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SPECIES ORCHIDACEARUM 2

Icones Colombianae 2

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SPECIES ORCHIDACEARUM ICONES COLOMBIANAE

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SPECIES ORCHIDACEARUM ICONES COLOMBIANAE

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FOREWORD

Monographic works, be it of species groups delimited by relatedness or restricted to a certain geographical distribution, have traditionally been the basis for the study and understanding of local orchid floras. Nevertheless, in large countries, especially if they are also highly diverse and relatively poorly explored, it may be quite challenging to assess how many and which species should be included in such a systematically structured study *a priori*. In a similar fashion, country level floras are normally not published unless they represent either a complete set of related species of a particular group or a [relatively] complete set of all the species present. The limitation that arises from this *completeness* factor results in a lot of good and valuable data not being published because of its partiality.

A viable alternative to this was the creation of the Icones Plantarum Tropicarum (IPT) and Icones Orchidacearum (IO) series in which orchids have been monographed by depicting and discussing individual species rather than complete monographs of species' sets. These series opened the door to the publication of detailed knowledge on particular species, which would be far too partial to include in a monographic work, as was well pointed out by Eric Hágsater when proposing the IO. These series set the basis for the study of orchids in many regions, where it was previously impossible, by depicting an individual to which each name has been applied to in different countries. About the IPT, Calaway H. Dodson stressed that many floras of Tropical countries had much more text than illustrations, that much confusion in botanical taxonomy resulted from inaccurate impressions due to confusing terminology, and that a picture is worth a thousand words. Species Orchidacearum (SO) proposed here, builds on those principles and includes a few additional dimensions:

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1. *Infra-specific variation*. When showing an illustration of a species we are actually showing a single individual of that species, in a particular timeframe and under particular ecological conditions. It is difficult to assess if what we have illustrated is an average individual that is representative for the species. There is always a risk of depicting an unusual or aberrant form of it. This is addressed in Species Orchidacearum by allowing for the publication of an unlimited number of plates and descriptions of the same species. In this manner it will be possible to assess morphological variation of species more easily, and diverse forms of a single species may be documented.

2. *What you see is what you get*. Students are frequently challenged with the question of what is included in the published descriptions of individual species. When preparing a protologue it is commonplace to use one or a few known specimens, making it fairly easy to address what material was in the author's mind when preparing the description. But when preparing monographs lots of material is normally cited, usually from diverse origins, dates and herbaria. Did the author include the features of all the cited specimens or only of those at hand? Is the description based on the original protologue or an amendment that includes additional material? Is the author's concept of this particular species very inclusive or very exclusive, is it similar to my own? In Species Orchidacearum descriptions are restricted to the morphological variation found in the specimen that ha s been illustrated, nothing more and nothing less. This may mean that less variation is described in each plate, it may also mean that it does not overlap well with the original protologue. However, whatever is described is exactly what was found in that particular individual and students are free to combine the descriptions of all individuals of the same species included in the series for their own concept of the species.

3. *Lankester Composite Dissection Plates*. The LCDP's, as they will be referred to from here on, are another key features of the Species Orchidacearum. A combination of more accurate, detailed and less expensive photography, with the lower costs of color printing, and the generalization of digital publication, allows for the possibility of substituting the traditional black and white ink illustrations used in botanical literature for the composite dissection plates in full color published digitally. The LCDP illustration has a few advantages over the drawings. In the first place, shapes, sizes, borders and ornaments are more accurately shown; it includes a very rich color palette, conveying more information; it makes the understanding of depth easier; and finally, it is much more objective and far less hand-dependent.

4. *Systematic order.* A major challenge in non-monographic treatments is the loss of systematic order. In such large and diverse groups as Orchidaceae, not knowing where to look for a particular species' closest relatives can make determination hazardous. Publishing groups of unrelated species belonging to any genus in each volume creates the issue of requiring the user to flip through all the indexes to find all of the species belonging to a particular genus, and then having to go to each of those publications separately, rather than to be able to find all species of a single genus together. This is addressed in Species Orchidacearum by allowing users to access published material either by volume and issue, or alphabetically by genus or individual species.

5. *Accessibility*. One of the biggest limiting factors for students of Tropical countries to study their own flora is the availability of relevant literature. Type specimens, original descriptions and important monographic works on Tropical plants are mostly deposited or published in North American or European institutes. Inexplicably, and probably unethically, the countries of origin and their students are still restricted access to many of these resources. SO is initially intended to be published electronically, lowering the costs of production dramatically. Therefore, and considering that it is to be used by the students of the orchid-rich countries to be able to study their floras, Species Orchidacearum will be completely available online, widely accessible, and free of charge.

For the name of this series I am indebted to Franco Pupulin. With him, and Diego Bogarín, we spent many a long night talking about conceiving a series that would contain a so called last word on each species of orchid in the world. It would have "everything", including a fine taxonomical discussion, showing the extant type elements, broad specimen citation, a detailed description, be richly illustrated to show variation along its distribution, include existing DNA data, have a complete set of references, and a modern discussion of the recognition and status of the species. Overtime, realizing the difficulties behind such a task, we desisted, but many of those elements have gone into the creation of Epidendra (www.epidendra.org).

What is proposed here under that name is conceptually quite different. The main goal being to make available the illustrations of as many individuals of diverse species as possible to students of the Tropical orchid floras. Species Orchidacearum follows Icones Orchidacearum in that each icon has its own authors and can be cited individually so that the individual efforts are recognized. However, it falls closer to the idea of Icones Plantarum Tropicarum in that it sticks to a two page

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format for each icon, giving more relevance to the illustrations, with less emphasis made in a very detailed description and citation of vouchers of multiple specimens of the same species. Contrary to controversy that may arise about the adequate name of a specimen, of any faithful illustration, of a field collected individual, you may always say…

"crece ahí, se ve así, y algo es"

Adam Philip Karremans

ICONES COLOMBIANAE

Colombia is without a doubt one of the most biodiverse countries in the world, and members of the Orchidaceae family are among the largest contributors. With reports ranging from 3600 to +4200, the country is only surpassed by Ecuador in absolute numbers of orchid species. In relative numbers, estimated as species per area, Colombia is far behind countries like Costa Rica and Panama. However, its size, the complexity of its mountainous systems, and geographical position, flanked by the Atlantic and Pacific Oceans, and with Andean, Central American and Amazonian influences, suggest that it must be much more diverse than any of the surrounding countries. It is this gap between the expected diversity in the country and what is known that we wish to address here.

The only way to make a serious attempt at understanding the orchid diversity of any country is by doing consistent and systematic research. To be consistent, long-lasting support is needed. Such support is normally attained only when botanical studies become part of governmental policy, through public interest. The interest in biodiversity in recent years has become much greater in Colombia, and support for research is on the rise. Publications on orchids including Colombian authors has grown, and so too has their presence at orchid meetings. The fact that the only Andean Orchid Conference held outside of Ecuador was, very fruitfully, celebrated in Cali is certainly an indicator of this progress.

Colombia, with its more than one million square kilometers, is far too large to attempt any serious monographic work at country level anytime soon. The only way to systematically study the orchid flora of the country is by joining efforts, in essence by adding up the hundreds of local studies that are and will be carried out by diverse people and institutions. These efforts are critical, but currently far too isolated and sparse to allow for any comprehensive oversight. Access to the information and data produced is very restrictive, creating a need for a centralized source of standard information to aid enthusiasts, students, researchers and policymakers countrywide.

It is this necessity that explains why it is the series *Icones Colombianae* that inaugurates *Species Orchidacearum*. Through this publication we will attempt to:

1) become a platform for local students to publish elements of their work that although partial, may be highly informative, 2) serve as a source for researchers and the general public, 3) stimulate cooperation between persons and institutes, and 4) highlight the necessity of conservation by making biodiversity more tangible and local variation more visible.

At this time, making an estimate of how many orchid species may be found in Colombia is very premature. Nevertheless, an extrapolation from neighboring countries suggests we should expect at least double the number of species that have been registered so far. This series is a humble effort towards uncovering part of the ungraspable diversity hidden within Colombia.

The editors

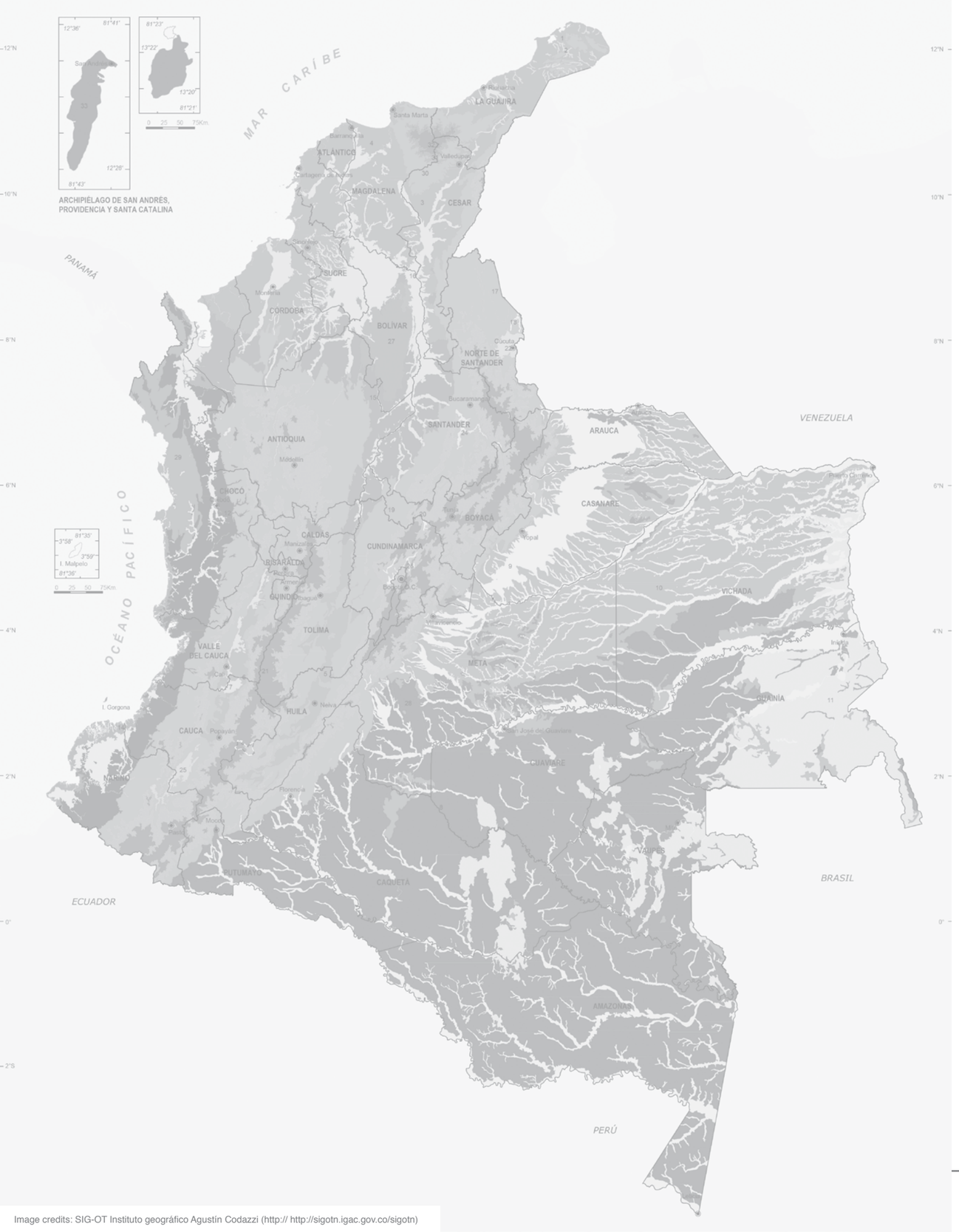

Image credits: SIG-OT Instituto geográfico Agustín Codazzi (http:// http://sigotn.igac.gov.co/sigotn)

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TEXT BY J. S. MORENO & G. GERLACH
LCDP BY J. S. MORENO

Acineta moorei

ROLFE

BOT. MAG. 136: T. 8392. 1911

Type: Colombia. Without locality, "Purchased at Bruges, from Messrs. Sander & Sons, for the Royal Botanic Garden, Glasnevin, in 1903", *Sander s.n.* (holotype: K).

Illustrated specimen: Colombia. Valle del Cauca: Calima, La Cristalina, 4°00'24.1"N 76°28'39.0"W, 1800 m. 15 March 2017. *William G. Vargas 29500* (COL; LCDP voucher).

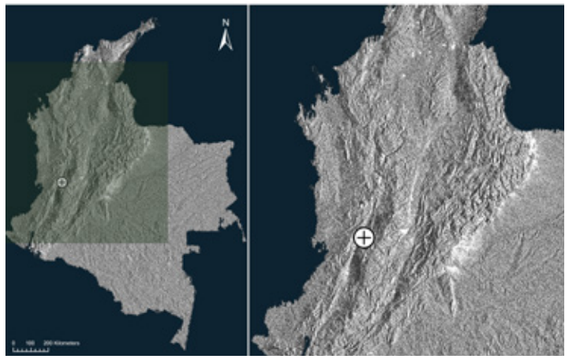
Epiphytic, caespitose *herb*, 53 cm tall, without inflorescence. *Roots*, subcoriaceus, glabrous, thick. *Pseudobulbs* prominent, ovoid-oblong, sulcate, 8.0–9.0 × 6.0–7.0 cm. *Leaves* 2, lanceolate, elliptic, plicate, apex acuminate 38.0–45.0 × 6.0–7.0 cm. *Inflorescence* a raceme, pendulous, lax 45–47 × 15 cm, many-flowered, peduncle terete, green, covered with brownish scales, sheaths tubular, bracts oblong, obtuse, concave. *Ovary* subterete, sessil, sulcate, with black scales, 4.0–5.0 cm long. *Flowers* fleshy, subglobose, half open, fragrant of creme basic coloration. *Dorsal sepal* elliptic, sub-orbicular, obtuse, concave, spotted with small purple dots, 4.0 × 5.0 cm. *Lateral sepals* obliquely elliptic-ovate, obtuse, concave, spoted with small purple dots, these bigger and denser at the base, 5.0–5.50 × 4.0 cm. *Petals* elliptic, obtuse, slightly concave, also purple spotted, 3.80 × 2.80 cm. *Lip* concave, hypochile dark internally, side lobes of mesochile and epichile purple spotted outside only at base and margin of side lobes speckled; hypochile entire, canaliculate, minutely pubescent on the external side, velutinous on the inner side, with a fleshy, curved, horn shaped, velutinous osmphore near the apex ; mesochil with two asymetrtic dolabriform sidelobes, these with a thick curved carina, in the center with an elevated umbonate callus; callus from above plane, nearly squarish, slightly declining to the front; epichile oblong spatulate, incurved, slightly concave, acute, at the base with a callose thickening *Column* semiterete, stout, slightly arched, apically winged, slightly hairy, 3 × 1 cm. *Anther cap* white, dorsiventrally compressed, 6–7 mm long. *Pollinarium* consisting of a double pointed viscidium, ligulate stipes and two yellow glossy, oblong compressed pollinia.

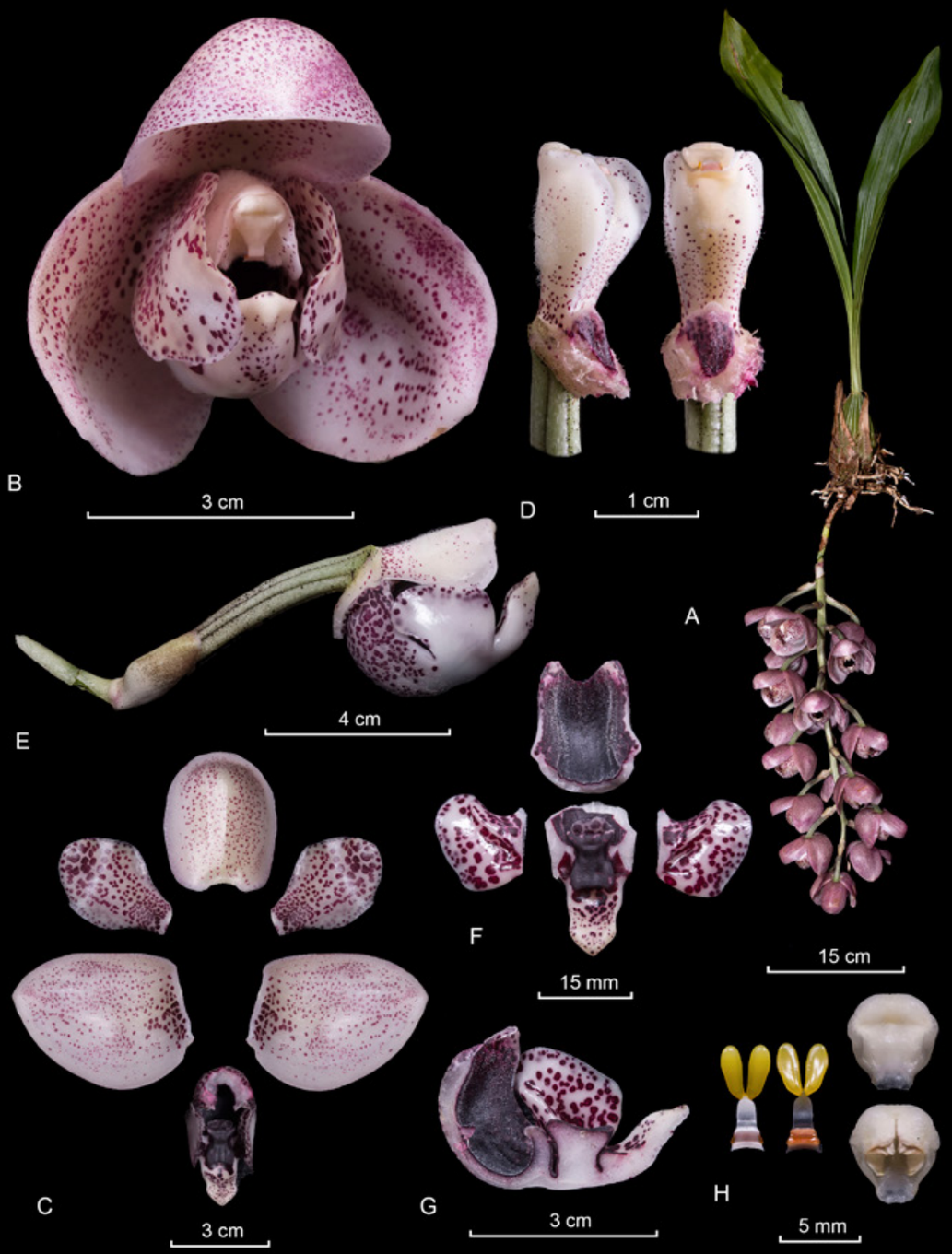
Acineta moorei is recognized by the plane nearly squarish callus from above and the cream coloured, more or less purple spotted flowers. The next relative is *A. superba* often with a similar colouring but a callus looking V-shaped in side view.

With this record, the first specimen with exact locality is deposited. Before, it was known to the orchid collectors that the species grows at the slopes of the valley of Rio Cauca.

Like the other *Acineta* species, *A. moorei* is pollinated by euglossine bees collecting fragrances at the flowers (osmophore), but observation is still lacking. Because of the size of the flowers, it is highly probable that the species is pollinated by bees of the genera *Eufriesea* or *Eulaema*. The floral scent is well defined by consisting in γ-Terpinene (20,3–22,6%) and Terpinen-4-ol (14,2–15,5%) as main substances. This combination does not ocurr in any other *Acineta* spp. and even not in any Stanhopeinae investigated.

References:
Curtis, W. 1911. *Botanical Magazine* 136: t. 8392.





LCDP: *Acineta moorei* Rolfe. **A**. Habit. **B**. Flower. **C.** Dissected perianth. **D**. Column, side and dorsal view. **E**. Ovary with column and lip.**F**. Dissected Lip, hypochile and epichile. **G**. Lip, longitudinal cut. **H**. Anther cap and pollinia.

TEXT BY S. VIEIRA URIBE & A. P. KARREMANS
LCDP BY S. VIEIRA URIBE

Andinia pseudocaulescens

(L.B.SM. & S.K.HARRIS) KARREMANS & S.VIEIRA-URIBE
PHYTOTAXA 295 (2): 125. 2017

Synonyms: *Lepanthes pseudocaulescens* L.B.Sm. & S.K.Harris, Bot. Mus. Leafl. 2(3): 33. 1934.
Brachycladium pseudocaulescens (L.B.Sm. & S.K.Harris) Luer. Monogr. Syst. Bot. Missouri Bot. Gard. 103: 308. 2005.
Oreophilus pseudocaulescens (L.B.Sm. & S.K.Harris) Archila, Selbyana 29(2): 206. 2008[2009].
Neooreophilus pseudocaulescens (L.B.Sm. & S.K. Harris) Archila, Revista Guatemal. 12(2): 86. 2009.
Penducella pseudocaulescens (L.B.Sm. & S.K.Harris) Luer, Orchid Digest 74(2): 71. 2010.

Type: Colombia. Dept. of Cauca: highlands of Popayán, alt. 1400-1800 m, July 1901, *F.C. Lehmann B.T. 352* (holotype, GH; isotypes, AMES, G).

Illustrated specimen: Colombia. Antioquia: Valdivia. En árbol de potrero junto a la carretera a Briceño. 1800 m, 3 de enero 2011, *S. Vieira 028, N. Peláez* (JAUM; LCDP voucher).

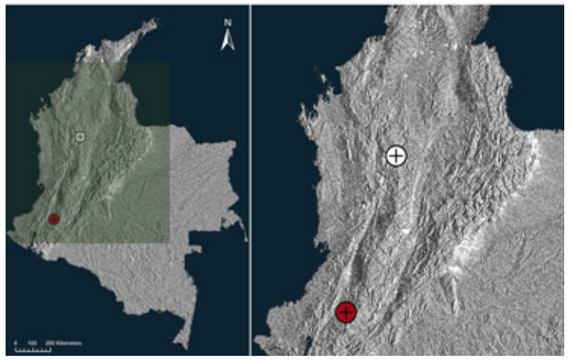
Plant epiphytic, pendent, up to 15 cm long or longer. *Stem* 3.0–4.0 mm long between ramicauls, each segment enclosed by two imbricating, infundibular sheaths, with a ciliate dilated ostia. *Roots* slender, ca. 0.5 mm in diameter. *Ramicauls* ca. 1 mm long, enclosed by a single infundibular sheath with ciliate dilated ostia. *Leaves* green, suffused with purple along the veins, ovate to elliptical, thickly coriaceous, ciliate, obtuse, 7.0-7.5 × 4.5-5.0 mm, the base narrowing into a petiole less than 0.2 mm long. *Inflorescence* a congested, successively few flowered raceme; borne by a slender peduncle ca. 0.8 mm long; ovary costate, ca. 0.9 mm long. *Dorsal sepal* burgundy, ovate, shortly acuminate, 3-veined, 4.2-4.4 × 2.8-3.0 mm, connate to the lateral sepals for about 0.3 mm. *Lateral sepals* burgundy, suffused with orange near the base, ovate, slightly oblique, acuminate, 2-veined, 4.1-4.3 × 2.2-2.4 mm, basally connate for about 0.3 mm. *Petals* 0.5-0.6 × 3.0 mm, transversally bilobed, the lobes oblong to narrowly triangular, the upper lobe burgundy, pubescent, 1.7 mm long; the lower lobe orange, ciliate, uncinate, 1.3 mm long. *Lip* orange, marginally suffused with burgundy, lunate, cellular ciliate, 3-veined, embracing the column, cuneate at the base, adnate to the base of the column, obtuse, with incurved, acute basal lobes, 1.2 × 2.0 mm when expanded. *Column* green, terete, the anther and stigma apical, ca. 2.0 mm long including the rostellum; the rostellum antrorse, conspicuous. *Pollinia* two, yellow, ovoid, brought together by a drop-like viscidium. *Anther cap* cream spotted with burgundy, cucullate.

Andinia pseudocaulescens has a wide distribution and has been found on all three Cordilleras in Colombia as well as in Ecuador. It frequently grows together with other species of *Andinia* subgen. *Brachycladium* (Luer) Karremans & S.Vieira-Uribe, but can be recognized by the small plants with elliptical leaves that are marginally ciliate, the burgundy flowers almost as big as the leaves, borne on short inflorescences, with ovate, acuminate sepals, and transversally bilobed, pubescent petals with narrowly oblong lobes.

References:

Luer, C. A. 1994. Icones Pleurothallidinarum XI. Systematics of *Lepanthes* subgenus *Brachycladium* and *Pleurothallis* subgenus *Aenigma* subgenus *Elongatia* subgenus *Kraenzlinella*. *Monogr. Syst. Bot. Missouri Bot. Gard.* 52: 38-41.

Wilson, M., Frank, G.S., Jost, L., Pridgeon, A.M., Vieira-Uribe, S., Karremans, A.P. 2017. Phylogenetic analisys of *Andinia* (Pleurothallidinae; Orchidaceae) and a systematic re-circumscription of the genus. *Phytotaxa* 295(2): 101-131.



LCDP: *Andinia pseudocaulescens* (L.B.Sm. & S.K.Harris) Karremans & S.Vieira-Uribe. **A**. Habit. **B**. Leaf. **C**. Inflorescence. **D**. Flower. **E**. Dissected perianth.**F**. Lip, side view. **G**. Ovary and column, side view. **H**. Ovary, column and lip, dorsal and side view. **I**. Anther cap and pollinia.

TEXT BY J. S. MORENO & F. PUPULIN
LCDP BY J. S. MORENO

Encyclia cordigera

(KUNTH) DRESSLER
TAXON 13: 247. 1964

Synonyms: *Cymbidium cordigerum* Kunth in F.W.H.von Humboldt, A.J.A.Bonpland & C.S.Kunth, Nov. Gen. Sp. 1: 341 1816. *Epidendrum cordigerum* (Kunth) Foldats, Bol. Soc. Venez. Ci. Nat. 28(115-116): 234. 1969.

Type: Venezuela. Crescit regione ferventissima Provinciae Venezuelae inter Santa Barbara et Porto Cabello, alt. 85 hex. Floret Februario, *Humboldt & Bonpland s.n.* (holotype: P).

Illustrated specimen: Colombia, Cesar: Municipality of Valledupar, Mariangola, Cuenca Rio Diluvio, 320 m. December 2014. *William Vargas 26782* (COL; LCDP voucher).

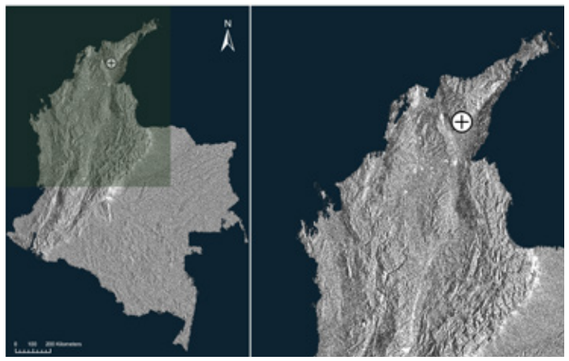
Plant epiphytic, caespitose, to 90 cm tall including the inflorescence. *Roots* produced from the base of the pseudobulb and the rhizome, flexuous. *Pseudobulbs* ovoid to pyriform, 5–8 × 4–5 cm, subtended by ovate, acute papery sheaths. *Leaves* oblong to elliptic–oblong, conduplicate, dorsally keeled, coriaceous, acute to subacute, 30–38 × 2–4 cm. *Inflorescence* apical, racemose, distichous, peduncle to 50 cm, raceme to 35 cm. *Ovary* and pedicel 2 cm long, smooth. *Flowers* resupinate, fragrant, the sepals and petals brownish purple with pink at the base, the lip white, striped with purple at the base of the lateral lobes and along the callus, the midlobe strongly suffused with pink from the middle toward the apex. *Dorsal sepal* spatulate-oblanceolate, acute, apically incurved, 2.0–2.5 × 0.8–1 cm. *Lateral sepals* spatulate-oblanceolate, acute, slightly apiculate, dorsally carinate, strongly incurved toward the apex, 2.0–2.5 × 0.8–1 cm. *Petals* unguiculate, spatulate–ovate, acute, 2.0–2.5 × 0.8–1.0 cm. *Lip* basally adnate to the flanks of the column, unguiculate, three-lobed, 3 × 2.8 cm across lateral lobes; lateral lobes oblong–lanceolate, falcate, obtuse and flanking the column in natural position, striped at the base with purple, 0.8–1.0 × 0.5–0.7 cm; midlobe 2.3–2.5 × 3.0 cm, suborbicular, obovate, obtuse. *Column* subterete, clavate, truncate, basally sulcate, 1.0 cm long, subequal; anther apical; stigma dorsal. *Anther* cap cucullate, orbicular, 4-celled. *Pollinia* four, ovate, laterally complanate, in two pairs with caudicles, without viscidium.

Encyclia cordigera (Kunth) Dressler is recognized by the ovoid to pyriform pseudobulbs, the racemose inflorescence, the large, showy and fragrant flowers with sepals curved at the apex, a deeply 3-lobed, white and variously striped with purple lip, and the subterete column without wings.

The most similar species is probably *E. macrochila* (Hook.) Neumann from Central America, with which it has long been considered conspecific. In *E. macrochila* the petals lack the characteristic purplish coloration, and the magenta striping on the lip is reduced to a few strikes in front to the callus. *Encyclia cordigera* is also similar to the Brazilian *E. albopurpurea* (B.Rodrigues) Porto & Brade and *E. doeringii* Hoehne. The first, only known from a few collections in the Pará state, has a much smaller midlobe of the lip, and both the median and the lateral lobes are completely suffused by rich pink. The latter, only known from the type and apparently restricted to Paraná, could perhaps be a synonym of *E. cordigera*, but the amply disjunct distribution range let us suggest that it deserves specific recognition.

References:

Pupulin, F. & Bogarín, D. 2012. A taxonomic revision of *Encyclia* (Orchidaceae: Laeliinae) in Costa Rica. *Botanical Journal of the Linnean Society* (168): 395–448.



LCDP: *Encyclia cordigera* (Kunth) Dressler. **A**. Habit. **B**. Flower. **C**. Dissected perianth. **D**. Column and lip. **E**. Column, side and dorsal view. **F**. Pollinia and anther cap.

TEXT BY A. P. KARREMANS & J. S. MORENO
LCDP BY A. P. KARREMANS

Epidendrum fimbriatum

KUNTH

NOV. GEN. SP. 1: 351. 1816

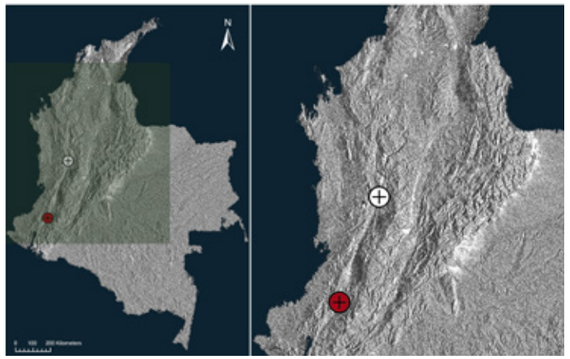
Type: Colombia. Crescit in Andibus Popayanesium, locis sybapricis Parami Puracensis et in convalli fluminis El Vinagre, alt. 1370 hex. *A.J.A. Bonpland & F.W.H.A. von Humboldt s.n.* (holotype: P).

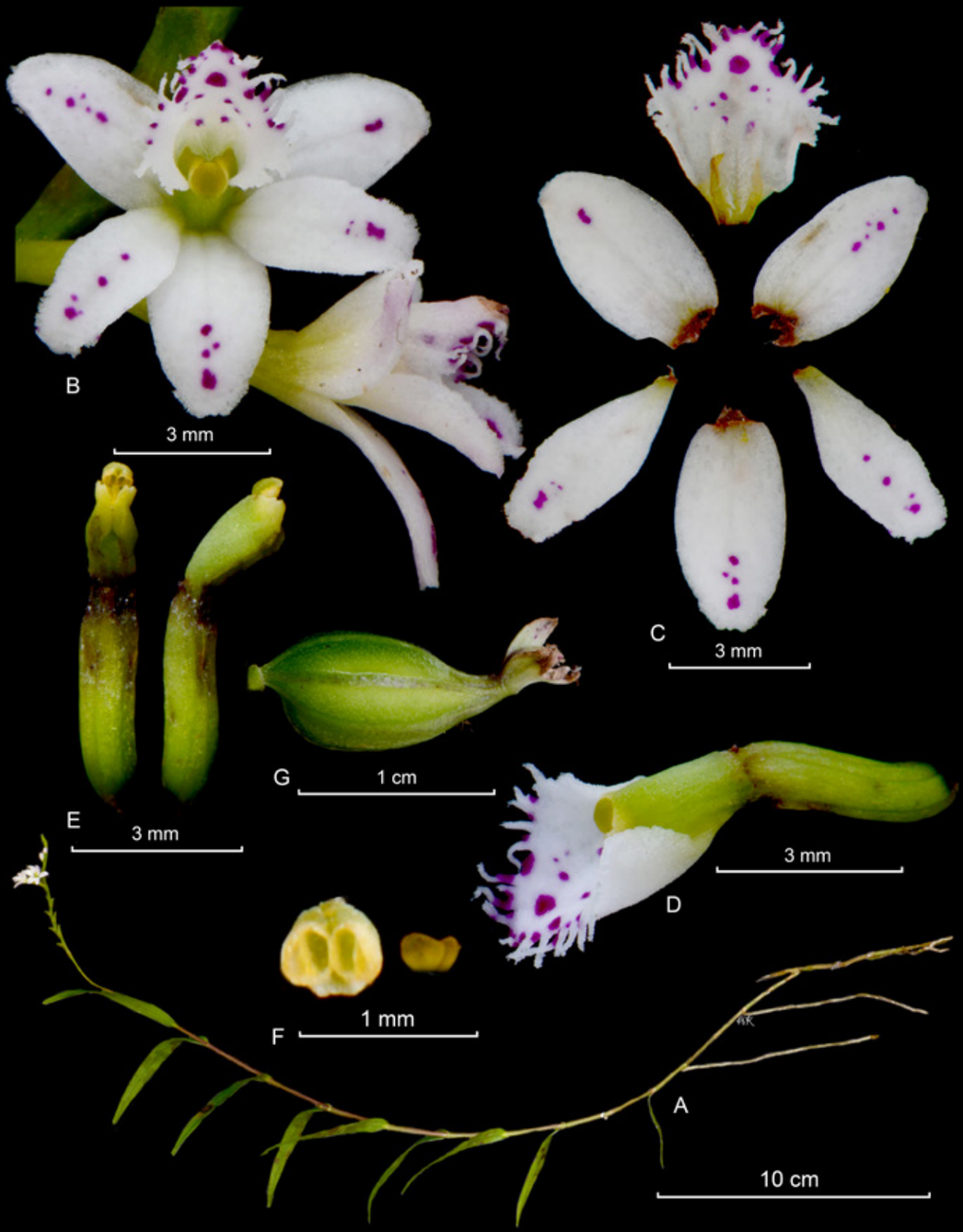
Illustrated specimen: Colombia. Caldas: Manizales. Refugio Silvestre Río Blanco, al norte de la ciudad. En bosque secundario, 5°07'31" N 75°26'48" W, 2060 m, 7 de agosto 2015, *A.P. Karremans 6709, J. Alomía, L. Henao-Mejía & J.T. Otero* (LCDP voucher).

Terrestrial or lithophytic, sympodial, scandent *herb*, 35 cm tall including the inflorescence. *Roots* 8–10 cm long, basal, thick. *Stem*, scandent, simple, cane–like. *Leaves* up to 10, distichous, 4–6 cm long, subcoriaceous, linear-lanceolate, apex obtuse. *Inflorescence* terminal, racemose, successive, densely many–flowered, up to 10–12 cm long, rachis fractiflex. *Flowers* numerous, successive, non-resupinate, white, spotted with purple; no fragrance recorded. *Floral bracts* erect, ovate to oblong-lanceolate, conspicuous, ca. 5 mm. *Ovary* glabrous, striated, 1.5 cm long. *Sepals* narrowly ovate-oblong, apical margins slightly irregular, obtuse, 4.5 × 2.3–2.5 mm,. *Petals* narrowly elliptic-oblanceolate, apical margins slightly irregular, 4.5 × 1.5–1.7 mm. *Lip* rhombic-ovate, shallowly three-lobed, irregularly fimbriate, 4.3–4.5 × 4–4.3 mm, adnate to the column below the middle, with a pair of minutely pubescent keels. *Column* stout, sub-clavate, 3 mm long. *Rostellum* apical, slit. *Anther cap* obovoid, papillose, 4–celled. *Pollinia* 4, obovoid, laterally compressed.

Epidendrum fimbriatum is recognized by its terrestrial or lithophytic habit, scandent stems, distichous leaves, an apical inflorescence of numerous and successive non resupinate flowers. The tiny flowers are snow white spotted with purple and a fimbriate lip. It is widely distributed in the three cordilleras of the Andes in Colombia at high elevations where it can be found in large masses along roadsides.

References:
Kolanowska, M., Hágsater, E., Szlachetko, D.L.,Santiago Ayala, E. & Saldaña, L. S. 2014. Orchids of the Department of Valle del Cauca (Colombia). Volume 2: Epidendroideae (Epidendreae 1): Subtribes Laeliinae, Epidendrinae, Ponerinae. Koeltz Scientific Books, Königstein. 494 pages.





LCDP: *Epidendrum fimbriatum* Kunth. **A**. Habit. **B**. Flower. **C**. Dissected perianth. **D**. Ovary with column and lip. **E**. Column, side and ventral view. **F**. Anther cap and pollinia. **G**. Capsule.

TEXT BY A. P. KARREMANS & J. S. MORENO
LCDP BY A. P. KARREMANS

Epidendrum schistochilum

SCHLTR.

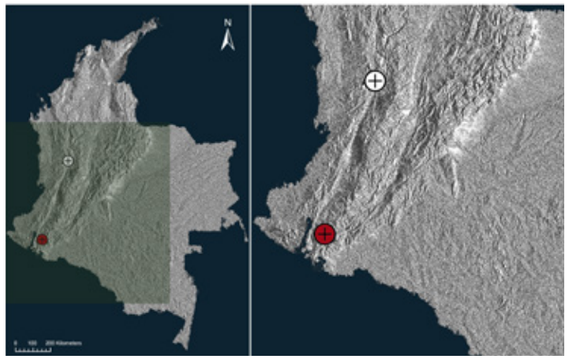
REPERT. SPEC. NOV. REGNI VEG. BEIH. 27: 73. 1924

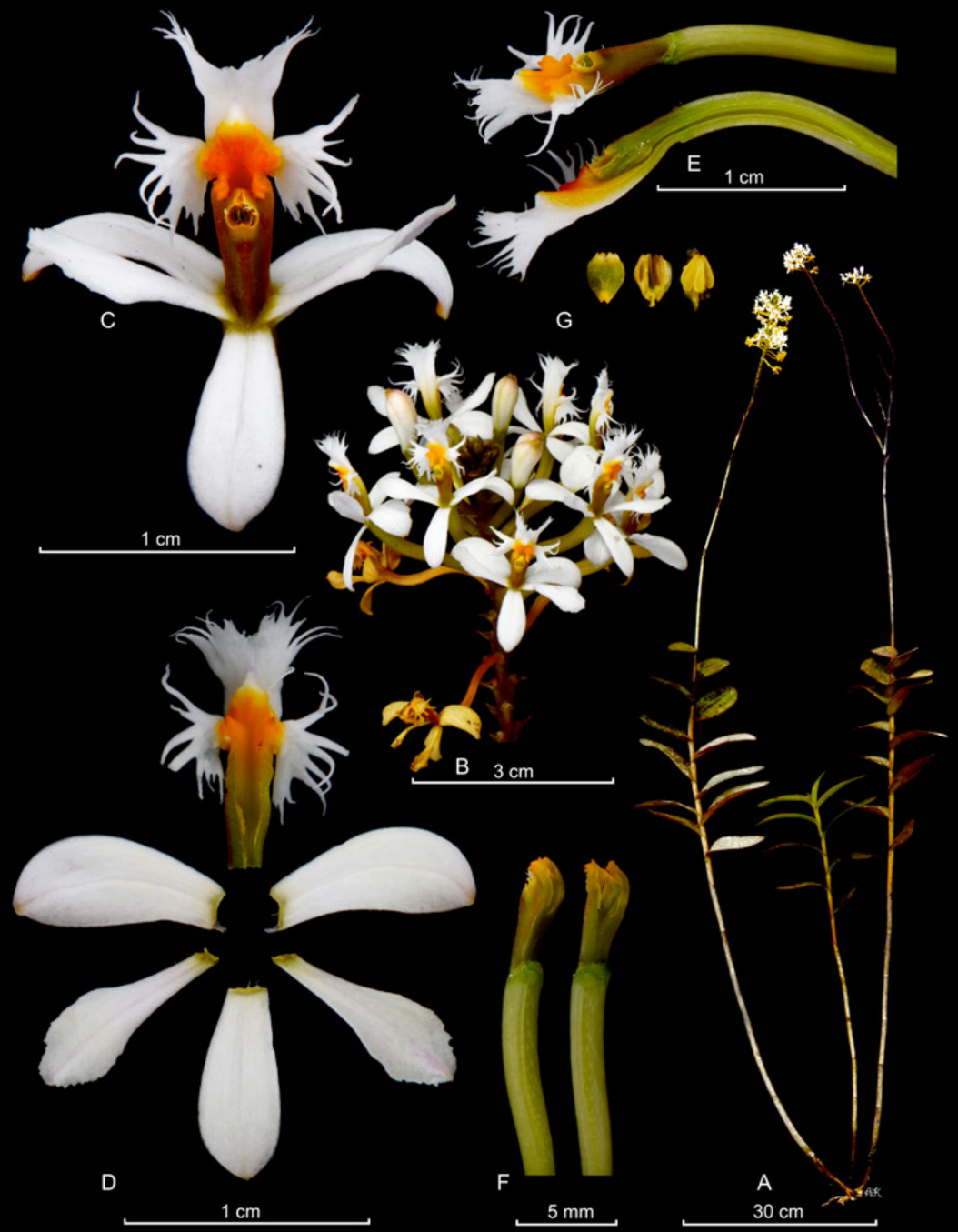
Type: Colombia. Terrestrisch bei Pasto, 2400 m, *W. Hopp 20* (holotype: B†).

Illustrated specimen: Colombia. Caldas: Manizales. Refugio Silvestre Río Blanco, al norte de la ciudad. En bosque secundario, 5°07'31" N 75°26'48" W, 2060 m, 7 de agosto 2015, *A.P. Karremans 6708, J. Alomía, L. Henao-Mejía & J.T. Otero* (LCDP voucher).

Epiphytic or lithophytic, sympodial, caespitose, erect *herb*, 1.5 m tall including the inflorescence. *Roots* flexuous, fleshy, 4–3 cm long. Stem simple, cane–like, up to 90 cm. *Leaves* coriaceous, oblong, obtuse, distichous, alternate, up to 12, distributed along the upper half of the stem, dark green, 8–10 × 1.5–2.0 cm. *Inflorescence* terminal, racemose, successive, densely many–flowered, peduncle elongate, terete, up to 60 cm long. *Flowers* numerous, non-resupinate, successive, 12–16 open at one time, white, callus yellow-orange; no fragrance recorded. *Floral bracts* 3–4 mm erect, lanceolate, acuminate. *Sepals* 7–8 × 3 mm, free, narrowly oblong-obovate, obtuse, shortly apiculate. *Petals* free, oblanceolate–spathulate, obtuse, margin irregular towards the apex, 8–9 × 3 mm. *Lip* fused to the column to about the middle, deeply 3–lobed, conspicuously fimbriate, 1 × 0.75–8 mm, with a thick central callus composed of three main, acute tubercles, the mid protuberance thick, triangular, occupying the midlobe of the lip, the two lateral protuberances shorter, ovoid, aligned with the lateral lobes of the lip. *Column* slightly arched, cylindrical, 5 mm long. *Clinandrium* reduced, margin irregular. *Rostellum* apical, slit. *Anther cap* obovoid, papillose, 4–celled. *Pollinia* 4, obovoid, laterally compressed, sub–equal.

Epidendrum schistochilum is recognized by the large, erect plants, distichous leaves, numerous, successive, non-resupinate flowers. The flowers are snow white with a thick, triangular, three-lobed, orange callus in the middle of the three-lobed, fimbriate lip.





LCDP: *Epidendrum schistochilum* Schltr. **A**. Habit. **B**. Inflorescence. **C**. Flower. **D**. Dissected perianth. **E**. Ovary with column and lip. **F**. Column, side and ventral view. **G**. Pollinia.

TEXT BY K. GIL & J. S. MORENO
LCDP BY J. S. MORENO

Epidendrum splendens

SCHLTR.

REPERT. SPEC. NOV. REGNI VEG. BEIH. 9: 93. 1921

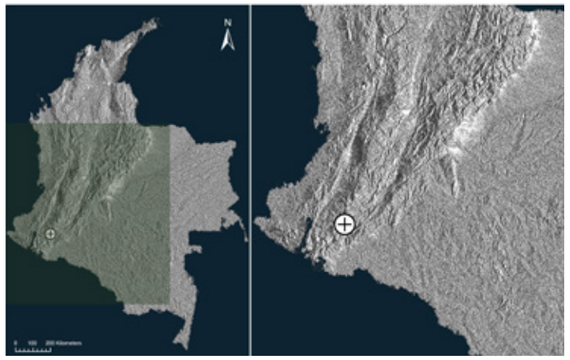
Type: Peru. Epiphytisch auf Sträuchern im Savannengehölz bei Moyobamba, alt. 1000m, *A. Weberbauer no. 4544*, August 1904. (holotype: B†). LT designated by Schweinfurth, Fieldiana, Bot. 30: 458 (1959).

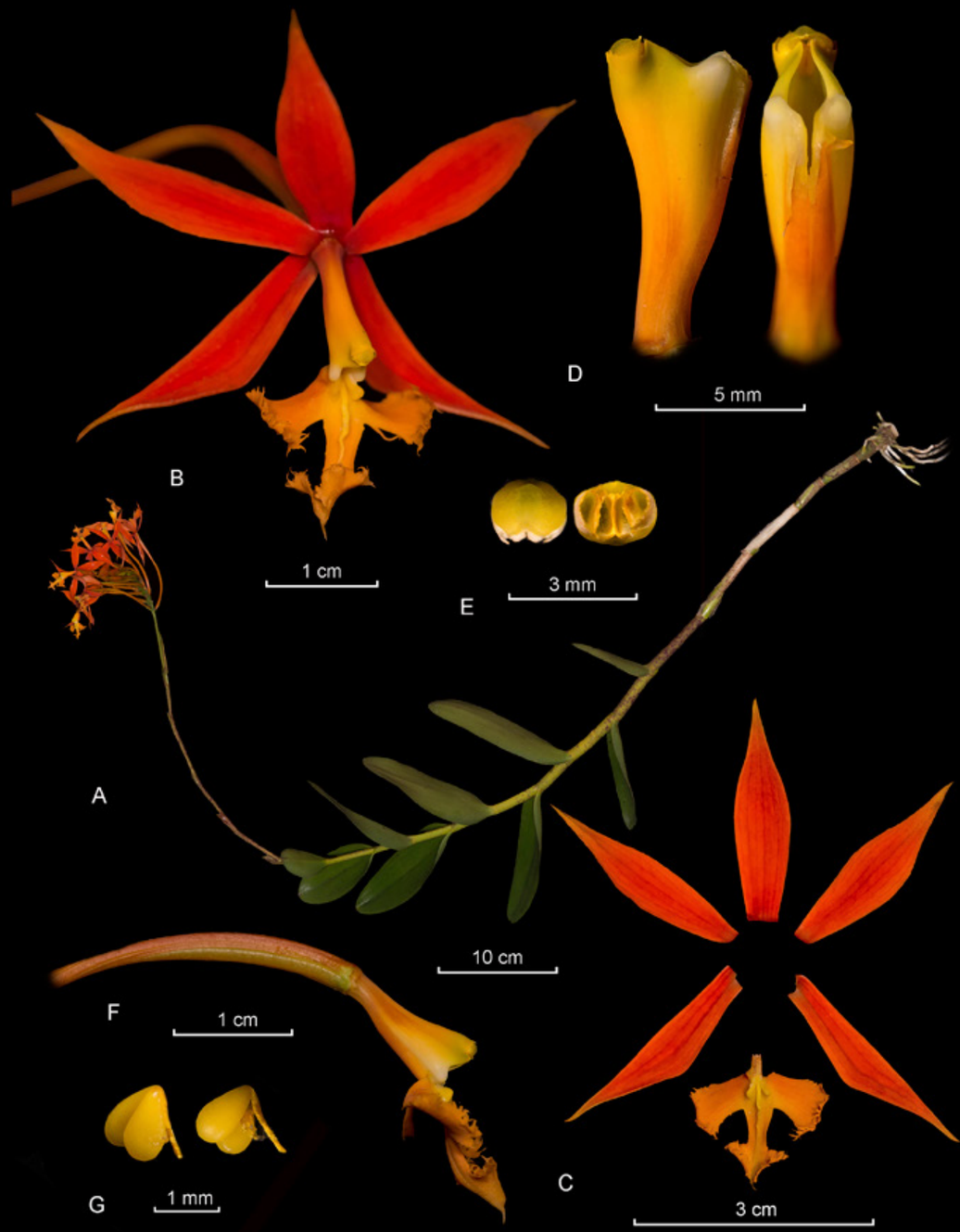
Illustrated specimen: Colombia. Cauca: Municipio de Santa Rosa. Corregimiento Descanse. Pie de monte amazónico. En borde de carretera. 1000 m, 22 de agosto de 2016, *Rengifo L. 098* (CAUP; LCDP voucher).

Epiphytic, sympodial, caespitose, erect, terete *herb*, 30 cm tall including the inflorescence. *Roots* fleshy, 1–2 mm, basal, thick. *Stem* 12 × 0.15–0.18 cm, simple, terete, cane–like, covered at the base by sheaths, 3–7 cm long, tubular. *Leaves* distichous, alternate, dark green, oblong to oblong-elliptic, coriaceous, apex obtuse; sheaths 40–45 × 3.5– 3.7 mm, tubular, striated. *Inflorescence* apical, up to 18 cm long, racemose, successive, densely many–flowered, peduncle elongate, terete, erect, straight; covered by several tubular, acute, imbricating bracts, 2.2–3 cm long. *Flowers* numerous, successive, 12–19 open at one time, resupinate, red, callus yellow to orange in mature flowers; fragrance absent. *Floral bracts* 3–4 mm erect, lanceolate, acuminate. *Ovary* 2 cm long, terete, thin, not inflated, arching at the apex, slender, glabrous, striated. *Sepals* 25–30 × 3.5–4 mm, free, acuminate, slightly acute at the apex, margin entire; *dorsal sepal*, reflexed in natural position, narrowly oblanceolate; *lateral sepals*, oblong, oblique. *Petals* 25–30 × 4–4.5 mm, free, oblanceolate, acuminate, margin entire. *Lip* 16–18 × 15–16 mm, united to the column, base truncate, deeply 3–lobed, margin fimbriate; bicallose, calli prominent, disc represented by a long middle carina in the middle lobe. *Column* 4.5–5 mm long, erect, straight, the apical margin truncate. *Clinandrium* reduced, dorso denticulated, obtuse. *Anther cap* ovoid, apiculate, 4–celled. *Pollinia* 4, obovoid, laterally compressed, sub–equal, caudicles granulose.

Epidendrum splendens is recognized by its epiphytic habit, distichous leaves, an apical inflorescence of numerous and successive resupinate flowers. The lip deeply 3–lobed with a long middle carina in the middle lobe. It can be found on the roadsides. Similar to *Epidendrum schomburgkii* Lindl. with similar red flowers and plant, but the last differs by having a yellow ring in the apex of the column.

References:
Kolanowska, M., Hágsater, E., Szlachetko, D.L.,Santiago Ayala, E. & Saldaña, L. S. 2014. Orchids of the Department of Valle del Cauca (Colombia). Volume 2: Epidendroideae (Epidendreae 1): Subtribes Laeliinae, Epidendrinae, Ponerinae. Koeltz Scientific Books, Königstein. 494 pages.





LCDP: *Epidendrum splendens* Schltr. **A**. Habit. **B**. Flower. **C**. Dissected perianth. **D**. Ovary with column and lip. **E**. Column, side and ventral view. **F**. Pollinia. **G**. Anther cap.

TEXT BY E. DOMÍNGUEZ VARGAS & D. BOGARÍN
LCDP BY E. DOMÍNGUEZ VARGAS

Masdevallia jaderi

S.VIEIRA-URIBE & BOGARÍN

ORQUIDEOLOGÍA 33 (1): 16. 2016

Type: Colombia. Departamento de Antioquia, municipio de San Pedro de Los Milagros, plantación de pino ciprés –Cupressus lusitanica– alrededor de la represa de Riogrande II, 2400 m. Nov. 24 2012. Colectado por Nora Londoño, Jáder Zapata y Jorge Jaramillo. *S. Vieira 0021* (holotype, JAUM).

Illustrated specimen: Colombia, Antioquia, Municipality of Belmira, Flowered in cultivation in home of Jáder Zapata, 2500 m. January 2015, *E. Domínguez & J. Zapata 260* (HUA 201223; LCDP voucher).

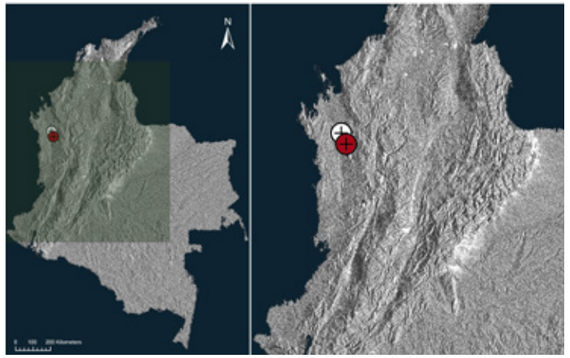
Epiphytic, caespitose *herb*, 9-12 cm tall. *Roots* white, terete, glabrous. *Ramicauls* green, erect, about 15 mm long, enclosed by 2-3 tubular sheaths. *Leaves* light green, erect, coriaceous, the blade elliptical, obtuse apex, lamina 5-10 cm long, 1.0–1.5 cm wide, the petiole light green, 3–4 cm long. *Inflorescence* a single flower, suberect, 9-13 cm long, 1 mm wide including the peduncle. *Floral bract* translucent, elliptic 10 × 5 mm. *Pedicel* greenish, terete, 1.3-1.5 cm long, 2 mm wide. *Ovary* green, terete, 6–8 mm, 2 mm wide. *Sepals* ecaudate, subcoriaceous with the blades fused into tubular form in the base, puberulent adaxially and glabrous abaxially. *Dorsal sepal* red wine and yellow in the apex, tubular in the base, erect, acute apex, 42–45 mm long; 24–26 mm long, 6.0–7.5 mm wide the tubular base; 20–22 mm long, 5 mm gradually decrease in the distal area. *Lateral sepals* red wine and yellow in the apex, tubular in the base, the blades forming a deeply tubular synsepal in the base, obliques distal blades, bent middle part, 40-45 mm; 20–22 × 10–13 mm the tubular base; 18-20 mm decrease in the distal area. *Petals* white with brown variegation in lower area, more or less oblong, oblique base, truncate apex, glabrous, adaxial zone with longitudinal carinae 4.0–4.5 × 2.0–2.5 mm. *Lip*, cream maculate brown, yellow in the apex, oblong, acute apex, thick, puberulent, 6–7 × 1–1.5 mm. *Column* white, semi terete, erect, thin margins, 5 × 0.5 mm. Stigma ventral. *Anther cap* incumbent, cucullate, white 0.9 × 0.8 mm. *Pollinia* two, yellow, obovoid, 0.8 × 0.5 mm.

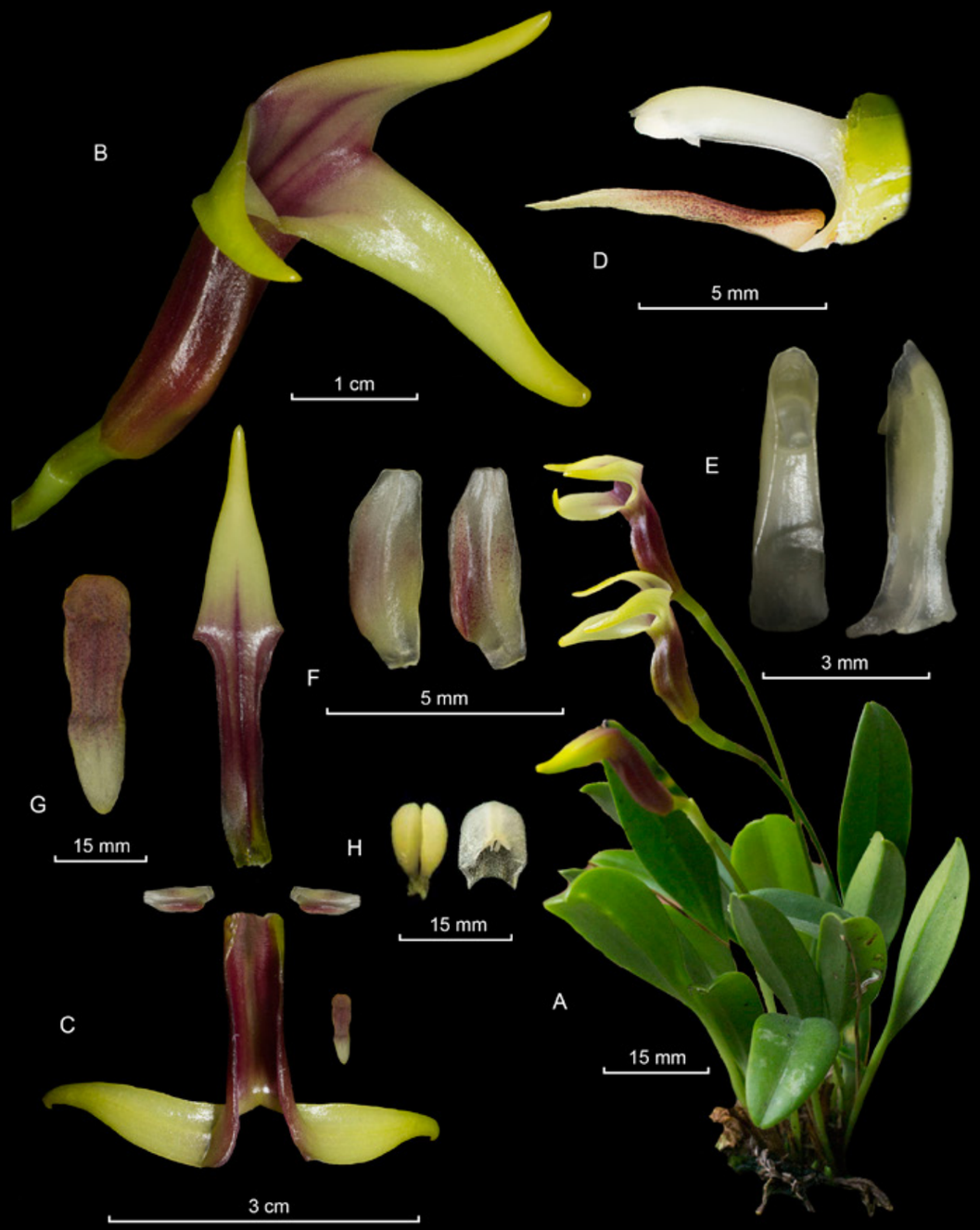
Masdevallia Ruiz & Pavón, with about 350 species, of which 153 are found in Colombia, is characterized by having flowers with ornate sepals, usually caudate and united at the base. The genus ranges from Central America to South America at elevations between 200-4000 m. *Masdevallia jaderi* S.Vieira-Uribe & Bogarín belongs to subsection *Saltatrices* (Rchb.f.) Luer, which is characterized by having flowers with tubular base in the sepals. It is only known from the type locality. *Masdevallia angulifera* Rchb.f. ex. Kraenzl. is the most closely related species, but it differs in the shorter sepals, the vestigial apical cauda, and the cordate lip base. In *Masdevallia jaderi*, the apexes of the sepals are acute and ecaudate and the base of the lip is rounded.

References:

Luer, C. A. 2002. Icones Pleurothallidinarum XXIII: Systematics of *Masdevallia*, Part Four. *Monographs in Systematic Botany from the Missouri Botanical Garden* 87: 783-1047.

Vieira-Uribe, S. & Bogarín, D. 2016. Una hermosa nueva especie de *Masdevallia* (Pleurothallidinae: Orchidaceae) de los Andes centrales de Colombia. *Orquideología* 33 (1): 14-19.





LCDP: *Masdevallia jaderi* S. Vieira-Uribe & Bogarín. **A**. Habit. **B**. Flower. **C**. Dissected perianth. **D**. Column and lip lateral view. **E**. Column, lateral and ventral . **F**. Petals and lip. **G**. Anther cap and pollinarium.

TEXT BY L. OSES & N. GUTIÉRREZ MORALES
LCDP BY N.GUTIÉRREZ MORALES

Masdevallia misasii

BRAAS

DIE ORCHIDEE 33: 148, 1982

Synonyms: *Masdevallia reflexa* Misas, Orquideología 12: 149, 1977, non Schltr. 1923.
Byrsella misasii (Luer & R. Escobar) Luer, Monogr. Syst. Bot. Missouri Bot. Gard. 28: 8. 2006.

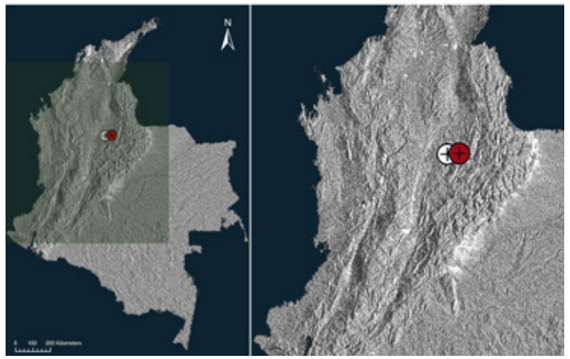
Type: Colombia. Santander: near Velez, 1977, *Sra . Berta S. de Laserna s.n.* (Holotype : JAUM).

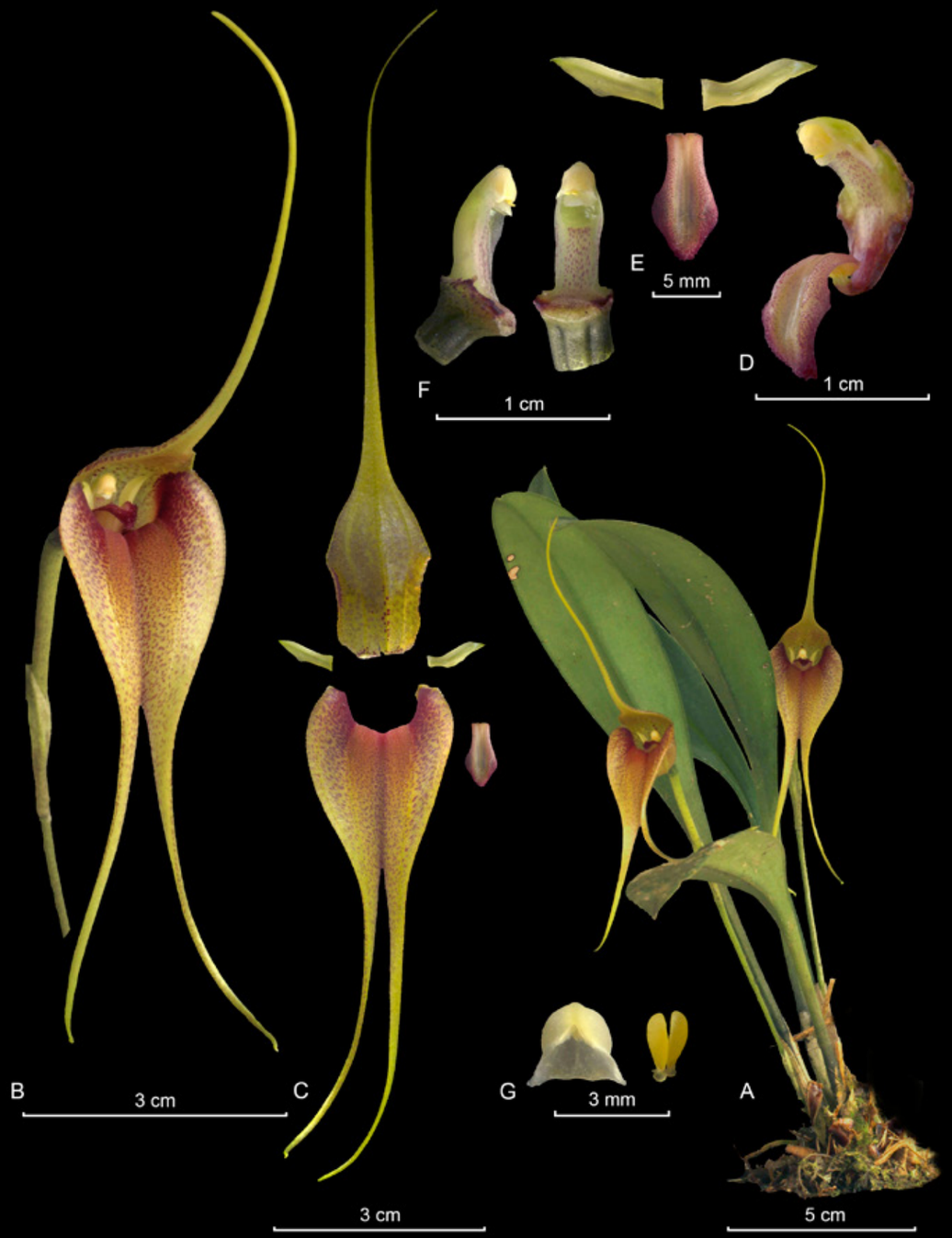
Illustrated specimen: Colombia, Santander: Provincia de Vélez, Municipio de La Belleza, Vereda Vista hermosa, 2481 msnm. Mountain pluvial forest. 25 March 2016. *N. Gutiérrez 098* (LCDP voucher).

Plant large, epiphytic, caespitose, up to 19 cm tall. *Roots* coarse, up to 1 mm in diameter. Ramicauls erect, stout, up to 3–3.6 cm long, enclosed by 2–3 loose tubular sheaths. *Leaves* erect, dark green, thickly coriaceous, petiolate, obelliptic, obtuse, the base cuneate into sulcate petiole, 10.3–15.4 cm long including the petiole, 2.5–2.8 cm wide. *Inflorescence* a large, solitary flower, shorter than the leaves, 11 cm long. *Peduncle* terete, stout, erect to suberect, green, up to 6.4–7.7 cm long, with two tubular bracts, one near the base, from low on the ramicaul, and the other on the lower third. *Floral bract* tubular, 1.6–2.6 cm long. *Pedicel* stout, 3.4–3.8 cm long. *Ovary* not remarkable, spotted with dark green, 3.3 mm long. *Dorsal sepal* yellow, suffused with dark orange below the middle, ovate-quadrate, glabrous, lamina 9.7 × 1.5 cm, connate to the lateral sepals for about 13 mm, to form a broad, cylindrical, sepaline tube, the free portion acute, contracted into suberect, svelte yellow tail 4.7 cm long. *Lateral sepals* yellow, suffused with purple spots below the middle, near the base the density of the spots is greater, obovate, glabrous, connate 20 mm, forming a deep mentum that covers the column foot, the synsepal lamina 3.0 × 2.1 cm, apex contracted into slender yellow tails, 4.7 cm long. *Petals* light green, cartilaginous, oblong, acute, glabrous, 8.6 × 2.1 mm, thicker along the labellar margin and obtusely angled. *Lip* cream , diffusely dotted with red-purple near the base and borders, rigidly fleshy, arcuate, obovate-spathulate, glabrous, 18.2 × 5 mm, narrowed with reflexed margins below the middle, ovate, obtuse and muricate above the middle with denticulate margins, the subtruncate appex concave on both halves into nectariferous recesses, hinged beneath. *Column* light green, mottled with rose, semiterete, 6.5 × 2.1 mm, with an incurved foot 4.2 mm long. Stigma ventral. *Pollinia* yellow, two, ovoid. *Anther cap* white, cucullate, apical.

Dr. Misas was the first to describe *Masdevallia misasii* in 1978, but he used the epithet *reflexa*, that have been used by Schlechter as a synonym of the Costa Rican species *M. cupularis* Rchb.f. so then Brass in 1982, names it in his honor. Bertha de Laserna was the first to find it at the field, in one of the expeditions to Santander department in the Eastern Cordillera of Colombia, and it was rediscovered seven years later in 1984, in the same area, growing high in tall, mossy, cloud forest trees (Luer 2000).

References:
Luer, C. A. 2000. Icones pleurothallidinarum XXI. Systematics of *Masdevallia*, Part Two. *M* subgenus *Masdevallia*, section *Coriaceae*, section *Dentatae*, section *Durae*, section *Reiehenbachianae*, *M.* subgenus *Pygmaeia. Monographs in Systematic Botany from the Missouri Botanical Garden* 82: 265-518.





LCDP: *Masdevallia misasii* Brass. **A**. Habit. **B**. Flower. **C**. Dissected perianth. **D**. Column and lip, semi-lateral view. **E**. Lip and petals. **F**. Colum side and ventral view **G**. Anther cap and pollinia.

TEXT BY J. S. MORENO & A. P. KARREMANS
LCDP BY J. S. MORENO

Masdevallia racemosa

LINDL.

ANN. MAG. NAT. HIST. 15: 256, 1845

Synonyms: *Spectaculum racemosum* (Lindl) Luer, Monogr. Syst. Bot. Missouri Bot. Gard. 105: 14. 2006.

Type: Colombia. Above Popayán, Páramo de Puracé, 3000 m, 1843 *K. T. Hartweg 1432*, (holotype: K!, Isotypes: BM, G, LD, P. W).

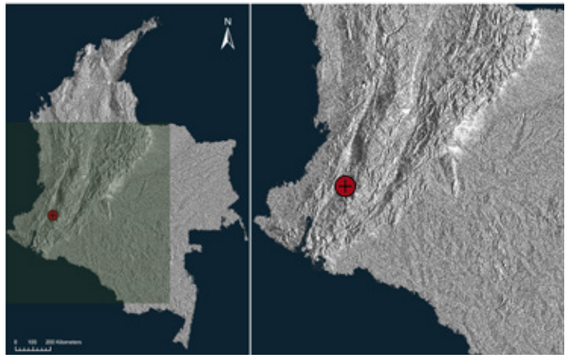
Illustrated specimen: Colombia. Cauca, Puracé: Limites con el PNN Puracé, 3200 m, 10 de abril de 2017, *J.S. Moreno 418* (CAUP; LCDP voucher).

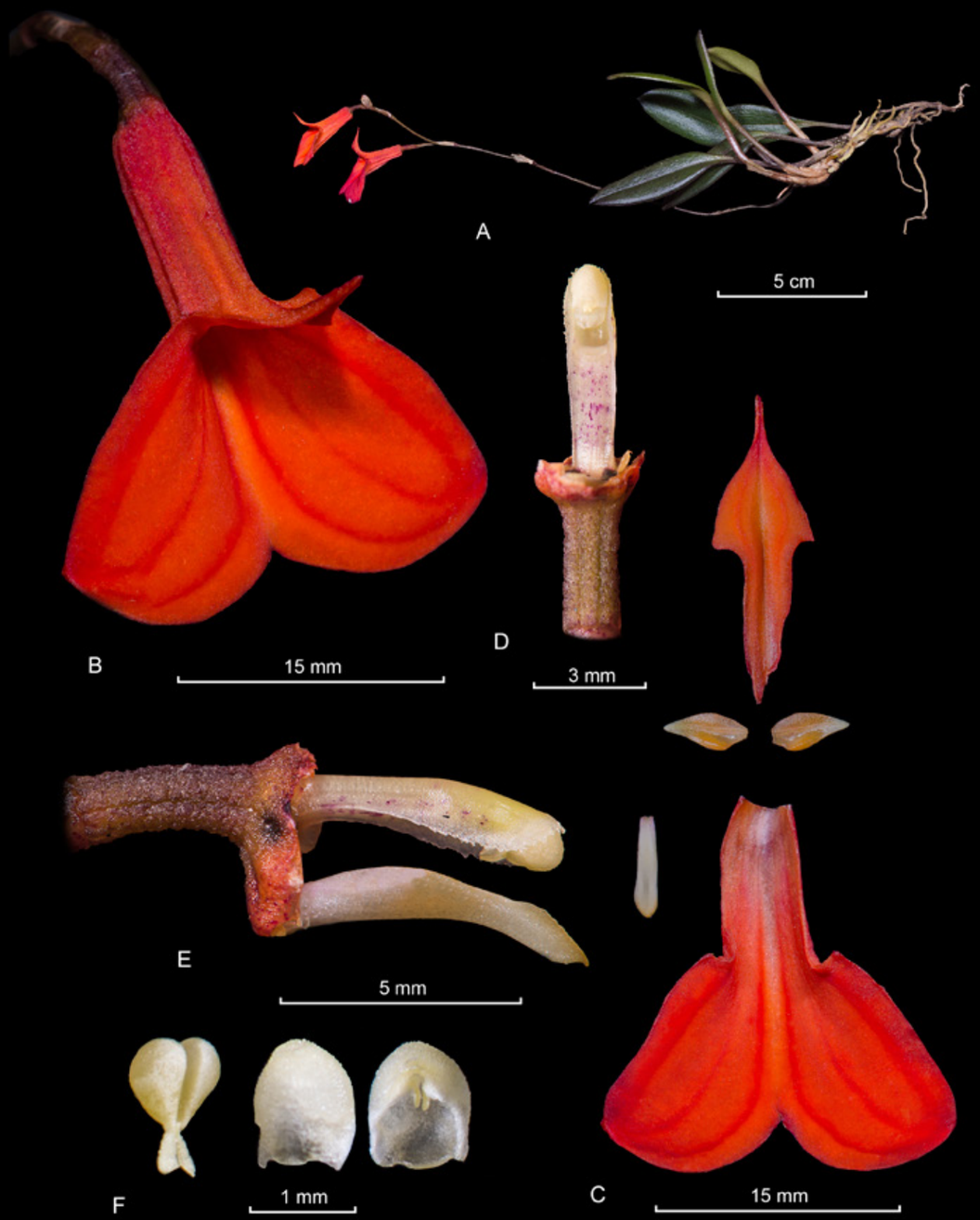
Plant terrestrial, long repent, 20–22 cm tall including the inflorescence. *Ramicauls* stout, erect, enclosed by 2 tubular sheaths, 2.5–3 cm long. *Leaves* 4.5–5 cm long, erect, thickly coriaceous, subpetiolate, narrowly elliptic, subacute, the base narrowly cuneate into the petiole, 2.5 cm long. *Inflorescence* loose, successively few to several flowered raceme, 17–18 cm long; peduncle slender, erect, 12–13 cm long. *Ovary* red, sub-verrucose, 4–4.5 × 1.5 cm. *Flowers* red–orange, successive, 2 open at one time, resupinate; no fragrance recorded. *Dorsal sepal* red-orange, oblong, connate to the lateral sepals for 12 mm to form a cylindrical sepaline tube, broadly ovate, obtuse apex, produced into and acuminate apiculum, 18–19 × 8 mm. *Lateral sepals* red-orange, 23 mm long, connate 12 mm into a lamina that is oblong below the middle, 8 mm wide, abruptly dilated beyond the tube into a subquadrate lamina 22 mm wide, with the diverging apices rounded, each with a minute acuminate apiculum. *Petals* light orange, elliptical, acute, the labellar half with a low elliptical callus, 3–4 × 2 mm. *Lip* white with yellow margins in the apex, oblong, the apex rounded, disc sulcate between a pair of low calli, base cordate, 3.5 × 1 mm. *Column* white-yellow, suffused with purple dots ventrally, semiterete, apex erose, slightly arched toward the apex, 5 × 1.5 mm. *Anther cap* obovoid, papillose, 1.2 × 1 mm. *Pollinia* 2, obovoid, laterally compressed, sub–equal, 1.2 × 0.8 mm.

Masdevallia racemosa, an endemic species from the Central Cordillera in Cauca department, is recognized by its long repent habit, with a creeping or ascending rhizome, a loose inflorescence of successive and simultaneous intense red-orange flowers, deeply connate sepals forming sepaline tube, elliptical acute petals and an oblong lip.

Like other *Masdevallia* species with large, brightly-colored flowers, *M. racemosa* is commonly believed to be hummingbird pollinated. Nevertheless, the morphology of petals, lip and column, as can be seen in the LCDP, is consistent with fly pollination instead.

References:
Luer, C. A. 2003. Icones Pleurothallidinarum XXV: Systematics of *Masdevallia*, Part Five. *Monographs in Systematic Botany from the Missouri Botanical Garden* 91: 1049-1293.





LCDP: *Masdevallia racemosa Lindl.* **A**. Habit. **B**. Flower. **C**. Dissected perianth. **D**. Column, ventral view. **E**. Ovary with column and lip. **F**. Pollinia and anther cap.

TEXT BY J. S. MORENO & M. DÍAZ MORALES
LCDP BY J. S. MORENO & M. DÍAZ MORALES

Phragmipedium longifolium

(Warsz. & Rchb. f.) Rolfe

Orchid Rev. 4(47): 332. 1896

Synonyms: *Cypripedium longifolium* Warsz. & Rchb. f., Bot. Zeitung (Berlin) 10(40): 690. 1852.
Selenipedium longifolium (Warsz. & Rchb. f.) Rchb. f. & Warsz., Xenia Orchid. 1: 3. 1854.
Paphiopedilum longifolium (Warsz. & Rchb. f.) Pfitzer, Pringsh. Jahrb. Wiss. Bot. 2: 6: 159. 1888.
Phragmopedilum longifolium (Warsz. & Rchb. f.) Pfitzer, Bot. Jahrb. Syst. 25: 527. 1898.

Type: Central America. *J. Warszewicz s.n.* (holotype, W).

Illustrated specimen: Colombia. Valle del Cauca, Municipality of Buenaventura, Quebrada Pericos, 300 m. November 2017. *Juan Sebastian Moreno 402* (CAUP; LCDP voucher).

Epiphytic, caespitose *herb*, up to 50 cm tall including the inflorescence. *Leaves* linear to lanceolate, glabrous, margins finely revolute, emarginate, minutely apiculate, oblique, 15–45 × 2–5 cm. *Inflorescence* a spicate raceme, 30–40 cm tall, with 3 to 6 consecutive flowers; *floral bracts* lanceolate, 7–8 cm long. *Flowers* green to yellow with purple veins in the sepals, the base of the petals green, becoming purple towards the apex, the margins white in the basal half, the lip green spotted with brown. *Dorsal sepal* lanceolate, glabrous, reflexed, undulate, obtuse, 4.5 × 2.0 cm. *Synsepal* ovate, undulate, obtuse, 4.5 × 3.0 cm, glabrous. *Petals* linear, obtuse, undulate at the base, curled towards the apex, 75–80 × 7.0–7.5 mm. *Lip* deeply saccate, glabrous on the abaxial surface, with white trichomes in the base of the adaxial surface, with two auriculate lobes, 4.6 × 1.8 cm. *Column* 6.5 mm long, the staminode rhomboidal, covered with dark purple trichomes on the upper margins, 4.5 × 6.0 mm; stigma ca. 5 × 6 mm, hidden by the staminode, covered by small papillae. *Anthers* bilocular, 2.5–3.0 mm long. *Pollen* masses granulose, 2.5–3.0 mm long.

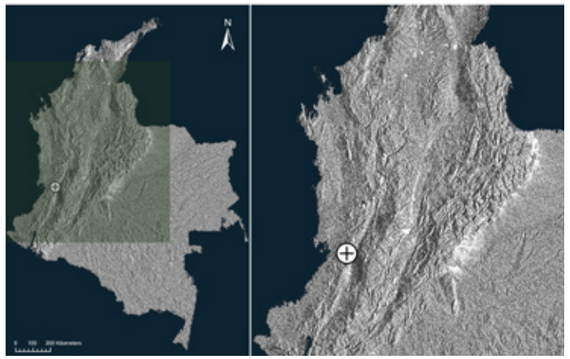
Phragmipedium longifolium is recognized by its lithophytic habit, growing mostly in wet rocks close to creeks or waterfalls, the linear leaves, large flowers with a saccate lip and linear, spreading petals no much longer than the lip.

Most species of *Phragmipedium* can be found growing on middle to high elevations, but *P. longifolium* can grow near the sea level. This species is pollinated by a syrphid fly attracted to the flower by a brood-site deception. The insects approach the flowers looking for a place to lay their eggs and eventually fall inside the lip and remove the pollen masses when trying to exit the flowers.

References:
Atwood, J.T. 1991. *Phragmipedium* . In: Escobar, R. *Orquídeas nativas de Colombia. Vol. 3: Maxillaria–Ponthieva* . Sociedad Colombiana de Orquideología, Medellín.

Díaz-Morales, M. 2017. Biología reproductiva y mecanismo para la atracción de polinizadores de *Phragmipedium longifolium* (Orchidaceae: Cypripedioideae) en Costa Rica. Grade thesis, University of Costa Rica.

Pridgeon, A.M., Cribb, P.J., Chase, M.W. & Rasmussen, F.N. 1999. *Genera Orchidacearum Vol. 1: General introduction, Apostasioideae, Cypripedioideae* . Oxford University Press, New York.



LCDP: *Phragmipedium longifolium* (Warsz. & Rchb. f.) Rolfe. **A**. Habit. **B**. Flower. **C**. Dissected perianth. **D**. Dissected lip, abaxial and adaxial view. **E**. Column, lateral view. **F**. Column without stigma, dorsal and ventral view. **G**. Stigma, dorsal and ventral view. **H**. Anthers.

TEXT BY K. GIL & N. GUTIÉRREZ MORALES
LCDP BY N. GUTIÉRREZ MORALES

Rhetinantha acuminata

(LINDL.) M.A. BLANCO

LANKESTERIANA 7: 534. 2007

Synonyms: *Maxillaria acuminata* Lindl. Pl. Hartw. 155. 1845.
Lycaste acuminata (Lindl.) Rchb.f., Bonplandia (Hannover) 3: 216 (1855).
Sauvetrea acuminata (Lindl.) Szlach., Richardiana 7: 29 (2007 publ. 2006).

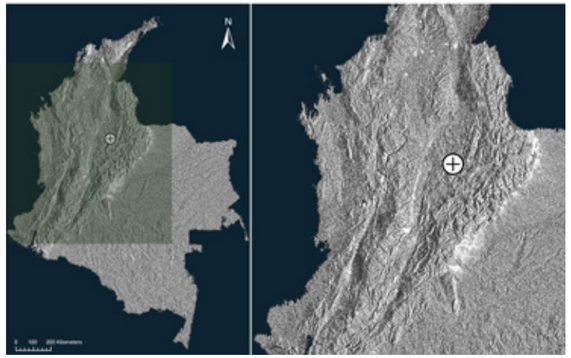
Type: Ecuador. Loja, Cordillera prope Loxa. Nov 1942. *Hartweg 837.* (holotype: K; isotypes: BM, BR, E, FI, G, LD, LE, P).

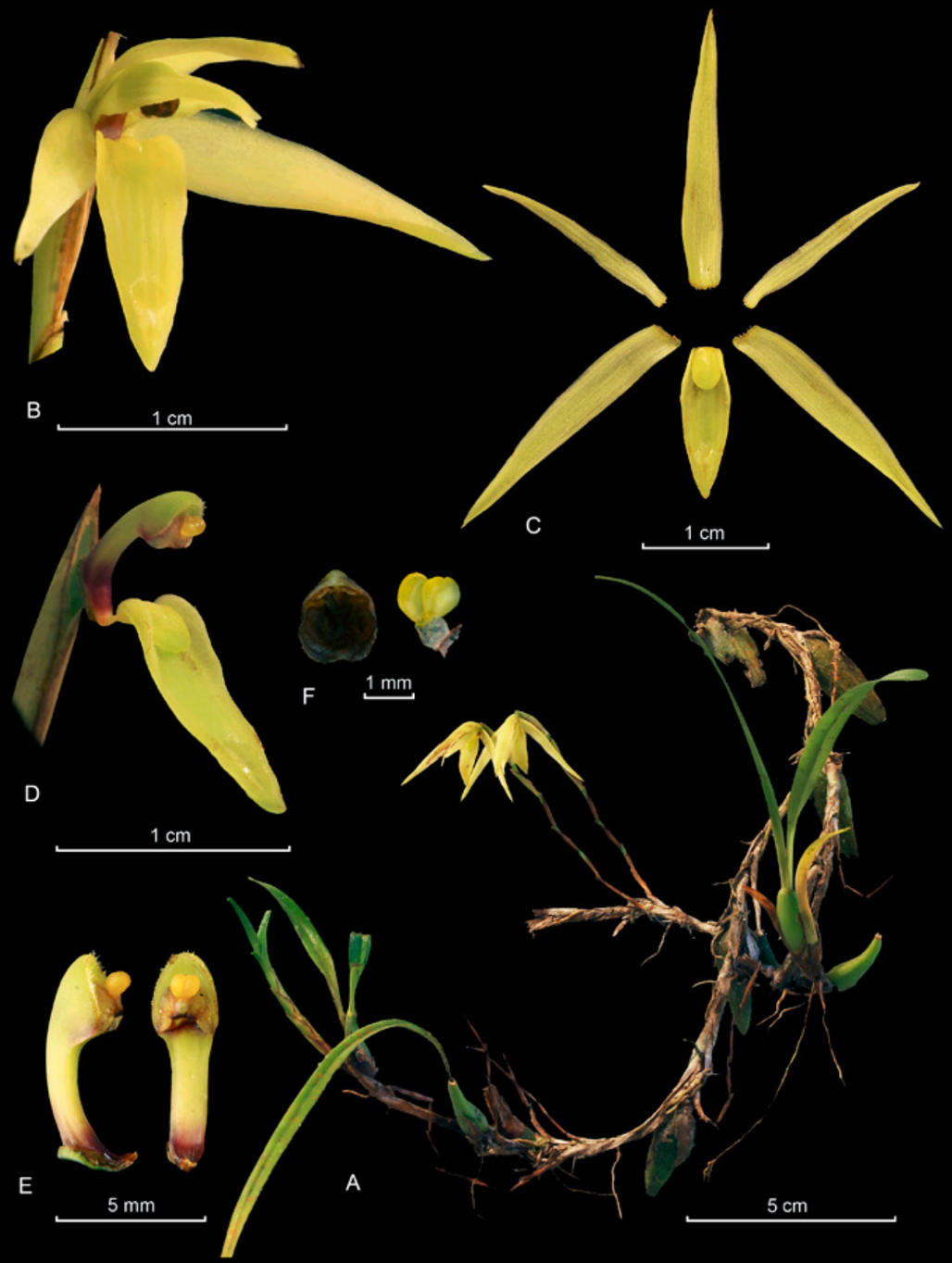
Illustrated specimen: Colombia. Santander: Provincia de Vélez. Municipio de La Belleza. Vereda Vista Hermosa. Mountain pluvial forest. 2406 m, 9 de junio de 2016, *N. Gutiérrez M. 023* (JBB; LCDP voucher).

Epiphyte, sympodial *herb* up to 11 cm, creeping rhizome, elongate between pseudobulbs, surrounded by non foliaceous sheaths. *Roots* thick, produced throughout its length, ca 0.8 mm in diameter. *Pseudobulbs* separated by 2–5 cm, ovate, flattened, ca 2 × 1 cm, bifoliate at the apex, surrounded basally by 2–3 distichous, imbricating, early-dehiscent *sheaths*, ca 2-3.5 cm. *Leaves* narrowly oblong, obtuse at the apex, ca 10 × 0.8 cm, membranaceous. Single flowered *inflorescences* produced on the rhizome bracts behind the most recent pseudobulbs, peduncle enveloped by brownish, distichous sheaths. *Flower bract* sheathing, acute. *Flowers* pale yellow, reddish column foot, dark brown anther cap. *Sepals* narrowly ovate, acute, spreading, ca 2.2 × 0.35 cm. *Petals* linear ovate, acute, subconnivent over the column, ca 1.7 × 0.2 cm. *Lip* oblong pandurate, the margins erect at the base, ca 1.2 × 0.4 cm, callus at the base of the lip ovoid, covered by a sticky material, a resinous substance, callus at the apex deltoid and covered by the same material. *Column* terete, capitate; very short column foot, ca 7.5 × 2.5-1.5. The margins of the *clinandrium* are conspicuously ciliate. *Stigma* ventral. *Anther cap* obovoid, apiculate. The *pollinarium* with a hyaline stipe. *Pollinia* four in two equal pairs, yellow, obovoid. *Capsules* with lateral dehiscence.

Rhetinantha acuminata is recognized by its creeping rhizome, inflorescences surrounded by distichous sheaths, pseudobulbs with two apical leaves, lip with especially prominent waxy deposits and ciliate margins of the clinandrium.

References:
Blanco, M., Carnevali, G., Whitten, W., Singer, R., Koehler, S., Williams, N. Ojeda, I., Neubig, K., Endara, L. 2007. Generic realignments in Maxillariinae (Orchidaceae). *Lankesteriana* 7(3): 515-537.





LCDP: *Rhetinantha acuminata* (Lindl.) M.A. Blanco. **A**. Habit. **B**. Flower. **C**. Dissected perianth. **D**. Column (without anther cap) and lip three quarters view. **E**. Column, side and ventral view (without anther cap). **F**. Anther cap and pollinarium.

TEXT BY Y. A. ALOMÍA & M. DÍAZ MORALES
LCDP BY Y. A. ALOMÍA & M. DÍAZ MORALES

Sobralia fragrans

LINDL.
GARD. CHRON. 598. 1853

Type: Native country of the plant unknown, flowered in the collection of Robert Hanbury, Esq., at Poles near Ware [England], 07 September 1853, *Hanbury s.n.* (holotype, K).

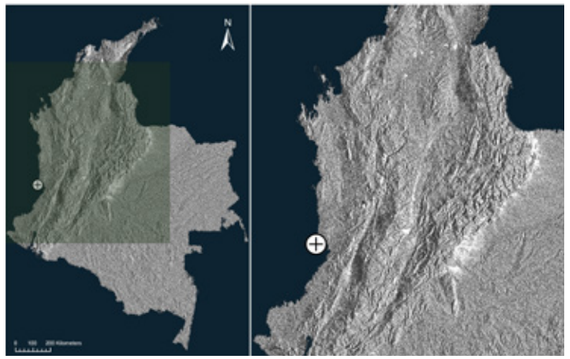
Illustrated specimen: Colombia. Juan de Dios, Bahía Málaga-Buenaventura (Chocó Biogeographic Region), tropical rain forest, 0 m, on red mangrove branches (*Rizophora mangle* L.). Jan 2018. *YAA 214* (VALLE; LDCP voucher).

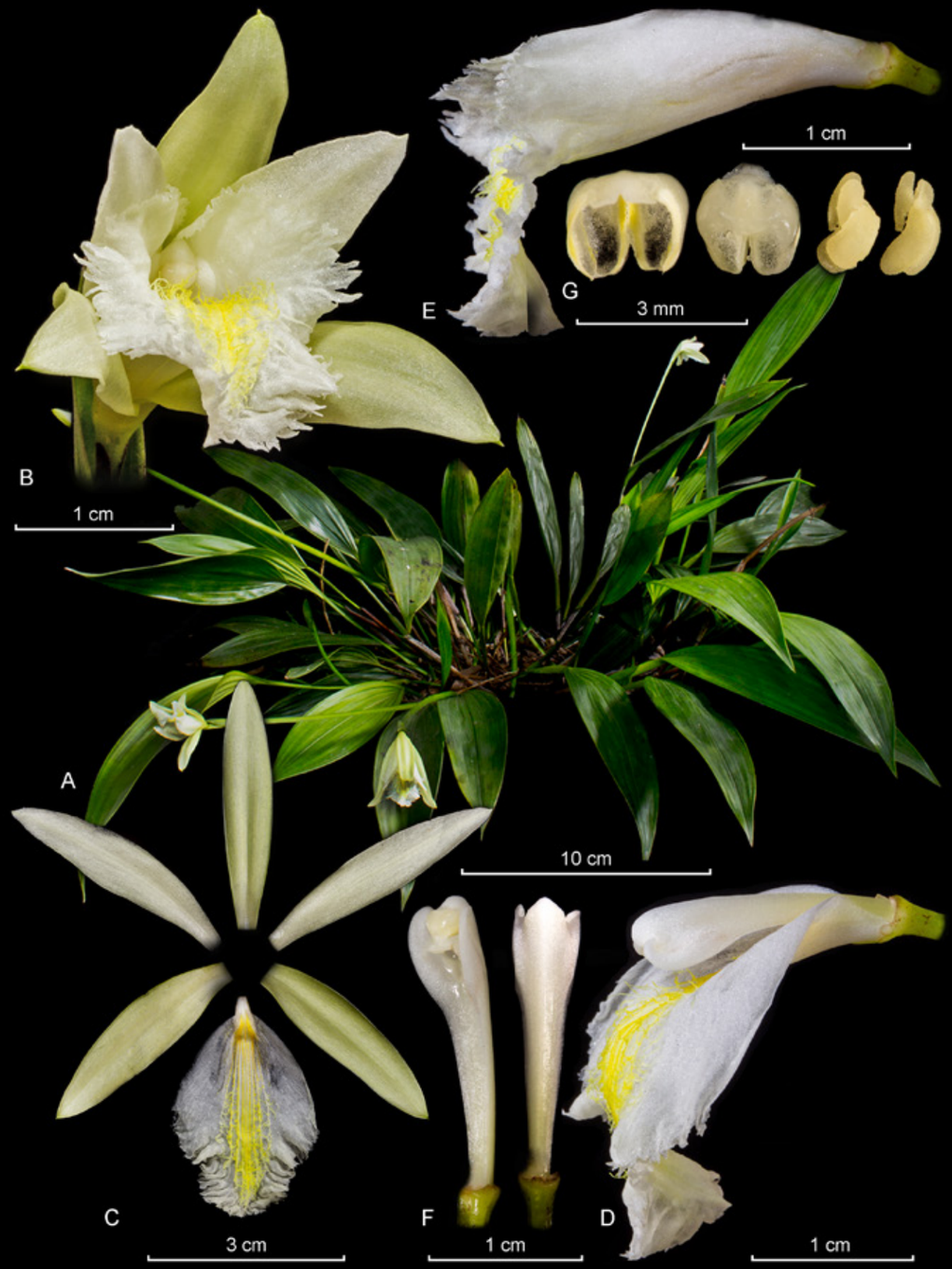
Epiphytic, caespitose *herb*, up to 25 cm tall. *Roots* ca. 5 mm wide. *Stems* 120–150 × 3–4 mm, 1-foliate; covered by a basal, acute, glumaceous sheath. *Leaves* elliptic, acute, plicate, 16.5–23.5 × 4.0–5.5 cm. *Inflorescence* terminal, covered by a ovate foliar bract, with a single ephemeral and membranous flower; *floral bracts* concealed by a infundibuliform sheath, 1.2–2.0 × 0.6–1.8 cm; peduncle ancipitose, 16–26 cm long. *Ovary* terete to clavate, ca. 20 mm long, 1.8 mm wide. *Flowers* cream yellow, the lip white with yellow trichomes and keels. *Sepals* lanceolate, obtuse, with a prominent middle vein on the abaxial surface, minutely apiculate, *dorsal sepal* 37–40 × 7.7–8.0 mm, *lateral sepals* 33–36 × 7.4–7.5 mm. *Petals* cream yellow, transluscent, lanceolate, acute, minutely apiculate, 40 × 8 mm. *Lip* obovate, emarginate, 3-lobed, fimbriate; midlobe markedly undulate, 9-keeled, the keels covered with trichomes on the apical half; callus basal, ca. 5 × 3 mm. *Column* subclavate, ca. 2 cm long, 1.7 mm wide, the apex with two upcurved arms, 6 × 2 mm. *Stigma* ca. 3.0 × 2.5 mm. *Anther cap* ovate, cucullate, two-celled, 2.5 × 2.8 mm. *Pollinia* 8, pale yellow, soft, granulose, in two pairs of different size.

Sobralia fragrans is distinguished by its 1-leaved stem and its ancipitose and long peduncle. The species occurs from Mexico to Ecuador and Venezuela, can be found growing from sea level up to 1200 m elevation. The epithet '*fragrans*' refers to the pleasant smell emitted by the flowers.

References:
Garay, L. A. 1973. Orquídeas Colombianas nuevas o críticas Decena XI. *Orquideología* 8(3), 179–188.
Lindley, J. 1853. *Sobralia fragrans. Gard. Chron.* 1853, 598.

Ortiz, P. 1991. *Sobralia*. In: *Orquídeas nativas de Colombia. Vol. 4: Porroglossum–Zygosepalum*. Sociedad Colombiana de Orquideología, Medellín.





LCDP: *Sobralia fragrans* Lindl. **A**. Habit. **B**. Flower. **C**. Dissected perianth. **D**. Column and lip, three quarters view. **E**. Lip, lateral view. **F**. Column, ventral and dorsal views. **G**. Anther cap (ventral and dorsal view) and pollen mass (lateral views).

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SO looks to be a universally accessible platform where species of the Orchidaceae family are made available, by systematically documenting each species' local and regional variation. In order to reach this goal, each icon must comply with the following requirements: 1) The illustrated specimen needs to be determined to species with confidence. The authors must show that the protologue and original type material have been studied, and should annex these material to their submission. 2) The origin of each illustrated specimen has to be known and as specific as possible. No plates of unsure origin will be received. 3) Each icon must include an LCDP, in full color, and it needs to be complete and of high quality (see published examples for reference). 4) Each icon must include a text prepared on the basis of the illustrated specimen. Each icon must represent a single individual, not a species, and be as faithful as possible. 5) Authors are responsible for obtaining the permits required to illustrate and prepare the materials for each icon. When any of the elements of an icon have been previously published, reprint permission from the original publisher has to be obtained prior to submission to Species Orchidacearum.

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Size: Letter, 8.5 × 11 inches (215.9 × 279.4 mm)
Resolution: 300 dpi
Background: Black
Format: Photoshop PSD file with layers, RGB mode with 16 bits. Used photographs must be in RAW, NEF, DNG or similar, and edited in order to adjust from brightness, contrast, temperature, etc. Color calibrations is highly recommended so that colors are closest to nature.
Scale bars: White, horizontal, 6 pixels wide, with two sides that rise 10 pixels above the scale.
Labels: Each illustrated part has to be labeled with a letter. These are in all caps, Arial 14 pts, white, placed horizontally on the bottom left of each structure. Parts are labeled in alphabetical order starting with A, in the following order when presents: habit (plant), leaf, inflorescence, flower, perianth, sepals, petals, lip, column, polinia, anther cap, capsule.
Measurements: these are given in entire numbers, no decimals (105 mm rather than 10.5 cm), with a space separating the units (normally mm or cm, but m and ddm may be used in exceptional cases).

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Texts

One or more authors have to be indicated, specifying the author(s) of each element (LCDP and text). The text is in English, not longer than a single page, in Times New Roman, 12 pts.
Name: a species name has to be indicated, followed by its authors in their standard from (IPNI), followed by the abbreviated citation of the publication, with journal volume (number) and publication year. Only the species name will be in italics and bold. As follows:

Acianthera lojae (Schltr.) Luer, Monogr. Syst. Bot. Missouri Bot. Gard. 95: 254. 2004.

Synonyms: Only homotypic synonyms should be listed.
Type: Here the information of the type collection must be given as is given in the protologue. This typically includes country, colector and herbarium where the specimen is deposited.
Description: A standard morphological description of the specimen is expected here, from the most general elements to the most specific. The description should be based only on the specimen studied by the authors, do not add information from other sources onto the description.
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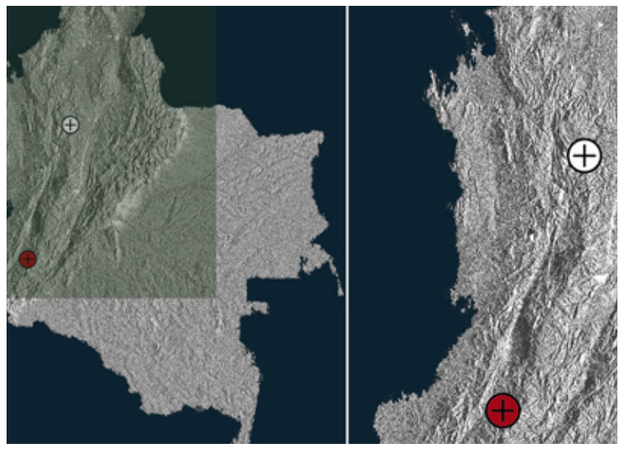

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