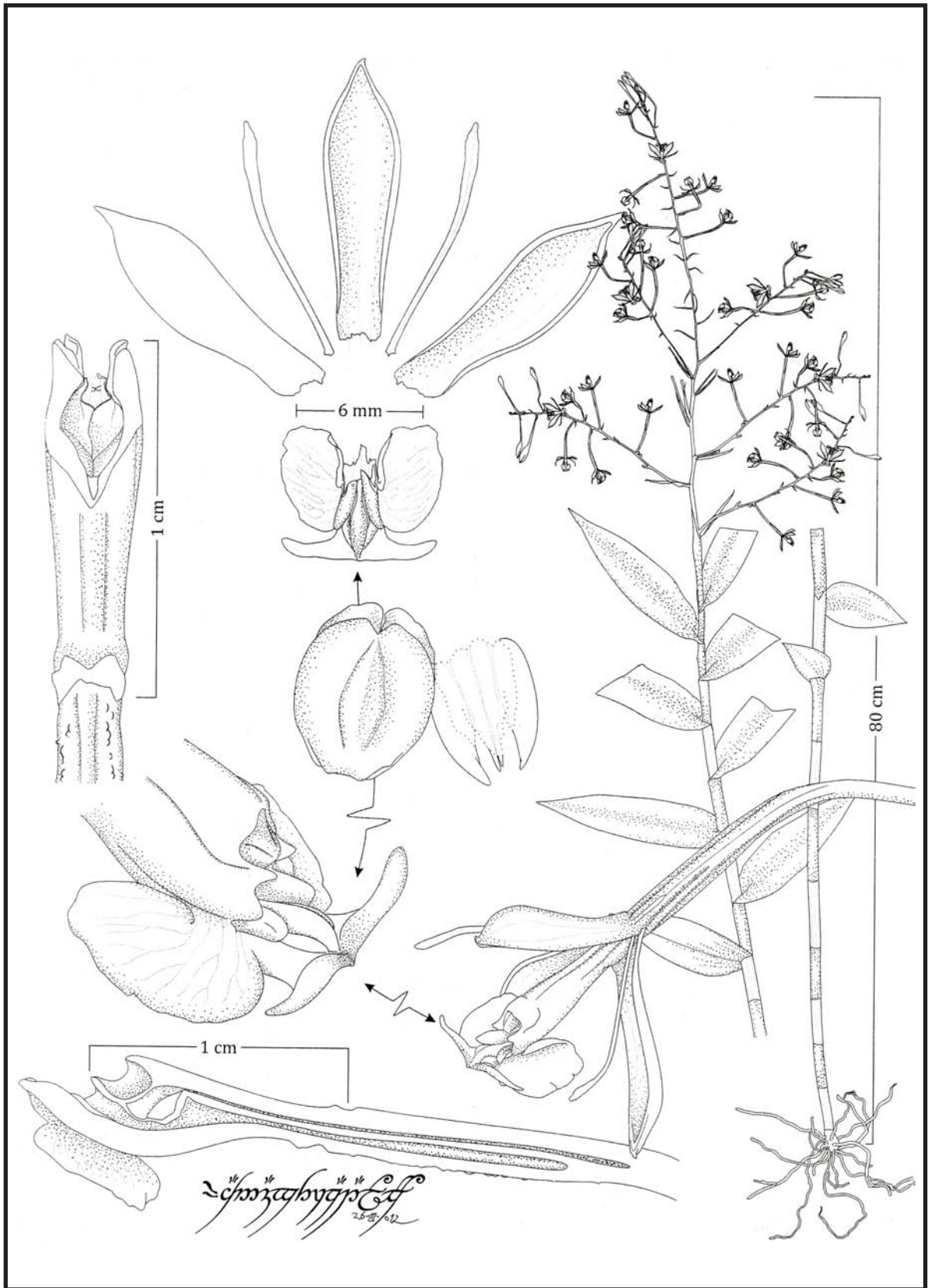
**REFERENCES:** Morillo, Gilberto, 2011, Familia Orchidaceae in Morillo, G., B. Briceño & J. F. Silva (eds.) *Botánica y Ecología de los Monocotiledónes de los Páramos en Venezuela*. 1: 344, photo 28. Santiago, E., & E. Hágsater, 2009, *Epidendrum steyermarkii*, in The Genus *Epidendrum*, Part 8, *Species New and Old in Epidendrum*, E. Hágsater & L. Sánchez Saldaña (eds.), *Icon. Orchid.* 12: t. 1294.



Authors: E. Hágsater, O. Pérez & E. Santiago  
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Illustrator: O. Pérez  
México, D.F. MÉXICO

Photo: O. Pérez  
Editors: E. Hágsater & L. Sánchez S.  
ICONES ORCHIDACEARUM 14. 2013. Plate 1431



EPIDENDRUM GIRALDO-CANNASII Hágsater, O.Pérez & E.Santiago

Plate 1432



**EPIDENDRUM GIRALDO-CANNASII** Hágsater, O.Pérez et E.Santiago, *sp. nov.*

Type: COLOMBIA: Valle del Cauca: Municipio de Yumbo; Dapa, ca. 1800 m, 15 Febrero 2011, **Oscar Alejandro Pérez Escobar & Edicson Parra Sánchez 1103**. Holotype: CUVCI (Illustration voucher).

Similar to *Epidendrum peraltum* Schltr. but the leaves green, the underside purple, flowers delicately fragrant, sepals dorsally magenta, ventrally ochraceous, lip with the lateral lobes dolabriform, and the lobes of the mid-lobe straight, opposite.

Epiphytic, sympodial, caespitose **herb** up to 120 cm tall. **Roots** ca. 3 mm in diameter, basal, fleshy, white. **Stems** 77 x 1 cm, simple, cane-like, terete, straight, ascending; the basal 1/3 covered by non-foliar, tubular sheaths 3.1-5.2 cm long, minutely striated, scarious. **Leaves** 11, distributed along the apical 2/3 of the stem, alternate, articulate, spreading, unequal in size, the basal ones smaller; sheaths 24-70 x 3.5-10 mm, tubular, minutely striated, purple; blade 4.1-14.5 x 3-4 cm, elliptic, acuminate, coriaceous, the upper face green, the underside purple, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescence** 40 cm long, apical, paniculate, flowering only once, laxly many-flowered, arched-nutant; peduncle 6 cm long, short, straight, thin, totally hidden by a single tubular bract 7.5 cm long, acuminate, amplexicaul; rachis 34 cm long, terete, gradually becoming thinner towards the apex, with some 8 few-flowers racemes 11-15 cm long, each subtended by a bract 2-4.5 cm long, linear-triangular, long-acuminate, amplexicaul. **Floral bracts** 3-17 mm long, small, much shorter than the ovary, narrowly triangular, acuminate, amplexicaul. **Ovary** 31 mm long, terete, striated, papillose, magenta colored, slightly inflated along the apical half, and bent at the middle into an angle of 135°. **Flowers** ca. 100, resupinate, most of them simultaneously at anthesis (only a few apical flowers in bud), sepals dorsally magenta, internally ochraceous, petals and lip light pink, column magenta, somewhat yellowish at base; fragrance diurnal, delicate, agreeable. **Sepals** 13.5 x 3.6 mm, partly spreading, free, oblanceolate, acute, apiculate, fleshy, slightly concave near the apex, 3-veined, margin entire, spreading; the lateral sepals slightly oblique. **Petals** 11 x 0.6 mm, partly spreading, free, filiform, slightly oblique, apex sub-acute, 1-veined, margin entire, spreading. **Lip** 6.4 x 7.5 mm, united to the column, 3-lobed, base cordate; bicallose, the calli thin, prominent, elongate to the base of the mid-lobe; disc provided with 3 fleshy, parallel ribs, the mid-rib reaching the apical sinus, the lateral pair shorter and lower; lateral lobes 3 x 5 mm, dolabriform, margin somewhat erose; mid-lobe 1.5 x 7 mm, forming a pair opposite lobes 3.5 x 0.6 mm, horn-like, falcate, apex narrowly rounded. **Column** 11 mm long, straight, thin at the base, gradually dilated towards the apical half, apex bidentate. **Clinandrium-hood** reduced, margin entire. **Anther** ovoid, 4-celled. **Pollinia** 4, bird-wing type; caudicles laminar, shorter than the pollinia. **Rostrum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** penetrating nearly half of the ovary, not inflated, unornamented. **Capsule** not seen.

**OTHER RECORDS: COLOMBIA: Valle del Cauca:** Cali-Buenaventura, 2000-2050 m, col. 24 IV 1983, pressed cult. 28 VI 1992, *Hágsater 7306*, AMO! (Illustration, AMO!)

**DISTRIBUTION AND ECOLOGY:** Endemic to southern Colombia. Known from the eastern slope of the Cordillera Occidental of the Andes. Grows as epiphyte in cloud forests, at ca. 2000 m. Flowering in February to April.

**RECOGNITION:** *Epidendrum giraldo-canasii* belongs to the Pseudopidendrum Group, which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, apical inflorescence without spathaceous bract, the petals filiform and the lip usually 3-lobed, with 3 parallel fleshy ribs, the apical lobe often bifurcate, and the pollinia "bird-wing type" and Porphyreum Subgroup which has flowers colored reddish orange, deep purple or lilac-pink, the calli generally prominent, sometimes horn-like. The species is recognized by the intense purple color of the lower surface of the leaves, stems stained with purple, the prominent calli of the lip elongated until the base of the mid-lobe, lateral lobes of the lip dolabriform, 3 x 5 mm, and by the hastate, linear lobes of the mid-lobe, strongly divaricate, as long as the lateral lobes. It is similar to *Epidendrum peraltum*, which has larger plants, green, concolor leaves, and somewhat larger yellowish-green, un-fragrant flowers tinged with pink or totally dirty pink, lateral lobes of the lip falcate-oblong, strongly retrorse, and the mid-lobe with a short isthmus, ended in a pair of lobes strongly divaricate shorter than the lateral lobes. *Epidendrum capricornu* Kraenzl. endemic to Peru and Ecuador, has shorter plants, sepals with the outer surface purple brown, the inner surface yellow, slightly wider between the lateral lobes of the lip than between the apical lobes, and the mid-lobe strongly emarginate, forming a pair of linear-horn-like lobes, slightly divaricate.

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

**ETYMOLOGY:** Named after Dr. Diego Giraldo Cañas, professor and researcher of the Universidad Nacional de Colombia (Bogotá) at the Instituto de Ciencias Naturales, (ICN), who has greatly contributed to the knowledge of the systematic of the families Marcgraviaceae and Poaceae, through the publication of several scientific papers and books. He was an advisor of O.Pérez during his undergraduate studies.



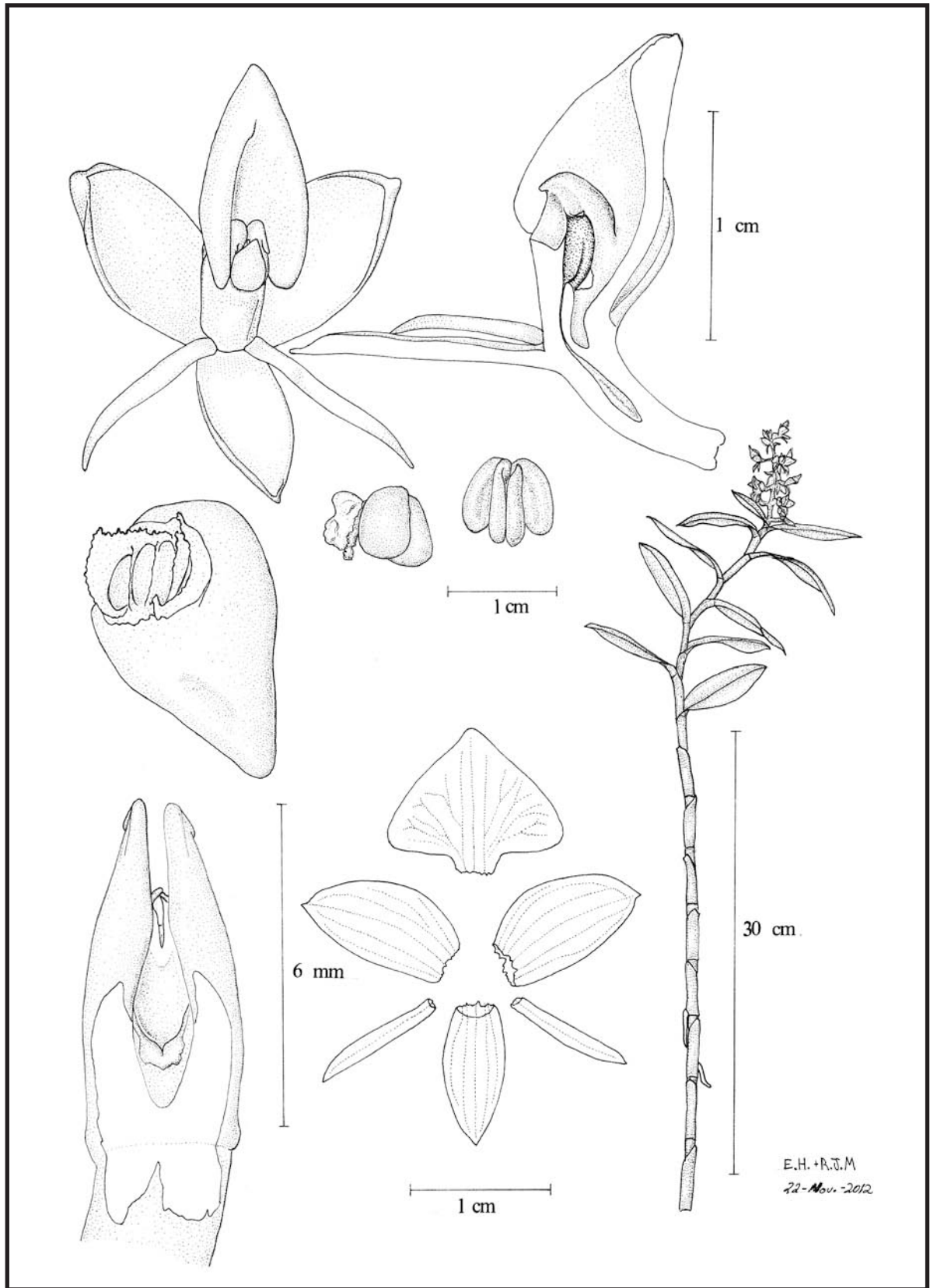
Authors: E. Hágsater, O. Pérez & E. Santiago  
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Photos: O. Pérez

Editors: E. Hágsater & L. Sánchez S.

ICONES ORCHIDACEARUM 14. 2013. Plate 1432



EPIDENDRUM GRAMMIPETALOSTACHYUM Hágsater & E.Santiago

Plate 1433

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

Type: COLOMBIA: Valle del Cauca: al entrar al cañón del río debajo de Queremal, 1180 m, pressed cult. 8 October 1984, **Eric Hágsater, Robert L. Dressler & James P. Folsom 7406**. Holotype: AMO! (Illustration voucher)

Similar to *Epidendrum macrostachyum* Lindl., but with fewer, simultaneous flowers, the shorter floral bracts, about as long as the ovary, linear acute petals, and the deltate lip with the base truncate.

Terrestrial, monopodial, branching **herb**, 50-150 cm tall. **Roots** 1-3 mm in diameter, scarce at the base of the main stem, from the basal internodes, fleshy, thin. **Stems**: main stem 56-150 x 0.3-1 cm, the branches 3.5-9.5 x 0.3-0.6 cm; cane-like, terete, thin, erect, straight, base covered by non-foliar sheaths 3.6-4.2 x 0.6-1 cm, tubular. **Leaves** distributed throughout the stems, 14-20 on the main stem, 8-9 on the branches, articulate, alternate, sub-coriaceous, unequal in size, (the apical and basal leaves smaller); sheaths 5-30 x 4-10 mm, tubular, minutely striated, rugose; blade of the leaves on the main stems 9.5-11.5 x 2.3-4 cm; on the branches [2]5.3-9.5 x 0.8-1.2 cm; narrowly elliptic, acuminate, margin entire. **Spathaceous bract** lacking. **Inflorescence** 7-13 cm long, apical, racemose, erect, flowering only once, cylindrical, laxly few-flowered; peduncle 5-10 mm long, terete, thin, straight, rachis 6.5-11.5 cm long, terete, straight. **Floral bracts** 5-8 x 3.5-4.5 mm, prominent, as long as the ovary, triangular ovate, acuminate, amplexicaul. **Flowers** 12-24, simultaneous, non-resupinate, fleshy, yellowish green, with calcium oxalate crystals which become evident when flowers dry; fragrance not registered. **Ovary** 7-10 mm long, short, terete, thick, longitudinally striated. **Sepals** free, ovate-elliptic, acute, minutely apiculate, 5-veined, margin entire; the dorsal sepal 8-11 x 2.8-5 mm, spreading; lateral sepals 9-12 x [4.7]6-7.5 mm, partly spreading, slightly oblique. **Petals** 8-10 x 0.6-1.3 mm, free, spreading, linear, acute, 1-veined, margin entire, spreading. **Lip** 6-10 x 7-12 mm, united to the column, entire, very fleshy, deltate, base truncate, apex obtuse, ecallose, scarcely pubescent in front of the column, conduplicate in natural position, embracing the apex of the column, margin entire, spreading. **Column** 6-8 mm long, short, thick, straight, the apex with a pair of prominent, rounded wings, and an upturned tooth. **Clinandrium-hood** reduced, margin entire. **Anther** obovoid, 4-celled. **Pollinia** narrowly obovoid, somewhat laterally compressed; caudicles soft and granulose, as long as the pollinia. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma** prominent, occupying 1/3 of the stigmatic cavity. **Nectary** shallow, without penetrating the ovary, not inflated, pubescent in front of the stigmatic cavity. **Capsule** not seen.

**OTHER SPECIMENS: COLOMBIA: Chocó:** carretera Cartago-San José del Palmar, ca. km 65, 1900-2000 m, *Lozano 3078*, 15 XI 1978, COL! **Valle del Cauca:** km 18 de la carretera Cali-Buenaventura, 5 I 1980, *Guarin 4*, VALLE x2! Queremal, 20 I 1980, *Guarin 72*, COL! VALLE! Camino Anchicaya, entre Queremal y la Cascada, 1180 m, 17 IV 1983, *Hágsater 7404*, AMO! AMES! COL! CUV! MO! VALLE! QCNE!

**OTHER RECORDS: COLOMBIA: Valle del Cauca:** Camino Anchicaya, entre Queremal y la Cascada, 1180 m, 27 IV 1983, *Hágsater 7404*, spirit and slide, AMO!

**DISTRIBUTION AND ECOLOGY:** Known from the Pacific slope of the Cordillera Occidental in southern Colombia. Terrestrial in wet and cloud forests at 1200-2000 m altitude. Flowering from January to April; in cultivation in Mexico in October.

**RECOGNITION:** *Epidendrum grammipetalostachyum* belongs to the *Macrostachyum* Group, which is characterized by the monopodial plants with sub-apical branching, rugose leaf sheaths, racemose inflorescence, and fleshy flowers with a simple, conduplicate lip embracing the column, and the nectary pubescent to papillose in front of the stigmatic cavity. The species is recognized by the relatively small, acuminate leaves, the lax, few-flowered inflorescence, with simultaneous yellowish green flowers, the floral bracts about as long as the ovary, the narrow, linear, acute petals and the deltate lip, base truncate. *Epidendrum macrostachyum* Lindl. known from Antioquia and Boyacá to Nariño and Putumayo has a lax-flowered inflorescence which produces many flowers in a long succession, with about a dozen open at one time, burgundy-brown flowers, larger leaves on the main stem, obtuse, 12.5-13 x 3-3.5 cm, floral bracts about up to twice the length of the ovary, petals linear-oblong, sub-obtuse, and the lip widely cordiform, the base slightly cordate. *Epidendrum polyanthostachyum* Hágsater & E.Santiago has acute leaves, a many-flowered compact inflorescence with simultaneous flowers, sepals 10 mm long, petals oblong oblanceolate, convex, lip widely deltate, and the anther with rostrum at the apex. *Epidendrum platystachyum* Hágsater is much smaller overall and has elliptic-oblong, rounded leaves less than 1.2 cm wide, the inflorescence short and compact, rachis sinuous, with successive, ochre flowers, the wide floral bracts, embracing the short ovary and flower, and oblanceolate petals.

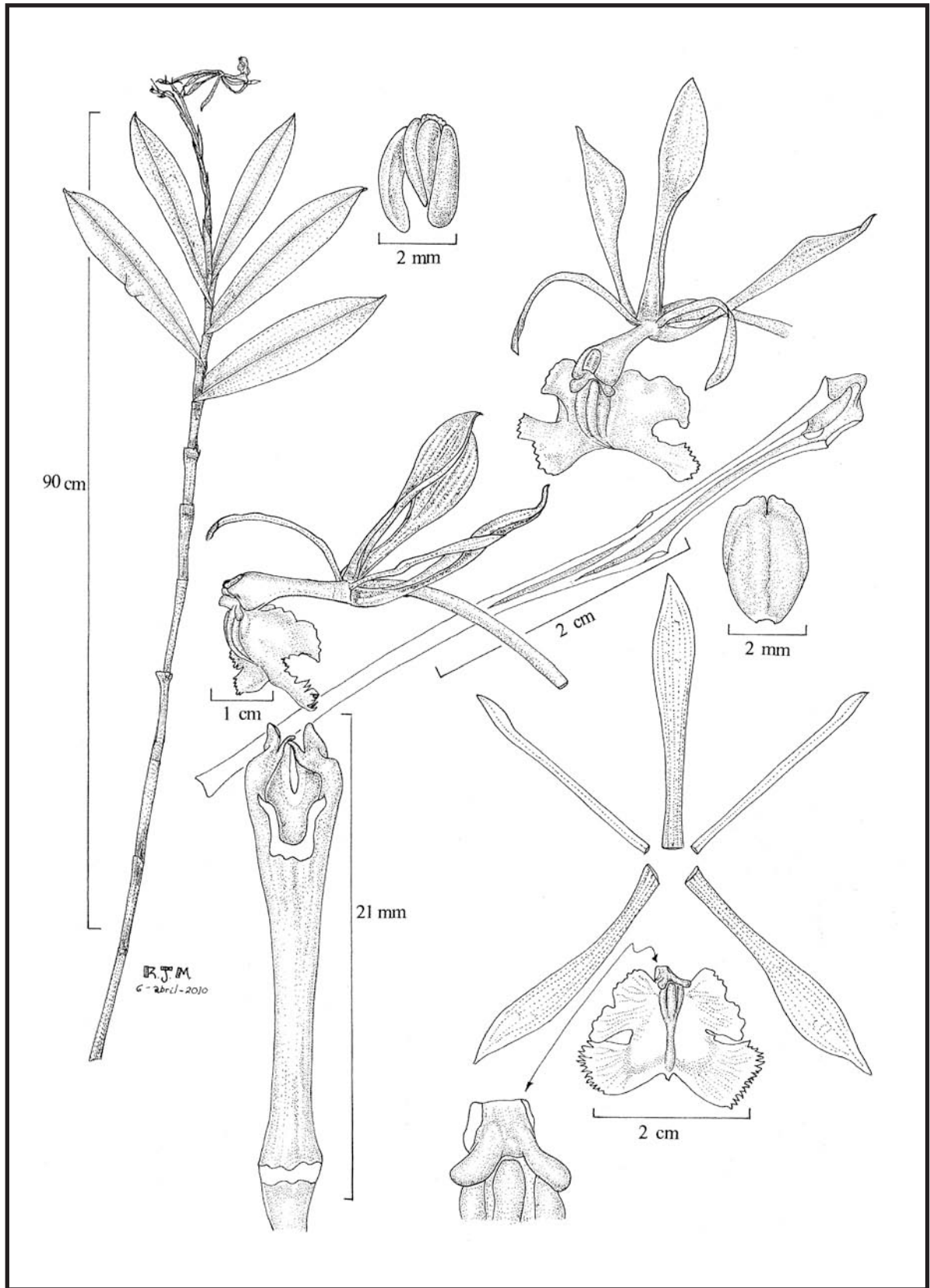
**CONSERVATION STATUS:** DD. Data deficient.

**NOTE:** The name *Epidendrum macrostachyum* has been used for this group of species which is wide-spread from Costa Rica to Bolivia, on both sides of the Andes. There are probably a couple of dozen species which are recognized mainly by the shape and size of the leaves, the racemose or distichous inflorescence, the simultaneous or successive flowers, their size, and the shape of the petals.

**ETYMOLOGY:** From the Greek γραμμη, a line, a stroke of a pen, πεταλον, a petal, and σταχυς, a spike, in reference to the erect inflorescence which is somewhat reminiscent of an ear of corn, with the petals very narrow, linear, which distinguishes this species from similar ones in the same area.



Authors: E. Hágsater & E. Santiago Illustrators: E. Hágsater & R. Jiménez M. Photo: E. Hágsater Editors: E. Hágsater & L. Sánchez S. Herbario AMO México, D.F. MÉXICO ICONES ORCHIDACEARUM 14. 2013. Plate 1433



EPIDENDRUM GUILLERMOI P.Ortiz

Plate 1434

**EPIDENDRUM GUILLERMOI** P.Ortiz, Orquideología 25(1): 18. 2007.

Type: COLOMBIA: Chocó: Cerro Mecana, 400-500 m, *Guillermo Misas Urreta 235*. Holotype: HPUJ. Clonotype: pressed cult. Mexico City, 23 March 1996, *Misas 235 sub E. Hágsater 11709*. AMO! (Illustration and photo voucher).

Epiphytic, sympodial, caespitose **herb** 80-108 cm tall. **Roots** basal, thin. **Stems** simple, cane-like, 55-85 x 0.4-0.9 cm, laterally compressed, thin, erect, straight; base covered by tubular, non-foliar, scarious sheaths 6-7 cm long. **Leaves** 8, distributed throughout the apical half of the stem, alternate, articulate, coriaceous; sheaths tubular, 1.5-4 x 0.4-0.9 cm, minutely striated, red wine colored; blade 11-16 x 2.5-3.7 cm, narrowly obovate-elliptic, acute, the underside tinged wine-red, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescence** 16-24 cm long, apical, racemose (producing successive, lax, few-flowered racemes from the same peduncle and then pluri-racemose); peduncle 10 cm long, straight, laterally compressed, thin, slightly flexuous, provided with 3-4 bracts 2.6-4.3 cm long, scarious, tubular, acute, partly imbricated; rachis 3.5-6 cm long, laterally compressed, thin, slightly flexuous. **Floral bracts** 6-8 mm long, shorter than the ovary, triangular, acuminate, amplexicaul. **Flowers** 4-10, simultaneous, resupinate, sepals, petals and column green, the column with a reddish ring behind the clinandrium, lip and apex of the column lustrous yellow, disc and calli white; without fragrance. **Ovary** 2-4 cm long, terete, thin, not inflated, smooth, lengthly. **Sepals** 34 x 5.5 mm, reflexed, ascending (the three are nearly parallel), free, linear-oblongate, acute, 5-veined, margin involute, entire; lateral sepals oblique. **Petals** 30 x 0.3 mm, spreading, free, slightly arching ventrally, filiform (somewhat wider towards the apex), acute, 1-veined, margin entire, spreading. **Lip** united to the column, 3-lobed, 24 x 31 mm, strongly convex, base truncate; bicallose, the calli sub-globose, thin, divergent, short, united at the base just beneath the column; disc with 3 thin, parallel keels, fused at the isthmus into a single keel which reaches the apical sinus; lateral lobes obliquely dolabriform, 15 x 9 mm, margin erose; mid-lobe minutely apiculate, forming a pair of obliquely rectangular, truncate lobes 15 x 7.5 mm, slightly divaricate, apical margin dentate-laciniate. **Column** 21-25 mm long, straight, thin. **Clinandrium-hood** reduced, margin entire. **Anther** ovoid, 4-celled. **Pollinia** 4, "bird wing" type, unequal in size, the inner pair smaller. **Rostellum** apical, slit. **Lateral lobes of the stigma** 1/3 as long as the stigmatic cavity. **Nectary** shallow, penetrating slightly behind the perianth, not inflated, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Known only from the type locality on the lower Pacific slope of the Andes in north-western Colombia, epiphytic at 400-500 m altitude. Flowering (in cultivation) in March.

**RECOGNITION:** *Epidendrum guillermoi* belongs to the Pseudepidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and the Turalvae Subgroup which has a racemose and few-flowered inflorescence on an elongate peduncle, usually producing new racemes over the years, filiform petals and thus pluri-racemose. The species is recognized by the few-flowered inflorescence, the large, green colored flowers (sepals 34 mm long), the lustrous yellow lip and the apex of the column with a reddish ring below the apex, the disc immaculate white, and the apical margin of the lip laciniate. It is very similar to *Epidendrum xanthoanthinum* Hágsater, but that species has somewhat smaller flowers (sepals 27 mm long), green with the lip yellow and a large reddish blotch on the disc of the lip, the apical margin of the lip slightly erose. *Epidendrum pseudepidendrum* Rchb.f., native to Costa Rica and Panamá, has dark green sepals and petals and the entire lip orange, with the margin short laciniate.

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

**ETYMOLOGY:** In honor of Dr. Guillermo Misas Urreta, who collected and illustrated numerous orchids in western Colombia, and published *Orchids from the Serranía del Baudó*, Chocó, Colombia in 2005.

**REFERENCES:** Misas U., G., 2005, *Orchids from the Serranía del Baudó, Chocó, Colombia*, Corporación Capitalina de Orquideología; Bogotá, Colombia. p. 224-225. Ortiz V., P., 2007, *Gallery of Colombian Orchids*, CD, Bogotá.



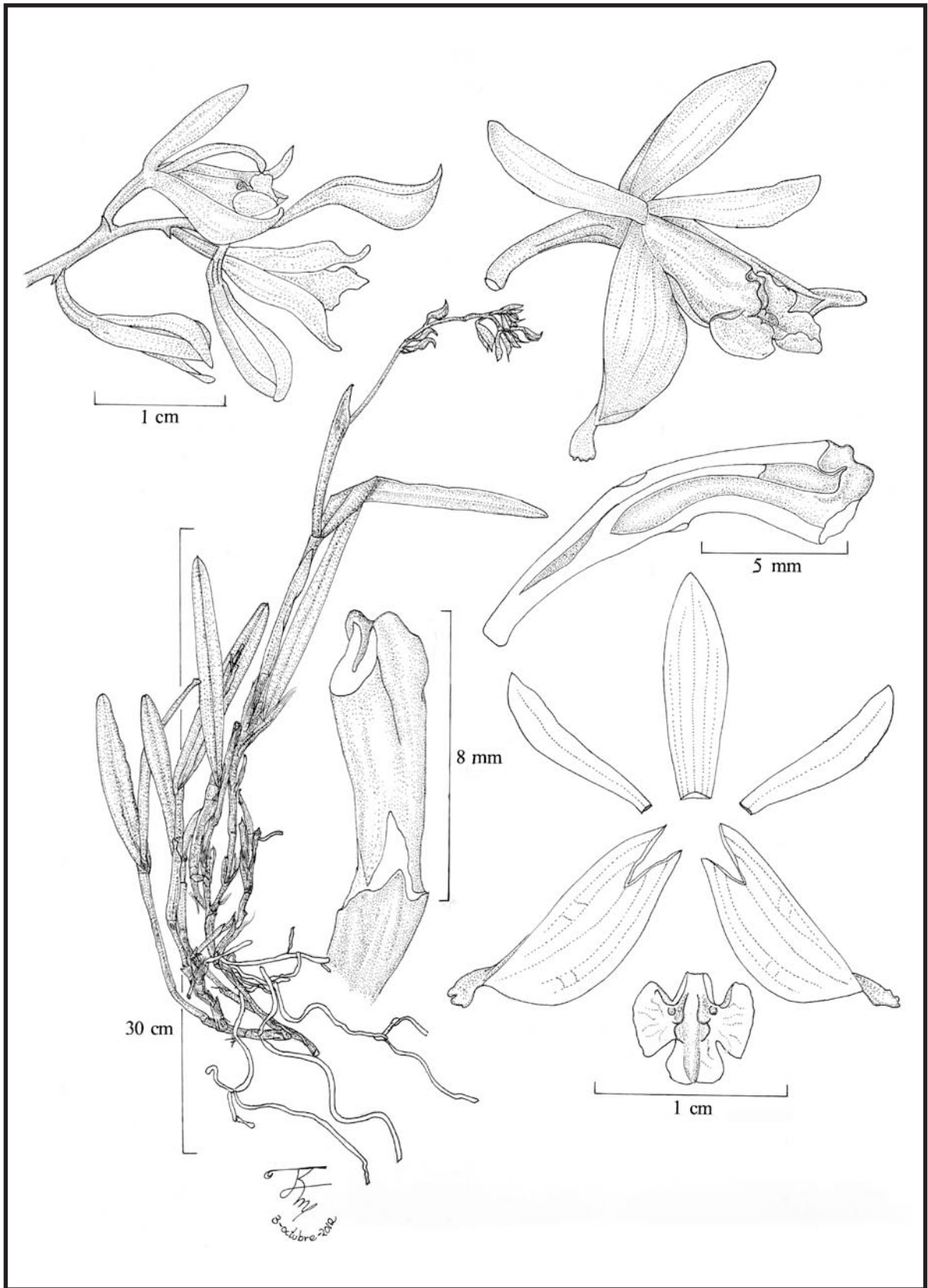
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Editors: E. Hágsater & L. Sánchez S.

ICONES ORCHIDACEARUM 14. 2013. Plate 1434



EPIDENDRUM HARTMANII Hágsater & L.Sánchez

Plate 1435

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

Type: COLOMBIA: Valle [Valle del Cauca]: Cali: Cordillera Occidental, Los Farallones de Cali, limite de la cuenca superior de Río Meléndez y Pichinde, queda 5-6 km al sur oriente de Pance. Bosque pluvial Montano. 3100 m, 4 enero 1977, **Dan Hartman 616**.  
Holotype: CUCV! (Illustration voucher)

Similar to *Epidendrum cyclopterum* Schltr. but plants taller, leaf longer and narrower, ovary short, petals with the apical margin somewhat dentate, lip bicallose, at the side of the base of each callus a minute globose, fleshy, growth, lateral lobes of the lip with margin undulate, column longer.

Sympodial, sub-caespitose, terrestrial, **herb**, 35 cm tall including the inflorescence. **Roots** 1.0-1.7 mm in diameter, basal, fleshy, thick, white, from a short rhizome 2-3 cm long. **Stems** 8-19 x 0.14-0.26 cm, simple, cane-like, terete at the base, laterally compressed towards the apex, erect; base covered by tubular sheaths 1.3-2 cm long, non-foliar, scarios. **Leaf** 1, apical, smooth, sub-coriaceous; foliar sheath 1-2 cm long, tubular, laterally compressed, minutely striated; blade 8.5-12 x 0.9-1.3 cm, oblong-lanceolate, apex sub-obtuse, mucronate, margin entire. **Spathaceous bract** 1, 5.5-6.0 cm long, tubular, acute, covering 2/3 of the peduncle. **Inflorescence** 14.5 cm long, apical, racemose, arching-nutant, densely flowered; peduncle 9.5 cm long, thin, laterally compressed. **Floral bracts** 0.2-2 mm long, shorter than the ovary, progressively shorter towards the apex, triangular, acuminate. **Ovary** 4-5 mm long, terete, not inflated, unornamented. **Flowers** 15, simultaneous, apparently opening from the apex towards the base, resupinate, red colored; fragrance not registered. **Sepals** 11.7-13 x 3.2-4.2 mm, partly spreading, oblong-elliptic, 5-veined, the dorsal sepal free, with rounded apex; lateral sepals obliquely united to the column, oblique, with a prominent dorsal keel. **Petals** 10 x 2 mm, partly spreading, free, linear-oblancoate, acute, 1-veined, oblique, margin somewhat dentate towards the apex, spreading. **Lip** 5 x 6 mm, united to the column, 3-lobed, sub-equals in size, base cordate; bicallose, the calli small, laminar prolonged into a pair of laminar, short, ribs, parallel to the mid-rib which reaches the apex of the mid-lobe, at the side of the base of each callus a minute globose, fleshy growth; lateral lobes 2.2 x 4 mm, obliquely ovate, margin undulate; mid-lobe 2.2 x 3 mm, short, without any evident isthmus, apex rounded, margin entire. **Column** 7.5-8 mm long, straight, wide, with a pair of acute horns at the apex. **Clinandrium-hood** reduced, margin entire. **Anther** and **pollinia** not seen. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** wide, barely penetrating behind the perianth, not inflated, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Known only from Colombia, from the summit of the Cordillera Occidental in the Valle del Cauca, in montane pluvial forest at 3100 m altitude. Flowering in January.

**RECOGNITION:** *Epidendrum hartmanii* belongs to the Pergracile Group which is characterized by the sympodial, caespitose to sometimes somewhat creep habit, stems cane-like, simple, several leaved, with an elongate apical, racemose, lax-flowered inflorescence, the flowers star-shaped, membranaceous, the lip 3-lobed, not fleshy thickened, bicallose, the mid-lobe rectangular to triangular, the lateral lobes dolabriform to semi-orbicular. The species is recognized by the 35 cm tall plants (including the inflorescence), unifoliate stems, leaf 8.5-12 x 0.9-1.3 cm, red flowers apparently opening from the apex of the inflorescence towards the base; lateral sepals with a prominent dorsal keel, petals 1-veined, the margin of the apical half somewhat dentate, lip bicallose, the calli small, laminar, continued into a pair of laminar ribs, short and parallel to the mid-rib which reaches the apex of the mid-lobe of the lip. *Epidendrum moritzii* Rchb.f. has longer, wider leaves, green flowers, laminar calli, the disc of the lip with a fleshy mid-rib that reaches the middle of the disc; mid-lobe of the lip rectangular-oblong, apex acute. *Epidendrum cyclopterum* Schltr. has much shorter plants (10-12 cm tall), smaller leaves (4.5-5.0 x 0.7-0.8 cm), a longer ovary (ca. 10 mm long), the apical margin of the petals sub-crenulate, and columns short, 4 mm long. *Epidendrum corallinum* Hágsater has shorter leaves, (7.5-8.0 x 1.4-1.6 cm), coral-red flowers, 3-veined petals with the apical margin denticulate, calli elongate, parallel, disc of the lip fleshy, circular, with a pair of parallel grooves, and the border formed by fleshy, sub-globose growths, lateral lobes of the lip with a crenate margin, mid-lobe transversely pentagonal, the apex fleshy, and the column 6 mm long.

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

**ETYMOLOGY:** In honor of Daniel Hartman, who collected numerous specimens deposited at the CUVC, in Cali, Colombia, during his stay there in 1975-77, as part of the US Peace Corps. He prepared a floristic list for the Parque Nacional Natural Farallones de Cali for the Corporación Autónoma Regional del Valle del Cauca. It was apparently never published.

**REFERENCE:** Hágsater, E. 2009, *Epidendrum corallinum* in Hágsater, E. & L. Sánchez S. (eds.). **Icon. Orchid.** 12: pl. 1227.



Authors: E. Hágsater & L. Sánchez S.

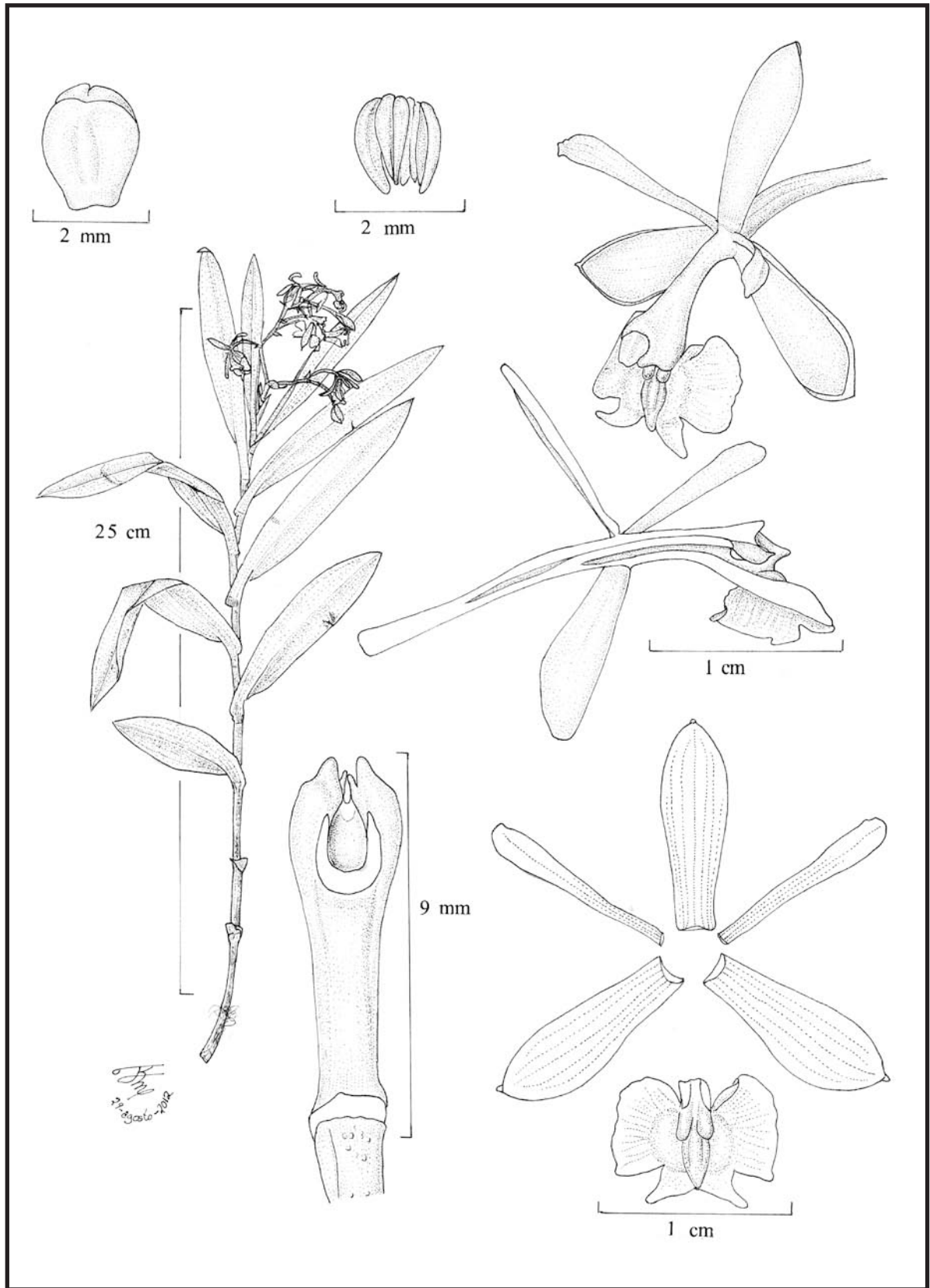
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Editors: E. Hágsater & L. Sánchez S.

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ICONES ORCHIDACEARUM 14. 2013. Plate 1435



**EPIDENDRUM HASSLERI** Cogn.

**Plate 1436**



**EPIDENDRUM HASSLERI** Cogn., Repert. Spec. Nov. Regni Veg. 7: 70, 1909.

Type: PARAGUAY: Sierra de Amambay ad margines dumetorum prope Punta Porá, **Teodoro Rojas sub Emil Hassler 10339**. Holotype: G!

Epiphytic, sympodial, caespitose herb, 60-120 cm tall. **Roots** basal. **Stems** ca. 45-120 x 1.0-1.5 cm, simple, cane-like, terete; base covered by tubular, non-foliar sheaths, becoming fibrous with time. **Leaves** numerous, distichous, articulate, green, membranaceous, soft; sheath 1.4-7 x 1-1.5 cm, tubular, striated, apex slightly dilated; blade 12-22 x 2.2-4 cm, lanceolate or narrowly elliptic, acute, margin entire. **Spathaceous bract** lacking. **Inflorescence\*** [6] 15-18 cm long, apical, flowering only once, racemose to paniculate, arching; peduncle 2-2.5 cm long, terete, thin, nearly totally hidden by a prominent, triangular-lanceolate bract, 2.5-5.5 cm long, conduplicate, aciculate, acute; rachis 13-15.5 cm long, thin, straight, formed by 6-7 densely many-flowered racemes 7-12 cm long, each subtended by a prominent basal bract 1.2-3.7 cm long, triangular, long-acuminate. **Floral bracts** 2-8 mm long, much shorter than the ovary, triangular, acuminate. **Ovary** 15-25 mm long, terete, thin, not inflated, unornamented. **Flowers** numerous, hasta ca. de 70, simultaneous, resupinate, green, the apex of the column and disc of the lip white to cream-colored, the disc occasionally tinged light purple; fragrant during daytime\*. **Sepals** 11-14 x 3-4 mm, spreading to slightly reflexed, free, fleshy, narrowly spatulate-oblongate, acute, 7-8-veined, margin entire; the lateral sepals slightly oblique. **Petals** 10-13 x 1-1.5 mm, spreading, free, linear-oblongate to linear-oblong, obtuse, 3-veined, slightly arching, margin entire, spreading. **Lip** 6-7 x 7-8 mm, united to the column, 3-lobed, strongly convex, base cordate, margin slightly undulate; bicallose, the calli small, sub-globose; disc with a single rib running along the center to the apex; lateral lobes 3-4 x 3.5-5 mm, larger than the mid-lobe, dolabriform, the distal margins forming an acute angle with the margins of the mid-lobe; mid-lobe 2.5 x 4.5 mm, small, transversely sub-rectangular, emarginate, forming a pair of linear lobes 2 x 1.5 mm, divergent, the apices truncate. **Column** 8-10 mm long, straight, basal half thin, strongly dilated towards the apical half, with a pair of prominent teeth at the apex. **Clinandrium-hood** reduced, margin entire. **Anther** and **pollinia** not seen. **Rostellum** apical, slit. **Lateral lobes of the stigma** small, 1/4th the length of the stigmatic cavity. **Nectary** deep, penetrating about half of the ovary, not inflated, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** Without locality data, cult. W-R 29802! Ibid. Hort. Kew, W-R 29861! **ARGENTINA: Misiones:** Depto. Iguazú; Parque Nacional Iguazú, Area Cataratas, Paseos Superiores, on island of Iguazú River, 31 XII 1992, Johnson 322, CTES! Puerto Iguazú, en sitios próximos a costas del Río Paraná, col. 12 III 2003, pressed 21 V 2010, *Valebella* 3-487, CTES AMO! (Illustration voucher) **PARAGUAY: Amambay:** Parque Nacional Cerro Cora, Cerro Muralla, *Brunner* 957, MO x2! Cerro Torin, X 1922, *Rojas s.n.*, AMES! Cerro Torin, *Rojas 4055*, AMES! MO! **BRAZIL:** Without locality data, 27 VIII 2012, *Campacci s.n.* AMO! Brasília, *Reliquiae Sello [Sellow] 4276*, AMES 18313! Serra do Cruzeiro, 10 III 1980, *Carpenter sub Hágsater 5208*, AMO! Ibid. 1 III 1981, AMO! Ibid. 7 IV 1983, AMO! Ibid. 10 IV 1984, AMO x2! Ibid. 20 VI 1985, AMO! Ibid. 6 I 1989, AMO! Ibid. 3 V 1992, AMO! **Espirito Santo:** without locality data, Cult. Jard. Bot. X 1939, RB 41471! Ibid. 1816, A. de Saint-Hilaire 322, P! Santa Teresa, *Ruschi s.n.*, RB! **Goiás:** Serra do Caiapó, 30 km S of Caiapônia, *Prance 59631*, HB! K-L! NY! US 2567264! (Illustration, AMO) US 2567265! **Paraná:** Fazenda Reserva, ca. 85 km S.W. of Guarapuava, near Pinhalzinho, ca. 1000 m, 20 III 1967, *Lindeman 5040*, A! U! Município S. Jorge do Oeste, Rio Iguacu, Salto Osório, 10 VI 1986, *Hatschbach 19349*, NY! **Mato Grosso do Sul:** Município Corumbá, Logradouro-Morro Santa Cruz (Mineração Corumbaense), *Rodríguez 64*, SP! **Minas Gerais:** Município Delfim Moreira, Fazenda Cerrego Alegre, 21 IV 1939, *Kuhlmann s.n.*, SP 40477! Caldas, 18 IX 1854, *Lindberg s.n.* S! (marked "Holotypus", Illustration AMO). Ituiutaba: San Vicente, 15 IX 1948, *Macedo 1226*, NY! US! **Rio de Janeiro:** Fazenda de S. Vicente, 15 IX 1948, *Brade 1226*, RB! **São Paulo:** Teodoro Sampaio, Parque Estadual do Morro do Diabo, Corrego da Onça, 23 VI 1994, *Aguiar 472*, SP 303120! Jacaré, Rio Feio, X 1905, *Edema 136*, SP! Ilha da Queimada Grande, 3 XI 1920, *Gehrt s.n.*, SP 4621! Teodoro Sampaio, Reserva Estadual de Morro de Diabo, 30 VI 1989, *Martuscelli s.n.*, SP 315025! Ibid. 31 VII 1989, *Martuscelli s.n.*, SP 315031! Município de Brotas, Fazenda Santa Elisa, ca. 720 m, Cultivada no Jardim Botânico de São Paulo, fl. 25 X 1965, *Nascimento s.n.*, SP 118321! Prope Salto Grande, rio Paranapanema, ca. 500 m, VII 1901, *Wettstein s.n.*, W 12043! K! Z!

**OTHER RECORDS: ARGENTINA:** Without locality data, *Insuralde s.n.*, digital image, AMO! Ibid. J. A. *Radins s.n.*, digital image, AMO! (Photo voucher). **Misiones:** Without locality data, cult. by Sra. Egli Labollita, photo I. *Cristina-Miguel s.n.*, digital image, AMO! Depto. Iguazú; Parque Nacional Iguazú, Area Cataratas, Paseos Superiores, *Johnson 322*, AMO! (Illustration, Johnson (2010, pg. 89), and slide). Depto. San Pedro, P.F. Cruse Caballero, 24 III 1912, *Johnson s.n.* (Johnson, 2001). Puerto Iguazú, en sitios próximos a costas del río Paraná, 13 III 2003, photo *Valebella 3-487*, digital image, AMO! **BRAZIL:** Without locality data, photo published as *Epidendrum unguiculatum*, *Campacci* (2000). **Minas Gerais:** Alvarenga, *Vasconcelos s.n.*, digital image, ib, AMO! **Rondônia:** without locality data, *Benelli s.n.*, digital image, AMO! **São Paulo:** without locality data, *Castanho s.n.*, digital image, AMO!

\***NOTES:** The holotype has robust stems with a short, racemose inflorescence with few flowers. However, the rest of the material seen from Argentina and Paraguay has a normal, many flowered panicle. The description is taken from all the specimens seen. Fragrance is reported by both Johnson (2001) and Freuler (2003).

**DISTRIBUTION AND ECOLOGY:** Widespread along in Brazil from Rondônia and Goiás and the basin of the Rio Paraná, from the Sierra de Amambay south east to the Iguazú falls, along the border of Paraguay and Brazil and to the province of Misiones, Argentina in the Meseta Misionera; epiphytic in shady humid forest at lower altitudes. Flowering October to April.

**RECOGNITION:** *Epidendrum hassleri* belongs to the Pseudepidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, without any spathaceous bract, though it may have several bracts, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and Densiflorum Subgroup where the short-pedunculate inflorescence is paniculate, flowering only once, flowers are green, the apex of the column and disc of the lip creamy-white, the calli sometimes tinged purple, the petals are linear-oblong to linear-oblongate, never filiform, and the pollinia unequal in shape, only the inner pair "bird-wing" like. The species is recognized by the robust stems, paniculate inflorescences (the type is only racemose), oblongate-elliptic to spatulate-oblongate sepals 11-14 mm long, linear-oblongate to linear-oblong petals 10-13 x 1-1.5 mm, the lip wider between the lateral lobes than between the lobes of the mid-lobe directed upwards, and the ovary 15-25 mm long. *Epidendrum brachythyrus* Kraenzl. has thin stems, oblongate sepals 12-13 mm long, petals linear-oblong, and the lip is as wide between the lateral lobes as between the lobes of the mid-lobe, ovary is 20-33 mm long. *Epidendrum densiflorum* Hook. has dense, many-flowered, paniculate inflorescences, with a slightly 3-lobed, equally wide between the lateral lobes as at the mid-lobe which is very short and forming a pair of obliquely triangular, acute lobes. *Epidendrum hoackii* Cogn. has shorter, thinner stems, ca. 50 cm tall, narrow leaves, and a short, few-flowered inflorescence, 7-8 cm long. *Epidendrum andres-johnsonii* Hágsater & E. Santiago has thinner stems, ca. 4-8 mm in diameter, the lip is sub-entire, nearly as wide between the lateral lobes and the mid-lobe, and the mid-lobe is very short and barely formed. *Epidendrum lindbergii* Rchb.f. belongs to the Viridipurpureum Group, recognized by the presence of a spathe and wider petals; it has 10 mm long sepals, wide petals oblongate-spatulate, 10 x 3 mm, an entire lip, reniform with the base deeply cordate, and the apex widely emarginate and a pair of short incisions on the sides so as to suggest an incipient, short mid-lobe.

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

**NOTE:** In a recent paper Pinheiro & Cozzolino (2013) have illustrated the variations of flowers of "*Epidendrum densiflorum*", however, the image in Fig. 1: D, corresponds to *E. hassleri*; and those featured in the electronic supplement, would have to be evaluated together with the vegetative habit to understand each entity.

**ETYMOLOGY:** In honor of Emil Hassler, (b. 20 VI 1864, Aarau, Switzerland; d. 4 XI 1937 Asunción, Paraguay), a Swiss physician, naturalist and botanist well known for his collections and contributions to the flora of Paraguay. His original botanical collections are deposited at G.

**REFERENCES:** Johnson, A.E., 2001. As *Epidendrum* sp. aff. *paniculatum* in **Las orquídeas del Parque Nacional Iguazú**. L.O.L.A., Buenos Aires Argentina, pg. 88-89. Freuler, María Julia, 2003, as *Epidendrum* sp. aff. *paniculatum*, in **100 Orquídeas Argentinas**, Editorial Albatros, pg. 44. Pinheiro, F., & S. Cozzolino, 2013, *Epidendrum* (Orchidaceae) as a model system for ecological and evolutionary studies in the Neotropics, *Taxon* 62(1): 77-88. Ibid. Electr. Suppl.



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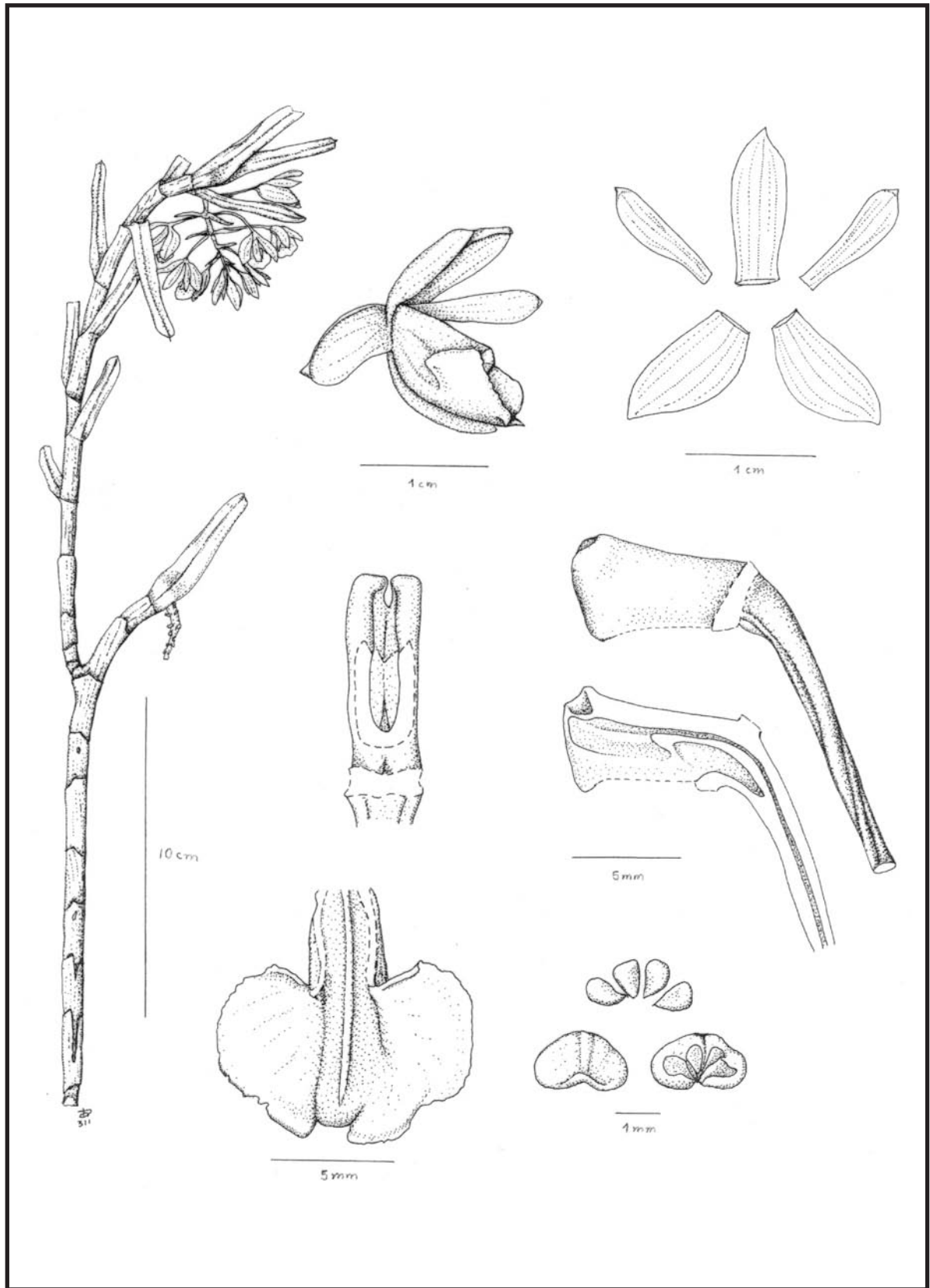
Editors: E. Hágsater & L. Sánchez S.

Herbario AMO

México, D.F. MÉXICO

ICONES ORCHIDACEARUM 14. 2013.

Plate 1436



EPIDENDRUM HEMIHENOMENUM Hágsater & Dodson

Plate 1437

**EPIDENDRUM HEMIHENOMENUM** Hágsater & Dodson in E. Hágsater & L., Sánchez, Icon. Orchid. 7: t. 742. 2004.

Type: ECUADOR: Loja: Bajando del puerto de Zamora a Loja, ca. 1 km abajo del puerto, 3°59'08"S 79°05'35"W, 3000 m, 28 January 2004, **E. Hágsater & Lester Lapo 14070**. (Photo voucher, the pretype). Holotype: The published illustration\*. Original, AMO! Xerox copies: AMES! LOJA! MO! QCA! QCNE! SEL! USM! Flower in spirit: AMO A-3988!

Epiphytic, monopodial, erect **herb** 33 cm tall. **Roots** not seen. **Stems** 16-17 x 0.45-0.6 cm, simple, originating from the apical internodes of the previous stem, cane-like, straight. **Leaves** 9, distributed throughout the apical 2/3 of the stems, alternate, articulate, coriaceous; sheath 17-23 x 4.5-0.6 mm, tubular, striated, tinged purple; blade 1.7-4.5 x 0.6-1.0 cm, oblong-lanceolate, apex bilobed, minutely apiculate, margin entire. **Spathaceous bract** lacking. **Inflorescence** 2.5-4 cm long, apical, racemose, arching-nutant, compact, dense; peduncle 10 mm long, short, terete, without bracts; rachis 15 mm long. **Floral bracts** 3-9 mm long, prominent, some nearly as long as the ovary, narrowly triangular, acuminate, tinged reddish pink, amplexicaul. **Flowers** 10, simultaneous, resupinate, reddish brown to dirty wine-red, sometimes the veins marked darker; fragrance not registered. **Ovary** 9-15 mm long, terete, thin, striated, scarcely papillose, not inflated. **Sepals** 11-12 x 4-5 mm, partly spreading, free, fleshy, acute, with a minute dorsal keel, mucronate, 5-veined, margin entire, spreading; the **dorsal** sepals narrowly obovate-elliptic; the **lateral** sepals elliptic, slightly concave at the apex, oblique. **Petals** 10 x 2.5 mm, spreading, free, fleshy, oblanceolate-spatulate, acute, minutely acuminate, 3-veined, the outer veins bifurcate at the apical half, margin entire, spreading. **Lip** 7.5 x 10.3 mm, united to the basal half of the column, shallowly 3-lobed, sub-reniform in general outline, base cordate, margin erose; ecallose, topped by a narrow, low rib running nearly the full length of the lip and a narrow, low rib on top, running nearly the length and disappearing before reaching the apex. **Column** 6.5 mm long, thick, straight, with a pair of fleshy wings at the apex, not involute, with a narrow slit in the ventral basal surface, that gives access to the nectary. **Clinandrium-hood** short, margin entire. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** cuniculate, a tall, narrow cavity accessed through a narrow slit along the basal ventral surface of the column, penetrating ca. 1/5 of the ovary, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** PERU: **Piura:** "Páramos de Piura", 3500 m, 25 XI 2010, *Ventura* 633, HUPCH! (Illustration voucher, photo voucher).

**DISTRIBUTION AND ECOLOGY:** Ranging along the upper Cordillera of the Andes above Loja, in southern Ecuador, down SSW across into the páramos of Piura in northern Peru, in low brush-land bordering páramo at 3000-3500 m altitude. Flowering from November to January.

**RECOGNITION:** *Epidendrum hemihenomenum* belongs to the Diothonea Group and Subgroup, characterized by the branching habit, linear-lanceolate to lanceolate, bilobed leaves, arching-nutant, racemose inflorescence, membranaceous or rarely fleshy flowers, the lip entire to 3-lobed, with an erose margin, ecallose, without or with 1-10 thin, glabrous to erose ribs, the column free to partly to totally united to the lip, obliquely or not. The species is recognized by the short inflorescence, 2.5-5 cm long, the prominent floral bracts, fleshy, reddish brown to dirty wine-red flowers with the sepals partly spreading, petals oblanceolate-spatulate, the sub-reniform lip, its base cordate, 7.5-10 x 10.3-15 mm; the disc with a low, wide, fleshy rib, with another narrow, low rib on top; column 6.5-8 mm long. *Epidendrum aureoglobiflorum* Hágsater & Dodson has greenish yellow flowers, the sepals dorsally warty, the warts tinged reddish, the inflorescence even shorter, 1 cm long and dense, and the lip having only a single, low, thick rib along the center.

\***NOTES:** When this species was published (2004) the type of a new species could be an illustration. Article 37.4 of the Vienna Code (International Code of Botanical Nomenclature) later prohibited that possibility as of 1 January 2007. The original description and illustration from southern Ecuador, were prepared from one poor flower in alcohol and photographs, and thus this new illustration and description add and correct several details, especially of the lip (base and ribs) and the nectary, including its access, through the narrow slit at the ventral base of the column.

**CONSERVATION STATUS:** DD. Data deficient. Having been found on bushes near high montane páramo, it seems to occur in rather inaccessible, high altitude places of little use for agriculture or anything else. It may be more common than what the two collections we have seen seems to suggest.

**ETYMOLOGY:** From the Greek,  $\eta\mu\iota$  half, and  $\eta\nu\omega\mu\epsilon\nu\varsigma$  united, half-united, in reference to the column and lip which are united along the basal half.

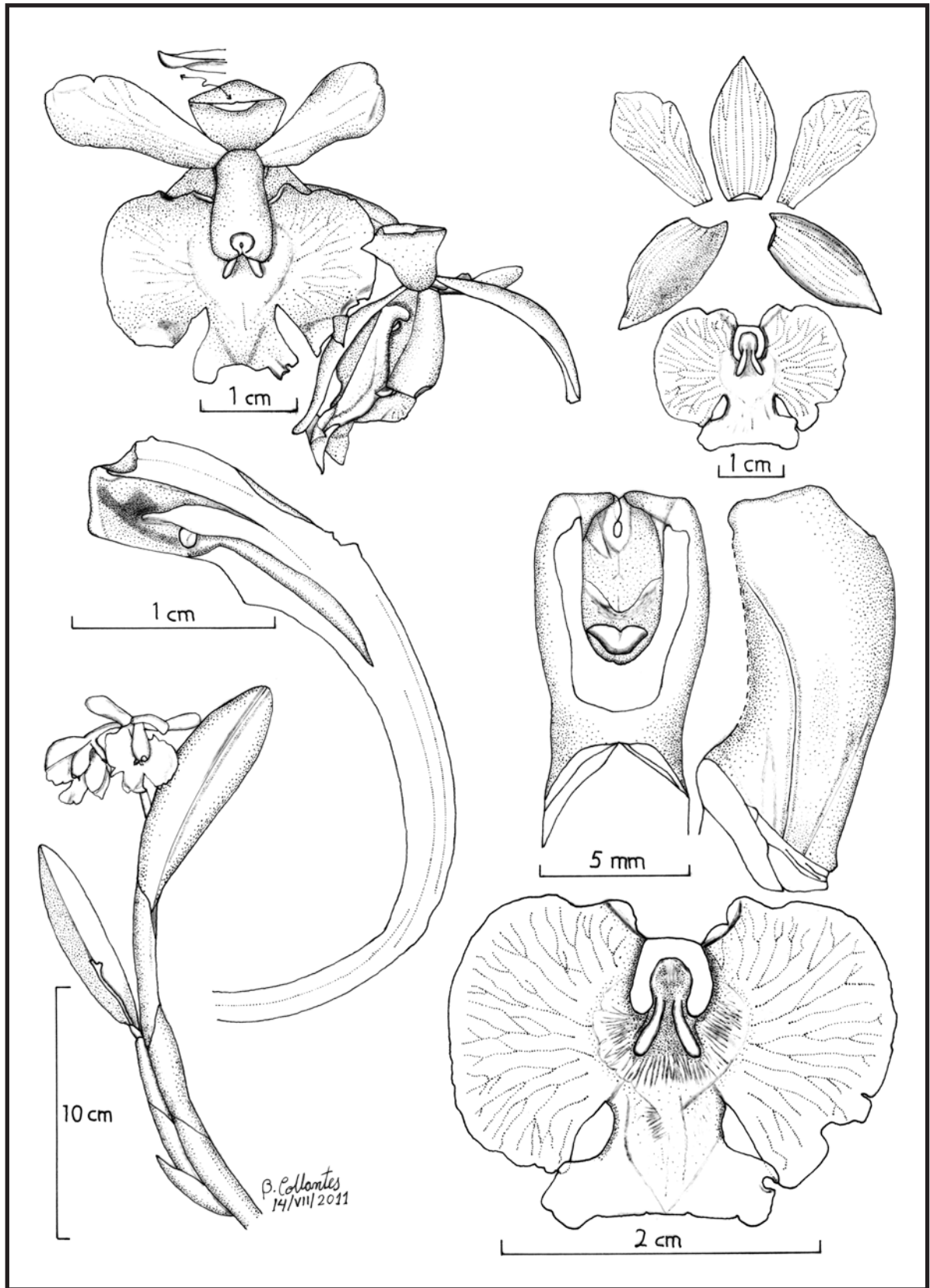


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ICONES ORCHIDACEARUM 14. 2013. Plate 1437



EPIDENDRUM HERRERANUM C.Schweinf.

Plate 1438

**EPIDENDRUM HERRERANUM** C.Schweinf., Revista Acad. Colomb. Ci. Exact. 5(19): 350. 1943.

Type: PERU: [Cusco: La Convención:] Ollantaitambo: Puyupatamarca, 3200 m, C. Vargas 2755. Holotype: AMES! Isotype: CUZ!  
Epiphytic and lithophytic, sympodial, creeping herb, 13-32.5 cm tall. **Rhizome** erect to arching, covered by scarious, evanescent bracts 2.5-7.9 x 1.2 cm long. **Roots** scarce, thick. **Stems** 3.2-14 x 0.7-1 cm, terete, cane-like, somewhat thickened, covered by non-foliar sheaths 6-7.4 x 0.9 cm, tubular, minutely striated, somewhat imbricated. **Leaf** 5-13 x 1.1-2.0 cm, solitary, apical, erect, narrowly elliptic to oblong-elliptic, apex rounded, base conduplicate. **Spathaceous bract** 1, ca. 2 cm long, very small, hidden within the conduplicate base of the leaf. **Inflorescence** apical, from the mature stem, shorter than the leaf, peduncle terete, thin. **Floral bract** 4 mm long, much shorter than the ovary, triangular, acute. **Ovary** 23-31 mm long, pedicelate, club-shaped. **Flowers** 2(3), simultaneous, resupinate, yellow tinged orange to reddish bronze, natural diameter 4.0-4.3 x 3 cm; without fragrance. **Sepals** spreading, free, ovate-elliptic, acute, 7-veined, the lateral veins bifurcate above the middle, margins entire, spreading; **dorsal sepal** 18-23 x 7-10 mm, somewhat cuculate above the column; **lateral sepals** 18-23.5 x 7-10 mm, oblique. **Petals** 17-23 x 5-10 mm, spreading, obtuse, obovate, apex wide and short apiculate, 3-veined, the lateral veins with numerous branches towards the margins. **Lip\*** 17-23 x 25-30 mm, united to the column, deeply 3-lobed, base cordate; bicallose, the calli basal, complanate, divaricate; lateral lobes 18 x 12 mm, obliquely semi-orbicular, the anterior margins prominent, straight and forming a 60° angle, exterior margins irregularly entire, spreading; mid-lobe 7 x 14 mm, shaped like an inverted "T", the isthmus wide, the apex forming two divaricate, opposite, sub-quadrangle lobes; space between the anterior-internal margin of the lateral lobes and the mid-lobe 2 mm wide. **Column** 12-13 x 6-7 mm, thick, short, slightly arched. **Clinandrium-hood** reduced, margin entire. **Anther** sub-spherical-reniform, 4-celled. **Pollinia** 4, ellipsoid to sub-ovoid, sub-equal, dorsally convex, flattened internally, caudicles soft and granulose, somewhat longer than the pollinia. **Rostellum** apical, slit, borders overlapping, forming an oval foramen. **Nectary** penetrating about ¼ of the pedicel, smooth. **Capsule** ellipsoid.

**OTHER SPECIMENS: PERU: Cusco:** Acjanaco, 3000-3100 m, 7 V 1990, A. Cano 3561, MO! USM! Acjanaco, subida a Tres Cruces, 3400-3500 m, 3 V 1990, A. Cano 3564, MO! USM! Túnel-Chaquicocha, 26 VI 2001, Tupayachi et al. 4994, CUZ! Machu Picchu, Winay-Wayna, 20 III 1997, Nauray 7, CUZ! Machu-Picchu, camino del Inca, 2300-4150 m, 16 III 1988, Núñez 8879, CUZ! **Pasco:** Oxapampa; Huancabamba; Parque Nacional Yanachaga-Chemillén, 2972-3008 m, 1 II 2005, Mellado 2747, HOXA, HUT, MO, USM. Ibid. 2600 m, 30 I 2005, Mendoza 694, MO. OXA! USM. Digital images of flowers and specimen, AMO! Ibid. 3000 m, 1 II 2005, Monteagudo 8076, HOXA, HUT, MO, USM. Ibid. 2650 m, 01 XII 2007, Monteagudo 16053, USM. Ibid. 2818 m, 13 II 2004, Rojas 2099, HOXA, USM. Ibid. 2410-2520 m, 16 II 2005, Ortiz 476, HOXA, MO, USM. Ibid. 2471 m, 24 I 2004, Vásquez 28882, HOXA, USM. Ibid. 2450 m, 12 II 2004, Vásquez 29341, HOXA! MO! USM! Ibid. 2750 m, 22 II 2007, Vásquez 31895. HOXA! MO! USM! Ibid. 2750 m, 22 II 2007, Vásquez 31897, AMAZ, HOXA, HUT, MO, MOL, USM. Ibid. 2600 m, 26 II 2007, Vásquez 32009, HOXA, HUT, MO, USM. Ibid. 2550 m, 28 II 2007, Vásquez 32021. HOXA, MO, USM.

**OTHER RECORDS: PERU: Cusco:** La Convención: Ollantaitambo: entre Chaquicocha (in Quechua Ch'akicocha, dry lake) 3650 m y Puyupatamarca, 3600 m, 08 VII 2003, Collantes 918, USM!, flowers in spirit. Digital image series AMO! (Illustration & photo voucher).

**DISTRIBUTION AND ECOLOGY:** Known from southern and central Peru, on the upper reaches of the Cordillera Oriental of the Andes in Pasco and Cusco; lithophytic and epiphytic, in very wet sclerophytic and elfin forests with abundant *Sphagnum* moss on the ground, at 2400-3650 m altitude. Flowering from December to June.

**RECOGNITION:** *Epidendrum herreranum* belongs to the Saxicola Group characterized by the pseudobulbous stems, racemose inflorescence subtended by a prominent spathaceous bract, and few, showy flowers, either resupinate or non-resupinate. The species is recognized by the creeping habit, fusiform, uni-foliate pseudobulbs, the lateral lobes of the lip are obliquely rounded-dolabriform, the anterior margin forming a very narrow angle with the isthmus, the flowers are yellowish, with the dorsal surface of the sepals red-brown. *Epidendrum tetartocicium* Collantes & Hágsater has resupinate pale green to citrine-yellow flowers, the petals nearly as wide as the sepals, 3-lobed lip, the lateral lobes shaped like a quarter-circle, the anterior margin forming a 80°-90° angle with the isthmus of the mid-lobe. *Epidendrum monzonense* Kraenzl. has shorter, oblong leaves (6-9 x 1.5-2 cm), brown sepals 15 x 5 mm and a yellow lip 10 x 15, with the mid-lobe widely obcordate, the sides semi-circular, and a fleshy mucro in the apical sinus

\*NOTE: The above mentioned species form a compact complex which has very similar flowers, and thus are easily confused in herbarium specimens. They are differentiated by the color, position of the floral segments, and relative position and proportions of the parts of the lip, as well as the general shape of the petals. Schweinfurth described the lip as flabellate, but that is in natural position, whereas when spread the mid-lobe is clearly shaped like an inverted "T" as shown in our illustration.

**CONSERVATION STATUS:** DD. Data deficient. Apparently common in its area of distribution, and relatively protected within the larger Santuario Histórico of Machu Picchu, and the Parque Nacional Yanachaga-Chemillén.

**ETYMOLOGY:** In honor of Fortunato Luciano Herrera Garmendia (1873-1945), Botanist and Anthropologist, Dean of the Universidad Nacional del Cusco (UNSAAC), and possibly the most prominent scientist of Cusco of the XXth Century.

**REFERENCES:** Collantes, B., & E.Hágsater, 2012, *Epidendrum tetartocicium* in E.Hágsater & L.Sánchez S. (eds), Icon. Orchid. 14: pl. 1487.



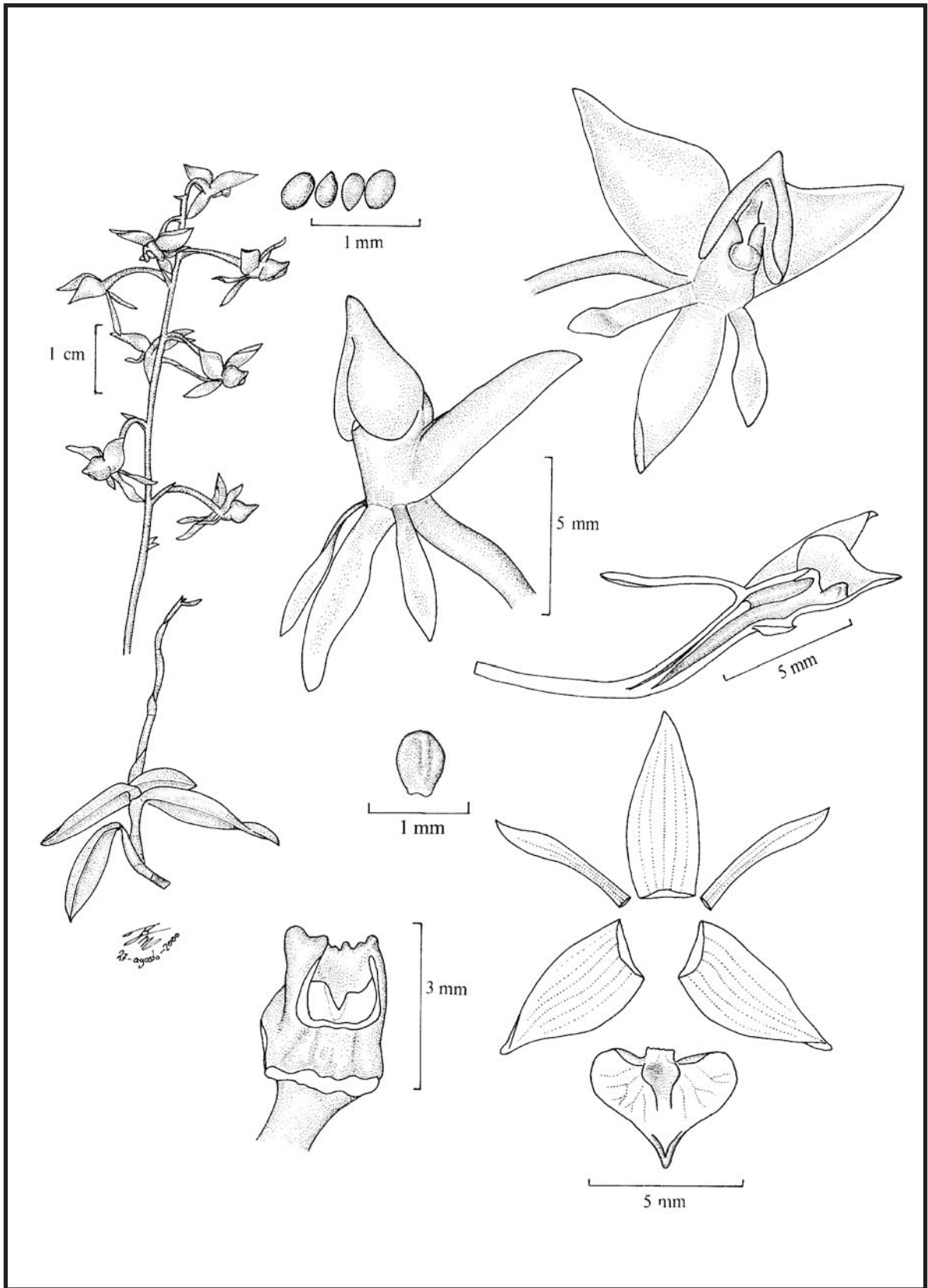
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Editors: E. Hágsater & L. Sánchez S.

ICONES ORCHIDACEARUM 14. 2013. Plate 1438



EPIDENDRUM HIORAMII Acuña & Alain

Plate 1439

**EPIDENDRUM HIORAMII** Acuña et Alain, Mem. Soc. Cub. Hist. Nat. 24: 2, 110. [10 September] 1960.

Published also, superfluously, in Candollea 17: 104. [17 November] 1960. Type: CUBA: Oriente: Baracoa, Finca "Iberia", en Nibujón, 850 m, 3 October 1935, *J. Natenson s.n.* Holotype: HAC! (ex SV 9550). Isotype: Herb. Roig 7156 (transferred to HAJB, according to Ackerman (2004), not seen).

Illegitimate synonyms\*: *Homidium hioramii* Acuña & Roig, Mem. Soc. Cub. Hist. Nat. 10: 51. 1936. Type: CUBA: Oriente: Baracoa, Finca "Iberia", en Nibujón, 850 m, diciembre 1935, *J. Natenson s.n.*, nom. illeg. *Lanium hioramii* (Acuña & Roig) H. Dietrich, Wiss. Zeitschr. Fr.-Schiller-Univ. Jena, Mat. Naturwiss. Beih. 29: 524. 1980, nom. illeg.

Epiphytic or lithophytic, sympodial, caespitose, **herb**, to 7 cm tall including the inflorescence. **Roots** 1.5-2.5 mm in diameter, few, slender, velamentous. **Rhizome** short, slender. **Pseudobulbs** 0.6-1.7 x 0.5-0.7 cm (0.3-0.4 cm when dry), ovoid-fusiform, acute at the apex, abruptly contracted at the base, subtended by scaly bracts, inconspicuous internodes, sub-terete and slightly contracted at the joints, fusiform. **Leaves** 1.2-2.3 x 0.4-1.2 cm, 2-4, shiny, ovoid, apex rounded to minutely apiculate, conduplicate and obtuse at the base, margin of upper third erose-crenate, mid-rib prominent below, impressed above. **Spathaceous bract** lacking. **Inflorescence** 1.5-5 cm long, apical, racemose, erect, peduncle provided with 3-4 tubular bracts. **Floral bracts** 0.5-5 mm long, much shorter than the ovary, triangular, acute, amplexicaul. **Flowers** 0.8 x 0.8 cm, 1-8, non-resupinate, simultaneous, small, pale green. **Ovary** 4-5 mm long, elongate, slender, terete, glabrous. **Sepals** 4-6 x 0.8-2.2 mm, glabrous, lanceolate, acute, 5-nerved, margin entire, spreading; the **lateral** sepals oblique. **Petals** 4-5 x 0.3-1 mm, glabrous, linear, slightly widened towards the apex, acute, 1-3-nerved, margin entire, spreading. **Lip** 3-4.5 x 3-5 mm, adnate to the column along its total length, widely cordate-reniform, abruptly apiculate; embracing the column in natural position, without covering it, margin entire. **Column** 2.5-3 mm long, straight, slightly arcuate. **Clinandrium-hood** reduced, margin entire. **Rostellum** apical, slit. **Anther** obovoid, apex truncate, 4-celled. **Pollinia** 4, lentil-shaped. **Nectary** cuniculate, penetrating about half of the ovary, unornamented. **Lateral lobes of the stigma** short, the stigma itself very long, starting at the base of the column. **Capsule** 8-9 mm long, ellipsoid, pedicellate.

**OTHER SPECIMENS: CUBA: Holguín:** Mayarí, Sierra de Nipe, Arroyo Woodfired, 460 m, 28 XI 1997, *Dressler sub Hágsater 12078*, AMO! (Illustration voucher, flowers). Parque Alejandro de Humboldt, 24 IV 2011 *Sánchez Lozada s.n.*, BSC 21585! **Guantánamo:** Moa; Monte de La Breña, 5 XI 1945, *Acuña s.n.*, HAC 13042! Baracoa, Vía Azul, 400 m, 14 I 1956, *Alain 5153*, AMES! Sabanilla, Vía Azul, 14 I 1956, *Alain s.n.*, HAC 6613! Sierra de Cristal, Mayarí, Maniguas Loma de los Mulos, 2-7 IV 1956, *Alains s.n.*, HAC 5358! Ibid. HAC 6611! Sierra de Nipe, Loma del Winch, 22 IV 1960, *Alain s.n.*, HAC 8049! Sierra de Nipe, Finca La Caridad, 350 m, 22 IV 1960, *Alain s.n.*, HAC 8049! Mayarí, Nicaro, 26-27 V 1955, *Acuña s.n.*, HAC 19628! Sierra de Nipe: Charrasco, 800-900m. 21 IV 1960, *Alain s.n.*, HAC 19832! Moa, Río Cayaguan, VII 1949, *Alain s.n.*, HAC 15597! Moa, Río Cayaguan, 14 VII 1949, *Alain s.n.*, HAC 6761! Moa, Alto de la Iberia, *Borhidi s.n.*, BP! (illustration voucher, plant). Baracoa, Río Baez, 6 V 1998, *Díaz s.n.* HAJB 76713, on deposit at UPRRP. Baracoa, Meseta de los Naranjos, 400-600 m, 9 V 1998, *Gutiérrez s.n.* HAJB 76774 on deposit at UPRRP. Imías, Monte Oscuro, 3 V 1998, *Hernández s.n.* HAJB 76632 on deposit at UPRRP. (illustr., photocopy, AMO!) **Santiago de Cuba:** Gran Piedra, II 1950, *Almeida s.n.*, HAC 6759! La Gran Piedra. VII 1950, Casas, HAC 16221!

**OTHER RECORDS: CUBA:** Cuba Oriental, AMES (illustration and description, slide at AMO!). Mayarí, Sierra de Nipe, Arroyo Woodfired, 460 m, 28 XI 1997, photo of inflorescence by *Dressler* (AMO!) Illustration voucher, inflorescence; photo voucher.

**DISTRIBUTION AND ECOLOGY:** Endemic to eastern Cuba, on the Sierra de Cristal, Nipe, Purial and Maestra, and the Cuchillas del Toa, provinces of Holguín, Guantánamo and Santiago de Cuba. Epiphytic in rainforest on tree ferns associated with hepatic *Cheilolejeunea trifaria* (Reinw., Blume & Nees) Mizut., from 400 to 1000 m altitude. Flowering from January to July.

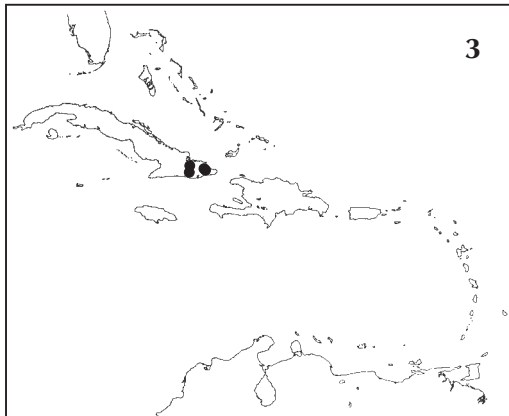
**RECOGNITION:** *Epidendrum hioramii* belongs to the Lanium Group, which is characterized by the rhizomatous plants, the stems cane-like to pseudobulbous, leaves generally aggregate towards the apex, flowers non-resupinate, more or less pubescent, pollinia 2 or 4. The species is recognized by its small plants, 7 cm tall including the inflorescence, with pseudobulbs, 2-5 ovate leaves, 7-12 mm wide, the apical third of the margin erose-dentate, inflorescence with 1-8, small, glabrous, flowers, and the widely cordiform, abruptly apiculate lip, and the lentil-shaped pollinia. Most other species in this group have dorsally pubescent sepals and ovaries, and the pollinia are more or less clavate. *Epidendrum stangeanum* Rchb.f. has linear, semi-terete, sulcate leaves, the sepals and ovary short pubescent, and an ecallose, transversely elliptic lip, the apical half triangular, acuminate, ecallose, and the 2 pollinia ovoid, produced from the fusion of 2 pairs of unequal pollinia. *Epidendrum avicula* Lindl. has pubescent sepals and ovary, the lip elliptic, acute, with a central rib and small calli forming a "T" shape, the column geniculate in relation to the ovary.

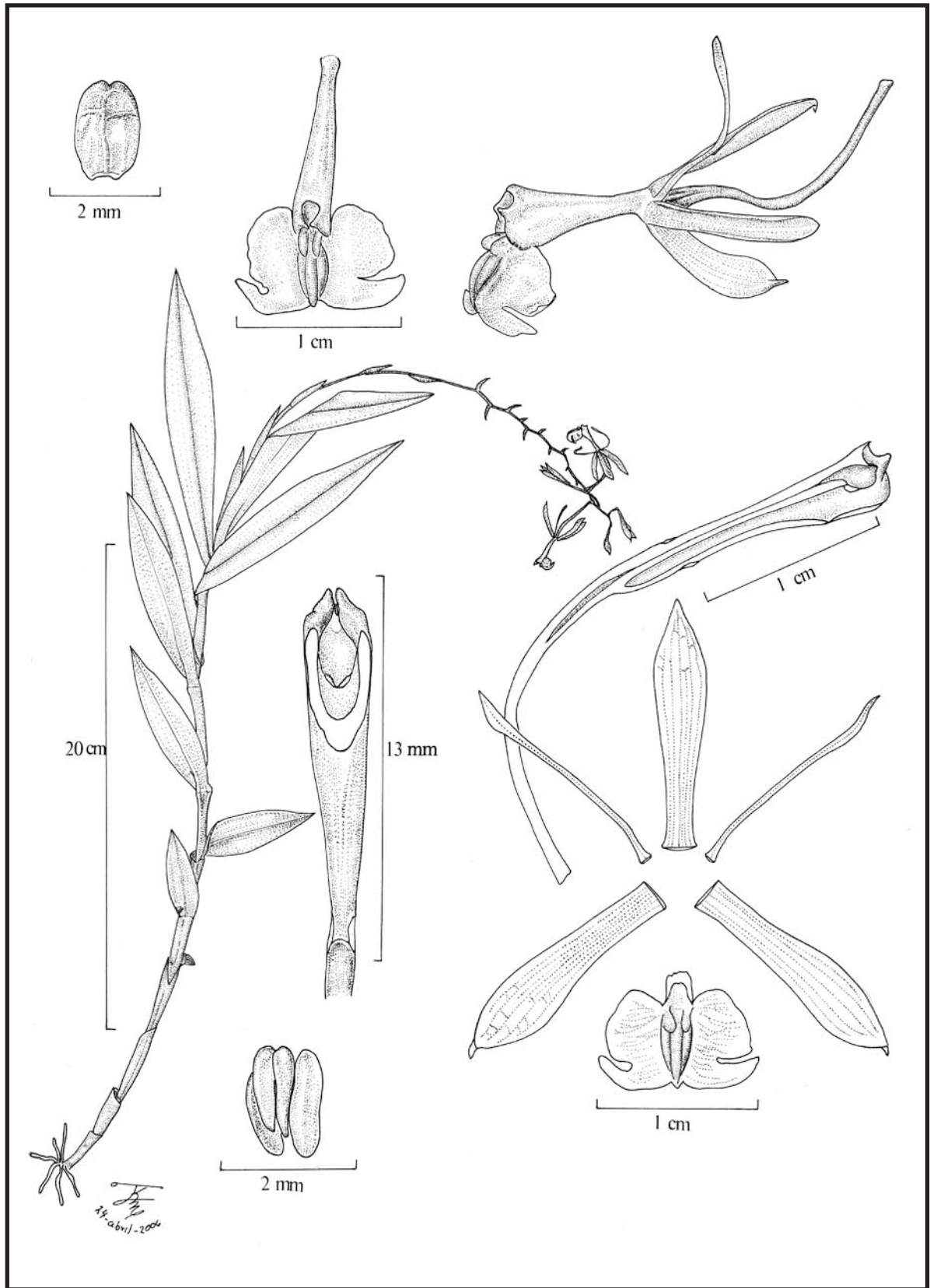
\***NOTES:** The species was first described invalidly in 1936 as *Homidium hioramii* Acuña and Roig, and appeared as such in *Index kewensis* (Suppl. 10). The main author, Julián B. Acuña Galé, recognizing the lack of a Latin diagnosis, published it once again, this time validly, with Bro. Alain (Alain Henri Liogier) as a new species as *Epidendrum hioramii* in a paper by Alain (1960); therefore the authors of the validly published name are "Acuña & Alain". Alain submitted his article simultaneously to two journals: Memorias de la Sociedad Cubana de Historia Natural "Felipe Poey". and Candollea, appearing in both two months apart, thus making the second publication superfluous (Candollea). León (1946) included *Homidium hioramii* as a synonym of *Epidendrum pygmaeum* Hook., a very different species today recognized as *Prosthechea pygmaea* (Hook.) W.E.Higgins. Dietrich (1980) transferred it to *Lanium*, a genus we do not recognize as distinct from *Epidendrum*, but that combination is also illegitimate, because it is based on an illegitimate name. Both IPNI and Tropicos cited (2011) the authors of "*Epidendrum hiorami*" as "(Acuña & Roig) Alain", but that is wrong because they imply that the basionym is *Homidium hioramii*, and that Alain published a new combination. Tropicos has now (Jan. 2012) changed the entry to "*Epidendrum hiorami* Acuña & A.H.Liogier", changing the way the second author is to be cited, contravening the International Code of Nomenclature, and in addition now places it as a synonym of *Encyclia pygmaea* (Hook.) Dressler, thus neither recognizing it as a good species, nor the genus *Prosthechea* as distinct from *Encyclia*. The IPNI has also amended (Jan. 2012) the entry to "*Epidendrum hiorami* Acuña & Alain". James Ackerman (pers. comm., 2004) obtained on loan 3 specimens from HAJB that were deposited at UPRRP as noted above; apparently the material has not been returned to date (2011).

**CONSERVATION STATUS:** NT. The species is not considered to be threatened (WCMC 1994, Berazaín *et al.* 2005).

**ETYMOLOGY:** This species is dedicated to Jean Frange Lagorce (Hno. Hioram) (1875-1936), French priest, who taught, and collected and researched mainly lichens, mosses and ferns in eastern Cuba. He was a member of the Hermanos de La Salle.

**REFERENCES:** Ackerman, J.D., 2004, personal communication to E. Hágsater. Acuña, J. & J. T. Roig, 1936, Un nuevo *Homidium* de Cuba Oriental (Orchidaceae), *Mem. Soc. Cub. Hist. Nat.* 10: 51. Alain, Hno., 1960, Novedades en la Flora cubana XI, *Mem. Soc. Cub. Hist. Nat.* 24: 2, 105-119, 1960. Berazaín R., Areces F., Lazcano J. C., González L. R., 2005, *Lista roja de la flora vascular cubana*, Ed. Trea Gijón, España. Díaz-Dumas, M.A., 1987, Notas florísticas sobre las orquídeas de la región de Baracoa (provincia Guantánamo), *Revista Jard. Bot. Nac. Univ. Habana* 8 (3):19-24. Dietrich, H., 1980, Floristische und taxonomische Notizen zu den Orchideen Cubas 2, *Wiss. Zeitschr. Fr.-Schiller-Univ. Jena, Mat. Naturwiss. Beih.* 29: 519-529. Dietrich, H., 2007, Orchidaceae -1, in Greuter, W., & Rankin, R. (eds) *Flora de la República de Cuba. Serie A. Plantas vasculares*, 12(1). Koeltz Scientific Books, Königstein. León, Hno., 1946, *Flora de Cuba* 1: 37, Habana, Cuba. Llamacho, J.A., & J. A. Laramendi, 2005, *The Orchids of Cuba*, pp 216, Greta Editores, Lleida, España. Mújica, E.B., R. Pérez, P.J.L. Trabanco, T. Ramos, & J.L. Bécourt, 2000, *Los Géneros de Orquídeas Cubanas*, Editorial Félix Varela, La Habana. WCMC. (World Conservation Monitoring Center), 1994, *Report World Conservation Monitoring Center*. Conservation Status Listing, Cambridge, U.K.





EPIDENDRUM HUAMANTUPANORUM Hągsater & E.Santiago

Plate 1440



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

Type: PERU: Puno: Candamo, fila at mouth of Río Guacamayo, 500-700 m, 23 May 1992, *Alwyn Gentry, C. Reynel, R. Ortiz & Percy Nuñez 77009*. Holotype: MO! (Illustration voucher).

Simile *Epidendri oenochrochili* Hágsater, Ric.Fernández & E.Santiago, plantis valde similibus sed foliis anguste ellipticis, breviter acuminatis, floribus cupreo-viridibus, columna viridula in dimidio basali, lavandulacea in parte apicali, labello albo hyalino callis et costis lavandulaceis, circumcinctis annulo obscure lavandulaceo et lobulis lateralibus labelli hemiellipticis.

Epiphytic, sympodial, caespitose, arching **herb** up to 50 cm tall, with the inflorescence arching-nutant. **Roots** 1 mm in diameter, basal, fleshy, thin. **Stems** 28 x 0.2-0.3 cm, simple, cane-like, terete, sub-erect to spreading, straight; the basal 1/3 covered by non-foliar, tubular, smooth, scarious sheaths, 10-33 x 3-5 mm. **Leaves** 5-9, distributed along the apical 2/3 of the stems, alternate; sheaths 15-30 x 3-5.5 mm, tubular, smooth; blade 3.5-13 x 1.2-1.9 cm, articulate, narrowly elliptic, short-acuminate, margin entire, spreading, coriaceous, dark green, ventrally tinged purple. **Spathaceous bract** lacking. **Inflorescence** 23 cm long, apical, racemose, arching-nutant, few, lax-flowered; peduncle 15 cm long, thin, laterally compressed, straight, very long, provided with up to 7 tubular bracts, 9-45 mm long, the base tubular, the apex conduplicate and acute, the basal pair imbricating, of decreasing size; rachis 9 cm long, thin, laterally compressed, slightly flexuous. **Floral bracts** 2-7 mm long, much shorter than the ovary, triangular, acuminate, amplexicaul. **Ovary** 21 mm long, terete, thin, slightly inflated just behind the perianth, unornamented. **Flowers** 12-17, successive, generally 2 open at one time, resupinate, sepals and petals copper-green, column green at the base, the apical half lavender, lip hyaline-white, the calli and ribs lavender, surrounded by a ring of darker lavender. **Sepals** 15 x 3.4 mm, free, somewhat reflexed, fleshy, margin entire, spreading; the dorsal sepal spatulate-oblancoleate, short acuminate; the lateral sepals narrowly oblanceolate, acute, dorsally apiculate. **Petals** 14.5 x 0.8 mm, free, arching towards the apex of the column, filiform, apex obliquely obtuse, 1-veined, margin entire, spreading. **Lip** 6 x 10 mm, united to the column, sub-entire or slightly 3-lobed, base cordate, apex truncate and emarginate, apiculate, deeply convex, margin entire, spreading; bicallose, the calli prominent, sub-globose, disc with 3 fleshy, prominent ribs the central one reaching the apical sinus; lateral lobes 3.5 x 4.2 mm, hemi-elliptic, the separation with the mid-lobe a deep narrow slit; mid-lobe 1.5 x 10 mm, short, bifid, forming a pair of opposite, oblong, obtuse, oblique lobes. **Column** 13 mm long, straight, base thin, gradually dilated towards the apex. **Clinandrium-hood** reduced, margin entire. **Anther** ovoid, 4-celled. **Pollinia** 4, unequal, bird-wing type, the inner pair somewhat smaller. **Rostellum** apical, slit. **Lateral lobes of the stigma** small, occupying 1/3 the length of the stigmatic cavity. **Nectary** penetrating the ovary just behind the perianth, smooth, not inflated. **Capsule** ellipsoid, 60 x 13 mm; pedicel 20 mm long; body 25 x 13 mm; apical neck 15 mm long.

**OTHER SPECIMEN:** PERU: **Cusco:** Kosñipata: Kosñipata, bosque de pie de monte de yungas, 700 m, IX 2010, *Isau Huamantupa 4691*, CUZ. **Amazonas:** Río Santiago, Monte Virgen, Quebrada Caterpiza, 200 m, 12 IX 1979, *Huashikat 578*, MO! SEL! 1 km atrás de La Poza, Río Santiago, 180 m, 9 VIII 1979, *Leveau 36*, MO! SEL! Huambisa, Río Santiago, atrás de Caterpiza, 180 m, 23 XI 1979, *Tunqui 146*, MO!

**OTHER RECORDS:** PERU: **Cusco:** Kosñipata: Pongo de Q'onec, bosque de pie de monte de yungas, III 2011, Digital images, *Isau Huamantupa 4691*, AMO! (Photo voucher). *Ibid.* III 2011, Hágsater *s.n.*, AMO! **Amazonas:** Iquitos; hort. Ceiba Tops, 21 V 2010, *Otto Obenhausen s.n.*, digital images, AMO!

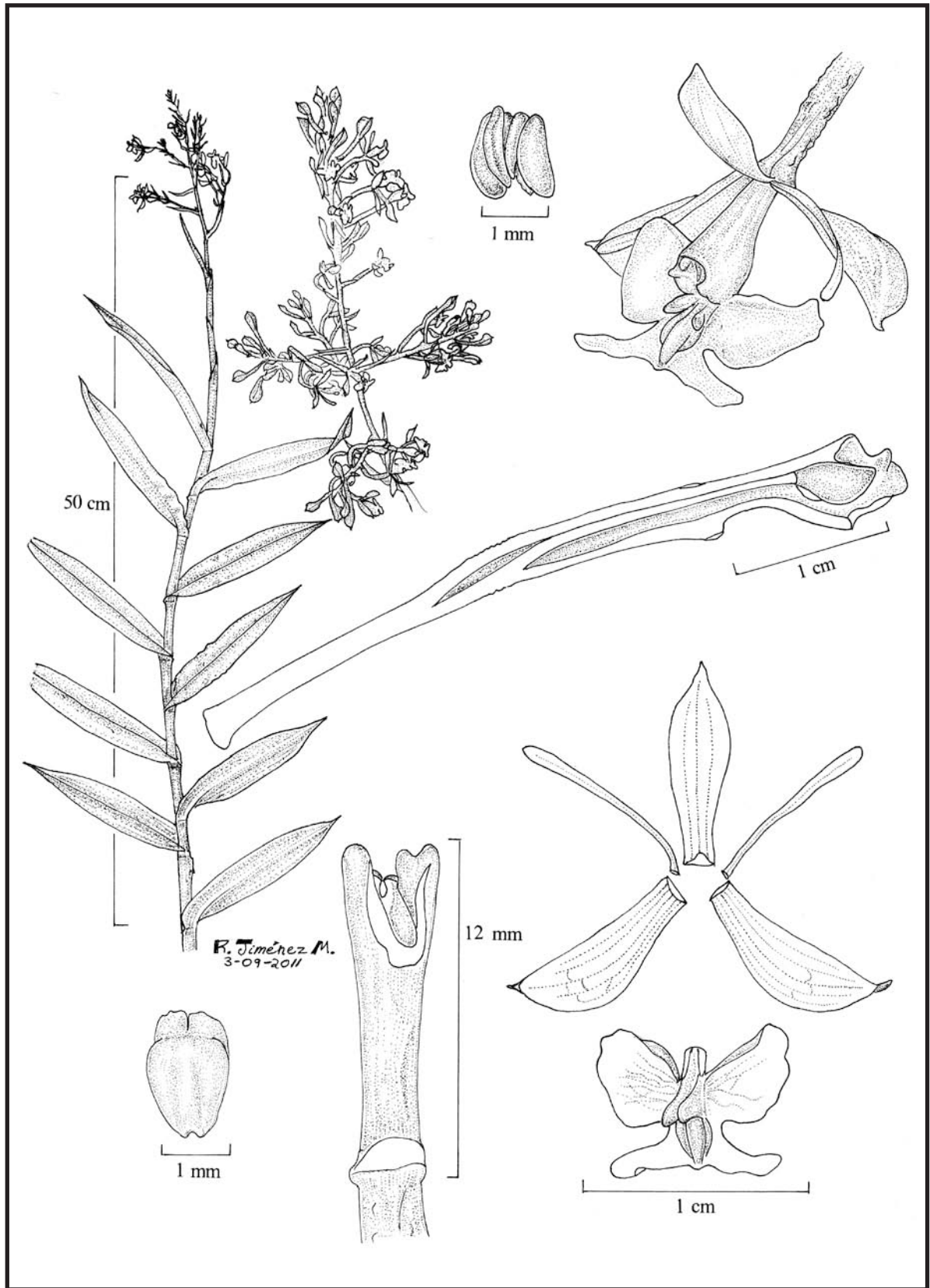
**DISTRIBUTION AND ECOLOGY:** Known presently from the yungas in the lower slope of the Andes in Peru, provinces of Amazonas, Cusco and Puno, epiphytic in high rain-forest at 180-1000 m altitude. As the images of a cultivated plant near Iquitos, Loreto, we cannot be sure of its widespread occurrence in the lowland tropical forests of eastern Peru. Flowering from March to November and longer.

**RECOGNITION:** *Epidendrum huamantupanorum* belongs to the Pseudepidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and the Pluriracemosum Subgroup which has a racemose and few-flowered inflorescence on an elongate peduncle, usually producing new racemes over the years and thus pluri-racemose, the rachis is elongate, and thus lax flowered, the flowers bicolored, basically green to brown with the lip white to purple, spotted or not. The species is recognized by the intermediate size of the plants, about 50 cm tall, narrowly elliptic and short acuminate leaves, racemose inflorescence, the greenish copper sepals (15 mm long) and petals, column base greenish, apical half lavender, the lip hyaline white, the calli and ribs lavender, surrounded by a darker ring, the convex lip with the lateral lobes hemi-elliptic. *Epidendrum rodrigo* Hágsater (endemic to Colombia, has elliptic-lanceolate leaves, 7 simultaneous, green flowers, the clearly 3-lobed lip pink, the lateral lobes dolabriform. *Epidendrum oenochrochilum* Hágsater, Ric.Fernández & E.Santiago has elliptic, acute leaves (2.8-6.5 x 1-2.5 cm), purple-brown colored flowers with the lip yellow-brown or dirty pink, the lateral lobes of the lip sub-quadrate. *Epidendrum paniculatum* Ruiz & Pavón has a paniculate inflorescence with green flowers, the apex of the column and lip white, the disk with numerous dark red markings, sepals 12-13 mm long.

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

**ETYMOLOGY:** In honor of Isau Huamantupa, a Peruvian biologist, and his father Isaac, who have had a conservation property for 8 years in Pongo de Q'onec, near Kosñipata, where they have established a native orchid collection. The senior author observed this species in flower at the property.





EPIDENDRUM HYPOPORPHYREUM Hágsater, E.Santiago & E.Parra

Plate 1441

**EPIDENDRUM HYPOPORPHYREUM** Hágsater, E.Santiago et E.Parra, *sp. nov.*

Type: COLOMBIA: [Antioquia:] Medellín-Boquerón-San Jerónimo, Cerro del Padre Amaya, 2380 m, col. 22 April 1983, pressed cult. 21 June 1994, **Eric Hágsater, Rodrigo Escobar, Carlyle A. Luer, Alec Pridgeon, Marguerite Webb 7248**. Holotype: AMO 17321! (Illustration voucher)  
Isotype: COL! Clonotypes: Ibid. pressed cult. 12 November 1984, HUA! Ibid. 10 June 1987, VALLE! Ibid. 18 May 1991, MO!

Simile *Epidendro porphyreo* Lindl. sed inflorescentiis pauciramosis pauciflorisque, foliis angustioribus, lamina inferiore obscure purpurea, floribus pupureis, labelli lobulis lateralibus trapezoides, leviter falcatis et lobulo medio in duobus lobulos divergentes partito.

Epiphytic, sympodial, caespitose, erect **herb**, to 120 m tall. **Roots** 1-2.5 mm in diameter, basal, fleshy, thin, white. **Stems** 60 x 0.5 cm, simple, cane-like, terete, thin, straight; the basal half covered by tubular, non-foliar, scarious sheaths 4-5 cm long, becoming fibrous with time. **Leaves** 5-10, distributed throughout the apical half of the stem, alternate, articulate; sheaths 2.5-3.6 x 0.4-0.5 cm, tubular, minutely striated; blade 4.2-12 x 1.9-2.5 cm, oblong-elliptic, apex short-acuminate, sub-coriaceous, the underside tinged with purple, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescence** 15-25 cm long, apical, paniculate, erect, densely many-flowered; peduncle 10.5 cm long, thin, somewhat laterally compressed, straight, covered by 3 tubular, scarious, acuminate, partly imbricating bracts, 3-5.5 cm long; rachis with 3-5 short branches, somewhat spreading, densely few-flowered; each subtended by a narrowly triangular, acuminate, amplexicaul bract, 14-31 mm long. **Floral bracts** 4-12 mm long, much shorter than the ovary, narrowly triangular, acuminate, amplexicaul. **Ovary** 18-36 mm long, terete, thin, not inflated, unornamented. **Flowers** 40-70, successive, resupinate, purple-rose, the calli and the disc cream-colored; fragrance soft. **Sepals** 11-16 x 4-4.5 mm, spreading, free, fleshy, elliptic, obtuse, 5-veined, margin entire, spreading; the lateral sepals oblique, slightly falcate, minutely apiculate. **Petals** 11.5-14 x 1.2 mm, partly spreading, free, linear-oblancoolate, apex rounded, 1-veined, margin entire, spreading. **Lip** 11-16 x 10-12 mm, united to the column, 3-lobed, base deeply cordate; bicallose, the calli prominent, thin, somewhat horn-shaped, elongate, reaching the base of the mid-lobe; disc provided with 3 parallel, fleshy ribs, reaching the apical sinus; lateral lobes 5 x 7.5 mm, trapezoid, somewhat falcate, margin irregular, revolute at the base; mid-lobe 4 x 10 mm, widely triangular, widely emarginate, margin entire, spreading, forming a pair of oblong, divergent lobes, the apices rounded, each lobe 5 x 2 mm. **Column** 9-11 mm long, thin, straight, apex with a triangular tooth on each side. **Clinandrium-hood** reduced, margin entire. **Anther** obovoid, 4-celled, apex truncate. **Pollinia** 4, "bird-wing type", strongly laterally compressed. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma** prominent, half as long as the stigmatic cavity. **Nectary** short, penetrating 1/5<sup>th</sup> of the ovary, not inflated, unornamented.

**OTHER SPECIMENS: COLOMBIA: Antioquia:** Caldas-Las Minas, 2000 m, 19 X 1947, *Barkley 17C303*, AMES! Medellín-Boquerón, 2380 m, pressed cult. 28 II 1984, *Hágsater 7249*, AMO! Ibid. 7 V 1985, *Hágsater 7249*, AMES! Ibid. *Hágsater 7249*, CUV! Medellín, Boquerón-San Jerónimo, Cerro del Padre Amaya, pressed cult. 24 VI 1985, *Hágsater 7257*, AMO! Palmitas, 2150 m, col. 22 IV 1983, pressed cult. 17 VII 1986, *Hágsater 7259*, AMO! JAUM! Cerro del Padre Amaya, *Ospina 13*, JAUM! Cerro del Padre Amaya, [Boquerón de Toyo], 8 IV 1968, *Ortiz Valdivieso 80*, HPUJ! San Jerónimo, "Boquerón", 2500 m, 16 VIII 1957, *Ospina 199*, AMES! **Caldas:** Parque Regional Piedras Blancas, ca. 2400 m, *Ospina 415*, JAUM! **Valle del Cauca:** Las Delicias, N.W. of Restrepo Valle, 5000 ft, 3 VIII 1962, *Bridgeman 219*, K-L! US! (Illustration, AMO!) Los Farallones, 2600-2870 m, 13 X 1944, *Cuatrecasas 18120*, VALLE! Hoya del Río Dígua, arriba de Queremal, 1950-2050 m, 20 III 1947, *Cuatrecasas 23902*, VALLE! Nogales, *Jiménez 15*, COL! Cali, 1600-2000 m, 16 VIII 1883, *Lehmann 3012*, G! vereda Tokio corregimiento El Queremal, 1700 m, 29 V 2011, *Parra s.n.*, VALLE!

**OTHER RECORDS: COLOMBIA: Antioquia:** Cerro del Padre Amaya [Boquerón de Toyo], IV 1968, *Ortiz Valdivieso 80*, slide and illustration, HPUJ! **Valle del Cauca:** Vereda Tokio corregimiento El Queremal, 1700 m, 29 V 2011, *Parra s.n.*, digital image, AMO! VALLE!

**DISTRIBUTION AND ECOLOGY:** Known only from western Colombia, on the Cordillera Occidental and on the western slope of the Cordillera Central in Antioquia, epiphytic, in premontane tropical forest, at 1500-2870 m altitude. Flowering March to October.

**RECOGNITION:** *Epidendrum hypoporphyreum* belongs to the Pseudopidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and Porphyreum Subgroup which has flowers colored reddish orange, deep purple or lilac-pink, the calli generally prominent, sometimes horn-like. The species is recognized by the oblong-elliptic leaves, ventrally tinged with purple; the purple-rose flowers with the disc of the lip cream-colored, sepals 11-16 mm long; the lateral lobes of the lip are trapezoid, somewhat falcate, the basal margin somewhat involute, the mid-lobe widely triangular, widely emarginate, margin entire, spreading, forming a pair of oblong, divergent lobes, the apices rounded. It is similar to *Epidendrum porphyreum* Lindley which has similar plants, but the leaves are somewhat wider (1.5-4 cm), green and concolor; the lateral lobes of the lip are ovate-dolabriform, and the mid-lobe widely deltoid, divided into a pair of triangular lobes. *Epidendrum laeve* Lindl. (syn.: *Epidendrum ionodesme* Schltr., Santiago & Hágsater 2010a) has the lateral lobes of the lip dolabriform-trapezoid, the width of the lip equal in width between the lateral lobes and the mid-lobe, the mid-lobe is deeply emarginate at the apex and forms a pair of linear-oblong, divergent lobes, the column is short, 8-9 mm long.

**NOTE:** This is the species that occurs frequently above Medellín on the upper slopes of the Cerro del Padre Amaya, and has been collected by practically everybody who has been there at the time of flowering. It had been going under the name of *Epidendrum ionodesme* Schltr., and earlier under various names of the Paniculatum Group. Many specimens from this locality were included under *Epidendrum laeve* (Santiago & Hágsater 2010a), that list, therefore is amended in the corrections appendix in this volume.

**CONSERVATION STATUS:** DD. Data deficient. Apparently widespread in western Colombia.

**ETYMOLOGY:** from the Greek  $\nu\pi\omicron$ , under, beneath, and  $\pi\omicron\rho\phi\upsilon\rho\epsilon\omicron\varsigma$ , purple, in reference to the color of the underside of the leaves, which is purple, and is easily distinguished from *E. porphyreum* which has concolor, green leaves.

**REFERENCES:** Santiago, E., & E. Hágsater, 2010, *Epidendrum laeve* in E. Hágsater & L. Sánchez S. (Eds.), The Genus *Epidendrum* Part 9, **Icon. Orchid.** 13: pl. 1344. Santiago, E., & E. Hágsater, 2010, *Epidendrum porphyreum* in E. Hágsater & L. Sánchez S. (Eds.), The Genus *Epidendrum* Part 9, **Icon. Orchid.** 13: pl. 1377.



Authors: E. Hágsater & E. Santiago

Illustrator: R. Jiménez M.

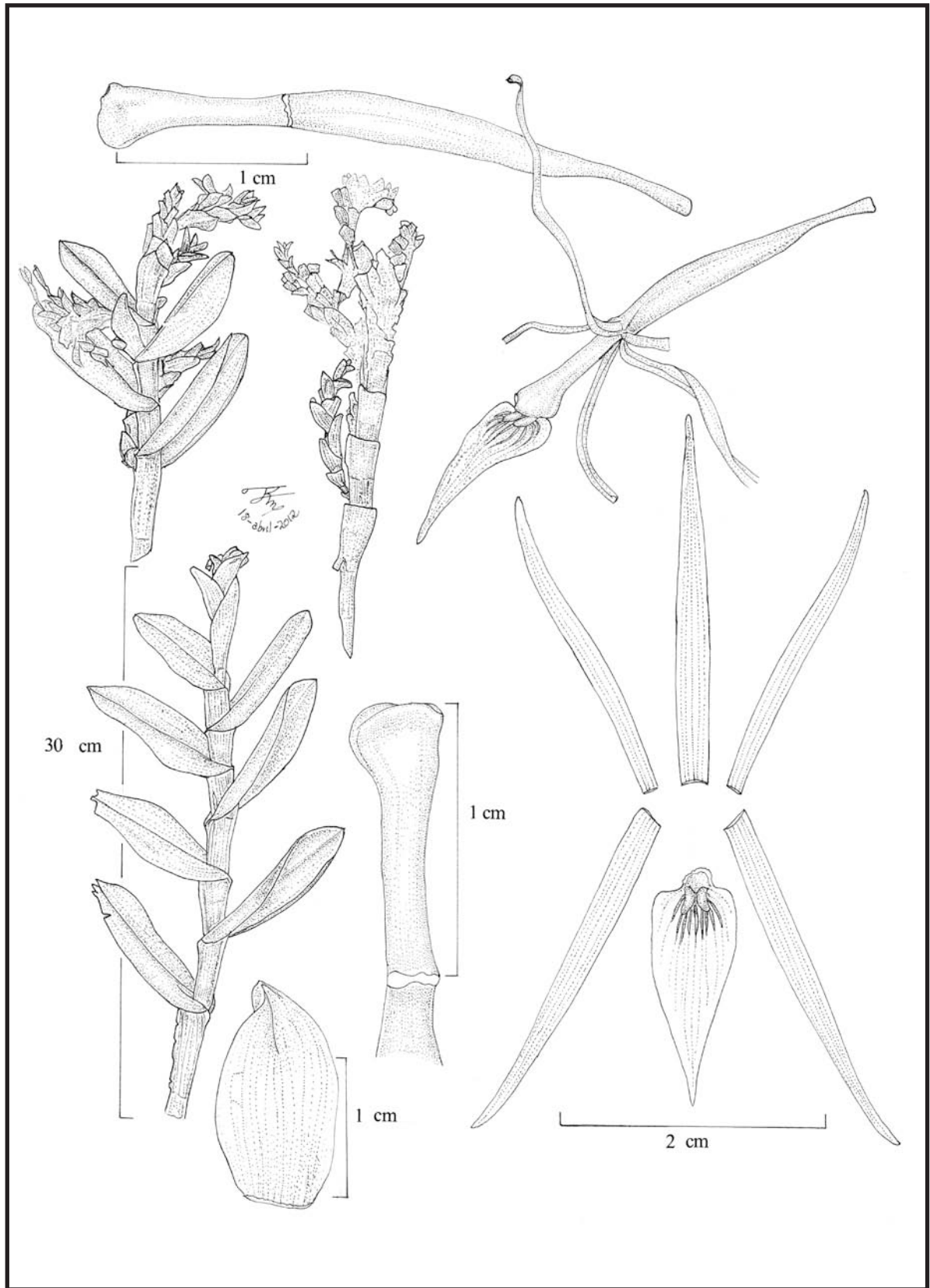
Photo: E. Parra

Editors: E. Hágsater & L. Sánchez S.

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ICONES ORCHIDACEARUM 14. 2013. Plate 1441



EPIDENDRUM INGRABRACHYPHYLLUM Hągsater & E.Santiago

Plate 1442

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

Type: COLOMBIA: Valle del Cauca: km 18 Cali-Buenaventura, 2000 m, 20 junio 1965, *Calaway H. Dodson & Harold Hills 3130*. Holotype: SEL! (Illustration voucher.)

Similar to *Epidendrum ingramii* Hágsater & García-Cruz but the leaves much shorter, the apex obtuse, floral bracts shorter, obtuse, the lip cuneate, the base truncate, disc with the veins thickened, radiating, very short.

Epiphytic or lithophyte, sympodial, caespitose, erect **herb**, 50-60 cm tall. **Roots** 0.5 mm in diameter, basal, terete, thin. **Stems** 42-51 x 1.0-1.5 cm, simple, cane-like, laterally compressed, erect, straight. **Leaves** 13-18, distributed throughout the stems, alternate, articulate, sub-spreading; sheaths 2.5-5.3 x 1.1-1.5 cm, tubular, ancipitose, striated; blade 8-10 x 2.7-3 cm, elliptic, obtuse, margin entire, slightly revolute. **Spathaceous bracts** 2.2-6 cm long, 1-3 at the base of the apical peduncle only, covering it totally, prominent, imbricating, similar to the floral bracts but much larger, triangular-ovate, obtuse, conduplicate. **Inflorescence** 4-9 cm long, apical and lateral, (the lateral ones opposite to the leaf, from the base of the next internode), short, racemose, flowering with new racemes from the same peduncle several times and thus pluriracemose; the peduncle of the apical inflorescence 6 cm long, ancipitose, totally hidden by spathaceous bracts; the peduncle of the lateral inflorescences 2-4.5 cm long, laterally compressed, totally hidden by 3-4 bracts similar to the floral bracts, but much larger, 2.0-2.5 cm long, triangular-ovate, obtuse, conduplicate. **Floral bracts** 1.2-1.5 x 0.6-0.8 cm, shorter than the ovary, ovate-elliptic, obtuse, conduplicate, ancipitose, imbricating [illustrated, spread, below the stem]. **Flowers** successive, developing one by one, resupinate, green; fragrance not registered. **Ovary** 21-23 mm long, terete, thin, somewhat dilated along the apical 2/3 (without forming a vesicle). **Sepals** 28 x 2.5 mm, spreading or slightly reflexed, free, ensiform, acute, 5-veined, margin entire, spreading. **Petals** 24 x 1.4 mm, spreading or slightly reflexed, free, linear-oblong, acute, 3-veined, margin entire, spreading. **Lip** 16 x 6 mm, united to the column, entire, cuneate, base truncate, apex acuminate, margin entire, spreading; bicallose, the calli thin, parallel, slightly divaricate; disc provided with 9, short, radiating, thickened veins, disappearing shortly before reaching the middle of the lip. **Column** 10 mm long, straight, thin. **Clinandrium-hood** short, margin entire. **Anther** and **pollinia** not seen. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma, nectary** and **capsule** not seen.

**OTHER SPECIMENS: ECUADOR: Carchi:** El Pailon, ca. 45 km below Maldonado, along a foot path to Tobar Donoso, 800 m, 27 XI 1979, *Madison 7065*, SEL!

**DISTRIBUTION AND ECOLOGY:** Known presently from the wet tropical forests in south western Colombia and north western Ecuador, Pacific slope of the Cordillera Occidental, epiphytic or lithophytic at 800-2000 m altitude. Flowering from June to November.

**RECOGNITION:** *Epidendrum ingrabrachyphyllum* belongs to the Albertii Group which is characterized by the sympodial habit, laterally compressed to ancipitose or somewhat fusiform-thickened stems, the apical or apical and lateral racemose, distichous inflorescence more or less with imbricating bracts on the peduncle, and the conduplicate, imbricating floral bracts producing one flower at a time, and the Albertii Subgroup, which has apical and more commonly short, lateral inflorescences, with several progressively longer, imbricating bracts covering the short peduncle; the flowers are membranaceous, delicate, generally successive, one developing at a time from each raceme. The new species is recognized by the large flowers (sepals 28 mm long), elliptic, obtuse leaves (8-10 x 2.7-3 cm), the short, obtuse floral bracts, linear-oblong petals, cuneate lip with the base truncate, apex acuminate, bicallose the veins thickened and radiating on the disc. *Epidendrum ingramii* Hágsater & García-Cruz, has larger, wider, elliptic, acute leaves (15 x 5 cm), long, acuminate floral bracts, cordiform, acuminate lip, the callus tridentate and bi-cuniculate. *Epidendrum albertii* Schltr. has much shorter, ovate-elliptic leaves (2.8-7.7 x 2-3.9 cm); smaller flowers (sepals 12-14.5 [17-18] mm long), linear petals, with the apex obtuse to rounded, lip oblong-ovate, the apex acute. *Epidendrum brachypodum* Hágsater has smaller flowers (sepals 14-15.4 mm long), pale purple, petals spatulate-obtrullate with the apex rounded, and the lip orbicular-sub-rhombic, bicallose, with a wide mid-rib and multiple thickened veins throughout the surface of the lip. *Epidendrum chuspipatense* Hágsater & R.Vásquez from Bolivia also has large flowers (sepals 21.22 mm long), but the leaves 5-16 cm long, are acuminate, the petals oblong-oblancoleolate, the lip cordiform, obtuse and the clinandrium hood very prominent, much surpassing the body of the column.

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

**ETYMOLOGY:** In reference to the similarity of this species to *Epidendrum ingramii*, but with smaller, wide, rounded floral bracts, from the Greek βραχυς short, and φύλλον, leaf; the bracts are modified leaves that subtend the flowers. Stephen Ingram, is a former curator of the herbarium at The Marie Selby Botanical Gardens.

**REFERENCES:** Hágsater, E., & J. García Cruz, 1999, *Epidendrum ingramii*, in E. Hágsater, L. Sánchez & J. García Cruz (eds), *Icon. Orchid.* 3: pl. 338. Hágsater, E., 2004, *Epidendrum brachypodum*, in E. Hágsater & L. Sánchez S. (eds), *Icon. Orchid.* 7: pl. 715. Hágsater, E., 2004, *Epidendrum chuspipatense* Hágsater & R. Vásquez, in E. Hágsater & L. Sánchez S. (eds); *Icon. Orchid.* 7: pl. 724.



Authors: E. Hágsater & E. Santiago

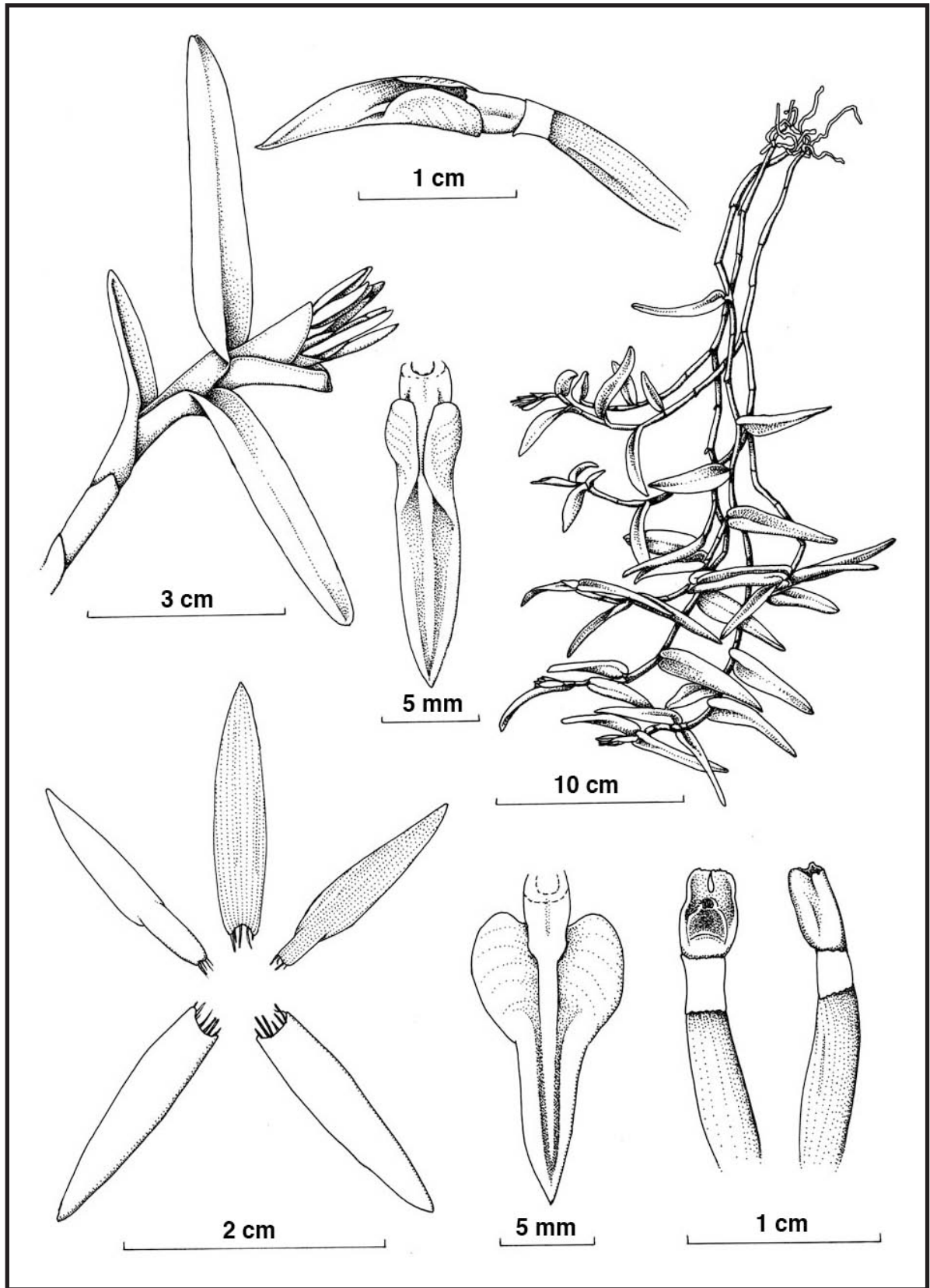
Illustrator: R. Jiménez M.

Editors: E. Hágsater & L. Sánchez S.

Herbario AMO

México, D.F. MÉXICO

ICONES ORCHIDACEARUM 14. 2013. Plate 1442



EPIDENDRUM INHIBITOSUM Karremans & Mel.Fernández

Plate 1443

**EPIDENDRUM INHIBITOSUM** Karremans et Mel.Fernández, *sp. nov.*

Type: COSTA RICA: Puntarenas: Osa, Sierpe, unos 10 km de Bahía Drake, sobre el camino entre Bahía Drake y Rancho Quemado, entre potreros, bosque muy húmedo tropical, 8°41'34.0" N 83°34'36.1" W, 187 m, colectado 21 de marzo 2011, floreció en cultivo el 13 de febrero 2012, **Adam P. Karremans & Miriam Contreras 3769**. Holotype: CR!; Isotype JBL-Spirit, E0889! (Illustration voucher).

*Epidendro singulifloro* Schltr. simile, sed planta rubro-viride, floribus majoribus brunneo-viridis, corolla campanulato-inexpansa, labello costa pupurea instructo, callo albo, petalis ellipticis obtusis differt.

Epiphytic, pendent, sub-monopodial, branching, reddish green **herb**, to ca. 40 cm long. **Roots** basal, fleshy, filiform. **Stems** several born from a short creeping rhizome, pendent, branching, cane-like, terete, flexuous, producing a few long main stems, ca. 40 cm long, and several shorter secondary stems, branches, ca. 4-10 cm long, from the leaf axils of the main stems. **Leaves** of the main stems 9-16, similar, distributed throughout the stems, in mature stems the basal ones will have fallen off; 3-5 on the secondary stems, dissimilar, slightly recurved; sheathes 2.0-2.5 cm long, tubular, rugose; blades 6-7 x 1.2-1.4 cm, narrowly-ovate, obtuse, coriaceous. **Spathaceous bracts** lacking. **Inflorescence** apical, on both the main stems and the branches, racemose, distichous, congested, flowering only once; peduncle reduced, with 2 imbricating bracts 1.5-2.0 cm long, covering the peduncle and ovaries completely, obtuse, rugose. **Floral bracts** larger than the ovary, acute, 1.0-1.5 cm long. **Flowers** 2-3, simultaneous, the lip always towards the rachis, brownish-green, lip greenish with a white callus and purple rib to the middle, column whitish, suffused with purple; fragrance sweet, in the morning. **Ovary** 10-11 mm long, terete, slightly ventrally, glabrous. **Sepals** nearly closed, not spreading in natural position, free, glabrous, narrowly-ovate to lanceolate, obtuse, apiculate, 10-12 veined, bifurcating, margin entire; the dorsal sepal 18 x 3.5 mm; the lateral sepals 19 x 4 mm, oblique. **Petals** 17 x 3 mm, nearly closed, not spreading in natural position, free, glabrous, narrowly-elliptic to lanceolate, obtuse, apiculate, 9-veined, bifurcating, margin entire. **Lip** 17 x 8 mm, united to the column, sub-cordiform, elongate, narrowed in the middle, 3-lobed, base cordate, embracing the column without completely covering it, margin entire; callus Y-shaped, prolonged into a central rib extending to the apex of the lip; lateral lobes 3.4 x 6.5 mm, hemi-cordiform; mid-lobe 8.8 x 3.4 mm, triangular-lorate, acute. **Column** 4.5 x 2 mm, straight, sub-terete, with two apical, rounded wings. **Clinandrium-hood** short, apical margin erose. **Anther** narrowly ovate with a prominent central rib, 4-celled. **Pollinia** 4, obovoid, laterally compressed, caudicles granulose. **Rostellum** apical, slit. **Nectary** penetrating the ovary up to near the base. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

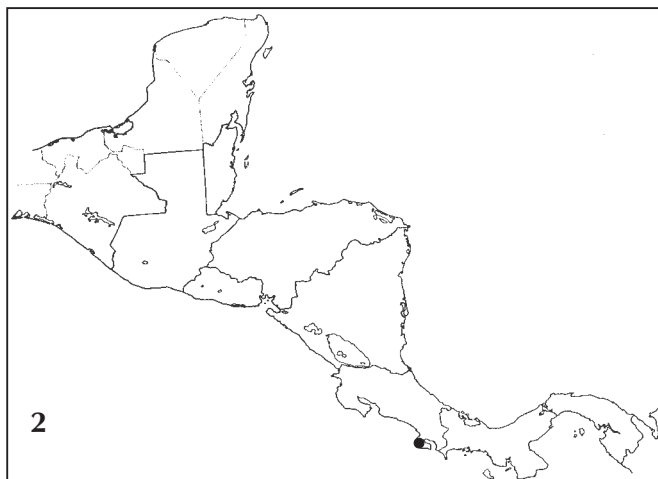
**DISTRIBUTION AND ECOLOGY:** Known only from the type, which was found along the road between Rancho Quemado and Bahía Drake in the heart of the Osa peninsula, in Costa Rica. It grows epiphytically in disturbed humid lowland forests, just below 200 m elevation. It flowers in cultivation from November to February.

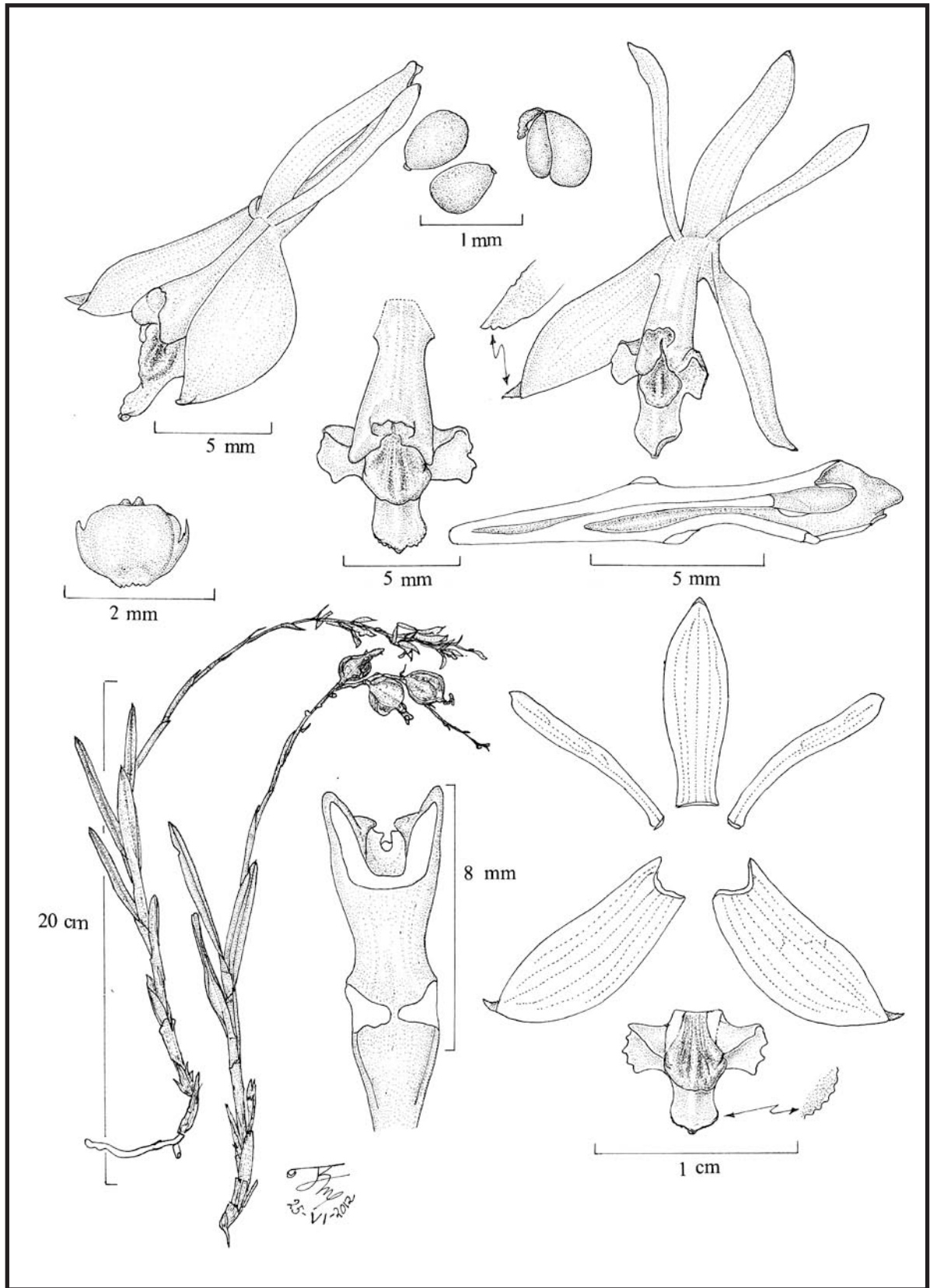
**RECOGNITION:** *Epidendrum inhibitiosum* belongs to the Ramosum Group which is characterized by the monopodial, much branched stems, apical inflorescence, and distichous flowers; and Paranaense Subgroup which has pendent plants and large, spreading leaves, > 5 mm wide. The species is recognized by the terete, flexuous stems and reddish-green leaves, the flowers nearly closed, large, sepals 18-19 mm long, flowers pale brownish green, the lip with the callus white and mid-vein purple, column whitish, suffused with purple, margin of the lip entire. It is similar to *Epidendrum singuliflorum* Schltr. from southern Mexico and Guatemala which has smaller, concolor green to greenish brown flowers, spreading sepals 9-12 mm long, elliptic, obtuse petals. *Epidendrum sculptum* Rchb.f. which has green stems and flowers, the small flowers half open, sepals 9-15 mm long, flowers are concolor, green to yellowish green, and the lateral lobes of the lip have a generally erose margin. *Epidendrum isomerum* Schltr. has long stems, with long, narrow, acute to acuminate leaves (5-11 x 0.2-0.3 cm), a single flowered inflorescence, the flower partly open, sepals 14-16 mm long, and the lip is entire, rhombic-triangular. *Epidendrum zunigae* Hágsater, Karremans & Bogarín, which grows close by to *E. inhibitiosum*, has long, narrow, linear-lanceolate leaves (5-10 x 0.5-0.8 cm), small flowers, sepals 10-11 mm long, the lip is cordiform, acute, bicallose, the calli thickened at the base and ending in low ribs, the clinandrium is funnel-shaped.

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

**ETYMOLOGY:** The name comes from the Latin *inhibitio*, restraint, which alludes to the impossibility of the flowers to fully open because of their proximity to their neighbors. If neighboring flowers are removed, the remaining flower fully opens, therefore each flower inhibits its neighbors.

**REFERENCES:** Bogarín, D., A.P. Karremans & F. Pupulin, 2008, New species and records of Orchidaceae from Costa Rica. **Lankesteriana** 8(2): 53-74. Hágsater, E., A. P. Karremans & D. Bogarín, 2008, *Epidendrum zunigae* in E. Hágsater & L. Sánchez S. (eds.) **Icon. Orchid.** 11: pl. 1200. Hágsater, E., 1990, *Epidendrum singuliflorum* in E. Hágsater & G.A. Salazar (eds.) **Icon. Orchid.** 1: pl. 42. Sánchez, L. & E. Hágsater, 2010, *Epidendrum sculptum* in E. Hágsater & L. Sánchez S. (eds.) **Icon. Orchid.** 13: pl. 1383.





EPIDENDRUM INVOLUTUM Hągsater & E.Santiago

Plate 1444



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

Type: ECUADOR: Loja: Pass, km 65 Loja-Cuenca, 3100 m, 20 September 1980, **Calaway H. Dodson, Carlyle & Jane Luer, Pete & Helen Morgan, A. Perry and Janet Kuhn 10503**. Holotype: SEL! (Illustration voucher).

Similar to *Epidendrum cyclotylosum* Hágsater but the flowers large, the peduncle of the inflorescence with 1 bract, the lower one spathaceous, large, the others bracts of the peduncle, narrower smaller, the lip with the posterior margin of the triangular (when spread) lateral lobes involute in natural position.

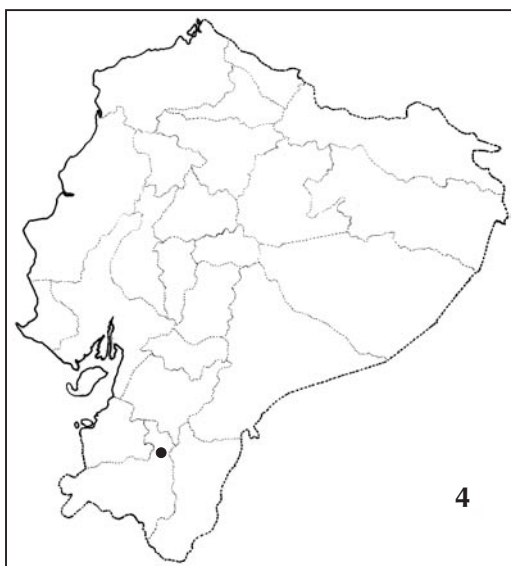
Terrestrial, sympodial, caespitose **herb** to 33 cm tall. **Roots** 2 mm in diameter, basal, thin, scarce. **Stems** 8-11.5 x 0.3-0.5 cm, simple, cane-like, short, thin, the basal half terete, the apical half laterally compressed, erect, straight; base covered by 3 non-foliar sheaths, 2.0-2.5 cm long. **Leaves** 5, distributed along the apical half of the stem, articulate, alternate, unequal in size (the basal one smaller); sheaths 1-3 cm long, tubular, minutely striated; blade 4-8 x 0.4-0.6 cm, linear-lanceolate, apex obtuse, with a low dorsal keel, margin entire. **Spathaceous bracts** 4, 2-4.2 x 0.15-0.3 cm, ancipitose, tubular, acute, imbricating. **Inflorescence** 18-21 cm long, apical, racemose, arching, laxly few-flowered; peduncle 9-11 cm long, elongate, laterally compressed, ancipitose, thin, straight, covered by the spathaceous bracts. **Floral bracts** 4-8 mm long, nearly as long as the ovary, the apical bracts gradually smaller, narrowly triangular, acuminate, amplexicaul. **Ovary** 7 mm long, terete, thin, not inflated, unornamented. **Flowers** 10-18, successive, opening from the base towards the apex, several open at one time, resupinate, dark reddish green, fragrance not registered. **Sepals** 10-11 x 3-4.2 mm, obtuse, minutely apiculate, 6-veined, margin entire; the dorsal sepal free, reflexed, narrowly obovate; lateral sepals obliquely united to the base of the column, partly spreading, elliptic, oblique. **Petals** 10 x 1.2 mm, free, reflexed, parallel to the dorsal sepal and the ovary, linear, apex obtuse, minutely apiculate, oblique, 1-veined, margin entire. **Lip** 5.7 x 7.2 mm, united to the column, 3-lobed, base cuneate, but appears truncate because of the involute posterior margins; with a single callus, sub-orbicular, prominent, covering the base of the mid-lobe, fleshy, slightly concave and striated; lateral lobes 2.5 x 2 mm, quadrate to obliquely ovate, margin entire to dentate, the posterior margin involute; mid-lobe 3 x 2 mm, oblong, the apex truncate, minutely apiculate, margin entire, slightly involute at the apex. **Column** 7 mm long, thick, the apex slightly arching upwards. **Clinandrium-hood** reduced, margin entire or slightly sinuous. **Anther** and **pollinia** not seen. **Rostellum** apical, slit. **Lateral lobes of the stigma** and **nectary** not seen. **Capsule** 25 x 16 mm, globose, pedicel 2.5 mm long, body 15-16 x 10-16 mm; apical neck 5 mm long.

**OTHER SPECIMENS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Known only from the type, from southern Ecuador, on the summit of the eastern slope of the Andes, at 3100 m altitude. Flowering in September.

**RECOGNITION:** *Epidendrum involutum* belongs to the Pergracile Group, Rhodoides Subgroup characterized by the caespitose habit, racemose inflorescence with narrow, parallel-sided spathaceous bracts, and flowers with a wide, rounded mid-lobe, and a large fleshy disc. The species is recognized by the linear-lanceolate leaves, the dark reddish green flowers, the peduncle of the inflorescence covered by 4 spathaceous bracts, linear, reflexed petals, and the lip truncate at the base, the lateral lobes quadrate to obliquely ovate, the callus sub-orbicular, fleshy. *Epidendrum cyclotylosum* Hágsater has oblong-elliptic leaves, reddish brown flowers, the peduncle of the inflorescence covered by 2 spathaceous bracts, the base of the lip cordate and the lateral lobes dolabriform, the mid-lobe semi-orbicular. *Epidendrum rhodoides* Hágsater & Dodson has oblong-lanceolate leaves, flowers tinged with pink, the lip yellow, the peduncle covered by 2 spathaceous bracts, petals spreading, narrowly obovate, the lip bicallose, and the lateral lobes dolabriform with the margin minutely erose.

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



**ETYMOLOGY:** From the Latin, *involutum*, turned inwards, in reference to the base of the lip where the posterior margin of the lateral lobes of the lip are turned upwards and front, this inwards.

Authors: E. Hágsater & E. Santiago

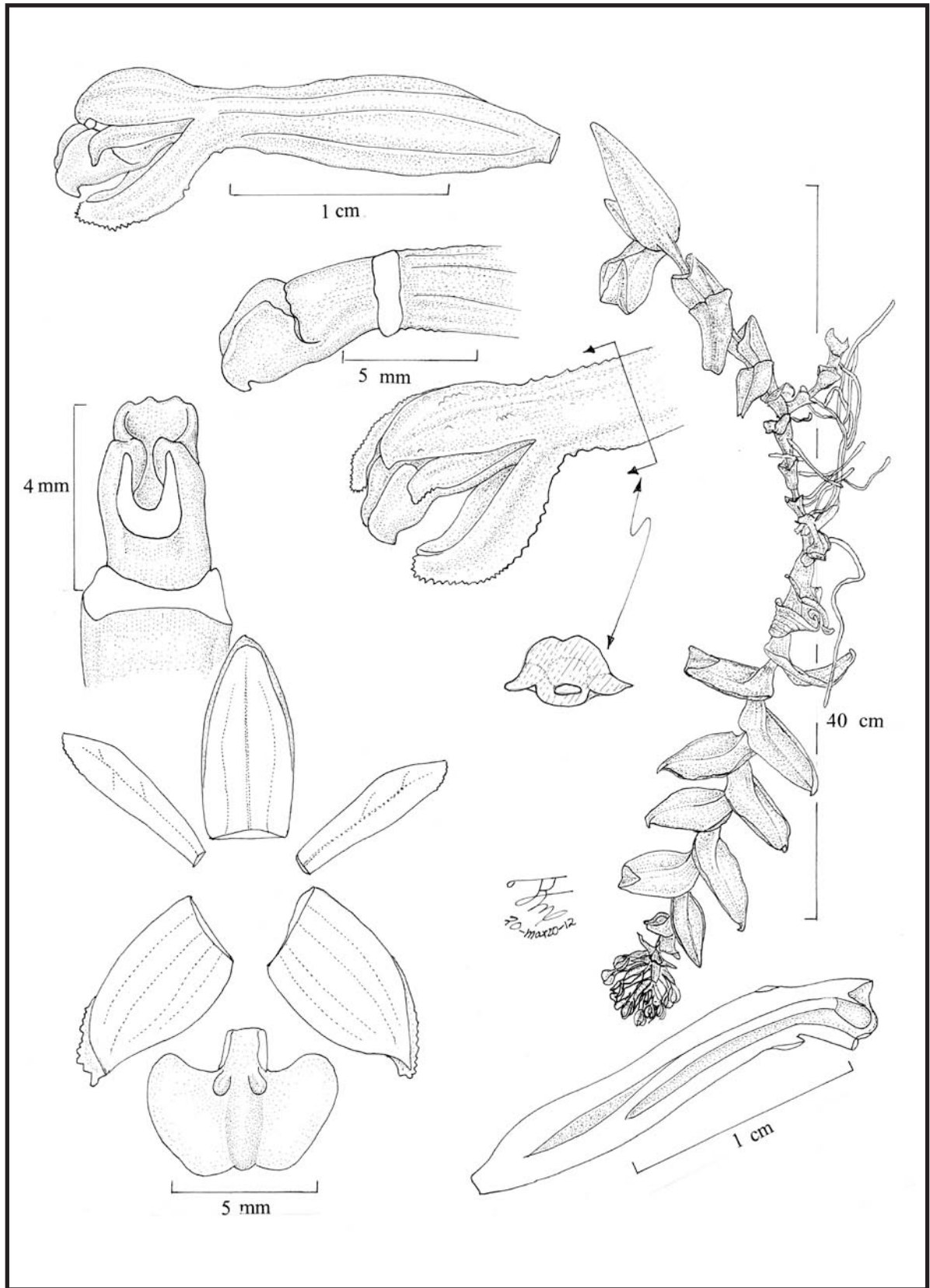
Illustrator: R. Jiménez M.

Editors: E. Hágsater & L. Sánchez S.

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ICONES ORCHIDACEARUM 14. 2013. Plate 1444



EPIDENDRUM ISAUCAPITELLATUM Hågsater & E.Santiago

Plate 1445

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

Type: PERU: Cusco: Urubamba; Distrito Ollantaytambo, Quebrada Huaytampo, bosque montano secundario, epífita, flores verdes, 13°11'48"S 72°21'43"W, 2600-3800 m, 3 December 2007, **Isau Huamantupa & René Farfán 8312**. Holotype: AMO! (Illustration voucher) Digital images of pretype, AMO! (Photo voucher) Isotypes: CUZ, MO.

Similar to *Epidendrum capitellatum* C.Schweinf. but the leaves wider, the lip entire, reniform, emarginate, with a wide mucro in the apical sinus, margin entire.

Epiphytic, erect, sympodial, scandent **herb** 16-23 cm tall. **Roots** 0.5-1 mm in diameter, produced from the scandent part of the stem, fleshy, thin, white. **Stems** 12-18 x 0.2-1 cm, simple, cane-like, terete at the base laterally compressed at the apex, erect, the new stem produced about 4 cm from the base of the previous stem; covered towards the base by 1-2 infundibuliform, non-foliar sheaths, 4-9 x 5.5 mm. **Leaves** 10-12, distributed throughout the stem, alternate, coriaceous, unequal in size (the basal and apical leaves smaller); sheaths 1.0-1.5 cm long, partly imbricating, infundibuliform, ancipitose, minutely striated when dry; blade 1.2-5.5 x 1.0-2.2 cm, proportion 2.5:1 (length:width) ovate-elliptic, apex acute, margin crenulate, slightly revolute, the ventral surface strongly rugose when dry. **Spathaceous bract** lacking. **Inflorescence** 3.5-5 cm long, apical, from the mature stem, capitate, sub-globose, densely many-flowered; peduncle 5-10 mm long, laterally compressed, short, totally hidden by a single leaf-like, infundibuliform bract, 5-10 mm long. **Flowers** 10-11, simultaneous, resupinate, green; fragrance not registered. **Floral bracts** 4-9 x 3-6 mm, prominent, half as long as the ovary, triangular-ovate, acute, amplexicaul. **Ovary** 10-15 mm long, thickened, two-winged, ornamented with 2 laminar keels which continue into the keels of the lateral sepals, the margin dentate, with presence of oxalate crystals in dried flowers. **Sepals** 6.8-7.4 x 3.2-3.7 mm, partly spreading, free, ovate-elliptic, concave, margin entire, spreading, dorsal sepals obtuse, 3-veined, lateral sepals acute, 4-veined, with a prominent dorsal keel, its margin erose. **Petals** 6.3 x 1.5 mm, partly spreading, free, oblanceolate, sub-obtuse, 1-veined, lower apical margin denticulate, spreading. **Lip** 4 x 6 mm, united to the column, entire, reniform, base cordate, apex emarginate, with a wide mucro in the apical sinus, margin entire, spreading; bicallose, the calli small, sub-globose, slightly divergent; disc provided with a mid-rib, fleshy, prominent and elongate to the apex of the lip. **Column** 4 mm long, straight, thick. **Clinandrium-hood** prominent (though not surpassing the body of the column), margin slightly crenate. **Anther** and **pollinia** not seen. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** penetrating  $\frac{1}{2}$  of the ovary, not inflated, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

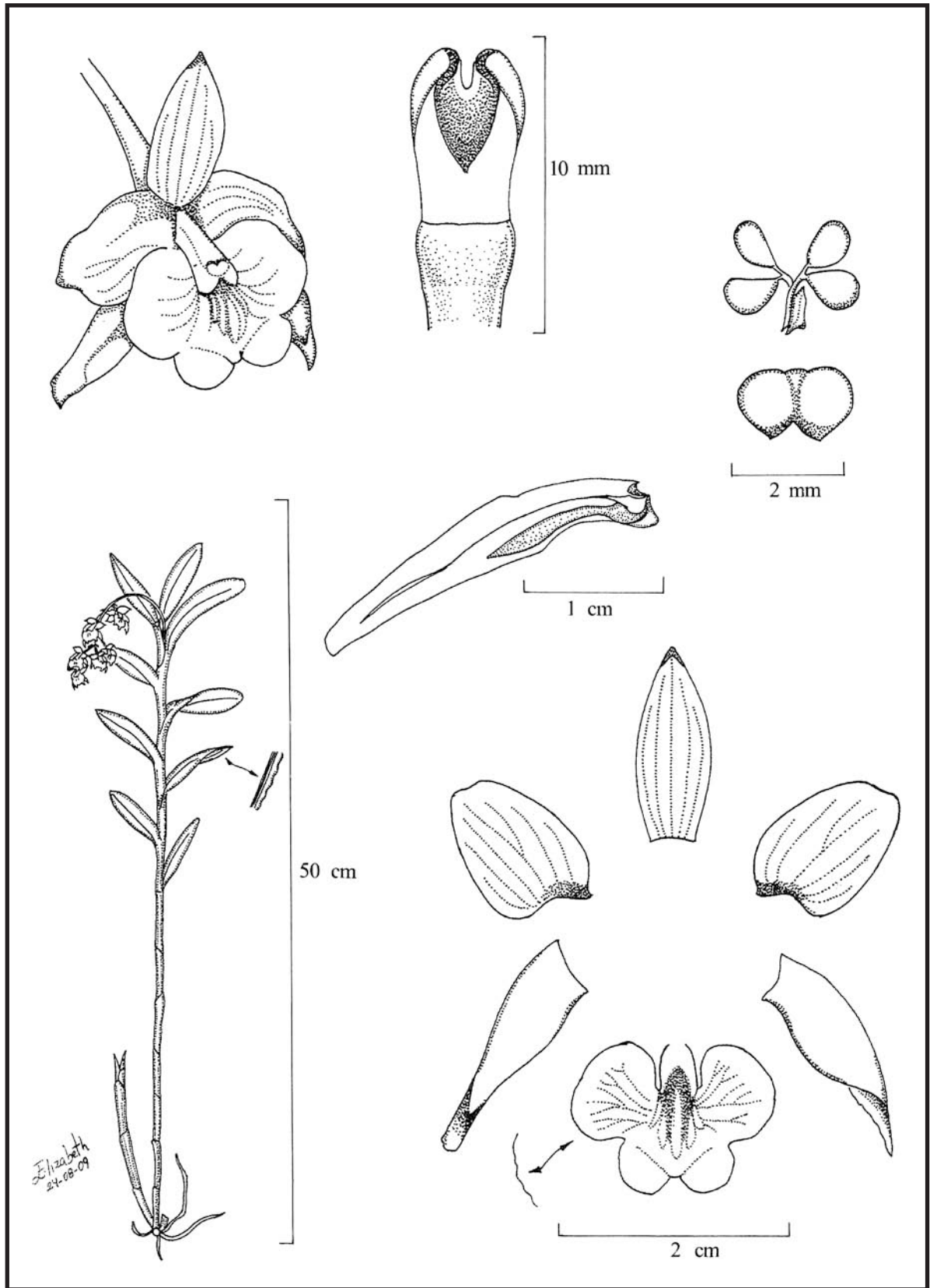
**DISTRIBUTION AND ECOLOGY:** Known only from Peru, Cusco, from the upper basin of the Urubamba (Vilcanota) River, epiphytic at 2600-3800 m altitude. Flowering in December.

**RECOGNITION:** *Epidendrum isaucapitellatum* belongs to the Capitellatum Group which is characterized by the erect, succulent stems with non-articulate leaves, with a spherical head of fleshy greenish flowers, and without any spathaceous bract. The species is recognized by the relatively tall plants, (16-23 cm tall), ovate-elliptic leaves, 1.2-5.5 x 1.0-2.2 cm, proportion 2.5:1 (length:width), the leaves are slightly imbricating, so that only part of the sheath is visible; the lateral sepals ovate-elliptic, 6.8-7.4 mm long, oblanceolate petals, and the entire, reniform lip. *Epidendrum capitellatum* is vegetatively very similar but has narrower leaves (0.5-1.6 cm wide), proportion 3:1 (length:width), more spaced along the stems, the sheath and a part of the stem clearly visible, lateral sepals elliptic, and the lip is 3-lobed. *Epidendrum pterogastrium* Hágsater has shorter plants (10 cm tall), shorter leaves (1.1-3 x 0.7-1.0 cm), elliptic sepals 5.8 mm long and the reniform lip has an erose margin. *Epidendrum rhombicapitellatum* Hágsater & Dodson has very short plants (5 cm tall), sepals 3.7-4 mm long, and the 3-lobed lip has a rhombic mid-lobe, column is 2 mm long with the apex arching upwards.

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

**ETYMOLOGY:** In reference to the collector of the type, Isau Huamantupa, a botanist from Cusco, and avid orchid student, and the similarity of this species with *Epidendrum capitellatum*, both are easily recognized by the capitate, densely flowered inflorescence.





**EPIDENDRUM JALCAËNSE** Chocce-Peña, Dalström, Hågsater & J.Arnaiz

Plate 1446

**EPIDENDRUM JALCAËNSE** Chocce-Peña, Dalström, Hågsater & J.Arnaiz. *Lankesteriana* 9(3): 529. 2010.

Type: PERU: Lambayeque; Cañaris, 3401 m, 14 September 2007, **Miguel Chocce-Peña, Jorge Arnaiz and P. Rinza 2865**. Holotype: USM! (Illustration voucher.) Photo of pretype AMO! (Photo voucher.)

Epiphytic, erect, sympodial, caespitose **herb**, 44-56 cm tall. **Roots** 1.5-2 mm in diameter, basal, fleshy, white, thick. **Stem** 40.5-51 x 0.54-0.6 cm, simple, cane-like, terete, thin, straight. **Leaves** up to 9, distributed along the upper half of the stem, alternate, articulate; sheaths 2-4.3 x 1.4-1.6 cm, tubular, striated, smooth; blade 4.7-6.6 x 1.0-1.5 cm, narrowly elliptic, apex mucronate, coriaceous, green, margin crenate. **Spathaceous bract** absent. **Inflorescence** 12 cm long, apical, racemose, arching, densely many-flowered; peduncle short, 4 cm long, terete, thin, arching; rachis thin, terete, straight. **Floral bracts** 4-5 x 1.0-1.5 mm, much shorter than the ovary, triangular. **Ovary** 18 mm long, progressively thickened towards the apex. **Flowers** up to 9, simultaneous, resupinate, bright orange, without fragrance. **Sepals** 15.5-16.5 x 6-7 mm, free, oblanceolate, fleshy, margin entire; dorsal sepal spreading, obtuse, 5-veined: lateral sepals partly spreading, falcate, 5-veined, aristate, with a dorsal keel. **Petals** 15 x 10 mm, free, spreading, ovate, wider than the sepals, oblique, apex rounded, somewhat sinuate, 6-veined, margin entire, spreading. **Lip** 13.5 x 17 mm, united to the column, 3-lobed, base cordate, margin minutely erose; ecallose, disc with 5-7 prominent, low, rounded keels; lateral lobes 6.5 x 8.5 mm, reniform, somewhat larger than the mid-lobe; mid-lobe 5.3 x 11 mm, transversely oblong, apex broadly emarginated and minutely apiculate, forming a couple of semi-circular lobes. **Column** 10 mm long, stout, thick, straight, apex slightly obconical. **Clinandrium-hood** short, margin entire. **Anther** reniform, 4-celled. **Pollinia** obovoid, laterally compressed; caudicles in to pairs; viscidium semi-liquid. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** penetrating less than 1/2 the ovary, wide, smooth. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Endemic to northern Peru, in the Cordillera Occidental at 3300-3400 m altitude in "Jalca", a mosaic of scrublands, grasslands and forest fragments (patchily distributed). Flowering in September. Presumed to be hummingbird pollinated, as the floral characteristics and the area being abundant in these birds.

**RECOGNITION:** *Epidendrum jalcaënsense* belongs to the Coronatum group, Aristisepalum subgroup, which has a caespitose habit, simple stems, sub-coriaceous leaves, a racemose inflorescence without spathaceous bracts, and the aristate sepals. The species is epiphytic and tall (to 56 cm), spreading leaves, petals 6-veined, the 3-lobed lip has 5-7 keels, the mid-lobe is emarginate forming a couple of semi-orbicular lobes, and the 10 mm long column is stout and thick. It is similar to *Epidendrum vegae* Chocce-Peña & Hågsater which is a short, lithophytic herb, upright leaves, has large red to bright orange flowers with a short (7.5 mm), thin column, 5-veined sepals and petals, the lip 3-lobed with 3 low parallel keels, and a very small, semi-orbicular, entire, mid-lobe. *Epidendrum camilo-diazii* Hågsater & Chocce-Peña has tall stems (to 90 cm), red to bright orange flowers, bilobed, emarginate lip with a single wide, low, fleshy keel, and straight, obovate, emarginated petals, sepals and petals 5-veined. *Epidendrum chachapoyarum* Chocce-Peña, Hågsater, Acuña-Tarazona & Vega-Vera is terrestrial, has short stems (to 18 cm), yellow flowers, sepals 3-veined, petals 1-veined, the sub-3-lobed lip is bicallose, the calli elongate, and a thickened rib in between, disappearing before the mid-lobe. *Epidendrum aristoloides* Hågsater & Dodson has pale pink flowers, the lip cream colored, prominently 4-lobed, the lobes all semi-orbicular, narrow leaves (5-8 mm wide), and 11-13.5 mm long sepals. *Epidendrum birostratum* C. Schweinf. has leaves up to 15 mm wide, flowers brownish-maroon, column light green, lateral lobes the lip light green, mid-lobe light maroon, 3-lobed, the mid-lobe tridentate at the apex with a prominent 2-lobed callus and one keel, and sepals 14-17 mm long. *Epidendrum aristosepalum* Hågsater & Dodson has cream-green to brownish-orange flowers, the column and disc of the lip cream 3-lobed with 3 keels and the apical lobe rounded, the leaves 7-11 mm wide.

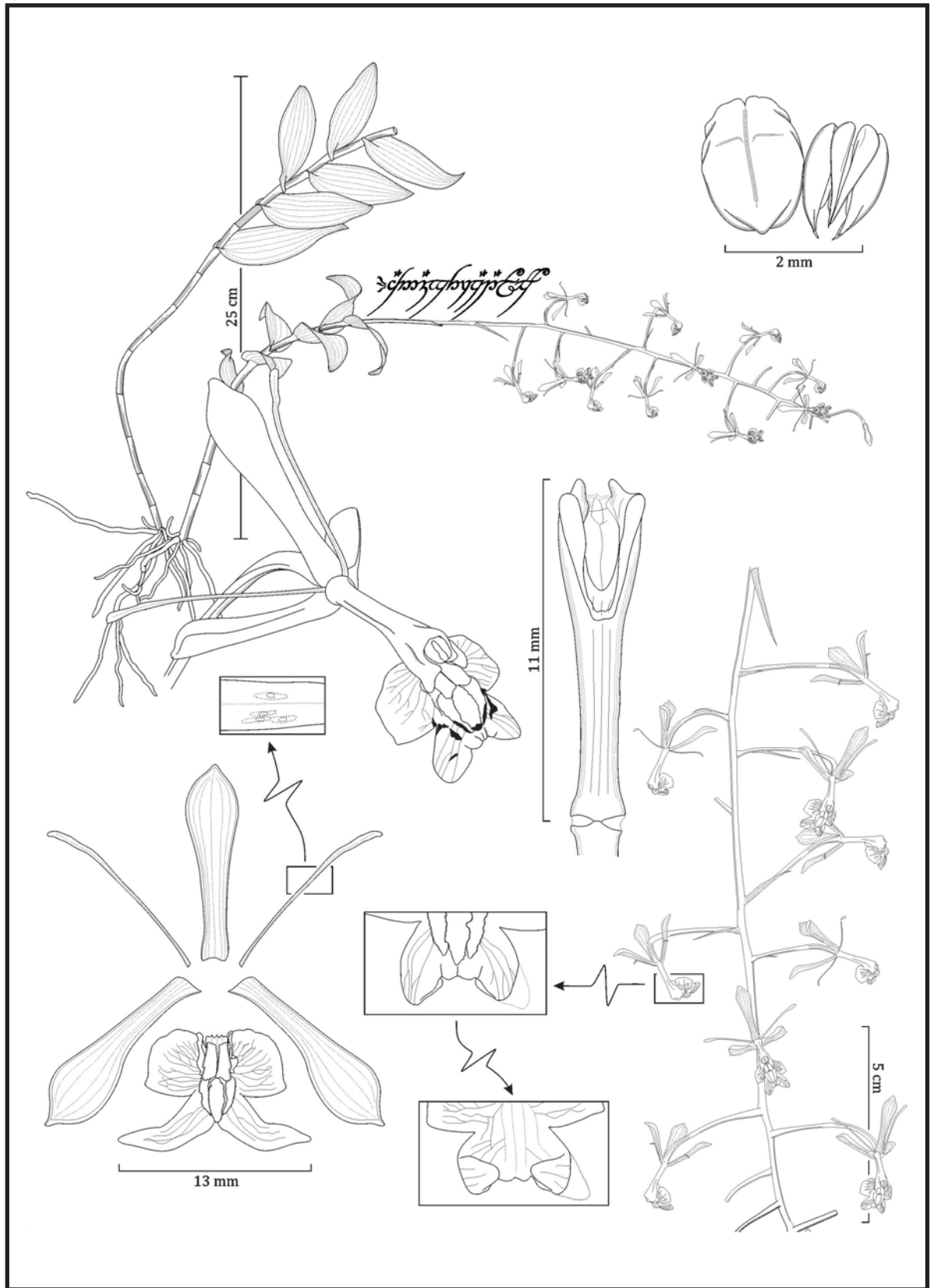
**CONSERVATION STATUS:** DD. Data deficient. The ecosystem where this species is found is little use in agriculture, generally is used for cattle-grazing.

**ETYMOLOGY:** In reference to the term "Jalca" from the Quechua language, which is the name local people (Lambayeque, Cajamarca and Amazonas) use for the mosaic of scrublands, grasslands and forest fragments (patchily distributed) where this species is found.

**REFERENCES:** Chocce, M., S. Dalström, E. Hågsater & J. Arnaiz, 2010. *Epidendrum jalcaënsense* (Orchidaceae), a new species from Northern Peru, *Lankesteriana* 9(3): 529-531.



Authors: M. Chocce-Peña & E. Hågsater Illustrator: M. E. Acuña-Tarazona Photo: M. Chocce-Peña Editors: E. Hågsater & L. Sánchez S. Herbario AMO México, D.F. MÉXICO ICONES ORCHIDACEARUM 14. 2013. Plate 1446



EPIDENDRUM KOLANOWSKAE Hágsater, O.Pérez & E.Santiago

Plate 1447

**EPIDENDRUM KOLANOWSKAE** Hágsater, O.Pérez et E.Santiago, *sp. nov.*

Type: COLOMBIA: Valle del Cauca: Municipio de Yumbo; Dapa, en frente de la Finca "Cielo Azul", 1900 m, ca. 20° C, 1 August 2010, *Oscar Alejandro Pérez Escobar 821*. Holotype: CUVCI! (Illustration voucher).

Similar to *Epidendrum paniculorotundifolium* Hágsater, M.Kolanowska & E.Santiago, but the leaves variable in shape from orbicular to elliptic (even on the same stem), and the disc of the lip with purple markings at the base of the lobes, surrounding the ribs.

Epiphytic or lithophytic, sympodial, caespitose, decumbent **herb**, ca. 42 cm tall. **Roots** 2-3 mm in diameter, basal, fleshy, thin. **Stems** simple, cane-like, 16-30 x 0.3-0.6 cm, terete, straight; the basal half covered by non-foliar, tubular sheaths 1.8-2.5 cm long. **Leaves** 7-13, distributed throughout the apical half of the stem, alternate, articulate, erect-spreading, amplexicaul, some unequal in size, green and concolor when young, the underside turning purple when mature; sheath tubular, 1.8-2.0 x 0.3-0.6 cm, minutely striated, green; blade orbicular to elliptic, 2.6-7.5 x 1.8-2 cm, acute, sub-coriaceous, margin entire, spreading. **Spathaceous bracts** lacking. **Inflorescence** apical, 26 cm long, racemose or paniculate, flowering only once, lax, few-flowered; peduncle 7 cm long, elongate, straight, thin, provided with 2 lanceolate, acuminate, amplexicaul bracts, 8 mm long; rachis 19 cm long, when paniculate, with a spreading basal, short, few-flowered branch subtended by a basal narrowly triangular, acuminate, amplexicaul bract. **Floral bracts** 12-20 mm long, prominent, unequal in size, the basal ones about half as long as the ovary, the apical ones 1/4 the length of the ovary, linear-triangular, acuminate, amplexicaul. **Ovary** 25-28 mm long, terete, thin, not inflated. **Flowers** 8-17, simultaneous, resupinate, sepals, petals and basal half of the column green, lip and apical half of the column with the disc surrounded by pale purple spots spilling onto the lobes of the lip. **Sepals** 13 x 3.5 mm, reflexed, free, oblanceolate-spatulate, obtuse, fleshy, slightly concave towards the apex, 4-5-veined, margin entire, spreading. **Petals** 13 x 0.3 mm, reflexed, free, filiform, slightly falcate, 1-veined, apex rounded, margin entire, spreading (illustration insert shows large size of cells). **Lip** united to the column, 8.3 x 13 mm, slightly convex, fleshy, 3-lobed, base cordate, margin entire; bicallose, the calli prominent, rectangular-cubical, disc provided with 3 parallel ribs which extend to apical sinus, fleshy; lateral lobes 3.6 x 4.6 mm, dolabriform; mid-lobe bilobed, divaricate, lobes linear-oblong, oblique, apex acute, revolute, each lobe 6.6 x 2.3 mm. **Column** 11 mm long, straight, thin at the base, dilated towards the apical half. **Clinandrium-hood** reduced, margin entire. **Anther** ovoid, 4-celled. **Pollinia** 4, bird-wing type, the inner pair somewhat smaller, caudicles laminar, shorter than the pollinia. **Rostellum** apical, slit. **Lateral lobes of the stigma, nectary and capsule** not seen.

**OTHER SPECIMENS: COLOMBIA:** Without locality: Cult. Colomborquídeas, col. 1 VII 1992, press. 22 VII 1997, *Hágsater 11668*, AMO! (spirit & slide). **Antioquia:** Fredonia: Cerro Bravo, 1770-2050 m, 6 VI 1992, *Fonnegra 4384*, COL! HUA! NY! **Valle del Cauca:** Municipio de Argelia, vereda "Las Brisas", 1950 m, 22 I 1983, *Franco 1746*, COL! Versailles, 2 VII 2012, *Rincón-Useche & Ríos 43*, COL!

**OTHER RECORDS: COLOMBIA: Valle del Cauca:** Municipio de Yumbo; Dapa, 21 XII 2010, *Pérez 1023*, digital image, VALLE! AMO! Versailles, 2 VII 2012, *Rincón-Useche & Ríos 43*, digital image, AMO!

**DISTRIBUTION AND ECOLOGY:** Known from the forested summit of the Cordillera Occidental in Colombia, in the municipality of Yumbo, Valle del Cauca, and the Cordillera Central near Medellín, Antioquia. Epiphytic or lithophytic in conserved cloud forest at ca. 1770-2050 m, altitude. Flowering from June to December.

**RECOGNITION:** *Epidendrum kolanowskiae* belongs to the Pseudepidendrum Group, which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, apical inflorescence without spathaceous bract, the petals filiform and the lip usually 3-lobed, with 3 parallel fleshy ribs, the apical lobe often bifurcate, and the pollinia "bird-wing-type", and Paniculatum Subgroup, which has bicolor flowers (generally green with the lip and apex of the column white), the disc sometimes marked with purple to red. The species is recognized by the intermediate sized plants, the racemose or paniculate inflorescence, leaves orbicular to elliptic, disc of the lip with 3 ribs, surrounded by pale purple spots spilling onto the lobes. *Epidendrum weerakitianum* Hágsater, O.Pérez & E.Santiago always has elliptic leaves; sepals 3-veined, the lip with 5 ribs on the disc which is clearly marked with purple turning reddish-purple with age. *Epidendrum paniculorotundifolium* has orbicular-elliptic leaves, sepals 5-veined, and the disc of the lip also has 3 ribs, but the lip is immaculate. It is similar to *Epidendrum paniculatum* Ruiz & Pav. which has elliptic leaves, the lip marked with reddish-purple, the lateral lobes of the lip sub-orbicular and the mid-lobe bilobed, formed by a pair of strongly divaricate, falcate lobes; it is endemic to NW Peru.

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

**ETYMOLOGY:** In honor of Marta Kolanowska, a Ph.D. student of the University of Gdansk (Poland) who has worked for the past 3 years in the study of the orchid flora of Valle del Cauca (Colombia), and recently authored (Kolanowska et al., 2011) An Illustrated field guide to the orchids of the Yotoco Forest Reserve (Colombia).

**REFERENCE:** Kolanowska, Marta, Oscar Alejandro Pérez Escobar, Edicson Parra Sánchez & Dariusz L. Szlachetko, 2011, *An Illustrated field guide to the orchids of the Yotoco Forest Reserve (Colombia)*, Gdansk, Poland.



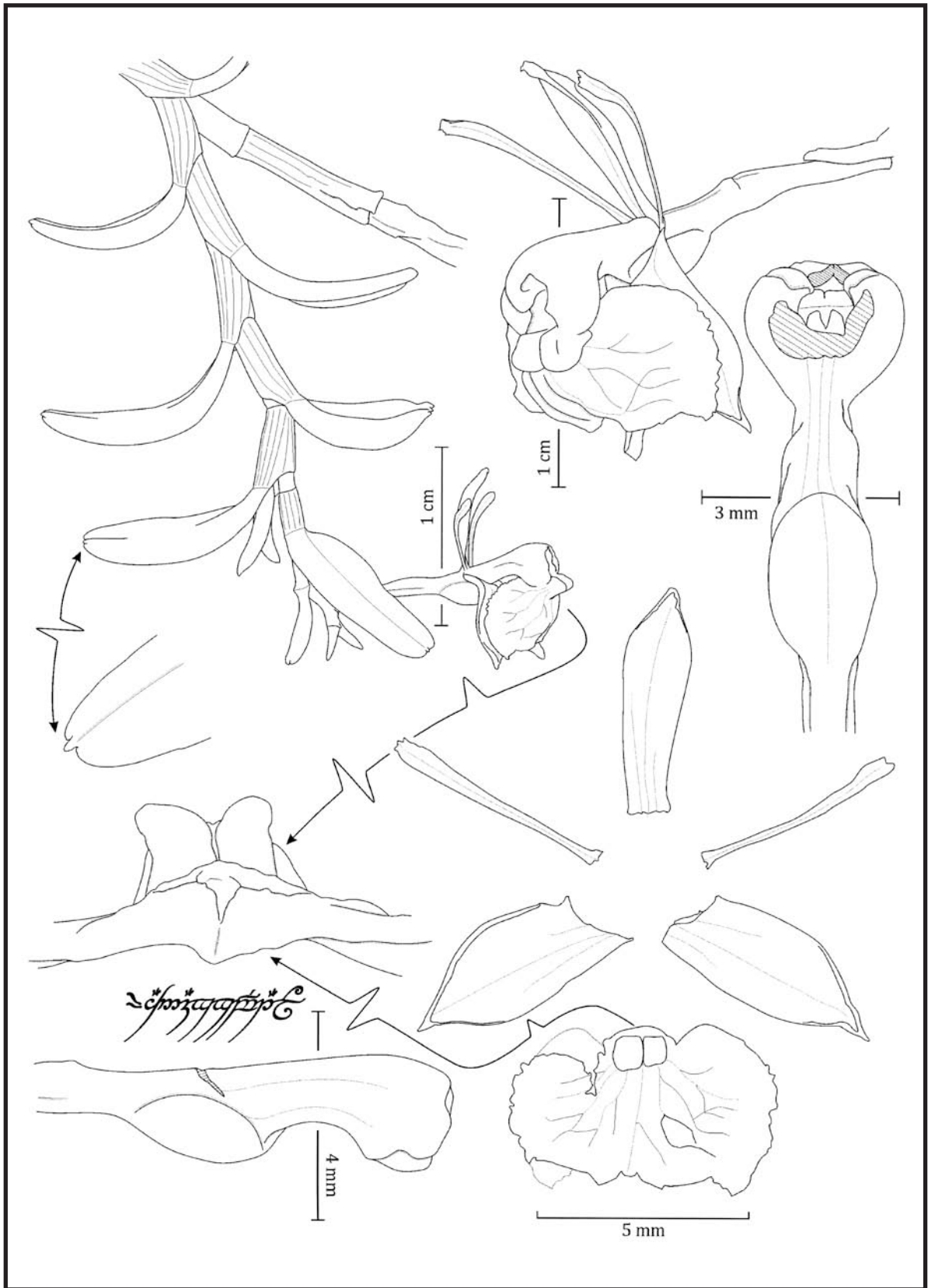
Authors: E. Hágsater, O. Pérez & E. Santiago  
Herbario AMO

Illustrator: O. Pérez  
México, D.F. MÉXICO

Photos: O. Pérez

Editors: E. Hágsater & L. Sánchez S.

ICONES ORCHIDACEARUM 14. 2013. Plate 1447



EPIDENDRUM LEONORAE Hagsater, O.Pérez & E.Santiago



**EPIDENDRUM LEONORAE** Hágsater, O. Pérez et E. Santiago *sp. nov.*

Type: COLOMBIA: Valle del Cauca: Municipio de Yumbo; Dapa, growing on a dead branch of a Melastomataceae tree, 2000 m, 18°C, 2 December 2010, **Oscar A. Pérez E. & Julián González 1000**. Holotype: VALLE! (Illustration and photo voucher).

Simile *Epidendrum moscozoi* Hágsater & E. Santiago sed floribus albo-viridaceis roseo suffusis, ovario inflato a tergo perianthi, sepalis 3-nervatis, sepalo dorsali extenso, apice labelli emarginato et minute apiculato geminis lobulis semicircularibus externe dentatis.

Epiphytic, monopodial, reclined, branching **herb**, the main stem 9.1-15 cm tall. **Roots** 1.4 mm in diameter, basal, from the main stem, fleshy, thin. **Stems** branching; the main stem 8.3-14 x 0.14 cm; the branches 2.5-3.5 x 0.18 mm; cane-like, terete at the base, slightly laterally compressed towards the apex, very thin. **Leaves** 6 on the main stem, 4-6 on the branches, distributed throughout the stems, alternate, articulate; sheath 1-7.5 x 1.4-1.8 mm, somewhat infundibuliform, striated; blade 5-17 x 1.5-3.5 mm, linear-lanceolate, obtuse, minutely apiculate, margin entire, sub-coriaceous. **Spathaceous bract** lacking. **Inflorescence** 4-9.5 mm long, apical, racemose, short, 2-flowered. **Floral bract** 1.7-2 mm long, shorter than the ovary, triangular, acuminate, amplexicaul. **Flowers** 2, resupinate, greenish-white, with tinged pink to purple at the base of the petals and mid-part of the column and anther; without fragrance. **Ovary** 8 mm long, terete, thin, smooth, ventrally inflated behind the perianth to form a vesicle. **Sepals** 3-veined, margin entire, spreading, free; the **dorsal sepal** 5.5 x 2 mm, sub-spatulate, obtuse; the **lateral sepals** 5.5 x 2.5 mm, obliquely elliptic, acute, with a prominent low dorsal keel. **Petals** 5.5 x 0.5-0.7 mm, spreading, free, linear-filiform, slightly expanded towards the apex, 1-veined, margin slightly erose at the apex, spreading. **Lip** 4 x 6.5 mm, united to the column, markedly convex, transversely elliptic, base slightly cordate, apex emarginate, apiculate, flanked by a pair of semi-circular small lobes terminated in a pair of prominent teeth on the outer margin, margin erose-crenate; bicallose, the calli, globose, large; disc fleshy. **Column** 5 mm long, straight, narrowed in the middle. **Clinandrium-hood** short, margin entire. **Anther** and **pollinia** not seen. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** not seen. **Capsule** 22-24 x 8-9 mm, globose; pedicel 3-4 mm long, terete; short, thin; body 12-14 x 8.5-9 mm; apical neck 6-7 mm long.

**OTHER SPECIMENS: PERU: Huánuco:** San Pedro Carpish, 2755 m, 18 II 2007, Trujillo 354, HURP! (Flowers in spirit: MOL; Illustration, Photos AMO!)

**OTHER RECORDS: COLOMBIA: Antioquia:** Serranía de Las Baldías, Corregimiento de San Félix, Municipio de Bello, 2900 m, 27 I 2012, Calderón-Franco & Zuleta s.n. Digital series, AMO!

**DISTRIBUTION AND ECOLOGY:** Known from the forested summit of the Cordillera Occidental in the municipality of Yumbo, Valle del Cauca, Colombia, and the Cordillera Central north of Medellín, Antioquia, as well as Carpish, Huánuco, Perú. Epiphytic in disturbed cloud forest in regeneration process, growing on *Tibouchina lepidota* (Bonpl.) Baill., at 2000-2900 m altitude. Flowering in December and February.

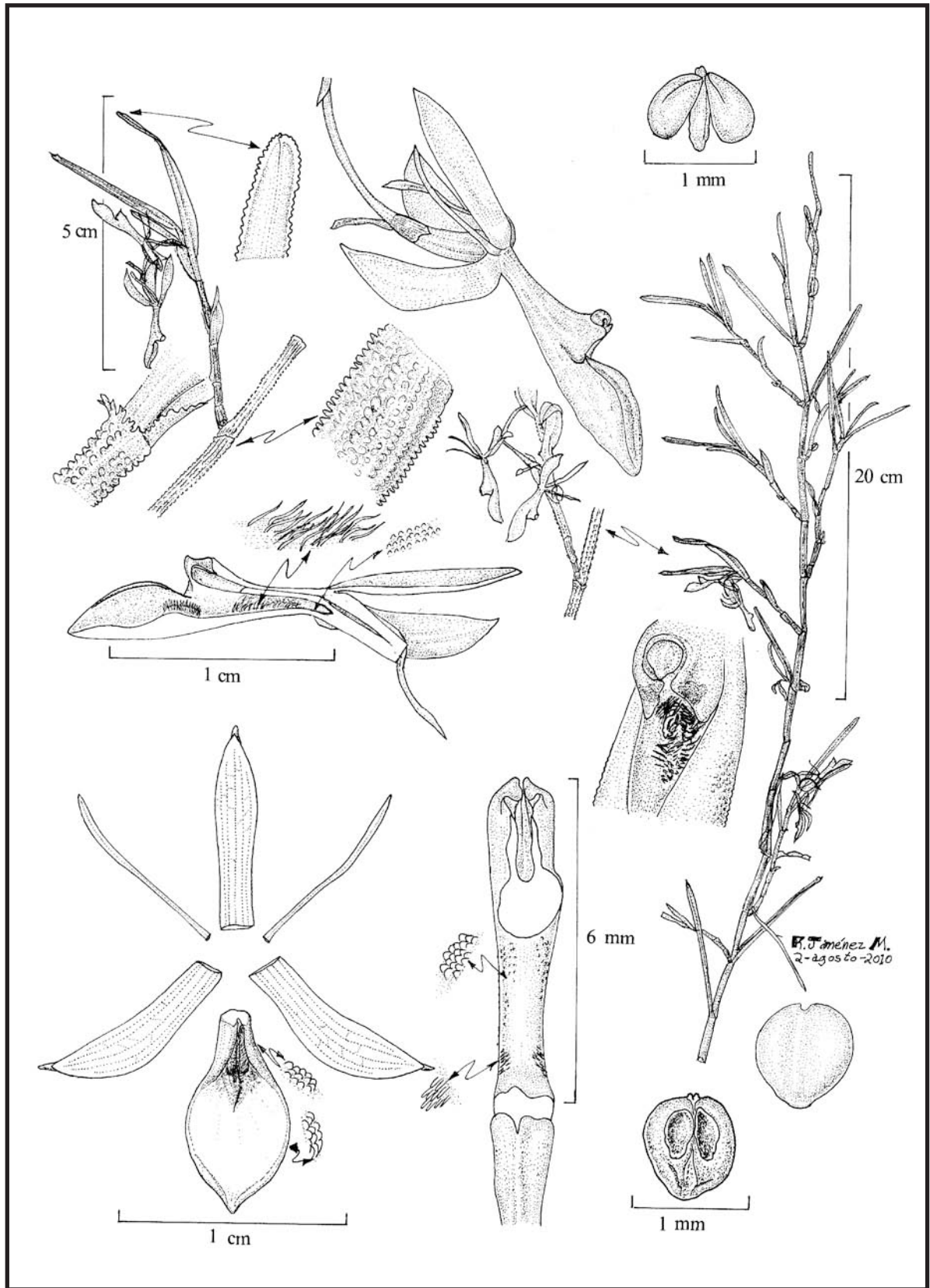
**RECOGNITION:** *Epidendrum leonorae* belongs to the Soratae Subgroup of the Scabrum Group which is characterized by the branching habit starting on a monopodial, primary stem, infundibuliform, rugose leaf-sheaths, lanceolate, aristate, acute leaves, racemose subcapitate inflorescence on a short, thin peduncle, and the bicallose lip. The species is recognized by the small plants with thin stem and very short branches, linear-lanceolate, short leaves, small greenish-white flowers, lateral sepals obliquely elliptic, 5.5 mm long, and a transversely elliptic lip, base slightly cordate, apex emarginate, apiculate, the apiculus flanked by a pair of semi-circular lobes terminating in a pair of prominent teeth at the outer margin, the margin crenate. It is similar to *Epidendrum moscozoi*, which has white flowers with 1-veined, ovate lateral sepals (the dorsal one reflexed) 3.7-4 mm long, and a reniform lip with a unicarinate disc, the ovary is 10-14 mm long. *Epidendrum obliquum* Schltr. has plants to 57 cm tall and a reniform, emarginate lip with entire margin, the ovary is not inflated. *Epidendrum soratae* Rchb.f. has taller plants (to 27 cm), yellowish-green flowers with sepals 6.8-7 mm long, and a reniform, emarginate, somewhat 3-lobed lip with the base deeply cordate, and margin entire.

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

**ETYMOLOGY:** Named after Leonor Escobar Sora, mother of the second author, in recognition to her unconditional support given for his academic formation.

**ACKNOWLEDGEMENT:** We wish to thank Diego Calderón-Franco and Julián Zuleta, ornithologists from Medellín, for sharing their information, images, and the sighting of this new species near Medellín.





EPIDENDRUM LEUCOLISTRON Hágsater, F.Werner & E.Santiago

Plate 1449

**EPIDENDRUM LEUCOLISTRON** Hágsater, F.Werner et E.Santiago, *sp. nov.*

Type: ECUADOR: Zamora-Chinchipec: area of Estación Científica San Francisco (03°S 58', 79° 04'W), road Loja-Zamora, ca. 35 km from Loja, 2400 m, 23 November 2006, **Florian A. Werner 2129**. Holotype: QCA! (Illustration voucher). Isotype: AMO!

Simile *Epidendrum rhombochilum* L.O.Williams sed 1-2 floribus simultaneis, maioribus, sepalis aurantiaco-fuscis, dorsalter purpureo suffusis, petalis hyalinis, albis, labello et columna albis, pubescentia callorum, carina, basi et apice columnae intense purpureis, labello elliptico protento coram columna.

Terrestrial and epiphytic, monopodial, branching **herb** more than 30 cm tall. **Roots** 0.5-1 mm in diameter, thin, distributed along some of the basal internodes, and occasionally from the base of some of the branches, white. **Stems** branching throughout, sometimes the branches themselves producing new branches, terete, thin, the main stem long, more than 30 x 0.1-0.25 cm, the secondary, flowering branches much shorter, 3.5-10 x 0.8-0.1 cm. **Leaves** of the main stem not seen, 4-6 on the branches, distributed along the apical half of the branches, articulate, distichous, sub-erect in relation to the secondary stem; sheath 1.5-3 x 0.1-0.25 cm, tubular, verrucose, the warts forming longitudinal lines, the apical margin opposite the blade dentate; blade 1.2-4.3 x 0.1-0.25 cm, linear-lanceolate, apex rounded, margin crenulate, slightly revolute. **Spathaceous bracts** lacking. **Inflorescence** apical, 1-2 flowered, short, nutant; peduncle 3 mm long, terete, filiform, arched, smooth, short, provided at the base with a single, small, triangular, acute bract, 1 mm long; rachis 10 mm long; filiform, straight. **Floral bracts** 1-2 mm long, about half as long as the ovary, triangular, acute, amplexicaul. **Flowers** 1 or 2, simultaneous, sepals light orange-brown, dorsally overlaid by a purple tinge, petals translucent white, lip and column white, with pubescence of the calli and rib deep purple as well as at the base and apex of the column. **Ovary** 2-3 mm long, terete, thickened progressively towards the apex, smooth, short. **Sepals** 9 x 2 mm, reflexed, free, oblong-oblancheolate, apiculate, 5-veined, margin entire, spreading; the **lateral** sepals falcate. **Petals** 8.5 x 0.4 mm, reflexed, free, linear, slightly falcate, acute, 1-veined, margin entire, spreading. **Lip** 8.2 x 4.4 mm, united to the column, spreading beyond the column, entire, elliptic, base cuneate, apex acute, the sides upturned, margin entire; bicallose, the calli elongate, narrow, the disc with a central short rib that appears between the calli and disappears before the middle of the lip, calli, rib and surrounding surface strongly pubescent. **Column** 6 mm long, short, thin at the base and gradually thickened towards the apex, arching upwards along the apical half, the apex bidentate. **Clinandrium-hood** reduced, margin entire. **Anther** ovoid, 2-celled. **Pollinia** 2, obovoid, with a lateral slit towards the base; caudicles soft and granulose, nearly as long as the pollinia. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** penetrating about half of the ovary, thin, not inflated, ventrally pubescent in the central 1/3. **Capsule** not seen.

**OTHER SPECIMENS: ECUADOR: Zamora-Chinchipec:** area of Estación Científica San Francisco (03°S 58', 79° 04'W), road Loja-Zamora, ca. 35 km from Loja, 2400 m, 3 X 2010, *Werner 3088*. LOJA! Flowers in spirit AMO! (Photo voucher).

**DISTRIBUTION AND ECOLOGY:** Known only from the Reserva Biológica San Francisco (RBSF) on the eastern Andean slope of southern Ecuador, near Cerro El Consuelo in the province of Zamora-Chinchipec. The species is known from the transects 1 and 2 of RBSF, where it scrambles through the understory of stunted and open upper slope or ridge-crest forest, holding fast to a variety of substrates with roots produced at the nodes, at 2380-2550 m altitude. Terrestrial or epiphytic close to the ground. Flowering during early dry season in October-November.

**RECOGNITION:** *Epidendrum leucolistrum* belongs to the Elleanthoides Group which is recognized by the branching habit, the grass-like leaves and the distichous inflorescence with a zigzag rachis and filiform peduncle, the flowers fleshy, the lip cup-shaped and often embracing to overlapping over the column. The species is recognized by the two-flowered inflorescences, the comparatively large (sepals 9 mm long), showy white flowers with the sepals orange-brown dorsally tinged with purple, the lip spreading beyond the column, elliptic, base cuneate, apex acute, the sides upturned, the leaf-sheaths with the apical margin dentate, the 2-celled anther and 2 entire pollinia. *Epidendrum elleanthoides* Schltr. has up to 6, pale yellow to copper-green, small, flowers (sepals 3.7-4.4 mm long), the lip transversely elliptic, embracing the column, without extending far beyond, and the anther 4-celled with 4 pollinia. *Epidendrum rhombochilum* L.O.Williams has 4, greenish yellow flowers, sepals 6.5-8 mm long, the lip rhombic and the column straight, and 2 pollinia.

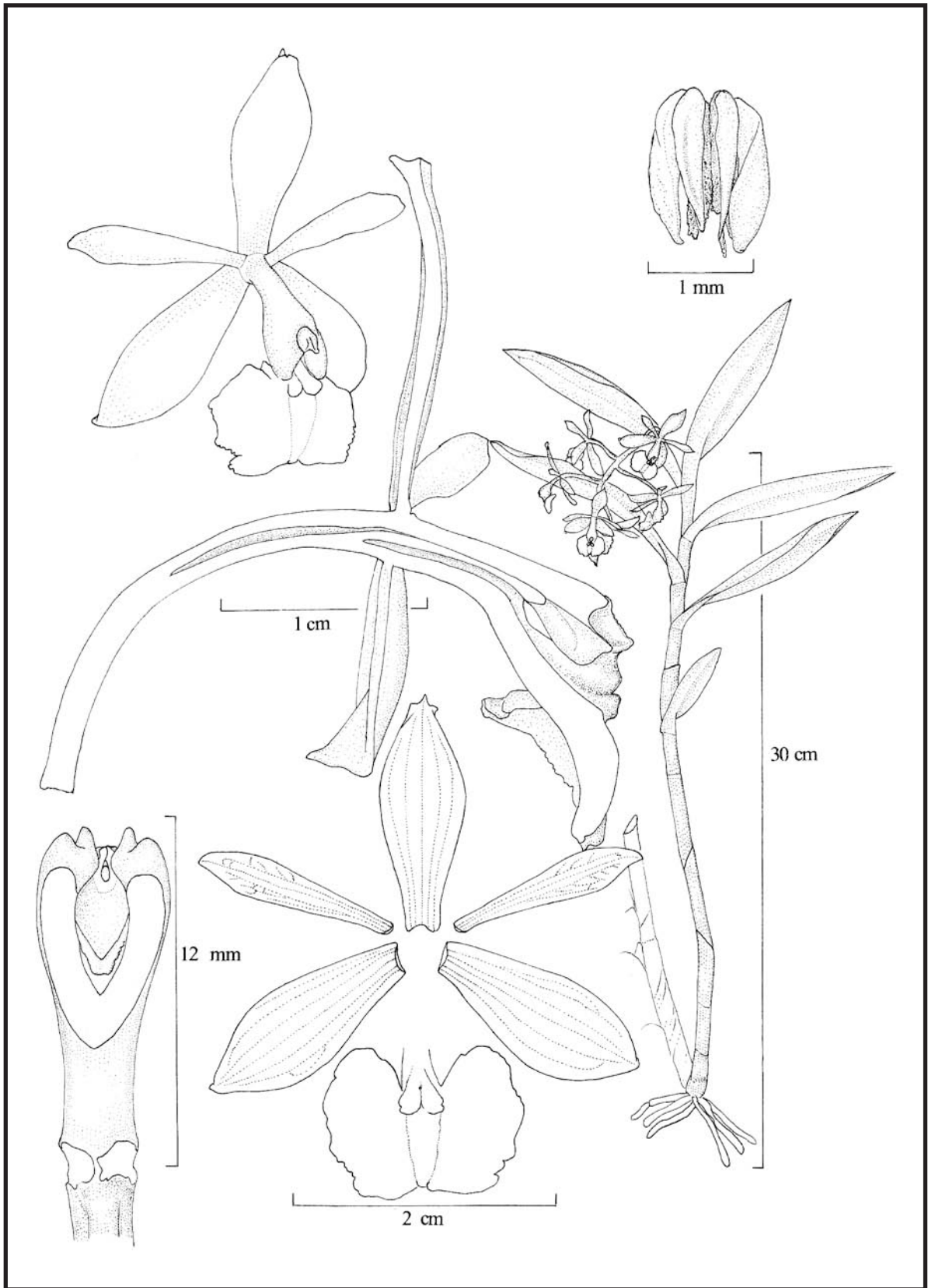
**NOTE:** Vegetatively the species fits in the Elleanthoides Group, and the flower structure is basically similar. However it is notable due to the position of the lip which far exceeds the column and thus does not embrace it as in nearly all other species, where the column is often hidden within the overlapping lip. It also has the ornate lip and cunuculus, both being at least partly papillose. The two pollinia are evidently the product of the fusion of two pairs, with a small slit still visible near the base on the upper side of each pollinium. Other species of this group with two pollinia are *E. chrysanthum* Hágsater & Dodson and *E. rhombochilum*, and have been observed in various other groups. The two pollinia were used by Garay (1977) to segregate *Epidendropsis* and *Epidanthus* from *Epidendrum*, but this character is not consistent, and is rather a homoplastic, found in various groups within *Epidendrum*. Florian A. Werner, from the Carl von Ossietzky Universität, Oldenburg, Germany, worked on the orchids of the Estación Científica San Francisco in Zamora-Chinchipec, adjoining the Parque Nacional Podocarpus, in southern Ecuador, and collected all known specimens.

**CONSERVATION STATUS:** DD. Data deficient. Known only from the two specimens cited, recently collected in a protected area.

**ETYMOLOGY:** From the Greek λευκον, white color, and λιστρον, shovel, in reference to the lip which looks like a white shovel.

**REFERENCES:** Garay, L.A., 1977, The Subtribe Epidanthinae L.O.Wms., *Orchid Digest* 41(1): 19-21.





*EPIDENDRUM LINDBERGII* Rchb.f.

Plate 1450

**EPIDENDRUM LINDBERGII** Rchb.f., Otia Bot. Hamburg. 2: 91, 1881.

Type: BRAZIL: Minas Gerais: Caldas, 18 November 1854, **G. A. Lindberg s.n.** Lectotype (here designated): W-R 4350! Isolectotype: W-R 4349! [The *Lindberg* specimen at S! marked „Holotypus“ corresponds to a different species: *Epidendrum hassleri* Cogn.]

Sympodial, caespitose, epiphytic **herb**, 35-50 cm tall. **Roots** 2-3 mm in diameter, basal terete, thin. **Stems** 24-29 x 1-1.2 cm, simple, cane-like, terete, robust, erect. **Leaves** 89, alternate, articulate, sub-coriaceous; sheaths 20-40 x 0.7-1.2 cm, tubular, minutely striated; blade 4.4-14.5 x 1.0-3 cm, narrowly elliptic, acute, margin entire, spreading. **Spathes** 3.5-4 cm long, single, lanceolate, conduplicate, apex obtuse. **Inflorescence** 7-21 cm de largo apical, racemose to paniculate, slightly arching, many-flowered, nearly as long to slightly longer than the apical leaf; peduncle 2.3 cm long, thin, straight, very short, nearly totally hidden by the spathe; rachis 5-19 cm long, thin, straight; the inflorescence usually provided with 3-6 raceme 7-12 cm long, densely many-flowered, each subtended by a prominent bract 1.5-3 cm long, triangular, acute. **Floral bracts** 2-8 mm long, much shorter than the ovary, narrowly triangular, long-acuminate, amplexicaul. **Ovary** 20 mm long, terete, thin, not inflated, unornamented. **Sepals** 10-17.5 x 3-6.7 mm, spreading, free, oblanceolate-obovate, obtuse, 5-6 veined, margin entire, spreading; the lateral sepals oblique. **Petals** 10-16 x 2.0-3.2 mm, spreading, free, narrowly oblanceolate-spatulate, obtuse, 3-veined, margin entire, spreading. **Lip** 4-11 x 6-15 mm, united to the column, entire, reniform, base deeply cordate, apex slightly emarginate, margin crenulate, the lobes with a shallow slit on each side, and thus suggesting a bifurcate mid-lobe with the sides opposite; bicallose, the calli small, thin, parallel; disc provided with 3 parallel, fleshy ribs, the central one elongate, reaching the apical sinus of the lip. **Column** 8-12 mm long, basal half thin, gradually widened towards the apex, straight, with a pair of minute, acute horns at the apex. **Clinandrium-hood** reduced, margin entire. **Anther** not seen. **Pollinia** 4, bird-wing type; caudicles two, nearly as long as the pollinia, laminar. **Rostellum** apical, slit. **Lateral lobes of the stigma** prominent, half as long as the stigmatic cavity. **Nectary** barely penetrating the perianth, not inflated, unornamented. **Capsule** not seen.

**OTHER SPECIMENS: BRAZIL: Santa Catarina:** Município Indaial, Bairro Tapajós, “cultivada” Uller H.F. 11, Herbario Dr. Roberto Miguel Klein (FURB) 7758! **Rio de Janeiro:** Without locality data, hort. Petropolis, cult. Mexico City, 28 V 1985, J. Verboonen sub Hågsater 7865, AMO 4881! (illustration voucher, color slides, spirit).

**OTHER RECORDS: BRAZIL:** without locality, Pains(?), *Kennedy 3400*, slide, AMO!

**DISTRIBUTION AND ECOLOGY:** Known only from the Mata Atlântica of Brazil, closely following the coast; from the states of Rio de Janeiro to Santa Catarina, epiphytic.

**RECOGNITION:** *Epidendrum lindbergii* belongs to the *Epidendrum viridipurpureum* group, characterized by the caespitose, sympodial habit, sub-coriaceous leaves, prominent spathaceous bracts, wide petals (not filiform), the pollinia laterally compressed but not quite bird-wing type, and the mid-lobe of the lip usually bifid. The species is recognized by the entire lip, flowers green, with the disc of the lip and apex of the column white, petals 3.2 mm wide. *Epidendrum dipus* Lindl. short plants, ca. 50 cm tall, with a spathe at the base of the short, densely flowered, paniculate inflorescence, the sepals green somewhat dorsally tinged with brown, and the white lip. *Epidendrum nutans* Sw., endemic to Jamaica has a clearly 3-lobed lip, the mid-lobe clearly narrower than with width between the lateral lobes, the apex emarginate, forming a pair of divergent, triangular lobes. It has been confused with *Epidendrum densiflorum* Hook. which belongs to the Pseudepidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, without any spathaceous bract, though it may have several bracts, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the “bird-wing” type pollinia, at least the inner pair, and Densiflorum Subgroup where the short-pedunculate inflorescence is paniculate, flowering only once, flowers are green, the apex of the column and disc of the lip creamy-white, the calli sometimes tinged purple, the petals are linear-oblong to linear-oblanceolate, never filiform, and the pollinia unequal in shape, only the inner pair “bird-wing” like. All of the species of that subgroup have narrower petals, and a clearly 3-lobed lip, with the mid-lobe bilobed, the lobes more or less divergent. *Epidendrum densiflorum* has dense, many-flowered, paniculate inflorescences, with a slightly 3-lobed, equally wide between the lateral lobes as at the mid-lobe which is very short and forming a pair of obliquely triangular, acute lobes. *Epidendrum hassleri* Cogn. has robust stems, paniculate inflorescences, oblanceolate-elliptic to spatulate-oblanceolate sepals 11-14 mm long, linear-oblanceolate to linear oblong petals 10-13 x 1-1.5 mm, the lip wider between the lateral lobes than between the lobes of the mid-lobe directed upwards, and the ovary 15-25 mm long. *Epidendrum brachythyrus* Kraenzl. has thin stems, oblanceolate sepals 12-13 mm long, petals linear-oblong, and the lip is as wide between the lateral lobes as between the lobes of the mid-lobe, ovary is 20-33 mm long. *Epidendrum noackii* Cogn. has shorter, thinner stems, ca. 50 cm tall, narrow leaves, and a short, few-flowered inflorescence, 7-8 cm long. *Epidendrum andres-johnsonii* Hågsater & E.Santiago has thinner stems, ca. 6 mm in diameter, the lip is sub-entire, nearly as wide between the lateral lobes and the mid-lobe, and the mid-lobe is very short and barely formed.

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

**ETYMOLOGY:** In honor of the collector of the type, G.A. Lindberg, who collected in Minas Gerais, Brazil in 1854, and deposited material at S, W-R and BR.



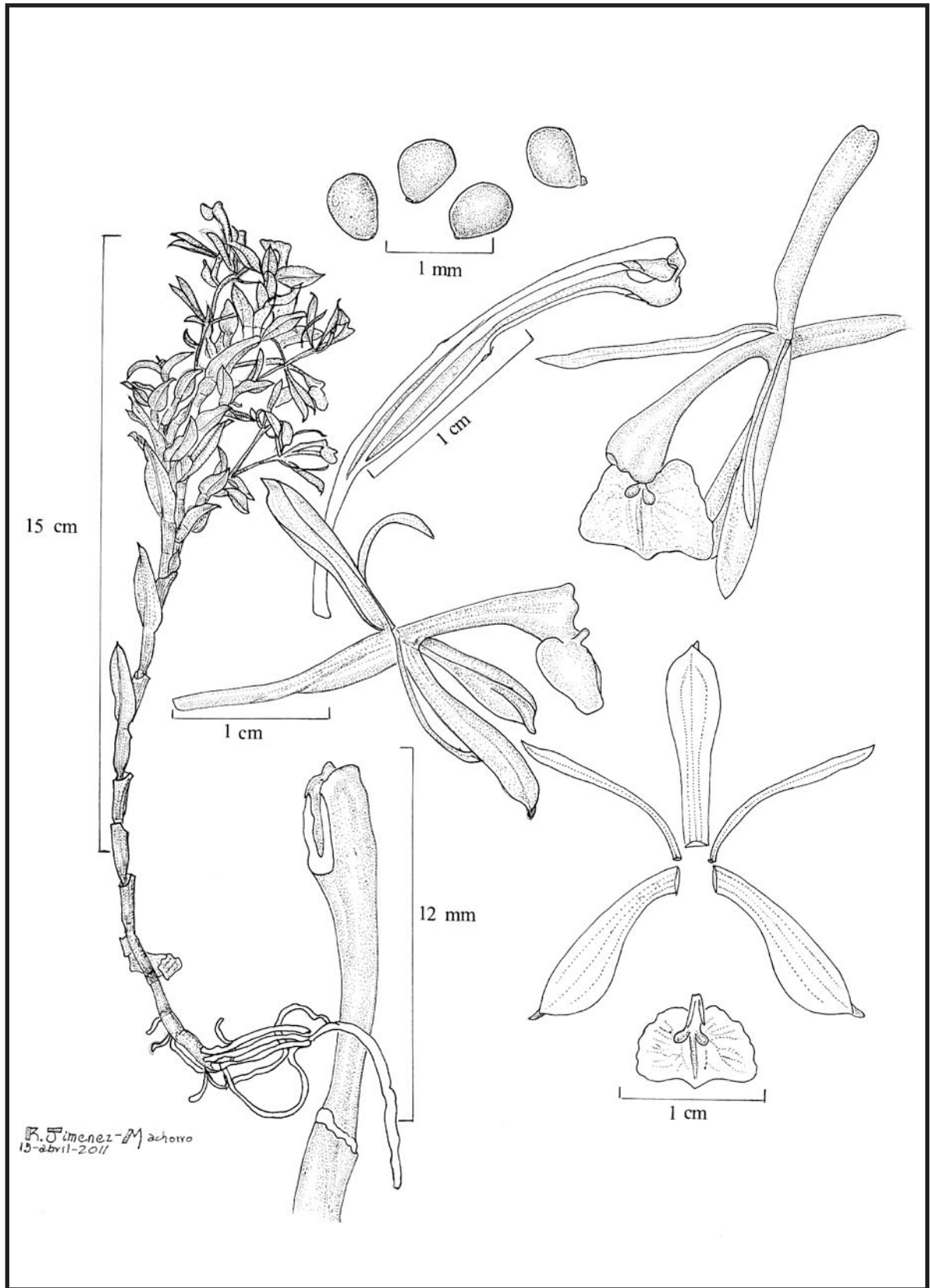
Authors: E. Santiago & E. Hågsater  
Herbario AMO

Illustrator: E. Hågsater  
México, D.F. MÉXICO

Photo: E. Hågsater

Editors: E. Hågsater & L. Sánchez S.

ICONES ORCHIDACEARUM 14. 2013. Plate 1450



**EPIDENDRUM LINDERI** Hágsater & E.Santiago

Plate 1451

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

Type: ECUADOR: Morona-Santiago: Gualaquiza, Área de Bosque Vegetación Protectora Tambillo, bosque húmedo montano, 03°16' S 78°50' W, 2900 m, 7 September 2001, **Linder Suin & Rosario Zhunio 1059**. Holotype: AMO! (Illustration voucher).

Simile *Epidendri soratae* Rchb.f. sed plantis minoribus, floribus duplo maioribus, foliis brevioribus, inflorescentia subsessili, valde brevi et biflora, floribus flavis, ovario inflato eformante vesiculam ventralem elongatam.

Epiphytic, monopodial, erect, small **herb**, 20 cm tall, where the new stems are produced from sub-apical internodes of the previous stem. **Roots** 1-2 mm in diameter, basal, fleshy, thin. **Stems** branching, cane-like, terete, thin, the primordial stem much taller, 11-13.5 x 0.2-0.25 cm, than the subsequent stems, 2-4 x 0.2-0.25 cm, which appear to first sight to be lateral inflorescences. **Leaves** 5-7, alternate, articulate, coriaceous; sheath 5-10 x 3-4 mm, infundibuliform, striated, verrucose, teñida de purpúreo; blade 0.8-2.2 x 0.3-0.6 cm, lanceolate to ovate-lanceolate, obtuse, minutely apiculate, sub-coriaceous, de color verde purpúreo a púrpura rojizo, la superficie dorsal estriada, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescence** 2-4 mm long, apical, racemose, flowering only once, very short; peduncle 1 mm long, sessile. **Floral bracts** 3 mm long, much shorter than the ovary, triangular-lanceolate, acuminate, amplexicaul, de color púrpura-rojizo. **Flowers** 2-3, simultaneous, resupinate, yellow a verdes con difuminaciones purpúreas en los segmentos florales y en el ápice de la columna; fragrance not reported. **Ovary** 13-18 mm long, terete, thin, smooth, the apical half ventrally inflated and forming a vesicle. **Sepals** 10-15 x 3-3.7 mm, free, oblanceolate-spatulate, obtuse, minutely apiculate, 3-veined, margin entire, spreading; the **dorsal** sepals spreading; the **lateral** sepals partly spreading, oblique. **Petals** 10-14 x 1 mm, free, partly spreading, linear-filiform, obtuse, falcate downwards, 1-veined, margin entire, spreading. **Lip** 5-5.5 x 7-8 mm, united to the column, sub-reniform or semi-orbicular, convex in natural position, base slightly cordate, widely apiculate, margin minutely crenate; bicallose, calli globose, small; disc with a single, low rib that starts between the calli and disappears before the apex of the lip. **Column** 9-12 mm long, straight, thin along the basal 2/3, then dilated, long. **Clinandrium-hood** short, margin entire. **Anther** not seen. **Pollinia** 4, obovoid, somewhat laterally compressed; caudicles very short. **Rostellum** apical, slit. **Lateral lobes of the stigma** prominent, occupying 1/2 the length of the stigmatic cavity. **Nectary** penetrating 1/2 of the ovary, forming an elongate, ventral vesicle, unornamented. **Capsule** not seen.

**OTHER SPECIMENS: ECUADOR: Loja:** San Pedro, 2400 m, 17 II 1983, *Dalström 501*, SEL! **Zamora-Chinchipec:** few km east of Pass ("El Tiro" between Loja and Zamora; 2650 m, 27 IV 2007, *Werner 2211*, AMO!

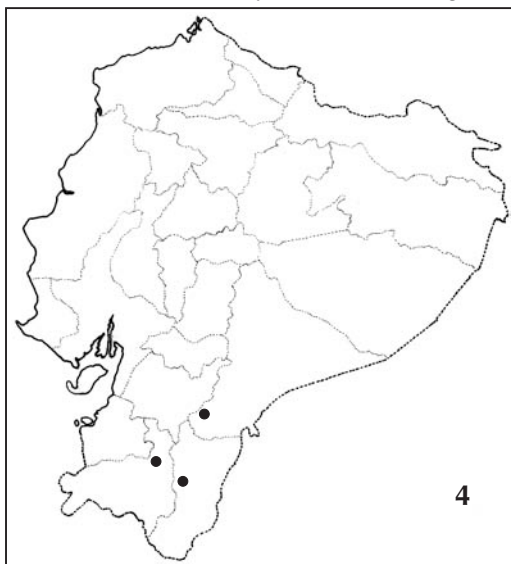
**OTHER RECORDS: ECUADOR: Zamora-Chinchipec:** few km east of Pass ("El Tiro" between Loja and Zamora; 2650 m, 27 IV 2007, photo *Werner 2211*, digital image, AMO!

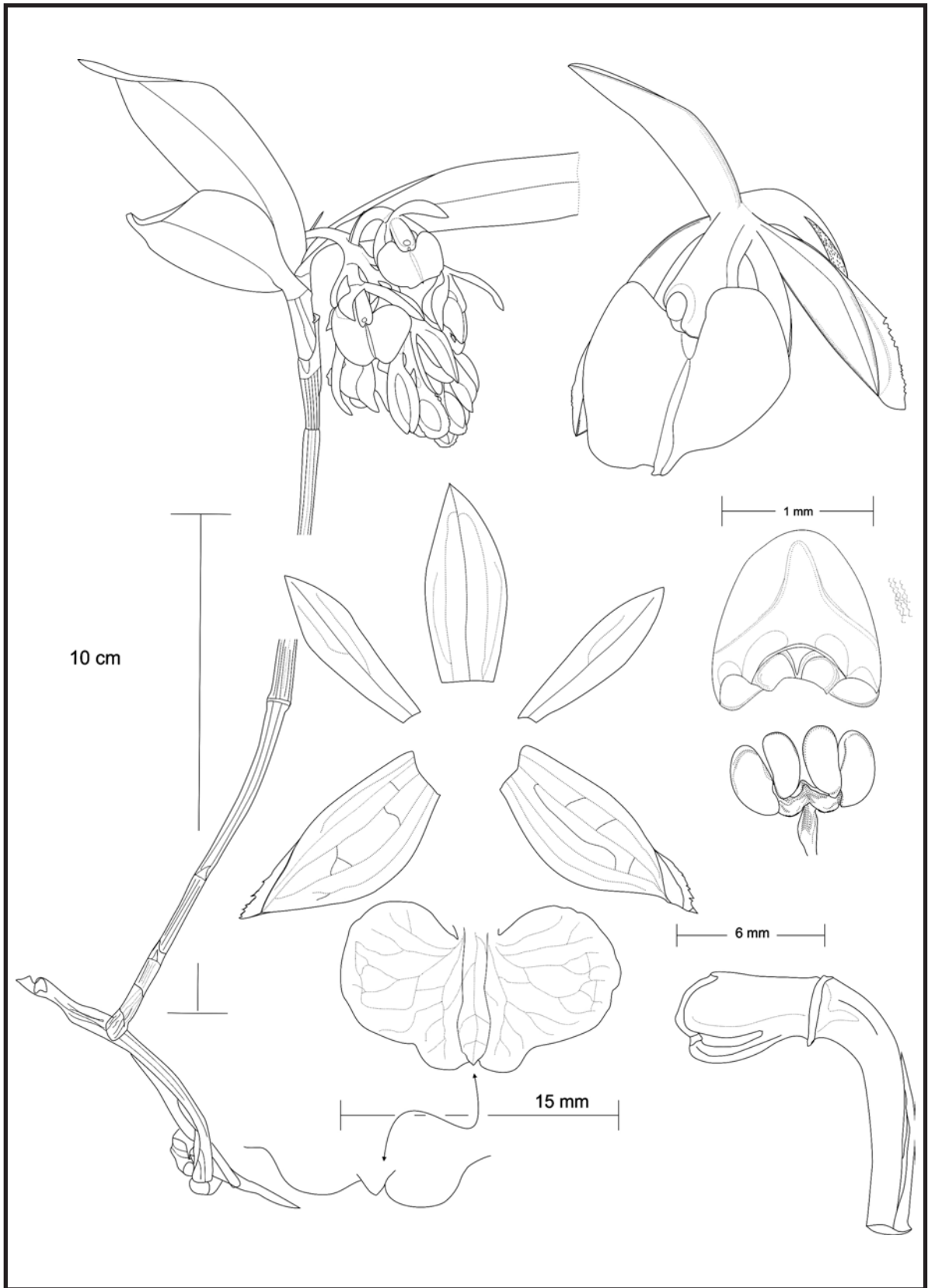
**DISTRIBUTION AND ECOLOGY:** Known only from the upper Amazon slope of the eastern Cordillera of the Andes in southern Ecuador, epiphytic at 2400-2900 m altitude. Flowering in September-Febrero.

**RECOGNITION:** *Epidendrum linderi* belongs to the Soratae Subgroup of the Scabrum Group which is characterized by the branching habit starting on a monopodial, primary stem, infundibuliform, rugose leaf-sheaths, lanceolate, aristate, acute leaves, racemose subcapitate inflorescence on a short, thin peduncle, and the bicallose lip. The species is recognized by the small plants, short leaves (0.8-2.2 cm long), inflorescence sub-sessile, 2-3- flowered, flowers yellow, comparatively large for the plant, sepals 10-15 mm long, petals falcate, linear-filiform, lip sub-reniform or semi-orbicular, base slightly cordate, apex widely apiculate, margin minutely crenate; the nectary forms a long, inflated vesicle along the apical ventral part of the ovary. *Epidendrum soratae* Rchb.f. has larger leaves, 1.7-4.7 cm long, somewhat longer inflorescences, peduncle 8-10 mm long, with 8-12 yellowish green, small flowers (sepals 6.8 mm long), the lip reniform with the apex emarginate, not widely apiculate; it has a short inflated nectary at the height of the perianth. *Epidendrum yanachagaense* Hágsater has elliptic-ovate leaves (0.8-4.0 x 0.9-1.3 cm), the inflorescence 3-5 cm long, large, green flowers (sepals 15-16 mm long), 4 mm-wide petals, and the lip sub-orbicular, apiculate.

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

**ETYMOLOGY:** In honor of Linder Suin, Ecuadorean botanist who participated in the collection of the type, as well as numerous other orchids. *Epidendrum suini* Hágsater & Dodson is also dedicated to him.





**EPIDENDRUM LUIS-SANCHEZII** Hágsater, E.Parra & O.Pérez

**Plate 1452**



**EPIDENDRUM LUIS-SANCHEZII** Hágsater, E.Parra et O.Pérez, *sp. nov.*

Type: COLOMBIA: Valle del Cauca: Cerrito, Tenerife, 3500 m, 6 de Febrero de 2011, *Edicson Parra Sánchez 381*.  
Holotype: VALLE! (Illustration voucher).

Simile *Epidendri aylacotoglossi* Hágsater sed foliis ovato-ellipticis, labello obscure trilobato, ecalloso, disco praedito carina lata et humili attingente apicem laminae; petalorum apices acuti et columna recta.

Epiphytic, sympodial, erect **herb**, 20 cm tall or more, where the new stem originates from a sub-apical internode of the previous stem. **Roots** produced from the base of the primordial stem, thick. **Stems** 16.5 x 0.4 cm, terete, the new stem produced from a sub-apical internode of the previous stem, below the leaves; the basal  $\frac{3}{4}$  covered by tubular, non-foliar, striated, scariose sheaths, 1.3-3.8 cm long. **Leaves** 3, aggregate towards the apex of the stem, unequal in size, subcoriaceous, alternate, articulate; sheaths 1.4 x 0.5 cm, tubular, striated; blade 6-9 x 2.5-3 cm, obovate-elliptic, obtuse, margin entire. **Spathaceous bract** lacking. **Inflorescence** 5.4 cm long, apical, flowering only once, densely few-flowered; peduncle 1.6 cm long, terete, thin, straight, short. **Floral bracts** 7.5 mm long, half as long as the ovary, triangular, acuminate, amplexicaul. **Flowers** 10-15, fleshy, successive, though several are open at one time, yellow, the ovary greenish yellow, darker towards the base; without fragrance. **Ovary** 12 mm long, terete, arched near the apex, not inflated, somewhat grooved. **Sepals** partly spreading to spreading, free, obovate, acute, 3-5-veined, margin entire, spreading; the **dorsal** sepal 11 x 4.5 mm; the **lateral** sepals 13 x 5.5 mm, oblique with a prominent, serrulate, awned dorsal keel. **Petals** 10.5 x 2.8 mm, partly spreading, the apical  $\frac{2}{3}$  hidden beneath the lip in natural position, oblanceolate, acute, 1-veined, the vein branched around its mid-point, margin entire, spreading. **Lip** 9 x 15 mm, united to the column, obscurely 3-lobed, widely reniform, base cordate, concave in front of the column, the rest of the lip convex, margin entire; ecallose, the disc with a wide, low rib spreading from the base to the apex of the lip; lateral lobes 7.0 x 7.5 mm, semi-orbicular; mid-lobe 1.4 x 6 mm, short, transversely rectangular, the apex emarginate, minutely apiculate, forming a pair of small, rounded lobes. **Column** 6 mm long, straight, short, thick; the apex with a pair of prominent rounded wings. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Clinandrium-hood** reduced, margin entire. **Anther** 1 mm wide, obovoid, ornamented, papillose, 4-celled. **Pollinia** 4, obovoid; caudicles as long as the pollinia. **Rostellum** sub-apical, slit. **Nectary** and **capsule** not seen.

**OTHER SPECIMENS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Endemic to southern Colombia, on the western slope of the Central Cordillera of the Andes. So far known only from the remnant paramune vegetation of the Cerrito Municipality, Tenerife village, Valle del Cauca. Epiphytic in secondary humid cloud forest, at 3500 m altitude. Flowering in March.

**RECOGNITION:** *Epidendrum luis-sanchezii* belongs to the Arbuscula Group which is characterized by the erect habit with successive lateral growths produced from the middle of the previous growth, few leaves aggregate towards the apex of the stems, roots generally only from the base of the primordial stem, and the Incomptum Subgroup which has a short apical inflorescence with fleshy yellowish to green to violet-green to black flowers with short ovaries, the lip entire to 3-lobed. The species is recognized by obovate-elliptic leaves, the yellow flowers, sepals with a prominent, acute and serrulate keel on the ventral side, the apical  $\frac{3}{4}$  of the petals hidden beneath the ecallose lip which is obscurely 3-lobed, the mid-lobe emarginate, apiculate, forming a pair of rounded lobes, with a low thick rib running the length of the lip. *Epidendrum aylacotoglossum* Hágsater has elliptic leaves, the clearly 3-lobed lip with a pair of low calli and a short canal in the middle, and the column sigmoid. *Epidendrum envigadoense* Hágsater has narrow, lanceolate leaves, a wider lip (17.5-19 mm) with a pair of small calli and the apex emarginate, not apiculate. *Epidendrum amayense* Hágsater has linear-lanceolate leaves (0.5-0.6 mm wide), somewhat smaller, green flowers, the sepals (9 mm long) with a low dorsal keel, and the lip without any thickened rib. *Epidendrum oligophyllum* F.C. Lehm. & Kränzl. is vegetatively very similar, with oblong-elliptic to elliptic leaves, olive-brown flowers, the lip bicallose and the column 10 mm long. *Epidendrum morae* P.Ortiz, Hágsater & L.E.Álvarez has elliptic leaves, pale yellow flowers somewhat tinged pink-violaceous, the sepals have no dorsal keel, and the 3-lobed lip is bicallose with 3 low ribs on the disc.

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

**ETYMOLOGY:** In honor of Luis M. Sánchez Saldaña, Mexican orchid researcher at the AMO Herbarium, who has contributed to the taxonomy of neotropical orchids, for his support in the research of native Colombian orchids.



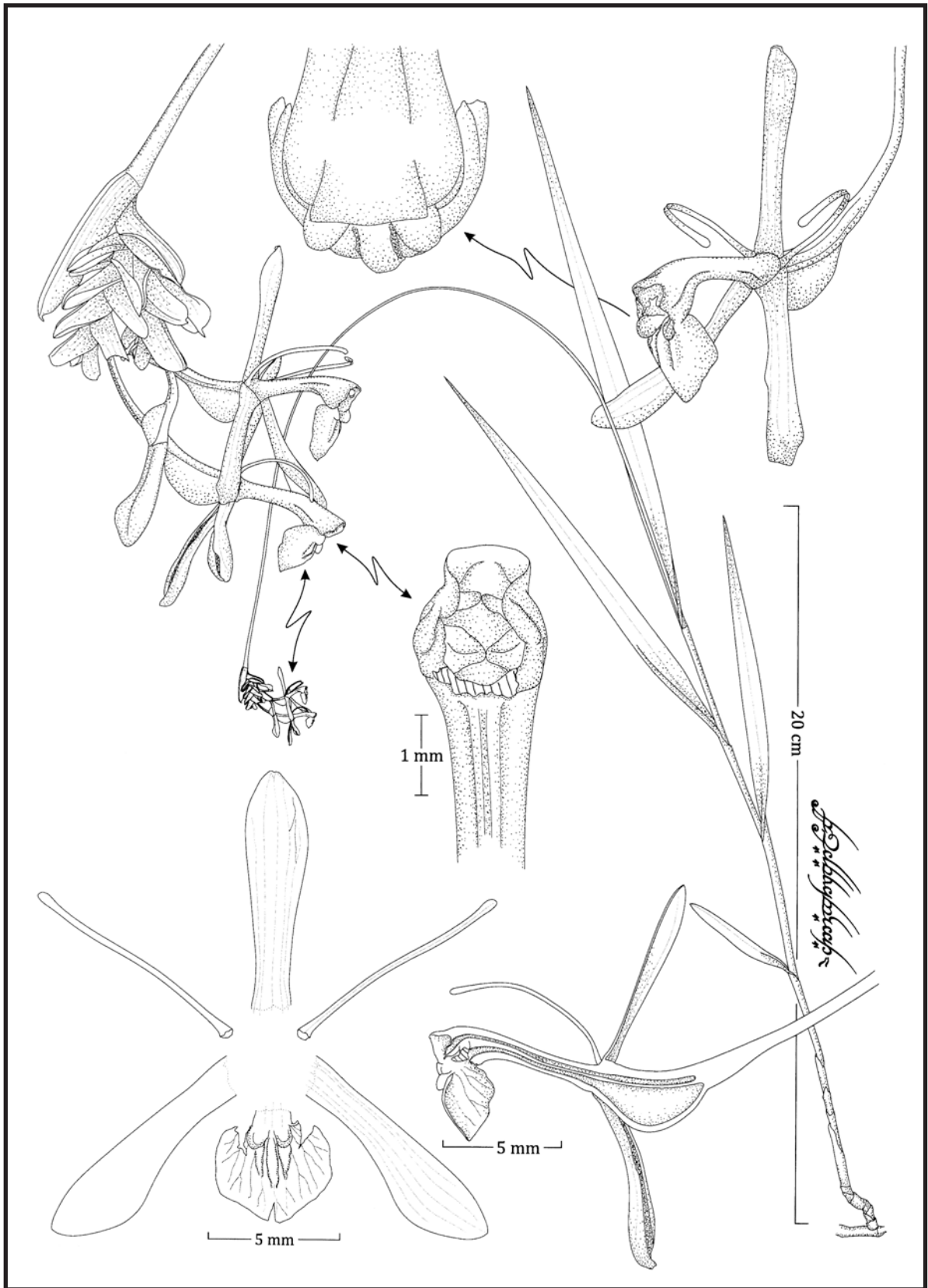
Authors: E. Hágsater, E. Parra & O. Pérez  
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Illustrator: E. Parra  
México, D.F. MÉXICO

Photo: E. Parra

Editors: E. Hágsater & L. Sánchez S.

ICONES ORCHIDACEARUM 14. 2013. Plate 1452



EPIDENDRUM MACROPHYSUM Hágsater, O.Pérez & E.Santiago

Plate 1453

**EPIDENDRUM MACROPHYSUM** Hágsater, O. Pérez et E. Santiago *sp. nov.*

Type: COLOMBIA: [Chocó]: Municipio de San José del Palmar, El Tabor, ca. 1400 m, 13 November 2011, **Oscar Alejandro Pérez-Escobar & Duvan García-Ramírez 1400**. Holotype: CUVCI! (Illustration voucher) Isotype: VALLE!

Similar to *Epidendrum jefallenii* Hágsater & García-Cruz but the leaves narrower, the peduncle filiform, racemes of the inflorescence shorter, the margin of the sepals revolute and the ovary forming a very prominent vesicle, disc of the lip with 3 ribs.

Epiphytic, caespitose, sympodial **herb**, 40 cm tall. **Roots** basal fleshy. **Stems** 16.8-20 x 0.1-0.28 cm, cane-like, simple, straight, thin, basal half terete, ancipitose towards the apex. **Leaves** 4-5, distributed along the apical half of the stem, the basal one smaller, green, concolor; sheaths 2.9-4.45 x 0.12-0.28 cm, tubular, ancipitose, striated; blade 3-15.4 x 0.2-1 cm, linear-lanceolate, long-acuminate, with a central vein and a pair of evident secondary veins on the upper face, margin entire. **Spathaceous bract** 1.1 cm long, single, at the apex of the peduncle, narrowly elliptic, obtuse, conduplicate, ancipitose, similar to the floral bracts but larger. **Inflorescence** 20.5 cm long, apical, pluri-racemose, arching pendant, producing up to 4 racemes from within the apex of the peduncle; peduncle 19 cm long, filiform, ancipitose, two-winged, progressively narrower, the wings notorious at the base, thin; racemes ca. 1 cm long, short, densely few-flowered, rachis totally hidden by the floral bracts. **Floral bracts** 4-4.6 x 3.2-3.4 mm, shorter than the ovary, the basal ones sub-oblong, the apical ones elliptic, the apex rounded to minutely apiculate, conduplicate, dorsally carinate, distichous, imbricated at the base, persistent, pale green with small irregular, lilac spots. **Flowers** successive, 1 at a time per raceme, resupinate, pale green, the apex of the column greenish white at the height of the clinandrium-hood, callus and disc greenish white, the vesicle of the ovary and ovary with small, irregular lilac spots. **Ovary** 15.5 mm long, terete, thin, strongly inflated at the apex, forming a prominent ventricose vesicle. **Sepals** 9 x 2.4 mm, spreading, free, spatulate-lanceolate, sub-obtuse, 5-veined, margin entire, revolute; the lateral sepals oblique. **Petals** 9 x 0.4 mm, inflexed, free, linear, apex rounded, 1-veined, margin spreading, entire. **Lip** 3.9 x 4.5 mm, united to the column, entire, convex, sub-orbicular, cordiform when spread; bicallose, the calli prominent, fleshy, laterally compressed; disc with 3 fleshy, thin, parallel ribs, the surface rugose, the central rib slightly longer than the outer pair, though without reaching the apex of the lip. **Column** 7.2-7.6 mm long, thin along the basal 2/3, gradually widened towards the apex, slightly arched. **Clinandrium-hood** prominent (though without surpassing the body of the column, margin entire. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma** prominent, covering half the stigmatic cavity. **Nectary** penetrating ca. 1/3 of the ovary, inflated, unornamented. **Anther** ca. 1 mm wide, 4-celled, transversely elliptic. **Pollinia** 4, slightly laterally compressed, sub-lenticular. **Capsule** 20 x 7.3 mm, ellipsoid, green with lilac spots on the pedicel and body, pedicel 6 mm long, body 11 x 7.3 mm, apical neck 3 mm long.

**OTHER SPECIMENS:** None seen.

**DISTRIBUTION AND ECOLOGY:** So far known from the western slope of the western range of the Los Andes, Department of Chocó, municipality of San José de El Palmar. Grows as an epiphyte in cloud forests at 1400-1500 m, where the populations are abundant.

**RECOGNITION:** *Epidendrum macrophysum* belongs to the Albertii Group which is characterized by the sympodial habit, laterally compressed to ancipitose or somewhat fusiform-thickened stems, the apical or apical and lateral racemose, distichous inflorescence more or less with imbricating bracts on the peduncle, producing one flower at a time, and the Allenii Subgroup which is characterized by the stems with numerous leaves, the inflorescence apical (rarely lateral), peduncle elongated, bare, non-bract bearing, two-winged, the rachis short, covered by rounded, usually imbricating bracts. The species is recognized by the almost filiform and long peduncle of the inflorescence, which is almost as long as the stem, the sub-oblong to elliptical, rounded floral bracts of 4-4.6 mm long, which somehow are a reminiscent of the glumes' flowers of some *Fimbristylis* species (Cyperaceae) and other sedges, the ventricose, prominent vesicle of the ovary and by the sub-orbicular to cordiform lip with a disc with three sub-equal ribs, 3.9 x 4.5 mm. It is similar to *E. jefallenii* Hágsater & García-Cruz from Panama, which has more ancipitose peduncles, two-winged, the wings prominent; the inflorescence with larger racemes with 5-10 successive flowers; ovary slightly inflated in the apical third and a cordiform lip with emarginate apex, 4-5 x 5-6 mm, with a single rib spreading from the base to the half of the lip. It is also similar to *Epidendrum adnatum* Ames & C. Schweinf., from Costa Rica and Panama, which has shorter inflorescences with ancipitose peduncles, two-winged, the wings prominent towards the base; an ovary dilated just behind the perianth; oblanceolate, sub-acute, mucronate, sepals; and a ovate, sub-acute, apiculate lip with the margin slightly erose.

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

**ETYMOLOGY:** From the Greek μακρος, large, and φουσα, bladder, in reference to the very large inflated vesicle on the ventral, apical side of the ovary, much larger than is normal for this group of species.



Authors: E. Hágsater, O. Pérez & E. Santiago

Illustrator: O. Pérez

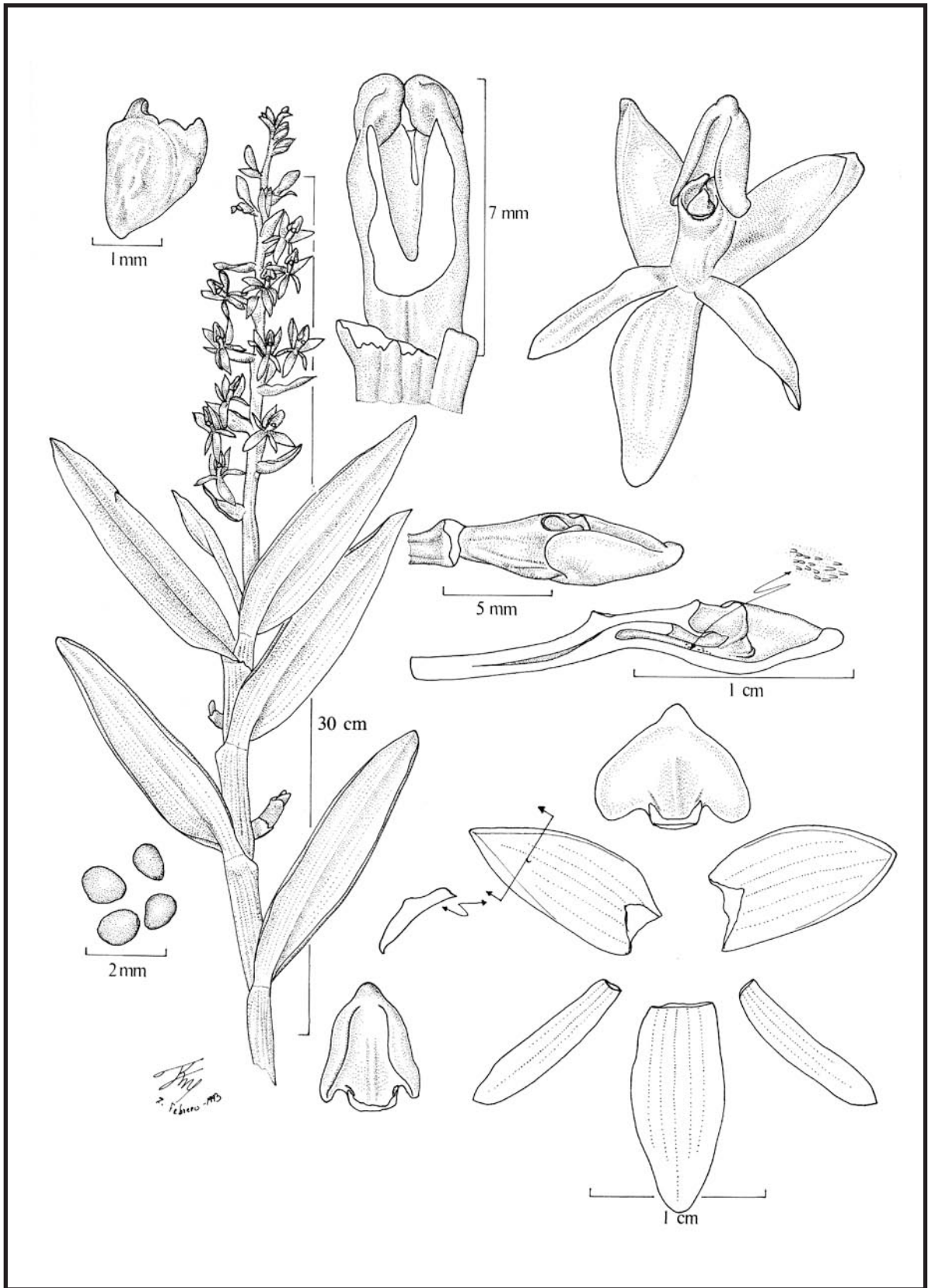
Photo: O. Pérez

Editors: E. Hágsater & L. Sánchez S.

Herbario AMO

México, D.F. MÉXICO

ICONES ORCHIDACEARUM 14. 2013. Plate 1453



EPIDENDRUM MACROSTACHYUM Lindl.

Plate 1454

**EPIDENDRUM MACROSTACHYUM** Lindl., Edwards's Bot. Reg. 31(Misc.): 70. 1845. [*non Epidendrum macrostachya* Thouars, Hist. Orchid. t. 83. 1822 = *Beclardia macrostachya* (Thouars) A.Rich., Monogr. Orchid. Iles de France Bourbon 79, t. 2. 1828.]

TYPE: New Grenada: Mariquita. [COLOMBIA:] Pan de Azucar, on the side of [Nevado del] Tolima, 6000 ft., **Linden 1279**. Holotype: K! (tracing at W-R 5845!). Isotypes: G! W-R x2!

Terrestrial, monopodial, branching **herb**, 60-150 m tall. **Roots** not seen. **Stems** branching when mature, cane-like, terete, erect, straight; the main stem to 150 x 0.7-1.5 cm; the branches 30-50 x 0.7-1.0 cm. **Leaves** numerous on the main stem, distributed throughout, articulate, alternate, partly spreading in relation to the stem, unequal in size (those of the main stem larger than on the branches); sheath 10-40 x 7-12 mm, tubular, minutely striated, rugose; blade on main stem 12.5-13 x 3.0-3.5 cm, on the branches 2-7.5 x 1.4-1.8 cm, lanceolate-elliptic, obtuse, margin entire, slightly revolute. **Spathaceous bract** lacking. **Inflorescence** 16-30 cm long, apical, racemose, erect nearly throughout (only somewhat arching towards the apex), flowering only once, pyramidal, densely many-flowered; peduncle very short, 8-17 mm long; with a tubular bract in the middle, 1 cm long; subterete, erect, straight; rachis 15-28.5 cm long, terete, colored of ripe burgundy grape. **Floral bracts** 8-18 x 5-14 mm, prominent, slightly longer than the ovary, gradually diminishing in size towards the apex of the rachis, triangular-ovate, acute, amplexicaul, green. **Flowers** 13-34, opening in succession, eventually many open at one time, non-resupinate, very fleshy, colored of ripe olives, or black-brown, base of the column, anther and disc of the lip pale green, distributed in a helicoid along the rachis; fragrance not registered. **Ovary** 8-12 mm long, terete, thick, longitudinally striated, not inflated, unornamented. **Sepals** 11.0-11.5 x 5-6 mm, free, 5-veined, margin entire, spreading; the dorsal sepals reflexed, elliptic, apex sub-obtuse; lateral sepals partly spreading, narrowly ovate-elliptic, slightly oblique, obtuse, minutely apiculate, with a dorsal keel. **Petals** 10.5 x 2 mm, free, spreading, linear-oblong, sub-obtuse, 3-veined, margin entire, spreading. **Lip** 7.3 x 8 mm, united to the column, very fleshy, entire, widely cordiform, slightly cordate at the base, apex obtuse, widely apiculate, ecallose and without ribs, with a pair of short erect blades in front of the column, divergent, glabrous, cymbiform in natural position, embracing the column, margin entire, spreading. **Column** 7 mm long, straight, thin at the base, gradually widened towards the apex. **Clinandrium** reduced, margin entire. **Anther** 4-celled, obovoid, the apex obtuse. **Pollinia** 4, obovoid, unequal. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** short, without penetrating the ovary, not inflated, scarcely pubescent in front of the stigmatic cavity. **Capsule** not seen.

**OTHER SPECIMENS:** Without locality data, *François André s.n.*, K-L! **COLOMBIA:** **Antioquia:** Mpio. Valdivia, Alto de Ventanas 145 km NE de Medellín, Finca la Soledad, 2000 m, 7 I 1994, *Callejas 11071*, MO! Medellín, *Patin s.n.*, W-R 7088! Ibid. *Patin s.n.*, W-R 14464! Cerro del Padre Amaya, 10.2 km from Medellín-Santa Fé, 2990 m, 18 III 1987, *Zarucchi 4800*, MO! SEL! **Cauca:** Cordillera Central, vertiente occidental. Cabeceras del río Palo, quebrada del río López: Quebrada del Duende, 3400-3450 m, 3 XII 1944, *Cuatrecasas 18949*, AMES! MO! VALLE! Am Alto Obispo bei Popayán, 10000 ft, 18 V 1978, *Lehmann s.n.*, W-R 62238! Branches on the Paramo de Guanacas, 3200-3600 m, *Lehmann 7601*, K-L! NY! Mt. Pan de Azúcar, Cordillera Central, 3300-3600 m, 16 VI 1992, *Pennell 7020*, AMES! (Illustration voucher) K-L! NY! **Huila:** Páramo de la Candelaria, 2370 m, 15 VII 1975, *Díaz 598*, COL! arriba de la Finca Palmira, 2100 m, 26 IX 1984, *Contreras 4184*, COL! **Nariño:** Cordillera de Pasto, 3000 m, *Lehmann 362*, G! W-R! **Putumayo:** Carretera Sibundoy-Mocoa, Cordillera de Portachuelo, 2200 m, 8 IX 1965, *García-Barriga 18608*, AMES! COL! **Risaralda:** Mpio. Santuario, Apia, Vereda "Las Colonias", 2740 m, *Torres 1615*, COL! **ECUADOR:** **Azuay:** Gualaceo, Carretera Gualaceo Loma de la Virgen-Limón Indanza, km 27, 3300 m, 19 VII 2000, *Álvarez 2739*, QCNE! Road Gualaceo-Limón, km 13, 3200-3300 m, 4 III 1985, *Harling 22723*, AMES! **Loja:** Road Yangana-Valladolid, km 11, 2300 m, 23 IV 1997, *Klitgaard 503*, LOJA! **Morona-Santiago:** Gualaquiza, Road Cuenca to Gualaquiza, km 28, 3150 m, 16 II 1986, *Embree 13*, MO! QCNE! Camino Gualaceo-Limón ca. km 24, 21 XI 1988, 3100 m, *Hágsater 9625*, AMES! AMO! (Illustration) QCNE! SEL! Road Gualaceo-El Limón. From the pass towards El Limón, 3200-3400 m, 8 II 1989, *Henk van der Werff 10539*, MO! QCNE! SEL x2! Campamento Achupalla, Cordillera del Cóndor, 15 km east of Gualaquiza, 2090 m, 21 VII 1993, *Gentry 80313*, QCNE! **Napo:** Parque Nacional Llanganates. Quebrada Yanacocha. Camino al Río Golpe, 3200 m, 10 X 1998, *Narvaez 245*, QCNE!

**OTHER RECORDS:** **COLOMBIA:** **Caldas:** P. N. Los Nevados, *Diego Calderon-F.* [www.colombiabirding.com](http://www.colombiabirding.com) **Tolima:** Nevado de Tolima. Parque los Nevados, camino Rancho-La Cueva, 3300-3400 m, *Milton Rincon s.n.*, digital image, AMO! **ECUADOR:** Without locality data, *A. Hirtz 7847*, slide, AMO!

**DISRIBUTION AND ECOLOGY:** Known from Colombia, along the Cordillera Central and Cordillera Oriental of the Andes from Antioquia to Nariño and Putumayo, and into Ecuador as far south as Yangana. Terrestrial among shrubs at 1800-3600 m altitude. Flowering throughout the year.

**RECOGNITION:** *Epidendrum macrostachyum* belongs to the Macrostachyum Group, which is characterized by the monopodial plants with sub-apical branching, rugose leaf sheaths, racemose inflorescence, and fleshy flowers with a simple, conduplicate lip embracing the column, and the nectary pubescent to papillose in front of the stigmatic cavity. The species has tall plants, 60-150 cm high, the leaves of the main stem 12.5-13 x 3.0-3.5 cm, dense, pyramidal inflorescences to 30 cm long, successive, deep black-brown colored flowers, the color of ripe olives, the base of the column, anther and disc of the lip pale green, the prominent floral bracts 8-18 mm long, slightly longer than the ovary, sepals elliptic to ovate-elliptic, 11.0-11.5 mm long, petals linear-oblong, the apex sub-obtuse, the lip widely cordiform, somewhat wider than long, and the clinandrium-hood much reduced. *Epidendrum dermatanthum* Kraenzl. from Peru has a shorter inflorescence, up to 16 cm long, lax and few-flowered, the larger flowers are reddish, sepals oblong, 17-18 mm long, petals lanceolate, acuminate, the lip slightly longer than broad, 10 x 8 mm. *Epidendrum magnibracteatum* Kraenzl. is only found on the Cordillera Oriental in northern Colombia, has similarly colored flowers, but the floral bracts are much more prominent (always longer than the flower), the disc of the lip does not have the two parallel laminar calli characteristic of *E. macrostachyum*. *Epidendrum palaciosii* Hágsater & Dodson has cylindrical inflorescences with up to 75 small, pale purple flowers, the floral bracts are small (2.5-4 mm long), the sepals are 6-8 mm long and dorsally muricate or minutely echinate, the lip is deltate, strongly pubescent. *Epidendrum chondrochilum* Lehm. & Kraenzl. has much shorter, narrower leaves (8-10 x 1.5 cm), a few-flowered inflorescence, the rachis slightly fractiflex, flowers greenish brown, floral bracts 12-13 mm long.

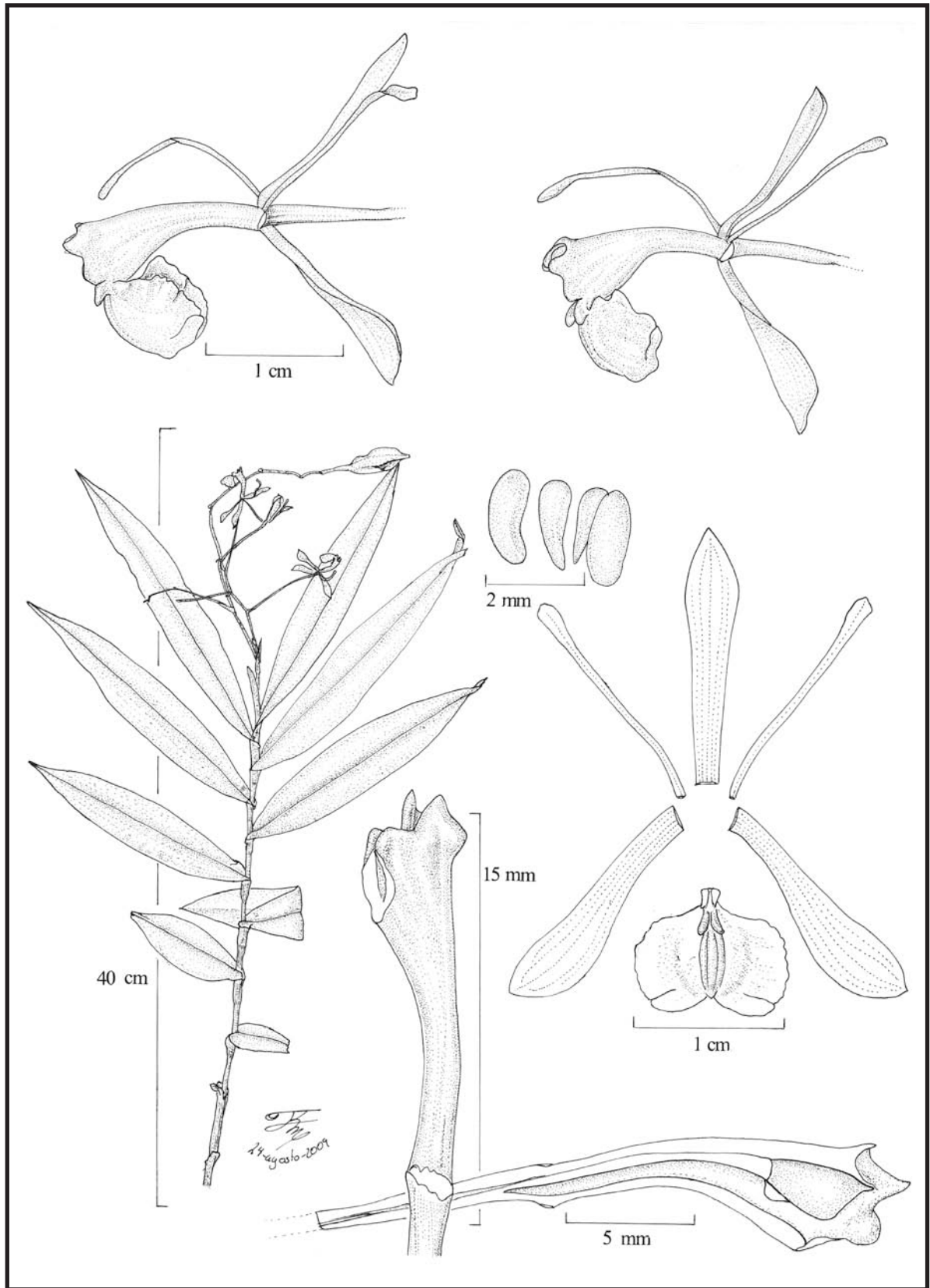
**NOTE:** The name *Epidendrum macrostachyum* has been used in general for most of the Macrostachyum Group which may have as many as twenty different species. The earlier name *Epidendrum macrostachya* Thouars, is in a different adjectival form, and not considered a homonym by most authors.

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

**ETYMOLOGY:** From the Greek μακρος, large, and σταχυς, a spike, in reference to the erect inflorescence which is somewhat reminiscent of an ear of corn.



Authors: E. Santiago & E. Hágsater    Illustrator: R. Jiménez M.    Photos: D. Calderón-F.    Editors: E. Hágsater & L. Sánchez S.  
Herbario AMO    México, D.F. MÉXICO    ICONES ORCHIDACEARUM 14. 2013.    Plate 1454



EPIDENDRUM MARONIËNSE Hagsater & E.Santiago

Plate 1455

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

Type: FRENCH GUIANA: [Saint Laurent du Maroni]: Antekoumpata, Haut-Maroni, Août 1976, C. Moretti 505. Holotype: CAY! (Illustration voucher).

Simile *Epidendrum unguiculati* (C. Schweinf.) Garay & Dunst. sed plantis minoribus, inflorescentia pluriracemosa, floribus successivis, laxis, aliquantum minoribus, petalis lineari-filiformibus apice parum dilatato, labello late obcordati, basi late cuneata, lobulis apicalibus brevibus, oppositis, connatis cum lobulis lateralibus.

Epiphytic, sympodial, caespitose, erect **herb**, 40-100 cm tall. **Stems** simple, cane-like, 23-57 x 0.25-0.8 cm, terete, thin, straight; the base covered by non-foliaceous sheaths, 45-55 x 2.5-8 mm, tubular, minutely striated, scarious and becoming fibrous with time. **Leaves** 9-11, distributed throughout the stems, articulate, alternate, unequal in size, the 3 lower ones markedly smaller, sub-coriaceous, abaxially tinged reddish; sheaths tubular, 14-55 x 2-9 mm, minutely striated; blade elliptic, 3.5-17 x 1.3-4.5 cm, short acuminate, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescence** apical, 15-17 cm long, racemose, producing new racemes over several years from the same peduncle, and then pluri-racemose, sub-erect, laxly few-flowered; peduncle short, 2-3 cm long, thin, laterally compressed, straight, provided with 1-2 bracts, 27-33 mm long, tubular at the base, conduplicate towards the apex, acute; rachis 13-15 cm long, thin, slightly flexuous. **Floral bracts** 2-3 mm long, much shorter than the ovary, triangular, acuminate, amplexicaul. **Ovary** 30-42 mm long, terete, thin, not inflated, unornamented. **Flowers** 4-12 per raceme, successive, generally 2-5 open at one time, resupinate, green, the disc of the lip and column white, immaculate or the calli tinged purple; fragrance not recorded. **Sepals** 15-17 x 3.6-5 mm, free, slightly reflexed, fleshy, narrowly oblanceolate, 5-veined, margin entire, spreading; the dorsal sepal acute, the lateral sepals rounded, slightly oblique. **Petals** 15-16 x 1.3-1.5 mm, free, partly spreading, linear-filiform, the apex somewhat wider, rounded, 1-veined, margin entire, spreading. **Lip** united to the column, sub-entire, strongly convex, 6.6-10 x 10.3-13 mm, widely obcordate in general outline, base widely cuneate, apex emarginate, margin spreading; bicallose, the calli small, sub-globose; disc with 3 fleshy, thin ribs, elongate to the apical sinus; lateral lobes obliquely rectangular, 4.3 x 6 mm, margin erose; mid-lobe 1.3 x 8.3 mm, very short, bilobed, the lobes divaricate, opposite to each other, each lobe 3.6 x 1.3 mm, oblong, the apex rounded. **Column** 13-15 mm long, slightly arching, basal half thin, gradually dilated towards the apex; with a pair of prominent teeth at the apex. **Clinandrium-hood** reduced, margin entire. **Anther** not seen. **Pollinia** 4, unequal in shape, the inner pair bird-wing type, the outer pair lenticular; caudicles not seen. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma** small, 1/4<sup>th</sup> the length of the stigmatic cavity. **Nectary** shallow, penetrating the ovary just behind the perianth, smooth, not inflated. **Capsule** ellipsoid, pedicle 1.7 cm long, body 2.6 x 1.3 cm, apical neck 0.6 cm long.

**OTHER SPECIMENS: FRENCH GUIANA: Saint Laurent du Maroni:** Savane-roche Dachine Région de Saül, 220 m, 3 IV 1997, *Cremers 14643*, AMO! CAY! Rivière Petite Ouaqui, "Saut Baille Nom" et l'ancien village Hubert, 19 VII 1973, *Granville 1865*, CAY! P! Inselbergs du haut Marouini, 190 m, 26 VI 2004, *Granville 16395*, CAY! Saül: Creek Limonade, 20 IX 1989, ca. 210 m, *Mori et al. 20999*, NY! (photo voucher). **Cayenne:** Chemin des Emérillons, à 5 km de Dégrad Claude, 23 III 1974, *de Granville 2218*, CAY x2! P!

**OTHER RECORDS: FRENCH GUIANA: Saint Laurent du Maroni:** Saül: Creek Limonade, 20 IX 1989, *Mori et al. 20999*, (Mori 1997), miss identified as *E. unguiculatum*; illustration by Bobbie Angell, photo by Carol Gracie.

**DISTRIBUTION AND ECOLOGY:** Known presently only from the upper Maroni basin in western French Guyana, epiphytic, in non-flooded moist forest at 190 to 220 m. Flowering in July and September.

**RECOGNITION:** *Epidendrum maroniëense* belongs to the Pseudepidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and Pluriracemosum Subgroup which has a racemose and few-flowered inflorescence on an elongate peduncle, usually producing new racemes over the years and thus pluri-racemose, the rachis is elongate, and thus lax flowered, the flowers bicolored, basically green to brown with the lip white to purple, spotted or not, the inner pollinia are bird-wing type, but the outer pair is lentil-shaped. The species is recognized by the relatively short plants (40-60 cm tall) with a pluri-racemose, lax-flowered inflorescence, flowers large, successive, lateral sepals 16.6-17 mm long with the apex rounded, petals linear-filiform with the apex somewhat widened, the lip widely obcordate in outline, base widely cuneate, and the column 15 mm long. *Epidendrum pluriracemosum* Hågsater & E. Santiago has smaller flowers, lateral sepals 9-10.5 mm long, with the apex acute, petals linear-filiform, the apex not widened, and the lip clearly 3-lobed, the base cordate. *Epidendrum unguiculatum* (C. Schweinf.) Garay & Dunst. has taller plants, 60-100 cm high, the inflorescence up to 55 cm long with an elongate peduncle covered with up to 4 bracts, the flowers are very large, the sepals 18-20 mm long, the lip clearly 3-lobed with the base deeply cordate.

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

**ETYMOLOGY:** In reference to the arrondissement of Saint Laurent du Maroni, which constitutes the western half of the French Guyana, from where the species is presently known.

**REFERENCE:** Mori, S. A. et al., 1997, *Guide to the Vascular Plants of Central French Guiana, Part. 1 Pteridophytes, Gymnosperms, and Monocotyledons*, The New York Botanical Garden, French Guiana, p. 307-8, Fig. 139, pl. LVIIa.



Authors: E. Hågsater & E. Santiago

Illustrator: R. Jiménez M.

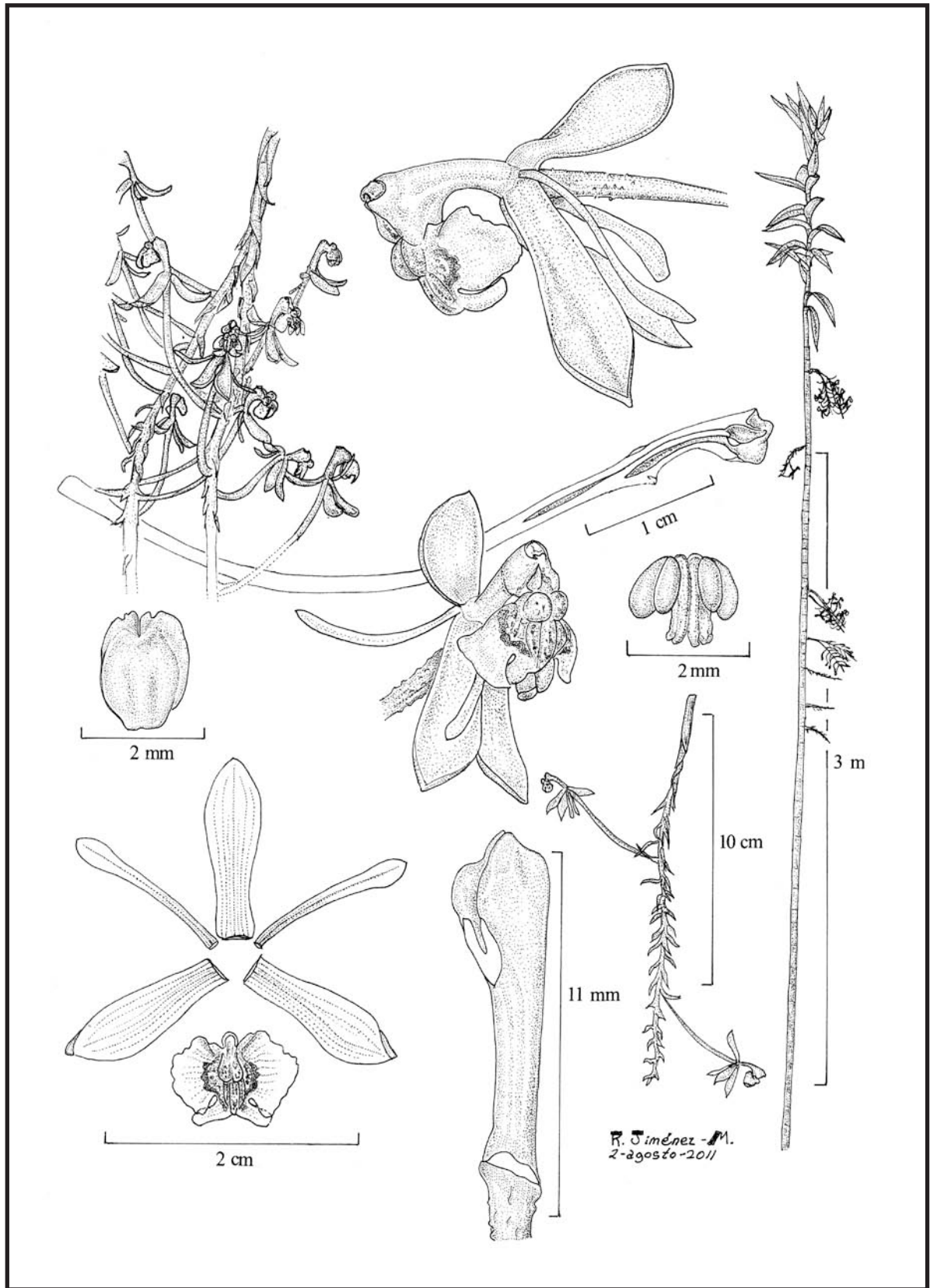
Editors: E. Hågsater & L. Sánchez S.

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Plate 1455

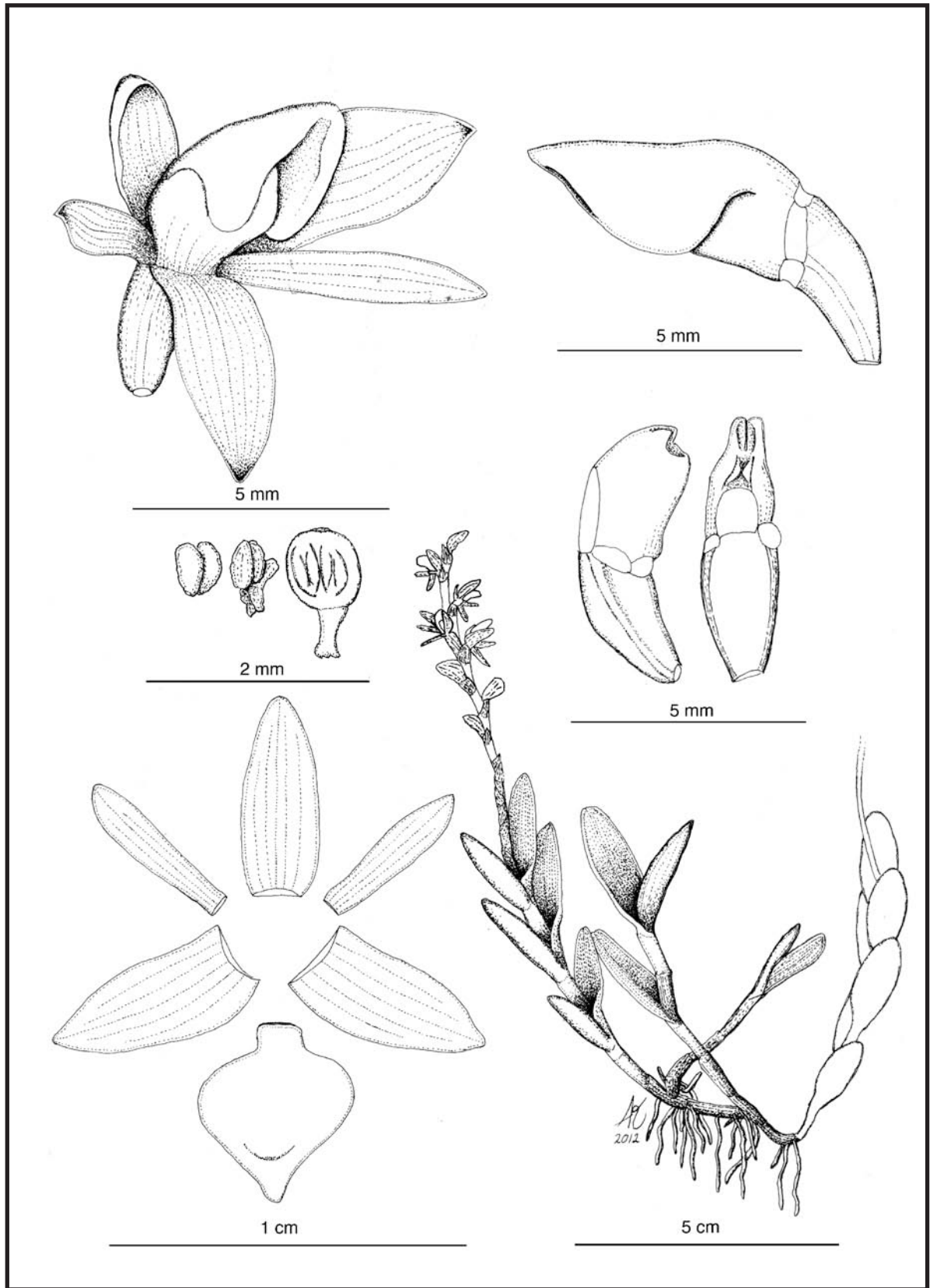


EPIDENDRUM MEGALOBAMBUSIFORME Hágsater & M.Villafuerte

Plate 1456







EPIDENDRUM MICROANOGLOSSUM Hågsäter & Karremans

Plate 1457

**EPIDENDRUM MICROANOGLOSSUM** Hágsater et Karremans, *sp. nov.*

Type: COSTA RICA-PANAMÁ: Puntarenas-Chiriquí: Coto Brus-Renacimiento, línea fronteriza entre Cerro Quijada del Diablo y Cerro Pando, entre mojones N.336-338, 8°54'51.9" N 82°43'59.13" W, 2205 m, bosque muy húmedo premontano, epífitas en bosque primario, "in itinere per litem Costa Rica et Panama inter montis Quijada del Diablo et montis Pando", 19 Abril 2011, **Adam P. Karremans, Diego Bogarín & Daniel Jiménez 4010**. Holotype: CR!; Isotype JBL-Spirit! (Illustration & photo voucher).

*Epidendrum anoglossum* Schltr. simile, sed floribus viridis minoribus, sepalis petalisque brevioribus, petalis oblanceolatis, labello brevior ovato rhombico differt.

Epiphytic, sympodial, somewhat scandent **herb**, up to 25 cm tall including the inflorescence. **Roots** produced from the basal internodes of the stems, filiform, white. **Stems** 4-8 x 0.4 cm, simple, produced from the lower internodes of the previous stem, cane-like, terete at the base, laterally compressed above, ancipitose, thin, erect, flexuous; the base covered by non-foliaceous tubular sheaths 4-12 mm long, somewhat inflated towards the apex without being infundibuliform. **Leaves** 3-7, distributed along the apical two thirds of the stem, alternate, articulate, erect-spreading; sheath tubular, slightly infundibuliform, ancipitose;; blade 20-30 x 6-8 mm, elliptic, obtuse, bilobed, with a minute dorsal keel, coriaceous, margin entire; with an evident ligule opposite to the blade, triangular, sub-acute. **Spathaceous bract** lacking. **Inflorescence** 5-15 cm long, apical, flowering only once, racemose, distichous, lax-flowered, erect; peduncle laterally compressed, ancipitose, straight, short; rachis laterally compressed, ancipitose, straight. **Floral bracts** 2.5 mm long, about half as long as the ovary, deltoid, acute, conduplicate, ancipitose. **Ovary** 3.5 x 2 mm, terete, stout, not inflated, however, nectary obvious, smooth. **Flowers** 8-11, almost simultaneous, non-resupinate, distichous, the lip facing the rachis, greenish; fragrance sweet, around mid-day. **Sepals** partly spreading, free, ovate-elliptic, sub-acute, 5-veined, margin entire; the **dorsal** sepal 5 x 1.8 mm; the **laterals** 5 x 2 mm, sepals falcate, oblique. **Petals** 4.5 x 1 mm, partly spreading, free, oblanceolate, wider close to apex, sub-acute, 3-veined, margin entire. **Lip** 4.5 x 4 mm, united to the column, entire, embracing the column without covering it, ovate-rhombic, acute, base widely cuneate, margin entire; ecallose, without keels. **Column** 2.5 x 2 mm tall and 1 mm wide, straight, thick, short. **Clinandriumhood** reduced, margin somewhat dentate. **Anther** 4-celled, obovoid, with a prominent, fleshy dorsal keel, and a pair of elongate linear appendices at the apex. **Rostrum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** and **capsule** not seen.

**OTHER SPECIMENS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Known only from the type, which was found on the path to Cerro Pando, path that follows the Costa Rican-Panamanian borderline exactly. The only known specimen was collected epiphytically in a very humid pre-montane forest at an elevation of 2205 m. It was recorded flowering in August.

**RECOGNITION:** *Epidendrum microanoglossum* belongs to the Neowilliamsia Group characterized by the ancipitose stems and rachis, the rachis with conduplicate, acute bracts, distichous, usually non-resupinate flowers, the lip often digitate and the 2 or 4 pollinia with 2 hard, laminar, caudicles. The species is recognized by its similarity with *Epidendrum anoglossum* but about half the size; shorter leaves (2 vs. 4 cm long on average), shorter distance between flowers (5 mm vs. 10 mm), greenish flowers (vs. yellowish), sepals and petals only partly spreading (vs. very much spreading, even being retorse), a shorter and differently shaped petal (4.5 mm long vs. 7 mm long; wider near the apex vs. wider at the middle) and, the shorter and differently shaped lip (4.5 mm vs. 7 mm; ovate-rhombic vs. triangular). *Epidendrum cymbiglossum* Hágsater is also similar and its type specimen was collected on Cerro Pando as well; however, it is bifoliate (vs. 3-7 leaves), has a much larger lip (17 mm long vs. 4.5 mm long), yellow (vs. greenish) flowers and with a long-trapezoid lip (vs. ovate-rhombic).

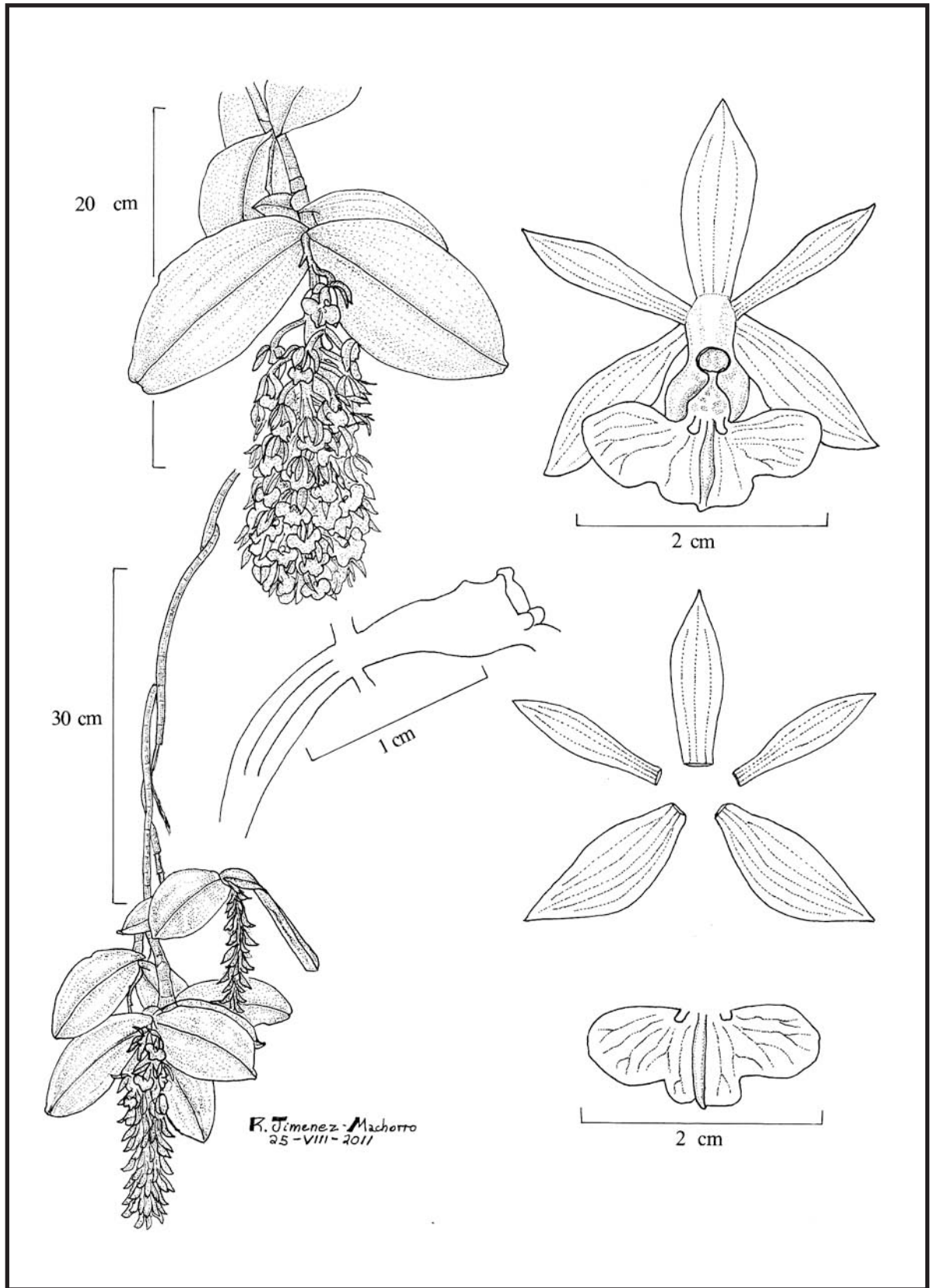
**NOTE:** Although Santiago and Hágsater (2007) indicate that *E. anoglossum* has no fragrance, this is not the case in the material studied at Lankester Botanical Gardens. However, the real surprise is not that both species are fragrant but that they are fragrant during the day, which is uncommon in *Epidendrum*. Both fragrances are sweet, with that of the new species being less intense.

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

**ETYMOLOGY:** The name unites the Greek μικρός "small", with anoglossum (α, without, and γλωσσα, tongue) "without tongue", which refers to this species being a smaller version of *Epidendrum anoglossum*, and an even less pretending lip.

**REFERENCES:** Hágsater, E. 1993, *Epidendrum cymbiglossum*. in E. Hágsater & G. A. Salazar (eds) **Icon. Orchid.** 2: pl. 126. Santiago, E. & Hágsater, E., 2007, *Epidendrum anoglossum*, in E. Hágsater & L. Sánchez S. (eds) **Icon. Orchid.** 9: pl. 908.





EPIDENDRUM MOLINAE P.Ortiz & Hágsater

Plate 1458

**EPIDENDRUM MOLINAE** P.Ortiz et Hågsater, *sp. nov.*

Type: COLOMBIA: Tolima; Líbano, El Agrado, 2005 m, abril 2011, **Carlos Molina sub Pedro Ortiz 1402**. Holotype: HPUJ! (Illustration voucher). Digital images of pretype, AMO! (Photo voucher).

Inter species *Epidendri* ad coetum *Arbuscula* pertinentes haec species distinguitur propter habitum pendentem, foliis ample ellipticis, inflorescentia nutante, dense et profuse racemosa, floribus viridibus, sepalis dorsaliter leviter virido-violaceis, labello trilobo sat magno, lobis lateralibus semiquadratis, lobo medio amplo et breviter apiculato.

Epiphytic, sympodial, erect or generally pendent **herb**, ca. 30 cm tall or more, the new stem produced from a middle internode of the previous stem. **Roots** 3-4 mm in diameter, from the base of the primordial stem, numerous, fleshy, thick, brown. **Stems** 11 x 0.4-0.5 cm, simple, arundinaceous, terete, straight, covered when young by tubular, finely striated sheaths, these becoming fibrous with time. **Leaves** 2-4, about half as wide as they are long, aggregate towards the apex of each stem, articulate, alternate; sheath tubular, finely striated, scariose; blade 1.5-8 x 1-4.5 cm, widely elliptic, acute, sub-coriaceous, smooth, green, margin entire, the lower leaf smaller. **Spathaceous bract** lacking. **Inflorescence** 12 cm long, apical, arching-nutant, racemose, densely many-flowered. **Floral bracts** 5 mm long, triangular, acuminate, half as long as the ovary or less. **Flowers** 40, resupinate, opening in succession starting with the basal flowers, all eventually open at one time, internally green, the sepals externally tinged light purple, anther light yellow. **Ovary** 10 x 3 mm, purple-green, terete, curved. **Sepals** 15 x 5 mm, spreading, free, acute, margin entire, spreading; the **dorsal** sepal oblong-elliptic, 3-veined; the **lateral** sepals obliquely elliptic, with a low dorsal keel, 5-veined. **Petals** 14 x 3 mm, narrowly oblanceolate, acute, 3-veined, margin entire. **Lip** 9 x 20 mm, united to the column, 3-lobed, base widely cordate, widest near the base; bicallose, the calli small, semi-globose, at the base of the lip, with a low, central, narrowly fusiform rib reaching the apex of the lip; lateral lobes 7 x 7 mm, obliquely sub-quadrate, the corners rounded; mid-lobe 4 x 8 mm, transversely rectangular, short-apiculate. **Column** 9 mm long, slightly arching, the apex minutely bidentate, dilated towards the truncate apex. **Clinandrium-hood** reduced, margin entire. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. Anther ovoid, 4-celled. **Pollinia** 4, obovoid. **Nectary** and **capsule** not seen.

**OTHER SPECIMENS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Known only from central Colombia, from the eastern slope of the Cordillera Central in the Department of Tolima, epiphytic at 2000 m altitude in scrub forest. Flowering in April.

**RECOGNITION:** *Epidendrum molinae* belongs to the *Arbuscula* Group which is characterized by the erect habit with successive lateral growths produced from the middle of the previous growth, few leaves aggregate towards the apex of the stems, roots generally only from the base of the primordial stem, and the *Incomptum* Subgroup which has a short apical inflorescence with fleshy yellowish to green to violet-green to black flowers with short ovaries, the lip entire to 3-lobed. The species is recognized by the widely elliptic leaves half as wide as they are long, the arching-nutant, densely many flowered inflorescence with green flowers, the sepals dorsally lightly tinged with purple, the oblanceolate, 3-veined petals and the wide, 3-lobed lip, the lateral lobes obliquely sub-quadrate, and small mid-lobe transversely rectangular, twice as wide as it is long, short-apiculate. *Epidendrum incomptum* Rchb.f. has the mid-lobe as long as it is wide, and the lateral lobes of the lip are forward positioned, more or less triangular, so that the base is truncate, not cordate, flowers are dark green and ecallose. *Epidendrum platyglossum* Rchb.f. has unequal, long, narrow, acute leaves, 7-11.5 x 1.4 cm, acute tepals, the lateral sepals prominently aristate, and the deeply cordate lip with the lateral lobes somewhat larger than the mid-lobe which is obtuse, bilobed and retuse. *Epidendrum subreniforme* C.Schweinf. has leaves three times longer than wide, to 4.6 cm long, lip reniform in outline, 12 x 26 mm, lightly contracted on each side, not 3-lobed, base widely obtuse, apex apiculate. *Epidendrum envigadoense* Hågsater, also found in the same general area, has narrower leaves, fewer flowers, wider, obtuse petals, a clearly 3-lobed lip 17.5-19 mm wide, the lateral lobes obliquely elliptic, the mid-lobe somewhat larger, emarginate, forming two semi-orbicular lobes.

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

**ETYMOLOGY:** In honor of Carlos Molina, who discovered the species near his home in Líbano, Tolima, Colombia, and has found other species of this group including *E. envigadoense* Hågsater.



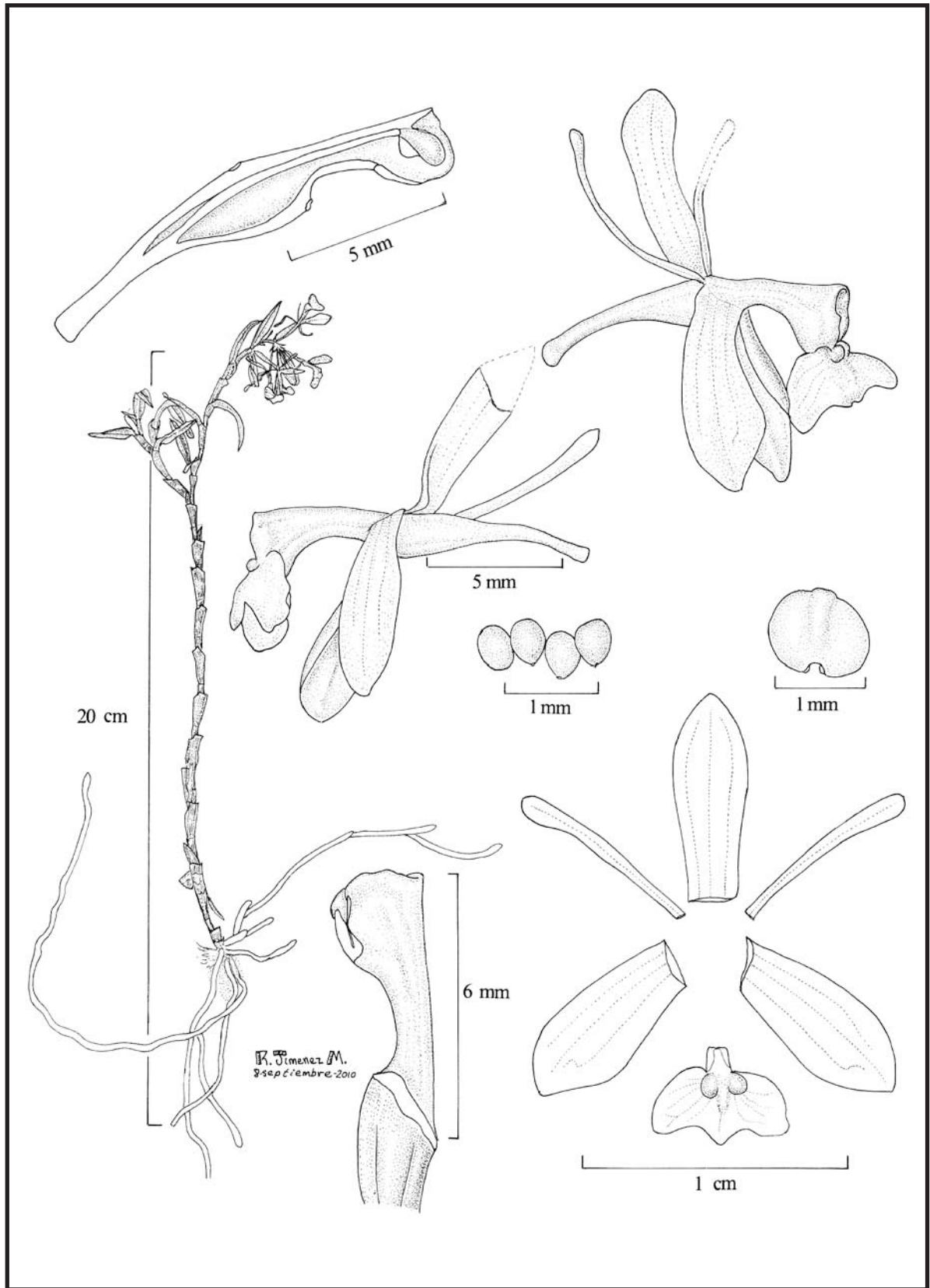
Authors: P. Ortiz & E. Hågsater  
Herbario AMO

Illustrator: R. Jiménez M.  
México, D.F. MÉXICO

Photos: C. Molina

Editors: E. Hågsater & L. Sánchez S.

ICONES ORCHIDACEARUM 14. 2013. Plate 1458



EPIDENDRUM MONTEAGUDOII Hagsater & E.Santiago

Plate 1459

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

Type: PERU: Pasco: Oxapampa, Dist. Huancabamba, sector Milpo, parte alta camino a Santa Barbara, zona de amortiguamiento del Parque Nacional Yanachaga-Chemillén, 3000 m, 1 Febrero 2005. **Abel Monteagudo M., R.**

**Francis J. 8058.** Holotype: MO! (Illustration voucher). Isotypes: USM (not seen).

Simile *Epidendri soratae* Rchb.f. sed floribus cremeis quandoque rubro-vinaceo maculatis, labello valde parvo, apicaliter trilobato, basi leviter cordata et lobulo medio ample triangulari

Epiphytic, erect, monopodial **herb**, short, 16 cm tall, branching above. **Roots** basal, thin, fleshy, 1 mm in diameter. **Stems** branching, cane-like, main stem 15 x 0.2 cm, the branches 2.5 cm long, the main stem much longer than the branches, sub-terete, slightly sinuous. **Leaves** many on the main stem, 2-3 distributed throughout each branch, sub-erect, articulate, coriaceous; sheath 4-9 mm long, tubular, slightly infundibuliform, laterally compressed, striated, rugose; blade linear-lanceolate, 1.2-1.3 x 0.2-0.3 cm, obtuse, with a minute apicule at the apex, apical margin crenate. **Inflorescence** 7 mm long, apical, short, racemose, arcing-nutant, lax few-flowered, short; peduncle 3 mm long, thin. **Floral bracts** 4 mm long, half as long as the ovary, linear-triangular, acuminate. **Flowers** 7, small, simultaneous, resupinate, glabrous, cream colored sometimes with wine-red spots\*. **Ovary** 8 mm long, terete, thin, apical half ventrally inflated, unornamented. **Sepals** 7.8-8 x 2.8-3.3 mm, narrowly obovate, obtuse, 3-veined, margin entire, spreading; dorsal sepal spreading, free, the lateral sepals partly spreading, obliquely united to the base of the column. **Petals** 7.3 x 0.8 mm, spreading, free, linear-filiform (wider towards the apex), rounded, 1-veined, margin entire, spreading. **Lip** united to the column, 3-lobed, 3 x 5 mm, (overall shape appears reniform), convex, base slightly cordate, margin entire, spreading; bicallose, the calli globose; disc provided with a short, low, mid keel; lateral lobes 1.7 x 2.6 mm, as long as the mid-lobe, obliquely ovate, sub-obtuse; mid-lobe ca. 1 x 1.7 mm, widely triangular, obtuse. **Column** 6 mm long, straight, dilated towards the apex, thin. **Clinandrium-hood** short, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid. **Rostellum** apical, slit. **Lateral lobes of the stigma** prominent, half as long as the stigmatic cavity. **Nectary** penetrating 1/3 of the ovary, slightly inflated, unornamented. **Capsule** not seen.

**OTHER SPECIMENS: PERU: Pasco:** Huancabamba, P.N. Yanachaga-Chemillén, 2900 m, 3 II 2005, *Monteagudo 8133*, MO!

**OTHER RECORDS: PERU: Pasco:** Oxapampa, Huancabamba, P.N. Yanachaga Chemillén, 2900 m, 23 XI 2004, *Becerra 286*, USM, (digital images of live plant).

**DISTRIBUTION AND ECOLOGY:** Presently known only from central Peru on the upper slopes of the Cordillera Oriental of the Andes, around the Parque Nacional Yanachaga-Chemillén, at 2900-3000 m altitude. Flowering November to February.

**RECOGNITION:** *Epidendrum monteagudoi* belongs to Andean Group, Soratae Subgroup which is characterized by the branching habit starting on a primary stem, infundibuliform, rugose leaf-sheaths, lanceolate, aristate, acute leaves, racemose subcapitate inflorescence on a short, thin peduncle, and the bicallose lip. The species is recognized by the cream-colored flowers sometimes with wine-red spots, the minute lip clearly 3-lobed with the margin entire, and the midlobe widely triangular. *Epidendrum soratae* has immaculate, greenish yellow flowers, the lip slightly 3-lobed, deeply cordate at the base, and bilobed at the apex. *Epidendrum physopus* Kraenzlin, has greenish-yellow flowers somewhat tinged with purple, but the lip is deeply 3-lobed, with an erose margin, and the ovary is not inflated.

**NOTE:** The label on the type describes the lip as having wine-red spots, however the digital image by *Becerra* and the label on *Monteagudo 8133* indicate immaculate cream-colored flowers. We do not have enough material to understand the variation.

**CONSERVATION STATUS:** DD. Data deficient. Found in a National Park.

**ETYMOLOGY:** In honor of Abel L. Monteagudo (b. 1967) of HOXA, at the Estación Biológica del Jardín Botánico de Missouri, in Oxapampa, Pasco, Peru, specialist in Euphorbiaceae, has collected over 16,000 specimens, including the type. He is a participant of the Flora del Perú project.



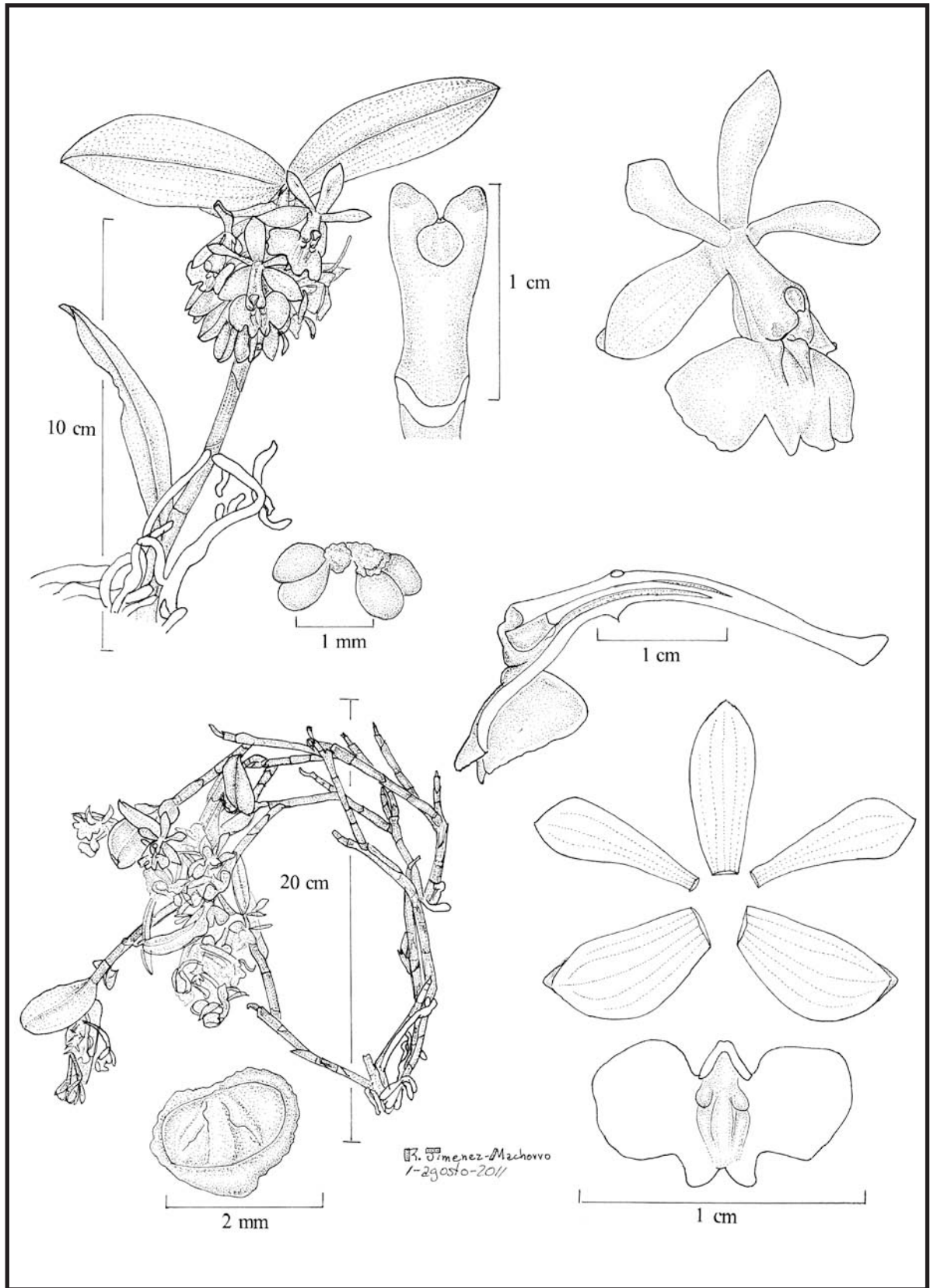
Authors: E. Hágsater & E. Santiago  
Herbario AMO

Illustrator: R. Jiménez M.  
México, D.F. MÉXICO

Photo: E. Becerra

Editors: E. Hágsater & L. Sánchez S.

ICONES ORCHIDACEARUM 14. 2013. Plate 1459



EPIDENDRUM MORAE P.Ortiz, Hágsater & L.E.Álvarez

Plate 1460



**EPIDENDRUM MORAE** P.Ortiz, Hágsater et L.E.Álvarez, *sp. nov.*

Type: COLOMBIA: Cundinamarca: Gachetá, Vereda El Zaque, camino de Piedra Antigua, 2480 m, 18 junio 2011, **Pedro Ortiz, María Cristina Mora, Luis Eduardo Álvarez 1407**. Holotype: HPUJ! Digital image series of pretype: AMO! HPUJ! (Illustration and photo voucher).

*Accedit ad Epidendrum homoion* Hágsater & Dodson *a quo recedit foliis amplioribus et petalis sepalisque angustioribus, florum colore flavo suffuso roseo-violaceo.*

Epiphytic, sympodial, erect or pendent **herb** 8-10 cm tall, where each new stem originates from a middle internode of the previous stem, each new stem. **Roots** 2.3 mm in diameter, from the base of the plant and frequently from the upper stems, fleshy, thick. **Stems** 4-6 x 0.3-0.5 cm, simple, arundinaceous, terete, straight, short. **Leaves** unequal in size; the lower one much shorter, 2 x 1.4 cm; the upper ones 4.4 x 1.6 cm, 2-4 aggregate towards the apex of the stem; sheath tubular, ca. 2 mm long, longitudinally striated; blade elliptic, sub-acute, the lower one shorter than the upper ones, dark green, margin entire, membranaceous, the veins visible. **Inflorescence** 4-5 cm long, apical, from the mature stem, flowering only once, racemose, arching-nutant; peduncle somewhat compressed, straight, unornamented. **Floral bract** 4-6 mm long, much shorter than the ovary, triangular, acute. **Flowers** 6-12, opening in succession, half open when the other half is still in bud, resupinate, pale yellow slightly tinged with pink-violaceous, sepals and petals dorsally pink-violaceous, anther yellow; fragrance none noticeable. **Ovary** 16 x 2 mm, terete, not inflated, unornamented. **Sepals** spreading, free, without any dorsal keel, glabrous, fleshy, 5-veined, margins entire, spreading; the **dorsal** sepal 12.5 x 4.5 mm, narrowly obovate slightly spatulate, sub-acute; the **lateral** sepals 12.5 x 7.5 mm, obovate, somewhat oblique, sub-acute. **Petals** 12.5 x 5.5 mm; spreading, free, spatulate, sub-obtuse, fleshy, 3-veined, margins entire, spreading. **Lip** 10 x 19 mm, united to the column, 3-lobed, fleshy, margins entire, base cordate; bicallose, the calli basal, ellipsoid, somewhat divergent, with a low, wide rib running down the middle to the apical sinus; lateral lobes ca. 7 x 8.5 mm, obliquely sub-quadrate; mid-lobe 2 x 5 mm, smaller, trapezoid, deeply emarginate. **Column** 10 mm long, straight, thickened towards the apex, short. **Clinandrium-hood** short, margin entire. **Anther** sub-obovoid, 4-celled. **Pollinia** 4, obovoid, laterally compressed, orange-yellow; caudicles soft and granulose, longer than the pollinia. **Lateral lobes of the stigma** not seen. **Rostellum** sub-apical, slit. **Nectary** shallow, penetrating half the ovary, narrow, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

**OTHER RECORDS:** COLOMBIA: Cundinamarca: Gachetá, Vereda El Zaque, camino de Piedra Antigua, 2480 m, col. L. Álvarez, VI 2010, *Ortiz s.n.*, digital images, AMO! HPUJ!

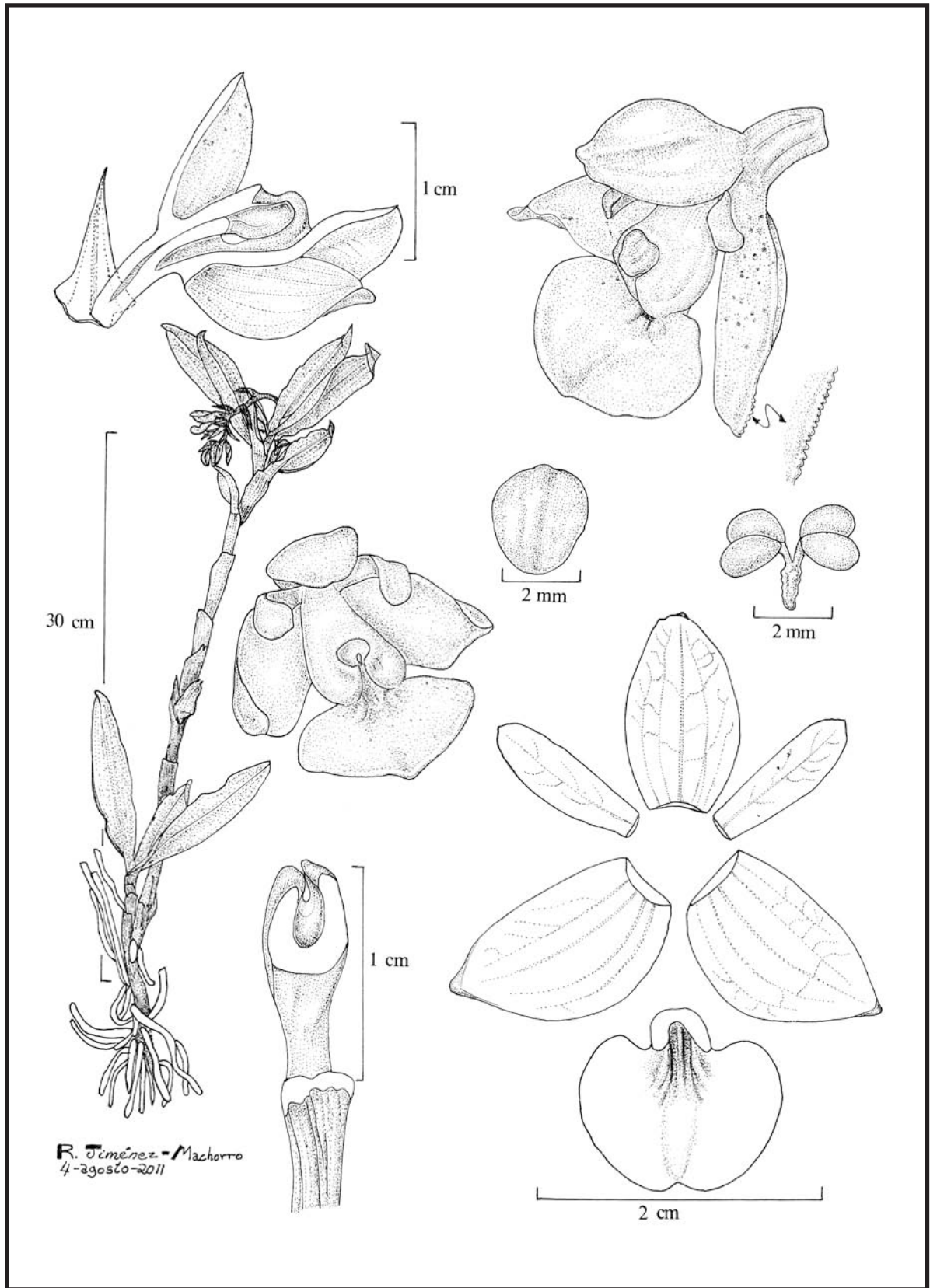
**DISTRIBUTION AND ECOLOGY:** Only known from the type locality in Cundinamarca, central Colombia, on medium sized trees of live fences, in shade, at 2480 m altitude. Flowering in June.

**RECOGNITION:** *Epidendrum morae* belongs to the Arbuscula Group which is characterized by the erect habit with successive lateral growths produced from the middle of the previous growth, few leaves aggregate towards the apex of the stems, roots generally only from the base of the primordial stem, and the Incomptum Subgroup which has a short apical inflorescence with fleshy yellowish to green to violet-green to black flowers with short ovaries, the lip entire to 3-lobed. The species is recognized by the pale yellow flowers slightly tinged with rose-violaceous, the obliquely sub-quadrate lateral lobes of the lip much larger than the trapezoid, deeply emarginated mid-lobe. *Epidendrum homoion* Hágsater & Dodson has green flowers sometimes tinged purple, wider petals, wider lip, 26-28 mm wide, the lateral lobes of the lip are semi-orbicular, with the anterior side straight. *Epidendrum molinae* P.Ortiz & Hágsater has widely elliptic leaves around half as wide as they are long, the arching-nutant, densely many flowered inflorescence with green flowers, the sepals dorsally lightly tinged with purple, the oblanceolate petals and the wide, 3-lobed lip, the lateral lobes obliquely sub-quadrate, and small mid-lobe transversely rectangular, twice as wide as it is long, short-apiculate. *Epidendrum incomptum* Rchb.f. has the mid-lobe as long as it is wide, and the lateral lobes of the lip are forward positioned, more or less triangular, so that the base is truncate, not cordate, flowers are dark green and ecallose. *Epidendrum envigadoense* Hágsater, also found in the same general area, has narrower leaves, fewer flowers, wider, obtuse petals, a clearly 3-lobed lip 17.5-19 mm wide, the lateral lobes obliquely elliptic, the mid-lobe somewhat larger, emarginate, forming two semi-orbicular lobes.

**CONSERVATION STATUS:** DD, data deficient.

**ETYMOLOGY:** In honor of Mrs. María Cristina Mora, past president of the Asociación Bogotana de Orquideología, who participated in the collection of the type.





EPIDENDRUM NEPHROGLOSSUM Schltr.

**EPIDENDRUM NEPHROGLOSSUM** Schltr., Repert. Spec. Nov. Regni Veg., Beih. 9: 89. 1921.

Type: PERU: Junín: Berge westlich von Huacapistana, 2500-2600 m, Januar 1903, **A. Weberbauer 2174**, B (destroyed). Photograph of holotype: AMES! F! NY! SEL! Sketch of flower published in Mansfeld, Repert. Spec. Nov. Regni Veg., Beih. 57: t. 119, nr. 469. 1929.

Epiphytic, sympodial, erect, **herb**, ca. 40 cm tall, branching above, where each new stem originates from a central internode of the previous stem. **Roots** 1.5-4.5 mm in diameter, from the base of the primary stem, fleshy, thick. **Stems** [10]\*15-18 x 0.35-0.9 cm, simple, terete, short, slightly arching, covered by non-foliar, tubular sheaths, 2-4 mm long. **Leaves** 4-6, aggregate towards the upper part of the stems, unequal in size (the basal one short), coriaceous, dark green; tubular sheath 1-2.7 x 0.35-1 cm, minutely striated, dark brown; blade 3-8.5 x 1-2 cm, elliptic, acute, margin entire. **Spathaceous bract** lacking. **Inflorescence** 6 cm long, apical, from the mature stem, flowering only once, racemose, arching-nutant, densely few-flowered; peduncle laterally compressed, straight, without bracts. **Floral bracts** prominent, the basal ones as long as the ovary, triangular, acuminate, amplexicaul. **Flowers** 6-16, simultaneous, resupinate, sepals and petals yellow, sometimes tinged greenish at the base, the lip light yellowish green turning ochraceous with age; fragrance lacking. **Ovary** 8-11 mm long, terete, thick, not inflated, striated. **Sepals** partly spreading, free, glabrous, fleshy, elliptic, 5-veined (the pair of outer veins short-branched) margins entire, spreading; the **dorsal** sepal [11] 13.7 x 8 mm, rounded at the apex, minutely apiculate; the **lateral** sepals 16.5 x 9.3 mm, obtuse, oblique, with a conspicuous dorsal keel, margin papillose towards the apex. **Petals** [11] 12 x 3.7 mm, partly spreading, free, fleshy, oblong, the apex rounded [oblanceolate-linear, short acuminate], 1-veined, the vein short-branched throughout, margin entire, spreading. **Lip** [7]11 x [13]14 mm, united to the column, fleshy, entire, reniform in general outline, base slightly cordate, apex slightly emarginated, margin entire, spreading; ecallose, replaced by two fleshy, thickened, curved ridges which form a canal with a low rib in the bottom, running into the cucullum. **Column** 10 mm long, straight, thickened towards the apex; with a pair of prominent rounded wings at the apex. **Clinandrium-hood** reduced, margin entire. **Anther** obovoid, 4-celled, with a low keel in front. **Pollinia** 4, obovoid; caudicles soft and granulose, as long as the pollinia. **Rostellum** apical, slit. **Lateral lobes of the stigma** small, ¼ the length of the stigmatic cavity. **Nectary** cucullate, slightly penetrating the ovary behind the perianth, not inflated, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** PERU: Junín: Prov. Jauja; Monobamba, cerca de la Mina San Vicente, ca. 2000 m, 16 II 2011, hort. **Erica Morón s.n.** AMO! (Illustration voucher). USM! Digital images of live specimen, AMO! (Photo voucher).

**DISTRIBUTION AND ECOLOGY:** Known only from central Peru, province of Junín, upper eastern slope of the Cordillera Occidental, in the upper basin of the Río Chanchamayo, and its affluents, Río Palca and Río Tulumayo, at about 2000-2700 m altitude. Flowering in January-March.

**RECOGNITION:** *Epidendrum nephroglossum* belongs to the Arbuscula Group, Incomptum Subgroup, which is characterized by the successive lateral growths produced from the middle of the previous growth, few leaves aggregate towards the apex of the stems, a short apical inflorescence with fleshy green to violet-green to black flowers with short ovaries, the lip entire to 3-lobed. The species is recognized by the fleshy, yellow flowers sometimes tinged greenish at the base, prominent floral bracts nearly as long as the ovary, the reniform lip, cordate at the base, the apex shallowly emarginate (not visible unless the lip is extended), somewhat longer than wide, with a pair of fleshy, curved ridges at the base, and a low rib running at the bottom of the cucullum. *Epidendrum actinoglossum* Hágsater & E.Santiago has green flowers, the membranaceous lip is salmon yellow and the column tinged with purple towards the apex, the floral bracts are small, much shorter than the ovary, the lip reniform, the apex rounded, and the disc has radiating, thickened veins.

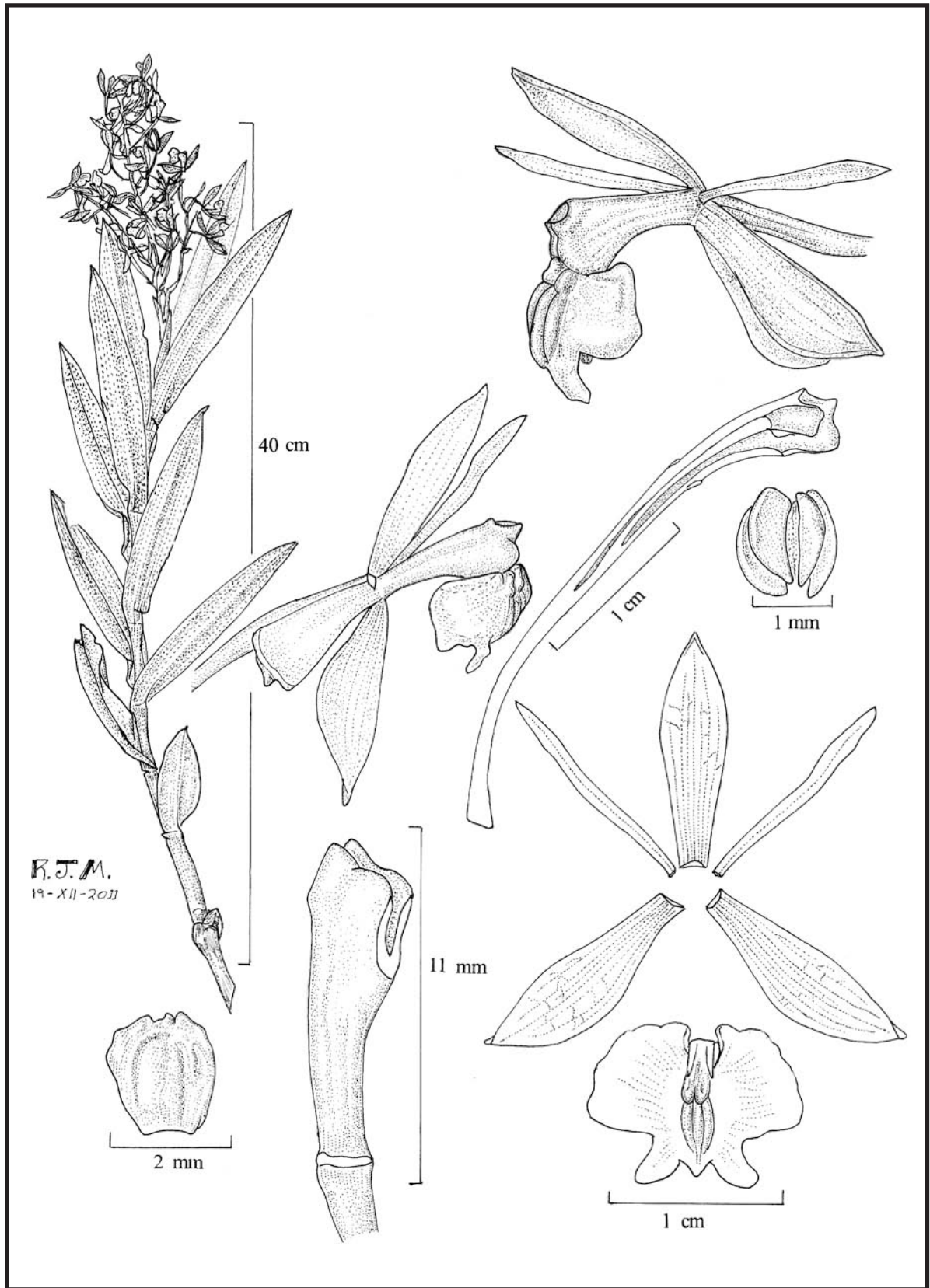
**\*NOTES:** Data given between [brackets] are according to the original description by Schlechter, when they differ from our specimen. Schlechter indicates the lip as being bicallose, and two calli are shown on the illustration published by Mansfeld; however, upon close examination of our material, there are two fleshy, thickened, curved ridges in place of well-formed calli, a photographs of live flowers, shadows may be reminiscent of calli, depending on the angle of illumination. Schweinfurth (1945) first recognized this species as a separate entity and indicated that it was "rather widely distributed in Peru, having been recorded in the Departments of Apurímac, Huancavelica, Huánuco and Junín at altitudes ranging from 800 to 3100 m." He later confused this species and lumped it into *Epidendrum lechleri* Rchb.f. in his *Orchids of Guyana*, (Schweinfurth, 1953). In *Orchids of Peru* (Schweinfurth, 1959) he cites a number of specimens again under *E. nephroglossum*; we believe they correspond to different species, all within the Arbuscula group, Incomptum subgroup. In his *Supplement to the Orchids of Peru* (Schweinfurth, 1970) he finally reduces the species to a synonym of *E. lechleri* again.

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

**ETYMOLOGY:** From the Greek νεφρός kidney, and γλῶσσα, tongue, in reference to the kidney-shaped lip of this species.

**REFERENCES:** Schweinfurth, C., 1945, Notes on Tropical American Orchids II, **Bot. Mus. Leafl.** 11(8): 217-248. Schweinfurth, C., 1953, Novelties in the Orchid Flora of the Guayana Highlands II. **Bot. Mus. Leafl.** 20 (1): 1-24. Schweinfurth, C., 1959, *Orchids of Peru*, in *Fieldiana*, Bot. 30(2): 261-531. Schweinfurth, C., 1970, *First Supplement of the Orchids of Peru*, **Fieldiana: Bot.** 33: 1-80.





**EPIDENDRUM NOACKII** Cogn.

Plate 1462

**EPIDENDRUM NOACKII** Cogn., Fl. Bras. (Martius) 3(6): 569, 1906.

Type: BRAZIL: São Paulo: Campinas, 1898, *Noack s.n.*, Holotype: BR!

Epiphytic, sympodial, caespitose, erect herb, ca. 35-50 cm tall. **Roots** basal, 2.5 mm thick. **Stems** ca. 25 x 0.5 cm, simple, cane-like, terete, thin, erect, straight; the basal portion covered by tubular, non-foliar sheaths, 4.2 cm long, becoming scarious with time. **Leaves** 8-12, distichous, articulate, straight to slightly arching, dorsal surface green, grayish white ventrally, membranaceous; sheath 2-3 cm long, tubular, striated, green; blade 8-14 x 1.5-2.2 cm, narrowly elliptic-lanceolate, acuminate, tinged somewhat red-brown, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescence** apical, 7-8 cm long, racemose to paniculate, flowering only once, erect, lax, few-flowered; peduncle 4.4 cm long, terete, thin, straight, provided with two tubular, conduplicate, acute bracts, 1.5-3.1 cm long. **Floral bracts** 4-7 mm long, much shorter than the ovary, narrowly triangular, acuminate, amplexicaul. **Flowers** 7, successive, resupinate, green, the lip white, somewhat tinged green, basal half of the column pale green, apical half white; fragrance not registered. **Ovary** 15-18 mm long, terete, thin, not inflated, unornamented. **Sepals** 13 x 3.5-4.0 mm, spreading, free, membranaceous, ligulate-oblancoolate, acute, concave, 5-veined, margin entire; lateral sepals sub-falcate, slightly smaller than the dorsal sepal, 12 x 3 mm. **Petals** 11.5 x 1.5 mm, spreading, free, linear, oblique, acute to short acuminate, 1-veined, margin entire, spreading. **Lip** 7 x 10 mm, united to the column, 3-lobed, convex, base cordate; bicallose, the calli small, sub-globose, disc with 3 parallel ribs which disappear before reaching the apex of the lip, the central rib wider and fleshier; lateral lobes 5 x 4 mm, obliquely dolabriform, margin entire, the distal margins forming straight line; mid-lobe 2 x 5 mm, bifid, forming a pair of short, oblong, divergent lobes, apex rounded, each lobe 2 x 1.2 mm, generally with a prominent, triangular mucro in the sinus, sometimes the isthmus of the mid-lobe prominent, wide. **Column** 8 mm long, slightly arching, thin. **Clinandrium-hood** obsolete, margin entire. **Anther** ovoid, apex truncate. **Pollinia** 4, laterally compressed, flattened, unequal in shape, the inner pair "bird-wing" type; caudicles shorter than the pollinia. **Rostellum** apical, slit. **Lateral lobes of the stigma, nectary and capsule** not seen.

**OTHER SPECIMENS: ARGENTINA: Misiones:** Depto. Eldorado; Ruta Prov. 17, Cerro 60, 18 V 1991, *Johnson 192*, CTES! (illustration and slide, AMO!) Ibid. Parque Municipal Saltos Küpers, 23 VIII 2008, *Keller 5894*, CTES! San Pedro, reserva de la Biosfera Yabotí, Parque Provincial Esmeralda. Camino hacia Arroyo Florida, 26 I 2006, *Keller 3489*, CTES! **BRAZIL:** Without data, *Martens s.n.* BR! **Paraná:** Without locality, 26 III 1910, *Dusén s.n.* S! Ibid. 10 VI 1909, *Dusén s.n.* K-L! NY! S! Porto de Cima, 2 IV 1909, *Dusén 7927*, S! Capão Grande, 24 IV 1909, *Dusén 8009*, AMES! F! NY! S! Capão Grande, *Dusén 8072*, AMES! NY! S! Jaguariáiva, 7 VII 1914, *Dusén 15342*, K-L! MO! S! (Illustration voucher) Jaguariáiva, 10 IV 1916, *Dusén 18094*, S! Rio Tibagi (Fazenda Monte Alfaro), 8 VI 1953, *Hatschbach 3292*, L! Rio Cotia (Mun. Antonina), 30 XI 1865, *Hatschbach 13191*, HB! Campina Grande do Sul, Caminho ao Cerro Verde, 1000 m, 21 V 1967, *Hatschbach 16465*, HB! K! MO! NY! UC! US! Reserva Indígena, rio Iguazú, 26 V 1972, *Hatschbach 29720*, HB! S! Guaiará, 7 Quedas, last islet in rapids, *Lindeman 4440*, K-L! Penhal ao lado do Rio Goyo Bang (tricolor) S Oeste de Cava Fundaú (S de Campo Morro), 15 V 1967, *de Maas 5308*, HB! **Rio Grande do sul:** Fazenda Boa, Mun. Rio Pardo, 70 m, VI 1928, *Jürgens 9*, U! **Santa Catarina:** Anitapolis, 1 IV 1953, *Klein 498*, HB! **São Paulo:** Cananéia, Ilha do Cardoso, 18 VIII 2004, *Barros 3085*, SP! Ibid. mata próxima ao Rio Trepandé, 9 V 1985, *Muniz 572*, SP! Serra de Cantareira, 15 III 1919, *Hoehne s.n.*, SP! Amparo, 18 VII 1927, *Recch s.n.*, SP 2932! **PARAGUAY: Alto Paraná:** Iguazú, Mission suisse au Paraguay, 1914, *Chodat s.n.*, G! Pto. Stroessner km 12, VI 1989, *Stutz de Ortega 509*, G! **Canindeyú:** Reserva Natural del bosque Mbaracayú, Jejuí-mi, sendero Jaku apeti, 2 VII 1996, *Marin 298*, MO!

**OTHER RECORDS: ARGENTINA: Misiones:** Without locality data, *J. A. Radins s.n.*, digital image, AMO! Photo, without location, *Chiron s.n.*, digital image, AMO! **BRAZIL:** Without locality data, *D. H. Baptista s.n.*, digital image, AMO! **Rio de Janeiro:** Hort. Petrópolis, 19 III 1992, *Floralia sub Hágsäter 10279*, AMO! Ibid. 30 IV 1992, AMO! (spirit and illustration). Ibid. 8 V 1992, AMO! Ibid. 30 III 1999, AMO! **Rio Grande do sul:** No sul do Brasil, *Luiz Filipe Varela s.n.*, AMO! **PARAGUAY:** Without locality data, *C. Siboldi s.n.*, digital image, AMO!

**DISTRIBUTION AND ECOLOGY:** Known only from southern Brazil in the Mata Atlântica, and the basin of the Rio Paraná including neighboring Paraguay and Argentina in the Province of Misiones; at ca. 250-1000 m altitude. Flowering from January, but mainly April to July.

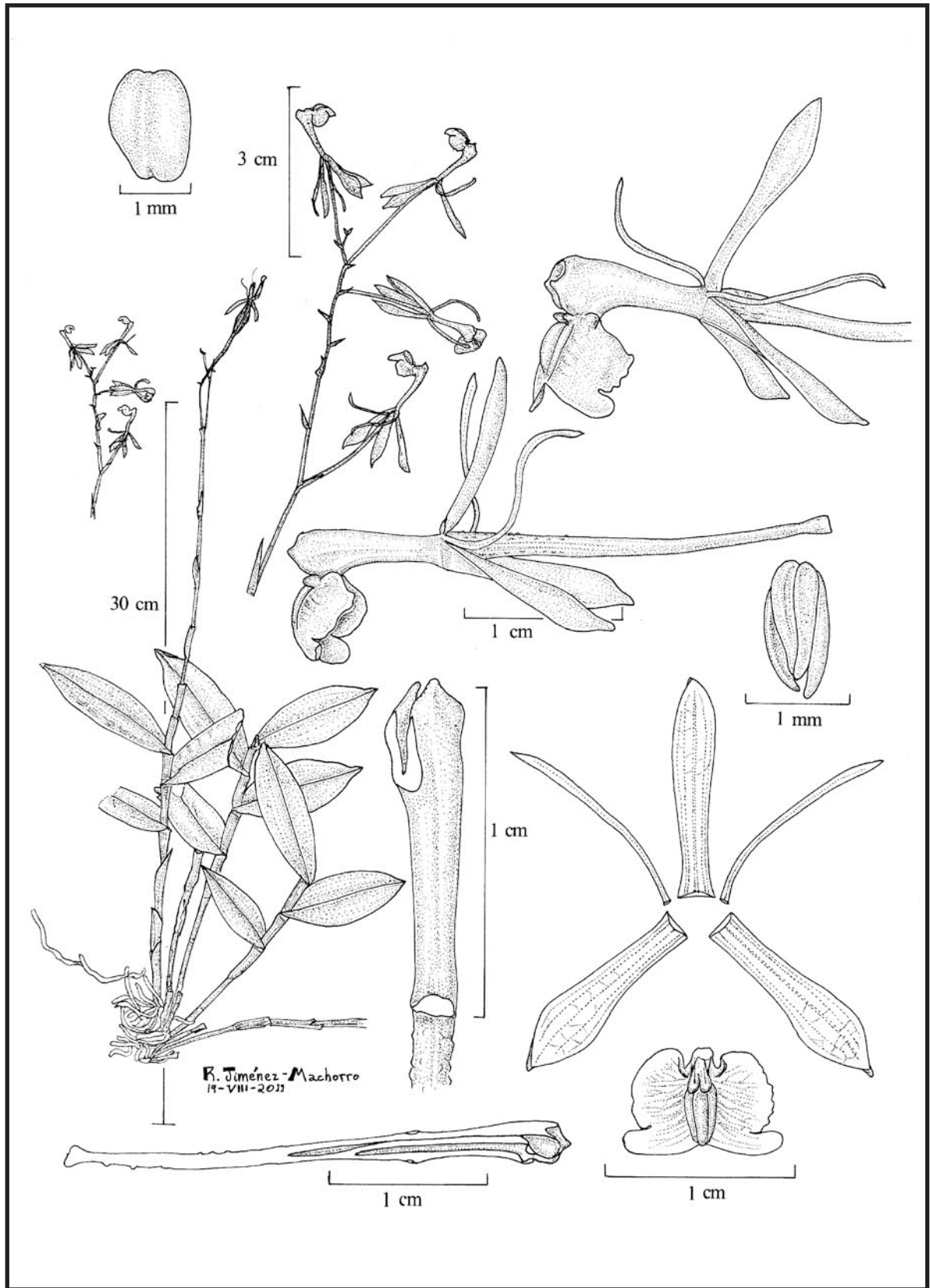
**RECOGNITION:** *Epidendrum noackii* belongs to the Pseudepidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, without any spathaceous bract, though it may have several bracts, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and Densiflorum Subgroup where the short-pedunculate inflorescence is paniculate, flowering only once, flowers are green, the apex of the column and disc of the lip creamy-white, the calli sometimes tinged purple, the petals are linear-oblong to linear-oblancoolate, never filiform, and the pollinia unequal in shape, only the inner pair "bird-wing" like. The species is recognized by the short plants, to 35-50 cm tall, thin stems, narrow leaves (1.5-2.2 cm wide), the inflorescence somewhat shorter to longer than the apical leaf, linear petals, the lip wider between the lateral lobes than between the lobes of the mid-lobe, clearly 3-lobed, the lateral lobes obliquely dolabriform; the mid-lobe bifid, forming a pair of oblong, short, divergent lobes separated by a sinus with a triangular mucro. *Epidendrum brachythyrus* Kraenzl. has taller, plants, to 75 cm tall, the inflorescence much shorter than the apical leaf, wider leaves (2-3.7 cm wide), petals linear-oblong, and the lip as wide between the lateral lobes as between the lobes of the mid-lobe, the lateral lobes elliptic-dolabriform, narrowly separated from the mid-lobe. *Epidendrum hassleri* Cogn. is sympatric with this species around Iguazú and differs in the taller, more robust stems, to 120 cm tall, generally paniculate inflorescence, 15-18 cm long, petals linear-oblancoolate, sepals sub-equal, oblancoolate, the lateral sepals slightly wider than the dorsal; lateral lobes of the lip dolabriform with the distal margin forming an acute angle. *Epidendrum densiflorum* Hook. 200 cm tall, thicker stems, elliptic leaves 3-5 cm wide, densely, many-flowered inflorescences, the lip slightly 3-lobed, with the lateral lobes sub-quadrate-dolabriform and the mid-lobe very short, bifid, forming a pair of obliquely triangular lobes. *Epidendrum andrés-johnsonii* Hágsäter & E.Santiago also from the Dept. of Misiones, Argentina, has narrowly elliptic leaves (1.3-2.9 cm wide), a lax inflorescence with up to 50 flowers, and the lip is somewhat 3-lobed, orbicular overall, slightly convex in natural position. The following species, all belonging to the Viridipurpureum Group have a pair of spathes at the base of the inflorescence, and have wider petals, and the pollinia laterally compressed but not bird-wing type: *Epidendrum dipus* Lindl. has a clearly paniculate, and many-flowered inflorescence, the petals 2.0-2.5 mm wide, narrowly spatulate, with the apex rounded. *Epidendrum nutans* Sw., endemic to Jamaica, petals are oblancoolate, acute, and the narrow mid-lobe of the lip emarginate, not mucronate, the formed by a pair of widely triangular, slightly divaricate lobes. *Epidendrum lindbergii* Rchb.f. has more robust stems, an entire, reniform lip, with wider petals, 2.0-3.2 mm wide, narrowly oblancoolate, spatulate, obtuse.

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

**ETYMOLOGY:** In honor of Dr. Fritz Noack, German collector of the end of the XIX century. He collected in southern Brazil and was a phytopatologist at the Instituto Agronômico do Estado de São Paulo, presently known as the Instituto Agronômico de Campinas, IAC.

**REFERENCES:** Johnson, A.E., 2001. As *Epidendrum* sp. aff. *paniculatum* in *Las orquídeas del Parque Nacional Iguazú*. L.O.L.A., Buenos Aires Argentina, pg. 88-89 (not the illustration which corresponds to *E. noackii*). Freuler, María Julia, 2003, as *Epidendrum* sp. aff. *paniculatum*, in *100 Orquídeas Argentinas*, Editorial Albatros, pg. 44.





EPIDENDRUM OENOCHROCHILUM Hágsater, Ric.Fernández & E.Santiago

Plate 1463

**EPIDENDRUM OENOCHROCHILUM** Hágsater, Ric.Fernández et E.Santiago, *sp. nov.*

Type: PERU: Junín: Chanchamayo: La Merced, 19 km from Paucartambo bridge 1 to 2 km from junction of Río Santa Cruz y Río Paucartambo, ca. 1030 m, pressed cult. 14 March 1965, **David E. Bennett 543**. Holotype: USM 58713! Clonotype: col. 12 February 1965, pressed cult. 17 July 1965, USM 166867! Illustration 12 III 1965, Pastorelli 94, photocopy AMO!

Simile *Epidendri turialvae* Rchb.f. sed floribus fusco-purpureis labello subintegro, lobulo medio bifurcato in duos parvos lobulos oppositos, flavo usque ad sordide fusco-roseum, disco pallide luteo, callis inclusis.

Epiphytic, sympodial, caespitose **herb**, 40-50 cm tall. **Roots** basal, fleshy. **Stems** 14-20 x 0.5-0.7 cm, simple, cane-like, terete, sub-erect, straight; the basal 1/3 covered by non-foliar, tubular, obtuse, smooth, partly imbricating sheaths, 17-38 mm long, becoming scarioso. **Leaves** 6-8, distributed throughout the apical 2/3 of the stems, articulate, alternate, coriaceous, dark green, dorsally tinged with dark purple; sheaths tubular, 11-26 x 5-7 mm, tinged with dark purple; blade 2.8-6.5 x 1-2.5 cm, elliptic, acute, margin entire, spreading, abaxially dark green, adaxially purple. **Spathaceous bract** lacking. **Inflorescence** 28-30 cm long, apical, first flowering racemose, with time producing a new raceme from the same peduncle in successive years, and then pluri-racemose, sub-erect, laxly few-flowered; peduncle 16-20 cm long, thin, somewhat laterally compressed, straight; provided with 5-7 tubular, acute bracts, 6-30 mm long, conduplicate towards the apex, the basal pair imbricate, decreasing in size towards the apex of the peduncle; rachis 8-11 cm long, thin, laterally compressed, generally with 1-2 short laxly, few-flowered racemes; each raceme subtended by a basal bract, 7-10 mm long, similar in size and shape to the apical bracts of the peduncle, triangular, acuminate, amplexicaul. **Floral bracts** 2-6 mm long, shorter than the ovary, triangular, acuminate, amplexicaul. **Ovary** 18-24 mm long, terete, thin, not inflated, scarcely minutely papillose. **Flowers** 17-20, successive, disorderly resupinate, sepals dorsally purple-brown, greenish purple internally, petals purple, lip yellow-brown to dirty pink with the disc pale yellow (including the calli and keels), the base of the column green, the apex white; fragrance not registered. **Sepals** 14-15 x 3-4.5 mm, free, fleshy, narrowly spatulate-oblongate, the apical half slightly concave, obtuse, 5-veined, minutely apiculate, margin entire, spreading; the dorsal sepals spreading to slightly reflexed, the lateral sepals reflexed. **Petals** 14 x 0.7 mm, free, partly spreading, arching towards the apex of the column, filiform, obtuse, 1-veined, margin entire, spreading. **Lip** 6-7 x 9-10 mm, united to the column, sub-entire or shallowly 3-lobed, base cordate, apex truncate and widely emarginated, margin entire, spreading; bicallose, the calli prominent, sub-globose, disc with 3 very fleshy, prominent keels, elongated to reach the apical sinus; lateral lobes sub-quadrate; mid-lobe 2 x 10 mm, small and short, forming a pair of oblong, obtuse lobes, opposite, the separation with the lateral lobes a deep, narrow sinus. **Column** 10 mm long, straight, base thin, gradually dilated towards the apex. **Clinandrium-hood** reduced, margin entire. **Anther** and **Pollinia** not seen. **Rostellum** apical, slit. **Lateral lobes of the stigma, nectary** and **capsule** not seen.

**OTHER SPECIMENS:** PERU: Junín: Valle del Chanchamayo, "El Refugio", San Ramón, 7 V 1984, R. Fernández-González 190, USM! Satipo Province, Gran Pajonal, east of Chequitavo on trail to Kotampaz, 1200 m, 4 IV 1984, Smith 6738, MO! (Illustration voucher).

**OTHER RECORDS:** PERU: Junín: Prov. Chanchamayo, La Merced, ca. 850 m., *Arévalo s.n.*, photo 7 III 2010, R. Fernández-González, digital image AMO! [San Martín: Moyobamba, Selva Central, Hort. Morón s.n., digital image, AMO! Planta comprada en la zona de San Ramón, en la selva central, 8 XII 2005, *Verástegui s.n.*, digital images, AMO! (photo voucher.) Amazonas: Bongara, 1700 m, *Meza sub Bennett 4994*, USM (no visto), ilustración *Pastorelli 127*, AMO! [fide Christenson, pers. comm.]

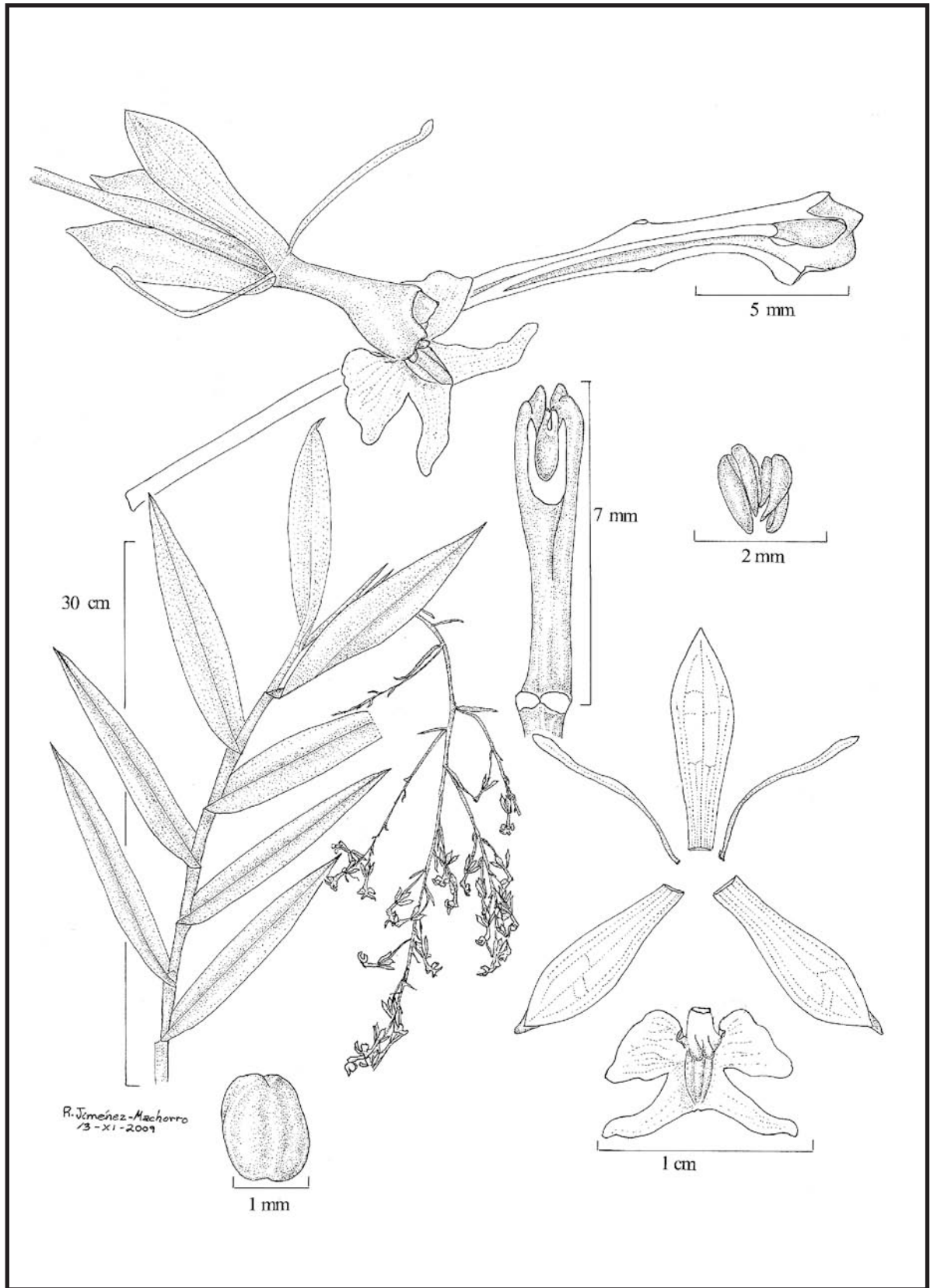
**DISTRIBUTION AND ECOLOGY:** Endemic to Perú, in the departments of San Martín, Huánuco and Junín; upper basin of the Huallaga and Ucayali rivers, epiphytic at about 1000 m altitude. Flowering from March to July.

**RECOGNITION:** *Epidendrum oenochrochilum* belongs to the Pseudopseudis Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and the Pluriracemosum Subgroup which has a racemose and few-flowered inflorescence on an elongate peduncle, usually producing new racemes over the years and thus pluri-racemose, the rachis is elongate, and thus lax flowered, the flowers bicolor, basically green to brown with the lip white to purple, spotted or not. The species is recognized by the 40-50 cm tall plants, with short (2.8-6.5 cm long) elliptic leaves; an elongate inflorescence, with successive flowers, several open at one time, the peduncle of the inflorescence with 5-7 tubular bracts, sepals (14-15 mm long) greenish purple, and especially the lip yellow-brown to dirty pink with the disc pale yellow (including the calli and keels). The Central American *Epidendrum turialvae* Rchb.f. has linear-lanceolate leaves 7-18.5 cm long, ventrally tinged purple, the inflorescence sub-corymbose, with greenish flowers, the disc occasionally tinged with purple. *Epidendrum rodrigoii* Hágsater (endemic to Colombia) has elliptic-lanceolate leaves, ventrally tinged purple, 10-12 cm long, the inflorescence with 3-7 olive-green flowers, the lip pink. *Epidendrum pluriracemosum* Hágsater & E. Santiago, known only from the French Guyana has similar plants with concolor, longer leaves (3-16 cm long), a reduced peduncle with 1-2 tubular bracts, and the somewhat smaller flowers (sepals 9-10.5 mm long) green with a white lip. *Epidendrum huamantupanorum* Hágsater & E. Santiago has narrowly elliptic leaves (3.5-13 cm long), copper-green flowers the lip hyaline white with the calli and ribs lavender, surrounded by a ring of darker lavender.

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

**ETYMOLOGY:** In reference to the characteristic color of the lip with is a dirty pink, like a light, mature, red wine, οἶνος, and the disc pale yellow, ὄχρος, and lip, χεῖλος.





EPIDENDRUM ORTIZII Hágsater & E.Santiago

Plate 1464



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

Type: COLOMBIA: Cundinamarca: Pacho; Hacienda "Patasía", 1820-2400 m, 5-7 August 1947, **Hernando García Barriga 12523**.  
Holotype: COL! Isotype: US! (Illustration voucher).

Simile *Epidendri angaritae* sed plantis maioribus, floribus minoribus viridibus labello albo purpureo-signato, apice columnae albo praedito duobus dentibus acutis, lobulo medio labelli leviter latiore quam lobuli laterales.

Lithophytic or terrestrial, sympodial, caespitose **herb**, ca. 100 cm tall. **Roots** not seen. **Stems** ca. 62-70 x 0.35-0.65 cm, simple, cane-like, laterally compressed, erect, straight. **Leaves** 25-37 x 3.5-6.5 mm, numerous, alternate, articulate; sheaths tubular, minutely striated; blade 14-15.5 x 2-4 cm, narrowly elliptic to elliptic, acuminate, margin entire. **Spathaceous bract** lacking. **Inflorescence** 30-38 cm long, apical, paniculate, erect, lax, flowering only once, with 5-10 branches, 7-15 cm long, some of these themselves branched, spreading to sub-spreading with respect to the rachis, few-flowered, each subtended by a basal, narrowly triangular acuminate bract 2-3 cm long; peduncle 4.5-6.5 cm long, laterally compressed, straight, thin, provided with 1-3 tubular, acuminate, long bracts, 1.7-6 cm long. **Floral bracts** 3-14 mm long, small, less than half the length of the ovary, linear-triangular, acuminate, amplexicaul. **Flowers** ca. 50-130, simultaneous, resupinate, "white" to green with the lip and apical half of the column white, the disc with numerous dark purple markings which turn garnet-red with age; fragrance not registered. **Ovary** 16-21 mm long, terete, thin, not inflated, unornamented. **Sepals** 10 x 3 mm, reflexed, free, narrowly oblanceolate, base unguiculate, acute, 5-veined, margin entire, spreading. **Petals** 9 x 0.6 mm, spreading, free, filiform, slightly falcate, with the apex somewhat widened, obtuse, 1-veined, margin entire, spreading. **Lip** 5-5.7 x 9-12 mm, united to the column, 3-lobed, base cordate, the lip wider between the apices of the mid-lobe than between the lateral lobes; bicallose, the calli small, sub-globose; disc provided with 3 thin, acute ribs that reach the apical sinus; lateral lobes 3.5-3.7 x 3.3-3.6 mm, triangular ovate, oblique, margin sub-crenate; mid-lobe 4.5-6 x 1.1 mm, bilobed, the lobes strongly divaricate, forming a wide shallow sinus in the middle, each lobe linear, obtuse, margin entire. **Column** 7 mm long, straight, thin at the base, gradually dilated towards the bidentate apex. **Clinandrium-hood** short, margin entire. **Anther** ovoid, 4-celled. **Pollinia** bird-wing type, unequal, the inner pair somewhat smaller; caudicle laminar, shorter than the pollinia. **Rostellum** apical, slit. **Lateral lobes of the stigma** small, 1/3 as long as the stigmatic cavity. **Nectary** cucullate, shallow, penetrating 1/4 of the ovary, not inflated, unornamented. **Capsule** not seen.

**OTHER SPECIMENS: COLOMBIA: Cundinamarca:** near the village of Tena in the province of Bogotá, without collector data, W-R 49572! Pacho, 1800-2500 m, I 1892, *Lehmann 7294*, AMESx3! K-Lx2! ! NYx2! W-R! Vda. La Rambla Alta, Santandercito, ca. 2000 m, 25 I 1969, *Ortiz 171*, HPUJ! (Illustration, copy AMO!) Tequendama, 2200 m, 15 IX 1917, *Pennell 1979*, NY! Cordillera Oriental, abajo del Salto de Tequendama, cerca al cerro de El Ermitaño, 2300 m, 6 VII 1963, *Uribe 4364*, NY! Pacho, montes al oriente de Patasía, 2200 m, 28 I 1965, *Uribe 5063*, F! **Santander:** Vicinity of Charta, 2000-2600 m, 1 II 1927, *Killip 19321*, NY! US!

**OTHER RECORDS: COLOMBIA: Cundinamarca:** Vda. La Rambla Alta, Santandercito, ca. 2000 m, 25 I 1969, *Ortiz 171*, slide, AMO! (Photo voucher.) Vereda San Antonio, Cabrera, 29 IV 1988, *Ospina 1199*, COL!

**DISTRIBUTION AND ECOLOGY:** Known only from the upper western slope of the Cordillera Oriental in northern Colombia, in the provinces of Cundinamarca and Santander; lithophytic or terrestrial at 1800-2500 m altitude. Flowering from July to January.

**RECOGNITION:** *Epidendrum ortizii* belongs to the Pseudepidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and Paniculatum Subgroup, which has filiform petals, all pollinia "bird-wing" type, green and white flowers, often marked with purple on the disc of the lip and apex of the column. The species is recognized by the ca. 100 cm tall plants, the leaves narrowly elliptic to elliptic (14-15.5 x 2-4 cm), lax-flowered, paniculate inflorescence, flowers "white" to green with the lip and apical half of the column white, the disc with numerous dark purple markings which turn pomegranate-red with age; sepals reflexed, 10 mm long, lateral lobes of the lip triangular-ovate with the margin sub-crenate. *Epidendrum floribundum* Kunth (endemic to Amazonian Peru (450-1200 m altitude) has shorter inflorescences, 15-20 cm long with fewer flowers, flowers green with the lip and apex of the column immaculate white, lateral lobes of the lip semi-orbicular to sub-quadrangle. *Epidendrum macroceras* Schltr. has shorter plants, to 50 cm tall, yellow-green flowers, the lip white, immaculate, and the mid-lobe forming a pair of oblong, falcate lobes. *Epidendrum angaritae* Hágsater has spreading greenish-brown flowers, the lip white tinged with purple, rather large flowers (sepals 15-17 mm long). *Epidendrum lilacinoides* Hágsater & E.Santiago has purple flowers with a white lip, sepals 11-14 mm long. *Epidendrum paniculovenezolanum* Hágsater & E.Santiago has dorsally deep purple leaves, large flowers (sepals 13-18 mm long) greenish brown with the lip white, immaculate.

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

**ETYMOLOGY:** In honor of Dr. Pedro Ortiz Valdivieso, s.j. (1926-2012), Jesuit priest at the Pontificia Universidad Javierana of Santa Fé de Bogotá, renown for his biblical studies and professor of Biology, and founder of the Herbarium (HPUJ). He has collected and studied Colombian orchids for many years, published numerous papers and books and described many species new to science. He has shared his interest with numerous amateurs and botanists, including the senior author.



Authors: E. Hágsater & E. Santiago

Illustrator: R. Jiménez M.

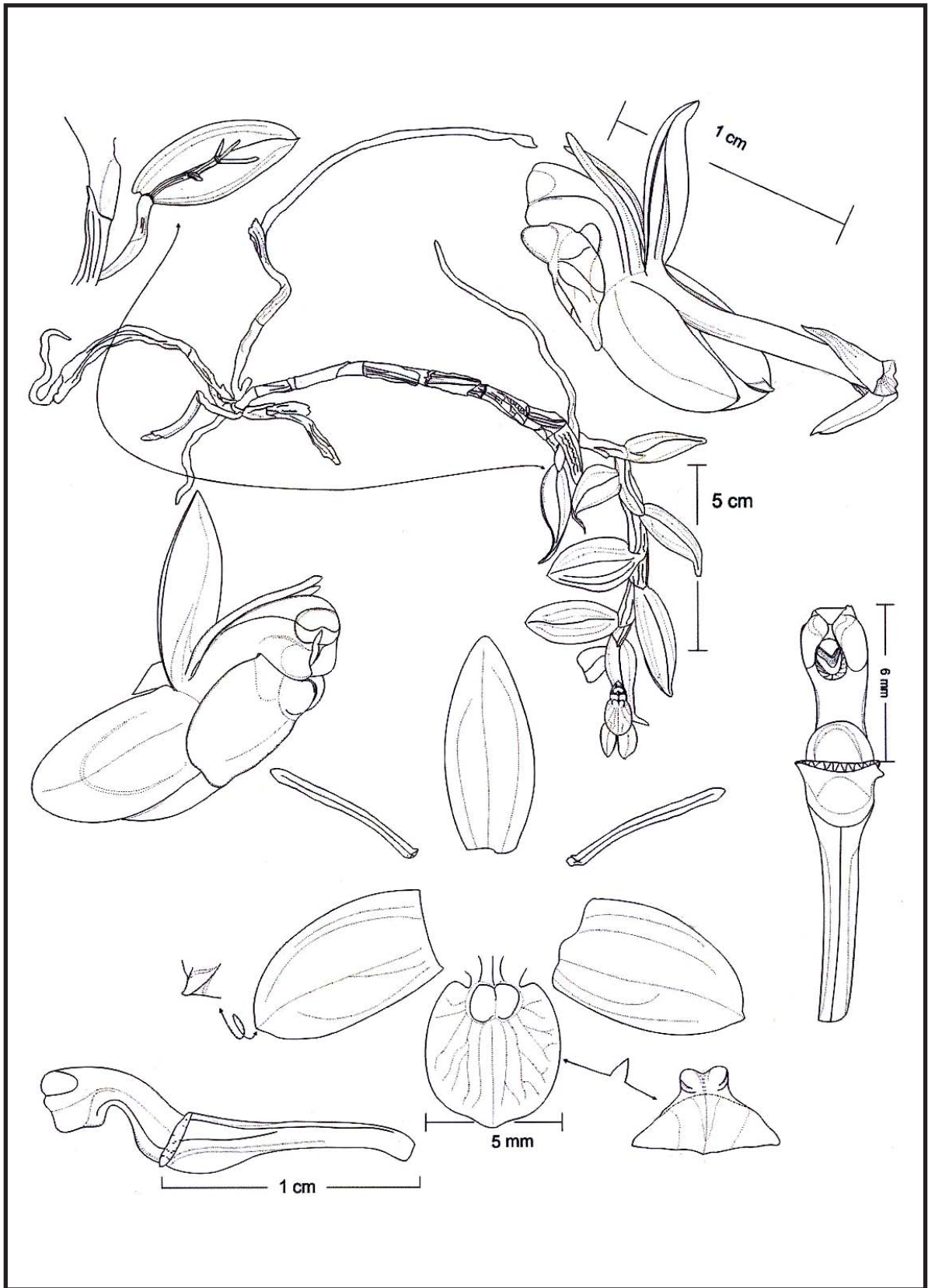
Photo: P. Ortiz

Editors: E. Hágsater & L. Sánchez S.

Herbario AMO

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ICONES ORCHIDACEARUM 14. 2013. Plate 1464



EPIDENDRUM OSCAR-PEREZII Hágsater, E.Parra & E.Santiago

Plate 1465

**EPIDENDRUM OSCAR-PEREZII** Hágsater, E.Parra et E.Santiago, *sp. nov.*

Type: COLOMBIA: Boyacá: Zetaquirá-Tunja, 11 March 2011, 2500 m, **Edicson Parra-Sánchez 422**. Holotype: VALLE! (Illustration voucher).

Simile *Epidendri retrosepali* Hágsater, Ric.Fernández & E.Santiago, sed facie dorsali foliorum rugosa obscure viridi, facie ventrali laevi et intense purpurea, floribus successivis, sepalo dorsali semiaperto, fere parallelo ad columnam, sepalis lateralibus ellipticis, costa dorsali humili ornatis, labelli margine integro et apice rotundato, columna sursum geniculata relative ad ovarium, in angulum 135° et fortiter arcuata.

Monopodial, branching, pendent, short **herb** ca. 16 cm long. **Roots** 1-2.5 mm in diameter, basal, fleshy, thin. **Stems** branching, cane-like, terete, thin, the main stem ca. 16 x 0.5 cm, taller than the short branches, some so short as to appear to be lateral inflorescences, the branches produced sub-apically of the previous stem. **Leaves** 7 on the main stem, 2-7 on the branches, distributed throughout the stems or if 2, aggregate at the apex, alternate, articulate, those on older stems spreading, from younger stems erect and covering the young stem; coriaceous, dorsal surface strongly rugose, dark green, ventral surface smooth, tinged with intense purple; sheath 6-15 x 4-5 mm, tubular, striated, tinged purple; blade 2-3.2 x 0.7-1.4 cm, ovate to narrowly ovate, acute, minutely apiculate, margin entire. **Spathaceous bract** lacking. **Inflorescence** 2 cm long, apical, racemose, flowering only once, short, few-flowered; peduncle 1.1 cm long, thin, somewhat laterally compressed; rachis 9 mm long, short hidden by the floral bracts. **Floral bracts** ca. 4 mm long, shorter than the ovary, triangular-lanceolate, acuminate, amplexicaul. **Flowers** 3-4, successive, resupinate, greenish white, the column green, sepals and column somewhat tinged purple; without fragrance. **Ovary** 10 mm long, terete, thin, striated, purple, apex somewhat greenish, ventrally inflated behind the perianth. **Sepals** 7-7.7 x 3.1-4.3 mm, free, obtuse, margin entire, spreading; the dorsal sepal partly spreading, inflexed, nearly parallel to the column, narrowly ovate, 3-veined; the lateral sepals strongly reflexed, elliptic, oblique, with a low dorsal keel, 5-veined. **Petals** 6 x 0.5 mm, partly spreading, free, linear-filiform, obtuse, 1-veined, margin entire, spreading. **Lip** 5 x 5 mm, united to the column, concave, slightly reflexed, entire, orbicular, base slightly cordate, apex rounded, margin entire, spreading; bicallose, the calli prominent, globose, fused to each other. **Column** 6 mm long, geniculate at the base with respect to the ovary and forming an angle of 135°, arching, narrowed in the middle, the base strongly inflated ventrally, the apical half thick. **Clinandrium-hood** short, margin entire. **Anther** and **pollinia** not seen. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** short, inflated at the height of the perianth. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Endemic to northern Colombia on the upper eastern slope of the Cordillera Oriental of the Andes, epiphytic and pendant, in remnants of cloud forest at ca. 2500 m altitude. Flowering in February and March.

**RECOGNITION:** *Epidendrum oscar-perezii* belongs to the Soratae Subgroup of the Scabrum Group which is characterized by the branching habit starting on a monopodial, primary stem, infundibuliform, rugose leaf-sheaths, lanceolate, aristate, acute leaves, racemose subcapitate inflorescence on a short, thin peduncle, and the bicallose lip. The species is recognized by the pendent plants, ovate to narrowly ovate, bicolor leaves, the dorsal surface green and rugose, the ventral surface smooth and purple, flowers opening in succession, greenish white, somewhat tinged with purple, dorsal sepal inflexed nearly parallel to the column, lateral sepals strongly reflexed, margin of the orbicular lip entire, column geniculate with respect to the ovary and forming a 135° angle. *Epidendrum retrosepalum* Hágsater, Ric.Fernández & E.Santiago, endemic to Peru is florally very similar, but the leaves are concolor, both surfaces smooth and shiny, flowers simultaneous, greenish yellow, the lateral sepals are ovate-triangular, with a prominent awn, the lip reniform, slightly apiculate and somewhat 3-lobed, margin crenulate. *Epidendrum soratae* Rchb.f. has lanceolate leaves, 8-12 simultaneous greenish-yellow flowers, partly spreading sepals, the reniform lip is somewhat 3-lobed. *Epidendrum leonora* Hágsater, O.Pérez & E.Santiago has linear-lanceolate concolor leaves, 2 somewhat smaller flowers (sepals 5.5. mm long), and the reniform lip has an erose margin.

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

**ETYMOLOGY:** In honor of Oscar Alejandro Pérez-Escobar (1988-), agronomic engineering graduate from the Universidad Nacional de Colombia. He is an enthusiastic student of orchid taxonomy and has been contributing with his work and dedication to the knowledge of the orchid flora of the department of Valle del Cauca, Colombia.



Authors: E. Hágsater & E. Santiago

Illustrator: E. Parra

Photos: E. Parra

Editors: E. Hágsater & L. Sánchez S.

Herbario AMO

México, D.F. MÉXICO

ICONES ORCHIDACEARUM 14. 2013. Plate 1465



EPIDENDRUM PACHYCOLEUM Hágsater, O.Pérez & E.Santiago

Plate 1466

**EPIDENDRUM PACHYCOLEUM** Hágsater, O.Pérez et E.Santiago, *sp. nov.*

Type: COLOMBIA: Valle del Cauca; Municipio el Cerrito; Tenerife, Páramo “Pan de Azúcar” [Páramo Las Herosas], 3600 m, 6 January 2011, **Oscar Alejandro Pérez Escobar & Marta Kolanowska 873**. Holotype: CUVCI! (Illustration voucher), digital images of pretype, AMO!

Similar to *Epidendrum serpens* Lindl. but the pseudobulb 1-2-leaved, leaves elliptic, acute, and a single reddish-violet flower.

Epiphytic, sympodial, rhizomatous **herb** ca. 5 cm tall. **Roots** 1-2 mm thick, basal, thin, fleshy, scarce, green with white and burgundy-red tinges. **Stems** 0.45-1 x 0.6-0.7 cm, aggregate, thickened, forming globose, homoblastic, pseudobulbs; covered by 1-3 bracts 11-14 x 8-10 mm, imbricated, unequal in size, papiraceous, the veins prominent. **Leaves** 1-2, apical, leaf apparently not articulate to the very fleshy, appressed sheath which appears to be part of the pseudobulb, coriaceous, dark green tinged violet towards the margins and underside, the juvenile leaves burgundy-red; blade 1.0-2.5 x 0.5-1.0 cm, elliptic, acute, margin hyaline, spreading, erose. **Spathaceous bract** lacking. **Inflorescence** apical, 2-3-flowered, sessile, rachis very short and thick. **Floral bracts** ca. 2 mm long, very small, triangular, obtuse. **Ovary** 6 mm long, terete, not inflated, unornamented. **Flower** 2-3, flowers developing in succession, with 2 sometimes open at one time, resupinate, reddish violet, the column and the disc of the lip yellowish red; fragrance not registered. **Sepals** spreading, free, ovate, acute, fleshy, 3-veined, margin entire, spreading; dorsal sepal 7 x 3 mm, lateral sepals 7.3 x 4 mm, oblique, dorsally pustulate, with an apical low, dorsal keel. **Petals** ca. 7 x 2.1 mm, free, spreading, narrowly oblong, acute, 1-2-veined, margin entire, spreading. **Lip** 5.5 x 8 mm, united to the column, widely cordiform, apiculate, slightly concave in natural position, margin irregularly dentate; ecallose, with a wide, low, central, prominent rib, elongated to the apicule. **Column** 3.5 mm long, short, thick, straight, forming a right angle with the ovary. **Clinandrium-hood** reduced, entire. **Anther** not seen. **Pollinia** 4, obovoid, sub-equal; caudicles soft and granulose, slightly longer than the pollinia, wide; viscidium semi-liquid. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** not seen. **Capsule** not seen

**OTHER SPECIMENS: COLOMBIA: Valle del Cauca:** Mpio: Tuluá: Alto de Barragán, Cañón Garrapatas, ca. 3300 m, 27 IV 2012, *E. Parra 912*, digital image series, AMO!

**DISTRIBUTION AND ECOLOGY:** Known from two localities in the Valle del Cauca, Colombia: near the summit of the Cordillera Central, at 3300-3600 m altitude. Flowering in January. It grows epiphytically on small, isolated shrubs found reaching the paramo, beside the road.

**RECOGNITION:** *Epidendrum pachycoleum* belongs to the Kalopternix Group, which has single to few reddish-brown to purple flowers, often resupinate, the petals narrower than the sepals, lip more or less cordiform, sometimes apically 3-lobed, ecallose, usually with a thickened, low, rounded rib running down the middle, the column short, forming a right angle with the ovary, which is short, and the Serpens Subgroup which has plants with 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 species is recognized by the 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, sepals 7.0-7.3 mm long. *Epidendrum serpens* Lindl. also has an erect plant, but 2-3 leaves per pseudobulb, 4-5 simultaneous flowers, leaves ovate-lanceolate, linear-lanceolate petals, the lip sub-rounded-ovate. *Epidendrum platyphylloserpens* Hágsater, from Ecuador, has pendent leaf, oblong-elliptic, acute, with up to 9 flowers opening in succession, several open at one time, the sepals are 5-veined, 8.5 mm long. *Epidendrum pachacutegianum* Hágsater & Collantes, from Peru, has a single erect leaf per stem, small, successive, non-resupinate flowers, sepals 6-8 mm long, the margin of the lip and petals minutely papillose.

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

**ETYMOLOGY:** From the Greek *παχυς*, thick, *κολεος*, vagina, in reference to the thickened, fleshy sheath of the lower leaf which envelops the pseudobulb.

**REFERENCES:** Hágsater, E., 2001, *Epidendrum platyphylloserpens*, in The Genus *Epidendrum*, **Icon. Orchid.** 4: pl. 473. Hágsater, E., & B. Collantes, 2006, *Epidendrum pachacutegianum*, in The Genus *Epidendrum*, **Icon. Orchid.** 8: pl. 864.



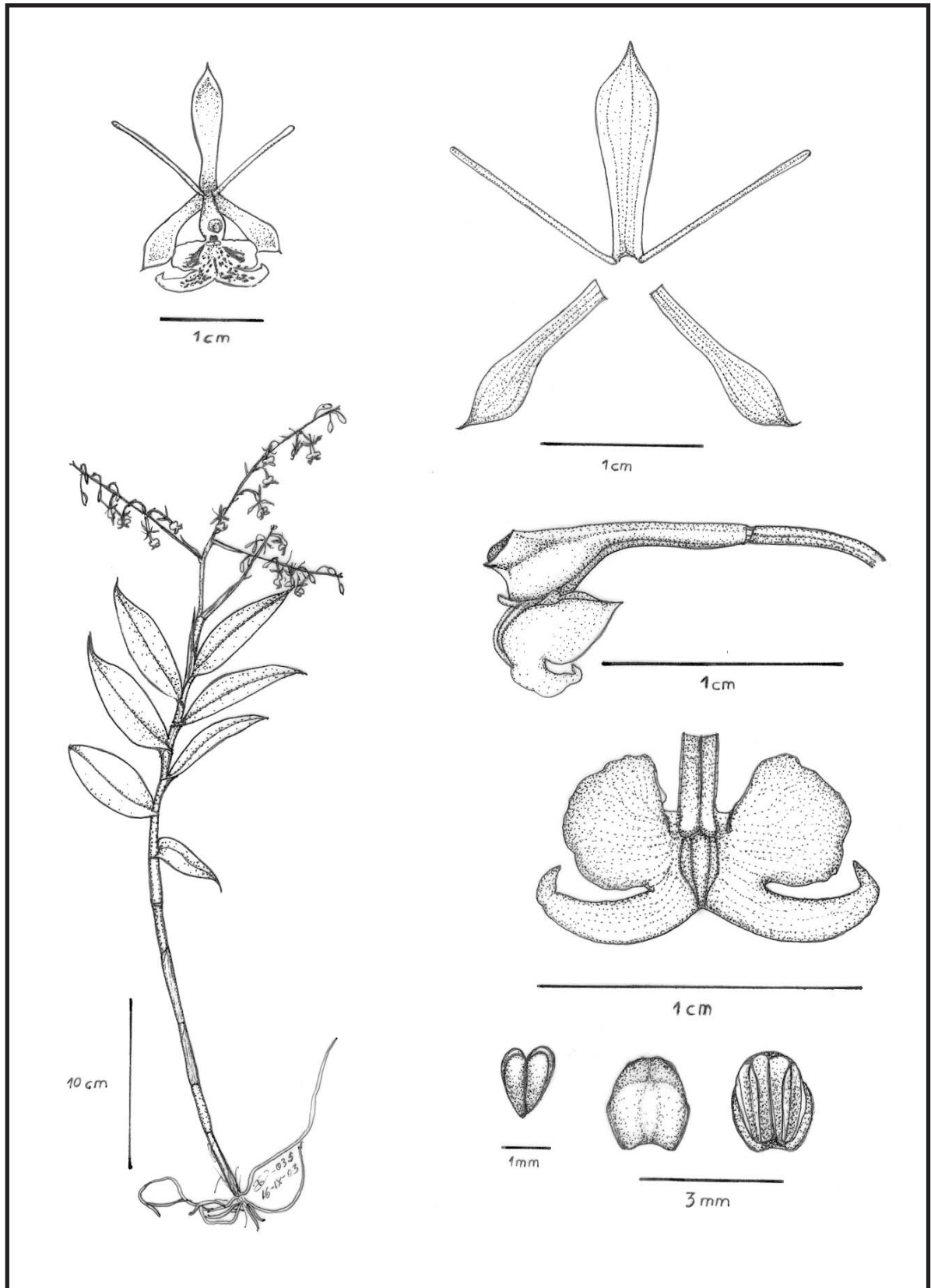
Authors: E. Hágsater, O. Pérez & E. Santiago  
Herbario AMO

México, D.F. MÉXICO

Photo: O. Pérez

Editors: E. Hágsater & L. Sánchez S.

ICONES ORCHIDACEARUM 14. 2013. Plate 1466



EPIDENDRUM PANICULATUM Ruiz & Pav.

Plate 1467

## EPIDENDRUM PANICULATUM Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil. 1: 243. 1798.

Type: PERU: [Huánuco:] Muña, 1786, *Hipólito Ruiz & José A. Pavón s.n.* Lectotype, here designated: the specimen labelled as "*Epidendrum paniculatum*, Gynandria", and annotated by Carnevali and Ramírez as "Typus", MA 810723! Isolectotypes: MA 810722! 810724! Pupulin (pers. comm. 2010) believes that it could be a collection of *Tafalla & Manzanilla*, which arrived in Seville in 1829, before being incorporated to the RJB in 1931 (now part of MA; the herbarium numbers were only recently added, so images taken earlier will not show these numbers, "Gynandria" clearly identifies the lectotype).

Szlachetko et al. (2012) designated *Poeppig 1602* (MA, W) as a lectotypes, but that must be rejected, as the original material is extant; however the image Szlachetko provided (pl. 219) corresponds to the lectotype here designated (before being numbered at MA).

The specimen Ruiz & Pavón s.n. at F 842261!, annotated "Probable Isotype of *Epidendrum paniculatum*", with a sketch of the flower drawn by Leslie A. Garay is not a duplicate of those deposited in MA, and therefore is not a part of the type. *Non Epidendrum paniculatum* Sessé & Moc., Fl. Mexic. (ed. 2) 204. 1894, *nom. illeg. hom.*; nec *Epidendrum paniculatum* (Lindl.) Rchb. f., Ann. Bot. Syst. 6: 1166. 1865 (basionym: *Ionopsis paniculata* Lindl., *nom. illeg. hom.*).

Epiphytic, sympodial, caespitose, erect, **herb**, ca. 53-110 cm tall. **Roots** ca. 3 mm, basal, thin. **Stems** ca. 32-70 x 0.6-1 cm, simple, cane-like, terete, straight, erect. **Leaves** 18-20, distributed throughout the stem, alternate, articulate, erect-spreading; sheath 1.5-4.5 x 0.6-1 cm, tubular, green, somewhat tinged with reddish purple, with longitudinal reddish lines; blade 5-9.5 x 1.6-3.4 cm, elliptic, short-acuminate, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescence** 20-22 cm long, apical, paniculate, flowering only once, sub-erect, lax-flowered; peduncle 4-7 cm long, laterally compressed, erect, straight; nearly totally covered by 1-3 tubular, lanceolate, acuminate bracts 4 cm long; rachis 1.5-3.8 cm long, with 3-8 racemes, spreading, lax-, few-flowered, each subtended by a narrowly triangular, acuminate, amplexicaul bract. **Floral bracts** from half as long to much shorter than the ovary, 2-8 mm long, linear-triangular, acuminate, amplexicaul. **Ovary** 11-17 mm long, terete, thin, slightly arched, not inflated, unornamented. **Flowers** 43-130, opening in succession, but eventually all open at one time, respinate, sepals, petals and the basal half of the column green, the apical half of the column and the lip white, turning yellow with time; the disc surrounded by more or less solid reddish spots, and a few dots on the ribs; fragrance not recorded. **Sepals** 10-12 x 2.6-3.6 mm, slightly reflexed, free, oblanceolate-spatulate, obtuse, fleshy, somewhat concave, 3-veined, margin entire, spreading. **Petals** 10 x 0.3 mm, spreading, free, filiform, apex rounded, 1-veined, margin entire, spreading. **Lip** 5-6 x 9-10.5 mm, united to the column, 3-lobed, base cordate, nearly as wide between the lateral lobes as between the apical lobes; bicallose, the calli small, sub-globose; disc provided with 3 parallel ribs that reach the apical sinus of the lip; lateral lobes 3.5-4.0 x 4.0-4.2 mm, sub-orbicular, margin sub-entire; mid-lobe deeply emarginated, forming a pair of linear-oblong, acute, falcate lobes, strongly divaricate, each lobe 5.5 x 1.3 mm. **Column** 9-10.5 mm long, straight, thin at the base, dilated towards the apical half, with a pair of minute teeth at the apex. **Cinandrium-hood** reduced, margin entire. **Anther** obovoid, 4-celled. **Pollinia** 4, "bird-wing" type. **Rostellum** apical, slit. **Lateral lobes of the stigma, nectary and capsule** not seen.

**OTHER SPECIMENS:** PERU: **Cusco:** Ollantaytambo, between Pampacahua and Cedrobamba, Quebrada and Río Pachachoca, 2800 m, 8 VII 1989, Núñez 11108, MO! (Illustration, AMO!). **Huánuco:** Chinchao, 2 VIII 1964, Dwyer 6211, MO! UC! Cerro Chinchao, 1900 m, 19 VI 1953, Ferreyra s.n., USM! entre Chinchao y Huánuco, 2600-2700 m, 17 X 1957, Ferreyra 12785, UC! USM! Chinchao, 1900-2000 m, 19 VIII 1967, Ferreyra 16945, USM! (Illustration, AMO!) Carpish, Tingo María side of the pass, 2000 m, 18 VII 1964, Hutchison 5981, AMES! MO! NY! UC! USM! Carpish Hills, between Huánuco and Tingo María, 2100 m, 10 VIII, Luer 5349, SEL! Carpish Divide, 9000 ft, X 1945, Sandeman 5122, K-L! **Junín:** road from Tarma to San Ramón, below Carpopata, 1700 m, 16 III 1976, Plozman 5644, AMES! F! USM! Río Rondayacu, 1880-1950 m, 15 X 1982, Smith 2603, F! NY! (Illustration) MO! USM! **Pasco:** Oxapampa, 2100 m, 21 V 2005, van der Werf 20354, MO!

**OTHER RECORDS:** PERU: **Huánuco:** Muña, watercolor illustration of the pretype prepared by Cálvez as a part of the Ruiz and Pavón expedition; it bears the number 177, to which Ruiz refers in the original manuscript description of the species, now in the archives at MA (Pupulin, pers. comm., 2010), digital image, AMO! Distrito Chinchao; San Pedro de Carpish, 2312 m, 26 VII 2003, Trujillo 155, digital image and illustration voucher, AMO! **Junín:** Without locality, Morón s.n., digital photo, AMO!

**DISTRIBUTION AND ECOLOGY:** Endemic to Peru, on the Cordillera Oriental from Huánuco to Cusco, epiphytic, growing at 1700-2800 m altitude. Flowering from March to October.

**RECOGNITION:** *Epidendrum paniculatum* belongs to the Pseudepidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and Paniculum subgroup, which has filiform petals, all pollinia "bird-wing" type, green and white flowers, often marked with purple on the disc of the lip and apex of the column. The species is recognized by the intermediate sized plants, paniculate inflorescence, 12-13 mm long sepals, the mid-lobe of the lip bifid, with the lobes divaricate, opposite, falcate, with the width between the tips greater than between the edges of the lateral lobes, the flowers green with the column white and the disc surrounded by more or less solid reddish spots, and a few dots on the ribs. *Epidendrum macroceras* Schltr. from northern Colombia has very long, falcate, oblong, truncate apical lobes of the lip, and the basal lobes longer towards the apex than towards the base; the color of the flowers is yellow-green with the apex of the column and the lip white. *Epidendrum angaritae* Hágsater is somewhat similar, but the apical lobes are acute and straight, not falcate, and the basal lobes of the lip longer at the base. *Epidendrum atoscriptum* Hágsater which is endemic to Mexico and Guatemala is very similar but the flowers are successive, sepals (dorsally) and ovary are furturaceous, the lip has a densely dotted purple spot on the disc. *Epidendrum veroscriptum* Hágsater, also from Mexico, is very similar but flowers are simultaneous, the sepals (dorsally) and ovary furturaceous, the lateral lobes of the lip dolabriform, and the disc of the lip generally is surrounded by a ring of purple dots. *Epidendrum pilliferum* Rchb.f. from Costa Rica and Panama has taller plants (to 200 cm) leaves 13.5-22.5 x 1.5-5.5 cm, sepals 12.5-17 mm long, the ovary has moniliform trichomes, and the disc of the lip has 5 irregularly dotted lines on the ribs. *Epidendrum santiagense* Hágsater & Dodson from Ecuador has somewhat larger apple-green flowers, (sepals 15 mm long), the lip and apex of the column white, the disc of the lip with 5 lines of reddish dots, and the ovary densely papillose. *Epidendrum weeraktianum* Hágsater, O.Pérez & E.Santiago has somewhat larger flowers, sepals 15 mm long, petals 17 mm, lateral lobes of the lip dolabriform, with 5 ribs on the disc, the ribs strongly decorated with purple lines. *Epidendrum kolanowskiae* Hágsater, O.Pérez & E.Santiago has somewhat smaller plants, 42 cm tall, the lip convex with the lateral lobes dolabriform, and the mid-lobe forming a pair of slightly divaricate, straight, linear lobes; the disc of the lip slightly spotted with purple. *Epidendrum rhabogyrum* Hágsater & E.Santiago has 8-10 mm long sepals, the lip has a purple zigzag circle around the disc, and dots on the ribs, the lateral lobes are sub-quadrate.

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

**ETYMOLOGY:** From the Latin *panicula* in botany an inflorescence formed by several racemes, in reference to the branching inflorescence of the species.

**NOTE:** The name *Epidendrum paniculatum* has been used for a great diversity of species ranging from Mexico to Argentina, with green and white flowers, usually with some kind of reddish-purple markings on the disc. It has been relatively easy to separate the species with pink to purple or orange colored flowers, but not so the green and white colored species, which indeed require an understanding of the many populations, and characteristics such as the type of markings, either immaculate white, or a solid pink to purple blotch, or dots of various patterns. The shape of the inflorescence, successive or simultaneous flowering, exceptionally some species produced new racemes from the same inflorescence, while most flower only once, and the size of the flowers, and shape of the lip, including the size of the calli, shape and position, are also important in distinguishing the various species. In our opinion there is no single widespread species, but rather numerous species which occupy different ecological niches that sometimes overlap, and which are clearly recognizable once you understand the various ways in which diversity varies. The species illustrated by Christenson (2005) based on *Christenson 2025*, USM! is described as *E. christensonii* Hágsater & E.Santiago elsewhere in this volume.

**REFERENCE:** Christenson, Eric A., 2005, *Epidendrum paniculatum*, *Orchid Rev.* 113(1263): 134-135. Szlachetko, Dariusz L. et al., 2012, *Orchids of French Guiana*, A.R.G. Gantner Verlag K.G., Ruggell, Lichtenstein, 409 pp.



Authors: E. Santiago & E. Hágsater

Illustrator: D. Trujillo

Photo: D. Trujillo

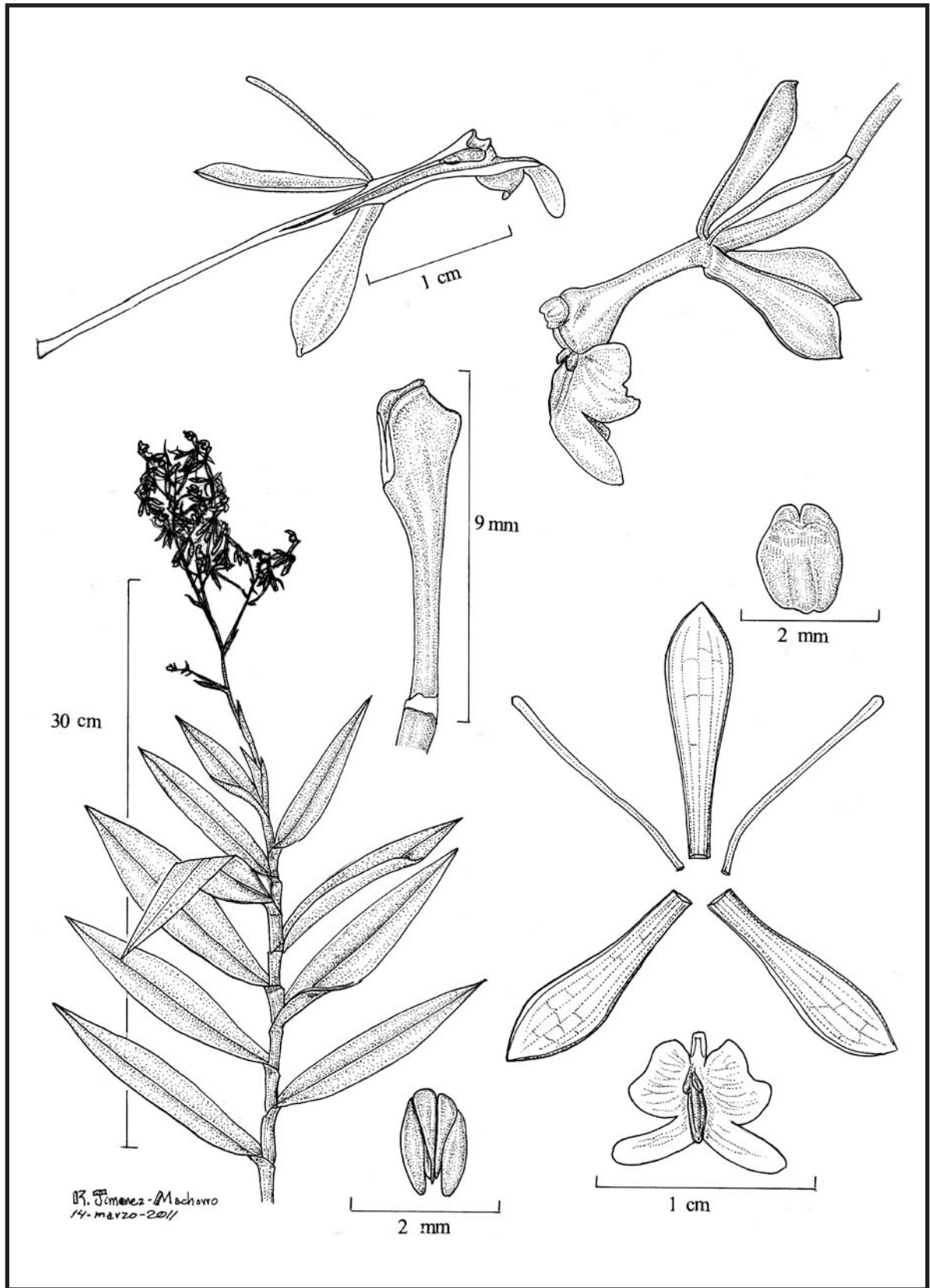
Editors: E. Hágsater & L. Sánchez S.

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ICONES ORCHIDACEARUM 14. 2013.

Plate 1467



EPIDENDRUM PANICULOLATERIBILOBUM Hagsater, Ric.Fernández & E.Santiago

Plate 1468



**EPIDENDRUM PANICULOLATERIBILOBUM** Hágsater, Ric.Fernández et E.Santiago, *sp. nov.*

Type: PERU: Cusco: Calca: Chapo-Boyero, 900 m, 16 June 1984, **L. v. d. Hoogte & C. Roersch 1620**. Holotype: U! (Illustration voucher).

Smile *Epidendri paniculati* Ruiz & Pavón sed plantis maioribus, sepalis leviter reflexis, labello immaculato vel aliquibus punctis violaceis ornato, labelli lobulis lateralibus bilobulatis et lobulis lobi medii leviter divaricatis.

Epiphytic, caespitose, sympodial **herb**, 90-150 cm tall. **Roots** from the base of the stems, thick. **Stems** ca. 70-130 x 0.35-0.7 cm, simple, cane-like, laterally compressed, erect, straight. **Leaves** numerous, distributed along the stem, alternate, articulate, erect-spreading; sheath 24 x 3.5-7 mm, tubular, minutely striated; blade 8-14 x 1.6-2.7 cm, elliptic, short-acuminate, margin entire. **Spathaceous bract** lacking. **Inflorescence** 21-30 cm long, apical, paniculate, flowering only once, sub-erect, laxly many-flowered; peduncle 8.5 cm long, laterally compressed, flattened, erect, straight, nearly totally covered by 4 tubular, triangular-lanceolate, acuminate, partly imbricating bracts, 2.2-3.5 cm long; rachis 3.2-5.3 cm long, with 4 branches, somewhat spreading, laxly few-flowered; each branch subtended by a basal, narrowly triangular, acuminate, amplexicaul bract 1.6-2 cm long. **Floral bracts** 1-6 mm long, much shorter than the ovary, linear-triangular, acuminate, amplexicaul. **Ovary** 20-23 mm long, terete, thin, not inflated, un-ornamented. **Flowers** ca. 50, simultaneous, resupinate, pale green, the lip and apical half of the column white, turning yellowish, the disc occasionally with few purple dots; fragrance moderately sweet. **Sepals** 11 x 3 mm, slightly reflexed, free, spatulate, obtuse, fleshy, somewhat concave, 5-veined, margin entire, spreading. **Petals** 11 x 0.4 mm, spreading, free, filiform, apex rounded, 1-veined, margin entire, spreading. **Lip** 6.2 x 8 mm, united to the column, 3-lobed, base cordate, slightly wider between the apical lobes than between the lateral lobes; bicallose, the calli small, sub-globose; disc provided with 3, parallel ribs running to the apical sinus; lateral lobes 3 x 4 mm, obliquely rectangular, the distal edge bilobed, margin entire; mid-lobe deeply emarginate, forming a pair of linear-oblong, rounded, divaricate lobes, each lobe 3.7 x 1.3 mm. **Column** 9 mm long, straight, thin at the base, dilated towards the apical half, with a pair of minute apical teeth. **Clinandrium-hood** reduced, margin entire. **Anthor** obovoid, 4-celled. **Pollinia** 4, "bird-wing" type, caudicles not seen. **Rostellum** apical, slit. **Lateral lobes of the stigma** very small. **Nectary** cuniculate, shallow, slightly penetrating the ovary, smooth, not inflated. **Capsule** 3-5.4 x 1-1.6 cm, ellipsoidal including the pedicel, green, with a long, thin, pedicel and a short apical neck, tepals persistent.

**OTHER SPECIMENS: BOLIVIA: La Paz:** Mapi-Region: San Carlos bei Sarampiuni, 600 m, 17 III 1927, *Buchtien 502*, G! K! MO! NY! SEL! US! Z! **PERU: Cusco:** La Convención: Machupichu an der nach Suden [Machu-Picchu], 2500-2600 m, *Renz 10181\**, RENZ x3! La Convención; Potrero Cosqueñagua, 1350 m, 30 VI 1949, *Vargas 8265*, AMES! CUZ! **Huánuco:** Tingo María, 650 m, 28 VI 1958, *Woytkowski 5003*, AMES! MO! UC! **Junín:** Huacapistana, 1800-2400 m, 5 VI 1929, *Killip 24512*, AMES! US! Colonia Perene, ca. 680 m, 14 VI 1929, *Killip 25039*, AMES! US x2! between Tarma and San Ramón, 1200 m, 29-31 I 1979, *Luer 3802*, SEL! San Luis de Shuaro, "El Refugio", San Ramón, 800 m, 2 VI 1983, *Fernández 222*, USM! west bank of the Río Ene near the mouth of the Río Chiquireni, ca. 350 m, 21 VIII 1970, *Madison 10457-70*, SEL! below Tarma, near San Ramón, 19 III 1973, *Richardson 2076*, COL! **San Martín:** Tocache Nuevo, Quebrada de Polvora, 10 km debajo de Puerto Pizana, 20 V 1971, *Shunke 4934*, COL! NYx3! US! Fx2! G! Ibid. 28 V 1971, *Shunke 4934*, Fx2! G! NYx2! US! Prov. Lamas, Alonso de Alvarado; San Juan de Pacayazapa, 900 m, 12 IV 1973, *Schunke 5908*, AMES! Ibid. *Schunke 5911*, AMES! NY! SEL!

**OTHER RECORDS: PERU: Cusco:** Cuenca de Kosñipata: Pongo de Qofñec, *Huamantupa s.n.*, digital imagen, AMO! (Photo voucher). **Junín:** Prov. Chanchamayo, San Ramón, ca. 800-900 m, digital imagen, photo 7-3-10, *Ricardo Fernández*, CD 2011, AMO! **BOLIVIA:** Chapare, *Nowicki 2196*, LPB, photo # 47, published as *E. humidiculum* (Vásquez & Ibsch 2004).

**DISTRIBUTION AND ECOLOGY:** Widespread and common along the eastern foot of the Andes from central Peru to western Bolivia, in the basins of the Ucayali, Apurimac, Huallaga, Alto Madre de Dios and Beni rivers. Epiphytic, growing in thickets and forests at 600-1350 [1800-2400] m altitude. Flowering from March to June.

\***NOTES:** Collection *Renz 10181* is outside the known range of this species, both in altitude and locality, however the flowers correspond to this species, with the bilobed lateral lobes of the lip. The locality would correspond to *E. paniculo-urubambense* Hágsater & E.Santiago. Jany Renz collected only around Machu Picchu on that trip, so we cannot explain the unusual range, being reported from 2400-2600 m altitude. The illustration shows an erect inflorescence which is a device of its mounting, the inflorescence was arching nutant in natural position, and thus the flowers resupinate.

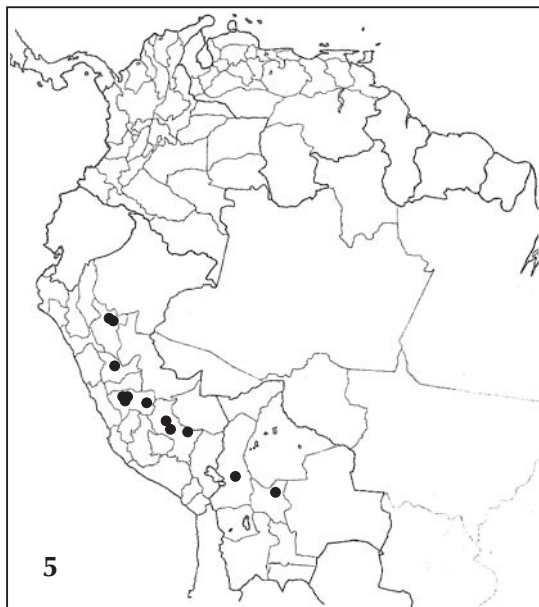
**RECOGNITION:** *Epidendrum paniculolateribilobum* belongs to the Pseudopidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and Paniculatum Subgroup, which has filiform petals, all pollinia "bird-wing" type, green and white flowers, often marked with purple on the disc of the lip and apex of the column.

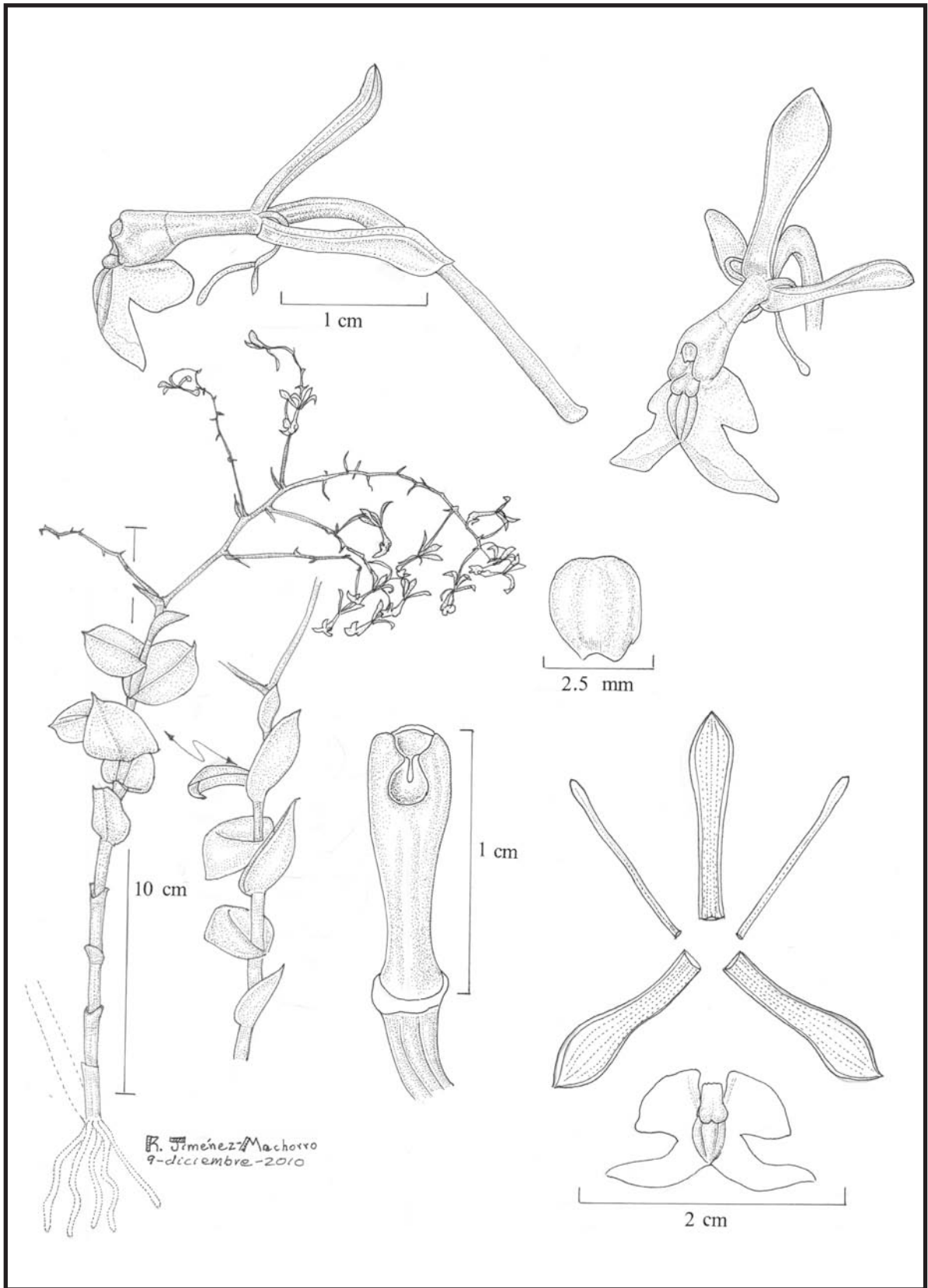
The species is recognized by the green and white flowers, sometimes the disc sparsely dotted with purple, the slightly reflexed sepals, the distal edge of the lateral lobes of the lip bilobed, and the mid-lobe deeply emarginate, forming two long, slightly divaricate, linear-oblong, rounded lobes. *Epidendrum paniculatum* Ruiz & Pavón has smaller plants, the disc of the lip strongly marked with red, the sepals spreading, the lateral lobes of the lip entire, and the mid-lobe forming a pair of strongly arched lobes. *Epidendrum floribundum* Kunth has immaculate green and white flowers, the lip with entire lateral lobes, and the mid-lobe forming a pair of strongly divaricate lobes which form a 90° angle between them. *Epidendrum paniculourubambense* Hágsater & E.Santiago has larger flowers, sepals 14-16 mm long, a white, immaculate lip with the margin of the semi-circular lateral lobes entire, not bilobed, and the ovary scarcely pubescent.

**CONSERVATION STATUS:** DD. Data deficient. Widespread at lower altitudes.

**ETYMOLOGY:** In reference to the similarity of this species to *E. paniculatum*, but with the distal margin of the lateral lobes of the lip bilobed.

**REFERENCE:** Vásquez, C.R. & P.L. Ibsch, 2004, *Orchids of Bolivia* 2: 152, 152, photo 47. Editorial Fundación Amigos de la Naturaleza, Santa Cruz, Bolivia.





EPIDENDRUM PANICULOROTUNDIFOLIUM Hágsater, Kolan. & E.Santiago

Plate 1469

**EPIDENDRUM PANICULOROTUNDIFOLIUM** Hágsater, Kolan. et E.Santiago, sp. nov.

Type: COLOMBIA: Valle del Cauca: Dapa. Dapa. Path from the local car stop to the farms. N3° 33.690' W76° 34.561', 1908 m, 13 February 2010, *Marta Kolanowska, Oscar Alejandro Pérez Escobar & Edicson Parra 290*.

Holotype: UGDA! (Illustration voucher), digital image, AMO!

Simile *Epidendri paniculati* Ruiz & Pav., sed foliis orbiculari-ellipticis, labello immaculato, lobulis lateralibus dolabriformibus et lobulo medio ample emarginato efformante geminos lobulos lineari-oblongos, leviter divaricatos.

Epiphytic, sympodial, caespitose, **herb**, ca. 55 cm tall. **Roots** basal. **Stems** ca. 27.5 x 0.5-0.6 cm, simple, cane-like, terete, erect, straight; the basal half covered by non-foliaceous, tubular sheaths, 21-27 mm long. **Leaves** 7-12, distributed along the apical half of the stem, alternate, articulate, erect-spreading, amplexicaul; sheaths 19-30 x 5-6 mm, tubular, minutely striated, green; blade 2-7 x 1.3-4 cm, orbicular-elliptic, obtuse, margin entire, spreading, about 1: 0.6 (length/width). **Spathaceous bract** lacking. **Inflorescence** 24-26 cm long, apical, paniculate, flowering only once, sub-erect, lax, few-flowered; peduncle 2.4 cm long, short, erect, straight; rachis 7-10.5 cm long, with 5 spreading, lax, few-flowered racemes, each raceme subtended by a narrowly triangular, acuminate, amplexicaul, basal bract 0.8-2.5 cm long. **Floral bracts** 2.5-10 mm long, shorter than the ovary, linear-triangular, acuminate, amplexicaul. **Ovary** 24-32 mm long, long, terete, thin, not inflated, unornamented. **Flowers** 45-60, simultaneous, resupinate, sepals, petals and basal half of the column green, apical half of the column and lip white, turning yellowish with age, without colored markings; fragrance not recorded. **Sepals** 13-15 x 4 mm, reflexed, free, oblanceolate-spatulate, obtuse, fleshy, somewhat concave, 3-veined, margin entire, spreading. **Petals** ca. 12-14 x 0.6 mm, reflexed, free, filiform, 1-veined, apex rounded, margin entire, spreading. **Lip** 7-8 x 13-14 mm, united to the column, slightly convex, 3-lobed, base cordate, nearly as wide between the lateral lobes as between the apical lobes, margin entire, spreading; bicallose, the calli small, sub-globose; disc provided with 3 parallel ribs that reach the apical sinus; lateral lobes 3-4 x 4-5 mm, dolabriform; mid-lobe widely emarginate, forming a pair of linear-oblong, acute, slightly divaricate lobes, each lobe 5-6 x 2-3 mm. **Column** 10 mm long, straight, thin at the base, dilated above the middle, with a pair of minute teeth at the apex. **Clinandrium-hood** reduced, margin entire. **Anther** obovoid, 4-celled. **Pollinia** 4, bird-wing-type. **Rostellum** apical, slit. **Lateral lobes of the stigma, nectary and capsule** not seen.

**OTHER SPECIMENS:** COLOMBIA: Valle del Cauca: "La Nevera", 26 I 1980, *Guarín 100*, COL! Dapa, 1908 m, II 2010, *Pérez 646*, VALLE x2!

**OTHER RECORDS:** COLOMBIA: Valle del Cauca: Dapa, 1908 m, II 2010, *Pérez 646*, digital image, AMO!

**DISTRIBUTION AND ECOLOGY:** Known only from the Cordillera Occidental in southern Colombia, in the Valle del Cauca, at 1900 m altitude. Flowering from November to March.

**RECOGNITION:** *Epidendrum paniculorotundifolium* belongs to the Pseudepidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and Paniculatum Subgroup, which has filiform petals, all pollinia "bird-wing" type, green and white flowers, often marked with purple on the disc of the lip and apex of the column. The species is recognized by the intermediate sized plants, the orbicular-elliptic leaves, about 1:0.6 (length/width), the paniculate inflorescence, 12-15 mm long sepals, 5-veined, the mid-lobe of the lip bifid, with the lobes slightly divaricate, with the width between the tips greater than between the edges of the lateral lobes, the flowers green with the column and the lip white. *Epidendrum paniculatum* has elliptic leaves, the lip marked with reddish-purple, the lateral lobes of the lip sub-orbicular and the mid-lobe bilobed, formed by a pair of strongly divaricate, falcate lobes, and is endemic to NW Peru. *Epidendrum weerakitianum* Hágsater, O.Pérez & E.Santiago, has elliptic leaves; sepals 3-veined, the lip with 5 ribs on the disc which is clearly marked with purple turning reddish-purple with age. *Epidendrum kolanowskiae* Hágsater, O.Pérez & E.Santiago, has orbicular-elliptic to elliptic leaves, sepals 5-veined, 13 mm long; the lip has a 3 ribbed disc which is scarcely marked reddish-purple. *Epidendrum paniculourubambense* Hágsater & E.Santiago has much taller plants, to 1-2.5 m tall, larger, narrowly elliptic leaves, 8.5-14 cm long; the lip is wider between the lobes of the mid-lobe than between the semi-circular lateral lobes. *Epidendrum paniculolateribilobum* Hágsater, Ric.Fernández & E.Santiago also has taller plants, to 2.5 m tall, elliptic leaves 8-14 cm long, 11 mm long sepals, and an immaculate lip with bilobed lateral lobes.

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

**ETYMOLOGY:** From the Latin, *panicula*, a branched inflorescence, *rotundatus*, rounded, and *folium*, leaf, in reference to the wide, nearly circular leaf which distinguishes this species from other related species in the Paniculatum Subgroup.

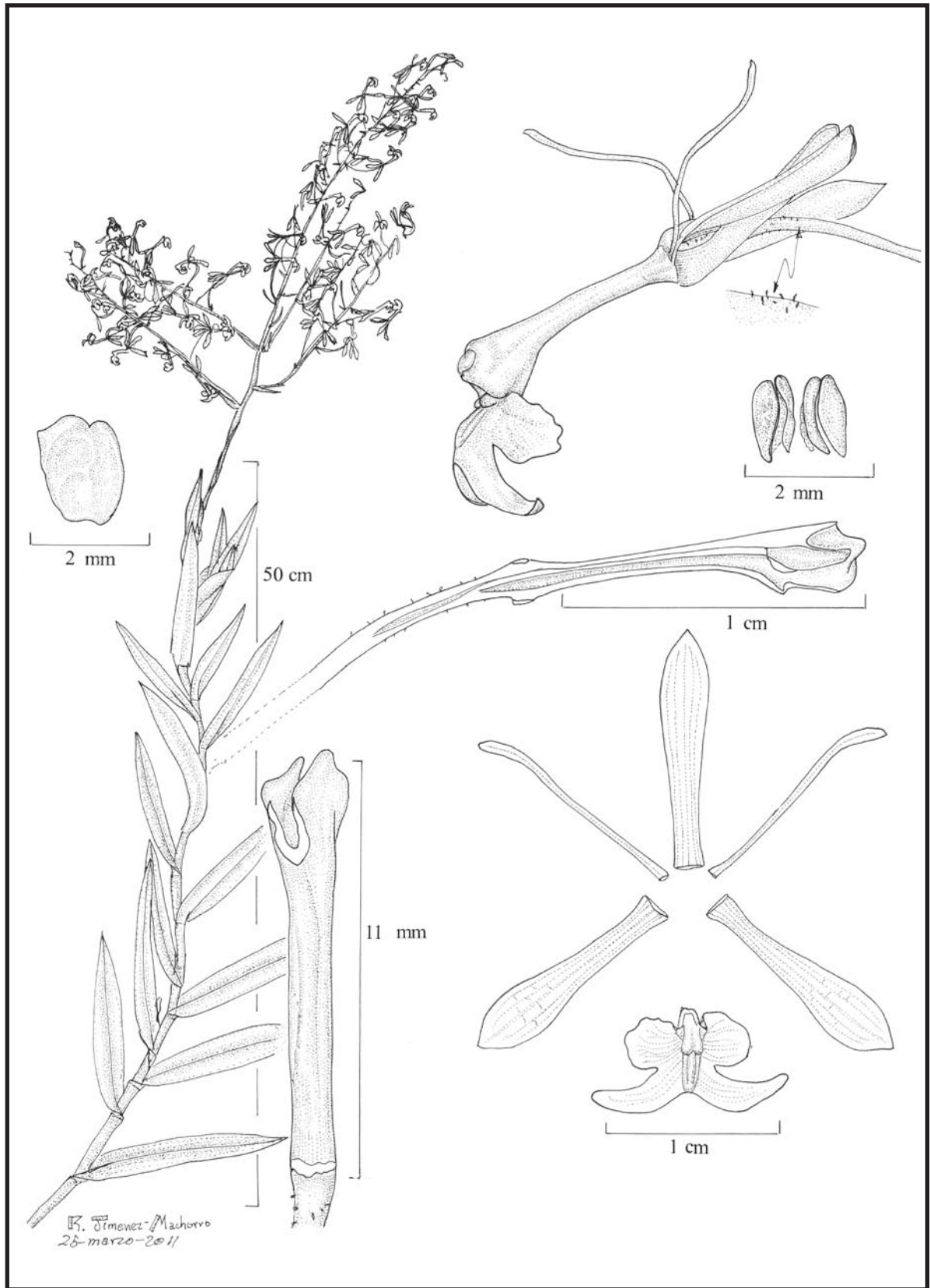


Authors: E. Hágsater, M. Kolanowska & E. Santiago Illustrators: R. Jiménez M. Photo: M. Kolanowska Editors: E. Hágsater & L. Sánchez S.

Herbario AMO

México, D.F. MÉXICO

ICONES ORCHIDACEARUM 14. 2013. Plate 1469



**EPIDENDRUM PANICLOURUBAMBENSE** Hágsater & E.Santiago

Plate 1470

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

Type: PERU: Cuzco: Prov. Calca, Lares Valley between Huallhuayoj and Calca, 1800-1900 m, 9 March 1929, **A. Weberbauer 7925**.  
Holotype: F! (Illustration voucher). Isotype: AMES!

Simile *Epidendri floribundi* Kunth, sed bracteis floralibus parvis, ovario longiore et vix pubescente, floribus aliquantulo maioribus et lobulo medio labelli profunde emarginato.

Terrestrial, caespitose, sympodial **herb**, 100-250 cm tall. **Roots** basal, fleshy. **Stems** 60-220 x 0.4-1.0 cm, simple, cane-like, terete, erect. **Leaves** 20 or more, sub-coriaceous, alternate, articulate; sheaths 2.3-3.5 cm long, tubular, minutely striated; blade ca. (length/width) 6:1, 8.5-14 x 1.4-2.7 cm, narrowly elliptic, acuminate, margin entire. **Spathaceous bract** lacking. **Inflorescence** 30-40 cm long, apical, paniculate, flowering only once, a large, branching panicle, with up to 10, spreading, lax, many-flowered branches 12-17 cm long; each branch with a basal narrowly triangular, acuminate, amplexicaul bract, 1.3-2.8 cm long; peduncle 2-12 cm long, straight, thin, provided with up to 5 tubular, acuminate, partly imbricating bracts, 2.8-3.5 cm long. **Floral bracts** 2-5 mm long, small, much shorter than the ovary, linear-lanceolate, acuminate, amplexicaul. **Flowers** ca. 110, simultaneous (though some of the apical flowers still in bud when most are open), resupinate, sepals green, lip and apical half of the column white, immaculate. **Ovary** 23-30 mm long, terete, thin, not inflated, scarcely pubescent. **Sepals** 14-16 x 2-3 mm, reflexed, free, narrowly oblanceolate, base unguiculate, acute, 5-veined, margin entire, spreading. **Petals** 13 x 0.8 mm, partly spreading, free, filiform, the apex somewhat arching, obtuse, 1-veined, margin entire, spreading. **Lip** 5.5 x 11.5 mm, united to the column, 3-lobed, base cordate, wider between the apical lobes of the mid-lobe than between the lateral lobes; bicallose, the calli small, sub-globose; disc provided with 3 narrow keels, elongate to reach the apical sinus; lateral lobes 3.0 x 3.2 mm, semi-circular, margin erose; mid-lobe deeply emarginated, forming a pair of linear-oblong, narrowly rounded, falcate, strongly divaricate lobes, 1.5 x 5.3 mm. **Column** 11 mm long, straight, thin, gradually dilated at the apex. **Clinandrium** reduced, margin entire. **Anther** obovoid, 4-celled. **Pollinia** 4, "bird-wing" type. **Rostellum** apical, slit. **Lateral lobes of the stigma** 1/3 the length of the stigmatic cavity. **Nectary** shallow, barely penetrating the ovary. **Capsule** not seen.

**OTHER SPECIMENS: PERU: Cusco:** Aguas Calientes, 2070 m, 8 IV 2005, *Aedo 11219*, MA! USM! Aguas Calientes, Huayna Picchu, 8000 ft, *Campton 110*, K-L! Urubamba, camino a Wiñaywayna, 2800 m, 8 V 1976, *Chávez 3434*, MO! Machu Picchu, along old Inca trail, 2600 m, 17 IV 1977, *Gentry 19405*, CAS! MO! Aguas Calientes, Machu-Picchu, 2000 m, *Stork 10491*, G! K-L! SEL! UC! Urubamba, Machu Picchu, Pampacahua, Bosque Secundario, 2300 m, 27 I 2005, *Valenzuela 4913*, AMO! Urubamba, Machu-Picchu, 2100 m, 15 IV 1943, *Vargas 3334*, AMES! Aguas Calientes, Huiñayhuayna, *Vargas 4111*, AMES! CUZx3! Paucartambo, Yanamayo-Tambomayo, 1800 m, 4 V 1947, *Vargas 6495*, CUZ! Prov. Convención, Potrero Cosqueñagua, 1350 m, 30 VI 1949, *Vargas 8265*, AMES! CUZ!

**OTHER RECORDS: PERU: Cusco:** Hort. Aguas Calientes, published photograph, *Collantes s.n.* (Collantes et al., 2007). digital image, *Galiano s.n.*, AMO! Jardín Inkaterra Machu Picchu Pueblo Hotel, Aguas Calientes, III 2011, digital image, *Hágsater s.n.*, AMO! (Photo voucher). Without locality data, as *E. paniculatum*, *Rolando s.n.*, digital image. Collantes (2011): Santuario Histórico de Machu Picchu (S.H.M.P): km 95-100, 104, 107, Choquesuysuy a Paccaymayo Bajo, Cedrobamba, camino Hiram Bingham, pie del Cerro Poques, Alccamayo, intermediaciones de Machu Picchu Pueblo, Puente Ruinas, intermediaciones de Machu Picchu, Cerro Putucusi, Cerro San Gabriel, Cerro San Miguel, Hidroeléctrica de Machu Picchu (km 120), Aobamba, Incaaray.

**DISTRIBUTION AND ECOLOGY:** Known presently only from southern Peru, from the basin of the Río Urubamba (Lares Valley) and Kosñipata, terrestrial on clay banks and in wet forests, and epiphytic on *Spirotheca rosea*, growing at [1350] 1800-2800 m. Flowering from January to April, June to December.

**RECOGNITION:** *Epidendrum paniculourubambense* belongs to the Pseudepidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and Paniculatum Subgroup, which has filiform petals, all pollinia "bird-wing" type, green and white flowers, often marked with purple on the disc of the lip and apex of the column. The species is recognized by the tall plants, up to 2.5 m tall, with a large, many-branched, lax-flowered panicle, the flowers are green with the lip and apical half of the column immaculate white, sepals 14-16 mm long, ovary scarcely pubescent, and the lip with a deeply emarginated mid-lobe, forming two long, divaricate, falcate apically narrowly rounded lobes, and the width of the lip between the lateral lobes about 2/3 compared to the width between the apices of the lobes of the mid-lobe. It is very similar to *Epidendrum floribundum* Kunth which has smaller flowers, sepals 10.5 mm long, unornamented ovary, and the mid-lobe of the lip bilobed (not emarginate), which are strongly divaricate, the two lobes forming a right angle. *Epidendrum paniculatum* Ruiz & Pav. has smaller plants, sepals 12-13 mm long, the flowers green with the lip and apical half of the column white, and the disc, tinged with red, the width of the lip between the lateral lobes nearly as wide as between the lobes of the mid-lobe.

**NOTE:** Schweinfurth included numerous species under his *Epidendrum paniculatum* in his *Orchids of Peru* (1959), this being one of them. We cannot at this point indicate the extent of the range of this species, but it is evidently the species commonly photographed and collected in southern Peru, and in particular in the basin of the Urubamba (Vilcanota) River, as well as the Kosñipata basin.

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

**ETYMOLOGY:** In reference to this species of the Paniculatum Subgroup, and commonly known from the Urubamba valley.

**REFERENCES:** Collantes, Benjamín, 2011, Various reports (pers. comm., 2011). Collantes, Benjamín, Carmen Soto & José Koechlin, 2007, *Orquídeas en Inkaterra Machu Picchu Pueblo Hotel*, pg. 127, fig. 36. Inkaterra Asociación, Lima, Perú. Schweinfurth, Charles, 1959. *Orchids of Peru*, in *Fieldiana: Botany*: 30 (2): 488-490. Rolando, Isaías, as *E. paniculatum* in *Orchids of Peru #1*, CD, Lima, Peru.



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Illustrator: R. Jiménez M.

Photo: E. Hágsater

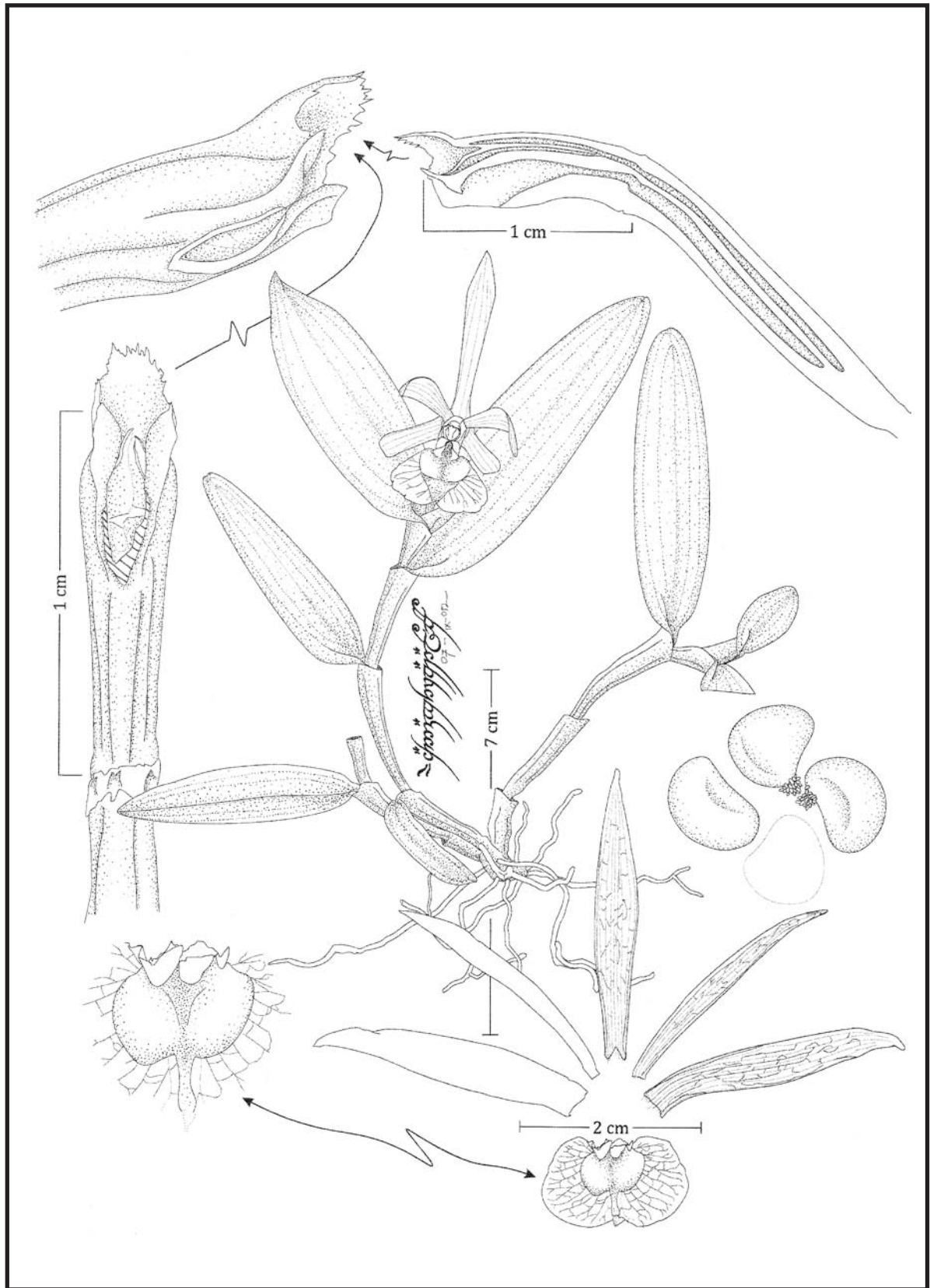
Editors: E. Hágsater & L. Sánchez S.

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ICONES ORCHIDACEARUM 14. 2013.

Plate 1470



EPIDENDRUM PARRA-SANCHEZII Hágsater, O.Pérez & L.Sánchez

Plate 1471

**EPIDENDRUM PARRA-SANCHEZII** Hágsater, O.Pérez et L.Sánchez, *sp. nov.*

Type: COLOMBIA: Valle del Cauca: municipio de Buenaventura, San Cipriano, aprox. 100 m.s.n.m., 30°C, 20 III 2010, **Oscar Alejandro Pérez Escobar, Edicson Parra Sánchez, Carlos Jaramillo & Paola Narváez 631**. Holotype: CUVCI! (Illustration voucher).

Similar to *Epidendrum sympetalosteale* Hágsater & L.Sánchez, the petals free, lip bilobed, reniform; apical margin sinuate, disc deep green, with two lateral ridges which delimit it and form a fleshy, lustrous, shallow cavity, column apex with a small, acute tooth on each side.

Epiphytic, erect, sympodial, caespitose **herb** ca. 12 cm tall. **Roots** 0.5-1.0 cm in diameter, basal, fleshy, filiform. **Stems** 5.0-6.5 x 0.4-0.5 cm, simple, cane-like, laterally compressed towards the apex, flexuous. **Leaves** 3-4, distributed throughout the stem; sheath 2.0-2.2 cm long, tubular, laterally compressed, smooth; blade 2-7 x 0.5-1.9 cm, elliptic to lanceolate-elliptic, apex retuse to asymmetrically bilobed, minutely aristate, coriaceous, green, the primary veins marked pale green on the dorsal surface, margin entire, spreading, pale green. **Spathaceous bract** lacking. **Inflorescence** apical, 1-2-flowered, sessile. **Flowers** 2, simultaneous, resupinate, sepals, petals, lip and proximal and middle part of the column pale green; disc, calli and distal part of the column deep green; fragrance not registered. **Ovary** 21.0 x 2.6 mm, terete, inflated, unornamented. **Sepals** spreading, free, acute, membranaceous, 7-8-veined, with many short, interconnecting secondary veins, margin entire, revolute; **dorsal sepal** 32.0 x 5.5 mm, erect, narrowly elliptic; **lateral sepals** 30-31 x 5.2-6.0 mm, reflexed, oblanceolate, slightly constricted towards the base, obscurely falcate. **Petals** 28-29 x 3 mm, partly spreading, linear-lanceolate, obscurely falcate, acute, membranaceous, 3-veined, margin entire. **Lip** 10 x 16 mm, united to the column, bilobed, strongly convex in natural position, reniform, base cordate, apex sinuate, when flattened the apical margin of the lip will overlap, so it may thus appear apiculate, perpendicular to the axis of the column, margin entire; bicallose, calli small, sub-globose; disc deep green, with two lateral ridges which delimit it and form a fleshy, lustrous, shallow cavity. **Column** 11.2 mm long, slightly arched with a small, acute tooth in each side of the apex. **Clinandrium-hood** prominent, irregularly dentate. **Anther** obovoid, apex obtuse; 4-celled. **Pollinia** 4, reniform, laterally compressed, caudicles granulate, very short. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma** small, covering 1/2 of the stigmatic cavity. **Nectary** penetrating 2/3 of the ovary, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** COLOMBIA: Valle del Cauca: Municipio de Buenaventura, La Delfina, aprox. 100 m, 30 III 2007, Pérez 468, CUVCI! Ibid. 41 2011, Kolanowska 269, UGDA! Digital images of live plant taken by Marta Kolanowska, AMO! (Photo voucher.)

**DISTRIBUTION AND ECOLOGY:** Endemic to the Chocó biogeographic region and known only from the Buenaventura municipality on the department of Valle del Cauca, epiphytic, at low elevations (ca. 100 m), on isolated, mature, trees in disturbed places. Individuals and small populations have been seen growing on mature trees of *Jacaranda* sp. (probably *J. caucana* Pittier) and *Inga* sp. Flowering January-March.

**RECOGNITION:** *Epidendrum parra-sanchezii* belongs to the Difforme Group which is characterized by the caespitose, sympodial plants, fleshy pale green to glaucous leaves, apical inflorescence without the spathaceous bract, sessile, rarely with a short peduncle, one-flowered to corymbose, fleshy, and flowers green to yellowish-green, rarely white. The species is recognized by the its small plants (ca. 12 cm tall), stems laterally compressed, with 3-4 elliptic to lanceolate-elliptic leaves, inflorescences 1-2-flowered, a bilobed, reniform, convex lip, disc bordered by two ridges, which delimit it, forming a fleshy and lustrous, deep green, shallow cavity. *Epidendrum sympetalosteale* is vegetatively similar, but differs mainly by the sub-erect petals adnate to the basal half of the column, disc without ridges on the side, and prominent bifid lobes at the sides of the apex of the column. *Epidendrum kerryae* Hágsater & L.Sánchez has a single, large flower, trigonous ovary with a ventral vesicle which is dorsally flat, and an erose clinandrium-hood, the lip is entire, sub-orbicular, disc unornamented. *Epidendrum putumayoense* Hágsater & L.Sánchez from the Amazonas slope of the southern of Colombia and northern Ecuador, has 1-flowered inflorescences, a 3-lobed, obtrapezoid lip, disc wrinkled at the base with three low ribs, the central one prominent, extended until the apex, the lateral ones reaching the middle of the lip, column straight, truncate, clinandrium-hood irregularly toothed.

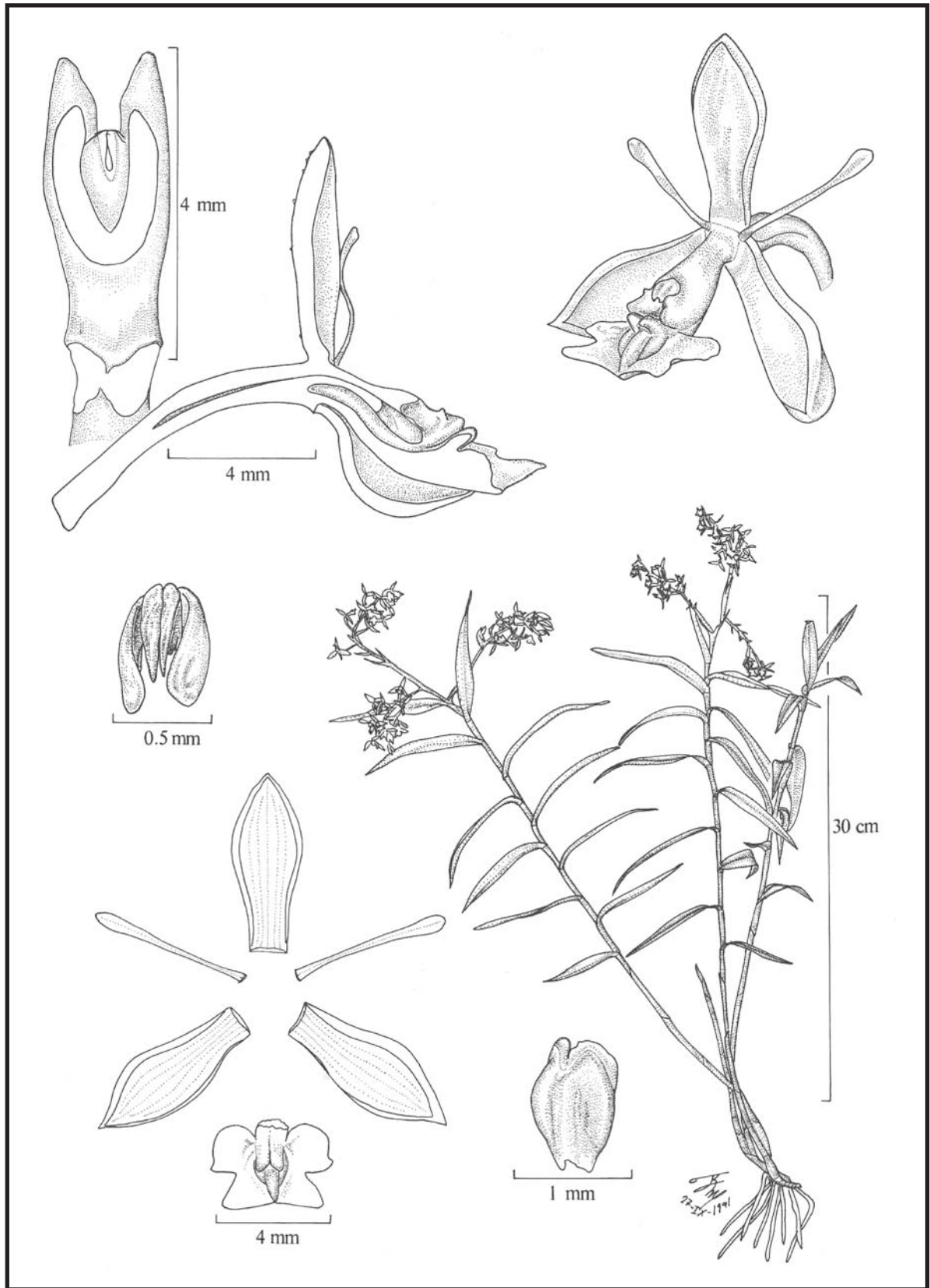
**CONSERVATION STATUS:** DD. Data deficient.

**ETYMOLOGY:** In honor of Edicson Parra-Sánchez, agronomy engineer graduate from the Universidad Nacional de Colombia, and colleague and friend of the second author. He is an enthusiastic student of orchid taxonomy and has contributed with his work and dedication to the knowledge of the Orchid Flora of the department of Valle del Cauca, Colombia.

**REFERENCES:** Hágsater, E. & L. M. Sánchez Saldaña, 1994, *Epidendrum kerryae*, una nueva especie de Colombia, **Orquideología** 19(2): 37-42. Hágsater, E. & L. Sánchez Saldaña, 1993, *Epidendrum sympetalosteale*, in E. Hágsater & G. A. Salazar (eds.) **Icon. Orchid.** 2: pl. 191. Hágsater, E. & L. Sánchez Saldaña, 1999, *Epidendrum putumayoense*, in Hágsater, E., L. Sánchez Saldaña & J. García-Cruz (eds.) **Icon. Orchid.** 3: pl. 377.



**Authors:** E. Hágsater, O. Pérez & L. Sánchez S. **Illustrator:** O. Pérez **Photo:** M. Kolanowska **Editors:** E. Hágsater & L. Sánchez S. **Herbario AMO** **México, D.F. MÉXICO** **ICONES ORCHIDACEARUM 14. 2013. Plate 1471**



**EPIDENDRUM PARVIFLORUM** Ruiz & Pav.

Plate 1472



**EPIDENDRUM PARVIFLORUM** Ruiz & Pav. Syst. Veg. Fl. Peruv. & Chil. 1: 245. 1798.

Type: PERU: [Huánuco:] In Muña et Chaclla montibus et runcationibus, **Pavón s.n.** Holotype\*: MA! (only the specimen mounted on the right-hand side). Isotype: F! (sketch of flower made by Leslie A. Garay at AMO!) MA!

Synonym: *Epidendrum gratiosum* Rchb.f. in Bonplandia, 4: 215. 1856. Type: [PERU:] "N.E.", **Pavón s.n.** Holotype: W-R 49554! (only the specimen on the right side). Isotype: G!

Epiphytic, sympodial, sub-caespitose, erect **herb**, 40-60 cm tall. **Roots** 1-2 mm in diameter, distributed along the basal internodes of the stem, fleshy, thin. **Stems** 34-50 x 0.2-0.3 cm, simple, erect, cane-like, terete, thin; the base covered by tubular, non-foliar, scarious sheaths, becoming fibrous with time. **Leaves** 7-12, distributed along the apical half of the stem, articulate, distichous; sheath 1.2-2.6 cm long, tubular; blade 6-11 x 0.7-1.7 cm, narrowly lanceolate, acute, margin entire, spreading. **Inflorescence** 6-12 cm long, apical, paniculate, few branched, erect, short, nearly as long as the apical leaf; peduncle 2-3 cm long, terete, thin, erect, straight, provided with a prominent, conduplicate, narrowly triangular, acuminate bract 2.5 cm long; rachis 3.10 cm long, laxly few-flowered, often with 1-2 short side branches, subtended by bracts 11 mm long, similar to that of the peduncle but smaller. **Floral bracts** much shorter than the ovary to nearly as long, narrowly triangular, acuminate, amplexicaul. **Ovary** 5-10 mm long, terete, thin, not inflated, unornamented. **Flowers** simultaneous, resupinate, small, sepals and petals green, the apical half of the column and the lip white, immaculate; without fragrance. **Sepals** 5 x 1.6-1.8 mm, spreading, free, fleshy, oblanceolate, obtuse, concave, 3-veined, margin entire, spreading; the lateral sepals slightly oblique. **Petals** 5 x 0.3 mm, spreading, free, membranaceous, filiform, 1-veined, margin entire, spreading. **Lip** 4 x 4-6 mm, united to the column, 3-lobed, base somewhat truncate, margin entire; with a single callus forming a small, laminar, bilobed platform; disc with 3 narrow, elongate ribs that reach the apical sinus; lateral lobes 2.5 x 2.5 mm, semi-orbicular, nearly as long as the apical lobes; mid-lobe 1.5 x 6 mm, bifurcate, forming a pair of divergent, linear-oblong, obtuse lobes. **Column** 3.5 mm long, short, straight, thick; the apex with a pair of rounded lateral lips. **Clinandrium-hood** much reduced, margin entire. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** shallow, not penetrating the ovary, not inflated, unornamented. **Anther** 4-celled, ovoid, apex truncate, slightly emarginate. **Pollinia** 4, "bird-wing" type. **Capsule** not seen.

**OTHER SPECIMENS:** Equateur et au Pérou, 5 XII 1877, *Vidal-Sénèze s.n.*, P! **ECUADOR:** Andibus Equatorialibus, *Spruce s.n.*, K-L! **Cañar:** Canyon of Río Paute, 1650 m, 21 V 1985, *Stein 2849*, MO! NY! **QCNE!** **Loja:** Zumba, 2500 m, 8 VIII 1987, *Dodson 17275*, MO! S de Loja, Hort. RPSC, 2700 m, 8 XII 1986, *Hágsater 9044*, AMO! Ibid. pressed cult. 15 XII 1987, AMO! (spirit and illustration AMO!) Ibid. pressed cult. 14 IX 1990, AMO x2! (distribuir aplicados a otros herbarios), ok! Ibid. pressed cult. 18 I 1992, AMO x2! Ibid. pressed cult. 26 I 1992, AMO! Ibid. pressed cult. 9 IX 1996, AMO x4! **Morona-Santiago:** Macas to Guamote, 1200 m, 1 I 1989, *Hirtz 4055*, MO! Paute, ca. 1700 m, 10 VII 1977, *Luer 1664*, SEL! Campamento Guarumales, 1650 m, 24 III 1991, *Luer 15233*, AMO! MO! Parque Nacional Sangay, Loma Tigriño, 1540 m, 12 II 1999, *Toasa 5410*, QCNE! **Tungurahua:** Baños, 1 II 1850, *Spruce s.n.*, AMES! K-L! W-R 4724! **Zamora-Chinchipec:** km 40, Loja-Zamora, 1680 m, 1 VII 1982, *Dodson 13210*, SEL! Yangana to Valladolid, 2100 m, 24 VII 1985, *Dodson 16071*, AMES! QCNE! RPSC! Zumba: Loja-Zamora, Hort. RPSC, *Hágsater 9761*, AMO x2! (spirit and illustration voucher, AMO!) Loja-Zamora, above Tambo, ca. 1800 m, 18 IV 1974, *Harling 13667*, AMES! GB! 10 km E of Paquisha, 1400-1500 m, 13 IV 1985, *Harling 24107*, GB! Loja-Zamora, km 33, 1800-1850 m, *Holm-Nielsen 4147*, AMES! AAU! SEL! road from Sumbi to Paquisha to Cordillera del Condor, 1200 m, 19 II 1986, *Hirtz 2826*, MO! Valladolid, 2100-2400 m, *Steyermark 54730*, F! Estación Científica San Francisco, road Loja-Zamora, 2000 m, 27 IX 2003, *Werner 482*, AMO! **PERU:** **Amazonas:** Lake Pomochocha, 2000 m, 17 IX 1966, *Bennett 1906*, UC! Luya, Camporredondo, Anexo: Tullanya, 1700-2000 m, 26 XI 1996, *Campos 3037*, MO! USM! between Pomacochas and Río Utcubamba, 1810 m, 11 1964, *Hutchison 3935*, UC! Shillac, 2300 m, 12 IX 1983, *Leo 332*, MO! Jambasbamba [Yambasbamba], *Mathews s.n.*, K-L! Shillac, Pedro Ruiz, 2300 m, 31 VIII 1983, *Smith 4931*, MO x2! NY! USM! Pomacocha, 2200-2400 m, 16 VI 1962, *Wurdack 851*, AMES! NY! US! USM! Sipabamba, Shilla, 1900 m, 5 V 1981, *Young 354A*, MO! Ibid. *Young 361A*, MO! **Cajamarca:** Jaen, *Bonpland 3630*, P! San José de Lourdes, 1810 m, 23 II 2000, *Calatayud 308*, USM! San Ignacio, Huarango, El Triunfo, 1500 m, 10 VI 1996, *Campos 2891*, USM! Cerro Picorana, 2010 m, 19 I 1999, *Díaz 10336*, USM! Cerro Picorana, 2010 m, 21 I 1999, *Díaz 10420*, AMO! MO! USM! Chirinos, 1780 m, 5 II 1988, *Gentry 61193*, MO! USM! La Palma, 1800 m, 10 II 1990, *Patroni 141*, AMO x3! Socota, 3200 m, 2 XI 1991, *Sánchez 5906*, AMO! F! Cerro Las Yeguas, 1900 m, 22 I 2001, *Vásquez 26455*, USM! Tablocillo, 7 km W of La Coipa, 1550 m, 8 II 1978, *Wasshausen 855*, MO! NY! US! USM! La Coipa, 900 m, 8 II 1978, *Wasshausen 867*, US 2956786! **Junin:** Yapas, 1350-1600 m, 28 VI 1929, *Killip 25585*, AMES! NY!

**OTHER RECORDS:** **ECUADOR:** **Morona Santiago:** Macas-Guamote, 2200 m, *Hirtz 7232*, spirit and slide, AMO! **PERU:** Without locality, illustration, *Gálvez\* s.n.*, MA, digital image, AMO! Without locality, *Hirtz 7978*, slide, AMO! **PERU:** **Amazonas:** Bongara, Río Imaza, 1500 m, *Bennett 3427*, MO. Leimebamba, *Mórón s.n.*, digital image, AMO!

**DISTRIBUTION AND ECOLOGY:** Known only from the Amazon slope of the Andes in Ecuador and Peru, at 1300-2400 [3200] m altitude, in forested slopes. Flowering throughout the year.

**RECOGNITION:** *Epidendrum parviflorum* belongs to the Pseudepidendrum Group, which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, apical inflorescences, lacking a spatheaceous bract, the petals filiform and the lip usually 3-lobed, with 3 parallel fleshy keels, the apical lobe often bifurcate, and the pollinia "bird-wing" type and Paniculatum Group which has bicolor flowers (generally green with the lip and apex of the column white) the disc sometimes marked with purple to red. The species is recognized by the small plants (40-60 cm tall), narrowly lanceolate, acute leaves; paniculate inflorescence with simultaneous, small flowers (sepals 5 mm long), green with the lip and apical half of the column immaculate white, a single callus, the column thick and short (3.5 mm long). *Epidendrum macbridei* C.Schweinf. has smaller plants (10-30 cm tall), elliptic-lanceolate leaves, inflorescence producing successive racemes with larger flowers (sepals 7-9 mm long), these also green and white, immaculate, ecallose, the disc with 3 very prominent keels. *Epidendrum sucumbiense* Hágsater & Dodson, from northern Ecuador, is vegetatively very similar but the column is longer (5 mm), the lip bicallose, with 5 keels, the lateral lobes of the lip sub-orbicular, and the lobes of the mid-lobe oblong. *Epidendrum patulipetalum* Schltr. has linear-lanceolate, acute leaves, 5 mm long sepals, and the lip is only slightly 3-lobed, bicallose, the calli narrow and prominent. *Epidendrum yungasense* Rolfe is very similar vegetatively, but the column is thin, 5-6 mm long, the lip bicallose, the calli small, the lateral lobes of the lip are obliquely ovate and the mid-lobe forms a basal isthmus with parallel sides, and is apically bilobed, the lobes slightly divaricate. *Epidendrum poeppigii* Hágsater has linear-lanceolate, acuminate leaves, strongly reflexed sepals, the lip with the lateral lobes obtuse, and the disc surrounded by a circle of purple dots.

\*NOTE: Recently illustrations that appear to have come from the Ruiz and Pavón's expedition have been circulating from Madrid (MA), including one by Gálvez which corresponds to this species. It could correspond to the type collection, but, to our knowledge, nothing has yet been published about them. We are in debt to MA and Franco Pupulin for sharing this material.

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

**ETYMOLOGY:** From the Latin *parvus*, small, and *floribus*, with flowers, thus with small flowers.

**REFERENCE:** Dodson, C., and D. Bennett, 1989. *Epidendrum parviflorum*, in Dodson, C. (ed.) Orchids of Peru, **Icones Pl. Trop.** ser 2, 1: pl. 68.



Authors: E. Santiago & E. Hágsater

Illustrator: R. Jiménez M.

Photo: E. Hágsater

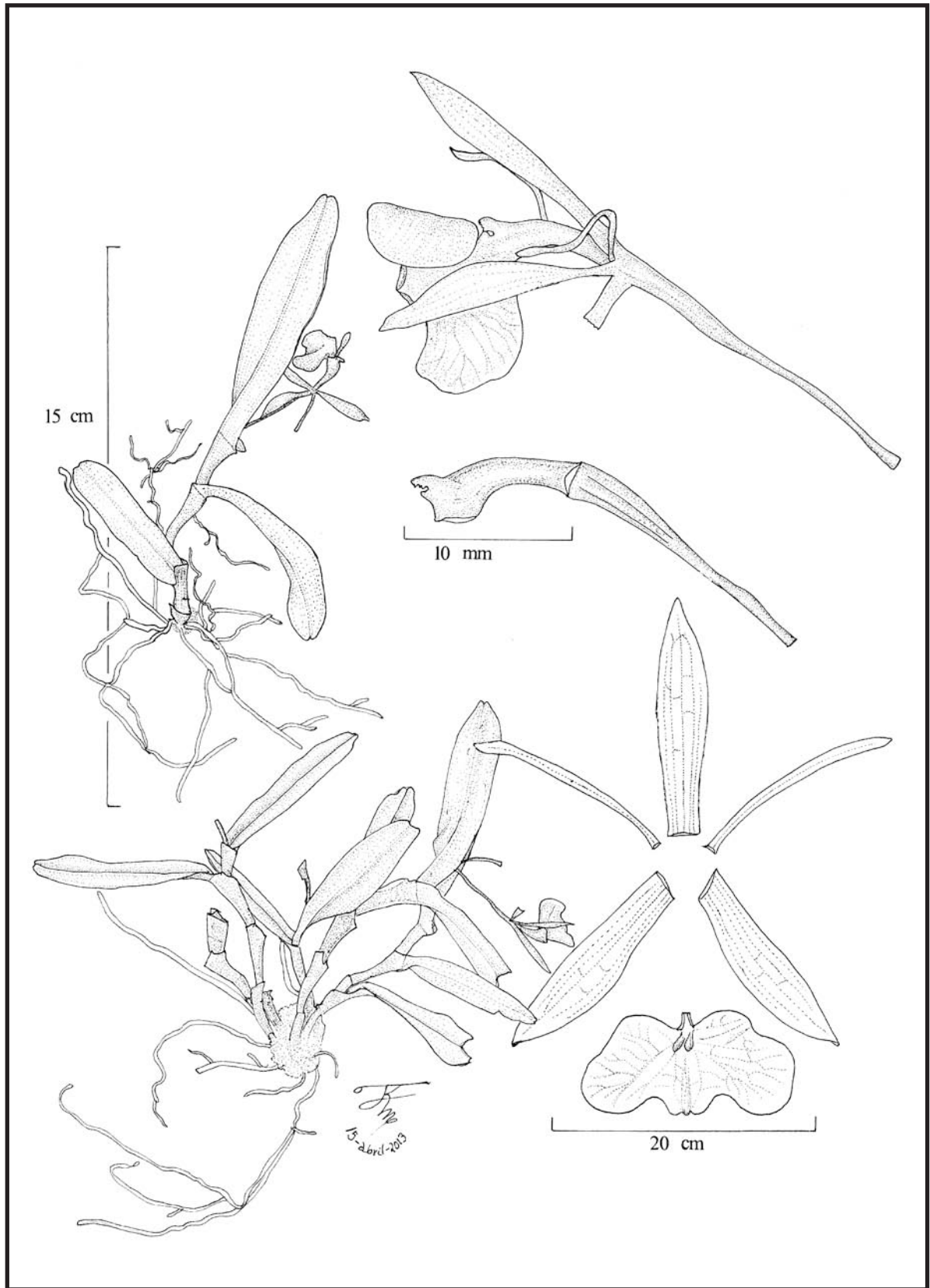
Editors: E. Hágsater & L. Sánchez S.

Herbario AMO

México, D.F. MÉXICO

ICONES ORCHIDACEARUM 14. 2013.

Plate 1472



*EPIDENDRUM PESSOAE* Hágsater & L.Sánchez

Plate 1473

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

Type: BRAZIL: Alagoas: From northeastern Brazil, extreme north of Atlantic Forest, Município de Ibateguara, Usina Serra Grande, Mata de Aquidabã, 8°58'44.5"S 35°54'35.5"W, 522 m, 31 July 2003, **J.A. Siqueira-Filho 1376**. Holotype: UFP! (Illustration voucher).

Similar to *Epidendrum latilabre* Lindl., but the plants smaller, with 3-4 narrowly elliptic-lanceolate leaves, 1-2 smaller flowers, the mid-lobe of the lip emarginate, sinus apiculate.

Epiphytic, sympodial, caespitose, erect **herb**, 8-9 cm tall including the inflorescence. **Roots** 0.5-1 mm in diameter, basal, fleshy, filiform. **Stems** 4-5 x 0.2-0.3 cm, simple, cane-like, terete at the base, somewhat laterally compressed towards the apex, slightly flexuous. **Leaves** [2]3-4, distributed throughout the stems; foliar sheath 1.0-1.5 cm long, tubular, somewhat laterally compressed, smooth; blade 4-7 x 0.6-1.5 cm, narrowly elliptic-lanceolate, apex retuse to asymmetrically bilobed, coriaceous, green. **Spathaceous bract** lacking. **Inflorescence** apical, sub-corymbose, sessile. **Floral bracts** not seen. **Flowers** 1-2, resupinate, simultaneous, greenish, sweet odor. **Ovary** 20-21 x 2 mm, terete, not inflated, unornamented. **Sepals** 17-18 x 4 mm, membranaceous, spreading, free, narrowly elliptic, acute, 5-veined, margin entire, revolute; lateral sepals oblique. **Petals** 16-17 x 1 mm, partly spreading, linear, acute, membranaceous, 1-veined, margin entire. **Lip** 8 x 17 mm, united to the column, obtrapezoid when spread, 3-lobed, base cordate; bicallose, the calli subglobose; disc of the lip with slightly thickened veins; lateral lobes 5 x 8 mm, ovate, rounded, sinuate towards the base; mid-lobe slightly shorter than the lateral lobes, transversely trapezoid, slightly emarginate, sinus short apiculate. **Column** 10 mm long, arched. **Clinandrium-hood** prominent, margin minutely erose. **Anther** 4-celled. **Pollinia** 4. **Rostellum, lateral lobes of the stigma, nectary and capsule** not seen.

**OTHER SPECIMENS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Known only from northeastern Brazil, in the state of Alagoas, from the extreme north of the Mata Atlântica, at 522 m altitude. The flowering period is poorly known, but based on the type specimen, flowers can be observed on July.

**RECOGNITION:** *Epidendrum pessoae* belongs to the Difforme Group which is characterized by the caespitose, sympodial plants, fleshy light green to glaucous leaves, apical inflorescence without the spathaceous bract, sessile, rarely with a short peduncle, one-flowered to corymbose, fleshy, and flowers green to yellowish-green, rarely white. The species is recognized by the short stems, 8-9 cm tall, somewhat laterally compressed above, generally with 3-4 narrowly elliptic-lanceolate leaves, 1-2 simultaneous flowers, sepals 17-18 mm long, the small mid-lobe of the lip transversely trapezoid when spread, slightly emarginate, sinus short apiculate, the column arched. It is similar to *Epidendrum latilabre*, which ranges widely along coastal Brazil from Pará to Santa Catarina, but has taller, more vigorous plants, stems 10-32 cm tall, with 4-9, wider leaves (1.5-3.5 cm wide), generally 2-4 flowers, sepals 18-33 mm long, the mid-lobe emarginate to bilobed. *Epidendrum amapense* Hágsater & L.Sánchez, ranging in northern Brazil (Amapá and Pará), Guyana, Surinam and the French Guyana, has 12-17 cm tall stems laterally compressed, with 4-6 leaves, sepals 14-17 mm long, lateral lobes of the lip semi-ovate, obtuse, minutely erose, mid-lobe transversely rectangular. *Epidendrum anatipedium* L.Sánchez & Hágsater, known only from the state of Ceará, Brazil, has stems 12-15 cm tall, wide, ovate-elliptic leaves (0.8-2.4 cm wide), 3 large flowers, sepals 35 mm long, linear-elliptic, ovary 39-46 cm long, the lip obtrapezoid, 3-lobed, the 3 lobes triangular. *Epidendrum althausenii* A.D.Hawkes, is widespread in the Amazon basin, stems are 7-18 cm tall, sepals 23-42 mm long, the lip sub-quadrangle when spread, 3-lobed, mid-lobe shorter than the lateral lobes, emarginate, forming 2 small, rounded lobes.

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

**ETYMOLOGY:** In honor of Edlley Max Pessoa, PhD candidate of Recife, Pernambuco, Brazil; currently reviewing *Campylocentrum*; and student of the orchids of NE Brazil (Atlantic Forest and Caatinga) and Brazilian Amazon. See Pessoa *et al.* (2012).

**REFERENCES:** Hágsater, E. & L. Sánchez Saldaña, 1993, *Epidendrum amapense*, in Hágsater, E. & G. A. Salazar (eds.). **Icon. Orchid.** 2: pl. 105. Sánchez L. & E. Hágsater, 1993, Una nueva especie de *Epidendrum* (Orchidaceae) de Brasil, **Orquídea (Méx.)** 13(1-2): 291. Pessoa, E.M., M. Alves, A. Alves-Araújo, C. Palma-Silva, et F. Pinheiro, 2012, Integrating different tools to distinguish species complexes: A case study in *Epidendrum* (Orchidaceae), **Taxon** 61(4): 721-734.



Authors: E. Hágsater & L. Sánchez S.

Illustrator: R. Jiménez M.

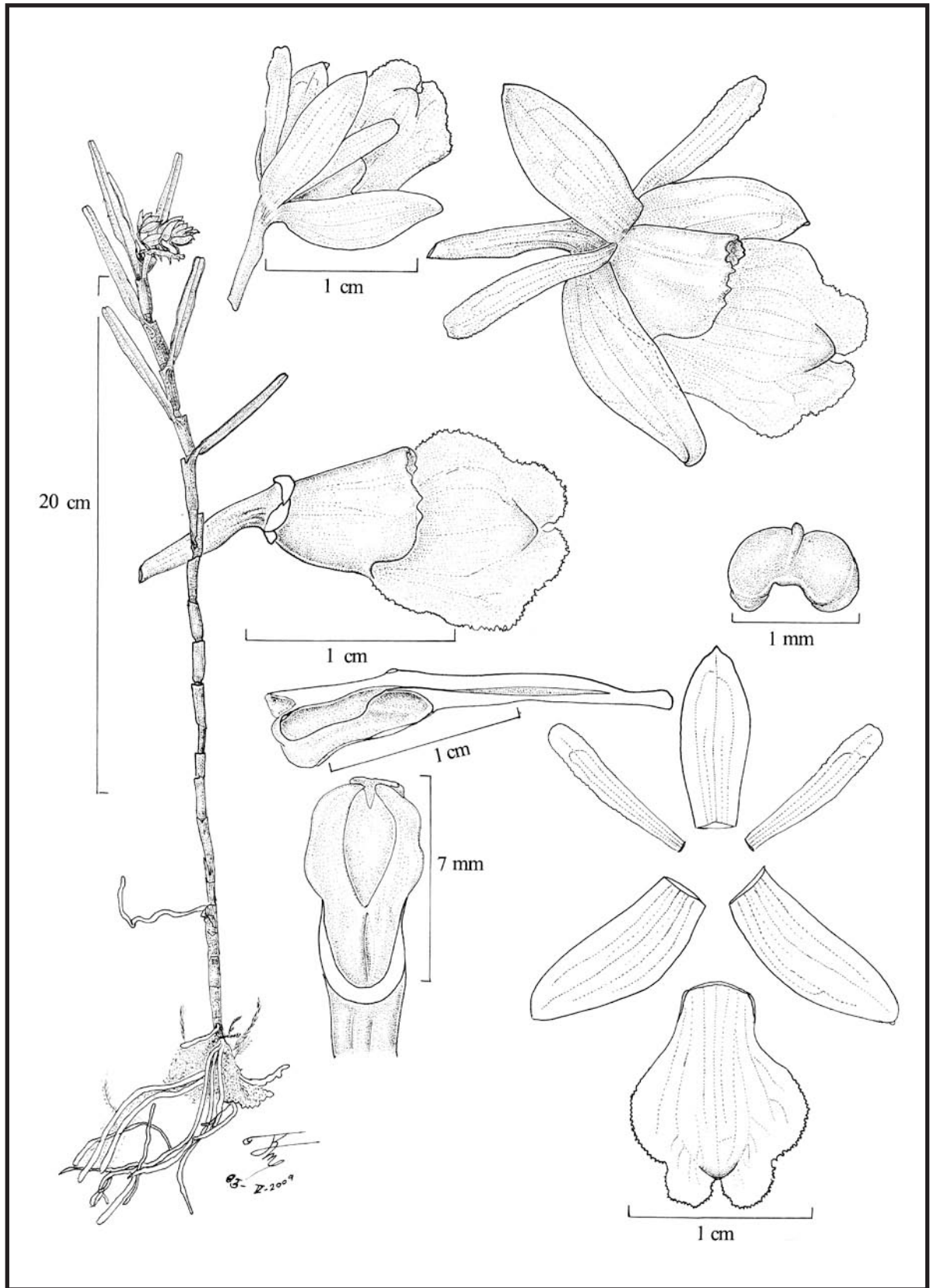
Editors: E. Hágsater & L. Sánchez S.

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ICONES ORCHIDACEARUM 14. 2013.

Plate 1473



EPIDENDRUM PLATYSTELE Hágsater & E.Santiago

Plate 1474

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

Type: PERU: Cajamarca: San Ignacio, San José de Lourdes. Campamento Zural base del Cerro Picorana, 4°59'25"S 78°54'05"W, 2200 m, 22 January 1999, **Camilo Díaz, J. Yactayo, E. Palomino, C. Vargas, O. Portocarrero, M. Medina, O. Díaz & E. Zurita 10455**. Holotype: MO 5317589! (Illustration voucher).

Simile *Epidendri hemihenomeni* Hágsater & Dodson sed floribus simultaneis brunneo-aurantiacis, petalis paulo angustioribus et labello fere aequaliter lato ac longo, et clinandrio prominente margine denticulato.

Epiphytic, monopodial, erect **herb** 33 cm tall. **Roots** 1-2 mm in diameter, basal, fleshy, thin. **Stems** 30.5 x 0.3-0.55 cm, produced from the apical internodes of the previous stem, cane-like, terete, thin. **Leaves** ca. 13, distributed throughout the stems, ca. 7 apical leaves are persistent at time of flowering, articulate, distichous, sub-coriaceous; sheaths 7-19 x 4-5.5 mm, tubular, minutely striated; blade 3.5-5.5 x 0.4-0.7 cm, linear-lanceolate, apex rounded, minutely bilobed, margin entire. **Spathaceous bract** lacking. **Inflorescence** 2.5 cm long, apical, racemose, short, densely few-flowered, arching-nutant, flowering only once; peduncle 4 mm long, short, terete, thin, without bracts. **Floral bracts** 4 mm long, half as long as the ovary, triangular-lanceolate, acute. **Ovary** 8-10 mm long, terete, thin, not inflated, unornamented. **Flowers** 13, simultaneous, resupinate, orange-brown; fragrance not registered. **Sepals** 10-11 x 3.6-4 mm, partly spreading, free, obtuse, minutely apiculate, margin entire, spreading; the dorsal sepal oblong elliptic, 5-veined, the lateral sepals oblong, slightly falcate, oblique, 6-veined. **Petals** 10 x 1.5 mm, partly spreading, free, linear-oblong, apex truncate, rounded, 3-veined, margin minutely erose along the apical half. **Lip** 9 x 10 mm, united to the basal half of the column, 3-lobed, base cuneate, apex emarginated, margin denticulate; ecallose, with a semi-circular fleshy, wide thickening at the apical sinus; lateral lobes 4 x 5.5 mm, semi-circular, rounded; mid-lobe 2.5 x 2.7 mm, bilobed, each lobe circular, rounded. **Column** 7 mm long, united to the lip only along the basal half, then free towards the apex, straight, wide throughout, apical wings truncate; the ventral surface with a cavity accessed through a long narrow slit. **Clinandrium-hood** prominent (though not surpassing the body of the column), margin denticulate. **Rostellum** apical, slit. **Anther** reniform, 4-celled. **Pollinia** not seen. **Lateral lobes of the stigma** not seen. **Nectary** short, without penetrating the ovary, wide, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Known only from the Cerro Picorana, an eastern branch of the Andes in Northern Peru, just south of the Ecuadorean border, epiphytic at 2200 m altitude. Flowering in January.

**RECOGNITION:** *Epidendrum platystele* belongs to the Diothonea Group and Subgroup which is characterized by the branching plants, linear lanceolate to oblong, bilobed leaves, racemose, arching-nutant inflorescence, membranaceous flowers (rarely fleshy), the entire to 3-lobed, ecallose lip with the margin erose without or with 1-10 thin, smooth to erose keels, the column completely to obliquely united to the lip, the anther reniform. The species is recognized by the orange-brown flowers, sepals and petals partly spreading, the sepals apices obtuse, lip united to the basal half of the thick column, ecallose, with a semi-circular, fleshy thickening at the apical sinus, clinandrium-hood prominent, margin denticulate. *Epidendrum hemihenomenum* Hágsater & Dodson has successive reddish brown flowers, the lip much wider than long, the clinandrium-hood slightly shorter with the margin sub-entire and the nectary very wide. *Epidendrum heterothoneum* (Rchb.f. & Warsc.) Hágsater & Dodson has partly spreading sepals and petals with acuminate apices, the column united to the lip throughout, and the clinandrium-hood is reduced with an entire margin. *Epidendrum gastrochilum* Kraenzl has a lax, few-flowered, (with 4-5 flowers), the column united to the lip throughout, and with 5 laminar keels at the base of the lip.

**CONSERVATION STATUS:** DD. Data deficient. Known only from the type. The area is generally distant from roads and therefore seldom collected.

**ETYMOLOGY:** From the Greek πλατύς wide, broad, and στηλη, column, in reference to the wide column which distinguishes this species.



Authors: E. Hágsater & E. Santiago

Illustrator: R. Jiménez M.

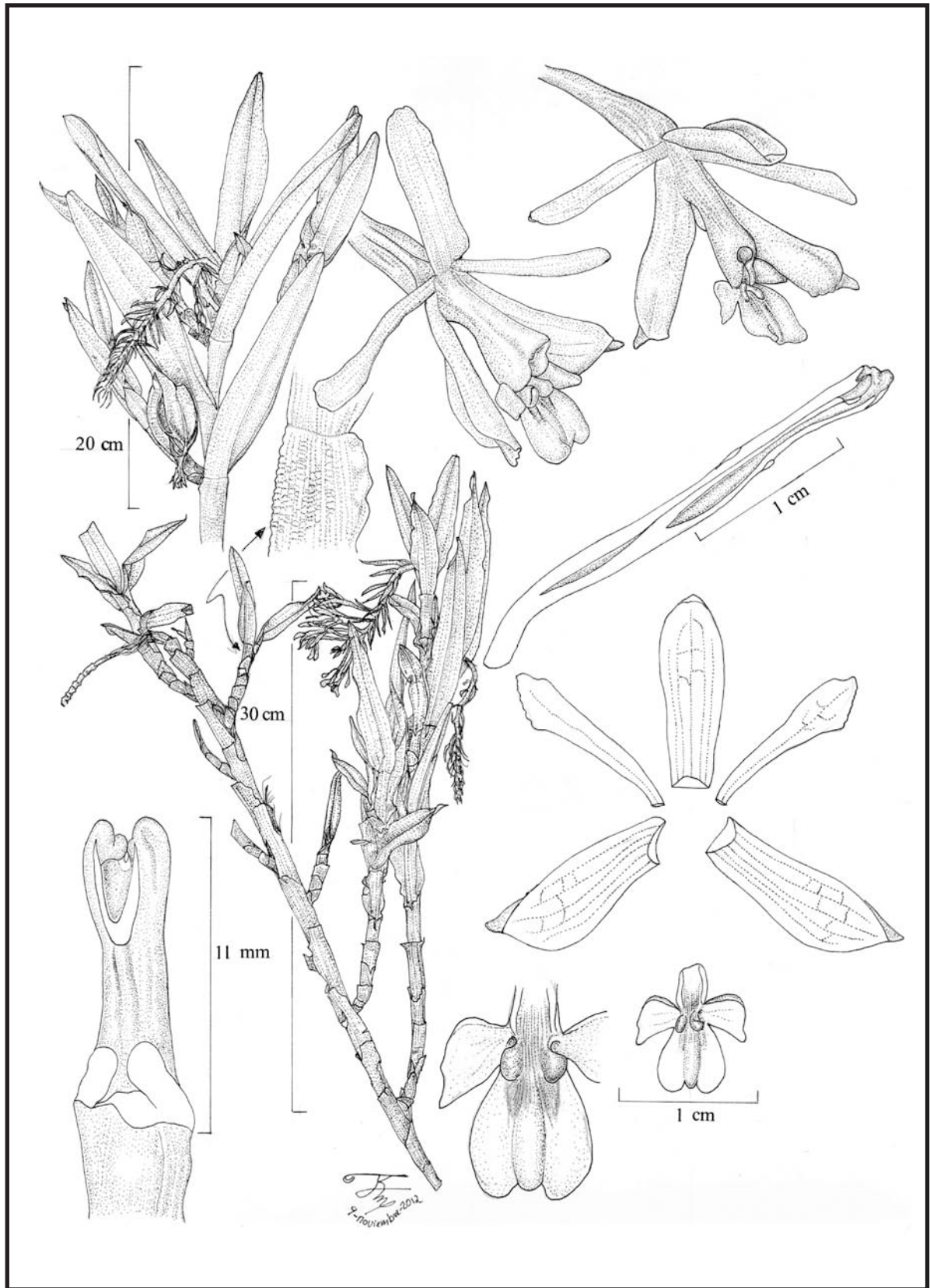
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Plate 1474



**EPIDENDRUM PLEIOBRACTEATUM** Hágsater & E.Santiago

Plate 1475

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

Type: COLOMBIA: Valle del Cauca: Cordillera Occidental: Los Farallones, extremo N, vertiente NW, entre Alto del Buey y Quebrada de los Ramos, 3350-3450 m, 12 October 1944, **José Cuatrecasas 18025**. Holotype: VALLE! (in flower & fruit). Isotypes: AMES! (Illustration voucher) F! US! VALLE! (in fruit).

Similar to *Epidendrum chrysomyristicum* Hágsater & E.Santiago but the inflorescences much longer, the floral bracts very prominent, congested, the flowers somewhat larger, the lateral lobes of the lip obliquely ovate, and the mid-lobe obcordiform with the apex emarginate.

Monopodial, probably terrestrial, erect, branching **herb**, 100-200 cm tall. **Roots** not seen. **Stems** much branched throughout, cane-like, terete, erect, straight, the main stem 100-200 x 0.6-1 cm; the secondary branches 14-23 x 0.5-0.7 cm, producing tertiary stems 13 x 0.6 which themselves branch, covered at the base by sheaths 10-25 mm long, non-foliar, tubular, scarious. **Leaves** numerous on the main stem; 5-6 on the branches, distributed towards the apical half of the stems, alternate, articulate, sub-erect, unequal in size (the basal ones smaller), green to purplish green; sheaths 20-50 x 0.7-13.5 mm, tubular, striated and minutely rugose; blade of the main stem 10.5-13 x 2.0-2.5 cm; those of the branches 2.2-11 x 1.1-1.8 cm, lanceolate, acute, margin crenulate towards the apex. **Spathaceous bract** lacking. **Inflorescence** 11 cm long, apical, racemose (rarely producing an additional very short raceme at the apex of the peduncle), flowering only once, densely many-flowered, arching-nutant; peduncle 1.5 cm long, terete, thin, short, provided at the apex with a bract 26 mm long, similar to the floral bracts but larger, lanceolate, acuminate, amplexicaul. **Floral bracts** 6-16 mm long, prominent, shorter than the ovary, gradually shorter towards the apex of the rachis, narrowly triangular-lanceolate, acuminate, amplexicaul. **Flowers** 35-45, simultaneous, resupinate, olive green; fragrance not registered. **Ovary** 14-19 mm long, terete, thin, striated. **Sepals** 14-15 x 4.4-5.1 mm, partly spreading, narrowly obovate, obtuse, 5-veined, margin entire, revolute, apex short apiculate; dorsal sepal free; lateral sepals united obliquely united to the column, oblique. **Petals** 14 x 3.4 mm, partly spreading, free, oblanceolate, apex sub-obtuse, 1-veined, margin entire, revolute. **Lip** 6.5 x 6.5 mm, united to the column, 3-lobed, base cordate, margin entire, spreading; bicallose, the calli thin, slightly divaricate, the disc provided with a single, thickened, prominent rib that reaches the apical sinus; lateral lobes 2.2 x 3.2 mm, small, obliquely ovate, obtuse; mid-lobe 5 x 4 mm, obcordiform, the apex widely emarginate, minutely apiculate, formed by a pair of rounded lobes. **Column** 11 mm long, straight, base thin, gradually widened towards the apex, with a pair of rounded apical wings. **Clinandrium-hood** short, straight, margin entire. **Nectary** penetrating 1/3 of the ovary, slightly inflated without forming a vesicle, unornamented. **Anther** and **pollinia** not seen. **Rostellum** apical, slit. **Capsule** 7.5 x 2.5 cm, perianth persistent; pedicel 20 mm long, body 4 x 2.5 cm, ellipsoid; apical neck 14 mm long.

**OTHER SPECIMENS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Known only from the summit of the Cordillera Occidental in southwestern Colombia, in the Department of Valle del Cauca, at 3350-3450 m altitude. Flowering and fruiting in October.

**RECOGNITION:** *Epidendrum pleiobracteatum* belongs to the Andean Group, Fritizianum Subgroup characterized by the cane-like stems with sub-apical branching, leaves membranaceous, acute-acuminate, the adpressed leaf sheaths, and entire or 3-lobed lip. The species is recognized by its tall plants, many-branched stems, lanceolate, acute leaves (those on the main stem larger), racemose, dense inflorescence with many ochraceous-green flowers, very prominent, closely-spaced floral bracts, sepals 14 x 5 mm, the lateral lobes of the lip obliquely ovate and the mid-lobe obcordiform, widely emarginate. *Epidendrum angeloglossum* Hágsater & Dodson from northern Ecuador has shorter plants, successive, apple-green flowers on a shorter inflorescence, small floral bracts, the mid-lobe of the lip orbicular, the apex rounded, not emarginate, and the disc of the lip with multiple thickened veins throughout. *Epidendrum chrysomyristicum* Hágsater & E.Santiago from Bolivia and southern Peru, is vegetatively very similar, but the inflorescences are very short, few-flowered, with the floral bracts much shorter, the flowers yellow, the lateral lobes of the lip obliquely rectangular and mid-lobe "T" shaped. *Epidendrum lima* Lindl. has lanceolate to ovate-lanceolate, short-acuminate leaves, a lax, few-flowered inflorescence with 5-12 successive, pale green to yellowish flowers, the lateral lobes transversely elliptic, and mid-lobe with an isthmus at the base and non-emarginate apex. *Epidendrum trachychlaena* Schltr. has elliptic, acuminate leaves, a paniculate, lax, few-flowered inflorescence, sepals 16-18 mm long; the lateral lobes of the lip are elliptic, acute, and the mid-lobe obcuneate. *Epidendrum putidocardiophyllum* Hágsater & Dodson has shorter plants, up to 60 cm tall, elliptic to lanceolate, shorter leaves (0.5-6.3 cm long), inflorescence fewer flowered (ca. 23 flowers), lateral lobes of the lip very small, obliquely triangular, and the mid-lobe rectangular.

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

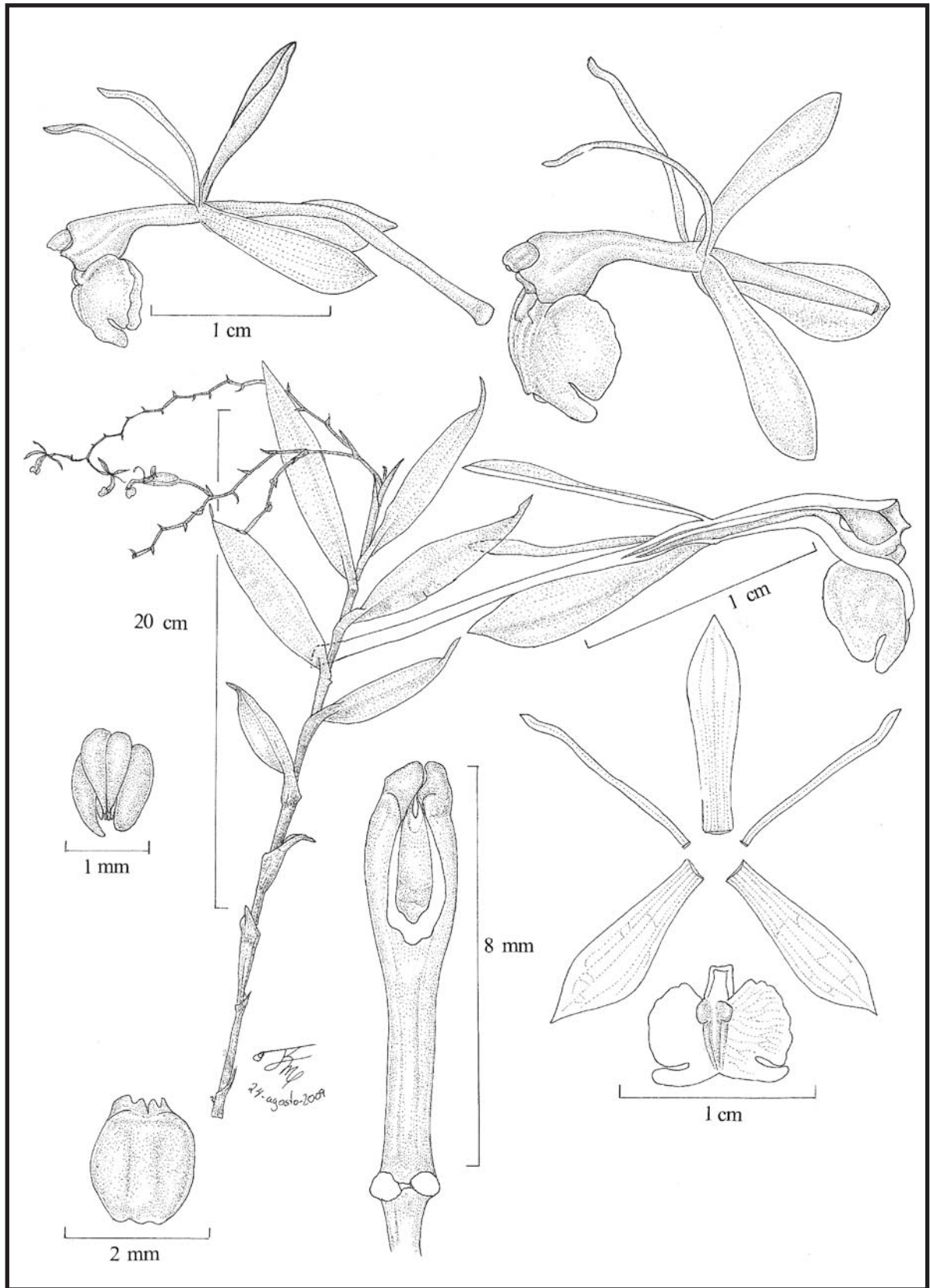
**ETYMOLOGY:** From the Greek  $\pi\lambda\epsilon\lambda\iota$ , in compounds, many-, and the Latin *bractea*, floral bract, in reference to the numerous, congested, long floral bracts which distinguish this species.



Authors: E. Hágsater & E. Santiago  
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Editors: E. Hágsater & L. Sánchez S.  
ICONES ORCHIDACEARUM 14. 2013. Plate 1475



EPIDENDRUM PLURIRACEMOSUM Hagsater & E.Santiago

Plate 1476



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

Type: FRENCH GUIANA: Cayenne (Cayena): Sommet Tabulaire, centre ouest, ca. 45 km SE de Saül, alt. 600 m, 30 August 1980, **Georges Cremers 6492**. Holotype: CAY! (Illustration voucher) Isotype: P!

Simile *Epidendri unguiculati* (C.Schweinf.) Garay & Dunst. sed floribus minoribus, communiter duobus simul apertis, rachidi inflorescentiae flexuosa, pedunculo praedito 1-2 bracteis, floribus viridi-flavis, labello albo immaculato, isthmo valde angusto, lobo mediano labelli divisio in duos lobulos oblongos oppositos.

Epiphytic or rarely lithophytic, sympodial, caespitose, erect **herb**, 40-75 cm tall. **Roots** 1 mm in diameter, basal, fleshy, thin, green. **Stems** 19.5-23 x 0.15-0.4 cm, simple, cane-like terete, thin, straight; the base covered by non-foliar, tubular, minutely striated scarious sheaths, 17-45 x 2.5-6.5 mm. **Leaves** 6-12, distributed throughout the apical half of the stem, articulate, alternate, sub-coriaceous, green; sheaths 8-32 x 1.5-6 mm, tubular, smooth; blade 3.3-16 x 0.8-3.4 cm, narrowly elliptic to elliptic, short-acuminate, minutely apiculate, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescence** 17-24 cm long, apical, racemose, producing new racemes (during several years) from the same peduncle, and thus pluri-racemose, sub-erect, lax, few-flowered; peduncle 3-6 cm long, thin, laterally compressed, straight, subtended by 1-2 basal bracts, 21-43 mm long, tubular towards the base, conduplicate above, acute; rachis 16 cm long, thin, flexuous. **Floral bracts** 1-6 mm long, much shorter than the ovary, triangular, acuminate, amplexicaul. **Ovary** 16 mm long, terete, thin, not inflated, unornamented. **Flowers** 6-18 per raceme, successive, generally 2 open at one time, resupinate, greenish yellow to green, the lip and column white, immaculate. **Sepals** 9-10.5 x 2.6-3.4 mm, free, slightly reflexed, fleshy, oblanceolate, acute, 5-veined, margin entire, spreading. **Petals** 10 x 0.85 mm, free, partly spreading, linear-filiform, 1-veined, margin entire, spreading. **Lip** 4.8-5.2 x 5.5-7 mm, united to the column, 3-lobed, base cordate, apex truncate, margin spreading; bicallose, the calli small, sub-globose, disc with 3 fleshy, thin, ribs, elongate and reaching the apical sinus; lateral lobes 2.3-3 x 4-4.2 mm, dolabriform, margin erose; mid-lobe 0.8-1 x 5-7 mm, short, widely emarginate, bilobed, the lobes strongly divaricate, opposite each other, forming an angle of 180°, each lobe oblong, apex rounded, slightly arching upwards, margin entire. **Column** 8 mm long, straight, base thin, gradually widened towards the apex which has a pair of prominent teeth. **Cinandrium-hood** reduced, margin entire. **Anther** ovoid, the apex truncate, the base with a pair of bidentate processes, 4-celled. **Pollinia** 4, bird-wing type, unequal, the inner pair smaller. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** shallow, barely penetrating the ovary behind the perianth, smooth, not inflated. **Capsule** ellipsoid, pedicel 15 mm long, body 15 x 6 mm, apical neck 5 mm long, perianth persistent.

**OTHER SPECIMENS: BRAZIL: Amapá:** Cachoeira Macacoara, ca. 200 m, 27 VIII 1961, *Egler 46684*, NY! Near first cachoeira on Rio Iaué, 0.5 km east of confluence with Rio Oiapoque, 22 VIII 1960, *Egler 47733*, NY! **Pará:** Lageira, airstrip on Rio Maicuru, ca. 800 ft, 18 VII 1981, *Strudwick 3137*, NY!

**FRENCH GUIANA: Cayena:** Haut Oyapock, Ouest de Trois Sauts, Mont Saint Marcel, 28 VII 1975, *Granville 1194*, CAY x2! Forêt sur la rive gauche du Yaroupi, Saut Ouaimicouaré, 25 IV 1970, *Oldeman T-570*, CAYx2! HB! P! Haut Oyapock, crique Eulepoussing, layon crique Kulumuli, Mt. St. Marcel, 1 km avant le camp Couleuvre, 15 III 1976, *Sastre 4393*, CAY! P! **Saint-Laurent-du-Maroni:** Versant nord des Monts Galbao, à 10 km W-SW de Saül, 500 m, 15 V 1973, *Granville 1655*, CAY x2! U x2! Env. 13 km SSW du village de Saül et à l'ouest de la Crique Limonade, 31 III 1983, *Granville 5431*, CAY! Montagne de la Trinité, 5 II 1984, *Granville 6525*, CAY! U! Mont Galbao, Cirque central, Haute Crique Makouali, 420 m, 20 I 1986, *Granville 8871*, CAY! Saül, just outside the village, 28 IX 1995, *Mori 24248*, CAY! (digital image, AMO!) Fleuve Approuague au sud Grand Canari, rive gauche, 11 VII 1968, *Oldeman 1675*, P! U! **SURINAM: [Brokopondo:]** Brownsberg Mazaroni-top, 500 m, 19 VI 1981, *Determann 169*, SEL! **Marowijne:** Perica area, 24 IX 1971, *Teunissen 1042*, U x2! **Sipaliwini:** in montibus, qui dicuntur Emmaketen, 19 VIII 1959, *Daniels 986*, GH! U! Ibid. 14 IX 1959, *Daniels 1097*, U! In montibus, qui dicuntur Nassau, 3 III 1949, *Lanjouw 2380*, U! Blanche Marievallen, 23 VI 1965, *Maas 10983*, U! Emma Keten, 16 III 1922, *Stahel 165*, U!

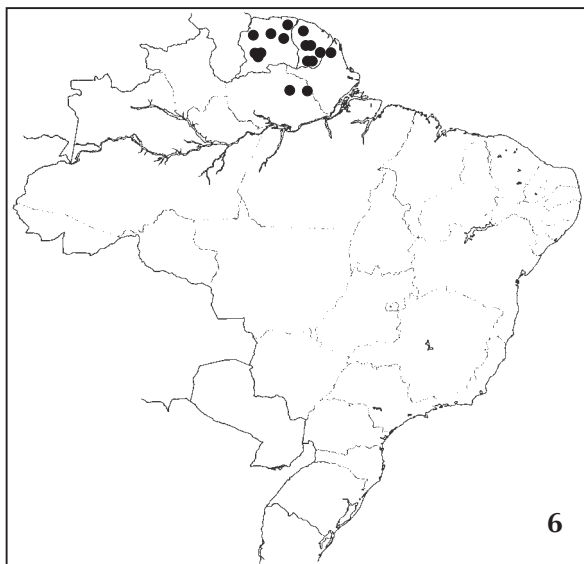
**OTHER RECORDS:** [www.orchidspecies.com/epidunguiculatum.htm](http://www.orchidspecies.com/epidunguiculatum.htm) **FRENCH GUIANA: Cayena:** Saül, *Ravet s.n.*, digital images, AMO!

**DISTRIBUTION AND ECOLOGY:** Known from lower altitudes in Surinam, the French Guyana, and Brazil, in the states of Amapá and Pará; epiphytic or rarely lithophytic at 200-600 m altitude. Flowering from February to August.

**RECOGNITION:** *Epidendrum pluriracemosum* belongs to the Pseudepidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and Pluriracemosum Subgroup which has a racemose and few-flowered inflorescence on an elongate peduncle, usually producing new racemes over the years and thus pluri-racemose, the rachis is elongate, and thus lax flowered, the flowers bicolored, basically green to brown with the lip white to purple, spotted or not. The species is recognized by the plants 40-75 cm tall, green, concolor leaves, small flowers (sepals 9-10.5 mm long), sepals green, the lip and column immaculate white, rachis flexuous, peduncle short, subtended by 1-2 tubular bracts. *Epidendrum unguiculatum* (C.Schweinf.) Garay & Dunst. has larger green flowers (sepals [16] 18-20 mm long), with the lip and apex of the column white, the calli occasionally purple, the 3-lobed lip has flabellate lateral lobes, and the mid-lobe is sub-quadrate, with the isthmus parallel sided at the base, and forms a pair of linear-oblong lobes at the apex. *Epidendrum oenochrochilum* Hągsater, Ric.Fernández & E.Santiago has bicolor leaves, green above, purple ventrally, the flowers somewhat larger (sepals 14-15 mm long) purple-brown with the ventral surface of the sepals purple-green, the lip yellow-brown to dirty pink, the rachis is straight and the peduncle subtended by 5-7 bracts. *Epidendrum huamantapanorum* Hągsater & E.Santiago is known only from Peru, has somewhat smaller plants, to 40 cm tall, the flowers copper green with the lip white, the margin hyaline, the calli and ribs lavender, surrounded by a ring of darker lavender; the peduncle if the inflorescence is elongate with up to 7 bracts spread throughout. *Epidendrum maroniense* Hągsater & E.Santiago also from the French Guiana has larger flowers, sepals 15-17 mm long, flowers green with the disc of the lip immaculate white or occasionally the calli tinged purple, and the lip sub-entire with the base widely cuneate.

**CONSERVATION STATUS:** DD. Data deficient. Apparently common in the French Guyana lowlands.

**ETYMOLOGY:** From the Latin *pluri-*, several, many, and *racemus* raceme, in reference to the successive racemes produced from the same peduncle of the inflorescence, with successive flowers.



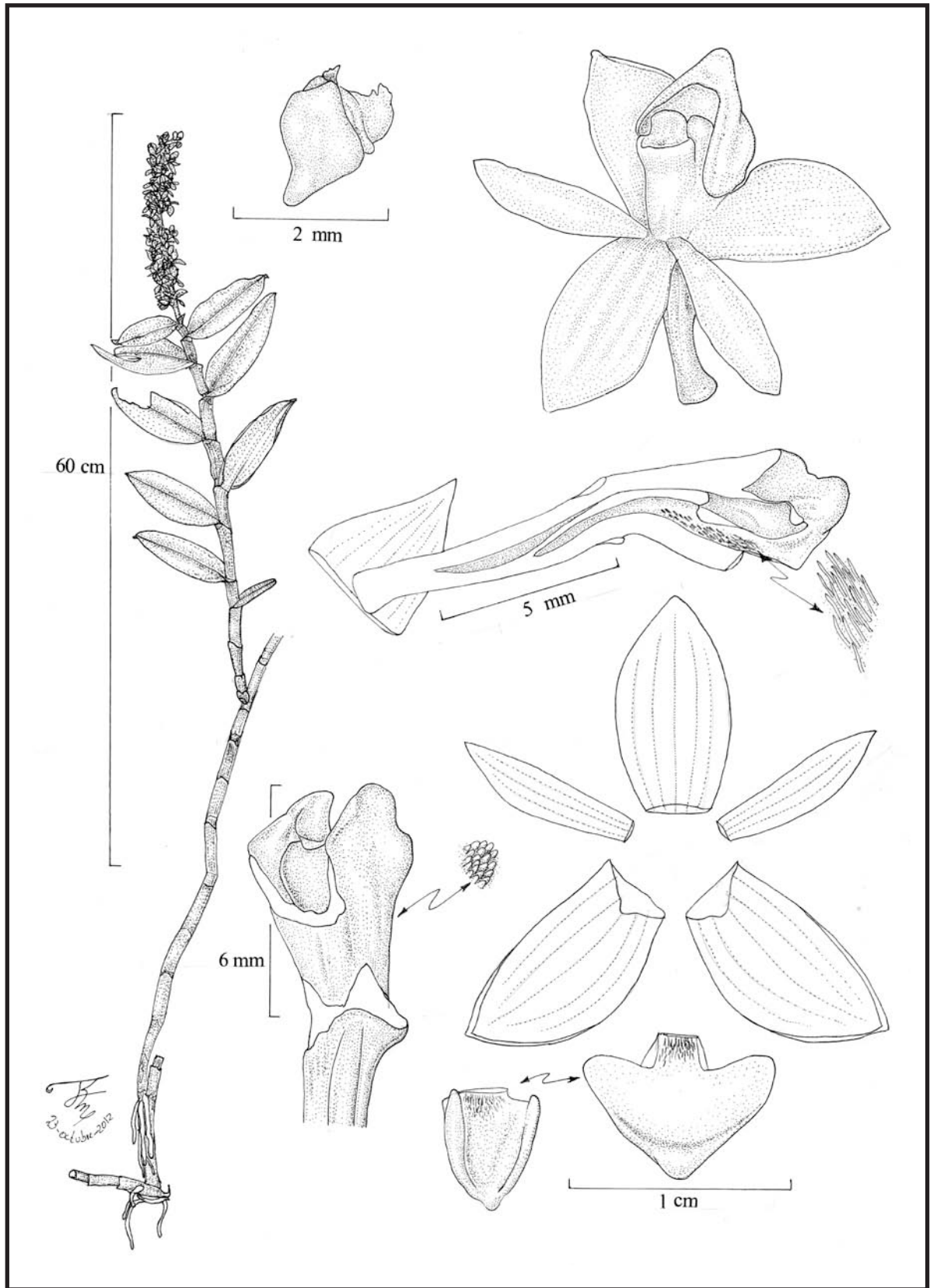
Authors: E. Hągsater & E. Santiago  
Herbario AMO

Illustrator: R. Jiménez M.  
México, D.F. MÉXICO

Photo: E. Ravet

Editors: E. Hągsater & L. Sánchez S.

ICONES ORCHIDACEARUM 14. 2013. Plate 1476



EPIDENDRUM POLYANTHOSTACHYUM Hágsater, E.Santiago & García-Ramírez

Plate 1477

**EPIDENDRUM POLYANTHOSTACHYUM** Hágsater, E.Santiago et García-Ramírez, *sp. nov.*

Type: COLOMBIA: Valle del Cauca: 18 km below Queremal on Road to Anchicaya, 1100-1200 m, 11 October 1982, James Folsom 10451. Holotype: AMO! (Illustration voucher).

Similar to *Epidendrum humeadorensis* Hágsater & Dodson but the plants smaller, the inflorescence dense and many-flowered, the rachis straight, floral bracts and flowers smaller.

Terrestrial, monopodial, branching herb, 85-102 cm tall. **Roots** 1-3 mm in diameter, produced from the base of the main stem, fleshy, thin, white. **Stems** branching when mature, cane-like, terete, erect, straight, the main stems ca. 40 x 0.5-1.0 cm, the branches ca. 30 x 0.5-0.8 cm; covered at the base by tubular sheaths 7-32 x 8 mm, non-foliar, striated, rugose. **Leaves** more than 7 on the main stem, 9-14 on the branches, distributed throughout the main stem and the branches, articulate, alternate, sub-coriaceous, unequal in size (the apical and basal leaf of the branches smaller); sheath 10-44.3 x 5-10 mm, tubular, minutely striated, rugose; blade 3.5-14 x 1.8-4.7 cm, all narrowly elliptic, acute, margin entire. **Spathaceous bract** lacking. **Inflorescence** 16-18 cm long, apical from the main stem and branches, occasionally producing a short, few-flowered inflorescence from a short leaf-less branch, racemose, erect, flowering only once, cylindrical, densely many-flowered; peduncle 20 mm long, sub-terete, thin, erect, straight; the base provided with a single bract similar to the floral bracts, 5 mm long; rachis 14 cm long, terete, straight. **Floral bracts** 5-6 x 4-5 mm, as long as the ovary, triangular-ovate, short-acuminate, amplexicaul. **Flowers** 35-40, simultaneous, non-resupinate, very fleshy, green (even pollinated), the flowers turn yellow and brown with age when not pollinated, with evident crystals of calcium oxalate when dry; fragrance not recorded. **Ovary** 7 mm long, short, terete, thick, longitudinally striated. **Sepals** 10 x 5.4 mm, free, spreading, slightly convex, elliptic, acute, 5-veined, margin entire, spreading; the lateral sepals minutely apiculate, slightly oblique. **Petals** 8.5 x 2 mm, spreading, slightly convex, oblong-oblongeolate, acute, margin entire, spreading, slightly oblique. **Lip** 6 x 8.6 mm, united to the column, entire, widely deltate, base cordate, apex obtuse, very fleshy, ecallose, without ribs, scarcely pubescent in front of the column, cymbiform in natural position, embracing the apex of the column, margin entire. **Column** 6 mm long, short, straight, base thin, gradually widened towards the apex. **Clinandrium-hood** reduced, margin entire. **Anther** 4-celled, ovoid with a rostellum at the apex. **Pollinia** not seen. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma** prominent, occupying half the length of the stigmatic cavity. **Nectary** penetrating 1/3 of the ovary, not inflated, pubescent in front of the stigmatic cavity. **Capsule** not seen.

**OTHER SPECIMENS: COLOMBIA: Valle del Cauca:** Mpio. El Cairo, La Carbonera, Vereda Santa Rita, 2033 m, 6 XI 2011, García-Ramírez 98, CUVCI! (photo, AMO!) Ibid. 20 I 2013, García-Ramírez 180, CUVCI! (photo AMO!) Vereda Las Amarillas, Serranía de Los Paraguas beyond Cerro del Inglés, 17-23 km W of El Cairo, 1750-2050 m, 13 V 1988, Luteyn 12254, CUCV! NY! SEL!

**OTHER RECORDS: COLOMBIA: Chocó:** vertiente W hacia el Chocó, en los límites entre los departamentos de Chocó y Risaralda (Pueblo Rico), Parque Nacional Tatama, Calderon-Franco s.n., digital image, AMO!

**DISTRIBUTION AND ECOLOGY:** Known presently only from the upper Pacific slope of the Cordillera Occidental in south-western Colombia, at 1100-2050 m altitude. Flowering in October and November, May.

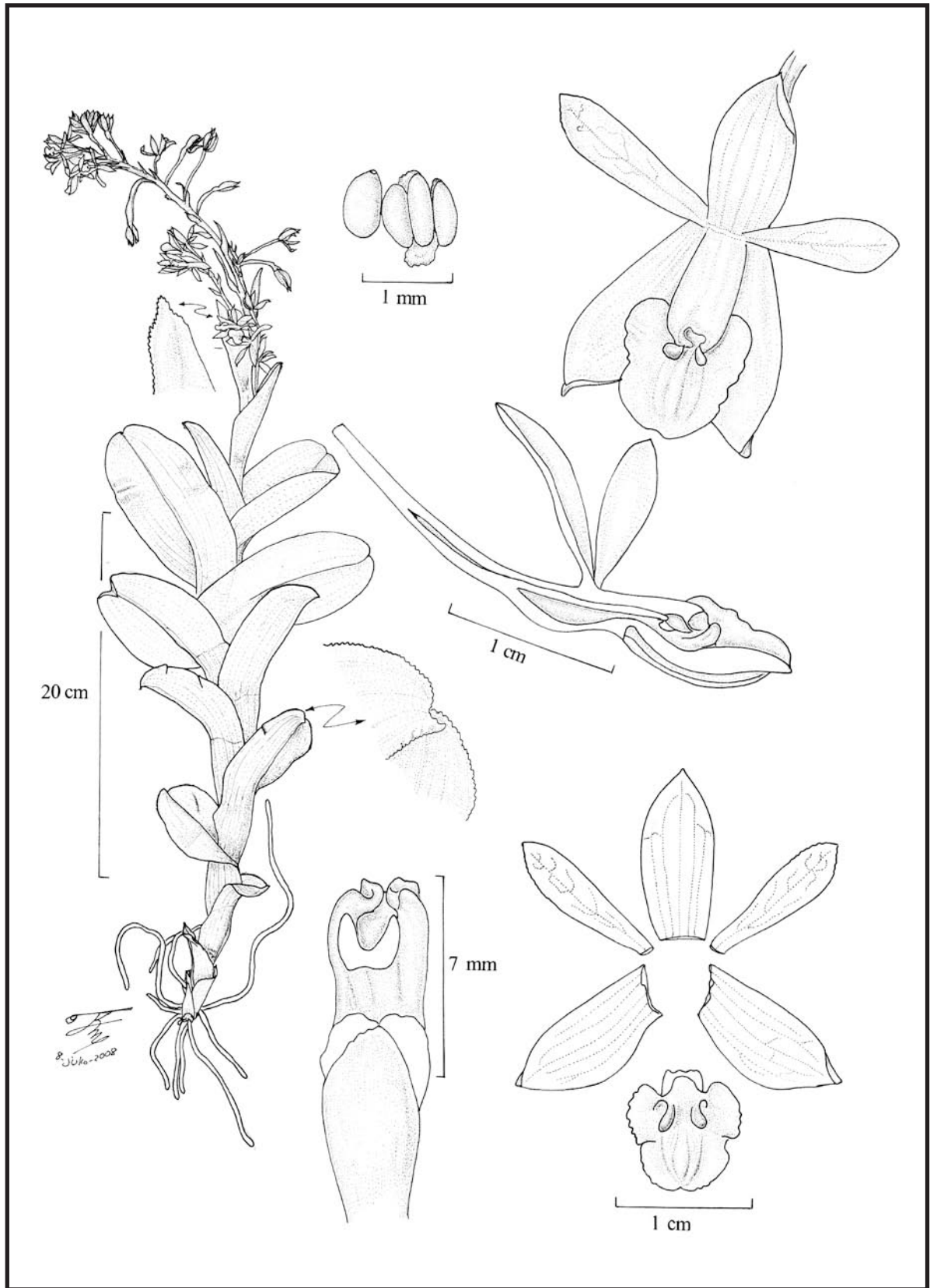
**RECOGNITION:** *Epidendrum polyanthostachyum* belongs to the *Macrostachyum* Group, which is characterized by the monopodial plants with sub-apical branching, rugose leaf sheaths, racemose inflorescence, and fleshy flowers with a simple, conduplicate lip embracing the column, and the nectary pubescent to papillose in front of the stigmatic cavity. The species is recognized by the narrowly elliptic, acute leaves, densely, many-flowered, cylindrical inflorescence, green or yellow, simultaneous flowers, short floral bracts (5-6 mm long); rachis straight, petals oblong-oblongeolate, 2 mm wide, the lip widely deltate, and the anther with a rostrum at the apex. *Epidendrum grammipetalostachyum* Hágsater has the leaves apically acuminate, a few-flowered inflorescence, linear petals 1.0-1.3 mm wide, the lip deltate with the apex truncate, the anther obtuse at the apex. *Epidendrum macrostachyum* has a lax-flowered inflorescence which produces many flowers in a long succession, with about a dozen open at one time, has larger leaves, apically bilobed, 9-13.6 x 2.2-3.3 cm, floral bracts about up to twice the length of the ovary, petals linear-ligulate, obtuse, and the lip widely cordiform. *Epidendrum platystachyum* Hágsater is much smaller overall, narrowly elliptic-oblong, rounded leaves less than 1.2 cm wide, the inflorescence short and compact, rachis sinuous, with successive ochre flowers, the wide floral bracts, embracing the short ovary and flower. *Epidendrum humeadorensis* Hágsater & Dodson has larger leaves (8.5-14 cm long), a lax, few-flowered inflorescence (4-7 flowers), rachis flexuous, floral bracts prominent (7-17 mm long), flowers larger (sepals 14-20 mm long), petals elliptic, 3.5-6.5 mm wide, the base of the lip glabrous, and the nectary short, without penetrating the ovary.

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

**ETYMOLOGY:** From the Greek *πολυ*, much, many, *ανθος*, flower, and *σταχυς*, a spike, in reference to the many-flowered inflorescence, and the fact that the species belongs to the *E. macrostachyum* group.

**REFERENCE:** Hágsater, E., & E. Santiago, 2013, *Epidendrum macrostachyum* in E.Hágsater & L.Sánchez S. (eds.) The Genus *Epidendrum*, *Icon. Orchid.* 14: pl. 1454.





EPIDENDRUM REFRACTOIDES C.Schweinf.

Plate 1478

**EPIDENDRUM REFRACTOIDES** C.Schweinf., Bot. Mus. Leaf. 11: 114, fig. 1943.

Type: PERU: Huánuco: Cani, 7 mi. NE of Mito, ca. 2600 m, in dense stream wood, 16 April 1923, **J. Francis Macbride 3391**.

Holotype: F 534461! Isotype: AMES 61559!

Epiphytic, simpodial, caespitose **herb**, 50-60 cm tall. **Roots** 2-3 mm in diameter, basal, fleshy. **Stems** 24 x 0.7-2.4 cm, simple, cane-like, laterally compressed, erect; the base with 3 non-foliar, scarious, imbricating bracts 2.5-3.5 cm long. **Leaves** 6-9, sub-erect with respect to the stem, alternate, articulate, coriaceous, somewhat conduplicate at the base; sheath 3-4 x 1.5-2.4 cm, tubular, ancipitose, minute striated, wide; blade 3.5-12.5 x 2.4-5 cm, widely elliptic, apex rounded and short-bilobed, with a minute dorsal apicule, margin crenulate. **Spathaceous bract** 1-4, 6 x 1.6 cm, conduplicate, ovate-lanceolate (when spread), basal half tubular, the apical half open, acute, margin denticulate. **Inflorescence** 26-35 cm long apical, paniculate, sub-erect, slightly arching, lax-flowered, much surpassing the apical leaf; peduncle 5-12 cm long, wide, laterally compressed, ancipitose; rachis 5.5-6 cm long, with 3 short, lax, few-flowered branches 4-5.8 cm long, each arising from a bract similar to the spathaceous bract but progressively smaller. **Floral bracts** 4-25 mm long, prominent, gradually much shorter towards the apex of the rachis, shorter than the ovary, triangular-lanceolate, acuminate, amplexicaul. **Flowers** ca. 30, successive, though many open at one time, resupinate, fleshy, green, orange-yellow to brown; fragrance not registered. **Ovary** 15-17 mm long, short, terete, thin, slightly inflated behind the perianth. **Sepals** 11-12.5 x 5.5 mm, elliptic, sub-acute, minutely apiculate, 5-veined, margin entire, spreading; dorsal sepal free, spreading, the lateral sepals obliquely united to the base of the column, partly spreading, somewhat oblique. **Petals** 11 x 3 mm, free, spreading, oblanceolate, obtuse, 1-veined, the vein short-branched throughout, margin crenulate towards the apex, spreading. **Lip** 7.7-7.8 x 8.5-9 mm, united to the column, obpandurate, slightly 3-lobed, base cordate, margin erose, spreading; bicallose, the calli small, sub-globose; disc with 3, fleshy, low keels that reach the apex of the mid-lobe; lateral lobes 2.5 x 4.4 mm, obliquely reniform; mid-lobe 3.7 x 6.6 mm, semi-circular, broadly rounded. **Column** 7 mm long, straight. **Clinandrium-hood** short, margin entire. **Pollinia** 4, obovoid; caudicles soft and granulose, slightly longer than the pollinia. **Rostrum** apical slit. **Lateral lobes of the stigma** small, occupying  $\frac{1}{4}$  the length of the stigmatic cavity. **Nectary** shallow, penetrating  $\frac{1}{5}$  of the ovary, slightly inflated, unornamented. **Capsule** ellipsoid, pedicel thin, 11 mm long; body 27 x 13 mm; apical neck 6 mm long.

**OTHER SPECIMENS: PERU: Cusco:** La Convención: Dist. Sta. Teresa, Collpapampa, 2900 m, VI 2009, *Callalli s.n.*, CUZ! Paucartambo: Acjanaco, Parque Nacional del Manú, 3100-3200 m, 8 V 1990, *Cano 3575*, USM! (Illustration voucher). Quispicanchis: Marcapata, Cachupampa, 2688 m, 17 III 2007, *Villafuerte 652*, CUZ! Urubamba, Quebrada de Haytampu, 3200 m, 3 VIII 1991, *Tupayachi 1546*, CUZ! Urubamba: Pisqa-ccucho, 3550 m 8 II 1992, *Tupayachi 1884*, CUZ! Urubamba: Machu Picchu, Huayllabamba hacia Pukará, 3450 m 30 VI 2001, *Tupayachi 5229*, CUZ! Urubamba: Machu Picchu: Huayllabamba hacia Pukará, 3450 m, 30 VI 2001, *Tupayachi 5230*, CUZ!

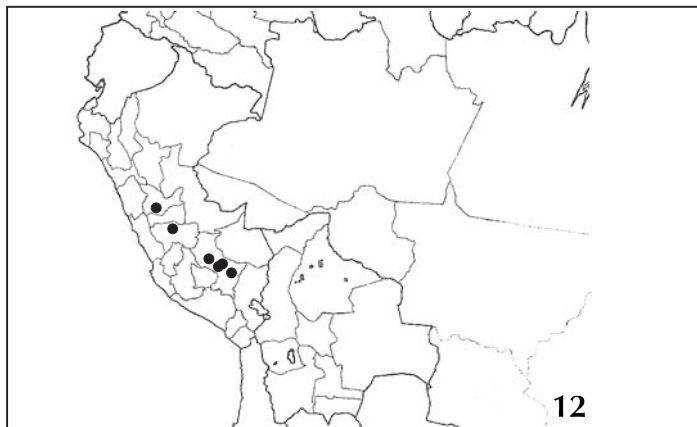
**OTHER RECORDS: PERU: Apurimac:** Tambruco; Santuario Nacional de Ampay, *E. Cervantes Zavala 47*, digital images, from flickr, by Jan Baiker, 31 III 2011, AMO! **Cusco:** Paucartambo: Acjanaco, Parque Nacional del Manú, on *Polylepis sp.*, 3600 m, 7 III 2011, *Hágsater s.n.*, digital images, AMO! Machu Picchu, *W. Huilca s.n.*, digital images, AMO! Without locality, *Galiano 2011*, printed photograph, AMO! **Junin:** Valle de Chanchamayo, Selva Central, 2500 m, *Moron s.n.*, digital images, AMO! (photo voucher). Quispicanchis: Marcapata, Cachupampa, 2688 m, 17 III 2007, *M. Villafuerte 652*, digital images. AMO!

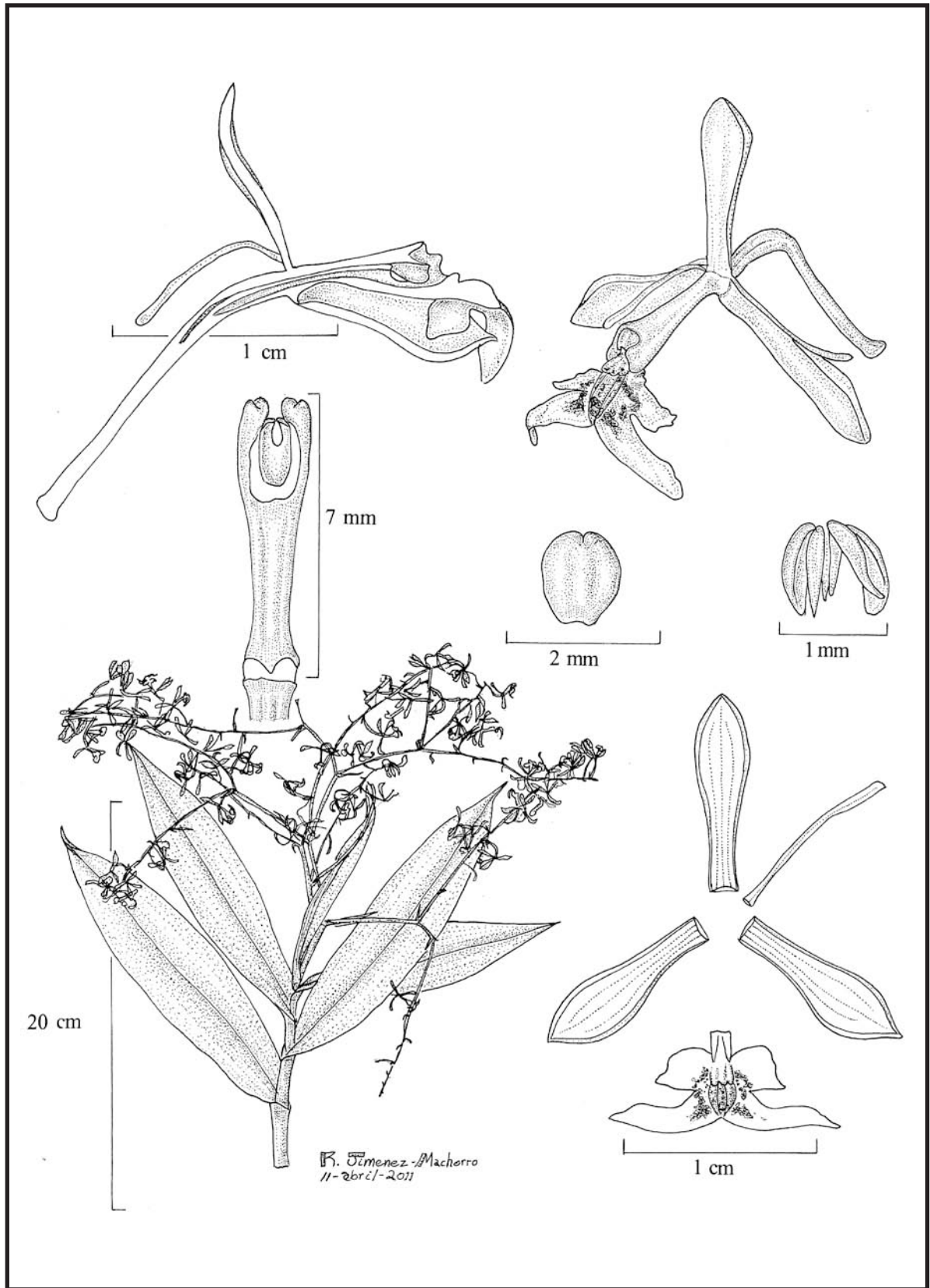
**DISTRIBUTION AND ECOLOGY:** Known only from Peru, on the upper slopes of the Cordillera Oriental of the Andes at 2500-3600 m altitude. Epiphytic in elfin forest of *Polylepis sp.*, and "pajonal" with bushes and rocks, and riverside forest, on slopes. Flowering in March to June.

**RECOGNITION:** *Epidendrum refractoides* belongs to the Refractoides Group which is recognized by the simpodial, caespitose habit, laterally compressed stems, successive flowers and a generally sub-erect, paniculate inflorescence, the peduncle with up to 4 prominent, conduplicate, ancipitose, bracts covering the lower part of the peduncle. The species is recognized by the wide, laterally compressed stem, wide, apically bilobed leaves, the inflorescence with several large, conduplicate bracts, spaced on an ancipitose peduncle, with branches produced from each bract, flowers green, orange-yellow to brown, and the somewhat pandurate lip. *Epidendrum humiloides* Hágsater & E.Santiago (syn.: *Epidendrum refractoides* var. *humile* C. Schweinf.) has smaller plants, shorter leaves, a racemose inflorescence with 5-6 flowers, a clearly 3-lobed lip, and has a single elliptic, acute spathaceous bract. *Epidendrum lezliae* R.Vásquez & P.L. Ibsch from eastern Bolivia has a somewhat similar inflorescence, with the long, zigzag peduncle bearing prominent conduplicate bracts, non-resupinate flowers, but the margin of the lip irregularly serrate-denticulate; the inflorescence is racemose to paniculate. *Epidendrum philippi* Rchb.f. does not have any spathaceous bracts, and the infundibuliform leaf-sheaths are reminiscent of *E. ardens*, with large floral bracts perpendicular to the rachis.

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

**ETYMOLOGY:** From the Latin *refractus*, bent or curved back abruptly and strongly, and the suffix *-oides* similar to, in reference to the zigzag peduncle of the inflorescence which is characteristic of this species.





EPIDENDRUM RHAIBOgyRUM Hágsater & E.Santiago

Plate 1479

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

Type: ECUADOR: Pichincha: Santo Domingo-Tandapi, 2000 m, November 1983, *Alex Hirtz 1382*. Holotype: AMO! (Illustration voucher). Photo of pretype flower, AMO!

Simile *Epidendri cirrhochili* F.Lehm. & Kraenzl. sed floribus paulo maioribus, labelli lobulis acutis, nec cirrosis, ornati circulo fractiflexo purpureo circum discum, costis ornatis maculis purpureis; lobulo medio efformante geminos lobulos fortiter divaricatos, leviter sigmoideos, acutos.

Epiphytic, sympodial, caespitose **herb** to 100 cm tall. **Roots** basal. **Stems** ca. 70 x 0.3-0.9 cm, simple, cane-like, terete, thin, erect, straight; the base covered by non-foliar, tubular sheaths, 3.5-4.2 cm long, becoming fibrous with time. **Leaves** 8-14, distributed throughout the stems, articulate, alternate, sub-coriaceous; sheaths tubular, 1.4-4 x 0.3-0.7 cm, minutely striated; blade 14-19 x 1.1-4.0 cm, elliptic or narrowly elliptic, acuminate, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescence** 24-30 cm long, apical, sub-erect, paniculate, many-flowered; peduncle terete, 3 cm long, thin, short, occasionally with a prominent bract nearly totally covering it, tubular, long-acuminate; rachis 6-22 cm long, with 8 spreading branches (some themselves branched), laxly many-flowered, each subtended by a narrowly triangular, acuminate amplexicaul bract 1.7-5.2 cm long. **Floral bracts** much shorter than the ovary, 2-6 mm, linear-lanceolate, acuminate, amplexicaul. **Ovary** 13-16 mm long, terete, thin, not inflated, unornamented. **Flowers** ca. 100-200, successive, resupinate, sepals, petals and base of column green, lip and apical half of the column white, the lip with a purple zigzag circle around the disc, and dots on the ribs; fragrance not registered. **Sepals** 8-10 x 2.7-3.3 mm, spreading to reflexed, free, fleshy, linear-spatulate, obtuse, slightly concave near the apex, 3-veined, margin entire, spreading. **Petals** 9.5 x 0.5 mm, reflexed, free, filiform, apex truncate, 1-veined, margin entire, spreading. **Lip** 4 x 12 mm, united to the column, 3-lobed, base slightly cordate, margin entire, spreading; with a single, minutely 3-lobed callus, disc provided with 3 fleshy, parallel, acute ribs which reach the apical sinus; lateral lobes 2.7 x 2.2 mm, sub-quadrate, the posterior apical corner rounded the anterior corner apiculate; mid-lobe 2.2 x 12 mm, bilobed, forming a pair of strongly divaricate lobes, each lobe 6 x 1.3 mm, linear-oblong, slightly sigmoid, acute to acuminate. **Column** 7 mm long, straight, base thin, gradually widened towards the apex, with a pair of minute apical teeth. **Clinandrium-hood** short, margin entire. **Anther** ovoid, 4-celled. **Pollinia** 4, bird-wing type, strongly laterally compressed; caudicles laminar, somewhat shorter than the pollinia. **Rostellum** apical, slit. **Lateral lobes of the stigma** small. **Nectary** short, penetrating 1/5 of the ovary, not inflated, unornamented. **Capsule** not seen.

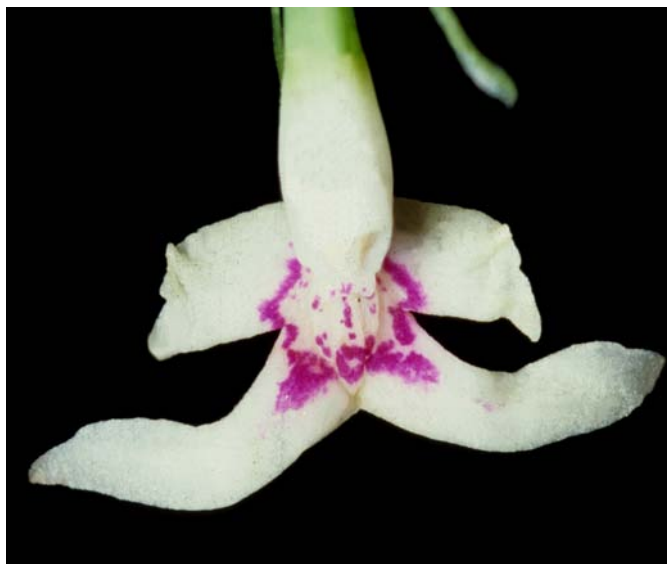
**OTHER SPECIMENS: ECUADOR: Cotopaxi:** Cerro Guadual Grande, Reserva Ecológica Los Ilinizas, 20 VII 2003, *Silverstone-Sopkin 9362*, AMO! CUVCI! QCNE x3! **Pichincha:** Santo Domingo-Quito Road, 60.2 km N of Zaracay Hotel, 5600 ft, 1 VIII 1980, *Sauleda 3895*, MO!

**DISTRIBUTION AND ECOLOGY:** Known only from western central Ecuador, in the provinces of Pichincha and Cotopaxi, middle western slope of the Andes, at about 1700-2000 m altitude. Flowering from July through November.

**RECOGNITION:** *Epidendrum rhaibogyrum* belongs to the Pseudepidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and Paniculatum Subgroup, which has filiform petals, all pollinia "bird-wing" type, green and white flowers, often marked with purple on the disc of the lip and apex of the column. The species is recognized by the green and white flowers, the lip marked with a solid purple zigzag circle around the disc of the lip, and dots on the ribs, sepals 8-10 mm long, lip with a single callus, apically 3-lobed, the mid-lobe bilobed, the lobes strongly divaricate, and clearly wider between these compared to the width between the lateral lobes, the lobes of the acute to acuminate, but non-cirrhose. *Epidendrum cirrhochilum* has somewhat smaller flowers, sepals 6-7 mm long, the lip with the margins long, cirrhose, and the disc of the lip decorated with a solid purple semi-circle, the mid-lobe deeply emarginate, the long lobes forming an inverted "V". *Epidendrum angaritae* Hágsater has smaller plants (to 55 cm tall), with larger flowers (sepals 15-17 mm long), greenish brown, the lip white with the disc marked with a semi-solid purple splotch. *Epidendrum macroceras* Schltr. (endemic to northern Colombia) has short plants (to 50 cm tall), green and white, immaculate flowers.

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

**ETYMOLOGY:** From the Greek ραίβος crooked, bent, and γυρος ring, in reference to the purple ring around the disc of the lip which is zigzag, formed by several straight segments.



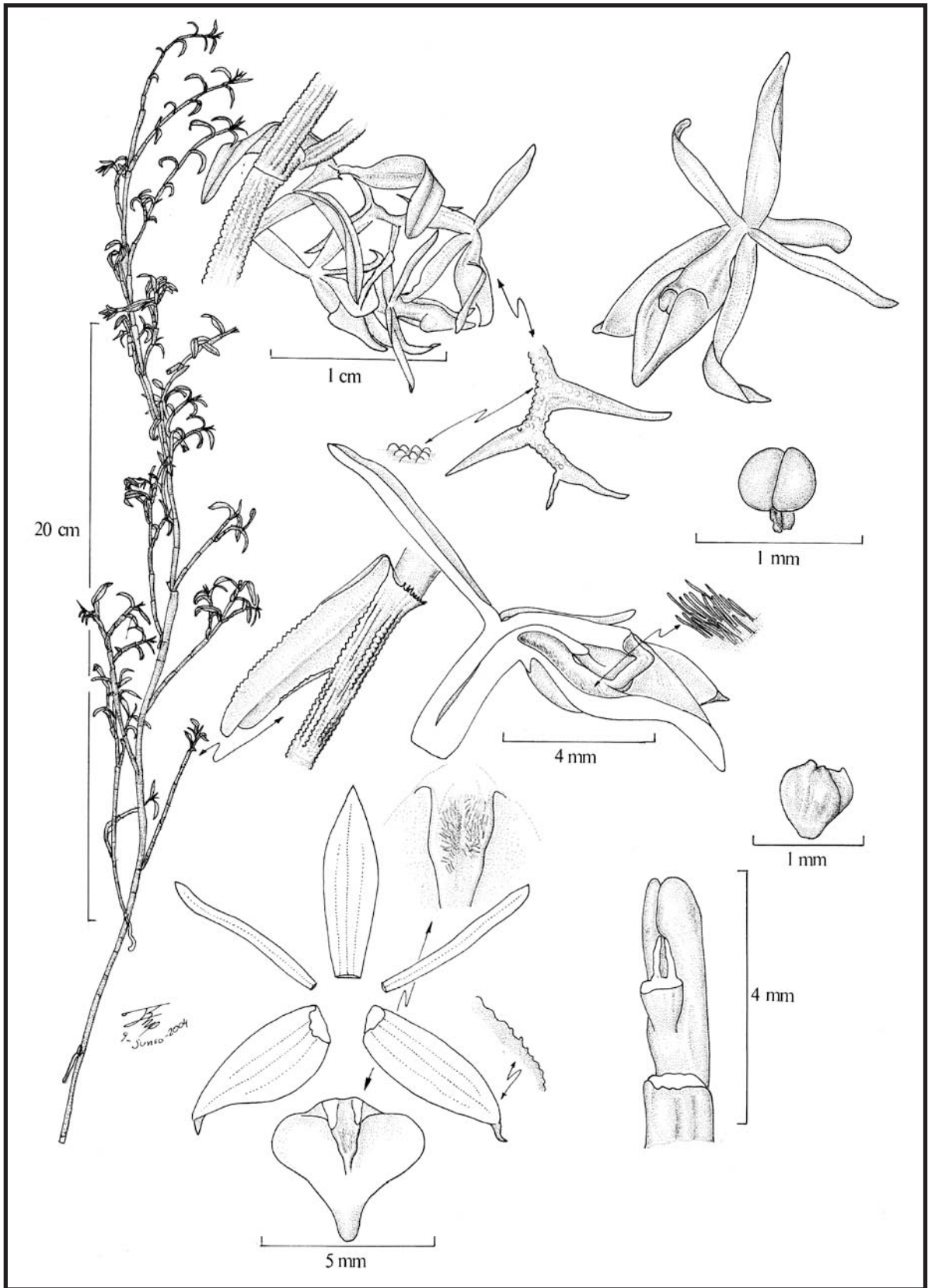
Authors: E. Hágsater & E. Santiago  
Herbario AMO

Illustrator: R. Jiménez M.  
México, D.F. MÉXICO

Photo: A. Hirtz

Editors: E. Hágsater & L. Sánchez S.

ICONES ORCHIDACEARUM 14. 2013. Plate 1479



*EPIDENDRUM RHOMBOBRACHYPHYLLUM* Hágsater & E.Santiago

Plate 1480



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

Type: ECUADOR: Napo: E-facing ridge on the N side of Cerro Sumaco, 3300-3400 m, 25 April 1979, **Bernt Løjtnant & Ulf Molau 12764**. Holotype: AAU! (Illustration voucher).

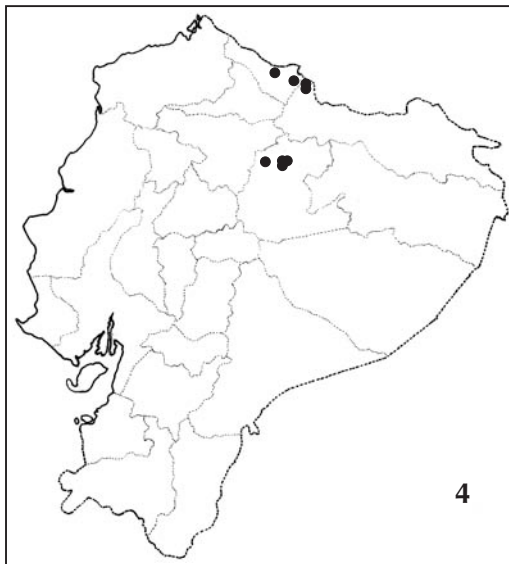
Simile *Epidendri rhombochili* L.O.Wms. sed foliis minoribus, aequalibus tam illis caulis principalis quam illis ramorum, floribus viridibus suffusis brunneo-purpureo labello albo vergente ad album viridescens, inflorescentia subsessili, pedunculo perbrevis et labello obdeltato.

Terrestrial **herb**, ca. 53 cm tall, caespitose and much branched. **Roots** 0.5-1 mm in diameter, produced throughout the basal internodes of the main stem, scarce, thin, white. **Stems** ca. 53 x 0.1-0.22 cm, cane-like, terete, thin; the main stem long and abundantly branched throughout; the secondary branches 1.5-16 cm long, and these producing shorter tertiary branches, 1-3 cm long. **Leaves** numerous on the main stems and generally not persistent; 6-8 on the branches, distichous, spreading, similar in size and shape; sheath 0.2-2.3 x 0.1-0.22 cm, tubular, minutely striated, rugose, the margin opposite the blade dentate; blade 4-15 x 1-3 mm, linear-elliptic, sub-coriaceous, dorsal surface rugose, apex rounded, margin crenulate, spreading. **Spathaceous bract** lacking. **Inflorescence** 3-6 mm long, apical, from main, secondary and tertiary branches, flowering only once, racemose, arching, few-flowered; peduncle ca. 1 mm long, very short, filiform, papillose, rachis zigzag, papillose. **Floral bracts** 3.5-5 mm long, nearly as long as the ovary, narrowly triangular, acuminate, amplexicaul. **Ovary** 4-5 mm long, terete, thin, not inflated, striated. **Flowers** 3, simultaneous, resupinate, sepals and petals green, sometimes tinged purple-brown, the lip white to greenish white, column white tinged with purple-brown; fragrance not recorded. **Sepals** partly spreading, free, acute, 3-veined, margin entire, spreading; the dorsal sepal 5 x 1.5 mm, narrowly obovate, margin entire; lateral sepals 6 x 2.5 mm, obovate, slightly oblique, apiculate, apical margin erose. **Petals** 5 x 0.4 mm, spreading, free, linear, sub-obtuse, 1-veined, margin entire, spreading. **Lip** 3.5 x 4.4 mm, united to the column, entire, obdeltate, embracing the column in natural position without covering it, base truncate, basal corners widely rounded, apex widely apiculate, the apicule very fleshy, margin entire; callus a single laminar, "V" shaped structure, the surface pubescent. **Column** 4 mm long, straight, thick. **Clinandrium-hood** reduced, margin entire. **Anther** obovoid, 2-celled. **Pollinia** 2, obovoid, laterally compressed, equal in size; caudicles granulate, slightly longer than the pollinia. **Rostellum** apical, slit. **Lateral lobes of the stigma** very small. **Nectary** shallow, without penetrating the ovary, not inflated, pubescent. **Capsule** 13 x 7 mm, ellipsoid, perianth persistent; pedicel 2 mm long, terete, thin, very short; body 9-x 7 mm; apical neck 2 mm long.

**OTHER SPECIMENS: ECUADOR: Carchi:** Guandera Reserve near Mariscal Sucre, 3600 m, 10 IX 1997, *Hughes 29*, QCA! Tulcan, camino Tufiño, en la base del Volcán Chiles, 3500-3650 m, 8 XI 1993, *Palacios 11844*, QCNE! SEL! **Napo:** N side of Cerro Sumaco, 3200 m, 27 IV 1979, *Holm-Nielsen 17368*, AAU! NY! QCA! Cerro Sumaco, 3550-3700 m, 2 V 1979, *Holm-Nielsen 17632*, AAU! Cerro Sumaco, 3200 m, 2 V 1979, *Holm-Nielsen 17705*, AAU! NY! QCA! N side of Cerro Sumaco, 3350 m, 5 V 1979, *Holm-Nielsen 17967*, AAU! Papallacta, 3600 m, 27 XII 1984, *Huttel 527*, QCNE! Sucumbíos, camino al Cerro El Mirador, 16 VIII 1978, *Jaramillo 585*, QCA! QCNE x2! NE-facing ridge on the N side of Cerro Sumaco, 3600-3700 m, 24 IV 1979, *Løjtnant 12709*, AAU! GB! Cerro Sumaco, 3750 m, 5 V 1979, *Madison 6941*, SEL! **Pichincha [Napo]:** Reserva Ecológica Cayambe-Coca, 3 km W of La Laguna San Marcos, 3200-3800 m, 11 III 1995, *Clark 433*, MO! QCNE! SEL! (illustration, AMO!) **Sucumbíos:** Playón de San Francisco, El Mirador, 16 VIII 1978, *Boeke 2696*, NY! MO! Sucumbíos, camino al Cerro El Mirador, 16 VIII 1978, *Jaramillo 585*, QCA! QCNE x2!

**DISTRIBUTION AND ECOLOGY:** Presently known from the upper slopes of the Cordillera Oriental of the Andes in northern Ecuador, up to the Colombian border, terrestrial, at 3200-3750 m altitude. Flowering from April to December.

**RECOGNITION:** *Epidendrum rhombobrachyphyllum* belongs to the Elleanthoides Group, Rhombochilum Sub-group which is characterized by the thin, branching habit, narrow, short, sub-coriaceous leaves with a crenulate margin and unequally bilobed apex, racemose, sub-distichous, short inflorescence, with successive flowers, the entire lip embracing the column. The species is recognized by the relatively tall, caespitose, branching stems (to 53 cm tall), the branches numerous and short, leaves on the main stem and branches small,



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similar in size and shape, 4-15 x 1-3 mm; inflorescence sub-sessile, 3-6 mm long; flowers 3, green, somewhat tinged purple, lip white or greenish white, sepals 5-6 mm long, the lip obdeltoid with the apex very fleshy, disc pubescent with a laminar "V" shaped callus; pollinia 2. *Epidendrum rhombochilum* has larger leaves (15-40 mm long), the inflorescence is 15 mm long, with a 7 mm long peduncle; 4 flowers, greenish-yellow, turning yellow with age, sepals 7-8 mm long, the lip rhombic. *Epidendrum rhodanthum* Hágsater & Dodson has shorter plants (to 27 cm tall), leaves 12-31 mm long, 4-8 flowers, white tinged with pink, the column with pink spots on the apical 2/3, lip transversely elliptic, sepals 8.5 mm long; pollinia 4. *Epidendrum chrysanthum* Hágsater & Dodson has plants 10-30 cm tall, scarcely branched, leaves 7-24 mm long, 2-4 flowers, bronze-yellow, the lip is rhombic when spread, with a cuneate base.

**CONSERVATION STATUS:** DD. Data deficient. Apparently widespread in northern Ecuador, in a high altitude area of little use. Of no horticultural interest.

**ETYMOLOGY:** From the Greek ρομβοειδης, rhomboid, βραχυς, short, and φυλλον, leaf, in reference to the species which belongs in the Rhombochilum Sub-group, and has short leaves on both the main stem and the branches.

Authors: E. Hágsater & E. Santiago

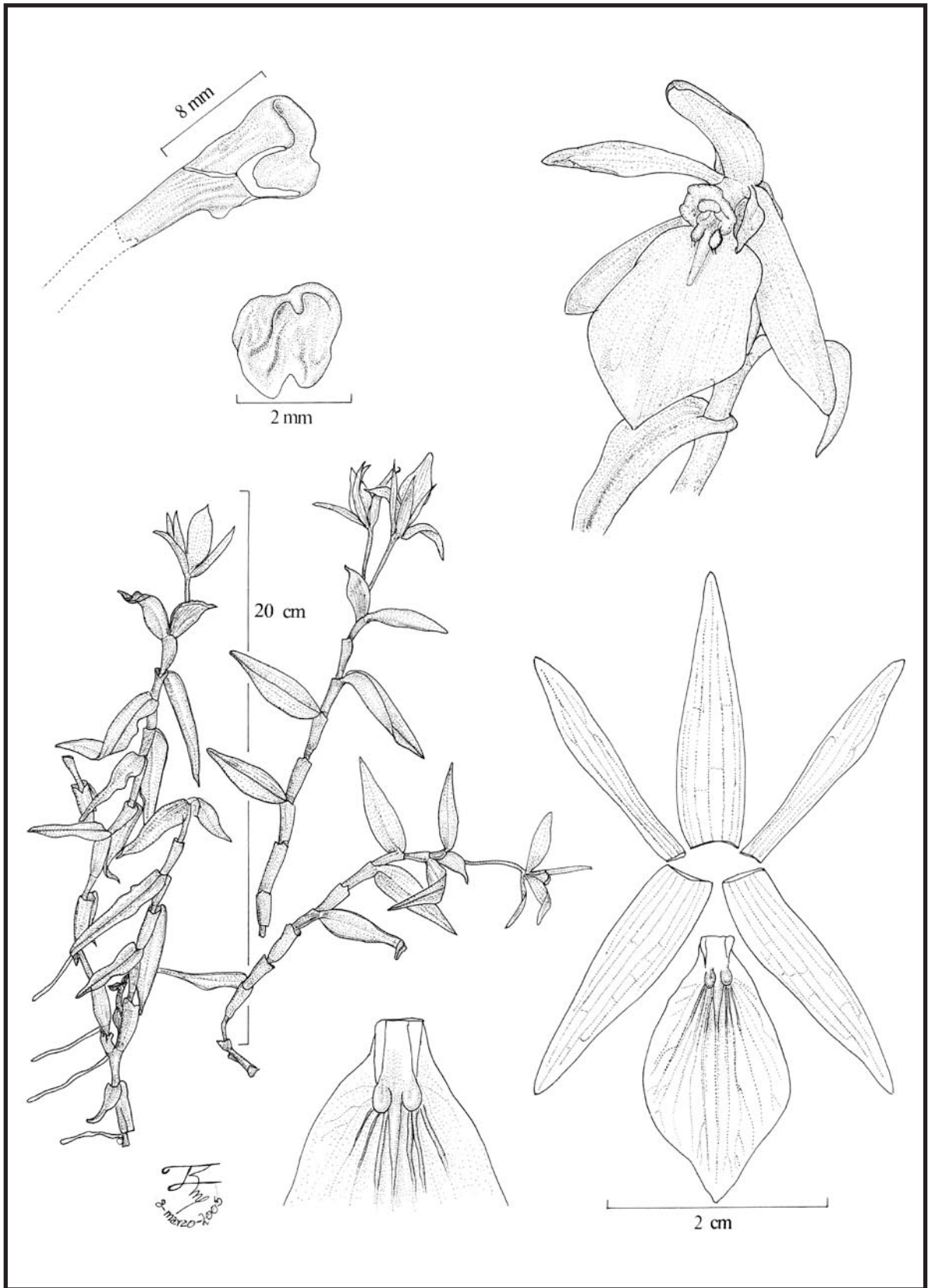
Illustrator: R. Jiménez M.

Editors: E. Hágsater & L. Sánchez S.

Herbario AMO

México, D.F. MÉXICO

ICONES ORCHIDACEARUM 14. 2013. Plate 1480



EPIDENDRUM RHOMBOSCUTELLUM Hágsater & E.Santiago

Plate 1481

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

TYPE: PERU: Amazonas: Prov. de Chachapoyas, upper slopes of Puma-Urcu east-southeast of Chachapoyas, 2700-3000 m, 1 June 1962, J. J. Wurdack 688. Holotype: USM! Isotypes: AMES! NY! (Illustration voucher) UC! US!

Similar to *Epidendrum scutella* Lindl. but the stems scandent, thinner, the leaves reclinate, narrowly lanceolate, shorter and narrower, apex acuminate, inflorescence 2-flowered, the lip obovate-rhombic, the base cuneate, and a pair of globose calli, with a single, short, mid-rib.

Epiphytic, scandent, erect herb, 19-150 cm tall. **Roots** ca. 20 cm long 1.0-1.5 mm in diameter, produced from the basal internodes of the lower half of each stem, scarce, fleshy, thin, white. **Stems** 15-40 x 0.15-0.35 cm, produced from a middle internode of the previous stem, cane-like, terete, thin; base covered by 1-2 sheaths 13-16 mm long, tubular, slightly inflated so as to appear infundibuliform, non-foliar. **Leaves** 6-7, distributed throughout the stems, alternate, articulate, unequal in size (the basal and apical leaves generally smaller), coriaceous, reclinate; foliar sheaths 7-22 x 3-6 mm, tubular (sometimes slightly inflated so as to appear infundibuliform); blade 2-6 x 0.6-1.2 cm, narrowly lanceolate, acuminate, apical margin minutely papillose. **Spathaceous bract** 1, 1.7-3 x 0.8-1.3 cm (not spread), ovate to rhomboidal, acute, conduplicate, oblique, margin entire. **Inflorescence** 6.0-6.5 cm long (including the flowers), apical, erect, 1-2 flowered; peduncle 6 mm long, thin, laterally compressed, erect, straight, totally hidden by the spathaceous bract; rachis 4 mm long, laterally compressed, also hidden within the spathaceous bract. **Floral bracts** 4 mm long, shorter than the ovary, triangular, acuminate, amplexicaul, hidden within the spathaceous bract. **Flowers** 2, simultaneous, resupinate, sepals pale greenish yellow, petals greenish yellow at the base, tinged reddish brown towards the apex; fragrance not registered. **Ovary** 26 mm long, terete, thick, not inflated, ornamented by longitudinal winged ribs, the margin entire. **Sepals** 27-30 x 5.7-9 mm, partly spreading, free, acute, margin entire, spreading; the dorsal sepal elliptic-lanceolate, 5-veined; lateral sepals lanceolate, 6-veined. **Petals** 22-29 x 0.4-0.5 mm, partly spreading, free, narrowly oblanceolate-elliptic, acute, 3-veined, the lateral veins short-branched throughout, margin entire, spreading. **Lip** 22-3 x 13-23 mm, united to the column, entire, base cuneate, obovate-rhombic, acute, margin entire, spreading; bicallose, the calli small, sub-globose (ovoid), parallel; disc provided with a short mid-rib (in rehydrated dried flowers, 6 additional thickened veins appear radiating, 3 in front of each callus, see illustration prepared from type). **Column** 8-9 mm long, short, straight, wide. **Clinandrium-hood** prominent (though not surpassing the body of the column, margin fleshy, irregularly undulate. **Anther** reniform to sub-spherical, 4-celled. **Pollinia** not seen. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma, nectary and capsule** not seen.

**OTHER SPECIMENS: COLOMBIA: Cauca:** Paletará, 4 II 1884, Lehmann 3530, C! Paramo del Buey, Lehmann 8336, K-L! **Nariño:** La Montañuela prope Pasto, 3100 m, 4 II 1884, André 3203, F! K-L! **PERU: Amazonas:** Cerros Calla Calla, 15 km above Leimebamba on the road to Balsas, 2950 m, 27 III 1964, Hutchison 4664, AMES! UC! USM! **Prov. Luya,** Ipaña-Las Palmas, 3055 m, 28 IV 2010, Trujillo 440, MOL! **Prov. de Chachapoyas,** Mangalpa, 3 XII 1877, Vidal-Sénége 4877, P! (Illustration, AMO!) **Cusco:** Urubamba, Machu Picchu, Wiñay Wayna, 3100 m, Nauray 002, CUZ! Urubamba, Machu Picchu, Wiñay Wayna, 3100 m, Nauray 392, CUZ!

**OTHER RECORDS: COLOMBIA: Putumayo:** Without locality data, (Ortiz & Uribe, 2007) digital image and slide AMO! **PERU: Amazonas:** Leimebamba, Trujillo 440, digital photo, AMO! Moyobamba, 21 VI 2011, Morón s.n. digital photo, AMO! **Cusco:** Urubamba, Machu Picchu, Wiñay Wayna, 3100 m, Nauray 392, illustration published as *E. platyoon* (Bennett et al., 2001). **Huánuco:** Chinchao; San Pedro Carpish, 2710 m, 2003, Collantes E 960, digital images at AMO! Carpish camino a Moyobamba, 25 XII 2002, Trujillo 80, illustration, digital image (photo voucher), AMO!

**DISTRIBUTION AND ECOLOGY:** Known only from Peru, from the upper reaches of the Cordillera Oriental of the Andes from the provinces of Amazonas and Cusco, and Cauca and Nariño in southern Colombia; at 2700-3100 m altitude, epiphytic in cloud forest, and possibly on rock amongst mosses. Flowering from December to June.

**RECOGNITION:** *Epidendrum rhomboscutellum* belongs to Megalospathum Group characterized by the caespitose but branching habit, many-leaved stem, fleshy, oblique leaves, a short, few flowered, raceme subtended by large semi-ovate spathaceous bracts, resupinate flowers, the column more or less united to the lip. The species is recognized by the scandent plant habit, relatively narrow, reclinate leaves (2-6 x 0.6-1.2 cm), the inflorescence with 2, greenish yellow flowers, the apex of the petals tinged reddish brown, the petals narrowly oblanceolate-elliptic, acute, the lip ovate-rhombic, its base cuneate, and apex acute, bicallose, with a short mid-rib. *Epidendrum scutella* Lindl. has a caespitose habit, ovate-lanceolate leaves (4.7-12 x 1.2-2.5 cm), 5 flowered inflorescence, flowers lime green or yellowish green, petals ovate-lanceolate, apex acute, lip widely orbicular to orbicular-elliptic, the base cordate, and has a pair small calli ending in 2-3 very short, low ribs, with a longer mid-rib. *Epidendrum miradoranum* Dodson & D.E.Bennett has up to 4, purple-green flowers, bicolor column, pale purple at the base and intense greenish yellow towards the apex, the lip widely cordiform, obtuse. *Epidendrum braccigerum* Rchb.f. has triangular leaves, the apex acuminate and curved upwards, flowers pale rose, petals linear, the lip flabellate, emarginate. *Epidendrum rhodochilum* (Schltr.) Hágsater & Dodson has green flowers, the lip red, smaller (sepals 17 mm long), the lip obovate, obtuse, the margin denticulate. *Epidendrum falsum* Rchb.f. has an oblong-ovate lip, apical margin denticulate, rachis elongate, with 6, laxly distributed flowers, the lip is partly free from the column. *Epidendrum vulcanicum* Schltr. has green flowers, narrowly lanceolate, 5-veined petals, lip obovate, the apex retuse, column is 5 mm long. *Epidendrum lagotis* Rchb.f. has narrowly elliptic leaves which are shorter and wider (2.5-3.5 x 1.0-1.5 cm), oblanceolate petals with the apex rounded, and the lip is orbicular and apically rounded.

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

**REFERENCE:** Bennett D.E., Jr. & E.A. Christenson, 2001 in E. A. Christenson, *Epidendrum platyoon* Schltr. in *Icon. Orchid. Peruv.* pl. 646. Ortiz V., P., & C. Uribe V., *Gallery of Colombian Orchids*, CD, Da Vinci Editores, Bogotá, 2007.



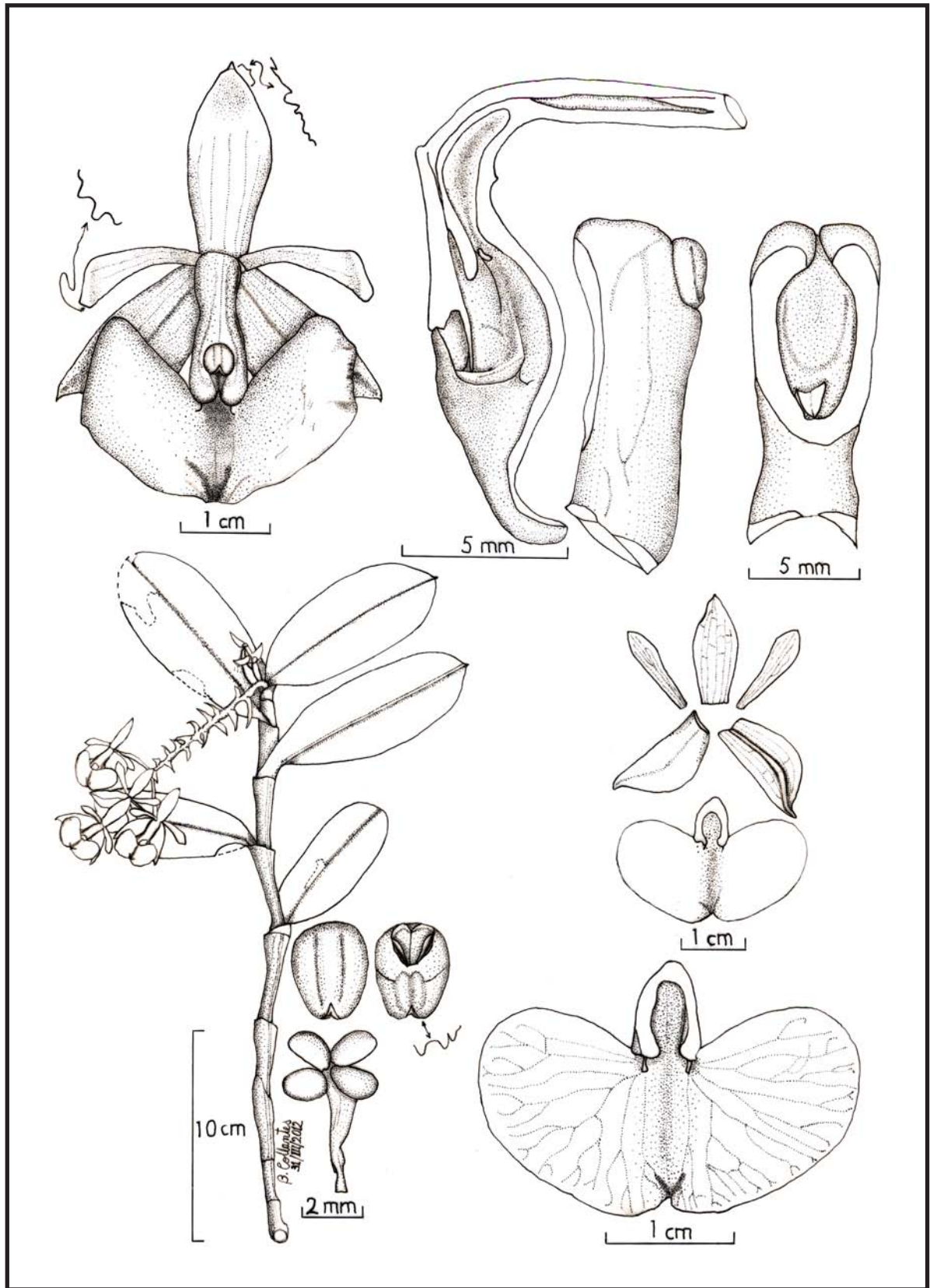
Authors: E. Hágsater & E. Santiago  
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México, D.F. MÉXICO

Photo: D. Trujillo

Editors: E. Hágsater & L. Sánchez S.

ICONES ORCHIDACEARUM 14. 2013. Plate 1481



EPIDENDRUM ROUSSEFFIANAE Collantes & Hągsater

Plate 1482

**EPIDENDRUM ROUSSEFFIANAE** Collantes et Hągsater, *sp. nov.*

Type: PERU: Cusco: Prov. Urubamba, Dist. Machu Picchu: Machu Picchu Pueblo, Quebrada Alccamay, cloud forest, cultivado en el Jardín de Inkaterra, Centro de Conservación *in situ*, 2600 m, 17 mayo 2011, *Ermitaño Quispe, Carmen Soto & Daniel Aucacayillo*  
**09.** Holotype: USM! (herbarium specimen and flower in spirit; illustration voucher, a branch). Digital image of live inflorescence of pretype, AMO! (Photo voucher.)

Species haec *Epidendro subreniformi* C.Schweinfurth similis sed petalis oblanceolatus, labello transversalis reniformi, retusus apex, caudiculae longioribus differ.

Epiphytic, monopodial, branching, erect **herb**, to 150 cm tall. **Roots** basal, from the base of the main stem, thick. **Stems** cane-like, terete, branching above, the branches ca. 26 x 0.8 cm. **Leaves** on the main stem fallen, not seen; 5 leaves on the branches, distributed along the upper half of the stem, distichous, articulate; sheath tubular, 1.5-4.2 x 0.7-1.1 cm, striated, infundibuliform; blade elliptic to elliptic-obovate, 7-10 x 3-4.2 cm, obtuse with a small mucro, sub-coriaceous, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescence** apical, 12.3 cm long, racemose pluri-racemose, the older one fragmented, apparently short and few-flowered, the second many-flowered, congested, basally arching, nutant, rachis 12.3 x 0.3 cm, peduncle and rachis more or less laterally compressed, 9 mm long, subtended by a falcate bract 1.3 x 0.3 cm. **Floral bracts** 0.5-1.2 cm, shorter than the ovary, falcate, acute, amplexicaul. **Flowers** 22-23, successive, up to 7 opening at one time, resupinate; concolor, pale green; fragrance not registered, in the herbarium with a slight fragrance of *Vanilla*. **Ovary** 1.5 x 0.4 cm, terete, apex arcuate. **Sepals** free, margin entire, spreading; dorsal sepals 19 x 8 mm, spreading, oblanceolate, sub-acute, the apex minutely denticulate and with a small mucro, 5-veined, with a low dorsal longitudinal keel; lateral sepals 20 x 9 mm, hemi-obovate, acute, 5 veined, dorsally with a conspicuous longitudinal, slightly sigmoid keel. **Petals** 16 x 5 mm, free, spreading, oblanceolate, sub-acute, 3-veined, anastomosed towards the apex, margin entire, the apex minutely papillose. **Lip** 2.9 x 1.5 cm, ventrally adnate to the column, transversely reniform, base deeply cordate, apex retuse, margins entire, lateral margins spreading when fresh, then totally reflexed with age, apical margin retuse, giving the lip sometimes a rectangular appearance; disc sulcate in the middle, convex and expanded to each side; bicallose, the calli small, laminar, similar to a pair of bricks. **Column** 1.4-1.5 x 0.5-0.6 mm, straight, sub-clavate, slightly narrowed near the base. **Rostellum** apical, slit. **Clinandrium-hood** reduced, margin entire. **Anther** 3 x 2 mm, obovoid, with a low, rounded rib in front. **Pollinia** 4, 1.5 x 1 mm, obovoid, laterally and obliquely compressed, convex-flat; caudicles 4 mm long, filiform. **Lateral lobes of the stigma** small. **Nectary** penetrating 1/3 of the ovary, narrow, smooth. **Capsule** not seen.

**OTHER SPECIMENS:** PERU: Cusco: Colca 1400 m, 10 III 1969, Vargas 21367, AMES! (xerox AMO!) CUZ!

**DISTRIBUTION AND ECOLOGY:** Known only from Peru, in the Dept. of Cusco, Machu Picchu Pueblo, margins of the Río Vilcanota (Urubamba), 2600 m altitude, in cloud forest, epiphytic on *Nectandra furcata* (Lauraceae), "yanay argoz", within the conserved park of the Inkaterra Machu Picchu Pueblo Hotel. Flowering in May.

**RECOGNITION:** *Epidendrum rousseffianae* belongs to the Andean Group, Renilabium Subgroup which is characterized by the tall plants, monopodial habit, generally large, bilobed leaves, racemose inflorescence, entire to 3-lobed lip sulcate towards the base of the lip between the calli. The species is recognized by the wide, elliptic to obovate-elliptic, obtuse to apiculate leaves, the congested inflorescence, flowers opening in succession from the base of the inflorescence towards the apex, concolor, pale green flowers, transversely reniform lip and small calli, sepals 19-20 mm long. *Epidendrum subreniforme* C.Schweinf. is a shorter plant, with linear-ob lanceolate petals, slightly shorter than the dorsal sepal; the blade of the lip is reniform, slightly retuse on each side, cordate at the base and somewhat retuse and obtusely apiculate in the middle of the widely rounded apex. *Epidendrum renilabium* Schltr. has tall plants, to 2 m, with oblong to oblong-lanceolate leaves 7-16 cm long, the arched inflorescence with very fleshy, yellowish green flowers that open in succession from the apex towards the base of the inflorescence, sepals 13-14 mm long, petals obovate-spatulate, apically rounded, and the bicallose lip with a pair of very fleshy, long calli that nearly reach the apical sinus of the lip. *Epidendrum renilabioides* Hągsater & Dodson, which grows up to the northern border of Ecuador, has externally purplish brown flowers, petals and lip greenish, the calli and the column white, petals are elliptic-spatulate, the apex obtuse, and the lip is "Y" shaped, with the lip apiculate, not emarginate. *Epidendrum reniconfusum* Hągsater, E.Santiago & Dodson, has somewhat larger, concolor green flowers, sepals 14-19 mm long, sub-acute petals, and two laminar very short calli, with an intermediate elongate keel; the apex of the anther is truncate, not dentate. *Epidendrum sagasteguii* Hągsater & E.Santiago has flowers that open from the base towards the apex of the inflorescence, sepals 11-14.5 mm long, widely obovate, obtuse petals with the margin dentate, and the lip is bicallose, the calli laminar and short.

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

**ETYMOLOGY:** In honor of the President of Brazil, Dilma Rousseff, who has led an official visit to Machu Picchu, and for her leadership in supporting conservation projects through Brazilian enterprises in Peru.



Authors: B. Collantes & E. Hągsater

Illustrator: B. Collantes

Photo: C. Soto

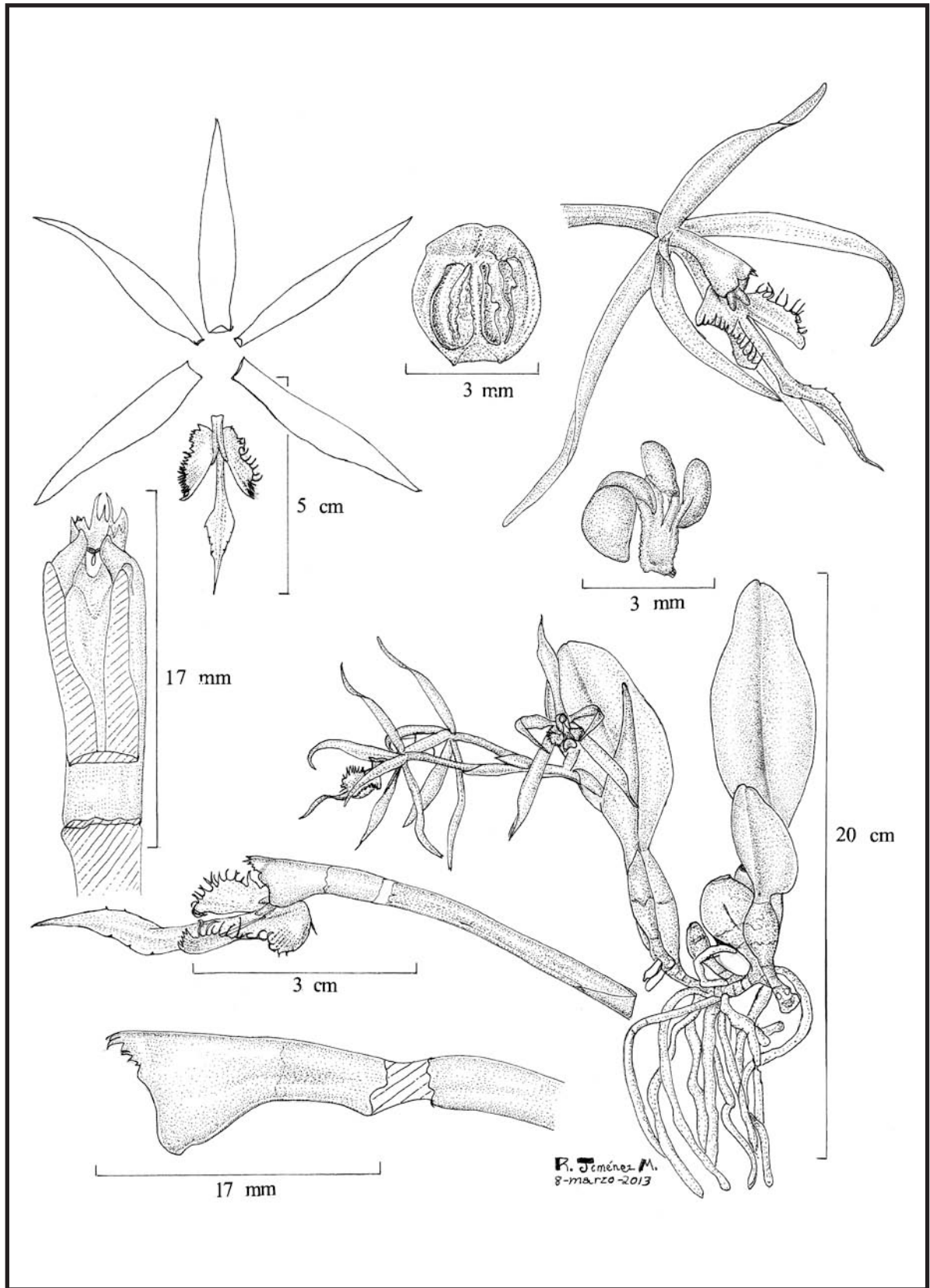
Editors: E. Hągsater & L. Sánchez S.

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ICONES ORCHIDACEARUM 14. 2013.

Plate 1482



EPIDENDRUM SANDIORUM (Hágsater, Karremans & L.Sánchez) Hágsater, Karremans & L.Sánchez Plate 1483

**EPIDENDRUM SANDIORUM** (Hágsater, Karremans & L.Sánchez) Hágsater, Karremans et L.Sánchez, sp. et stat. nov.

Basionym: *Epidendrum x sandiorum* Hágsater, Karremans & L.Sánchez. Lankesteriana 12(1): 32. 2012. Type: COSTA RICA: Puntarenas: Coto Brus, Sabalito, Zona Protectora Las Tablas, 10 km al noreste de Lucha, Sitio Coto Brus, camino a la Finca de Miguel Sandí, 8°56'07.4" N 82°45'13.9" W, 1862 m, bosque muy húmedo montano bajo, epífitas a orillas del camino, 5 Junio 2010, **Adam P. Karremans 2781 & Diego Bogarín**. Holotype: JBL-spirit (Illustration voucher).

Epiphytic, sympodial, caespitose **herb**, up to 30 cm tall. **Roots** basal, fleshy, 3 mm in diameter. **Stems** 4.0-12.0 x 1.5-3.0 cm, thickened into a sub-orbicular to ovoid pseudobulb, homoblastic. **Leaves** 1 or 2 at the apex of the pseudobulb, coriaceous; blade 7.5-18.0 x 3.5-6.0 cm, ovate-elliptic, bilobed. **Spathaceous bract** lacking. **Inflorescence** apical, racemose, born from the undeveloped new growth, with at least 3 flowers; peduncle 2.5 cm long, laterally compressed; covered by 1 oblong, triangular, obtuse bract; rachis terete to somewhat flattened, straight, short, hidden by the floral bracts. **Floral bract** 3.5 cm, about half the length of the ovary, triangular, acuminate. **Ovary** 65 mm, terete, not inflated, smooth, exceeding the length of the sepals. **Flowers** simultaneous, resupinate, sepals and petals yellowish green, lip white, column white turning green close to the base, calli white; flowers turn completely yellow with age. **Sepals** 55 x 9 mm, spreading, narrowly elliptic-lanceolate, acuminate, 5-7 veined, margin entire, revolute. **Petals** 52 x 8 mm, incurved, embracing the column and lip, linear-lanceolate, acuminate, 5-veined, margin entire. **Lip** united to the column, 3-lobed, base truncate; bicallose, the calli laminar, prominent, narrowly elliptic, 5 mm; disc with numerous evident veins; lateral lobes 20 x 6 mm, obliquely oblong, inner margin entire, outer margin prominently fimbriate to laciniate; mid-lobe 45 x 7 mm, separate from the lateral lobes by deep sinu, lanceolate-clavate, widened beyond the middle and that segment trullate, acuminate, margin shallowly erose. **Column** 16 mm long, straight, dilated towards the apex. **Clinandrium-hood** prominent, margin dentate-fimbriate. **Anther** ovoid, 4-celled. **Pollinia** 4, obovoid, the inner margin straight, laterally compressed. **Rostrum** apical, slit.

**OTHER SPECIMENS:** None seen.

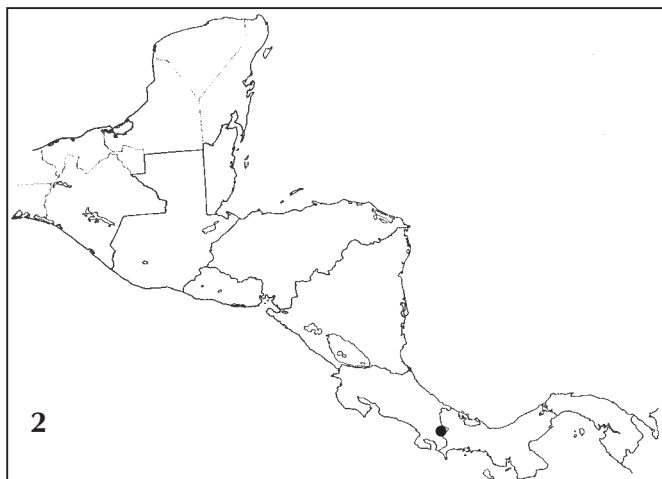
**DISTRIBUTION AND ECOLOGY:** This species is known from a single, uniform population in Costa Rica, from the very humid lower montane forests of the Pacific watershed of the Cordillera de Talamanca at elevations of around 1900 m. Flowering at least in August and September.

**RECOGNITION:** *Epidendrum sandiorum* belongs to the Coelostylis 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 sub-spherical to ovoid pseudobulbs with a single apical leaf, the inflorescence produced from the immature stem, 3-lobed lip with the outer margin of the lateral lobes fimbriate to laciniate, and the 45 mm long mid-lobe trullate beyond the middle, apex long-acuminate, the margin erose. *Epidendrum oerstedii* Rchb.f. ranges from Honduras to central Panama, produces the inflorescence from the immature, short pseudobulb, the margin of the lip is entire, and the mid-lobe shorter (25-33 mm long), widened beyond the middle. *Epidendrum ciliare* L. is widely distributed from western Mexico (Nayarit) to Peru and Brazil and the Antillies, also produces the inflorescence from the immature, more elongate pseudobulb, but the outer margins of the lip are deeply fimbriate, and the mid-lobe is linear, not widened in the middle. *Epidendrum megalemmum* Carnevali & G.A. Romero flowers from the mature stem and the base of the inflorescence is enveloped in 5-10 imbricating bracts, this species is sympatric with *E. ciliare*, shares the same shape of the lip and ranges from the lesser Antilles and northern South America.

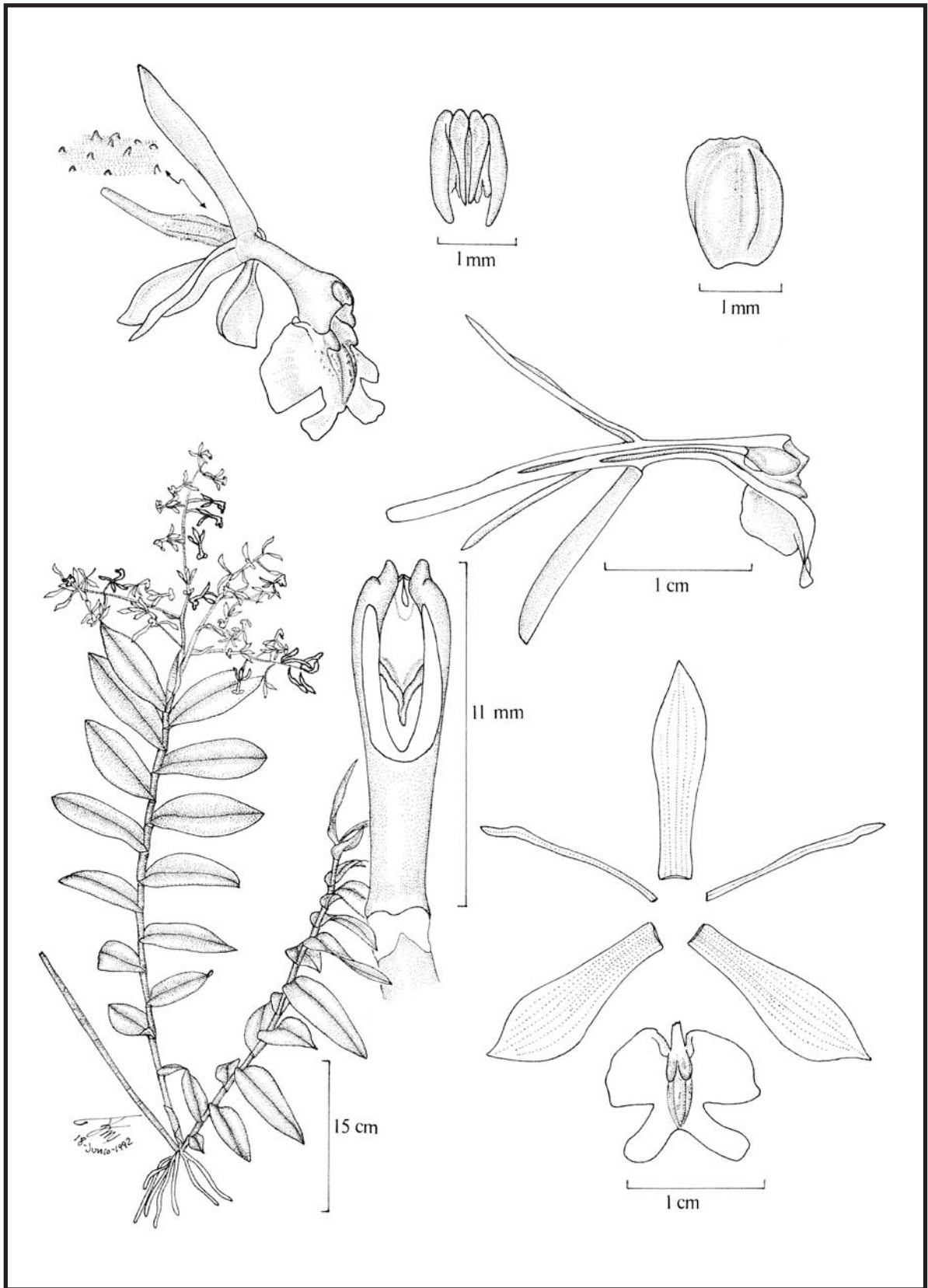
**NOTE:** Originally only a single plant was collected, and thus it was interpreted as a rare natural hybrid. However, further visits to the habitat have shown that there is a population with all other plants with the same features. In addition, the putative parents were not found in the area and therefore it here proposed as a species.

**ETYMOLOGY:** The name honors Miguel Sandí; the pretype was collected on the road leading to his property.

**REFERENCES:** Hágsater, E. 1990, *Epidendrum parkinsonianum* Hook. in E. Hágsater and G. A. Salazar, (eds.) **Icon. Orchid.** 1: pl. 37. Hágsater, E. & M. A. Soto, 2005. *Epidendrum*. In Pridgeon, A. M., Cribb, P. J., Chase, M. W. and F. N. Rasmussen (eds.) **Genera Orchidacearum**, Volume 4. Epidendroideae (Part One): 236-251. Oxford University Press. Sánchez, L. & E. Hágsater, 2008, *Epidendrum x dorothaeae* P.H.Allen, in Hágsater, E. & L. Sánchez Saldaña (eds.) **Icon. Orchid.** 11: pl. 1119. Sánchez, L. & E. Hágsater, 2008, *Epidendrum oerstedii* Rchb.f. in Hágsater, E. & L. Sánchez Saldaña (eds.) **Icon. Orchid.** 11: pl. 1151. Sánchez, L. & E. Hágsater, 2010, *Epidendrum ciliare* L. in Hágsater, E. & L. Sánchez Saldaña (eds.) **Icon. Orchid.** 13: pl. 1317.



Authors: E. Hágsater, A. P. Karremans & L. Sánchez S. Illustrator: R. Jiménez M. Photos: F. Pupulin & A. P. Karremans Editors: E. Hágsater & L. Sánchez S.



EPIDENDRUM SANTIAGENSE Hágsater & Dodson

Plate 1484



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

Type: ECUADOR: Morona-Santiago: km 70 Patuca-Santiago-Morona, frente al campamento junto al Río Santiago, 395 m, collected 22 November 1988, pressed (hort.) 5 January 1993, **Eric Hágsater, Calaway H. Dodson, Norris H. Williams, Mark Whitten & Fred G. Thompson 9648**. Holotype: AMO! (Illustration voucher). Color slides of pretype in flower, AMO! (Photo voucher).

Simile *Epidendri unguiculati* (C.Schweinf.) Garay & Dunsterv., sed floribus paulo brevioribus, sepalis inornatis, lobulis lateralibus labelli in forma quadrantis, lobulo medio labelli in forma litterae "V", disco ornato maculis purpureis, ovario dense papilloso.

Epiphytic, sympodial, caespitose **herb**, 25-70 cm tall. **Roots** 2-3 mm in diameter, basal, fleshy, thick. **Stems** 25-70 x 0.3-0.7 cm, simple, cane-like, terete, straight. **Leaves** 14-17, alternate, articulate, subcoriaceous, distributed throughout the stem; sheath to 3 cm long, tubular, smooth, green; blade 5-13.5 x 2.5-4.7 cm, elliptic, short-acuminate, smooth, light green, margin entire. **Spathaceous bract** lacking. **Inflorescence** 24 cm long, apical, flowering only once, paniculate (occasionally racemose in young plants), laxly many-flowered, with about 5 racemes 7-12.2 cm long, each subtended by a basal, triangular, acuminate bract 1-2.8 cm long; peduncle 4.7 cm long, short, laterally compressed, with a 4 cm long bract, tubular near the base, conduplicate beyond the middle. **Floral bracts** 2-12 mm long, shorter than the ovary, narrowly triangular, acuminate, amplexicaul. **Flowers** ca. 60, simultaneous, resupinate, apple green with the apex of the column and the disc of the lip white with 5 parallel lines of reddish dots; fragrance not registered. **Ovary** 18-25 mm long, terete, thin, not inflated, densely papillose. **Sepals** 15 x 4-5 mm, reflexed, free, fleshy, narrowly oblanceolate, acute, 5-6-veined, margin entire, spreading. **Petals** 14 x 0.8 mm, reflexed, linear-filiform, obtuse, membranaceous, 1-veined, margin entire, spreading. **Lip** 10 x 11 mm, united to the column, 3-lobed, base cordate, nearly as wide between the lateral lobes as between the lobes of the mid-lobe, margin entire, spreading; bicallose, calli sub-globose, small; disc with 3, thin ribs that reach the apical sinus; lateral lobes 4.5 x 5.5 mm, quadrant shaped; mid-lobe widely emarginated, forming a pair of oblong lobes, the apex truncate-rounded, very slightly divaricate, each lobe 5 x 2.2 mm. **Column** 11 mm long, straight, thin, apex with a pair of minute lateral teeth. **Clinandrium-hood** reduced, margin entire. **Rostellum** apical, slit. **Lateral lobes of the stigma** prominent, 1/2 as long as the stigmatic cavity. **Nectary** cuniculate, shallow, barely penetrating 1/6 of the ovary, thin, un-ornamented. **Anther** ellipsoid, apex truncate, with a low rib in front, 4-celled. **Pollinia** 4, bird-wing type, strongly laterally compressed, the inner pair somewhat smaller; caudicles soft and smooth, of the same length as the inner pair of pollinia. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Known only presently from the type locality, in the lowland, Amazon basin in Ecuador. Epiphytic, along the Santiago River at 300-400 m altitude. Flowering December-January (in cultivation in Mexico).

**RECOGNITION:** *Epidendrum santiagoense* belongs to the Pseudepidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and Paniculatum Subgroup, which has filiform petals, all pollinia "bird-wing" type, green and white flowers, often marked with purple on the disc of the lip and apex of the column. The flowers of *E. santiagoense* looks like most members of the Paniculatum Group with green and white flowers and the lip marked with purple dots, it has somewhat larger, unscented flowers, the sepals 15 mm long, 5-6 veined. *Epidendrum christensonii* Hágsater & E.Santiago has taller plants, ca. 100-120 cm high, and smaller flowers (sepals 7.6-8 mm long), the sepals green with the lip immaculate white. *Epidendrum unguiculatum* has sepals 18-20 mm long, the lip 8.7-10 x 11-15 mm and apparently does not have any spots on the lip except for the occasional purple calli, (the type from Iquitos, Peru, not the plants from Venezuela). *Epidendrum lateribilobum* Hágsater, Ric.Fernández & E.Santiago, has much taller plants, to 2.5 m tall, the flowers are greenish white, occasionally with the disc of the lip has a few purple dots, and the lateral lobes of the lip are bilobed. *Epidendrum successivum* Hágsater & F.E.L.Miranda has a racemose inflorescence with up to 22 successive flowers, the lip and apex of the column have a solid purple splotch.

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

**ETYMOLOGY:** In reference to the Río Santiago which is born in the Andes east of Cuenca and runs into the Río Marañón, which in turn is an affluent of the Río Amazonas.



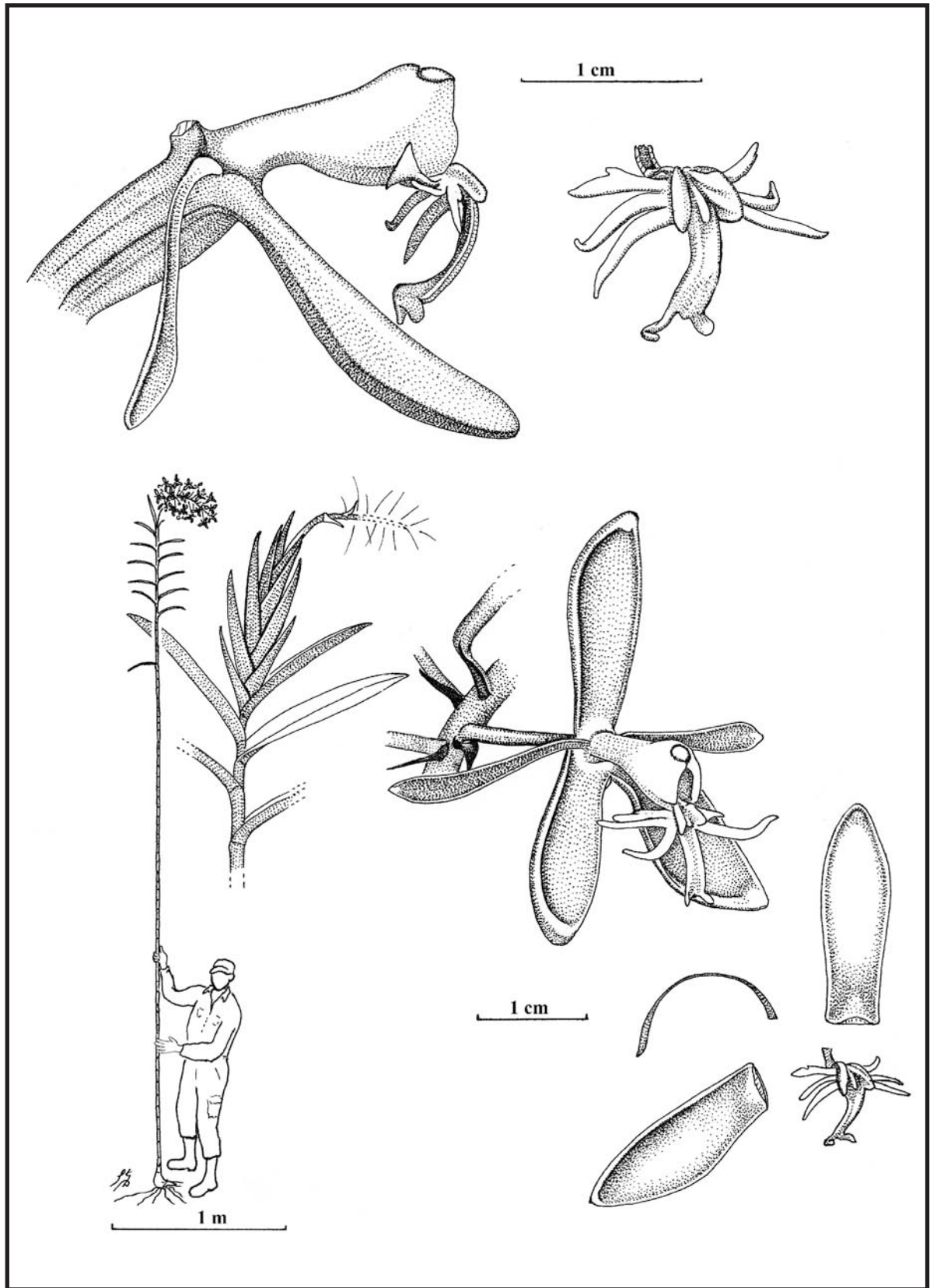
Authors: E. Hágsater & E. Santiago  
Herbario AMO

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México, D.F. MÉXICO

Photo: E. Hágsater

Editors: E. Hágsater & L. Sánchez S.

ICONES ORCHIDACEARUM 14. 2013. Plate 1484



*EPIDENDRUM SEPTIPARTITUM* Hágsater, Dalström & Ruíz Pérez

Plate 1485

**EPIDENDRUM SEPTIPARTITUM** Hágsater, Dalström et Ruíz Pérez, *sp. nov.*

Type: PERU: Amazonas: Rodríguez de Mendoza, Chirimoto, 2000-2200 m, 15 November 2010. Geophyte in wet moss on white sand, in dense, low and moist thickets, with the inflorescence displayed above other vegetation. **Stig Dalström 3288**. Holotype USM! (Illustration voucher, basal bracts of inflorescence.) Photos of pretype AMO! (Illustration voucher, in part.)

Simile *Epidendri quinquepartiti* Schltr. sed labello diviso in septem partes digitiformes, lobis lateralibus divisus in tres partes similes, lobulo medio oblongo et bifido, floribus purpureis, columnae apice et labello albo, plantae usque ad 420 cm altae.

Terrestrial, sympodial, caespitose **herb** to 420 cm tall. **Roots** basal, thick. **Stems** simple, cane-like, ca. 380 cm tall, terete, erect, straight. **Leaves** numerous, ca. 17 at flowering, the lower ones having fallen, distributed throughout the stem, articulate, distichous, spreading; sheaths 2.2-4.5 cm long, tubular, minutely striated; blade lanceolate, 18-22 x 2.6-3 cm, acute, coriaceous, margin entire, spreading. **Spathaceous bracts** lacking. **Inflorescence** 42 cm long, apical, racemose, arching-nutant, many-flowered, sub-dense, flowers opening in succession from the base towards the apex, many being open at one time; peduncle 13 cm long, totally hidden by 9, closely imbricated, lanceolate, acute, conduplicate bracts, 10-12 cm long. **Floral bracts** 6 mm long, much shorter than the ovary, narrowly triangular, acuminate, amplexicaul, blackish brown. **Ovary** 60 mm long, terete, thin, not inflated, unornamented. **Flowers** ca. 30, successive, resupinate, fleshy, sepals, petals and base of the column fuchsia, the lip and apex of the column white; fragrance not recorded. **Sepals** spreading, free, oblanceolate, 20 x 6.2 mm, obtuse, concave, margin entire, spreading; the lateral sepals oblique. **Petals** spreading, free, linear-oblanceolate, 16 x 1.7 mm, obtuse, margin entire, spreading. **Lip** 10 x 14.2 mm, united to the column, 7-laciniate; bicallose, the calli prominent, narrowly ovoid, slightly divaricate at the apex, elongate to the base of the mid-lobe; disc with a short, low, rib between the calli, which disappears at the apex of the calli; structurally the lip is 3-lobed, the lateral lobes deeply laciniate, formed by 3 linear lobes, the apices acute, margin entire; the basal pair with the apex wider and slightly bidentate, the apical pair slightly arching upwards, each lobe 5.5-6.0 x 0.7-1.5 mm; mid-lobe 7.5 x 2 mm, rectangular-oblong, apex deeply emarginate, forming a pair of short, divaricate digitiform lobes. **Column** 14 mm long, straight, the basal 1/3 thin, gradually widened towards the apical 2/3. **Clinandrium-hood** reduced, margin entire. **Anther** and **pollinia** not seen. **Rostellum** apical, slit. **Lateral lobes of the stigma, nectary** and **capsule** not seen.

**OTHER SPECIMENS:** None seen.

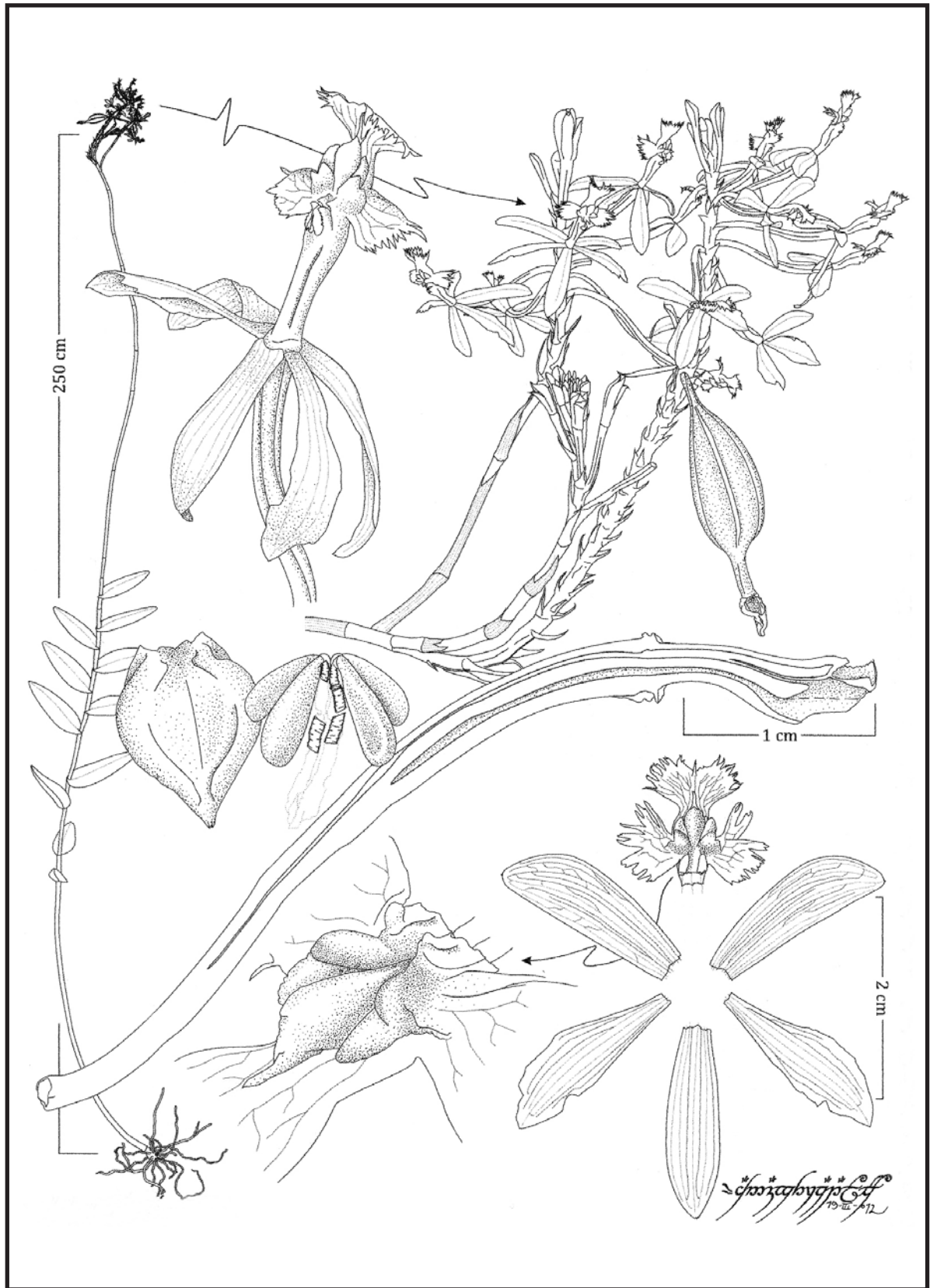
**DISTRIBUTION AND ECOLOGY:** Known only from the type, from the Cordillera Oriental in northern Peru, terrestrial at ca. 2000 m altitude. Flowering in November-December.

**RECOGNITION:** *Epidendrum septipartitum* belongs to the Cristatum group which is characterized by the sympodial, caespitose habit, many-leaved stems, apical racemose inflorescence with several large, imbricating bracts, and producing successive racemes over the years from the same peduncle, and the Cristatum subgroup, with generally greenish flowers, the lip with the margin of lateral lobes generally fimbriate-laciniate. The species is recognized by the 420 cm tall stems, many-flowered, sub-dense inflorescences, flowers very fleshy, fuchsia colored, with the lip and apex of the column white, lip 7-digitate, composed of the lateral lobes which are deeply 3-laciniate, and the mid-lobe rectangular-oblong, apex deeply bilobed, forming a pair of small lobes. It is similar to *Epidendrum quinquepartitum* Schltr. endemic to Bolivia, which has a less deeply divided lip, and thus 5-digitate, the basal lacinia of the lateral lobes wide; bright pink flowers, including the column and lip, with only the disc of the lip white, and stems relatively short, about 80 cm tall. *Epidendrum cristatum* Ruiz & Pavón, widespread from Mexico to Brazil has green flowers, sepals more or less mottled with reddish-brown dots. *Epidendrum oreonastes* Rchb.f., endemic to Bolivia, has a 3-lobed lip, with the lateral lobes entire.

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

**ETYMOLOGY:** from the Latin, septi-, seven, and partitum, divided, 7-parted-lip, in reference to the similarity between this species and *E. quinquepartitum*, which also has a laciniate lip, but that species only has a 5-laciniate lip.





EPIDENDRUM SUSANNAE Hágsater, O.Pérez & E.Parra

Plate 1486

**EPIDENDRUM SUSANNAE** Hágsater, O. Pérez et E. Parra sp. nov.

Type: COLOMBIA: Boyacá: Municipio de Arcabuco; Alto de Gaitas, ca. Reserva "Rogitama", ca. 2600 m, aprox. 7° C, 3 October 2011, **Oscar Alejandro Pérez Escobar & Edicson Parra Sánchez 1105**. Holotype: VALLE! (Illustration voucher).

Simile *Epidendri reflexilobi* C. Schweinf. sed floribus maioribus colore roseo-magenteo, labello pallide lilacino, callis albis et callis apicalibus prominentibus, praesertim centrali.

Terrestrial, caespitose, erect **herb**, to 265 cm tall. **Roots** 1.3-2.3 mm in diameter, produced from the base of the stems, fleshy, thick. **Stems** simple, cane-like, 143 x 0.9-1.18 [1.3] cm, terete, thick, straight. **Leaves** 8-15, articulate, distributed along the upper half of the stem; sheaths tubular, 3.12-6.7 x 1.0-1.4 cm, smooth to striated, green tinged with dark purple; blade 9.2-16 x 2.9-4.3 cm, lanceolate, coriaceous, apex obtuse, rounded, short bilobed, margin entire. **Spathaceous bract** lacking. **Inflorescence** 122 cm long, apical, erect, pluri-racemose; peduncle 87.6 cm long, elongate, terete, thin, generally covered by amplexicaul bracts; each many-flowered raceme 8.6-19.8 cm long, compact, dense, its peduncle covered by 5 tubular bracts 1.9-3.6 cm long, acute, scarious, becoming fibrous with time. **Flowers** numerous, 19-45 per raceme, successive, 5-6 open at one time, non-resupinate, rose-magenta, the lip pale lilac with the throat orange-yellow, the calli and margin of the clinandrium white. **Floral bracts** 3-13.8 mm long, much shorter than the ovary, triangular, acuminate, gradually shorter towards the apex of the rachis. **Ovary** 21.4-40 mm long, thin, not inflated, striated, angulate towards the base. **Sepals** 18-19.1 x 5-6.1 mm, spreading to slightly recurved, free, oblong-elliptic, acute, minutely apiculate, 7-veined, the veins branched so as to appear 8-9 veined, margin entire, spreading; lateral sepals oblique. **Petals** 19.5-20 x 6-6.1 mm, spreading to slightly recurved, free, oblanceolate, slightly oblique, acute, 5-veined, the lateral veins branched, so as to appear 8-veined, apical half of the margin erose, spreading. **Lip** 13 x 15 mm, united to the column, 3-lobed, base cordate, apical margin of the lobes fimbriate; callus massive, formed by two, small, basal, bilobed calli, followed by 3 calli, the central one large, smooth, terminating in a short, thin rib that disappears before the apical sinus, the lateral pair smaller; lateral lobes 6 x 8 mm, dolabriform, the forward margin conduplicate in natural position; mid-lobe 8 x 10 mm, with a short, narrow isthmus at the base, then bilobed, emarginate, with a small mucro in the sinus, the lobes flabellate, divaricate. **Column** 9-12 mm long, short, straight, thin at the base, and gradually thicker towards the apical half. **Clinandrium-hood** reduced, margin dentate. **Anther** ovoid, acute, 4-celled. **Pollinia** 4, obovoid, laterally slightly compressed, similar in size, caudicles twice as long as the pollinia, formed by imbricated tetrads, appearing as a pile of tiles. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** penetrating 1/3 of the ovary, thin, not inflated, papillose. **Capsule** ovoid, green with the valves tinged pale purple.

**OTHER SPECIMENS:** None seen.

**OTHER RECORDS:** COLOMBIA: Boyacá: Mpio. Arcabuco; Alto de Gaitas, ca. Reserva "Rogitama", 2600 m, 3 X 2011, Pérez s.n. Digital images, AMO! (Image voucher).

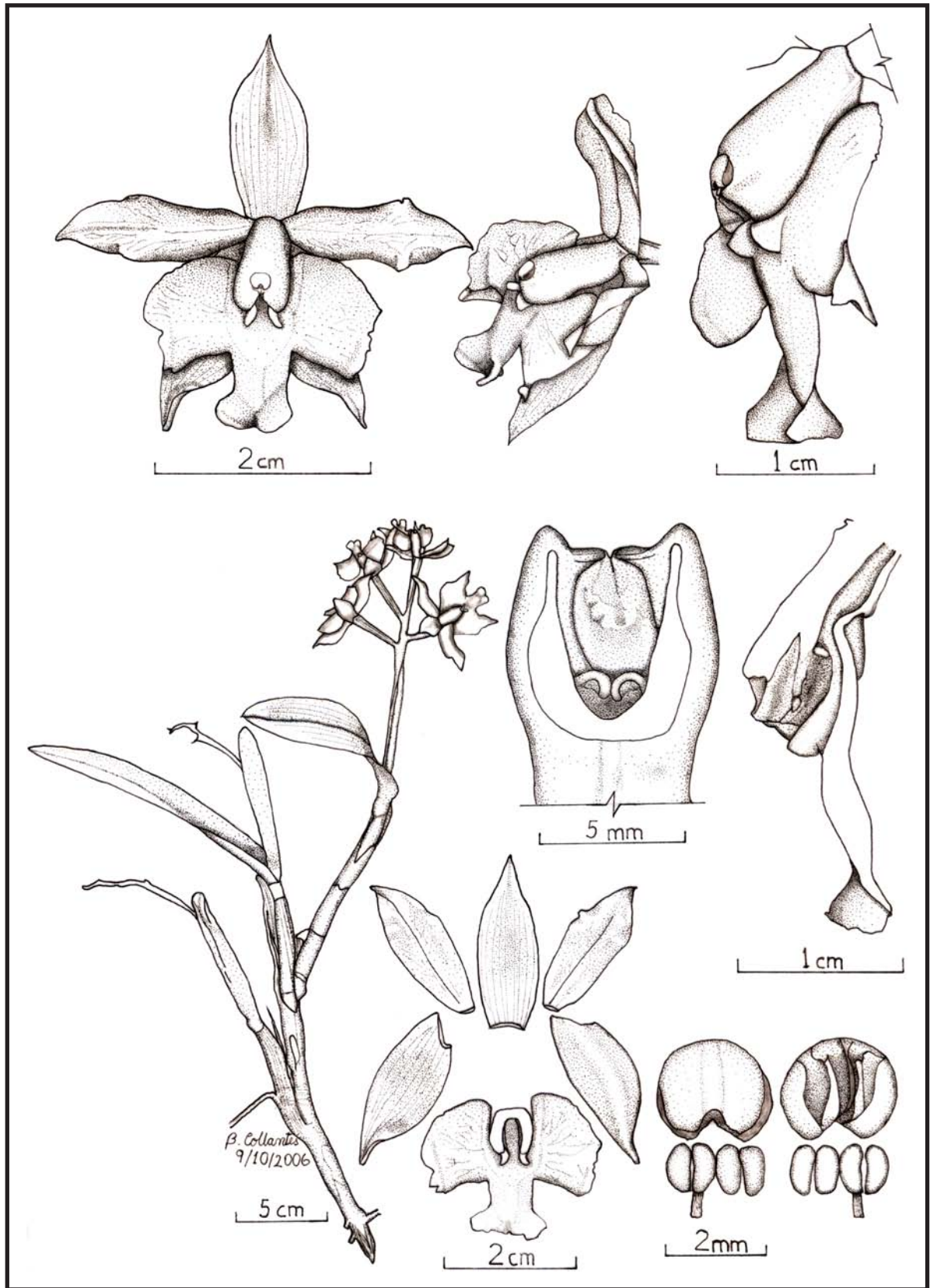
**DISTRIBUTION AND ECOLOGY:** So far known only from the Cordillera Oriental of the Andes, in Boyacá Department, Arcabuco municipality, at 2600 m. Just two individuals are reported from the type locality, growing as terrestrial at the border of a fragmented forest.

**RECOGNITION:** *Epidendrum susannae* belongs to the Secundum Group which is recognized by the caespitose habit, numerous coriaceous leaves, and generally an elongate peduncle to a pluri-racemose inflorescence, brightly colored flowers generally pollinated by hummingbirds, and the caudicles of the pollinarium granulose, the tetrads appearing like a loose pile of roof-tiles, without any spathaceous bracts; and Elongatum Sub-group, recognized by the non-resupinate flowers with a complicated callus. This species is terrestrial and has bright purple flowers, the lip pale lilac, with the throat at the base of the lip orange-yellow, and the calli white, formed by two basal, lateral calli, and the main body by a large central entire tubercle, embraced by a pair of shorter lateral tubercles. *Epidendrum reflexilobum* C. Schweinf. from Huánuco, Peru, has scarlet flowers with the disc of the lip yellow, sepals 12-13 mm long, disc with 3 short fleshy keels, the central one longest and the lateral ones with the fleshy lobulated base spread onto the lateral lobes of the lip. *Epidendrum arachnoglossum* André, a common species around Bogotá, has violet-crimson flowers, a many-lobed white and orange-yellow callus, and the deeply fringed lip forms a nearly entire, orbicular lamina, the base cordate.

**CONSERVATION STATUS:** D.D. Data deficient

**ETYMOLOGY:** in honor of Dr. Susanne S. Renner (Germany, 1954), Professor at the Ludwig-Maximilians Universität, Chief Director of the Botanische Garten München and mentor of the second author, in recognition to her important contributions to the knowledge on phylogeny and biogeography of Cucurbitaceae, Melastomataceae and several other monocot families, as well as in the field of evolution of reproductive systems.





EPIDENDRUM TETARTOCICLIUM Collantes & Hagsater

Plate 1487

**EPIDENDRUM TETARTOCICLIUM** Collantes et Hágstater, *sp. nov.*

Type: PERU: Huancavelica: Prov. Tayacaja: Distr. Huachocolpa: Bosque Amaru, 3000-3600 m, 19 abril 2003, **Redén Suarez & Gissela Alegría 006 ex Benjamín Collantes 903**. Holotype: USM! Isotypes: AMO! MOL!

Simile *Epidendri herrerani* C.Schweinf. sed lobis lateralibus labelli in forma quadrantis circuli, margine distali irregulariter eroso, margine anteriore efformante angulum 80°-90° respectu isthmi lobuli medii, colore florum pallide viridi usque ad flavum citrinum.

Epiphytic, sympodial, creeping, robust **herb**, 30-40 cm tall. **Rhizome** erect to arching, covered by scarios, evanescent bracts, 4-7 cm long; roots scarce, thick. **Stem** 6.4 x 0.7 cm, thickened, forming a thin, terete, fusiform, unifoliate pseudobulb, the old pseudobulbs rugose-striated, dark green, the new pseudobulb smooth and brilliant, covered by a persistent, tubular, non-foliar bract, 6.8-7.4 x 1.1 cm, the distal margin free. **Leaf** 13.3-14.8 x 2.3-2.4 cm, single, apical, erect, narrowly oblong-elliptic, acute to sub-acute, sometimes with a minuscule apicule, narrow at the base, sessile, coriaceous, green and waxy (brilliant). **Spathaceous bract** 7.4-8 x 0.6-1.0 cm, prominent, covering the peduncle of the inflorescence, tubular, conduplicate, apex rounded. **Inflorescence** apical, racemose, with 3-4 flowers, erect to slightly arching. **Floral bracts** 2 mm long, much shorter than the ovary, triangular, acute. **Ovary** 23 mm long, terete, progressively dilated towards the apex. **Flowers** 3-4, simultaneous, resupinate, natural spread 4-5 cm, sepals pale green to creamy green, translucent to somewhat opaque, petals and lip creamy green to citrine-yellow, the mid-lobe pale green, translucent to slightly opaque; fragrance seminal, detected in the morning. **Sepals** 25-26 x 9.0-9.5 mm, spreading, free, elliptic, acuminate, 7-9-veined, margin entire, spreading; the **dorsal** sepal concave to convex, with a low keel, margin irregular; the **lateral** sepals oblique at the base, with a dorsal keel or not. **Petals** 24 x 8 mm, spreading, slightly arching forward, oblong-elliptic to oblong-obtrullate, acute, 3-veined, the lateral veins much branched, margin entire, spreading. **Lip** 20-22 x 20.5-29 mm, united to the column, deeply 3-lobed, base cordate; bicallose, the calli basal, complanate, divaricate; lateral lobes shaped like a quarter circle, distal margin irregularly erose, the anterior margin forming a 80°-90° angle with respect to the isthmus of the mid-lobe; mid-lobe with a square isthmus abruptly dilated into a pair of rounded to sub-deltoid lobes, apex retuse, with a conspicuous mucro. **Column** 13-14 x 6.0-6.5 mm, thick, dilated towards the apical half. **Clinandrium-hood** reduced, margin entire. **Anther** sub-spherical-reniform, 4-celled. **Pollinia** 4, ellipsoid to sub-ovoid, sub-equal, dorsally convex, ventrally flattened. **Rostrillum** sub-parallel to the axis of the column, occupying about the apical half of the column, slit, the anterior margins overlapping, forming an oval foramen. **Lateral lobes of the stigmatic cavity** prominent, semi-discoid, arching, the upper border minutely granulate. **Nectary** shallow, penetrating nearly 1/8 of the ovary, 3 mm, unornamented.

**OTHER SPECIMENS:** PERU: Huancavelica: Prov. Tayacaja: Distr. Huachocolpa, arriba de Marcavalle, 2800 m, 20 IV 1964, Tovar 4767, UC!

**DISTRIBUTION AND ECOLOGY:** Known only from southern Peru, in inter Andean valley, on both sides of the Mantaro river in the province of Tayacaja in Huancavelica, including the Amaru forest, near Yanamito, epiphytic on *Clusia* sp., in cloud forest, at 3000 to 3600 m altitude. Flowering from February to April.

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

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

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



Authors: B. Collantes & E. Hágstater

Illustrator: B. Collantes

Photo: B. Collantes

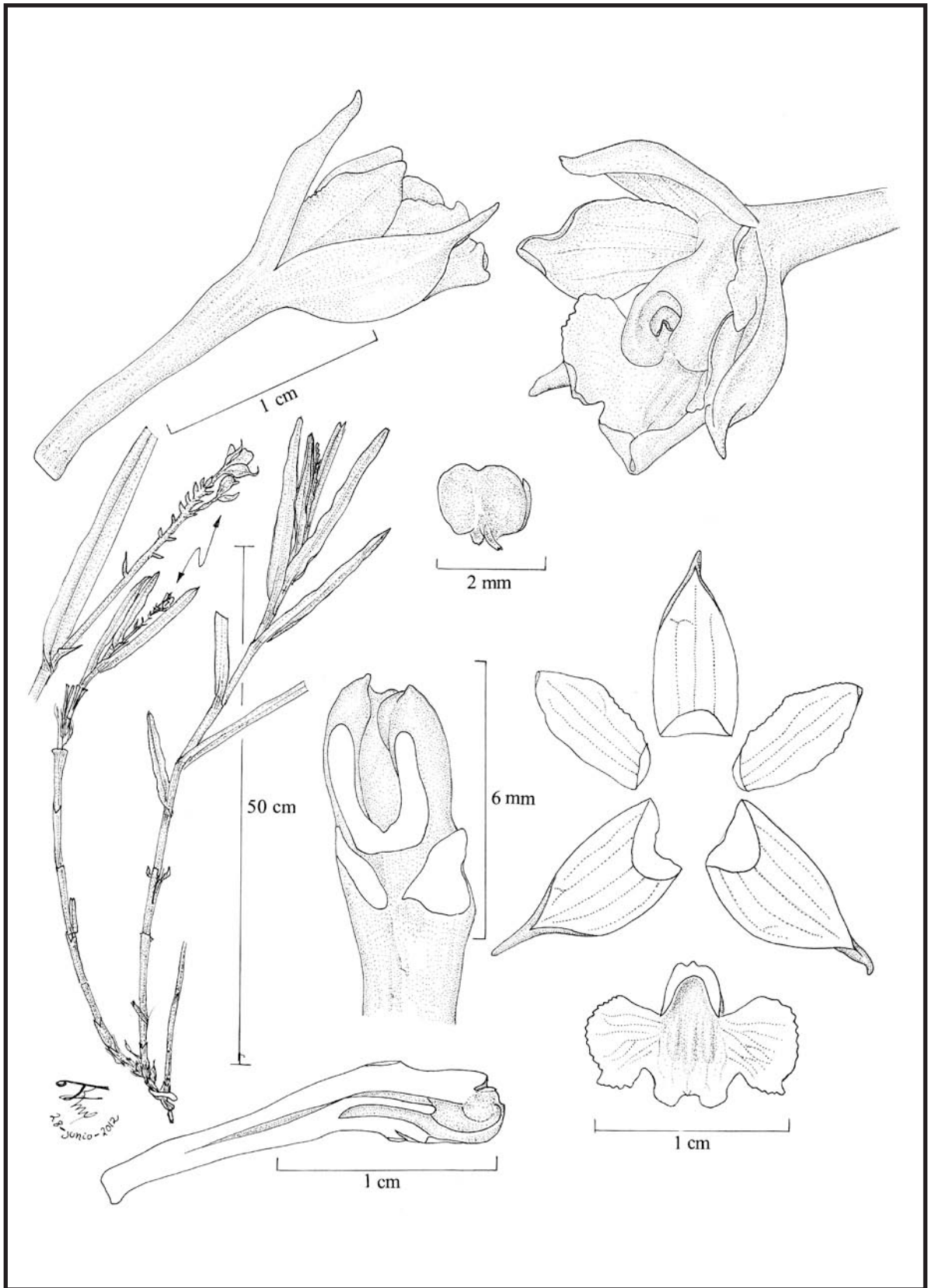
Editors: E. Hágstater & L. Sánchez S.

Herbario AMO

México, D.F. MÉXICO

ICONES ORCHIDACEARUM 14. 2013.

Plate 1487



EPIDENDRUM TETRALOBUM Hagsater & E.Santiago

Plate 1488



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

Type: ECUADOR: Azuay: South of Cumbe, farm road from new road to Giron, 3000-3100 m, 27 February 1982, **Carlyle A. Luer & Alfonso Pozo 7056**. Holotype: SEL! (Illustration voucher).

Similar to *Epidendrum aristisepalum* Hágsater & Dodson but the flowers greenish rose, the disc of the lip yellow, petals narrowly elliptic, mid-lobe of the lip short, barely surpassing the apical margin of the laterals, so that the apical margin of the lip is more or less truncate, formed by 4 lobes, with the mid-lobe trapezoid, widely emarginate and bilobed.

Epiphytic, erect, sympodial, caespitose **herb**, 50-65 cm tall. **Roots** 3.5 mm in diameter, basal, fleshy, thick, white. **Stems** 43.5-54 x 0.3-0.7 cm, simple, cane-like, terete, thin, erect, straight; base covered by non-foliar tubular sheaths 3.5-7 cm de largo, becoming scarious and fibrous with time. **Leaves** 8, alternate, articulate, sub-erect, distributed along the apical half of the stem, sub-coriaceous; sheaths 2-8 x 0.3-0.8 cm, tubular, minutely striated; blade 3.6-19 x 0.8-1.5 cm, lanceolate, apex obtuse, apiculate, margin crenulate, spreading. **Spathaceous bract** lacking. **Inflorescence** 7-10 cm long, apical, racemose, erect, few-flowered, sub-dense; peduncle 3.5-4.5 cm de largo, terete, thin, erect, straight, with a basal bract 8-10 mm long, triangular, acuminate, amplexicaul. **Floral bracts** 4-7 mm de largo, shorter than the ovary, triangular, acuminate. **Ovary** 10 mm long, terete, thin, not inflated, unornamented. **Flowers** 18, simultaneous, apparently non-resupinate, sepals and petals greenish rose, the lip rose with the disc yellow, column yellowish rose; fragrance not registered. **Sepals** 9.5-11.6 x 4.4-4.6 mm, free, partly spreading, fleshy, elliptic, apex acute, aristate, 5-veined, margin entire, spreading. **Petals** 8 x 3.5 mm, free, partly spreading, narrowly elliptic, oblique, apex obtuse, 3-veined, margin slightly erose, spreading. **Lip** 6 x 10 mm, united to the column, 3-lobed, base cordate, slightly concave: ecallose, disc provided with 3 ribs, low, parallel, that disappear towards the middle of the lip, the mid-rib somewhat longer than the lateral pair; lateral lobes 4 x 5 mm, dolabriform, nearly as long as the mid-lobe, margin erose, spreading; mid-lobe 2 x 5 mm, small, rectangular-trapezoid, widely emarginate, forming a pair of small semi-circular lobes, margin entire, spreading. **Column** 6 mm long, short, thick, straight, with a pair of apical rounded wings. **Clinandrium-hood** reduced, margin entire. **Anther** reniform, with a pair of apical laminar, petaloid processes. **Rostellum** apical, slit. **Nectary** penetrating about 1/4 of the ovary, narrow, not inflated, unornamented.

**OTHER SPECIMENS:** None seen.

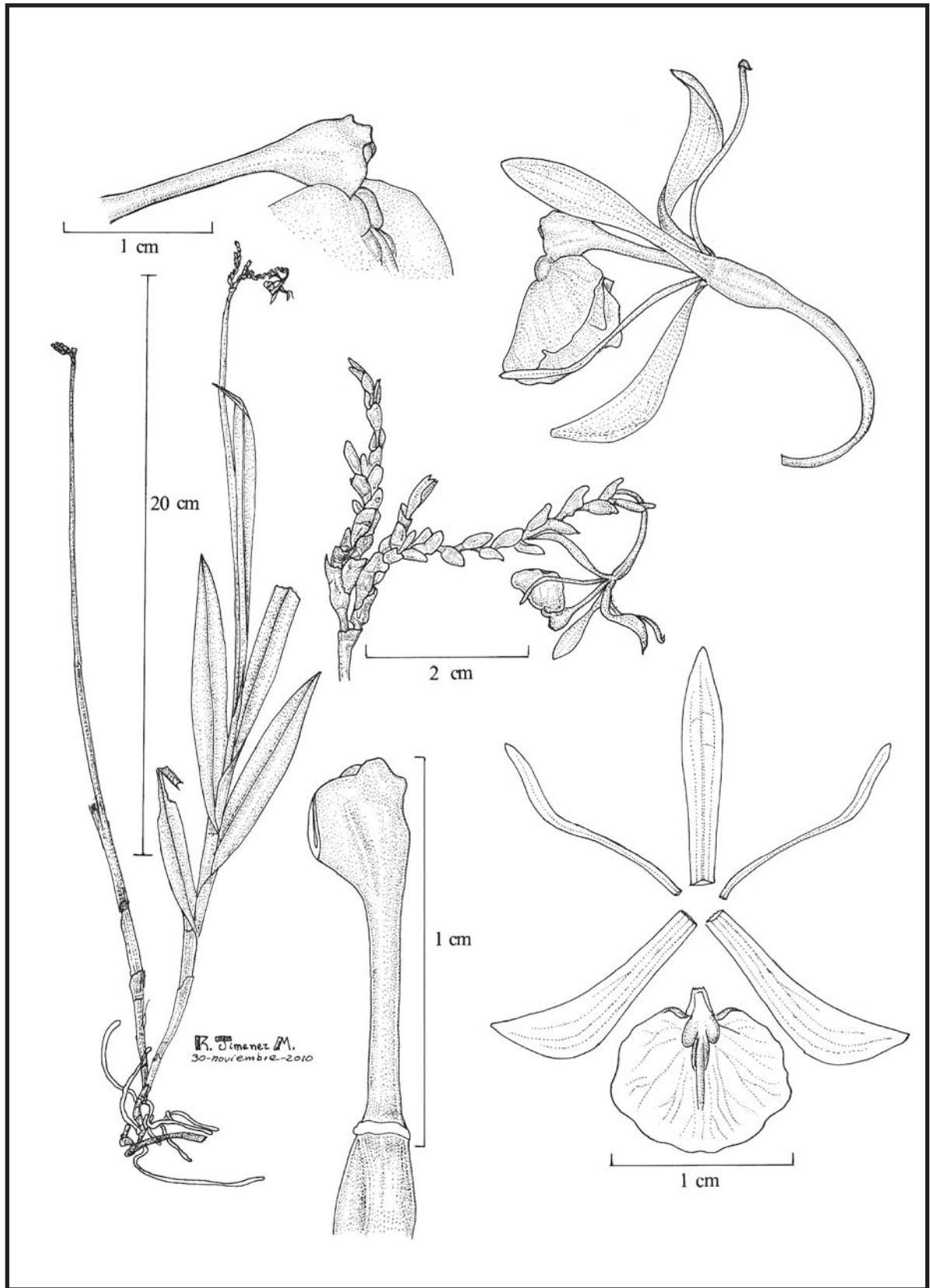
**DISTRIBUTION AND ECOLOGY:** Known only from southern Ecuador, from the inter Andean valley in the Azuay, epiphytic at 3000-3100 m altitude. Flowering in February.

**RECOGNITION:** *Epidendrum tetralobum* belongs to the Coronatum Group, Aristisepalum Subgroup, which has a caespitose habit, simple stems, sub-coriaceous leaves, a racemose inflorescence without spathaceous bracts, and the aristate sepals. The species is recognized by the lanceolate leaves, erect inflorescence with greenish pink flowers, the disc of the lip yellow, ecallose, with 3 low ribs, petals narrowly elliptic, lip 3-lobed, the mid-lobe small, barely surpassing the length of the lateral lobes, so that the apical margin is somewhat truncate and 4-lobed, with the mid-lobe trapezoid and widely emarginate and bilobed. *Epidendrum aristisepalum* which is found in the same general area, also has the disc of the lip 3-ribbed, but the erect inflorescence is shorter, flowers are creamy green to brown-orange, the 3-lobed lip has sub-orbicular lateral lobes and the mid-lobe is entire, very fleshy, the apex rounded. *Epidendrum birostratum* C.Schweinf. has an arching inflorescence, the disc of the lip with an evident massive callus, the petals are obovate-spatulate, and the mid-lobe is quadrate with the apex tridentate.

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

**ETYMOLOGY:** From the Greek τετρα, four, and λοβος, lobe of the ear, in reference to the apex of the lip which is 4-lobed, as the apex of the lateral lobes is nearly level with two lobes of the mid-lobe.





EPIDENDRUM TIMBIQUIENSE Hágsater & E. Santiago

Plate 1489

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

Type: COLOMBIA: Valle del Cauca: Bajo Calima, ca. 15 km N of Buenaventura, Cartón de Colombia concession, transition between tropical wet and pluvial forest, alt. ca. 50 m, 15 February 1983, **Alwyn H. Gentry, Adrián Juncosa & Humberto Mazuera 40350**. Holotype: COL! (Illustration voucher). Isotype: MO.

Simile *Epidendri allenii* sed clinandrio abbreviato margine integro, floribus maioribus, labello circulari, in basi leviter cordato.

Epiphytic, sympodial, caespitose **herb** 26-55 cm tall. **Roots** 0.3-2 mm in diameter, basal, fleshy, thin. **Stems** 11-25 x 0.25-0.7 cm, simple, cane-like, terete at the base, laterally compressed and ancipitose above, erect, straight; with basal, non-foliar, scariose, somewhat ancipitose sheaths at the base, 4.0-4.5 cm long. **Leaves** 5, distributed along the apical half of the stem, alternate, articulate, sub-erect, unequal in size (the basal one smaller); sheaths 3-4 x 0.5-0.7 cm, tubular, minutely striated, ancipitose; blade 11-20 x 0.5-2.5 cm, narrowly elliptic, acuminate, margin entire. **Spathaceous bract** 6 x 2 mm, at the apex of the peduncle, similar to the floral bracts but larger. **Inflorescence** 15-34 cm long, apical, racemose (producing new racemes from the apex of the peduncle and thus pluri-racemose) many flowered, erect, straight; peduncle 10-29 cm long; erect, straight, ancipitose, 2-winged, the wings progressively narrower towards the apex; rachis 2-5 cm long, terete, slightly zig-zag, nearly totally hidden by the floral bracts. **Floral bracts** 2-4 x 1.5-2.5 mm, much shorter than the ovary, ovate, apex rounded, conduplicate, partly imbricating, slightly oblique, persistent on the rachis after flowering. **Ovary** 14 mm long, terete, thin, ventrally inflated along the apical 1/3, unornamented. **Flowers** successive, 1 open at a time, resupinate, white; fragrance not registered. **Sepals** 13 x 2.2-3 mm, partly spreading, free, narrowly oblanceolate, acute, 3-veined, margin entire, spreading; the **lateral** sepals oblique, falcate. **Petals** 13 x 0.5 mm, partly spreading, free, linear, obtuse, 1-veined, oblique, margin entire, spreading. **Lip** 10 x 12 mm, united to the column, slightly convex, entire, rounded, base cordate, margin somewhat crenulate; bicallose, calli sub-globose, small; disc provided with 3 thin ribs, the lateral pair very short, and the mid-rib disappearing before reaching the apex of the blade. **Column** 10 mm long, straight, thin, widened towards the apex. **Clinandrium-hood** reduced, margin entire. **Anther** and **pollinia** not seen. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma, nectary** and **capsule** not seen.

**OTHER SPECIMENS: COLOMBIA: Cauca:** Timbiquí, *Lehmann sub B.T. [Bentham trustees] s.n., NY!* (sterile, illustration, AMO!) **Valle del Cauca:** bei Buenaventura, IX 1903, *Lehmann sub H.K. 488, K!*

**DISTRIBUTION AND ECOLOGY:** Known presently from the Pacific lowlands in south-western Colombia (Cauca and Valle del Cauca), in the Bajo Calima and Timbiquí river basins, epiphytic at ca. 50 m altitude in transitional between tropical wet and pluvial forest. Flowering in February and probably throughout the year.

**RECOGNITION:** *Epidendrum timbiquiense* belongs to the Albertii Group which is characterized by the sympodial habit, laterally compressed to ancipitose or somewhat fusiform-thickened stems, the apical or apical and lateral racemose, distichous inflorescence more or less with imbricating bracts on the peduncle, producing one flower at a time, and the Allenii Subgroup which is characterized by the stems with numerous leaves, the apical inflorescence (rarely lateral), peduncle elongate, bare, non-bract bearing, two-winged, the rachis short, covered by rounded, usually imbricating, bracts. The species is recognized, by the white flowers, sepals 13 mm long, very small, mostly not imbricating floral bracts (2-4 mm long), the rounded lip, cordate at the base, and the entire, reduced, clinandrium-hood. *Epidendrum grayumii* Hágsater & E. Santiago has greenish white flowers somewhat tinged with purple, 10-13 mm long floral bracts, the lip elliptic, with the base cuneate and the clinandrium-hood prominent. *Epidendrum allenii* L.O. Wms. has prominent floral bracts 6-10 mm long, the margin of the sepals revolute, and the lip obscurely 3-lobed, with a prominent clinandrium-hood. *Epidendrum nora-mesae* Hágsater & O. Pérez has greenish brown flowers, (most often they are yellow whereas in the canopy in bright sunlight they become white, sepals 14-21 mm long, and the lip 3-lobed, and 8 pollinia.

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

**ETYMOLOGY:** In reference to the town of Timbiquí, Cauca, Colombia, in the pacific lowlands, near which the species was collected by Friedrich Carl Lehmann (1850-1903), and where he drowned in the Timbiquí River.



Authors: E. Hágsater & E. Santiago

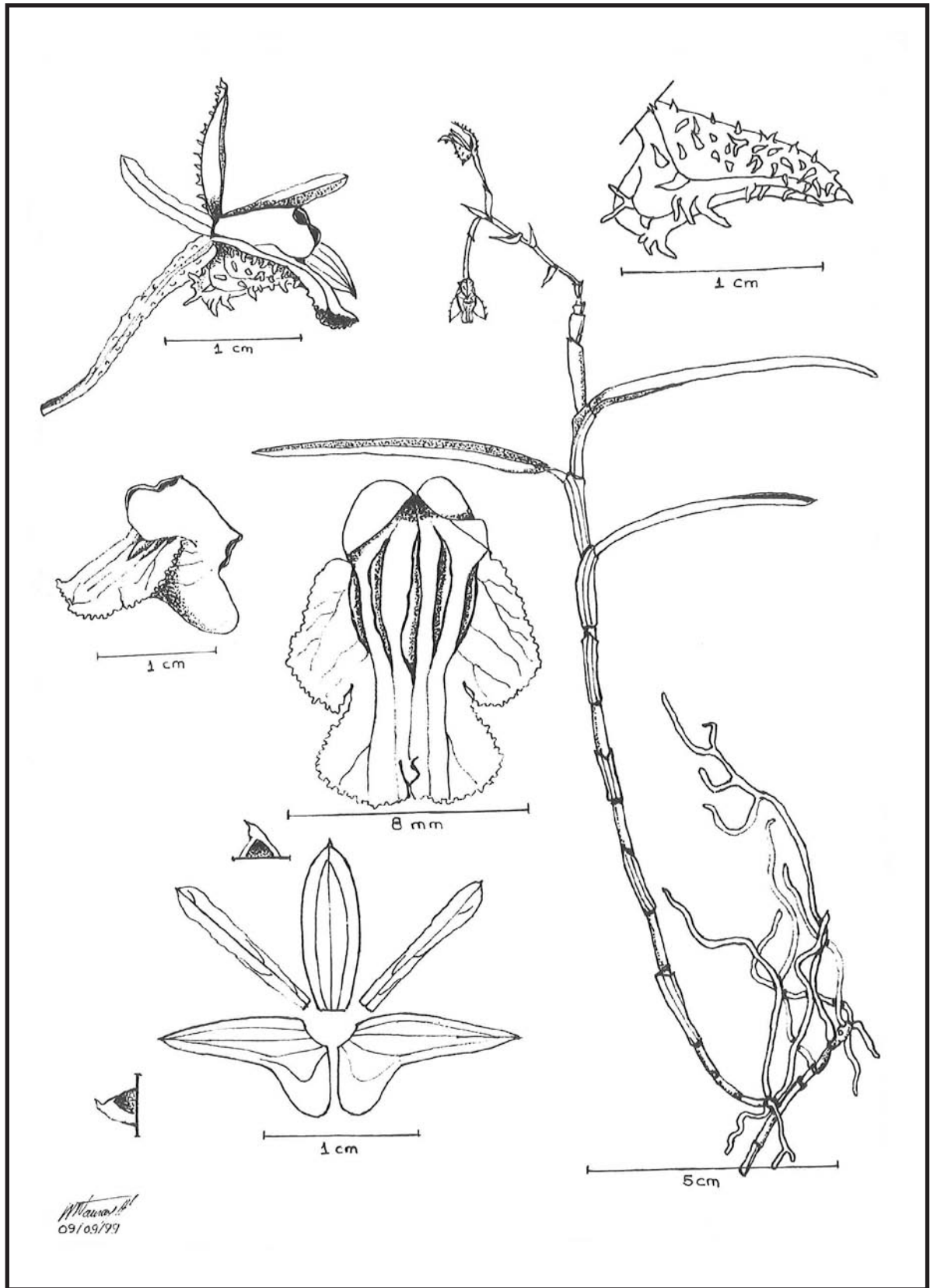
Illustrator: R. Jiménez M.

Editors: E. Hágsater & L. Sánchez S.

Herbario AMO

México, D.F. MÉXICO

ICONES ORCHIDACEARUM 14. 2013. Plate 1489



EPIDENDRUM TRACHYDIPTERUM Hagsater, W.Nauray & E.Santiago

Plate 1490

**EPIDENDRUM TRACHYDIPTERUM** Hágsater, W.Nauray et E.Santiago, *sp. nov.*

Type: PERU: Cusco: Distr. Urubamba; Santuario Histórico de Machu Picchu, Wiñay Wayna, 3100 m, 9 September 1999, **William Nauray 400**. Holotype: CUZ! (Illustration voucher). Photograph of holotype: F! NY! Digital image, AMO!

Simile *Epidendri trachypentatropidis* Hágsater & E.Santiago sed foliis paulo longioribus, inflorescentia pauciflora floribus leviter maioribus, petalis angustioribus, sepalis valde obliquis circa basim y apice columnae ornato alis binis rotundatis prominentibus.

Epiphytic, monopodial, probably branching **herb**, ca. 26 cm tall. **Roots** ca. 1.5 mm in diameter, thin, basal, fleshy. **Stems** 23 x 0.3 cm, cane-like, terete, thin, slightly arching. **Leaves** ca. 10, probably distributed throughout the stem, distichous, articulate, sub-coriaceous; sheath 20 x 3 mm, tubular minutely striated; blade 5.5-7.3 x 0.35-0.5 cm, linear-lanceolate, apex obtuse, margin entire. **Spathaceous bract** lacking. **Inflorescence** ca. 2.5 cm long, apical, racemose, arching, short, lax, few-flowered, flowering only once; peduncle 8 mm long. **Floral bracts** 5 mm long, prominent, less than half as long as the ovary, narrowly triangular, acuminate, amplexicaul. **Flowers** 5-6, simultaneous, resupinate, greenish brown; fragrance not registered. **Ovary** 15 mm long, terete, thin, not inflated, papillose. **Sepals** 10-11 x 3.3-5 mm, free, minutely apiculate, dorsally ornamented with spine-like appendages, margin entire, spreading; the **dorsal** sepal narrowly elliptic, obtuse, slightly aristate, 3-veined, the **lateral** sepals partly spreading, triangular-falcate, forming a sub-orbicular auricle on the lower side at the base, oblique, acute, short aristate, 4-veined. **Petals** 10 x 1.7 mm, spreading, free, linear, obtuse, 1-veined, margin repand, spreading. **Lip** 8 x 8.3 mm, united only to the base of the column, sub-pandurate in general outline, 3-lobed, the base prominently sac-like, slightly cordate, margin erose; ecallose, disc with 5 parallel, laminar, sub-equal ribs (the central rib longer), reaching the base of the mid-lobe and partly hidden by the apex of the column; lateral lobes 4 x 6 mm, obliquely rectangular; mid-lobe, sub-deltoid, emarginated, forming a pair of sub-quadrate lobes separated by a deep, narrow sinus. **Column** 7 mm long, straight, short, with a pair of prominent rounded wings at the apex. **Clinandrium-hood** reduced, margin entire. **Anther** and **Pollinia** not seen. **Rostellum** apical, slit. **Lateral lobes of the stigma, nectary** and **capsule** not seen.

**OTHER SPECIMENS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Known only from southern Peru, from the Cordillera Oriental in the area of Machu-Picchu, epiphytic on *Polylepis pauta* in high altitude cloud forest, at 3100 m altitude. Flowering in September.

**RECOGNITION:** *Epidendrum trachydipterus* belongs to the Diothonea Group and Subgroup which is characterized by the branching plants, linear lanceolate to oblong, bilobed leaves, racemose, arching-nutant inflorescence, membranaceous flowers (rarely fleshy), the entire to 3-lobed, ecallose lip with the margin erose without or with 1-10 thin, smooth to erose ribs, the column completely to obliquely united to the lip, the anther reniform. The species is recognized by the greenish brown flowers, the sepals (ca. 10-11 mm long) dorsally ornate with spine-like appendages, lip united to the column, deeply 3-lobed, the mid-lobe forming two lobes separated by a deep, narrow sinus, the disc with 5 parallel, laminar ribs, the apex of the column with a pair or prominent rounded wings. *Epidendrum trachysepalum* Hágsater is vegetatively similar, also with long, narrow leaves, but the lip is totally free from the column, cuneate at the base, disc provided with 5 ribs which disappear towards the apical half of the lip, but are very prominent towards the sac-like base of the lip, where they are hidden under the column; the lateral ribs are united at the base in the shape of a narrowly inverted "U", plicate and hollow, the central rib is hidden, straight, and smooth. *Epidendrum trachypentatropis* Hágsater & E.Santiago has shorter leaves and smaller flowers (sepals 5.5-5.7 mm long), the lip is ornate with 5 prominent, short, unequal, high ribs, hidden beneath the column. *Epidendrum astetei* Hágsater, Collantes & Mormontoy has yellow greenish flowers with veins and edges lined purple, the sepals dorsally glabrous (10-12 mm long), the column thick, nearly totally united to the lip and with a column foot that forms a sac-like prominence at the base of the sub-pandurate lip, the margin hyaline, dentate, the disc with 5 laminar keels which become prominent within the sac of the lip, under the column, the lateral ribs are united at the base in the shape of a narrowly inverted "U", the central rib is hidden, straight, and smooth.

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

**ETYMOLOGY:** From the Greek *τραχύς* rough, shaggy, *δι*, two, and *πτερον*, wing in reference to the two prominent, rounded wings at the apex of the column, as well as the dorsally muricate sepals of the species; which distinguish this species from the similar *Epidendrum trachysepalum*.

**REFERENCE:** Bennett, Jr., D.E. & E. A. Christenson, 2001, as *Epidendrum trachysepalum* in *Orchids of Peru*, **Icon. Orchid. Peruv.**, pl. 657.



Authors: E. Hágsater, W. Nauray & E. Santiago

Illustrator: W. Nauray

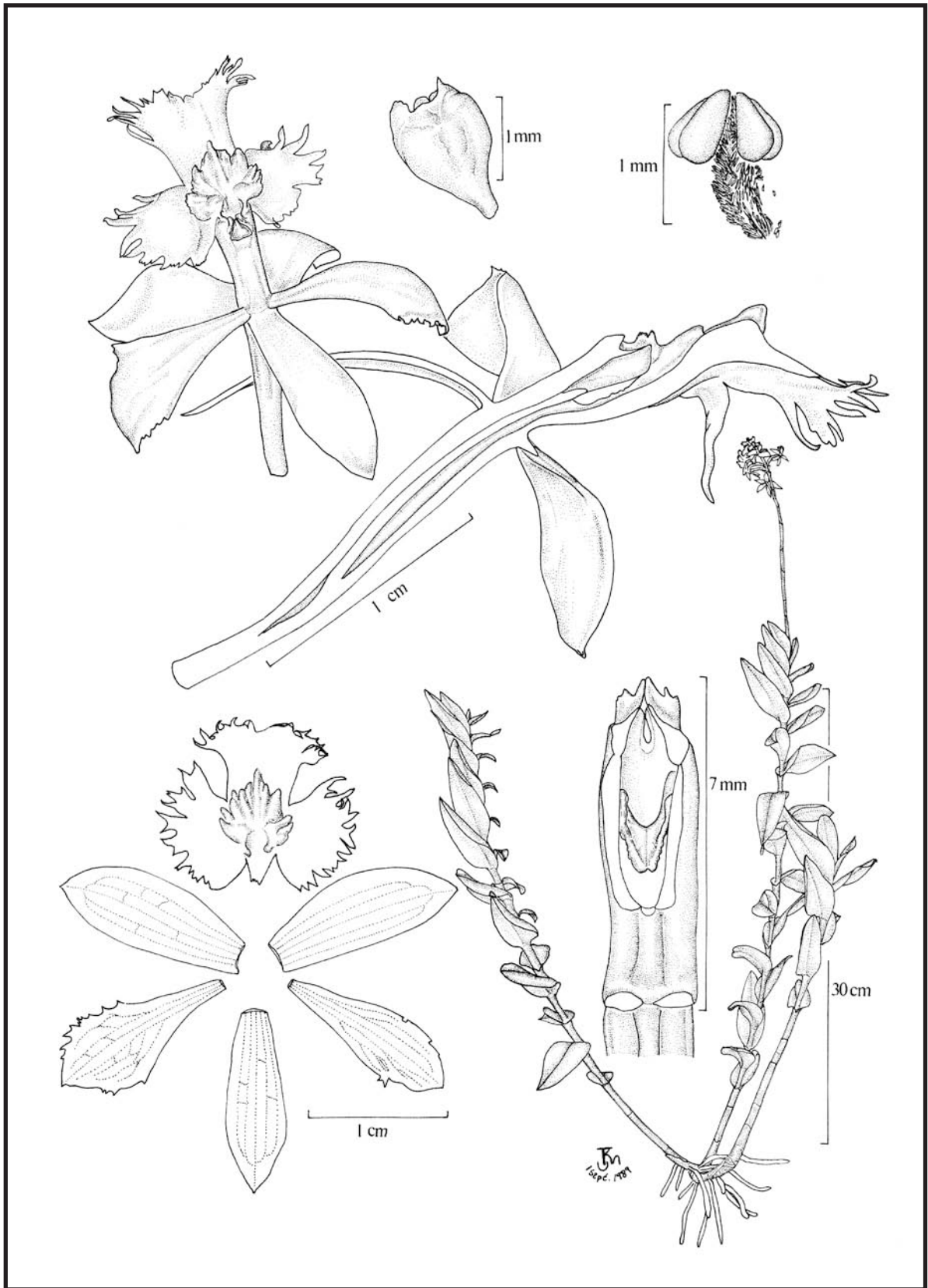
Editors: E. Hágsater & L. Sánchez S.

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ICONES ORCHIDACEARUM 14. 2013.

Plate 1490



EPIDENDRUM TULCANENSE Hágsater & Dodson

Plate 1491

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

Type: ECUADOR: 4 km arriba de Mina Selva Alegre, 2410 m, 6 XII 1986, *Hágsater 8898*, (illustration voucher, AMO!, color slide, AMO!, photo voucher). Holotype: QCA! Isotypes: AMO! CUVCI! MO!

Simile *Epidendri laurelensis* Hágsater & Dodson sed racemo magis compacto, labelli segmentis latoribus, petalorum nervis lateralibus ramificatis; floribus rubro-aurantiacis, callo albo, vergente versus flaveolum.

Terrestrial, sympodial, caespitose **herb** 120-200 cm tall. **Roots** 2-4.5 mm in diameter, basal, fleshy, thick. **Stems** 80-120 x 0.4-1.1 cm, simple, cane-like, terete, thin. **Leaves** 12-22, distichous, distributed throughout the apical 2/3 of the stem, unequal, the basal and apical leaves generally smaller; sheath 2.5-3.6 x 0.5-1.1 cm, tubular, smooth, minutely striated when dry; blade 7.5-13.2 x 2.7-3.9 cm, lanceolate, apex unequally bilobed, coriaceous, smooth green, margin entire. **Spathaceous bract** lacking. **Inflorescence** apical, pluri-racemose, very compact, pyramid-like, producing new racemes with time; peduncle 45-105 cm long, elongate, completely covered by tubular sheaths 5-7 cm long, finely striated, some of them purple colored. **Flowers** 30-90, successive, 4-10 open at one time, non-resupinate, orange-red, the callus white, turning yellowish; without fragrance. **Floral bracts** 2-10 mm long, much shorter than the ovary, triangular, acuminate. **Ovary** 25-30 mm long, teretes, thin, unornamented. **Sepals** 13 x 4.6-5.0 mm, spreading, ovate-elliptic, obtuse, apiculate, margin entire, 7-veined; the lateral sepals oblique. **Petals** 13 x 4.0-6.0 mm, spreading, oblanceolate, obtuse, margin spreading, entire to dentate, 3-veined, the lateral veins branching above the middle. **Lip** 11 x 13 mm, united to the column, 3-lobed, base deeply cordate, margin fimbriate to irregularly serrate-dentate, callus massive, formed by 9 unequal tubercles on the isthmus of the lip, the callus formed by a pair of basal, lateral bi-tuberculate ornaments and the main structure formed by 5 similar tubercles, not reaching the sinus of the apical lobe; lateral lobes 5 x 8 mm, semi-ovate; mid-lobe 5 x 8 mm, flabelliform, somewhat emarginate. **Column** 7 mm long, straight, thin, with a pair of small, apical, up-turned, erect, dentate wings. **Clinandrium-hood** reduced, entire, the anther totally exposed. **Rostellum** apical, slit. **Lateral lobes of the stigma** 2/3 as long as the stigmatic cavity. **Anther** ovoid, with a minute mucro, 4-celled. **Pollinia** 4, elongate, laterally compressed, sub-equal, caudicles longer than the pollinia, formed by tetrads to form what looks like a pile of roof tiles. **Nectary** penetrating nearly half the ovary, papillose. **Capsule** not seen.

**OTHER SPECIMENS: COLOMBIA: Nariño:** Gualmatán, Vereda Dos Caminos, 3100 m, *Cortés 70*, CUVCI! VALLE! Florida, Río Barrancos, 2300 m, 5 VIII 1977, *Díaz 1095*, COL! Ibid, *Díaz 1096*, COL! W of Volcán Doña Juana, 3200-3400 m, 16 XII 1944, *Ewan 16612*, US! Bosque de Daza, 3100 m, 1 XII 1965, *Guarín 81*, COL! Pasto, cebadal on road to Yacuanquer, km 15-25, 2700-2800 m, 2 VI 1945, *Schultes 7944*, AMES! K-L! Pasto, Vereda de San Juan, 2100 m, 17 VII 1954, *Uribe 2613*, COL! **Putumayo:** Above bridge over Río Putumayo near San Francisco, 8 IV 1958, *Correll 495*, AMES! **ECUADOR: Carchi:** Tulcán to Maldonado via Páramo El Ángel, 2000 m, 1 VIII, 1985, *Dodson 16134*, AMES! MO! QCNE! SEL! Tulcán El Carmelo km 18, 3200 m, 7 VII 1990, *Dodson 18432*, RPSC! 6 km al sur de Tulcán, camino de Ibarra, 3000 m, 3 VII 1992, *Hágsater 10526*. QCNE! (illustr. AMO!) 15 km south of Tulcan, 3000 m, 28 IV 1993, *Hágsater 11245*, AMO! SEL! Tulcán-Maldonado km 56.5, 2640 m, 29 IV 1993, *Hágsater 11265*, AMO! AMES! 9-10 mi SE of Maldonado, 2480-2550 m, 27 VII 1983, *Thompson 896*, CM x2! F! MO! **Imbabura:** Intac Trail, 2 km from Palo Seco (Las Ventas) above Calvario, 8500 ft, 6 IX 1944, *Drew E-518*, AMES!

**OTHER RECORDS: COLOMBIA: Nariño;** ca. 500 m después de La Divina Pastora, 2700 m, 17 X 2008, *R. Medina 797*, photographic series, AMO!

**DISTRIBUTION AND ECOLOGY:** Known from northern Ecuador and Southern Colombia, mainly in the interandean valley around Tulcán and Pasto, and along the Pacific slope of the Andes, growing in grasslands at 2400-3200 m altitude. Flowering in June to December.

**RECOGNITION:** *Epidendrum tulcanense* belongs to the Secundum Group which is recognized by the caespitose habit, numerous coriaceous leaves, and generally an elongate peduncle to a pluri-racemose inflorescence, brightly colored flowers generally pollinated by hummingbirds, and the caudicles of the pollinarium granulose, the tetrads appearing like a loose pile of roof-tiles, without any spathaceous bracts; and Subgroup Elongatum, recognized by the non-resupinate flowers with a complicated callus. This species is terrestrial and has orange-red or tomato-red colored flowers with a white callus, the callus formed by 9 tubercles in two series, the basal two pairs of 2 tubercles each, the main apical body of 5 sub-equal tubercles. *Epidendrum elongatum* Jacq., a terrestrial species described from around Caracas and which also has orange flowers, has a much smaller callus. *Epidendrum cochlidium* Lindl. described from a collection by Mathews from Peru is said to have a large, complex callus, with the apex of the callus reaching the apical sinus of the lip; though color was not recorded by the collector, only suggested by Lindley probably on the basis of the dried material which is brown today. *Epidendrum laurelense* Hágsater & Dodson (2001) has a similar coloring, but a much more open raceme, petals 3-veined, the veins unbranched, and the lobes of the lip narrower; it is found at lower altitude in the basin of Maldonado. *Epidendrum imperator* Hágsater (2004) from Antioquia has larger flowers, sepals 14-18 mm long, the mid-lobe of the lip much reduced, and the lateral lobes retrorse, the posterior margin dentate.

**NOTE:** Species in the Secundum Subgroup are very similar from a morphological point of view and in nature tend to form hybrid populations where the ecological barriers have been broken down. It is thus very difficult to identify species from single plants without geographical and ecological data. However, knowledge of the plants in the field permits the recognition of diverse species.

**CONSERVATION STATUS:** DD. Data deficient. Apparently widespread in the area, growing on road-sides. Not common.

**ETYMOLOGY:** In reference to the town of Tulcán, near the border with Colombia, where the species was collected by the authors.

**REFERENCES:** Hágsater, E., & C.H. Dodson, 2001. *Epidendrum laurelense*, **Icon. Orchid.** 4: pl. 452. Hágsater, E., 2004, *Epidendrum imperator*, **Icon. Orchid.** 7: pl. 748.



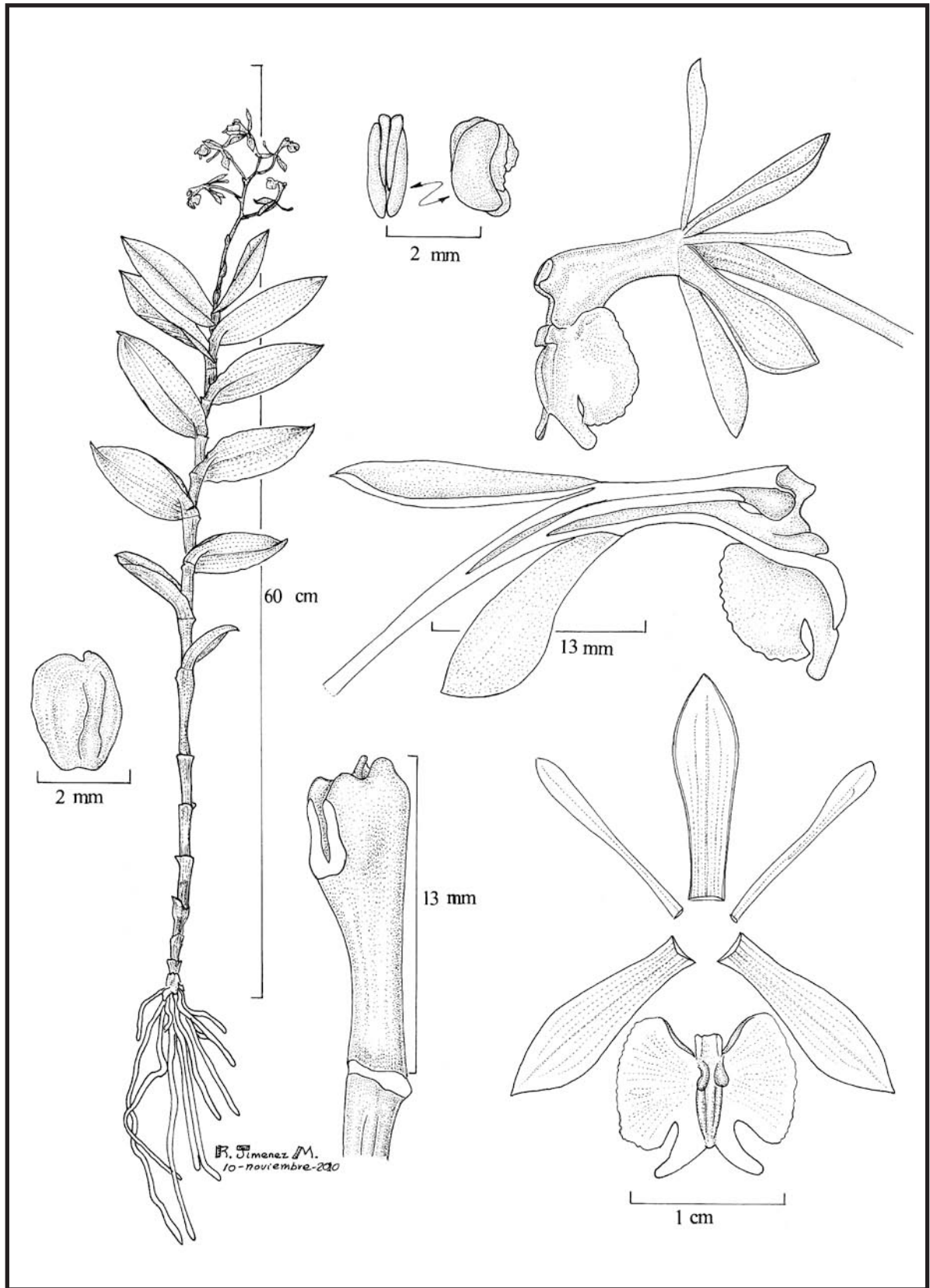
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Photo: R. Jiménez M.

Editors: E. Hágsater & L. Sánchez S.

ICONES ORCHIDACEARUM 14. 2013. Plate 1491



EPIDENDRUM UNGUICULATUM (C.Schweinf.) Garay & Dunst.

Plate 1492



**EPIDENDRUM UNGUICULATUM** (C.Schweinf.) Garay & Dunst. Venezuelan Orchids Illustr., 6: 38, 1976.

Basionym: *Epidendrum paniculatum* Ruiz & Pavón var. *unguiculatum* C.Schweinf., Bot. Mus. Leaf. 11: 107, 1943. Type: PERU: Loreto: Mishuyacu, near Iquitos, at 100 m altitude, May-June 1930, **G. Klug 1401**. Holotype: F! Isotypes: NY! US!

Epiphytic, sympodial, caespitose, tall **herb**, 60-100 cm tall. **Roots** ca. 2 mm in diameter, basal, fleshy, thick. **Stems** simple, cane-like, ca. 60 x 1 cm, terete, straight, base covered by tubular sheaths, 6.5 cm long, becoming fibrous with time. **Leaves** 8, distichous, articulate, unequal in size (the basal leaves much smaller), green, the ventral surface occasionally purple; sheaths tubular, 2.5 x 0.5-1.2 cm, smooth; blade 2-18 x 1.7-4 cm, elliptic to oblong-elliptic, acute, margin entire. **Inflorescence**\* to 55 cm long, apical, pluri-racemose, the successive racemes develop from the distal bracts of the peduncle when the first, apical, raceme is already flowering; few- to lax-flowered; peduncle to 22 cm long, provided with up to 4 bracts 3-6 cm long, tubular, large, acute, conduplicate; rachis elongate, slightly flexuous. **Floral bracts** 5-15 mm long, much shorter than the ovary, triangular-lanceolate, acuminate, amplexicaul. **Flowers** 16-25, successive, generally 6-8 open simultaneously, resupinate, green, with the apical half of the column and the disc of the lip white, the calli occasionally purple; without fragrance. **Ovary** 25 mm long, terete, very thin, not inflated, smooth. **Sepals** [16]18-20 x 5-6 mm, spreading to slightly reflexed, free, dorsally papillose at the apex, fleshy, narrowly spatulate-oblancheolate, acute, 5-veined, margin entire; the lateral sepals oblique. **Petals** 17-19 x 1-1.5 mm, spreading to slightly reflexed, free, linear-oblancheolate, apex rounded, 1-veined, margin entire, spreading. **Lip** 8.7-10 x 11-15 mm, united to the column, clearly 3-lobed, strongly convex, base cordate; bicallose, the calli small, sub-globose, disc with 3 parallel, fleshy keels that disappear before reaching the apex of the lip, the mid-keel wider and fleshier than the lateral keels; lateral lobes 5 x 7.7 mm, flabellate, margin irregularly undulate; mid-lobe 3.5 x 8 mm, sub-quadrate at the base, the sides parallel, the apex slightly retuse, forming a pair of linear-oblong, strongly divaricate lobes. **Column** 14 mm long, straight, thin, with a pair of prominent teeth at the apex. **Clinandrium-hood** obsolete, margin entire. **Anther** 4-celled. **Pollinia** 4, "bird-wing" type, strongly laterally compressed, the inner pair smaller; caudicles not seen. **Rostellum** apical, slit. **Lateral lobes of the stigma, nectary and capsule** not seen.

**OTHER SPECIMENS: BOLIVIA: Santa Cruz:** near San Javier, 250 km W of Santa Cruz, 5 XII 1978, *Luer 3622*, SEL! (Illustration, AMO) **BRAZIL: Acre:** Rio Branco, Bujari, 26 III 1995, *Pardo 90*, NY! 2510, COL x2! HB! NY! US! **Amazonas:** Rio Madeira, Igarapé do Banheiro, 2 km N Humaitá, 18 III 1975, *Gottsberger 19-18375*, HB! **Minas Gerais:** Serra do Congo, 26 III 1957, *Pereira 2647*, HB! RB! **COLOMBIA: Magdalena:** Parque Nacional Tayrona, 100-150 m, 24 X 1972, *Kirkbride 2510*, COL x2! HB! NY! US! **ECUADOR: Pastaza:** Pozo petrolero corrientes de UNOCAL, 300 m, 1 VIII 1990, *Cudiño 596*, QCNE! Rio Curaray, Lagunas de Patoamo, 230 m, 2 IX 1985, *Neil 6821*, MO! QCNE! **Napo:** [Succumbios: Cuyabeno Nature Reserve, 240 m, 12 XI 1982, *Asanza 41212*, AAU! QCA! (Illustration, AMO) QCNE! **FRENCH GUYANA: Cayenne:** Trois-Sauts, 2 III 1975, *Jacquemin 1577*, CAY! Ibid. 9 III 1973, *Jacquemin 1822*, CAY x2! Dégrad Claude, 20 III 1974, *Lescurre 167*, CAY! (Illustration AMO!) **St. Laurent du Caroni: Saül:** Layon Eaux Claires, 250 m, 8 III 1993, *Cremers 13027*, CAY! Tracé Carbet Mais near Carbet Mitán, 4 VII 1973, *Determann 73*, CAY x2! entre Carbet Mais et Belvédère Est, 16 X 1976, *Veyret 1415*, CAY x2! **PERU: Amazonas:** Bagua, E of Omos, 820 m, 26 I 1964, *Hutchinson 1184*, UC! Ibid. *Hutchinson 3800*, UC! Magunchal, road to Cháchapoyas (from Bagua), 10 XII 1961, *Hutchinson 1550*, F! (Illustration voucher), UC! **Cajamarca:** San José de Lourdes, Crucero, 840 m, 31 III 2000, *Calatayud 512*, USM! **Huánuco:** Aucayacu, 600 m, 19 II 1978, *Schunke 9899*, MO! **Junín:** San Luis de Shuaro, a 26 km de San Ramón, 800 m, 7 VIII 1982, *Fernández 96*, USM! San Luis de Shuaro, Colonia Perené, ca. 680 m, 16 VI 1929, *Killip 25088*, AMES! NY! US! (Illustration, AMO!) **Loreto:** Vicinity of Iquitos, 100 m, 1 I 1937, *Klug 10070*, AMES! Ibid. III 1937, *Klug 10090*, AMES! carretera Iquitos-Nauta, 130 m, 10 VIII 1987, *Vásquez 9411*, MO! **SURINAM:** Wilhelmina Mnts., 600 m, 15 VII 1981, *Determann 226*, SEL! **VENEZUELA: Amazonas:** At Moroa [Maroa] on River Guaiánia, 50 ft., 25 I 1961, *NY Bot. Gard. 699/60-61*, NY! **Barinas:** Quebrada El Molino, Altamira und Calderas, 1000 m, 20 IX 1951, *Renz 7399*, RENZ! **Falcón:** Sierra de San Luis, Curimagua, 1200 m, 21 XII 1951, *Renz 7663*, RENZ! **Lara:** Cerro Guacamuro, N von Siquisque, 900 m, 2 IX 1948, *Renz 4865*, RENZ x2! **Zulia:** Rio Yasa, abajo de "Kásmera", al Suroeste de Machiques, 270-290 m, 24 VIII 1967, *Steyermark 99692*, AMES! S!

**OTHER RECORDS: COLOMBIA:** Without locality, illustration of flower, published as *Epidendrum unguiculatum* in Ortiz & Uribe, 2007. **PERU: Amazonas:** Without locality, *Morón s.n.*, digital image, AMO! **Loreto:** Iquitos, *Fernández s.n.*, digital image, AMO! Iquitos, Amazonas Norte Peruana, *Huamantupa s.n.* digital image, AMO! (Photo voucher), **SURINAM:** Without locality, photo of inflorescence, published as *Epidendrum unguiculatum* in Werkhoven, 1986. **VENEZUELA:** Without locality, *P. Harding s.n.*, digital image, AMO! **Monagas:** Caripe, *Dunsterville 310*, illustration published in Romero & Carnevali 2000.

**DISTRIBUTION AND ECOLOGY:** Widespread around the Amazon basin at the foot of the Andes and the Guyana Shield, from eastern Venezuela to Surinam and down to Bolivia and Brazil (Acre to the Planalto Central Brasileiro in Minas Gerais) and one collection each seen from (Minas Gerais) and Amazonas, as well as the northern slope of the Andes in Colombia and the Cordillera de la Costa in Venezuela; epiphytic at 100-1000 m altitude. Flowering from July to March.

**RECOGNITION:** *Epidendrum unguiculatum* belongs to the Pseudepidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and Pluriracemosum Subgroup which has a racemose and few-flowered inflorescence on an elongate peduncle, usually producing new racemes over the years and thus pluri-racemose, the rachis is elongate, and thus lax flowered, the flowers are bicolored, basically green to brown with the lip white to purple, spotted or not. The species is recognized by the lax, few-flowered pluri-racemose inflorescence, the large flowers with the apex of the sepals dorsally papillose (18-20 mm long), green with the apex of the column and disc of the lip white, the calli frequently tinged purple, especially in the northern populations. It is very similar florally to *Epidendrum isthmii* Schltr., which ranges along the Atlantic lowlands of Mesoamerica, but that species has a paniculate, simultaneous inflorescence, somewhat smaller flowers, sepals dorsally glabrous, 13-15 mm long, the calli never tinged purple. *Epidendrum pluriracemosum* Hágsater & E.Santiago produces pluri-racemose inflorescences with a zigzag rachis, flowers open usually 2 open at one time, smaller, sepals 9-10.5 mm long, petals linear-filiform, and the mid-lobe of the lip is separated by a very short isthmus, the lip is always immaculate white. *Epidendrum huamantupanorum* Hágsater & E.Santiago has intermediate sized plants, about 50 cm tall, narrowly elliptic and short acuminate leaves, the greenish copper sepals (15 mm long) and petals, column base greenish, apical half lavender, the lip hyaline white, the calli and ribs lavender, surrounded by a darker ring, the convex lip with the lateral lobes hemi-elliptic. *Epidendrum oenochrochilum* Hágsater, Ric.Fernández & E.Santiago has elliptic, acute leaves (2.8-6.5 x 1-2.5 cm), purple-brown colored flowers with the lip yellow-brown or dirty pink, the lateral lobes of the lip sub-quadrate. *Epidendrum maroniense* Hágsater & E.Santiago has somewhat smaller flowers, lateral sepals 16.6-17 mm long, linear-filiform petals and the lip is transversely rectangular in outline, the base truncate.

\***NOTES:** The label of the type indicates the color simply as "flowers cream"; the calli are occasionally purple, especially in plants of Colombia, Peru, Venezuela and the Guyana shield. The species appears to be intermediate between *E. isthmii* and *E. pluriracemosum*, in that the inflorescence develops first with a main raceme and as the buds develop, a second, smaller raceme develops from within the distal bracts of the peduncle; the flowers open in succession first on the main raceme, and when these are fully open, those of the second or further racemes. *Epidendrum pluriracemosum* develops a single raceme first, with flowers successive, once this raceme has flowered, a second raceme starts developing, and then a possible third, this process taking 2 or 3 years. This same development of the inflorescence is found in *E. oenochrochilum*, and *E. huamantupanorum*, and is a characteristic of the Pluriracemosum Subgroup.

**CONSERVATION STATUS:** DD. Data deficient. Widespread throughout its range.

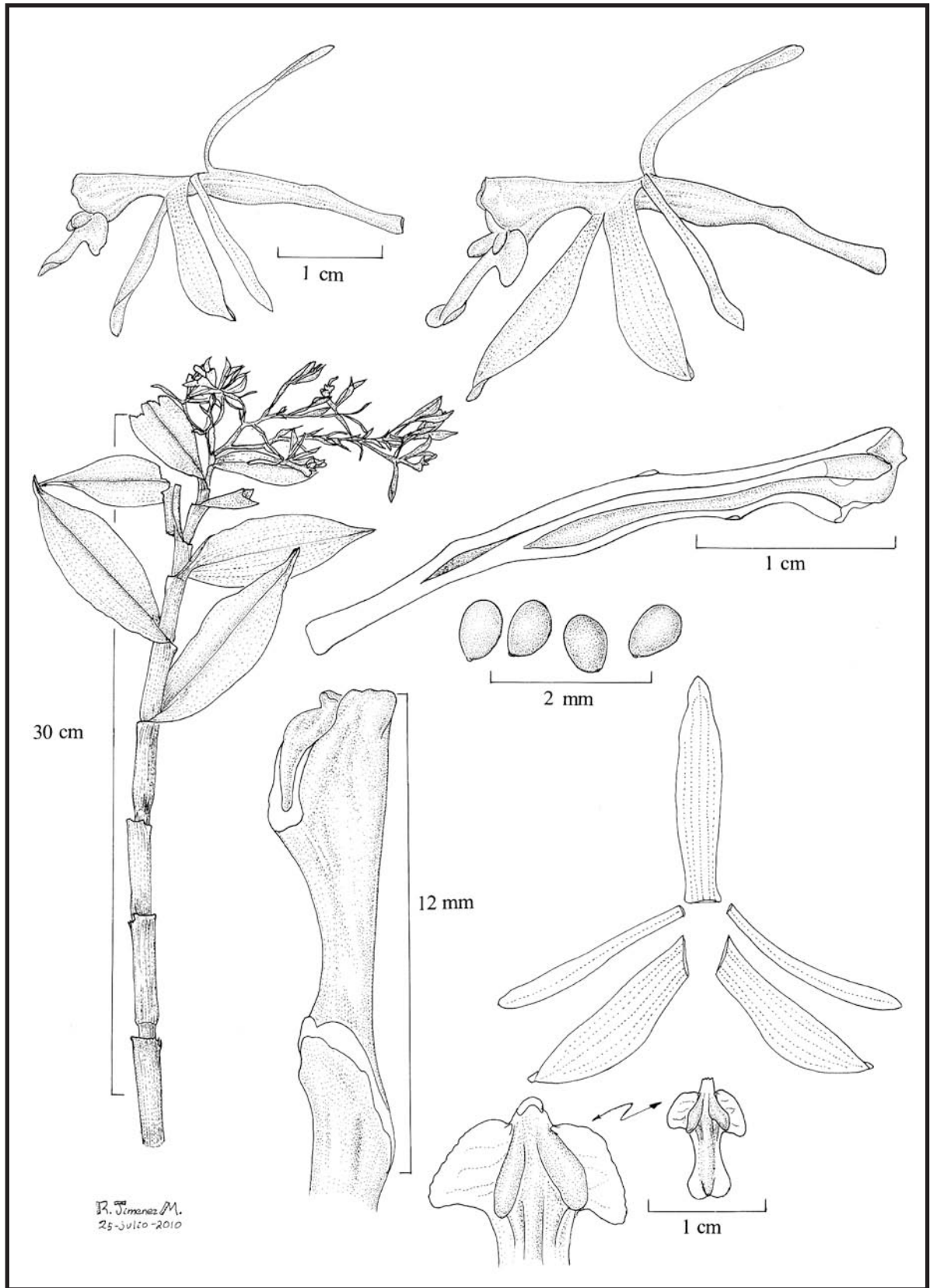
**ETYMOLOGY:** From the Latin *unguicularis*, clawed, in reference to the base of the midlobe of the lip, with forms a quadrate claw, before expanding into to divaricate lobes.

**REFERENCES:** Ortiz V., Pedro & Carlos Uribe V., 2007. *Galería de Orquídeas de Colombia*, CD, Da Vinci Editores, Bogotá, Colombia. Romero-González, G. A., & C. Carnevali Fernández-Concha, 2000. *Epidendrum unguiculatum*, in *Orchids of Venezuela, an illustrated Field Guide*, 2 ed. (A-G): 314. Werkhoven, M. C. M., 1986. *Orchids of Suriname*, Vaco N.V. Uitgeverijmaatschappij, Paramaribo, Suriname, p. 127, 137.



13





EPIDENDRUM VALENZUELAE Hagsater & E.Santiago

Plate 1493

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

Type: PERU: Cusco: La Convención, [Dist. Echarate,] Kiteni, 12°37'28"S, 72°57'54"W, 664-2800 m, 20 June 2004, **Luis Valenzuela, Efraín Suclli, Isau Huamantupa, J. La Torre, 4025**. Holotype: MO! (Illustration voucher). Isotype: CUZ (not seen).

Simile *Epidendri alexii* Hágsater & Dodson sed floribus viridi-cremeis, margine lobulorum lateralium labelli leviter eroso et apice lobuli medii truncato, leviter emarginato et efformante duos lobulos rotundatos.

**Herb** of erect sympodium where each new stem originates from the sub-apical internodes of the previous stem. **Roots** not seen. **Stems** 28 x 0.3-0.9 cm, simple, cane-like, terete, thin, erect, straight; the base provided with non-foliar, tubular sheaths, 3.8-4.0 cm long. **Leaves** 7, distributed along the apical half of the stem, articulate, alternate, unequal in size (the apical ones smaller); sheaths 7-40 mm long, tubular, minutely striated; blade 6-10 x 2.2-3 cm, elliptic, short-acuminate, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescence** 10 cm long, apical, flowering only once, paniculate, lax, few-flowered, the branches short, 2.2-2.5 cm long, each subtended by a lanceolate, amplexicaul, bract, 14-22 mm long; peduncle very short, 7 mm long; rachis slightly flexuous. **Floral bracts** 6-14 mm long, prominent, shorter than the ovary and gradually shorter towards the apex of the rachis, linear-lanceolate, acuminate, amplexicaul. **Flowers** 30, successive, resupinate, creamy green; fragrance not registered. **Ovary** 21 mm long, terete, thin, slightly inflated, unornamented. **Sepals** 17-19 x 4-5 mm, partly spreading, oblong-elliptic, acute, 5-veined, margin entire, spreading; the dorsal sepal free, the lateral sepals obliquely united to the base of the column, oblique, with an apical dorsal keel. **Petals** 17 x 2 mm, free, linear, sub-obtuse, 1-veined, margin entire, spreading. **Lip** 9 x 6.5 mm, united to the column, 3-lobed, base slightly cordate, margin spreading; bicallose, the calli prominent, elongate, reaching the base of the mid-lobe; disc with 3 central keels, the lateral pair very short, the central keel wider and prominent, elongate to the apical sinus; lateral lobes 2.5 x 4 mm, obliquely ovate, rounded, margin slightly erose; mid-lobe 6 x 3.5 mm, oblong truncate and expanded towards the apex, slightly emarginate, forming a pair of small, rounded lobes, margin entire. **Column** 12 mm long, straight, thin towards the middle, gradually dilated towards the apex. **Clinandrium-hood** short, margin entire. **Anther** not seen. **Pollinia** 4, obovoid. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** cuniculate, shallow, penetrating 1/3 of the ovary, slightly inflated, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Known only from southern Peru, on the Amazon slope of the Cordillera Oriental in the basin of the Río Vilcanota, at about 700 m altitude, near the edge of the Vilcanota River, in wet tropical forest. Flowering in June.

**RECOGNITION:** *Epidendrum valenzuelana* belongs to the Arbuscula Group which is characterized by the erect plants where the new stems originate from the apical internodes of the previous stem, and the Amplexicaule Subgroup which has short-acuminate leaves and lax, few-flowered, paniculate inflorescences with prominent floral bracts. The species is recognized by the creamy-green flowers, the slightly inflated ovary and 3-lobed lip with the lateral lobes obliquely ovate and the mid-lobe oblong, the apex truncate and emarginate. *Epidendrum alexii* Hágsater & Dodson is vegetatively very similar, but the flowers are white, the lateral lobes of the lip triangular-dolabriform, the mid-lobe acute, entire. *Epidendrum amplexisaraldense* Hágsater & E. Santiago has green flowers, the rachis of the inflorescence flexuous, the ovary thin, not inflated and the lip with the base cuneate and the lateral lobes obliquely oblong.

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

**ETYMOLOGY:** In honor of Luis Valenzuela, Peruvian plant collector, of the early 21 century, who has collected over 10,000 number in southern Peru, and collected the type.



Authors: E. Hágsater & E. Santiago

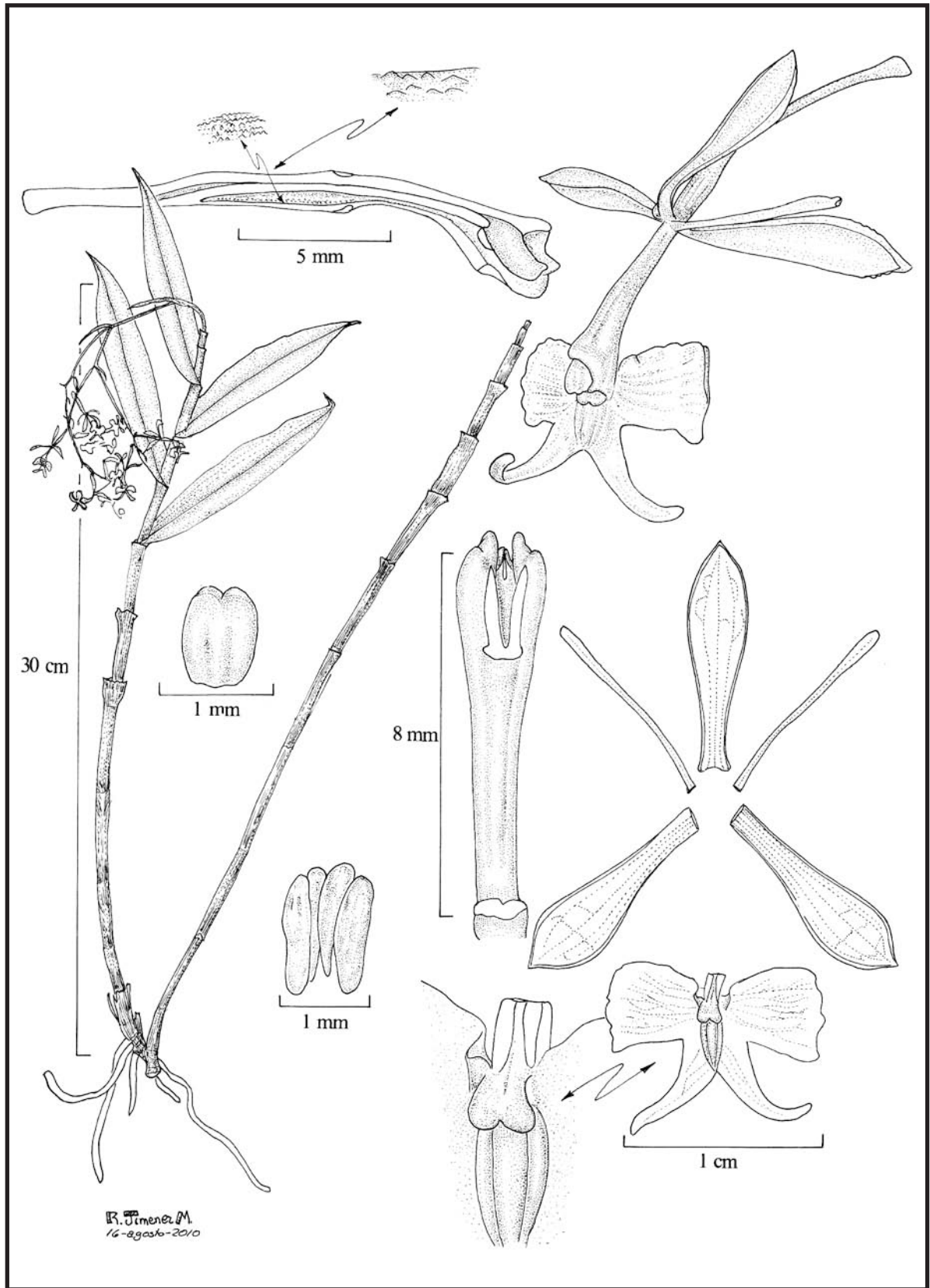
Illustrator: R. Jiménez M.

Editors: E. Hágsater & L. Sánchez S.

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ICONES ORCHIDACEARUM 14. 2013. Plate 1493



EPIDENDRUM VALLISOLETANUM Hągsater & E.Santiago

Plate 1494

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

Type: ECUADOR: [Zamora-Chinchipe]: beyond the pass, Yangana to Valladolid, 2500-3000 m, April 1985, **Dennis D'Alessandro 333**. Holotype: MO! (Illustration voucher).

Simile *Epidendri jasminosmi* Hágsater & Dodson sed plantis minoribus, floribus viridibus, labello et dimidio apicali columnae albis, disco labelli purpureo signato, labelli lobulis lateralibus subquadratis margine apicali eroso, unicalloso, callo parvo e bilobato.

Epiphytic, caespitose, sympodial **herb** 35 cm tall. **Roots** 1.5-2.5 mm long, fleshy, thin, white. **Stems** 27-30 x 0.25-0.5 cm, simple, cane-like, terete, erect, straight. **Leaves** 6, distributed along the apical half of the stems, alternate, articulate; sheath 20 mm long, tubular, scarious, becoming fibrous with time; blade 9-10 x 1.6-1.8 cm, narrowly-elliptic, acuminate, margin entire. **Spathaceous bract** lacking. **Inflorescence** 11 cm long, apical, flowering only once, paniculate, arching, lax, few-flowered; peduncle 4.5 cm long, thin, laterally compressed; provided in the middle with a single bract, 2.5 cm long (similar to those subtending the branches), conduplicate, linear-lanceolate, acuminate. **Flowers** ca. 25, simultaneous, resupinate, green, the lip and apical half of the column white, the lip with purple\* dots near the base. **Floral bracts** 3 mm long, much shorter than the ovary, linear-lanceolate, acuminate, amplexicaul. **Ovary** 11 mm long, thin, not inflated, papillose. **Sepals** 11.5 x 2 mm, spreading, free, narrowly spatulate-oblongate, obtuse, minutely apiculate, glabrous, fleshy, margin entire, spreading; dorsal sepal 3-veined, lateral sepals 4-5-veined. **Petals** 10.7 x 0.7 mm, spreading, filiform, apex slightly dilated, rounded, 1-veined, margin entire. **Lip** 9 x 11 mm, united to the column, 3-lobed, base slightly cordate, nearly as wide between the lobes of the mid-lobe as between the lateral lobes; callus single, laminar, the apex bilobed; disc with 3 narrow ribs, elongate, reaching the apical sinus; lateral lobes sub-quadrangle, the apical margin erose; mid-lobe deeply emarginated, forming a pair of linear-triangular, sub-obtuse, divaricate, falcate lobes, each 4 x 1.2 mm. **Column** 8 mm long, thin, straight, dilated towards the apex. **Clinandrium-hood** reduced, margin entire. **Rostellum** apical, slit. **Lateral lobes of the stigma** ¼ de length of the stigmatic cavity. **Nectary** cucullate, penetrating half of the ovary, not inflated, papillose. **Anther** ovoid, the apex truncate, 4-celled. **Pollinia** 4, bird-wing type, strongly laterally compressed, the inner pair slightly shorter. **Capsule** not seen.

**OTHER SPECIMENS: ECUADOR: Morona Santiago:** Cordillera del Cóndor, Valle del Río Coangos, Río Tsurim, entre los centros Shuar de Numpatkain y Banderas, 1100 m, 21 X 1999, *Fuentes 1137*, MO! QCNE! **Zamora-Chinchipe:** west side of Río Valladolid, above Valladolid, 2100-2400 m, 15 X 1943, *Steyermark 54718*, AMES! F!

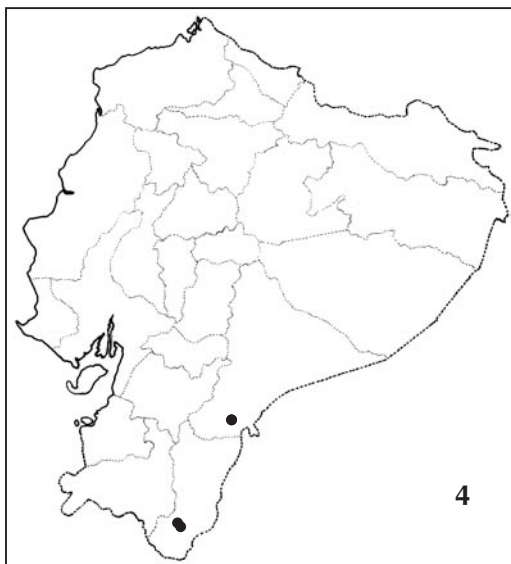
**DISTRIBUION AND ECOLOGY:** Known only from southern Ecuador, near above the town of Valladolid and Valle del Río Coangos, epiphytic, at [1100] 2100-3000 m altitude. Flowering from October to April.

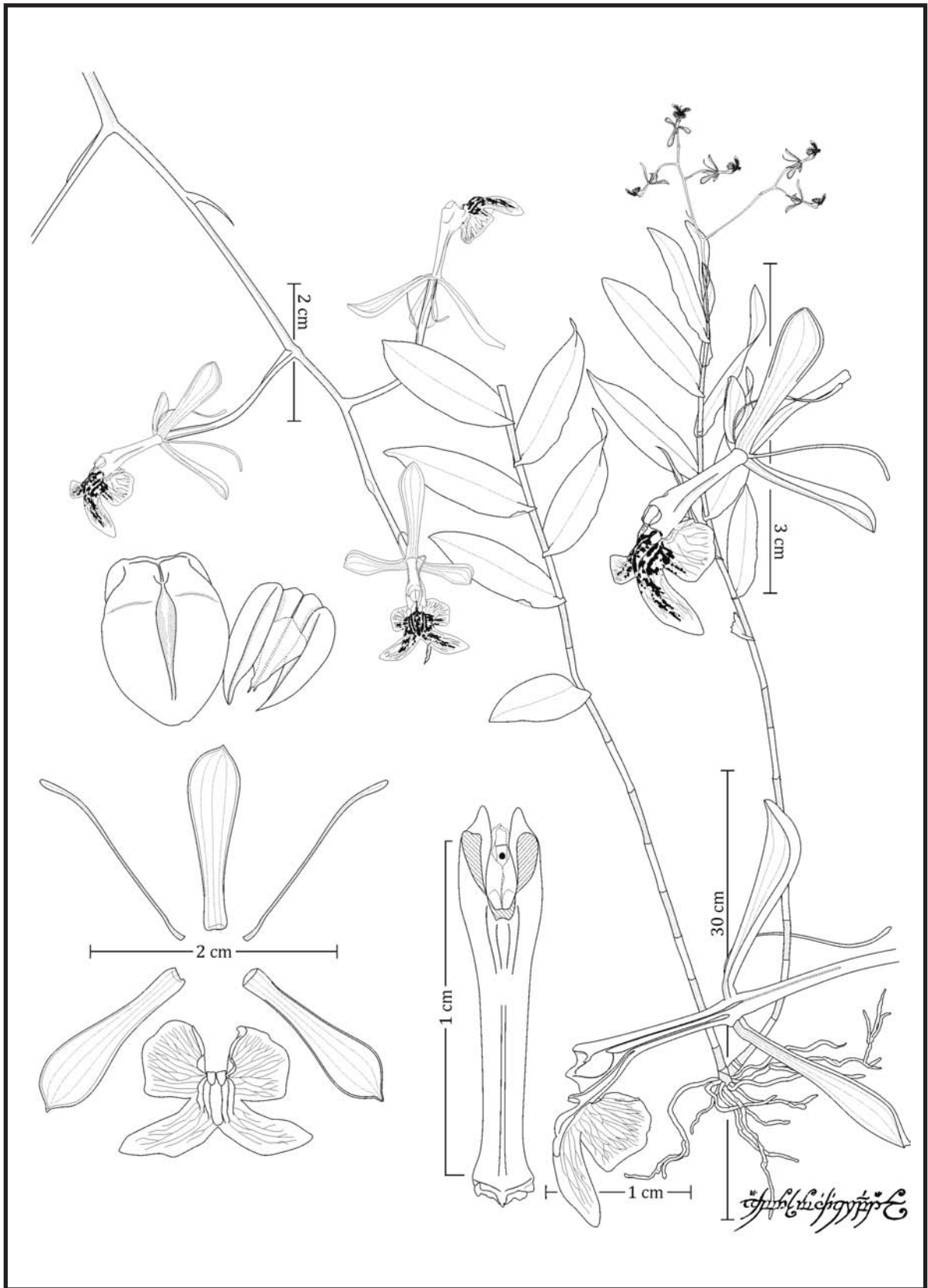
**RECOGNITION:** *Epidendrum vallisoletanum* belongs to the Pseudepidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and Paniculatum Subgroup, which has filiform petals, all pollinia "bird-wing" type, green and white flowers, often marked with purple on the disc of the lip and apex of the column. The species is recognized by the short plants, about 35 cm tall, green and white flowers, with purple dots on the base of the lip, the sub-quadrangle lateral lobes of the lip with the apical margin erose, the single callus apically bilobed and the papillose ovary. *Epidendrum jasminosmum* Hágsater & Dodson has taller plants (60-70 cm tall) with pale green and white, immaculate flowers, the lateral lobes of the lip sub-rectangular, the posterior margin erose, and the lip bicallose, the calli narrow and prominent, the ovary is unornamented, the flowers are fragrance of Jasmine. *Epidendrum paniculatum* Ruiz & Pav. is endemic to Peru, also has green and white flowers, the lip marked with red-purple dots on the disc of the lip, but the lateral lobes of lip are sub-orbicular, and the mid-lobe forms two long, narrow lobes which are falcate and arch up, somewhat parallel to the margin of the lateral lobes, the lip is bicallose with two small, sub-globose calli. *Epidendrum christensonii* Hágsater & E.Santiago, which is also found near Valladolid and south into Peru has green flowers, with a white, immaculate, bicallose lip, the lateral lobes are obliquely elliptic and the mid-lobe is short, deeply bilobed, the lobes strongly divergent, forming a 180° angle.

**NOTE:** The collector described the dots at the base of the lip as "maroon" which is a dark red-brown, and we think is an interpretation of a dark red-wine or purple, the color common to this group of species.

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

**ETYMOLOGY:** In reference to the town of Valladolid, in southern Ecuador, near where the species has been collected. The town is spelled in the traditional Latinized form, Vallisoletum.





EPIDENDRUM WERAKITIANUM Hągsater, O.Pérez & E.Santiago

Plate 1495

**EPIDENDRUM WEERAKITIANUM** Hágsater, O.Pérez et E.Santiago, *sp. nov.*

Type: COLOMBIA: Valle del Cauca: Municipio de Yumbo; Dapa, 3 April 2011, **Oscar Alejandro Pérez Escobar & Edicson Parra Sánchez 1106**. Holotype: VALLE! (Illustration voucher).

Simile *Epidendri paniculati* Ruiz & Pav. sed floribus paulo maioribus, lobulis lateralibus labelli dolabriformibus y disco praedito 5 costis fortiter purpureo signatis, basi lobulorum labelli similiter purpureo signatis.

Lithophytic, rupicolous, sympodial, caespitose, decumbent **herb**, ca. 65 cm tall. **Roots** ca. 3 mm in diameter, basal, fleshy, thin. **Stems** simple, cane-like, terete, 50 x 0.6 cm; the basal half covered by non-foliar, minutely striated, tubular sheaths 1.5-3.6 cm long. **Leaves** 12, distributed throughout the apical half of the stem, alternate, articulate, amplexicaul, erect-spreading, similar in size; sheath tubular, 1.2-3.0 x 0.3-0.6 cm, minutely striated, green; blade elliptic, 7-11 x 2-3.3 cm, acute, sub-coriaceous, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescence** apical, 14 cm long, paniculate, flowering only once, lax-, few-flowered; peduncle short, 5 cm long, straight, thin, provided with 1 lanceolate, acuminate, amplexicaul bract 1.5 cm long; rachis 9 cm long. **Floral bracts** 6-8 mm long, much shorter than the ovary, narrowly triangular, acuminate, amplexicaul. **Ovary** 21-22 mm long, terete, thin, not inflated, arching at the apical 1/3. **Flowers** 10-20, simultaneous, resupinate, sepals and petals and basal half of the column green, apical half of the column and lip white (turning yellowish with time), the lip with 5 reddish-purple lines on the ribs, lobes of the lip densely spotted with reddish-purple: fragrance not recorded. **Sepals** 15 x 4.3 mm, reflexed, free, oblanceolate-spatulate, obtuse, fleshy, slightly concave towards the apex, 3-veined, margin entire, spreading. **Petals** 17 x 0.7 mm, reflexed, free, filiform, apex rounded, 1-veined, oblique, margin entire, spreading. **Lip** united to the column, 10 x 15 mm, slightly convex, fleshy, 3-lobed, base cordate, margin entire; bicallose, the calli prominent, rectangular, disc provided with 5, fleshy, parallel ribs, which extend nearly to the apical sinus; lateral lobes dolabriform, 4.3 x 6 mm; mid-lobe 4.7 x 15 mm, widely emarginate, forming a pair of linear, acute, slightly divaricate lobes, each lobe 7.2 x 3.2 mm. **Column** 10 mm long, straight, thin along the basal 2/3, and gradually dilated towards the apex. **Clinandrium-hood** reduced, margin entire. **Anther** ovoid, 4-celled, with a low dorsal keel. **Pollinia** 4, bird-wing type; caudicles laminar, somewhat shorter than the pollinia. **Rostrum** apical, slit. **Lateral lobes of the stigma** prominent. **Nectary** thin, unornamented, without penetrating the ovary. **Capsule** not seen.

**OTHER SPECIMENS: COLOMBIA: Valle del Cauca:** Represa del Calima, 17 IX 1966, *Espinal 2041*, MO!

**OTHER RECORDS: COLOMBIA:** Without locality data, as *E. aff paniculatum* (1 y 2) photo C. Uribe s.n. (Ortiz & Uribe, 2007). Ibid. as *E. rodrigo* 2 photos C. Uribe s.n., (Ortiz & Uribe, 2007). **Antioquia:** without locality data, G. Escobar 677, slide, AMO! **Quindío:** Circasia, without collector data, photo published as *Epidendrum paniculatum* (Mejía de Moreno, 2007). **Valle del Cauca:** localidad Yumbo; corregimiento de Dapa, 1800 m, 13 XII 2009, *Parra & Pérez s.n.*, digital image, AMO!

**DISTRIBUTION AND ECOLOGY:** Known only from the Cordillera Occidental in southern Colombia the Cordillera Central in Quindío and Antioquia, lithophytic at 1770-2050 m altitude. Flowering from September to December, April.

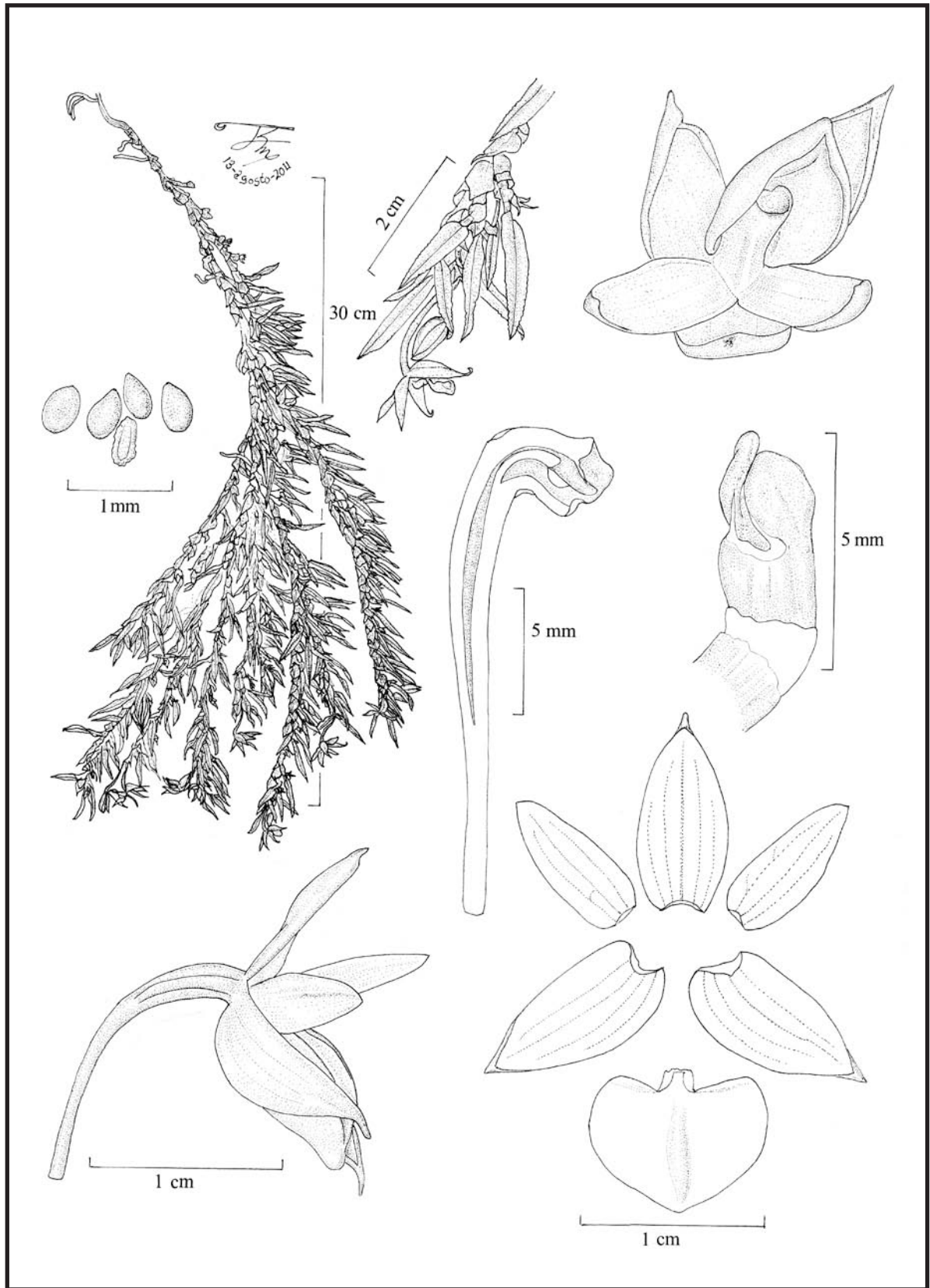
**RECOGNITION:** *Epidendrum weerakitianum* belongs to the Pseudopidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and Paniculatum Subgroup, which has filiform petals, all pollinia "bird-wing" type, green and white flowers, often marked with purple on the disc of the lip and apex of the column. The species is recognized by the mid-sized plants (65 cm tall), elliptic leaves, lax, few-flowered inflorescences, green colored flowers with the apex of the column and lip white, the lip with 5 ribs stained with purple, the reddish-purple spots spilled out towards the base of the lateral lobes. *Epidendrum paniculatum* Ruiz & Pav. has smaller flowers, (sepals 10-12 mm long), the lateral lobes of the lip sub-orbicular, and the mid-lobe formed by two linear-oblong, falcate, strongly divaricate lobes, the 3-ribbed disc is immaculate and surrounded by reddish-purple marks.

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

**ETYMOLOGY:** In honor of Weerakit Harnpariphan (1955- ), a medical doctor from Bangkok (Thailand), who has contributed greatly to the conservation of Colombian flora, especially of native species of Magnoliaceae from this country.

**REFERENCES:** Mejía de Moreno, E. 2009. *Orquídeas del Quindío*, Litografía Luz Armenia, pág. 58, Colombia. Ortiz V., P. & C. Uribe V. 2007, *Gallery of Colombian Orchids*, Da Vinci Editores, Bogotá-Colombia (DVD).





**EPIDENDRUM WOLFII** Hágsater & E.Santiago

Plate 1496



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

Type: COLOMBIA: Risaralda: Municipio de Santa Rosa de Cabal; Camino real entre Termales de Sta. Rosa y Hda. La Sierra, 3370 m, 24 February 1986, *Jan Wolf 792*. Holotype: SEL! (Illustration voucher) Isotype: COL!

Similar to *Epidendrum carmelense* Hágsater & Dodson but the stems are bifoliate, the flowers pink, immaculate, the column forming a 90° angle with the ovary, clinandrium-hood reduced, the margin entire, and lip widely cordiform with an evident, wide mid-rib.

Epiphytic, sympodial, pendent **herb**, to ca. 30 cm long, with successive lateral growths, forming long chains of short stems, which are produced from the base of the previous stem. **Roots** 1 mm in diameter, terete, thin, white, generally produced from the basal stems only. **Stems** 10-15 x 0.5-1.5 mm, simple, cane-like, terete, thin, short, pendent, secund, facing the same direction, the base covered by infundibuliform, non-foliar sheaths 7-9 mm long. **Leaves** 2, aggregate at the apex of the stems, sub-pendent, coriaceous, articulate, similar in size and shape; sheaths 2-3 mm long, tubular, minutely striated when dry; blade 11-27 x 2-4 mm, linear-lanceolate, acuminate, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescence** apical, sessile, two-flowered, flowering only once. **Floral bracts** 3-4 mm long, much shorter than the ovary, linear-lanceolate, acuminate, amplexicaul. **Flowers** 2, successive, opposite, non-resupinate, pink colored; fragrance not registered. **Ovary** 19-21 mm long, terete, thin, not inflated, longitudinally striated along the apical half, just behind the perianth. **Sepals** 10.5-11 x 5 mm, free, partly spreading, ovate-elliptic, acute, apiculate, 4-5-veined, margin entire, spreading; the lateral sepals oblique. **Petals** 8.5 x 3.4 mm, free, partly spreading, narrowly ovate, obtuse, 3-veined, margin entire, spreading. **Lip** 7.3 x 10 mm, united to the column, entire, widely cordiform, base sub-cordate, apex obtuse, margin entire, somewhat involute, the lip concave in natural position; ecallose; disc with a wide mid-rib reaching the apex of the lip. **Column** 5 mm long, forming a 90° angle with the ovary, thick, arching slightly upwards, apex with a pair of rounded teeth. **Anthor** not seen. **Pollinia** ovoid, caudicles soft and granulose, nearly as long as the pollinia. **Rostellum** apical, slit. **Lateral lobes of the stigma** short, about half as long as the stigmatic cavity. **Nectary** very short, without penetrating the ovary, wide, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Known only from the type, from the Cordillera Central in Risaralda, Colombia, epiphytic on *Weinmannia mariquitae* Szyszyl., growing at 3370 m altitude, in andean forest with *Neurolepis sp.*, *Weinmannia mariquitae*, and *Weinmannia tolimensis* Cuatr. Flowering in February.

**RECOGNITION:** *Epidendrum wolfii* belongs to the Kalopternix Group, Garayi Subgroup which is recognized by pendent chain of stems, arising each from a sub-apical internode of the previous stem, each with 1-3 linear-lanceolate, inflorescence apical, flowering only once, 1-2 flowered, the flowers non-resupinate, greenish to reddish, de lip cordiform. The species is recognized by the short, bifoliate, cane-like stems, linear-lanceolate leaves 1.1-2.7 cm long, the sessile, two-flowered inflorescence, successive and apposite, pink, immaculate flowers, the lip widely cordiform with the apex obtuse, the disc with a single evident, low, wide rib running down the middle. *Epidendrum carmelense* Hágsater & Dodson forms pseudobulbs at the end of the stems which are unifoliate, leaves are 3.5-8.5 cm long, with 1-2 greenish to ochre flowers with reddish dots, the lip is reniform, without any ribs. *Epidendrum garayii* Løjtnant has 2-3-leaved stems, the leaves linear-lanceolate, up to 5 cm long, flowers purplish green, the lip cordiform with the apex acuminate, the disc has 3 thickened veins running nearly the entire length of the lip.

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

**ETYMOLOGY:** In honor of Jan Wolf, of the University of Amsterdam. He has collected extensively in Colombia, and is part of the Eden Project, Canopy Foundation (Stichting Het Kronendak) in The Netherlands. He studied altitudinal transects of epiphytic flora across Colombia in the 1980's, and collected the type.



Authors: E. Hágsater & E. Santiago

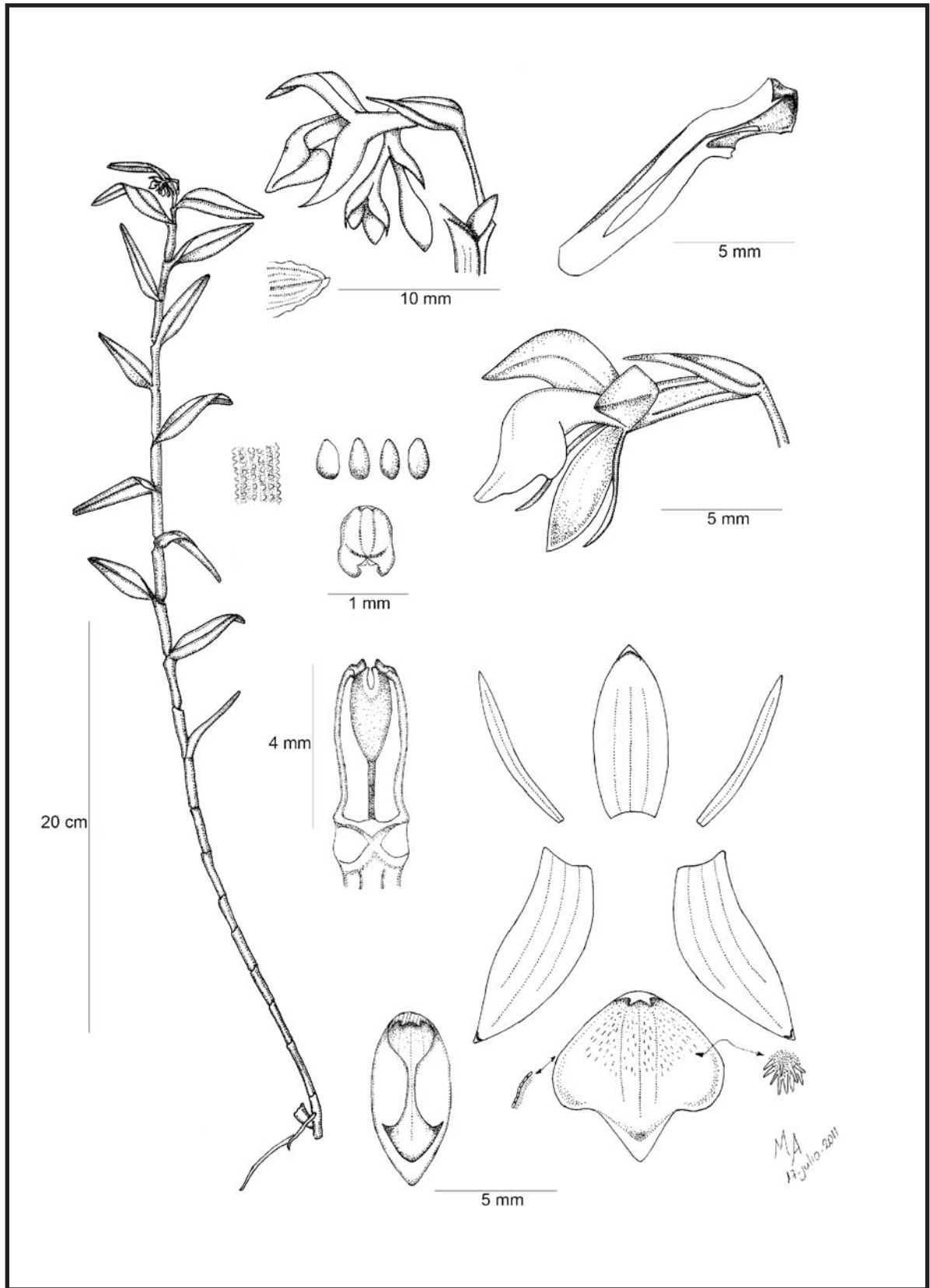
Illustrator: R. Jiménez M.

Editors: E. Hágsater & L. Sánchez S.

Herbario AMO

México, D.F. MÉXICO

ICONES ORCHIDACEARUM 14. 2013. Plate 1496



EPIDENDRUM YANESHARUM Acuña-Tarazona, Chocce-Peña & Hágsater

Plate 1497

**EPIDENDRUM YANESHARUM** Acuña-Tarazona, Chocce-Peña et Hągsater, *sp. nov.*

Type: PERÚ: Pasco: Oxapampa: Parque Nacional Yanachaga-Chemillén: sector Quebrada Yanachaga, bosque montano húmedo, 3170 m, 17 de noviembre de 2009, *Margoth Acuña-Tarazona, R. Rivera & J. Mateo 357.*

Holotype: USM! (Illustration voucher).

Simile *Epidendri chinchaoënsis* Hągsater, D.Trujillo & E.Santiago sed apice sepalorum acuto, labello distincte trilobato lobulo medio triangulari et acuto, disco labelli pubescente, nectario non ornato.

Epiphytic, erect, monopodial, branching **herb** ca. 50 cm tall. **Roots** basal, thin, ca. 2 mm in diameter, fleshy. **Stems** cane like, 46.5 x 0.2-0.4 cm, terete, erect, straight, branching, the branches produced from sub-apical internodes of the stem; stems covered at the base by tubular, non-foliar, scarios sheaths, 1.7-3 cm long. **Leaves** 15, distributed throughout the apical half of the stems, alternate, articulate, coriaceous; sheath tubular, 0.6-2.5 cm long, striated, rugose; blade lanceolate, 3.8-4.7 x 0.7-1.0 cm, with a low dorsal keel, apex unequally bilobed, margin crenate. **Spathaceous bract** lacking. **Inflorescence** apical, 1.4 cm long, racemose (a new raceme is produced from the same peduncle when still in bloom), arching, sub-sessile, few-flowered; peduncle terete, 7 mm long, thin (not filiform), short, straight, subtended by a basal, triangular-ovate, acute, amplexicaul, short bract of 3 mm long; rachis terete, 7 mm long, thin, straight. **Floral bracts** prominent, 3.2-6.4 mm long, nearly as long as the ovary, triangular, acuminate, amplexicaul. **Flowers** 4, successive, 2 blooming at one time, non-resupinate, yellowish green, without fragrance. **Ovary** terete, 7 mm long, thin, striated, not inflated. **Sepals** partly spreading, free, acute, concave, the apex with a low dorsal keel, 3-veined, margin entire, spreading, the dorsal sepals elliptic, 7 x 3 mm, the lateral sepals oblong-elliptic, 8.5 x 3 mm, oblique, slightly falcate. **Petals** partly spreading, free, linear, acute, 7.2 x 0.5 mm, slightly arching, 1-veined, margin entire, spreading. **Lip** united to the column, embracing the apex of the column in natural position, concave, 3-lobed, 7 x 7 mm, fleshy, base cuneate, margin entire; ecallose, the disc pubescent, lateral lobes obliquely ovate, 2.6 x 4.8 mm, apex rounded; mid-lobe triangular, 2 x 3 mm, sub-acute. **Column** 4 mm long, slightly arching upwards, thickened, short. **Clinandrium-hood** reduced, margin entire. **Anther** ovoid, apex bidentate, with a low rounded rib in the middle of the dorsal surface, 4-celled. **Pollinia** 4, obovoid, laterally compressed. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** short, without penetrating the ovary, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Known only from the type collected in the Province of Oxapampa, Pasco Region, Perú. Epiphytic on tree trunk in montane forest, at 3170 m altitude. Flowering in November.

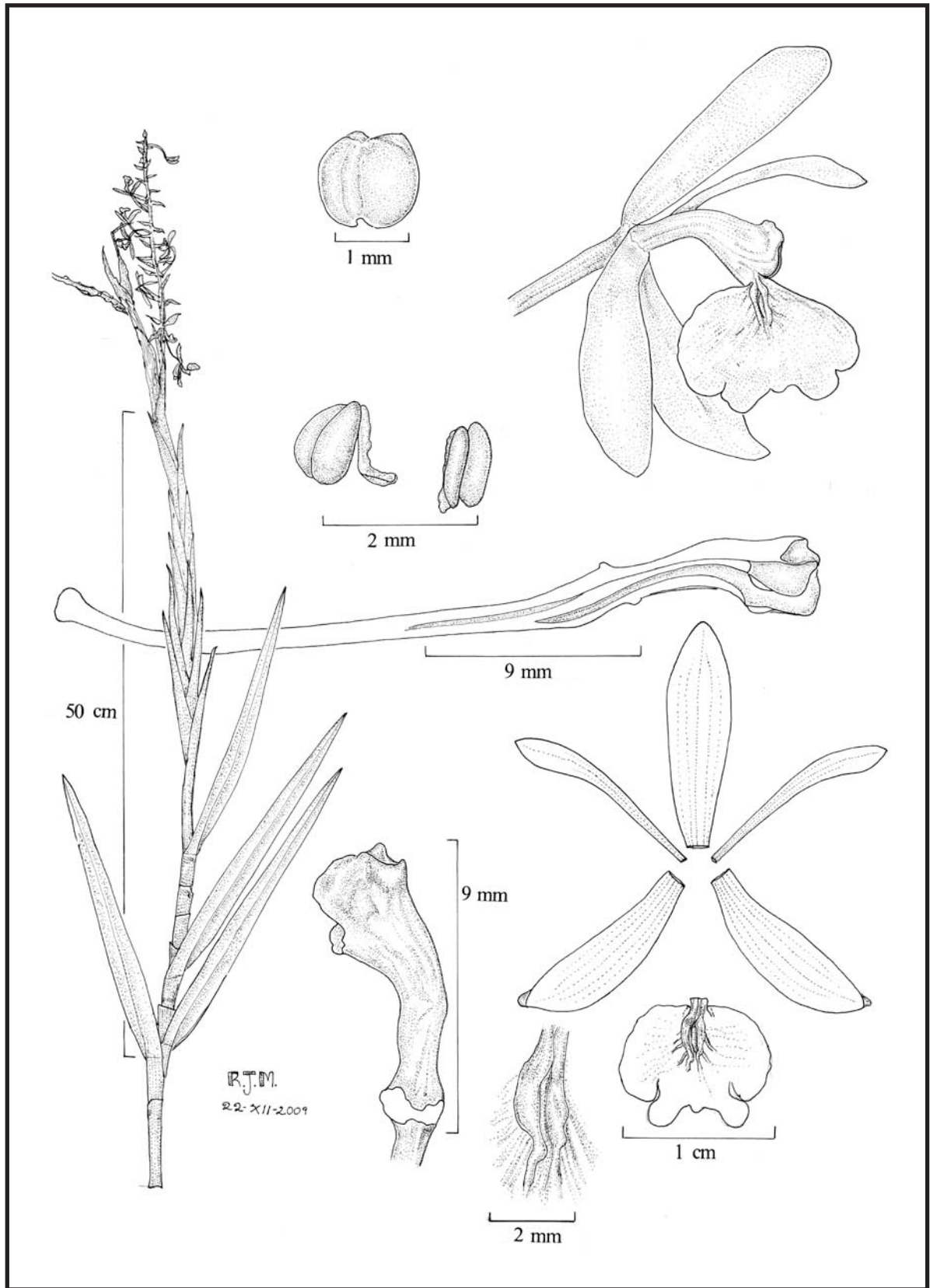
**RECOGNITION:** *Epidendrum yanesharum* belongs to the Eleanthoides Group, Rhombochilum Subgroup which is characterized by the branching habit, small fleshy leaves and a short 3-4 flowered, nutant inflorescence on a short thick peduncle. The species is recognized by the lanceolate leaves 3.8-4.7 x 0.7-1 cm; the sub-sessile inflorescence that produces successive racemes when the previous raceme is still in flower; lateral sepals oblong-elliptic, acute, 7-8 mm long, the lip clearly 3-lobed, its base cuneate, and the 4 pollinia. *Epidendrum chinchaoënsis* Hągsater, D.Trujillo & E.Santiago is vegetatively very similar but the lateral sepals are lanceolate, strongly falcate and acuminate; the lip is entire with the apex long-acuminate, and the column geniculate at the base with respect to the ovary. *Epidendrum oripicoranense* Hągsater & E.Santiago has shorter, lanceolate-oblong leaves, 0.6-2.3 x 0.2-0.3 cm; the inflorescence is distichous, non-successive, sepals elliptic, 5-6 mm long, and the flowers are greenish purple with a cream-colored lip.

**CONSERVATION STATUS:** DD (data deficient). Uncommon in the mountain forest where the type was collected.

**ETYMOLOGY:** In honor of the Yanessa people, an ethnic group from the central rainforest of Peru, mainly from the province of Oxapampa. These people have an amazing cultural legacy that we need to preserve.

**ACKNOWLEDGEMENTS:** We thank the staff at the San Marcos Herbarium USM, Yanachaga-Chemillén National Park and Missouri Botanical Garden Oxapampa-Perú for their support.





EPIDENDRUM YOUNGII Hágsater & E.Santiago

Plate 1498

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

Type: PERU: San Martín: Prov. Mariscal de Cáceres, [hill past]\* Las Palmas, [basin of the Río Montecristo], Noroeste del Parque Nacional Río Abiseo, 2350-2500 m, [7°38'48" S, 77°23'30" W], 13 Agosto 1986, **Kenneth R. Young 4311**.

Holotype: USM 166808! (Illustration voucher.)

Simile *Epidendri exaltati* Kraenzl. sed inflorescentia longiore, erecta, floribus paulo maioribus, petalis leviter falcatis et lobulo medio labelli bilobato, lobulis rotundatis et inter se separatis sinu valde lato.

Terrestrial, caespitose, simpodial **herb**, more than 80 cm tall. **Roots** not seen. **Stems** thick, 1 cm in diameter, cane-like, simple, erect, straight. **Leaves** numerous, distributed throughout the stems, distichous, articulate, sub-erect, coriaceous; sheath tubular, 2.1-2.5 x 0.8-1.0 cm, minutely striated; blade 23-25 x 1.8-2.0 cm, lanceolate, long and somewhat narrow, acuminate, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescence** 55 cm long, apical, racemose, producing new successive racemes with time from within the imbricating bracts over several years and then pluriracemose, erect; peduncle 33 cm long, erect, long, totally hidden by ca. 13 prominent, imbricating, ancipitose, conduplicate, long acuminate bracts, 4.5-12 x 0.9-1.0 cm; rachis 17 cm long, lax-flowered, laterally compressed. **Floral bracts** 4-17 mm long, shorter than the ovary, lanceolate, acuminate, amplexicaul, progressively shorter. **Ovary** 20-24 mm long, terete, thin, not inflated. **Flowers** ca. 40 per raceme, simultaneous, resupinate. **Sepals** 13.5-14 x 3.5-4.2 mm, sub-spreading, free, oblanceolate, sub-obtuse, 5-veined, margin entire, spreading; the lateral sepals oblique, with a low dorsal apical keel. **Petals** 13 x 1.5 mm, partly spreading, free, linear-lanceolate, slightly falcate, obtuse, 3-veined, margin entire, spreading. **Lip** 8 x 10 mm, united to the column, 3-lobed, base truncate; bicallose, the calli narrow, low; disc with short thickened veins; lateral lobes 3.5 x 6.3 mm, reniform, margin irregular; mid-lobe 3 x 7 mm, transversely rectangular, bilobed (the lobes rounded), with a very wide apical sinus, minutely apiculate; the mid-lobe is separated from the lateral lobes by a wide isthmus and narrow sinuses nearly parallel to the axis of the lip. **Column** 9 mm long, basal half thin, then widened towards the apex, slightly arching at the middle. **Clinandrium-hood** reduced, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, obovoid, laterally compressed; caudicles soft and granulose, slightly longer than the pollinia. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** just penetrating behind the perianth, thin, not inflated, unornamented. **Capsule** not seen.

**OTHER SPECIMENS:** None seen.

**DISTRIBUTION AND ECOLOGY:** Known only from northern Peru, on the Amazon slope of the Cordillera Oriental of the Andes, on the SE edge of the Parque Nacional Río Abiseo at 2350-2500 m altitude, terrestrial in 15 to 25 m tall forest, with canopy and sub-canopy trees from *Styrax*, *Pouteria*, *Guettarda*, *Ruagea*, *Nectandra*, *Delostoma*, *Ficus*, *Casearia*, *Miconia*, *Styloceras*, *Maytenus*, *Allophylus*, *Solanum*, *Myrsine*, *Cestrum*, *Citronella*, *Clusia*, *Mollinedia*, *Rhodostemonodaphne*, *Stylogyne*, *Guatteria*, *Escallonia*, *Cinchona*, *Gaidendron*; plus shrubs/small trees from *Palicourea*, *Piper*, *Siparuna*, *Cornus*, *Cantua*, *Saurauia*, *Oreopanax*, and *Schefflera*. Flowering in August. *Meliosma youngii* A. Gentry was described from this same locality and expedition (Gentry, 1992).

**RECOGNITION:** *Epidendrum youngii* belongs to the Cnemidophorum Subgroup of the Cristatum Group, recognized by the cane-like stems, numerous large, narrow leaves, apical inflorescence subtended by several large, acute, imbricating bracts, racemose, nutant or erect inflorescence with fleshy flowers, and a three-lobed lip with entire margins. The species is recognized by the slightly falcate, 3-veined petals, the 3-lobed lip, the mid-lobe transversely rectangular with a very wide apical sinus, minutely apiculate, bilobed (the lobes rounded), column arched in the middle. *Epidendrum oreonastes* Rchb.f. has straight, linear-oblanceolate, 1-veined petals; the mid-lobe of the lip is entire and apically truncate, column straight. *Epidendrum exaltatum* Kraenzl. has shorter inflorescences, smaller flowers (sepals 10 mm long), straight, 3-veined petals, and the mid-lobe of the lip is rectangular, truncate and minutely apiculate.

\***NOTE:** We wish to thank Dr. Kenneth Young for his detailed collection information and personal notes of this field trip.

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

**ETYMOLOGY:** In honor of the collector of the type, Kenneth R. Young, contemporary biologist with interests in biogeography, landscape ecology, climate change, sustainability, and tropical environments; with widespread experience in Peru and elsewhere in the neo-tropics. He is currently associated with the University of Texas at Austin.

**REFERENCE:** Gentry, Alwyn H., 1992, Four New Species of *Meliosma* (Sabiaceae) from Peru. *Novon* 2(2): 155-158



Authors: E. Hágsater & E. Santiago

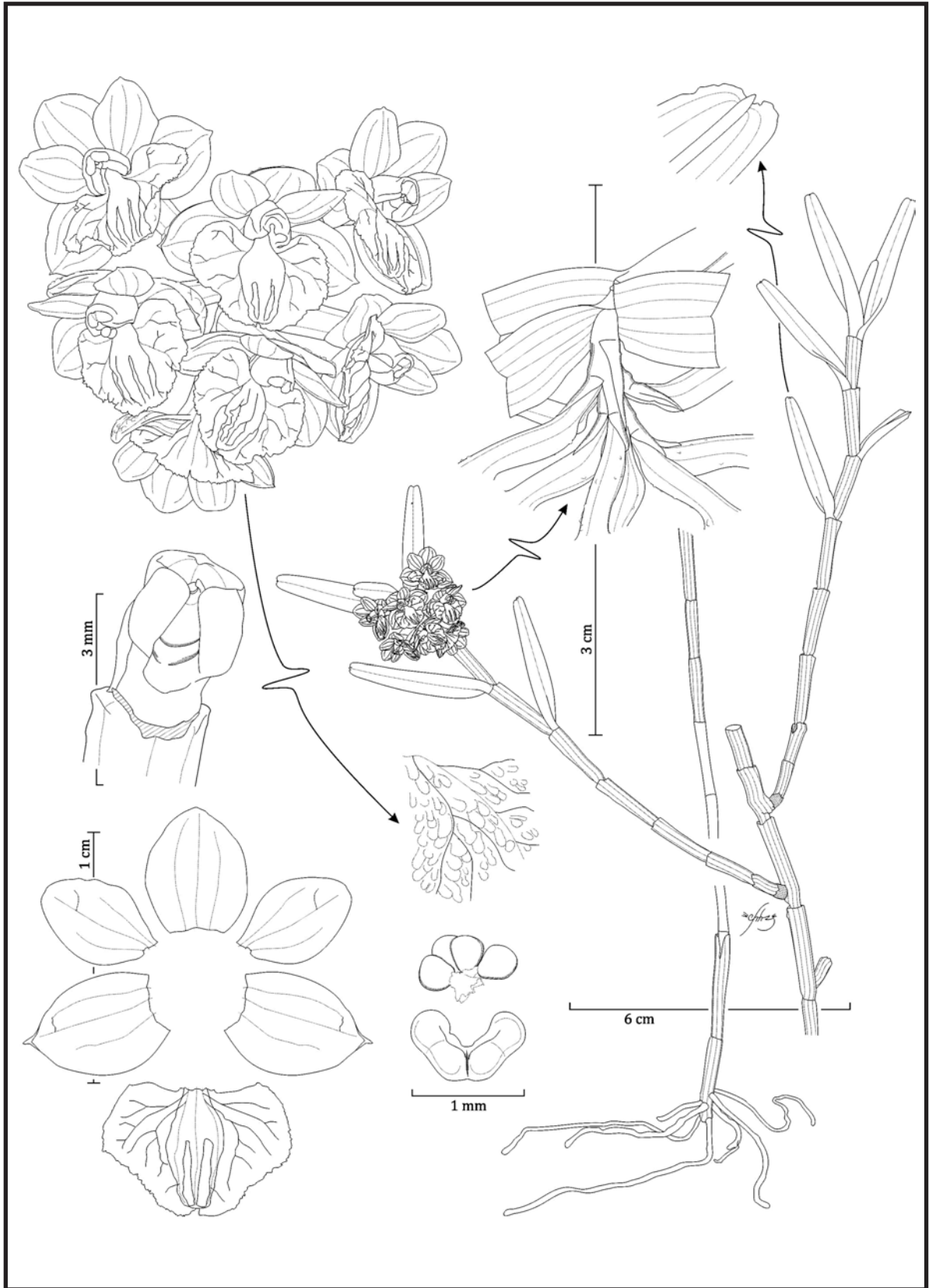
Illustrator: R. Jiménez M.

Editors: E. Hágsater & L. Sánchez S.

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ICONES ORCHIDACEARUM 14. 2013. Plate 1498



EPIDENDRUM YUMBOËNSE Hágsater, O.Pérez & E.Santiago

Plate 1499

**EPIDENDRUM YUMBOËNSE** Hágsater, O.Pérez et E.Santiago, *sp. nov.*

Type: COLOMBIA: Valle del Cauca: Municipio de Yumbo; Dapa, growing on trees of *Meriania* and *Tibouchina* (Melastomataceae), 2000 m, 20° C, 28 August 2010, **Oscar Alejandro Pérez Escobar, Terry González & Angela González 831**. Holotype: VALLE! (Illustration voucher). Isotype: CUVC! (Digital images of pretype, AMO! photo voucher.)

Simile *Epidendri podocarpophili* Schltr. sed floribus pallide roseis disco aurantiaco, petalis ovatis marginibus integris et labello late reniformi-pentagonali praedito 3 carinis singularibus, brevibus atque tenuibus coalescentibus in unam carinam versus apicem laminae.

Epiphytic, monopodial, branching **herb** 28-41 cm tall. **Roots** basal, both from the basal stem as well as occasionally from branches, fleshy, white. **Stems** cane-like, terete, thin, erect, straight; main stem 20 x 0.3 cm; branching when mature, the branches 10 x 0.3 cm, arising from the sub-apical internodes of the previous stem. **Leaves** 6-7, distributed along the apical half of the stems, erect-spreading, alternate, articulate, coriaceous, green with the margin tinged purple; sheaths 3-20 x 3-4 mm, tubular, striated, purple-green; blade 11-40 x 3.7-6.5 mm, oblong-lanceolate, apex truncate, bilobed, minutely aristate, margin entire. **Spathaceous bract** lacking. **Inflorescence** apical, racemose, arching-nutant, short, dense-flowered, peduncle ca. 7 mm long, rachis very short. **Floral bracts** 2-5 mm long, much shorter than the ovary, triangular-lanceolate, acuminate. **Flowers** 9, simultaneous, resupinate, small, fleshy, glabrous, pustulate at the upper side of the elements of the perianth, pale pink to yellow with the disc orange-yellow; fragrance not registered. **Ovary** 8.5 mm long, slightly flattened, ventrally inflated along the apical 2/3, forming an obvious elongate vesicle, scarcely pustulate, arched towards the apex. **Sepals** spreading, free, slightly concave, 3-veined, margin entire, spreading; **dorsal sepal** 5 x 4 mm, ovate-orbicular, apex rounded; the **lateral sepals** 6 x 4 mm, obovate, sub-obtuse, apex mucronate. **Petals** 5 x 3.1 mm, spreading, free, ovate, wide, apex rounded, base oblique, unequal, 3-veined, margin entire, spreading. **Lip** 5.5 x 7.5 mm, united to the basal half of the column, widely reniform-pentagonal, base cordate, apex shallow-emarginate, margin irregularly erose-denticulate, entire towards the base; ecallose, disc with 3 smooth ribs extending to the apex of the lip, and fused towards the base into one wide thickening. **Column** 3 mm long, short, thick, slightly arched with respect to the ovary, straight. **Clinandrium-hood** short, margin entire. **Anther** reniform, 4-celled. **Pollinia** 4, obovate, laterally compressed, hard. **Rostellum** apical, slit. **Lateral lobes of the stigma** not seen. **Nectary** deep, penetrating 3/4 of the ovary, wide, unornamented. **Capsule** not seen.

**OTHER SPECIMENS: COLOMBIA: Valle del Cauca:** Cordillere Occidentale de Cali, 2000 m, 15 VIII 1883, *Lehmann 3022*, G! Yumbo, Dapa, en frente de la Finca "Cielo Azul", ca. 1900 m, 31 VII 2010, *Pérez 818*, CUVC! Cerro El Ingles, Serranía de los Paraguas, 2260-2300 m, 3 I 1987, *Silverstone-Sopkin 2903*, AMO! CUVC! MO!

**OTHER RECORDS: COLOMBIA: Valle del Cauca:** Mun. El Cairo, Reserva Natural Cerro El Ingles, 2169 m, 12 VII 2011, *García-Revelo 13*, digital image, AMO!

**DISTRIBUTION AND ECOLOGY:** So far only known from the upper Pacific slope of the western Cordillera of the Andes, in southern Colombia, in the Valle del Cauca. Epiphytic at 2000-2300 m in cloud forest; grows frequently on trees of *Meriania sp.* and *Tibouchina sp.* (Melastomataceae), at the edge of forest. Flowering from July to January.

**RECOGNITION:** *Epidendrum yumboënsense* belongs to the Diathonea Group and Subgroup, characterized by the branching habit, linear-lanceolate to lanceolate, bilobed leaves, arching-nutant, racemose inflorescence, membranaceous or rarely fleshy flowers, the lip entire to 3-lobed, with an erose margin, ecallose, without or with 1-10 thin, smooth to erose keels, the column united to the lip from totally to obliquely to free. The species is recognized by the oblong-lanceolate leaves 1.1-4 cm long, ovary ventrally inflated along the apical 2/3, forming an obvious elongate vesicle, sparsely pustulate, inflorescence with some 9, pale pink to yellow flowers, the disc orange-yellow, sepals 5-6 mm long, ovate-orbicular to obovate, oblique, petals ovate, wide, ca. 5 x 3 mm, the lip entire, widely reniform-pentagonal, shallowly emarginate with 3 smooth keels, fused at the base, and extending to the apex. *Epidendrum podocarpophilum* Schltr. has pale orange flowers, the ovary is not inflated, oblong-elliptic sepals, obovate-spatulate petals and a 3-lobed lip has 3 short, rounded keels. *Epidendrum caesaris* Hágsater & E.Santiago has oblong-lanceolate leaves 3.8-8.5 cm long, inflorescence with 4-19 pale pink, translucent-colored flowers, ovary slightly inflated, sepals widely elliptical, 8-8.5 mm long, petals narrowly ovate, 7 x 2.9 mm, and a cordiform lip with 3-5 smooth keels than only reach the middle of the lip, and a strongly arched column. *Epidendrum restrepoanum* A.D.Hawkes has carmine-red flowers, the ovary is not inflated, sepals are elliptic-obovate, 6-9 mm long, petals narrowly elliptic, margin slightly erose, 6.8-7.5 mm long.

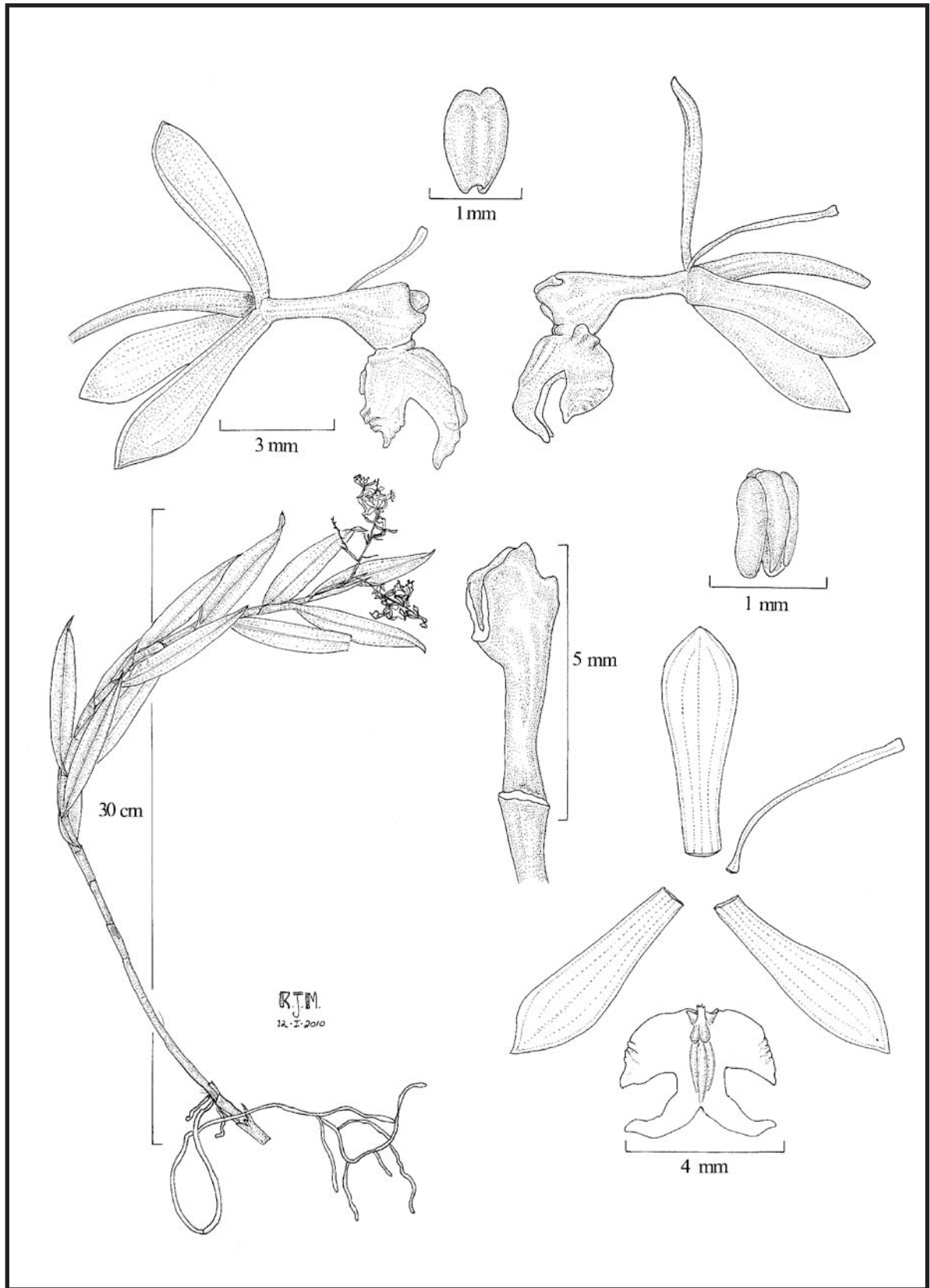
**CONSERVATION STATUS:** DD. Data deficient.

**ETYMOLOGY:** Named after the municipality of Yumbo, Valle del Cauca, where this species has been collected, at higher altitudes in cloud forest.

**REFERENCES:** Hágsater, E., & E. Santiago, 2007, *Epidendrum caesaris*, in E. Hágsater & L. Sánchez S. (eds.) **Icon. Orchid.** 9: t. 915. Hágsater, E., & E. Santiago, 2007, *Epidendrum restrepoanum*, in E. Hágsater & L. Sánchez S. (eds.) **Icon. Orchid.** 9: t. 979. Santiago, E., & E. Hágsater, 2009, *Epidendrum podocarpophilum*, in E. Hágsater & L. Sánchez S. (eds.) **Icon. Orchid.** 12: t. 1277.



Authors: E. Hágsater, O. Pérez & E. Santiago Illustrator: O. Pérez Photo: J. S. García Revelo Editors: E. Hágsater & L. Sánchez S.  
Herbario AMO México, D.F. MÉXICO ICONES ORCHIDACEARUM 14. 2013. Plate 1499



EPIDENDRUM YUNGASENSE Rolfe

Plate 1500



**EPIDENDRUM YUNGASENSE** Rolfe, Mem. Torrey Bot. Club 4: 262. 1895.

Type: BOLIVIA: [La Paz:] Yungas, 1890, **Miguel Bang 572**. Holotype K-L! Isotypes: AMES x2! E! G! LE! MO! NYx2! PR! US 27318! (Illustration voucher), US 814272! W-R!

Synonym: *Epidendrum trichopetalum* Schltr., Repert. Spec. Nov. Regni Veg. 12: 491. 1913. Type: BOLIVIA: im Bergwald von Tres Cruces, 1450 m, February 1911, **Theodore Herzog 1568**. Holotype: B, destroyed. Illustration of flower of type published in Mansfeld, R., Repert. Spec. Nov. Regni Veg., Beih. 58; t. 46, nr. 183. 1930. Lectotype (designated by Christenson, 1996): L! Isolectotypes: S! (Illustration, AMO!) Z!

Epiphytic, sympodial, caespitose **herb** 25-40 cm tall. **Roots** from the base of the main plant and from the keikis, thin, white, 0.5-1 mm in diameter. **Stems** simple, cane-like, 15-33 x 0.25-0.4 cm, laterally compressed, ancipitose, arching-pendent; the base covered by tubular, non-foliar sheaths, 1.2-1.3 cm long, becoming fibrous with time. **Leaves** 7-13, distributed throughout the apical half of the stems, articulate, distichous, unequal in size (the basal ones smaller); sheath tubular, 1.5-2 cm long, laterally compressed, ancipitose, slightly striated; blade oblong-lanceolate, acute, 7-8.7 x 1.0-1.3 cm, margin entire. **Spathaceous bract** lacking. **Inflorescence** apical, 8 cm long, flowering only once, paniculate, arching, laxly many-flowered; peduncle thin, 3-6 cm long, laterally compressed; bracts of the peduncle 2-3, conduplicate, acuminate, 3-4 cm long, ancipitose; occasionally producing a new plantlet or keiki from each bract of the peduncle; rachis with 2, short, spreading racemes, 3 cm long, each subtended by a basal bract similar to the floral bracts but larger, 1.5-2.5 cm long. **Floral bracts** shorter than the ovary, linear-lanceolate, acuminate, 1-6 mm long. **Flowers** 40, simultaneous, resupinate, white or green with the lip and apex of the column white, occasionally with purple dots around the disc. **Ovary** teretes, 7 mm long, thin, not inflated, smooth. **Sepals** reflexed, free, glabrous, fleshy, oblanceolate-spatulate, acute, 6-6.5 x 2 mm, 3-veined, margin entire, spreading. **Petals** reflexed, free, filiform, apex rounded, 6 x 0.2 mm, 1-veined, margin entire, spreading. **Lip** united to the column, 3-lobed, 3.5-6 x 4-6 mm, base truncate; bicallose, the calli small, globose; disc 3-keeled, the central keel reaching the apical sinus, the lateral pair shorter; lateral lobes oblong-elliptic, somewhat falcate, 2-2.5 x 1.5-2 mm, the apical angle obtuse, margin undulate, somewhat laterally placate; mid-lobe bilobed, the lobes divaricate, each lobe 1.5-2.5 x 0.5-0.8 mm, narrowly triangular, obtuse, margin entire. **Column** straight, 5-6 mm long, the basal half very thin and then abruptly dilated towards the bidentate apex- **Clinandrium-hood** short, margin entire. **Anther** ovoid, 4-celled. **Pollinia** 4, "bird wing" type, sub-equal, caudicle laminar. **Rostellum** sub-apical, slit. **Lateral lobes of the stigma** small, half as long as the stigmatic cavity. **Nectary** shallow, barely penetrating the perianth. **Capsule** not seen.

**OTHER SPECIMENS: BOLIVIA:** Without locality data, Hort. J. & L. Orchids, 14 VIII 1987, J. & L. Orchids 484-170 sub Hágsater 7699, AMO x2! Ibid. 29 VII 1993, J. & L. Orchids 484-170 sub Hágsater 11393, AMO! (photo voucher). Ibid. 19-20 VI 1998, J. & L. Orchids 484-170 sub Hágsater 11832, AMO x3! **Cochabamba:** Chapare, Villa Tunari, 1700 m, 31 XII 1982, Fernández 7997, MO! NY! **La Paz:** N of Cajuata, between Turculi and Loma Linda, ca. 1970 m, 26 XII 1989, Dorr 6815, AMES! MO! NY! Nor Yungas, Yolosa, 1700 m, 5 IV 1984, Solomon 12233, MO!

**OTHER RECORDS: BOLIVIA: Cochabamba:** Chapare, El Sillar, 1800 m, 16 XII 1978, Vásquez 82, illustration published as *Epidendrum parviflorum* in Icon. Pl. Trop. II 3: pl. 226

**DISTRIBUTION AND ECOLOGY:** Known only from northwestern Bolivia, from the upper eastern slopes of the Andes, epiphytic at 1500-1800 m altitude. Flowering July, December to April.

**RECOGNITION:** *Epidendrum yungasense* belongs to the Pseudopidendrum Group which is characterized by caespitose plants, cane-like stems, acute to acuminate leaves, usually apical inflorescence, the mostly filiform petals and the lip usually 3-lobed (with 3 parallel fleshy keels), the apical lobe often bifurcate, the "bird-wing" type pollinia, at least the inner pair, and Paniculatum Subgroup, which has filiform petals, all pollinia "bird-wing" type, green and white flowers, often marked with purple on the disc of the lip and apex of the column. The species is recognized by the small, arching, pendent plants, the stems thin and ancipitose produce keikis from the nodes of the peduncle of lax inflorescences, flowers small, and sepals 6-6.5 mm long, the column is very thin along the basal half and dilated apically, 6 mm long. *Epidendrum parviflorum* Ruiz & Pavón has erect stems, sepals 5 mm long, a very short, thick column, 3 mm long, and a single callus on the lip. *Epidendrum poeppigii* Hágsater has linear-lanceolate, long, acuminate leaves, successive flowers and a short thick column 3 mm long. *Epidendrum porphyreodiscum* Hágsater, D. Trujillo & E. Santiago is endemic to Peru, and has a solid purple spot on the disc of the lip, the lateral lobes of the lip are rectangular and spreading, not falcate.

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

**ETYMOLOGY:** In reference to the provinces of Yungas, in the Department of La Paz, Bolivia, where the species was collected. The word derives from the Quechua, "yunka", a warm valley and designates the valleys between the Amazon and the upper Andes, which are rich in biodiversity.

**REFERENCE:** Christenson, E.A., 1996, Notes on Tropical Orchidaceae, *Lindleyana* 11(1):16. Dodson, C. & R. Vásquez in C. Dodson, 1989, *Epidendrum parviflorum* R. & P., *Icon. Pl. Trop. II* 3: pl. 226. R. Vásquez & P.L. Ibisch. 2004. *Orquideas de Bolivia. Diversidad y estado de conservación*. Vol. II. Subtribus: Laeliinae-Polystachyinae-sobraliinae, pp 141-142, 166, 227, 252.



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Herbario AMO

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