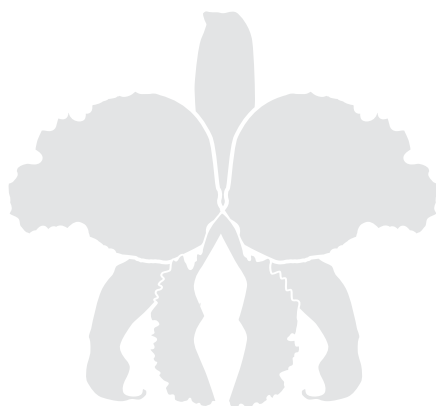


SPECIES ORCHIDACEARUM 7 Icones Colombianae 6

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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:

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 has 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

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

This issue is dedicated to the genus *Cyrtochilum* Kunth, a diverse Andean lineage with ca. 200 accepted species, endemic to South America and reaching its highest diversity in the cloud forests and paramos of Colombia. Here, we document twelve *Cyrtochilum* individuals belonging to 10 species from different regions in the country, including the endemic *C. dipterum*, currently categorized as Vulnerable (VU), and *C. pardinum*, listed as Near Threatened (NT), according to according to the national Red List of threatened species.

We also present infraspecific variation based on three field-collected specimens of *Cyrtochilum sodiroi*, a species whose identity had previously been misinterpreted as *C. ramosissimum*. In addition, we report the first record of *C. tetracopis* for the department of Santander. We also report a range extension for *Cyrtochilum ramiro-medinae*, previously known only from southern Colombia, in the department of Putumayo, and now recorded from the Eastern Cordillera of Colombia.

While species such as *Cyrtochilum halteratum*, *C. murinum*, and *C. tetracopis* are recognized for their striking morphology and popularity among orchid enthusiasts, many *Cyrtochilum* species remain poorly documented, uncategorized, and potentially at risk. This volume aims to facilitate continued exploration and documentation of the genus, contributing to a stronger foundation for its taxonomy, conservation, and long-term understanding

The editors.





SPECIES ORCHIDACEARUM ICONES COLOMBIANAE

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Cyrtochilum angustatum

(Lindl.) Dalström

Lindleyana 16(2): 58. 2001

Synonyms: *Odontoglossum angustatum* Lindl. in Edwards's Bot. Reg. 23: t. 1992. 1837.

Type: Ecuador. Pichincha: [Regni Quitensis] super arbores in Valle Lloa, 8000 ped. Hall s.n. (K-L).

Illustrated specimen: Colombia. Cauca: Parque Nacional Natural Puracé, 3200 m. 30 Nov 2018. J.S. Moreno 555 (CAUP; LCDP voucher).

Epiphytic herb, sympodial, up to 40 cm tall including the inflorescence. *Pseudobulbs* heteroblastic, ovate, unifoliate, 5 × 2.5 cm. *Leaves* 1 per pseudobulb, oblong-elliptic, coriaceous, conduplicate, with the base cuneate, with papyraceous sheaths covering the pseudobulb, 5 × 2 – 2.5 cm. *Inflorescence* paniculate, basal, erect, up to 30 cm long; *floral bracts*, lanceolate, acuminate, 1–1.25 cm. *Pedicel* with ovary costate, 1.2 cm long, light green. *Flowers* yellow, spotted with brown. *Sepals* narrowly elliptic-lanceolate, margins undulate, revolute, acuminate; *Dorsal sepal* 3.75 × 0.8 cm; *Lateral sepals* 3.5 × 0.7 cm. *Petals* elliptic-lanceolate, margins undulate, acuminate, 2.8 – 3 × 0.8–1 cm. *Lip* yellow, marked with brown, with a whitish pinkish-purple callus at the base; ovate-lanceolate, apex involute, membranaceous, entire, acuminate, 2.5–2.7 cm long; callus fleshy, with three superior elongated keels and six inferior keels, pubescent, 0.8 – 1 cm long. *Column* erect, 1 central keel, long foot with marginals wings, 1.2 – 1.3 × 0.25–0.3 cm. *Pollinia* 2, yellow, white stipite and a brown to yellow viscidium. *Anther cap* apical, elliptic yellowish, 3 mm wide.

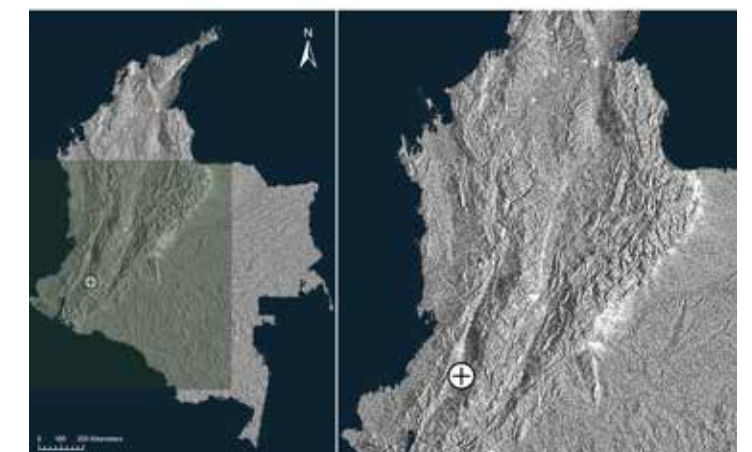
Etymology: The specific epithet *angustatum* is derived from the Latin *angustāre* (“to narrow, to press together”), from *angustus* (“narrow, constrained”), in reference to the markedly revolute and undulate margins of the sepals and petals, which give the floral segments a narrowed and contorted appearance.

Cyrtochilum angustatum is distributed from Colombia through Ecuador to central Peru, where it grows in montane forests. It is easily recognized by its revolute and undulate sepals and petals, a feature that it shares with *C. sodiroi* (Schltr.) Dalström and *C. ramosissimum* (Lindl.) Dalström. However, the most distinctive

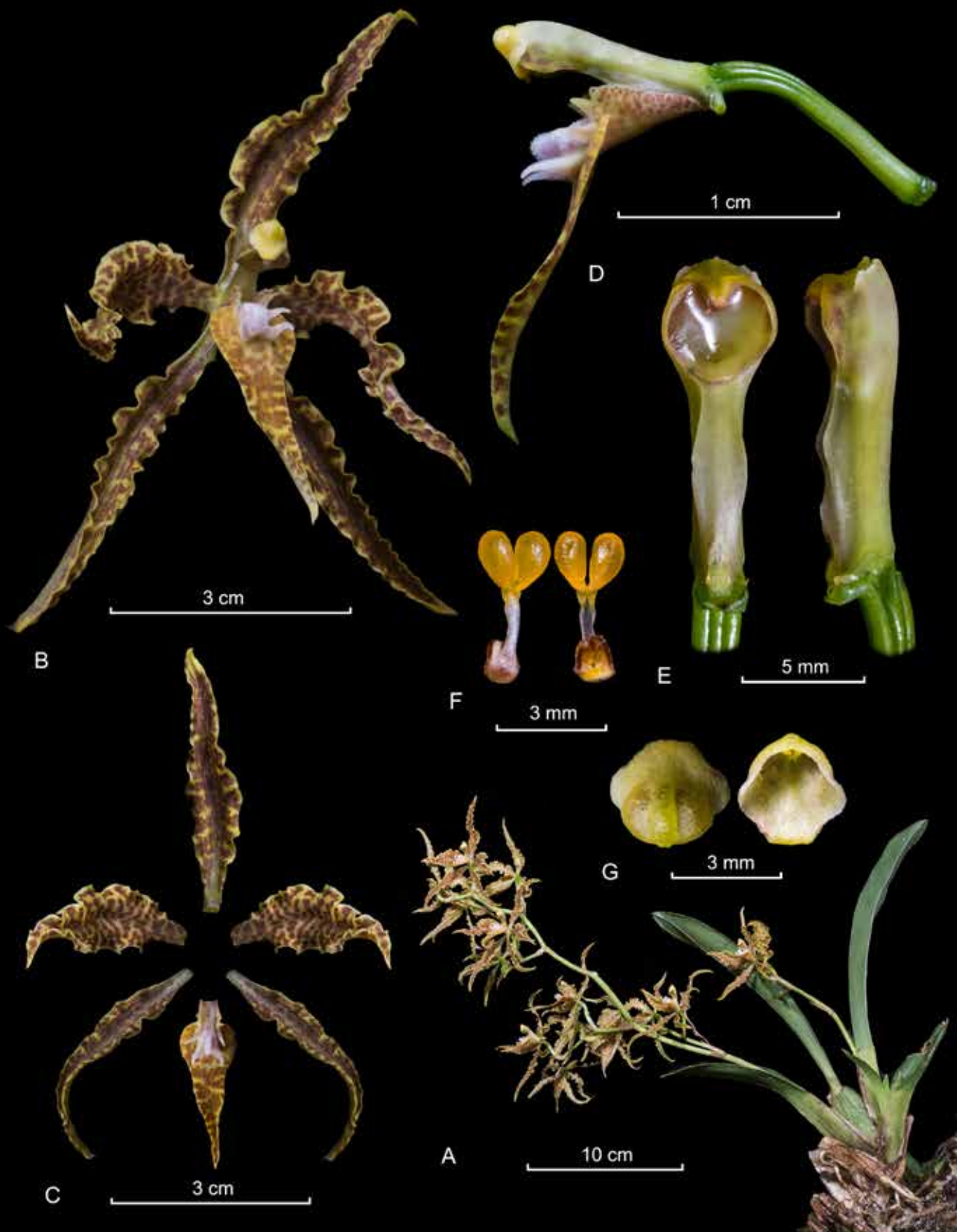
character of *C. angustatum* is the pubescent lip callus, in contrast to the glabrous calli of *C. sodiroi* and *C. ramosissimum* (Dalström 2020). The basal lobes of the lip are erect and fused to the callus, giving the flower a structurally different appearance compared to the other two species.

References:

Dalström, S. 2020. New combinations in *Cyrtochilum* (Orchidaceae: Oncidiinae). *Lankesteriana* 20(1): 21–29. <https://doi.org/10.15517/lank.v20i1.41110>



LCDP: *Cyrtochilum angustatum* (Lindl.) Dalström. **A.** Habit. **B.** Flower. **C.** Perianth. **D.** Column and lip, lateral view. **E.** Column ventral and lateral view. **F.** Pollinarium, two views. **G.** Anther cap, dorsal and ventral view.



Cyrtochilum densiflorum

(Lindl.) Kraenzl.

Notizbl. Bot. Gart. Berlin-Dahlem 7: 99. 1917

Synonyms: *Odontoglossum densiflorum* Lindl., Orchid. Linden.: 17. 1846.
Oncidium densiflorum (Lindl.) Beer, Praktisch Studien an der Familie der Orchideen 285. 1854.

Type: Colombia. Boyacá: “The Paramo, near Boyaca, in the province of Tunja, at the height of 11,000 feet; March.” J. Linden 1377 (holotype: K-000857245).

Illustrated specimen: Colombia. Cundinamarca: Municipality of Chía, 2800 m. December 2014. K. Gil-Amaya 347 & P. Almanza de Ramírez (JBB; LCDP voucher).

Epiphytic, caespitose herb, sympodial, 14.06–15.36 cm tall excluding the inflorescence, 58.61 cm tall including the inflorescence; pseudobulbs heteroblastic, lustrous, ovoid, 4.81–4.95 × 2.91–3.03 cm, bifoliate, surrounded by 3–4 distichous, conduplicate sheaths, the upper two foliaceous, up to 12.11 cm long. Leaves coriaceous, conduplicate basally, pseudopetiolate, lanceolate, acute, 14.01–15.05 × 1.45–1.73 cm. Inflorescence axillary, suberect, emerging from the base of the pseudobulb, paniculate, the rachis vinaceous, 57.02–58.61 cm long. Floral bracts lanceolate, acuminate. Ovary pedicellate, costate, 1.81–1.92 cm long. Flowers yellow externally, maroon within, with yellow along the margins and the distal third of sepals and petals, lip yellow, maroon at the base. Sepals unguiculate; base cuneate; apex apiculate; dorsal sepal obovate, convex, held horizontally, 0.97 × 0.54 cm; lateral sepals obliquely lanceolate, divergent, 1.15 × 0.43 cm. Petals unguiculate-obovate, slightly undulate, apiculate, covering the column, touching each other at the tips, 0.86 × 0.46 cm. Lip oblong-elliptic, fleshy, acute, apiculate, the apical half reflexed, 0.90 × 0.35 cm; callus fleshy, consisting of a central, cuneate, tongue-like protuberance along the basal third, then dividing distally into three obtuse apices; additional callus elements present near the apex of the main callus, including two lateral linear teeth and two central divergent, subquadrate protuberances, 1.18 × 0.34 cm. Column brown-green, fleshy, with two capitate protuberances at the basal sides of the stigmatic cavity, 5.4 × 1.96 mm. Anther cap brownish, apical, cucullate. Pollinia 2, oblanceolate, grooved, yellow; viscidium rounded, white.

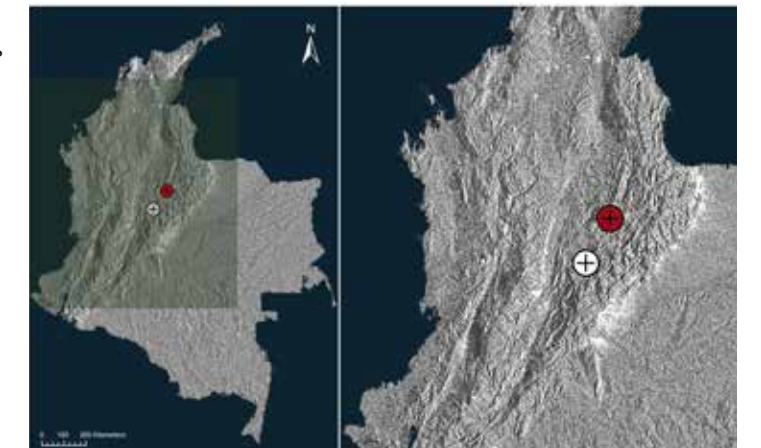
Etymology: From the Latin *densus*, meaning “dense” or “thick,”

probably referring to the large number of flowers borne by the raceme inflorescence.

Cyrtochilum densiflorum shows morphological affinity with *Cyrtochilum myanthum* (Lindl.) Kraenzl but can be distinguished by its bright yellow flowers, with brown dots within (vs. paler, whitish-yellow, the distal half suffused with brown), wider sepals, about 0.49 cm wide (vs. 0.33 cm. wide), its connivent petals (vs. spreading) and a fleshy lip callus consisting of a central, cuneate, tongue-like protuberance along the basal third, then dividing into three obtuse apices, emerging adjacent to the apex of the main callus, two lateral, linear teeth and two central, divergent, subquadrate protuberances (vs. mainly two linear, parallel, elongate projections extending to the middle of the lip). The species is widely distributed and can be found from Venezuela, to Ecuador at elevations above 3000 meters in ecosystems of Paramo. In Colombia this species has been recorded mainly in the eastern cordillera, in the departments of Boyacá and Cundinamarca.

References:

Lindley, J. 1846. Orchidaceae Lindenianae; Or, Notes Upon a Collection of Orchids Formed in Colombia and Cuba by J. Linden. Bradbury and Evans. London, pp. 17.



LCDP: *Cyrtochilum densiflorum* (Lindl.) Kraenzl. **A.** Habit. **B.** Flower. **C.** Dissected perianth. **D.** Column and lip, side view. **E.** Column, ventral and side view. **F.** Anther cap, dorsal and ventral view. **G.** Pollinarium, dorsal and ventral view.



Cyrtochilum dipterum

(Lindl.) Kraenzl.

Notizbl. Bot. Gart. Berlin-Dahlem 7: 99. 1917

Synonym: *Odontoglossum dipterum* Lindl., Orchid. Linden.: 16. 1846.
Oncidium dipterum (Lindl.) Beer, Prakt. Stud. Orchid.: 285. 1854.

Type: Colombia. Tolima: Mariquita, "Forests of Tolima, at the height of 900 feet". J.J. Linden 1277 (holotype: K; isotypes: BR, P).

Illustrated specimen: Colombia. Tolima: Municipio de Roncesvalles, Yerbabuena, 3366 m. 25 Nov 2019. J.S. Moreno s.n. (LCDP voucher).

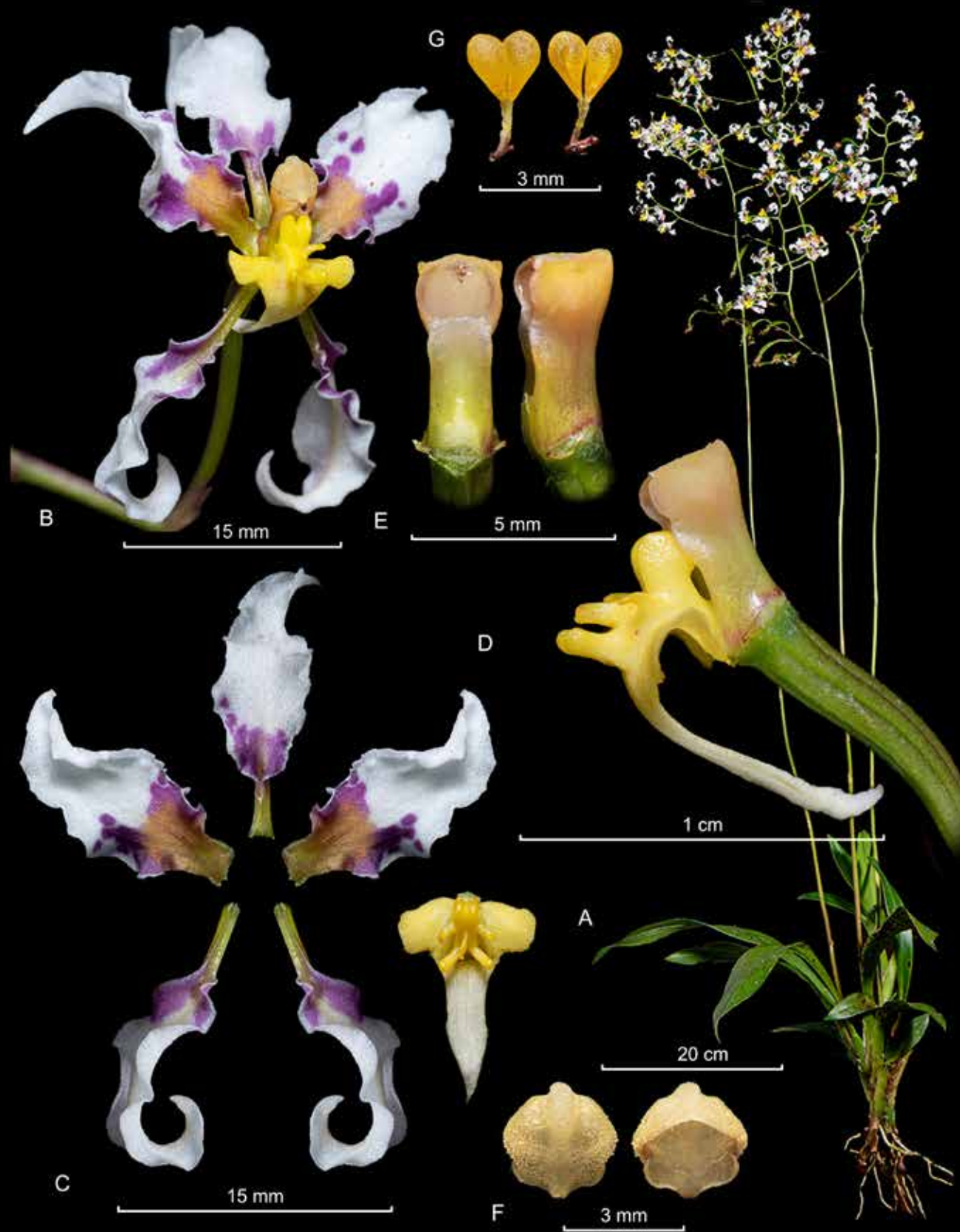
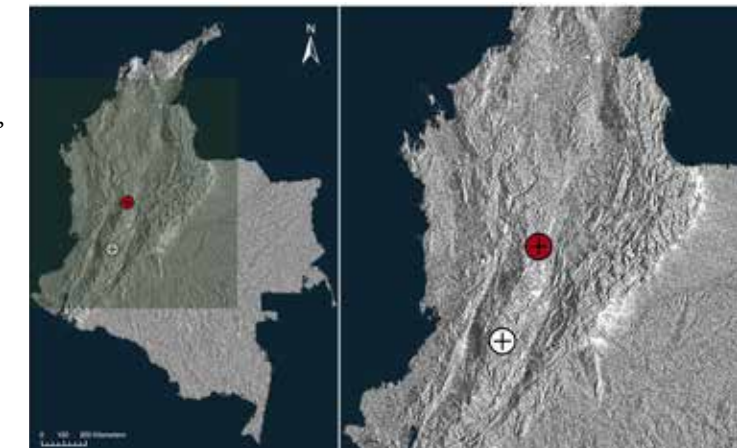
Epiphytic herb, sympodial, up to 42 cm tall excluding the inflorescence. Rhizome shortly ascending. Pseudobulbs heteroblastic, ovoid, slightly compressed, smooth, 6 × 3–4 cm, subtended basally by foliaceous sheaths. Leaves 18–35 × 2.5–4.5 cm, narrowly obovate, apex acuminate. Inflorescence to 118 cm long, erect, stout, paniculate, with spreading, few-flowered branches. Floral bracts 8–10 mm long. Pedicel and ovary 20–30 mm long. Flowers with sepals mainly white, greenish at the extreme base and purple-spotted over the remaining basal half; petals with an ovate brown macula at the base, purple-spotted along the margins of the middle third, and white distally; lip with hypochile and callus yellow, epichile white. Column rosy-brown, greenish at the base. Dorsal sepal prominently unguiculate; claw ca. 3 mm long, narrow, canaliculate, wingless; blade 12–14 × 5.5–6.5 mm, lanceolate-ovate, cuneate, margins undulate, entire, apex acute, recurved. Lateral sepals prominently clawed; claw ca. 4.5 mm long, narrow; blade 16–18 × 4–6 mm, obliquely elliptic-lanceolate in general outline, base cuneate, apex attenuate, acute, strongly recurved, margins undulate. Petals broadly clawed; claw ca. 2.2 mm long; blade 12–14 × 6–7 mm spread, elliptic-ovate, apex acute, recurved, oblique, margins somewhat undulate, more or less entire. Lip up to 12 mm long, 3-lobed; hypochile up to 4 mm long, transversely subrectangular; callus fleshy, with a large central knob-like outgrowth, supported anteriorly by a prominent digitate projection and flanked on each side by two long, linear to ligulate projections; epichile ligulate-ensiform, acuminate. Column 5 mm long, erect, adnate basally to the lip, lateral appendages transformed into wings flanking the column. Pollinia 2, obovate, grooved, yellow, viscidium rounded, white.

Etymology: In reference to the taxonomic order of flies (*Diptera*), maybe in reference to the resemblance of the flowers of this species to a fly.

Cyrtochilum dipterum belongs to *Cyrtochilum* sect. *Myanthium* Kraenzl. and appears to be morphologically similar to *Cyrtochilum ioplocon* (Rchb.f.) Dalström, both sharing a column basally connate with the lip, erect, winged, with no lateral appendages, but the former has whitish, purple dotted flowers (vs. almost entirely purple, suffused with white towards the apex), and a larger lip callus with central, large knob-like outgrowth supported in front with digitate, prominent projection and additionally flanked by two pairs of long, linear to ligulate projections on both sides (vs. a tuft of short digitate processes in front of nose-like callus).

References:

Szlachetko, D.L. & Kolanowska, M. Towards a taxonomic revision of the genus *Cyrtochilum* (Orchidaceae) in Northwestern South America (Northern Peru, Ecuador, Colombia, Venezuela). PeerJ. 14 Feb 2020. doi: <https://doi.org/10.7717/peerj.8566>



LCDP: *Cyrtochilum dipterum* (Lindl.) Kraenzl. A. Habit. B. Flower. C. Dissected perianth. D. Lip and column, side view. E. Column, ventral and side view. F. Anther cap, dorsal and ventral view. G. pollinarium, dorsal and ventral view.



Cyrtochilum halteratum

(Lindl.) Kraenzl.

Notizbl. Bot. Gart. Berlin-Dahlem 7: 93. 1917

Synonyms: *Oncidium halteratum* Lindl. Orchid. Linden. 14. 1846.**Type:** Colombia. Quindío: “epiphyte from the forests of Quindiu, in the province of Mariquita”, alt. 7,800 ft. February. *J.J. Linden 1289* (holotype: K-L; isotype: W).**Illustrated specimen:** Colombia. Tolima: Municipality of Villahermosa, 2,800 m. 26 Nov 2018. *M.A. Sierra-Ariza 94* (TOLI; LCDP voucher).

Epiphytic herb, sympodial, up to 50–55 cm tall excluding the inflorescence. *Pseudobulbs* heteroblastic, ovoid, 9.0–9.5 × 3.0–3.5 cm. *Leaves* numerous, with 6–8 basal, foliaceous sheaths covering the pseudobulb and 1–2 apical leaves per pseudobulb; apical leaves pseudopetiolate, ensiform, slender, apex acute, 35–45 × 3.5–7.3 cm. *Inflorescence* paniculate, basal, erect, voluble, up to 270–280 cm long. *Floral bracts* lanceolate, acuminate. *Ovary* pedicellate, costate, 30–33 mm long. *Flowers* brown; sepals with yellow or white markings at the apex; petals purple at the base, with brown and white transverse bars, and white basally; lip white, with the basal callus white to purple, the remaining portion brown. *Sepals* unguiculate, with the cuneate base, undulate; *dorsal sepal* 2.3 × 2.4 cm; *lateral sepals* 3.3–3.5 × 1.35–1.38 cm. *Petals* clawed, undulate, obtuse 2.13 × 1.99 cm. *Lip* lanceolate, fleshy, acute, 3-lobed, 2.15 × 1.17 cm; callus fleshy, 2–3 superior elongated keels, 1.18 × 0.34 cm. *Column* erect, fleshy, with two auricles, and falcate wings, 13.6 × 3.2–5.1 mm. *Anther cap* yellowish with brown, apical, cucullate. *Pollinia* 2, pyriform, yellow, rectangular white stipe, and viscidium brown and white at the apex.

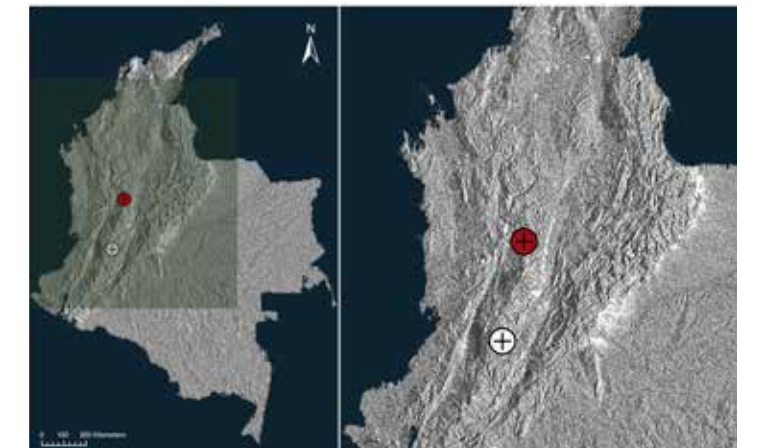
Etymology: From the Latin *halteratum*, meaning “dumbbells”, probably referring to the unguiculate sepals or petals.

Cyrtochilum halteratum (Lindl.) Kraenzl. is a widely distributed, showy species found from Ecuador to Colombia and Venezuela at elevations above 2500 m. In Colombia this species has been recorded in the central and western cordilleras in the departments of Antioquia, Quindío and Santander. Similar to *C. hirtzii* Dalström and *C. geniculatum* König, *C. halteratum* can be recognized from the former by the bilobed callus and the falcate

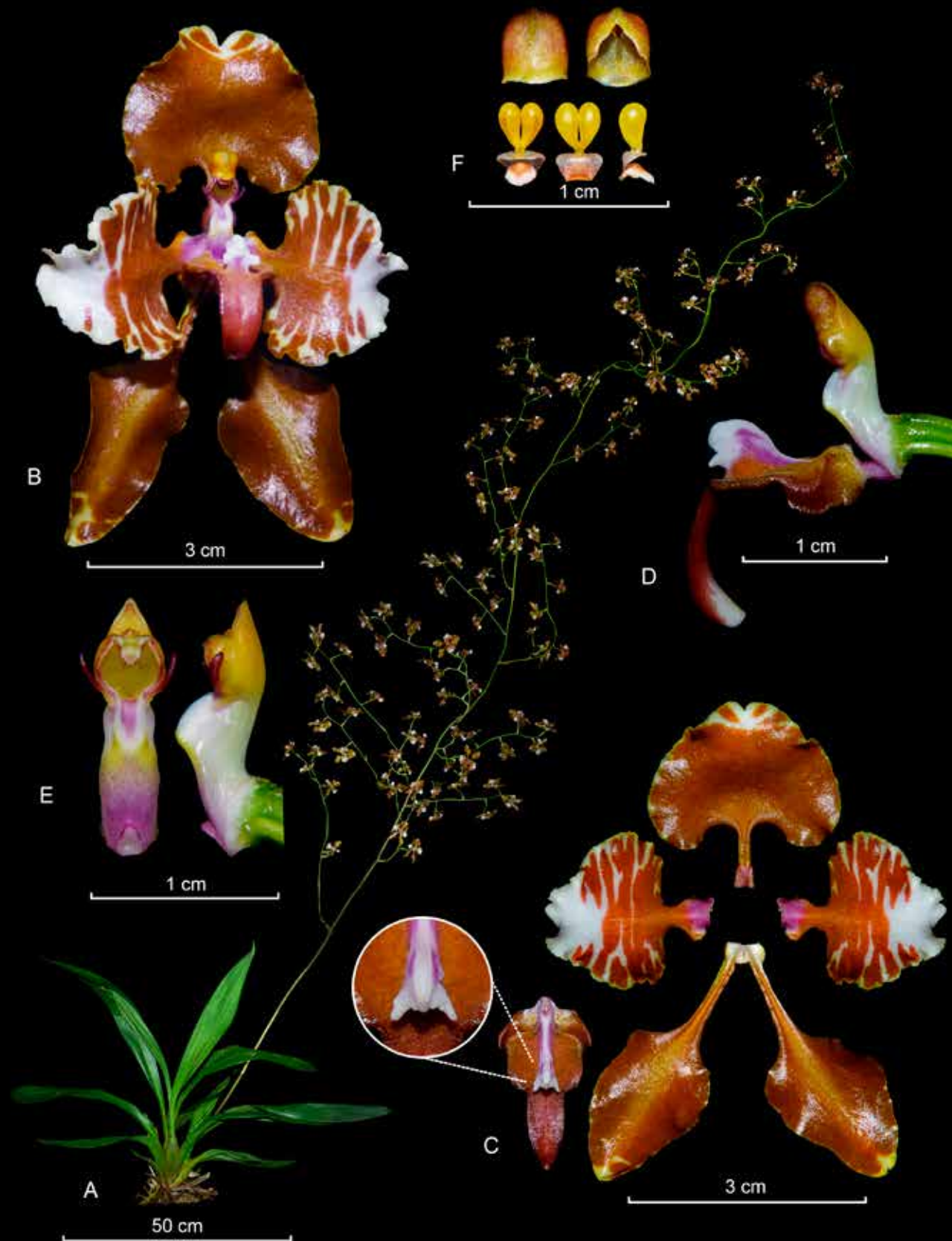
wings of the column versus the more complex callus and truncate wings of the column, and from the latter by the reniform dorsal sepal versus orbicular to ovate and the three-ridged callus versus bilobed.

References:

Lindley, J. 1846. *Orchidaceae Lindenianae; Or, Notes Upon a Collection of Orchids Formed in Colombia and Cuba* by J. Linden. Bradbury and Evans. London, pp. 14.



LCDP: *Cyrtochilum halteratum* (Lindl.) Kraenzl. **A.** Habit. **B.** Flower. **C.** Dissected perianth with magnified basal lip calli. **D.** Column and lip, lateral view. **E.** Column, ventral and lateral view. **F.** Anther cap and pollinarium.



Cyrtochilum meirax

(Rchb.f.) Dalström

Lindleyana 16: 70. 2001

Synonyms: *Oncidium meirax* Rchb.f., Bonplandia (Hannover) 2: 12. 1854.
Trigonochilum meirax (Rchb.f.) Königer & Schildh., Arcula 1: 22. 1994.

Type: Venezuela. Caracas, March 1851, *H. Wagener s.n.* (holotype: W).

Illustrated specimen: Colombia. Risaralda: Pueblo Rico, 1800 m. Jun 2016. *S. Vieira-Uribe s.n.* (LCDP voucher).

Epiphytic herb, sympodial, up to 3–4.4 cm tall excluding the inflorescence. *Pseudobulbs* heteroblastic, ovate, longitudinally elongated, 1.2 × 0.4 cm. *Leaves* 1–5 per pseudobulb, pseudopetiole, oblanceolate, coriaceous, smooth, conduplicate; base cuneate, 2.88 – 2.93 × 0.38 – 0.65 cm. *Inflorescence* paniculate, basal, erect, up to 8.9 cm long; *floral bracts* saffron, lanceolate, acute, 0.37–0.45 cm. *Flowers* fuscous-lemon. *Ovary* lemon to citrine with fuscous spots, costate, 1.07 cm long with the pedicel. *Sepals* lemon with fuscous bands, acute-spatulate, with the cuneate base, margins smooth; *dorsal sepal* 1 × 0.2 cm; *lateral sepals* 1.2 × 0.21 cm. *Petals* lemon with fuscous bands, oblanceolate, margins smooth, 0.79 – 0.85 × 0.2 – 0.22 cm. *Lip* lemon with marginal fuscous brush-strokes, convex, emarginate, obtuse; callus fleshy, with protuberances, comprising 1 upper trilobed keel and 2 lower keels, 0.56 × 0.79 cm. *Column* lemon, with chestnut lines bordering the stigma; column nearly perpendicular to the ovary; with 2 marginal fleshy, acute keels and a short column-foot, 4.3 × 2.0 mm. *Pollinia* 2, yellow, with a white stipe and a brown viscidium. *Anther cap* apical, elliptic, yellowish.

Etymology: The specific epithet is derived from the Greek word *meirax* (μεῖραξ), meaning a young boy or girl, and may refer either to the plant's small size or to its ability to flower at an early stage of development.

Cyrtochilum meirax differs from *C. cimiciferum* (Rchb.f.) Dalström by having smaller plants (3–4.4 vs. <10 cm), floral bracts triangular, acute (vs. elliptical-ovate, obtuse), flowers yellow with irregular brown spots (vs. flowers brown), callus disk with 5 protuberances

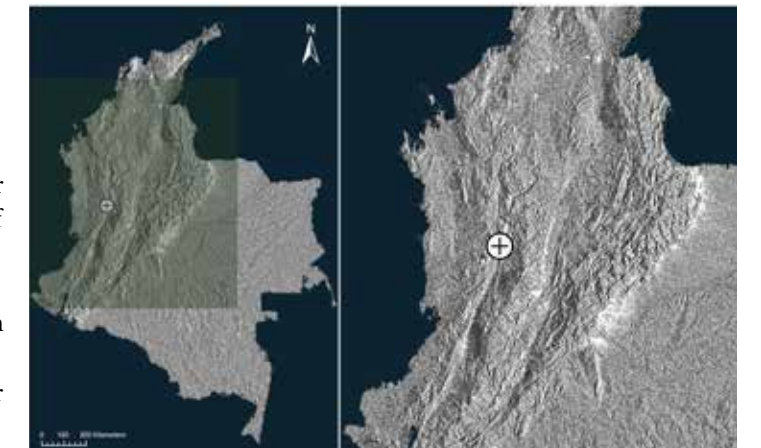
(vs. callus disk with 10 protuberances) column thin with triangular wings (vs. column robust with elliptical wings). Is found in Dominican Republic, Puerto Rico, the Leeward Islands, Hispaniola, Guadeloupe, Venezuela, Colombia, Ecuador and Peru in humid forests as a small sized, warm to cool growing epiphyte, occurring on understory shrubs, on trunks and large branches as well as small twigs

References

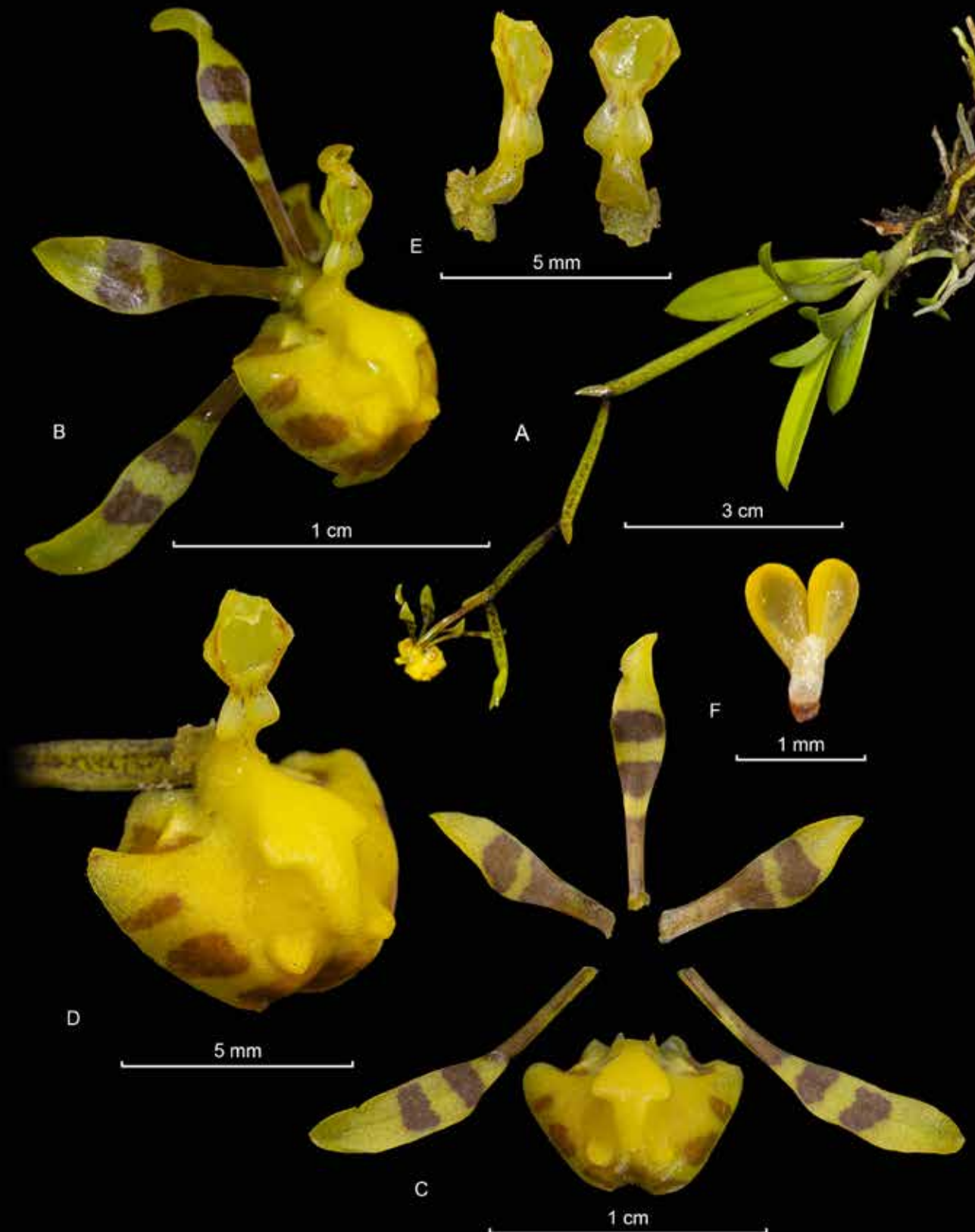
Ackerman, J.D. 1992. Las orquídeas de Puerto Rico e Islas Vírgenes. San Juan, Puerto Rico: Universidad de Puerto Rico. 167 p.

Dalström, S. (2001). A synopsis of the genus *Cyrtochilum* (Orchidaceae; Oncidiinae): Taxonomic reevaluation and new combinations. *Lindleyana* 16(2): 56–80.

Herausgegeben von D.F.L. von Schlechtendal, (1826). *Odontoglossum cimiciferum* Rchb. f. in *Linnaea*: Ein Journal für die Botanik in ihrem ganzen Umfange (Vol. 22, p. 849). F. Dümmler.



LCDP: *Cyrtochilum meirax* (Rchb.f.) Dalström. **A.** Habit. **B.** Flower. **C.** Dissected perianth. **D.** Lip and column, lateral view. **E.** Column, lateral, and ventral view. **F.** Pollinarium.



Cyrtochilum murinum

(Rchb.f.) Kraenzl.

Notizbl. Bot. Gart. Berlin-Dahlem 7: 97. 1917

Synonyms: *Oncidium murinum* Rchb.f., Linnaea 41: 20. 1877.**Type:** Ecuador. Williams 88 (holotype: W).**Illustrated specimen:** Colombia. Santander, Municipality of La Belleza, 2380 m, 18 Nov. 2016. N. Gutiérrez & S. Moreno 19 (JBB).

Epiphytic, caespitose herb, up to 1 m tall including the inflorescence. Roots fleshy, 3 mm in diameter. Pseudobulbs light green, clustered, ovate-elliptic, somewhat laterally compressed, 10×3.7 cm, bifoliate, surrounded by 6–7 distichous, conduplicate, foliaceous sheaths, the larger up to 28 cm long, 2.3 cm wide. Leaves sessile, conduplicate, linear-lanceolate, acute, 50×2.6 cm. Inflorescence erect, axillary from the base of the pseudobulb, up to 1 m long, paniculate, the rachis and branches, muriculate, peduncle 35–40 cm long, the branches short, with 1–2 basal ramifications, each branch carrying 8–10 simultaneous flowers. Floral bracts scale-like, 1–2 mm long. Pedicel 5–10 mm long. Ovary 4–5 mm long. Flowers yellow. Sepals externally muriculate, more or less reflexed, elliptic-cuneate, slightly concave, obtuse, dorsal sepal 6.7×2.2 mm, lateral sepals with keels along the apex of the external surface, 7×2 mm. Petals reflexed, elliptic, slightly oblique, acute, 6.5×3 mm. Lip yellow with a green apex, declined, adnate to the base of the column, triangular with rounded corners; callus subquadrate, ending in a pair of rounded, slightly divergent lobes, 5.8×5.0 mm. Column maroon to dull orange, slightly arcuate, angled at the base, suberect; basal third with an apiculum over the stigma; stigma reniform, 2×1.5 mm. Anther cap brown, hooded, granulose, 1.5×1.5 mm. Pollinarium with two obovate, grooved pollinia, 1×0.5 mm, on rounded stipe, viscidium rounded.

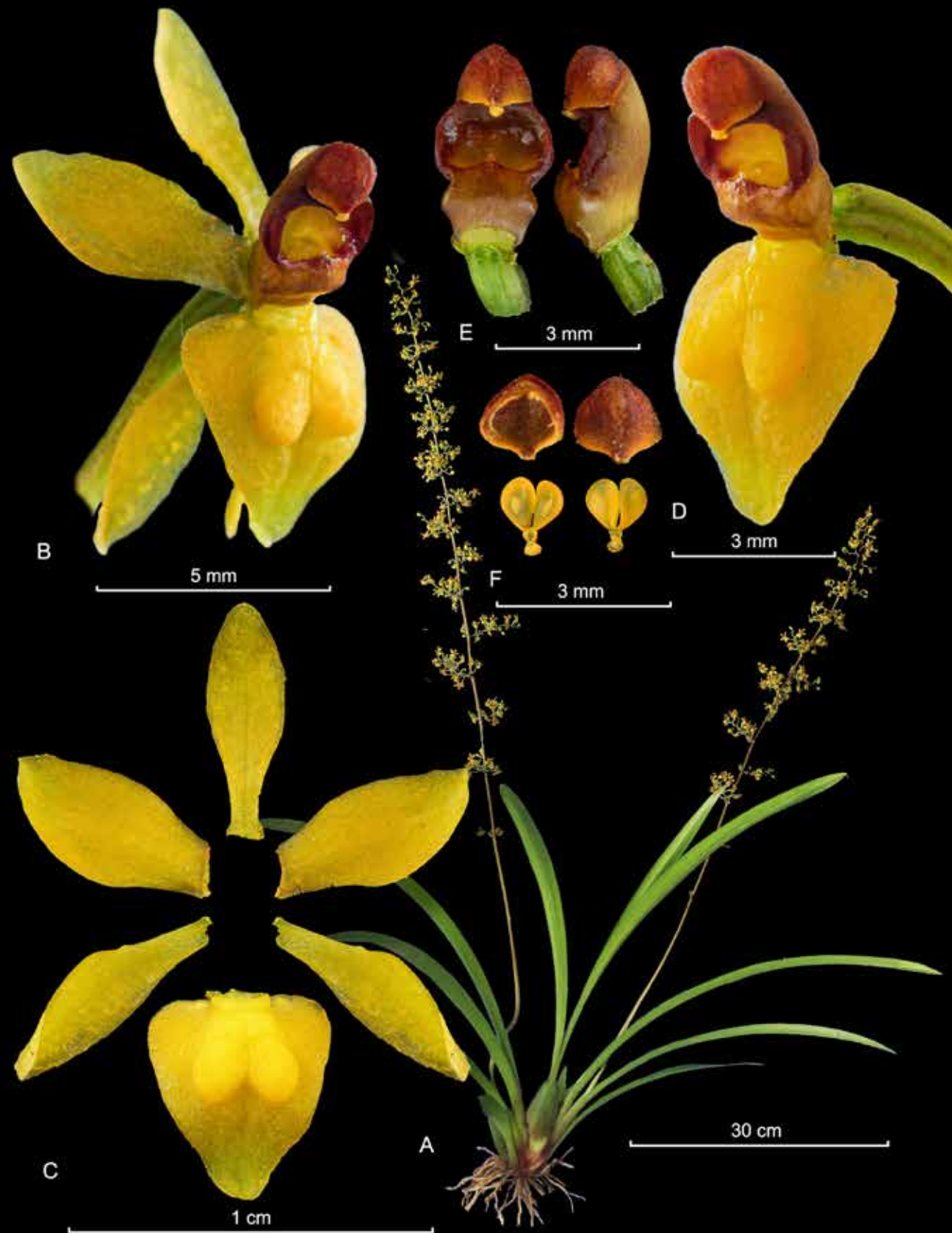
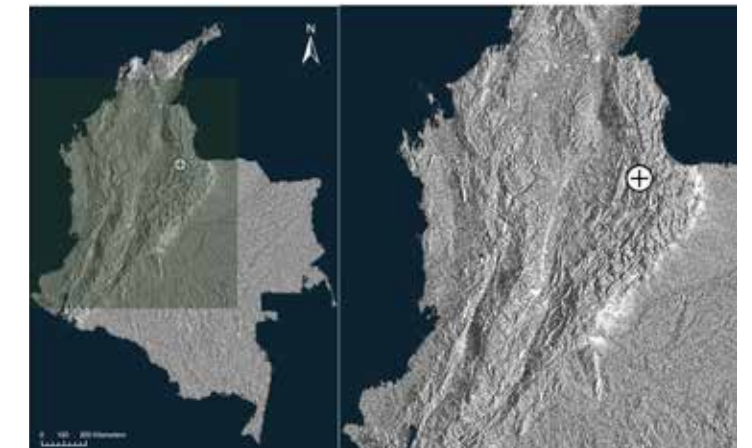
Etymology: Derived from the Latin word *mūrinus*, mouse.

Distributed from Venezuela to Peru, this small-flowered species is commonly found in open areas at mid to high elevations along the Andes. The erect inflorescences have short branches with clustered yellow flowers, while the sepals are slightly reflexed, and the triangular lip bears a central callus with a pair of longitudinal,

rounded lobes. Morphological variations within the species may include pale yellow flowers and the presence of 2–6 lobules in the center of the callus.

References:

Reichenbach, H.G. 1876. Orchidiographische Beiträge. *Linnaea* 41: 17–98.



LCDP: *Cyrtochilum murinum* (Rchb.f.) Kraenzl. **A.** Habit. **B.** Flower. **C.** Dissected perianth. **D.** Column, ovary and lip. **E.** Column, lateral and ventral views. **F.** Anther cap and pollinarium.



Cyrtochilum pardinum

Lindl.

Gen. Sp. Orchid. Pl. 210. 1833

Synonyms: *Oncidium pardinum* (Lindl.) Beer, Prakt. Stud. Orchid.: 291. 1854.
Odontoglossum pardinum (Lindl.) Lindl., Fol. Orchid. 1 (Odontoglossum): 17. 1852.

Type: Ecuador. Surucacho, *Jameson s.n.* (holotype: K-L).

Illustrated specimen: Colombia. Tolima, Municipio de Roncesvalles, Yerbabuena, 3200 m. 16 May 2019. *J.S. Moreno 552* (CAUP; LCDP voucher).

Epiphyte herb, sympodial, 30–40 cm tall. *Rhizome* undeveloped. *Pseudobulbs* heteroblastic, ovate, flattened, unifoliate at the apex, covered by 2–4 leaf sheaths 4–7 × 3–5 cm. *Leaves* erect, narrowly elliptic, coriaceous, acute, 30–35 × 2–4 cm. *Inflorescence* paniculate, basal, erect to flexuous, 70 cm long. *Floral bracts* triangular, acuminate. *Ovary* striate, dark green, 1 cm long, pedicelated. *Flowers* lemon-yellow with fuscous spotting. *Sepals* revolute, membranaceous, carinated to the base. *Dorsal sepal* lanceolate, acute, 3.5 × 0.6 cm. *Lateral sepals*, closely lanceolate, falcate, acute, 4 × 0.5 cm. *Petals* membranaceous, elliptic-lanceolate, revolute, downwardly inclined, acute, 3 × 0.8 cm. *Lip* membranaceous, closely ovate, revolute, acute, 3.3 × 1 cm; basal callus, fleshy, formed by four longitudinal sheets and five sharp teeth. *Column* subterete, straight, 1.2 cm long, pronounced side margins, stigma rounded, fuscous. *Anther cap* ovate, lemon. *Pollinia* 2, yellow, rounded, grooved, caudicle lamellar, viscidium dark.

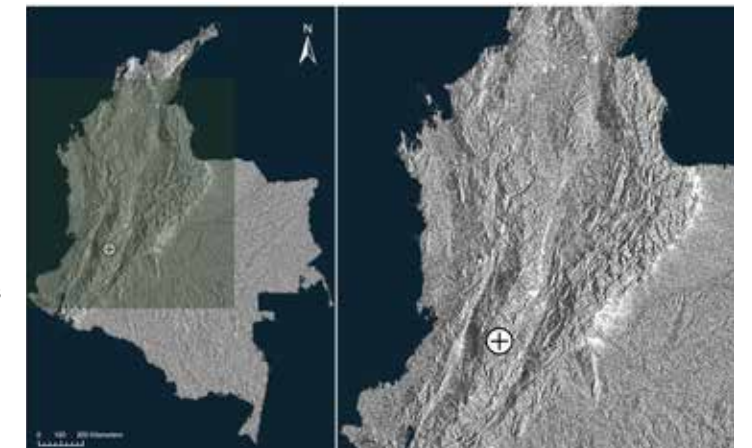
Etymology: The specific epithet is derived from the Latin word *pardus*, meaning “leopard,” and the suffix *-inus*, which denotes resemblance or belonging. The name refers to the distinctive spotted pattern on the yellow flower, which resembles the markings of a leopard, in this case, the brown or maroon spots.

Cyrtochilum pardinum Lindl. is distributed from Colombia to the north of Peru at elevations above 2500 m. In Colombia this species has been recorded along the three mountain ranges that cross the country. *C. pardinum* morphologically is similar to *C. auropurpureum* (Rchb.f.) Dalström but it differs by having an underdeveloped rhizome (vs. very elongated rhizome, up to 1 meter long),

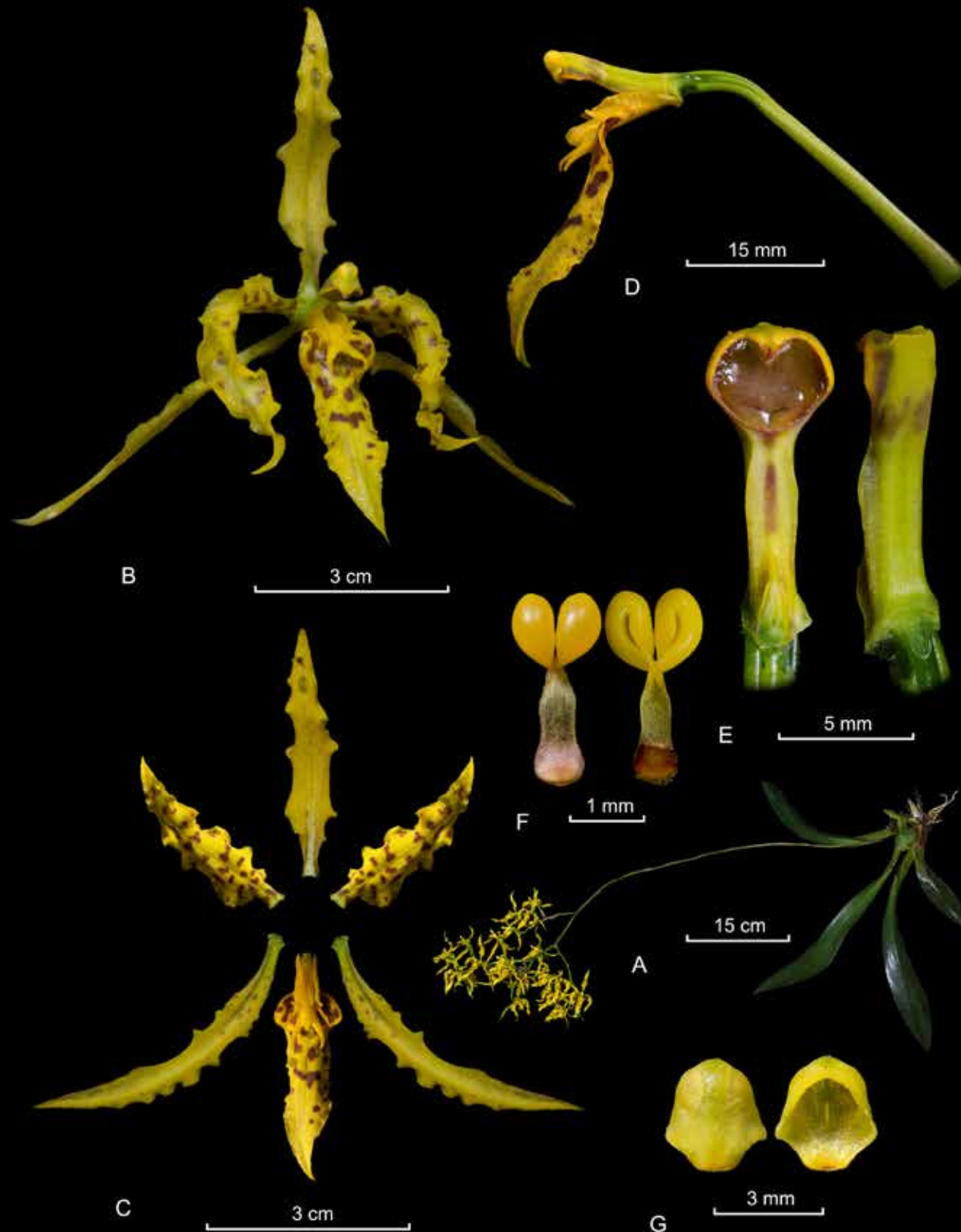
leaves narrowly elliptic (vs. linear), lateral sepals closely lanceolate, falcate (vs. elliptic-lanceolate), lip closely ovate (vs. lip thicker almost ovate), callus carnosae, formed by four longitudinal sheets and five sharp teeth (vs. callus a pair of erect lamellae with a shallow ridge between them, with 2 rows of fingerlike processes).

References:

Dodson, C. H. & Dodson, P. M. 1984. *Odontoglossum pardinum* Lindl. in C. H. Dodson (eds.), Orchids of Ecuador, Series I, *Icones Plantarum Tropicarum* 10: pl. 962.



LCDP: *Cyrtochilum pardinum* Lindl. **A.** Habit. **B.** Flor. **C.** Perianth. **D.** Column and lip, lateral view. **E.** Column, ventral and lateral views. **F.** Pollinarium, dorsal and ventral views. **G.** Anther cap, dorsal and ventral views.



Cyrtochilum ramiro-medinae

P. Ortiz

Orquideólogo Supl. 1: 15. 2012

Type: Colombia. Putumayo: San Francisco, Vereda San Pablo Alto, 2500 m. 15 Dec. 2006. *R. Medina 456* (holotype: HPUJ).

Illustrated specimen: Colombia. Santander: La Belleza, Vereda el Funcial, 2500 m. 10 Jun. 2016. *N. Gutiérrez 387* (LCDP voucher).

Epiphytic herb with a creeping rhizome; *pseudobulbs* distant by 5–12 cm; 80–120 cm tall including the inflorescence. *Roots* thick, to 5 mm in diameter. *Pseudobulbs* heteroblastic, ovoid, slightly ancipitous, 8–12 × 4.5–5.0 cm, subtended by 6 foliaceous sheaths, bearing 3 leaves apically. *Leaves* narrowly oblong, coriaceous, with a central prominent median vein, acute, 25–35 × 2.5–4.5 cm. *Inflorescences* emerging from the axils of the foliar sheaths, elongated, lax, paniculate, the branches with 2–3 flowers, to 30 flowers, 80–120 cm long. *Floral bracts* brown, oblique. *Ovary* ribbed, green, 1 cm long, pedicelated. *Flowers* perianth with undulate margins. *Sepals* maroon with yellow along the apical margins. *Dorsal sepal* oblanceolate, cuneate, obtuse, 2.0 × 0.8 cm. *Lateral sepals* basally connate at the base, divergent, oblique, convex, cuneate, subfalcate, 2.8 × 0.8 cm. *Petals* maroon with yellow, elliptic, arcuate, surrounding the lip, obtuse apex, 1.5 × 0.8 cm. *Lip* with a white basal callus, apex yellow, vinaceous centrally, obscurely 3-lobed; apical lobe ligulate, reflexed, concave; callus conspicuous, consisting of a subrectangular lamella with two lateral series of tubercles and a central keel, 1.5 × 0.6 cm when expanded. *Column* vinaceous to maroon, wings cream, sigmoid, ventrally canaliculate, erect, 1.6 cm long; with a pair of rhombic wings, margins filamentous; stigma suborbicular. *Anther cap* cucullate, white suffused with yellow, 2.9 × 2.6 mm. *Pollinarium* 2.4 × 1.4 mm; *pollinia* 2, elliptic, yellow, 1.4 × 0.5 mm; *stipe* rectangular, white, 1 mm long; *viscidium* elliptic, brown, 0.6 mm long.

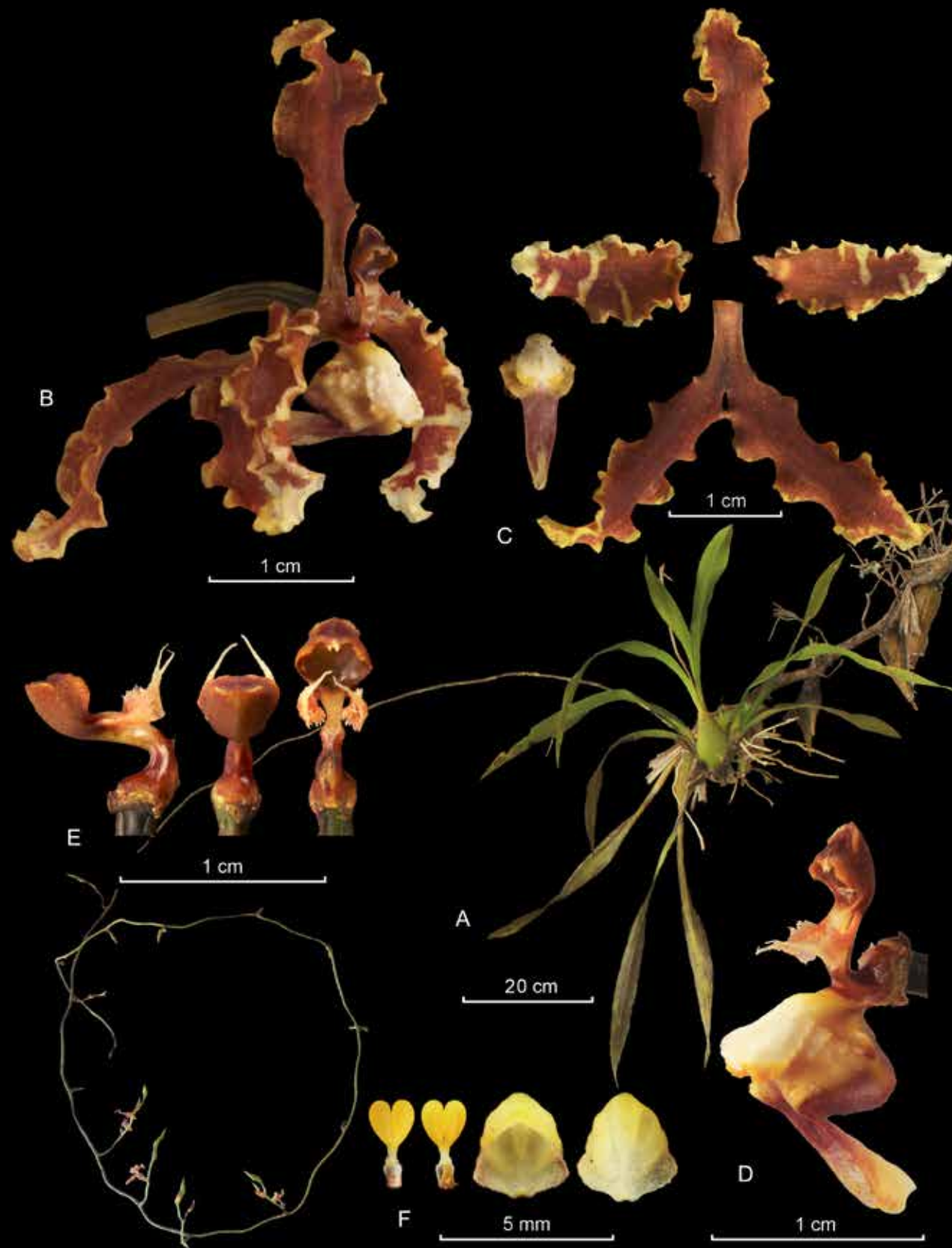
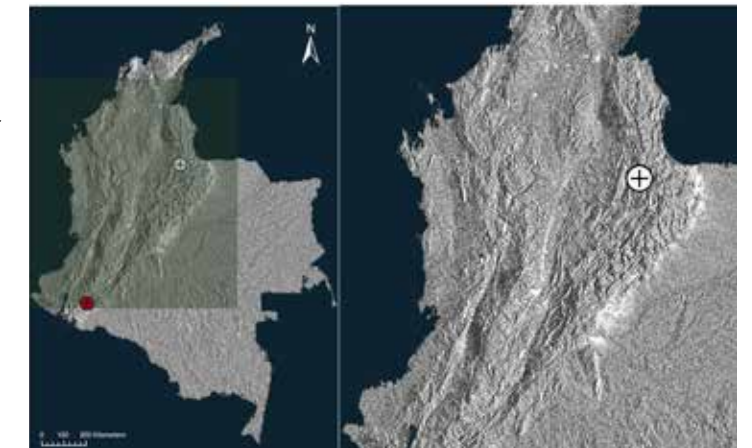
Eponymy: The name honors Ramiro Medina, collector of the plant that served for preparing the type specimen.

Cyrtochilum ramiro-medinae was only known from the type specimen collected in Putumayo. It is usually confused with *C. divaricatum* (Lindl.) Dalström, from which it differs in the petals arcuate, surrounding the column (vs. petals straight), column sig-

moidal, the wings broad, rhombic, with filamentous margins and apex acuminate (vs. column erect, rectangular small wings with irregular margins). This record expands the distribution of this poorly known and rarely collected species in the eastern Andes, from Putumayo to Santander.

References:

Asociación Bogotana de Orquideología. 2012. *El Orquideólogo – Suplemento* (No. 1). Bogotá: Asociación Bogotana de Orquideología..



LCDP: *Cyrtochilum ramiro-medinae* P. Ortiz. **A.** Habit. **B.** Flower. **C.** Dissected perianth. **D.** Column and lip, three quarters view. **E.** Column, side, dorsal and ventral view. **F.** Pollinarium and Anther cap, dorsal and ventral views.



Cyrtochilum sodiroi

(Schltr.) Dalström

Lankesteriana 20(1): 26. 2020

Synonyms: *Odontoglossum sodiroi* Schltr., Repert. Spec. Nov. Regni Veg. Beih. 8: 101–102. 1921.

Syntypes: Ecuador. Pichincha: in silvis subandinis montis Corazon-Miligally, *L. Sodiro 112* (B, probably destroyed; isosytype, BR); Ecuador. [Napo:] in silvis subandinis Andium Orientalium supra Oyacachi, *L. Sodiro 23b* [B, probably destroyed; illustration of the type in Repert. Spec. Nov. Regni Veg. Beih. 57, plate 99, no. 386 (designated as **lectotype** by Dalström 2020)].

Illustrated specimen: Colombia. Cauca: Parque Nacional Natural Puracé, 3200 m. 25 Nov 2018. *J.S. Moreno 553* (CAUP; LCDP voucher).

Epiphytic herb, sympodial, 50–55 cm tall excluding the inflorescence; *pseudobulbs* heteroblastic, 11–15 × 4.2–4.5 cm, ovate, laterally compressed. *Leaves* 1–2 per pseudobulb, pseudopetiolate, oblong-elliptic, coriaceous, smooth, conduplicate near the base; base cuneate; with 2–4 foliaceous sheaths covering the pseudobulb, papyraceous at maturity; leaf blade 7.4–21.5 × 7.8–8.8 cm. *Inflorescence* paniculate, basal, erect, up to 163 cm long; floral bracts lanceolate, acuminate. *Ovary* costate, striate, 2.15 cm long with the pedicel. *Sepals* elliptic-lanceolate, with the cuneate base, undulate, acuminate; *dorsal sepal* 2.64 × 0.74 cm; *lateral sepals* 3.0 × 0.68 cm. *Petals* elliptic-lanceolate, 7-nerved, membranaceous, smooth, the base widely cuneate, undulate, acuminate, 2.0–2.03 × 0.71 cm. *Lip* ovate-lanceolate, curved, membranaceous, smooth, undulate, base truncate, acuminate; callus fleshy, with several protuberances, comprising 2 upper elongate keels and 3 lower keels, 2.05 × 1.0 cm. *Column* erect, 1 central keel with marginal wings, rounded, column-foot short, 8.0 × 2.8 mm. *Pollinia* 2, yellow, white stipite and a brown viscidium. *Anther cap* apical, elliptic yellowish with purple lines.

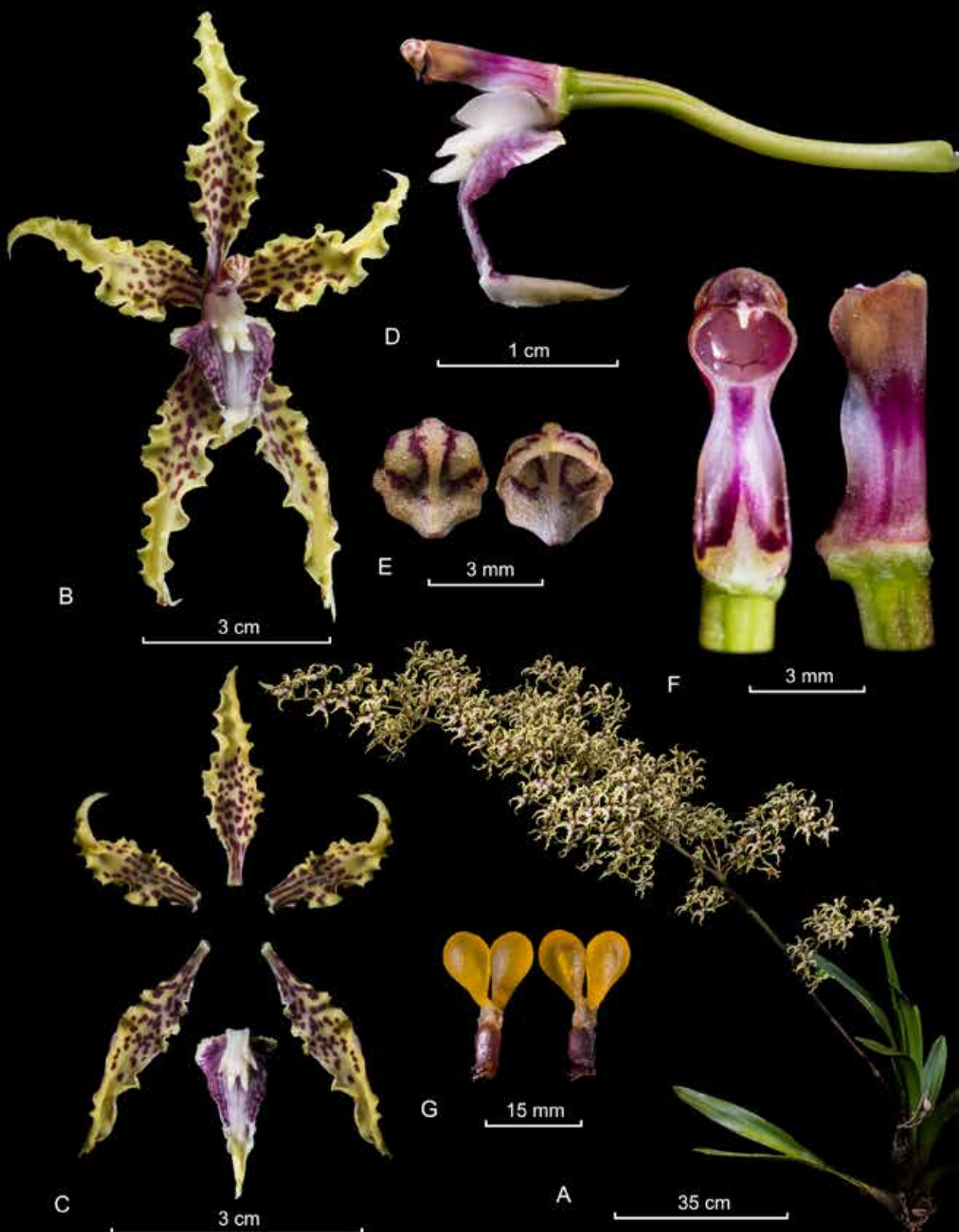
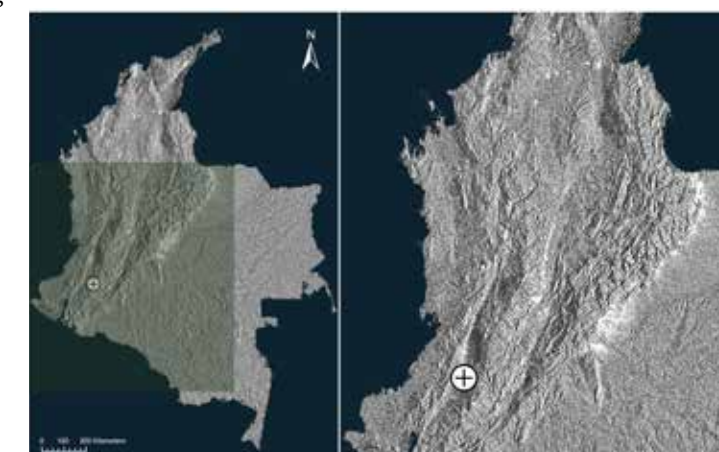
Eponymy: In honor of the Jesuit priest Luis Sodiro (1836–1909), who made the two Ecuadorian collections on which Rudolf Schlechter based the description of *Odontoglossum sodiroi*.

Cyrtochilum sodiroi (Schltr.) Dalström is originally described by Rudolf Schlechter as *Odontoglossum sodiroi*, based on two collections made by Luis Sodiro, which unfortunately represent two

different species and have probably been lost at B. The name has been lectotypified with an illustration of *L. Sodiro 23b*, while *L. Sodiro 112* is excluded and regarded as a specimen of *C. angustatum* (Lindl.) Dalström based on an extant duplicate at BR. *Cyrtochilum sodiroi*, which is distributed from Colombia to central Peru, is similar to *C. ramosissimum*, which is only reported from Venezuela. The most distinctive features of *C. sodiroi* are the smoothly rounded pair of basal lip calli, which are marginally covered externally by the ventral flanks of the column, unlike *C. ramosissimum* which has slightly denticulate basal callus keels on the lip, and where the ventral columnar flanks are marginally placed between these keels.

References:

Dalström, S. 2020. New combinations in *Cyrtochilum* (Orchidaceae: Oncidiinae). *Lankesteriana* 20(1): 21–29.



LCDP: *Cyrtochilum sodiroi* (Schltr.) Dalström. **A.** Habit. **B.** Flower. **C.** Dissected perianth. **D.** Ovary, column and lip, lateral view. **E.** Anther cap, dorsal and ventral view. **F.** Column, ventral and lateral view. **G.** Pollinarium, dorsal and ventral view.



Cyrtochilum sodiroi

(Schltr.) Dalström

Lankesteriana 20(1): 26. 2020

Synonyms: *Odontoglossum sodiroi* Schltr., Repert. Spec. Nov. Regni Veg. Beih. 8: 101–102. 1921.**Syntypes:** Ecuador. Pichincha: in silvis subandinis montis Corazon-Miligally, *L. Sodiro 112* (B, probably destroyed; isosyntype, BR); Ecuador. [Napo:] in silvis subandinis Andium Orientalium supra Oyacachi, *L. Sodiro 23b* [B, probably destroyed; illustration of the type in Repert. Spec. Nov. Regni Veg. Beih. 57, plate 99, no. 386 (designated as **lectotype** by Dalström 2020)].**Illustrated specimen:** Colombia. Cauca: Parque Nacional Natural Puracé, 3200 m. 27 Nov 2018. *J.S. Moreno 554* (CAUP; LCDP voucher).

Epiphytic herb, sympodial, 18–22 cm tall excluding the inflorescence. *Pseudobulbs* heteroblastic, ovate, 4.9–5 × 1.8–2 cm. *Leaves* 1 per pseudobulb, pseudopetiolate, oblong-elliptic, coriaceous, smooth, conduplicate, with papyraceous sheaths covering the pseudobulb, 12.4–12.6 × 0.9–1.2 cm. *Inflorescence* paniculate, basal, erect, up to 29.28 cm long; *floral bracts* claret to chestnut, lanceolate, acuminate, sheathing the peduncle, 0.94–1 cm. *Flowers* primrose to light yellow, claret spotted mostly in dorsal sepal and petals. *Ovary* light green, costate, striate, 1.32 cm long with the pedicel. *Sepals* narrowly elliptic-lanceolate, with the base broadly cuneate, margins undulate, acuminate; *dorsal sepal* 1.82 × 0.54 cm; *lateral sepals* 2.53 × 0.44 cm. *Petals* narrowly elliptic-lanceolate, the base cuneate, margins undulate, acuminate, 1.97–1.99 × 0.61–0.65 cm. *Lip* primrose in the basal and apical portions, white centrally, ovate-lanceolate, ribbed distally, undulate; base truncate; callus fleshy, with protuberances, comprising 2 upper elongate keels and 5 lower keels, 1.68 × 0.69 cm. *Column* erect, with a central keel; column-foot long with marginal wings, 1.12 × 0.29 cm. *Pollinia* 2, yellow, white stipite and a brown to yellow viscidium. *Anther cap* apical, elliptic yellowish.

Eponymy: In honor of the Jesuit priest Luis Sodiro (1836–1909), who made the two Ecuadorian collections on which Rudolf Schlechter based the description of *Odontoglossum sodiroi*.

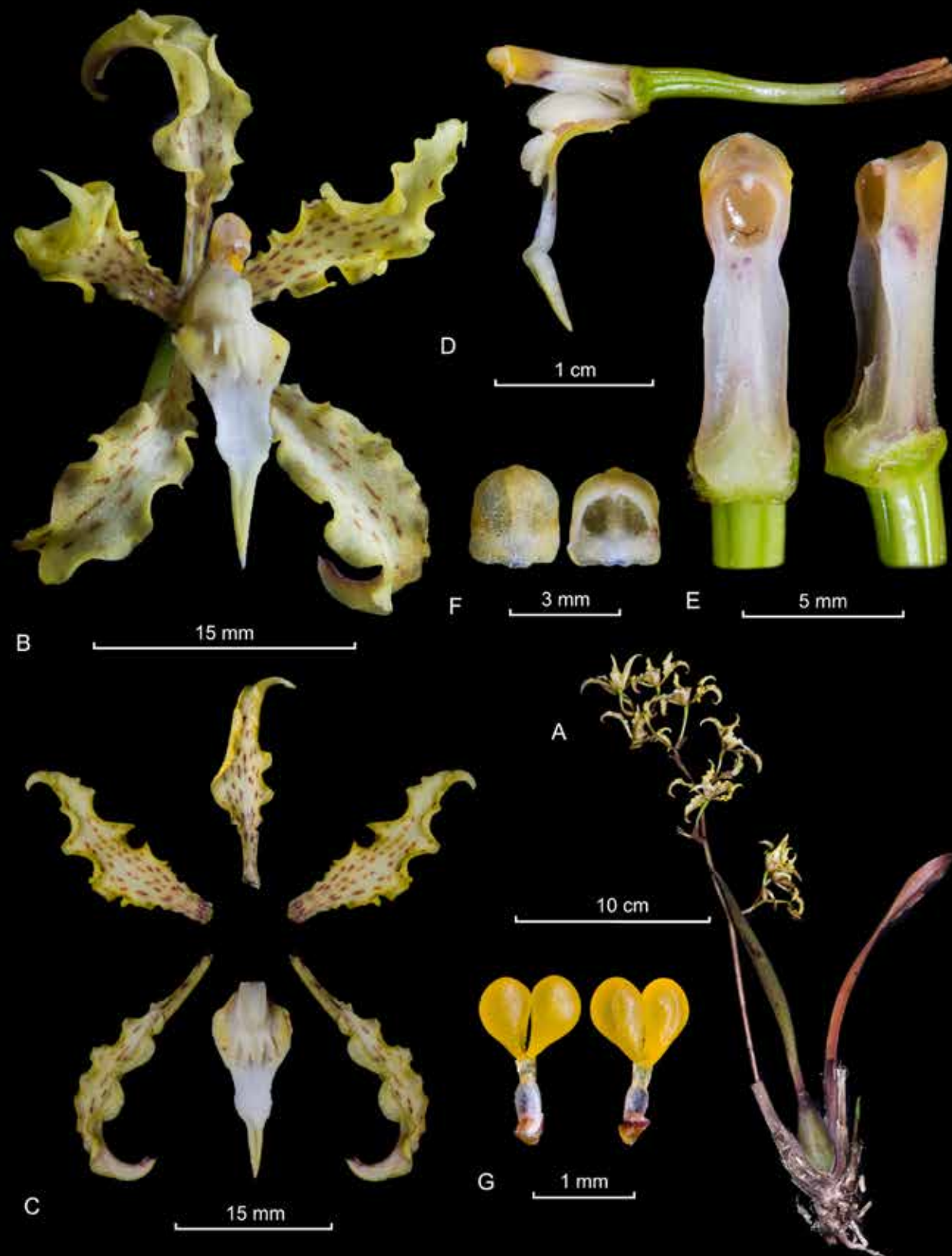
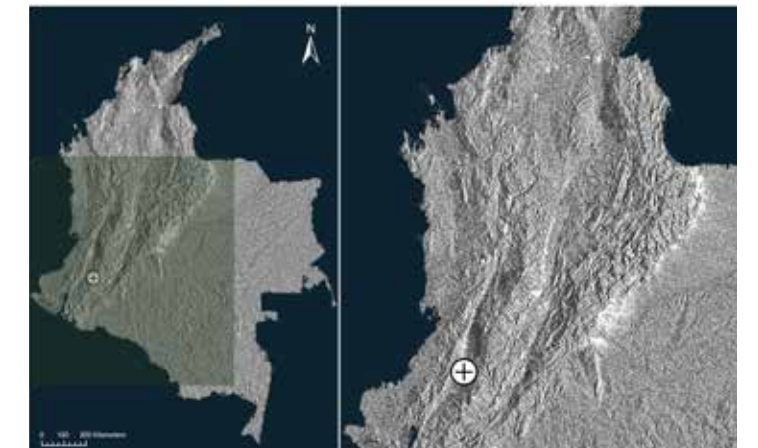
The second plate illustrates a markedly reduced morph of *Cyrtochilum sodiroi*, characterized by a dwarf habit (shorter pseudobulbs, a single narrow leaf per pseudobulb, and a much shorter

inflorescence) and paler flowers (primrose to light yellow) with claret maculation concentrated on the dorsal sepal and petals. Despite these differences in vegetative size and pigmentation, the floral architecture remains consistent with *C. sodiroi*, and the key diagnostic lip–column features used to separate this species from *C. ramosissimum* are maintained. We interpret this phenotype as intraspecific variation rather than taxonomically meaningful divergence; nevertheless, documenting it here reduces the risk of misidentification with morphologically similar taxa.

References:

Dalström, S. 2020. New combinations in *Cyrtochilum* (Orchidaceae: Oncidiinae). *Lankesteriana* 20(1): 21–29.

LCDP: *Cyrtochilum sodiroi* (Schltr.) Dalström. **A.** Habit. **B.** Flower. **C.** Dissected perianth. **D.** Ovary, column and lip, lateral view. **E.** Column, ventral, and lateral view. **F.** Anther cap, dorsal and ventral view. **G.** Pollinarium, dorsal and ventral view.



Cyrtochilum sodiroi

(Schltr.) Dalström

Lankesteriana 20(1): 26. 2020

Synonyms: *Odontoglossum sodiroi* Schltr., Repert. Spec. Nov. Regni Veg. Beih. 8: 101–102. 1921.

Syntypes: Ecuador. Pichincha: in silvis subandinis montis Corazon-Miligally, *L. Sodiro 112* (B, probably destroyed; isosyntype, BR); Ecuador. [Napo:] in silvis subandinis Andium Orientalium supra Oyacachi, *L. Sodiro 23b* [B, probably destroyed; illustration of the type in Repert. Spec. Nov. Regni Veg. Beih. 57, plate 99, no. 386 (designated as **lectotype** by Dalström 2020)].

Illustrated specimen: Colombia. Antioquia: Urrao, Páramo del Sol, sector Santa Bárbara, 3550 m. 2 marzo 2013. *S. Vieira s.n* (LCDP voucher).

Epiphytic herb, sympodial, 18–25.4 cm tall excluding the inflorescence. *Pseudobulbs* heteroblastic, ovate, 3.8–4.2 × 1.2–1.6 cm. *Leaves* 1 per pseudobulb, pseudopetiolate, oblong-elliptic, coriaceous, smooth, conduplicate near the base, with the base cuneate, with foliaceous sheaths covering the pseudobulb, 7.4–21.5 × 1.2–2.5 cm. *Inflorescence* paniculate, basal, erect, up to 34.5 cm long; *floral bracts* brown, hyaline, lanceolate, acuminate, sheathing the peduncle, 0.7–1.1 cm. *Ovary* light green, costate, striate, 2.2 cm long with the pedicel. *Flowers* with sepals and petals whitish-pink, primrose-purple spotted, the lip magenta until the basal half, then completely white. *Sepals* narrowly elliptic-lanceolate, base unguiculate, margins undulate, attenuate; *dorsal sepal* 1.88 × 0.84 cm; *lateral sepals* 2.42 × 0.77 cm. *Petals* narrowly elliptic-lanceolate, the base cuneate, margins undulate, acuminate, 1.69–1.99 × 0.71–0.76 cm. *Lip* ovate-lanceolate, slightly contracted medially, ribbed distally, undulate; base truncate; callus fleshy, consisting of a basal pair of parallel, elongate protuberances, followed by 2 oblique elongate keels and 3 lower keels, 1.61 × 0.62 cm. *Column* erect, 1 central keel, long foot with marginals wings, slightly contracted towards the middle, 8.63 × 2.93 mm. *Pollinia* 2, yellow, white stipite and a brown to yellow viscidium, 1.95 × 1.09 mm. *Anther cap* apical, elliptic yellowish, 2.0 × 2.0 mm.

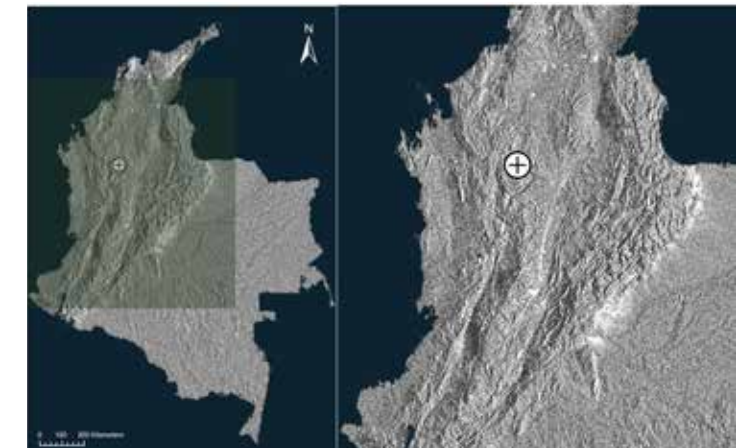
Eponymy: In honor of the Jesuit priest Luis Sodiro (1836–1909), who made the two Ecuadorian collections on which Rudolf Schlechter based the description of *Odontoglossum sodiroi*.

This plate documents a conspicuous colour morph of *Cyrtochilum*

sodiroi, characterized by fully spreading flowers with whitish-pink perianth densely spotted with purple and a sharply bicoloured lip, magenta on the basal half and white distally. Vegetatively, the plants are small (short pseudobulbs and a single leaf per pseudobulb) and bear a relatively short paniculate inflorescence. Despite the striking pigmentation, the structural characters match *C. sodiroi*, particularly the overall lip–callus architecture (basal paired protuberances followed by oblique keels and distal keels) and the column with a central keel and a long, winged foot. We interpret these differences primarily as intraspecific variation in pigmentation and plant size (potentially ecophenotypic), rather than evidence of taxonomic separation.

References:

Dalström, S. 2020. New combinations in *Cyrtochilum* (Orchidaceae: Oncidiinae). *Lankesteriana* 20(1): 21–29.



LCDP: *Cyrtochilum sodiroi* (Schltr.) Dalström. **A.** Habit. **B.** Flower. **C.** Dissected perianth. **D.** Ovary, column and lip, lateral view. **E.** Column, ventral, and lateral view. **F.** Pollinarium and anther cap, ventral and dorsal view.



Cyrtochilum tetracopis

(Rchb.f.) Kraenzl.

Notizbl. Bot. Gart. Berlin-Dahlem 7: 93. 1917

Synonyms: *Oncidium tetracopis* Rchb.f., Gard. Chron. 27: 915. 1873.

Type: Colombia. Collected by Baldeviama, *Bull* 234 (holotype: W).

Illustrated specimen: Colombia. Santander, Municipality of La Belleza, 2530 m, 31 May 2017. N. Gutiérrez & S. Moreno 61 (JBB; LCDP Voucher).

Terrestrial herb, 45–55 cm tall excluding the inflorescence. *Roots* fleshy, 5.5–7.5 mm in diameter. *Pseudobulbs* borne on an elongate rhizome, obovate, somewhat laterally compressed and wrinkled, 12 × 3.3 cm, bifoliate, surrounded basally by 2–3 distichous, deciduous sheaths and 2–3 distichous, foliaceous sheaths; foliaceous sheaths 34.6–42.0 × 5.7 cm. *Leaves* sessile, conduplicate, lanceolate, acute, 50 × 5 cm. *Inflorescence* axillary from the base of the pseudobulb, climbing, up to 3 m long, paniculate, lax, branched, carrying ca. 120 simultaneous flowers. *Floral bracts* appressed, scale-like, 1.4–1.8 cm. *Pedicel* 22–30 mm. *Ovary* 30–33 mm. *Flowers* fuscous with yellow. *Dorsal sepal* fuscous with yellow margins, unguiculate, the claw with a pair of yellow auricles, broadly cordate, the margins undulate, the apex obtuse, 2.6 × 1.9 cm. *Lateral sepals* fuscous, slightly involute, unguiculate, the base with a pair of yellow auricles, the apical margins minutely undulate, the apex emarginate, 3.4 × 1.8 cm. *Petals* yellow, densely stained with fuscous to terracotta, elliptic to subunguiculate, convex, the margins undulate, the apex obtuse, 2.2 × 1.5 cm. *Lip* adnate to the base of the column, fuscous with yellow in the distal margins, the callus light yellow and white, elliptic to pandurate, the basal third with a fleshy, rounded callus, the callus complex, with several spreading, angled tubercles and a central, longitudinal convexity, the blade of the lip 3-grooved, the apical margins involute, 19 × 7.5 mm. *Column* citrine to sage, suberect, sigmoid, with a shallow concavity and two small, fuscous, oblique, lacerate wings below the broadly rounded stigma, 13 × 2.3 mm. *Anther cap* citrine, hooded, 3.2 × 3.7 mm. *Pollinarium* with two oblanceolate, grooved pollinia, 2 × 0.8 mm, on an obtriangular stipe, viscidium reniform.

Etymology: It may refer to four “kopis”: a forward-curving blade in

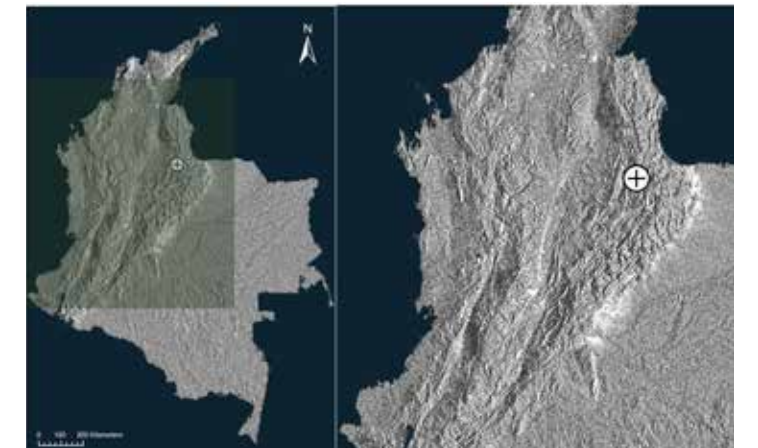
Ancient Greece.

Cyrtochilum tetracopis is found from Ecuador to Venezuela, but it is most frequent in the cloud forests of the eastern Andes of Colombia, growing as epiphytic or terrestrial at elevations above 2300 meters. It can be related to other large species with long, climbing inflorescences bearing numerous simultaneous, brown and yellow flowers, such as *Cyrtochilum baldeviamae* (Rchb.f.) Kraenzl., *C. annulare* (Rchb.f.) Kraenzl., *C. serratum* (Lindl.) Kraenzl., and *C. aemulum* (Rchb.f. & Warsz.) Kraenzl., among others. *Cyrtochilum tetracopis* can be distinguished by the sepals unguiculate with auricles at the base, the extended, strongly undulate petals, lip subpandurate without lateral lobes and column with a pair of small, lacerate wings.

References:

Kraenzlin, F. W. L. 1917. *Cyrtochilum* H.B.K. Notizblatt des Botanischen Gartens und Museums zu Berlin-Dahlem 7: 81–101.

Reichenbach, H.G. 1873. New Garden Plants. *The Gardeners' Chronicle & Agricultural Gazette* 27: 915.



LCDP: *Cyrtochilum tetracopis* (Rchb.f.) Kraenzl. **A.** Habit. **B.** Flower. **C.** Dissected perianth. **D.** Column and lip. **E.** Column, ventral view. **F.** Anther cap and pollinarium.



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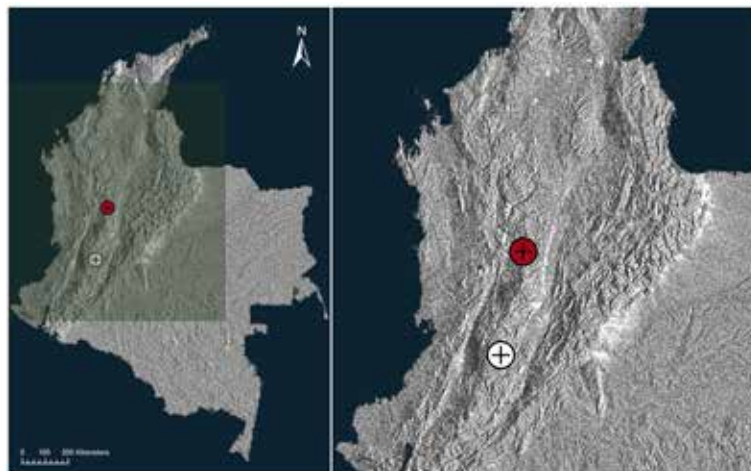
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