

**ORCHIDS OF THE DEPARTMENT  
OF VALLE DEL CAUCA (COLOMBIA)**

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OF VALLE DEL CAUCA (COLOMBIA)**

**VOLUME 2**  
**ORCHIDACEAE**  
Epidendroideae (Epidendreae 1)

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*In memory of Pedro Ortiz Valdivieso (1926-2012)*

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### 3. Tribe **Epidendreae** Humb., Bonpl. & Kunth

Nov. Gen. Spec. Pl. 1: 269. 1815.

Pseudobulbs of various forms, usually multinodal. Inflorescence terminal or rarely, lateral. Lip hinged, fixed, or spurred, occasionally saccate. Rostellum ligulate to shelf-like, sometimes modified, erect to bent forward. Viscidium, if present, composed of partially macerated cells. Anther incumbent, but secondarily erect in some groups. Predominant number of pollinia four or eight, but two and six are also found. Pollinia clavate to ellipsoid and laterally flattened, fused with the sticky caudicles.

A very large and diverse group of orchids.

#### Key to subtribes

1. Column foot usually prominent . . . . . 2
1. Column foot much reduced or absent . . . . . 3
2. Slender stem unifoliate. Ovary articulated with persistent pedicel . . . . **Pleurothallidinae** (vol.3)
2. Pseudobulbs or slender stem usually multifoliate. Ovary not persistent with the pedicel. Pedicel caducous with the perianth . . . . **Ponerinae** (344)
3. Lip continuous with the gynostemium margins forming a cuniculus . . . . . **Epidendrinae** (35)
3. Lip not joined with the gynostemium, frequently wrapping around it . . . . . **Laeliinae** (9)

#### 3.1. Subtribe **Laeliinae** Benth.

J. Linn.Soc. Bot. 18: 287.1881.

Pseudobulbs usually slender, of several nodes. Leaves conduplicate. Inflorescence terminal. Lip fixed, frequently wrapped round the column. Column foot reduced or lacking. Clinandrium usually reduced, narrow, but spacious and fringed in some species. Rostellum ligulate, truncate, short. No visible viscidium. Anther bent

forward, movable, connective fleshy. Pollinia dorsiventrally flattened, elliptic to obovate, furnished with sticky caudicles.

Five genera of this subtribe have been reported from Valle del Cauca.

#### Key to genera

1. Floral bracts prominent, longer than pedicel and ovary . . . . . 44. **Schomburgkia**
1. Floral bracts obscure, much shorter than pedicel and ovary . . . . . 2
2. Inflorescence subtended by a prominent spathe . . . . . 3
2. Inflorescence without a spathe, sometimes covered by cauline bracts . . . . . 4
3. Leaf single, fleshy, flowers very large, resupinate . . . . . 40. **Cattleya**
3. Leaves 1-3, leathery or thin, flowers small to medium-sized, usually non-resupinate . . . . . 43. **Prostecbea**
4. Lip entire, elliptic-obovate, obtuse, the surface covered by 5 prominent, verrucose ridges . . . . . 42. **Oestlundia**
4. Lip more or less 3-lobed, usually acute to acuminate, often with 2 keels in the centre . . . . . 41. **Encyclia**

#### 40. **Cattleya** Lindl.

Coll. Bot. 33 & 37. 1824; GENERITYPE: *Cattleya labiata* Lindl. - Ames & Correll, Fieldiana, Bot. 26(2): 406. 1953. - Schweinfurth, Fieldiana, Bot. 30(3): 533. 1960. - Schultes, Nat. Orchid. Trinidad & Tobago: 139. 1960. - Foldats *in* Lasser, Fl. Venezuela, Orchid. 15(3): 122. 1970. - Hamer, Orquid. El. Salvador 1: 103. 1974. - Williams & Allen, Orchid. Panama: 312. 1980. - Szlachetko & Margońska, Ann. Bot. Fenn. 173: 163. 2002. - Vásquez & Ibisch, Orquíid. Bolivia 2: 89. 2004. - Pridgeon & al., Genera Orchid. 4: 213-217. 2005.

Epiphytic, rarely rupicolous or terrestrial plants. Pseudobulbs heteroblastic or homoblastic, cylindrical, clavate or fusiform, covered by papery sheaths. Leaves 1-3, conduplicate, co-

riaceous to fleshy, elliptic, oblong or elliptic-lanceolate. Inflorescence a few-flowered raceme (rarely many-flowered), subtended by a single or double spathe. Flowers resupinate. Ovary with a partially decurrent nectary. Sepals membranous to fleshy, linear-lanceolate to oblong, lateral sepals somewhat falcate. Petals similar in texture and shape to the sepals, sometimes more or less falcate. Lip 3-lobed; lateral lobes well-developed, ovate to triangular, overlapping the gynostemium, rarely short or lacking; middle lobe sessile or separated by a clear isthmus. Gynostemium erect, solid. Column part lon-

ger than the anther, rather obscurely winged, sometimes with wing- or horn-like appendages at the apex. Column foot absent. Anther bent forwards, motile, dome-like to ovoid or obovoid, 4-chambered. Pollinia 4, subequal in size and form, laterally flattened, cylindrical to ellipsoid. Caudicles granular, sticky. Apical clinandrium usually rather obscure. Stigma large, oblong to obovate or elliptic, deeply concave, sticky. Rostellum bent forwards, ligulate, composed of tightly packed, prosenchymatous cells. Apical margin of rostellum thickened. No functional viscidium produced (Fig. 1).

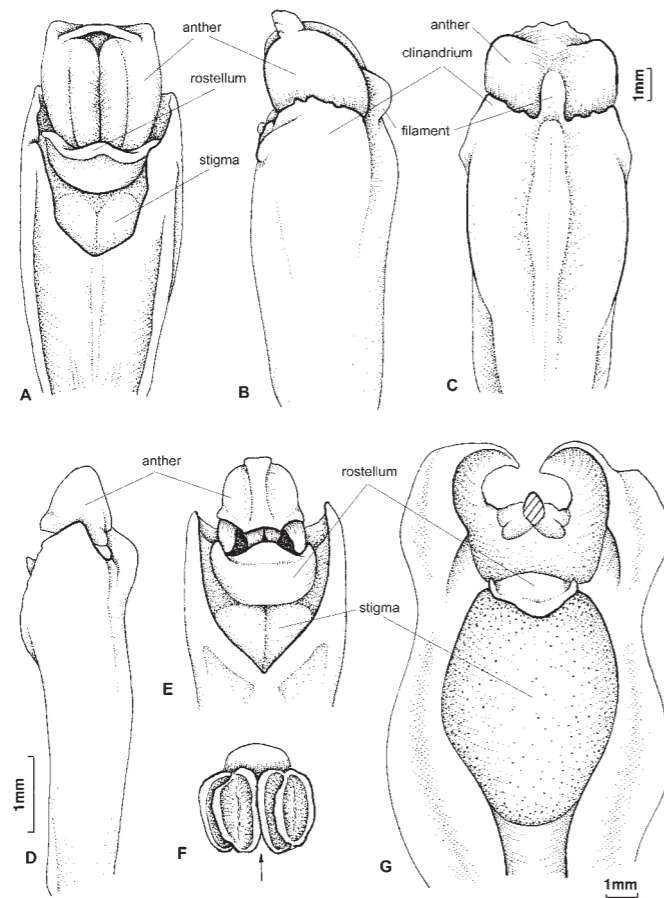


Fig. 1. Gynostemium structure of *Cattleya* Lindl.: *Cattleya intermedia* Graham ex Hook. A: Gynostemium, bottom view. – B: Gynostemium, side view. – C: Gynostemium, back view. *C. aurantiaca* P. N. Don. – D: Gynostemium, side view. – E: Apical part of the gynostemium, bottom view. – E: Anther. *C. maxima* Lindl. – G: Gynostemium, bottom view, anther removed (Szlachetko & Margońska 2002).

*Cattleya* species grow in very variable habitats including swamps, exposed rocks, high-rainfall Atlantic forest, gallery forest and montane, wet forest. Euglossine and social bees have been reported as pollinators of *Cattleya* flowers.

The genus comprises about 40 species distributed from Argentina and Brazil to Costa Rica.

Two *Cattleya* species were reported from the Department of Valle del Cauca, but the occurrence of only one of them was confirmed.

#### Key to species:

1. Inflorescence 1-2(3)-flowered, flowers not fully opening, campanulate, sepals and petals pure white, lip deep purple at the apex, white below with yellow streaks, petals about 6-8 cm long, and 3-7 cm wide. . . . . 40.1. *C. quadricolor*
1. Inflorescence 4-6-flowered, sepals pale yellow, petals yellow, lip purple-red, golden-veined, petals 7-8 cm long, about 6 cm wide. . . . . *C. aurea* (excluded)

#### *Cattleya aurea* Linden

Ill. Hort. **30**: t. 493. 1883; TYPE: COLOMBIA. 1872. *Linden s.n.* (not localized). ≡ *Cattleya domiana* var. *aurea* (Linden) B.S.Williams & T.Moore, Orchid Album **2**: t. 84. 1883. ≡ *Cattleya labiata* subvar. *aurea* (Linden) Schltr., Orchideen: 221. 1914.

**Epiphytic. Pseudobulbs** 8-20 cm long, 1.5-3 cm wide, robust, elongate, sulcate, unifoliate. **Leaf** 15-20 cm long, 4.5-8 cm wide, oblong, obtuse, coriaceous, thick, pale green. **Inflorescence** short, terminal, erect, 4-6-flowered. **Flowers** large, fragrant, about 150-180 mm in diameter, sepals pale yellow, petals yellow, lip purple-red, golden-veined. **Sepals** about 100 mm long, 20 mm wide, subequal, linear-lanceolate, recurved at the apex. **Petals** 70-80 mm long, about 60 mm wide, ovate, apiculate. **Lip** large, about 100 mm long, 70 mm wide, subcordate, 3-lobed; lateral lobes basally embracing the column; middle lobe

larger than the lateral, margins undulate, fimbriate. **Gynostemium** incurved.

**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cali.** Cali. Apr 1937. Cultivada. *E.P.N. s.n.* (COL!).

**OTHER SPECIMENS EXAMINED: COLOMBIA. Boyacá.** Maripi-Yanaca (Hacienda). Aug 1936. *H. Garcia Barriga 5169-A* (COL!).

**NOTES.** The specimen collected in Cali is a cultivated plant and was certainly not collected in the field in the Department of Valle del Cauca.

#### 40.1. *Cattleya quadricolor* Lindl. (Fig. 2).

Paxton's Fl. Gard. **1**: 6. 1850; TYPE: ? - Constantino & al. in Calderón & al., Libro Rojo Pl. Colombia **6**: 95-98. 2007. - Röth, *Cattleya*: 77-79. 2001. = *Cattleya chocoensis* Linden, Ill. Hort. **17**: 37. 1870. = *Cattleya caucaensis* Ballif, Chron. Orchid. **1901**: 329. 1901.

**Epiphytic plants. Rhizome** stout, creeping. **Pseudobulbs** 16-30 cm long, narrow, compressed, unifoliate. **Leaf** about 7-25 cm long, 4-6 cm wide, narrow, ligulate, acute. **Inflorescence** 12-14 cm long, 1-2(3)-flowered, from a large spathe. **Flowers** about 10-13 cm in diameter, not fully opening, campanulate, sepals and petals pure white, lip deep purple at the apex, white below with yellow streaks, gynostemium white. **Sepals** about 50-70 mm long, 15-23 mm wide, subequal, oblong-lanceolate, obtuse, glabrous. **Petals** about 60-80 mm long, 2-3 times wider than the sepals, slightly spatulate, glabrous, margins erose. **Lip** entire, cucullate, enfolding the gynostemium, glabrous, margins wavy. **Gynostemium** entirely hidden by the lip. **Capsule** 80-90 mm long, 40-45 mm wide, 3-ribbed.

**HABITAT:** Tropical dry forest dominated by *Anacardium excelsum* (Kunth) Skeels (Anacardiaceae); 950-1240 m alt.



Fig. 2. Distribution of *Cattleya quadricolor* Lindl. in Valle del Cauca.

FLOWERING SEASON: August, October, November.

GENERAL DISTRIBUTION: Colombia, Costa Rica, Guatemala, Mexico.

DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA: **Mpio. Caicedonia.** Cerro Cubides. Creciendo sobre caracolí. Alt. 1240 m. 18 Nov 2006. *E. Aldana 25* (CUVC!); The same loc. 25 Nov 2006. *E. Aldana 26* (CUVC!); The same loc. 26 Nov 2006. *E. Aldana 27* (CUVC!). **Mpio. Toro.** Lugar El Guachal. Alt. 1019 m. 25 Aug 2007. *E. Aldana 28, 29 & 30* (CUVC!). **Mpio. Zarzal.** Hacienda de El Medio. Alt. 1000 m. 7-8 Oct 1946. *Cuatrecasas 22087, 22088, 22089, 22090 & 22093* (VALLE! x 12); Hacienda El Medio (Carretera Panamericana entre La Paila & Zarzal, parte plana del Valle del Río Cauca), bosque secundario (viejo cacaotal) dominado por *Anacardium excelsum* hasta 40 m de altura. Epífita. Alt. 950 m. 24 Oct 1987. *Silverstone-Sopkin & N. Paz 3315* (CUVC! x 2, MO!).

OTHER SPECIMENS EXAMINED: **COLOMBIA.**

**Quindío.** Mpio. Quimbaya. Vereda El Laurel, Reserva Natural La Montaña del Ocaso. Alt. 1194 m. 27 Oct 2007. *E. Aldana-Jáuregui 31 & 32* (CUVC!). **Risaralda.** Mpio. Pereira. Hacienda Córcega, a 18 km de la Virginia por carretera, a 7 km al oeste de carretera La Virginia-Cerritos por carretera a El Trapiche, extremo norte de parte ancha del Valle del Río Cauca, lomas bajas, bosque primario relictual perturbado. Epífita caída. Alt. 950 m. 28 Nov 1989. *Silverstone-Sopkin & J. Giraldo-Gensini, H.M. Cabrera 5740* (CUVC!, MO!).

#### 41. *Encyclia* Hook.

Bot. Mag.: 2831 & 3013. 1828; GENERITYPE: *Encyclia viridiflora* Hook. - Szlachetko & Margońska, Ann. Bot. Fenn. **173**: 170. 2002. - Vásquez & Ibisch, Orquíid. Bolivia **2**: 98-99. 2004. - Pridgeon & al., Genera Orchid. **4**: 232-236. 2005.

Epiphytic or lithophytic plants. Rhizome often inconspicuous. Pseudobulbs heteroblastic, spherical, subovoid or fusiform, erect, covered by paleaceous sheaths. Leaves usually 2, coriaceous to fleshy, conduplicate, rarely subterete, linear or lanceolate. Inflorescence usually a panicle (sometimes a raceme), 1- to over 50-flowered, smooth to warty. Flowers resupinate, fragrant. Floral bracts usually inconspicuous. Ovary sometimes covered with wart-like structures. Sepals membranous to fleshy, linear-lanceolate, narrowly elliptic to spatulate, acute. Petals similar to the sepals in texture, shape and size, often reflexed at the apex. Lip free or partially adnate to the base of the gynostemium, conspicuously 3-lobed; lateral lobes ovate to triangular or linear-oblong, clasping the gynostemium, sometimes reduced; middle lobe sessile or separated by a clear isthmus, with a 2-ridged callus near the base. Gynostemium erect, more or less clavate in outline. Column part prominent, longer than the anther, in the lower half or third confluent with the lip margins, extended laterally near the

apex. Column footless. Anther incumbent, dorsoventrally compressed, transversely ellipsoid, motile, 4-chambered. Connective very thick, extended laterally forming a kind of roof over the thecae. Pollinia 4, in two pairs, ovoid to ellipsoid, laterally flattened. Each pollinium with granular caudicles. Apical clinandrium relatively

spacious, rather obscurely 3-lobed, margins entire. Stigma large, oblong to obovate in outline, concave, covered by sticky matter. Rostellum bent forwards, ligulate. Viscidium absent. Capsule fusiform to obovoid, sometimes verruculose or covered with warts (Fig. 3).

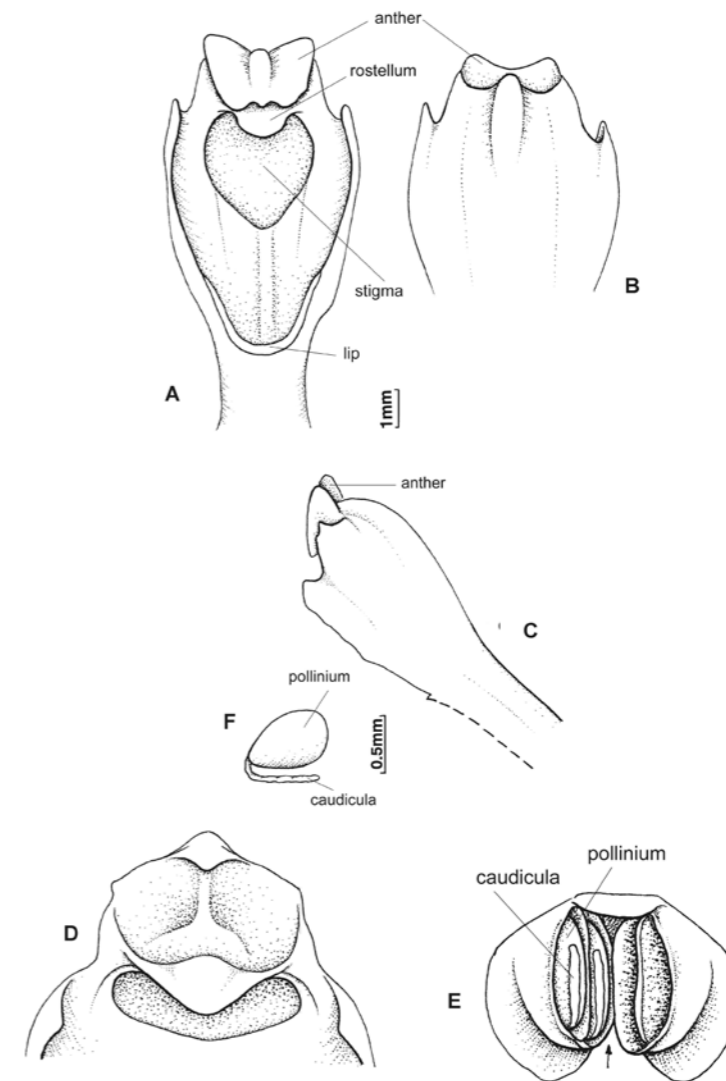


Fig. 3. Gynostemium structure of *Encyclia* Hook.: *Encyclia adenocarpon* Schltr. – A: Gynostemium, bottom view. – B: Apical part of gynostemium, back view. – C: Gynostemium, side view. – D: Rostellum. – E: Anther. – F: Pollinium (Szlachetko & Margońska 2002).

*Encyclia* species grow in various habitats including semi-deciduous or deciduous forest, dry scrubland, humid forest or on exposed rocks. Their occurrence has been reported at altitudes up to about 2200 m. The flowers are probably pollinated by bees, but self-pollination may also occur within this group.

The genus comprises about 120 species distributed from Argentina and Paraguay to Mexico. Three *Encyclia* species have been reported from the Department of Valle del Cauca, although the occurrence of only two of them was confirmed.

#### Key to species

1. Middle lobe of lip broader than long. . . . . *E. diurna* (excluded)
1. Width of lip middle lobe not exceeding its length. . . . . 2
2. Surface of the peduncle and ovary rough, papillate. . . . . 41.1. *E. aspera*
2. Peduncle and ovary smooth, glabrous. . . . . 41.2. *E. ceratistes*

#### 41.1. *Encyclia aspera* (Lindl.) Schltr. (Figs 4, 5; Photos 1-2).

Beih. Bot. Centralbl. **36**(2): 471. 1918. - Withner & Harding, The Cattleyas and Their Relatives **6**: 46. 2004. - Kolanowska & al., Ill. field guide orchid. Yotoco Forest Reserve (Colombia): 83. 2011.  $\equiv$  *Epidendrum asperum* Lindl., J. Bot. (Hooker) **1**: 6. 1834; TYPE: COLOMBIA. [Panama et Columbia occidentalis]. *Cuming 1250* (K!). = *Encyclia trachypus* Schltr., Repert. Spec. Nov. Regni Veg. **14**: 393. 1916. = *Encyclia asperirachis* Garay, Svensk Bot. Tidskr. **47**: 219. 1953.  $\equiv$  *Epidendrum asperirachis* (Garay) A.D.Hawkes, Orquídea (Rio de Janeiro) **18**: 168. 1957.

**Epiphytic.** Pseudobulbs spherical, green, suffused with reddish-purple. **Leaves** 2-3, up to 35 cm long, 1.5 cm wide. **Inflorescence** 5-7-flowered, panicle branches rough, fractiflex 2-3 times as long as the leaves. **Flowers** about 2.5 cm long, sepals and petals ochre or dull yellow,

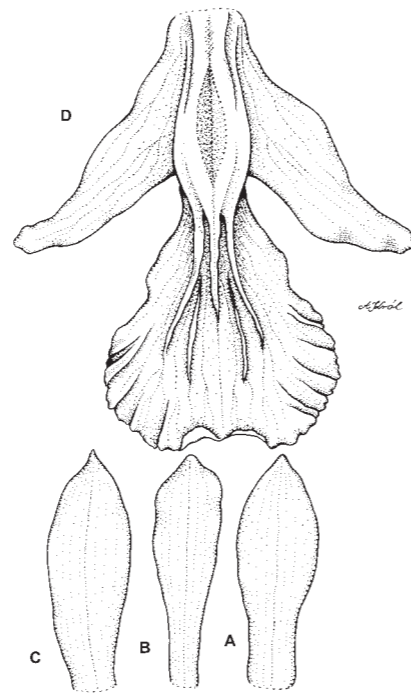


Fig. 4. *Encyclia aspera* (Lindl.) Schltr.: A: Dorsal sepal. – B: Petal. – C: Lateral sepal. – D: Lip (*Lehmann 8188*, K – drawn by A. Król).

lip whitish or greenish-yellow with red-purple veins. **Sepals** about 15.5-16 mm long, 1.6 mm wide, lanceolate to oblanceolate. **Petals** about 16 mm long, 4.5-5 mm wide at the tips (1 mm at the base), clawed, spathulate. **Lip** about 16 mm long, slightly clawed, flattened, 5-7-veined; lateral lobes up to 17 mm long, spreading, apices slightly upturned, unveined and rounded but appearing pointed as their margins are reflexed; middle lobe about 8-9 mm long, 9 mm wide, rounded. **Gynostemium** about 5-6 mm long, straight, short, winged, with yellow auricles. Anther cap marked with small maroon or red spots.

**HABITAT:** Moist premontane forest; up to 1600 m alt.

**FLOWERING SEASON:** April, October.

**GENERAL DISTRIBUTION:** Peru, Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE**

DEL CAUCA: **Mpio. Yotoco.** Reserva Natural de Yotoco. 27 Oct 2007. *O. Pérez & E. Parra s.n.* (photo!); Bosque de Yotoco. 4 April 1980. *I. Guarín O. 122* (COL!).

**OTHER SPECIMENS EXAMINED: COLOMBIA.**  
**Bolívar.** Alrededores de Sineé. 6 Sep 1963. *R. Romero Castañeda 9768* (COL!). **Boyacá.** “Primavera” farm, about 24 km south of San Nicolas, growing on trees along stream. Alt.  $\pm$  200 m. 18 Mar 1939. *Haught 2684* (COL!). **Caquetá.** Mpio. Solano. Parque Nacional Natural Serranía Chiribiquete (región SE), Estación Puerto Abeja, margen derecho del río Mesay, costado occidental de la Quebrada Puerto Abeja. Bosque varizal de Tepuy. 0°04'16"N 72°26'48"W. Alt. 500 m. 26 Feb 2002. *R. Arévalo 210 & 211* (COL!). **Vichada.** Comisaría del Vichada. Estero El Retorno a 20 km al E del hato El Tigre. Alt. 150 m. 14 Mar 1971. *P. Pinto E. & C. Sastre 1257* (COL!).



Fig. 5. Distribution of *Encyclia aspera* (Lindl.) Schltr. in Valle del Cauca.

#### 41.2. *Encyclia ceratistes* (Lindl.) Schltr. (Fig. 6; Photo 3).

Rep. Sp. Nov. Regni Veg., Beih. **6**: 74. 1919. - Hamer, Icon. Pl. Trop. **1**(7): pl. 685. 1982. - Atwood, Icon. Pl. Trop. **1**(15): pl. 1423. 1992.  $\equiv$  *Epidendrum ceratistes* Lindl., Edwards's Bot. Reg. **30**(Misc.): 91. 1844; TYPE: A native of the Spanish Main, whence it was brought by Mr Hartweg to the Horticultural Society, with whom it flowered in October last. *Hartweg s.n.* (K!). - Hamer, Orquid. El Salvador **1**: 184. 1974. = *Epidendrum ramonense* Rchb.f., Beitr. Orchid.-K. C. Amer.: 81. 1866.  $\equiv$  *Encyclia ramonensis* (Rchb.f.) Schltr., Beih. Bot. Centralbl. **36**(2): 473. 1918.  $\equiv$  *Encyclia oncidioides* var. *ramonensis* (Rchb.f.) Ames, F.T.Hubb. & C.Schweinf., Bot. Mus. Leaflet, Harvard Univ. **3**: 103. 1935.  $\equiv$  *Epidendrum oncidioides* var. *ramonense* (Rchb.f.) Ames, F.T.Hubb. & C.Schweinf., Bot. Mus. Leaflet, Harvard Univ. **3**: 103. 1935.

**Epiphytic.** Pseudobulbs 3-8 cm long, 3-5 cm wide, ovoid to subspherical. **Leaves** 2-4, 20-45 cm long, 1.5-4 cm wide, rigid, linear, subacute. **Inflorescence** up to 150 cm long, strongly branched; peduncle glabrous, slightly maculate. **Flowers** medium-sized, sepals and petals greenish-white, ochraceous, speckled and stippled brownish-red, lip white to whitish, brownish-tinged at the base of the lateral lobes, nerves purplish in the centre of the middle lobe. Floral bracts 1-2 mm long. Pedicel and ovary about 20 mm long. **Dorsal sepal** 16-18 mm long, 4-5.5 mm wide, lanceolate to ovate-lanceolate, acute to acuminate. **Lateral sepals** up to 18.5 mm long, 5 mm wide, lanceolate, keeled outside, subacute to subobtusate. **Petals** 16 mm long, 6 mm wide, ovate-flabellate above the basal linear part, oblique, longacuminate. **Lip** 14-15 mm long, up to 11 mm wide, with 2 calli in the centre, 3-lobed from near the middle; lateral lobes about 2 mm wide, oblong to subrectangular, rounded; middle lobe about 8 mm long, 6 mm wide, subrounded, flabellate along the margins, apiculate.

**HABITAT:** Throughout its entire range it grows in wet forest between 300 and 1600 m alt.

**FLOWERING SEASON:** Unknown.



GENERAL DISTRIBUTION: Colombia, French Guiana, Costa Rica, Nicaragua, Mexico.

DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA: Guanica. Alt. 1000 ft. *Triana 1571* (P).

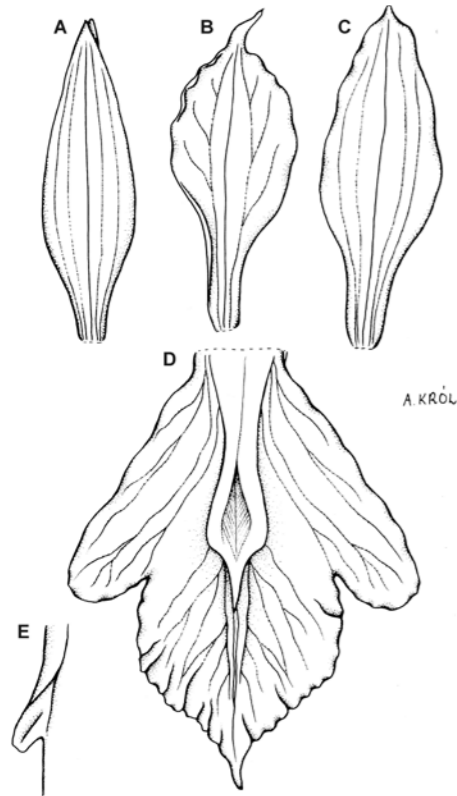


Fig. 6. *Encyclia ceratistes* (Lindl.) Schltr.: A: Dorsal sepal. – B: Petal. – C: Lateral sepal. – D: Lip. – E: Callus (side view) (*Boucara 1439*, W-R – drawn by A. Król).

***Encyclia diurna* (Jacq.) Schltr. (Fig. 7; Photo 4).**

Rep. Sp. Nov. Regni Veg., Beih. 6: 74. 1919. ≡ *Limodorum diurnum* Jacq., Collectanea 4: 107. 1786; TYPE: JAMAICA. *Jacquin s.n.* (W!). ≡ *Epidendrum diurnum* (Jacq.) Cogn., Beitr. Orchid. K. C. Amer.: 81. 1866. - Foldats in Lasser, Fl. Venezuela, Orchid. 15(3): 233-237. 1970. - Dunster-ville & Garay, Orchid. Venezuela 1(A-G): 222. 1979. = *Cymbidium glandulosum* Kunth in Humboldt, Bonpland & Kunth, Nov. Gen. Sp. 1: 340. 1816. ≡ *Epidendrum*

*glandulosum* (Kunth) Garay, Caldasia 8: 523. 1962, *nom. illeg.* ≡ *Encyclia glandulosa* (Kunth) P.Ortiz, Orquideologia 18: 99. 1991.

= *Epidendrum virens* Lindl., Paxton's Fl. Gard. 1: 152. 1851, *nom. illeg.* ≡ *Encyclia virens* Schltr., Orchideen: 212. 1914.

= *Epidendrum wagneri* Klotzsch, Allg. Gartenzeitung 19: 250. 1851. ≡ *Encyclia wagneri* (Klotzsch) Schltr., Repert. Spec. Nov. Regni Veg., Beih. 6: 75. 1919.

**Epiphytic.** Pseudobulbs up to 12 cm long, pyriform, olive-green, sometimes maroon, bifoliate. **Leaves** up to 50 cm long, 3 cm wide, rigid, apex often asymmetric, medium to pale green, varying from moderately to quite stiff, midvein sulcate on the upper surface, dorsally smooth to slightly carinate. **Inflorescence** up to 200 cm long, a branched panicle; branches up to 50 cm long, ascending when small, drooping when large. **Flowers** fragrant, sepals and petals pale green, generally rather darker dorsally, with the sepal tips often dark green on the outside; additionally a fairly pronounced purplish flushing or veining is sometimes present on the outer surface and on the upper half of the inner surface of the sepals; petal apices pointed to more or less rounded, lip yellow-green with very fine purple streaks. Floral bracts about 2 mm long. Pedicel and ovary about 20 mm long, red-brown, near the sepals fairly rough. **Dorsal sepal** up to 23 mm long, 7 mm wide, oblong-ob lanceolate, acute. **Lateral sepals** up to 23 mm long, 8 mm wide, oblong-lanceolate, shortly apiculate, falcate to sigmoid. **Petals** up to 23 mm long, 10 mm wide, spatulate or deltoid, acute, subfalcate. **Lip** 18-20 mm long, 17-22 mm across the lateral lobes, 3-lobed from near the middle; lateral lobes up to 5 mm wide, oblong-ovate, rounded; middle lobe about 8 mm long, up to 12 mm wide, transversely elliptic, truncate or rounded at the apex.

GENERAL DISTRIBUTION: Argentina, Colombia, Venezuela, Guyana, Suriname, French Guiana, The Greater Antilles (Jamaica), Mexico.

NOTES. The record of this species in the Department of Valle del Cauca comes from in-

correctly determined specimens collected by *I. Guarín O. 122* (COLI), which actually represent *Encyclia aspera* (Lindl.) Schltr.

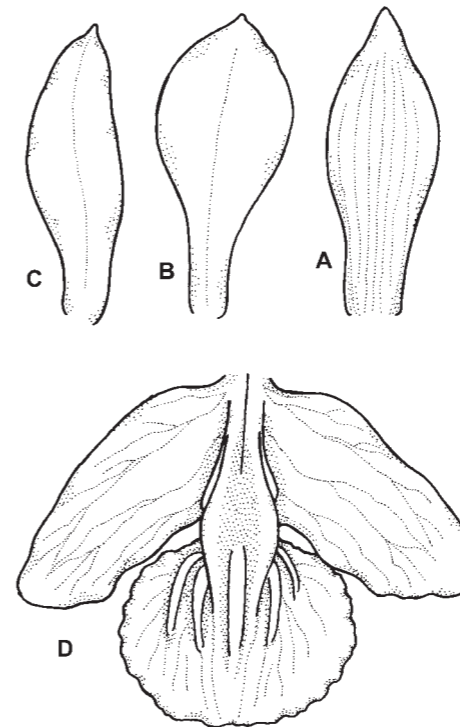


Fig. 7. *Encyclia diurna* (Jacq.) Schltr.: A: Dorsal sepal. – B: Petal. – C: Lateral sepal. – D: Lip (*Sine coll.*, W – drawn by M. Lamczyk).

**42. *Oestlundia* W.E. Higgins**

Selbyana 22(1): 1. 2001; GENERITYPE: *Oestlundia cyanocolumna* (Ames, F.T.Hubb. & C.Schwein.) W.E.Higgins [≡ *Epidendrum cyanocolumna* Ames, F.T. Hubb. & C. Schweinf.].

Epiphytic plants. Pseudobulbs ovoid, covered by persistent leaf sheaths. Leaves coriaceous, linear. Inflorescences forming erect panicles subequal to the leaves, with several bracts. Flowers somewhat cupped. Sepals and petals subsimilar, spatulate, rounded with abruptly acute apices. Lip entire, elliptic-obovate, obtuse, the surfa-

ce covered by verrucose ridges. Gynostemium erect, dilated. Column part prominent, longer than the anther. Column footless. Anther incumbent, dorsiventrally compressed, transversely ellipsoid, motile, 4-chambered. Pollinia 4, in two unequal pairs, each pollinium with granular caudicles. Apical clinandrium relatively spacious, 3-lobed; lateral lobes along each side of anther, a shorter, blunt tooth above it. Stigma oblong to obovate in outline, concave. Rostellum bent forwards, ligulate.

A genus of about 5 species known from Mesoamerica and northern South America, with a single species reported from the Department of Valle del Cauca.

***Oestlundia luteorosea* (A.Rich. & Galeotti) W.E. Higgins (Figs 8, 9).**

Selbyana 22: 4. 2001. - Kolanowska & al., Ill. field guide orchid. Yotoco Forest Reserve (Colombia): 196. 2011. ≡ *Epidendrum luteoroseum* A.Rich. & Galeotti, Ann. Sci. Nat., Bot., III, 3: 19. 1845; TYPE: MEXICO. *Galeotti 5233* (W!, P). - Foldats in Lasser, Fl. Venezuela, Orchid. 15(3): 311-312. 1970. - Hamer, Orquid. El Salvador 1: 218-219. 1974. ≡ *Encyclia luteorosea* (A.Rich. & Galeotti) Dressler & G.E.Pollard, Phytologia 21: 437. 1971. - Bennett & Christenson, Icon. Orchid. Peruv.: pl. 237. 1995. = *Epidendrum lineare* Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil.: 249. 1798., *nom. illeg.* ≡ *Encyclia linearis* Dressler, Brittonia 13: 265. 1961. = *Epidendrum seriatum* Lindl., Fol. Orchid. 3: 59. 1853.

**Epiphytic**, 22-24 cm tall. **Pseudobulbs** about 4 cm long, 1.5-2 cm wide, ovoid, covered by persistent leaf sheaths. **Leaves** 17-19 cm long, 0.7-1 cm wide, coriaceous, linear, acute, conduplicate at base. **Inflorescences** about 16-17 cm long, forming erect panicles subequal to the leaves, with several acuminate bracts 1-1.3 cm long. **Flowers** somewhat cupped, tepals pale green with a pale purple suffusion down the centre of the segments, lip cream to slightly greenish, furnished with off-white and purple verrucose ridges, gynostemium pale green with

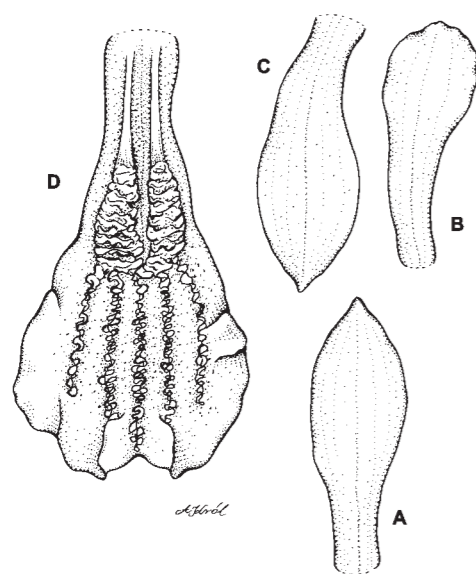


Fig. 8. *Oestlundia luteorosea* (A.Rich. & Galeotti) W.E. Higgins: A: Dorsal sepal. – B: Petal. – C: Lateral sepal. – D: Lip (Johnston 1824, K – drawn by A. Król).



Fig. 9. *Oestlundia luteorosea* (A.Rich. & Galeotti) W.E. Higgins: A: Plant. – B: Flower segments.

dark purple markings, tip and sides of the anther dark purple, caudicles opaque yellow, pollinia dark yellow. Sepals and petals subsimilar, spatulate, rounded with abruptly acute apices. **Sepals** 8.5-8.6 mm long, 2.4 mm wide, shallowly concave. **Petals** about 10 mm long, 2.2 mm wide. **Lip** about 6.5 mm long, 4.1 mm wide, entire, elliptic-obovate, obtuse, the surface covered by 5 prominent, verrucose ridges. **Gynostemium** about 5 mm long, straight, dilated, bearing 2 acute teeth lying each side of the anther and a shorter, blunt tooth above it. Anther about 1.2 mm long, 1.3 mm wide, transverse; caudicles about 0.7 mm long. Pollinia 4 in 2 unequal pairs.

GENERAL DISTRIBUTION: Peru, Colombia, Venezuela, Panama, Costa Rica, Nicaragua, Honduras, El Salvador, Guatemala, Mexico.

SPECIMENS EXAMINED: **COLOMBIA. Santander.** Mpio. Suaita. Inspección de San José de Suaita, 6°9'N - 73°21'W. Camino a la cascada, pendiente derecha. 9 Apr 2003. J.L. Fernández-Alonso, L. A. Triana, L. Cifuentes, L. C. Peña, C. Loaiza, F. Hurtado & al. 20461 (COL!).

NOTES. The occurrence of this species in the Department of Valle del Cauca (Yotoco Forest Reserve) was reported by Escobar (2001, as *Encyclia luteorosea*); however, our fieldwork did not provide confirmation.

#### 43. *Prosthechea* Knowles & Westc.

Flor. Cab. 2: 111. 1839; GENERITYPE: *Prosthechea glauca* Knowles & Westc. - Nir, Orchid. Antill.: 316. 2000. - Szlachetko & Margońska, Ann. Bot. Fenn. 173: 178. 2002. - Vásquez & Ibsch, Orquíid. Bolivia 2: 297. 2004. - Pridgeon & al., Genera Orchid. 4: 294-297. 2005.

Epiphytic or lithophytic plants. Pseudobulbs fusiform, often flattened. Leaves 1-5, thin. Inflorescence racemose, often with a prominent spathe. Flowers usually non-resupinate. Lip adnate to approximately one half of the gynostemium, the callus typically a thickened pad. Gynostemium erect, more or less dorsiventrally

flattened. Column part prominent, longer than the anther, in the lowest third confluent with the lip margins, its two apical wings exceeding the anther. Column footless. Anther incumbent, dorsiventrally compressed, transversely ellipsoid, motile, 4-chambered. Filament partially free, forming a knob-like projection at the back of the anther. Connective very thick, more or less extended laterally. Pollinia 4, in two pairs, ovoid to ellipsoid, laterally flattened. Each pollinium with granular caudicles. Apical clinandrium spacious, 3-lobed, with the median lobe fimbriate or dissected in various ways. Stigma usually transversely elliptic, concave, covered by sticky matter and partially macerated cells. Rostellum bent forwards, ligulate, formed of prosenchymatous cells, apical margin distinctly thickened, composed of isodiametric cells. Functional viscidium not found. Capsule 3-winged or sharply three-angled, the suture covered by a band of tissue that lifts upon dehiscence. Large, druse-type glycoside crystals usually present throughout the plant (Fig. 10).

*Prosthechea* species grow in swamps and moist forest up to altitudes of 2600 m. The flowers are pollinated by wasps and probably bees (Kaiser 1993, Pridgeon & al. 2005). Furthermore, self-pollination of *Prosthechea* species has been reported.

The genus contains about 100 species distributed from tropical Brazil to Florida. Seven *Prosthechea* species have been reported from the Department of Valle del Cauca, although the occurrence of one of them was not confirmed.

#### Key to species

1. Flowers resupinate . . . . . 43.6. *P. vespa*
1. Flowers non-resupinate . . . . . 2
2. Pseudobulbs unifoliate . . . . . 43.5. *P. venezuelana*
2. Pseudobulbs with more than one leaf at the apex . . . . . 3
3. Sepals obovate-oblong or oblanceolate-oblong, obtuse, petals cuneate or oblong-cuneate . . . . . 4
3. Sepals lanceolate, acute, petals linear to spatulate

- . . . . . 5
4. Lip entire or obscurely 3-lobed, rhomboid-suborbicular or broadly ovate-cordate, abruptly acute; disc more or less occupied by a large fleshy, sulcate callus . . . . . *P. crassilabia* (excluded)
4. Lip subflabellate to broadly ovate in outline, shortly apiculate at the apex, with a prominent, bilobed callus in the centre and a thickened midvein . . . . . 43.4. *P. tigrina*
5. Lip obscurely 3-lobed, lateral lobes much smaller than the middle lobe, semi-elliptic, involute, middle lobe ovate . . . . . 43.3. *P. livida*
5. Lip 3-lobed, lateral lobes subequal in size to the middle lobe, obliquely elliptic, obtuse-rounded, middle lobe ovate-triangular. . . . . 5
6. Tepals about 6-6.5 x 1-1.5 mm, lip about 4.5 x 5 mm, callus an inverted U-shaped ridge . . . . . 43.1. *P. grammatoglossa*
6. Tepals about 17-20 x 7 mm, lip about 13 x 15 mm, callus near the base covered with fine white hairs . . . . . 43.2. *P. lindenii*

#### *Prosthechea crassilabia* (Poepp. & Endl.) Carnevali & I. Ramírez

in Steyermark & al. (eds.), Fl. Venezuelan Guayana 7: 538. 2003; TYPE: PERU. Crescit tam supra arbores quam in rupibus sylvarum primaevaram Peruviae versus praedium Pampayaco. Floret Januario. *Poeppig s.n.* (W!). ≡ *Epidendrum crassilabium* Poepp. & Endl., Nov. Gen. Sp. Pl. 2: 1. 1836. - Schweinfurth, Orchid. Peru, Fieldiana (Bot.) 30(2): 426-427. 1959. ≡ *Epidendrum variegatum* var. *crassilabium* (Poepp. & Endl.) Lindl., Fol. Orchid. 3: 38. 1853. ≡ *Encyclia crassilabia* (Poepp. & Endl.) Dressler, Brittonia 13: 264. 1961. ≡ *Anacheilium crassilabium* (Poepp. & Endl.) Withner, P.A. Harding & Campacci, Cattleyas & Relatives: Debatable Epidendrums: 74. 2004. = *Epidendrum variegatum* Hook., Bot. Mag. 59: t. 3151. 1832, *nom. illeg.* ≡ *Hormidium variegatum* Brieger, Publ. Ci. Inst. Génét. Esc. Super. Agric. Luis de Queiroz 1: 20. 1960. = *Epidendrum coriaceum* C.Parker ex Hook., Bot. Mag. 64: t. 3595. 1837, *nom. illeg.* ≡ *Epidendrum coriaceum* Focke, Bot. Zeitung (Berlin) 11: 228. 1853, *nom. illeg.* ≡ *Epidendrum variegatum* var. *coriaceum* Lindl., Fol. Orchid. 3: 38. 1853. ≡ *Hormidium coriaceum* (Lindl.) Brieger, Publ. Ci. Inst. Génét. Esc. Super. Agric. Luis de Queiroz 1: 20. 1960.

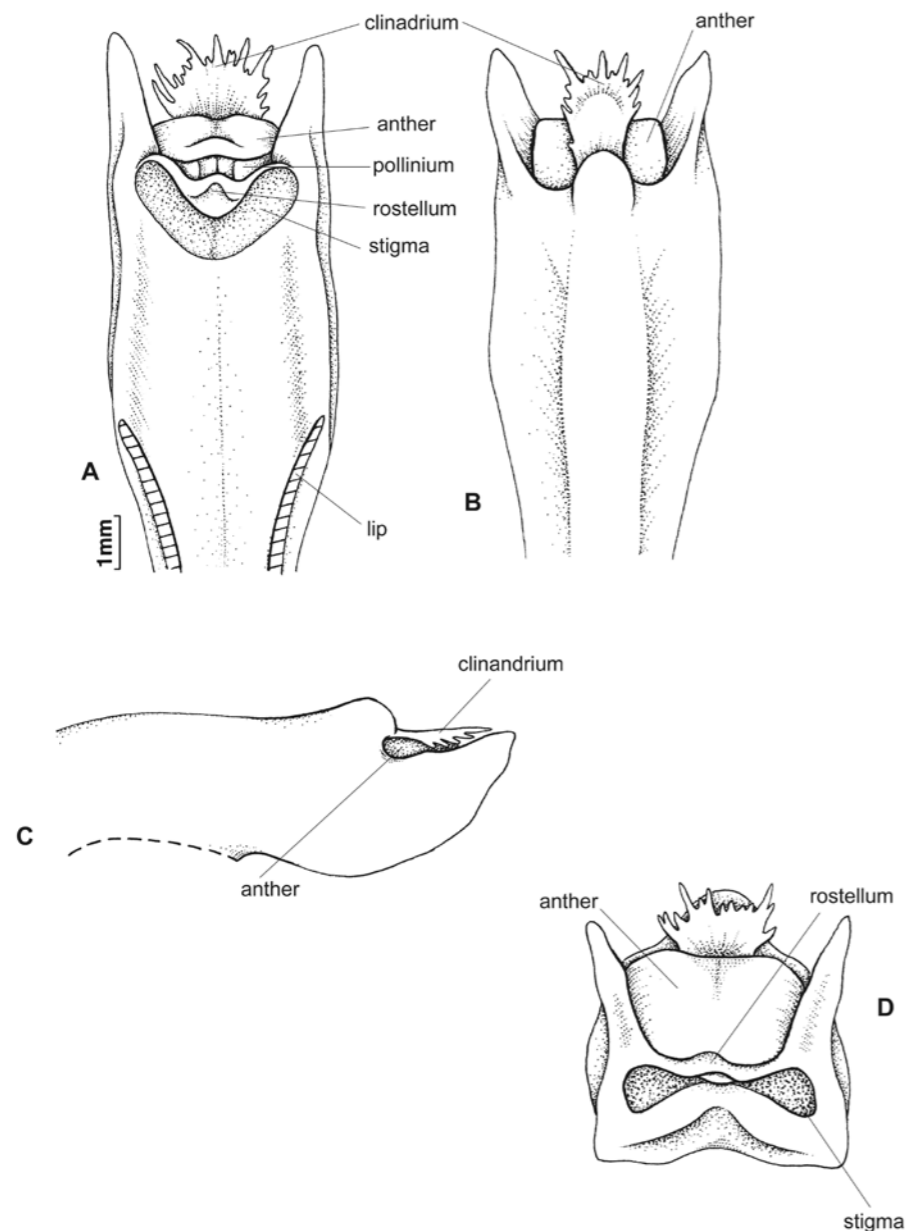


Fig. 10. Gynostemium structure of *Prosthechea* Knowles & Westc.: *Prosthechea radiata* (Lindl.) W. E. Higgins. – A: Gynostemium, bottom view. – B: Gynostemium, back view. – C: Gynostemium, side view. – D: Gynostemium, front view (Szlachetko & Margońska 2002).

= *Epidendrum variegatum* var. *leopardinum* Lindl., Fol. Orchid. 3: 38. 1853. ≡ *Epidendrum leopardinum* Rchb.f., Linnaea 41: 112. 1876. ≡ *Encyclia leopardina* (Rchb.f.) Dodson & Hágsater, Orquideologia 19: 149. 1994. ≡ *Prosthechea leopardina* (Rchb.f.) Dodson & Hágsater, Monogr. Syst. Bot. Missouri Bot. Gard. 75: 956. 1999.  
 = *Epidendrum variegatum* var. *virens* Lindl., Fol. Orchid. 3: 38. 1853.  
 = *Epidendrum pachysepalum* Klotzsch, Allg. Gartenzeitung 23: 274. 1855. ≡ *Prosthechea pachysepala* (Klotzsch) Chiron & V.P.Castro, Richardiana 3: 174. 2003.  
 = *Epidendrum variegatum* var. *lineatum* Rchb.f., Bonplandia (Hannover) 4: 326. 1856.  
 = *Epidendrum christii* Rchb.f., Linnaea 41: 112. 1876. ≡ *Encyclia christii* (Rchb.f.) Dodson, Orquideologia 19: 149. 1994. ≡ *Prosthechea christii* (Rchb.f.) Dodson & Hágsater, Monogr. Syst. Bot. Missouri Bot. Gard. 75: 956. 1999.  
 = *Epidendrum longipes* Rchb.f., Otia Bot. Hamburg.: 10. 1881. ≡ *Prosthechea longipes* (Rchb.f.) Chiron, Richardiana 5: 148. 2005.  
 = *Epidendrum feddeanum* Kraenzl., Repert. Spec. Nov. Regni Veg. 1: 188. 1905.  
 = *Epidendrum saccharatum* Kraenzl., Orchis 18: 113. 1908.  
 = *Epidendrum rhabdlobulbon* Schltr., Repert. Spec. Nov. Regni Veg., Beih. 7: 146. 1920. ≡ *Epidendrum rhabdlobulbon* Schltr., Repert. Spec. Nov. Regni Veg., Beih. 27: 72. 1924.  
 = *Epidendrum baculibulbum* Schltr., Repert. Spec. Nov. Regni Veg., Beih. 19: 116. 1923. ≡ *Hormidium baculibulbum* (Schltr.) Brieger, Proc. World Orchid Conf. 3: 315. 1960.  
 = *Auliza wilsonii* Acuña, Bol. Estación Exp. Agron. S. De las Vegas 60: 85. 1939.  
 = *Epidendrum variegatum* var. *angustipetalum* Hoehne, Arq. Bot. Estado São Paulo, n.s., 2: 82. 1947.  
 = *Hormidium virens* (Lindl.) Brieger, Proc. World Orchid Conf. 3: 315. 1960.  
 = *Encyclia vespa* subsp. *triandra* Dod, Orquidea (Mexico City), n.s., 13: 215. 1993. ≡ *Prosthechea vespa* subsp. *triandra* (Dod) Nir, Orchid. Antill.: 407. 2000.  
 = *Prosthechea vespa* subsp. *duartiana* Chiron & V.P.Castro, Richardiana 5: 91. 2005.

**Epiphytic** or **terrestrial**, robust, plants. **Stems** 5.5–38.5 cm long, more or less pseudo-bulbous-thickened, ovoid-fusiform or ellipsoid to cylindrical, bearing 2–4 irregularly spaced leaves near the tip, clothed in several imbricating, scarios, evanescent sheaths throughout the lower part. **Leaves** 9.5–40 cm long, up to 6.6 cm wide, elliptic or elliptic-oblong to linear-oblong, acute to rounded at the apex, subsessile

to shortly petiolate at the cuneate clasping base, coriaceous. **Inflorescence** 6–35 cm long, terminal, racemose, loosely few- to many-flowered above, the remotely bracted peduncle clothed at the base by a more or less conspicuous, complanate spathe. **Flowers** fleshy, white or green to yellowish, more or less spotted with brown-purple (often tinged with violet), medium-sized. Floral bracts minute. Ovary sharply triquetrous. **Dorsal sepal** up to 15 mm long, obovate-oblong or oblanceolate-oblong, obtuse. **Lateral sepals** similar but usually rather broader, oblique, acute. **Petals** cuneate or oblong-cuneate, acute or obtuse, usually a little shorter and narrower than the sepals. **Lip** up to 8 mm long, subequally wide or wider, strongly adnate to the column; entire or obscurely 3-lobed, rhomboid-suborbicular or broadly ovate-cordate, abruptly acute; disc more or less occupied by a large fleshy, sulcate callus. **Gynostemium** up to 8 mm long, stout, apex tridentate.

**GENERAL DISTRIBUTION:** Bolivia, Peru, Ecuador, Colombia, Venezuela, Guyana, Suriname, French Guiana, Trinidad, Tobago, Panama, Costa Rica, The Lesser Antilles (Dominica), The Greater Antilles (Hispaniola, Cuba), Nicaragua.

**SPECIMENS EXAMINED:** **BOLIVIA.** Cochabamba. Ayopaya. Rios Altamachi & Malpaso, colindancia de límites dentro las Ayopaya & Chapare. 16°33'32"S 66°08'29"W. Alt. 1000–1100 m. I.G. Vargas C. 6520 (MO!). **ECUADOR.** Zamora-Chinchipe. El Pangui. Vertiente occiedental de la Cordillera del Cóndor. Cuenca del Río Tundayme, afuyente del Río Quimi. Carretera hacia el destacamento militar Condor Mirador. 3°36'59"S 78°27'43"W. Alt. 1200 m. 12 Apr 2006. Wilson Quizhpe & T. Croat 2238 (MO!).

**NOTES.** According to the electronic database of the AMO herbarium, the only record of this species from the Department of Valle del Cauca relates to the specimen collected by Lebmann 2767 (G) labelled “Valle. Rio Ambalo. Alt. 2000–2300 m”. However, Ambaló is a region of the Department of Cauca, not Valle del Cauca.

43.1. *Prosthechea grammatoglossa* (Rchb.f.)  
W.E.Higgins (Figs 11-13).

Phytologia 82(5): 378. 1997 [1998]. - Kolanowska & al., Ill. field guide orchid. Yotoco Forest Reserve (Colombia): 226. 2011. ≡ *Epidendrum grammatoglossum* Rchb.f., Linnaea 22: 837. 1850; TYPE: [COLOMBIA], N. Grenada. St. Anna. Alt. 5000 ft. August. *Funk & Schlim* 730 (W!). - Foldats in Lasser, Fl. Venezuela, Orchid. 15(3): 264-268. 1970. - Vásquez & Ibisch, Orquídeas Bolivia 2: 299. 2004. ≡ *Encyclia grammatoglossa* (Rchb.f.) Dressler, Brittonia 13: 265. 1961. ≡ *Anacheilium grammatoglossum* (Rchb.f.) Pabst, Moutinho & A.V.Pinto, Bradea 3: 183. 1981. - Dodson & Bennett, Icon. Pl. Trop. 2(1): pl. 53. 1989. - Bennet & Christenson, Icon. Orchid. Peruv.: pl. 443. 1998. = *Epidendrum quadridentatum* F.Lehm. & Kraenzl., Bot. Jahrb. Syst. 26: 459. 1899.

**Epiphytic.** Pseudobulbs about 4.5 cm long, 1 cm wide, ovoid-fusiform. **Leaves** 2, about 18 cm long, 0.6 cm wide, linear, acuminate. **Inflorescences** up to 10 cm long, formed of long pedunculate racemes. **Flowers** 5-7, showy, sepals and petals creamy-yellow, lip yellow-white, lateral lobes with 3-4 broken purple stripes, gynostemium pale green, anther pale yellow. Floral bracts minute. **Sepals** about 6.5 mm long, 1.5 mm wide, lanceolate, acuminate. **Petals** about 6 mm long, 1 mm wide, linear, acuminate. **Lip** about 4.5 mm long, 5 mm wide, 3-lobed; lateral lobes erect-incurved, retrorse, obliquely elliptic, obtuse-rounded; middle lobe ovate-triangular,

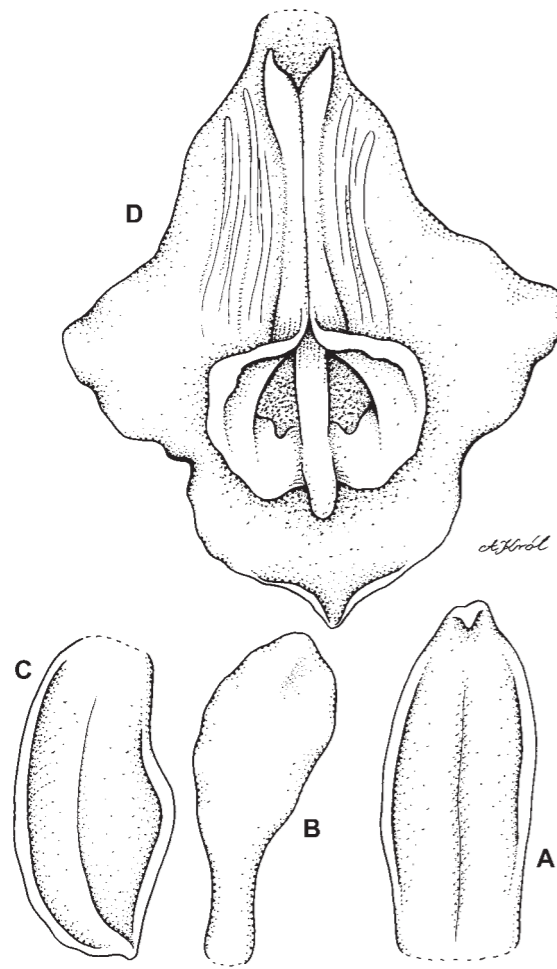


Fig. 11. *Prosthechea grammatoglossa* (Rchb.f.) W.E.Higgins: A: Dorsal sepal. - B: Petal. - C: Lateral sepal. - D: Lip (*Lehmann* 6848, K - drawn by A. Król).

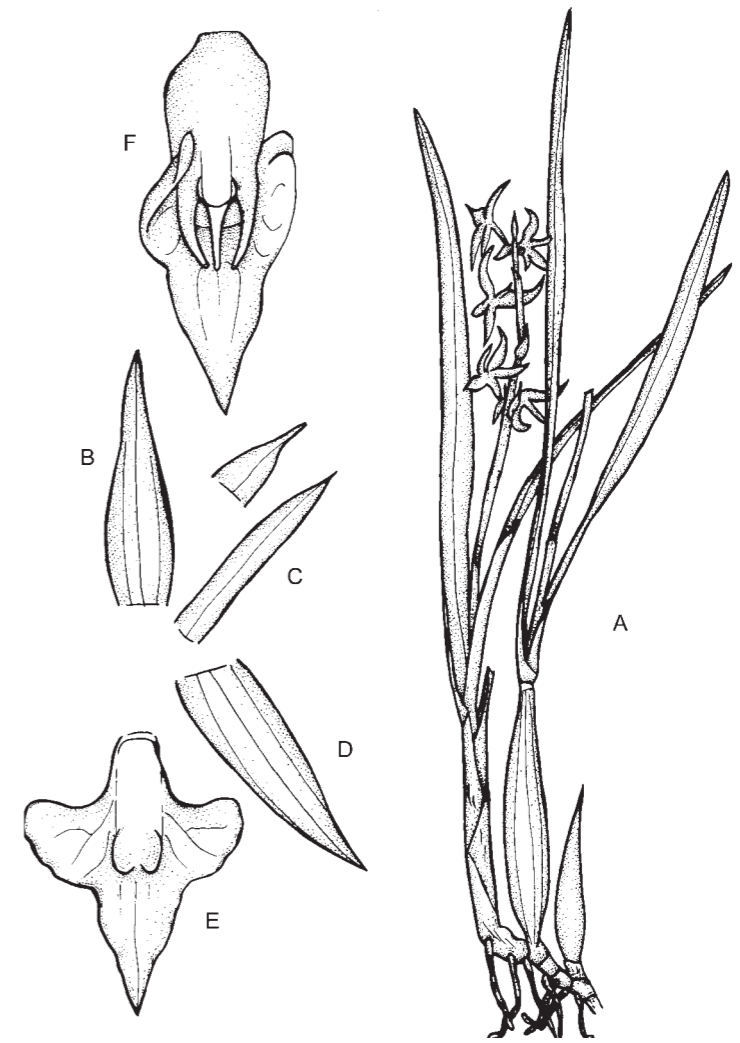


Fig. 12. *Prosthechea grammatoglossa* (Rchb.f.) W.E.Higgins: A: Plant. - B: Dorsal sepal. - C: Petal. - D: Lateral sepal. - E & F: Lip (redrawn by N. Rhoda from xxx).

acuminate; callus an inverted U-shaped ridge corresponding to the gynostemium. **Gynostemium** about 3 mm long, 2 mm wide, stout, with three long incurved teeth at the apex overarching the anther.

**HABITAT:** Wet premontane and montane forest; 1300-2000 m alt.

**FLOWERING SEASON:** January, February, April.

**GENERAL DISTRIBUTION:** Bolivia, Peru, Ecuador, Colombia, Venezuela.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cali.** Cordillera occidental, los Farallones de Cali, creciendo a lo largo de la trocha, entre alto del Buey & Los Lagos, el nacimiento del Rio Pichinde, 1-2 km al sur del alto del Buey. Alt. 3350 m. 24 Jan 1977. *Hartman* 724 (CUVC!). **Mpio. Palmira.** Above La Buitrera, Arenillo. N3 28.965 W76 10.592. Alt. 1878 m. 24 Feb 2010. *M. Kolanowska, O. Pérez & E. Parra s.n.* (UGDA!). **Mpio. Yotoco.** Bosque de

Yotoco. 15 Jan 1980. *I. Guarín O. 41* (COL!); The same loc. 4 Apr 1980. *I. Guarín O. 127* (COL!).

OTHER SPECIMENS EXAMINED: **BOLIVIA. La Paz.** Nor Yungas. 16.5 km NE of Chuspipata (13.6 km SW of Yolosa). 16°13'S 67°47'W. Alt. 2100 m. Lower cloud forest with abundant epiphytes. 3 Apr 1984. *J.C. Solomon & M. Uehling 12176* (MO!). **PERU. Cusco.** Urubamba, Aguas Callentes, ruinas de Machupicchu, ± 112 km de Cusco, en el camino ferroviario Cusco-Quillabamba. Alt. 2000 m. 24 Mar 1987. *P. Núñez 7544* (MO!). **COLOMBIA. Cundinamarca.** Mpio. Sasaima. Vereda de Apocentos (antigua hacienda de Apocentos). Alt. 1300 m. 10-12 Jul 1960. *H. García-Barriga 17238* (COL!). **Guajira.** Sierra Nevada de Santa Marta, entre pueblos de Takina,

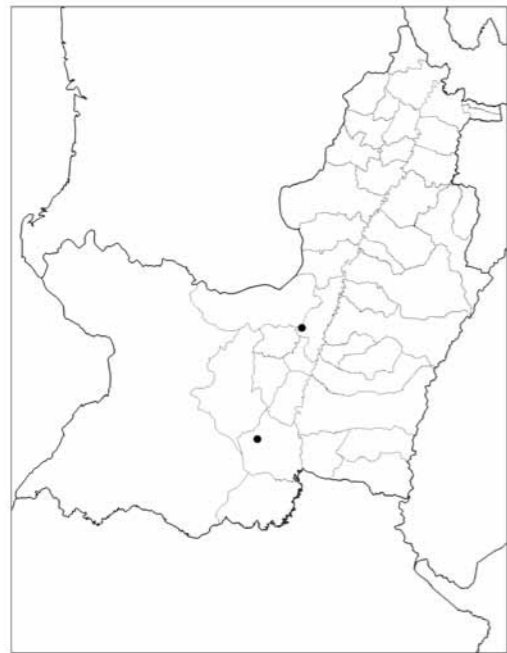


Fig. 13. Distribution of *Prosthechea grammatoglossa* (Rchb.f.) W.E.Higgins in Valle del Cauca.

Magotama, San Miguel & Pueblo Viejo. Alt. 2000-2900 m. 17 Aug 1986. *H. Cuadros V. & Gentry 2797* (COL!). *Sine loc.* St. Anna. Alt. 5000 ft. August. *Funk & Schlím 730* (W!). **Huila.** Outside San Agustín in a smooth bark small tree forest

with thick leaf mulch on ground and few epiphytes. Aug 1964. *Kapuler & Hascall 137* (COL!). **Magdalena.** Sierra Nevada de Santa Magdalena. In fields of finca Cecilia, Quebrada Indiana, ca 10°59'N 73°58'W. Alt. ca 1750 m. 3 Sep 1972. *Kirkbride Jr. 2080* (COL!). **Santander.** Carretera entre Zapatoca & San Vicente. Jul 1964 *Kapuler & Hascall 68* (COL!). **VENEZUELA.** *Sine loc.* *Hágsater 6010* (AMO! x 5).

#### 43.2. *Prosthechea lindenii* (Lindl.) W.E.Higgins (Fig 14-16; Photos 5-6).

Phytologia **82**: 379. 1997 [1998]. - Vásquez & Ibsch, Orquid. Bolivia **2**: 300. 2004. ≡ *Epidendrum lindenii* Lindl., Ann. Mag. Nat. Hist. **12**: 397. 1843; TYPE: ? ≡ *Encyclia lindenii* (Lindl.) Carnevali & I.Ramírez, Ernstia **36**: 9. 1986. ≡ *Anacheilium lindenii* (Lindl.) Hágsater in R.Escobar (ed.), Native Colombian Orchids **1**: 28. 1990. - Withner & Harding, Cattleyas and their Relatives: Debatable Epidendrum: 101-102. 2004. = *Epidendrum fallax* Lindl., Orchid. Linden.: 9. 1846. = *Epidendrum fallax* var. *flavescens* Lindl., Fol. Orchid. **3**: 35. 1853. ≡ *Epidendrum flavescens* (Lindl.) Schltr., Repert. Spec. Nov. Regni Veg., Beih. **6**: 69. 1919.

**Epiphytic plants. Pseudobulbs** 5-7 cm long, about 2 cm wide, spaced 3-8 cm, variable in shape, cylindrical to fusiform, somewhat compressed, enveloped by scarious sheaths, bifoliate. **Leaves** about 15 cm long, 2 cm wide, narrowly elliptic, obtuse. **Inflorescence** about 15 cm long, erect, terminal, 5-8-flowered. **Flowers** non-resupinate, tepals pale yellow-brown, except the apical margins which are overlaid dark red-maroon, dorsally green with a similar but lighter flush, lip off-white, suffused purple on the back and with fine purple veining on the lateral lobes contrasting with the clearly delineated pure white margin, gynostemium cream, anther yellow. **Sepals** about 20 mm long, 7 mm wide, thick, apices thickened and keeled. **Petals** about 17 mm long, 7 mm wide, thick, apices thickened and keeled. **Lip** about 13 mm long, 15 mm wide, 3-lobed; lateral lobes larger and wider than the

Fig. 14. *Prosthechea lindenii* (Lindl.) W.E.Higgins: A: Dorsal sepal. – B: Lateral sepal. – C: Lip (*Skeffington & Scott 35d*, K – drawn by A Król).

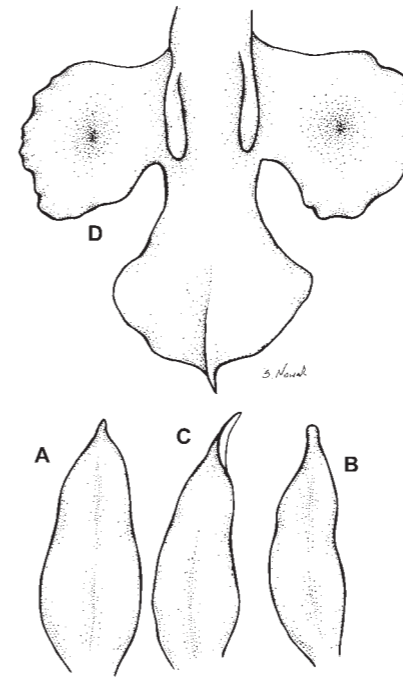
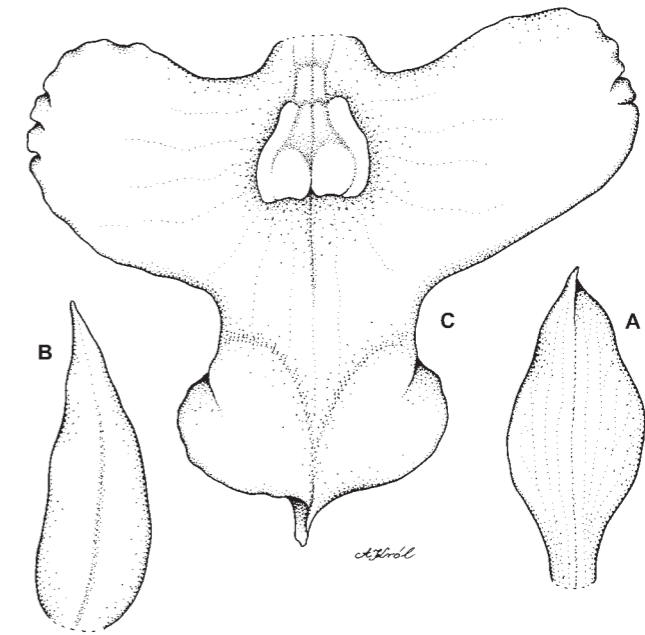


Fig. 15. *Prosthechea lindenii* (Lindl.) W.E.Higgins: A: Dorsal sepal. – B: Petal. – C: Lateral sepal. – D: Lip (*J.L. Fernandez A. & al. 11786*, COL – drawn by S. Nowak).



Fig. 16. Distribution of *Prosthechea lindenii* (Lindl.) W.E.Higgins in Valle del Cauca.

middle lobe, thick and rigid; callus near the base covered with fine, white hairs. **Gynostemium** about 1 mm wide.

HABITAT: Cloud forest; 1600-2000 m alt.

FLOWERING SEASON: Unknown.

GENERAL DISTRIBUTION: Colombia, Venezuela.

DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA: Neogranadina-Caucana, La Paila. L.F. Holton 172 (G).

**43.3. *Prosthechea livida* (Lindl.) W.E.Higgins** (Figs 17, 18; Photos ).

Phytologia 82: 379. 1997 [1998]. ≡ *Epidendrum lividum* Lindl., Edwards's Bot. Reg. 24 (Misc.): 51. 1838; TYPE: COLOMBIA. *Loddiges s.n.* (K!). - Foldats in Lasser, Fl. Venezuela, Orchid. 15(3): 308-311. 1970. ≡ *Encyclia livida* (Lindl.) Dressler, Brittonia 13: 265. 1961. - Hamer, Orchid. El. Salvador 1: 216-217. 1974. - Hamer, Orchid. Nicaragua 4, Icon. Pl. Trop 1(11): pl. 1017. 1984. - Hamer, Orchid. Central America, Selbyana 10(Suppl.): 175. 1988. - Bennett & Christenson, Icon. Orchid. Peruv.: pl. 036. 1993. ≡ *Anacheilium lividum* (Lindl.) Pabst, Moutinho & A.V.Pinto, Bradea 3: 184. 1981. ≡ *Pseudencyclia livida* (Lindl.) V.P.Castro & Chiron, Richardiana 4: 33. 2003. ≡ *Pollardia livida* (Lindl.) Withner & Harding, Cattleyas and their Relatives: Debatable Epidendrams: 231. 2004. = *Epidendrum articulatum* Klotzsch, Allg. Gartenzeitung 6: 297. 1838., *nom. illeg.*  
= *Epidendrum tessellatum* Bateman ex Lindl., Edwards's Bot. Reg. 24 (Misc.): 7. 1838). *nom. illeg.* ≡ *Encyclia tessellata* Schltr., Beih. Bot. Centralbl. 36(2): 474. 1918.  
= *Epidendrum chondrochilum* F.Lehm. & Kraenzl., Bot. Jahrb. Syst. 26: 467. 1899.  
= *Epidendrum condylochilum* F.Lehm. & Kraenzl., Bot. Jahrb. Syst. 26: 459. 1899.  
= *Epidendrum henrici* Schltr., Repert. Spec. Nov. Regni Veg. 3: 108. 1906.  
= *Epidendrum deamii* Schltr., Beih. Bot. Centralbl. 36(2): 402. 1918. ≡ *Encyclia deamii* (Schltr.) Hoehne, Arq. Bot. Estado São Paulo, n.s., f.m., 2: 151. 1952.  
= *Epidendrum dasytainia* Schltr., Repert. Spec. Nov. Regni Veg., Beih. 8: 71. 1921.

**Epiphytic**, repent plants, 10-15 cm tall. **Pseudobulbs** 4-7 cm long, 1.3-1.5 cm wide, about 0.9 cm thick, ellipsoid, somewhat complanate, bifoliate. **Leaves** 8-14 cm long, 1.2-1.7

cm wide, thin, oblong-elliptic, acute to minutely bilobed, attenuate to conduplicate at the petiolate base. **Inflorescence** a terminal raceme of 3-4 flowers, subequalling the leaves. **Flowers** yellow with lavender spots and flecks, lip cream-white with lavender lines, gynostemium clear green, dorsally lavender, apex yellow. Pedicellate ovary 15 mm long, 3-winged. **Sepals** about 9-11 mm long, 3-4 mm wide, lateral sepals slightly larger, oblong-ob lanceolate to ligulate, apically concave, apiculate. **Petals** 9-12 mm long, 3-3.3 mm wide, spatulate, claw linear-oblong, acute. **Lip** 8.9-10.6 mm long, 6.5-7 mm wide, 3-lobed near the middle; lateral lobes semi-elliptic, involute; middle lobe 3.5 mm long and 6.5 mm wide, elliptic to ovate, margins upcurved, strongly plicate-undulate; callus between the lateral lobes oblong, dilated above, pubescent; disc through the middle lobe with 3 rows of protuberances. **Gynostemium** about 5 mm long, 2.5 mm wide, oblong, dorsally contracted longitudinally in a thick; ridge, apically 3-lobed; lateral lobes obtuse-rounded; middle lobe truncate. Anther transversely elliptic.

HABITAT: Seasonally dry forest; about 900-1550 m alt.

FLOWERING SEASON: Unknown.

GENERAL DISTRIBUTION: Ecuador, Colombia, Venezuela, Panama, Belize, Mexico.

DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA: Río Dagua. Alt. 5000 ft. *Lehmann 133* (W!); Pres de Cali et au Río Dagua, Danca Yalu. Alt. 900-1200 m. *Lehmann 819* (W!).

OTHER SPECIMENS EXAMINED: **VENEZUELA. Aragua.** Distr. Ricaurte. Gallery forest along Río San Carlos, with mica schist boulders and bluffs bordering course of stream, junction with Quebrada Coche upstream 4.5 km on Río San Carlos, 8.8 km north of Pie de Cerro, north of La Victoria. 10°21'-22'N 67°18'30"W. Alt. 900-1150 m. 25 Mar 1980. *Steyermark & Liesner 121881* (MO!). **MEXICO. Oaxaca.** Alt. 5000 ft. *H. Galeotti 5320* (W!).

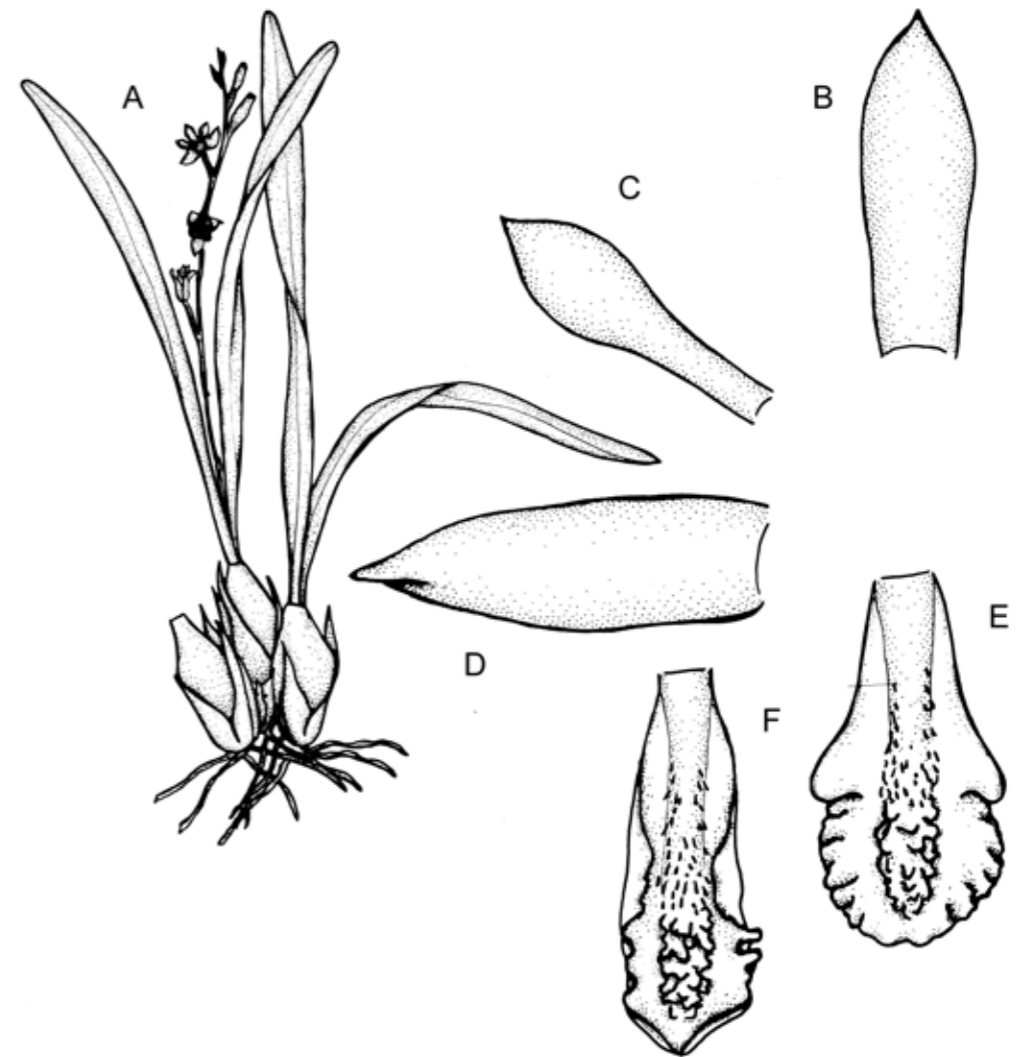


Fig. 17. *Prosthechea livida* (Lindl.) W.E.Higgins: A: Plant. – B: Dorsal sepal. – C: Petal. – D: Lateral sepal. – E & F: Lip (redrawn by N. Rhode from xxx).

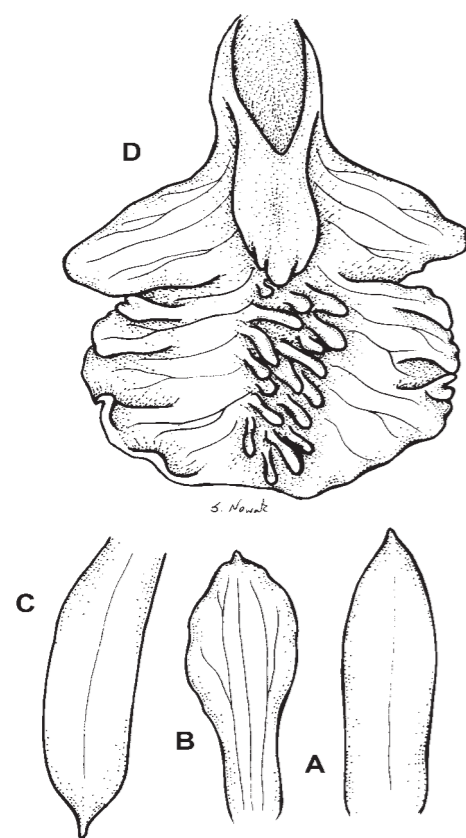


Fig. 18. *Prosthechea livida* (Lindl.) W.E.Higgins: A: Dorsal sepal. – B: Petal. – C: Lateral sepal. – D: Lip (*García Barriga* 20153, COL – drawn by S. Nowak).

**43.4. *Prosthechea tigrina* (Lindl.) Carnevali & Ramirez (Figs 19-21).**

*Phytologia* 82(5): 381. 1997. - *Epidendrum tigrinum* Lindl., *Orchid. Linden.*: 9. 1846; TYPE: PERU. *Funck & Schlim* 1178 (K). - *Cogniaux in Martius, Fl. Bras., Orchid.* 3(5): 76. 1902. - *Encyclia tigrina* (Lindl.) Carnevali & Ramirez, *Ernstia* 36: 9. 1986.

**Pseudobulbs** to 40 cm long, ca 0.5-1 cm in diameter, fusiform. **Leaves** to 15 cm long and 5 cm wide, elliptic to ligulate, acute to obtuse. **Inflorescence** 20-30 cm long, laxly 5-10-flowered. **Flowers** medium-sized. Floral bracts 6 mm long, ovate, acute. Pedicel and ovary to 40 mm long, trigonous in cross-section. Tepals stiff,

with inrolled margins. **Dorsal sepal** 20-25 mm long, 6-8 mm wide, oblong-ovate, obtuse or rounded at the apex. **Lateral sepals** 20-25 mm long, 8-9 mm wide, obliquely oblong-elliptic to ligulate, subacute to subrounded. **Petals** 20-23 mm long, 8 mm wide, obliquely oblong-ovate, obtuse or rounded at the apex. **Lip** 9-10 mm long and wide, connate basally with the gynostemium, subflabellate to broadly ovate in outline, shortly apiculate at the apex, with a prominent, bilobed callus in the centre and thickened midvein.

**HABITAT:** Epiphytic in forest and along roadsides; 1430-1870 m alt..

**FLOWERING SEASON:** December.

**GENERAL DISTRIBUTION:** Brazil, Colombia, Venezuela, Guyana.

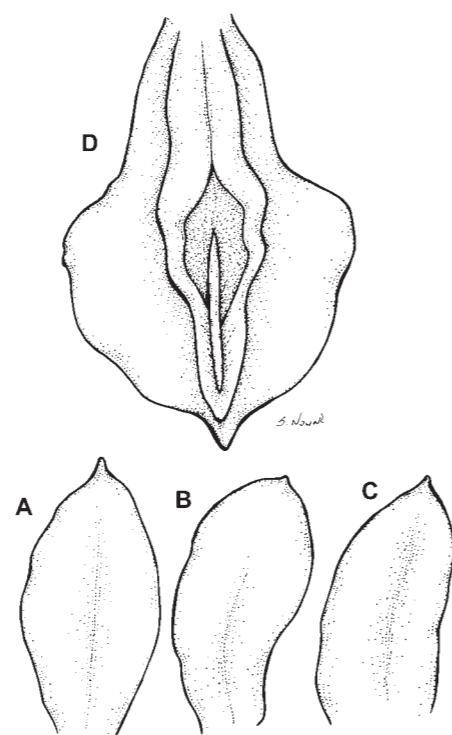


Fig. 19. *Prosthechea tigrina* (Lindl.) Carnevali & Ramirez: A: Dorsal sepal. – B: Petal. – C: Lateral sepal. – D: Lip (*Lehmann* 6716, K – drawn by S. Nowak).

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. El Cairo.** Vereda El Pacifico. 8 km desde el desvio a San Juan del Palmar de la carretera Alban-Cartago. 4°48'42"N 76°10'16"W. Alt. 1867 m. 29 Dec 2007. R. Arevalo, Betancur, N. Salinas, L. Clavijo & A. Zuluaga 803 (COL!). **Mpio. Dagua.** Corregimiento El Queremal, 0-6 km carretera El Queremal-Buenaventura. 3°31.42'-31.81'N 76°43.62'-44.92'W. Alt. 1430-1550 m. 30 Dec 2009. M.F. Gonzalez, Betancur & A. Zuluaga 160 (COL!).

**OTHER SPECIMENS EXAMINED: COLOMBIA. Boyacá.** Carretera Duitama-Charala. 65 km de



Fig. 21. Distribution of *Prosthechea tigrina* (Lindl.) Carnevali & Ramirez in Valle del Cauca.

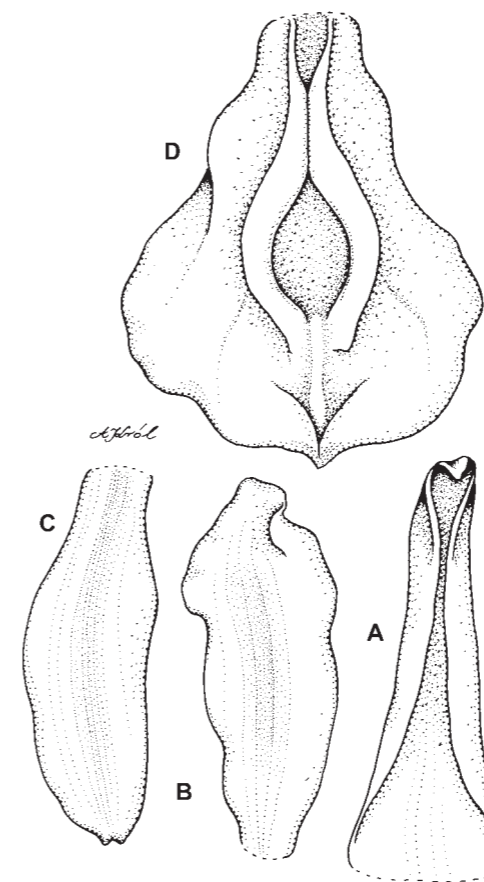


Fig. 20. *Prosthechea tigrina* (Lindl.) Carnevali & Ramirez: A: Dorsal sepal. – B: Petal. – C: Lateral sepal. – D: Lip (*G. Lozano C.* 2222, COL – drawn by A. Król).

Duitama. Adelante de Virolin. 9 Jun 1972. G. Lozano C. 2222 (COL!). **Chocó.** Mpio. Ansermanuevo. Quebrada Agua Azul. Alt. 1850 m. 17 Mar 1980. G. Lozano C. & J. Diaz 3148 (COL!); Hoya del Rio Atrato, Bete. Alt. 50-60 m. 6 Apr 1982. E. Forero, R. Jaramillo M. & A.L. Forero 8932 (COL!). **Putumayo.** Mpio. Mocoa. Corregimiento de San Antonio, vereda Alto Campucana, finca La Mariposa. Alrededores de la casa. 1°12'N 76°38'W. Alt. 1650 m. 20 Apr-1 May 1994. P. Franco, D. Giraldo C. & L.F. Jimenez 5490 (COL!); Valle de Sibundoy. 1°12'N 76°55'W. Alt. 2600 m. 16 Feb 1964. *Krauss* 74a (COL!). **Tolima.** Mpio. Cunday. Vereda Humedal las catorce. Cuenca Prado. 4°03'14.4"N 73°34'44.3"W. Alt. 1700 m. 25 Sep 2004. A. Nieto 164 (COL!).

43.5. *Prosthechea venezuelana* (Schltr.) W.E.Higgins (Figs 22-24).

Phytologia **82**: 381. 1997[1998]. ≡ *Epidendrum venezuelanum* Schltr., Repert. Spec. Nov. Regni Veg., Beih. **6**: 39. 1919; TYPE: VENEZUELA. FEDERAL DISTR. Caracas. Jun 1905. *Hort. K.W. John s.n.* (B†). - Foldats in Lasser, Fl. Venezuela, Orchid. **15**(3): 432-433. 1970. ≡ *Encyclia venezuelana* (Schltr.) Dressler, Phytologia **21**: 441. 1971. - Dodson & Dodson, Icon. Pl. Trop. **2**(5): pl. 459. 1989. ≡ *Anacheilium venezuelanum* (Schltr.) Withner & P.A. Harding, Cattleyas & Relatives: Debatable Epidendrum: 127. 2004.

**Epiphytic.** Pseudobulbs narrowly oblong-ovate, flattened, surrounded at the base by scarious, evanescent sheaths, unifoliate at the apex. **Leaf** narrowly elliptic-oblong, apex obtuse. **Inflorescence** produced on mature growths,

spicate, 5-7-flowered, with a prominent spathe surrounding the base. **Flowers** non-resupinate, greenish-white, marked with linear red-brown spots on the segments, callus yellow. Tepals free, spreading. **Dorsal sepal** about 16-17 mm long, 4-5 mm wide, narrowly ovate, acute. **Lateral sepals** about 16-17 mm long, 4-5 mm wide, slightly oblique, narrowly ovate, acute, apex slightly reflexed. **Petals** about 15 mm long, 5 mm wide, oblique, narrowly ovate, acute. **Lip** about 16 mm long, 11-12 mm wide, elliptic, acuminate, slightly concave; callus a raised flat platform irregularly lobed around the curved margin with a keel-like extension down the midline of the lip. **Gynostemium** about 7 mm long, with a broad, shallow wing on each side of the stigma, concave on the underside to accommodate the lip callus, with a knob-like projection over the anther. Pollinia 4.

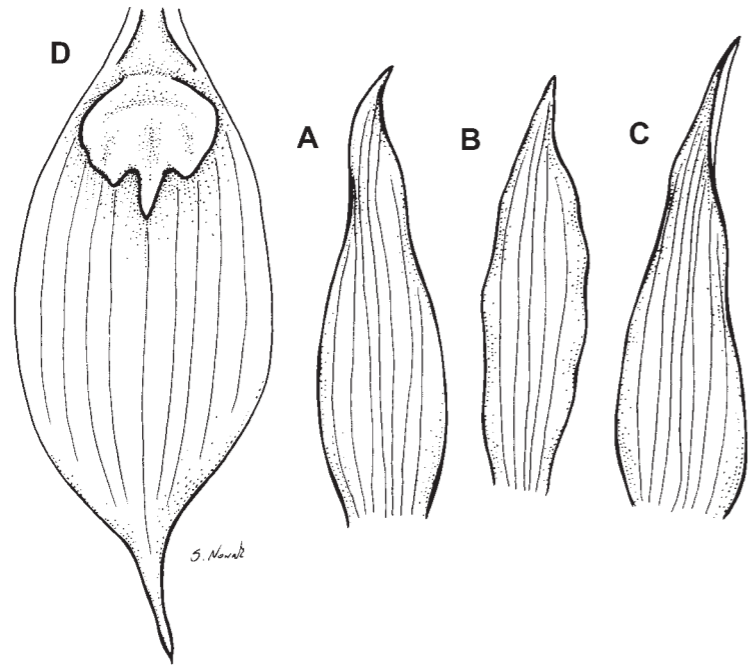


Fig. 22. *Prosthechea venezuelana* (Schltr.) W.E.Higgins: A: Dorsal sepal. - B: Petal. - C: Lateral sepal. - D: Lip (*Garcia Barriga 20190*, COL - drawn by S. Nowak).

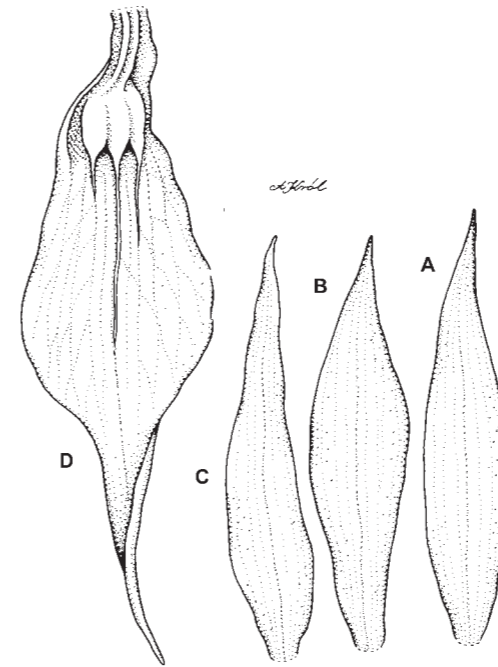


Fig. 23. *Prosthechea venezuelana* (Schltr.) W.E.Higgins: A: Dorsal sepal. - B: Petal. - C: Lateral sepal. - D: Lip (*Andre s.n.*, K - drawn by A. Król).



Fig. 24. Distribution of *Prosthechea venezuelana* (Schltr.) W.E.Higgins in Valle del Cauca.

**HABITAT:** Wet montane forest; about 1600 m alt.

**FLOWERING SEASON:** May.

**GENERAL DISTRIBUTION:** Ecuador, Colombia, Venezuela.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Dagua.** Carretera de Cali a Buenaventura, km 30. Finca Niza. Alt. 1600 m. 17 May 1976. *H. García-Barriga 20964* (COL!).

**OTHER SPECIMENS EXAMINED: COLOMBIA.** **Cundinamarca.** San Francisco. Alt. 1250 m. 10 May 1977. *L. Uribe U. 7015* (COL!); La Vega, carretera 2 K. arriba de La Vega. Río San Juan. Alt. 1300 m. 12 Sep 1971. *H. García-Barriga 20.190* (COL!).

43.6. *Prosthechea vespa* (Vell.) W.E.Higgins (Figs 25, 26).

Phytologia **82**(5): 380. 1997. - Nir, Orchid. Antill.: 320. 2000. - Vásquez & Ibsch, Orchid. Bolivia vol. **2**: 301. 2004. - Misas Urrreta, Orquideas de la Serranía del Baudó: 600-601. 2005. - Castro, Icon. Orchid. Brasil. **2**: pl. 189. 2006. ≡ *Epidendrum vespa* Vell., Fl. Flumin. **9**: t. 27. 1827[1831]; TYPE: Drawing published in Fl. Flumin.: t. 27. 1827. - Foldats in Lasser, Fl. Venezuela, Orchid. **15**(3): 433-437. 1970. ≡ *Encyclia vespa* (Vell.) Dressler, Phytologia **21**(7): 441. 1971.

**Epiphytic or terrestrial.** Pseudobulbs up to 17 cm long, 3 cm wide, variable from orbicular to linear-ligulate in outline, strongly compressed, basally not constricted, with 2-3 leaves at the apex. **Leaves** up to 26 cm long, 2-5 cm wide, subcoriaceous, linear-ligulate, subobtuse, clear green. **Inflorescence** up to 30 cm long with sometimes more than 20 flowers, an erect, terminal, lax, slender, compressed raceme enclosed in a long, scarious spathe. **Flowers** non-resupinate, yellow-green, densely spotted with purple. Floral bracts up to 6 mm long, ovate-triangular, concave, coriaceous. Ovary about 10 mm long, 3-winged. Sepals similar, quite fleshy. **Dorsal sepal** 13-16 mm long, 4-6 mm wide, broadly



lanceolate to oblong-oblongate, concave, apiculate to obtuse. **Lateral sepals** 12-15 mm long, 4-5.5 mm wide, obliquely obovate-lanceolate, acute. **Petals** 11-14.5 mm long, 3-4 mm wide, broadly oblong-subspathulate, subobtusate, somewhat oblique. **Lip** 8-10 mm long, 5-8 mm wide, basally adnate to the gynostemium, entire, concave-cochleate, narrowly obovate to elliptic-obovate, unequally 3-lobed; lateral lobes oblong, rounded; disc puberulent, basally bearing an elliptic, deeply sulcate, short callus; middle lobe broadly triangular, subobtusate.

**HABITAT:** Steep embankments in wet montane cloud forest, in mesophytic forest, on granitic slopes and along rivers and creeks; about 2000-2900 m. alt.

**FLOWERING SEASON:** August.

**GENERAL DISTRIBUTION:** Brazil, Bolivia, Peru, Ecuador, Colombia, Venezuela, Guyana, Suriname, French Guiana, Panama, Costa Rica, The Greater Antilles (Hispaniola, Cuba), Nicaragua, Mexico.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cali.** Cordillera Occidental, vertiente oriental - Hoya del río Cali, río Pichindé, entre Los Cárpatos & El Olivo. Alt. 2920-3025 m. 5 Aug 1946. *Cuatrecasas 21941* (VALLE! x 2).

**OTHER SPECIMENS EXAMINED:** **BRAZIL.** Rio de Janeiro. Alt. 3000 m. Fecha de prensado de material cultivado 22 Jun 1990. *Verboonen sub E. Hágsater 7873* (AMO! x 3). **PERU. Cajamarca.** San Ignacio. Dist. San José de Lourdes. Caserío Rumichina, límite & caserío Naranjos. Bosque montano húmedo semi-intervenido. 05°54'04"S 078°36'09"W. Alt. 1811 m. 24 Jun 2006. *J. Perea & V. Flores 2403* (AMO!). **San Martín.** Dist. Pardo Miguel, Aguas Verdes (Perla del Mayo - San Pablo del Mayo). 5°39'S 77°37'W. Bosque perennifolio. Alt. 950 m. 20 Jun 1997. *I. Sánchez Vega & M. Dillon 8975* (AMO!). **ECUADOR. Morona-Santiago.** Road Mendez to Morona, km 45 to 63. Alt. 800-1000 m. 22 Nov 1989. *C.H. Dodson, N.H. Williams, Hágsater & Whitten 17757* (AMO! ex MO). **Napo.** Desviación Ba-

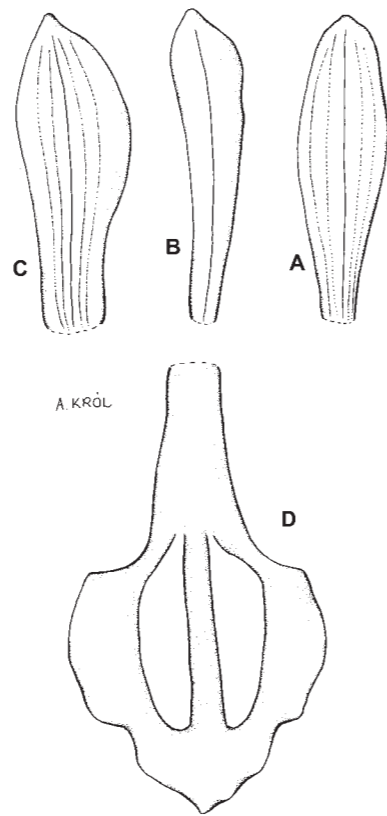


Fig. 25. *Prosthechea vespa* (Vell.) W.E.Higgins: A: Dorsal sepal. - B: Petal. - C: Lateral sepal. - D: Lip (xxx - drawn by A. Król).

eza-Lago Agrío, 2 Km antes de Baeza. Alt. ca 1900 m. Fecha de colecta 4 Dec 1986, preparado de material cultivado 11 May 1987. *Hágsater & C.H. Dodson 8931* (AMO!). **Pichincha.** Edo. De Pulumahua, La Liberia. Alt. 200 m. *Hirtz 1487* (AMO!). Tungurahua. Pedregal de baños, desviación a Riobamba. Malpais, litófito, sobre lava sensu lato. Alt. 200 m. Fecha de colecta 10 Dec 1986, fecha de prensado de material cultivado 19 Feb 1992. *Hágsater & C.H. Dodson 9114* (AMO! x 2). **VENEZUELA. Bolívar.** Neres. Ecótono Sabana-Bosque, margen izquierda de la Quebrada Aguas negras. 10 km al E del Tepuy El Zumbador, en la base oriental del Buaiquinina-Tepui. 70 km al S-E de La Paragua. Aprox. 6°15' 63°6'. Alt. 400 m. 15 May 1987. *G. Aymard*



Fig. 26. Distribution of *Prosthechea vespa* (Vell.) W.E.Higgins in Valle del Cauca.

*C. 6025* (MO! ex PORT). **PANAMA. Chiriquí.** Fortuna Dam region, on roadbanks. 08°45'N 82°15'W. Alt. 1250 m. 29 Jun 1987. *G. McPerson 11146* (AMO!).

#### 44. *Schomburgkia* Lindl.

Sert. Orchid.: 10, 13. 1838; **GENERITYPE:** *Schomburgkia crispata* Lindl. - Cogniaux in Martius, Fl. Bras., Orchid. 3(5): 309. 1902. - Foldats in Lasser, Fl. Venezuela, Orchid. 15(3): 455. 1970. - Christenson, Mem. New York Bot. Gard. 76(1): 332. 1997. - Nir, Orchid. Antill.: 346. 2000. - Szlachetko & Margońska, Ann. Bot. Fenn. 173: 183. 2002. - Vásquez & Ibisich, Orquíid. Bolivia 2: 331. 2004.

Large epiphytic or lithophytic plants. Pseudobulbs very large, cylindrical, swollen at the base, with 2-3 large leaves at the apex. Leaves oblong-ligulate to elliptic, thick, coriaceous. Inflores-

cence terminal, peduncle up to 200 cm long, terminating in umbels or subumbels. Flowers large, showy, brightly coloured, pink, red to deep red, lip often of a different colour. Floral bracts very large. Tepals subsimilar, usually oblong, opening widely, with more or less undulate margins. Lip distinctly 3-lobed in the apical half, canaliculate, with some parallel longitudinal crests; the middle lobe obcordate or obovate, truncate to rounded; the lateral lobes erect, obliquely oblong. Gynostemium finely arched, rather massive. Column part much longer than the anther, prominently winged, in the basal third connate with the lip margins. Column footless. Anther bent forwards, dorsiventrally flattened, transversely ellipsoid, 8-chambered. Connective very thick, rather wide. Pollinia 8, of various shapes and sizes, ellipsoid to ovoid, laterally flattened, composed of closely lying cells glued together by viscin, their apical parts transformed into sticky, granular caudicles. Apical clinandrium well-developed, enclosing the anther, margins irregularly and shallowly denticulate or entire. Stigma large, transversely elliptic, concave. Rostellum bent forwards, ligulate, its lower layer may be thick and sticky. Viscidium absent (Fig. 27).

A genus of 7 species. Only one of them occurs in the Department of Valle del Cauca.

#### 44.1. *Schomburgkia splendida* Schltr (Fig. 28-29; Photos ).

Repert. Spec. Nov. Regni Veg. 12: 212. 1913; **TYPE:** COLOMBIA. Boquerón del Dagua, western Cordillera, ca 1000 m. blühend in Dec 1905. *H. Pittier 605* (?). - Dodson & Dodson in Dodson, Icon. Pl. Trop. 1(5): 487. 1982.

**Lithophytic or epiphytic. Rhizome** creeping; pseudobulbs fusiform, of 2 to 3 nodes, slightly flattened, sulcate, 2- to 3-foliolate at the apex. **Leaves** thick, coriaceous, elliptic-oblong, rounded. **Inflorescence** terminal, elongate, to 1 m long, subcapitate, densely few- to many-flo-

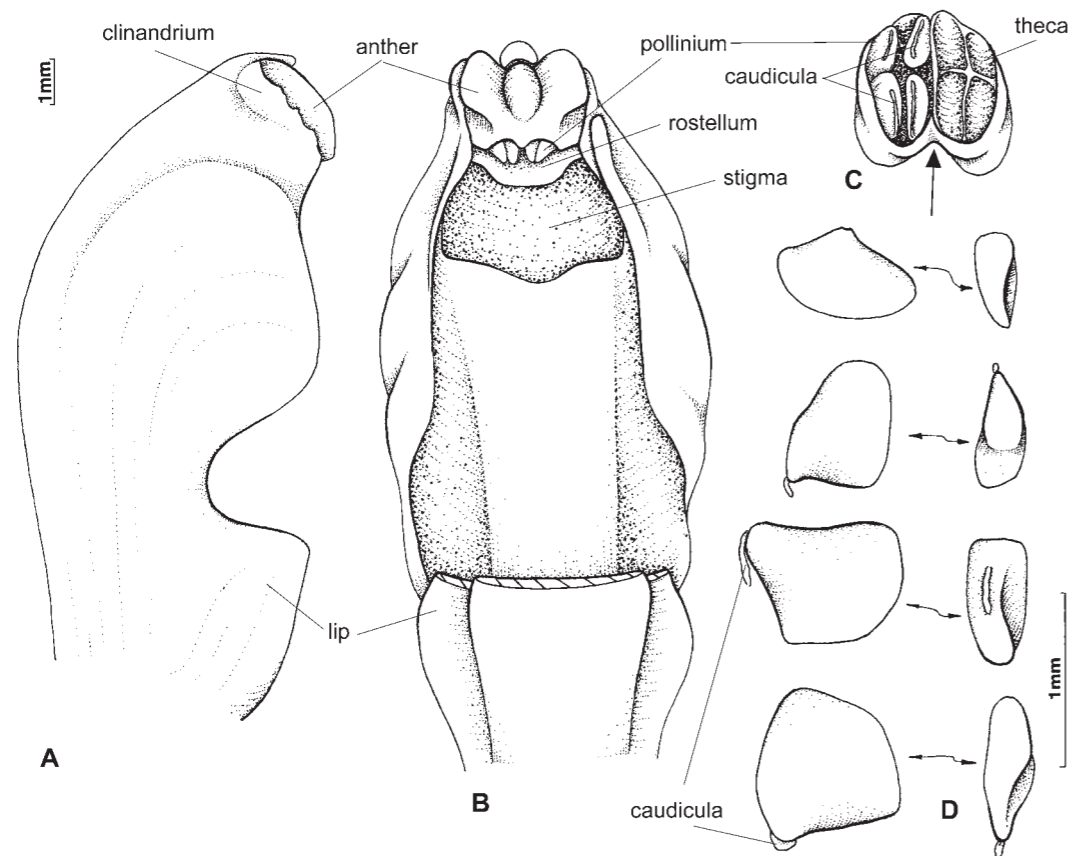


Fig. 27. Gynostemium structure of *Schomburgkia* Lindl.: A: Gynostemium, side view. – B: Gynostemium, bottom view. – C: Anther. – D: Pollinia, various views (Szlachetko & Margońska 2002).

wered. **Flowers** large; sepals and petals wine-red, slightly undulate on the margins; lip pink, column pink. **Floral bracts** up to 95 mm, longer than the pedicellate ovary. **Ovary** up to 85 mm. **Dorsal sepal** 50 mm long, 11 mm wide. Petals oblanceolate, widest across their apices, shorter than the dorsal sepal. Lip 30-40 mm long, 25-28 mm across the lateral lobes; lateral lobes semiorbicular, curling up, almost enveloping the column. Gynostemium broad, arched.

**HABITAT:** Exposed, sunny hills.  
**FLOWERING SEASON:** February.  
**GENERAL DISTRIBUTION:** Ecuador, Colombia.  
**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Zabaletas. Exposed, sunny hills. 21 Feb 2011. *Cult. Orquivalle sub Szlachetko s.n.* (COLI, UGDA-DLSz! - spirit).

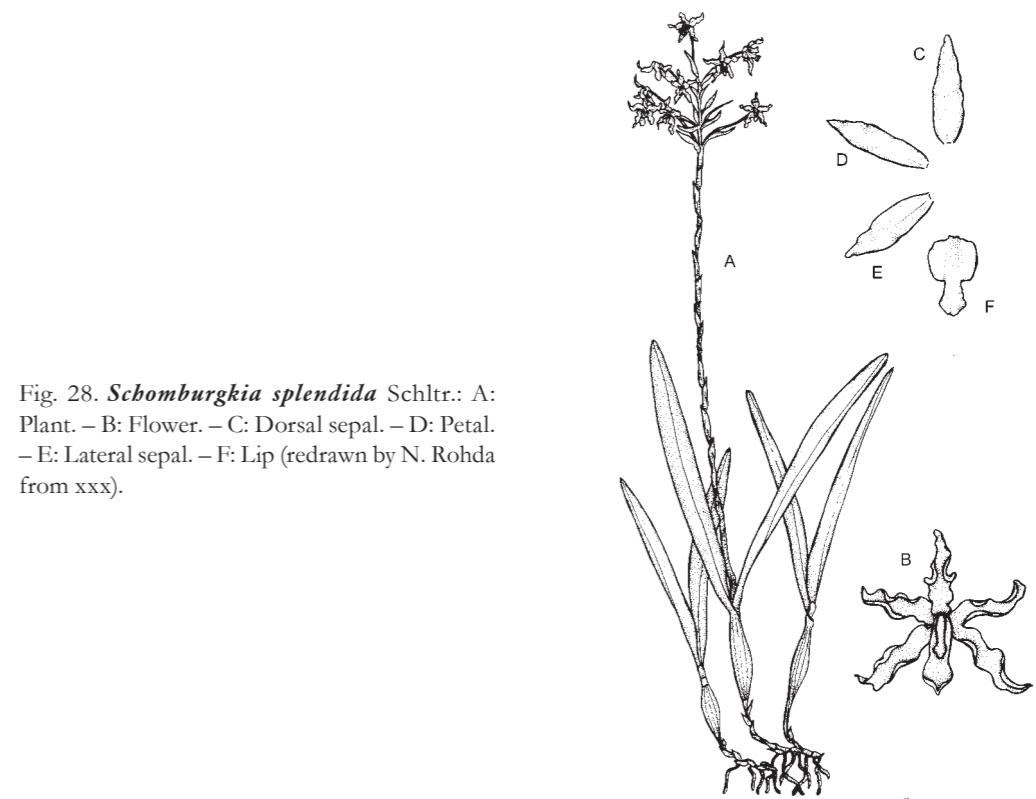


Fig. 28. *Schomburgkia splendida* Schltr.: A: Plant. – B: Flower. – C: Dorsal sepal. – D: Petal. – E: Lateral sepal. – F: Lip (redrawn by N. Rohda from xxx).



Fig. 29. Distribution of *Schomburgkia splendida* Schltr. in Valle del Cauca.

### 3.2. Subtribe **Epidendrinae** Szlach.

Folia Phytotax. Geobot. 26: 320. 1991.

Pseudobulbs slender, or stem slender. Leaves conduplicate. Inflorescence usually lateral. Lip fused with the column, forming a cuniculus type of nectary. Column foot absent. Clinandrium usually expanded, frequently hiding the anther completely, fringed in many species. Rostellum very short, shelf-like, truncate, erect, parallel to the anther. Viscidium single, formed of partially macerated cells. Rostellum remnant deeply divided. Anther erect, elliptic to ovate, motile, usually 4-chambered. connective fleshy. Pollinia 4, occasionally eight, equal or unequal in size, oblong, obovate to elliptic, each with sticky caudicles, joined with the viscidium.

### Key to genera

1. Gynostemium connate with the lip in the lower half only ..... 2
1. Gynostemium connate with the lip up to its apex ..... 46. *Epidendrum*
2. Apical clinandrium spacious, much exceeding the anther apex ..... 45. *Dimerandra*
2. Apical clinandrium obscure, not exceeding the anther ..... 47. *Jacquinilla*

### 45. *Dimerandra* Schltr.

Repert. Spec. Nov. Regni Veg., Beih. 17: 43. 1922; GENERITYPE (Siegerist 1986): *Dimerandra rimbachii* (Schltr.) Schltr. [*Epidendrum rimbachii* Schltr. = *Dimerandra emarginata* (G.Mey) Hoehne]. - Siegerist, Bot. Mus. Leafl., Harvard Univ. 30: 199-222. 1986. - Szlachetko & Margońska, Ann. Bot. Fenn. 173: 189. 2002. - Pridgeon & al., Genera Orchid. 4: 224-226. 2005.

Epiphytic plants. Roots flexuose, glabrous. Stems caespitose, erect, fleshy, leafy throughout, completely covered with thin, imbricating folicaceous sheaths, dried or old canes striate-sulcate. Leaves subcoriaceous, oblong-linear to ligulate, sessile, articulate with the leaf sheaths. Inflorescences 1-3, very short, terminal, 1-2-flowered. Pedicellate ovary slender. Flowers showy. Sepals similar, spreading, lateral sepals oblique, all more or less linear-lanceolate, acuminate. Petals spreading, more or less rhomboid to elliptic, often with a lobulate margin along one side. Lip either free to the base or laterally adnate basally to the gynostemium, then with a cuneate-fimbriate blade; disc below the gynostemium with a callus of imbricating lamellae in three rows with an additional callose ridge on each side. Gynostemium finely arched and relatively massive. Column part longer than the anther, in the lowest third fused with the lip margins. Column footless. Anther suberect, ovoid, dorsiventrally flattened, motile, 4-chambered. Connective thin, extended apically to form a roof over the chambers. Pollinia 4, oblong, laterally flattened.

Caudicles granular, sticky. Apical clinandrium spacious, prominently exceeding the anther, more or less 3-lobed with the two side lobes larger. Stigma bilobed, lobes confluent, convex, sticky. Rostellum rather small, suberect, truncate, shelf-like, producing two small, detachable viscidia. Rostellum remnant incised (Fig. 30).

*Dimerandra* species have been reported from sea level up to 1000 m.

The genus contains about 7 species distributed from Brazil and Peru to Mexico. Three species occur in the Department of Valle del Cauca.

### Key to species

1. Lip widest at the base ..... 45.3. *D. stenopetala*
1. Lip widest above the middle. .... 2
2. Lip free ..... 45.1. *D. buenaventurae*
2. Lip laterally adnate to the base of the gynostemium ..... 45.2. *D. elegans*

### 45.1. *Dimerandra buenaventurae* (Kraenzl.) Siegerist (Figs 31, 32).

Bot. Mus. Leafl., Harvard Univ. 30: 205. 1986. ≡ *Telipogon buenaventurae* Krzl., Ann. Naturhist. Hofmus. Wien 33: 35. 1919; TYPE: COLOMBIA. VALLE DEL CAUCA. Bei Buenaventura. *Klaboch s.n.* (W!).

**Epiphytic**, up to 40 cm tall. **Roots** fleshy, rather coarse, branching, flexuose, glabrous. **Stems** from a bulbous base suberect to arcuate, somewhat flexuose, leafy. **Leaves** up to 10 cm long, 1.2 cm wide, usually smaller, alternate, linear-lanceolate, obtuse or with a somewhat unequally bilobate apex. **Inflorescences** fasciculate, produced in succession, short, few-flowered. **Flowers** pink, perianth pale red-purple, lip with white spots at the base (yellow spots in the centre), gynostemium red-purple, a little darker than the perianth, capsule green. Floral bracts up to 4 mm long, ovate-cucullate, acute. Pedicellate ovary up to 40 mm long, cylindrical. **Dorsal sepal** up to 18 mm long, 5 mm wide,

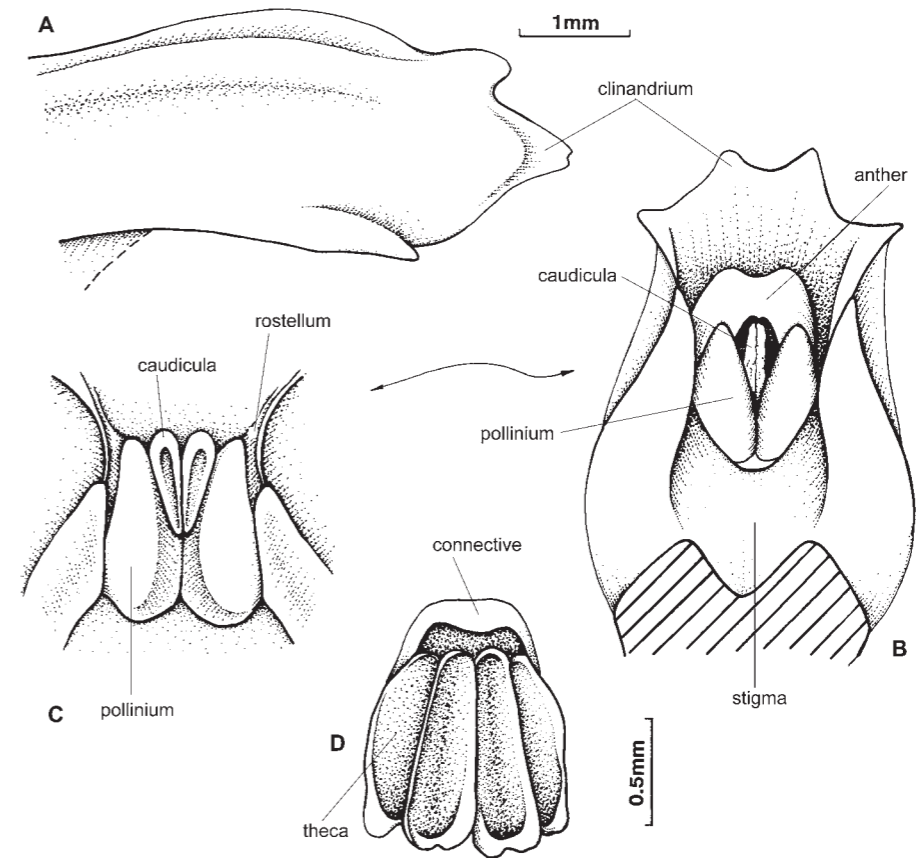


Fig. 30. Gynostemium structure of *Dimerandra* Schltr.: A: Gynostemium, side view. – B: Gynostemium, bottom view. – C: Rostellum, back view, anther removed. – D: Anther (Szlachetko & Margońska 2002).

ovate-lanceolate, acuminate. **Lateral sepals** up to 18 mm long, 6 mm wide, obliquely ovate-lanceolate, acuminate. **Petals** up to 20 mm long, 12 mm wide, from a cuneate base subrhomboid, obovate-oblongate in outline, acute to acuminate. **Lip** up to 20 mm long, 13 mm wide, from a cuneate base obovate, subtruncate to retuse at the apex, rarely obcordate; callus tripartite, lamellate, without a central row of lamellae, basally united into a fleshy ridge. **Gynostemium** about 4 mm long, with a pair of obliquely and transversely quadrate-oblong auricles.

**HABITAT:** On tree trunks and fallen branches

in tropical dry forest, often dominated by *Anacardium excelsum* (Kunth) Skeels (Anacardiaceae); 940-1000 m alt. The type specimen was found near the city of Buenaventura in an area covered by tropical lowland forest, but it has never been re-collected in this region.

**FLOWERING SEASON:** June-September, October-November.

**GENERAL DISTRIBUTION:** Endemic, known only from the Department of Valle del Cauca.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Bei Buenaventura. *Klaboch s.n.* (W!). **Mpio. Jamundí.** Finca

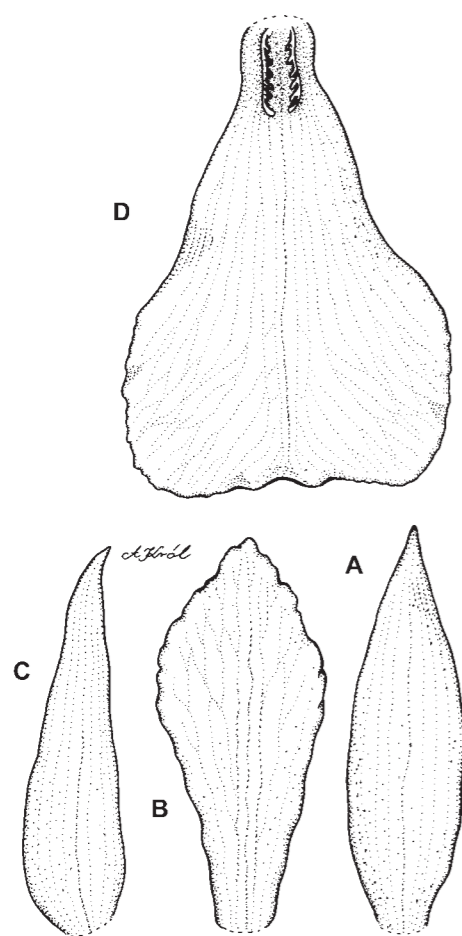


Fig. 31. *Dimerandra buenaventurae* (Kraenzl.) Siegerist: A: Dorsal sepal. – B: Petal. – C: Lateral sepal. – D: Lip (*Lehmann 7603*, K – drawn by A. Król).

Colínder (entre Carretera Panamericana & Río Cauca, entre caseríos de Guabal & Bocas del Palo, cerca de unión entre Ríos Cauca & Palo, cerca de orilla izquierda del Río Cauca), bosque secundario. Alt. ca 975 m. 6 Jun 1986. *Silverstone-Sopkin & C. Restrepo*, Z. *Piñeros 2271* (CUVC! x 2); Hacienda Colindre. Zona inudable por el río Cauca. Alt. 940 m. 6 Jun 1986. Z. *Piñeros & C. Restrepo 0068* (CUVC! x 2). **Mpio. Zarzal.** Hacienda El Medio (Carretera Panamericana entre La Paila & Zarzal, parte plana del Valle del Río Cauca), bosque secundario (viejo cacaotal)

dominado por *Anacardium excelsum* hasta 40 m altura. Alt. ca 950 m. 9 Sep 1989. *Silverstone-Sopkin & N. Paz*, A.C. *Bolaños 5555* (CUVC!); The same loc. 14 Oct 1989. *Silverstone-Sopkin & J. Giraldo-Gensini*, H.M. *Cabrera 5629* (CUVC!); The same loc. parte oriental, carretera La Paila-Armenia, pie de monte de vertiente occidental de Cordillera Central, lomas bajas, bosque secundario. Alt. 1000 m. 16 Jan 1988. *Silverstone-Sopkin & N. Paz*, R.T. *González 3500* (MO!); Hacienda El Medio (Carretera Panamericana entre La Paila & Zarzal, parte plana del Valle del Río Cauca), bosque remanente dominado por *Anacardium excelsum* hasta 40 m altura, 1.73 m DAP. Alt. ca 975 m. 17 Nov 1986. *Silverstone-Sopkin & N. Paz*, R.T. *González 2585* (CUVC!, MO!); Río Cauca (Pte. G. Valencia). Alt. 1000 m. *S. Espinal T. & J.E. Ramos 3912* (CUVC! x 3).



Fig. 32. Distribution of *Dimerandra buenaventurae* (Kraenzl.) Siegerist in Valle del Cauca.

#### 45.2. *Dimerandra elegans* (Focke) Siegerist (Figs 33, 34).

Bot. Mus. Leaflet, Harvard Univ. **30**: 207. 1986. ≡ *Isochilus elegans* Focke, *Tidjdschr. Naturk. Vetschr.* **4**: 68. 1851; TYPE: SURINAME. Paramaribo. *Focke s.n.* (U). = *Dimerandra isthmi* Schltr. in *Fedde, Rep. Beih.* **17**: 44. 1922. = *Dimerandra major* Schltr. in *Fedde, Rep. Beih.* **27**: 136. 1924.

**Epiphytic**, up to 40 cm tall. **Roots** fleshy, flexuose, glabrous. **Stems** approximate, erect, leafy. **Leaves** up to 11 cm long, 1 cm wide, commonly smaller, subcoriaceous, alternate, linear-oblong to oblong-ligulate, obtusely bilobed at the apex, articulate with the leaf sheaths. **Inflorescences** short, few-flowered. **Flowers** showy, with spre-

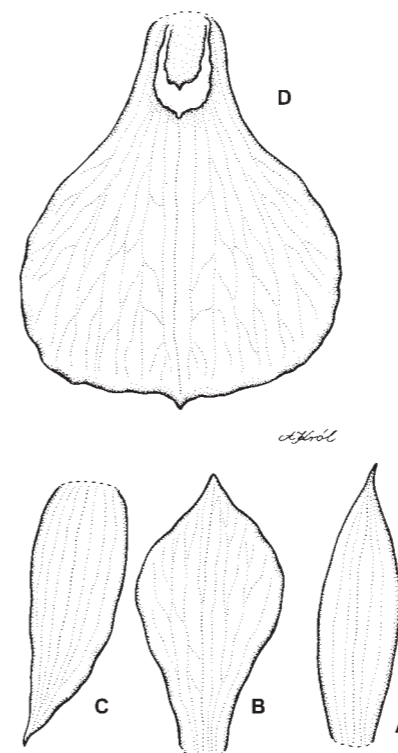


Fig. 33. *Dimerandra elegans* (Focke) Siegerist: A: Dorsal sepal. – B: Petal. – C: Lateral sepal. – D: Lip (*Powell 17*, K – drawn by A. Król).

ading segments. Floral bracts up to 3 mm long, ovate-cucullate, subacuminate. Pedicellate ovary up to 40 mm long, cylindrical. **Dorsal sepal** up to 19 mm long, 6 mm wide, narrowly ovate-lanceolate to oblong-elliptic, acute to subacuminate. **Lateral sepals** up to 19 mm long, 6 mm wide, obliquely ovate-lanceolate, acuminate. **Petals** up to 20 mm long, 8 mm wide, from a cuneate base, obovate-oblong to obliquely lanceolate-elliptic, acute to subacuminate. **Lip** up to 20 mm long, 12 mm wide, from a cuneate base obovate-spathulate to suborbicular, subtruncate to retuse in front or rarely more or less bilobed with a mucro; disc callose with 3 rows of lamellae united into transverse plates at the apex and in front of it a few free-standing, transverse additional lamellae. **Gynostemium** up to 6 mm long, with large, transversely oblong, acute to obtuse auricles.

**HABITAT:** Grows on both tree trunks and in tree tops in dense, humid forest and adjacent to stream banks; about 1100 m alt.

**FLOWERING SEASON:** August.

**GENERAL DISTRIBUTION:** Brazil, Colombia, Venezuela, Guyana, Suriname, French Guiana, Panama, Costa Rica.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Dagua.** Corregimiento de Atuncela. Alt. 1100 m. 24-28 Aug 1998. *W.G. Vargas 5005* (COL!).

**OTHER SPECIMENS EXAMINED: ECUADOR.** **Guayas.** Guayaquil. Alt. nivel del Mar 10-May 1964. *M. Valverde 808* (COL!). **COLOMBIA.** **Chocó.** Mpio. Juradó. A orillas del río del mismo nombre. 23 Sep 1946. *R. Romero-Castañeda 427* (COL!). **Magdalena.** Mpio. Manauere. Between Sierra Perija and Sierra Santa Marta. Alt. 3200 ft. 25 Aug 1946. *M.B. & R. Foster, E. Smith 1595* (COL!); Sororia Creek about 6 km east of La Jagua. Altitude about 200 m. 17 Aug 1993. *Haught 3617* (COL!). **Meta.** Mpio. Puerto López. Los Llanos. Río Meta, Umapo. 15 Oct 1938. *Cuatrecasas & H. García Barriga 3657* (COL!); Mpio. Villavicencio. Alt. ca 500 m. 18-20 Mar 1939. *Killip 34465* (COL!); Sierra de La Macarena. Río

*Guapaya*. Alt. 450 m. Dense humid forest. 3 Dec 1949. W.R. Philipson, J.M. Idrobo & A.L. Fernandez 1699 (COL!). **GUYANA. Region Essequibo Islands-West Demerara.** Lower 7 km of Tiger Creek. 06°30'N 58°39'W. Elev. 0 to 15 m streambank and riverine forests. 10 Dec 1992. Henkel & M. Chin 390 (COL!, MO!).



Fig. 34. Distribution of *Dimerandra elegans* (Focke) Sigerist in Valle del Cauca.

**45.3. *Dimerandra stenopetala* (Hook.) Schltr.** (Figs 35, 36).

Repert. Spec. Nov. Regni Veg., Beih. 17: 44. 1922. ≡ *Epidendrum stenopetalum* Hook, Bot. Mag. 62: t. 3410. 1835; TYPE: Received from Jamaica. Flowered in Glasgow Botanic Garden in February and March of 1835. *Mr. Macfadyen s.n.* (K?). - Schultes, Nat. Orchid. Trinidad & Tobago: 125-126. 1960. - Foldats in Lasser, Fl. Venezuela, Orchid. 15(3): 402-405. 1970. - Hamer, Orquid. El Salvador 1: 262-263. 1974. - Williams & Allen, Orchid. Panama: 270. 1980. ≡ *Caularthron umbellatum* Raf., Fl. Tellur. 2: 41. 1837. *nom. superfl.*

**Epiphytic**, up to 30 cm tall. **Roots** fleshy, flexuose, glabrous. **Stems** approximate, from a bulbous base suberect, slightly flexuose, leafy above. **Leaves** up to 7 cm long, 1 cm wide, alternate, linear-oblong, obtuse at the obliquely bilobed apex. **Inflorescences** fasciculate, very short, few-flowered. **Flowers** rose-coloured, showy with spreading segments. Floral bracts ovate-cucullate, much shorter than the subtending pedicels. Pedicellate ovary up to 25 mm long, cylindrical, arcuate. **Dorsal sepal** up to 14 mm long, 4 mm wide, ovate-lanceolate, acuminate. **Lateral sepals** up to 15 mm long, 5 mm wide, obliquely ovate-lanceolate, acuminate. **Petals** obovate-oblancheolate. **Lip** up to 15 mm long, 10 mm wide, from a cuneate base, trapeziform-

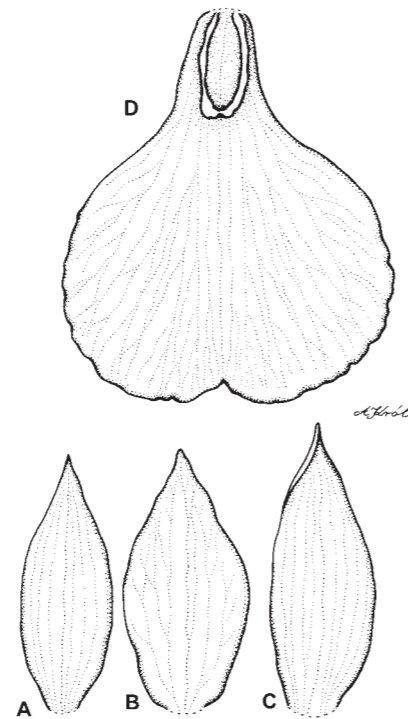


Fig. 35. *Dimerandra stenopetala* (Hook.) Schltr.: A: Dorsal sepal. - B: Petal. - C: Lateral sepal. - D: Lip (Powell 17, K - drawn by A. Król).



Fig. 36. Distribution of *Dimerandra stenopetala* (Hook.) Schltr. in Valle del Cauca.

-elliptic in its natural position, obtuse to rounded in front, widest near the middle; when dried, from a cuneate base obtrapeziform, 3-lobed; lateral lobes rounded; apical lobe transversely quadrate-oblong, subtruncate in front; disc at the base with a few transverse lamellae. **Gynostemium** up to 4 mm long, terminated by 2 rounded, apiculate auricles.

**HABITAT:** Tropical dry forest; about 1000 m alt.

**FLOWERING SEASON:** October.

**GENERAL DISTRIBUTION:** Brazil, Peru, Ecuador, Colombia, Venezuela.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Zarzal.** Hacienda de El Medio. Alt. 1000 m. 7-8 Oct 1946. *Cuatrecasas 22094* (VALLE! x 2)

**OTHER SPECIMENS EXAMINED: COLOMBIA. Chocó.** Mpio. Riosucio. Zona Urabá. Camino del Corregimiento de Macondo al Cerro del Cuchilo. Bosque primario perturbado. Bmh-T. Alt. 10-20 m. 7 Oct 1987. *D. Cárdenas 541* (MO!).

**Cundinamarca.** Mpio. Nimaima. Hacia la piscina. 1155 m.s.n.m. 13 Jun 1993. *A. Chaparro de Barrera & E. Barrera Torres 146 (1)* (COL!). **VENEZUELA. Tachira.** Forest remnant, north of Carretera Panamericana, southwest of Hacienda La Madera, ca 6 km south-west of Coloncito. 18°18'N 72°8'20"W. Alt. 120 m. 15 Nov 1979. *Steyermark, R. Liesner & A. González 120506* (MO!).

**46. *Epidendrum* L.**

(E. Hágsater, E. Santiago Ayala, L. Sánchez Saldaña, M. Kolanowska)

Sp. Pl. ed. 2: 1347. 1763, *nom. cons.*; **GENERITYPE:** *Epidendrum nocturnum* Jacq. Sprague, Prop. Brit. Bot. 53, 1929, *non E. nodosum* L., Britton & Wilson, Sci. Surv. Puerto Rico 5: 203, 1924 - Ames & Correll, Fieldiana, Bot. 26(1): 290. 1952. - Schweinfurth, Fieldiana, Bot. 30(2): 390. 1959. - Foldats in Lasser, Fl. Venezuela, Orchid. 15(3): 141-142. 1970. - Garay & Sweet in Howard, Fl. Lesser Antill., Orchid.: 124-126. 1974. - Hamer, Orquid. El Salvador 1: 163. 1974. - Williams & Allen, Orchid. Panama: 247. 1980. - Szlachetko & Margońska, Ann. Bot. Fenn. 173: 191. 2002. - Vásquez & Ibsch, Orquídeas. Bolivia 2: 110-111. 2004. - Pridgeon & al., Genera Orchid. 4: 236-250. 2005.

Epiphytic, lithophytic or terrestrial, sympodial or "monopodial" plants. Roots fleshy, glabrous, terete to flat. Stem usually cane-like, simple or branching, sometimes thickened and then often fusiform; in "monopodial" plants, the primary stem is usually much longer and somewhat thicker, while the secondary stems are shorter, usually produced from the upper half of the primary stem and often produce very short tertiary, flowering stems, which may be produced in succession, with new stems arising subapically. Leaves 1 to numerous per stem, distichous, blade usually articulate, linear, ligulate, lanceolate, elliptic to ovate, membranous to fleshy. Inflorescence apical, lateral or rarely from an abortive stem and thus appearing basal,

1-flowered, subcorymbose, racemose to paniculate or pluri-racemose (racemose at first flowering, the producing new successive racemes from the same peduncle). Flowers resupinate or not, often with lip facing the rachis, simultaneous or successive. Ovary unilocular. Sepals subequal, usually free, sometimes partially connate, spreading or reflexed, usually smooth. Lip usually united to the gynostemium margins, usually with 2 basal globose calli, a pair of laminar calli ending in a narrow keel or a complex, tuberculate callus, occasionally without a callus, entire to deeply 3-lobed. Gynostemium slender to thick, elongate or short, erect or slightly arched, dilated at the apex. Clinandrium-hood very short, as long to much longer than the anther. Column foot mostly absent, rarely present and forming a vesicle at the base of the column. Anther erect, subincumbent or incumbent, motile to easily falling off, dorsiventrally flattened, ellipsoid to ovoid in outline, 4-chambered, rarely 2- or 8-chambered. Connective narrow, thin, usually elongate towards the apex forming a beak. Pollinia mostly 4, rarely 2 or 8, in two pairs, equal or unequal in size and form, obliquely ellipsoid, ovoid to clavate, laterally compressed, rather hard. Caudiculae attached to each pair of pollinia, granular, sticky or laminar and sometimes hard. Apical clinandrium usually spacious, clinandrium-hood often reduced, sometimes entire or with fringed margins. Stigma bilobed, both lobes connate, sticky. Rostellum erect, shelf-like, truncate, or sinuose (in the *Orestedella*-group). Viscidium single, usually longer than caudicu-

lae, oblong to ovoid, dorsiventrally compressed, detachable, generally semi-liquid, transparent to whitish. Rostellum remnant more or less incised (Fig. 37). Capsule ellipsoid, pyriform to subspherical, 3-ribbed, often with a long pedicel.

*Epidendrum* grow in very variable habitats including different types of forest, sand dunes, scrubs and páramo formations. Moreover, they can grow in ruderal habitats. Some of *Epidendrum* species are found growing in “ant gardens” and some of them are strictly myrmecophilous (*E. flexuosum* G. Mey.).

Flowers are pollinated by moths, butterflies, although some species are ornithophilous. Species pollinated by hawkmoths have white to green, star-shaped flowers with deep nectaries, those pollinated by butterflies have a faint scent and are usually white to greenish or sometimes brightly coloured, hummingbird-pollinated species are often scentless and red-orange or purple coloured (Ackerman 1986). Some species are autogamous or cleistogamous.

The genus embraces about 1500 species distributed from Argentina to North Carolina (USA).

135 *Epidendrum* species are reported from the Department of Valle del Cauca, 128 confirmed and 7 expected. Keys to the species are provided within the groups, which are listed alphabetically. The subgroups and complexes as well as individual species are found under the corresponding groups.

#### Key to the groups and subgroups of species

1. Inflorescence lateral. . . . . 2
1. Inflorescence apical only. . . . . 6
2. Inflorescence produced from an abortive growth from the base of the previous stem (rarely from the apex of a normal stem), commonly cultivated in the area, but not native. . . . . ***Psilanthemum*-group**
2. Inflorescence produced from the middle or near the apex of the stem (sometimes also apical, in the *Albertii*-group) . . . . . 3
3. Clinandrium-hood reduced . . . . . 4

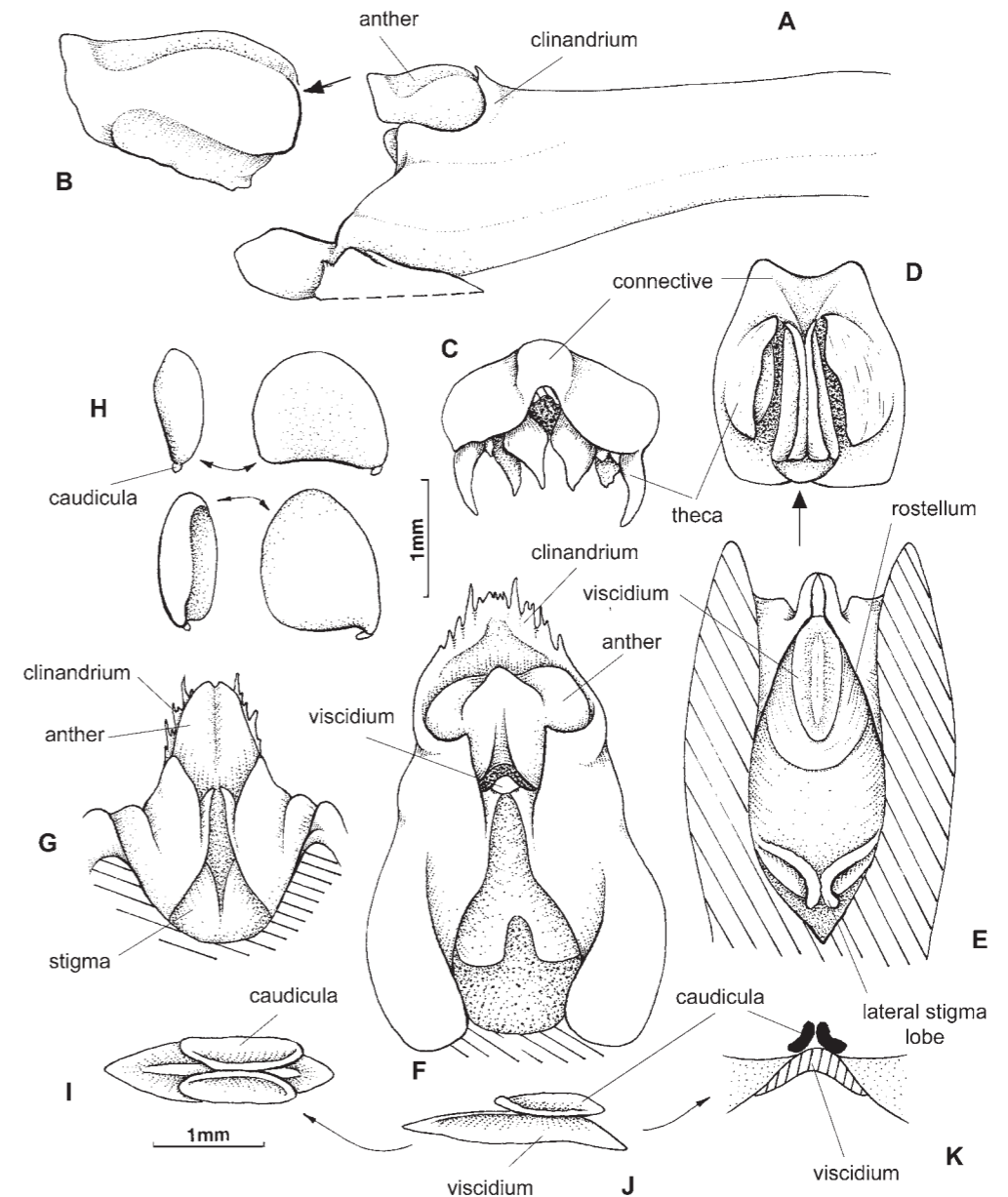


Fig. 37. Gynostemium structure of *Epidendrum* L.: A: Gynostemium, side view. – B-D: Anther, various views. – E: Gynostemium, bottom view. *Epidendrum apaganum* Mansf. – F: Gynostemium, front view. – G: Gynostemium, view from below. – H: Pollinia, various views. – I and J: Viscidium and caudiculae, various views. – K: Viscidium and caudiculae versus rostellum, schematic cross-section (Szlachetko & Margońska 2002).

3.	Clinandrium-hood elongate, prominent	5
4.	Lip 4-lobed, flowers attractive, colorful	<i>Oerstedella</i> -group
4.	Lip entire or bilobed, flowers white to green	<i>Pleuranthium</i> -group; <i>Dendrobii</i> -subgroup
5.	Inflorescences only lateral, numerous	46.87. <i>E. pbragmitoides</i> ( <i>Pleuranthium</i> -group; <i>Pbragmites</i> -subgroup)
5.	Inflorescences apicals and lateral, few	<i>Albertii</i> -group and subgroup
6.	Stems pseudobulbous, short, globose	46.53. <i>E. pachycoleum</i> ( <i>Kalopternix</i> -group; <i>Serpens</i> -subgroup)
6.	Stems cane-like, much longer than thick	7
7.	Inflorescence subtended by 1-3 spathaceous bracts (the spathaceous bract is produced together with the stems, and the inflorescence appears from within the bract, sometimes much later, as in <i>Cattleya</i> )	8
7.	Inflorescence lacking any spathaceous bract (sometimes subtended by one or several imbricating bracts)	20
8.	Spathaceous bract narrow, linear, the sides parallel, length/width >8:1	9
8.	Spathaceous bract wide, at least one side curved, length/width <5:1	16
9.	Inflorescence erect, flowers non-resupinate	10
9.	Inflorescence erect to arching, flowers resupinate	12
10.	Lip 3-lobed	<i>E. pseudomancum</i> (unconfirmed, <i>Mancum</i> -group)
10.	Lip entire	11
11.	Lip finger-like, linear, thick, ecallose	46.125. <i>E. coryophorum</i> ( <i>Stenoglossum</i> -group)
11.	Lip cordiform-obpandurate, bicallose	46.66. <i>E. urraoëense</i> ( <i>Maderoï</i> -group)
12.	Flowers fleshy	13
12.	Flowers membranous	14
13.	Plants caespitose	<i>Klotzschianum</i> -group
13.	Plants scandent, new stem produced from middle of previous stem	46.7. <i>E. ampelomelanoxeros</i> ( <i>Ampelospatum</i> -group)
14.	Middle lobe of lip truncate or bilobed	15
14.	Middle lobe of lip acuminate	46.85. <i>E. bartmanii</i> ( <i>Pergracile</i> -group and subgroup)
15.	Lateral lobes of the lip falcate, acute	<i>Cylindraceum</i> -group
15.	Lateral lobes of the lip rounded	46.43. <i>E. excisum</i> ( <i>Excisum</i> -group)
16.	Spathaceous bract produced at the apex of a long, bialate peduncle, similar to the floral bracts but somewhat larger	<i>Albertii</i> -group and subgroup
16.	Spathaceous bract sessile, conspicuous	17
17.	Apex of the spathaceous bract rounded, bract straight	<i>Leucochilum</i> -group
17.	Apex of the spathaceous bract acute, bract oblique, one side straight, the other rounded	18
18.	Flowers 1-2 per inflorescence, short plants, to 8 cm tall	19
18.	Flowers 2-12 per inflorescence, long plants, more than 12 cm tall	<i>Megalospatum</i> -group
19.	Floral segments very narrow, forming a tube, lip very narrow, 1-2 flowers	46.121. <i>E. siphonosepalum</i> ( <i>Siphonosepalum</i> -group)
19.	Floral segments wide, spreading, lip very wide, single flower	46.90. <i>E. lambeauanum</i> ( <i>Porpax</i> -group)
20.	Inflorescence distichous or nearly so	21
20.	Inflorescence not distichous, racemose or helicoid, generally forming a cylindrical raceme	29
21.	Inflorescence nearly distichous (sometimes hidden by apical leaf), flowers produced singly in succession	22
21.	Inflorescence clearly distichous, all flowers alternating on the same plane, produced simultaneously, or if successive, several open at one time	23
22.	Sepals spreading, lip deeply 3-lobed	<i>Nocturnum</i> -group
22.	Sepals reflexed, lip bilobed	46.86. <i>E. hellerianum</i> ( <i>Physinga</i> -group)

23.	Inflorescence paniculate (the racemes arching-pendent)	46.46. <i>E. frutex</i> ( <i>Frutex</i> -group)
23.	Inflorescence racemose	24
24.	Plants clearly sympodial, caespitose or creeping	25
24.	Plants essentially monopodial, tree-like, the stems with multiple branching	27
25.	Flowers white, usually dotted with purple, margin of lip dentate to fimbriate	46.45. <i>E. fimbriatum</i> ( <i>Fimbriatum</i> -group)
25.	Flowers purple, green to yellowish, inamulate, margin entire	26
26.	Plants and flowers very small, floral bracts infundibuliform, not imbricating	46.72. <i>E. miserrimum</i> ( <i>Miserrimum</i> -group)
26.	Plants intermediate, floral bracts conduplicate, usually imbricating	<i>Spatbigier</i> -group
27.	Flowers of thin substance, nectary and lip glabrous	<i>Ramosum</i> -group
27.	Flowers fleshy, secund, nectary papillose in front of the stigmatic cavity and often on the disc of the lip	28
28.	Peduncle of the inflorescence filiform	<i>Macrostachyum</i> -group – <i>Elleantoides</i> -subgroup
28.	Peduncle of the inflorescence thick	<i>Macrostachyum</i> -group – <i>Aquaticum</i> -subgroup
29.	Stems sympodial, simple, unbranched	30
29.	Stems monopodial, with a main stem branching above and thus tree-like	47
30.	Plants strictly caespitose, the new stems produced from the base of the previous stem	31
30.	Plants scandent, the new stem produced from the middle of the previous stem	43
31.	Inflorescence subcapitate, sessile	<i>Difforme</i> -group
31.	Inflorescence racemose or paniculate, with a clear peduncle	32
32.	Leaves semi-terete	33
32.	Leaves flat	34
33.	Sepals dorsally glandulous to puberulose	<i>Lanium</i> -group
33.	Sepals glabrous	<i>Gracillimum</i> -group: <i>E. rolfeanum</i>
34.	Petals filiform	35
34.	Petals more or less broad, but not filiform	38
35.	Inflorescence racemose, long pedunculate, with simple racemes, produced in succession through several years (except in <i>E. ruizianum</i> where they are simultaneous)	36
35.	Inflorescence paniculate, peduncle short, about as long as the apical leaf, flowering only once	37
36.	Flowers small, fleshy, lip ecallose, pollinia obovoid, laterally compressed	<i>Anceps</i> -group
36.	Flowers medium sized, membranous, disc of the lip with 3 prominent ribes, pollinia laterally compressed and ancipitose, “bird-wing” type	<i>Turialvae</i> subgroup
37.	Margin of lip entire, surface of leaves flat	<i>Pseudepidendrum</i> -group
37.	Margin of lip erose-dentate or fimbriate, surface of leaves with veins clearly visibly and slightly costate	<i>Goodspeedianum</i> -group
38.	Stems always verrugose, with purple warts, rostellum transverse to the column, broad	<i>Oerstedella</i> -group
38.	Stems smooth or striated, not warty, rostellum parallel to the column, narrow	39
39.	Stems cane-like, not thickened in any part	40
39.	Stems thickened and fusiform, either throughout or near the base	42
40.	Peduncle of the inflorescence about as long as the apical leaf, flowers greenish white, in the <i>Cristatum</i> -group marked with purple or deep fuchsia	41
40.	Peduncle of the inflorescence elongate, much longer than the apical leaf, flowers colorful attractive, red, yellow, white or rose-purple	<i>Secundum</i> -group
41.	Bracts of the peduncle of the inflorescence conduplicate, flowers resupinate	<i>Cristatum</i> -group

41. Bracts of the peduncle of the inflorescence amplexicaul, flowers non-resupinate. . . . . 46.51. *E. hymenodes* (*Hymenodes*-group)
42. Stems thickened near the base, leaves distributed in the non-thickened apical half, inflorescence with an elongate peduncle producing numerous short racemes with time . . . . . 46.20. *E. blepharistes* (*Blepharistes*-group)
42. Stems somewhat thickened throughout, leaves distributed along the thickened part of the stem. . . . . 46.6. *E. lanipes* (*Amblostoma*-group)
43. Lip ecallose, with 0-10 laminar keels . . . . . **Diothonea**-group
43. Lip bicallose, with or without ribs . . . . . 44
44. Plants pendent, mature stems with a single, pendent apical leaf. . . . . 46.44. *E. filamentosum* (*Filamentosum*-group)
44. Plants erect or straggling, several to many spreading leaves . . . . . 45
45. Flowers red with yellow disc, colorful, peduncle of the inflorescence very long, 5-10 times longer than the apical leaf . . . . . 46.114. *E. radicans* (*Secundum*-group)
45. Flowers not red with yellow disc, drab colored, peduncle of the inflorescence shorter than the apical leaf, or if long, then filiform, the plants less than 20 cm tall . . . . . 46
46. Stems thin, leaves narrow, flowers small and delicate, lip entire, pollinia 2 or 4. . . . . 46.42. *E. vincentinum* (*Epidendropsis*-group)
46. Stems thick, leaves broad, flowers large and fleshy, lip entire to 3-lobed, pollinia always 4. . . . . 46.52. *E. luis-sanchezii* (*Incomptum*-group)
47. Raceme erect, flowers fleshy-thick, lip entire, cordiform-triangular, nectary pilose in front of the stigmatic cavity. . . . . **Macrostachyum**-subgroup
47. Raceme arching nutant, flowers fleshy, lip 3-lobed, nectary unornamented . . . . . **Andean**-group

### ***Epidendrum albertii*-group**

This group is characterized by the caespitose habit, with numerous, green or purple colored leaves, the laterally flattened stems with apical and lateral inflorescences and one to several racemes of imbricating, conduplicate, rounded, bracts which produce one flower at a time. It is divided into two subgroups: *Albertii* subgroup, with 3 species reported for the Valle del Cauca and 3 more expected, and *Allenii* subgroup which is divided into 2 complexes: *Convergens*-complex, with a single species, and *Allenii*-complex with two species reported and another expected.

#### **Key to subgroups**

1. Lateral and apical, short inflorescences, with imbricated bracts partially or totally covering the peduncle . . . . . ***Albertii*-subgroup**

1. Apical, elongate inflorescences (very rarely lateral and short), the peduncle elongate, ancipitose and bare, sometimes with a few imbricated bracts at the apex. . . . . ***Allenii*-subgroup**

### ***Epidendrum albertii*-subgroup**

Inflorescences apical and lateral, short, the peduncle short, partially to totally covered by imbricating bracts which are progressively shorter.

#### **Key to species**

1. Leaves oblong-lanceolate, 0.3-0.7(1.3) cm wide; bracts of the peduncle very small, ca 3 mm long; lip subreniform, the apex apiculate; sepals 11 mm long. . . . . 46.1. *E. cuatrecasasii*
1. Leaves narrowly elliptic to oblong-lanceolate, 1.2-4.6 cm wide; bracts of the peduncle large, 10-49

- mm long; lip pentagonal, hexagonal, cuneate or basal half semielliptic, apical half triangular; sepals 13-28 mm long. . . . . 2
2. Apex of leaves acuminate; petals oblanceolate; basal half of the lip semielliptic, apical half triangular . . . . . ***E. hygrohylephilum*** (unconfirmed)
2. Apex of leaves rounded, obtuse or acute; lip pentagonal, hexagonal or cuneate . . . . . 3
3. Sepals ensiform, 28 mm long; lip cuneate, apex acuminate. . . . . 46.2. ***E. ingrabrachyphyllum***
3. Sepals oblong-oblanceolate or elliptic, 13-19 mm long; lip pentagonal-sub-orbicular or hexagonal, apex truncate . . . . . 4
4. Leaves elliptic, the apex rounded, 4.3-9.5 cm long; sepals 13-15.4 mm long; lip provided with ribs or multiple thickened veins . . . . . 5
4. Leaves elliptic-oblanceolate, the apex acute, 13-18 cm long; sepals 18-19 mm long; lip without multiple ribs or thickened veins, only with a low central rib . . . . . ***E. hexagonum*** (unconfirmed)
5. Flowers green tinged with rose-purple; petals spatulate-obtrullate, 14 x 5.4 mm; lip with multiple thickened veins throughout . . . . . ***E. brachypodum*** (unconfirmed)
5. Flowers pale green, concolor; petals linear, 12-15 x 1.7-2 mm; lip with 5-7 ribs radiating from the base to the apex . . . . . 46.3. ***E. phyllocharis***

### ***Epidendrum brachypodum* Hágsater (Fig. 38; Photos 11-13).**

in Hágsater & Sánchez, Icon. Orchid. 7: pl. 715. 2004; TYPE: COLOMBIA. CHOCÓ. San José del Palmar, Vereda Las Amarillas, Carretera Boquerón-Río Blanco. Alt. 2300 m. 2 Apr 1996. N. Paz, F. Castro, A. Fajardo & P. Grant 536 (HOLOTYPE: CUVCI).

**Terrestrial** or **epiphytic**, caespitose, erect herb 70 cm tall. **Stems** to 70 cm tall, 1.55 cm in diameter, simple, cane-like, laterally compressed, ancipitose, wide, straight. **Leaves** numerous, distributed throughout the stem, alternate; sheath 2-3.5 cm long, 1-1.55 cm wide, tubular, ancipitose, two-winged, somewhat infundibu-

liform and striated when dry; blade 5.3-9 cm long, 3.2-4.6 cm wide, articulate, elliptic, apex rounded, margin entire. **Inflorescence** to 5.5 cm long, apical and lateral, racemose, suberect, producing successive racemes with time; peduncle short, covered by bracts 1-2 cm long, which are tubular at the base, conduplicate above, imbricating, ancipitose, subacute, striated. **Flowers** successive, developing one at a time, resupinate, pale purple; fragrance not registered. **Floral bracts** 10 mm long, much shorter than the ovary, conduplicate, subacute, imbricating. **Ovary** 13.5 mm long, terete, smooth, ventrally inflated along 3/4 of its length. **Sepals** 14-15.4 mm long, 5.8-6.1 mm wide, partly spreading, free, elliptic, subacute, 6-veined, some branching from the base so as to appear 7-8-veined, margin entire, spreading. **Petals** 14 mm long, 5.4 mm wide, partly spreading, spatulate-obtrullate, rounded, 3-veined, the lateral veins branching from the base, margin entire. **Lip** 9 mm long, 10.3 mm wide, united to the gynostemium, entire, orbicular-subrhombic, base cordate, apex truncate, margin crenate; bicallose, the calli thin, short, disc provided with a low, rounded keel which disappears before the apex of the lip. **Gynostemium** 7 mm long, straight, dilated apically. Clinandrium hood prominent, without surpassing the body of the column, margin entire. Anther ovoid, 4-celled. Pollinia 4, obovoid, caudicles soft and granulose. **Nectary** penetrating 3/4 of the ovary, inflated towards the middle, smooth. **Capsule** not seen.

**HABITAT:** Wet cloud forest; 2100-2300 m alt.

**FLOWERING SEASON:** In April to July probably throughout the year.

**GENERAL DISTRIBUTION:** Colombia.

**SPECIMENS EXAMINED:** **COLOMBIA. Chocó.** Municipio San José del Palmar, Carretera límite departamental La Florida. Alt. 2183 m. 13 Jul 2011. *Jairo Santiago García Revelo & Duván Andrés García Ramírez* 26 (CUVCI); Vertiente occidental de Serranía de los Paraguas, debajo de Las Amarillas. Alt. 2150 m. 23 Jun 1982. *Silverstone-Sopkin* 1158 (CUVCI).



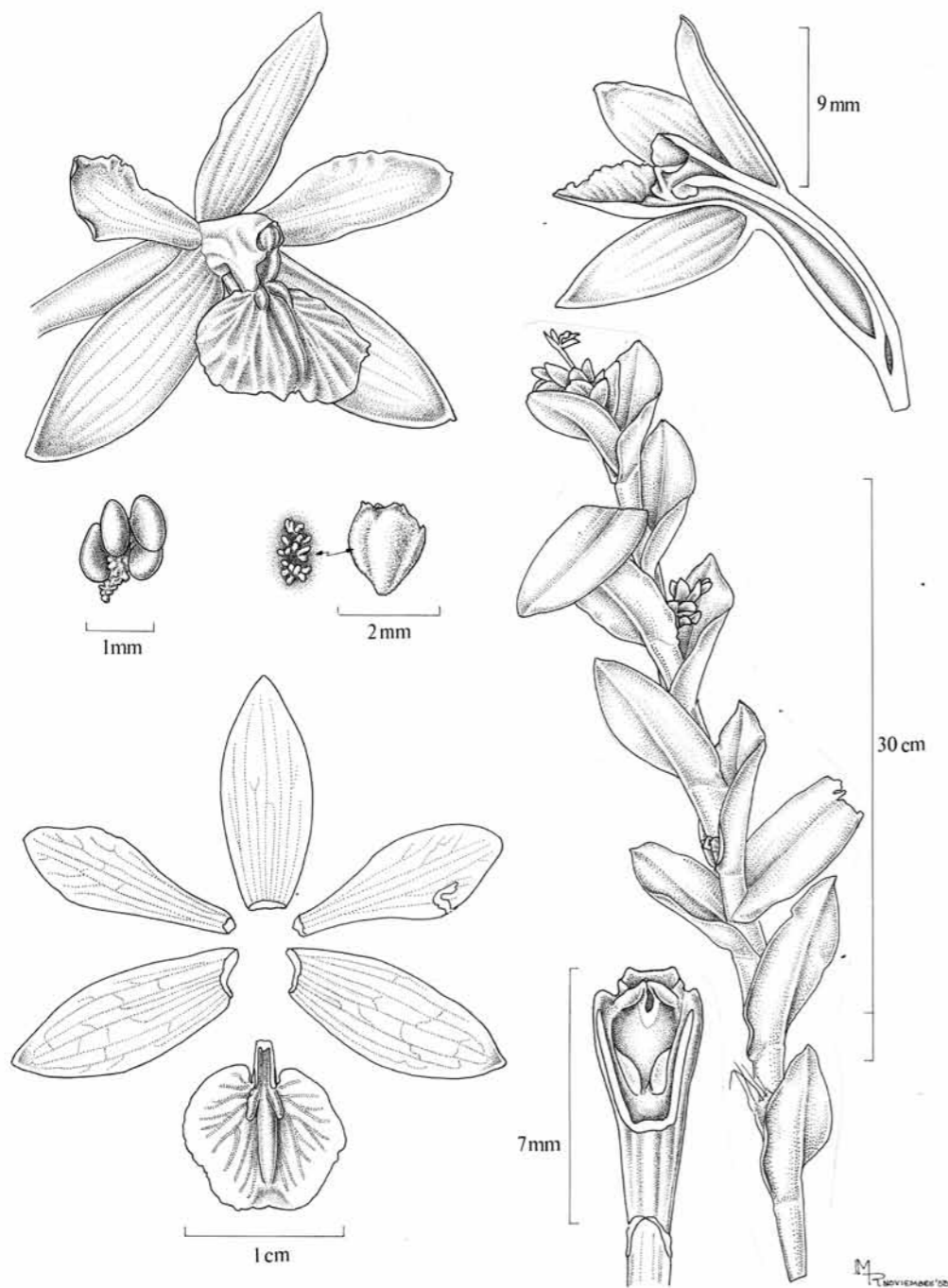


Fig. 38. *Epidendrum brachypodum* Hágsater (N. Paz, F. Castro, A. Fajardo & P. Grant 536, CUVC – drawn by M.A. López Rosas).

NOTES. There is no confirmed record from the Valle del Cauca, but it has been reported from Chocó at the edge of the Valle del Cauca and therefore is expected.

46.1. *Epidendrum cuatrecasii* Garay (Fig. 39; Photo 14).

Canad. J. Bot. 34: 255. 1956; TYPE: COLOMBIA. VALLE DEL CAUCA. Bajo Calima, La Trojita. Alt. 5-50 m. 19 Feb 1944. *Cuatrecasas* 16252 (HOLOTYPE: US!; ISOTYPES: AMES!, U!). - Misas Urreta, Orquídeas de la Serranía del Baudó: 168-169. 2005. - Hágsater & al. in Hágsater & Saldaña, Icon. Orchid. 8: pl. 824. 2006.

Epiphytic, caespitose plants, up to 21.5-40 cm tall. Stems 21.5-37 cm long, 0.2-0.4 cm wide,

simple, cane-like, laterally compressed. Leaves 3.8-11.5 cm long, 0.3-1.3 cm wide, distributed throughout the apical half of the stem, narrowly elliptic-lanceolate, apex acute, minutely apiculate; sheath laterally compressed, ancipitose, 2-4.3 cm long. Inflorescence apical and lateral, at least the apical ones pluri-racemose, producing one flower from the subapical bract, producing a new rachis from the lower bracts; bracts about 3 mm long, imbricating tubular, infundibuliform. Flower one at a time from one rachis, so there can be two or more at a time from one stem, pale green. Floral bracts about 2 mm long, triangular, acute, amplexicaule. Ovary 16-23 mm long, triangular in section, somewhat dilated dorsally below the middle. Sepals about 11 mm long, 3-3.6 mm wide, spreading, 5-veined. Dorsal sepal narrowly oblanceolate, rounded, apicu-

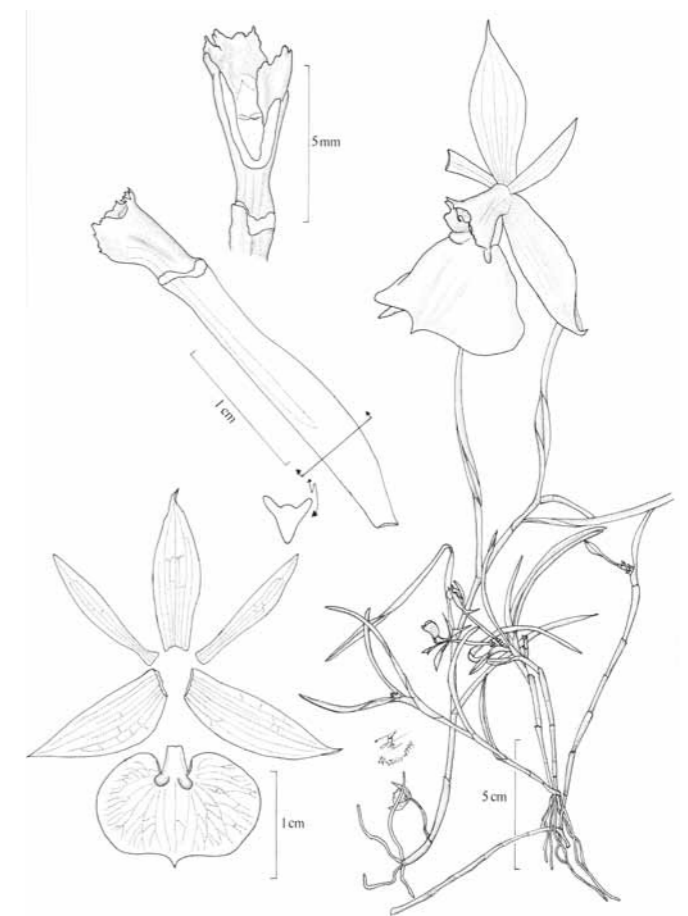


Fig. 39. *Epidendrum cuatrecasii* Garay (*Cuatrecasas* 16252, U-R. Jiménez Machorro).

late. **Lateral sepals** narrowly lanceolate, acute to acuminate, oblique. **Petals** about 10.4 mm long, 1.2 mm wide, free, spreading, linear-oblancoleate to linear, acute, margin entire, 3-veined. **Lip** about 8 mm long, 10.7 mm wide, united to the gynostemium, entire, subreniform, base cordate, apex apiculate, margin entire, bicallose, the calli small, thin. **Gynostemium** about 6 mm long, straight, thin, apex funnel-shaped, with a fleshy wing on each side, margin erose, with the clinandrium-hood giving the gynostemium a 3-winged aspect. Clinandrium prominent, margin erose. **Nectary** penetrating somewhat more than half the ovary.

**HABITAT:** Tropical lowland forest; from near sea level up to about 100 m alt.

**FLOWERING SEASON:** February and March.

**GENERAL DISTRIBUTION** Known only from the Pacific lowlands of Colombia - Departments of Chocó and Valle del Cauca.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Bajo Calima; concesión Pulpapel/Buenaventura. Bosque Pluvial Tropical. 3°55'N 77°W. Epífita. Alt. ca 100 m. 21 Feb 1985. *M. Monsalve B. 699* (CUVC!); Bahía de Buenaventura: Quebrada de San Joaquín. Alt. 0-10 m. 20-23 Feb 1946. *Cuatrecasas 19955* (AMES!, FI, VALLE!, US!); La Trojita. Alt. 5-50 m. 19 Feb 1944. *Cuatrecasas 16252* (AMES!, UI, US!).

**OTHER SPECIMENS EXAMINED: COLOMBIA. Chocó.** Río Baudó, El Firme, 11 Feb 1967, *H.P.Fuchs & L. Zanella 22188* (COL!, US!); Río Baudó, Quebrada Paulita, 26 Mar 1967, *H.P.Fuchs & L. Zanella 22246* (COL!, MO!, US!, S!); Naqui-Penguí. Río Pangui. 77° 17'W 5° N19'N. Alt. 0 m. 29 Dec 1991. *A. Gómez, D. Giraldo, B. Henao & P. Duque 394* (MO!); The same loc. 14 Jan 1992. *A. Gómez, D. Giraldo, B. Henao & P. Duque 501* (MO!); Río Fujiadó, *M. Ospina H. 281* (JAUM!); Mpio. Bajo Baudó; Pto. Pizarro hacia La Porquera en las márgenes del río Baudó, 27 Feb 1967. *J.H. Torres R. s.n.* (COL!).

***Epidendrum hexagonum*** Hágsater & Dodson (Fig. 40; Photos 15-17).

Icon. Orchid. 2: t. 144. 1993; TYPE: ECUADOR. PICHINCHA. Old road to Quito km 27. On steep bank. Alt. 1500-2100 m. Collected 12 Apr 1984. Flowered in cultivation 26 Jan 1985. *W. & B. Thurston 4118 sub Hágsater 7709* (HOLOTYPE: QCNE!; ISOTYPE: AMO!).

**Lithophytic**, caespitose plants. **Stems** 60-80 cm long, about 2 cm wide, erect, simple, ancipitous. **Leaves** 10, 13-18 cm long, 3.1-4.5 cm wide, elliptic-oblancoleate, acute, distributed along the apical two thirds of stem; sheath 3.5-6 cm long, 1-2 cm wide, tubular, ancipitose. **Inflorescence** 2-10 cm long, apical and pedunculate or lateral and sessile, in the latter case arising from the node at the base of the leaf-sheath, appears opposite to the blade of the lower leaf, originally racemose, producing several successive racemes; peduncle compressed; rachis completely covered by floral bracts. **Flowers** 4-5, successive, developing one by one, resupinate, green. **Floral bracts** 9-12 mm long, distichous, not or only scarcely imbricating, ovate, conduplicate, rounded to acute. **Ovary** 21-25 mm long, swollen near the apex. **Sepals** 18-19 mm long, 6-7 mm wide, narrowly elliptic, acute, 5-veined. **Petals** 11-18 mm long, 4-5 mm wide, narrowly elliptic-oblancoleate, acute, 5-veined, lateral veins branching. **Lip** 11-15 mm long, 11-15 mm wide, united to the gynostemium, entire, somewhat convex, with two small basal calli, hexagonal in outline, base cordate, with a small sinus at each side near the base limiting rounded auricles much smaller than the main blade, main blade trapezoid, truncate, mucronate. **Gynostemium** about 10 mm long, straight. Clinandrium-hood slightly prominent at the apex of the gynostemium, margin erose. Pollinia 4, subglobose. **Nectary** penetrating 1/3 of the ovary.

**HABITAT:** Steep bank; 1500-2100 m alt.

**GENERAL DISTRIBUTION:** Ecuador, Colombia.

**SPECIMENS EXAMINED: COLOMBIA. Risa-**

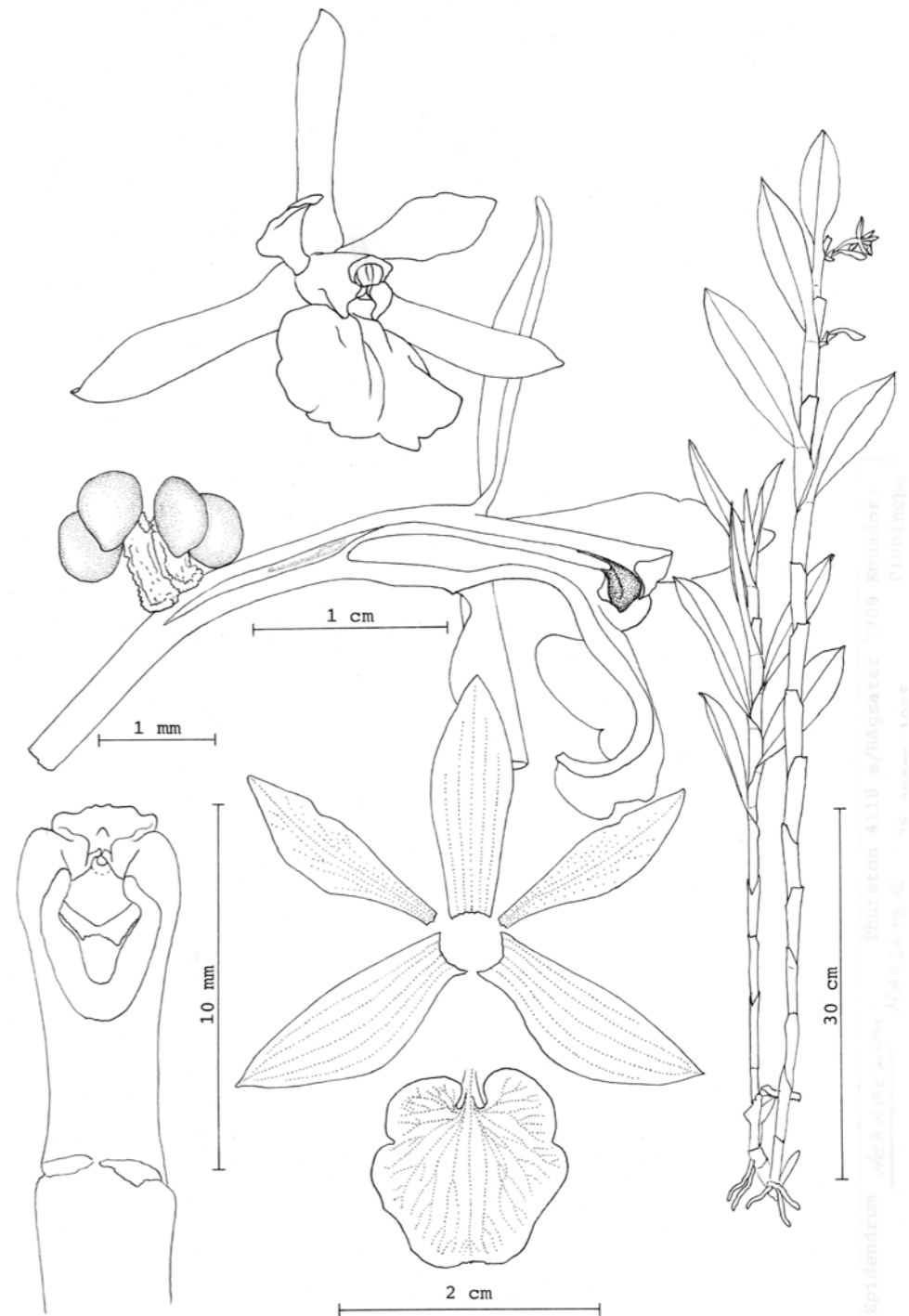


Fig. 40. *Epidendrum hexagonum* Hágsater & Dodson (*W. & B. Thurston 4118 sub E. Hágsater 7709*, QCNE – drawn by E. Hágsater).

**ralda.** Pueblo Rico, cult. Colomborquídeas. *R. Escobar 5328* (AMO! - flower in spirit, photo).

NOTES. There is no confirmed record from the Valle del Cauca, but it has been reported from Risaralda and from Ecuador.

***Epidendrum hygrohylephilum* Hágsater & E.Santiago (Fig. 41).**

Icon. Orchid. 7: t. 746. 2004; TYPE: COLOMBIA. [CAUCA. Cotejé, on] Río Timbiquí. 1899. *Lehmann sub Bentham Thrustees 243* (HOLOTYPE: AMES!; ISOTYPES: K!, L!, NY!).

**Epiphytic**, caespitose, erect plants, up to 38 cm tall. **Stems** 15-33 cm long, 0.25-0.4 cm wide,

simple, cane-like, terete at the base, laterally flattened above, somewhat sinuous. **Leaves** 6-9, 7.4-19.5 cm long, 1.2-2.9 cm wide, distributed throughout the stem, narrowly elliptic, acuminate, margin entire; sheaths 1.6-3.4 cm long, tubular, striated. **Inflorescence** 7-8 cm long, apical, pluriracemose (producing new racemes over the years), erect; peduncle about 3.3 cm long, two-winged, totally covered by conduplicate, acute, subimbricated bracts 2.6-4 cm long, 0.35-0.37 cm wide. **Flowers** resupinate, successive, one present at a time, trumpet-shaped, white striped with pale green. **Floral bracts** 13-23 mm long, 2-3 mm wide, as long as the ovary, oblong, elliptic, acute, margin entire, striated, conduplicate. **Ovary** about 15 mm long, terete, inflated

ventrally along the apical 2/3. **Sepals** 17-18 mm long, 3.5 mm wide, free, partially spreading, narrowly elliptic-oblongate, obtuse, 5-veined, margin entire. **Petals** 11 mm long, 3.5 mm wide, free, partially spreading, narrowly oblongate, apex acute-truncate, 3-veined, lateral veins branching, margin entire. **Lip** about 10 mm long, 7.3 mm wide, united to the gynostemium, entire, the basal half semielliptic, apical half triangular, acute, margin entire; callus triangular, acute. **Gynostemium** about 10 mm long (including the clinandrium-hood), straight, thin. Clinandrium-hood prominent, much longer than the gynostemium, 3-lobed, lobes rounded, entire. **Nectary** penetrating 2/3 of the ovary, inflated.

HABITAT: Unknown.

GENERAL DISTRIBUTION: Known only from Colombia (Pacific lowlands).

REPRESENTATIVE SPECIMEN: **COLOMBIA. Cauca.** Coteje, Rio Timbiqui. Jan 1899. *Lehmann sub Bentham Thrustees 243* (AMES!, K!, L!, NY!). **Chocó.** Río El Salto, 9 km W of Andagoya. 23 Feb 1971. *Lellinger & de la Sota 458* (US!).

NOTES. The species is found both north and south of the Valle del Cauca, and therefore is expected.

**46.2. *Epidendrum ingrabrachyphyllum* Hágsater & E. Santiago (Figs 42, 43).**

Icon. Orchid. 14: pl. 1442. 2013; TYPE: COLOMBIA. VALLE DEL CAUCA. Km 18 Cali-Buenaventura. Alt. 2000 m. 20 Jun 1965. *Dodson & H. Hills 3130* (HOLOTYPE: SEL!).

**Epiphytic or terrestrial**, sympodial, caespitose, erect herb, 50-60 cm tall. **Roots** 0.05 cm in diameter, basal, terete, thin. **Stems** 42-51 cm tall, 1-1.5 cm wide, simple, cane-like, laterally compressed, erect, straight. **Leaves** 13-18, distributed throughout the stems, alternate, articulate, subspreading; sheaths 2.5-5.3 cm long, 1.1-1.5 cm wide, tubular, ancipitose, striated; blade 8-10 cm long, 2.7-3 cm wide, elliptic, obtuse, margin

entire, slightly revolute, **Spathaceous bracts** 2.2-6 cm long, 1-3 at the base of the apical peduncle only, covering it totally, prominent, imbricating, similar to the floral bracts but much larger, triangular-ovate, obtuse, conduplicate. **Inflorescence** 4-9 cm long, apical and lateral, (the lateral ones opposite de leaf, from the base of the next internode), short, racemose, flowering with new racemes from the same peduncle several times and thus pluri-racemose; the peduncle of the apical inflorescence 6 cm long, ancipitose, totally hidden by spathaceous bracts; the peduncle of the lateral inflorescences 2-4.5 cm long, laterally compressed, totally hidden by 3-4 bracts similar to the floral bracts, but much larger, 2-2.5 cm long, tgriangular-ovate, obtuse, conduplicate. **Flowers** successive, developing one by one, resupinate, green; fragrance not registered. **Floral bracts** 1.2-1.5 cm long, 0.6-0.8 cm wide, shorter than the ovary, ovate-elliptic, obtuse, conduplicate, ancipitose, imbricating. **Ovary** 21-23 mm long, terete, thin, somewhat dilated along the apical 2/3 (without forming a vesicle). **Sepals** 28 cm long, 2.5 mm wide, spreading or slightly reflexed, free, ensiform, acute, 5-veined, margin entire, spreading. **Petals** 24 mm long, 1.4 mm wide, spreading or slightly reflexed, free, linear-oblong, acute, 3-veined, margin entire, spreading. **Lip** 16 mm long, 6 mm wide, united to the column, entire, cuneate, base truncate, apex acuminate, margin entire, spreading; bicallose, the calli thin, parallel, slightly divaricate; disc provided with 9, short, radiating, thickened veins, disappearing shortly, before reaching the middle of the lip. **Gynostemium** 10 mm long, straight, thin. Clinandrium-hood short, margin entire. Anther and pollinia not seen. Rostellum subapical, slit. Lateral lobes of the stigma, nectary and capsule not seen.

HABITAT: Wet montane forest; at about 2000 m alt.

FLOWERING SEASON: June.

GENERAL DISTRIBUTION: Colombia, Ecuador.

DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA: **Mpio. Cali.** Km 18 Cali-Buenaven-

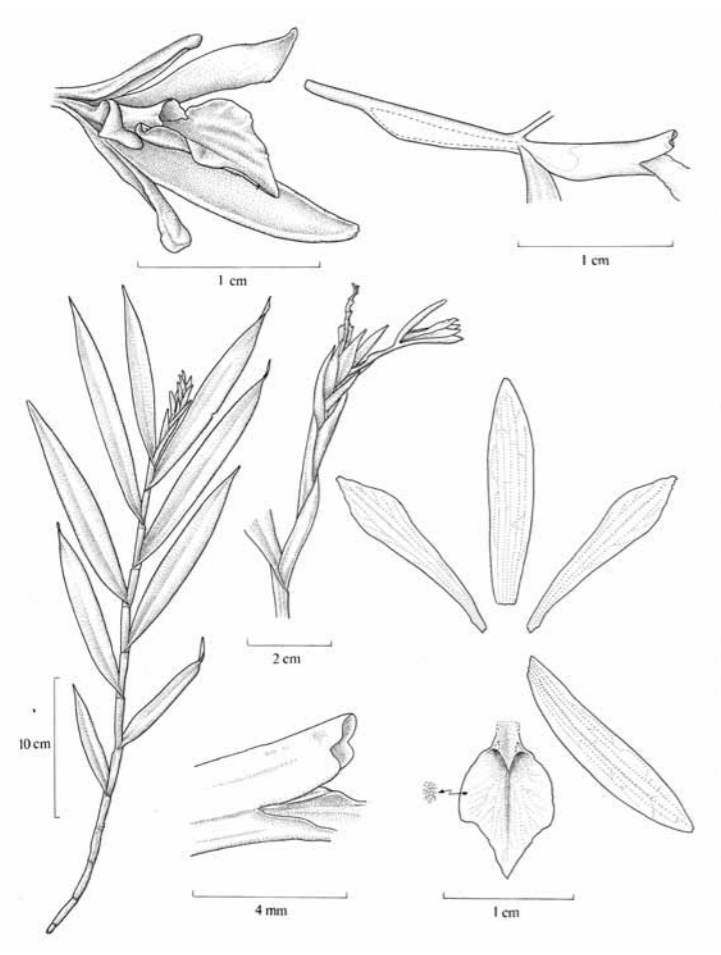


Fig. 41. *Epidendrum hygrohylephilum* Hágsater & E.Santiago (B.T. [Lehmann] 243, AMES - drawn by M.A. López Rosas).

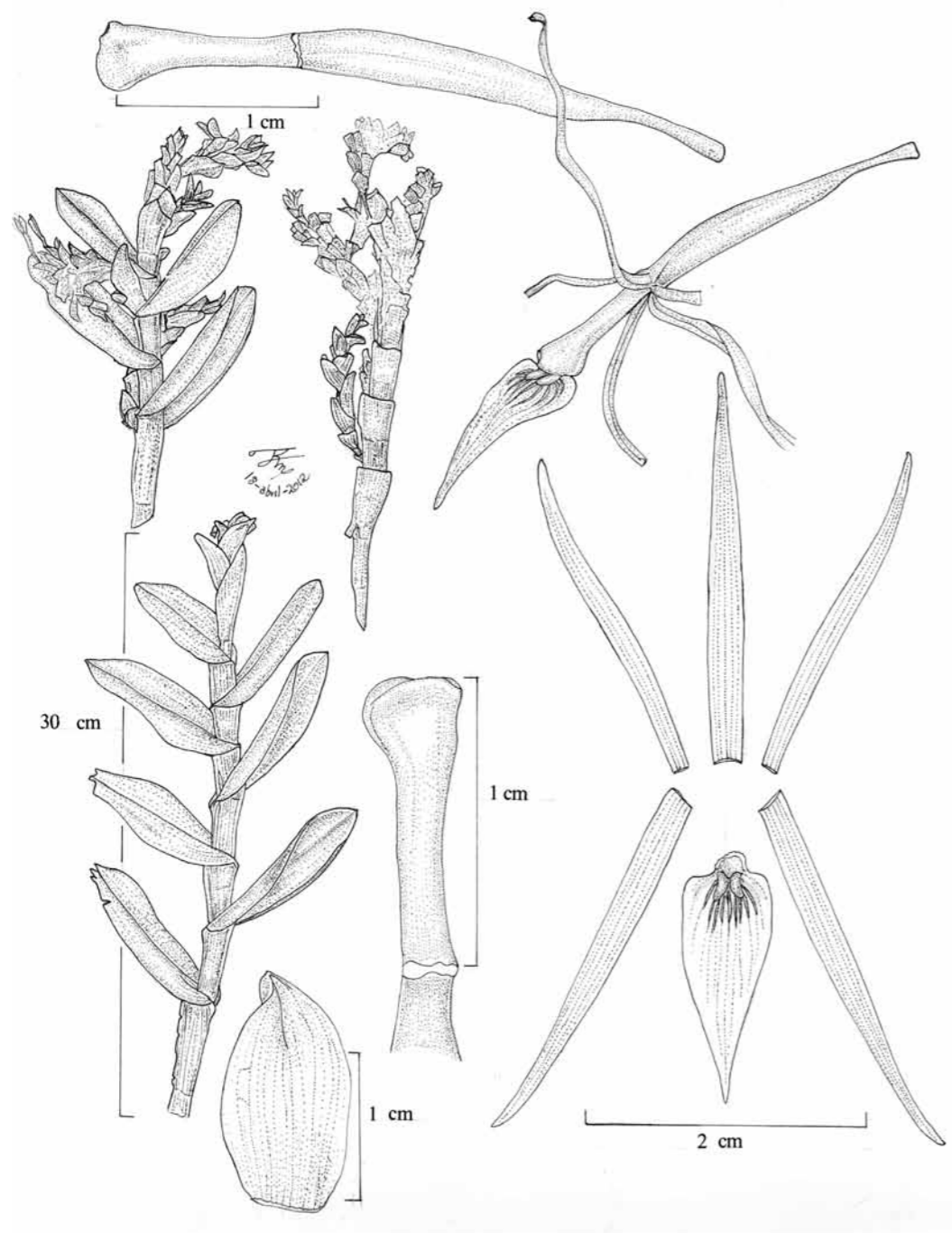


Fig. 42. *Epidendrum ingrabrachyphyllum* Hágsater & E.Santiago (*Dodson & H. Hills 3130*, SEL – drawn by R. Jiménez Machorro).

tura. Alt. 2000 m. 20 Jun 1965. *C.H. Dodson & H. Hills 3130* (SEL!).

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



Fig. 43. Distribution of *Epidendrum ingrabrachyphyllum* Hágsater & E.Santiago in Valle del Cauca.

46.3. *Epidendrum phyllocharis* Rchb.f. (Fig. 44, 45).

Xenia Orchid. 3: 11. 1878; TYPE: COSTA RICA. *Endres 2632* (W!). - Santiago & Hágsater in Hágsater & Sánchez, Icon. Orchid. 9: pl. 973. 2007.

**Epiphytic**, sympodial, caespitose, erect plants, 28-53 cm tall. **Stems** 22.5-47 cm long, 0.25-0.75 cm wide, simple, cane-like, terete at the base, laterally compressed and ancipitose above, erect, straight. **Leaves** numerous, distributed throughout the stems, alternate, articulate, erect-

-spreading, deciduous with time, coriaceous, narrowly elliptic to oblong-lanceolate, apex rounded, narrowly bilobed, margin entire, dorsally tinged purple; sheaths 1.5-3.1 cm long, 0.5-1.2 cm wide, tubular, somewhat infundibuliform, laterally compressed, ancipitose, minutely striated, becoming fibrous with time; blade 4.1-9.5(11) cm long, 1.5-3.5 cm wide. **Inflorescences** 1.7-7 cm long, apical and several lateral, from the upper half of the stem, racemose, short, compact, few-flowered, distichous, producing new racemes from the same inflorescences through the years and thus becoming pluriracemose; peduncle of the apical inflorescence about 2.8 cm long, laterally compressed, ancipitose, short, covered around the middle by the spathaceous bracts; peduncle of the lateral inflorescences about 1 cm long, short, totally covered by short, tubular, partially imbricating bracts; rachis totally hidden by the floral bracts. **Spathaceous bract** single or rarely 2, 2-3 cm long, 0.8-1.1 cm wide, at the apex of the peduncle, narrowly ovate, apex rounded, tubular the base, conduplicate above, ancipitose, similar to the floral bracts but about 3-5 times larger. **Flowers** several, developing one at a time per raceme, resupinate, white or rarely pale green tinged with reddish. **Floral bracts** 6-7 mm long, much shorter than the ovary, elliptic, conduplicate, obtuse, imbricating. **Ovary** (13)18-20 mm long, terete, thin, smooth, somewhat ventrally inflated along the apical 3/4. **Sepals** 13-15.4 mm long, 2.7-3 mm wide, free, spreading, 5-veined, margin entire, spreading; dorsal sepals oblong-elliptic, rounded; lateral sepals oblong-oblancheolate, subacute. **Petals** 12-15 mm long, 1.7-2 mm wide, free, ascending, linear, rounded, oblique, 3-veined, margin entire. **Lip** 6.5-7 mm long, 6.3-6.5 mm wide, united to the gynostemium, entire, pentagonal subcircular, base slightly cordate, apex truncate, with a minute apicule, margin entire, spreading, bicallose, calli thin and rounded, slightly divaricate; disc with 5-7 low, smooth keels radiating from the base to near the apex of the lip. **Gynostemium** 7-8 mm long, thin at the base, gradually thickened towards the apex,

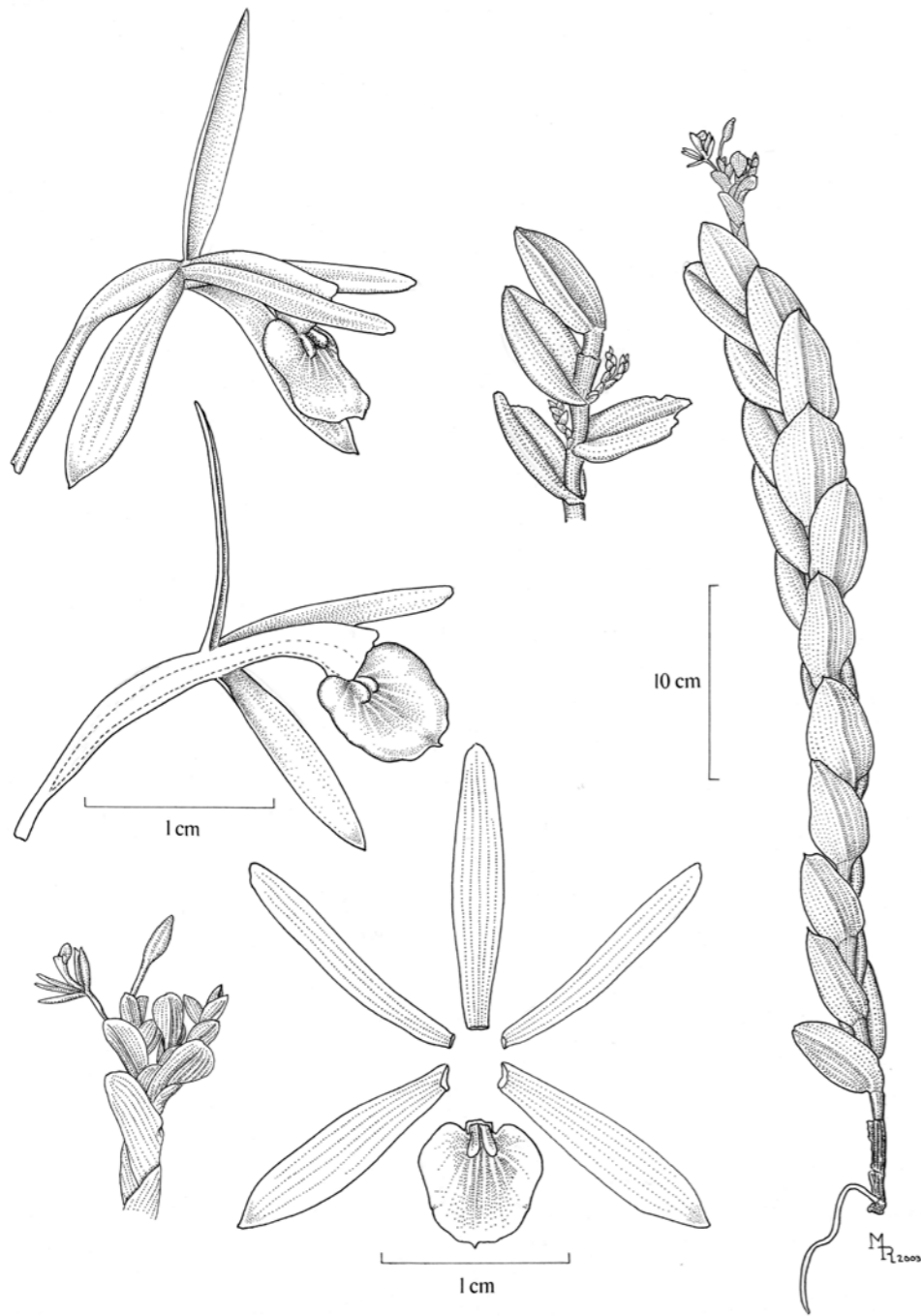


Fig. 44. *Epidendrum phyllocharis* Rchb.f. (Folsom, R.L. Dressler & K. Dressler 5547, MO – drawn by M.A. López Rosas).



Fig. 45. Distribution of *Epidendrum phyllocharis* Rchb.f. in Valle del Cauca.

slightly arched. Clinandrium prominent, margin tridentate. Nectary penetrating 3/4 the ovary, narrow, smooth.

HABITAT: Premontane forest; about 900-1200 m alt.

FLOWERING SEASON: January.

GENERAL DISTRIBUTION: Ecuador, Colombia, Panama, Costa Rica.

DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA: **Mpio. Dagua.** El Queremal. Crece en taludes. 20 Jan 1980. I. Guarín O. 76 (COL!); El Cairo. Alt. 2000 m. Dec 1978. P. Ortiz V. s.n. (HPUJ!).

OTHER SPECIMENS EXAMINED: **COLOMBIA.** **Risaralda.** Mpio. Pueblo Rico. Carretera al cerro Monotezuma. Alt. 1350 m. 15 Mar 1986. R. Bernal, G. Galeano, L.E. Tobón & L.G. Henao 1000 (COL!). **PANAMA. Prov. Veraguas.** “Proyecto Buenos Aires”, north slope of ridge east of Cerro Tute, NW of Santa Fe. Alt. ca 650 m. 12 Oct 1975. R.L. Dressler 5189 (AMO!); Camp Hornito. Fortuna dam site. 82°18'W 8°44'N. Alt. 1000-1200 m. 14 Aug 1976. R.L. Dressler 4360 (AMO!) **Chiriquí:** Boquete: Fortuna dam site, 1400-1600

m. Folsom, R.L. Dressler & K. Dressler 5547 (MO!). **COSTA RICA.** Sine loc. Endres 2632 (W!).

#### *Epidendrum allenii*-subgroup

Inflorescences generally apical, the peduncle of the inflorescence bare, elongate, 2-winged; rachis short.

#### Key to complexes

1. Lip clearly 3-lobed; petals oblanceolate or linear (though never filiform); pollinia 8 . . . . . 46.5. *E. nora-mesae* (Convergens-complex)
1. Lip entire; petals linear-filiform; pollinia 4. . . . . *Allenii*-complex

#### *Epidendrum allenii*-complex

Lip entire, 4 pollinia.

**Key to species**

1. Ovary inflated forming a prominent vesicle; sepals 9 mm long, apical margin; lip 3.9 x 4.5 mm, with 3 fleshy, evident ribs ..... *E. macrophysum* (unconfirmed)
1. Ovary slightly inflated, forming a small vesicle; sepals 13 mm long, margin spreading; lip 10 x 12 mm, with 3 thin, low ribs ..... 46.4. *E. timbiquiense*

***Epidendrum macrophysum* Hágsater, O.Pérez & E.Santiago (Fig. 46; Photo 18).**

Icon. Orchid. 14: Pl. 1453. 2013; TYPE: COLOMBIA. [CHOCÓ]. Mpio. San José del Palmar. El Tabor. Alt. ca 1400 m. 13 Nov 2011. *O.A. Pérez & D. García-Ramírez 1400* (HOLOTYPE: CUVCI; ISOTYPE: VALLE!).

**Epiphytic**, caespitose, sympodial herb, 40 cm tall. **Roots** basal fleshy. **Stems** 16.8-20 cm tall, 0.1-0.28 cm wide, cane-like, simple, straight, thin, basal half terete, ancipitose towards the apex. **Leaves** 4-5, distributed along the apical half of the stem, the basal one smaller, green, concolor; sheaths 2.9-4.45 cm long, 0.12-0.28 cm wide, tubular, ancipitose, striated; blade 3-15.4 cm long, 0.2-1 cm wide, linear-lanceolate, long-acuminate, with a central vein and a pair of evident secondary veins on the upper face, margin entire. **Spathaceous bract** 1.1 cm long, single, at the apex of the peduncle, narrowly elliptic, obtuse, conduplicate, ancipitose, similar to the floral bracts but larger. **Inflorescence** 20.5 cm long, apical, pluri-racemose, arching pendant, producing up to 4 racemes from within the apex of the peduncle; peduncle 19 cm long, filiform, ancipitose, two-winged, progressively narrower, the wings notorious at the base, thin; racemes ca 1 cm long, short, densely few-flowered, rachis totally hidden by the floral bracts. **Flowers** successive, 1 at a time per raceme, resupinate, pale green, the apex of the column greenish white at the height of the clinandrium-hood, callus and disc greenish white, the vesicle of the ovary and

ovary with small, irregular lilac spots. **Floral bracts** 4-4.6 mm long, 3.2-3.4 mm wide, shorter than the ovary, the basal ones suboblong, the apical ones elliptic, the apex rounded to minutely apiculate, conduplicate, dorsally carinate, distichous, imbricated at the base, persistent, pale green with small irregular, lilac spots. **Ovary** 15.5 mm long, terete, thin, strongly inflated at the apex, forming a prominent ventricose vesicle. **Sepals** 9 mm long, 2.4 mm wide, spreading, free, spathulate-lanceolate, subobtuse, 5-veined, margin entire, revolute; the lateral sepals oblique. **Petals** 9 mm long, 0.4 mm wide, inflexed, free, linear, apex rounded, 1-veined, margin spreading, entire. **Lip** 3.9 mm wide, 4.5 mm wide, united to the column, entire, convex, suborbicular, cordiform when spread; bicallose, the calli prominent, fleshy, laterally compressed; disc with 3 fleshy, thin, parallel ribs, the surface rugose, the central rib slightly longer than the outer pair, though without reaching the apex of the lip. **Gynostemium** 7.2-7.6 mm long, thin along the basal 2/3, gradually widened towards the apex, slightly arched. Clinandrium-hood prominent (though without surpassing the body of the column, margin entire. Rostellum subapical, slit. Lateral lobes of the stigma prominent, covering half the stigmatic cavity. Nectary penetrating ca 1/3 of the ovary, inflated, unornamented. Anther ca 1 mm wide, 4-celled, transversely elliptic. Pollinia 4, slightly laterally compressed, sublenticular. **Capsule** 20 mm long, 7.3 mm wide, ellipsoid, green with lilac spots on the pedicel and body, pedicel 6 mm long, body 11 mm long, 7.3 mm wide, apical neck 3 mm long.

**HABITAT:** Grows as an epiphyte in cloud forest; at 1400-1500 m.

**GENERAL DISTRIBUTION:** So far know only from the western slope of the Western Cordillera, Department of Chocó.

**NOTES.** There is no confirmed record from the Valle del Cauca, but it has been reported from Chocó, at the border of the Valle del Cauca.

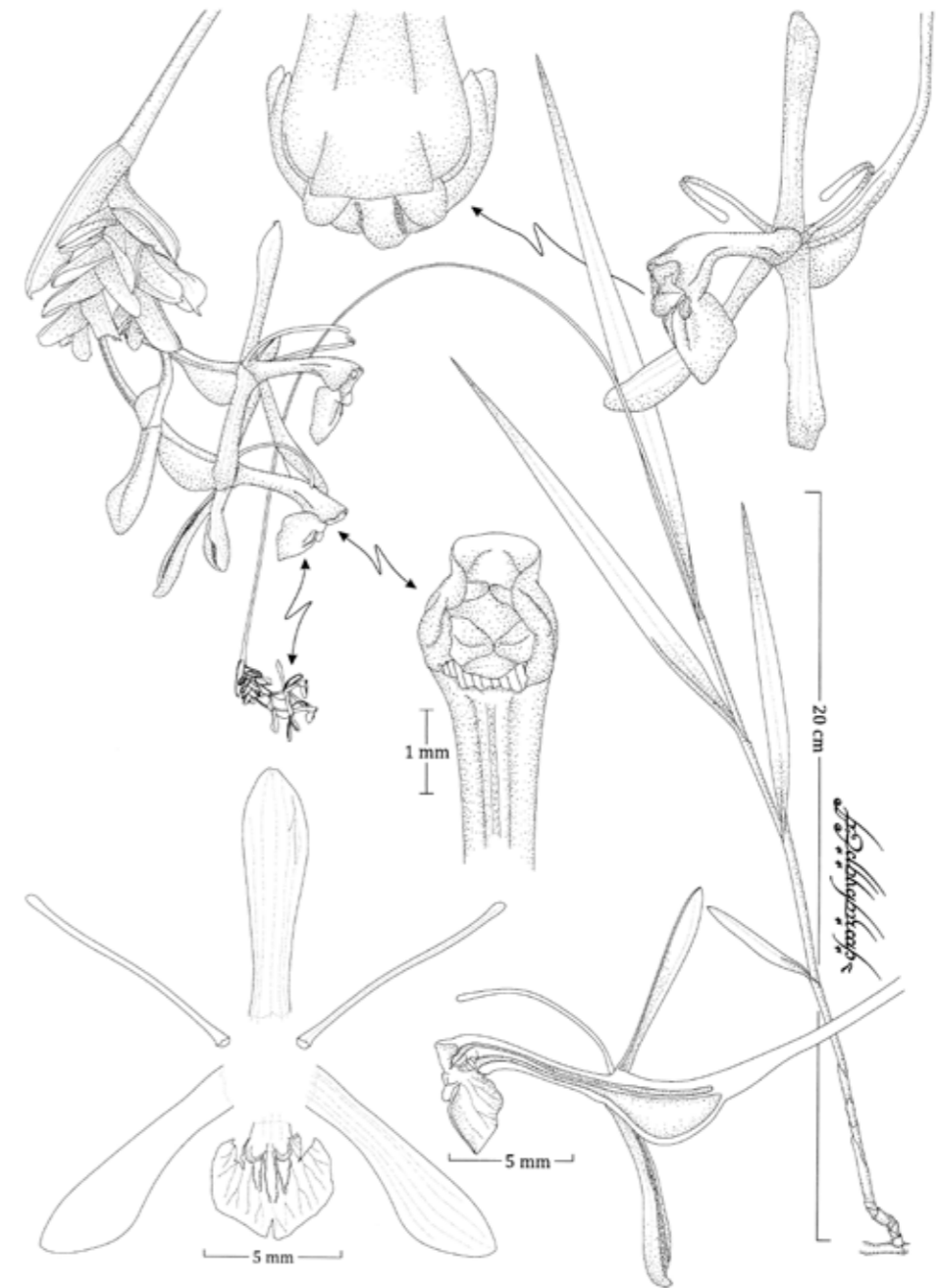


Fig. 46. *Epidendrum macrophysum* Hágsater, O.Pérez & E.Santiago (*O. Pérez 1400*, CUVCI – drawn by O. Pérez).

46.4. *Epidendrum timbiquiense* Hágsater & E. Santiago (Figs 47, 48).

Icon. Orchid. 14: Pl. 1489. 2013; TYPE: COLOMBIA. VALLE DEL CAUCA. Bajo Calima, ca 15 km N of Buenaventura, Cartón de Colombia concession, transition between tropical wet and pluvial forest. Alt. ca 50 m. 15 Feb 1983. A. Gentry, A. Juncosa & H. Mazuera 40350 (HOLOTYPE: COL!; ISOTYPE: MO!).

**Epiphytic**, sympodial, caespitose herb 26-55 cm tall. **Roots** 0.03-0.2 cm in diameter, basal,

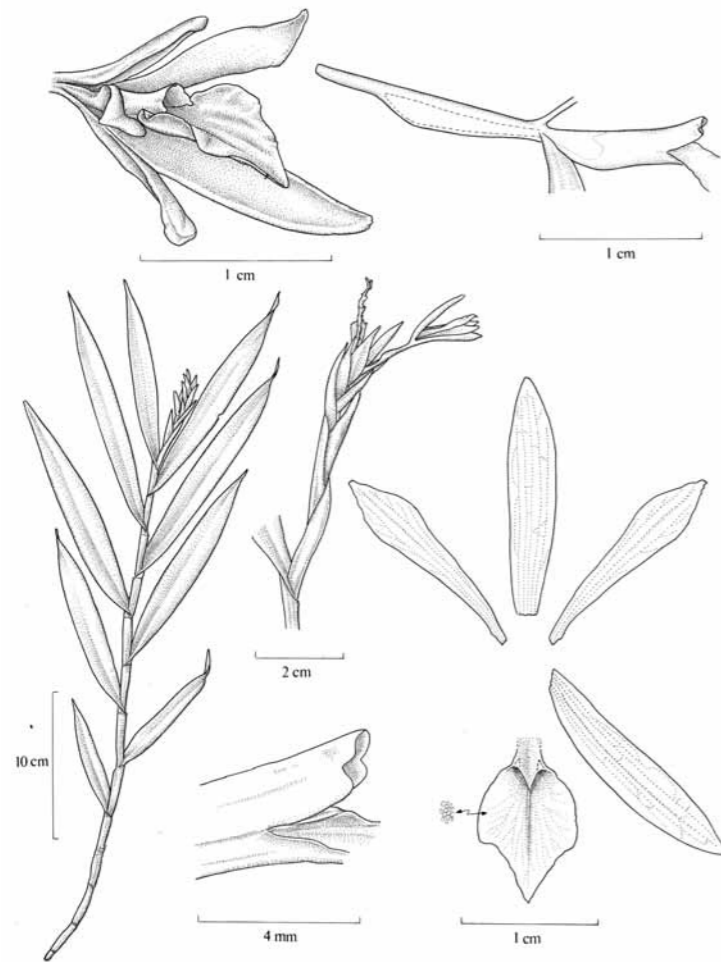


Fig. 47. *Epidendrum timbiquiense* Hágsater & E. Santiago (Gentry, A. Juncosa & H. Mazuera 40350, COL – drawn by R. Jiménez Machorro).

fleshy, thin. **Stems** 11-25 cm long, 0.25-0.7 cm wide, simple, cane-like, terete at the base, laterally compressed and ancipitose above, erect, straight; with basal, non-foliar, scariose, somewhat ancipitose sheaths at the base, 4-4.5 cm long. **Leaves** 5, distributed along the apical half of the stem, alternate, articulate, suberect, unequal in size (the basal one smaller); sheaths 3-4 cm long, 0.5-0.7 cm wide, tubular, minutely striated, ancipitose; blade 11-20 cm long, 0.5-2.5 cm wide, narrowly elliptic, acuminate, margin entire. **Spathaceous bract** 6 mm long, 2 mm wide, at the apex of the peduncle, similar to the floral bracts but larger. **Inflorescence** 15-34 cm long, apical, racemose (producing new racemes from the apex of the peduncle and thus pluri-racemose) many flowered, erect, straight; peduncle 10-29 cm long; erect, straight, ancipitose, 2-winged, the wings progressively narrower towards the apex; rachis 2-5 cm long, terete, slightly zig-zag, nearly totally hidden by the floral bracts. **Flowers** successive, 1 open at a time, resupinate, white; fragrance not registered. **Floral bracts** 2-4 mm long, 1.5-2.5 mm wide, much shorter than the ovary, ovate, apex rounded, conduplicate, partly imbricating, slightly oblique, persistent on the rachis after flowering. **Ovary** 14 mm long, terete, thin, ventrally inflated along the apical 1/3, unornamented. **Sepals** 13 mm long, 2.2-3



Fig. 48. Distribution of *Epidendrum timbiquiense* Hágsater & E. Santiago in Valle del Cauca.

mm wide, partly spreading, free, narrowly oblanceolate, acute, 3-veined, margin entire, spreading; the **lateral** sepals oblique, falcate. **Petals** 13 mm long, 0.5 mm wide, partly spreading, free, linear, obtuse, 1-veined, oblique, margin entire, spreading. **Lip** 10 mm long, 12 mm wide, united to the column, slightly convex, entire, rounded, base cordate, margin somewhat crenulate; bicallose, calli subglobose, small; disc provided with 3 thin ribs, the lateral pair very short, and the mid-rib disappearing before reaching the apex of the blade. **Gynostemium** 10 mm long, straight, thin, widened towards the apex. Clinandrium-hood reduced, margin entire. Anther and pollinia not seen. Rostellum subapical, slit. Lateral lobes of the stigma, nectary and **capsule** not seen.

**HABITAT:** Transition between tropical wet and pluvial forest; at about 50 m alt.

**FLOWERING SEASON:** February, October.

**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Bei Buenaventura. Oct 1903. *Lebmann sub H.K. 488* (K!), Bajo Calima, ca 15 km N of Buenaventura, Cartón de Colombia concession, transition between tropical wet and pluvial forest. Alt. ca 50 m. 15 Feb 1983. *Gentry, A. Juncosa & H. Mazuera 40350* (COL!).

**OTHER SPECIMENS EXAMINED: COLOMBIA. Cauca.** Timbiquí. *Lebmann sub B.T. [Bentham Trustees] s.n.* (AMO!, NY! - sterile, illustration).

**Convergens-complex**

Lip 3-lobed, pollinia 8.

46.5. *Epidendrum nora-mesae* Hágsater & O. Pérez (Figs 49, 50; Photos 19-20).

Icon. Orchid. 13: t. 1362. 2010; TYPE: COLOMBIA. VALLE DEL CAUCA. Mpio. Yumbo. Dapa. Alt. 2000 m. 16 May 2010. O. Pérez & E. Parra 773 (HOLOTYPE: VALLE!).

**Epiphytic**, caespitose, sympodial, erect to arching-pendent plants, 23.2-37.2 cm tall. **Stems** 10.6-16.9 cm long, 0.3-0.8 cm wide, simple, cane-like, laterally compressed, ancipitose, erect when young, arching pendent with age, straight. **Leaves** 5-7, 2-12 cm long, 0.4-2.4 cm wide, progressively longer, distributed throughout the stem, alternate, articulate, suberect, subcoriaceous, lanceolate, acuminate, margin entire; sheaths 1-3 cm long, 0.3-0.5(0.8) cm wide, tubular, laterally compressed, ancipitose, minutely striated. **Inflorescence** 14-19 cm long, apical, racemose at first flowering, probably producing new racemes with time and pluriracemose, distichous, few-flowered, longer than the apical leaf; peduncle 12-17 cm long, elongate, laterally compressed, ancipitose, two-winged, wings prominent towards the base, progressively narrower; rachis short, totally hidden by the floral bracts.

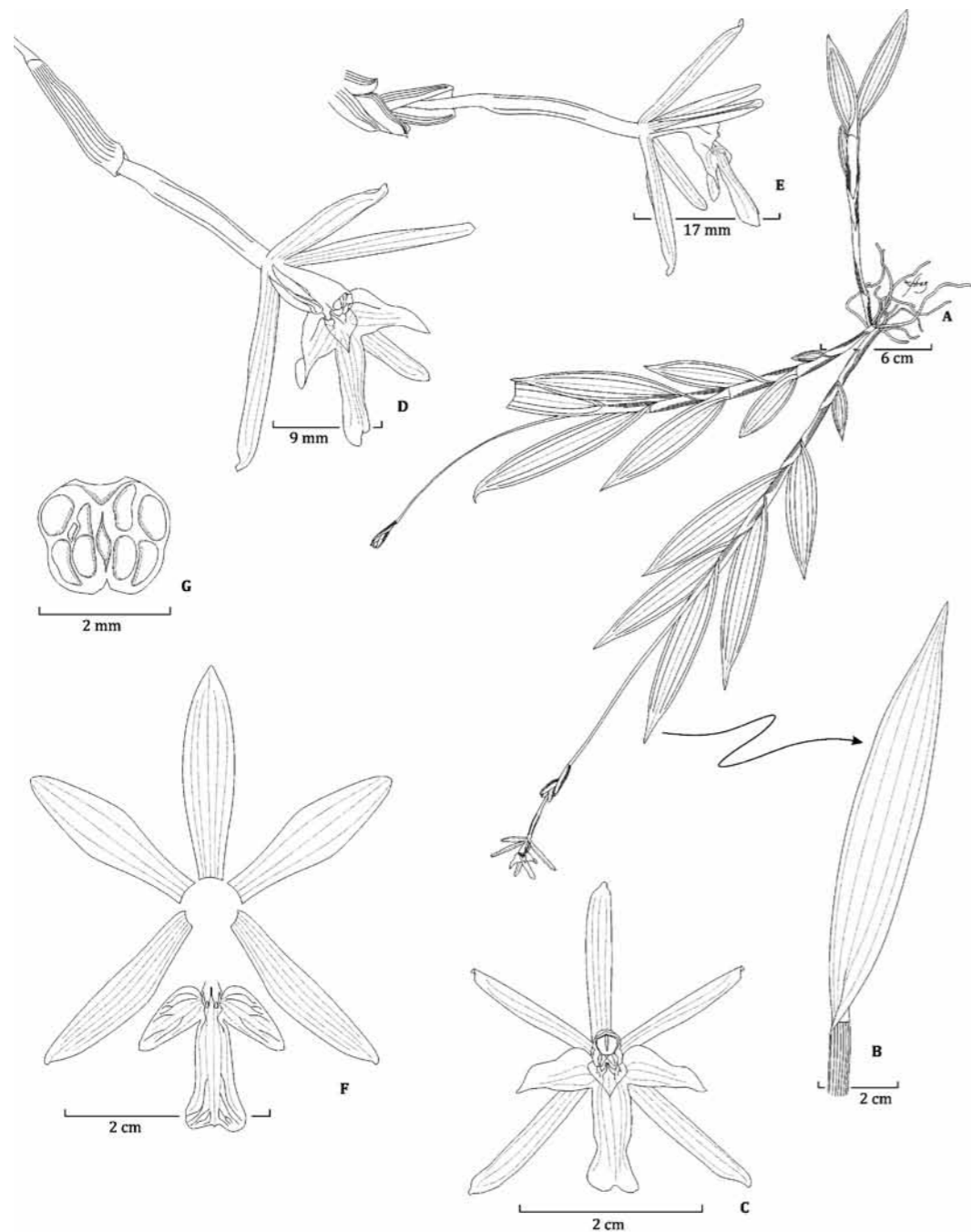


Fig. 49. *Epidendrum nora-mesae* Hágsater & O.Pérez (*O.Pérez* 773, VALLE – drawn by O.Pérez).

**Spathaceous bract** single, 1.8-2.1 cm long, 0.3 cm wide, at the apex of the peduncle, lanceolate, acute to short acuminate, tubular at the base, conduplicate along the upper half, ancipitose, about twice the size of the floral bracts, the floral bracts produced within and imbricating. **Flowers** few, resupinate, produced in succession, green slightly tinged with brown, disc of the lip paler, nearly white, anther cream-colored. **Floral bracts** 10-12 mm long, 3-5.5 mm wide, narrowly elliptic, obtuse, conduplicate, imbricating, persistent even after flowering. **Ovary** 26-30 mm long, terete, thin, slightly inflated ventrally along the apical 2/3, unornamented. **Sepals** 14-21 mm long, 3.5-4.2 mm wide, free, partially spreading, oblanceolate, narrowed near the base, obtuse, minutely apiculate, 5-veined, margin entire, revolute; lateral sepals somewhat oblique. **Petals** 14-21 mm long, 3.5-5 mm wide, free, partially spreading, linear-oblanceolate, somewhat wider and oblique towards the apex, rounded, 3-veined, margin entire, revolute. **Lip** 10-15 mm long, 12-15 mm wide, united to the gynostemium, the base cordate, 3-lobed, margin entire; lateral lobes 7-8.5 mm long, 4-5 mm wide, obliquely ovate, obtuse; middle lobe 9-12 mm long, 5.5-6 mm wide, obtuse, apically somewhat notched, with a minute apicule in the sinus; bicallose, calli laminar, somewhat laterally flattened; disc apparently without keels. **Gynostemium** 7-8 mm long, straight, thin, somewhat dilated towards the apex. Clinandrium prominent, slightly surpassing the body of the gynostemium, margin entire. Anther reniform. Pollinia 8, the lower 4 smaller. **Capsule** about 35 mm long, 13 mm wide, ellipsoid; pedicel terete, thin; body somewhat more than half the entire length.

**HABITAT:** Cloud forest and transition between montane forest and páramo; 1800-3520 m altit.

**FLOWERING SEASON:** December-January, May-July.

**GENERAL DISTRIBUTION:** Endemic, known only from the Department of Valle del Cauca.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE**

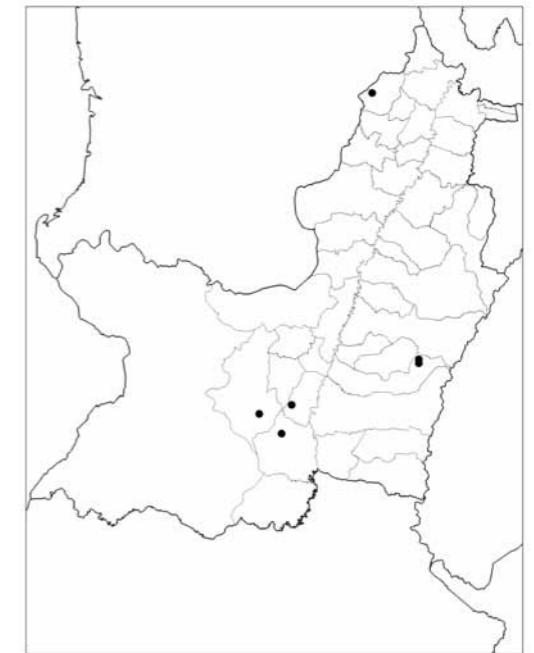


Fig. 50. Distribution of *Epidendrum nora-mesae* Hágsater & O.Pérez in Valle del Cauca.

**DEL CAUCA: Mpio. Cali.** Finca Zíngara, Corregimiento La Dividera, crest of Cordillera Occidental, W de Cali, 6 km N de carretera Cali-Buenaventura. 3°32'N 76°35'W. Alt. 1960 m. 13 Dec 1985. *A. Gentry, M. Monsalve B., Silverstone-Sopkin, R. Restrepo & J. Giraldo-Gensini* 53267 (CUVCI, MO!). **Mpio. Dagua.** Reserva Natural & Jardín Botánico "El Refugio", km 23 vial al Mar, Cali-Buenaventura. Alt. 2100 m. 21 Jul 2007. *A. Calderón* (AMO! – photo). **Mpio. El Cerrito.** Central Cordillera. Near the Páramo Pan de Azúcar. Alt. 3451-3520 m. 6 Jan 2011. *M. Kolanowska & O. Pérez* 285 (VALLE!, UGDA! – flower in spirit); Páramo Pan de Azúcar. 3°45'7"N 76°05'10"W. Alt. 3709 m. 6 Jan 2011. *M. Kolanowska & O. Pérez* 295 (VALLE!, UGDA! – flower in spirit). **Mpio. El Cairo.** Cerro del Inglés (Cordillera Occidental, Serranía de los Paraguas, a 1 hora en jeep de El Cairo, Valle), vertiente sur. Alt. 2260 m. 5 Jan 1987. *P. Silverstone-Sopkin, N. Paz, R.T. González, I. Cabrera, D. Garcés & A. Henao* 2987 (CUVCI, MO!).



### ***Epidendrum amblostoma*-group**

Caespitose plants, stems thinly fusiform, inflorescence apical, paniculate, ovaries and sepals usually dorsally pubescent. Only one species of this group occurs in the Department of Valle del Cauca.

#### **46.6. *Epidendrum lanipes* Lindl. (Figs 51, 52; Photos 21-22).**

Fol. Orchid. 4 (*Epidendrum*): 91. 1853; TYPE: PERU. 1840. *Mathews 3183* (K!, W!).

**Epiphytic**, caespitose herb, 35-90 cm tall. **Roots** 0.12 cm in diameter, basal, fleshy, thin, white. Stems 26-67 cm tall, 0.4-1.7 cm wide, simple, thickened towards the middle forming a fusiform stem. **Leaves** 5-7, distributed along the apical 1/3 of the stem, green, concolor; sheath to 5 cm long, tubular; blade 8-23 cm long, 1-2.8 cm wide, oblong-lanceolate, coriaceous, smooth, the apex rounded, slightly bilobed, margin entire. **Inflorescence** apical, flowering only once, paniculate, arching, densely many-flowered, up to 31 cm long; peduncle 8 cm long, short, terete, unornamented. **Spathaceous bract** lacking. **Flowers** numerous, simultaneous, resupinate, white; fragrance sweet, during daytime. **Floral bracts** 2-6 mm long, much shorter than the ovary, triangular, acute. **Ovary** 9-10 mm long, terete, thin, not inflated, pubescent. **Sepals** partly spreading, free, membranous, dorsally pubescent, acute, 5-veined, margin spreading, entire; dorsal sepals 10 mm long, 2.5 mm wide, oblanceolate; lateral sepals 11 mm long, 3.5 mm wide, elliptic, falcate, dorsally apiculate. **Petals** 10 mm long, 1.3 mm wide, partly spreading, free, linear, the apex rounded, margin entire, spreading. **Lip** 6.5 mm long, 8 mm wide, united to the column, 3-lobed, base cordate, margin entire; bicallose, the calli fleshy, prominent, the disc with three short ribs, located in front of

the calli; lateral lobes 3 mm long and wide, obliquely ovate; middle lobe 4 mm long, 2.6 mm wide, subrectangular-oblong, the apex of the lip somewhat expanded, truncate and slightly retuse. **Gynostemium** 6 mm long, straight, thin; apex slightly turned upwards at the height of the clinandrium-hood. Clinandrium-hood short, margin entire. Anther ovoid, 4-celled. Pollinia 4, obovoid, laterally compressed, the outer pair slightly larger. Rostellum subapical, slit. Lateral lobes of the stigma small, 1/4 the length of the stigmatic cavity. **Nectary** shallow, penetrating 1/5<sup>th</sup> of the ovary, not inflated, unornamented.

**HABITAT:** Premontane wet forest; about 1000 m alt.

**FLOWERING SEASON:** January, April.

**GENERAL DISTRIBUTION:** Bolivia, Peru, Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Jamundí.** Finca El Asombro, Monte de Sardi, Valle de Cauca, Cali-Jamundi. alt 1000 m. 2 Jan 1985. *Hágsater, R.L. Dressler, K. Dressler, Folsom & N. Villota 7452* (AMO!); Finca El Asombro, Monte de Sardi, Carr. Cali-Jamundi. Alt. 1000 m. 28 Apr 1983. *E. Hágsater, R.L. Dressler, K. Dressler, Folsom & N. Villota 7452* (AMO!). Finca El Asombro, Monte de Sardi, Carr. Cali-Jamundi. Alt. 1000 m. 28 Apr 1983, cult. 7 Jan 1988. *E. Hágsater, R.L. Dressler, K. Dressler, Folsom & N. Villota 7452* (AMO! - spirit). **Mpio. Yotoco,** Reserva Natural de Yotoco. Alt. ca 1600 m. 8 Apr 2010. *O. Pérez & E. Parra 650* (VALLE! x 3).

**OTHER SPECIMENS EXAMINED: ECUADOR.** **Morona-Santiago.** Morona. Cordillera del Cutucú. Asociación Shuar Sevilla. Bosque Primario. Cerro Iñiak Naint. Suelo rocoso. 02°18'19"S 78°07'16"W. Alt. 1043 m. 7 May 2002. *L. Suin, A. Jimbicti & M. Pinchuña 1773* (QCNE!). **COLOMBIA. Distrito Capital Bogotá.** 130 km N of Bogotá. High thick forest. Alt. 4500 ft. 9 Oct 1932. *A.E. Lawrence 523* (AMES!, MO!, NY!, S!).

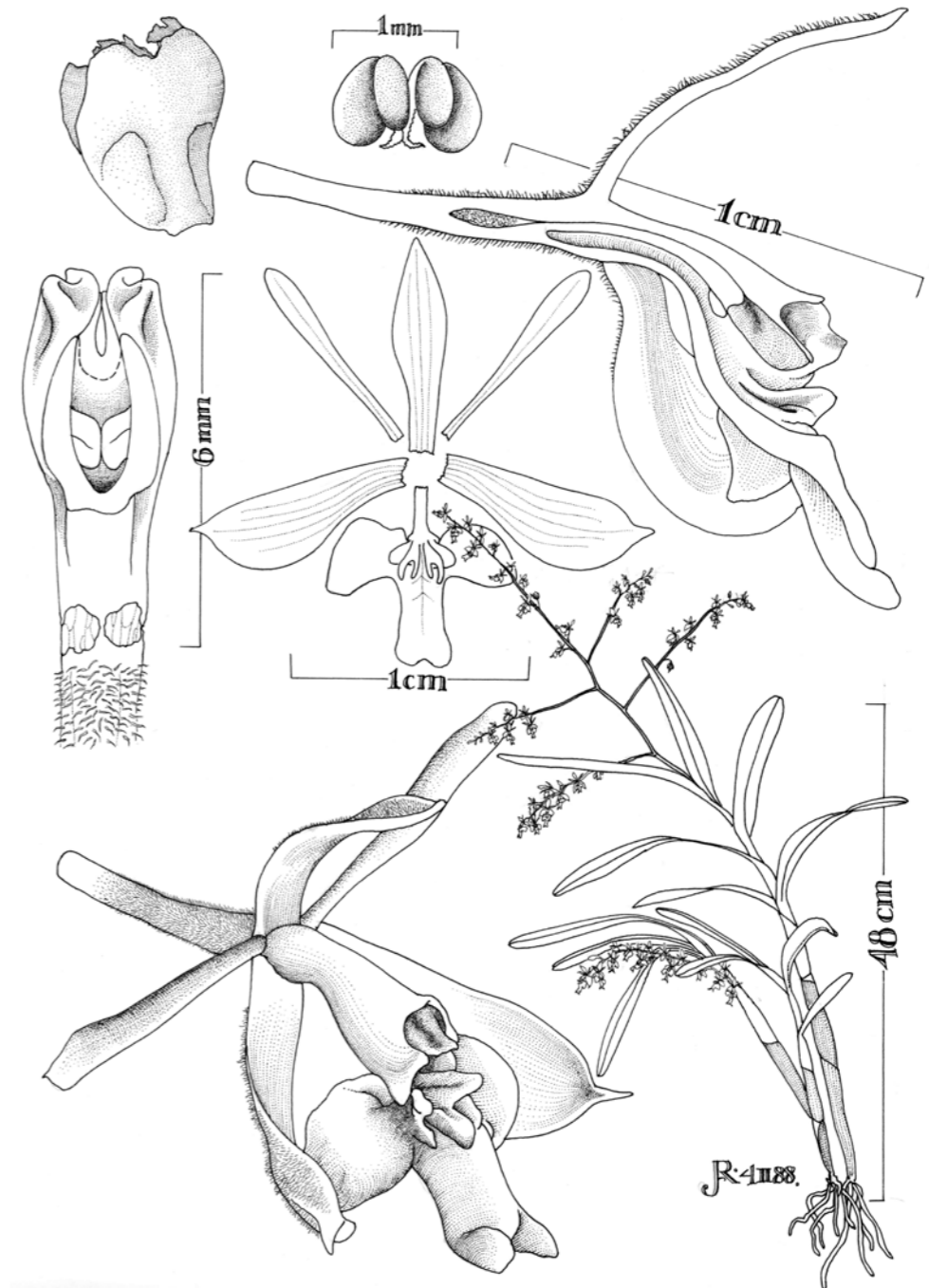


Fig. 51. *Epidendrum lanipes* Lindl. (*Hágsater, R.L. Dressler, K. Dressler, Folsom & N. Villota 7452*, AMO – drawn by R. Peláez).

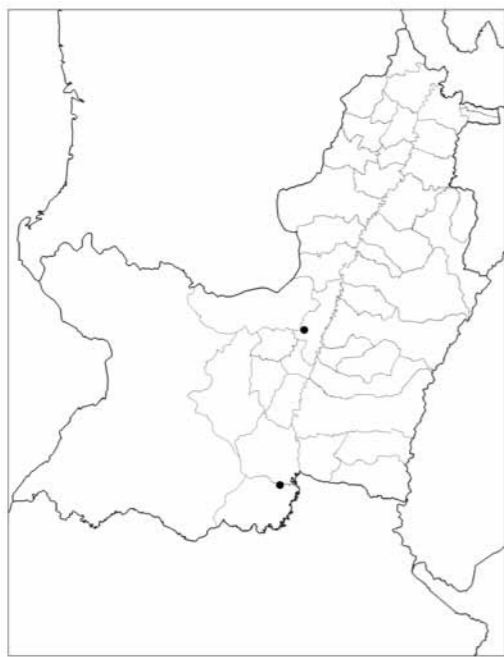


Fig. 52. Distribution of *Epidendrum lanipes* Lindl. in Valle del Cauca.

### *Epidendrum ampelospathum*-group

The group is recognized by the scandent habit, with new stems produced from the middle part of the previous stems, an apical, arching, racemose inflorescence subtended by 1-2, large, acute spathaceous bract, and flowers with a 3-lobed lip and 2 small, basal calli. Only one species is reported from the Valle del Cauca.

#### 46.7. *Epidendrum ampelomelanoxeros* Hágsater, E.Santiago & E.Parra (Figs 53, 54).

Icon. Orchid. 14: Pl. 1405. 2013; TYPE: COLOMBIA. VALLE DEL CAUCA. Mpio. Pradera. I.P. Bolo Azul, Finca La Cabaña. Alt. 3350 m. 4 Oct 1989. *S. Sarria, A. Agudelo & C. Galvis* 268 (HOLOTYPE: CUVCI).

**Epiphytic** or **terrestrial**, sympodial, scandent herb, to 70 cm tall, with successive lateral growth. **Roots** 0.1-0.4 cm in diameter, basal from the pri-

mary stem, sometimes form the successive stems, fleshy, white. **Stems** 30 cm tall, 0.4-0.9 cm wide, simple, produced from the middle of the previous stem, cane-like, terete, erect, base covered by tubular sheaths 1-2.8 cm long, 0.7-0.9 cm wide, non-foliar, minutely striated, becoming fibrous with time. **Leaves** 6-18, suberect, alternate, articulate, coriaceous, the upper side of the blade dark green-purple; sheath 2-3 cm long, 0.6-1 cm wide, tubular, minutely striated; blade 4.2-11.5 cm long, 1-3 cm wide, narrowly ovate-lanceolate to lanceolate, apex acute, minutely apiculate, margin denticulate. **Spathaceous bracts** 2, 5-7 cm long, 1.7-2 cm wide (when spread), tubular, open on one side along the apical half, and then conduplicate, the apex rounded. **Inflorescence** ca 18-24 cm long, apical, racemose, arching-nutant, laxly many-flowered; peduncle 6-7 cm long, thin, laterally compressed, erect, straight. **Flowers** 17-26, simultaneous, resupinate, fleshy, greenish yellow with tinged reddish; fragrance not registered. **Floral bracts** the basal ones 25-30 mm long, 4-6 mm wide, the rest 4-7 mm long, prominent but much shorter than the ovary, linear-lanceolate, acuminate, amplexicaul. **Ovary** 21-26 mm long, terete, thin, not inflated, unornamented. **Sepals** 16-18 mm long, 5.5-6 mm wide, free, partly spreading, acuminate, dorsally aristate, 3-veined, margin entire; the dorsal sepal narrowly obovate; lateral sepals oblong, oblique. **Petals** 14-15 mm long, 2.5-3 mm wide, partly spreading, free, oblanceolate, acute, 1-veined, oblique, margin crenulate, spreading. **Lip** 10 mm long, 12 mm wide, united to the column, 3-lobed, base deeply cordate; bicallose, the calli small, orbicular; disc with a single mid-rib, thin, low, disappearing before reaching the apex of the middle lobe; lateral lobes 4.8-5.5 mm long, 7.5-9 mm wide, dolabriform, margin apical, erose; middle lobe 5-5.8 mm long, 2.5-3.5 mm wide, oblong-triangular, the apex rounded, margin entire. **Gynostemium** 10 mm long; straight, thin, the apical sides truncate. Clinandrium-hood short, margin entire. Anther reniform, 4-celled. Pollinia 4, obovoid; caudicles soft and granulose, as long as the pollinia. Rostellum apical, slit.

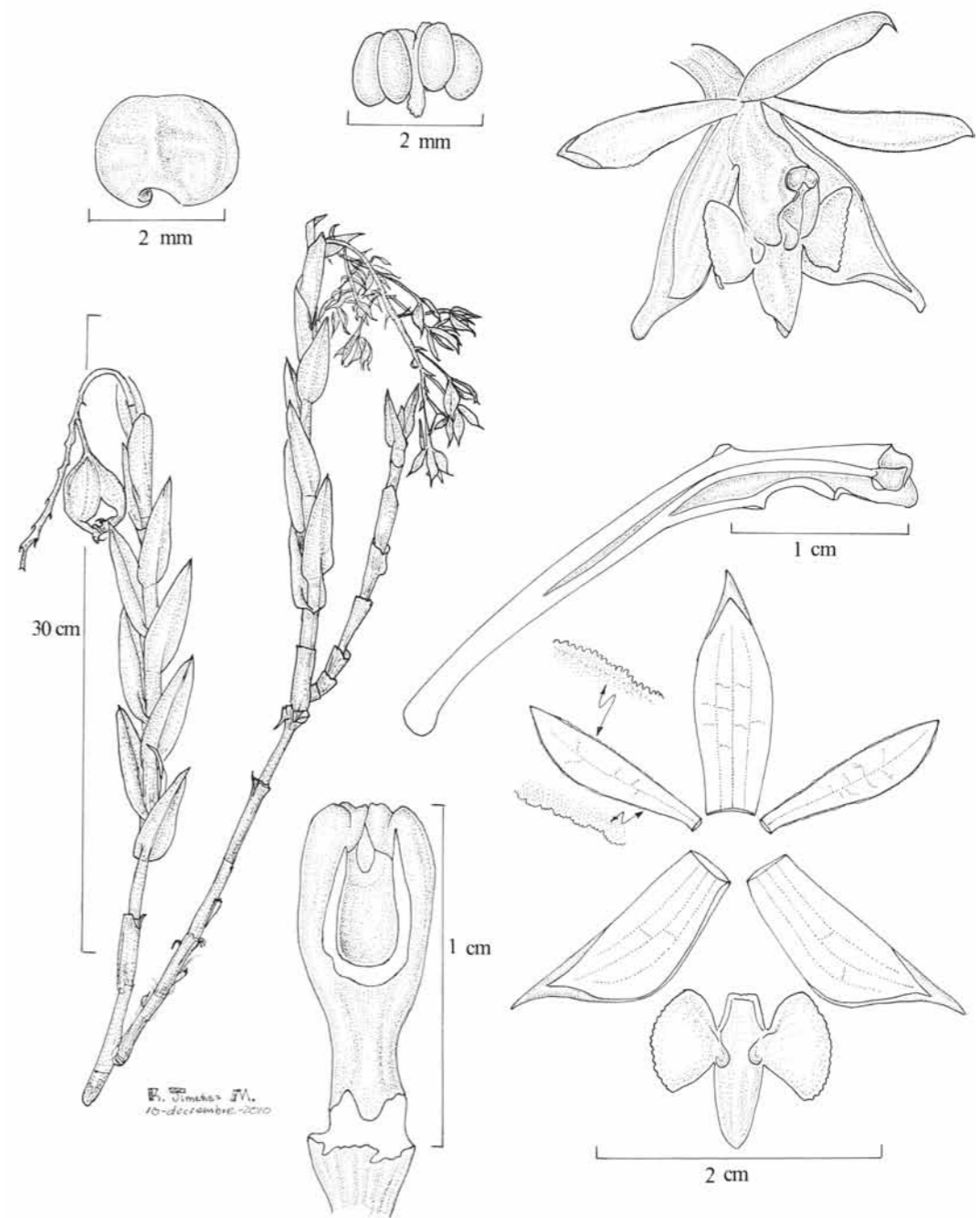


Fig. 53. *Epidendrum ampelomelanoxeros* Hágsater, E.Santiago & E.Parra (*S. Sarria, A. Agudelo & C. Galvis* 268, CUVCI – drawn by R. Jiménez Machorro).



Fig. 54. Distribution of *Epidendrum ampelomelanoxeros* Hágsater, E.Santiago & E.Parra in Valle del Cauca.

Lateral lobes of the stigma small, half as long as the stigmatic cavity. Nectary shallow, penetrating just behind the perianth, slightly inflated, without forming a vesicle, unornamented. **Capsule** 5.5 cm long, 3 cm wide, ellipsoid, green tinged with purple; pedicel 15 cm long; body 3.8 cm long, 3 cm wide, apical neck obsolete.

**HABITAT:** Terrestrial or epiphytic on *Psidium* spp, and on mossy trunks of remnant trees along streams; at 3350-3400 m alt.

**FLOWERING SEASON:** September, October.

**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Pradera.** I.P. Bolo Azul, Finca La Cabaña. Alt. 3350 m. 4 Oct 1989. *S. Sarria, A. Agudelo & C. Galvis* 268 (CUVCI). **Mpio. Tuluá.** Barragán. Páramo de Paramillo. Alto La Italia. 17 Sep 1988. *López* 75 (TULV!).

**OTHER SPECIMENS EXAMINED:** **COLOMBIA.** **Caldas.** Quebrada de Peñas Blancas, 29 km N

de Manizales. Alt. 3365 m. 18 Oct 1944. *St. John* 20820 (AMES! x 2, NY! x 2, UCI, US!).

### *Epidendrum anceps*-group

Stems simple, inflorescence elongate, compound racemose, flowers fleshy, ecallose. Two species of this group were reported from the Department of Valle del Cauca.

#### Key to species

1. Inflorescence nodding paniculate, with large glumaceous bracts at the base of each raceme, flowering only once ..... 46.9. *E. ruizianum*
1. Inflorescence subcorymbose, on an elongate peduncle, producing new racemes over several years ..... 46.8. *E. musciferum*

### 46.8. *Epidendrum musciferum* Lindl. (Figs 55, 56; Photos 23-24).

J. Bot. (Hooker) 1: 6. 1834; TYPE: COLOMBIA. Colombia occidentalis. 1831. *Cuming s.n.* (K-L!, E, W). - Sánchez. & Hágsater in Hágsater & Sánchez, Icon. Orchid. 11: pl. 1147. 2008.

**Epiphytic or lithophytic**, sympodial, caespitose plants, 17-85 cm tall (including the inflorescence). **Stems** simple, cane-like, ancipitose, straight. **Leaves** 4-10, 2-13 cm long, 1.3-3.4 cm wide, distichous, distributed throughout the stem or in the upper 2/3, coriaceous, elliptic, base conduplicate, apex obtuse to retuse, mucronate, with an evident dorsal keel; sheath 1-2 cm long, tubular, ancipitose, striated when dry. **Inflorescence** 8-65 cm long, apical, racemose to pluriracemose, racemes subcorymbose, dense, producing new racemes from the same inflorescence over the years and thus appearing paniculate; peduncle 4-56 cm long, elongate, ancipitose, covered by 3-12 imbricating, tubular, laterally compressed, oblong acute to

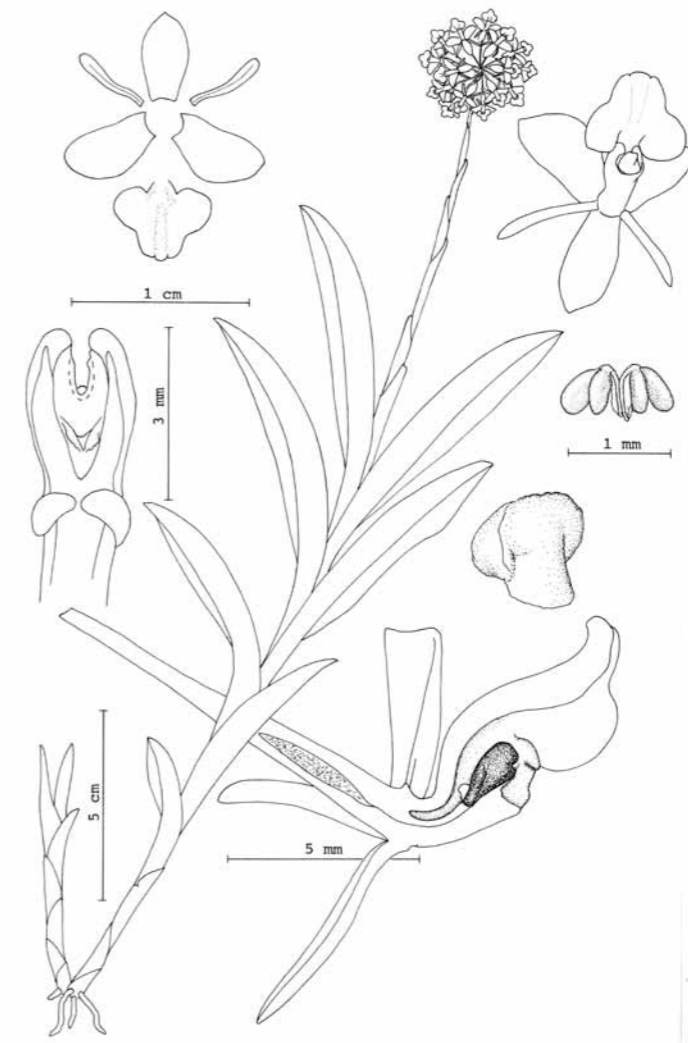


Fig. 55. *Epidendrum musciferum* Lindl. (SEL 79-1122 sub Hágsater 6067, AMO – drawn by E. Hágsater).

obtuse bracts. **Flowers** 7-25 per raceme, simultaneous, non-resupinate, cinnamon brown to yellow tinged with purple-red, greenish or yellowish to orange, lip predominantly reddish, green or yellow, the gynostemium mainly green, the apex occasionally white. **Floral bracts** 15-25 mm long, 1-2 mm wide, much shorter than the ovary, amplexicaul, triangular-ovate, acuminate. **Ovary** 6-15 mm long, noninflated, terete, smooth. **Sepals** 4.5-6 mm long, 2-3.2 mm wide, spreading to reflexed, free, obtuse, mucronate,

subcoriaceous, margin entire; dorsal sepals oblanceolate, 3-veined; lateral sepals occasionally partially spreading, obliquely obovate, obtuse, 3-5-veined. **Petals** 4.5-5 mm long, 0.5-0.8 mm wide, reflexed to sometimes spreading, linear-oblanceolate, obtuse, 1-veined, margin entire. **Lip** 3-4.2 mm long, 3.5-5.5 mm wide, united to the gynostemium, 3-lobed to obscurely 3-lobed, slightly concave, fleshy, margin entire, ecallose, with a single, evident, fleshy, wide keel running down to the apical sinus; lateral lobes 0.8-2 mm



Fig. 56. Distribution of *Epidendrum musciferum* Lindl. in Valle del Cauca.

long, 1.5-2.5 mm wide, semiorbicular to semio-  
vate; middle lobe 0.8-1.7 mm long, 1.3-2.5 mm  
wide, with a sinus, forming the semiorbicular  
lobes, lobes occasionally not evident to the thick-  
ened central keel. **Gynostemium** 3-4 mm long,  
arching at the base, obconical, thin at the base.  
Clinandrium short, margin entire. Anther ob-  
reniform. **Nectary** short, reaching the insertion  
of the perianth segments.

**HABITAT:** Lowland wet forest; up to 1000 m  
alt.

**FLOWERING SEASON:** January, July.

**GENERAL DISTRIBUTION:** Brazil, Bolivia, Peru,  
Ecuador, Colombia, Venezuela, Guyana, Suri-  
name, French Guiana, Panama.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE  
DEL CAUCA:** **Mpio. Buenaventura.** La Delfina,  
carretera a Buenaventura. 24 Jan 1960. *I. Guarín*  
*O. 80* (COL!, VALLE!); Buenaventura. 19 Jul  
1881. *Lehmann 760* (G!).

**OTHER SPECIMENS EXAMINED:** **BRAZIL. Ron-  
donia.** Ariqueemes. 1998. *Gerlach s.n.* (AMO!).  
**PERU. San Martín.** Prov. Rioja. Dist. Pardo  
Miguel. La Sabana, sector huasta, parte alta de  
Río Mayo. 5°42'S 77°24'W. Bosque perennifolio,  
ladera del río. Alt. 900 m. 9 Nov 1996. *I. Sán-  
chez Vega & M.O. Dillon 8569* (AMO! ex CPUN).  
**ECUADOR. Esmeraldas.** Along road under  
construction from Lita to Alto Tambo (21 kms),  
along roadside from km 13 to 20. Alt. 750-850  
m. *Dodson 17122* (MO!) Alluriquin. 25 Apr 1982.  
*Hágsater 6067* (AMO!, ENCB!, MEXU!). **CO-  
LOMBIA. Antioquia.** Mpio. Cocorná. Cultiva-  
do en Guarne. Alt. 1800 m. *E. Granada sub R.  
Escobar 5139* (AMO!). [North coast of Colombi-  
a]. Colombia occidentalis. 1831. *Cuming s.n.*  
(K-L!). **Cundinamarca.** Zipaquirá, Pacho-La  
Palma Highway, 1000 m, 30 Jul 1947. *Haught*  
*6015*. (COL!, US! x 2). **Risaralda.** La Virginia,  
Monte de "El Rhin" via La Virginia-Apiá. *Ospí-  
na 337* (JAUM!) **GUYANA.** Northwest Waini  
River, Marabo Shortcut. 6 Feb 1922. *De la Cruz*  
*1276* (AMES!). **SURINAME.** Fluv. Saramacca  
inferior, Jarikaba-kreek, inter, Uitkijk et Gronin-  
gen. 25 Nov 1960. *Kramer 2188* (U!). **FRENCH  
GUIANA.** Rivière Mana; Saut Ananas, forêt  
à l'Ouest du Saut. 13 Aug 1981. *Cremers 7496*  
(CAY!). **PANAMA. Darién.** Púcuero, Parque  
Nacional Darién, vecindad de la Estación Pirre,  
en la trocha limítrofe entre el camino a Cerro  
Pirre y Balsas. Alt. 60-150 m. 12 Feb 1991. *H.  
Herrera 961* (AMO!, MO!).

**NOTES.** The name *Epidendrum anceps* Jacq. has  
been used for a group of species, though that  
species proper is restricted to the Antilles and  
northern South America in the Guianas. The  
only record of *E. anceps* from the Department  
of Valle del Cauca comes from the incorrectly  
determined specimen collected by *I. Guarín*  
*O. 80* (VALLE!), which is actually *Epidendrum mus-  
ciferum* Lindl.

**46.9. Epidendrum ruizianum** Steud. (Figs 57,  
58; Photos 25).

Nomencl. Bot, ed. 2, pt. 1: 558. 1840. - Schweinfurth,  
Fieldiana, Bot. 30(2): 507-508. 1959. - Foldats in Lasser,  
Fl. Venezuela, Orchid. 15(3): 374-376. 1970. - Misas  
Urreta, Orquídeas de la Serranía del Baudó: 216-217  
2005. - Dodson & Vásquez, Icon. Pl. Trop. 2(3): pl. 230.  
1989. - Bennet & Christenson, Icon. Orchid. Peruv.: pl.  
470. 1998. - Vasquez & Ibisch, Orchid. Bolivia 2: 135,  
216 (Illust.). 2004. ≡ *Epidendrum nutans* Ruiz & Pav., Syst  
Veg. Fl. Peruv. & Chil. 1:245. 1798; TYPE: PERU. *Ruiz  
& Pavon 4/78* (MO).  
= *Epidendrum spatheaceum* Lindl., Journ. Bot. 3: 85. 1841.

**Epiphytic** or robust **terrestrial** plants. **Stems**  
60-75 cm long, base bulbously thickened, 2-2.5

cm in diameter, above 1.1-1.4 cm in diameter,  
erect, leafy. **Leaves** up to 23 cm long, 4.5 cm  
wide, oblong, notched, coriaceous, graduated in  
size from the base. **Inflorescences** about 15 cm  
long, a nodding, congested panicles subtended  
by conspicuous imbricate lanceolate, acute, com-  
pressed bracts forming a compound spathe, each  
branch of the panicle subtended by a similar large  
bract. **Flowers** small, sepals pale greenish-yel-  
low, petals crystalline green, lip white suffused  
with pale green at the base, gynostemium white  
with a pale green base, anther pale cream-whi-  
te, pollinia and caudicles bright yellow. Floral  
bracts minute. **Sepals** about 9 mm long, 7 mm  
wide, elliptic, obtuse, shallowly concave; lateral  
sepals oblique. **Petals** about 8 mm long, 2 mm

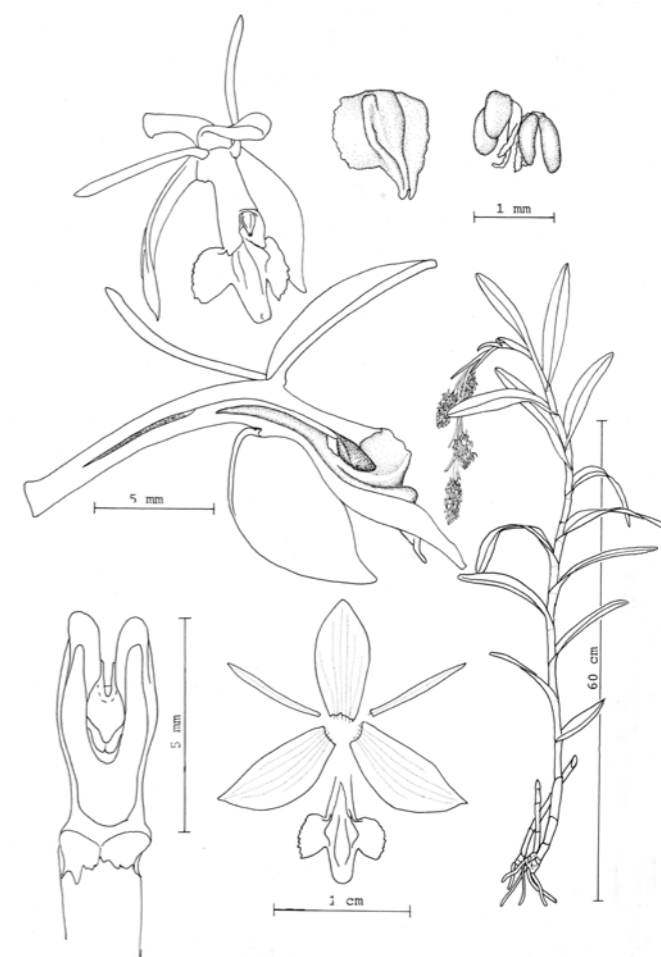


Fig. 57. *Epidendrum ruizianum* Steud. (*Ma. C. Tedesco sub Hágsater* 7457, AMO – drawn by E. Hágsater).



Fig. 58. Distribution of *Epidendrum ruizianum* Steud. in Valle del Cauca.

wide, wide-spreading, linear, dilated, obtuse. **Lip** about 5 mm long, 7 mm wide, 3-lobed, lobes subequal; lateral lobes ovate, obtuse, with a denticulate outer margin; middle lobe ovate, minutely notched, callus of two basal parallel keels and a thickened midrib. **Gynostemium** short, fleshy, clavate. Pollinia in 2 pairs.

**HABITAT:** Steep rocky slopes in montane cloud forest; 1600-2100 m alt.

**FLOWERING SEASON:** October.

**GENERAL DISTRIBUTION:** Bolivia, Peru, Ecuador, Colombia, Venezuela.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cali.** Finca los Pomos, corregimiento de Pichindé. Alt. 1640 m. 18 Oct 1987. *Rivillas Ch. 20* (CUVCI!). **Mpio. La Cumbre.** Cordillera Occidental. Alt. 1600-2100 m. *Killip 11610* (AMES!).

**OTHER SPECIMENS EXAMINED: COLOMBIA. Cundinamarca.** Disturbed roadside bank near Las Mesitas, between La Mesa and Bogotá. 27 Oct 1958. *Barclay & P. Juajibioy 6092* (MO!). Hort.

Cali Cauca, *Ma.Cristina Tedesco sub Hagsater 7457* (AMO!).

### Andean-group

Monopodial plants with subapical branching, the inflorescence apical from the main stem and the branches. It is divided in the area into 2 subgroups and includes 10 species reported for the Valle del Cauca.

#### Key to the subgroups

1. Leaves apically bilobed . . . *Cernuum*-subgroup
1. Leaves apically acute to acuminate. . . . . *Scabrum*-subgroup

### *Epidendrum cernuum*-subgroup

Characterized by the monopodial, cane-like stems with subapical branching, the branches much shorter than the main stem, coriaceous to subcoriaceous, bilobed leaves and fleshy resupinate flowers with the lip 3-lobed. Four species of this group were reported from the Department of Valle del Cauca.

#### Key to complexes

1. Inflorescence erect, ovaries elongate, flowers generally non-resupinate, lip 3-lobed . . . . . 46.13. *E. elatum* (*Vernixium*-complex)
1. Inflorescence arching-nutant, ovaries short, flowers generally resupinate, Lip generally 3-lobed or entire. . . . . 2
2. Lip generally 3-lobed. . . . . *Cernuum*-complex
2. Lip generally entire and reniform. . . . . 46.12. *E. pazii* (*Renilabium*-complex)

### *Epidendrum cernuum*-complex

Inflorescence arching nutans, ovaries relatively short, flowers resupinate, lip 3-lobed.

#### Key to species

1. Lateral lobes of the lip much smaller than the middle lobe, 1 x 2 mm; petals 2.2 mm wide, with an entire margin; flower greenish yellow to yellowish brown . . . . . 46.10. *E. cernuum*
1. Lateral lobes of the lip nearly as large as the middle lobe, 3.6 x 4.1 mm; petals 3.8 mm wide, margin erose; flowers dark greenish purple, the disc of the lip green . . . . . 46.11. *E. gaertelmaniae*

### 46.10. *Epidendrum cernuum* Kunth (Figs 59, 60; Photo 26).

*in* von Humboldt, Bonpland & Kunth, Nov. Gen. Sp. 1: 353. 1816; TYPE: COLOMBIA. NARIÑO. Andium Popayanensium, inter villam La Erre et convallem Yanacatu. Alt. 880 hex. Floret Octobri. *Humboldt & Bonpland 2111* (P!). - Santiago & Hagsater *in* Hagsater & Sánchez, Icon. Orchid. 12: pl. 1218. 2009.

**Epiphytic or terrestrial**, 60-150 cm tall. **Roots** from the base of the plant and some basal internodes of the stem, fleshy, white. **Stems** cane-like, terete, straight, branched subapically, the main stem 45-150 cm long, 0.5-1.5 cm wide, longer than the branches, base covered by nonfoliaceous sheaths 0.6-2 cm long, scarios, becoming fibrous with time. **Leaves** numerous on the main stem, 4-9 on the branches, 3-13 cm long, 0.7-1.3(2.6) cm wide, distributed throughout the stems, spreading, alternate, articulate, coriaceous, oblong to lanceolate, apex obtuse, with a minute dorsal keel, margin entire, spreading; sheaths 0.5-6 cm long, 0.3-1.1 cm wide, tubular, striated, minutely rugose, reddish brown. **Inflorescence** 7.5-15 cm long, apical, flowering only once, racemose, cylindrical, arching nutant, densely many-flowered; peduncle 0.8-1 cm long,

terete, thin, straight, provided at the base with a linear-triangular, acuminate, amplexicaul bract. **Flowers** 40-80, resupinate, simultaneous, greenish yellow to yellowish brown, lip and gynostemium yellow, sweetly fragrant. **Floral bracts** 2-4.5 mm long, much shorter than the ovary, linear-triangular, acuminate amplexicaul. **Ovary** 10-23 mm long, terete, thin, smooth, slightly dilated just behind the perianth, reddish brown. **Sepals** 10-13 mm long, about 3.6 mm wide, free, spreading, elliptic, somewhat constricted near the base, apex rounded, very prominently aristate, 3-veined, margin entire, revolute in natural position, membranous, glabrous; lateral sepals slightly oblique. **Petals** about 9.5 mm long, 2.2 mm wide, spreading, narrowly spatulate, apex rounded, 1-veined, margin entire and slightly revolute. **Lip** about 6 mm long, 5.5 mm wide, united to the gynostemium, base cordate, margin entire, slightly revolute, bicallose, the calli subspherical, prominent, 3-lobed; lateral lobes about 1 mm long, 2 mm wide, small, obliquely ovate; middle lobe about 4 mm long, 3.3 mm wide, larger, subrectangular, somewhat longer than wide, apex truncate, minutely apiculate; disc with three rounded keels that disappear before the apical sinus of the middle lobe. **Gynostemium** about 6 mm long, slightly arching, thin. Clinandrium prominent, forming a small funnel, directed upwards, margin erose. Anther reniform, dorsal surface papillose. **Nectary** shallow, penetrating about 1/4 of the ovary, thin, noninflated, unornamented.

**HABITAT:** Edge of the montane forest; about 3200-3800 m alt.

**FLOWERING SEASON:** January, November.

**GENERAL DISTRIBUTION:** Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. El Cerrito.** Central Cordillera. Above Tenerife. 3°45'52"N 76°04'02"W. Alt. 3254 m. 6 Jan 2011. *M. Kolanowska & O. Pérez 277* (COL!, UGDA! - drawing); Tenerife, cerca de Pan de Azúcar. Alt. ca 3800 m. 6 Nov 2009. *O. Pérez, N. Mesa & M. Valencia 439* (VALLE! x 2).

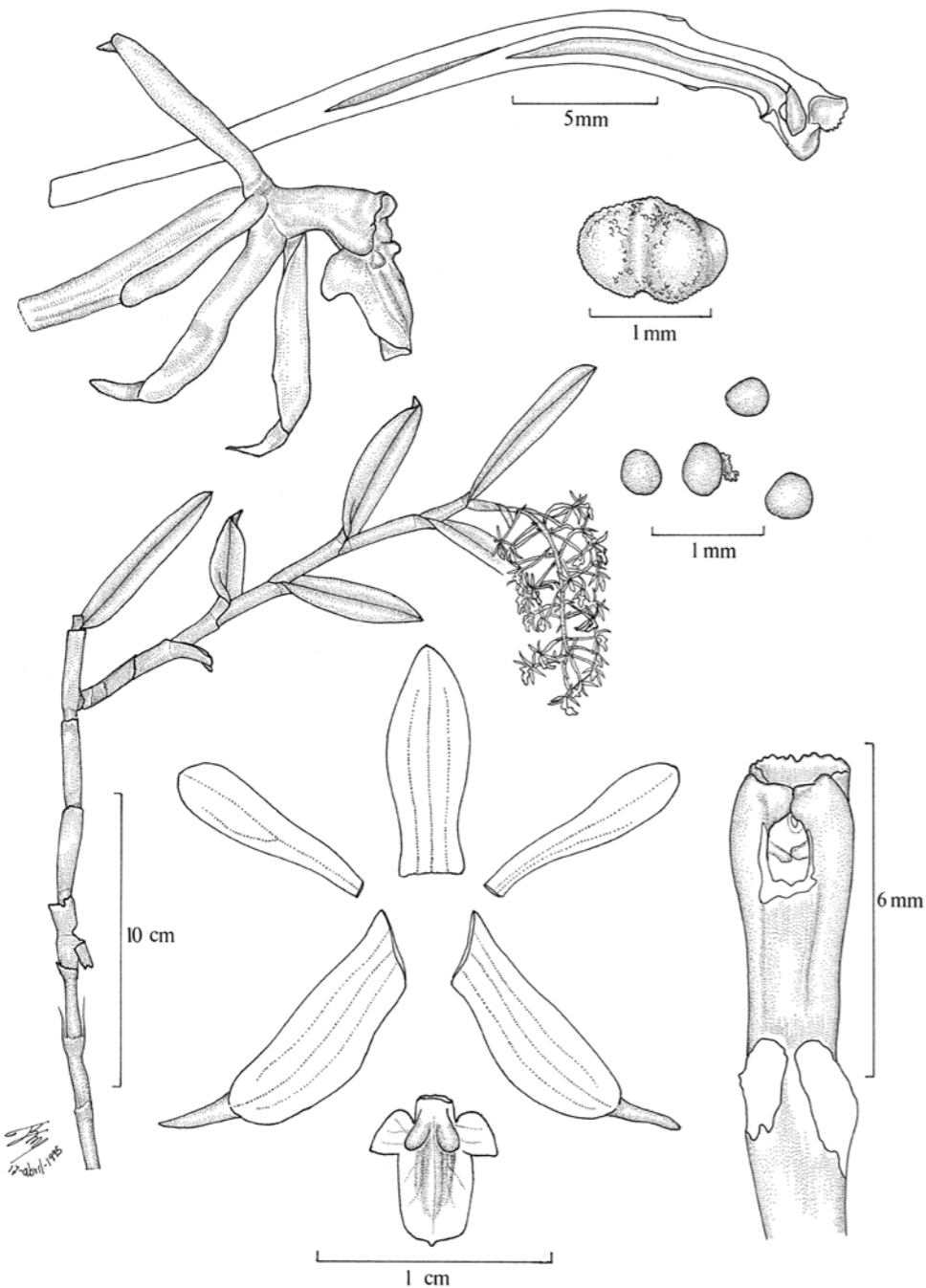


Fig. 59. *Epidendrum cernuum* Kunth (Dodson & R. Escobar 18117, AMO – drawn by R. Jiménez Machorro).

OTHER SPECIMENS EXAMINED: **COLOMBIA**.  
**Boyacá**. Sierra Nevada del Cocuy, Quebrada de las Playas. 9 Aug 1957. *Grub 384* (K!, US!).  
**Cauca**. El Tambo. Alt. 3000 m. 25 Sep 1939. *von Sneider 2002* (CM!, F!, G!, S!, US!); Silvia Curho. *Lehmann sub B.T 278* (AMES!, K!, L!, NY!).  
**Nariño**. Km 18-22 road from Pasto to Laguna Cocha (Sindamonoy). Alt. 2000-2200 m. 23 Jul 1989. *Dodson & R. Escobar 18117* (AMO! x 2, AMO! – spirit, HUA!); East side of Lake Laguna Cocha, 5 km S of Hotel Guamúes. Alt. 2750 m. *Dodson & R. Escobar 18122* (AMES!, AMO!, SEL!); Near Laguna La Cocha, along main road from Pasto to Mocoa. *Garay 27* (AMES!, COL!); Between La Cocha and Sibundoy. alt. 2700 m. 30 Jul 1978. *C.A. Luer & J. Luer 3074* (SEL!); Laguna Cocha, Isla de la Corota. Alt. 2900 m. 16 Jun 1964. *L.E. Mora 3082* (AMES!).  
**Tolima**. Mpio. Herveo. 6 km del Alto de Letras, vertiente oriental. 25 Aug 1983. *L.A. de Escobar & J.I. Santa 3605* (MO!).

46.11. *Epidendrum gaertelmaniae* Hágsater & O. Pérez (Figs 61, 62; Photos 27-29).

Icon. Orchid. 13: pl. 1334. 2010; TYPE: COLOMBIA. VALLE DE CAUCA. Mpio. El Cerrito. Tenerife, Páramo “Pan de Azúcar” [Páramo Las Hermosas], 3°45'N 76°5'W. Alt. 3800 m. 6 Nov 2009. *O. Pérez, N. Mesa & M. Valencia 440* (HOLOTYPE: VALLE!; ISOTYPES: COL!, CUVC, VALLE).

**Lithophytic** plants, up to 150 cm tall. **Roots** from the main stem, rarely from a branch. **Stems** cane-like, terete, straight, branching subapically; the main stem about 100 cm long, 0.65-0.8 cm thick, tall, branches 9-18 cm long, 0.5-0.8 cm wide. **Leaves** numerous along the main stem, 5 distributed along the apical half of the branches, leaves of the main stem 3.2-6.7 cm long, 0.8-1.6 cm wide, larger than those of the branches, alternate, coriaceous, smooth, elliptic to elliptic-lanceolate, apex bilobed, margin entire; sheaths 1.1-3.3 cm long, 0.55-0.8 cm wide, tubular, striated. **Inflorescence** 7.1-9.4 cm long, apical, racemose, arching-nutant, subspherical, laxly few-flowered; peduncle terete, arching, unornamented, without bracts, rachis straight. **Flowers** 20-27, resupinate, simultaneous, dark purple-green, disc and calli yellow. **Floral bracts** 3-4 mm long, triangular, acuminate. **Ovary** 17-30 mm long, thin, terete, noninflated, with longitudinal grooves that disappear below the middle. Sepals free, fleshy, glabrous, margins entire, revolute, apex rounded. **Dorsal sepal** about 9.4 mm long, 4.1 mm wide, spreading, elliptic, 3-veined, minutely apiculate, obtuse. **Lateral sepals** about 12 mm long, 5 mm wide, partially spreading, oblong, oblique, 4-veined. **Petals** about 8.3 mm long, 3.8 mm wide, free, spreading, somewhat fleshy, spatulate, 1-veined, vein short branched throughout, apex rounded, margin erose, strongly revolute. **Lip** about 7 mm long, 8.3 mm wide, united to the gynostemium, base cordate, 3-lobed; lateral lobes about 3.6 mm long, 4.1 mm wide, shorter than the middle lobe, obliquely ovate, apical margin slightly ero-



Fig. 60. Distribution of *Epidendrum cernuum* Kunth in Valle del Cauca.

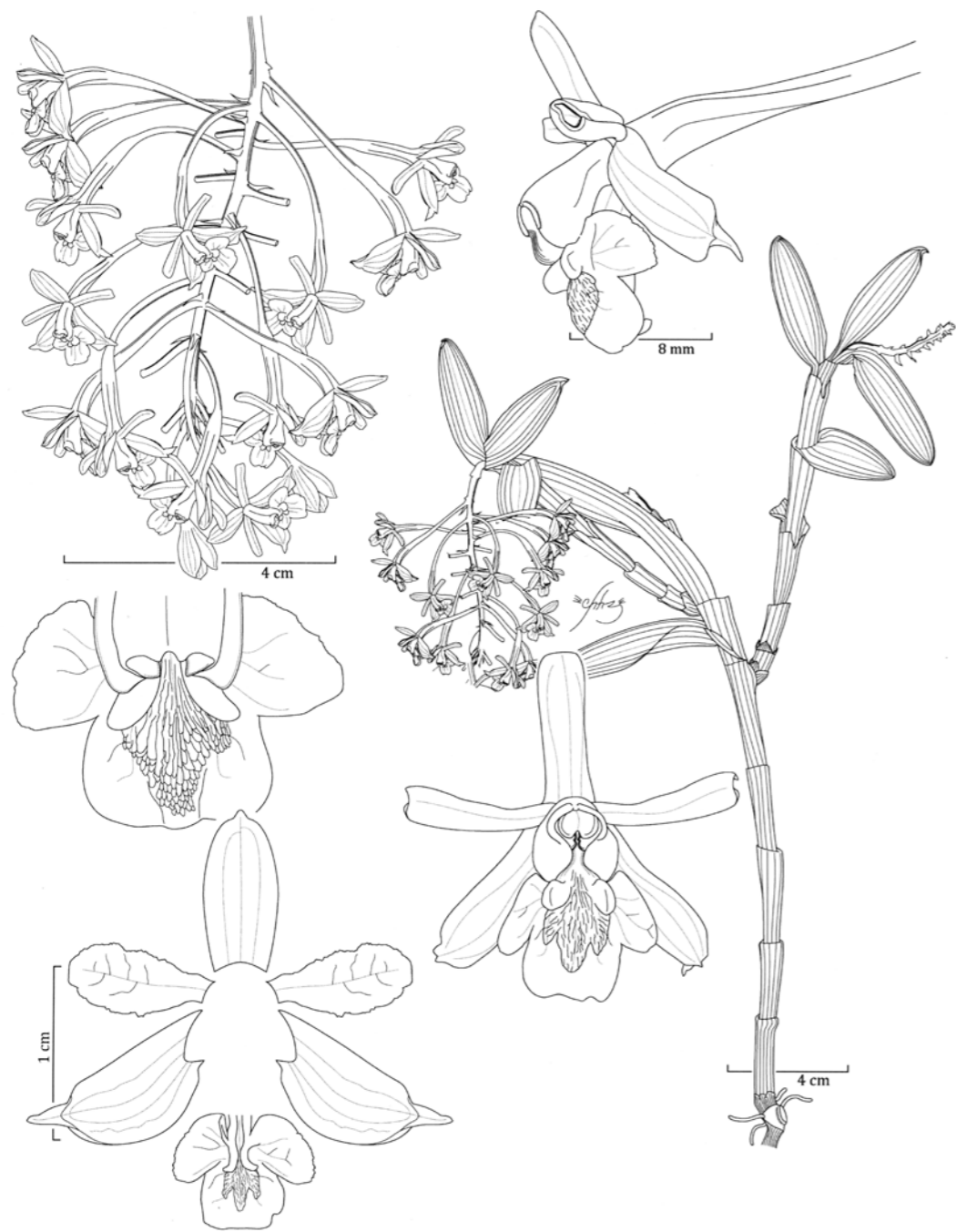


Fig. 61. *Epidendrum gaertelmaniae* Hágsater & O.Pérez (*O. Pérez* 440, VALLE – drawn by O. Pérez).



Fig. 62. Distribution of *Epidendrum gaertelmaniae* Hágsater & O.Pérez in Valle del Cauca.

se; middle lobe about 3.6 mm long, 4.7 mm wide, rectangular, apex truncate, minutely apiculate, margin entire; bicallous, calli prominent, slightly divaricate; disc with a prominent, 3-dentate, rugose, wide thickening, reaching nearly the middle of the middle lobe. **Gynostemium** 5-6 mm long, thick, straight, apex with a pair of short, rounded wings. Clinandrium prominent, without surpassing the gynostemium, margin slightly erose. Anther reniform, microscopically papillose in front

**HABITAT:** Transition of a highmontane forest and páramo formation dominated by *Puya* and *Espeletia* species, codominated by *Hypericum* shrubs and grasses; 3500-3700 m alt.

**ECOLOGY:** Often grows together with *Epidendrum cernuum* Kunth.

**FLOWERING SEASON:** June.

**GENERAL DISTRIBUTION:** Known only from Colombia - Departments of Valle del Cauca and Cauca.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE**

DEL CAUCA: **Mpio. El Cerrito.** Pan de Azúcar. Alt. 3500-3700 m. 16 Jun 1922. *Pennell* 7043 (AMES!, NY!, US!).

### **Renilabium-complex**

Inflorescence arching-nutans, lip entire and reniform.

### **46.12. *Epidendrum pazii* Hágsater (Figs 63, 64; Photos 30-32).**

Icon. Orchid. (Mexico) 4: t. 469. 2001; TYPE: COLOMBIA. CHOCÓ. San José del Palmar, Las Amarillas, Carretera Boqueron-Río Blanco. Alt. 2300 m. 2 Apr 1996. *N. Paz*, *F. Castro*, *A. Fajardo* & *P. Grant* 493 (HOLOTYPE: CUVCI; ISOTYPES: AMO!, COL!, CUVCI!).

**Terrestrial**, branching plants, 100-250 cm tall. **Stems** 100-200 cm long, 1-1.5 cm wide, branching, branches up to 44 cm long, erect, cane-like, laterally compressed. **Leaves** 5.5-9 cm long, 3.6-4.8 cm wide, numerous, distributed throughout the stem, widely elliptic, about twice as long as wide, rounded to unequally bilobed; sheath tubular, laterally flattened, 1-4.2 cm long, 0.9-1.5 cm wide. **Inflorescence** 7-8.5 cm long, apical, arching; peduncle short, flattened, devoid of bracts 1 cm long. Spathes absent. **Flowers** 12-17, successive, about 8 open at one time, opening from the base towards the apex, resupinate, creamy green colored, with a pleasant fragrance. **Floral bracts** 4-6 mm long, shorter than the ovary, triangular, acuminate. **Ovary** terete. Sepals spreading, 7-veined. **Dorsal sepal** about 21 mm long, 10.3 mm wide, obovate, acute, entire. **Lateral sepals** about 21 mm long, 8.5 mm wide, elliptic-oblong, apiculate, entire, oblique. **Petals** about 18 mm long, 11 mm wide, spreading, elliptic-obovate, apiculate, 3-veined, lateral veins bifurcate near the base. **Lip** about 17.5 mm long, 20 mm wide, united to the gynostemium, entire, cordate, reniform, notched,

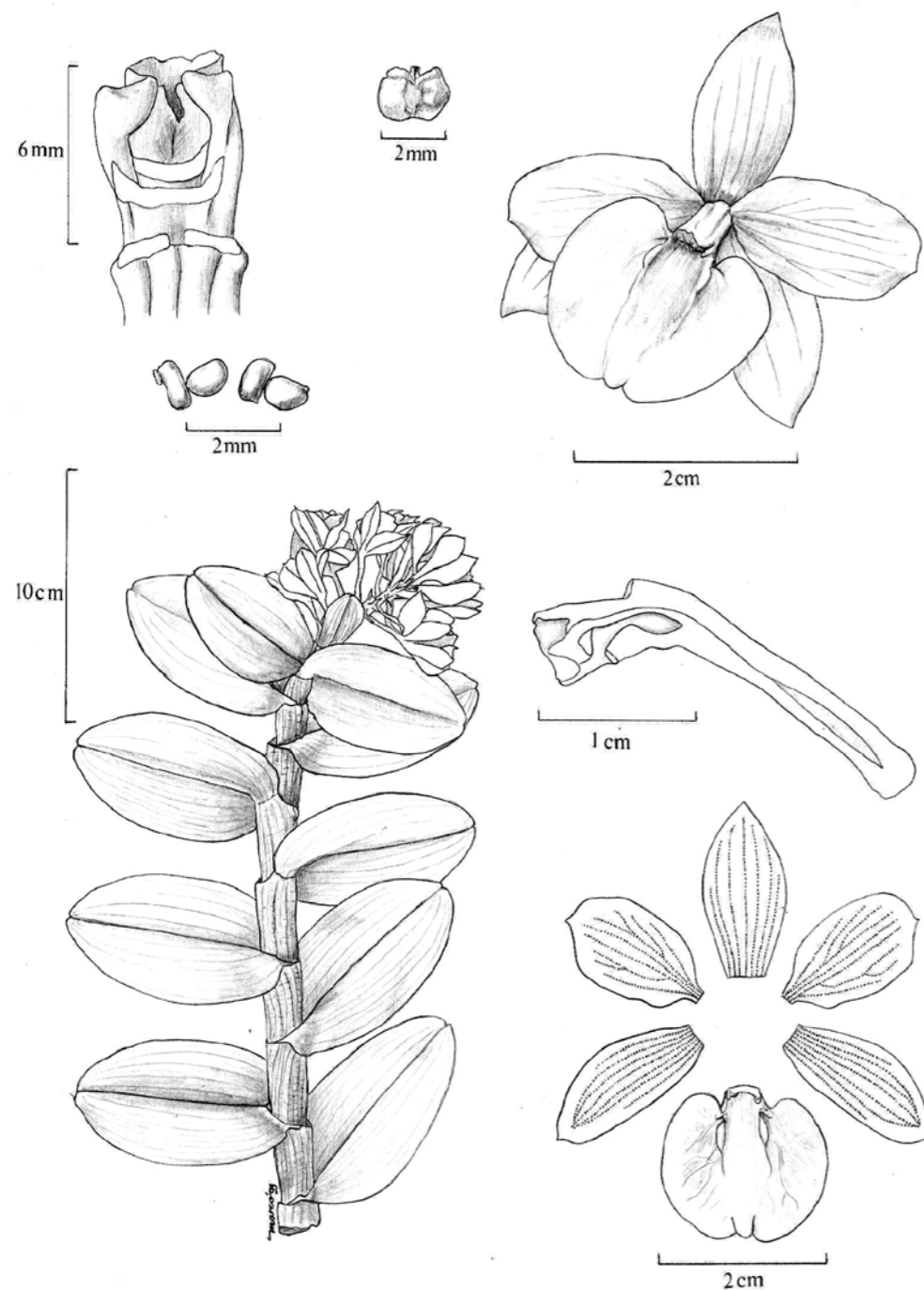


Fig. 63. *Epidendrum pazii* Hágsater (N. Paz, F. Castro, A. Fajardo & P. Grant 493, AMO – drawn by M.A. López Rosas).



Fig. 64. Distribution of *Epidendrum pazii* Hágsater in Valle del Cauca.

with a central low keel forming a thickened apicule, biculose, the keels laminar, elongate, parallel and separated. **Gynostemium** about 6 mm long, straight, thick. Clinandrium reaching the apex of the gynostemium, entire. Anther reniform. **Nectary** penetrating 1/4 of the ovary, unornamented.

**HABITAT:** Montane forest; about 1850-2125 m alt.

**FLOWERING SEASON:** March to April, July

**GENERAL DISTRIBUTION:** Known only from the Western Cordillera in the western Colombia, on the border between the Departments of Chocó and Valle del Cauca.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cali.** Km 18 Cali-Buenaventura. 16 Mar 1980. *I. Guarín O. 105* (COL!). **Mpio. El Cairo.** Reserva Natural Cerro El Inglés. Alt. 2121 m. 11 Jul 2011. *García-Ramírez 68* (CUCV!); Vereda las Amarillas, Serranía de los Paraguas. Alt. 1850-2000 m. *Luteyn & Giraldo 12653* (CUCV!, NY!); Las Amarillas, Frontera

Valle Chocó. Alt. 2125 m. 29 Mar 1988. *Silverstone-Sopkin 3763* (MO!).

**OTHER SPECIMENS EXAMINED: COLOMBIA.** *Sine loc. Escobar 1169* (AMO! - photo).

### **Vernixium-complex**

Inflorescence erect, ovary elongate, flowers non-resupinate, lip 3-lobed.

#### **46.13. Epidendrum elatum** C.Schweinf. (Figs 65, 66; Photos 33-34).

Bot. Mus. Leaf., Harvard Univ. **11:** 89. 1943; **TYPE:** PERU. Ayacucho. Prov. Huanta. Choimacota Valley, in evergreen mountain forest. Alt. 3000 m. 28 Feb-10 Mar 1926. *Weberbauer 7536* (HOLOTYPE: F, ISOTYPES: AMES!, F!). - Santiago & Hágsater *in* Hágsater & Sánchez, *Icon. Orchid.* **12:** pl. 1240. 2009.

**Terrestrial**, erect plants, up to 300 cm tall. **Stem** about 17 cm long, 0.6-1 cm wide, cane-like, terete, erect, straight, branching subapically. **Leaves** numerous, 14-16 cm long, 3.6-4 cm wide, leaves of the main stem much larger than those of the branches, distributed throughout the stems, alternate, articulate, oblong-elliptic to elliptic-lanceolate, apex obtuse to rounded, subcoriaceous, margin entire; sheath 1-3 cm long, 0.6-1 cm wide, tubular, striated, rugose. **Inflorescence** 5-14 cm long, apical, racemose, arching to suberect, many-flowered, flowering only once; peduncle about 1 cm long, short, terete, thin. **Flowers** 20-35, non-resupinate, simultaneous, fleshy, green to greenish yellow, occasionally tinged purple; fragrance of jasmine. **Floral bracts** 3-7 mm long, much shorter than the ovary, linear-lanceolate, acuminate, amplexicaul. **Ovary** 25-50 mm long, terete, thick, somewhat dilated behind the perianth, smooth, the apex slightly arched. **Sepals** 15-21 mm long, 4.6-6.5 mm wide, partially spreading, oblanceolate-oblong, obtuse, minutely apiculate, 5-veined, margin entire, spre-



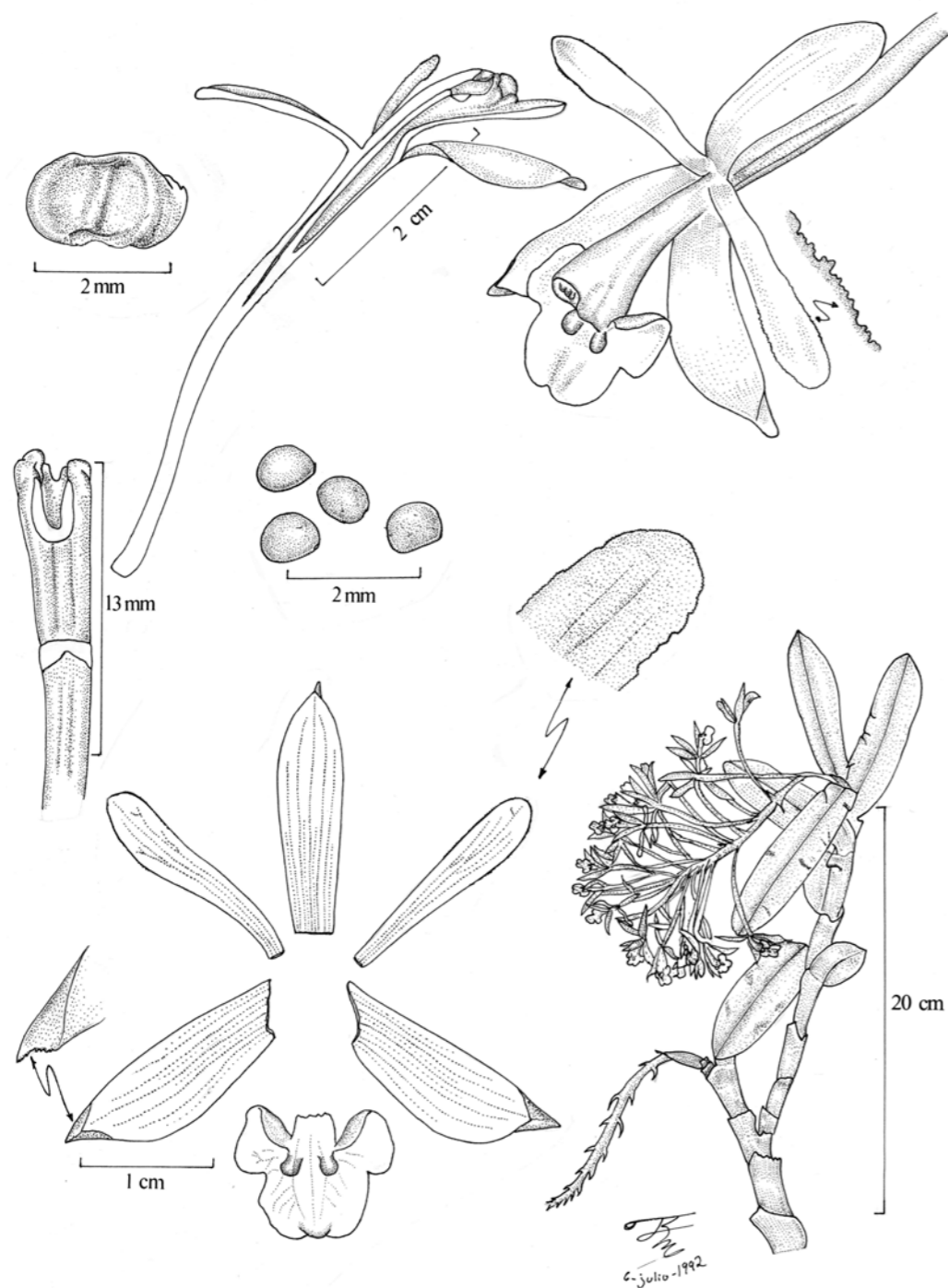


Fig. 65. *Epidendrum elatum* C.Schweinf. (*Cuatrecasas* 21712, US – drawn by R. Jiménez Machorro).



Fig. 66. Distribution of *Epidendrum elatum* C.Schweinf. in Valle del Cauca.

ading; dorsal sepal free; lateral sepals obliquely fused to the base of the gynostemium, somewhat oblique. **Petals** 17-19 mm long, 3-4 mm wide, free, partially spreading, narrowly oblanceolate, apex rounded, 3-veined, apical margin erose, somewhat revolute. **Lip** 7-10 mm long, 10-11 mm wide, united to the gynostemium, base cordate, 3-lobed, margin entire; lateral lobes about 5 mm long, 3 mm wide, dolabriform; middle lobe about 5 mm long, 5-7 mm wide, subrectangular (generally wider at the base), apex truncate, minutely apiculate; bicallose, calli small, subglobose; disc with 3 parallel keels, nearly reaching the apex of the lip. **Gynostemium** 12-15 mm long, straight, thin, obconical, long. Clinandrium reduced, margin entire. Anther reniform. **Nectary** penetrating 1/2 the ovary, smooth.

**HABITAT:** Wet montane forest and road embankments; about 2950 m alt.

**FLOWERING SEASON:** July.

**GENERAL DISTRIBUTION:** Bolivia, Peru, Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Bugalagrande.** Cordillera Occidental, Los Farallones, vertiente oriental: Almorzadero. Alt. 2950 m. 25 Jul 1946. *Cuatrecasas* 21712 (AMES!, FI!, U!, US!, VALLE!).

**OTHER SPECIMENS EXAMINED: ECUADOR.** **Loja.** Loja to Zamora, km 17.7, después del puerto. Alt. 8040 ft. 11 Sep 1999. *Hågsater* 12342 (AMO! x 2). **Morona-Santiago.** Road Limón (General Plaza)-Gualaceo, km 20-30 from Limón. Alt. 2000-2300 m. 25 Mar 1974. *Harling* 12839 (AMES!, GB!). **PERU. Amazonas.** Bagua, Cordillera Colón SE of La Peca. Alt. 7750-8075 ft. 16 Oct 1978. *Barbour* 4099 (MO!, SEL!). **Cusco.** Prov. La Convención. Dist. Huayopata, abra de Malaga, bosque secundario. 13°08'20"S 72°18'16"W. Alt. 3700 m. 3 Dec 2003. *L. Valenzuela, E. Suelli, E. Acurio & R. Bonino* 2428 (AMO!). **Huánuco.** Abajo de Carpish. 11 Sep 1960. *Acleto* 128 (USM!); The same loc. *Acleto* 129 (UC!, USM!); Carpish, first summit above Acomayo. Alt. 2450 m. 16 Jul 1964. *Hutchison* 5970 (AMES!, KI!, MO!, NY!, UC!, US!, USM!).

### *Epidendrum scabrum*-subgroup

Characterized by the branching plants with acute or acuminate leaves, leaf-sheaths tubular or infundibuliform. Six species are confirmed for the Valle del Cauca. The subgroup itself is divided into 4 complexes, of which 3 are represented by a single species in the area.

### Key to complexes

1. Flowers simultaneous . . . . . 2
1. Flowers successive, one at a time . . . . .  
 . . . . . *Batesii*-complex
2. Leaf sheaths adpressed or tubular (on the branches some may look slightly inflated, especially when dry) . . . . . 3
2. Leaf sheaths infundibuliform on the main stems as well as the branches. . . . .  
 . . . . . 46.19. *E. leonorae* (*Soratae*-complex)

3. Leaves linear to linear-lanceolate, narrow, acute, inflorescence racemose, generally dense . . . . .  
 . . . 46.17. *E. angustissimum* (*Cuniculatum*-complex)
3. Leaves narrowly elliptic to lanceolate, acute to short-acuminate, inflorescence racemose to paniculate, lax flowered. . . . .  
 . . . 46.18. *E. pleiobracteatum* (*Fritzianum*-complex)

***Epidendrum batesii*-complex**

Stems with subapical branching, forming short, compact shrubs, acute leaves, successive flowers, non-resupinate

**Key to species**

1. Flowers yellow, the lip white; lip entire, suborbicular with the margin crenate, ovary not inflated . . . . . 46.16. *E. silverstonei*
1. Flowers green, the lip occasionally white; lip 3-lobed with the margin of the lateral lobes denticulate to lacerate-dentate; ovary ventrally inflated. . . . . 2
2. Flowers green; sepals 7-8.5 mm long; ovary clearly inflated along the apical half, 9-16 mm long . . . . .  
 . . . . . 46.15. *E. farallonense*
2. Flowers green with the lip white; sepals 15-17 mm long; ovary slightly inflated throughout, 30-40 mm long . . . . . 46.14. *E. batesii*

**46.14. *Epidendrum batesii* Dodson (Figs 67, 68; Photo 35).**

Icon. Pl. Trop. 1: t. 73. 1980; TYPE: ECUADOR. PICHINCHA. Centinela, 12 km E of Patricia Pilar off the road Santo Domingo to Quevedo. Alt. 600 m. 6 Feb 1979. *Dodson & W.L. Bates 7367* (HOLOTYPE: SEL; ISOTYPES: AAU!, MO!). - Hágsater in Hágsater & Sánchez, Icon. Orchid. 9: pl. 912. 2007.

**Epiphytic plants, up to 21 cm tall. Stems** about 15 cm long, 0.22-0.36 cm wide, cane-like, terete, branched, flexuose, thin; branches short, scarce, produced from the upper internodes of

the main stem. **Leaves** 9-15, 2.5-3.4 cm long, about 0.8 cm wide, distributed throughout the stems, subcoriaceous, alternate, narrowly lanceolate, acute, mucronate, smooth, margin entire; sheaths 0.5-1.3 cm long, 0.22-0.36 cm wide, tubular, striated and rugose. **Inflorescence** about 1 cm long, apical, racemose, subsessile; peduncle about 2 mm long, terete, thin, rachis nearly completely hidden by the floral bracts. **Flowers** 4-5, successive, essentially non-resupinate, one open at a time, green, lip white. **Floral bracts** 2-4 mm long, much shorter than the ovary, triangular acute. **Ovary** 30-40 mm long, terete, slightly inflated ventrally throughout its length. **Sepals** 15-17 mm long, 3.8-4.5 mm wide, free, spreading, narrowly oblanceolate, acute, 6-veined, margin entire, somewhat revolute; lateral sepals oblique. **Petals** 16-17 mm long, 1.7-1.9 mm wide, spreading, free, linear-oblanceolate, subacute, 3-veined, margin entire. **Lip** 7.6-8 mm long, 9.6-10 mm wide, united to the gynostemium, truncate to slightly cordate at the base, 3-lobed, bicallose, calli thin; lateral lobes about 3.8 mm long, 7 mm wide, obliquely semiovate, dolabriform, the union with the disc wide, margin crenate to denticulate; middle lobe 2.3-2.5 mm long, 2.3-2.5 mm wide, short, square, truncate, minutely apiculate, margin entire; disc provided with a low keel. **Gynostemium** 10-12 mm long, straight, thin, apex obconical. Clinandrium short, margin entire. Anther subreniform. **Nectary** penetrating somewhat more than 4/5 of the ovary, thin, smooth.

**HABITAT:** In the whole range it occurs on the coastal lowlands of the Pacific slope of the Andes; 250-1000 m alt.

**FLOWERING SEASON:** August.

**GENERAL DISTRIBUTION:** Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Entre El Queremal & Anchicayá. Toronjal km 52. 27 Aug 1983. *Hágsater, R.L. Dressler & Folsom 7391* (AMO!, COL!).

**OTHER SPECIMENS EXAMINED: ECUADOR. Esmeraldas.** Km 34.4 camino Lita a San Lo-

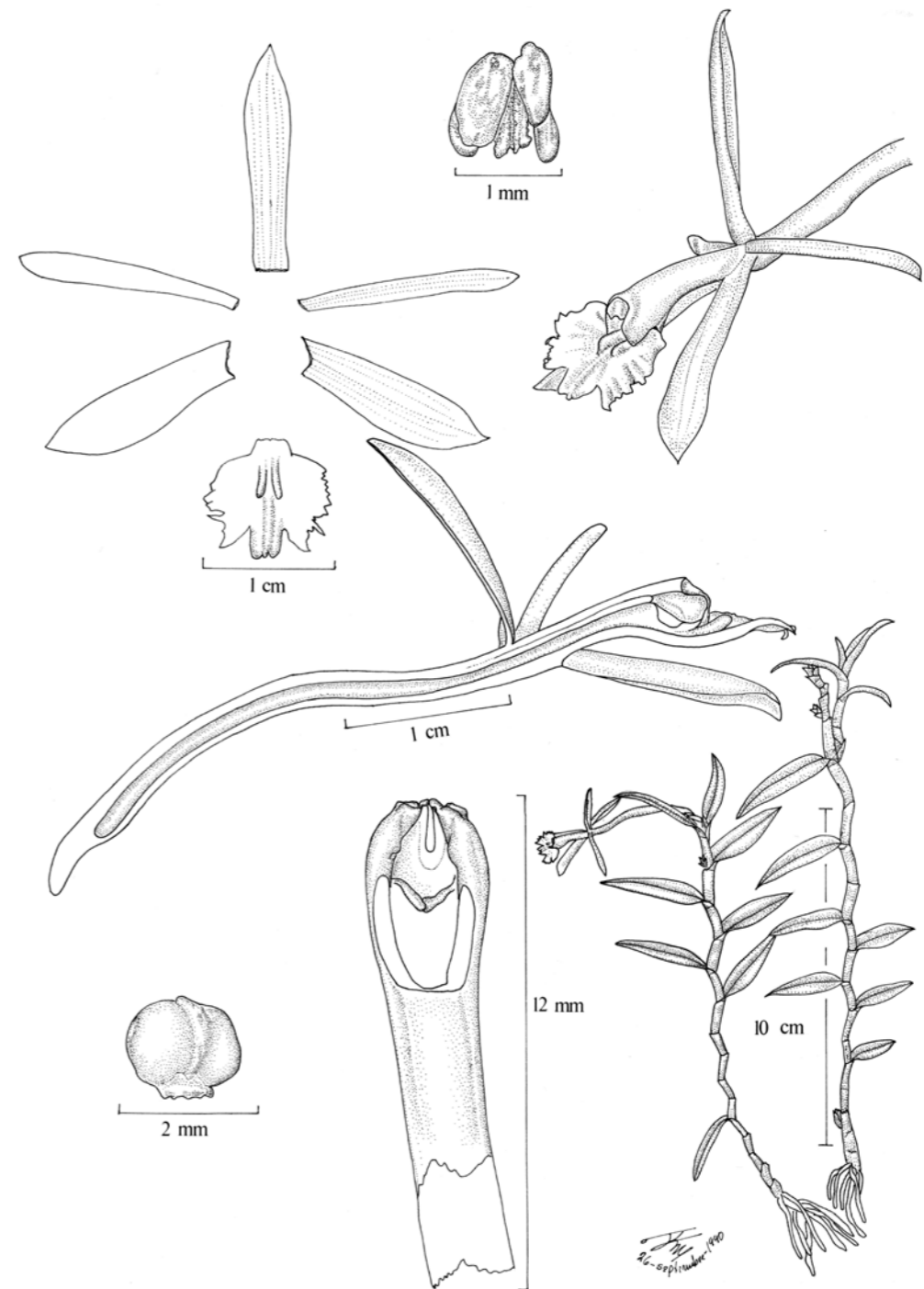


Fig. 67. *Epidendrum batesii* Dodson (*Hágsater, Dodson, D. Rubio & N. Revelo 10640*, AMO – drawn by R. Jiménez Machorro).



Fig. 68. Distribution of *Epidendrum batesii* Dodson in Valle del Cauca.

renzo, antes del fin de la meseta. Selva alta perennifolia, selva alta & 8000 mm anuales de precipitación, epífita. Alt. 250 m. 11 Jul 1990. *Hágsater, C.H. Dodson, D. Rubio & N. Revelo 10640* (AMO!). **Pichincha.** Centinela, km 44 of the road Sto. Domingo-Quevedo. Alt. 600 m. Jan 1979. *Besse 1230* (AAU!, SEL!); Centinela, km 12 Patricia Pilar to 24 Mayo. Alt. 600 m. 7 Jul 1985. *Dodson 16208* (MO!, QCA!, QCNE!); Santa Rosa de Toachi, 7 km highway from Sto. Domingo to Quevedo. Alt. 1000 m. 20 Jan 1990. *Hirtz 4526* (MO!).

**46.15. *Epidendrum farallonense* Hágsater** (Figs 69, 70; Photos 36-37).

Icon. Orchid. (Mexico) 3: pl. 332. 1999; TYPE: COLOMBIA. VALLE DEL CAUCA. Fila de la Cordillera Occidental, km 21 Cali-Buenaventura, arriba de Finca Torremolinos. Alt. 2000-2050 m. *Hágsater, Dressler & Folsom 7307* (HOLOTYPE: COL!).

**Epiphytic**, about 9-21 cm tall. **Stems** 9-25 cm long, 0.2-0.3 cm wide, erect, branching from near the apex, the apical stem 3-9 cm long, flexuose. **Leaves** 4-9, 1.6-3.2 cm long, 0.5-1.1 cm wide, progressively larger, articulate, distributed throughout the stem, subcoriaceous, lanceolate-elliptic, obtuse, margin minutely erose-denticulate; sheath tubular, striate and minutely verrucose, 0.5-1.3 cm long, 0.2-0.3 cm wide. **Inflorescence** apical, sessile, racemose. Spathe absent. **Flowers** 3-9, successive, 2-3 open at one time, green. Floral bracts 2-3.5 mm long, much shorter than the ovary, triangular, acute. Ovary 9-16 mm long, inflated, forming a prominent vesicle at the apical ventral half. **Dorsal sepal** 7-8.5 mm long, 2.8 mm wide, obovate, apex rounded, 5-veined. **Lateral sepals** 7.3-8 mm long, about 3.1 mm wide, elliptic-obovate, acute, dorsally carinate, aristate, 5-veined. **Petals** 6.5-7.5 mm long, about 1.5 mm wide, narrowly lanceolate, rounded, 3-veined. **Lip** 4.5-5 mm long, 4-4.5 mm wide, 3-lobed; lateral lobes about 1.5 mm long, 2.8 mm wide, dolabriform, margin deeply lacerate-dentate, with a prominent triangular, acute tooth at the apex; middle lobe about 2.5 mm long, 1.8 mm wide, subrectangular, apex notched; bicallose, with a low central keel at the basal half of the middle lobe. **Gynostemium** 4-5 mm long, arched. Clinandrium short, entire. Anther reniform. **Nectary** penetrating nearly half of the ovary, dilated forming a prominent ventral vesicle, unornamented.

**HABITAT:** Cloud forest; alt. 1900-2050 m.

**FLOWERING SEASON:** June.

**GENERAL DISTRIBUTION:** Endemic, known only from the Department of Valle del Cauca.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cali.** El Saladito. *P. Ortiz V. s.n.* (HPUJ! - slide, AMO! - slide duplicate); Km 18 Cali-Buenaventura. Alt. 2000 m. 20 Jun 1965. *Dodson & H. Hills 3133* (SEL!); **Mpio. Dagua.** Camino Cali-Anchicaya, El Queremal, estación de Microondas Tokio. Alt. 1900 m. *Hágsater, R.L. Dressler, Folsom & K. Dressler 7329* (AMES!, AMO!), Fila de la Cordillera Occidental, km

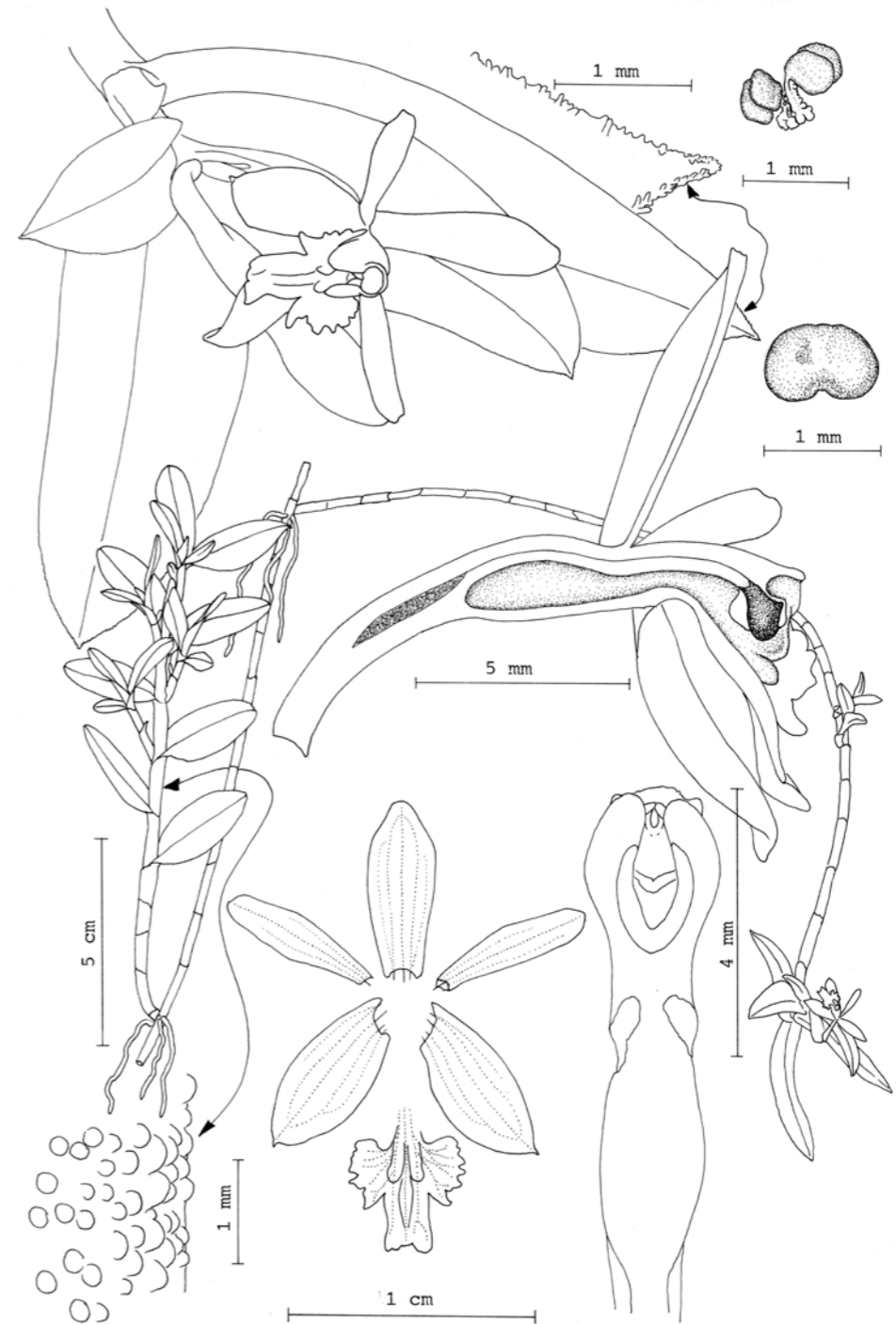


Fig. 69. *Epidendrum farallonense* Hágsater (*Hágsater, Dressler & Folsom 7307*, COL – drawn by E. Hágsater).



Fig. 70. Distribution of *Epidendrum farallonense* Hágsater in Valle del Cauca.

21 Cali-Buenaventura, arriba de Finca Torre-molinos. Alt. 2000-2050 m. *Hágsater, Dressler & Folsom 7307* (COLI).

**46.16. *Epidendrum silverstonei* Hágsater** (Figs 71, 72; Photo 38).

Icon. Orchid. (Mexico) **3**: pl. 383. 1999; TYPE: COLOMBIA. VALLE DEL CAUCA. El Cairo. Las Amarillas, Cordillera Occidental, Sierra de los Paraguas, cerca de la base del Cerro Inglés, carretera El Cairo-Río Blanco. Alt. 2125 m. 29 Mar 1988. *Silverstone-Sopkin, N. Paz & R. Eriksson 3768* (HOLOTYPE: CUVCI, ISOTYPES: AMO!, MO!).

**Epiphytic** plants, about 20 cm tall. **Stems** 4.5-10 cm long, branching, flexuose, laterally compressed. **Leaves** 4-7, 2.2-2.8 cm long, 0.5-0.7 cm wide, distributed throught the stems, on the same plane of the stem, subcoriaceous, elliptic, acute, somewhat carinate; sheath tubu-

lar, laterally compressed, rugose. **Inflorescence** apical, sessile, racemose. **Spathe** absent. **Flowers** non-resupinate, successive, one at the time, yellow, lip white, gynostemium whitish, anther green. Floral bracts about 3 mm long, much shorter than ovary, triangular, obtuse. Ovary about 25 mm long, straight, unornamented. **Sepals** about 12.5 mm long, 4 mm wide, spreading, oblong-ob lanceolate, obtuse, carinate, 5-veined. **Petals** about 12 mm long, 3 mm wide, spreading, ob lanceolate, rounded, 3-veined. **Lip** about 9 mm long, 10 mm wide, united to the gynostemium, entire, suborbicular, deeply cordate at the base, surface papillate, bicallose, with a wide low keel running down the middle. **Gynostemium** about 6 mm long, straight, thick, apex rounded. Clinandrium reduced, entire. Anther reniform. **Nectary** penetrating half the length of the ovary, ornamented with rumerous papillae.

**HABITAT**: Forming compact shrubs in cloud forest and on the ground in disturbed herbaceous and bushy vegetation; at about 2125 m alt.

**FLOWERING SEASON**: March, probably over an extended period, as the flowers are successive.

**GENERAL DISTRIBUTION**: Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA**: **Mpio. El Cairo**. Las Amarillas, Cordillera Occidental, Sierra de los Paraguas, cerca de la base del Cerro Inglés, carretera El Cairo-Río Blanco. Alt. 2125 m. 29 Mar 1988. *Silverstone-Sopkin, N. Paz & R. Eriksson 3768* (AMO!, CUVCI!, MO!).

**OTHER SPECIMENS EXAMINED**: **COLOMBIA. Chocó. Mpio. San José del Palmar**. Cuenca del Río Blanco, cercanías de la casa de la Florida. Alt. 1604 m. 7 Jul 2011. *Duván Andres García-Ramírez & Jairo Santiago García-Revelo 23* (CUVCI!); **Mpio. San José del Palmar**. Cerro del Torrá, vertiente nororiental, plan grande abajo de la cumbre. Alt. ca 2500 m. 12 Jan 1992. *Silverstone-Sopkin & N. Paz, A. Duque, H. Bayona 1750* (CUVCI!, MO!, NY!); **Cerro del Torrá, vertiente oriental, mesa & vecindad de mesa abajo de cumber**. Alt. 2500-2550 m. 13 Aug 1988. *Silverstone-Sopkin &*

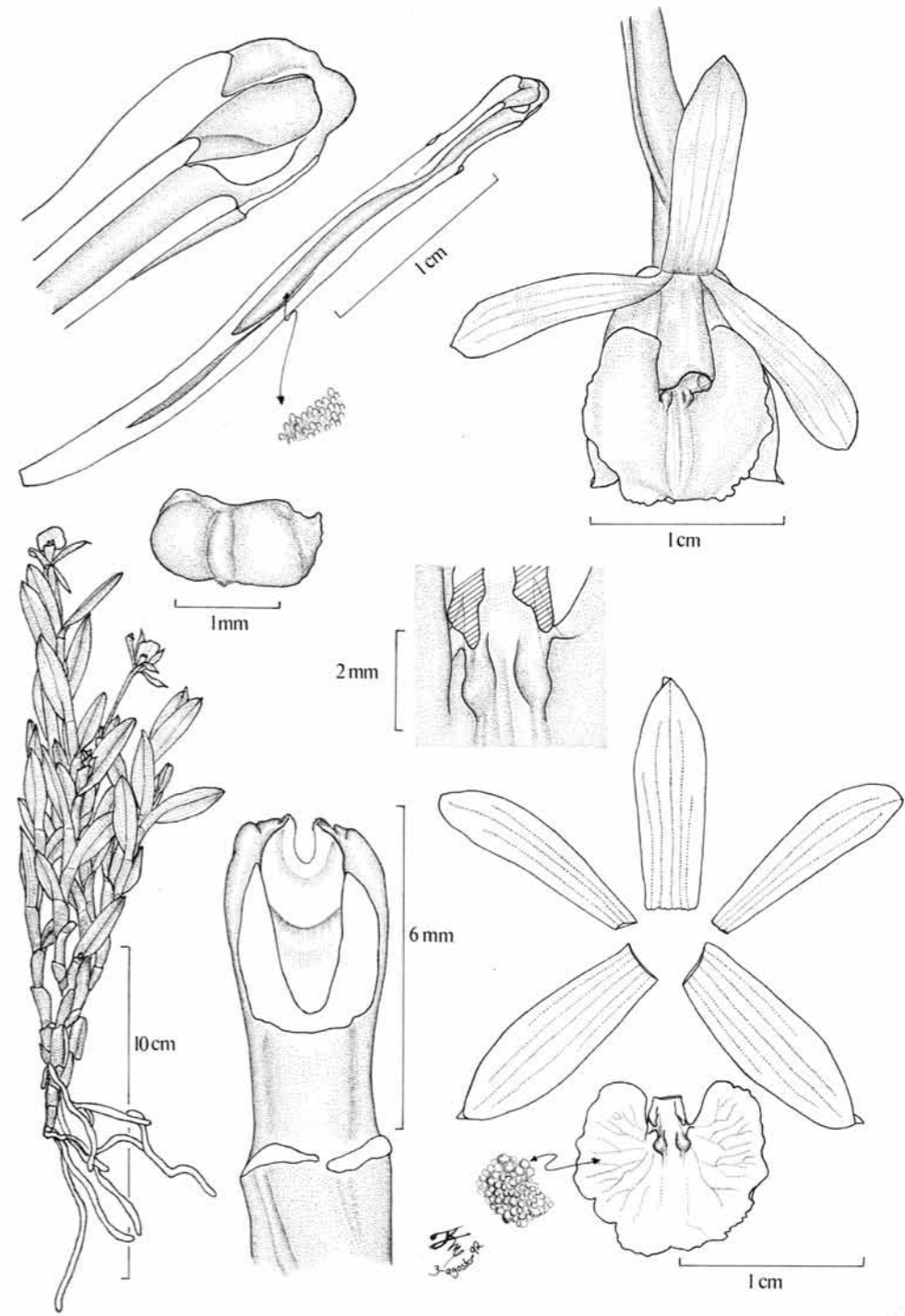


Fig. 71. *Epidendrum silverstonei* Hágsater (*Silverstone-Sopkin, N. Paz & R. Eriksson 3768*, AMO – drawn by R. Jiménez Machorro).



Fig. 72. Distribution of *Epidendrum silverstonei* Hágsater in Valle del Cauca.

N. Paz, R.T. González, J.E. Ramos, L.H. Ramos, A. Henao 4339 (CUVCI, MO!). **ANTIOQUIA.** Mpio. Urrao. Carretera entre Urrao & Carmen de Atrato. Alt. 2440 m. 14 Aug 1993. R. Escobar & al. 5355 (AMO!).

#### *Epidendrum cuniculatum*-complex

Sheaths of stems and branches infundibuliform, flowers simultaneous.

#### 46.17. *Epidendrum angustissimum* Lindl. (Figs 73, 74; Photo 39).

Fol. Orchid. 4: 84. 1853; TYPE: COLOMBIA. TOLIMA. Prov. de Mariquita. *Triana 128* (K-L, W!). - Santiago & Hágsater in Hágsater & Sánchez, Icon. Orchid. 9: pl. 906. 2007.  
= *Epidendrum chortophyllum* Schltr., Repert. Spec. Nov. Regni Veg., Beih. 8: 69. 1921.

**Epiphytic** plants, 25-70 cm tall. **Stems** erect, cane-like, terete, more or less straight, the main stem long, branching from the middle and upper internodes, secondary stems 1.8-10 cm long, 0.15-0.25 cm wide, with 3-11 nodes and producing new stems. **Leaves** numerous, 3.3-10 cm long, 0.2-0.4 cm wide, linear-lanceolate, acuminate, those on the main stem larger than those of the branches; leaf-sheaths striated, rugose, purple tinged. **Inflorescence** 2.7-6(7.5) cm long, apical, racemose, erect to nodding, densely flowered, flowering only once. **Flowers** 10-16, simultaneous, resupinate, pale yellow. **Floral bracts** 2-7 mm long, shorter than the ovary, lanceolate, acuminate. **Ovary** 5-11 mm long, thin, smooth. **Sepals** rounded, apiculate, 3-veined, margin entire. **Dorsal sepal** 5-6.7 mm long, 2.4-3 mm wide, obovate to ligulate-elliptic. **Lateral sepals** 5.0-6.7 mm long, 2.5-3.3 mm wide, free, elliptic to obovate elliptic, oblique, keeled. **Petals** 5-6 mm long, 1-1.8 mm wide, linear, somewhat dilated towards the serrulate apex, 1-veined. **Lip** about 3.5 mm long and wide, united to the gynostemium, 3-lobed, slightly cordate, margin erose, bicallose, calli globose; lobes subequal or the lateral lobes somewhat smaller, semiorbicular, rounded or ending in a right angle. **Gynostemium** 3-5 mm long, straight. **Clinandrium** short, fleshy, entire. **Nectary** slightly penetrating the ovary. **Capsule** about 3 mm long, globose with a thin, short pedicel and a short apical neck.

**HABITAT:** Elfin forest on the edges of páramo; 2900-3680 m alt. It was reported growing on *Polylepis* spp. (Rosaceae) and *Clusia* spp. (Clusiaceae).

**FLOWERING SEASON:** January, September, October.

**GENERAL DISTRIBUTION:** Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Pradera.** I. P. Bolo Azul, finca La Cabaña. Alt. 3350 m. 4 Oct 1989. *S. Sarria, A. Agudelo & G. Galvis 285* (CUVCI). **Mpio. Tuluá.** Cordillera Central, vertiente occidental hoyo del río Bugalagrande, Barragan - Páramo

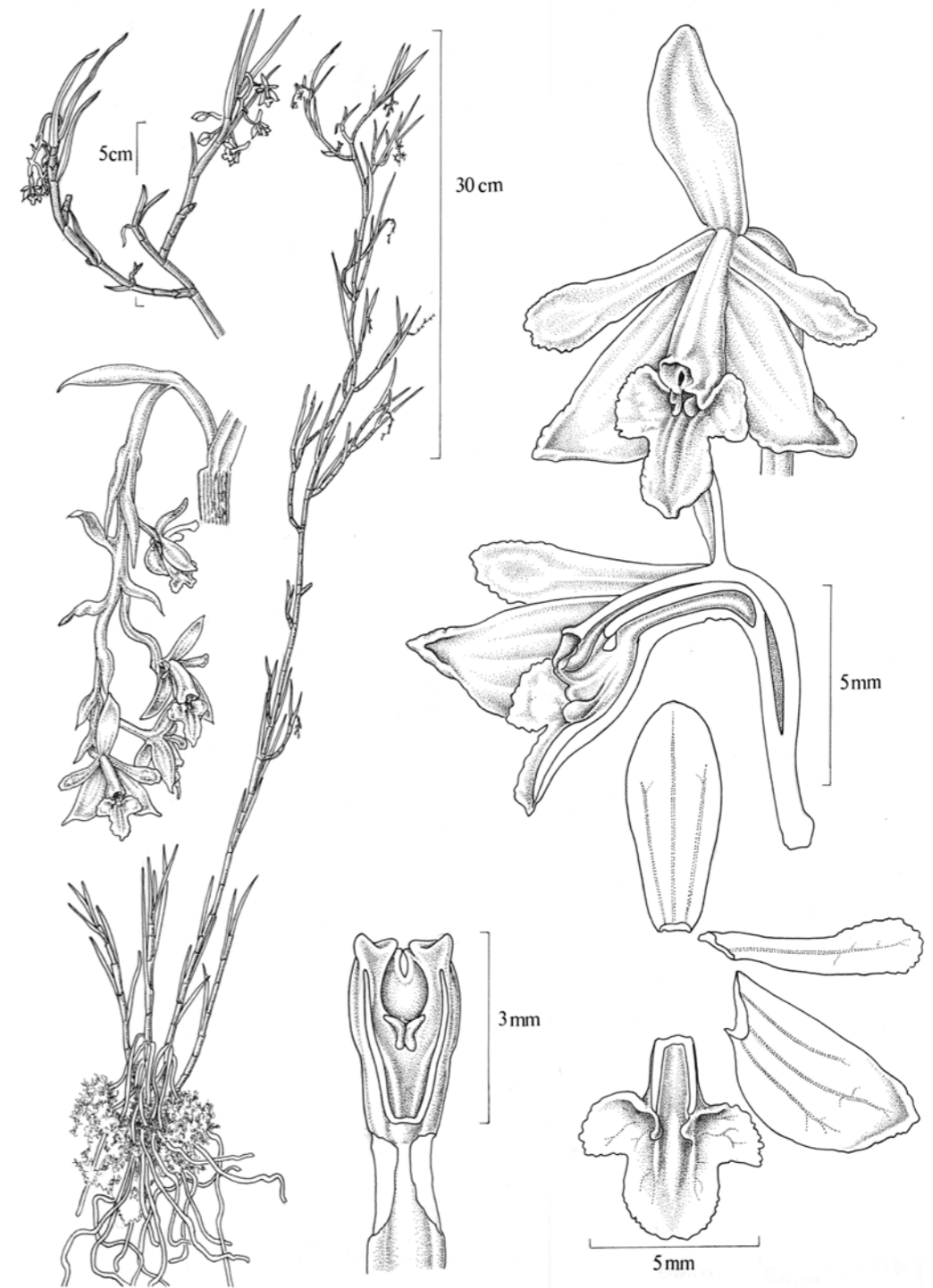


Fig. 73. *Epidendrum angustissimum* Lindl. (Pennell 3085, NY – drawn by M.A. López Rosas).



Fig. 74. Distribution of *Epidendrum angustissimum* Lindl. in Valle del Cauca.

de Bavaya, (paramillo de Santa Lucía). Alt. 3600-3680 m. *Cuatrecasas* 20037 (F!, US!, VALLE!); Corr. Santa Lucía, finca Las Nieves, páramo Las Hermosas. Alt. 3200 m. 25 Sep 1987. *W. Devia A. & F. Prado* 1954 (COL!, MO!). **Mpio. El Cerrito.** Páramo Pan de Azúcar. 3°45'8"N, 76°04'9"W. Alt. about 3670 m. 6 Jan 2011. *M. Kolanowska & O. Pérez* 294 (VALLE!, UGDA! – flower in spirit).

OTHER SPECIMENS EXAMINED: **ECUADOR.** **Tena.** Mpio. Baeza. Papallacta. Alt. 3400 m. Jan 1984. *A. Hirtz* 1511 (AMO!, COL!, CUVC!, MO!, QCNE!). **COLOMBIA. Cauca.** Valle de las Papas. Alt. 2910 m. 11 Nov 1953. *Idrobo* 3736 (COL!, NY!, P!, AMO! - drawing); Paletará. Alt. 2950 m. 31 Jul 1980. *Lozano* 3547 (COL!, F!); Mt. Pan de Azúcar. Alt. 3300 m. 16 Jun 1922. *Pennell* 7025 (AMES! x 2, K!, NY!, US!); The same loc. *Pennell* 7026 p.p. (AMES!). **Quindío.** Nevado del Quindío. Alt. 3300-3400 m. 20 May 1989. *Luteyn* 13010 (COL!, NY!). **Tolima.** [Nevado del Tolima. Alt. 3600 m. 13 May 1932. *Cuatrecasas*

3028 (MA! x 2); Páramo de Ruiz. Alt. 3400-3600 m. 16 Dec 1917. *Pennell* 3085 (NY!); Zwischen Manizales und Fresno. Alt. 3300 m. 6 Apr 1965. *O. Renz & J. Renz* 8589 (RENZ!).

### *Epidendrum fritzianum*-complex

Leaf sheaths adpressed, not infundibuliform, flowers simultaneous, apices of leaves acute.

#### 46.18. *Epidendrum pleibracteatum* Hágsater & E.Santiago (Figs 75, 76).

Icon. Orchid. 14: Pl. 1475. 2013; TYPE: COLOMBIA. VALLE DEL CAUCA. Cordillera Occidental, Los Farallones, extremo N, vertiente NW, entre Alto del Buey y Quebrada de los Ramos. Alt. 3350-3450 m. 12 Oct 1944. *Cuatrecasas* 18025 (HOLOTYPE: VALLE! - in flower & fruit; ISOTYPES: AMES!, F!, US!, VALLE! - in fruit).

**Monopodial**, erect, branching herb, 100-200 cm tall. **Roots** not seen. **Stems** much branched throughout, cane-like, terete, erect, straight, the main stem 100-200 cm tall, 0.6-1 cm wide, the secondary branches 14-23 cm long, 0.5-0.7 cm wide, producing tertiary stems 13 cm long, 0.6 cm wide, which themselves branch, covered at the base by sheaths 10-25 mm long, non-foliar, tubular, scarious. **Leaves** numerous on the main stem, 5-6 on the branches, distributed towards the apical half of the stems, alternate, articulate, suberect, unequal in size (the basal ones smaller), green to purplish green; sheath 2-5 cm long, 0.07-1.35 cm wide, tubular, striated and minutely rugose; blade of the main stem 10.5-13 cm long, 2-2.5 cm wide; those of the branches 2.2-11 cm long, 1.1-1.8 cm wide, lanceolate, acute, margin crenulate towards the apex. **Spathaceous bract** lacking. **Inflorescence** 11 cm long, apical, racemose (rarely producing an additional very short raceme at the apex of the peduncle), flowering only once, densely many-flowered, arching-nutant; peduncle 1.5 cm long, terete, thin, short,

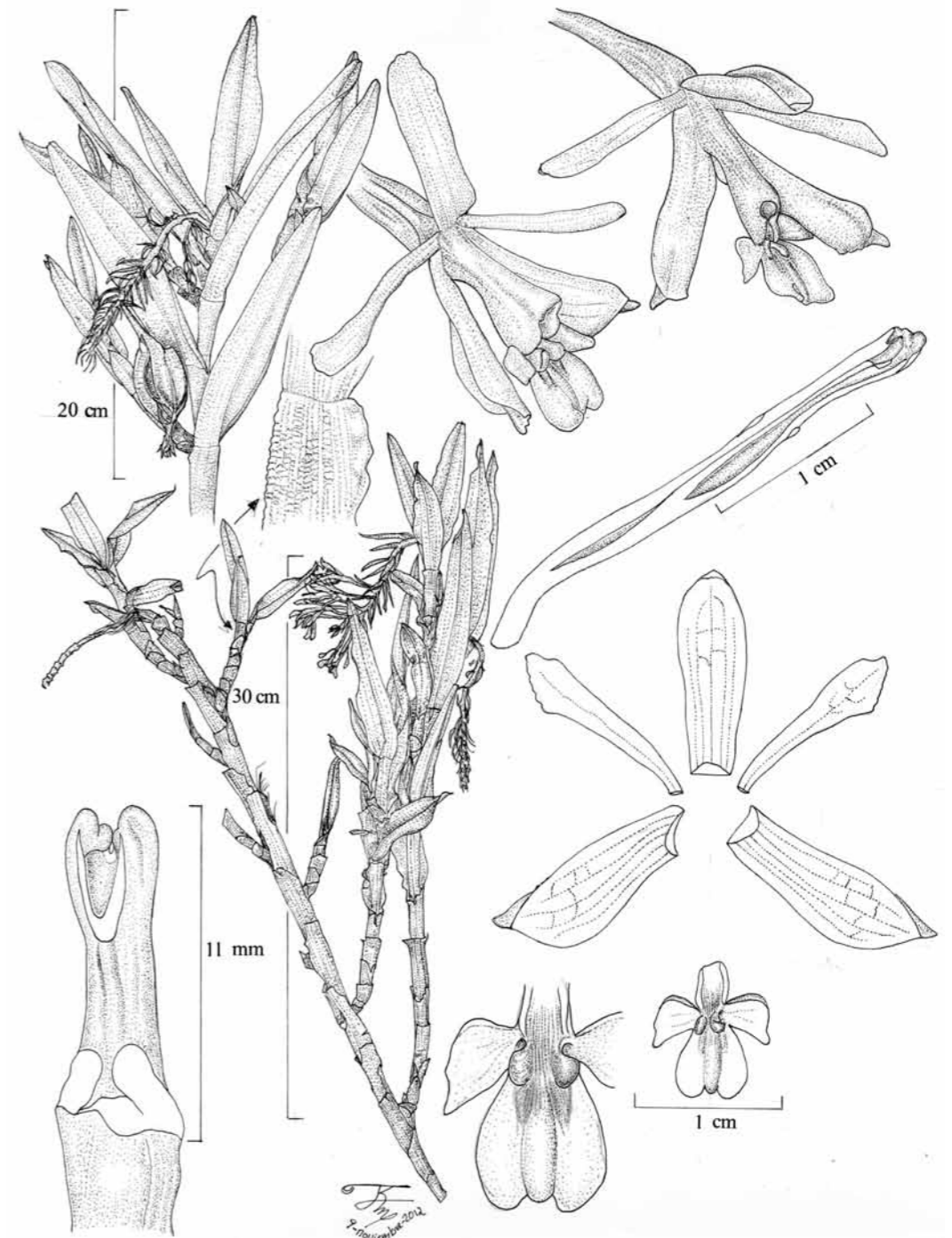


Fig. 75. *Epidendrum pleibracteatum* Hágsater & E.Santiago (*Cuatrecasas* 18025, AMES – drawn by R. Jiménez Machorro).



Fig. 76. Distribution of *Epidendrum pleiobracteatum* Hágsater & E.Santiago in Valle del Cauca.

provided at the apex with a bract 26 mm long, similar to the floral bracts but larger, lanceolate, acuminate, amplexicaul. **Flowers** 35-45, simultaneous, resupinate, olive green; fragrance not registered. **Floral bracts** 6-16 mm long, prominent, shorter than the ovary, gradually shorter towards the apex of the rachis, narrowly triangular-lanceolate, acuminate, amplexicaul. **Ovary** 14-19 mm long, terete, thin, striated. **Sepals** 14-15 mm long, 4.4-5.1 mm wide, partly spreading, narrowly obovate, obtuse, 5-veined, margin entire, revolute; dorsal sepal free; lateral sepals united obliquely to the column, oblique, apiculate. **Petals** 14 mm long, 3.4 mm wide, partly spreading, free, oblanceolate, apex subobtusate, 1-veined, margin entire, revolute. **Lip** 6.5 mm long and wide, united to the column, 3-lobed, base cordate, margin entire, spreading; bicallose, the calli thin, slightly divaricate, the disc provided with a single thickened, prominent rib that reaches the apical sinus; lateral lobes 2.2 mm long, 3.2 mm wide, small, obliquely ovate, obtuse; middle lobe 5 mm long, 4 mm wide, obcordiform, the apex widely emarginate, mi-

nutely apiculate, formed by a pair of rounded lobes. **Gynostemium** 11 mm long, straight, base thin, gradually widened towards the apex, with a pair of rounded apical wings. Clinandrium-hood short, straight, margin entire. Nectary penetrating 1/3 of the ovary, slightly inflated without forming a vesicle, unornamented. Anther and pollinia not seen. Rostellum apical, slit. **Capsule** 75 mm long, 25 mm wide, perianth persistent; pedicel 20 mm long, body 40 mm long, 25 mm wide, ellipsoid; apical neck 14 mm long.

**HABITAT:** Unknown; about 3350-3450 m alt.

**FLOWERING SEASON:** October.

**GENERAL DISTRIBUTION:** Endemic, known only from the Department of Valle del Cauca.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cali.** Cordillera Occidental, Los Farallones, extremo N, vertiente NW, entre Alto del Buey y Quebrada de los Ramos. Alt. 3350-3450 m. 12 Oct 1944. *Cuatrecasas 18025* (AMES!, FI, US!, VALLE! x 2).

### *Epidendrum soratae*-complex

Characterized by the monopodial branching stem, the new stems generally arising from the apex of the previous stem, thus appearing as long stems with lateral inflorescences, the acute to obtuse leaves, infundibuliform sheaths, short, racemose inflorescences, and the entire or 3-lobed lip.

#### 46.19. *Epidendrum leonora* Hágsater, O.Pérez et E.Santiago (Figs 77, 78; Photo 40).

Icon. Orchid. 14: Pl 1448. 2013; TYPE: COLOMBIA. VALLE DEL CAUCA. Mpio. Yumbo. Dapa, growing on a dead branch of a Melastomataceae tree. Alt. 2000 m. 2 Dec 2010. O. Pérez & J. González 1000 (HOLOTYPE: VALLE!).

**Epiphytic**, monopodial, reclined, branching herb, the main stem 9.1-15 cm tall. **Roots** 0.14 cm in diameter, basal, from the main stem, fleshy, thin. **Stems** branching; the main stem 8.3-14 cm long, 0.14 cm wide, the branches 2.5-3.5 cm long, 0.18 cm, cane-like, terete at the base, slightly laterally compressed towards the apex, very thin. **Leaves** 6 on the main stem, 4-6 on the branches, distributed throughout the stems, alternate, articulate; sheath 1-7.5 cm long, 0.14-0.18 cm, somewhat infundibuliform, striated; blade 5-17 cm long, 0.15-0.35 cm, linear-lanceolate, obtuse, minutely apiculate, margin entire, subcoriaceous. **Spathaceous bract** lacking. **Inflorescence** 0.4-0.95 cm long, apical, racemose, short, 2-flowered. **Flowers** 2, resupinate, greenish-white, with tinged pink to purple at the base of the petals and mid-part of the column and anther; without fragrance. **Floral bract** 1.7-2 mm long, shorter than the ovary, triangular, acuminate, amplexicaul. **Ovary** 8 mm long, terete, thin, smooth, ventrally inflated behind the perianth to form a vesicle. **Sepals** 3-veined, margin entire, spreading, free; the dorsal sepal 5.5 mm long, 2 mm wide, subspathulate, obtuse;

the lateral sepals 5.5 mm long, 2.5 mm wide, obliquely elliptic, acute, with a prominent low dorsal keel. **Petals** 5.5 mm long, 0.5-0.7 mm wide, spreading, free, linear-filiform, slightly expanded towards the apex, 1-veined, margin slightly erose at the apex, spreading. **Lip** 4 mm long, 6.5 mm wide, united to the column, markedly convex, transversely elliptic, base slightly cordate, apex emarginate, apiculate, flanked by a pair of semi-circular small lobes terminated in a pair of prominent teeth on the outer margin, margin erose-crenate; bicallose, the calli, globose, large; disc fleshy. **Gynostemium** 5 mm long, straight, narrowed in the middle. Clinandrium-hood short, margin entire. Anther and pollinia not seen. Rostellum apical, slit. Lateral lobes of the stigma not seen. Nectary not seen. **Capsule** 22-24 mm long, 8-9 mm wide, globose; pedicel 3-4 mm long, terete; short, thin; body 12-14 mm long, 8.5-9 mm wide; apical neck 6-7 mm long.

**HABITAT:** Epiphytic in disturbed cloud forest in regeneration process, growing on *Tibouchina lepidota* (Bonpl.) Baill.; at about 2000 m alt.

**FLOWERING SEASON:** December.

**GENERAL DISTRIBUTION:** Peru, Colombia,.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Yumbo.** Dapa, growing on a dead branch of a Melastomataceae tree. Alt. 2000 m. 2 Dec 2010. O. Pérez & J. González 1000 (VALLE!).

**OTHER SPECIMENS EXAMINED: COLOMBIA. Antioquia.** Mpio. Bello. Serranía de Las Baldías, Corregimiento de San Félix. Alt. 2900 m. 27 Jan 2012. *Calderón-Franco & Zuleta s.n.* (AMO! - digital series). **PERU. Huánuco.** Chinchao; San Pedro Carpish. Alt. 2755 m. 18 Feb 2007. *Trujillo 354* (HURP! - spirit, MOL, AMO! - drawing, photos).

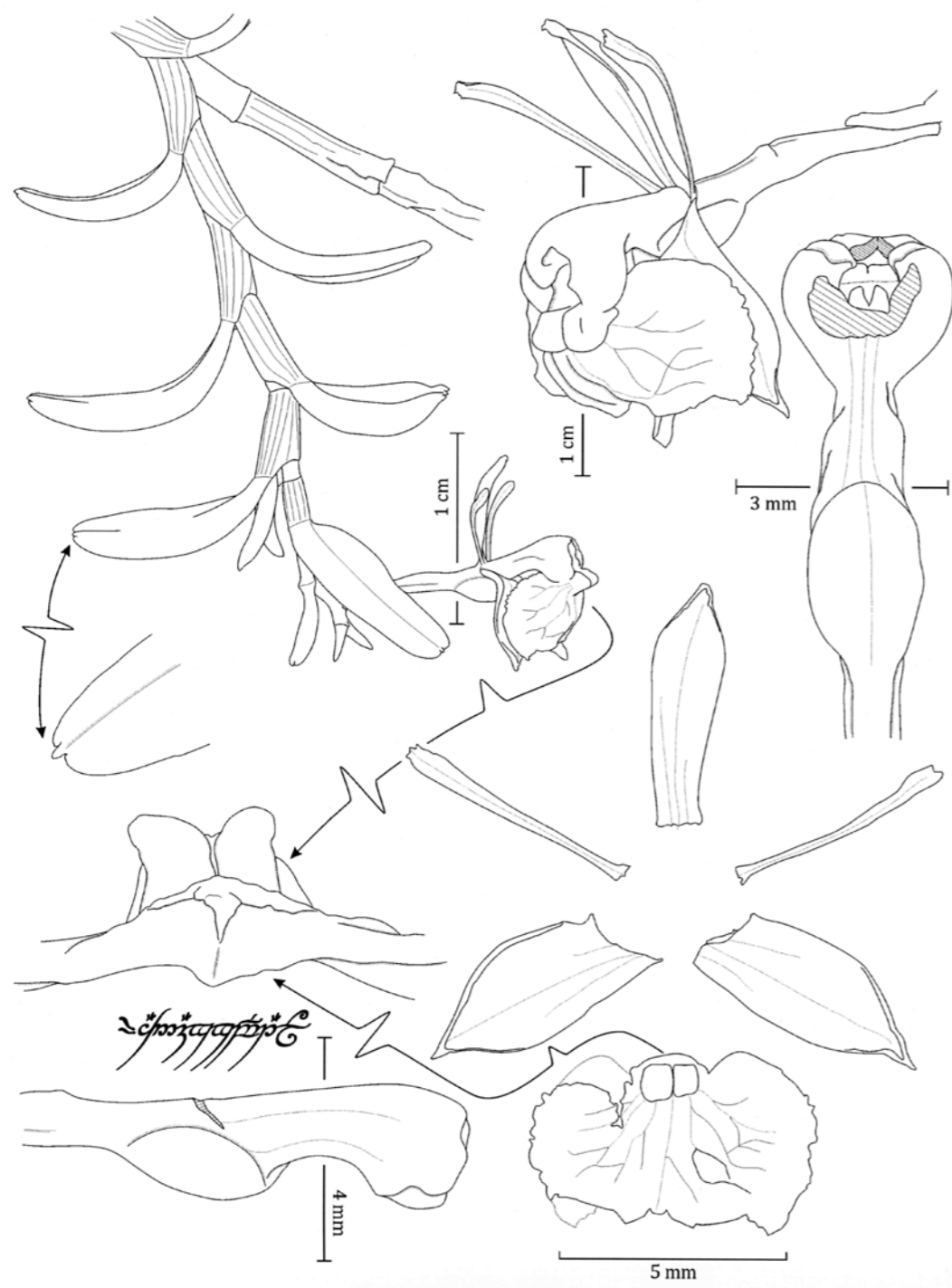


Fig. 77. *Epidendrum leonorae* Hágsater, O.Pérez & E.Santiago (O. Pérez 1000, VALLE – drawn by O. Pérez).



Fig. 78. Distribution of *Epidendrum leonorae* Hágsater, O.Pérez & E.Santiago in Valle del Cauca.

#### *Epidendrum blepharistes*-group

Sympodial, creeping herb, stems erect, the lower part thickened and fusiform, below the leaves, apical inflorescence, elongate, racemose, producing new racemes from the nodes of the peduncle, flowers resupinate, bicallous.

#### 46.20. *Epidendrum blepharistes* Barker ex Lindl. (Figs 79, 80).

Edwards's Bot. Reg. **30**(Misc.): 20. 1844; TYPE: VENEZUELA. La Guayra. J. Linden s.n. (K-L! – pro parte, mounted with Funck & Schlim 1436). - Foldats in Lasser, Fl. Venezuela, Orchid. **15**(3): 182-184. 1970. - Santiago & Hágsater in Hágsater & Sánchez, Icon. Orchid. **11**: pl. 1105. 2008.  
 = *Epidendrum funkii* Rchb.f., Linnaea **22**: 839. 1850. - Schweinfurh, Fieldiana, Bot. **30**(2): 446-447. 1959. - Dodson & Dodson, Icon. Pl. Trop. **1**(4): pl. 378. 1980. - Bennett & Christenson, Icon. Orch. Peruv.: pl. 046. 1993. - Vásquez & Ibsch, Orquíde. Bolivia **2**: 121-122. 2004. - Kolanowska & al., Ill. field guide orchid. Yotoco Forest Reserve (Colombia): 98. 2011.

= *Epidendrum brachycladium* Lindl., Fol. Orchid. Epidendrum **60**: 186. 1853.  
 = *Epidendrum brachycladium* var. *crassipes* Lindl., Fol. Orchid. Epidendrum **60**: 186. 1853.  
 = *Epidendrum crassipes* (Lindl.) Kraenzl., Bot. Jahrb. Syst. **54**(117): 25. 1916.  
 = *Epidendrum crassipes* (Lindl.) Schltr. Repert. Spec. Nov. Regni Veg., Beih. **6**: 69. 1919.  
 = *Epidendrum dolabrilobum* Ames & C.Schweinf., Schedul. Orchid. **8**: 43. 1925.

**Epiphytic, terrestrial or lithophytic**, myrmecophilous, sympodial, caespitose plants, 32-150 cm tall. **Stems** 13-60 cm long, 0.65-1.2 cm wide, simple, forming a thin, fusiform pseudobulb near the base, cane-like, laterally compressed at the foliar portion, often reddish-purple, erect, straight. **Leaves** 4-10, 4-18 cm long, 0.8-1.5(2.5) cm wide, distributed along the apical half of the stem, articulate, distichous, suberect, linear-oblong, coriaceous, apex obtuse, minutely apiculate, margin entire; sheaths 1-7 cm long, tubular, minutely striated, scarious and becoming fibrous with time. **Inflorescence**



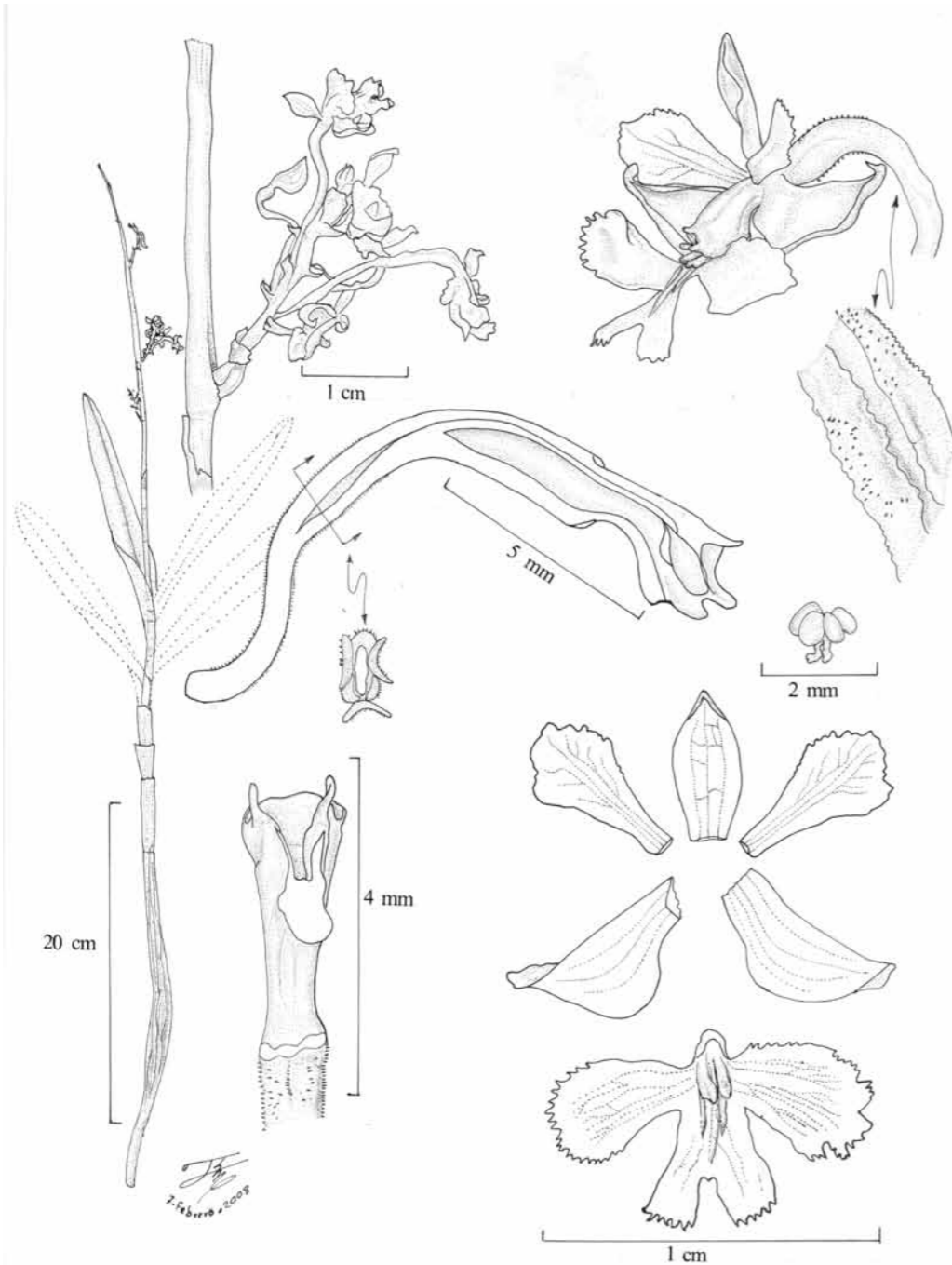


Fig. 79. *Epidendrum blepharistes* Barker ex Lindl. (Schlim (Funck & Schlim) 1436, W – drawn by R. Jiménez Machorro).



Fig. 80. Distribution of *Epidendrum blepharistes* Barker ex Lindl. in Valle del Cauca.

17-40 cm long, apical, pluri-racemose, erect, producing additional racemes from the nodes of the peduncle; racemes 5-12, 1.5-3.5 cm long, suberect, distichous, lax, few-flowered; peduncle 17-28 cm long, terete, thin, nearly totally covered by 2-10 tubular, acute, slightly imbricating bracts, decreasing in size, scarious and becoming fibrous with time. **Flowers** 40-60, resupinate, successive, though several may be open simultaneously, white to lilac-pink, with deep yellow calli; fragrance weak. **Floral bracts** 2-6 mm long, much shorter than the ovary, triangular-ovate, acute. Pedicel 9-13.5 mm long. Ovary 16-30 mm long, subtriquetrous, trisulcate, thin, slightly dilated behind the perianth, minutely papillose. Sepals 5-8 mm long, 2.5-4 mm wide, slightly pubescent on the dorsal surface, margin entire, spreading. **Dorsal sepal** free, spreading to slightly reflexed, oblong-obovate, subacute, minutely apiculate, 3-veined. **Lateral sepals** obliquely united to the base of the gynostemium, concave, oblique, narrowly obovate, apiculate,

4-veined. **Petals** 5-7 mm long, 2.5-3 mm wide, free, spreading, cuneate-spathulate, rounded, 3-veined, lateral veins short-branched, along the apical half, apical margin erose-denticulate. **Lip** 4-8 mm long, 9-15 mm wide, united to the gynostemium, somewhat convex, the base slightly cordate, 3-lobed, apical margin of the lobes deeply dentate, bicallose, calli prominent, lamina divaricate; lateral lobes 4-6 mm long, 3-5 mm wide, spreading, oblong-dolabriform, oblique; middle lobe 2.5-5 mm long, 2-4 mm wide, cuneate, retuse, bilobed; disc 1-keeled, keel running from between the calli to the apical sinus. **Gynostemium** about 4 mm long, thin, slightly arching, with a pair of prominent apical teeth. Clinandrium-hood short, margin subentire. Anther reniform. **Nectary** shallow, penetrating 1/3 of the ovary. **Capsule** 12-30 mm long, 9-13 mm wide, narrowly ellipsoid to suborbicular, with the perianth persistent.

**HABITAT:** Montane and elfin forest, steep, exposed rocky slopes, forest edges, occasionally in a red clay. It is commonly found growing on the *Psidium guajava* L. (Myrtaceae); at 1500-1800 m alt.

**ECOLOGY:** Epiphytic and myrmecophilous in Costa Rica and sometimes in South America.

**FLOWERING SEASON:** April-May, July-August, September-October.

**GENERAL DISTRIBUTION:** Bolivia, Peru, Ecuador, Colombia, Venezuela(?), Costa Rica.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Yotoco.** Bosque de Yotoco. 10-15 Apr 1980. I. Guarín O. 120 (COLI, VALLE! x 2); Reserva Natural de Yotoco. Estación "Complejo epibiótico". Alt. 1600 m. 8 Aug 2008. O. Pérez 188 (VALLE!); Reserva Natural de Yotoco. Linderos del relicto superior. Alt. 1600 m. 11 Jul 2009. E. Parra & O. Pérez 153 (VALLE!). **Mpio. Sevilla.** Banco de Germoplasma. Alt. ca 1500 m. 10 Oct 2008. O. Pérez & E. Parra 422 (VALLE!). Cali-carretera al mar. Alt. 1800 m. 7 Jul 1937. Dryander 1948 (US!).

**OTHER SPECIMENS EXAMINED: BOLIVIA. La Paz.** Prov. Murillo. Valle del Río Zongo. 26.4 km al N de la cumber. Bosque humedo,

disturbido. 16°08'S 68°W. Alt. 2750 m. 8 Jan 1988. *J.C. Solomon 17487* (MO!); 32.1 km al N de la cumber. Cerca de la boca del Río Jachcha Cruz. Bosque muy húmedo. 16°07'S 68°04'W. Alt. 2200 m. 14 Feb 1988. *J.C. Solomon 17840* (MO!, NY!, U!). **PERU. Cusco.** Prov. Paucartambo. Kosñipata, Ceja de selva of Accanacu Manú National Park and Pillahuata Forests. 13°05'S 71°10'W. Alt. 1900 m. 20 Mar 1991. *P. Núñez & N. Alanya 13256* (CAS!, MO!, USM!). **ECUADOR. Carchi.** Road from Tulcán to Chical. Pacific slope, just above town of Puente de Palo, which is about 4 km above Maldonado. 00°55'N 78°06'W. Alt. 1900 m. 13 May 1993. *B. Boyle 1818* (MO!, QCNE! x 2). **COLOMBIA. Norte de Santander.** Mpio. Pamplona. 1847. *Funck & Schlim 1436* (type of *Epidendrum funkii* (G!, K-L!, W!)).

NOTES. La Guayra is the port of Caracas, from which the Linden expedition embarked to Río Hacha and climbed the Nevado de Santa Marta in 1844, at the end of the 3rd expedition, and before returning to Europe. No other specimen of this species has been confirmed from Venezuela, so the locality reported by Lindley is not sure (Hágsater & Sánchez, 2008).

***Epidendrum cristatum*-group**

Plants caespitose, inflorescence apical, peduncle covered with many imbricating sheaths at base. Two species of this group occur in the Department of Valle del Cauca.

**Key to species**

- 1. Margins of lip lacerate-fimbriate ..... 46.21. *E. cristatum* (*Cristatum*-subgroup)
- 1. Margins of lip entire ..... 46.22. *E. oraion* (*Cnemidophorum*-subgroup)

**46.21. *Epidendrum cristatum* Ruiz & Pav. (Figs 81, 82; Photo 41).**

Syst. Veg. 1: 242. 1798; TYPE: PERU. Huanuco. Pozuzo. 1778-1788. *Ruiz & Pavon 4/77* (MA!, F). - Williams, Orchid. Mexico: 154. 1951. - Schweinfurth, Fieldiana, Bot. 30(2): 429. 1959. - Schultes, Nat. Orchid. Trinidad & Tobago: 103. 1960. - Correll, Fieldiana, Bot. 31(7): 195. 1965. - Foldats in Lasser, Fl. Venezuela, Orchid. 15(2): 221-224. 1970. - Bennett & Christenson, Icon. Orchid. Peruv.: pl. 044. 1993. - Vásquez & Ibsch, Orquíde. Bolivia 2: 119. 2004. Santiago & Hágsater in Hágsater & Sánchez, Icon. Orchid. 11: pl. 1115. 2008.  
 = *Epidendrum raniferum* Lindl., Gen. Sp. Orchid. Pl.: 109. 1831.  
 = *Epidendrum raniferum* var. *luteum* Lindl., Fol. Orchid. 3: 53. 1854.  
 = *Epidendrum calliferum* Lem., Jard. Fleur. 4(Misc.): 65. 1854  
 = *Epidendrum hexadactylum* Barb.Rodr., Gen. Spec. Orchid. 1: 56. 1877. ≡ *Epidendrum raniferum* var. *hexadactylum* (Barb.Rodr.) Cogn. in Martius & auct. suc. (eds.), Fl. Bras. 3(5): 99. 1898.  
 = *Epidendrum longovarium* Barb.Rodr., Gen. Spec. Orchid. 1: 57. 1877.  
 = *Epidendrum tigrinum* Sessé & Moc., Fl. Mexic., ed. 2: 204. 1894, *nom. illeg.*  
 = *Epidendrum raniferum* var. *loefgrenii* Cogn. in Martius & auct. suc. (eds.), Fl. Bras. 3(5): 100. 1898.  
 = *Epidendrum raniferum* var. *obtusilobum* Cogn. in Martius & auct. suc. (eds.), Fl. Bras. 3(5): 99. 1898.  
 = *Epidendrum millei* Schltr. Repert. Spec. Nov. Regni. Veg. 15: 54. 1917.  
 = *Epidendrum bathyschistum* Schltr., Repert. Spec. Nov. Regni Veg., Beih. 6: 34. 1919.  
 = *Epidendrum validum* Schltr., Repert. Spec. Nov. Regni Veg., Beih. 9: 95. 1921.  
 = *Epidendrum alexandri* Schltr., Anexos Mem. Inst. Butantan, Secç. Bot. 55: 60. 1922.  
 = *Epidendrum raniferum* var. *lutescens* Lindl. ex Broadway, Orchid Rev. 34: 199. 1926.

**Epiphytic, lithophytic or terrestrial**, sympodial, caespitose herb. **Roots** basal, fleshy, thick. **Stems** simple, cane-like, terete at the base, somewhat laterally compressed towards the apex, erect, straight. **Leaves** 13-48, distributed throughout the stem, articulate, distichous; sheaths tubular, minutely striated; blade narrowly elliptic-lanceolate, acute, minutely

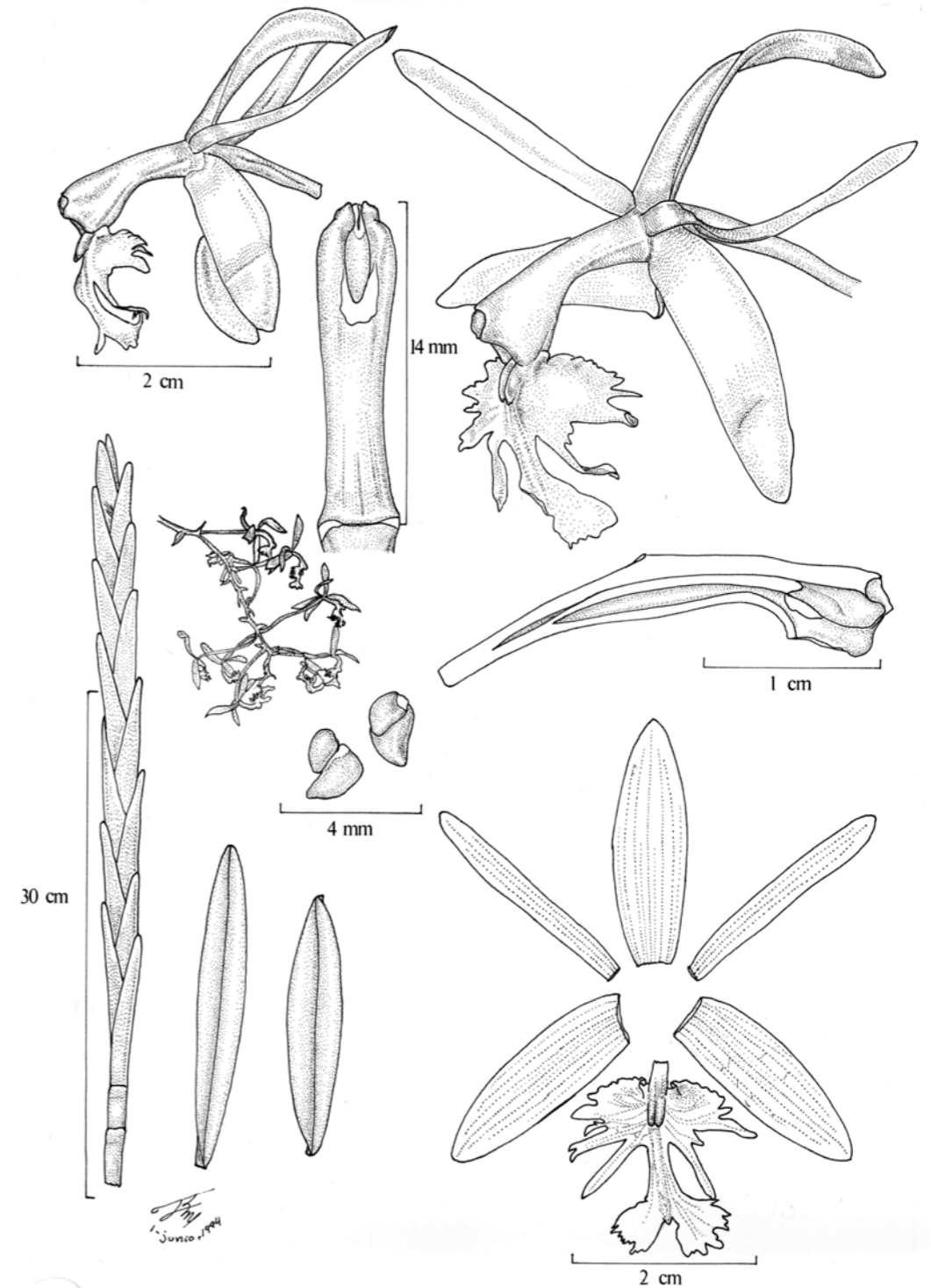


Fig. 81. *Epidendrum cristatum* Ruiz & Pav. (*Funck 244, P* – drawn by R. Jiménez Machorro).

apiculate, coriaceous, margin entire, spreading. **Inflorescence** apical, racemose, pluri-annual, successive racemes originating from the same peduncle, arching-nutant, generally densely many-flowered; peduncle long, totally hidden by 6-10 prominent, oblong-lanceolate, conduplicate, imbricating bracts, the apex rounded; rachis straight. **Flowers** 14-50, simultaneous, resupinate, fleshy, sepals and petals yellow to pale green with reddish spots; apex of the column and lip white with pale green, occasionally tinged with pink; fragrance fruit-like, more intense at mid-day. **Floral bracts** much shorter than the ovary, ovate-triangular, acute to acuminate. **Ovary** terete, thin, slightly dilated behind the perianth, smooth. **Sepals** spreading, free, narrowly oblong-obovate, obtuse, 5-veined, the veins branching from the base so as to appear 9-veined, the margins entire, spreading; the lateral sepals slightly oblique. **Petals** spreading, free, spatulate, rounded, 3-veined, margins entire, spreading. **Lip** united to the column, 3-lobed, base slightly cordate; bicallose, the calli prominent, laminar, laterally compressed,

parallel; disc one-keeled, the keel reaching the apex of the middle lobe; lateral lobes dolabriliform, margin erose to erose-laciniate; middle lobe obtuse, the apex bilobed, forming a pair of rectangular, truncate, somewhat divaricate lobes, apical margin slightly dentate. **Gynostemium** slightly arching, thin. Clinandrium-hood reduced, margin entire. Anther ovoid, 4-celled. Pollinia 4, semiovoid, elongate, strongly laterally compressed, unequal, the inner pair shorter, caudicles soft and smooth, slightly longer than the pollinia. Rostellum apical, slit. **Nectary** penetrating  $1/6^{\text{th}}$  of the ovary, not inflated, smooth. **Capsule** ellipsoid; pedicel terete, thin, long, apical neck long.

**HABITAT:** Lowland forest, rocky brush covered slopes; about 300-1000 m alt.

**GENERAL DISTRIBUTION:** Brazil, Bolivia, Peru, Ecuador, Colombia, Venezuela, Guyana, Suriname, Trinidad Tobago, Panama, Costa Rica, Nicaragua, Honduras, Guatemala, Belize, Mexico.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Dagua.** Las Juntas du Rio Dagua. Alt. 300-1000 m. *Lebmann sub Bentham Trustees* 277 (AMES!, G! x 2, K!, L!, NY!, W!). **Mpio. Palmira.** Cordillera Central, cañadas del Río Agua-Clara, Canta Claro, cercanías de Palmira. *M. López Figueiras* 8098 (VALLE!, US! x 2).

**OTHER SPECIMENS EXAMINED:** **COLOMBIA.** **Cauca.** Alt. 900 m. 18 Mar 1883. *Lebmann* 2743 (G! x 2). **[Norte de Santander].** Ocaña. *Engel s.n.* (BR!). **VENEZUELA.** Monagas, Caripe. *Funck* 244 (P!).



Fig. 82. Distribution of *Epidendrum cristatum* Ruiz & Pav. in Valle del Cauca.

46.22. *Epidendrum oraion* Hágsater (Figs 83, 84; Photos 42-44).

Icon. Orchid 2(1): t.166. 1993; TYPE: COLOMBIA. ANTIOQUIA. Mpio. Dabeiba. Chimiadó. Alt. 1600 m. 28 Jun 1989. collected by H. Angarita, Aug 1986, cult. by J.M. Múnera & R. Escobar 717 (HOLOTYPE: AMO!; ISOTYPE: JAUM - spirit).

**Terrestrial**, caespitose plants, about 120 cm tall. **Stems** 6-9 cm long, 0.6-0.8 cm wide, simple, reed-like, terete. **Leaves** 16-18 cm long, 2-3 cm

wide, distributed along the stem, sheath tubular, smooth, narrowly elliptic, subacute. **Inflorescence** 22-45 cm long, apical, from the mature stem, racemose, producing new racemes successive in years, arcuate; peduncle subtended by 5-8 imbricating, conduplicate, acute bracts 4.2-7.5 cm long. **Flowers** 12-24, resupinate, successive, the first flowers open when the last buds are developing, coloration more or less deep fuchsia, lip white with fuchsia margin and two dark spots at the apices of the calli. Floral bracts 12-23 mm long, triangular, acuminate. Ovary 20-40

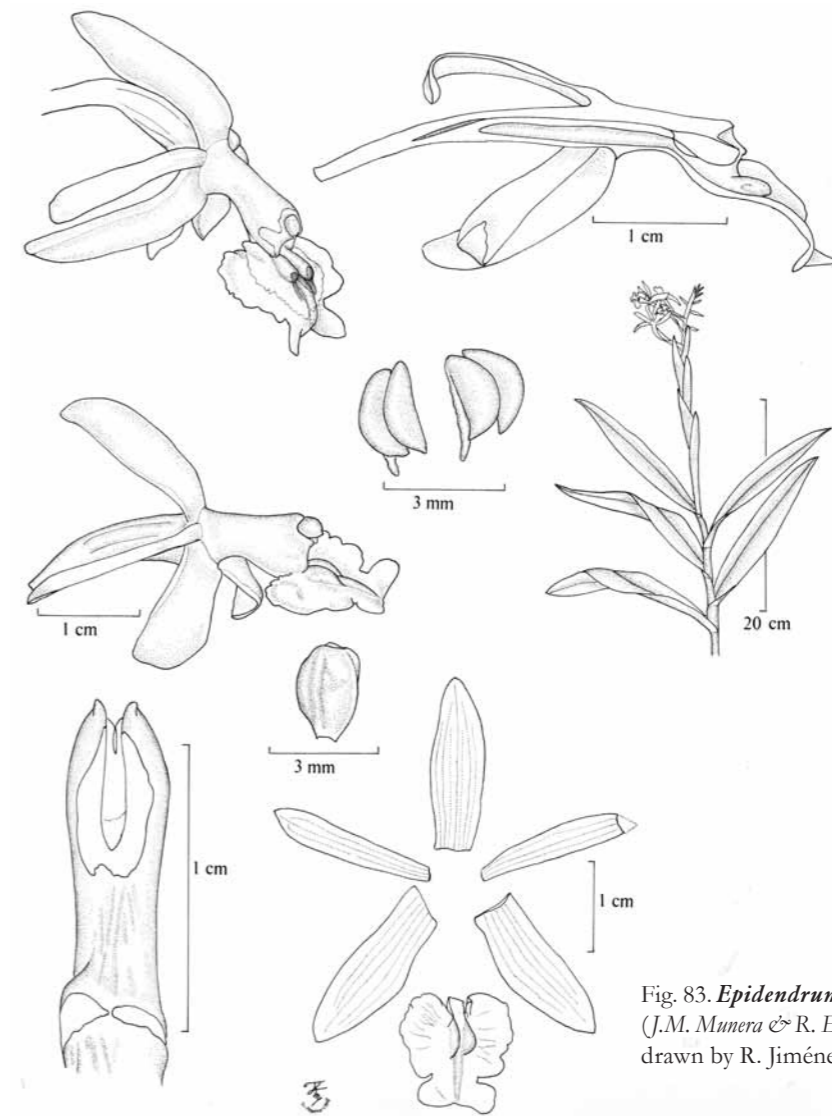


Fig. 83. *Epidendrum oraion* Hágsater (J.M. Múnera & R. Escobar 717, AMO - drawn by R. Jiménez Machorro).



Fig. 84. Distribution of *Epidendrum oraion* Hágsater in Valle del Cauca.

mm long, noninflated, terete. **Sepals** about 18 mm long, 6 mm wide, free, reflexed, fleshy, elliptic, obtuse, 5-veined, with secondary veins. **Petals** about 18 mm long, 3 mm wide, reflexed, narrowly oblanceolate, obtuse, 3-veined. **Lip** about 12 mm long, 12 mm wide, united to the gynostemium, base cordate, 3-lobed; lateral lobes semiorbicular, margins irregular; middle lobe bilobate, lobules subovate to subquadrate, strongly divaricate; disc bicallose, calli extending to the middle of the disc, with a prominent central, rounded keel reaching the apex. **Gynostemium** about 11 mm long, straight, slender. Clinandrium obsolete, entire. Anther ovoid. **Nectary** deep, penetrating about half the ovary.

**HABITAT:** Humid montane forest; about 1800 m alt.

**FLOWERING SEASON:** March.

**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Sevilla.** Vereda El Cebollal.

Quebrada La Sara. Alt. 1800 m. 15 Mar 1980. G. Lozano C. & J. Díaz 3125 (COL!).

OTHER SPECIMENS EXAMINED: **COLOMBIA. Antioquia.** Cult. en Colomborquideas. 9 Sep 1997. *Colomborquidea sub Hágsater* 11647 (AMO!).

### *Epidendrum cylindraceum*-group

Characterized by the sympodial growth, narrow spatheaceous bracts with parallel sides, erect raceme with resupinate flowers and membranous lip with falcate lateral lobes and an evident middle lobe. Two species are reported from the Valle del Cauca.

#### Key to species

1. Leaves 12-27 cm long; peduncle short, rachis much longer; sepals dorsally glabrous; petals with entire margin; ovary 5-7 mm long; lateral lobes of the lip with entire margin . . . 46.23. *E. cylindrostachys*
1. Leaves 7-12 cm long; peduncle and rachis of the inflorescence about equally long; sepals dorsally densely speculate; petals with margin apically crenulate; ovary 23-27 mm long; lateral lobes of the lip with posterior margin crenulate . . . . . 46.24. *E. diphyllum*

#### 46.23. *Epidendrum cylindrostachys* Rchb.f. & Warsz. (Figs 85, 86; Photo 45).

Bonplandia (Hannover) 2: 110. 1854; TYPE: [COLOMBIA]. N. Grenada. *Sine loc. Warszewicz s.n.* (W!). - Sánchez, & Hágsater in Hágsater & Sánchez, Icon. Orchid. 12: pl. 1235. 2009.  
= *Epidendrum trifidum* Schltr. Repert. Spec. Nov. Regni Veg., Beih. 7: 153. 1920.

**Epiphytic**, sympodial, subcaespitose plants, 30-62 cm tall. **Stems** 10-16 cm long, simple, cane-like, terete below, laterally compressed in the apical third, covered basally by two partially imbricating, laterally compressed, tubular, acute,

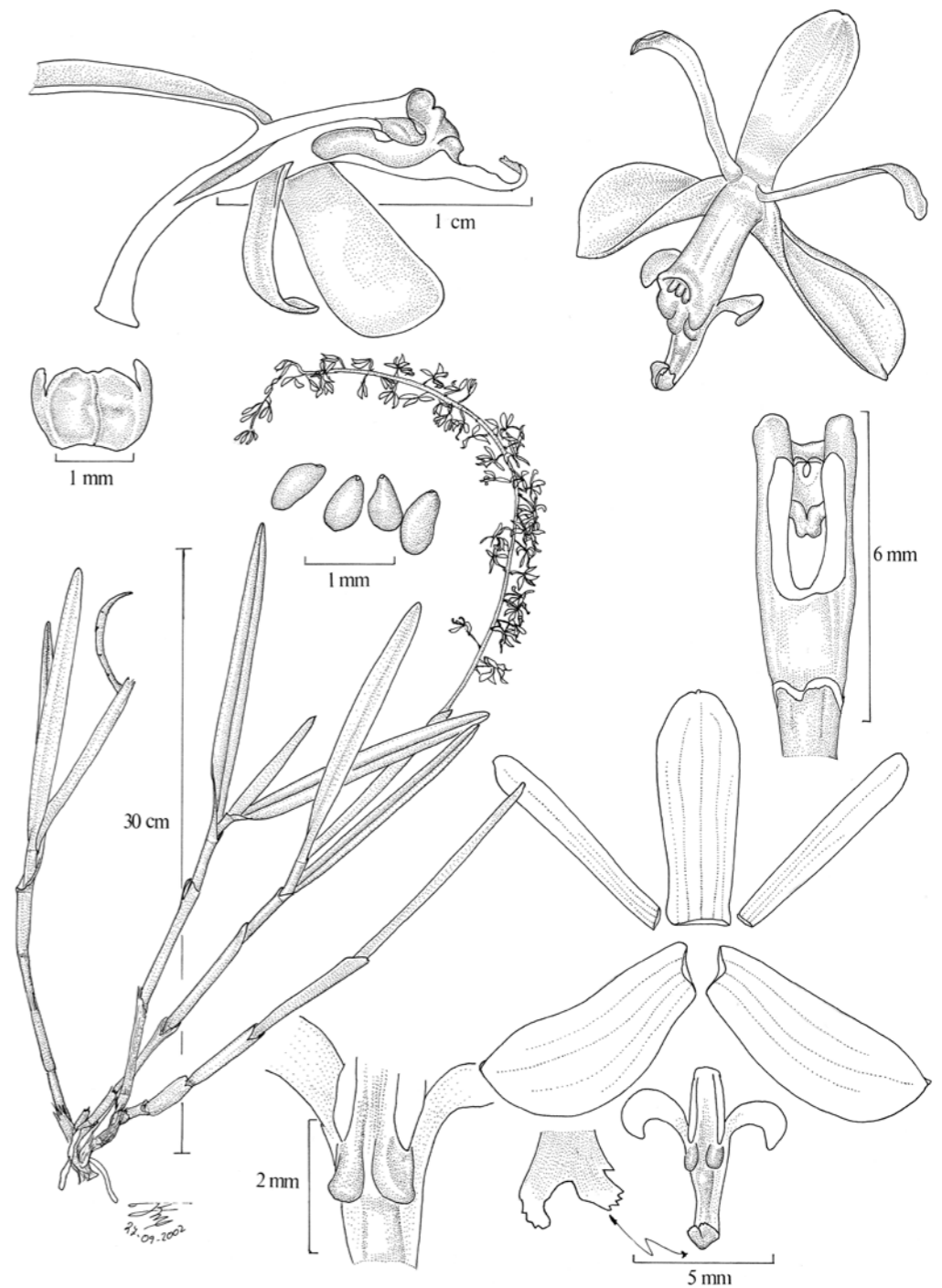


Fig. 85. *Epidendrum cylindrostachys* Rchb.f. & Warsz. (Hágsater, R. Escobar, Luer & Pridgeon 7286 (7386), COL – drawn by R. Jiménez Machorro).

papiraceous sheaths, 2-9 cm long. **Leaves** 1-2, 12-27 cm long, 0.9-1.4 cm wide, distributed throughout the apical third, coriaceous, linear-ligulate, apex obtuse, margin entire; sheath laterally compressed, tubular, striated when dry. **Inflorescence** 20-50 cm long, apical, racemose; peduncle 8-10 cm long, laterally compressed. **Spathaceous bract** 1, 6-12 cm long, 0.5-0.7 cm wide, sides nearly parallel, acute. **Flowers** 20-100, simultaneous, resupinate, yellowish white or sometimes greenish, with purple dots. **Floral bracts** 2-4 mm long, much shorter than the ovary, triangular, acuminate. **Ovary** 5-7 mm long, terete, smooth. **Sepals** 3.5-7 mm long, 2-2.5 mm wide, free, spreading, acute, 5-veined, margin entire; dorsal sepals cuneate-ligulate; lateral sepals semi-elliptic, subfalcate. **Petals** 3.5-6.5 mm long, 0.5-0.8 mm wide, spreading, linear-oblong, obtuse, 3-veined, margin entire. **Lip** 3-4 mm long, 3.2-4.7 mm wide, united to the gynostemium, 3-lobed; lateral lobes falciform, acute, margin entire; middle lobe with a narrowly lanceolate-ligulate isthmus, fleshy, apex dilated to truncate, obtuse to retuse, margin entire, arching upwards in natural position, in front of the column; bicallose, calli laminar, with a thickened keel in the middle of the middle lobe. **Gynostemium** 5.5-6 mm long, slightly arching to arching. Clinandrium-hood short, margin undulate.

**HABITAT:** Montane forest; 1500-2700 m alt.

**FLOWERING SEASON:** July, October, November.

**GENERAL DISTRIBUTION:** Peru, Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cali.** Hoya del río Cali. Pichindé, Alto de las Brisas. Alt. 2160 m. 26, 27 Oct 1944. *Cuatrecasas 18211* (AMES!, F!, US!, VALLE!); Cordillera occidental - Los Farallones de Cali, zona de cultivos a lo largo del río Pance aproximadamente 2-4 km abajo del pueblo de Pance. Alt. 1500 m. 4 Nov 1975. *Hartman 19* (CUVCI); "San Jose", San Antonio, Cordillera Occidental. Alt. 2400-2700 m. 1 Jul 1922. *Pennell 7585* (AMES!, F, US).

**OTHER SPECIMENS EXAMINED:** [COLOMBIA]. N. Grenada. *Sine loc. Warszewicz s.n.* (W!). **Antioquia.** Camino Medellín-San Jerónimo, Cerro del Padre Amaya, camino a la antenna. Alt. 2400 m. 22 Apr 1983. *Hágsater & al. 7286(7386)* (AMO!, COL!). **ECUADOR. Carchi.** Above Maldonado. Alt. 2400 m. 31 Jul 1989. *H. van der Werff 10787* (MO!). **PERU. Amazonas.** Bongará, Montane high rainforest 2-4 km, west-southwest (245°) of Pomacocha. Alt. 2200-2400 m. 16 Jun 1962. *J.J. Wurdack 860* (US!).

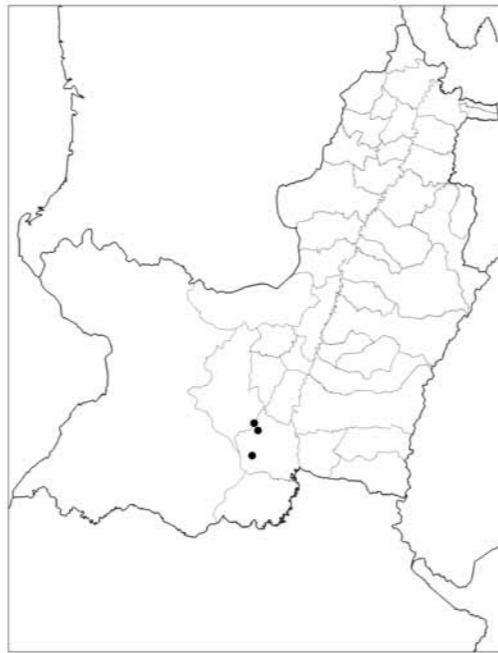


Fig. 86. Distribution of *Epidendrum cylindrostachys* Rehb.f. & Warsz. in Valle del Cauca.

**46.24. *Epidendrum diphyllum* Schltr. (Figs 87, 88).**

Repert. Spec. Nov. Regni Veg., Beih. 7: 130. 1920; TYPE (Hágsater & Sánchez 2009): COLOMBIA. CAUCA. Alt. ca 3000 m. *Madero s.n.* (B†), Valle del Cauca. Cordillera Occidental, Los Farallones, Quebrada de Las Nieves, lomas parameras sobre la mina El Diamante. Alt. 3000-3120 m. 31 Jul 1946. *Cuatrecasas 21819* (NEOTYPE: AMES!; ISONEOTYPE: US!). - Sánchez & Hágsater in Hágsater & Sánchez, Icon. Orchid. 12: pl. 1239. 2009.

**Epiphytic**, sympodial, subcaespitose plants, 35-56 cm tall. **Stems** 9-27 cm long, 0.7-0.8 wide, simple, cane-like, laterally compressed, nearly

totally covered by 2-3 partially imbricating, laterally compressed, acute, papery sheaths. **Leaves** 2-3, 7-12 cm long, 2.3-2.8 cm wide, aggregate towards the apex of the stem, elliptic, coriaceous, apex unequally bilobed; sheath laterally compressed. **Inflorescence** 26-30 cm long, apical, racemose, arching. **Spathaceous bract** 6-7 cm long, single, persistent, sides nearly parallel, acute, long. **Flowers** more than 20, resupinate, simultaneous, distributed along the apical half of the inflorescence; sepals and petals olive-yellow, lip white with violet dots. **Floral bracts** 2-4 mm long, much shorter than the ovary, triangular, acute. **Ovary** 23-27 mm long, noninflated, terete, somewhat papillose. **Sepals** 7.5-11 mm

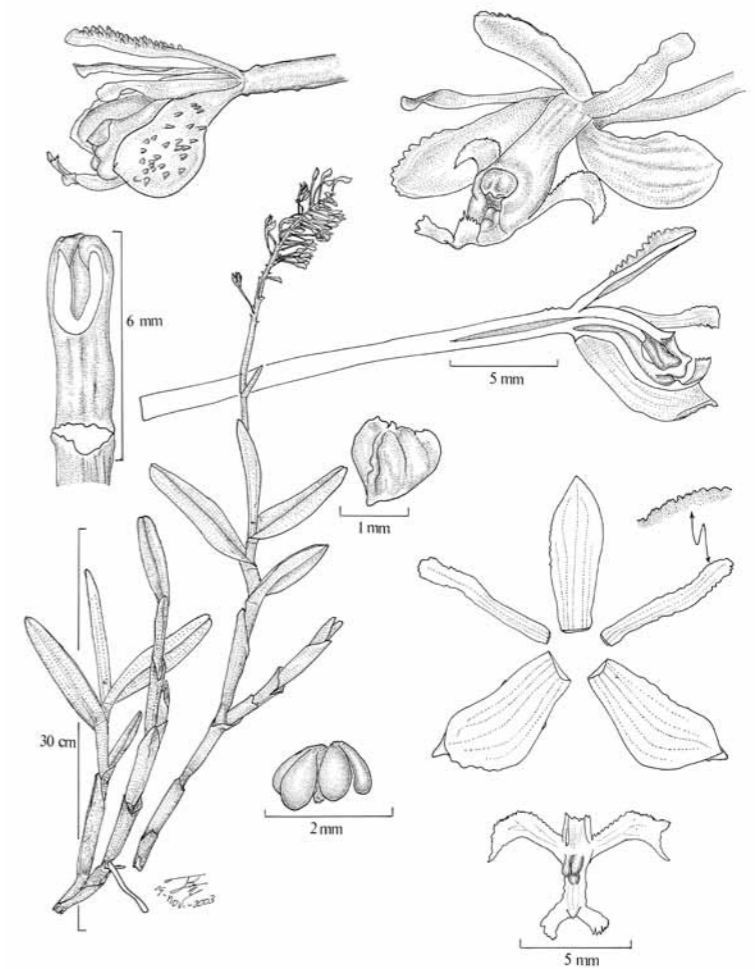


Fig. 87. *Epidendrum diphyllum* Schltr. (*Cuatrecasas 21819*, US - R. Jiménez Machorro).

long, free, spreading, elliptic, obtuse, dorsally speculate, 5-veined, margin entire to slightly dentate; dorsal sepal 2.3-2.5 mm wide; lateral sepals 3.2-3.6 mm wide, oblique. **Petals** 7-11 mm long, 1.0-1.3 mm wide, spreading, oblong-ob-lanceolate, obtuse, 1-3-veined, margin minutely and irregularly crenulate towards the apical half. **Lip** about 5 mm long, 5 mm wide, united to the gynostemium, base cordate, deeply 3-lobed; lateral lobes falcate, ligulate, apically obliquely truncate, acute, posterior margin crenulate; isthmus of the middle lobe linear-oblong, the apex bifid, lobules narrow and oblong, truncate, apical margin crenulate-dentate; bicallose, calli laminar, extending to the middle of the disc, with a very short, thickened keel in front, at the middle of the middle lobe. **Gynostemium** 5-7 mm long, arched, thickened towards the apex. Clinandrium-hood short, entire. Anther reniform. **Nectary** without penetrating the ovary, smooth.

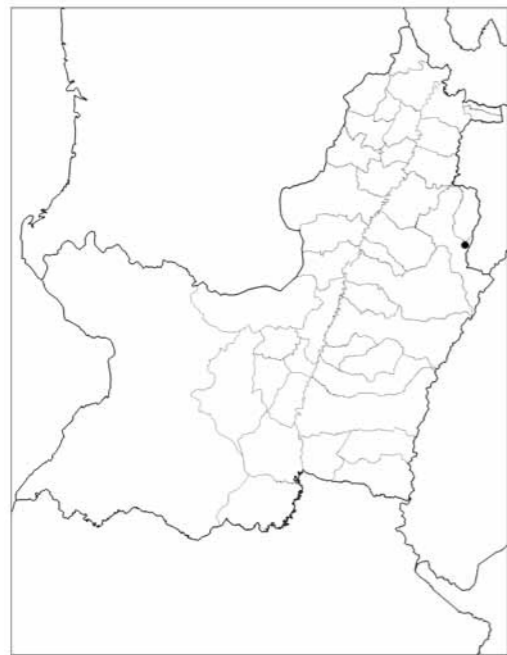


Fig. 88. Distribution of *Epidendrum diphyllum* Schltr. in Valle del Cauca.

**HABITAT:** Montane forest; 3000-3120 m alt.  
**FLOWERING SEASON:** July.

**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Sevilla.** Cordillera Occidental, Los Farallones, Quebrada de Las Nieves, lomas parameras sobre la mina El Diamante. Alt. 3000-3120 m. 31 Jul 1946. *Cuatrecasas 21819* (AMES!, US!).

**OTHER SPECIMENS EXAMINED: COLOMBIA:** [Nariño]. Pasto. Oct 1880. *Rimann s.n.* (W-R!)

### *Epidendrum difforme*-group

Caespitose plants (sometimes repent), stems terete to ancipitous, inflorescence subcorymbose, flowers resupinate, lime green to white. Nine species of this group were reported from the Department of Valle del Cauca.

**NOTES.** The name *Epidendrum difforme* has been used until recently by most authors for most of the plants belonging to the *Difforme*-group, from Florida (USA) to Bolivia. Thus all the specimens of the species of this group had been identified as *Epidendrum difforme* in herbaria and literature. Nearly 100 species have been described in the last two decades in this group. See Sánchez & Hágsater, *Taxonomic Study of the Epidendrum difforme-group (Orchidaceae)*, Proceedings of the 15<sup>th</sup> World Orchid Conference, Rio de Janeiro, 1998; pg. 235-244. In fact, *E. difforme* is a narrow endemic to the Lesser Antillies.

### Key to species

1. Stems terete to somewhat laterally compressed, though not ancipitose . . . . . 2
1. Stems strongly laterally compressed, ancipitose 6
2. Stems terete, lip reniform to 3-lobed. . . . . 3
2. Stems somewhat laterally compressed, lip suborbicular to suborbicular-cordiform . . . . . 4
3. Plants 6-18 cm tall, leaves ascending, lip entire, reniform, slightly notched. . . . . 46.32. *E. scharfii*

3. Plant 15-20 cm tall, leaves spreading, lip 3-lobed, lateral lobes semi-orbicular, middle lobe notched . . . . . 46.30. *E. littorale*
4. Ovary trigonous, with a vesicle behind the perianth, sepals 26-28.3 mm long, elliptic. . . . . 46.28. *E. kerryae*
4. Ovary terete, not inflated, or if inflated then not forming a vesicle, sepals 10-19 mm long, acuminate . . . . . 5
5. Lip mucronate at the apex, petals linear, sepals 10-16 mm long . . . . . 46.26. *E. dentiferum*
5. Lip abruptly acuminate at the apex, petals narrowly lanceolate, sepals (16)18-19 mm long. . . . . 46.33. *E. stellidiforme*
6. Plants small, ca 12 cm tall including the inflorescence, disc of the lip thickened, fleshy, with two lateral ridges which limit it, lustrous, deep green . . . . . 46.31. *E. parra-sanchezii*
6. Plants large, generally 18-29 cm tall, rarely smaller, disc of the lip flat, concolor . . . . . 7
7. Ovary inflated behind the perianth, lip obtrapezoid or transversely elliptic to reniform, gynostemium 10-12 mm long, clinandrium short. . . . . 8
7. Ovary not inflated, lip suborbicular-cordiform, gynostemium 6-7 mm long, clinandrium prominent, conical. . . . . 46.29. *E. killipii*
8. Lip entire, obtrapezoid, ecallose. . . . . 46.25. *E. andrei*
8. Lip obscurely 3-lobed at the apex, transversely elliptic to reniform, bicallose, the calli elongate and divergent . . . . . 46.27. *E. boltonii*

### 46.25. *Epidendrum andrei* Hágsater & L.Sánchez (Figs 89, 90).

Icon. Orchid. 3: t. 306. 1999; TYPE: COLOMBIA. VALLE DEL CAUCA. Tambores-Quindío. 15 Mar 1976. *E.F. André 2420* (HOLOTYPE: K!).

**Epiphytic**, caespitose plants, 14-29 cm tall. **Stems** 8-24 cm long, 0.5-1.5 cm wide, simple, reed-like, ancipitous, slightly flexuose. **Leaves** 4-6, 5-10 cm long, 2-3.5 cm wide, elliptic, apex retuse to bilobed. **Inflorescence** apical, sessile.

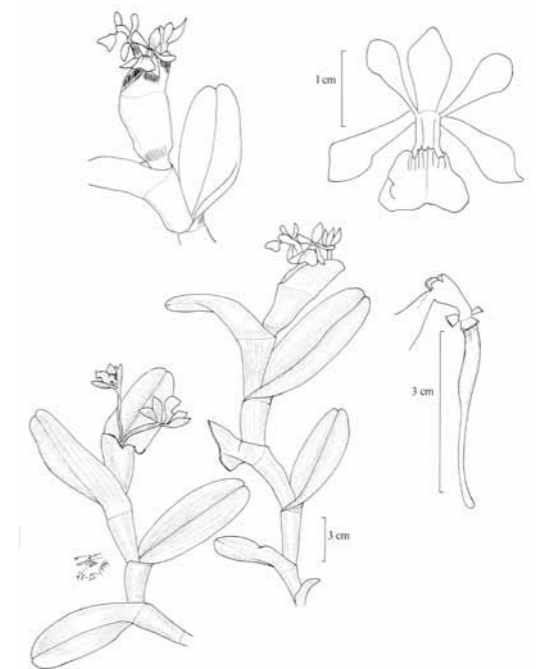


Fig. 89. *Epidendrum andrei* Hágsater & L.Sánchez (*André 2420*, K – drawn by R. Jiménez Machorro).

**Flowers** 2-3, resupinate, simultaneous, green. Floral bracts much shorter than the ovary, ovate, acute. Ovary 25-35 mm long, 2-3.4 mm wide, slightly inflated ventrally in the apical half, terete. **Sepals** 17-20 mm long, 5-6 mm wide, free, spreading, glabrous, obovate, rounded, margin revolute; lateral sepals oblique, acute. **Petals** 17-19 mm long, 4-5 mm wide, membranous, spreading, spatulate, rounded at the apex. **Lip** about 10 mm long, 12 mm wide, adnate to the gynostemium, entire, obtrapezoid, ecallose. **Gynostemium** 9-10 mm long, straight. Clinandrium short, erose.

**HABITAT:** Montane forest; 1250-1400 m alt.  
**FLOWERING SEASON:** March.

**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** Tambores-Quindío. 15 Mar 1876. *E.F. André 2420* (K!). Cordillera Occidental, vertiente occidental; Hoya del Río Sanquininí,

lado izquierdo, La Laguna. Alt. 1250-1400 m. *Cuatrecasas 15635* (AMES!, US!, VALLE!).



Fig. 90. Distribution of *Epidendrum andrei* Hágsater & L.Sánchez in Valle del Cauca.

**46.26. *Epidendrum dentiferum* Ames & C. Schweinf. (Figs 91, 92; Photo 46).**

Schedul. Orchid. 8: 42. 1925; TYPE: COSTA RICA. [Cartago] Pejivalle. 30 May 1924. *Lankester 843* (AMES). - Williams & Allen, Orchid. Panama: 279, 281. 1980. - Misas Urreta, Orquídeas de la Serranía del Baudó: 174-175. 2005. - Sánchez, & Hágsater in Hágsater & Sánchez, Icon. Orchid. 9: pl. 928. 2007. - Kolanowska & al., Ill. field guide orchid. Yotoco Forest Reserve (Colombia): 90. 2011.

= *Epidendrum platybilum* Schltr., Repert. Spec. Nov. Regni Veg., Beih. 19: 42. 1923, *nom illeg.*, non *Epidendrum platybilum* Schltr., 1921.

**Epiphytic**, 7-17 cm tall. **Stems** slender, simple, covered with the scarious leaf sheaths or becoming naked. **Leaves** 2-6.75 cm long, 0.5-0.55 cm wide, slightly narrowed near the base, about

1-1.5 cm apart on the stem, alternate, distichous, subcoriaceous, oblong-linear, inconspicuously bilobed and apiculate at the rounded apex. Inflorescence very short, apical, erect, successive flowering. **Flower** usually single, pale green. Ovary 15-20 mm long, 1.5-2 mm wide, inflated ventrally along the apical half, smooth. **Dorsal sepal** 8-15 mm long, 2-2.5 mm wide, lanceolate, acuminate, carinate near the tip, 5-veined below the middle. **Lateral sepals** 9-16 mm long, 2.5-3.5 mm wide, falcate-lanceolate, long-acuminate, unicarinate on the outer surface with the keel extended into a mucro, 5-veined at the base. **Petals** 8-15 mm long, narrowly linear, falcate, acute, 1-veined (indistinctly 3-veined below). **Lip** 10-12 mm long, 10-11 mm wide, united to the gynostemium, entire, suborbicular, base somewhat cordate, apex rounded and abruptly mucronate, membranous; bicallose, calli small, subglobose with three prominent central keels. **Gynostemium** 4.5-5.5 mm long, straight, with two lacerate, lateral, apical, fleshy lobes, forming a funnel with the clinandrium. Clinandrium prominent, denticulate. Anther subspherical with a short beak in front. **Capsule** 20-23 mm long, 12-13 mm wide, globose.

**HABITAT:** Wet premontane forest; at about 1600 m alt.

**FLOWERING SEASON:** March-May, November.

**GENERAL DISTRIBUTION:** Colombia, Panama, Costa Rica.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Yotoco.** Bosque de Yotoco. 4 Apr 1980. *I. Guarín O. 128* (COL!, VALLE!); Reserva Natural de Yotoco. Estación "Complejo epibiofítico. Alt. 1200-1600 m. 3 May 2007. *O. Pérez 35* (VALLE!); Reserva Natural de Yotoco. Nov 2010. *O. Pérez & E. Parra s.n.* (photo!); Relictos ubicados al lado de la carretera Buga-Loboguerrero, cerca de la Reserva Natural de Yotoco. Alt. 1600 m. 13 Mar 2009. *O. Pérez & E. Parra 52* (VALLE!); Relictos ubicados a la orilla de la carretera Buga-Loboguerrero, cerca de la Reserva Natural de Yotoco. Alt. 1600 m. 21 Mar 2009. *O. Pérez 144* (VALLE!).

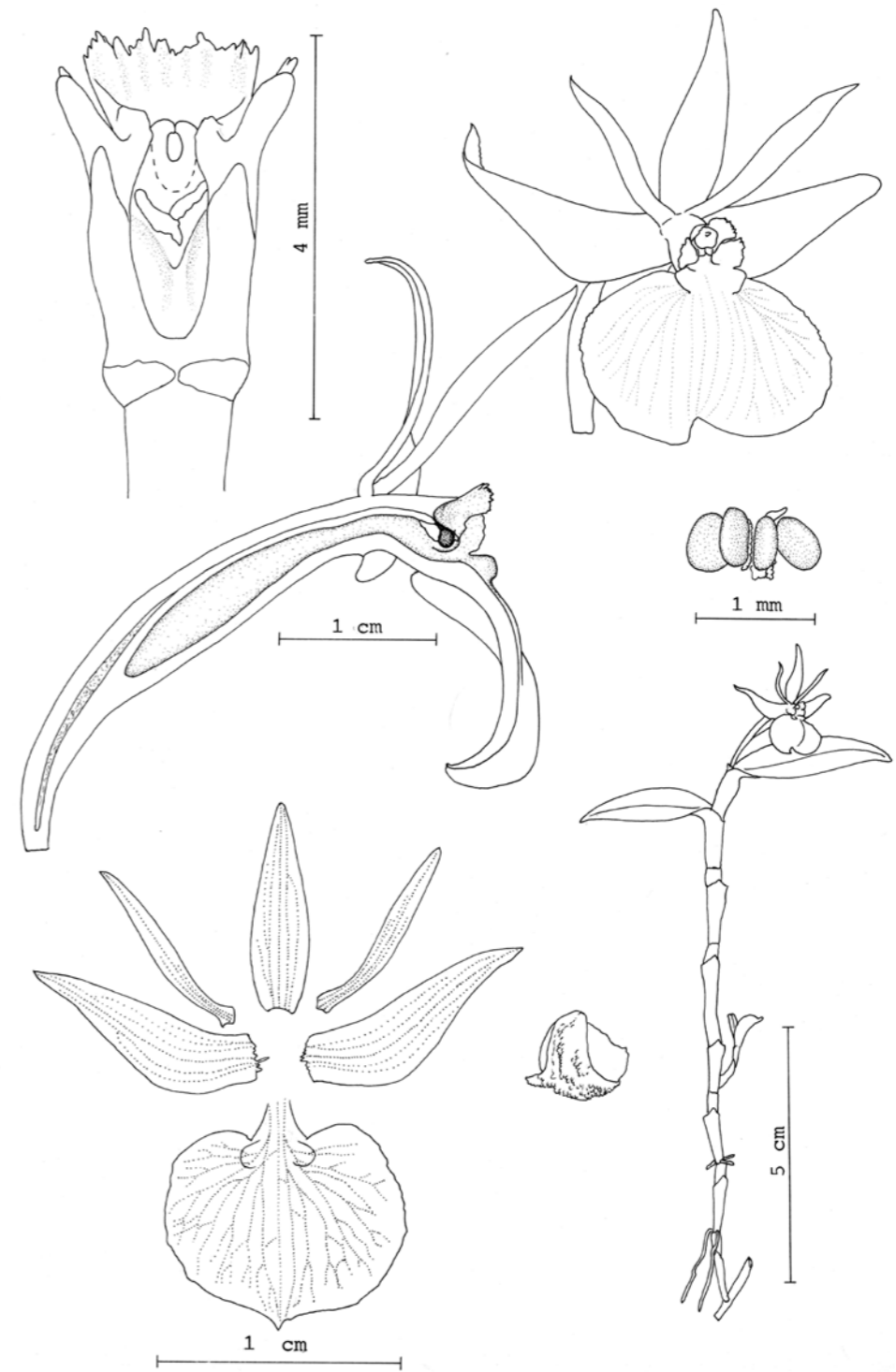


Fig. 91. *Epidendrum dentiferum* Ames & C.Schweinf. (*Hágsater 6411*, AMO – drawn by E. Hágsater).

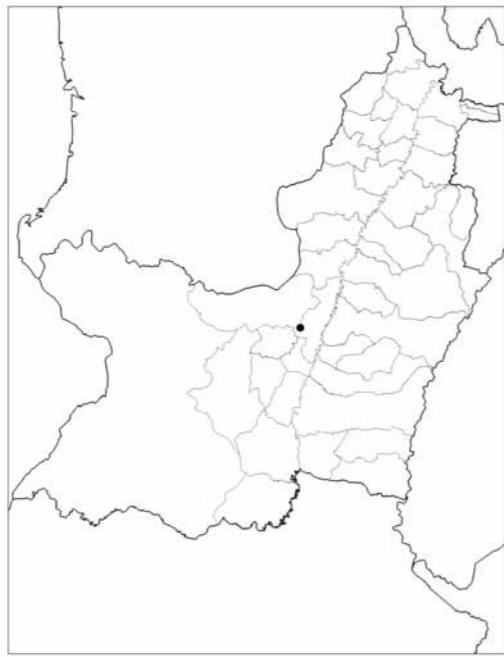


Fig. 92. Distribution of *Epidendrum dentiferum* Ames & C.Schweinf. in Valle del Cauca.

OTHER SPECIMENS EXAMINED: **COSTA RICA.** **Guanacaste.** El Arenal. Alt. 485-600 m. 18 Jan 1926. *Standley 45068* (US!). **PANAMÁ.** **Chiriquí.** La Fortuna hydroelectric project. 20 Mar 1978. *Hammel 2063* (MO!). **Coclé.** La Mesa, Valle de Antón, comprada a Gregorio Ruiz. 3 Jul 1981. *Hágsater 6411* (AMO!). **COLOMBIA.** **Antioquia.** Parque Nacional Natural "Las Orquídeas", Sector Venados. Alt. 890 m. 1 Apr 1988. *Cogollo 2897* (JAUM!, MO!). **Chocó.** Bahía Solano. *Misas 38* (AMO! – copy of illustration by Guillermo Misas).

46.27. *Epidendrum holtonii* Hágsater & L.Sánchez (Fig. 93).

Icon. Orchid. 12: t. 1254. 2009; TYPE: COLOMBIA. VALLE DEL CAUCA. Neogranadina-Quindiensis. Las Playas. Circum Flumen Tuluam. *I.F. Holton s.n.* (HOLOTYPE: NY!).

**Epiphytic**, sympodial, caespitose plants, 23-26 cm tall. **Stems** about 21.5 cm long, ancipitous, reed-like, straight. **Leaves** 5-6, 4.5-10 cm long, 3-4.6 cm wide, distributed throughout the stem, coriaceous, elliptic, apex acute, with a prominent dorsal keel, margin entire; sheath 2-3 cm long, ancipitose, smooth. **Inflorescence** apical, from the mature stem, flowering only once, subcorymbose, sessile. **Flowers** 4-5, resupinate, simultaneous, green. Floral bracts much shorter than the ovary. Ovary 35-45 mm long, smooth, terete, slightly thickened towards the apex. **Sepals** 18-20 mm long, 4.5-7 mm wide, free, spreading, subcoriaceous, elliptic, obtuse, glabrous, margin entire, revolute, 5-veined; lateral sepals oblique, 5-veined with 2 secondary veins. **Petals** 18-18.5 mm long, 4.5-5 mm wide, spreading, oblanceolate-spathulate, acute, margin entire, 5-veined, lateral veins shorter. **Lip** about 15 mm long, 30 mm wide, united to the gynostemium, entire, transversely elliptic-reniform, base deeply cordate, apex obscurely 3-lobed, with a wide sinus, apiculate, margin entire, undulate at the base; lateral lobes elliptic; middle lobe very small, with a wide sinus, apiculate, forming two short, rounded lobes; bicallose, calli small, elongate, divergent, with a thin central, slightly thickened keel. **Gynostemium** about 10 mm long, straight. Clinandrium straight, truncate, reaching the apex of the gynostemium, margin minutely dentate. **Nectary** penetrating the ovary slightly behind the perianth.

HABITAT: Unknown.

FLOWERING SEASON: Probably September.

GENERAL DISTRIBUTION: Endemic, known only from the Department of Valle del Cauca.

DISTRIBUTION IN THE DEPARTMENT OF VALLE

DEL CAUCA: **Mpio. Tuluá.** Neogranadina-Quindiensis, Las Playas. Circum Flumen Tuluam. *I.F. Holton s.n.* (NY).

NOTES. Illustration by *Bruno Manara s.n.* in Foldats (1970) in "Flora de Venezuela" 15(3): 232 is surprisingly similar to that prepared from the

holotype, in both the plant habit and shape of the lip, so as to be evidently based on that Colombian specimen. There is thus no confirmed record from Venezuela (Hágsater 2009).

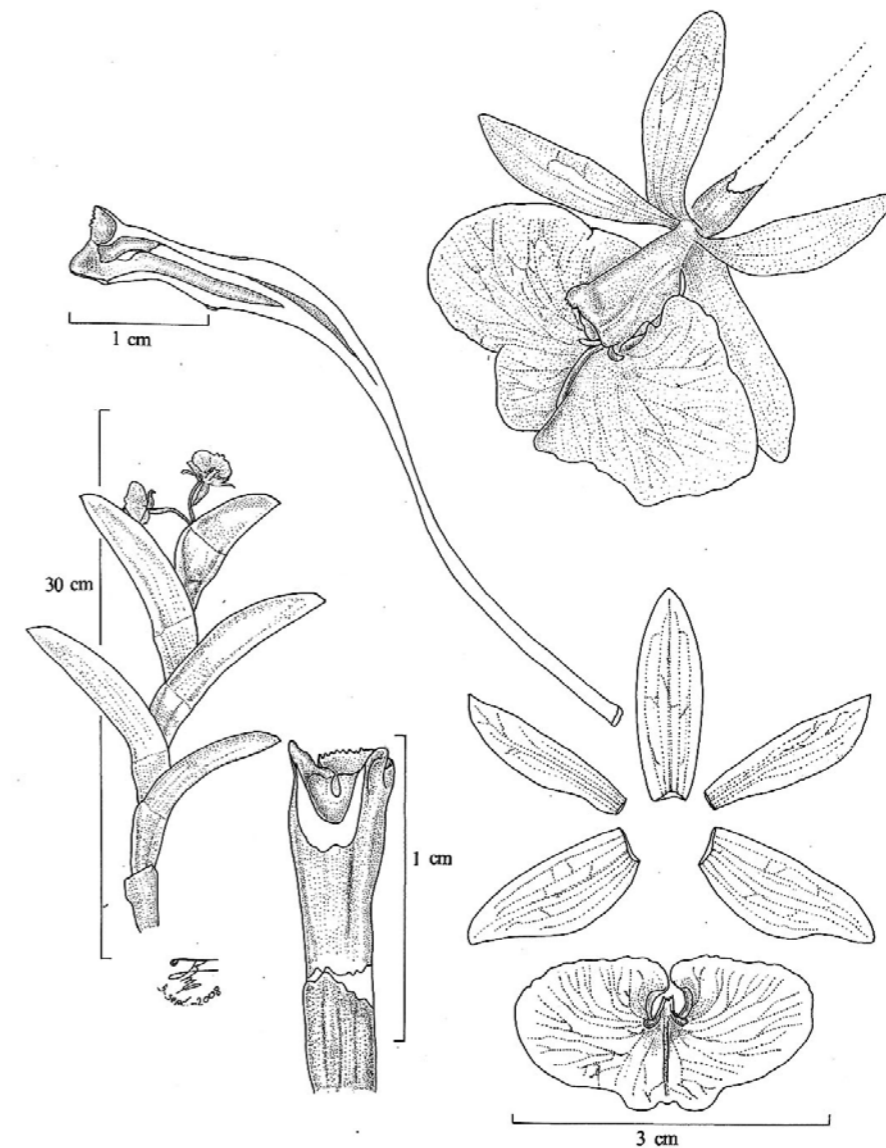


Fig. 93. *Epidendrum boltonii* Hágsater & L.Sánchez (*I.F. Holton s.n.*, NY – drawn by R. Jiménez Machorro).



46.28. *Epidendrum kerryae* Hágsater & L.Sánchez (Figs 94, 95; Photos 47-49).

Orquideologia 19: 38. 1994; TYPE: COLOMBIA. CHOCÓ. Drainage basin of Río San Juan, tributary Río Taparal. 4°15'N 77°10'W. Alt. 200 m. *van Rooden, ter Welle & S.M.C. Topper 694* (HOLOTYPE: U!). - Misas Urreta, Orquídeas de la Serranía del Baudó: 190-191. 2005.

**Epiphytic**, caespitose plants, 7-42 cm tall (including the inflorescence). **Stems** 5-38 cm long, 0.4-0.8 cm thick, cane-like, somewhat compressed, flexuose. **Leaves** 3-11, 5-9.5 cm long, 2.5-4 cm wide, equidistant along the stem, subcoriaceous, elliptic-ovate, apex retuse or bilobed. **Inflorescence** apical, sessile, flowering only once. **Flowers** 1-2, resupinate, simultaneous, green-yellowish. Floral bract 4.5-5 mm long, 2.8-3 mm wide, shorter than the ovary, ovate, rounded. Pedicellate ovary, 25-44.5 mm long, 3-5 mm wide, trigonous. Sepals free, patent, glabrous. **Dorsal sepal** 26-28 mm long, 4-8 mm wide. **Lateral sepals** 27-29.3 mm long, 4-9.5 mm wide, obliquely elliptic, patent, slightly revolute, dorsally carinate, 7-veined (+2 secondary veins). **Petals** 26-28.3 mm long, 2.5-7 mm wide, ascendent, narrowly-elliptic, acute, 3-veined. **Lip** about 20-22 mm long, 18-23.6 mm wide, united to the gynostemium, entire, suborbicular, base slightly

cordate, apex subapiculate, margins entire, calli small, subglobose. **Gynostemium** 8-9 mm long, straight, apical margin forming a fleshy erose cone. Anther subspheric with a frontal beak. Stigmatic lobes prominent, long. **Nectary** deep, extending beyond the anterior half of the ovary.

**HABITAT:** Pacific lowland forest; 100-250 m alt.

**FLOWERING SEASON:** January, March, July.

**GENERAL DISTRIBUTION:** Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE**

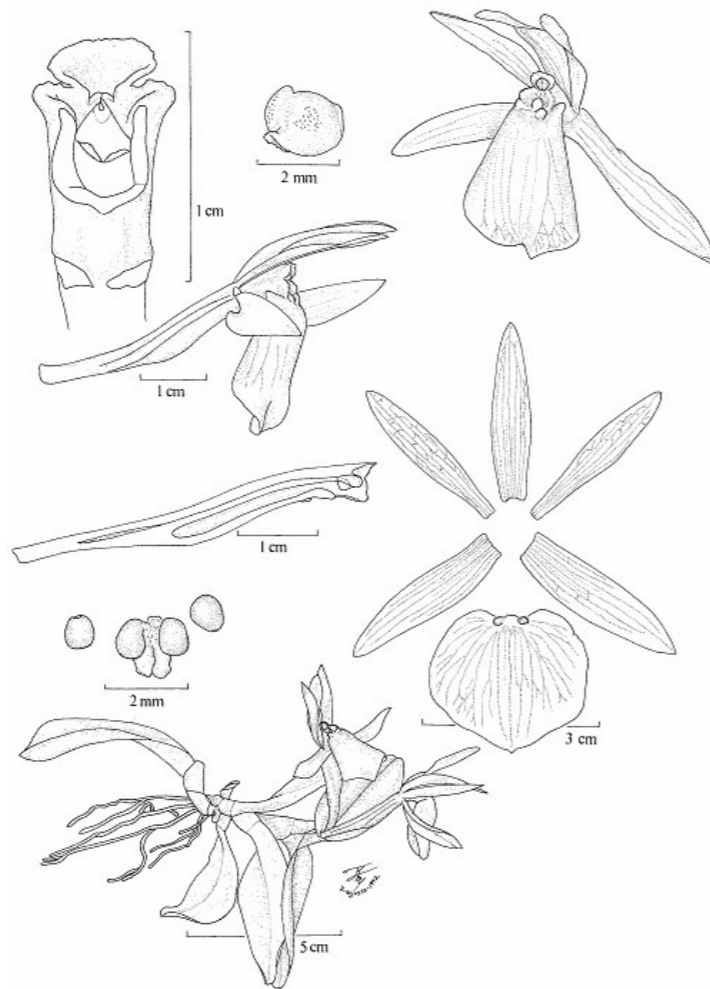


Fig. 94. *Epidendrum kerryae* Hágsater & L.Sánchez (*Hágsater, R.L. & K. Dressler & Folsom 7384*, AMO – drawn by R. Jiménez Machorro).

DEL CAUCA: **Mpio. Buenaventura.** Bajo Calima. Near the sea level. 3 Jan 2011. *M. Kolanowska & O. Pérez 267* (COL!, UGDA! - drawing); Bajo Calima, road to Juanchaco Palmeras. 3°55'N 77°2'W. 12 Jul 1984. *Gentry, M. Monsalve B. & Wolfe 47990* (MO); 8 km abajo del retén de policía de Anchicayá. Alt. 250 m. *E. Hágsater, R.L. Dressler, K. Dressler & Folsom 7384* (AMO!); San Cipriano, creciendo cerca del río. Alt. 100 m. 20 Mar 2010. *O. Pérez 631* (VALLE!); Buenaventura. *Bentham Trustees 244* (K! NY!); Sin localidad precisa, cultivado en Orquídeas del Valle cerca de Cali. *R. Escobar R. 5372* (AMO!).

**OTHER SPECIMENS EXAMINED: ECUADOR.** **Pichincha.** Saguangal, vía Puerto Quito. Alt. 900 m. Prensado de material cultivado 14 Mar 2003. *Hágsater 13890* (AMO! – spirit). **Cotopaxi.** La Maná, Reserva Ecológica Los Ilinizas. Alt. 1375 m. 24 Jul 2003. *Silverstone-Sopkin 9416* (QCNE!).

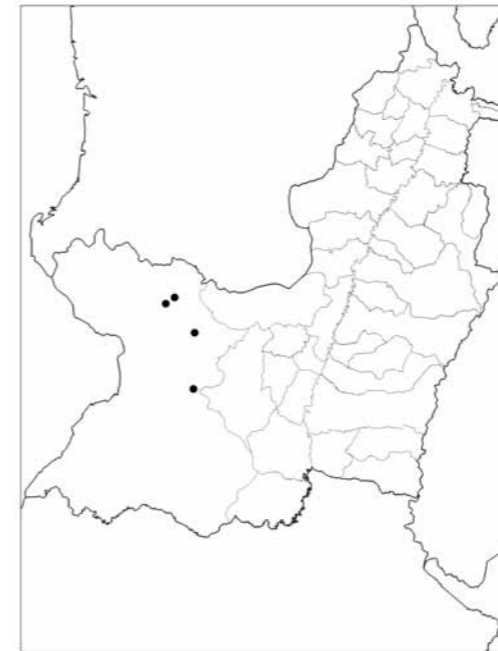


Fig. 95. Distribution of *Epidendrum kerryae* Hágsater & L.Sánchez in Valle del Cauca.

46.29. *Epidendrum killipii* Hágsater & L.Sánchez (Figs 96, 97).

Icon. Orchid. 3: t. 342. 1999; TYPE: COLOMBIA. Intendencia El Chocó. Corcovada Region, upper Río San Juan, ridge along Yeracüi Valley. Alt. 200-275 m. 24 Apr 1939. *Killip 35303* (HOLOTYPE: US!; ISOTYPE: AMES).

**Epiphytic**, caespitose plants, 18-28 cm tall. **Stems** 16-24 cm long, 0.3-0.9 cm wide, simple, reed-like, laterally compressed. **Leaves** 3-8, 3-11 cm long, 1.5-3.5 cm wide, equidistant along the stem, coriaceous, ovate-elliptic, retuse; sheaths 2-3.5 cm long, laterally compressed. **Inflorescence** apical, flowering only once, sessile. **Flowers** 1-3, resupinate, simultaneous, green. Floral bracts 3-3.5 mm long, much shorter than the ovary, ovate, acute. Ovary 19-20 mm long, 1.2-1.5 mm wide, thin. Sepals free, subcoriaceous, extended, glabrous, 7-veined. **Dorsal sepal** 20-23 mm long, 5.5-6 mm wide, elliptic, acute, margin revolute, entire. **Lateral sepals** 24-25 mm long, 6-6.5 mm wide, obliquely lanceolate, acute, margin revolute, entire. **Petals** 23-23.5 mm long, 4-4.7 mm wide, spreading, narrowly rhombic, acute, margin entire, 5-veined. **Lip** 18-18.5 mm long, 19-19.5 mm wide, united to the gynostemium, subcoriaceous, entire, suborbicular-cordiform, margin entire, apex rounded, biculose, callus subglobose. **Gynostemium** 6.5-7 mm long, 1.5-2 mm wide, straight. Clinandrium prominent, dentate. Anther subspheric. **Nectary** penetrating 1/3 of the ovary.

**HABITAT:** Unknown; in the whole range at about 200-275 m alt.

**FLOWERING SEASON:** March.

**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA: Mpio. Buenaventura.** Buenaventura. *Lehmann 3810* (G!).

**OTHER SPECIMENS EXAMINED: COLOMBIA.** **Chocó.** Hoya del Río San Juan, Quebrada La Sierpe, afluente del Río San Juan, al frente de Palestina. ca 4°10' N 77°10' W. Alt. ca 5 m. 25

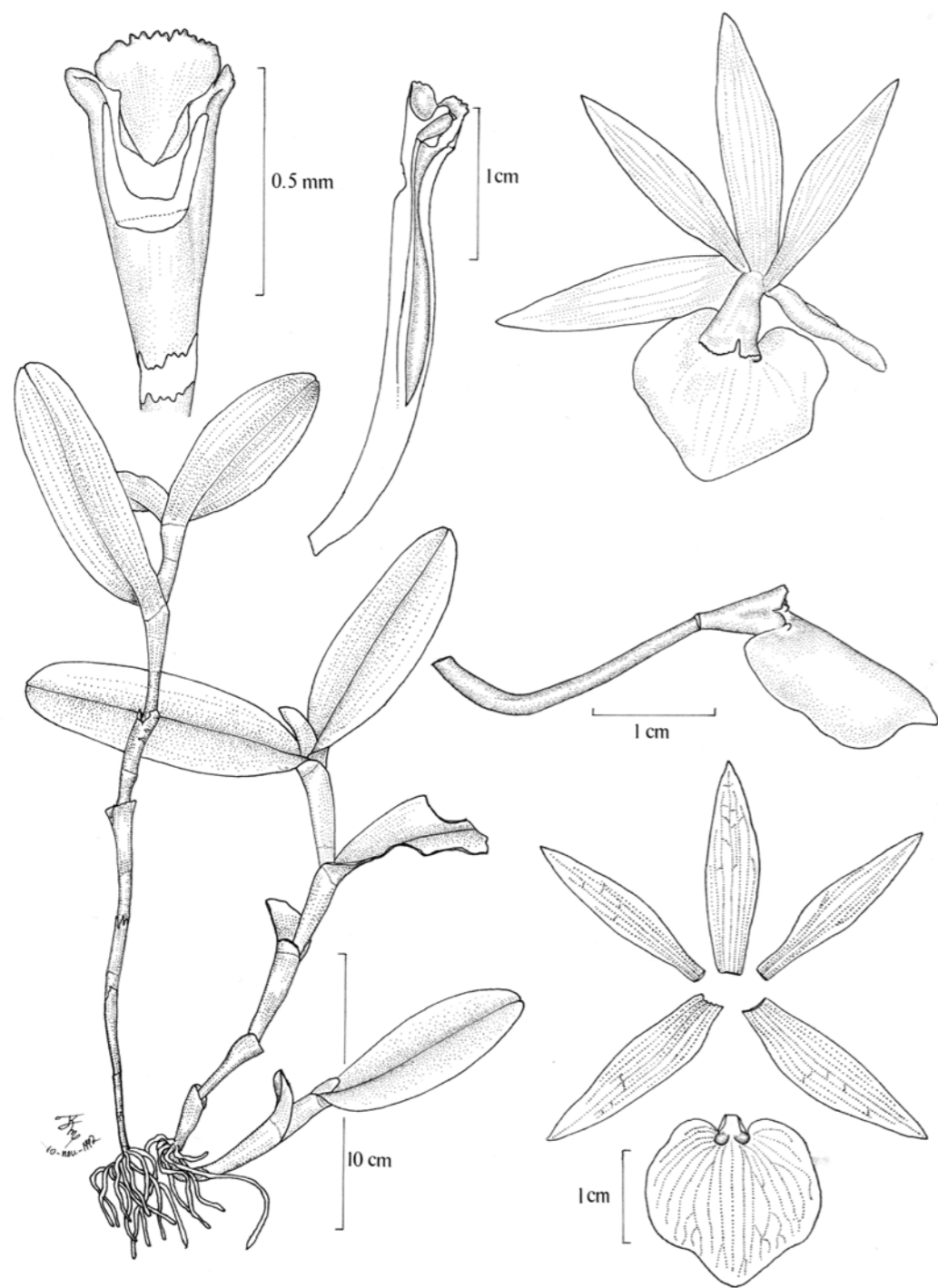


Fig. 96. *Epidendrum killipii* Hágsater & L.Sánchez (*Killip 35303*, US – drawn by R. Jiménez Machorro).

Mar 1979. E. Forero, R. Jaramillo, L.E. Forero P. & N. Hernández 3983 (COL!).



Fig. 97. Distribution of *Epidendrum killipii* Hágsater & L.Sánchez in Valle del Cauca.

46.30. *Epidendrum littorale* Hágsater & Dodson (Figs 98, 99).

Icon. Orchid. 2: t. 153. 1993; TYPE: ECUADOR. PICHINCHA. Centinela, km 12 Patricia Pilar to 24 [de] Mayo. At crest of ridge of Montañas Ila. Alt. 600 m. 7 Jul 1985. C.H. & T.A. Dodson 15869A (HOLOTYPE: MO!).

**Epiphytic**, caespitose plants, 15-20 cm tall (including inflorescence). **Stem** 12-16 cm long, reed-like, terete, somewhat flexuose. **Leaves** 7-9, 3-6.5 cm long, 1-1.8 cm wide, coriaceous, elliptic, apex bilobed; sheaths tubular. **Inflorescence**, shortly pedunculate, subumbellate, flowers only once. **Flowers** 4-6, simultaneous, resupinate, green. Floral bract 1-8 mm long. Ovary 28-35 mm long, dilated behind the perianth. **Sepals** 12-14 mm long, 5-7 mm wide, free, spreading, subcoriaceous, ovate-elliptic, acute, margin en-

tire, revolute; dorsal sepal 5-veined; lateral sepals oblique, 6-veined with 3 secondary veins. **Petals** 11-12 mm long, 1.5-2 mm wide, narrowly oblanceolate, obtuse, 3-veined. **Lip** 8-11 mm long, 13-16 mm wide, united to the gynostemium, bicallose, calli short and rounded, base cordate, 3-lobed; lateral lobes semiorbicular, margins crenate; middle lobe broad and prominent, with a wide, shallow sinus at the apex, crenate. **Gynostemium** 6-7 mm long, arcuate. Clinandrium prominent, rose-dentate. Anther subspherical, the apex somewhat papilloae.

**HABITAT**: Pacific lowland forest. Grows on trees and fence posts; near sea level.

**FLOWERING SEASON**: March-June.

**GENERAL DISTRIBUTION**: Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA**: **Mpio. Buenaventura**. Buenaventura. Sea level. 5 Jun 1944. *Killip & Cuatrecasas 38822* (AMES, COL, FI, VALLE!); Rio Calima (Region del Choco), La Trojita. Alt. 5-50 m. *Cuatrecasas 16472* (AMES!, AMO!, VALLE!); Buenaventura, sea level. 4 May 1939. *Killip 35504* (AMES!, COL!); Buenaventura Bay, sea level. 13 Apr 1939. *Killip 34969* (AMES!, COL!); Buenaventura, sea level. 8 Oct 1922. *Killip 11686* (AMES!, NY!, US!).

**OTHER SPECIMENS EXAMINED**: **ECUADOR**.

**Pichincha**. Mpio. Santo Domingo. Ca km 10 Sto. Domingo-Quevedo rd., desvío al. Balneario. Alt. 400 m. fecha de colecta 15 Jul 1990, fecha de prensado de material cultivado 26 Feb 1993. *Hágsater & C.H. Dodson 10699* (AMO!); Along Rio Baba entering from km 21, Santo Domingo to Quevedo. About 5 km in from highway. Alt. 400 m. 12 May 1989. *C.H. Dodson & A. Embree 18012* (AMO! x 6). **COLOMBIA**. **Antioquia**. Mpio. Mutatá. 2.5 km N of Mutatá on road to Chigorodó. 07°15'N 76°25'W. Alt. 140 m. 26 Mar 1987. *Zarucchi, Betancur, B. Echeverry & F.J. Roldán 5039* (MO!, NY!, SEL!). **Chocó**. Río San Juan: márgenes, entre Palestina & Agua Negra. Alt. 5 m. 19 Jun 1946. *Cuatrecasas 21570* (VALLE!).

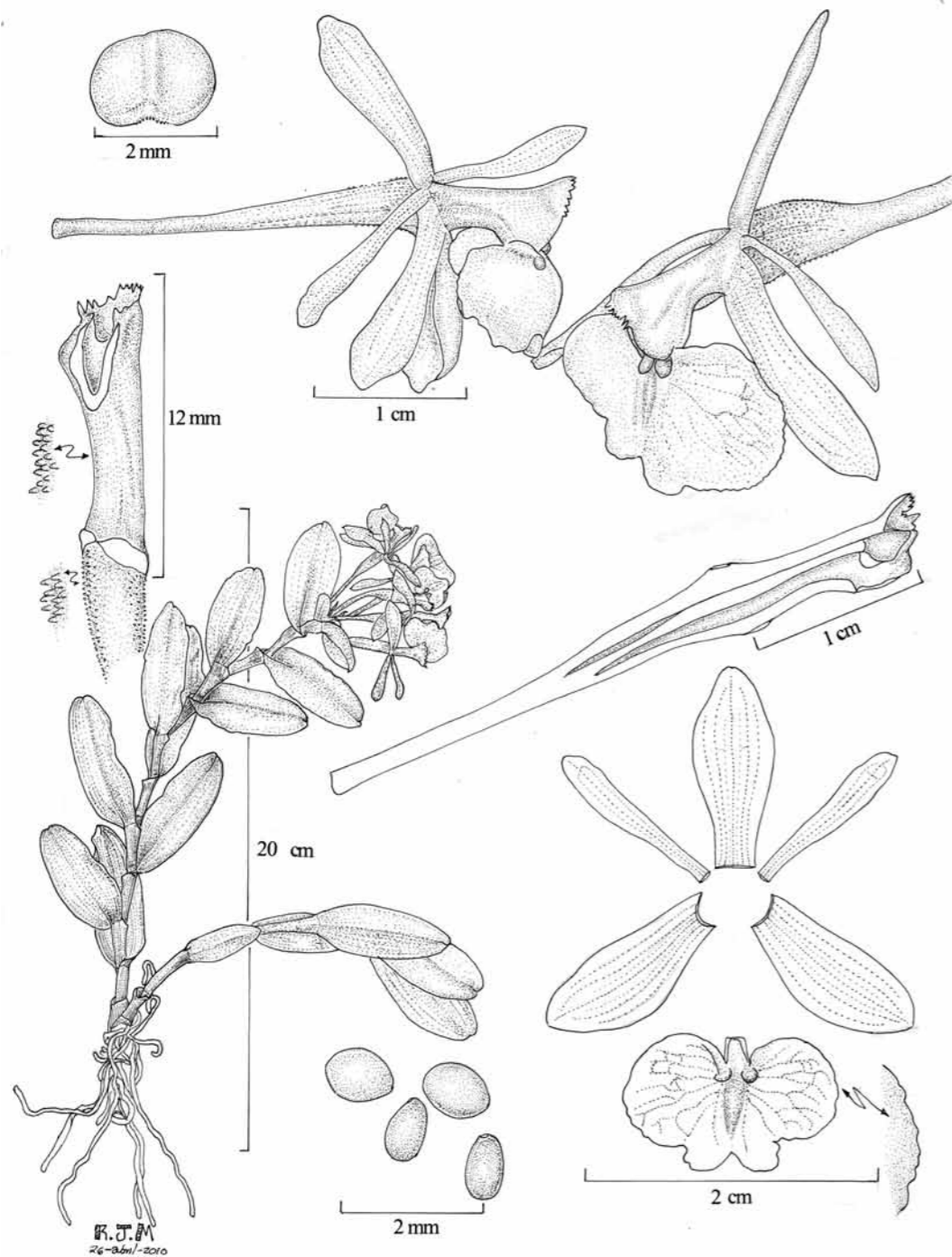


Fig. 98. *Epidendrum littorale* Hágsater & Dodson (*Cuatrecasas* 16472, AMES – drawn by R. Jiménez Machorro).

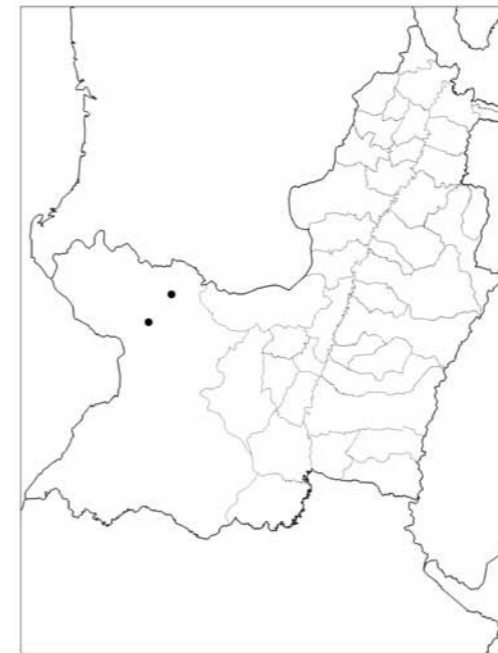


Fig. 99. Distribution of *Epidendrum littorale* Hágsater & Dodson in Valle del Cauca.

46.31. *Epidendrum parra-sanchezii* Hágsater, O. Pérez & L. Sánchez (Figs 100, 101; Photos 50-51).

Icon. Orchid. 14: Pl. 1471. 2013; TYPE: COLOMBIA. VALLE DEL CAUCA. Mpio. Buenaventura. San Cipriano, aprox. 100 m.s.n.m. 20 Mar 2010. O. Pérez, E. Parra, C. Jaramillo & P. Narváez 631 (HOLOTYPE: CUVCI).

**Epiphytic**, erect, sympodial, caespitose herb ca 12 cm tall. **Roots** 0.05-0.1 cm in diameter, basal, fleshy, filiform. **Stems** 5-6.5 cm long, 0.4-0.5 cm wide, simple, cane-like, laterally compressed towards the apex, flexuous. **Leaves** 3-4, distributed throughout the stem; sheath 2-2.2 cm long, tubular, laterally compressed, smooth; blade 2-7 cm long, 0.5-1.9 cm wide, elliptic to lanceolate-elliptic, apex retuse to asymmetrically bilobed, minutely aristate, coriaceous, green, the primary veins marked pale green on the dorsal surface, margin entire, spreading, pale green. **Spathaceous bract** lacking. **Inflorescence** api-

cal, 1-2-flowered, sessile. **Flowers** 2, simultaneous, resupinate, sepals, petals, lip and proximal and middle part of the column pale green; disc, calli and distal part of the column deep green; fragrance not registered. **Ovary** 2.1 cm long, 0.26 cm wide, terete, inflated, unornamented. **Sepals** spreading, free, acute, membranous, 7-8-veined, with many short, interconnecting secondary veins, margin entire, revolute; **dorsal sepal** 32 mm long, 5.5 mm wide, erect, narrowly elliptic; **lateral sepals** 30-31 mm long, 5.2-6 mm wide, reflexed, oblanceolate, slightly constricted towards the base, obscurely falcate. **Petals** 28-29 mm long, 3 mm wide, partly spreading, linear-lanceolate, obscurely falcate, acute, membranous, 3-veined, margin entire. **Lip** 10 mm long, 16 mm wide, united to the column, bilobed, strongly convex in natural position, reniform, base cordate, apex sinuate, when flattened the apical margin of the lip will overlap, so it may thus appear apiculate, perpendicular to the axis of the column, margin entire; bicallose, calli small, subglobose; disc deep green, with two lateral ridges which delimit it and form a fleshy, lustrous, shallow cavity. **Gynostemium** 11.2 mm long, slightly arched with a small, acute tooth in each side of the apex. Clinandrium-hood prominent, irregularly dentate. Anther obovoid, apex obtuse; 4-celled. Pollinia 4, reniform, laterally compressed, caudicles granulose, very short. Rostellum subapical, slit. Lateral lobes of the stigma small, covering 1/2 of the stigmatic cavity. **Nectary** penetrating 2/3 of the ovary, unornamented. **Capsule** not seen.

**HABITAT:** Grows on isolated, mature, trees in disturbed places. Individuals and small populations have been seen growing on mature trees of *Jacaranda* sp. (probably *J. caucana* Pittier) and *Inga* sp.; at about 100 m alt.

**FLOWERING SEASON:** January-March.

**GENERAL DISTRIBUTION:** Endemic known only from the Department of Valle del Cauca.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** Mpio. Buenaventura. La Delfina. Alt. aprox. 100 m. 30 Mar 2007. Pérez 468

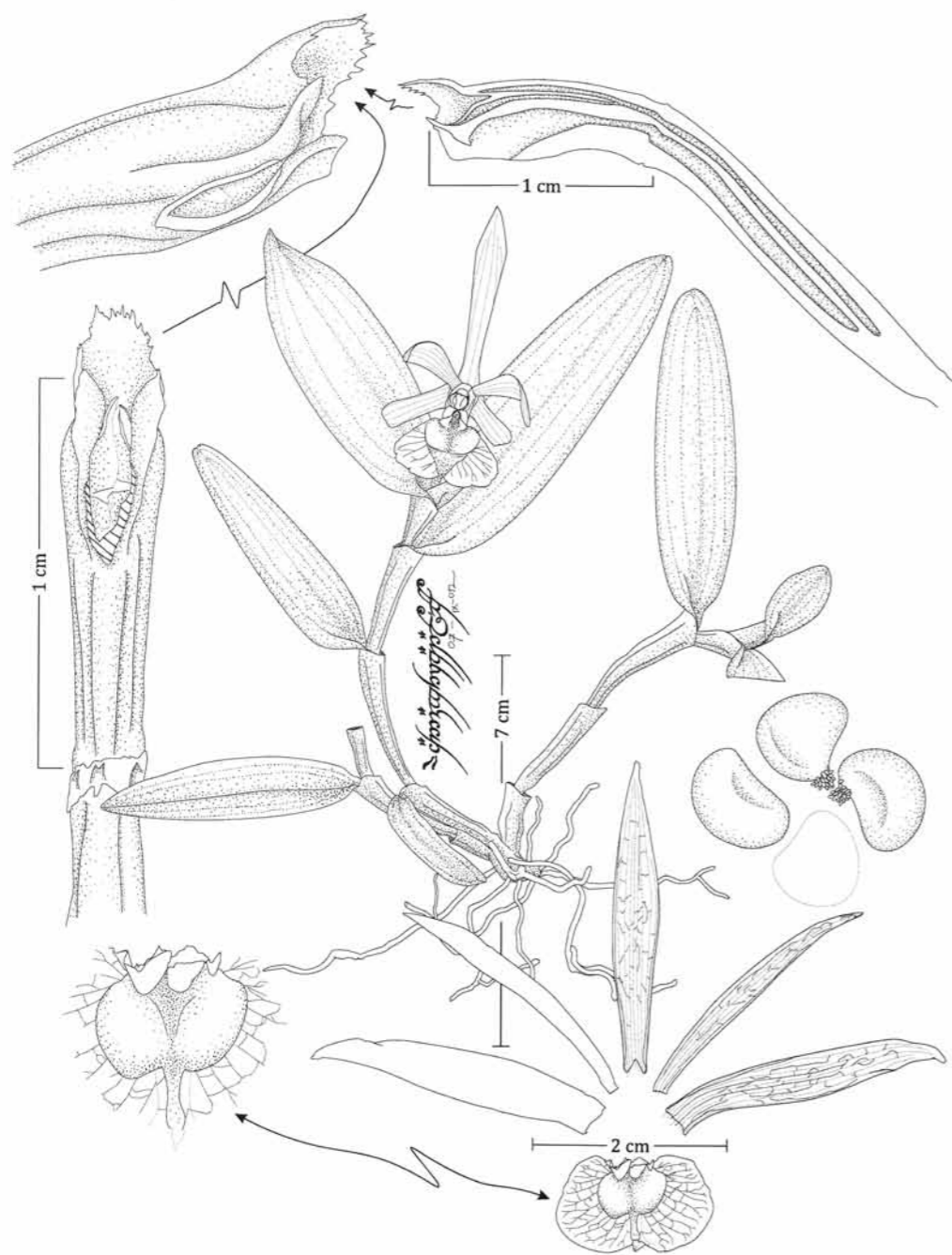


Fig. 100. *Epidendrum parra-sanchezii* Hágsater, O.Pérez & L.Sánchez (O. Pérez 631, CUVC – drawn by O. Pérez).

(CUVC!); The same loc. 4 Jan 2011. *Kolanowska* 269 (AMO! – photo, UGDA! – photo); San Cipriano. Alt. 100 m. 20 Mar 2010. O. Pérez, E. Parra, C. Jaramillo & P. Narváez 631 (CUVC!).

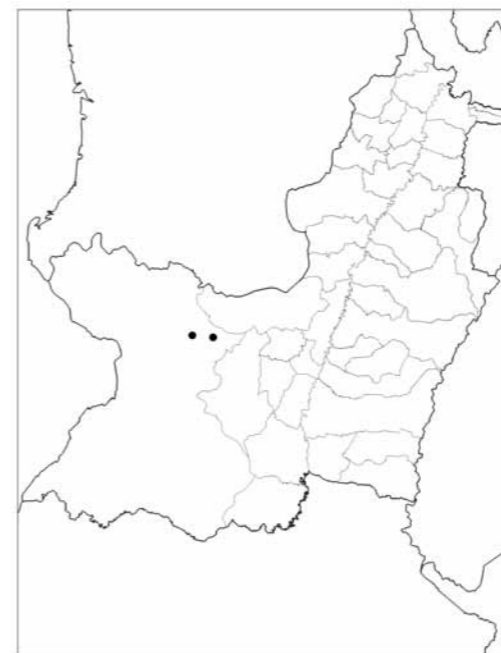


Fig. 101. Distribution of *Epidendrum parra-sanchezii* Hágsater, O.Pérez & L.Sánchez in Valle del Cauca.

46.32. *Epidendrum scharfii* Hágsater & Dodson (Figs 102, 103; Photos 52-53).

Icon. Orchid. 2: pl. 185. 1993; TYPE: ECUADOR. Pichincha. Along river and hillside opposite town of Tandapi at km 55 Santo Domingo to Quito road. 31 Dec 1986. C.H. Dodson & T. Dodson 16757 (HOLOTYPE: MO; ISOTYPE: QCNE!). - *Kolanowska* & al., Ill. field guide orchid. Yotoco Forest Reserve (Colombia): 121. 2011.

**Epiphytic**, about 6-18 cm tall. **Stem** 3-15 cm long, erect, reed-like, terete, flexuose. **Leaves** 3-6, 1.5-6.8 cm long, 0.5-1 cm wide, equally spaced throughout the stem, ascending, coriaceous, narrowly ovate-elliptic, apex bilobed,

greyish-green. **Inflorescence** apical, subumbellate. **Flowers** 3-4, resupinate, simultaneous, pale green. Floral bracts 1-3 mm long, ovate, shorter than the ovary. Ovary 11-20 mm long, dilated below the perianth, terete. Sepals elliptic, acute. **Dorsal sepal** 12-14 mm long, 5-7 mm wide, 5-veined. **Lateral sepals** slightly oblique, extended, 6-veined with 3 subsidiary veins. **Petals** 11-12 mm long, 1.5-2 mm wide, narrowly oblanceolate, obtuse, 3-veined. **Lip** united with the gynostemium, 8-11 mm long, 13-16 mm wide, entire, reniform, bicallose, base cordate, apex slightly notched. **Gynostemium** 6-7 mm long, arcuate, thick. Clinandrium prominent, erose-dentate. Anther subspherical, the apex somewhat papillose. **Capsule** 21-27 mm long, 9-11 mm wide, ellipsoid, with slender pedicel and stout apical beak.

**HABITAT**: On trees and fencing posts near streams; 1600-1700 m alt. Few populations were reported to grow on *Ladenbergia magnifolia* (Ruiz & Pav.) Klotzsch. (Rubiaceae).

**FLOWERING SEASON**: February-March.

**GENERAL DISTRIBUTION**: Ecuador, Colombia, Costa Rica.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA**: **Mpio. Restrepo**. Relictos ubicados en el borde de la carretera Restrepo-Loboguerrero. Alt. 1600 m. 16 Mar 2009. O. Pérez 57 (CUVC!, VALLE! x 2); Relicto de borde de la carretera Buga-Loboguerrero. Alt. 1600-1700 m. 22 Mar 2009. O. Pérez & G. Ríos 248 (CUVC!, VALLE! x 2). **Mpio. Yotoco**. Reserva Natural de Yotoco. 21 Mar 2009. O. Pérez & E. Parra s.n. (photo!).

**OTHER SPECIMENS EXAMINED**: **ECUADOR**. **Carchí**. Lloa Entre Tandayapa y Mindo, a 3 Km de Mindo, rio Nambillo hacia Lloa. Alt. 1200 m. 5 Dec 1986. Hágsater, Dodson & A. Hirtz 8906 (AMO!). **Pichincha**. Entre Tandayapa & Mindo: a 3 km de Mindo, rio Nambillo hacia Lloa. Alt. 1200 m. 5 Dec 1986. Hágsater; C.H. Dodson & A. Hirtz 8906 (AMO! x 2). **COLOMBIA**. **Boyacá**. El Umbo, 130 m, N of Bogotá. Alt. 3500 ft. 10 Nov 1932. Lawrence 571 (AMES!),

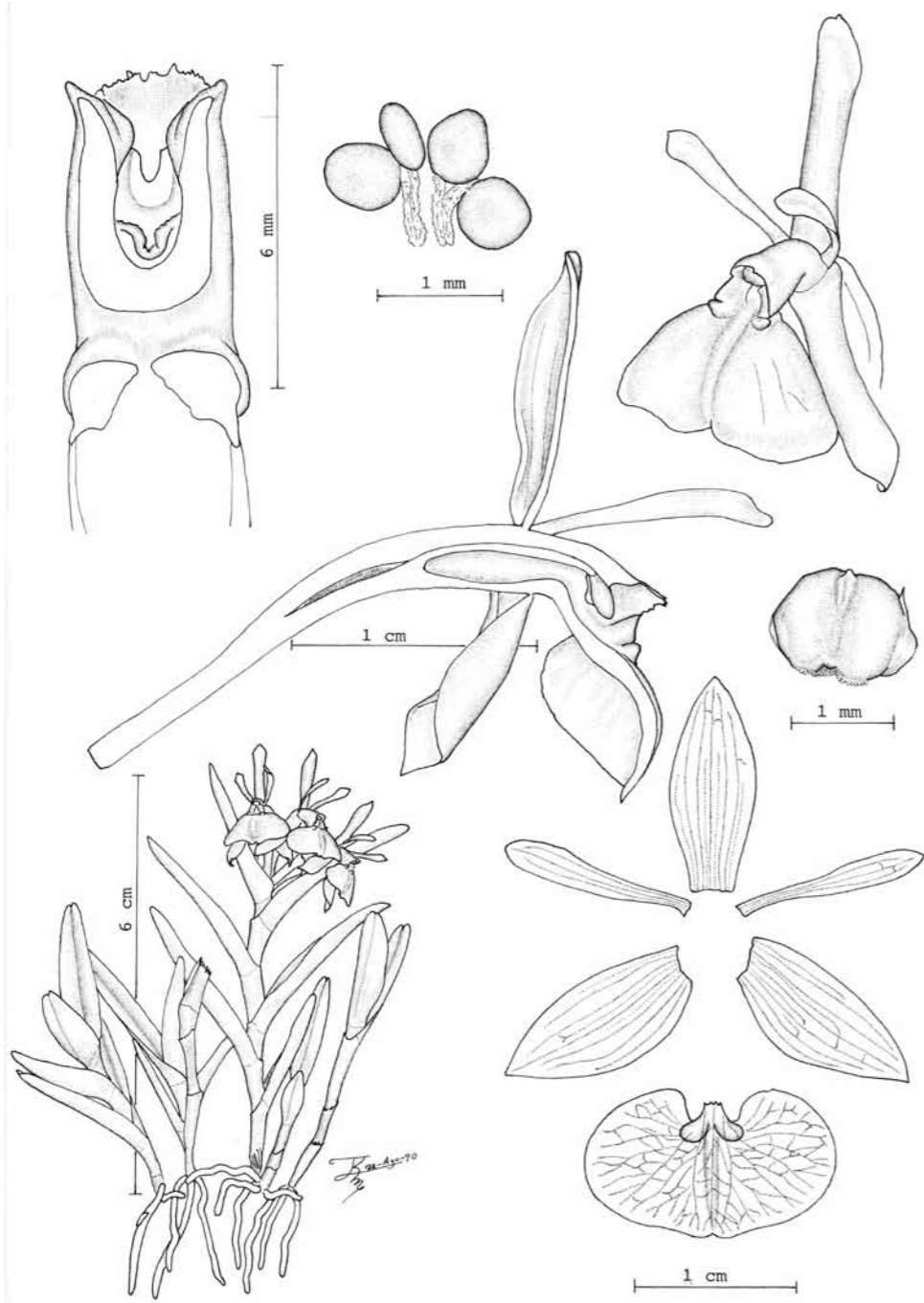


Fig. 102. *Epidendrum scharfii* Hágsater & Dodson (Hágsater, Dodson & A. Hirtz 8906, AMO – drawn by R. Jiménez Machorro).

MO!, NY!, S!). **Risaralda.** Macizo de Tamana Rio Tatama, hacia Hacienda Manizales. *Ospina* 359 (JAUM!). **Cundinamarca.** Mpio. Albán. „Sn. José”. *E. Pérez-Arbeláez* 2209 (COL!); Mpio. Sasaima. Vereda de Apocentos (antigua hacienda de Apocentos). 10-12 Jul 1960. *H. García-Barriga* 17249 (AMES!, COL!); The same loc. *H. García-Barriga* 17264 (AMES!, COL!, NY!, US!); The same loc. *H. García-Barriga* 17281 (AMES!, COL!, NY!); The same loc. 27 May 1976. *H. García-Barriga* 20981 (AMES!, COL!). **COSTA RICA.** Cartago. Border between Turrialba and Jiménez, La Suiza, Pejivalle, road to Esperanza, on hills close to Quebrada Puente. Alt. 750 m. 5 Feb 2007. *Pupullin* 6500 (AMO! - photo).

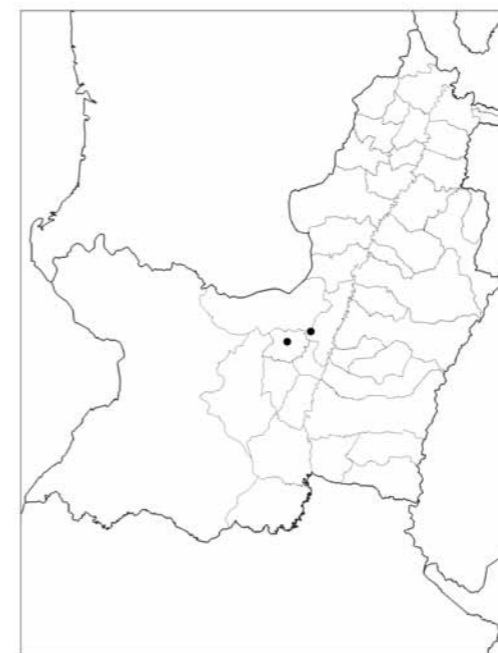


Fig. 103. Distribution of *Epidendrum scharfii* Hágsater & Dodson in Valle del Cauca.

**46.33. *Epidendrum stellidiforme* Hágsater & Dodson (Figs 104, 105; Photos 54-55).**

Icon. Orchid. 4: t. 487. 2001; TYPE: ECUADOR. CARCHÍ. Maldonado. Alt. 1500 m. 2 Oct 1981. *L. Werling* & *S. Leth-Nissen* 147 (HOLOTYPE: AMES!; ISOTYPE: QCA!).

**Epiphytic**, caespitose plants, 11-14 cm tall. **Stems** 5-8 cm long, 0.1-0.3 cm wide, somewhat laterally compressed. **Leaves** 3-5, 2.5-5 cm long, 0.5-1 cm wide, elliptic to lanceolate, unequally bilobed, somewhat carinate. **Inflorescence** apical from the mature stems, sessile. **Flowers** 1, rarely 2, resupinate, simultaneous, bright. **Floral bracts** 1.6-3 mm long, 1-1.3 mm wide, shorter than the ovary, triangular, acute. **Ovary** 17-32 mm long, 1-1.2 mm wide, inflated near the apex, terete, unornamented. **Dorsal sepal** about 16 mm long, 3 mm wide, lanceolate, acuminate, acute, 5-veined. **Lateral sepals** 18-19 mm long, 4-4.5 mm wide, extended, slightly obliquely lanceolate, acuminate, acute, margin entire, 5-veined. **Petals** about 14.8 mm long, 2.2 mm wide, membranous, spreading, lanceolate, rounded, 3-veined. **Lip** about 14.8 mm long, 13 mm wide, united to the gynostemium, suborbicular-cordiform, acuminate, rounded; disc with a low keel, apex revolute, bicallous, calli subglobose. **Gynostemium** about 5 mm long, straight, with two prominent lateral processes. Clinandrium prominent, deep to unequally dentate. Anther subspherical. **Capsule** about 28 mm long, 18 mm in diameter, semiorbicular, unornamented.

**HABITAT:** Wet premontane forest; about 650 m alt.

**FLOWERING SEASON:** October.

**GENERAL DISTRIBUTION:** Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Dagua.** El Queremal, below El Queremal, km 65. Alt. 650 m. 12 Oct 1982. *Folsom, L. Albert de Escobar* & *D. Sánchez* 10478 (AMO!). *Sine loc*, *Folsom, L. Albert de Escobar* & *D. Sánchez* 10441 (AMO!).

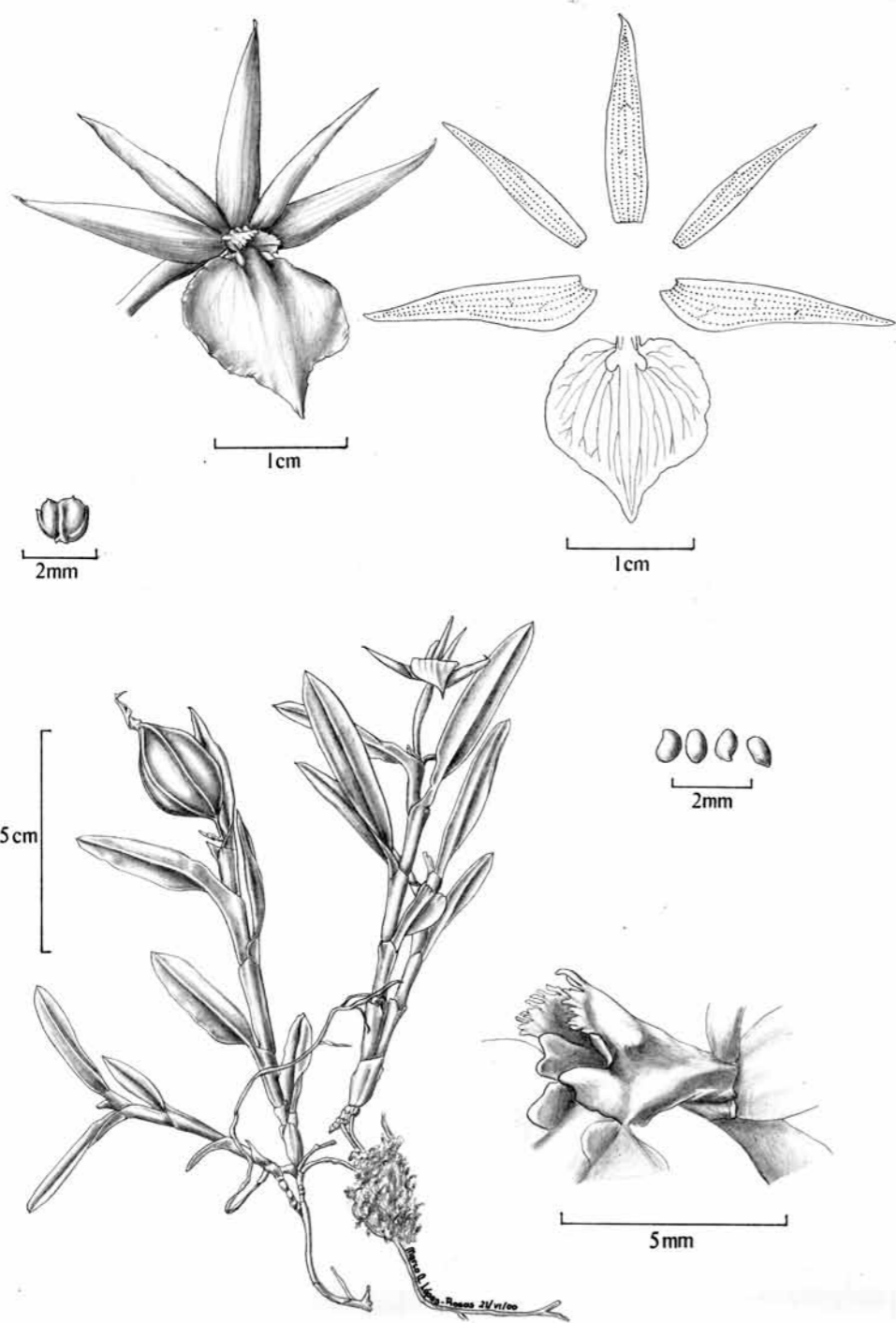


Fig. 104. *Epidendrum stellidiforme* Hágsater & Dodson (*L. Werling & S. Leth-Nissen 147*, AMES – drawn by M.A. López Rosas).



Fig. 105. Distribution of *Epidendrum stellidiforme* Hágsater & Dodson in Valle del Cauca.

### Diothonea-group

Stems from a single base, new stem produced from a middle internode of the previous stem, branching, inflorescence arching-nutant, racemose, flowers membraneous to rarely fleshy, ecallous, usually with several thin ribs on the lip. Eight species of this group occur in the Department of Valle del Cauca.

### Key to subgroups

1. Flowers small, deep pink to purple; lip entire, more or less cordiform, forming a prominent sac at the base; united to basal half of the column . . . . . *Gastropodium*-subgroup
1. Flowers small to large, variously colored; lip entire to 3-lobed (rarely 4-lobed), without forming a sac at the base; free to totally and obliquely united to the column. . . . . *Diothonea*-subgroup

### *Epidendrum gastropodium*-subgroup

Flowers small, deep pink to purple; lip entire, more or less cordiform, forming a prominent sac at the base; united to basal half of the column

### Key to species

1. Lip with 3, low, separate, parallel ribs; petals obliquely oblong to linear-oblong . . . . . 46.34. *E. eugenii*
1. Lip with a transverse cushion, its apex tridentate; petals narrowly elliptic . . . . . 46.35. *E. gastropodium*

### 46.34. *Epidendrum eugenii* Schltr. (Figs 106, 107).

Repert. Spec. Nov. Regni Veg., Beih. 7: 132. 1920; TYPE (Christenson 1996: 15): COLOMBIA. CAUCA. Santa Ana. Alt. 2800 m. 3 Dec 1899. *E. Langlassé 100* (B†; LECTOTYPE: K!; ISOLECTOTYPES: AMES! x 2, G! x 2, MO!, P! x 2, US!). - Santiago & Hágsater in Hágsater & Sánchez, Icon. Orchid. 9: pl. 935. 2007. = *Epidendrum nubigenum* Schltr., Repert. Spec. Nov. Regni Veg. Beih. 27: 69. 1924.

**Epiphytic**, monopodial plants, up to 24 cm tall. **Roots** at the base of the plant, rarely and scarce above, fleshy, thin. **Stem** about 10 cm long, 0.35 cm wide (main stem), 4-15.5 cm long, 0.25-0.4 cm wide (ramifications), branching towards the apex, cane-like, terete, somewhat flexuose. **Leaves** 4-9 on the branches, 2.5-5.8(7.3) cm long, 0.35-0.6 cm wide, distributed throughout the apical 2/3 of the stems coriaceous, generally only the apical ones persistent, narrowly lanceolate-oblong, apex obtuse, smooth, minutely apiculate, margin entire; sheath 1.4-2 cm long, 0.23-0.4 cm wide, tubular, minutely striated and rugose. **Inflorescence** about 2 cm long, apical, racemose, nutant, densely many-flowered, subsessile, flowering only once; peduncle about 0.3 cm long, very short, terete, thin.

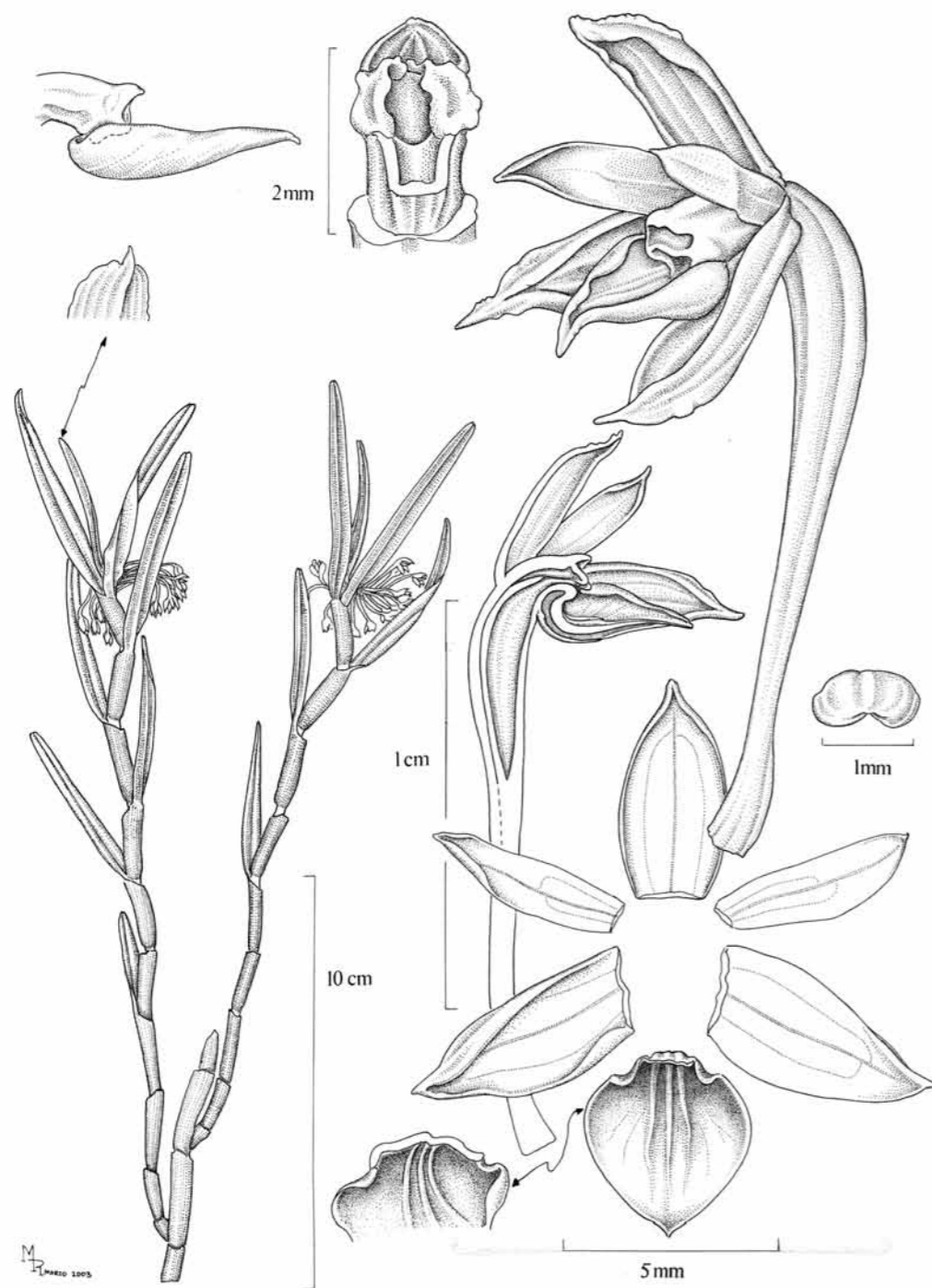


Fig. 106. *Epidendrum eugenii* Schltr. (Langlassé 100, US – M.A. López Rosas).



Fig. 107. Distribution of *Epidendrum eugenii* Schltr. in Valle del Cauca.

**Flowers** 20-25, simultaneous, violet, lip with a yellow spot. Floral bracts about 4.5 mm long, much shorter than the ovary, narrowly lanceolate, long-acuminate. Ovary 9-15 mm long, terete, thin, smooth, slightly inflated ventrally at the apical 1/3, arched downwards so that the apex of the gynostemium forms 90° angle with the ovary axis. **Sepals** 5.3-5.7 mm long, 2.6-2.8 mm wide, free, partially spreading, oblong-elliptic, apex acute, with a dorsal, erose keel, 3-veined, margin entire. **Petals** about 4.5 mm long, 1.5 mm wide, free, partially spreading, linear-oblong, subacute, 3-veined, lateral veins short, margin entire. **Lip** 3-3.8 mm long, 2.6-3.6 mm wide, united to the basal half of the gynostemium, forming at the base a sac as it is bent down and backwards before the apex of the gynostemium, entire, ovate, subacute, subcordate, margin entire, with 3, smooth, low, subacute, parallel keels which disappear towards the apex of the lip. **Gynostemium** about 2 mm long, arched, thick, short, with a pair of apical, subacute teeth. Cli-

nandrium short, entire. **Nectary** penetrating 1/3 of the ovary, inflated, smooth.

**HABITAT:** Montane forest; at about 2500-3000 m alt. in the whole range.

**FLOWERING SEASON:** November.

**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Pradera.** I.P. Bolo azul, finca La Cabaña. 28 Nov 1989. *S. Sarría* 528 (CUVC!).

**OTHER SPECIMENS EXAMINED: COLOMBIA. Cauca.** Headwaters of Río López, Río Palo basin, Tierra Adentro. Alt. 2500-3000 m. Jan 1906. *Pittier* 1092 (AMES!, US!).

**46.35. *Epidendrum gastropodium* Rchb.f. (Figs 108, 109; Photos 56-57).**

in W.G.Walpers, Ann. Bot. Syst. (Walpers) 6:(3): 405. 1862. - Santiago & Hágsater in Hágsater & Sánchez, Icon. Orchid. 8: pl. 836. 2006. ≡ *Gastropodium violaceum* Lindl., Ann. Mag. Nat. Hist. 15: 107. 1845; TYPE: COLOMBIA. CAUCA. On the Declivity of Puracé to Popayán. *Hartweg* 1422 (E, F, G! x 2, K!, LE!, P!, W!).

**Terrestrial or epiphytic** plants, about 30 cm tall. **Stems** branching towards the apex, the main stem 20-22 cm long, 0.25-0.35 cm wide, longer than the branches, cane-like, terete, straight. **Leaves** about 10 on the main stem, 3-4 persistent on the branches, 2.6-5.5 cm long, 0.3-0.6 cm wide, distributed along the apical half of the stems, coriaceous, alternate, the lower ones generally dropping, lanceolate, apex truncate, bilobed, smooth, with a low dorsal keel, margin entire; sheath 0.1-2.2 cm long, 0.25-0.35 cm wide, tubular, minutely striated and rugose. **Inflorescence** about 1.5 cm long, apical, racemose, densely many-flowered, subsessile, flowering only once; peduncle very short, terete, thin, without bracts. **Flowers** 9-13, resupinate, simultaneous, pink-purple, cushion of the lip orange. Floral bracts 2-3 mm long, much shorter than the ovary, narrowly lanceolate, acuminate.

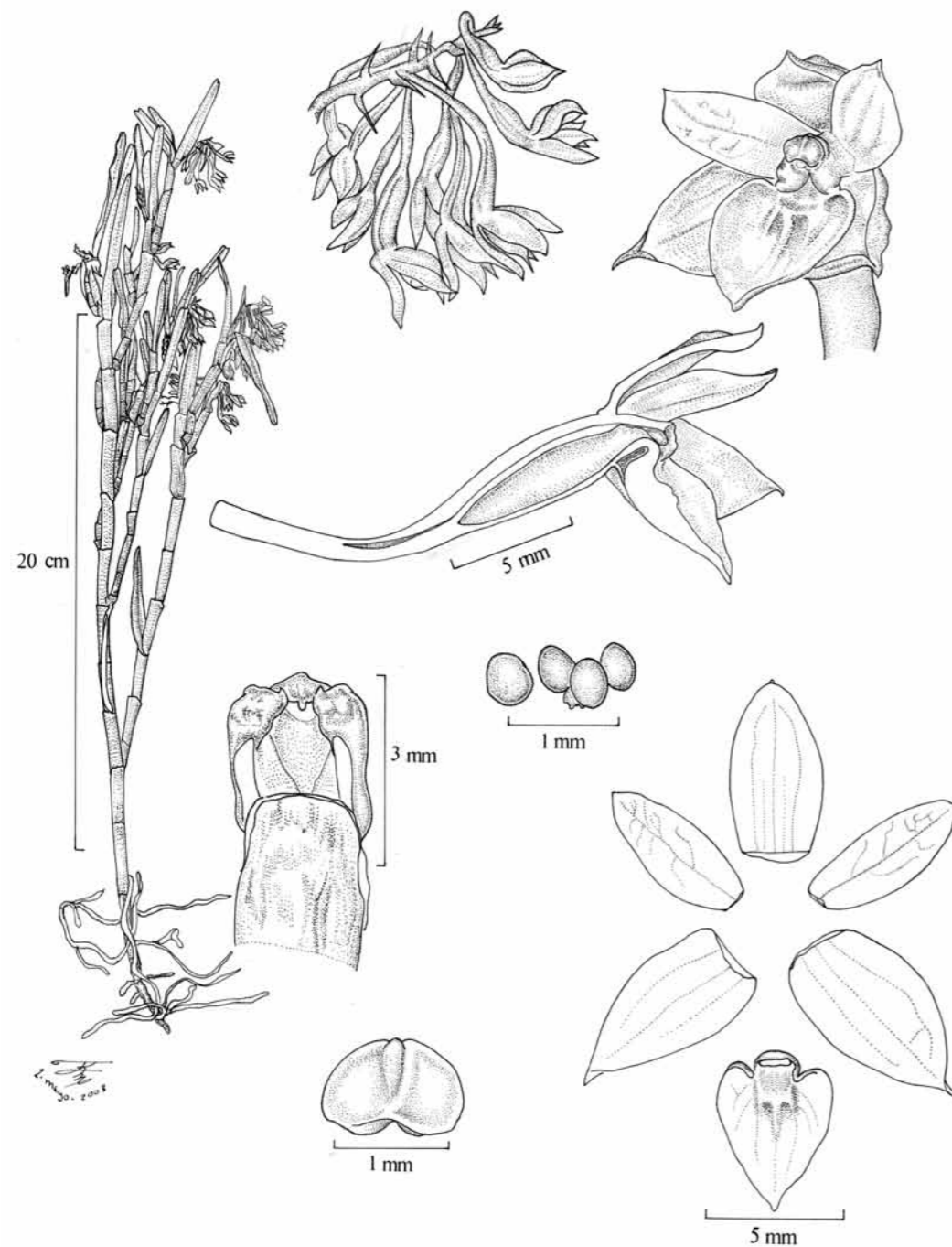


Fig. 108. *Epidendrum gastropodium* Rchb.f. (Ewan 16621, US – R. Jiménez Machorro).

Ovary 8-12 mm long, terete, thin, smooth, slightly inflated ventrally along the apical 1/3. **Sepals** 6.5-7.5 mm long, 3.4-3.8 mm wide, free, partially spreading, ovate-elliptic, apex acute, with a dorsal, erose keel, 3-veined, margin entire. **Petals** about 6 mm long, 2 mm wide, free, partially spreading, narrowly elliptic, subacute, 1-veined, with multiple branches, margin entire. **Lip** about 5.4 mm long, 4 mm wide, united to the basal 1/2 of the gynostemium, entire, cordiform, margin entire; ecallose, with a basal tricarinate cushion at the apex, keels smooth, subacute, lateral pair shorter, disappearing towards the middle of the lip; base of the lip forming a mentum as it is bent down and backwards, below the apex of the gynostemium. **Gynostemium** about 3 mm long, straight, with a pair of fleshy, truncate, rounded lobes at the apex. Clinandrium short, entire. Anther subreniform with a low central keel. **Nectary** penetrating 1/3 of the ovary, inflated, smooth.

**HABITAT:** Cloud forest and páramo; 3050-3550 m alt.

**ECOLOGY:** Grows sympatric with *Epidendrum mesogastropodium* Hágsater & Dodson in northern Ecuador (Santiago & Hágsater 2006).

**FLOWERING SEASON:** April, June, November.

**GENERAL DISTRIBUTION:** Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Tuluá.** Corr. Santa Lucia, El Crucero, Morro Bello. Alt. 3200 m. 5 Nov 1987. *W. Devia A. & F. Prado 2041* (COL!, MO! ex TULV, SEL!); Cordillera Central, vertiente occidental; Hoya del Río Bugalagrande, Barragán; Páramo de Bavaya, Corrales. Alt. 3400-3550 m. 9 Apr 1946. *Cuatrecasas 20560* (AMES!, FI, US!, VALLE!); Barragán, cultivado en Colomborquideas. Alt. 3050 m. fecha de prensado de material cultivado 1 Jun 1992. *J.F. Pasada sub R. Escobar 5155* (AMO!).

**OTHER SPECIMENS EXAMINED: COLOMBIA.** **Cauca.** Macizo Colombiano. Trail between San Sebastian and Valencia. Alt. ca 3200 m. 23 Sep 1953. *Barclay & P. Juajibioy 5723-A* (AMES!, COL!, MO!); Páramo del Puracé. Alt. 3400-3450

m. 22 Jul 1943. *Cuatrecasas 14681* (AMES!); San Marcos, entre Jardín y San Rafael. Alt. 2700-2900 m 25 Jul 1943. *Cuatrecasas 14785* (AMES!); Cordillera Central, vertiente occidental. Caceras del río Palo. Quebrada de Santo Domingo, vertiente derecha, bosquesillos subiendo al páramo. Alt. 2950-3150 m. 13 Dec 1944. *Cuatrecasas 19258* (AMES!, FI, MO!, VALLE!); Parque Nacional del Puracé, Laguna San Rafael. Alt. 3300 m. 6 Oct 1984. *Lozano 4704* (COL!, WIS!); Coconuco-Paletará. Alt. 3150 m. 25 Aug 1961. *Uribe 3809* (COL!, PI, US!); Volcán Puracé. Alt. 3000 m. 7 Nov 1948. *Yepes Agredo 126* (US!). **Nariño.** Volcán Doña Juana. Alt. 3200 m 16 Dec 1944. *Ewan 16621* (AMES!, US!). **Putumayo.** Sibundoy. Alt. 2700 m 18 Apr 1963. *Bristol 805* (AMES!, MO!, VALLE!). **ECUADOR. Carchi.** Tulcán-Santa Barbara. Alt. 3500 m. 21 Jun 1983. *Boblín 605* (GB!); Tulcán-El Carmelo. Alt. 3100-3200 m. 24 Feb 1974. *Harling 12240* (AMES!, GB!); The same loc. Alt. 2650-3200 m. 6 Apr 1985. *Hirtz 2469* (MO!); Tulcán-Maldonado. Alt.

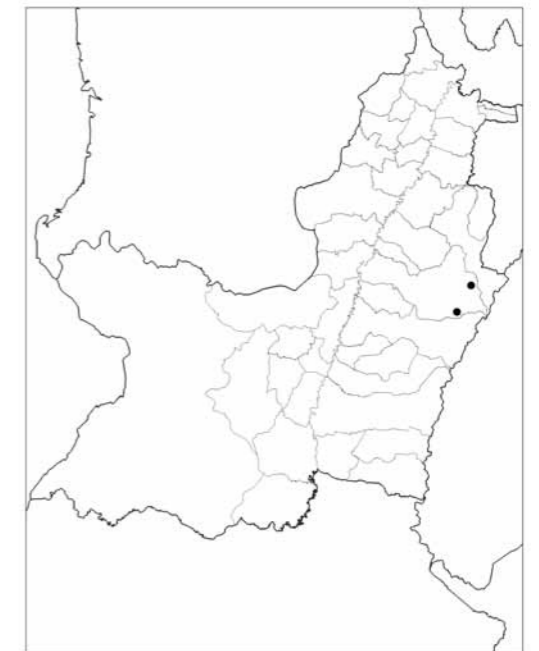


Fig. 109. Distribution of *Epidendrum gastropodium* Rchb.f. in Valle del Cauca.



3150-3250 m. 17 May 1973. *Holm-Nielsen 5612* (AAU!); Julio Andrade-El Carmelo-Tulcán. Alt. 2900-3200 m. 7 Aug 1989. *Van der Werff 10968* (MO!, QCNE!). **Imbabura.** Otavalo-Apuela. Alt. 2400 m. 5 Dec 1976. *Davis 313* (AMES!, S!). **Sucumbios.** Playón de San Francisco. Alt. 3300-3700 m. 28 Dec 1980. *Holm-Nielsen 29868* (AAU!).

**Diothonea-subgroup**

Flowers small to large, variously colored; lip entire to 3-lobed (rarely 4-lobed), without forming a sac at the base; free to totally and obliquely united to the column.

**Key to species**

1. Petals linear to linear-lanceolate, 1-2 mm wide. . . . . 2
1. Petals ovate or narrowly elliptic, 3-5 mm wide. . . . . 4
2. Lip partly or totally free from the column, base cuneate, with 5 central, parallel keels and multiple thickened veins bifurcate at the apex. . . . . 3
2. Lip totally united to the column, base cordate, with only 2 short keels adnate to each other and a wide, central rib, elongate to the apex of the lip. . . . . 46.40. *E. tropinectarium*
3. Column totally free from the column, slightly arched; flowers greenish brown tinged reddish, lip intense red. . . . . 46.36. *E. cleistocoleum*
3. Column partially united to the lip, strongly arched (producing a prominent hump); flowers greenish yellow tinged pink, the lip tinged pink-purple. . . . . 46.37. *E. cottoniiflorum*
4. Inflorescences 5-7 cm long; leaves (of the main stem) 5.5-14 x 0.5-1 cm; column with a pair of prominent, involute wings. . . . . 46.38. *E. gratissimum*
4. Inflorescence up to 2 cm long; leaves (of the main stem) 1.1-5.6 x 0.3-0.7 cm; column with a pair of rounded wings, no involute. . . . . 5
5. Flowers red, with the lip and column yellowish;

- petals narrowly elliptic; ovary not forming any vesicle; sepals dorsally postulate. . . . . 46.41. *E. yumboëense*
5. Flowers pale pink, with the lip yellowish orange; petals ovate; ovary inflated, forming a vesicle; sepals dorsally glabrous. . . . . 46.39. *E. restrepoanum*

**46.36. *Epidendrum cleistocoleum* Hágsater & E.Santiago (Figs 110, 111; Photo 58).**

Icon. Orchid. 7: t. 726. 2004; TYPE: COLOMBIA. ANTIOQUIA [possibly Pueblo Rico, alt. 2100 m]. hort. Colomborquídeas. R. Escobar & Hágsater 11699 (HOLOTYPE: HUA!).

**Epiphytic** plants, up to 20 cm tall. **Stems** 3-20 cm long, 0.12-0.26 cm wide, cane-like, erect, terete, branching near the apex. **Leaves** 8-12, 1.6-5 cm long, 0.4-0.5(0.7) cm wide, distributed throughout the stems, narrowly lanceolate, apex minutely bilobed, dorsally keeled, margin entire, somewhat revolute. **Inflorescence** 1.5-3 cm long, apical, from the main stem and branches, racemose, arching, nutant; peduncle 0.3-0.7 cm long. **Flowers** 5-9, resupinate, simultaneous, sepals greenish brown with red dots, petals reddish, lip dark red to purple, with the veins tinged red. Floral bracts 3-4.6 mm long, shorter than the ovary, triangular, acuminate. Ovary 10-14 mm long, terete, thin. **Sepals** 9-12 mm long, 4-6.2 mm wide, free, spreading, ovoid, acute, 3-veined. **Petals** 8-10.7 mm long, 1.7-2 mm wide, spreading, linear-lanceolate, subacute, 1-veined, with a pair of small, inconspicuous lateral veins, margin slightly erose. **Lip** 10-15 mm long, 12-14 mm wide, free, entire, widely obovate, orbicular, base cuneate, margin dentate, apically 2-lobed, lobes rounded; disc ecallose, with 5 prominent central keels and multiple lateral veins, these bifurcate towards the apex, and covering the whole disc. **Gynostemium** about 7 mm long, slightly arched at the base, with a pair of prominent rounded lateral lobes widened towards the base and joined to the lip,

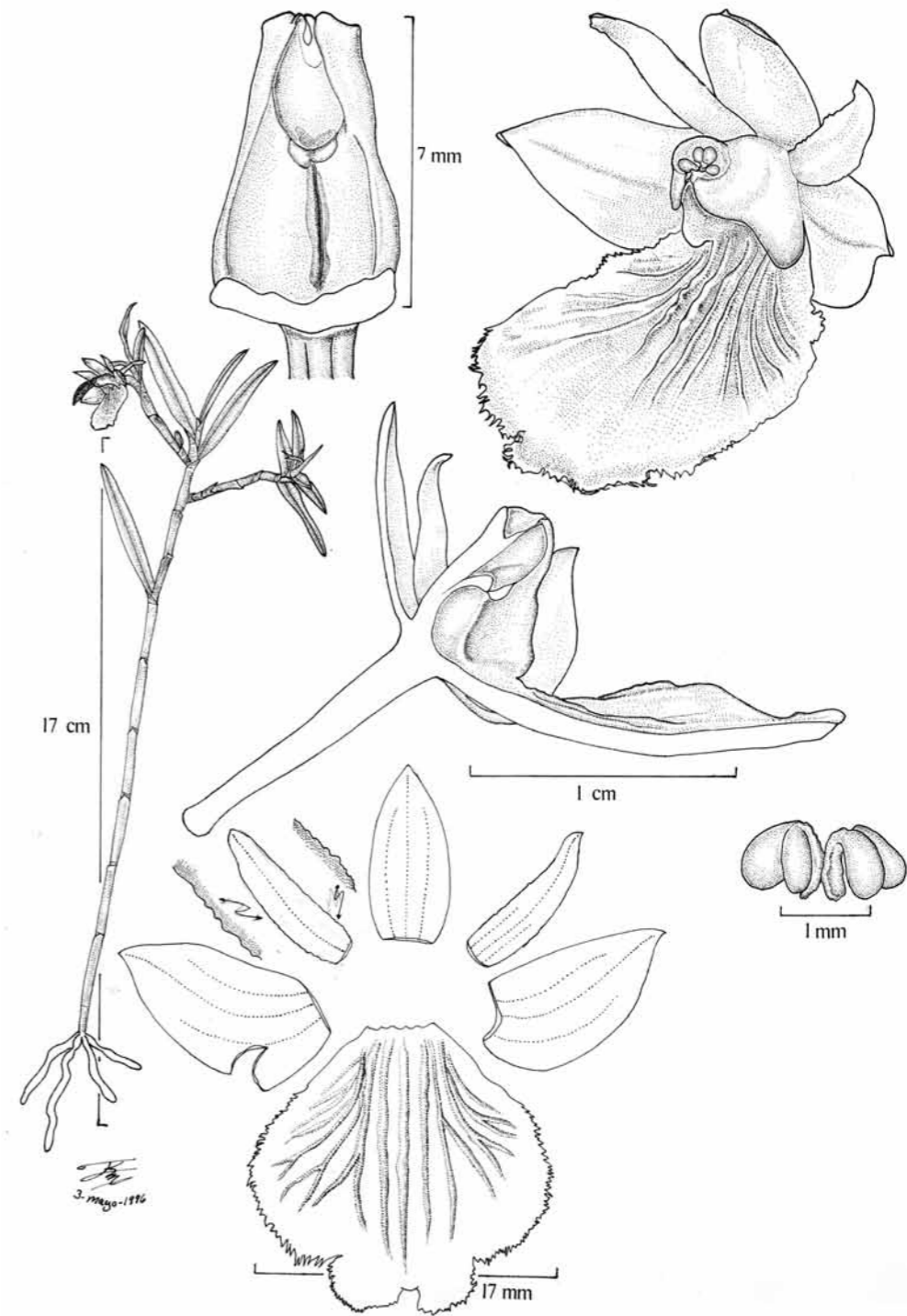


Fig. 110. *Epidendrum cleistocoleum* Hágsater & E.Santiago (*Hágsater 11699*, HUA – drawn by R. Jiménez Machorro).

ventral surface with a cavity accessed through a long narrow slit. Clinandrium hood reduced, entire. Rostellum apical, slit. **Nectary** semicircular, forming a deep slit, without penetrating the ovary, forming a narrow cavity at the base of the gynostemium. **Capsule** about 30 mm long, 4.5 mm wide, ellipsoid.

**HABITAT:** Montane forest; 1950-2320 m alt.

**FLOWERING SEASON:** July, October.

**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Dagua.** Pents occidentales de Farallones de Cali. Alt. 2000 m. *Lehmann 2027* (G!). **Mpio. El Cairo.** Cordillera Occidental, vertiente occidental, monte La Guarida, filo de la cordillera sobre La Carbonera (entre Las Brisas & Alban). Alt. 1950-2000 m. 16 Oct 1946. *Cuatrecasas 22149* (VALLE!, US!); Cordillera Occidental, filo de la cordillera sobre Las Brisas, monte El Tabor. Alt. 1970-2100 m. 19 Oct 1946. *Cuatrecasas 22289* (VALLE!); Morro Pelado. Alt.



Fig. 111. Distribution of *Epidendrum cleistocoleum* Hágsater & E.Santiago in Valle del Cauca.

2270-2320 m. 17 Oct 1944. *Cuatrecasas 18160* (AMES!, VALLE!); Reserva Natural Cerro El Inglés. Alt. 2106 m. 10 Jul 2011. *García Ramírez 58* (VALLE!).

**OTHER SPECIMENS EXAMINED: COLOMBIA.**

**Antioquia.** Támesis. Vereda Río Frío. Alt. 2100 m. 9 Nov 1989. *R. Fonnegra, F.J. Roldán, B. Corral & M. Girón 3194* (MO!, SEL!, U!); Cañasgordas. Alt. 2120 m. 2 May 1983. *Luer 8914* (SEL!); El Plateado. Alt. 2060 m. 5 May 1983. *Luer 9046* (SEL!); Pueblo Rico. Alt. 2100 m. 1 May 1997. *Colomborquídeas sub Hágsater 11660* (AMO!); El Retiro. Alt. 2400 m. Oct 1969. *P. Ortiz V. 296* (HPUJ!). **Risaralda.** San Clemente. Alt. 2030 m. 20 Apr 1982. *Luer 7460* (SEL!).

**46.37. *Epidendrum cottoniiflorum* (Rchb.f.) Hágsater** (Figs 112, 113; Photo 59).

*in* R.Escobar (ed.), *Native Colombian Orchids 2*: 168. 1991. - Santiago & Hágsater *in* Hágsater & Saldaña, *Icon. Orchid.* 8: pl. 819. 2006. ≡ *Diothonea cottoniiflora* Rchb.f., *Linnaea* 41: 39. 1876 [as *D. cottoniaeflora* Rchb.f.]; TYPE: COLOMBIA. NORTE DE SANTANDER. Ocaña. *Bruckmüller s.n.* (W!).

**Epiphytic** plants, about 20-50 cm tall. **Roots** from the base of the basal stem only. **Stems** 20-50 cm long, 0.1-0.3 cm wide, branched, from the apical internodes of the previous stem cane-like, terete. **Leaves** 3-12, 1-1.8 cm long, 0.1-0.3 cm wide, distributed throughout the stems, articulate, distichous, sheath tubular, minutely striated, linear-lanceolate, apex unequally bilobed with a low dorsal keel, margin entire. **Inflorescence** 1.5-2.5 cm long, apical, racemose, short nutant-arching, flowering only once; peduncle 0.2-0.5 cm long, terete, slender. **Flowers** (9)12-14, resupinate, simultaneous, sepals and petals suffused with pink, lip yellowish with pink velns. **Floral bracts** 3-8 mm long, gradually shorter upwards, shorter than the ovary, triangular, acuminate. **Ovary** 6-12 mm long, terete, thin, noninflated. Sepals partially free, spreading, narrowly elliptic,

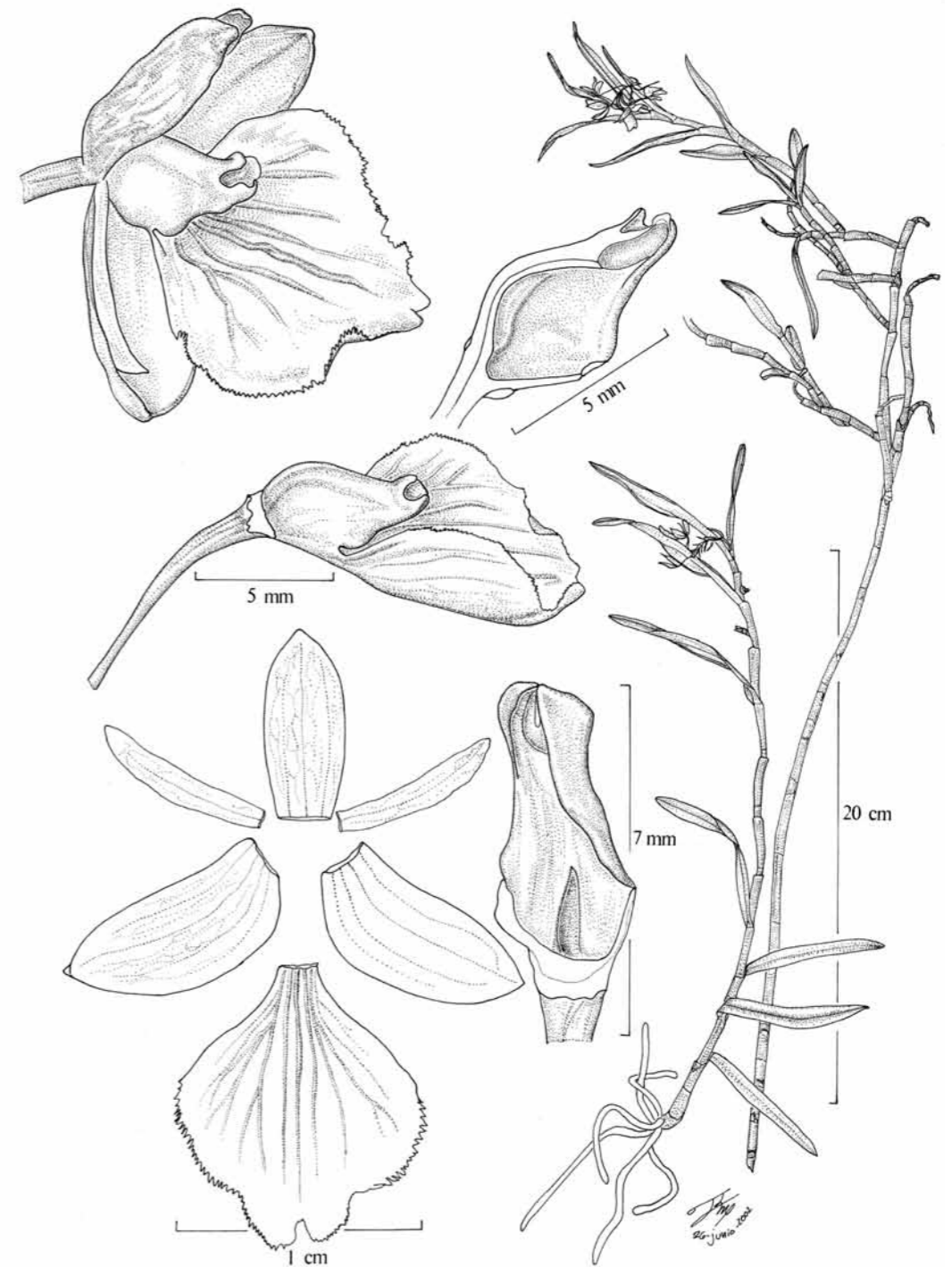


Fig. 112. *Epidendrum cottoniiflorum* (Rchb.f.) Hágsater (*Lehmann 8371*, W-R. Jiménez Machorro).



Fig. 113. Distribution of *Epidendrum cottoniflorum* (Rchb.f.) Hágsater in Valle del Cauca.

subacute, mucronate, margin entire, smooth. **Dorsal sepal** 7.7-8.6 mm long, 3.4-4 mm wide, 3-veined. **Lateral sepals** 8.7-10.2 mm long, 4.2-5 mm wide, slightly oblique, 4-veined. **Petals** 7-8.4 mm long, 1.2-2 mm wide, free, partially spreading, linear to linear-lanceolate, subacute, 1-3-veined, lateral veins short, margin slightly erose. **Lip** 8-11 mm long, 8-10 mm wide, united to the basal half of the gynostemium, entire, obovate orbicular, cuneate base very narrow, margin erose, apically 2-lobed, lobes rounded; disc ecallose, provided with 5 prominent central keers, and multiple thickened lateral veins bifurcate at the apex. **Gynostemium** 6-7 mm long, united to the basal half of the lip, strongly arched along the basal half, producing a prominent hump, the ventral surface wide, with a cavity at the basal half accessed by a short narrow slit. Clinandrium reduced, entire. **Nectary** semicircular, forming a narrow cavity at the base of the gynostemium, without penetrating the ovary.

**HABITAT:** Tree trunks in the premontane and

montane forest; 1600-2500 m alt. in the whole range.

**FLOWERING SEASON:** April, October.

**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Palmira.** "La Nevera". 10 Apr 1980. *I. Guarín O. 116* (VALLE!). **Mpio. Sevilla.** Cordillera Central, vertiente occidental, carretera Sevilla-Barragán, a 28 km arriba de Sevilla, Finca Alsanieves. 11 Oct 1981. *Silverstone-Sopkin 780* (CUVC).

**OTHER SPECIMENS EXAMINED: COLOMBIA.**

**Cauca.** Highlands of Popayán. Alt. 1600-2000 m. *Lehmann 8371* (AMES! x 3, G!, K!, L!, NY!, W!); Rio Palacé, Huaugobio. Alt. 1700-1900 m. *Lehmann sub Bentham Trustees 247* (AMES!, K!, L!, NY!); Paispamba and Chapa. Alt. 2300-2500 m. 16 Nov 1982. *Luer & al. 8459* (SEL!).

**Cundinamarca.** Soacha: Santandercito, cerca de Bogotá. Alt. 2000 m. 30 Mar 1968. *P. Ortiz V. 67* (HPUJ!). **Nariño.** Meneses-Pasto. Alt. 2700 m. 12 Nov 1878. *Lehmann s.n.* (W!); Riacurte. Alt. 1800 m. 1 Nov 1979. *Luer & al. 4522* (SEL!).

**Norte de Santander.** Ocaña. *Bruckmüller s.n.* (W!). **Putumayo.** Valle de Sibundoy. Alt. 2200 m. 29 Apr 1963. *Bristol 906* (AMES!); 5 km S Sibundoy. Alt. 2200 m. 19 Apr 1963. *Chindoy 149* (AMES!); Sibundoy. *P. Ortiz V. s.n.* (HPUJ!).

46.38. *Epidendrum gratissimum* (Rchb.f.) Hágsater & Dodson (Figs 114, 115; Photos 60-61).

Orquídea (Mexico City), n.s. 12: 296. 1992. - Santiago & Hágsater in Hágsater & Sánchez, Icon. Orchid. 8: pl. 838. 2006. ≡ *Diothonea gratissima* Rchb.f., Bot. Zeit. (Berlin). 10: 772. 1852; TYPE: COLOMBIA. QUINDIO. *Humboldt & Bonpland s.n.* (W-R! - sterile, *pro parte* [Mounted with *Triana 1371*, Reichenbach's sketches], W-R!).

**Epiphytic or terrestrial**, erect plants, 23-75 cm tall. **Roots** from the base of the main stem, occasionally from the base of some of the bran-

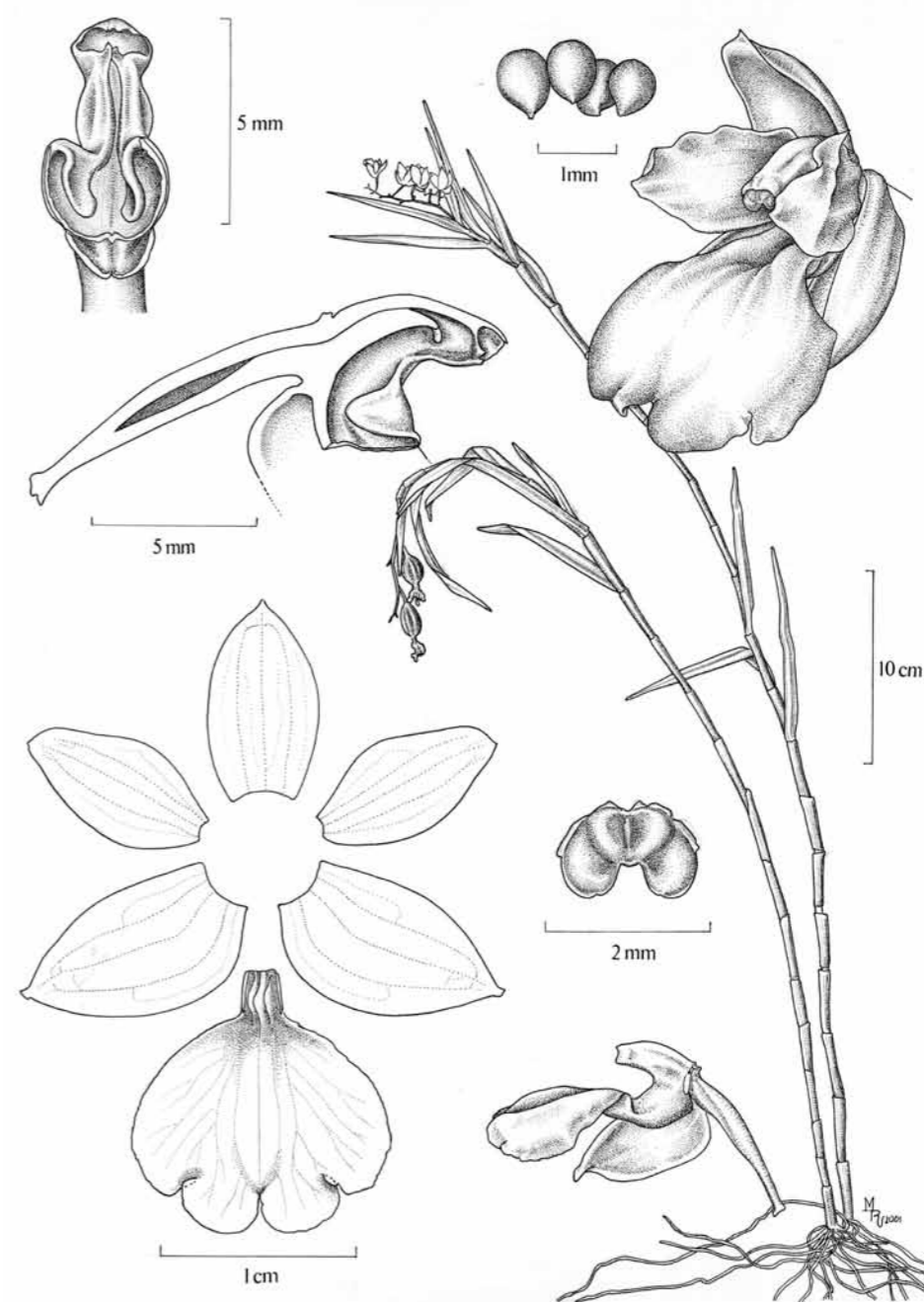


Fig. 114. *Epidendrum gratissimum* (Rchb.f.) Hágsater & Dodson (*A. Mille 109*, AMO - drawn by M.A. López Rosas).

ches, fleshy. **Stems** branching from the mature main stem, the main stem 23-75 cm long, 0.24-0.6 cm wide, taller than the branches which are

progressively shorter, terete, straight. **Leaves** 9-13 on the main stem, 4-8 on the branches, 5.5-14.5 cm long, 0.5-1 cm wide, distributed

towards the apical half of the stems, alternate, suberect, lanceolate to narrowly lanceolate, apex bilobed, with a minute dorsal keel, margin entire; sheath 0.6-4 cm long, 0.24-0.6 cm wide, tubular, striated, rugose. **Inflorescence** 5-7 cm long, apical, racemose, nutant; peduncle about 1 cm long, slender, terete. **Flowers** 15-22, resupinate, simultaneous, pinkish, yellow-pink or yellowish, rarely reddish brown; fragrance fresh and sweet. Floral bracts 2-5 mm long, the apical ones gradually shorter, much shorter than the ovary, lanceolate, acuminate. Ovary 8-15 mm long, terete, thin, smooth, noninflated. **Sepals** 8.5-11.5(13) mm long, 4-5.5(7) mm wide, free, spreading, ovate-elliptic, acute, with a dorsal keel, 3-veined, margin entire; lateral sepals oblique. **Petals** 8-10 mm long, 3-5 mm wide, free, spreading, ovate, acute, 3-veined, margin entire. **Lip** (7)8.3-12 mm long, (9.3)12-16.5 mm wide, obliquely united to the gynostemium, subreniform, base truncate, margin erose-crenate, 3-lobed; lateral lobes ovate, oblique, rounded at the apex; middle lobe bilobate, lobules rounded; disc ecallose, with 3-5 thin, laminar, erose keels, usually short, the middle keel disappearing towards the middle of the lip, lateral keels shorter. **Gynostemium** 4-6 mm long, obliquely united to the lip, arched, with a prominent columnfoot, ventrally provided with a pair of prominent, involute wings. Clinandrium short, entire. Anther reniform. **Nectary** very wide and shallow, formed by the wings and columnfoot.

**HABITAT:** Humid montane forest; at about 3350 m alt.

**FLOWERING SEASON:** October.

**GENERAL DISTRIBUTION:** Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Pradera.** I. P. Bolo Azul, finca La Cabaña. Alt. 3350 m. 4 Oct 1989. *S. Sarría, A. Agudelo & G. Galvis 271, 284 & 293* (CUVCI!).

**OTHER SPECIMENS EXAMINED: COLOMBIA. Nariño.** Tuquerrés. Alt. 3000-3600 m. *Lehmann 6839* (AMES!, NY!); Pasto. Alt. 2600 m. 1851. *Triana 585* (P!); Puruguai. Alt. 2600



Fig. 115. Distribution of *Epidendrum gratissimum* (Rchb.f.) Hágsater & Dodson in Valle del Cauca.

[m]. Jun 1850. *Triana 1371* (W! - pro parte, this collection number includes several specimens which correspond to various species, dates and localities; AMES 38326! - tracing); Encano. Alt. 11.000 ft. 1 Nov 1946. *Foster 2059* (AMES! x 2). **Tolima.** Ruiz. Alt. 3000 m. *Schmidtchen s.n.* (W 11164!); Manizales and Fresno. Alt. 2400 m. 9 Apr 1956. *Renzi 8641* (RENZ!). **ECUADOR. Azuay.** Chiquintad-La Labrada. Alt. 3000 m. 7 Aug 1986. *Betancourt 383* (QCA!); Sayausí. Alt. 3200 m. 3 Mar 1985. *Harling 22701* (GB!). **Cañar.** Molobog a Molon-Ventana. Alt. 3200-3400 m. 14 Aug 1987. *Zak 2441* (QCA!). **Carchi.** Tulcán-Maldonado. Alt. 2900-3100 m. 2 Mar 1974. *Harling 12401* (GB!). **Imbabura.** Cuicocha. Alt. 3150 m. 4 May 1980. *Holm-Nielsen 23252* (AAU!); Cuicocha. Alt. 3000-3200 m. 29 Feb 1992. *Peñafiel 959* (MO!, QCNE!). **Loja.** Loja-Saraguro. Alt. 3500 m. 12 Mar 1989. *Freire 1314* (NY!, QCA!); S of Saraguro. Alt. 3400 m. 12 Mar 1989. *Ollgaard 91027* (QCA!, QCNE!). **Morona Santiago.** Gualaceo-Limón. Alt. 2800-3300 m. 2 Apr 1974.

*Harling 13116* (AMES!, GB!); E of Gualaceo. Alt. ca 3000 m. 3 Mar 1977. *Luer 1505* (SEL!). **Napo.** Oyacachi. Alt. 3110 m. 27 Apr 1996. *Báez 64* (QCA!, AMO! - drawing); Papallacta. Alt. 2700 m. 17 Jun 1983. *Dodson 13979* (MO!, SEL!); The same loc. Alt. 3100-3300 m. 16 Jun 1968. *Harling 10338* (AMES!, GB!); Cordillera Guacamayo. Alt. 2000 m. May 1984. *Hirtz 1776* (MO!); Papallacta. Alt. 3200 m. 5 Jun 1973. *Holm-Nielsen 6797* (AAU!); Papallacta. Alt. 2370 m. 13 May 1986. *Huttel 755* (QCA!, QCNE!); Papallacta. *Mille 109* (AMO!, QPLS!); Oyacachi. Alt. 3150 m. 25 Apr 1996. *Stäbl 2331* (QCA!). **Pichincha.** Pichincha. 27 Mar 1930. *Benoist 2459* (P!); Quito-Santo Domingo. Alt. 3200 m. 8 Mar 1985. *Dodson 15659* (QCA!, QCNE!, RPSC!); Pasachoa. Jan 1984. *Hirtz 1513* (AMO!); Quito-Santo Domingo. Alt. 3000 m. 10 Mar 1976. *Luer 803* (SEL!). **Tungurahua.** Pataté to Llanganates. Alt. 3000 m. 12 Apr 1985. *Hirtz 2496* (MO!); S of Baños. Alt. 9000 ft. 24 Apr 1985. *McCook 1121* (QCA!, QCNE!).

#### 46.39. *Epidendrum restrepoanum* A.D. Hawkes (Fig. 116; Photos 62-63)

Orquídea (Río de Janeiro) **18**(5): 177. 1957. - Santiago & Hágsater in Hágsater & Sánchez, Icon. Orchid. **9**: pl. 979. 2007. ≡ *Epidendrum coccineum* Rchb.f., Bonplandia **3**: 68. 1855; TYPE: COLOMBIA. NORTE DE SANTANDER. Ocaña, San Pedro. Alt. 5000 ft. *Wagner s.n.* (W-R!). - Escobar, Orquídeas Nat. Colombia **5**: 764, fig. 886, 1994. - Romero, Venezuela, Orchid Paradise: 77. 1998, non *E. coccineum* Jacq. ≡ *Maxillaria coccinea* (Jacq.) L.O. Williams ex Hodge, Amer. Orchid Soc. Bull. **23**: 42. 1954.

**Epiphytic**, monopodial, branching, erect herb, to 45 cm tall. **Roots** produced from the base of the basal stem, thin. **Stems** 10-45 cm tall, 0.3-0.6 cm wide, branching, cane-like, terete, straight, thin, the new stems produced from near the apex of the earlier stem. **Leaves** 3-6, distributed towards the upper half of the stem, alternate, subcoriaceous; sheath 1-2 cm long,

0.3-0.6 cm wide, tubular, minutely striated and slightly rugose when dry; blade (2.5)4.2-5.6 cm long, 0.4-0.7(0.9) cm wide, oblong-lanceolate, apex bilobed, with a low dorsal keel, margin entire. **Spathaceous bract** lacking. **Inflorescence** 2 cm long, apical, flowering only once, racemose, arching-nutant, short; peduncle terete, thin, very short. **Flowers** 6-13, resupinate, simultaneous, carmine-red, coccineous, the lip and column yellow. **Floral bracts** 5 mm long, about half as long as the ovary, narrowly triangular, acuminate. **Ovary** 6-10 mm long, terete, thin, smooth, not inflated. **Sepals** partly spreading, free, fleshy, dorsally pustulate, 3-veined, margin entire; the dorsal sepal 6-7.7 mm long, 4-5.1 mm wide, elliptic, apex rounded, the lateral sepals 7-9 mm long, 4.2-4.8 mm wide, obovate, elliptic, subacute. **Petals** 6.8-7.5 mm long, 3.7-4.6 mm wide, partly spreading, free, fleshy, narrowly elliptic, oblique, subacute, 3-veined, the lateral veins short, margin slightly erose towards the apical half. **Lip** 7-7.4 mm long, 8-9 mm wide, partly united to the column, the basal half, slightly 3-lobed, base deeply cordate, margin erose; ecallose, provided with 5-7 rounded, smooth, low keels, the central 3 parallel, elongate to the base of the middle lobe, the lateral keels shorter, radiating; lateral lobes 2.4 mm long, 5 mm wide, small, dolabriform, rounded; middle lobe 2 mm long, 5 mm wide, wide and short, slightly emarginate. **Gynostemium** 4-5 mm long, partly united to the column, the apical half free, slightly arching, short, thick, ventrally provided with a pair of rounded, non-involute wings. Clinandrium-hood short, entire. Anther reniform, 4-celled. Pollinia 4, obovoid, unequal; caudicles soft and granulose, shorter than the pollinia. Rostellum apical, slit. Nectary penetrating 1/2 of the ovary, thin, smooth, not inflated. **Capsule** ellipsoid, pedicel 7 mm long, short, terete; body 23 mm long, 17 mm wide; apical neck 6 mm long, short.

**HABITAT:** Epiphytic in forest between; at about 2950-3000 m.

**FLOWERING TIME:** July.

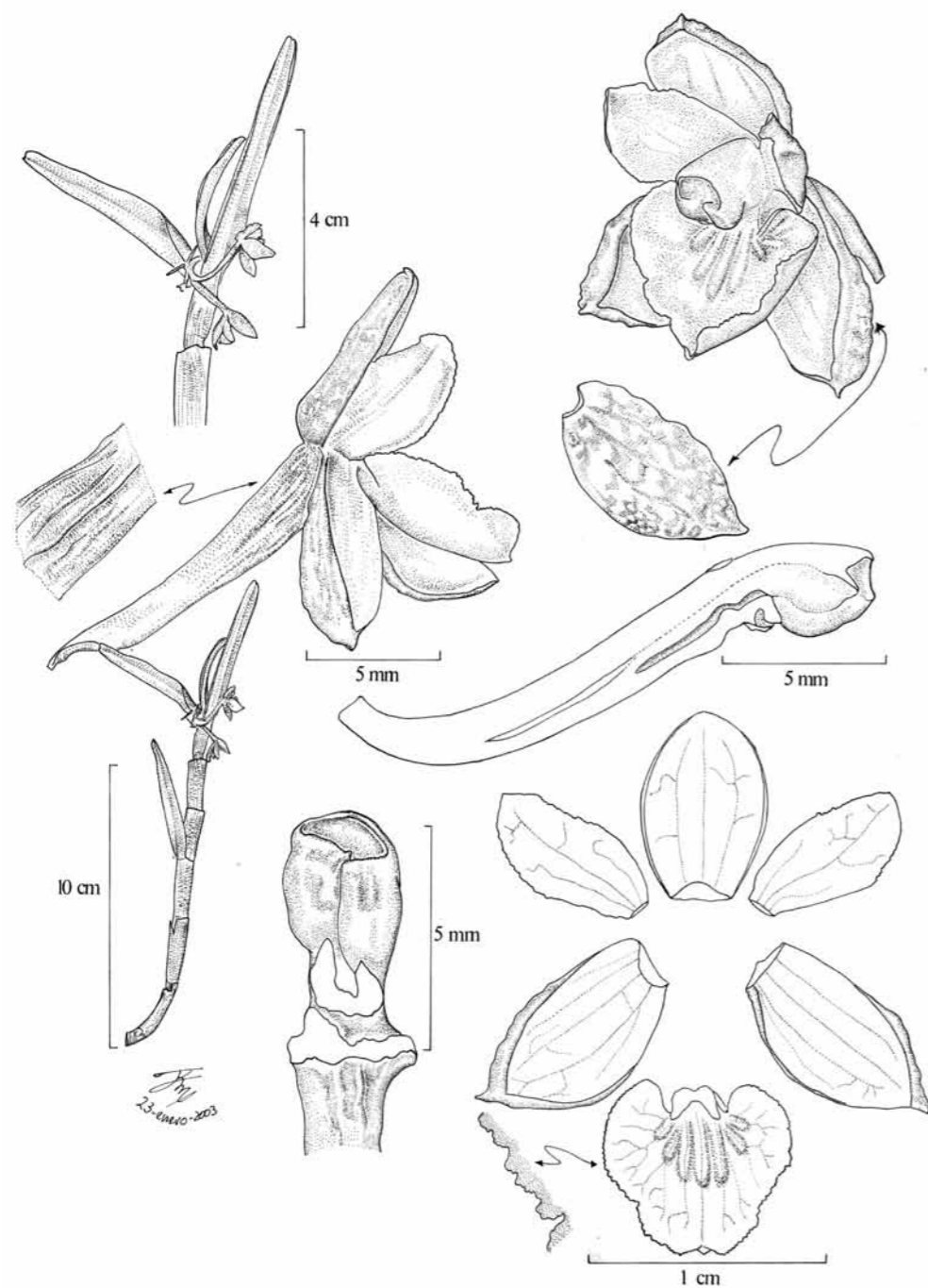


Fig. 116. *Epidendrum restrepoanum* A.D.Hawkes ([Wagner?] s.n., W-R – drawn by R. Jiménez Machorro).

GENERAL DISTRIBUTION: Ecuador, Colombia, Venezuela.

DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA: **Mpio. Cali.** Cordillera Occidental, Los Farallones, vertiente NW, Quebrada del Ratón, Mina El Diamante. Alt. 2950-3000 m. 30 Jul 1946. *Cuatrecasas 21770* (VALLE!).

OTHER SPECIMENS EXAMINED: **VENEZUELA. Táchira.** Cabeceras del Río Quinimari. Alt. 2500 m. 13 Jan 1968. *Steyermark 100842* (AMES!). **Trujillo.** Trujillo-Boconó. Alt. 2400 m. 30 Apr 1948. *Renz 4642* (RENZ!); The same loc. Alt. 2300 m. 26 Feb 1949. *Renz 5165* (RENZ!). **COLOMBIA. Antioquia.** Páramos de Belmira y San José de la Montaña. Alt. 2500-3400 m. *JT 4719* (AMO!); The same loc. *JT 4856* (AMO!); The same loc. *JT 4917* (AMO!); Páramo Frontino near Llano Grande. Alt. 3450 m. 26 Oct 1976. *Boeke 256* (MO!, SEL!); Camino Anocosa-Abriaqui, Morro Pelado. Alt. 3190 m. 15 Mar 1944. *Core 453* (AMES!, US!); Boquerón. Alt. 3050 m. 6 Apr 1963. *Espinal 1170* (COL!); Salgar, camino a Cerro Plateado. Alt. 2700-3300 m. 4 Nov 1985. *Franco 2328* (AMES!, COL!); Páramo Urrao, debajo de Cueva de Oso. Alt. 3300 m. *Ospina 40* (JAUM!). **Caldas.** Valles Altos near Salamina. Alt. 3500 m. 1 Jun 1945. *Bro. Tomas 2417* (US!); Manizales und Termales del Ruiz. Alt. 3200 m. 4 Apr 1956. *Renz 8553* (RENZ!). **[Cesar]** Sierra Nevada de Santa Martha. *Purdie s.n.* (K!). **Cundinamarca.** Subia. 9 Jun 1985. *Ospina 1142* (COL!); Waldgebiet nordlich S. Miguel. Alt. 2800 m. 26 Jan 1941. *Renz 3155* (RENZ!); Retiro Calera. Alt. 3100 m. 13 Jul 1941. *Renz 3961* (RENZ!); Waldgebiet südlich S. Miguel. Alt. 2900 m. 30 Jun 1941. *Renz 3962* (RENZ!); Gutiérrez, passhöhe Río Sáname und Río Taguate Tal. Alt. 2900 m. 8 Jul 1955. *Renz 8445* (RENZ!). **Putumayo.** Between Laguna La Cocha and Páramo de Tábano. Alt. 2800-3000 m. 1 Jun 1946. *Schultes 7833T* (AMES! x 2). **Quindío.** Salento, Reserva Natural Acaime. Alt. 3100 m. 14 Mar 1993. *Madriñan 737* (AMES!, COL!).

46.40. *Epidendrum tropinectarium* Hágsater & E.Santiago (Figs 117, 118).

Icon. Orchid. 7: t. 797. 2004; TYPE: COLOMBIA. VALLE DEL CAUCA. Buga (Cordillera Central, vertiente occidental), Inspección de Policía El Placer, Finca Campoalegre. Epiphytic. Alt. ca 2200 m. 15 Nov 1981. *Silverstone-Sopkin 973* (HOLOTYPE: CUVCI; ISOTYPE: MO!).

**Epiphytic**, monopodial, branching, erect plants, about 60 cm tall. **Stems** about 24 cm long, 0.18 cm wide (branches 11-20 cm long, 0.15-0.22 cm wide), branches produced in succession from the apical internodes of the previous stem, cane-like, terete, thin. **Leaves** 3-5, 1.8-7.7 cm long, 0.3-0.4 cm wide, distributed throughout the apical half of the stem, alternate, unequal, the lower ones smaller, subcoriaceous, linear-lanceolate, apex unequally bilobed, minutely apiculate, margin entire; sheaths 3-25 mm long, 1.5-2.2 mm wide, tubular, minutely striated. **Inflorescence** 4-5 cm long, apical, racemose, somewhat arching, flowering only once; peduncle about 2 mm long, terete, thin. **Flowers** about 15, laxly distributed along the rachis, successive, very pale pink, gynostemium whitish green. Floral bracts 3.5-4 mm long, shorter than the ovary, narrowly triangular, acute. Ovary 7-12 mm long, terete, thin, smooth. **Sepals** 10.6-11.4 mm long, 3.0-3.4 mm wide, partially spreading, free, acute, margin entire; dorsal sepal oblanceolate, 7-veined; lateral sepals narrowly elliptic, oblique, with a prominent dorsal keel, 4-veined, the veins branching, appear 5-veined. **Petals** about 9.5 mm long, 1 mm wide, free, partially spreading, linear, acute, 1-veined, the vein branching from the base so as to appear 2-veined, margin entire. **Lip** about 6.2 mm long, 7 mm wide, united to the gynostemium, base cordate, 3-lobed, margin dentate; ecallose, but provided with 2, acute, thin, smooth keels, adnate to each other at the base, and all along the nectary within the gynostemium, in front of the stigmatic cavity; lateral lobes about 2.7 mm long, 4 mm wide, reniform; middle lobe about 2.3 mm long,

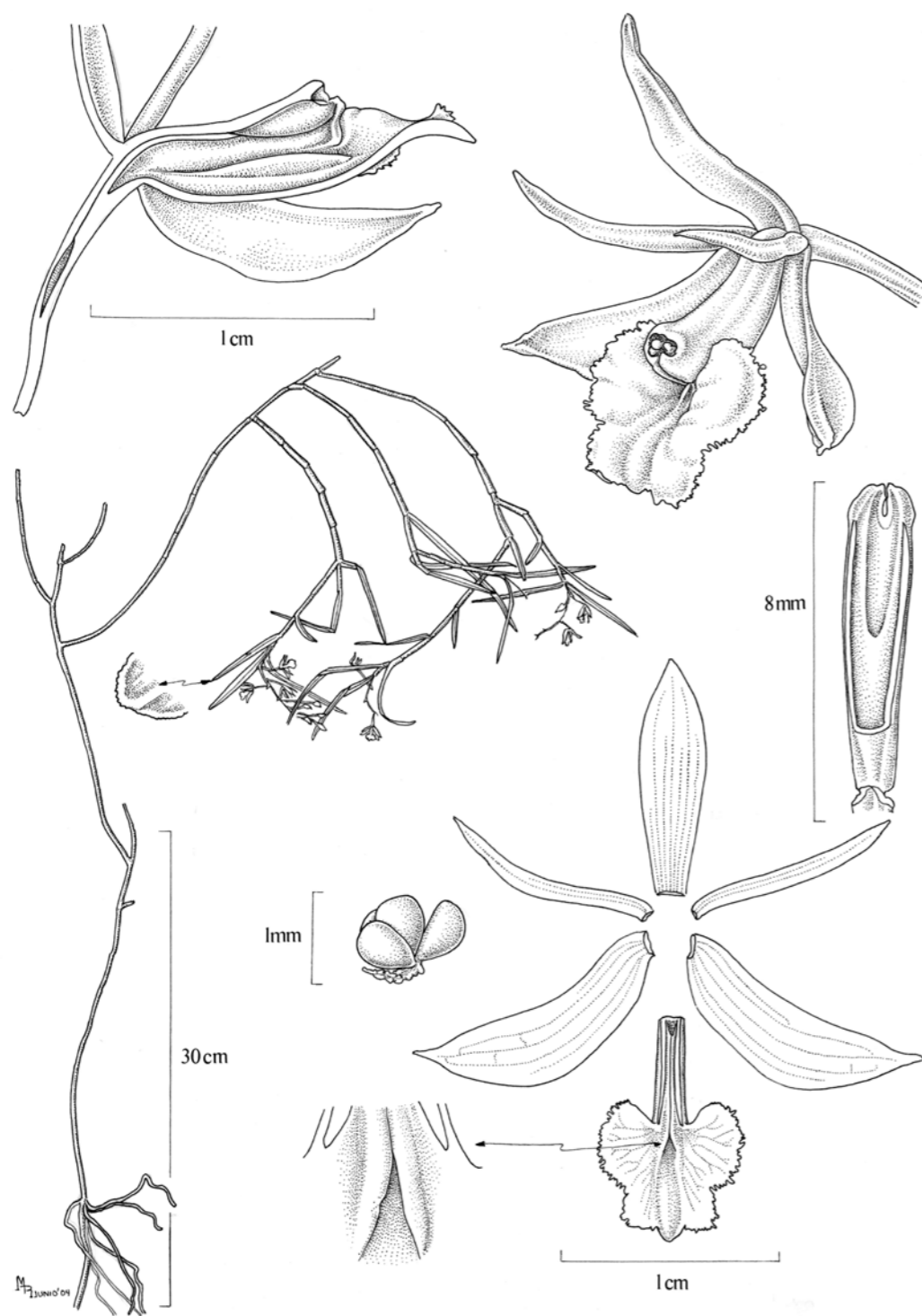


Fig. 117. *Epidendrum tropinectarium* Hágsater & E.Santiago (*Silverstone-Sopkin 973*, CUVC – drawn by M.A. López Rosas).



Fig. 118. Distribution of *Epidendrum tropinectarium* Hágsater & E.Santiago in Valle del Cauca.

4.5 mm wide, widely rectangular, truncate at the apex, with a thickened mucro produced by the fleshy, rounded, thickened central keel. **Gynostemium** about 8 mm long, arched upwards, thin. Clinandrium hood short, margin entire. **Nectary** barely penetrating the ovary, forming a wide cavity, limited ventrally by the keels of the lip which run along nearly the entire length of the nectary.

**HABITAT:** Unknown; at about 2200 m alt.

**FLOWERING SEASON:** November.

**GENERAL DISTRIBUTION:** Endemic, known only from the Department of Valle del Cauca.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buga.** Cordillera Central, vertiente occidental, inspección de policía El Placer, Finca Campoalegre. Alt. ca 2200 m. 15 Nov 1981. *Silverstone-Sopkin 973* (AMO!, CUVC!).

46.41. *Epidendrum yumboense* Hágsater, O.Pérez & E.Santiago (Figs 119, 120; Photo 64).

Icon. Orchid. 14: Pl. 1499. 2013; TYPE: COLOMBIA. VALLE DEL CAUCA. Mpio. Yumbo. Dapa, growing on trees of *Meriania* and *Tibouchina* (Melastomataceae). Alt. 2000 m. 28 Aug 2010. O. Pérez, T. González & A. González 831 (HOLOTYPE: VALLE!; ISOTYPE: CUVC!, AMO! - digital images of pretype, photo voucher).

**Epiphytic**, monopodial, branching herb 28-41 cm tall. **Roots** basal, both from the basal stem as well as occasionally from branches, fleshy, white. **Stems** cane-like, terete, thin, erect, straight; main stem 20 cm tall, 0.3 cm wide, branching when mature, the branches 10 cm long, 0.3 cm wide, arising from the subapical internodes of the previous stem. **Leaves** 6-7, distributed along the apical half of the stems, erect-spreading, alternate, articulate, coriaceous, green with the margin tinged purple; sheaths 3-20 cm long, 0.3-0.4 cm wide, tubular, striated, purple-green; blade 11-40 cm long, 0.37-0.65 cm wide, oblong-lanceolate, apex truncate, bilobed, minutely aristate, margin entire. **Spathaceous bract** lacking. **Inflorescence** apical, racemose, arching-nutant, short, dense-flowered, peduncle ca 0.7 cm long, rachis very short. **Flowers** 9, simultaneous, resupinate, small, fleshy, glabrous, pustulate at the upper side of the elements of the perianth, pale pink to yellow with the disc orange-yellow; fragrance not registered. **Floral bracts** 2-5 mm long, much shorter than the ovary, triangular-lanceolate, acuminate. **Ovary** 8.5 mm long, slightly flattened, ventrally inflated along the apical 2/3, forming an obvious elongate vesicle, scarcely pustulate, arched towards the apex. **Sepals** spreading, free, slightly concave, 3-veined, margin entire, spreading; **dorsal sepal** 5 mm long, 4 mm wide, ovate-orbicular, apex rounded; the **lateral sepals** 6 mm long, 4 mm wide, obovate, subobtuse, apiculate. **Petals** 5 mm long, 3.1 mm wide, spreading, free, ovate, wide, apex rounded, base oblique, unequal, 3-veined, margin entire, spreading. **Lip** 5.5 mm

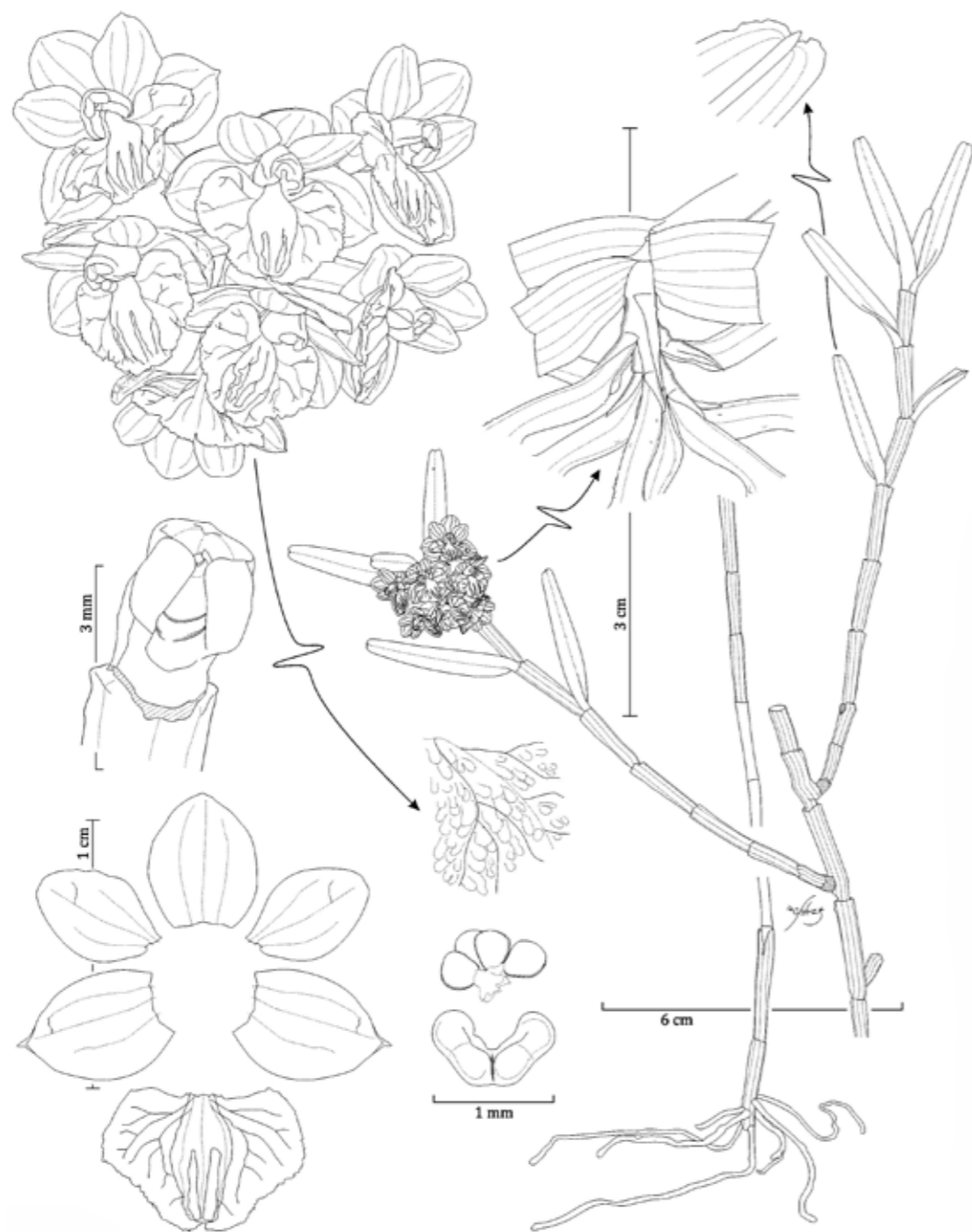


Fig. 119. *Epidendrum yumboense* Hágsater, O.Pérez & E.Santiago (O. Pérez, T. González & Á. González 831, VALLE – drawn by O. Pérez).



Fig. 120. Distribution of *Epidendrum yumboense* Hágsater, O.Pérez & E.Santiago in Valle del Cauca.

long, 7.5 mm wide, united to the basal half of the column, widely reniform-pentagonal, base cordate, apex shallow-emarginate, margin irregularly erose-denticulate, entire towards the base; ecallose, disc with 3 smooth ribs which are fused into one which extends to the apex of the lip. **Gynostemium** 3 mm long, short, thick, slightly arched with respect to the ovary, straight. Clinandrium-hood short, margin entire. Anther reniform, 4-celled. Pollinia 4, obovate, laterally compressed, hard. Rostellum apical, slit. Lateral lobes of the stigma not seen. **Nectary** deep, penetrating 3/4 of the ovary, wide, unornamented. **Capsule** not seen.

**HABITAT:** Cloud forest. Grows frequently on trees of *Meriania sp.* and *Tibouchina sp.* (Melastomataceae), at the edge of forest; 2000-2300 m alt.

**FLOWERING SEASON:** January, August, July.

**GENERAL DISTRIBUTION:** Endemic, known only from the Department of Valle del Cauca.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cali.** Cordillera Occidenta-

le de Cali. Alt. 2000 m. 15 Aug 1883. *Lehmann* 3022 (G!). **Mpio. El Cairo.** Reserva Natural Cerro El Ingles. Alt. 2169 m. 12 Jul 2011. *García-Revelo 13* (AMO! - digital image); Cerro El Ingles, Serranía de los Paraguas. Alt. 2260-2300 m. 3 Jan 1987. *Silverstone-Sopkin 2903* (AMO!, MO!), Dapa, growing on trees of *Meriania* and *Tibouchina* (Melastomataceae). Alt. 2000 m. 28 Aug 2010. O. Pérez, T. González & Á. González 831 (VALLE!, CUVC!, AMO!). **Mpio. Yumbo.** Dapa, en frente de la Finca "Cielo Azul". Alt. ca 1900 m. 31 Jul 2010. *Pérez 818* (CUVC!).

### *Epidendropsis*-group

Small, monopodial, branching plants with filiform, usually paniculate inflorescence without spathe. This group was considered as a separate genus said to have only 2 pollinia, which is inconsistent. One species of this group occurs in the Department of Valle del Cauca.

### 46.42. *Epidendrum vincentinum* Lindl. (Figs 121, 122; Photos 65-66).

J. Bot. (Hooker) 3: 88. 1841; TYPE: ST VINCENT. *Guilding s.n.* (K-L). - Schultes, Nat. Orchid. Trinidad & Tobago: 130-131. 1960. - Foldats *in* Lasser, Fl. Venezuela, Orchid. 15(3) 347-349. 1970. - Garay & Sweet *in* Howard, Fl. Lesser Antill., Orchid.: 161. 1974. - Ackerman & del Castillo Mayda, Orchid. Puerto Rico & Virgin Islands: 122. 1992. - Nir, Orchid. Antill.: 143. 2000. - Feldmann & Barré, Atlas Orchid. Guadeloupe: 88-89. 2001. - Vásquez & Ibisch, Orquíid. Bolivia 2: 141. 2004. - Jiménez & Hágsater *in* Hágsater & Sánchez, Icon. Orchid. 11: pl. 1197. 2008.  $\equiv$  *Epidendropsis vincentina* (Lindl.) Garay & Dunst., Venez. Orchids Ill. 6: 114. 1976.

= *Epidendrum serricardium* Schltr., Repert. Spec. Nov. Regni Veg., Beih. 19: 218. 1923.

**Epiphytic** or **lithophytic**, erect, slender plants, up to 18 cm tall. **Stems** erect, often branching, leafy, compressed, completely enc-

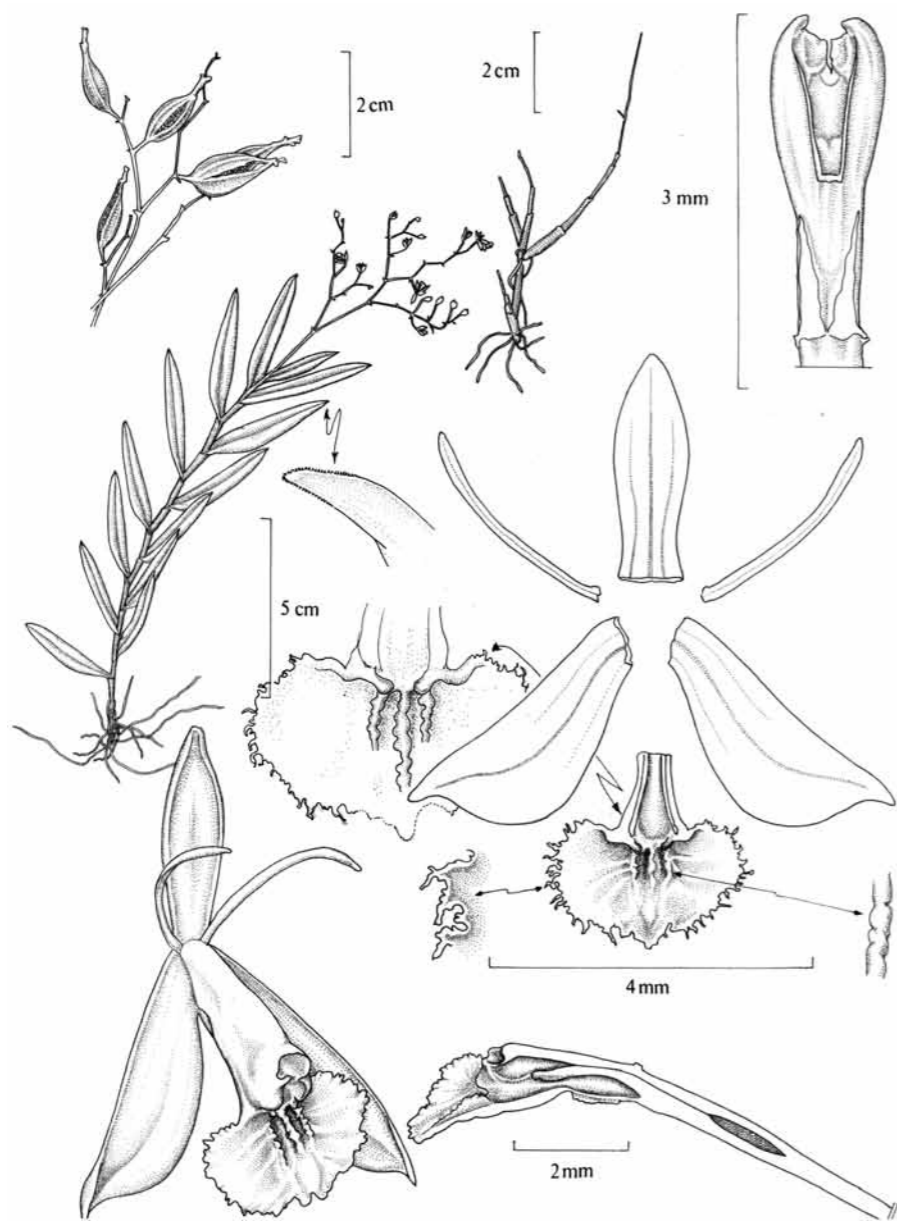


Fig. 121. *Epidendrum vincentinum* Lindl. (Ackerman, E. Hernandez, A. Cuevas & S. De Jesus 1943, UPRRP – drawn by M.A. López Rosas).

losed by leafsheaths. **Leaves** up to 4 cm long, 0.7 cm wide, fleshy, lanceolate to oblong-lanceolate, acute to subacuminate. **Inflorescence** apical, paniculate, with rather slender branches; peduncle up to 1.5 cm long, short, glabrous.

**Flowers** very small, pale yellow or purplish green often tinged with red. Floral bracts up to 1 mm long, ovate-triangular, acute. **Dorsal sepal** up to 4 mm long, elliptic-lanceolate or oblong-lanceolate, subacute to acute. **Lateral**



Fig. 122. Distribution of *Epidendrum vincentinum* Lindl. in Valle del Cauca.

**sepals** about as long as the dorsal sepal but broader, very obliquely oblong-ovate, acute. **Petals** nearly as long as the sepals, narrowly linear or oblanceolate-linear, obtuse to acute. **Lip** up to 1.5 mm long, entire, adnate to gynostemium, suborbicular to subreniform with more or less undulate, erose-denticulate margins; bicallose, the calli small, disc with a slender, obscure keel in center. **Gynostemium** up to 2.5 mm long, relatively large and stout, dilated above in front. **Anther** obcordate. **Pollinia** 2. **Capsule** up to 15 mm long, ellipsoid.

**HABITAT:** Rocky slopes in the edges of cloud forest; about 1450-2000 m alt.

**FLOWERING SEASON:** December.

**GENERAL DISTRIBUTION:** Bolivia, Peru, Ecuador, Colombia, Venezuela, Guyana, Trinidad, Tobago, Panama, Costa Rica, The Lesser Antilles (St Vincent, St. Lucia, Martinique, Dominica, Guadeloupe), The Greater Antilles (Puerto Rico, Hispaniola).

**DISTRIBUTION IN THE DEPARTMENT OF VALLE**

DEL CAUCA: **Mpio. Dagua.** El Queremal. Rocky slope next to the road. 28 Dec 2010. *M. Kolanowska & O. Pérez 241* (UGDA! - drawing). **Mpio. Darién.** Alto Calima, Represa. Alt. 1480 m. *P. Ortíz V. 4214* (HPUJ!). **Mpio. Yotoco.** Bosque de Yotoco. 6 Apr 1980. *I. Guarín 142* (COL!); Alto de Minas, Hacienda “Hato Viejo”. Alt. ca 1860 m. 20 Dec 2010. *O. Pérez & E. Parra 523* (VALLE!).

**OTHER SPECIMENS EXAMINED: PUERTO RICO.** Cordillera Central, Toro Negro area, Lago Guineo, S side. Alt. 2970-3020 ft. *J.D. Ackerman, E. Hernandez, A. Cuevas & S. De Jesus 1943* (UPRRP!).

### *Epidendrum excisum*-group

Caespitose plants, stems simple, inflorescence paniculate, with 1-2 prominent spathes. Apex rounded, a single species occurs in the Department of Valle del Cauca.

#### 46.43. *Epidendrum excisum* Lindl. (Figs 123, 124).

Edwards’s Bot. Reg. **30**(Misc.): 86. 1844; TYPE: COLOMBIA. On the ascent to Sotara, near the village of Tottoro in Popayan. *Sine coll.* (K?). - Schweinfurth, Fieldiana, Bot. **30**(2): 440. 1959. - Foldats in Lasser, Fl. Venezuela, Orchid. **15**(3): 244-246. 1970. - Dunster-ville & Garay, Orchid. Venezuela **1**(A-G): 225. 1979. - Dodson & Dodson, Icon. Pl. Trop. **2**(5): pl. 468. 1989. - Bennett & Christenson, Icon. Orchid. Peruv.: pl. 458: 1998. - Vásquez & Ibsch, Orchid. Bolivia **2**: 120, 184 (Fig). 2004. - Kolanowska & al., Ill. field guide orchid. Yotoco Forest Reserve (Colombia): 95. 2011. = *Epidendrum excisum* var. *grandiflorum* Lindl., Fol. Orchid. **3**: 52. 1853.

**Terrestrial** or **epiphytic** plants. **Stem** up to 90 cm tall, entirely concealed by loose, imbricating, leaf bearing sheaths except at the base. **Leaves** several to numerous, up to 21.5 cm long, 4.5 cm wide (much smaller below),



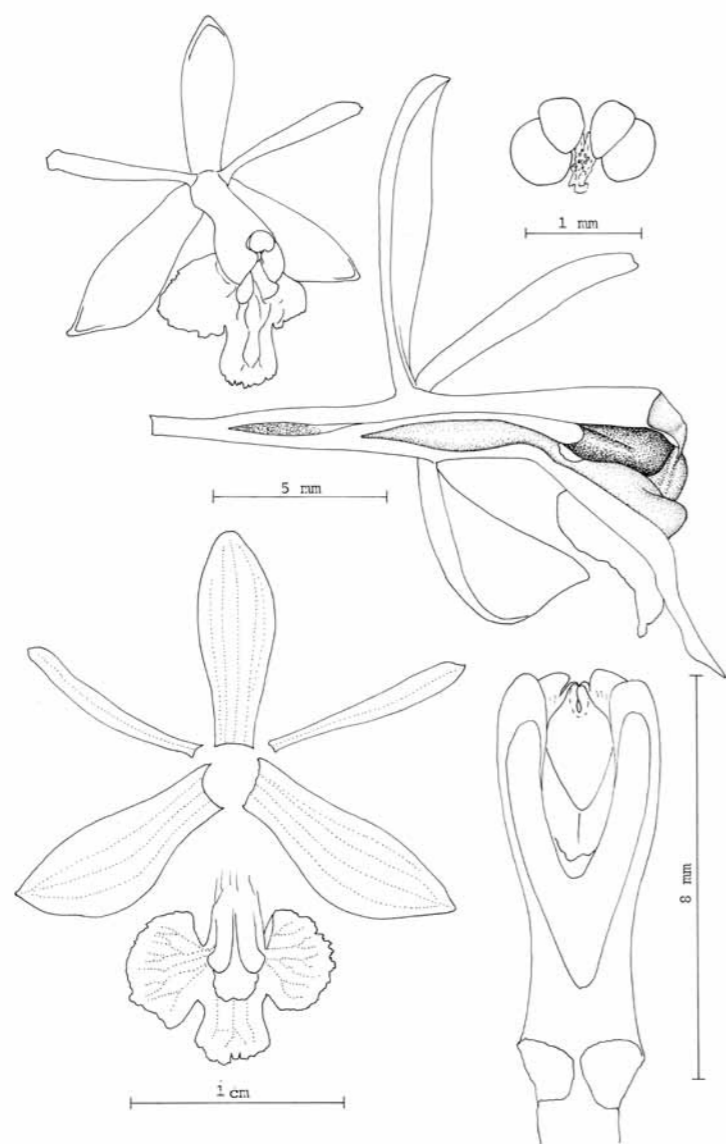


Fig. 123. *Epidendrum excisum* Lindl. (Hágsater, Dressler, Folsom & Villota 7431, AMO – drawn by E. Hágsater).

slightly narrowed at the deeply clasping base, coriaceous, distichous, erect-patent, oblong or elliptic-oblong to ligulate, the upper ones often conduplicate and spathe-like in the dried plant, more or less conspicuously bilobed at the broadly rounded apex. **Spathaceous bracts** 1-2, up to about 11.5 cm long, erect, imbricating, oblong,

conduplicate, apex rounded **Inflorescence** about 24 cm long, apical, paniculate, loosely many-flowered; peduncle entirely concealed and more or less surpassed by the spathaceous bracts. **Flowers** yellow, greenish-yellow or brownish-yellow, sometimes suffused with pale red. Floral bracts minute, attenuate-lanceolate. **Dorsal se-**



Fig. 124. Distribution of *Epidendrum excisum* Lindl. in Valle del Cauca.

**pal** 10-16 mm long, elliptic-lanceolate, elliptic-ob lanceolate or oblanceolate, subacute. **Lateral sepals** obliquely elliptic-lanceolate to oblanceolate, acute, slightly larger than the dorsal sepal. **Petals** linear, more or less slightly broadened upward, acute, nearly as long as the sepals. **Lip** up to 9 mm long in the middle and 12.5 mm wide across the spreading lateral lobes, deeply cordate at the base, sharply 3-lobed; lateral lobes aliform, obliquely rounded-dolabriform or semi-orbicular, irregularly crenulate on the rounded outer margin; middle lobe subequal or larger, cuneate-subquadrate, retuse and usually apiculate; disc bicallose at the base with 3 thickened lines in front. **Gynostemium** up to 10 mm long, abruptly dilated on the upper half in front.

**HABITAT:** Wet, high-montane, cloud forest and steep embankments; 1840-2340 m alt.

**FLOWERING SEASON:** September.

**GENERAL DISTRIBUTION:** Bolivia, Peru, Ecuador, Colombia, Venezuela.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE**

**DEL CAUCA: Mpio. Buga.** Finca El Establo, Vereda Nogales, en una loma adyacente a Inspección de Policía El Placer, a 47 km por carretera al este del Hotel Guadalajara de Buga, Cordillera Central, vertiente occidental, matorral secundario dominado por bambú trepador. Alt. 2340 m. 14 Sep 1991. *Silverstone-Sopkin & J. Giraldo-Gensini G. 6394* (AMO!, CUVC!). **Mpio. Palmira.** Palmira-Atacó, en talud entre zacates. Alt. 1840 m. Col. 28 Apr 1983. Preparado de material cultivado 25 Sep 1983. *Hágsater, R.L. Dressler, Folsom & N. Villota 7431* (AMO!).

**OTHER SPECIMENS EXAMINED: PERU. Huanuco.** Muna. 15 Mar 1959. *Woytkowski* (MO!). **ECUADOR. Prov. Azuay.** Camino Gualaceo-Limón ca km 10. Talud, peña sobre el camino. Alt. 2570 m. 21 Nov 1988. *Hágsater, Dodson, N.H. Williams, Whitten & F.G. Thompson 9607* (AMO!). **Prov. Napo.** Los Llanganates. Carretera Salcedo-Tena, Km 60. Rancho La Poderosa, descendiendo al río Mulatos, a 4 Km. Bosque muy húmedo montano bajo. Bosque secundario & vegetación arbustiva & remanentes de bosque primario. 00°57'S 78°14'W. Alt. 2500-2870 m. 16 Mar 1995. *H. Vargas & D. Sandoval 446* (AMO!, MO!); Km 27 Pifo-Baeza-El Chaco. Steep bank, &statnt moist. Alt. 2100-3000 m. 14 Apr 1984. *Thurston T. 4024 & Dodson 14268* (AMO!); Baeza-Tena, Cosanga. Alt. 1950 m. 4 Dec 1986. Preparado de material cultivado 2 Nov 1987. *Hágsater & Dodson 8837* (AMO!). **COLOMBIA. Putumayo.** Valle de Sibondoy. 01°12'N, 76°55'W. Alt. 2100 m. 22 Dec 1963. *C. Saravia T. & M.E. de Saravia 29* (COL!). **Cundinamarca.** Distr. Federal Bogotá. Bogotá, Localidad Usaquén. Ver. Torca, Calle 200. Frente a estación de policía. Alt. 2650 m. 1 Aug 2000. *C.A. Bernal González 692* (COL!); The same loc. 27 May 2001. *C.A. Bernal G. & C. Romero 924* (COL!); Mpio. Chía. *Sine loc.* Alt. 2670 m. 22 May 1996. *S.P. Cortés S. 502-SC* (COL!); Mpio. Subachoque. Boquerón. Preparado de material cultivado 13 Aug 1983. *Hágsater, R. Escobar & Luer 7663* (AMO!); Vereda El Tobal, Finca El Cerro. Cerca a una quebrada, en un bosque andino & presencia de *Oreopanax*,

*Lippia*, *Verbesina*, *Piper*, etc. sobre una rama caída en el suelo. Alt. 2950 m. 26 Mar 1999. M. Hernández S. 445 (COL!); Vereda El Tobal, Finca "El Cerro", en un bosque predominantemente de encenillos (*Weinmania tomentosa*), sobre el suelo. Alt. 2940 m. 15 Feb 1999. M. Hernández Schmidt 402 (COL!); Mpio. Zipaquirá. Rocas de Sevilla, entre Zipaquirá & Tocancipá. Alt. 2570-2620 m. 2 Jul 1969. R. Jaramillo M., van der Hammen & I.S. de Barrera 4867 (COL!); Mpio. Sopo/Calera/Guasca. El Salitre, en carretera Sopo-La Calera, colina al N. El fin forest & *Epidendrum moritzii* Rchb.f., *E. karstenii* Rchb.f., *E. cf. arnoldii* Schltr. Alt. 2700 m. 17 Mar 1996. Hágsater, P. Ortiz V., G.R. Schnitter & C.L. Patiño de Ruiz 11506 (AMO!).

#### ***Epidendrum filamentosum*-group**

Stems pendant, unifoliate, inflorescence apical, short, racemose, without spathe, flowers fleshy. Only one species has been credited to this group, the lobation seems to be somewhat variable, but no correlation has been found between the lobation and the distribution and ecology of this widespread species.

#### **46.44. *Epidendrum filamentosum* Kraenzl. (Figs 125, 126; Photo 67).**

Notizbl. Bot. Gart. Berlin-Dahlem 7: 444. 1920; TYPE (Hágsater & Sánchez 2009): COLOMBIA. [CUNDINAMARCA]. "Santander". Am Salto de Tequendama. Alt. 1600 m. Kalbreyer 974 (B†), CUNDINAMARCA. Quetame, "Monte Redondo". Alt. ca 1250 m. Mar 1975. P. Ortiz V. 703 (NEOTYPE: HPUJ!). - Santiago & Hágsater in Hágsater & L. Sánchez, Icon. Orchid. 12: pl. 1242. 2009. = *Epidendrum rostratum* Garay & Dunsterv., Venez. Orch. III: 2: 142. 1961.

**Epiphytic**, pendent plants, 20-45 cm tall. **Stems** 4-10 cm long, 0.1-0.3 cm wide, cane-like, produced in succession from the intermediate

internodes of the previous stem, terete, straight, tinged purple-brown. **Leaves** 1 (up to 3 on the juvenile initial stem), 6-19 cm long, 0.8-1.7 cm wide, distributed throughout the stem (only the apical one persistent), spreading, articulate, linear-lanceolate, somewhat falcate, acuminate, margin entire, dorsal surface green, ventrally purple-red; sheath 1-4 cm long, 0.1-0.3 cm wide, succulent-leathery, tubular, striated. **Inflorescence** 2.5-3 cm long, apical, racemose, short, laxly few-flowered; peduncle 0.1-1.7 cm long, subterete, provided with 2 tubular, acuminate, partially imbricating bracts. **Flowers** 3-10, resupinate, successive, fleshy, lustrous, generally creamy brown to rarely greenish, generally tinged with pink, mainly on the dorsal surface of the sepals, gynostemium greenish-brown tinged with pink towards the apex, lip creamy white. Floral bracts 4-6 mm long, much shorter than the ovary, narrowly triangular, acute, amplexicaul. Ovary 10-13 mm long, triquetrous, thin, non inflated, smooth. **Sepals** 9-15 mm long, 3-4 mm wide, spreading, lanceolate, acute, with a high dorsal keel, 5-veined, margin entire; dorsal sepal free, spreading; lateral sepals partially spreading, obliquely united to the base of the gynostemium, slightly oblique, apiculate. **Petals** 8-13 mm long, 0.5-0.9 mm wide, spreading, obtuse, 1-veined, margin entire. **Lip** (5)8-11 mm long, 6-9 mm wide, united to the gynostemium, short unguiculate at the base, base subcordate, indistinctly to deeply 3-lobed, margin of the basal half dentate, apical half entire; lateral lobes about 3.5 mm long, 5 mm wide, semi-elliptic; middle lobe about 5 mm long, 4 mm wide, subovate-rectangular, apex obtuse, minutely apiculate; bicallose, calli laminar, short; disc with a short, wide, fleshy keel, running nearly to the apex of the lip. **Gynostemium** 6-8 mm long, straight, thin; apex with a pair of prominent horns. Clinandrium-hood reduced, margin entire. Anther narrowly obovoid, with the apex acute, short-bifid, twice as long as the cavity that holds the pollinia and surpassing the apex of the gynostemium. **Nectary** shallow, without

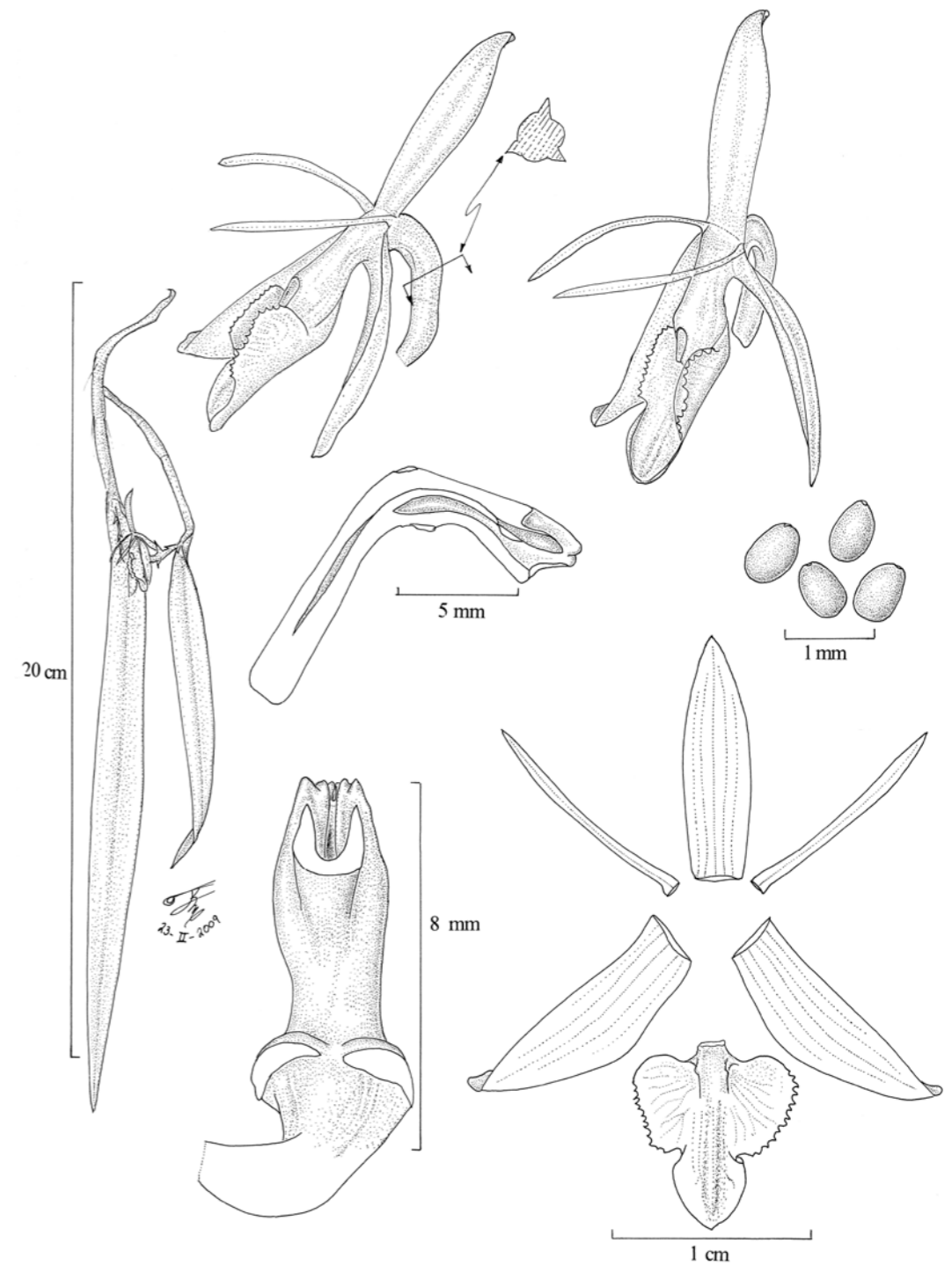


Fig. 125. *Epidendrum filamentosum* Kraenzl. (*H. Angarita* sub R. Escobar 5086, AMO – no author).

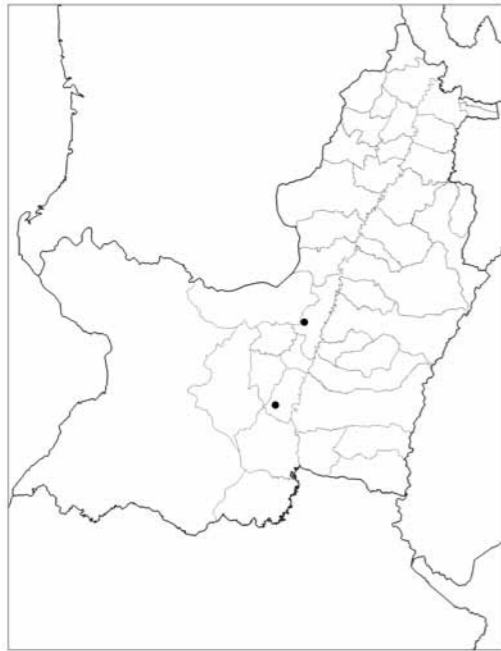


Fig. 126. Distribution of *Epidendrum filamentosum* Kraenzl. in Valle del Cauca.

penetrating the ovary, non-inflated, smooth.

**HABITAT:** Montane wet forest; 1400-1800 m alt.

**FLOWERING SEASON:** Throughout the year.

**GENERAL DISTRIBUTION:** Bolivia, Peru, Ecuador, Colombia, Venezuela.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** On both slopes of the west Andes of Cali. Alt. 1400-1800 m. *Lehmann 8340* (K!). **Mpio. Yotoco.** Reserva Natural de Yotoco. 22 Mar 2010. *O. Pérez & E. Parra s.n.* (photo!); Hacienda Hato Viejo. *O. Pérez 595* (AMO! - digital image of live plant). **Mpio. Yumbo.** corregimiento de Dapa. Relicto de Bosque de niebla de la finca "Cielo Azul". Alt. ca 1800 m. 8 May 2010. *O. Pérez & E. Parra 712* (CUVC!).

**OTHER SPECIMENS EXAMINED:** **VENEZUELA. Mérida.** La Carbonera. Alt. 1850 m. 7 Feb 1963. *Breteler 3295* (NY!, U!, US!). **Táchira.** Rubio. Alt. 1350 m. 11 Oct 1953. *Renz 8021* (RENZ! x 2). **COLOMBIA. Cundinamarca.** Quetame, „Monte Redondo“. Nov 1975. *P. Ortiz V. 4325* (HPUJ!). **Meta.** Río Yamanito. Alt. 600 m. 15 Aug 1939. *Renz 3936* (RENZ!); Cubarral, cultivado en Colomborquideas. Alt. 800 m. *H.*

*Angarita sub R. Escobar 5086* (AMO!). **ECUADOR. Carchí.** Chical. Alt. 1200 m. Nov 1985. *Luther 946* (SEL!); Maldonado. Alt. 1600 m. 13 Apr 1977. *Madison 3905* (SEL!); The same loc. Alt. 1650 m. 24 May 1978. *Madison 4413* (SEL!). **Morona-Santiago.** San Juan Bosco. Alt. 1000 m. *Hirtz 2780* (QCNE!, RPSC!); Chiguinda. Alt. 1500-1600 m. *Medina sub Hagsater 13885* (AMO! - photo & spirit); Plan de Milagro. 27 May 2000. *Whitten 1807* (AMO!). **PERU. Huánuco.** Lima-Tingo María road. Alt. 1400 m. 6 Jun 1981. *Young 862* (MO!). **Pasco.** Chequitavo. Alt. 1200 m. 9 Apr 1984. *Smith 6854* (MO!). **Junín.** San Ramón-Tarma. 25 May 1984. *Fernández 334* (USM!).

#### *Epidendrum fimbriatum*-group

Stems scandent, elongate, thin, cane-like, inflorescence apical, very short, racemose, few-flowered. Only one species is presently credited to this group.

#### 46.45. *Epidendrum fimbriatum* Kunth (Figs 127, 128; Photo 68).

Nov. Gen. Sp. (quarto ed.) 1: 351. 1816; TYPE: Crescit in Andibus Papayanensium locis superapricis Parami Puracensis et in convalli fluminis El Vinagre. Alt. 1370 hex. Floret Octobri. *Humboldt et al. 2006*. P! - Schweinfurth, Fieldiana, Bot. 30(2): 441-442. 1959. - Foldats in Lasser, Fl. Venezuela, Orchid. 15(3): 249-252. 1970. - Dunsterville & Garay, Orchid. Venezuela 1 (A-G): 227. 1979. - Vasquez & Ibsch, Orchid. Bolivia vol. 2: 120-121. 2004. = *Epidendrum alternans* Lindl., J. Bot. (Hooker) 3: 88. 1841. = *Epidendrum rhomboglossum* Kraenzl., Bot. Jahrb. Syst. 54(117): 28. 1916. ≡ *Epidendrum fimbriatum* var. *rhomboglossum* (Kraenzl.) C.Schweinf., Bot. Mus. Leaflet, Harvard Univ. 11: 224. 1944.

**Terrestrial** (rarely epiphytic), sympodial, caespitose plants, up to about 40 cm tall. **Stems** often with a decumbent rooting base, simple or more often loosely branched, entirely concealed by close, tubular sheaths, distichously leafed above. **Leaves** up to 6.6 cm long, 0.6 cm wide, deeply clasping at the base, erect-spreading, subcoriaceous, often minutely cartilaginous-serrulate, linear-lanceolate (more rarely linear or narrowly elliptic-oblong), obtuse or obliquely bilobate to acute at the apex. **Spathaceous bract** lacking. **Inflorescence** up to 16 cm tall, apical, commonly simply racemose above (rarely with 1 or 2 short lateral branches), few- to many-flowered; rachis more or less fractiflex. **Flowers** successive, small, white, pale rose-colored or white tinged or spotted with violet, rather fleshy. Floral bracts up to 9 mm long, spreading, minute to conspicuous, ovate to oblong-lanceolate. **Dorsal sepal** up to about 5.6 mm long, lanceolate-oblong to elliptic-oblong, refuse to subacute. **Lateral sepals** similar but commonly slightly broader, somewhat oblique. **Petals** about as long as the sepals but much narrower, linear-oblong-lanceolate or cuneate-spathulate, rounded at the apex. **Lip** about 4 mm or less long, nearly as wide or wider, adnate to the gynostemium about

to its middle, entire, rhombic-ovate to round-ovate in outline, irregularly dentate-fimbriate except towards the base; disc with a pair of short keels at the base. **Gynostemium** about 3 mm or less long, stout.

**HABITAT:** Cloud and montane forest and disturbed areas of those forest; 1900-3350 m alt.

**ECOLOGY:** This species is probably pollinated by tachinid flies (van der Cingel 2001).

**FLOWERING SEASON:** January, August, November.

**GENERAL DISTRIBUTION:** Bolivia, Peru, Ecuador, Colombia, Venezuela.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cali.** San José, San Antonio, Cordillera Occidental. Alt. 3400-2700 m. *F.W. Pennell & Killip 7416* (AMES x2! K! S!); San Antonio, west of Cali, near summit of Cordillera Occidental. Partially shaded bank. Alt. 1900-2350 m. 26 Feb, 2 Mar 1939. *Killip & H. Garcia 33870* (AMES!, W!). **Mpio. El Cairo.** Las Amarillas, cerca del cerro del Ingles, Cordillera Occidental, Serranía de Las Paraguas, 18 km W de el Cairo, frontera Valle-Choco, borde de la carretera. 04°44'N 76°18'W. Alt. 2110 m. 8 Nov 1997. *Silverstone-Sopkín, N. Paz & C. Franco 7980* (AMO!); Carretera Ansermanuevo-San Jose del Palmar, km 60. Alt. 1990 m. 25 Aug 1976. *E. Forero, R. Jaramillo M., M. Pabón E., J. Espinosa G. & S. Piñeros 2010* (AMES!); Cordillera Occidental, Los Farallones, extremo N, vertiente NW, entre Alto del Buey & Quebrada de los Ramos. Alt. 3450-3350 m. *Cuatrecasas 18027* (AMES!, VALLE!). **Mpio. Palmira.** Cordillera Central near Palmiras, "Savanna de terra Frio" near El Socorro. Alt. 2100 m. *P.J.M. Maas & Escobar 641* (U! x 2); Palmira, Atacó. *Hagsater, Dressler, Folsom & Villota 7430* (AMO!).

**OTHER SPECIMENS EXAMINED:** **BOLIVIA. La Paz.** Road from Copapunco to Pararani, 8500 ft, 29 March 1926, *G.H.H. Tate 387* (NY!). **PERU. La Convención.** Region Cuzco. Above Quilouno, disturbed montane forest. 12°26'50"S 72°30'05"W. Alt. 2300 m. 28 Apr 2006. *van der Werff, L. Valenzuela, E. Suelli & A. Carazas 21083*

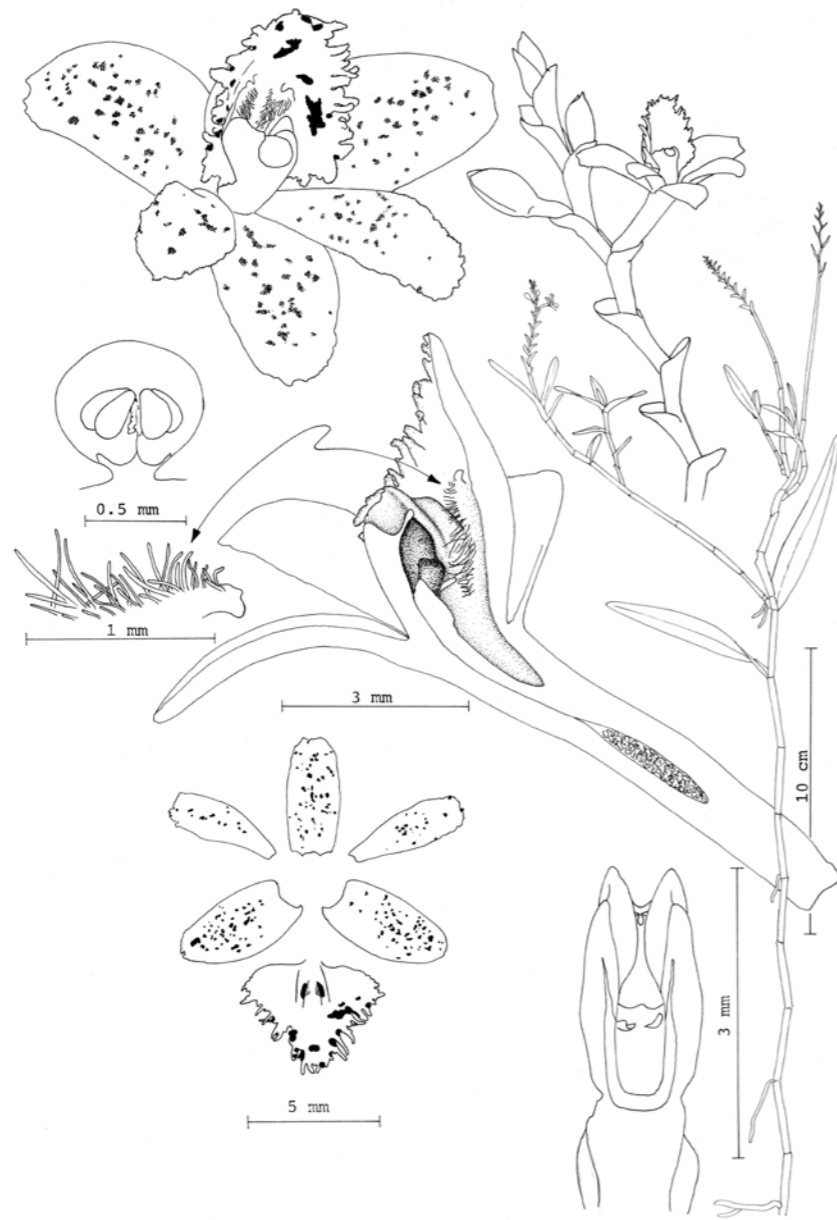


Fig. 127. *Epidendrum fimbriatum* Kunth (Hágsater, Dressler, Folsom & Villota 7430, AMO – drawn by E. Hágsater).

(AMO!). **Cajamarca.** Cutervo. La Pucarilla, entre Sókota & San Andrés. Bosque perennifolio, muy deteriorado & epifitismo. 24 Jun 1988. *I. Sánchez Vega* 4866 (AMO!) **ECUADOR. Carchi.** Mpio. Tulcán. Km 50.7, camino Tulcán-

Maldonado. 00°47'N 77°56'W. Talud, bosque lluvioso de montaña, con *Sertifera purpurea* Lindl. & Rchb.f. terrestre. Alt. 3040 m. 29 Apr 1993. *Hágsater, Dodson, N.H. Williams, Whitten, A. Embree, F.L. Stevenson & R.M. Chandler* 11262 (AMO!

x 2). **Cotopaxi.** Cantón Sigchos, por el Río Escaleras, en el bosque. 00.35.32 S 58.50.07 W. Alt. 2098 m. 20 Jul 2003. *J. Ramos, J. Contreras, L. Ramos & R. Tigse* 6345 (CUVC!). **Pichincha.** Km 32 de Cuicocha – Selva Alegre. Alt. 2160 m. 6 Dec 1986. *Hágsater, A. Hirtz, C.H. & P. Dodson* 8967 (AMO! x 2); Quito. Carretera antigua Nono-Tandayapa-Los Bancos. Bosque muy húmedo Montano Bajo. 00°04'14"S 78°34'53"W. Alt. 2300 m. *L. Suin & Grupo Post-Grado MO-QCNE* 533 (AMO! ex MO). **COLOMBIA. Cauca.** Parque Nacional de Puracé. *H. Sánchez, n.* (CUVC!). **Quindío.** Mpio. Calarcá. Alto de la Línea 3200 m. Talud, sobre talud del camino. 17 Sep 1999. *H.E. Esquivel* 3164 (AMO!). **Boyacá.** Mpio. Monquirá, vereda Colorado, alto río Pómeque, en la vía Arcabuco-Monquirá. Crece a la orilla del río. Alt. 2200 m. 11 Jul 2001. *J.E. Ramos* 5839 (CUVC!); Cañon del Río Pómeque, km 23 Barbabosa-Tunjá, entre Monquirá & Arcabuco, pasando la cascada & subiendo al acantillado. Alt. 2400 m. 17 Mar 1996. *Hágsater, P. Ortiz V., G.R. Schnitter & C.L. Patiño de Ruiz* 11502 (AMO!). **Antioquia.** Cerro del Padre Anaya, abajo de la antena de TV. Alt. 2600 m. 14 Jul 1989. *J.M. Munera & R. Escobar* 292B (AMO! x 2); Cerca al al camino real antiguo al Boquerón de Medellín. Alt. ca 2500 m. 2 Jun 1948. *F.A. Barkley, L.A. Valbursa F. & L.E. Valderrama s.n.* (VALLE!); En una meseta a 1 kilómetro al norte de Santa Rosa de Osos. Alt. ca 2600 m. 25 Sep 1948. *J. Correa V. & F.A. Barkley W. s.n.* (VALLE!). **VENEZUELA. Tachira.** Paramo de Taimá. In silva montana uda. Alt. 2500-3000 m. 12 Nov 1976. *Charpin & Jacquemoud* 13194 (AMO!); Inter Betania, Villa Paez et Delicias. Alt. 2200-2300 m. 14 Nov 1976. *Charpin & Jacquemoud* 13331 (AMO! x 3).

#### *Epidendrum frutex*-group

Characterized by the simple, cane-like stems, caespitose habit, erect, narrowly lanceolate leaves, paniculate, distichous inflorescence, the

branches hanging, and numerous small, fleshy, successive flowers subtended by short, wide, rigid floral bracts. One species is found in the Valle del Cauca.

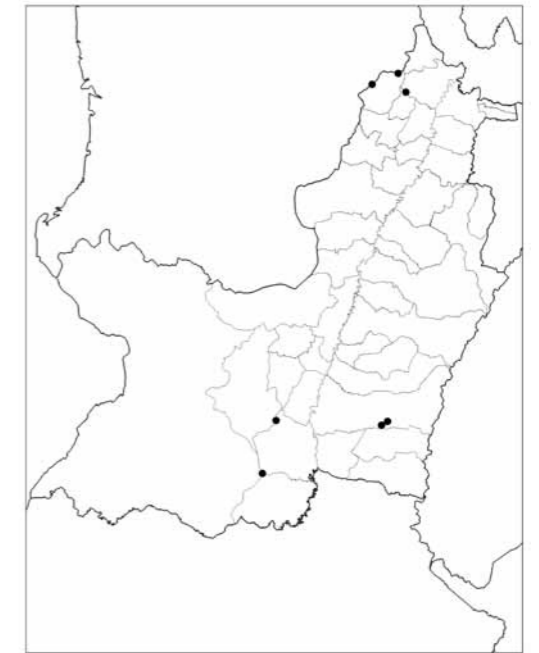


Fig. 128. Distribution of *Epidendrum fimbriatum* Kunth in Valle del Cauca.

#### 46.46. *Epidendrum frutex* Rchb.f. (Figs 129, 130).

Xen. Orchid. 1: 95, t. 37. 1855; TYPE: ECUADOR. "HUAYAQUIL?". *Tafalla sub Pavón s.n.* (W!, BM!, MA!, G!). - Schweinfurth, Fieldiana, Bot. 30(2): 445. 1959. - Foldats in Lasser, Fl. Venezuela, Orchid. 15(3): 257-259. 1970. - Dunsterville & Garay, Orchid. Venezuela 1(A-G): 229. 1979.

**Terrestrial**, robust plant, 78-500 cm tall. **Stems** stout, caespitose, entirely concealed by tubular, verruculose, leaf-bearing sheaths. **Leaves** numerous, up to 22.5 cm long, 3 cm wide, deeply clasping at the base, coriaceous, distichous, oblong-ligulate, narrowed to an obtusely acute or apiculate apex, with the margins

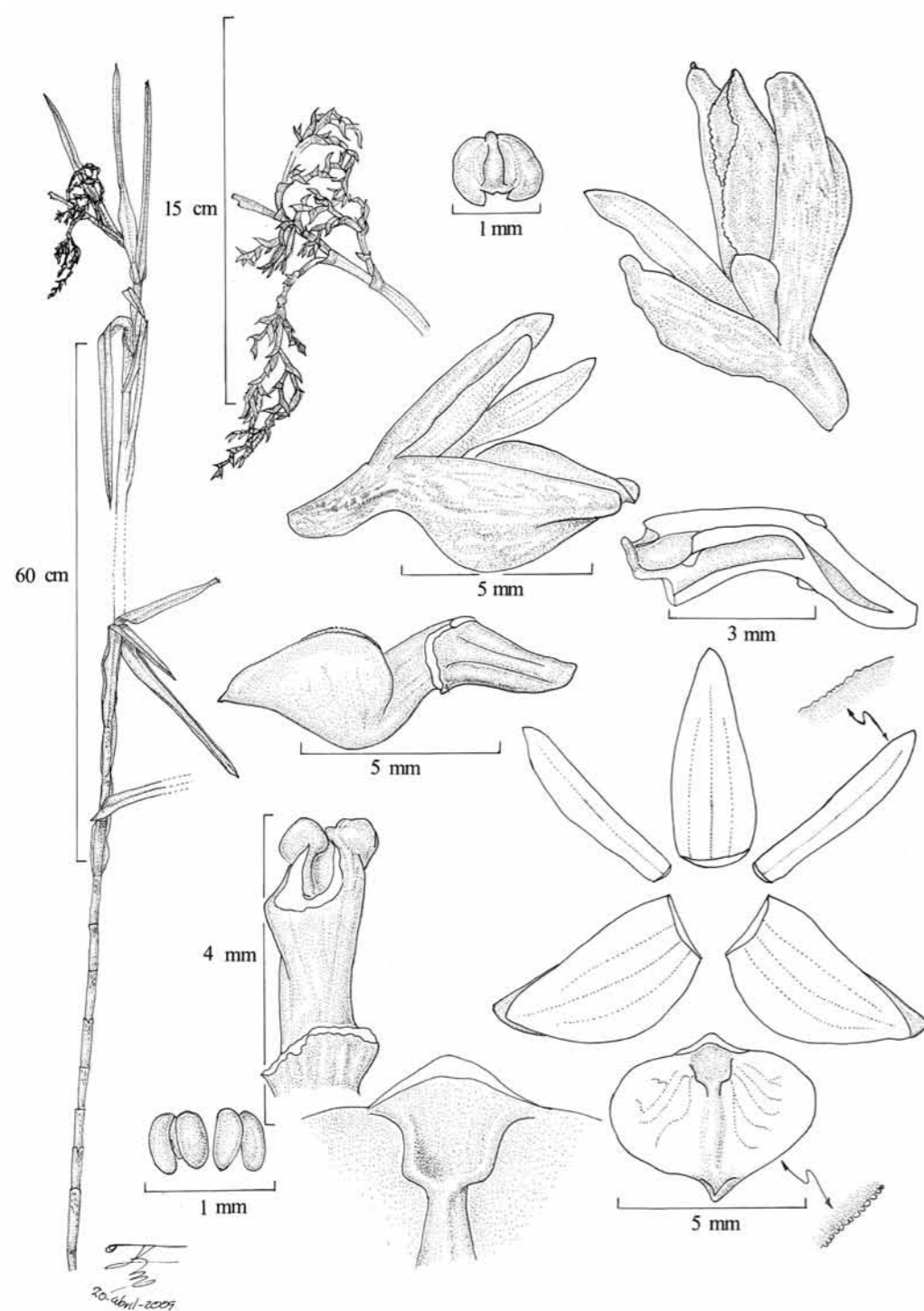


Fig. 129. *Epidendrum frutex* Rchb.f. (*H. St. John* 20863, NY – drawn by R. Jiménez Machorro).

commonly strongly revolute in the dried specimens. **Inflorescence** up to 19.3 cm long, apical, compound-paniculate, erect, shortly peduncled, with numerous distichous, more or less pendent branches; branches and branchlets densely or subdensely several-flowered, rather short; rachis fractiflex. **Flowers** numerous, successive, 1-2 open at a time per branch, very small, fleshy, rigid, yellow, greenish yellow, or green tinged with brown or purple. **Floral bracts** small, fleshy, spreading, deltoid, acute or acuminate, concave. **Dorsal sepal** about 6 mm or less long, ovate-oblong or oblong-lanceolate, obtuse or acute. **Lateral sepals** a little longer but much wider, very obliquely triangular-ovate or elliptic-ovate, dorsally carinate above. **Petals** nearly as long as the dorsal sepal, linear or oblanceolate-linear, obtuse to subacute. **Lip** up to about 7 mm wide (broader than long), adnate to the gynostemium up to its apex, entire, concave-conduPLICATE, acute, transversely ovate when expanded, broadly rounded or subcordate at the base, with a thickened line through the center. **Gynostemium** up to 3.5 mm long, stout.

**HABITAT:** Shrubs in high-montane forest; 2500-3800 m alt.

**FLOWERING SEASON:** January, February, April, November.

**GENERAL DISTRIBUTION:** Peru, Ecuador, Colombia, Venezuela.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cali.** Macizo Central Colombiano; Alto del Buey. Farallones. Alt. 3570 m. 22 Feb 1979. *C.C. Downer* 90 (COL!). **Mpio. El Cerrito.** Central Cordillera. Near the Páramo Pan de Azucar. 3°45'47"N 76°04'38"W. Alt. 3355 m. 6 Jan 2011. *M. Kolanowska & O. Pérez* 278 (COL!, UGDA – flower in spirit!); Tenerife, cerca de Pan de Azucar. Alt. ca 3800 m. 6 Nov 2009. *O. Pérez, N. Mesa & M. Valencia* 403 (VALLE!). **Mpio. Florida.** I.P. La Diana, finca El Avelino. Alt. 3400 m. 28 Feb 1990. *S. Sarria* 976 (CUVCI); Cordillera Occidental, Los Farallones, filo de la Cordillera, en el Cerro La Torre. Alt. ca 3750 m. *Cuatrecasas* 17840 (AMES!, US!, VALLE!). **Mpio.**



Fig. 130. Distribution of *Epidendrum frutex* Rchb.f. in Valle del Cauca.

**Palmira.** Carretera Palmira-Atacó, vertiente poniente de la Cordillera Central, km 42. Alt. 2500 m. 28 Apr 1983. *Hágsater, Dressler, Folsom & N. Villota* 7429 (AMO).

**OTHER SPECIMENS EXAMINED: ECUADOR.** **Prov. Pichincha.** Cantón Machachi. Reserva Ecológica Los Ilinisas, hacienda del Sr. Segundo Veracruz, por el camino que de la casa va al oeste, ca 400 m de la casa. 0°28'35"S 78°40'9"W. Alt. 3378 m. 18 Aug 2003. *J.E. Ramos, J. Contreras & L. Ramos* 7395 (CUVCI). **COLOMBIA.** **Caldas.** Filo Cachirí, W of Quebrada Termales, drainage of Río Chinchiná, 20 km ESE of Manizales. Alt. 3165 m. 24 Nov 1944. *H. St. John* 20863 (AMES! x 2, NY!, SI!, UC!). **Cauca.** Cordillera Central, vertiente occidental. Cabeceras del río Palo, quebrada del río López: Alto del Duende, matorrales & bosquecillo de páramo. Alt. 3300-3350 m 1-2 Dec 1944. *Cuatrecasas* 18866-A (AMES!, MO!, VALLE!). Cordillera Central Puracé. Alt. 3300 m. 1 Feb 1938. *von Sneider* 1749 (AMES!, NY!, SI!).

### *Epidendrum goodspeedianum*-group

Sympodial, caespitose cane-like stems, paniculate inflorescence, leaves with prominently marked veins, the flowers with an entire lip and the margin erose to fimbriate, petals filiform.

#### Key to species

1. Floral bracts prominent, much longer than the ovary; margin of the lip slightly erose, sepals with translucent trichomes on the dorsal surface . . . . . 46.49. *E. muricatoides*
1. Floral bracts small, never longer than the ovary; margin of the lip fimbriate or dentate; sepals muricate on the dorsal surface . . . . . 2
2. Lip entire or subentire, concave, with the margin fimbriate, white with the disc marked with dark purple; apical margin of the petals ciliate . . . . . 46.48. *E. goodspeedianum*
2. Lip slightly 3-lobed, convex, margin erose, immaculate white; petals with entire margin . . . . . 46.47. *E. calothyrsus*

#### 46.47. *Epidendrum calothyrsus* Schltr. (Fig. 131; Photos 69-70)

Repert. Spec. Nov. Regni Veg., Beih. 7: 126. 1920; TYPE: COLOMBIA. ANTIOQUIA. Alt. ca 1500 m. *Madero s.n.* (B†).

**Terrestrial**, erect plants. **Stems** 100-300 cm long, 1-1.2 cm wide, terete, slightly compressed throughout, in the middle part enclosed by closely fitting scarious sheaths, in the apical part leafy. **Leaves** numerous, ca 30-40, 17-23 cm long, 4-6 cm wide, coriaceous, distichous, articulate with their sheaths, with prominently marked veins, oblong-elliptic, acute. **Inflorescence** 40-70 cm long, apical, paniculate, densely many-flowered, erect or slightly recurved, branches 9-20 cm long; the peduncle provided with up to 9 triangular, lanceolate, long-acuminate bracts which are partly imbricating, 55 cm long, 9 cm

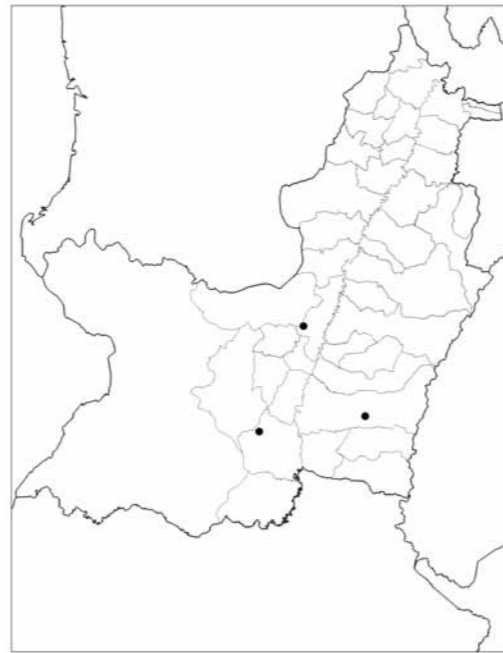


Fig. 131. Distribution of *Epidendrum calothyrsus* Schltr. in Valle del Cauca.

wide. **Flowers** with a sweet fragrance, sepals and petals pale green, lip white, gynostemium white, grading to green near the base. **Floral bracts** very small, about 2-5 mm long. Pedicellate ovary 12-14 mm long, verrucose. **Dorsal sepal** 12 mm long, 4 mm wide, narrowly oblanceolate 3-veined, the apex rounded. **Lateral sepals** about 13 mm long, 4 mm wide, oblique, oblanceolate, 3-veined, apex rounded. **Petals** 12 mm long, ca 1 mm wide, filiform, somewhat wider towards the rounded apex, 1-veined. **Lip** about 5 mm long, 10 mm wide, attached to the apical part of the gynostemium, cordate at the base, 3-lobed; lateral lobes semi-orbicular-quadrate, margins denticulate; middle lobe much smaller than lateral lobes, 2 mm long, 6.5-8 mm wide, transversely oblong, the apex widely emarginate, forming a pair of obliquely rectangular lobes, the apex truncate, disc with 2 calli at the base and 3 ribs which reach the apical sinus. **Gynostemium** 8.5 mm long, dilated at the apex.

**HABITAT:** Premontane and montane forest; 1580-2160 m alt.

**FLOWERING SEASON:** March, April, October.  
**GENERAL DISTRIBUTION:** Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cali.** Peñas Blancas, cuenca del Río Pichindé. Alt. 1800 m. 23 Apr 1978. *Benalcázar 219* (CUVC!); Cordillera Occidental, vertiente oriental; Hoya del Río Cali, vertiente derecha confluencia del Río Pichindecito & el Pichindé. Alt. 1580-1650 m. *Cuatrecasas 18747* (AMES! x 2, COLI, US! x 2, VALLE!); Cordillera Occidental, vertiente oriental; Hoya del río Cali y Pichindé; Alto de las Brisas. Alt. 2160 m. 26 Oct 1944. *Cuatrecasas 18514* (VALLE!). **Mpio. Palmira.** Camino Palmira-Atacó, vertiente poniente de la Cordillera Central. Alt. 1840. Fecha de colecta 28 Apr 1983, fecha de prensado de material cultivado 20 Oct 1997. *Hágsater, N. Villota, Dressler & Folsom 7435* (AMO!). **Mpio. Yotoco.** Plan de las vacas, camino vía "Jiguales", cerca de la Reserva Natural de Yotoco. Alt. ca 1600 m. 28 Mar 2009. *O. Pérez 134* (VALLE!).

**OTHER SPECIMENS EXAMINED: COLOMBIA.** **Antioquia.** Cocorná. Cult. By Edwin Granada en Guarne (AMO!). Cult. Colomborquídeas. Alt. 2500 m. Pressed cult. 24 Mar 1997. *Colomborquídeas sub Hágsater 11624* (AMO!); The same loc. Pressed cult. 17 Nov 1997. *Colomborquídeas sub Hágsater 11624* (AMO!).

#### 46.48. *Epidendrum goodspeedianum* A.D.Hawkes (Figs 132, 133; Photos 71-72).

*Orquidea* 18: 170. 1957. ≡ *Epidendrum muricatum* Rchb.f., Bonplandia (Hannover) 4: 327. 1856, *nom illeg.*; TYPE: PERU (ECUADOR). *Jameson s.n.* (W 49592!, K-LI, AMES! - photo), *non Epidendrum muricatum* (Sw.) Poir., Encycl. Suppl. 1: 368. 1810 (≡ *Cymbidium muricatum* Sw.) - Dodson & Dodson, Icon. Pl. Trop. 2(5): pl. 470. 1989. - Bennett & Christenson, Icon. Orchid. Peruv.: pl. 047. 1993.

**Terrestrial**, robust, subcaespitose plants, up to 220 cm tall. **Stems** enveloped with tubular, scarious, non-foliaceous sheaths through the lower 30-40 cm, the sheaths then leaf-bearing

to apex. **Leaves** 7-23 cm long, 2.8-5.5 cm wide, base clasping, oblong-elliptic, acuminate, clear green, the veins clearly visible and somewhat costate. **Inflorescence** 40 cm long, a apical panicle, many-flowered, dense, enveloped and surpassed by 2-4 basal, imbricating, 7-9 cm long, narrow, acuminate bracts, with 9-12 densely-flowered, lateral branches; peduncle very short for the size of the plant. **Floral bracts** 8-14 mm long, shorter to as long as the ovary, triangular, acuminate. **Flowers** numerous, medium-sized, sepals and ovary muricate, sepals clear green, dorsally tinged reddish purple, petals clear green, lip cream-white, the disc with a large purple spot, gynostemium apex cream-white, anther yellowish white mottled pale brown, pollinia and stipe yellow. **Dorsal sepal** about 9-11 mm long, 3.4-4 mm wide, arcuate, concave, oblanceolate, acute to blunt at the apex, 5-nervados, margen entero. **Lateral sepals** about 9-11 mm long, 4.4 mm wide, obliquely oblanceolate, the apex acute, 5-veined, mid-vein carinate beneath. **Petals** about 9-10 mm long, 0.4 mm wide, linear-filiform, 1-veined, margins of distal third gradually broader, wing-like, very thin membranous, hyaline, minutely pubescent, apex obtuse. **Lip** about 7-8 mm long, 8.5-9 mm wide, entire, widely emarginate, convex, margins finely short fimbriate, with two basal semi-obovoid calli; disc with three low ribs extend to apex, exterior pair much lower, less prominent. **Gynostemium** about 7 mm long, 3.7 mm wide, strongly dilated.

**HABITAT:** Montane cloud forest; about 2100-2350 m alt.

**FLOWERING SEASON:** October.  
**GENERAL DISTRIBUTION:** Peru, Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Ansermanuevo.** Cordillera Occidental, filo de la Cordillera, cerro sobre el Alto de Mira (entre Tabor & Carrizales). Alt. 2100-2350 m. 23 Oct 1946. *Cuatrecasas 22444* (F!, VALLE!).

**OTHER SPECIMENS EXAMINED: ECUADOR.** **Cotopaxi.** Road between Quevedo & El Coro-

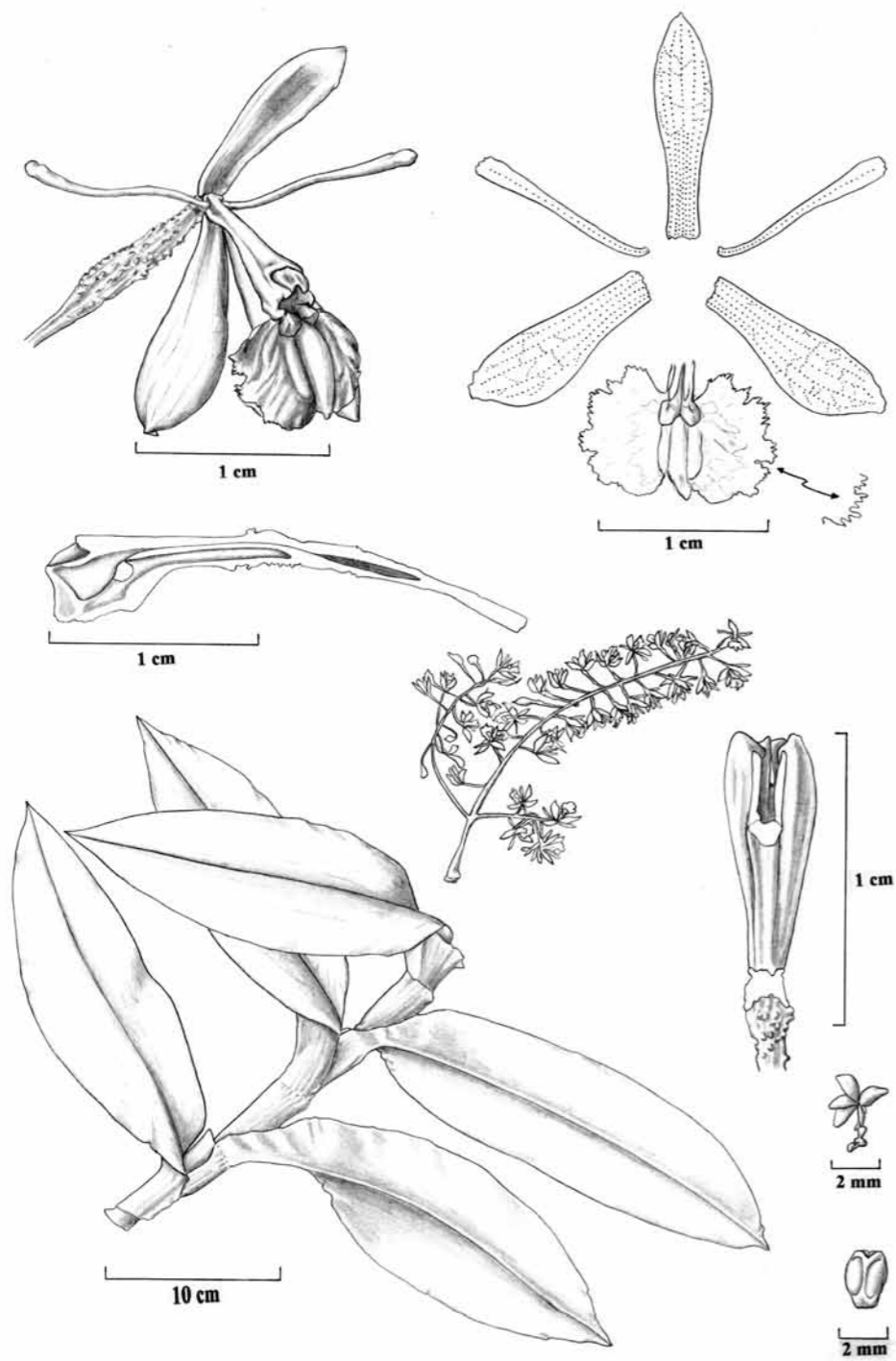


Fig. 132. *Epidendrum goodspeedianum* A.D.Hawkes (*T.B. Croat 55835*, AMO – drawn by M.A. López Rosas).



Fig. 133. Distribution of *Epidendrum goodspeedianum* A.D.Hawkes in Valle del Cauca.

zon; 1.9 km NW of El Corozon; 67.5 km SE of Quevedo. Alt. 1225 m. *T.B. Croat 55835* (AMO!). **Napo.** Desviación Baeza-Lago Agrío, 2 km antes de Baesa. Alt. ca 1900 m. Fecha de colecta 4 Dec 1986, fecha de prensado de material cultivado 10 Dec 1990. *Hágsater & Dodson 8915* (AMO! x 2). **Pichincha.** Río Cenepa, km 35. Potrero, con árboles dispersos & grandes rocas, litófito. Alt. 1900 m. Fecha de colecta 6 Dec 1986, fecha de prensado de material cultivado 27 Jun 1987. *Hágsater, C.H. & P. Dodson, A. Hirtz 8975* (AMO!); Carretera nueva de Otavalo, Mina Selva Alegre, 2 km arriba de la Mina Selva Alegre. Alt. 1940 m. Fecha de colecta 6 Dec 1986, fecha de prensado de material cultivado 10 Dec 1990. *Hágsater, C.H. & P. Dodson, A. Hirtz 8979* (AMO!); Km 27 Sto. Domingo-Quito, old road to Quito. Steep bank, &stant moist. Alt. 1500-2100 m. 12 Apr 1984. *Thurston 4115* (AMO!). **COLOMBIA. Putumayo.** Vereda Chorlabí en la Vía San Francisco-Mocoa. Alt. 2500 m. 27 Apr 2008. *R. Medina 621* (AMO! – photo).

**PERU. Junín.** Carcapata, above Huacapistana. Alt. 2700-3200 m. 7 Jun 1929. *Coll? (US!)*.

**46.49. *Epidendrum muricatoides* Hágsater & Dodson** (Figs 134, 135; Photos 73-74).

Icon. Orchid. (Mexico) 2: pl. 161. 1993; TYPE: COLOMBIA. VALLE DEL CAUCA. Talud de roca al lado de la cortina de la Hidroeléctrica del Alto Anchicayá. Alt. 600 m. Prensada en cultivo 3 Jun 1985. *Hágsater, Dressler & Folsom 7372* (HOLOTYPE: AMO!; CLONOTYPE: COL!).

**Terrestrial**, caespitose plants, 40-140 cm tall. **Stem** 40-135 cm long, 0.6-1 cm wide, reed-like. **Leaves** 8-19 cm long, 1.9-5 cm wide, distributed throughout the stem, membranous, elliptic, acute, bright green, with veins clearly marked; sheath tubular, 2-4 mm long. **Inflorescence** 18-24 cm long, apical, paniculate erect-arcuate; peduncle short, terete, straight, finely covered with conical trichomes, translucent, with 0-2 bracts near the base, bracts similar to the floral bracts but larger. **Flowers** numerous, 12-140, resupinate, simultaneous, pale ochre, lip and apex of gynostemium white, base of gynostemium green. Floral bracts 3-33 mm long, 2-4 mm wide, lanceolate, acuminate, those of the basal flowers much longer than the respective ovaries, progressively shorter. Ovary 10-15 mm long, terete, somewhat dilated towards the apex, with scarce, translucent conical trichomes. **Dorsal sepal** about 11 mm long, 3-3.5 mm wide, oblanceolate, obtuse, fleshy, with scarce, translucent trichomes on the outer surface, 5-veined. **Lateral sepals** 10-11 mm long, 4-4.5 mm wide, oblanceolate, obtuse, 5-veined. **Petals** 10-11 mm long, about 0.7 mm wide, filiform, descending, parallel to the lateral sepals, 1-veined. **Lip** about 6 mm long, 7-8 mm wide, united to the gynostemium, entire, subquadrate, bicallose, 3-5-carinate, base cordate, apex rounded to shallowly notched, margins irregularly erose. **Gynostemium** 7.5-9 mm long, straight. Clinandrium-hood obsolete, entire. Anther sub spherical. Pollinia bird-wing type.

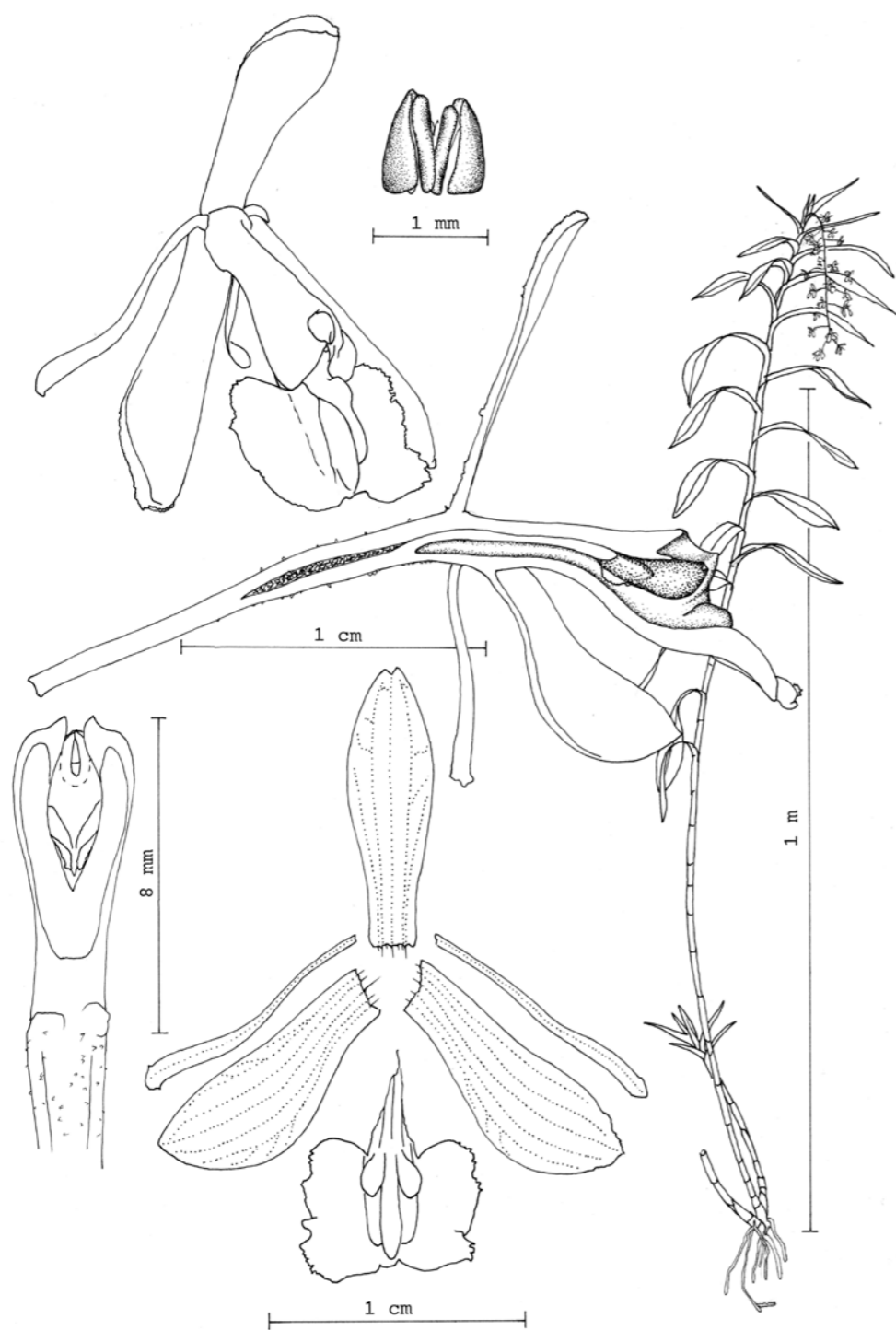


Fig. 134. *Epidendrum muricatoides* Hágsater & Dodson (*Hágsater, Dressler & Folsom 7372*, AMO – drawn by E. Hágsater).

**Nectary** penetrating just behind the perianth.

**HABITAT:** Rocks and exposed ground in wet forest; 600-2100 m alt.

**FLOWERING SEASON:** March, September. July in cultivation.

**GENERAL DISTRIBUTION:** Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Al lado de la Cortina de Hidroeléctrica del Alto de Anchicaya. Alt. 600 m. Preparado de material cultivado 16 Jul 1984. *Hágsater, R.L. Dressler & Folsom 7372* (AMO!, COL!). **Mpio. La Cumbre.** Pavas, Cordillera Occidental, north of Pavas. Alt. 1700-2100 m. 24 Sep 1922. *Killip 11637* (AMES!, K!, NY!, US!). **Mpio. Yotoco.** Bosque de Yotoco. Mpio. Yotoco. Reserva Natural de Yotoco. Relicto superior. Alt. approx. 1600 m. 8 Mar 2009. *E. Parra & O. Pérez 82* (VALLE!).

**OTHER SPECIMENS EXAMINED: COLOMBIA.**

**Cauca.** Cordillera Central, vertiente occidental. Hoya del río Palo márgenes del río entre Tacueyó & La Tolda. Alt. 1780-1900 m. 19 Dec 1944. *Cuatrecasas 19510* (AMES!, VALLE!); El Tambo. Alt. 1700 m. *von Sneider 1572* (AMES!, S!, US!). **ECUADOR. Esmeraldas.** Km 3.2 camino Lita a San Lorenzo. Talud con *Epidendrum calanthum* Rchb.f. & Warsc., *Epidendrum baumannianum*. Alt. 670 m. Fecha de colecta 11 Jul 1990, fecha de prensado de material cultivado 7 Feb 1993. *Hágsater, Dodson, D. Rubio & N. Revelo 10639* (AMO! x 2). **Sucumbios.** Cantón. Santa Barbara. Km 49.8 desviación de la carretera Tulcán-Ibarra hacia La Bonita, después de Santa Barbara, unos 500 m antes del puente. Bosque tropical perennifolio. Alt. 2080 m. Fecha de colecta 8 Jul 1990. Fecha de prensado de material cultivado 4 Jul 1993. *Hágsater, Dodson, D. Rubio & N. Revelo 10600* (AMO!).

#### *Epidendrum gracillimum*-group

Characterized by the sympodial, caespitose habit, long, narrow subcoriaceous leaves, paniculate inflorescence, with infundibuliform,

acuminate bracts on the peduncle, and delicate, small flowers.

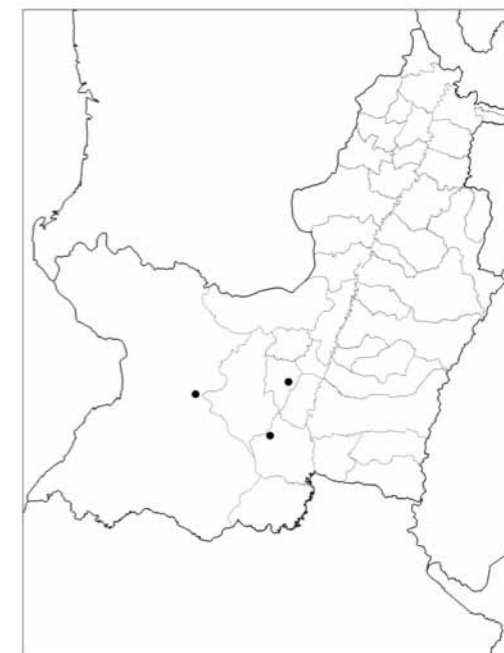


Fig. 135. Distribution of *Epidendrum muricatoides* Hágsater & Dodson in Valle del Cauca.

#### 46.50. *Epidendrum rolfeanum* F. Lehm. & Kraenzl.

Bot. Jahrb. Syst. 26: 468. 1899; TYPE: COLOMBIA. ANTIOQUIA. Auf dem Hochland von San Pedro. Alt. 2500 m. Sep 1884. *Lehmann 8182* (B†, AMES!, K!).

**Sympodial**, subcaespitose herb. **Roots** basal, scarce, thin. **Stems** to 15 cm tall, simple, short, cane-like, terete at the base, laterally compressed towards the apex, thin, flexuous. **Leaves** 3-6, distributed throughout the stems, alternate, suberect; sheath infundibuliform when dry, minutely striated; blade 5-6 cm long, 0.1-0.3 cm wide, linear-acuminate, coriaceous, conduplicate, margin entire. **Inflorescence** apical, paniculate, erect, many-flowered, dense; peduncle elongate, filiform, fractiflex, peduncle provided



with 2-3 bracts distributed throughout, tubular and ancipitose at the base, conduplicate above, long, acuminate; the inflorescence with 0-3 short, fractiflex racemes, enveloped at the base by large conduplicate bracts, similar to those of the peduncle but progressively shorter. **Floral bracts** small, much shorter than the ovary, triangular, acute. **Flowers** ca 15-25, small, membranous, resupinate, green-brown. **Ovary** terete, thin. **Sepals** 4 mm long, spreading, free; dorsal sepal lanceolate; the lateral sepals obovate-oblong, slightly oblique, acute. **Petals** 4 mm long, spreading, free, filiform. **Lip** united to the column, reniform, twice as wide as it is long, bicallose, disc with radiating veins.

HABITAT: Unknown.

FLOWERING SEASON: May.

GENERAL DISTRIBUTION: Known only from Colombia.

DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA: **Mpio. Cali.** Westkordillere Cali. 25 May 1884. *Lehmann 3751* (G!, LE!).

OTHER SPECIMENS EXAMINED: **COLOMBIA.** **Antioquia.** El Chuscal. Alt. 2650 m. 13 Sep 1984. *Dodson 15285* (MO!); El Carmen, Alto de San Lorenzo. Alt. 2600 m. 16 Sep 1984. *Dodson 15327* (MO!); Hochland von San Pedro. Alt. 2500 m. 29 Sep 1884. *Lehmann 160* (G!); Rio Negro über La Ceja. Alt. 2200 m. 20 Apr 1883. *Lehmann 3134* (G!, LE!).

### *Epidendrum hymenodes*-group

Plants tall, stems thin, leaves narrowly lanceolate, acuminate, inflorescence apical. There is only one species in this group.

### 46.51. *Epidendrum hymenodes* Lindl. (Figs 136, 137; Photo 75).

Fol. Orchid. *Epidendrum*: 58. 1853; TYPE: COLOMBIA. Santa Martha, above Minca. Alt. 4000 ft. *Schlim 986* (K?). - Foldats in Lasser, Fl. Venezuela, *Orchid.* **15**(3): 276-277. 1970.

= *Epidendrum arundinaceum* F.Lehm. & Kraenzl., Bot. Jahrb. Syst. **26**: 471. 1899.

= *Epidendrum zingiberaceum* Schltr., Repert. Spec. Nov. Regni Veg., Beih. **8**: 88. 1921.

**Epiphytic plants.** **Stems** covered with leaf sheaths. **Leaves** about 15-18.5 cm long, 1.6-1.8 cm wide, distichous, grass-like, linear-lanceolate, strongly acute. **Inflorescence** a apical panicle, slender, thin, erect; peduncle covered with several sheaths at the base. **Flowers** about 2.5 cm long when dried, apparently of two types, some succulent, other membranous, whitish. Floral bracts about equal in length to the flowers, membranous, lanceolate, when dried contrast with dried flowers. **Sepals** about 17 mm long, 3 mm wide, patent, oblong, acute. **Lip** about 13 mm long, 14 mm wide between the apices of the lateral lobes, united to the apex of the gynostemium, free portion dilated to the 3-lobed lamina; lateral lobes ovate; middle lobe acute, margins more or less serrulate. **Gynostemium** about 7 mm long, dilated towards the apex.

HABITAT: Wet lowland to montane forest; 300-2160 m alt.

FLOWERING SEASON: October, December.

GENERAL DISTRIBUTION: Peru, Ecuador, Colombia, Venezuela.

DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA: **Mpio. Cali.** Cordillera Occidental, vertiente oriental; Hoya del río Cali, Pichindé; Alto de las Brisas. Alt. 2160 m. 26 Oct 1944. *Cuatrecasas 18210* (AMES! ex GH, F!); Cordillera Occidental, los Farallones de Cali, comunidad ribereña a lo largo del río Pance, aproximadamente abajo del pueblo de Pance. Alt. 1500 m. 1 Dec 1975. *Hartman 149* (CUVC!); Forest between coffee plantations and tea plantings. „600”. *Fol-*

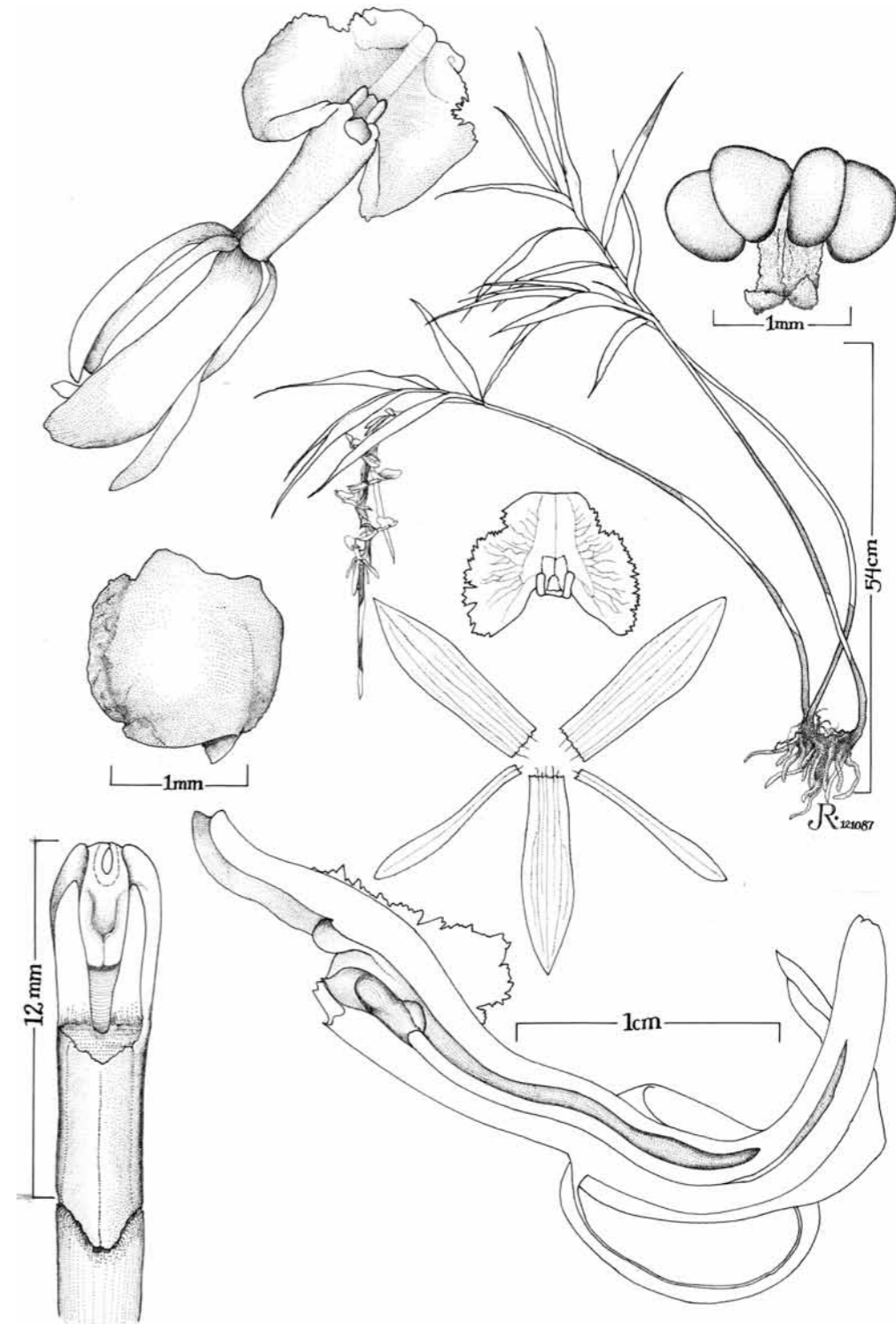


Fig. 136. *Epidendrum hymenodes* Lindl. (*Hágsater & Dodson 9061*, AMO – drawn by R. Peláez).

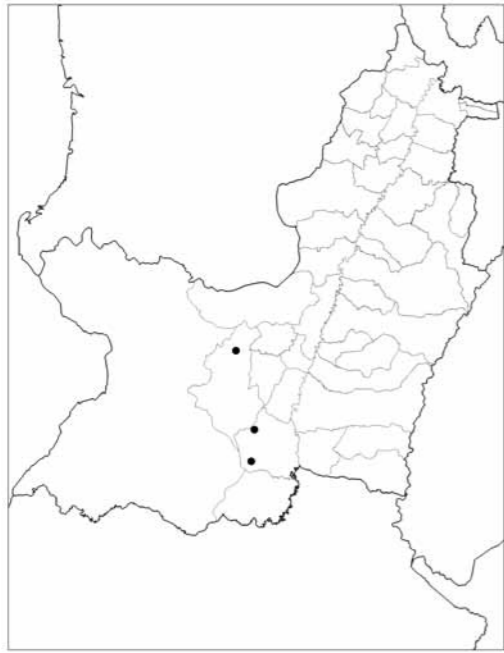


Fig. 137. Distribution of *Epidendrum hymenodes* Lindl. in Valle del Cauca.

som, L.A. de Escobar & D. Sánchez 10444 (AMO!). **Mpio. Dagua.** Las Juntas del Dagua, coastal District of Buenaventura. Alt. 300-500 m. *Lehmann 6853* (type of *E. arundinaceum* – AMES! x 2, K!, L!, NY!, W!).

OTHER SPECIMENS EXAMINED: **ECUADOR.** **Pichincha.** Aloag-Sto. Domingo km 67, arriba de Tandapi. Alt. 2000 m. *Hágsater & Dodson 9061* (AMO!).

### *Epidendrum incomptum*-group

*E. incomptum*-group is characterized by the erect habit with successive lateral growths produced from the middle of the previous growth, few leaves aggregate towards the apex of the stems, roots generally only from the base of the primordial stem, and a short apical inflorescence with fleshy yellowish to green to violet-green to black flowers with short ovaries, the lip entire to 3-lobed.

### 46.52. *Epidendrum luis-sanchezii* Hágsater, E.Parra & O.Pérez (Figs 138, 139; Photo 76).

Icon. Orchid. 14: Pl. 1452. 2013; TYPE: COLOMBIA. VALLE DEL CAUCA. Cerrito, Tenerife. Alt. 3500 m. 6 Feb 2011. *E. Parra 381* (HOLOTYPE: VALLE!).

**Epiphytic**, sympodial, erect herb, 20 cm tall or more, where the new stem originates from a subapical internode of the previous stem. **Roots** produced from the base of the primordial stem, thick. **Stems** 16.5 cm tall, 0.4 cm wide, terete, the new stem produced from a subapical internode of the previous stem, below the leaves; the basal 3/4 covered by tubular, non-foliar, striated, scariose sheaths, 1.3-3.8 cm long. **Leaves** 3, aggregate towards the apex of the stem, unequal in size, subcoriaceous, alternate, articulate; sheaths 1.4 cm long, 0.5 cm wide, tubular, striated; blade 6-9 cm long, 2.5-3 cm wide, obovate-elliptic, obtuse, margin entire. **Spathaceous bract** lacking. **Inflorescence** 5.4 cm long, apical, flowering only once, densely few-flowered; peduncle 1.6 cm long, terete, thin, straight, short. **Flowers** 10-15, fleshy, successive, though several are open at one time, yellow, the ovary greenish yellow, darker towards the base; without fragrance. **Floral bracts** 7.5 mm long, half as long as the ovary, triangular, acuminate, amplexicaul. **Ovary** 12 mm long, terete, arched near the apex, not inflated, somewhat grooved. **Sepals** partly spreading to spreading, free, obovate, acute, 3-5-veined, margin entire, spreading; the **dorsal sepal** 11 mm long, 4.5 mm wide; the **lateral sepals** 13 mm long, 5.5 mm wide, oblique with a prominent, serrulate, awned dorsal keel. **Petals** 10.5 mm long, 2.8 mm wide, partly spreading, the apical 2/3 hidden beneath the lip in natural position, oblanceolate, acute, 1-veined, the vein branched around its mid-point, margin entire, spreading. **Lip** 9 mm long, 15 mm wide, united to the column, obscurely 3-lobed, widely reniform, base cordate, concave in front of the column, the rest of the lip convex, margin entire; ecallose, the disc with a wide,

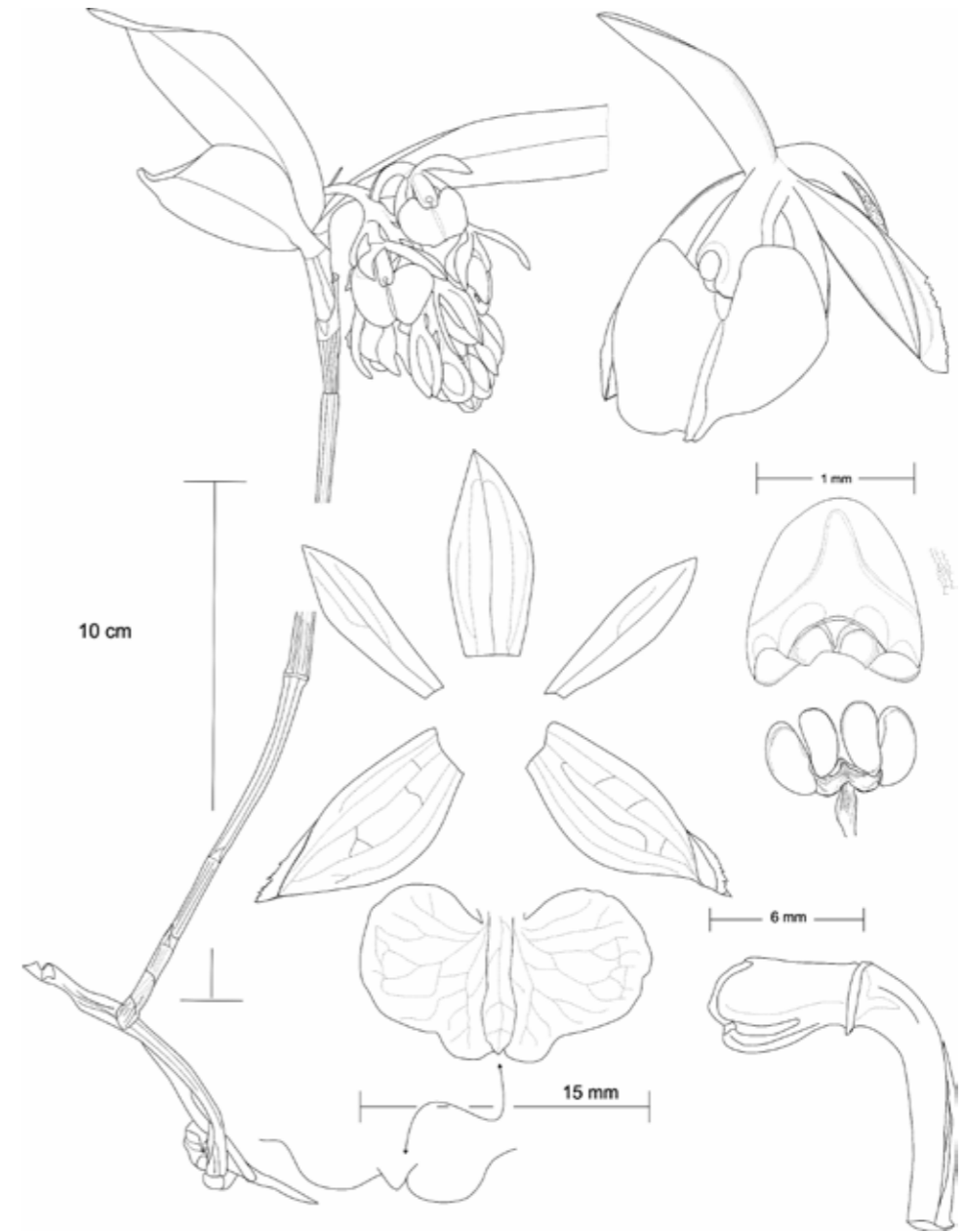


Fig. 138. *Epidendrum luis-sanchezii* Hágsater, E.Parra & O.Pérez (*E. Parra 381*, VALLE – drawn by E.Parra).

low rib spreading from the base to the apex of the lip; lateral lobes 7 mm long, 7.5 mm wide, semi-orbicular; middle lobe 1.4 mm long, 6 mm wide, short, transversely rectangular, the apex emarginate, minutely apiculate, forming a pair of small, rounded lobes. **Gynostemium** 6 mm

long, straight, short, thick; the apex with a pair of prominent rounded wings. Rostellum apical, slit. Lateral lobes of the stigma not seen. Clinandrium-hood reduced, margin entire. Anther 1 mm wide, obovoid, ornamented, papillose, 4-celled. Pollinia 4, obovoid; caudicles as long as



Fig. 139. Distribution of *Epidendrum luis-sanchezii* Hágsater, E.Parra & O.Pérez in Valle del Cauca.

the pollinia. Rostellum subapical, slit. **Nectary** and **capsule** not seen.

**HABITAT:** Epiphytic in secondary high-montane humid cloud forest; at about 3500 m alt.

**FLOWERING SEASON:** February.

**GENERAL DISTRIBUTION:** Endemic, known only from the department of Valle del Cauca.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cerrito.** Tenerife. Alt. 3500 m 6 Feb 2011. *E. Parra 381* (VALLE!).

#### **Kalopternix-group, *Epidendrum serpens*-subgroup**

Characterized by the single to few reddish-brown to purple flowers, often resupinate, the petals narrower than the sepals, lip more or less cordiform, sometimes apically 3-lobed, ecallose, usually with a thickened, low, rounded rib running down the middle, the column short, forming a right angle with the ovary, which is

short, and the *Serpens* subgroup which has plants with aggregate, globose pseudobulbs with fleshy-coriaceous leaves, and a sessile inflorescence, and one or few fleshy, compact, star-shaped flowers, often burgundy red in color, lip entire, more or less cordiform.

#### **46.53. *Epidendrum pachycoleum* Hágsater, O.Pérez & E.Santiago (Figs 140, 141; Photo 77).**

Icon. Orchid. 14: Pl. 1466. 2013; TYPE: COLOMBIA. VALLE DEL CAUCA. Mpio. Cerrito. Tenerife, Páramo "Pan de Azúcar" [Páramo Las Hermosas]. Alt. 3600 m. 6 Jan 2011. *O. Pérez & M. Kolanowska 873* (HOLOTYPE: CUVCI; AMO! - digital images of pretype).

**Epiphytic**, sympodial, rhizomatous herb ca 5 cm tall. **Roots** 0.1-0.2 cm thick, basal, thin, fleshy, scarce, green with white and burgundy-red tinges. **Stems** 0.45-1 cm tall, 0.6-0.7 cm wide, aggregate, thickened, forming globose, homoblastic, pseudobulbs; covered by 1-3 bracts 1.1-1.4 cm long, 0.8-1 cm wide, imbricated, unequal in size, papiraceous, the veins prominent. **Leaves** 1-2, apical, leaf apparently not articulate to the very fleshy, appressed sheath which appears to be part of the pseudobulb, coriaceous, dark green tinged violet towards the margins and underside, the juvenile leaves burgundy-red; blade 1-2.5 cm long, 0.5-1 cm wide, elliptic, acute, margin hyaline, spreading, erose. **Spathaceous bract** lacking. **Inflorescence** apical, 2-3-flowered, sessile, rachis very short and thick. **Flower** 2-3, flowers developing in succession, with 2 sometimes open at one time, resupinate, reddish violet, the column and the disc of the lip yellowish red; fragrance not registered. **Floral bracts** ca 2 mm long, very small, triangular, obtuse. **Ovary** 6 mm long, terete, not inflated, unornamented. **Sepals** spreading, free, ovate, acute, fleshy, 3-veined, margin entire, spreading; dorsal sepal 7 mm long, 3 mm wide, lateral sepals 7.3 mm long, 4 mm wide, oblique, dorsally pustulate, with an apical low, dorsal keel. **Petals**

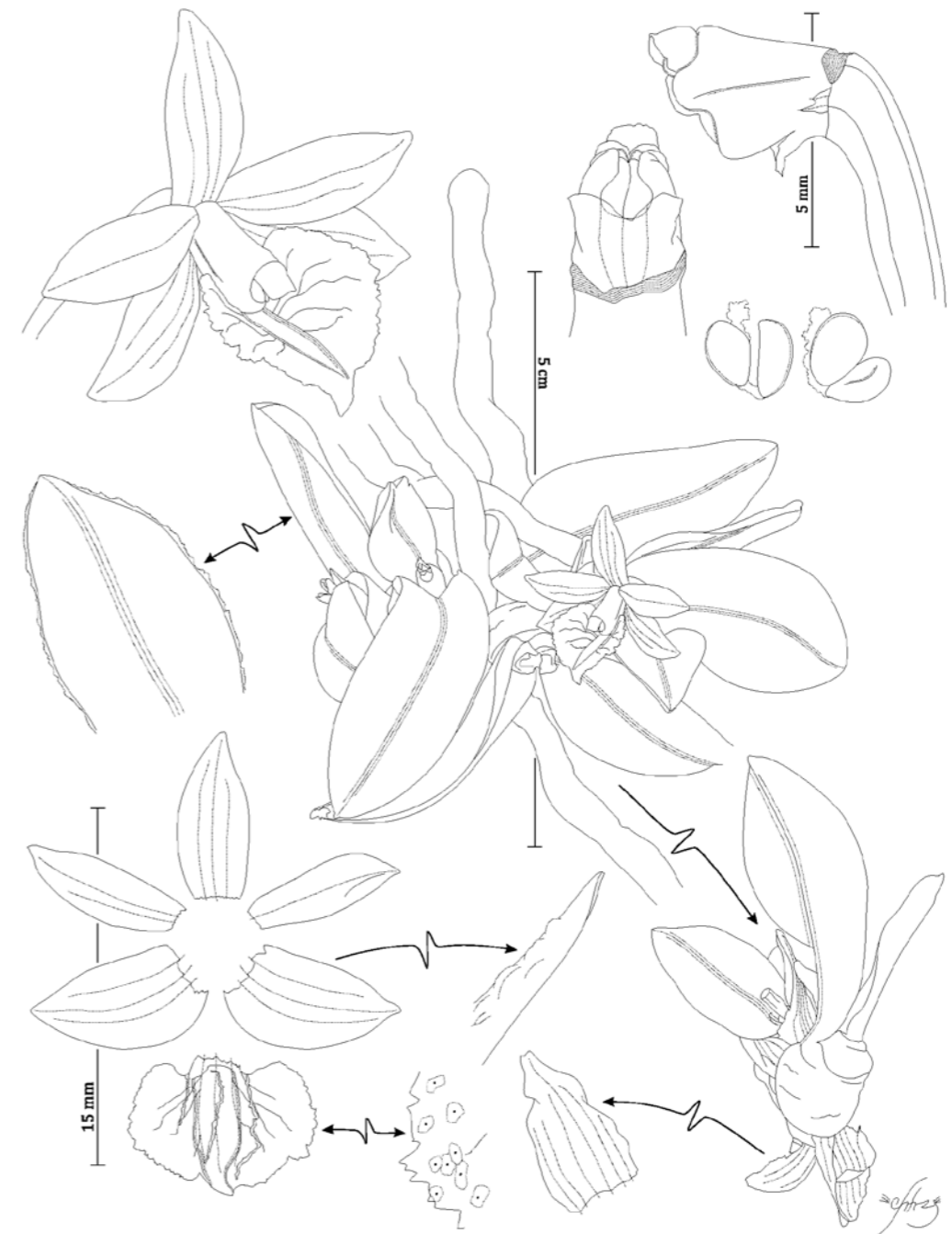


Fig. 140. *Epidendrum pachycoleum* Hágsater, O.Pérez & E.Santiago (*O. Pérez & Kolanowska 873*, CUVCI – drawn by O.Pérez).



Fig. 141. Distribution of *Epidendrum pachycoleum* Hágsater, O.Pérez & E.Santiago in Valle del Cauca.

ca 7 mm long, 2.1 mm wide, free, spreading, narrowly oblong, acute, 1-2-veined, margin entire, spreading. **Lip** 5.5 mm long, 8 mm wide, united to the column, widely cordiform, apiculate, slightly concave in natural position, margin irregularly dentate; ecallose, with a wide, low, central, prominent rib, elongated to the apiculate. **Gynostemium** 3.5 mm long, short, thick, straight, forming a right angle with the ovary. Clinandrium-hood reduced, entire. Anther not seen. Pollinia 4, obovoid, subequal; caudicles soft and granulose, slightly longer than the pollinia, wide; viscidium semi-liquid. Rostellum subapical, slit. Lateral lobes of the stigma not seen. **Nectary** not seen. **Capsule** not seen

**HABITAT:** Above small, isolated shrubs found reaching the paramo, on the roadside; 3300-3600 m alt.

**FLOWERING SEASON:** January, April.

**GENERAL DISTRIBUTION:** Endemic, known only from the department of Valle del Cauca.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Tuluá.** Alto de Barragán, Cañón Garrapatas. Alt. ca 3300 m. 27 Apr 2012. *E. Parra 912* (TULV, AMO! - digital image series). **Mpio. El Cerrito.** Tenerife, Páramo "Pan de Azúcar" [Páramo Las Herosas]. Alt. 3600 m. 6 Jan 2011. *O. Pérez & M. Kolanowska 873* (CUVC!).

### *Epidendrum klotzscheanum*-group

Caespitose habit, simple stems, 2 acute, spathaceous bracts, racemose, arching-nodding inflorescence, lip deeply 3-lobed. There is only one species in this group.

#### 46.54. *Epidendrum klotzscheanum* Rchb.f. (Figs 142, 143; Photo 78).

Linnaea 22: 838. 1850; TYPE: VENEZUELA. MERIDA. Forest of Sierra Nevada. *Moritz 1069* (W-R!, W-R 4730! - only flowers in envelope mounted on the right-hand side and illustration). - Foldats in Lasser, Fl. Venezuela, Orchid. 15(3): 292-295. 1970. - Santiago & Hágsater in Hágsater & Sánchez, Icon. Orchid. 13: pl. 1343. 2010. =*Epidendrum raphidophorum* Lindl., Fol. Orchid. 3 (*Epidendrum*): 52. 1853. =*Epidendrum ochrioides* Lindl., Fol. Orchid. 3 (*Epidendrum*): 52. 1853. =*Epidendrum ernstii* Schltr., Repert. Spec. Nov. Regni Veg., Beih. 6: 37. 1919.

**Terrestrial**, sympodial, caespitose, 100-150 cm tall herb. **Roots** basal, thick. **Stems** 80-135 cm tall, 1-1.9 cm wide, simple, cane-like, laterally compressed, erect, straight. **Leaves** 17.5-25 cm long, 2.2-4 cm wide, numerous, suberect, alternate, articulate, coriaceous, base somewhat conduplicate; sheath 3.5-8 cm long, 1-1.9 cm wide, tubular, minutely striated; blade lanceolate, apex subacute, short bilobed, margin entire. **Spathaceous bracts** 1-3, 9-21 cm long, 2.4-4.8 cm wide when spread, tubular, open on one side along the upper half and then conduplicate, acuminate, lan-

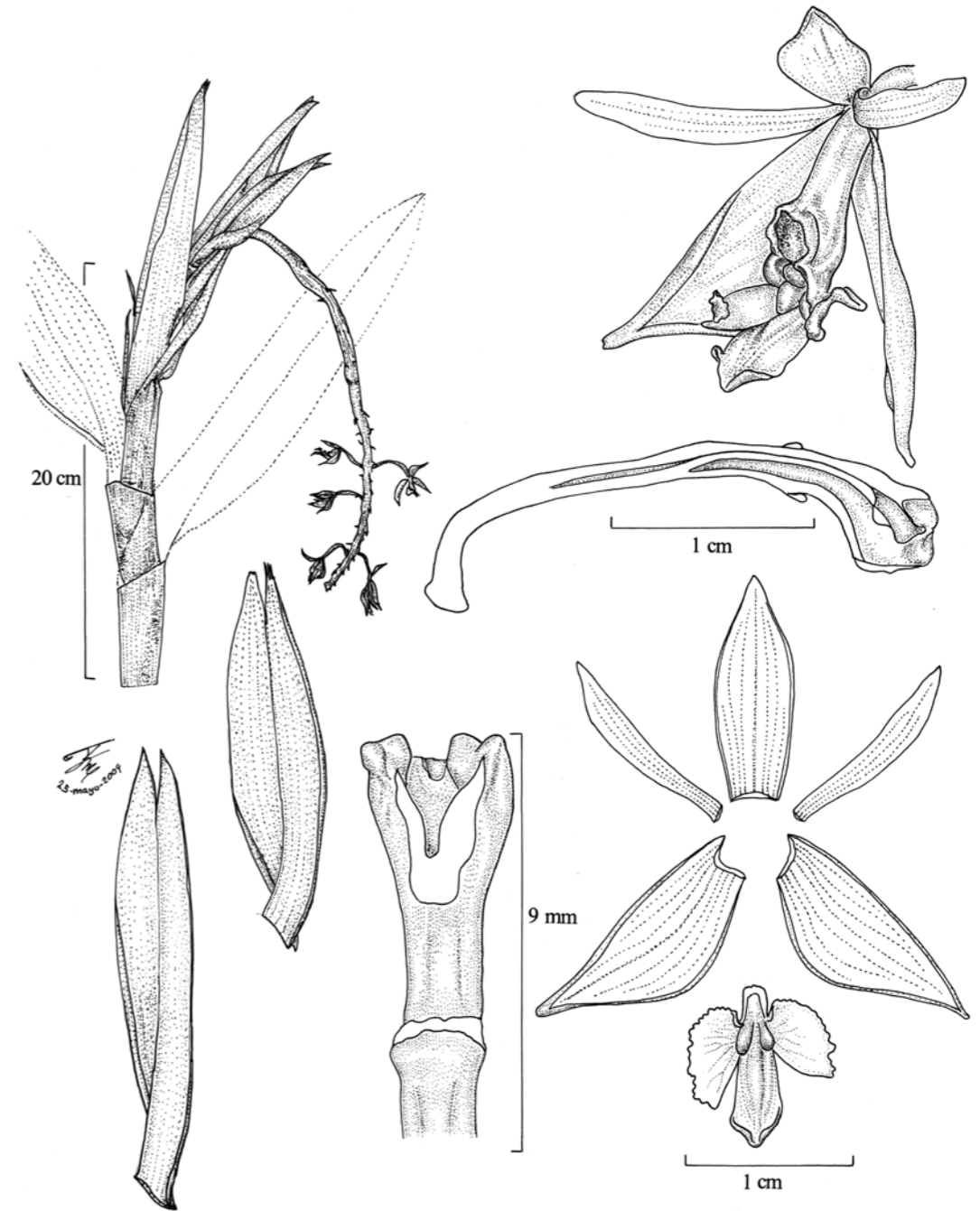


Fig. 142. *Epidendrum klotzscheanum* Rchb.f. (*Patin s.n.*, W – drawn by R. Jiménez Machorro).



Fig. 143. Distribution of *Epidendrum klotzschianum* Rchb.f. in Valle del Cauca.

ceolate when spread, greenish tinged with purple. **Inflorescence** 15-22 cm long, apical, racemose, arching-nutant, densely many-flowered; peduncle thickened, laterally compressed. **Flowers** ca 50, simultaneous, resupinate, fleshy, fuchsia to yellowish tinged with pink. **Floral bracts** 8-14 mm long, prominent but shorter than the ovary, linear-lanceolate, acuminate, amplexicaul. **Ovary** 25 mm long, short, terete, slightly dilated towards the apical half, unornamented. **Sepals** 14 mm long, 5 mm wide, free, partly spreading, elliptic, acute, 7-veined, margin entire, slightly involute at the apex. **Petals** 11 mm long, 2 mm wide, spreading, free, narrowly oblanceolate, subacute, 3-veined, slightly oblique, margin entire, spreading. **Lip** 9 mm long, 8 mm wide, united to the column, 3-lobed, base cordate; bicallose the calli prominent, fleshy, somewhat laterally flattened; disc with 3 fleshy, narrow keels which disappear before reaching the apex of the lip; lateral lobes 3.7 mm long, 6 mm wide, obliquely ovate, basal

margin erose, lateral margins revolute; middle lobe 4.5 mm long, 2.8 mm wide, oblong, the apex truncate, minutely apiculate, basal margin entire and slightly revolute, apical margin slightly erose, somewhat involute. **Gynostemium** 7 mm long, straight, basal half thin, gradually dilated towards the apex, the apical sides truncate. Anther reniform, 4-celled. Pollinia 4, obovoid, caudicles soft and granulose, as long as the pollinia. Clinandrium-hood short, margin entire. Rostellum apical, slit. **Nectary** shallow, penetrating 1/4 of the ovary, not inflated, unornamented. **Capsule** 5 cm long, 1.3 cm wide, ellipsoid, perianth persistent, pedicel 2 cm long, apical neck 0.6-0.7 cm long.

**HABITAT:** Wet montane forest; about 2500-m alt.

**FLOWERING SEASON:** October.

**GENERAL DISTRIBUTION:** Colombia, Venezuela.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Florida.** I. P. Pueblo Nuevo, vereda Las Brisas, hacienda Los Alpes. Alt. 2500 m. 10 Oct 1989. *S. Sarría 411* (CUVC!).

**OTHER SPECIMENS EXAMINED:** **COLOMBIA.**

**Antioquia.** Medellín. *Patin s.n.* (W 7094!). **VENEZUELA.** **Trujillo.** Páramo de Los Nepes. Ridge above La Pena. Alt. ca 2740 m. 24-25 Dec 1959. *Barclay & P. Juajibioy 10291* (AMES!, COL!, MO!).

### **Lanium-group**

This group is characterized by puberulent to ciliate peduncule, ovary and/or tepals. It was considered to be a separate genus based mainly on the presence of undivided lip which is attached only at the base of the gynostemium. Two species of this group occur in the Department of Valle del Cauca.

### **Key to species**

1. Stems thickened into fusiform pseudobulbs; leaves 1-2, aggregate towards the apex of the stem, linear, to 11.5 cm long; inflorescence always shorter than

the apical leaf . . . . . 46.56. *E. stangeanum*

1. Stems cane-like; leaves 6-8, distributed throughout the stem, ovate-oblong, up to 3 cm long; inflorescence always much longer than the leaves. . . . . 46.55. *E. microphyllum*

### **46.55. *Epidendrum microphyllum* Lindl. (Figs 144, 145; Photo 79).**

*J. Bot. (Hooker)* 3: 85. 1840; TYPE: GUYANA. *Schomburgk s.n.* (K-L!). - Dodson & Dodson, *Icon. Pl. Trop.* 2(5): pl. 0474. 1989. - Bennett & Christenson, *Icon. Orchid. Peruv.*: pl. 245. 1995. - Misa Urruta, *Orquídeas de la Serranía del Baudó*: 198-199. 2005. - Schweinfurth, *Fieldiana, Bot.* 30(2): 389-390. 1959. - Foldats *in* Lasser, *Fl. Venezuela, Orchid.* 15(3): 114-115. 1970. - Vásquez & Dodson, *Icon. Pl. Trop.* 1(6): pl. 538. 1982. - Vásquez & Ibsch, *Orquid. Bolivia* 2: 126. 2004.

≡ *Lanium microphyllum* Lindl. *ex* Benth. *in* Hooker, *Icon. Pl.* 14: t. 1334. 1881.

= *Lanium colombianum* Schltr., *Repert. Spec. Nov. Regni Veg., Beih.* 7: 155. 1920.

≡ *Lanium microphyllum* subsp. *colombianum* (Schltr.) Brieger, *Schlechter Orchideen* 9(33-36): 565. 1977, illegitimate, no basionym ref.

= *Lanium peruvianum* Schltr., *Repert. Spec. Nov. Regni Veg., Beih.* 9: 97. 1921.

**Epiphytic**, repent plants. **Pseudobulbs** 2.5-3.5 cm long, surrounded by evanescent sheaths at the base; sheaths foliaceous towards the apex. **Leaves** up to 9.3 cm long, 0.6 cm wide, distichous, fleshy, stiff, red-green, upper surface slightly rugose, apiculate. **Inflorescence** about 6 cm long, apical, racemose, terete, maroon, with fine pubescence of rather untidy white hairs up to 0.5 mm long. **Flowers** 3-8, non-resupinate, pale yellow brown flushed with pink in the basal half, externally pubescent with untidy white hairs, inner surface glabrous, fragrant. **Floral bracts** 1-2 mm long, ovate, apiculate, pale green, glabrous. **Pedicellate ovary** 5-15 mm long, pink, with white pubescence. **Dorsal sepal** 5-7 mm long, 1.5-3 mm wide, oblong-lanceolate, acute, fleshy, carinate outside. **Lateral sepals** 5.5 mm long, 2 mm wide, oblong elliptic-ovate, long-acuminate,

oblique. **Petals** 4.5-6 mm long, 0.6-1 mm wide, linear to linear-lanceolate, acute, less fleshy than the sepals but colouring the same, both surfaces glabrous. **Lip** 4-5 mm long, 3-4 mm wide, ovate to deltoid, acuminate, concave, adnate to gynostemium to about midpoint of the latter, glabrous, with a small axial swelling at the base with a tiny, fairly thin lobe on each side.

**HABITAT:** Montane wet forest and cloud forest; in the whole range 200-1900 m alt.

**FLOWERING SEASON:** August.

**GENERAL DISTRIBUTION:** Brazil, Bolivia, Peru, Ecuador, Colombia, Venezuela, Guyana, Suriname, French Guiana, Panama.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Caicedonia.** On fallen tree between Caicedonia and Armenia. Aug 1964. *Kapuler & Hascall 236* (COL!).

**OTHER SPECIMENS EXAMINED:** **BRAZIL.**

**Amazonas.** Reserva Forestal Ducke, Manaus-Itacoatiara, km 26. 2°53'S 59°58'W. 30 Aug 1996. *Assenelo 401A* (MO!). **PERU.** **Loreto.** Prov. Coronel Portillo. Boquerón de Padre Abad. Alt. 400 m. 17 May 1969. *J. Schunke V. 3049* (COL!).

**ECUADOR.** **Napo.** Baeza-Tena, near Tena. Alt. 450 m. Fecha de prensado de material cultivado 13 Feb 1991. *Hágsater 10682* (AMO! x 2); La Joya de los Sachas. Parque Nacional Yasuní. Carretera & oleoducto de Maxus, en construcción, Km 45. Bosque húmedo Tropical. Bosque primario sobre colinas, suelo rojo. 00°45'S 76°28'W. Alt. 230 m. 8-15 Aug 1993. *A. Dik 104* (AMO! x 2 *ex* MO!); Cuyabeno. C.C.C. Cuyabeno. Quebrada La Hormiga. NW of Laguna Grande. 0°0'2"S 76°12-15'W. Alt. 200 m. 6 Nov 1987. *F. Hekker & W.H.A. Hekking 10.121* (AMO!).

**COLOMBIA.** **Caldas.** Aceducto de Victoria. Alt. 800 m. 29 Mar 1961. *H. Schmidt-Mumm 46* (COL!). **Caquetá.** Mpio. Solano. Parque Nacional Natural de Serranía de Chiribiquete (región SE), Estación Puerto Abeja, margen derecho del río Mesay, a orillas de la quebrada Puerto Abeja. 0°04'16"N-72°26'48"W. Bosque inudable. Alt. 500 m. 25 Feb 2002. *R. Arévalo 201* (COL!).

**Chocó.** Mpio. Nóvita. Inapección de Curundó,

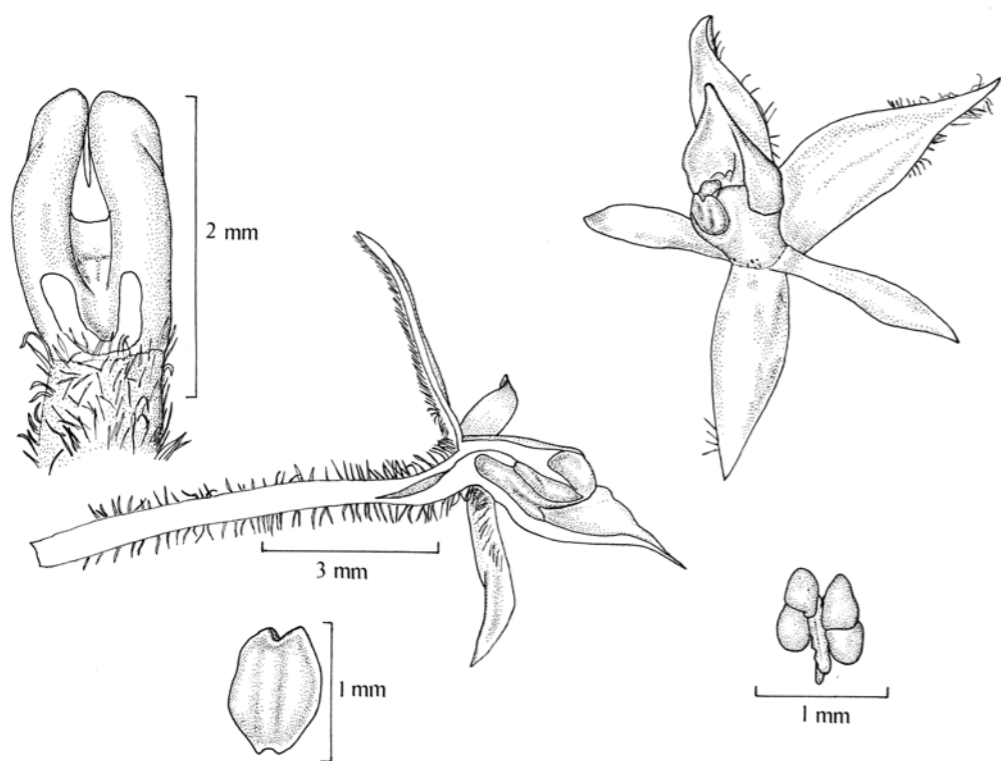


Fig. 144. *Epidendrum microphyllum* Lindl. (E. Hágsater 10682, AMO – drawn by R. Jiménez Machorro).

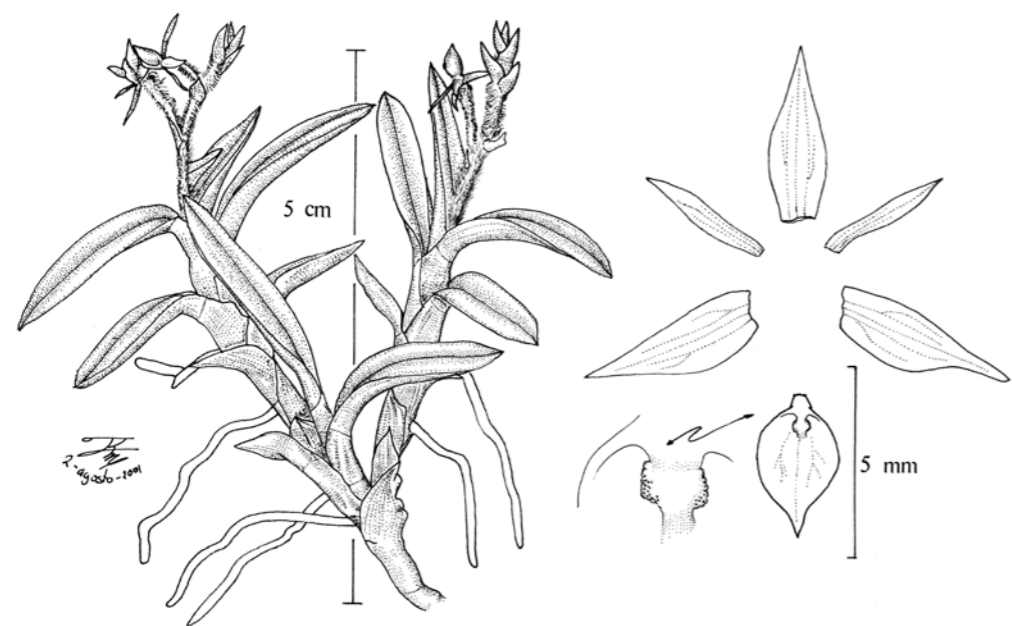


Fig. 145. Distribution of *Epidendrum microphyllum* Lindl. in Valle del Cauca.

margen derecha río Ingará. Alt. 400-550 m. 12 Jan 1983. *S. Díaz P. 3469* (COL!); Km 17, road Bajia Solano-El Valle. Gwoing on fencepost. Alt. 0-20 m. 27 Oct 1983. *Folsom 10563* (AMO! x 4). **Cundinamarca.** Mpio. Sasaima. Río Dulce. Alt. 1000 m. 8 Aug 1953. *Schneider 311* (COL!); Mpio. El Peñon. Vda. Guanacas. Alt. 1125 m. 11 Jun 1993. *A. Chaparro de Barrera & E. Barrera Torres 1086(1)* (COL!). **Meta.** P.N.N. Tinigua. Río Duda. Serranía Chamusa. Centro de Investigaciones Ecológicas La Macarena. Trocha R8 ca R3. Bosque unudable. Alt. 350 m. Oct 1996. *P. Stevenson 1937* (COL!). **Risaralda.** Mpio. Pueblo Rico. Correg. Santa Cecilia, quebrada junto a “Plosan”, zonas alternadas & restos de bosque. Alt. 450-580 m. 25 Oct 1991. *J.L. Fernández A. & estudiantes 9280* (COL!). **Vaupés.** Vicinity of Bacaricura Mission, Río Paca. Headwaters of the Río Papurí. 6 Sep 1943. *P.H. Allen 3102* (COL!). **VENEZUELA. Terr. Fed. Amazonas.** Atabapo. Cerro Marahuaca. “Sima Camp”, south-central portion of forested slopes along eastern

branch of Caño Negro. 3°43'N 65°31'W. Alt. 1140 m. 21-22, 24 Feb 1985. *Steyermark & B. Hoist* (MO!).

**46.56. *Epidendrum stangeanum* Rchb.f.** (Figs 146).

*Gard. Chron.*, n.s., **15**: 462. 1881; TYPE: PANAMA. *F. Stange s.n.* (W-R). - Santiago & Hágsater in Hágsater & Sánchez, *Icon. Orchid.* **13**: pl. 1389. 2010. = *Epidendrum glandulosum* Ames, *Schedul. Orchid.* **7**: 5. 1924, non *Epidendrum glandulosum* (Kunth) Garay, *Caldasia* **8**: 523. 1962, *nom. illeg.* = *Cymbidium glandulosum* Kunth.

**Epiphytic**, repent, erect herb 6-20 cm tall. **Roots** 0.08-0.1 cm in diameter, fleshy, simple, from the base of the stem. **Rhizome** 1.5-3 cm long, elongate. **Pseudobulbs** 2.5-4.5 cm long, 0.2-0.5 cm wide, somewhat separated, arising from the 3-5<sup>th</sup> internode, fusiform, covered when young by striated imbricating sheaths. **Leaves** 4-10 cm long, 0.15-0.3 cm wide, one, apical, (sometimes another from the upper sheath) semi-terete, linear, acute, apiculate, flattening with age, fleshy, sulcate. **Spathaceous bract** lacking. **Inflorescence** 1.5-5 cm long, apical from the mature growth, racemose, shorter than the apical leaf, peduncle 1.5-5 cm long. **Flowers** 4-15, non-resupinate, greenish, the segments sometimes reddish outside. **Floral bracts** 1.5-4 mm long, 0.7-1 mm wide, triangular, acuminate, shorter to about as long as the ovary. **Ovary** 4-5 mm long, 0.5-0.6 mm wide, thin, glandulose, with scarce bi- and tri-septate hairs. **Sepals** 4.5-5 mm long, 1.2-2 mm wide, partly spreading, lanceolate, acuminate, the laterals somewhat oblique, fleshy, externally somewhat glandulose, internally glabrous, 3-4-veined. **Petals** 4.5-5 mm long, 0.4-0.5 mm wide, partly spreading linear-acuminate, 1-veined, margin entire, spreading. **Lip** 2.5-3.7 mm long, 2.5-3.7 mm wide, united to the column, ovate to widely ovate, apex triangular-acuminate, margin entire, spreading; ecallose. **Gynostemium** 2-3 mm long, straight,



Fig. 146. Distribution of *Epidendrum stangeanum* Rchb.f. in Valle del Cauca.

thick, with a triangular tooth on each side of the apex. Clinandrium-hood reduced, entire. Rostellum near the apex of the column, slit. Anther ovoid, with an apical sinus, 2-celled. Pollinia 2, apically sulcate, produced by the partial fusion of unequal pairs, ovoid, laterally compressed, caudicles granulate, slightly longer than the pollinia; viscidium semi-liquid.

**HABITAT:** Pacific lowland forest; near sea level to 700 m de altitude.

**FLOWERING SEASON:** July to December.

**GENERAL DISTRIBUTION:** Ecuador, Colombia, Panama, Costa Rica, Nicaragua, Guatemala.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Buenaventura. *Lehmann 441* (K!), Micay-Cajambre. *Lehmann 192* (K!).

### *Epidendrum leucochilum*-group

Caespitose, cane-like stems, prominent spathaceous bract, racemose inflorescence with large star-like flowers, sepals and petals green, lip white.

#### Key to species

1. Middle lobe of the lip linear-lanceolate to elliptic-lanceolate. . . . . 46.58. *E. leucochilum*
1. Middle lobe of the lip triangular . . . . . 46.57. *E. lacustre*

#### 46.57. *Epidendrum lacustre* Lindl. (Figs .....; Photo.....).

Fol. Orchid. 3: 50. 1853; TYPE: VENEZUELA. In the province of Merida. On half-submersed rotten trees in the marshes of Laguneta. Alt. 8000 ft. *Linden 684* (K!). - Foldats in Lasser, Fl. Venezuela, Orchid. 15(3): 295-297. 1970. - Hágsater in Hágsater & Sánchez, Icon. Orchid. 11: pl. 1135. 2008.

= *Epidendrum leucochilum* Lindl., Orchid. Linden.: 8. 1846, *nom. illeg.*  
= *Epidendrum obesum* Ames, Schedul. Orchid. 2: 31. 1923.

**Epiphytic or lithophytic**, sympodial, caespitose plants, 30-180 cm tall or more. **Stems** 15-40 cm long, 0.5-1.3 cm wide, simple, cane-like, laterally compressed to ancipitose, base covered by 2-3 leafless sheaths. **Leaves** 3-13, 4-23 cm long, 2-7.5 cm wide, distributed throughout the stem, distichous, sometimes imbricating, subcoriaceous, smooth, ovate-elliptic, bilobed to retuse, pale green, rarely dorsally somewhat tinged purple, margin entire; sheaths 3-7 cm long, ancipitose, smooth. **Spathaceous bracts** 1-2, rarely 3, 6-18 cm long, (2)3-7 cm wide, conduplicate, oblong, prominent, rounded. **Inflorescence** 15-40 cm long, apical, from the mature growth, flowering only once, racemose, erect; peduncle 7-20 cm long, slightly longer than the spathaceous bracts, terete, smooth.

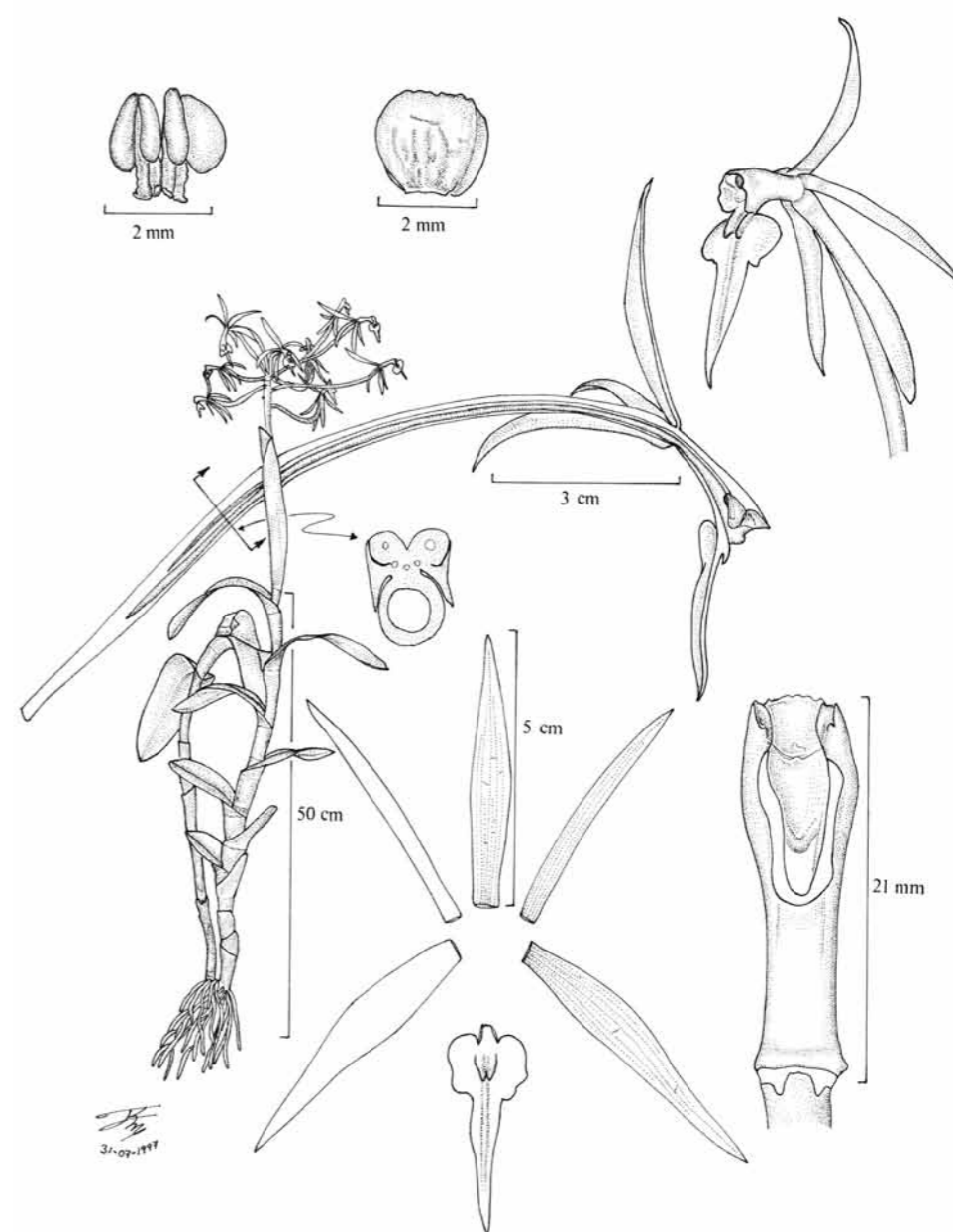


Fig. 147. *Epidendrum lacustre* Lindl. (L. Sánchez S., J. García-Cruz, D.E. Mora & O. Rodríguez 432, AMO – drawn by R. Jiménez Machorro).

**Flowers** (3)5-15(30), resupinate, simultaneous, sepals and petals green, pale green or yellow-ish green, lip, calli and gynostemium white, the apex of the lip rarely green; fragrance of *Garde-*



Fig. 148. Distribution of *Epidendrum lacustre* Lindl. in Valle del Cauca.

*nia*. **Floral bracts** 2-4 mm long, much shorter than the ovary, triangular, acute. **Ovary** 70-140 mm long, terete, noninflated, smooth. **Sepals** 30-60 mm long, 4-8 mm wide, free, spreading to slightly reflexed, glabrous, linear-lanceolate, acuminate to acute, 7-veined, with a pair of secondary veins so as to appear 9-veined, margin entire, revolute; lateral sepals oblique. **Petals** 34-50 mm long, 3-5 mm wide, spreading, linear-lanceolate, acuminate, 3-veined, with secondary veins so as to appear 5-veined, margin entire. **Lip** 20-60 mm long, 10-20 mm wide, united to the gynostemium, depressed in natural position, 3-lobed, base truncate, margin entire; lateral lobes 5-9 mm long, 4-5 mm wide, semiorbicular to dolabriform; middle lobe 10-22 mm long, 2-4 mm wide, triangular, acuminate, sometimes reflexed; bicallose, calli prominent, conical; disc with a central keel, prolonged onto the middle lobe. **Gynostemium** 20-30 mm long, 2.5-4 mm wide, slightly arching, dilated along the apical half. Clinandrium short, margin erose. **Nectary**

penetrating nearly the whole of the ovary, thin, smooth. **Capsule** ellipsoid, with a short pedicel and a long apical neck.

**HABITAT:** Edges of wet montane forest; at about 2000 m alt.

**FLOWERING SEASON:** December-January.

**GENERAL DISTRIBUTION:** Peru, Ecuador, Colombia, Venezuela, Costa Rica, Nicaragua, Honduras.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cali.** Km 18. Alt. about 2000 m. 16 Dec 2010. *M. Kolanowska* 200 (COL, UGDA! – flower in spirit); The same loc. 27 Dec 2010. *M. Kolanowska* s.n. (photo!); Km 18 Cali-Buenaventura („Kilometro Diez y Ocho”). 3°32'N 76°38'W. Alt. 2000 m. *Dodson & H. Hills* 3132 (SEL!).

**OTHER SPECIMENS EXAMINED: COSTA RICA. Cartago.** Reserva Natural de Tapantí. Alt. 1300-1500 m. *L. Sánchez, J. García-Cruz, D.E. Mora & O. Rodríguez* 432 (AMO!).

**46.58. *Epidendrum leucochilum* Link, Klotzsch & Otto (Figs 150, 151; Photo 81).**

Allg. Gartenzeitung **11**: 145. 1843; TYPE (Hágsater & Saldaña 2009): VENEZUELA. Caracas. Chacao. Alt. 4500 ft. *Otto* s.n. (B†), N of Mérida. col. 1976. *L. Latta*. Pressed 30 Mar 1983. *Hágsater* 5938 (NEOTYPE: VEN); pressed 22 Mar 1984 (CLONONEOTYPE: AMO!). - Foldats in Lasser, Fl. Venezuela, Orchid. **15**(3): 301-304. 1970. - Dunsterville & Garay, Orchid. Venezuela **1**(A-G): 246. 1979.

= *Epidendrum longiflorum* Kunth in Humboldt, Bonpland & Kunth, Nov. Gen. Sp. **1**: 354. 1816, *nom. illeg.*

= *Epidendrum flavidum* Lindl., Orch. Lind. **8**: 1846.

= *Epidendrum spectatissimum* Rchb.f., Bonplandia (Hanover) **3**: 68. 1855.

= *Epidendrum splendidum* Schltr., Repert. Spec. Nov. Regni Veg., Beih. **8**: 87. 1921.

Usually **terrestrial**, sometimes **epiphytic** plants, up to about 120 cm tall. **Stems** numerous, simple, aggregate, more or less erect, covered with tubular sheaths about 3.1 cm. long, 1-1.5



Fig. 149. *Epidendrum leucochilum* Link, Klotzsch & Otto (*Hágsater* 5938, AMO – no author).

cm wide. **Leaves** about 10-25 cm long, 2.7-7 cm wide, distichous, erect-patent, coriaceous, oblong to narrowly elliptic, obtuse, rounded or slightly notched at the apex, articulated and she-

athing at the base; sheaths about 3-7 cm long, coriaceous, persistent, tubular, applied longitudinally grooved. **Inflorescence** about 20-40 cm long, apical, racemose, cylindrical, basal part of



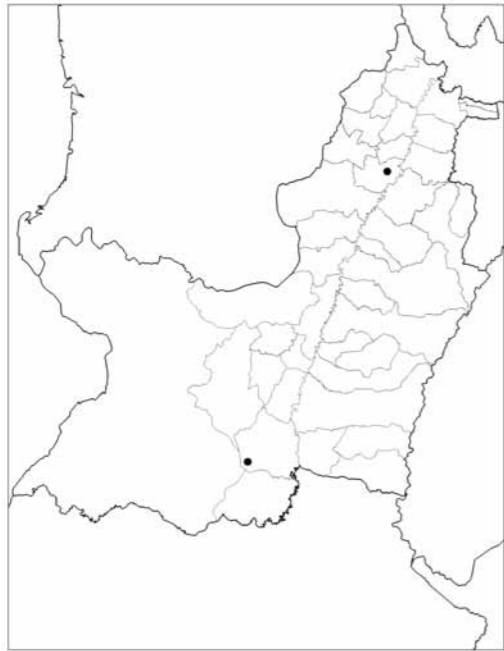


Fig. 150. Distribution of *Epidendrum leucochilum* Link, Klotzsch & Otto in Valle del Cauca.

the peduncle coated with one or two spathes. **Spathe** about 5.5-12 cm long, 1-2.5 cm wide, external (or the only one) fleshy, compressed, obtuse or subacute. **Flowers** large (one of the largest among the genus) with sepals and petals greenish-yellow and white lip and gynostemium. Floral bracts about 5-12 mm long, membranous, triangular, acuminate or subulate-acuminate. Pedicellate ovary about 50-120 mm long. **Sepals** about 30-50 mm long, 5-9 mm wide, more or less similar, fleshy, patent, linear-lanceolate to linear-oblongate, acute or acuminate; lateral sepals somewhat oblique, slightly wider than the dorsal sepal. **Petals** equal or slightly shorter than the sepals, about 3-8 mm wide. **Lip** about 22-32 mm long, between the apices of the lateral lobes 20-28 mm wide, connate to the apex of the gynostemium, free part dilated and patent, 3-lobed; lateral lobes about 7-12 mm long, 11-16 mm wide, somewhat dolabriform, oblique-orbicular or subovate-rhombic, linear-lanceolate; middle lobe about 16-29 mm long, 4-7 mm wide,

linear-lanceolate to elliptic-lanceolate, acute or acuminate; base of lamina with two conspicuous calli, bilobed or somewhat denticulate, with longitudinal bonded keel. **Gynostemium** about 18-24 mm long, nearly straight, completely connate to the basal part of the lip, rather dilated towards apex, apex truncate, denticulate and winged.

**HABITAT:** Montane wet forest; about 1984-2000 m alt.

**FLOWERING SEASON:** September, November.

**GENERAL DISTRIBUTION:** Peru, Ecuador, Colombia, Venezuela.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cali.** Cordillera Occidental Los Farallones de Cali; entro de los bosque restados a la larga de la quebrada de Pato. 4-6 Km al occidente & arriba del pueblo de Pance. Alt. 2000 m. 10 Sep 1976. *Hartman 484* (CUVC!). **Mpio. Roldanillo.** Hacienda Argelia, Vereda Pedregosa; vertiente oriental, Cordillera Occidental. 04°25'33"N 76°13'34"W. Alt. 1984 m. 2 Nov 2008. *J.C. Bermúdez 24* (CUVC!).

**OTHER SPECIMENS EXAMINED: ECUADOR.**

**Cotopaxi.** Quevedo Km 56. Alt. 3200 ft. Preparado de material cultivado 9 Aug 1986. *Hágsater 7579* (AMO!); Km 37. Quevedo-Latacunga. Montane cloud forest. Alt. 600-1500 m. Coll. 4 Sep 1984, preparado de material cultivado 18 Sep 1986. *Thurston T. 3388 sub Hágsater 7707* (AMO!).

**Pichincha.** Alaloga-Sto. Domingo, Km 42.6, cerca de Tandapí. Alt. 6700 ft. Preparado de material cultivado 7/13 Aug 1983. *Hágsater, W. & B. Thurston, L. Latta 7565* (AMO! x 2); The same loc. Preparado de material cultivado 11 Jun 1988. *Hágsater, W. & B. Thurston, L. Latta 7569* (AMO!). **COLOMBIA. Cauca.** Popayán. Fecha de prensado de material cultivado 28 May 1999. *Colomborquídeas sub Hágsater 11649* (AMO!).

#### *Epidendrum macrostachyum*-group

Stems branched in the upper part, inflorescence racemose or distichous, erect, spathe absent. Seven species of this group occur in

the Department of Valle del Cauca, another is expected.

#### Key to species

1. Inflorescence distichous . . . . . 2
1. Inflorescence non-distichous, cylindrical (*Macrostachyum*-subgroup) . . . . . 4
2. Inflorescence erect (*Aquaticum*-subgroup) . . . . . 3
2. Inflorescence nutant (*Elleanthoides*-subgroup) . . . . . 46.60. *E. hesperium*
3. Inflorescence simple . . . . . 46.65. *E. rugulosum*
3. Inflorescence paniculate . . . . . 46.62. *E. lindae*
4. Inflorescence short (ca. 3 cm long), few-flowered (3-4 flowers), leaves narrow, oblong-elliptic, the apex rounded . . . . . 46.63. *E. platystachyum*
4. Inflorescence long (7-16 cm long), many-flowered (12-40 flowers); leaves narrowly elliptic to elliptic, the apex acute or acuminate . . . . . 5
5. Flowers successive, olive-brown, like mature olives; mature inflorescence 31-36 cm long (Cordillera Central) . . . . . *E. macrostachyum* (unconfirmed)
5. Flowers simultaneous, yellowish green or yellow; inflorescence 8-15 cm long (Cordillera Occidental) 6
6. Inflorescence dense, with ca 40 flowers; lip widely deltate, wider than long, base widely cordate . . . . . 46.64. *E. polyanthostachyum*
6. Inflorescence lax, with 5-24 flowers; lip deltate, proportionately as wide as it is long, base truncate . . . . . 7
7. Apex of the leaves acuminate; petals linear, acute, 1.0-1.3 mm wide; column with a pair denticulate wings, arching upwards. . . . . 46.59. *E. grammipetalostachyum*
7. Apex of the leaves acute; petals elliptic, obtuse, 6 mm wide; column with a pair of non-denticulate wings. . . . . 46.61. *E. bumeadorensis*

#### 46.59. *Epidendrum grammipetalostachyum* Hágsater (Figs 152, 153; Photos 82-83).

Icon. Orchid. 14: Pl. 1433. 2013; TYPE: COLOMBIA. VALLE DEL CAUCA. Al entrar al cañón del río debajo de Queremal. Alt. 1180 m. Pressed cult. 8 Oct 1984. *Hágsater, Dressler & Folsom 7406* (HOLOTYPE: AMO!).

**Terrestrial**, monopodial, branching herb, 50-150 cm tall. **Roots** 0.1-0.3 cm in diameter, scarce at the base of the main stem, from the basal internodes, fleshy, thin. **Stems** - the main stem to 56-150 cm tall, 0.3-1 cm wide; the branches 3.5-9.5 cm long, 0.3-1 cm wide, cane-like, terete, thin, erect, straight, base covered by non-foliar sheaths 3.6-4.2 cm long, 0.6-1 cm wide, tubular. **Leaves** 14-20 on the main stem, 8-9 on the branches, distributed throughout the stems, articulate, alternate, subcoriaceous, unequal in size, (the apical and basal leaves smaller); sheath 5-30 cm long, 0.4-1 cm wide, tubular, minutely striated, rugose; blade of the main stems 9.5-11.5 cm long, 2.3-4 cm wide; of the branches (2)5.3-9.5 cm long, 0.8-1.2 cm wide, narrowly elliptic, acuminate, margin entire. **Spathaceous bract** lacking. **Inflorescence** 7-13 cm long, apical, racemose, erect, flowering only once, cylindrical, laxly few-flowered; peduncle 0.5-1 cm long, terete, thin, straight, rachis 6.5-11.5 cm long, terete, straight. **Flowers** 12-24, simultaneous, non-resupinate, fleshy, yellowish green, with calcium oxalate crystals which become evident when flowers dry; fragrance not registered. **Floral bracts** 5-8 mm long, 3.5-4.5 mm wide, prominent, as long as the ovary, triangular ovate, acuminate, amplexicaul. **Ovary** 7-10 mm long, short, terete, thick, longitudinally striated. **Sepals** free, ovate-elliptic, acute, minutely apiculate, 5-veined, margin entire; the dorsal sepals 8-11 mm long, 2.8-5 mm wide, spreading; lateral sepals 9-12 mm long, (4.7)6-7.5 mm wide, partly spreading, slightly oblique. **Petals** 8-10 mm long, 0.6-1.3 mm wide, free, spreading, linear, acute, 1-veined, margin entire, spreading. **Lip** 6-10 mm long, 7-12 mm wide, united to the

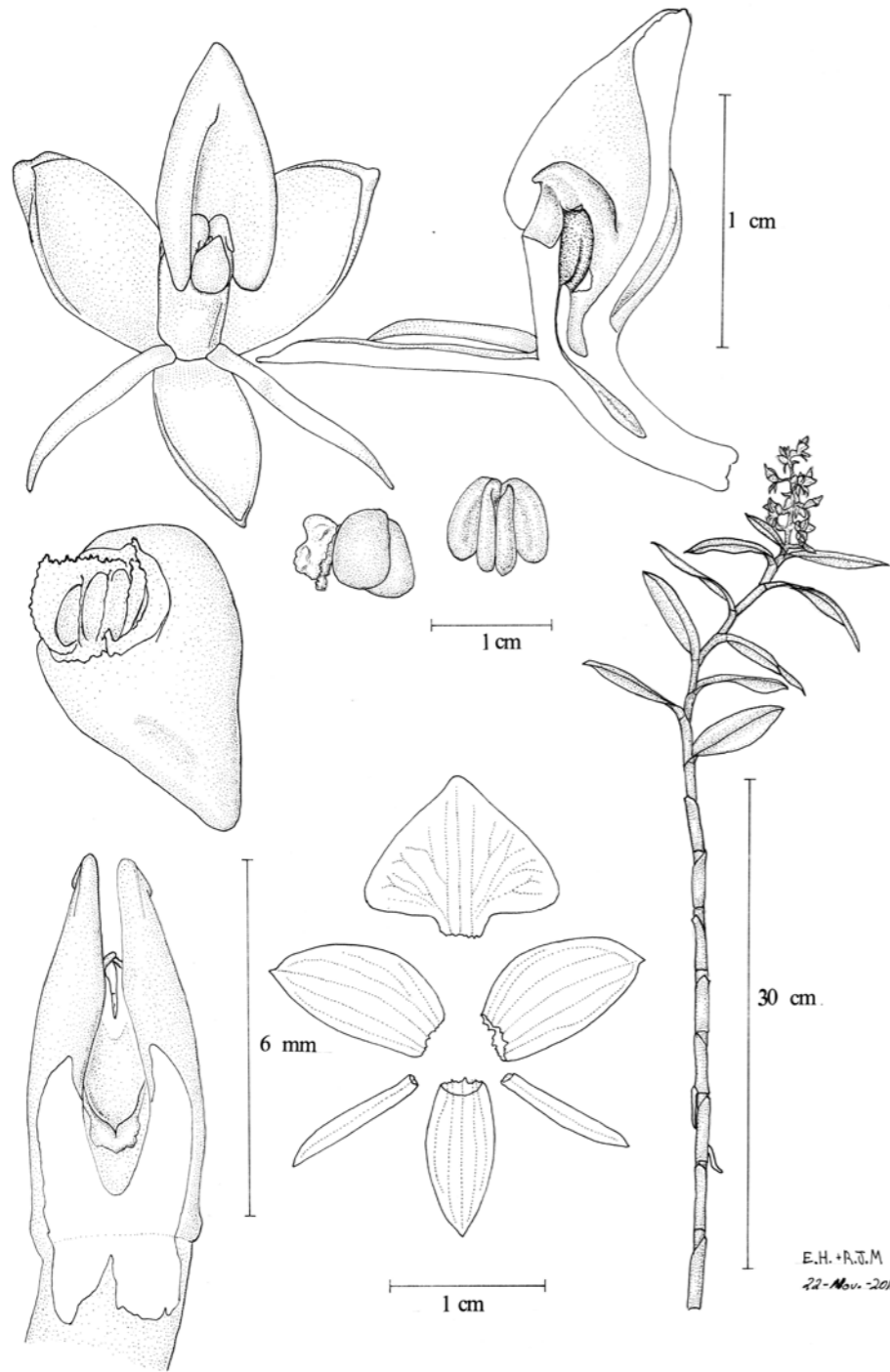


Fig. 151. *Epidendrum grammipetalostachyum* Hágsater (Hágsater, Dressler & Folsom 7406, AMO – drawn by E. Hágsater).

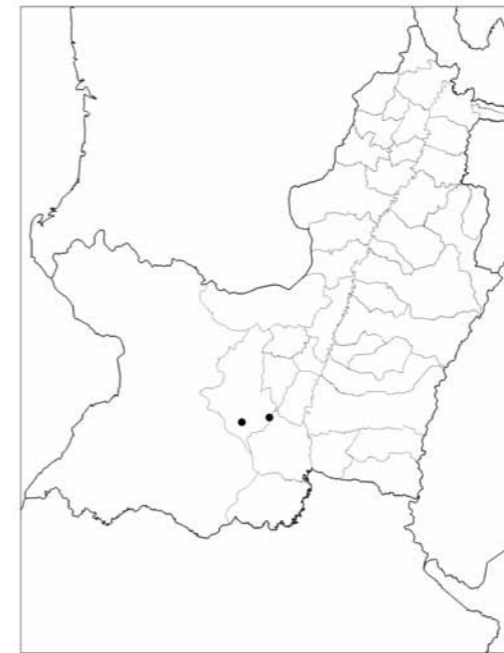


Fig. 152. Distribution of *Epidendrum grammipetalostachyum* Hágsater in Valle del Cauca.

column, entire, very fleshy, deltate, base truncate, apex obtuse, scabrous, scarcely pubescent in front of the column, conduplicate in natural position, embracing the apex of the column, margin entire, spreading. **Gynostemium** 6-8 mm long, short, thick, straight, the apex with a pair of prominent, rounded wings, with an upturned tooth. Clinandrium-hood reduced, margin entire. Anther obovoid, 4-celled. Pollinia narrowly obovate, somewhat laterally compressed; caudicles soft and granulate, as long as the pollinia. Rostellum subapical, slit. Lateral lobes of the stigma prominent, occupying 1/3 of the stigmatic cavity. **Nectary** shallow, without penetrating the ovary, not inflated, pubescent in front of the stigmatic cavity. **Capsule** not seen.

**HABITAT:** Unknown; at 600-1200 [1900-2000] m alt.

**FLOWERING SEASON:** January, October.

**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE**

DEL CAUCA: **Mpio. Buenaventura.** Km 18 de la carretera Cali-Buenaventura. 5 Jan 1980. *I. Guarín* O. 4 (VALLE! x 2); Al entrar al cañón del río debajo de Queremal. Alt. 1180 m. Pressed cult. 8 Oct 1984. Hágsater, Dressler & Folsom 7406 (AMO!).

**OTHER SPECIMENS EXAMINED: COLOMBIA. Chocó.** Carretera Cartago-San José del Palmar, ca km 65. Alt. 1900-2000 m. 15 Nov 1978. Lozano 3078 (COL!).

**46.60. *Epidendrum hesperium* Hágsater & E. Santiago (Figs 154, 155; Photo 84).**

Icon. Orchid. 7: t. 743. 2004; TYPE: COLOMBIA. ANTIOQUIA. Carretera Briseño, El Oro. Alt. 1720 m. 1 Jun 1975. G. Escobar 1208 (HOLOTYPE: AMES!).

Branching plants. **Stems** about 27 cm long, 0.17 cm wide, branching, terete, thin, branches 3.5-7 cm long, 0.1-0.15 cm wide. **Leaves** 2-6.6 cm long, 0.24-0.4 cm wide, distributed throughout the apical half of the stems, narrowly lanceolate, dorsally carinate, apex acute, margin minutely crenate, slightly revolute; sheaths 0.9-1.8 cm long, 0.1-0.15 cm wide, striated and verrucose. **Inflorescence** up to 5 cm long, apical, racemose to rarely apiculate, occasionally 1-branched, erect or arching; peduncle 0.5-1.9 cm long, short, hair-like, with an acuminate bract near the apex; rachis 0.15-0.37 cm long, zigzag. **Flowers** up to 15, successive, distichous, reddish outside, pale green inside. **Floral bracts** 2-5 mm long, nearly as long as the ovary, gradually shorter, triangular, acuminate. **Ovary** about 2 mm long, short, terete, thin. **Sepals** about 7 mm long, 2.2 mm wide, free, partially spreading, narrowly elliptic, rounded, apiculate, 3-veined, lateral veins branching from the base, margin entire; lateral sepals oblique. **Petals** about 6.3 mm long, 0.6 mm wide, partially spreading, free, linear-ob-lanceolate, acute, 1-veined. **Lip** about 4.2 mm long, 4.6 mm wide, united to the gynostemium, fleshy, entire, suborbicular when spread, apex

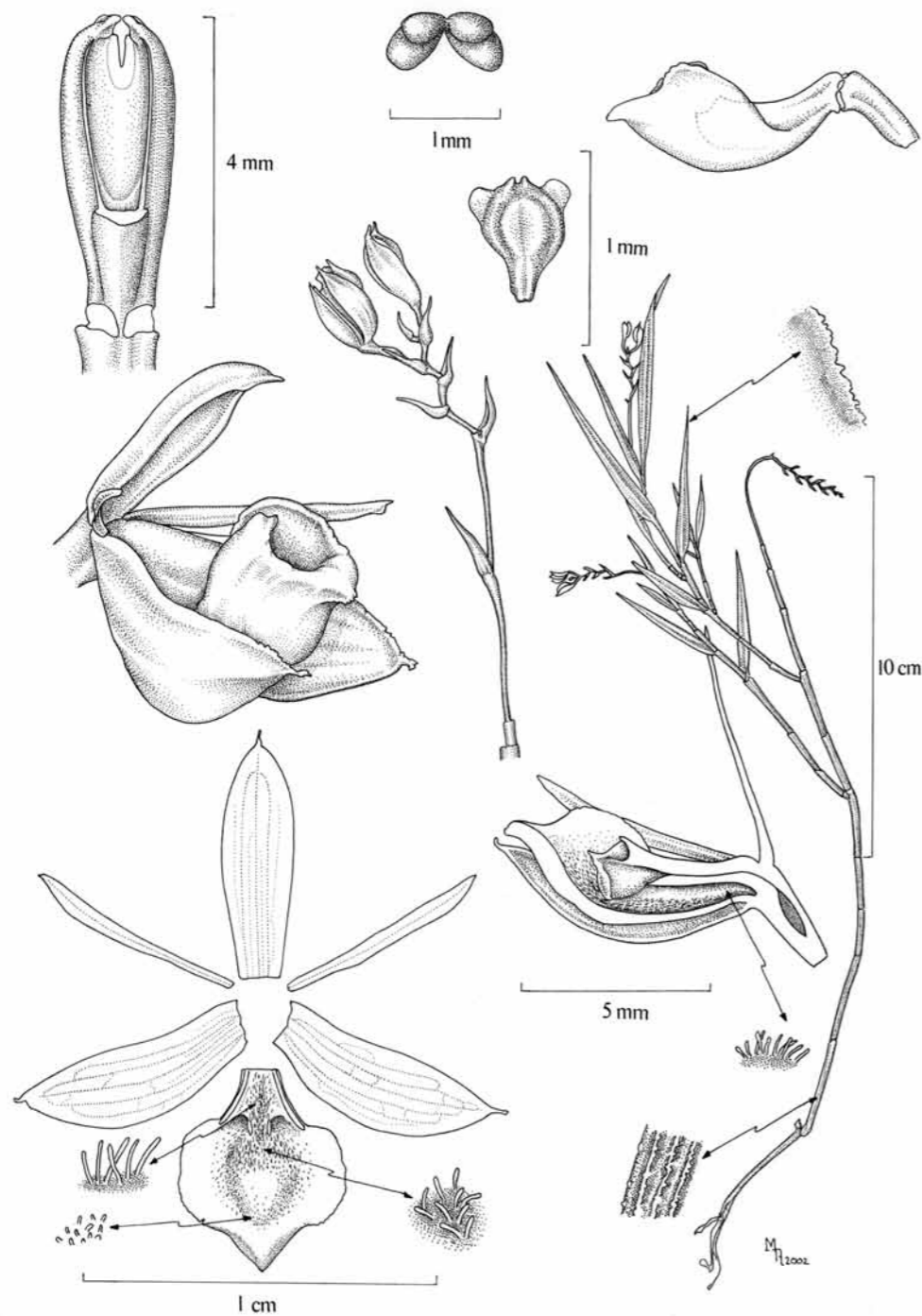


Fig. 153. *Epidendrum besperium* Hágsater & E.Santiago (*G. Escobar 1208*, AMES – drawn by M.A. López Rosas).



Fig. 154. Distribution of *Epidendrum besperium* Hágsater & E.Santiago in Valle del Cauca.

triangular, basal margin irregular, bicallose, calli basal, very small and narrow; disc pubescent at base and papillose towards the apex. **Gynostemium** about 4 mm long, thick, slightly incurved (arched upwards), somewhat geniculate at the base in relation to the ovary. Clinandrium hood reduced, entire. Anther ovoid, with a pair of rounded lobes at the basal corners, and a pair of horns at the base. **Nectary** not penetrating the ovary, the ventral surface pubescent.

**HABITAT:** Páramo and montane canyons, sometimes grows among bushes in humid areas; 1700–3600 m alt.

**FLOWERING SEASON:** November.

**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mun. El Cairo.** Reserva natural cascadas de San Antonio. Alt. 1730 m. 15 Nov 2011. *García-Ramírez 106* (CUVCI); Cordillera Occidental: Los Farallones, filo de la Cordillera extremo N en el cerro Alto del Buey. Alt. 3500–

3600 m. *Cuatrecasas 17898* (AMES!, VALLE!).

**OTHER SPECIMENS EXAMINED: COLOMBIA.**

**Antioquia.** Carretera Briseño, El Oro. Alt. 1720 m. 1 Jun 1975. *G. Escobar 1208* (AMES!). **Chocó.** San José del Palmar, Cerro del Torrá. Alt. 1875–1905 m. 6 Jan 1984. *Silverstone-Sopkin & Nestor Paz 4237* (CUVCI).

**46.61. *Epidendrum humeadorensis* Hágsater & Dodson (Figs 156, 157; Photo 85).**

Icon. Orchid. 3: pl. 335. 1999; TYPE: ECUADOR. CARCHI. Mpio. Tulcán. Km 18 de Maldonado hacia Tulcán, pasando la cascada “La Humeadora”, abajo de El Laurel. Alt. 2295 m. 30 Apr. 1993. *Hágsater, Dodson, Williams, Whitten, A. Embree, F. Stevenson & R. Chandler 11289* (HOLOTYPE: QCNE!; ISOTYPES: AMO!, COL!, MO!).

**Terrestrial**, monopodial herb, ca 150 cm tall. **Roots** 0.25 cm in diameter, fleshy, from the base of the main stem. **Stems** erect, branching subapically with age, terete; the main stem ca 60 cm long, 1 cm wide, the branches 19–20 cm long, 0.7–1 cm wide. **Leaves** numerous, distributed throughout the stem, the basal ones deciduous, 5–6 on the branches, the lower and apical one shorter; sheath 6 cm long, tubular, minutely rugose, striated; blade 8.5–14 cm long, 1.9–2.5 cm wide, narrowly elliptic-lanceolate, acute, margin minutely erose-denticulate. **Spathaceous bract** lacking. **Inflorescence** 8–13 cm long; apical, from the main stems and branches, erect, racemose, flowering only once; rachis sinuous. **Flowers** 5–7, non-resupinate, simultaneous, fleshy, yellowish green; fragrant of jasmine and geraniol. **Floral bracts** 7–17 mm long, 8–14 mm wide, shorter or equal to the ovary, progressively shorter, ovate, margin undulate, finely erose. **Ovary** 7–17 mm long, not inflated, terete, unornamented. **Sepals** 12–20 mm long, 7–12.5 mm wide, spreading, the apical half reflexed, elliptic, obtuse, fleshy, with a low rounded knob at the apex; lateral sepals oblique. **Petals** 11–18 mm long, 3.5–6.5 mm wide, recurved, elliptic, obtuse,

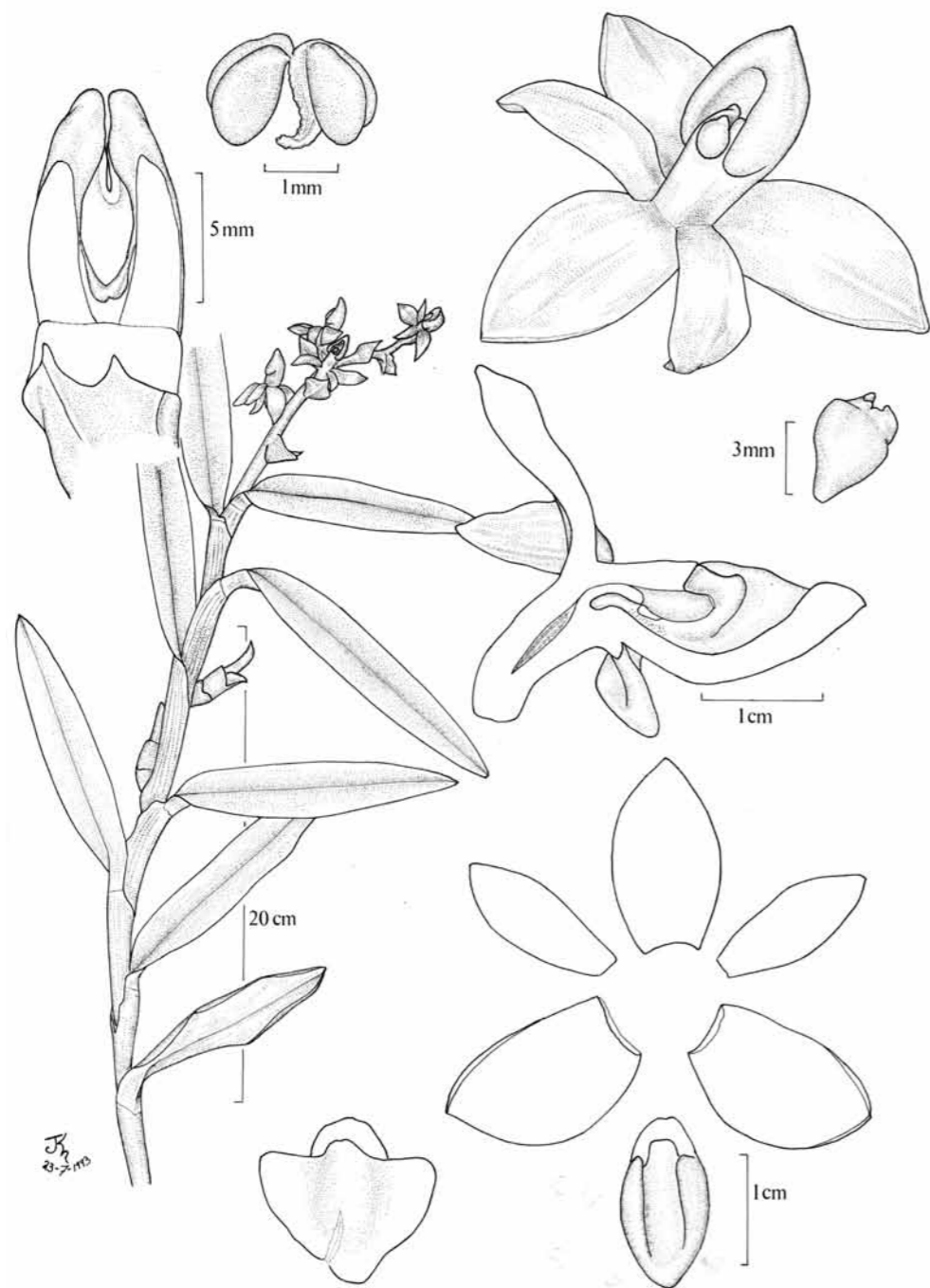


Fig. 155. *Epidendrum bumeadorensis* Hágsater & Dodson (Hágsater, Dodson, Williams, Whitten, A. Embree, F.L. Stevenson & R.M. Chandler 11289, QCNE – drawn by R. Jiménez Machorro).



Fig. 156. Distribution of *Epidendrum bumeadorensis* Hágsater & Dodson in Valle del Cauca.

with a low rounded rib towards the apex, fleshy. **Lip** 9-13 mm long, 12-18 mm wide, united to the column, entire, widely triangular, obtuse, very fleshy, cannot be flattened without breaking it, embracing the column; ecallose. **Gynostemium** 9-12 mm long, straight, thick, with an apical up-turned tooth on each side. Anther ovoid, acute, 4-celled. Pollinia 4, obovoid, laterally compressed; caudicles soft and granulose, longer than the pollinia. Rostellum subapical, slit. Lateral lobes of the stigma reduced. **Nectary** not penetrating beyond the perianth, ornamented with scarce pubescence opposite the stigmatic cavity. **Capsule** not seen.

**HABITAT:** Terrestrial amongst other shrubs in montane and cloud forest; at about 2300 m alt.

**FLOWERING SEASON:** April-May.

**GENERAL DISTRIBUTION:** Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Dapa.** *Sine loc.* Pérez Escobar 861 (AMO! - digital image of live plant).

**OTHER SPECIMENS EXAMINED:** **ECUADOR.**

**Carchi.** Tulcán-Maldonado. Hirtz & al. 5632 (RPSC!).

46.62. *Epidendrum lindae* Hágsater & Dodson (Figs 158, 159; Photos 86-87).

Icon. Orchid. 3: t. 345. 1999; TYPE: COLOMBIA. VALLE DEL CAUCA. Camino Cali-Anchicayá, El Querebral, Estación micronodas Tokio. Alt. 1900 m. 25 Apr 1983. Hágsater, Dressler & Folsom 7337 (HOLOTYPE: AMO!). - Santiago & Hágsater in Hágsater & Sánchez, Icon. Orchid. 13: pl. 1348. 2010.

**Terrestrial**, monopodial, branching, 60-120 cm tall herb. **Roots** basal. **Stems** up to 35 cm long, 0.6-0.8 cm (the main stem), the branches 8-14 cm long, 0.2-0.5 cm wide, cane-like, branching, terete, erect. **Leaves** 7-10.5 cm long, 2.2-3 cm wide (the main stem), 3-8 cm long, 1-2.2 cm wide (the branches), numerous throughout the main stem, articulate, alternate; 3-4 per branch, unequal in size (the basal leaf smaller); sheath tubular, minutely striated and rugose; blade oblong-elliptic, apex rounded, minutely apiculate, apical margin crenulate. **Inflorescence** 6-15 cm long, apical, flowering only once, paniculate to racemose, erect, distichous, lax, few-flowered, when paniculate with a bracts 0.8-1.3 cm long, at the base of each raceme similar to the floral bracts; peduncle 0.7-1.5 cm long, short, provided with a basal bract; rachis 4-8 cm long, sinuous, triquetrous, papillose. **Flowers** 10-24, fleshy, non-resupinate, successive, (though 3-11 may be open simultaneously), sepals, petals and basal half of the column green, lip and apical half of the column white. **Floral bracts** 4-10 mm long, much longer than the ovary, at a right angle to the rachis, somewhat recurved. **Ovary** 2-3 mm long, short, thick, triquetrous, ornamented with 6 prominent, longitudinal, winged keels, minutely and scarcely papillose. **Sepals** free, fleshy, concave, 5-veined, the dorsal surface scarcely ornamented with small warts, margin entire; dorsal sepal 6 mm long, 2-3 mm wide, partly spreading,

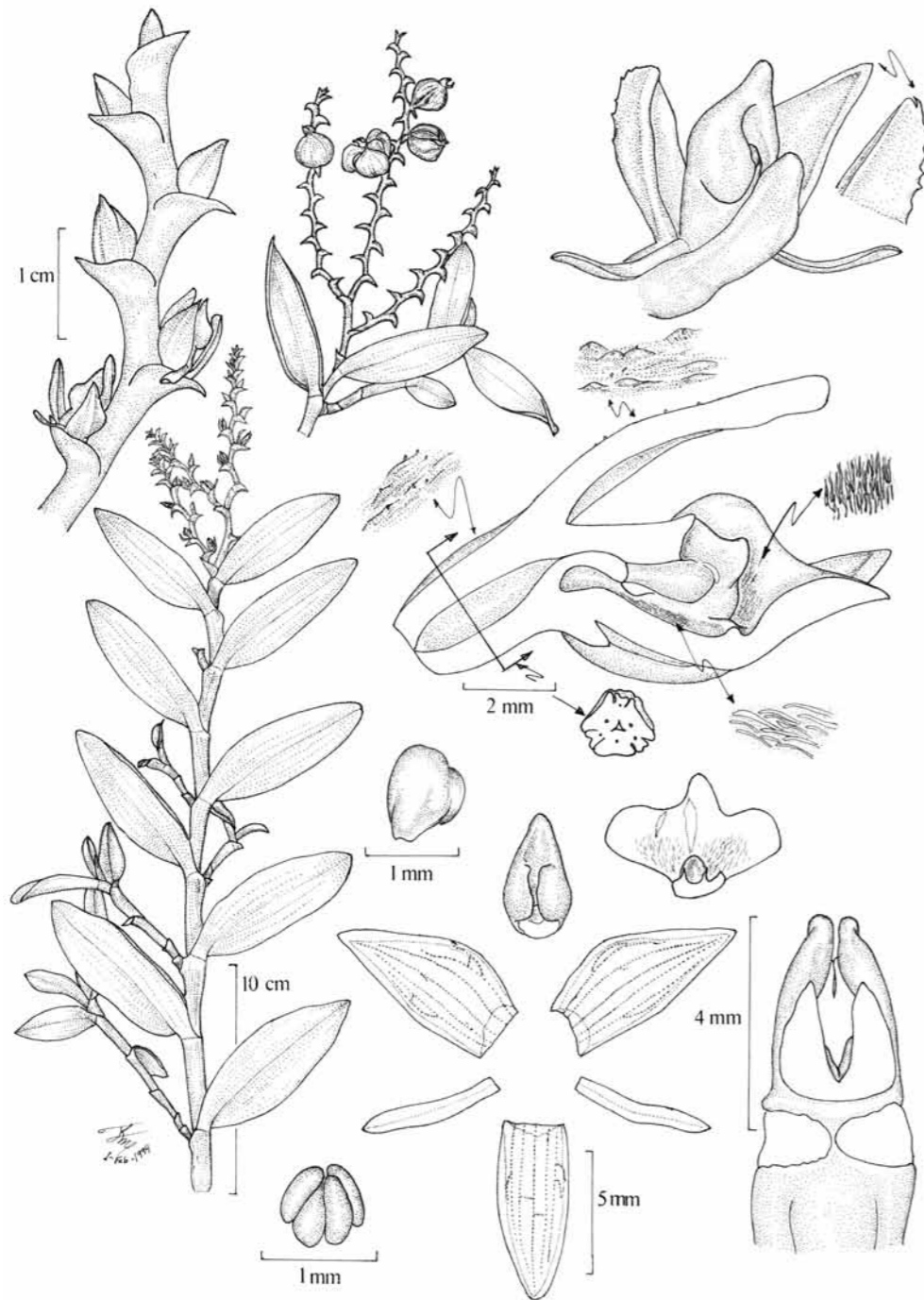


Fig. 157. *Epidendrum lindae* Hágsater & Dodson (*Hágsater, Dressler & Folsom 7337*, AMO – drawn by R. Jiménez Machorro).



Fig. 158. Distribution of *Epidendrum lindae* Hágsater & Dodson in Valle del Cauca.

oblong-lanceolate, obtuse; lateral sepals 7 mm long, 3-4 mm wide, partly spreading, ovate, acute, oblique, with a low dorsal keel. **Petals** 5 mm long, 0.8-1 mm wide, reflexed, linear, obtuse, fleshy, 1-veined. **Lip** 4-5 mm long, 7-8 mm wide, united to the column, 3-lobed, very fleshy, base cuneate, disc densely pubescent as well as the callus, margin entire; single keeled, the keel forming a fleshy, bisulcate platform; lateral lobes 4 mm long, 2 mm wide, subquadrate, embracing the column and totally covering it in natural position, when spread tearing at the union with the middle lobe; middle lobe 2 mm long and wide, triangular, obtuse. **Gynostemium** 4 mm long, short, straight, thick, with a triangular, oblique tooth on each side of the apex of the

column. Clinandrium-hood reduced, margin entire. Anther ovoid, apex truncate, 4-celled. Pollinia 4, obovoid, laterally compressed. Rostellum subapical, slit. **Nectary** shallow, just penetrating as far as the perianth, pubescent in front of the stigmatic cavity, the pubescent reclining and directed inwards. **Capsule** 15 mm in diameter, globose.

**HABITAT:** Wet montane forest; about 1900 m alt.

**FLOWERING SEASON:** April.

**GENERAL DISTRIBUTION:** Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Camino Cali-Anchicaya, El Queremal, estación de microondas Tokio. Alt. 1900 m. Preparado de material cultivado 25 Apr 1983. *Hágsater, Dressler & Folsom 7337* (AMO!).

**OTHER SPECIMENS EXAMINED: ECUADOR.**

**Carchi.** Mpio. Tulcán. Km 9 de Maldonado hacia Tulcán. 0°54'N 78°06'W. Talud, vegetación secundaria avanzada, terrestre. Alt. 2040 m. 1 May 1993. *Hágsater, C.H. Dodson, N.H. Williams, Whitten, A. Embree, F.L. Stevenson & R.M. Chandler 11331* (AMES!, AMO!, COL!, MO!, QCNE!). **COLOMBIA. Antioquia.** Mpio. Urrao. Parque Nacional Natural Las Orquideas. Vereda Calles. Alto de Palmitas, ca 1 km de la Cabaña de Calles del Inderena. 2 Dec 1993. *J. Pipoly & al. 17546* (MO!); Frontino, Nutibara, Río Cuevas. Alt. 1780 m. 23 Sep 1987. *Sánchez 1601* (COL!). **Cauca.** Mpio. El Tambo. Parque Nacional Munchique (por Las Fondas). *L. Albert de Escobar, J.I. Santa & F.J. Roldán 4376* (HUA!, MO!, NY!). **Chocó.** San José del Palmar, hacia el Galápagos. Alt. 1610 m. 11 Nov 1985. *Lozano 4925* (COL!). **Putumayo.** El Mirador-El Pepino. Alt. 1000-1900 m. 3 Aug 1961. *Fernández 5856* (COL!).

***Epidendrum macrostachyum* Lindl. (Fig. 160).**

Edwards's Bot. Reg. 31(Misc.): 70. 1845; TYPE: New Grenada [COLOMBIA]. Pan de Azucar, on the side of Tolima. Alt. 6000 ft. Linden 1279 (G!, K-L!, W-R! x 2), non *Epidendrum macrostachya* Thouars, Hist. Orchid.: t. 83. 1822 (= *Beclardia macrostachya* (Thouars) A.Rich., Monogr. Orchid. Iles de France Bourbon 79, t. 2. 1828).

**Terrestrial**, monopodial, branching herb, 60-150 cm tall. **Stems** branching when mature, cane-like, terete, erect, straight; main stem to 150 cm tall, 0.7-1.5 cm wide; branches shorter, 30-50 cm long, 0.7-1 cm wide. **Leaves** numerous on the main stem, distributed throughout, articulate, alternate, partly spreading, unequal in size (those of the main stem larger than those on the branches); sheath 1-4 cm long, 0.7-1.2 cm wide, tubular, minutely striated, rugose; blade (on main stem) 12.5-13 cm long, 3-3.5 cm wide; (on the branches) 2-7.5 cm long, 1.4-1.8 cm wide; lanceolate-elliptic, obtuse, margin entire, slightly revolute. **Sphathaceous bract** lacking. **Inflorescence** 16-30 cm long, apical, racemose, erect nearly throughout, sometimes the apex arching, flowering only once, pyramidal, densely many-flowered; peduncle very short, 0.8-1.7 cm long, subterete, erect, straight; with a tubular bract towards the middle, 1 cm long; rachis 15-28.5 cm long, terete, burgundy red. **Flowers** 15-34, opening in succession, with many eventually open at one time, non-resupinate, very fleshy, mature olive-colored, or brown-black; base of the column, anther and disc of the lip pale green; distributed helicoidally throughout the rachis; fragrance not registered. **Floral bracts** 8-18 mm long, 5-14 mm wide, prominent, slightly longer than the ovary (gradually diminishing in size towards the apex of the rachis), ovate-triangular, acute, amplexicaul, green. **Ovary** 8-12 mm long, terete, thick, longitudinally striated, not inflated, unornamented. **Sepals** 11-11.5 mm long, 5-6 mm wide, free, 5-veined, margin entire, spreading; dorsal sepal reflexed, elliptic, apex subobtuse; lateral sepals partly spreading, narrowly

ovate-elliptic, slightly oblique, obtuse, minutely apiculate, with a dorsal keel. **Petals** 10.5 mm long, 2 mm wide, free, spreading, linear-oblong, subobtuse, 3-veined, margin entire, spreading. **Lip** 7.3 mm long, 8 mm wide, united to the column, very fleshy, entire, widely cordiform, base slightly cordate, apex obtuse, widely apiculate; ecallose, without ribs, with a pair of very short blades in front of the column, glabrous, cymbiform in natural position, embracing the apex of the column, margin entire, spreading. **Gynostemium** 7 mm long, thin at the base, thickened towards the apex. Clinandrium-hood reduced, margin entire. Anther 4-celled, ovoid, apex obtuse. Pollinia 4, obovoid, unequal. Rostellum subapical, slit. **Nectary** shallow, without penetrating the ovary, not inflated, scarcely pubescent in front of the stigmatic cavity.

**HABITAT:** It grows among shrubs at 1800-3600 m alt.

**GENERAL DISTRIBUTION:** Ecuador, Colombia.

**SPECIMENS EXAMINED:** **COLOMBIA. Antioquia.** Mpio. Valdivia. Alto de Ventanas 145 km NE de Medellín, Finca la Soledad. Alt. 2000 m. 7 Jan 1994. *Callejas 11071* (MO!), Medellín. *Patin s.n.* (W-R 7088!), Ibid. *Patin s.n.* (W-R 14464!), Cerro del Padre Amaya, 10.2 km from Medellín-Santa Fé. Alt. 2990 m. 18 Mar 1987. *Zaruchi 4800* (MO!, SEL!). **Cauca.** Cordillera Central, vertiente occidental. Cabeceras del río Palo, quebrada del río López: Quebrada del Duende. Alt. 3400-3450 m. 3 Dec 1944. *Cuatrecasas 18949* (AMES!, MO!, VALLE!), Am Alto Obispo bei Popayán. Alt. 10000 ft. 18 May 1978. *Lehmann s.n.* (W-R 62238!), Branches on the Paramo de Guanacas. Alt. 3200-3600 m. *Lehmann 7601* (K-L!, L!, NY!), Mt. Pan de Azúcar, Cordillera Central. Alt. 3300-3600 m. 16 Jun 1992. *Pennell 7020* (AMES!, K-L!, NY!). **Huila.** Páramo de la Candelaria. Alt. 2370 m. 15 Jul 1975. *Díaz 598* (COL!), arriba de la Finca Palmira. Alt. 2100 m. 26 Sep 1984. *Contreras 4184* (COL!). **Nariño.** Cordillera de Pasto. Alt. 3000 m. *Lehmann 362* (G! W-R!). **Putumayo.** Carretera Sibundoy-Mocoa, Cordillera de Portachuelo. Alt. 2200 m. 8 Sep 1965. *Garvía-Barriga 18608* (AMES!, COL!).

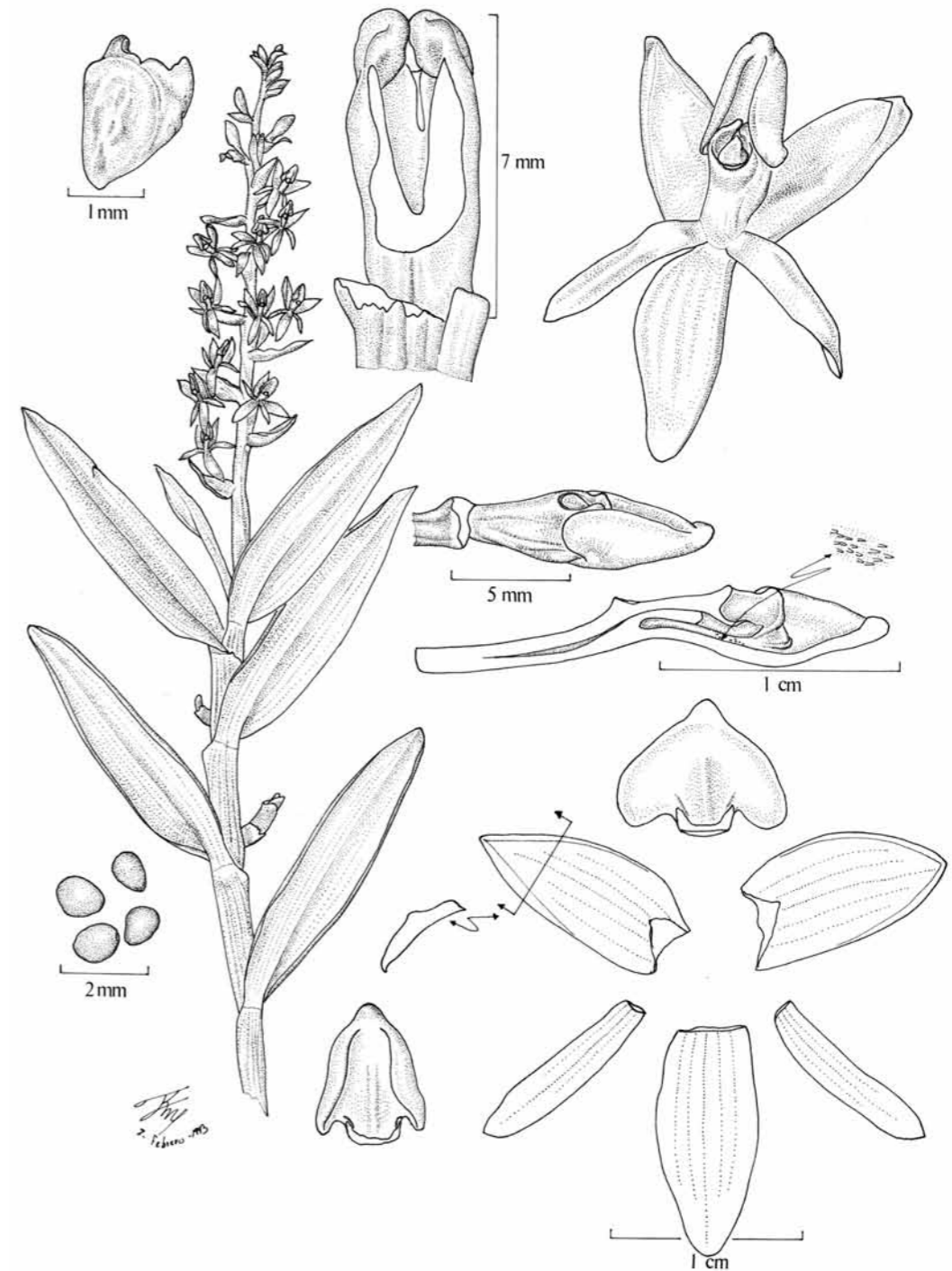


Fig. 159. *Epidendrum macrostachyum* Lindl. (F.W. Pennell 7020, AMES – drawn by R. Jiménez Machorro).

**Risaralda.** Mpio. Santuario. Apia, Vereda "Las Colonias". Alt. 2740 m. *Torres 1615* (COL!). **ECUADOR.** **Azuay.** Gualaceo, Carretera Gualaceo Loma de la Virgen-Limón Indanza, km 27. Alt. 3300 m. 19 Jul 2000. *Álvarez 2739* (QCNE!), Road Gualaceo-Limon, km 13. Alt. 3200-3300 m. 4 Mar 1985. *Harling 22723* (AMES!). **Loja.** Road Yangana-Valladolid, km 11. Alt. 2300 m. 23 Apr 1997. *Klitgaard 503* (LOJA!). **Morona-Santiago.** Gualaquiza, Road Cuenca to Gualaquiza, km 28. Alt. 3150 m. 16 Feb 1986. *Embree 13* (MO!, QCNE!). Camino Gualaceo-Limón ca. km 24. 21 Nov 1988. Alt. 3100 m. *Hágsater 9625* (AMES!, AMO! – illustration, QCNE!, SEL!), Road Gualaceo-El Limon. From the pass towards El Limon. Alt. 3200-3400 m. 8 Feb 1989. *Henk van der Werff 10539* (MO!, QCNE!, SEL! x 2), Campamento Achupalla, Cordillera del Cóndor, 15 km east of Gualaquiza. Alt. 2090 m. 21 Jul 1993. *Gentry 80313* (QCNE!). **Napo.** Parque Nacional Llanganates. Quebrada Yanacocha. Camino al Río Golpe. Alt. 3200 m. 10 Oct 1998. *Narvaez 245* (QCNE!). *Sine loc., François André s.n.* (K-L!).

**OTHER RECORDS:** **COLOMBIA.** **Tolima.** Nevado de Tolima. Parque los Nevados, camino Rancho-La Cueva, 3300-3400 m, *Milton Rincon s.n.* (digital image, AMO!). **ECUADOR.** Without locality data, *A. Hirtz 7847* (slide, AMO!).

**NOTE.** This name has been used for numerous species in this group from Colombia to Bolivia, but in fact the species is restricted to the Cordillera Central of Colombia from Antioquia to Cauca, and along the Cordillera Oriental in Ecuador. It is recognized by the successive flowers, which are produced from an elongate rachis over a long time. The flowers are dark ripe olive colored and the petals are ligulate, the sides parallel and relatively wide, though they seem to shrivel in dry specimens to appear very narrow. It is expected in eastern Valle del Cauca, along the Cordillera Central.

**46.63. *Epidendrum platystachyum* Hágsater** (Fig. 161-162; Photo 88).

Icon. Orchid. 7: t. 776. 2004; TYPE: COLOMBIA. ANTIOQUIA. Urrao, carretera entre Urrao y Carmen de Atrato. Alt. 2440 m. 14 Aug 1993. R. Escobar 5380 (HOLOTYPE: AMO!).

**Epiphytic**, caespitose, branching herb 40 cm tall. **Roots** basal. **Stems** 35 cm long, 0.4-0.5 cm (the main stem), the branches 5-17 cm long, 0.3-0.4 cm wide, erect, branching with age, cane-like, terete, erect. **Leaves** 3.5-6.5 cm long, 0.7-0.9 cm wide (the branches), narrowly elliptic-oblong, rounded, apical margins finely erose; sheath tubular, minutely striated and rugose. **Inflorescence** 1.5-3 cm long, apical, racemose, compact, rachis sinuous. **Flowers** non-resupinate, successive, ochre, base of the column green, apex white. **Floral bracts** 7-14 mm long, 8-10 mm wide, as long as the flower and very wide, progressively shorter, spreading, triangular-ovate, margins entire, apex finely erose. **Ovary** 4 mm long. **Sepals** partly spreading, elliptic, obtuse, fleshy, the dorsal 7.5 mm long, 5 mm wide; the lateral sepals 9 mm long, 5 mm wide. **Petals** 6.5 mm long, 2.5 mm wide, spreading, oblanceolate, obtuse. **Lip** 7.5 mm long, 6 mm wide, cymbiform, entire, cordate, rounded; ecallose. **Gynostemium** 5 mm long, straight, thick, apex rounded. Clinandrium hood obsolete, entire. Anther ovoid, acute, 4-celled. Pollinia 4, obovoid, laterally compressed, caudicles soft and granulose, viscidium semiliquid. Rostellum subapical, slit. **Nectary** not penetrating beyond the perianth, ornamented with elongate papillae opposite the stigmatic cavity.

**HABITAT:** Montane and cloud forest; at about 1900- m alt.

**FLOWERING SEASON:** August-January.

**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** Queremal Alt. ca 1900 m 21 Sep

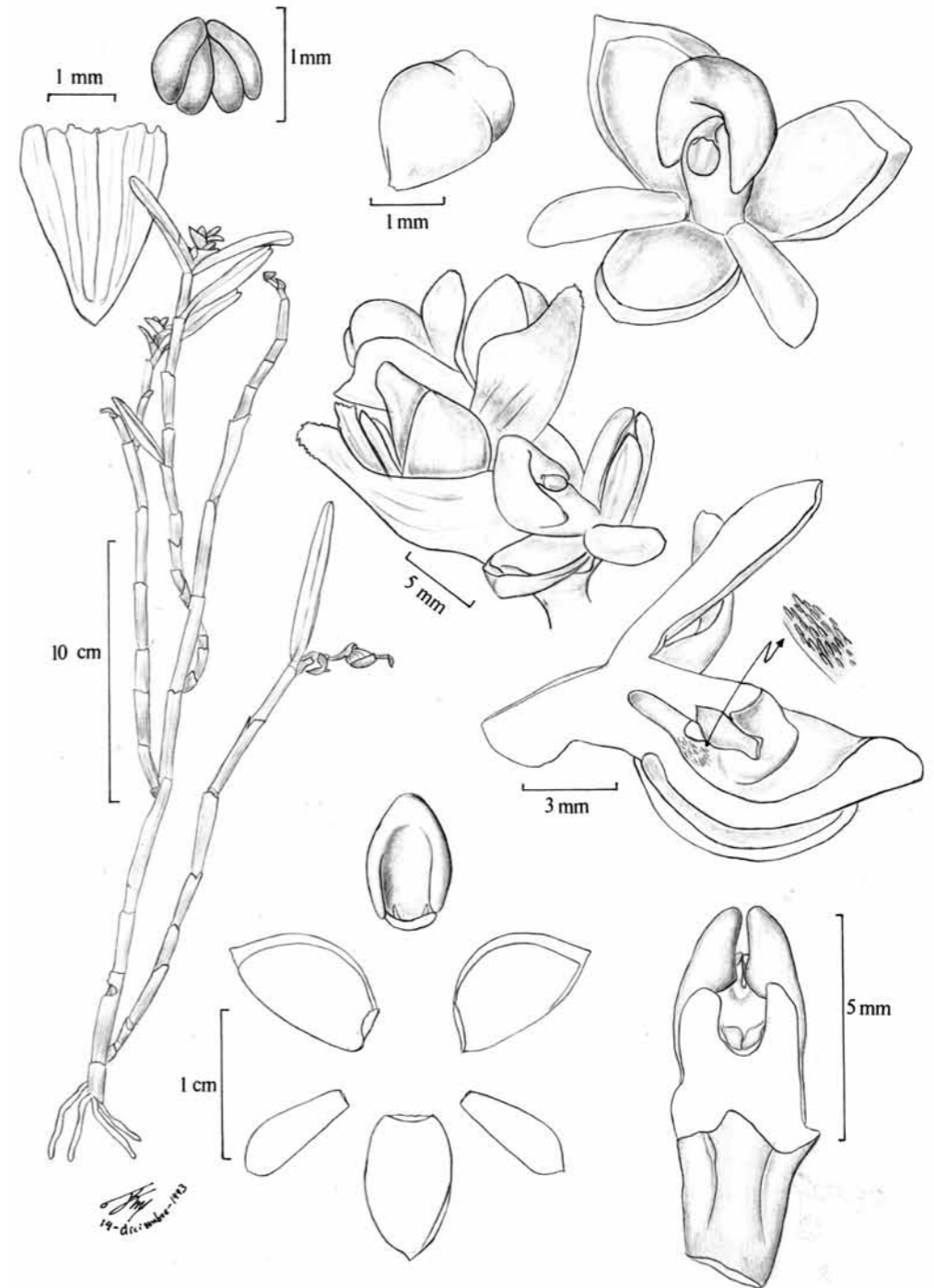


Fig. 160. *Epidendrum platystachyum* Hágsater (R. Escobar 5380, AMO – drawn by R. Jiménez Machorro).



Fig. 161. Distribution of *Epidendrum platystachyum* Hágsater in Valle del Cauca.

2012. C.Rincón-Useche, L.E. Ríos & L.Rodríguez 46 (VALLE!, AMO! - digital image).

OTHER SPECIMENS EXAMINED: **COLOMBIA.**  
**Antioquia.** Páramo de Frontino, El Río. Alt. 3115 m. 10 Sep 1984. *Londoño 368* (COL!). **Chocó.** Cerro del Torrá, Hoya del Río Negro. Alt. 1900 m. 19 Aug 1988. *J. E. Ramos & al. 1338* (CUVC!); Cerro del Torrá. Alt. 1970 m. 9 Jan 1984. *Silverstone-Sopkin & al. 1687* (MO!).

**46.64. *Epidendrum polyanthostachyum*** Hágsater, E.Santiago & García-Ramírez (Figs 163, 164; Photo 89).

Icon. Orchid. 14: Pl. 1477. 2013; TYPE: COLOMBIA. VALLE DEL CAUCA. Mpio. Dagua. 18 km below El Querebral on road to Anchicaya. Alt. 1100-1200 m. *Folsom 10451* (HOLOTYPE: AMO!).

**Terrestrial**, monopodial, branching herb, ca 85 cm tall. **Roots** 0.1-0.3 cm in diameter, produ-

ced from the base of the main stem, fleshy, thin, white. **Stems** branching when mature, cane-like, terete, erect, straight, the main stems ca 40 cm long, 0.5-1 cm wide, the branches ca 30 cm long, 0.5-0.8 cm wide; covered at the base by tubular sheaths 0.5-2.5 cm long, 0.8 cm wide, non-foliar, striated, rugose. **Leaves** more than 7 on the main stem, 9 on the branches, distributed throughout the main stem and the branches, articulate, alternate, subcoriaceous, unequal in size (the apical and basal leaf of the branches smaller); sheath 1-3.5 cm long, 0.5-1 cm wide, tubular, minutely striated, rugose; blade 3.5-9.5 cm long, 1.8-3 cm wide, all narrowly elliptic, acute, margin entire. **Spathaceous bract** lacking. **Inflorescence** 16 cm long, apical, racemose, erect, flowering only once, cylindrical, densely many-flowered; peduncle 2 cm long, subterete, thin, erect, straight; the base provided with a single bract similar to the floral bracts, 5 mm long; rachis 14 cm long, terete, straight. **Flowers** 35-40, simultaneous, non-resupinate, very fleshy, green (even pollinated), the flowers turn yellow and brown with age when not pollinated, with evident crystals of calcium oxalate when dry; fragrance not recorded. **Floral bracts** 5-6 mm long, 4-5 mm wide, as long as the ovary, triangular-ovate, short-acuminate, amplexicaul. **Ovary** 7 mm long, short, terete, thick, longitudinally striated. **Sepals** 10 mm long, 5.4 mm wide, free, spreading, slightly convex, elliptic, acute, 5-veined, margin entire, spreading; the lateral sepals minutely apiculate, slightly oblique. **Petals** 8.5 mm long, 2 mm wide, spreading, slightly convex, oblong-oblancoate, acute, margin entire, spreading, slightly oblique. **Lip** 6 mm long, 8.6 mm wide, united to the column, entire, widely deltate, base cordate, apex obtuse, very fleshy, ecallose, without ribs, scarcely pubescent in front of the column, cymbiform in natural position, embracing the apex of the column, margin entire. **Gynostemium** 6 mm long, short, straight, base thin, gradually widened towards the apex. Clinandrium-hood reduced, margin entire. Anther 4-celled, ovoid with a rostellum at the apex. Pollinia not seen. Rostellum subapical, slit. Lateral

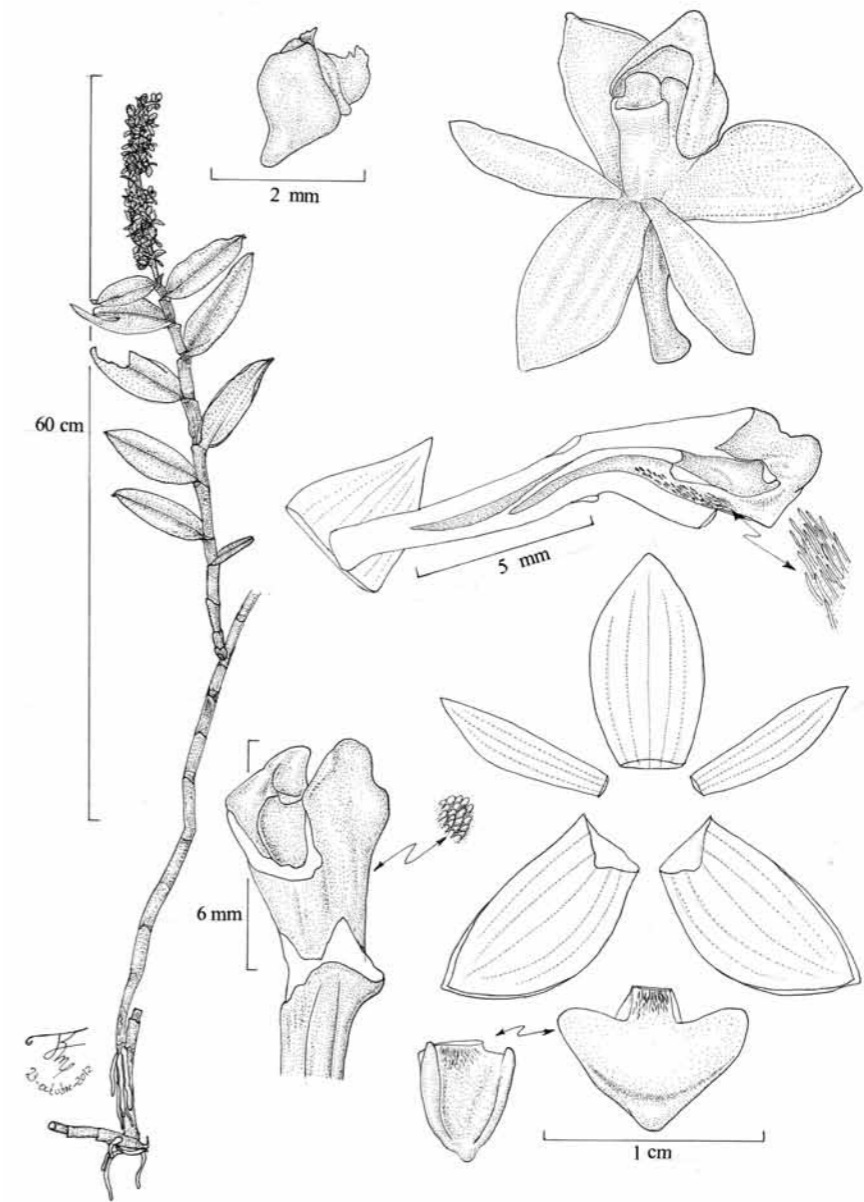


Fig. 162. *Epidendrum polyanthostachyum* Hágsater, E.Santiago & García-Ramírez (*Folsom 10451*, AMO – drawn by R. Jiménez Machorro).

lobes of the stigma prominent, occupying half the length of the stigmatic cavity. **Nectary** penetrating 1/3 of the ovary, not inflated, pubescent in front of the stigmatic cavity. **Capsule** not seen.

**HABITAT:** Unknown; 1100-2033 m alt.  
**FLOWERING SEASON:** October-November.  
**GENERAL DISTRIBUTION:** Known only from Colombia.





Fig. 163. Distribution of *Epidendrum polyanthos-tachyum* Hágsater, E.Santiago & García-Ramírez in Valle del Cauca.

DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA: **Mpio. Dagua.** 18 km below El Queremal on road to Anchicaya. Alt. 1100-1200 m. *Folsom 10451* (AMO!). **Mun. El Cairo.** La Carbonera, Vereda Santa Rita. Alt. 2033 m. 6 Nov 2011. *García-Ramírez 98* (CUVCI, AMO! - photo).

#### 46.65. *Epidendrum rugulosum* Schltr.

Repert. Spec. Nov. Regni Veg., Beih. 7: 147. 1920; TYPE: COLOMBIA. CAUCA. Alt. ca 2000 m. *Madero s.n.* (B†).

**Epiphytic**, about 50 cm tall. **Stems** about 0.5-0.6 cm in diameter, branching, enveloped completely by imbricating, leaf bearing sheaths. **Leaves** 6-15 cm long, 1.1-1.8 cm wide in the middle, fleshy-coriaceous, erect-spreading, ligulate, obtuse, the upper part rugulose, smooth beneath, ribbed. **Spathaceous bract** lacking,

**Inflorescence** up to 10 cm long, apical, subaxly flowered. **Flowers** 8-13, simultaneous, green, fleshy, glabrous. **Floral bracts** distichous, subspathaceous, elliptic, acuminate. **Ovary** about 5 mm long, sessile, cylindrical, glabrous. **Sepals** about 11 mm long, oblong-ligulate, slightly obtuse, 3-veined; lateral sepals oblique, outer surface carinate-thickened towards the apex. **Petals** slightly shorter than the sepals, reflexed, narrowly linear, obtuse, 1-veined. **Lip** about 6.5 mm long, 5 mm wide, margins adnate to the gynostemium; lateral lobes suborbicular, middle lobe about 3 mm long, lanceolate-triangular, lanceolate, slightly obtuse; 2 oblong calli at the base. **Gynostemium** about 5 mm long, nearly straight, slightly dilated towards the apex, auricles obliquely subquadrate.

**HABITAT:** Montane forest; about 1800-2000 m alt.

**FLOWERING SEASON:** Probably throughout the year.

**GENERAL DISTRIBUTION:** Peru, Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cali.** West Andes above Cali. Alt. 1800-2000 m. *Lehmann 6836* (AMES!, K!).

**OTHER SPECIMENS EXAMINED:** **ECUADOR.** **Morona-Santiago.** Gualaquiza. Campamento Achupalla, Cordillera del Cóndor, 15 km east of Gualaquiza, tepui-like bromeliad sward with scattered trees. 3°27'S 78°22'W. Alt. 2100 m. 22 Jul 1993. *Gentry 80316* (AMO!, QCNE!). **COLOMBIA.** **Putumayo.** Mpio. Mocoa. Corregimiento de San Antonio, vereda Alto Campucana, camino entre la finca La Mariposa & el Alto La Sierra. 76°38'W 1°12'N. Alt. 1500-1670 m. 20 Apr-1 May 1994. *J. Betancur, P. Galviz & Z. Marín 5373* (MO!). **PERU.** **Pasco.** Oxapampa, Abra Villa Rica. Alt. 2260 m. 5 Jul 2005. 5 Jul 2005. *E. Berra & al. 1043* (AMO!).

#### *Epidendrum maderoi*-group

Erect, sympodial, repent habit, several narrow leaves, a narrow, tubular, acute, spathaceous bract and several non-resupinate flowers on a short raceme, with an entire, bicallous lip. A single species is reported from the Valle del Cauca.

#### 46.66. *Epidendrum urraoense* Hágsater (Figs 165, 166; Photos 90-92).

Icon. Orchid. 3: pl. 394. 1999; TYPE: COLOMBIA. ANTIOQUIA. Mpio. Urrao, Carretera entre Urrao y Carmen de Atrato. Alt. 2440 m. 14 Aug 1993. *R. Escobar & al. 5352* (HOLOTYPE: AMO!).

**Epiphytic**, repent, erect, sympodial herb, 54-68 cm tall. **Roots** 0.1 cm in diameter, filiform, generally from each internode of the rhizomatous part of the stem. **Stems** 46-60 cm long, 0.3-0.45 cm wide, produced from the 3-4<sup>th</sup> internode of the previous stem, from the end of the rhizomatous portion, which is 6-10 cm long, then erect, slightly flexuose and laterally compressed. **Leaves** 12-14, distributed throughout the stem, equally spaced, subcoriaceous; sheaths 1.3-4 cm long, 0.45 cm wide, tubular, slightly carinate, striated when dry; blade 5-9 cm long, 0.7-1.5 cm wide, articulate, narrowly lanceolate, acuminate. **Spathaceous bract** 4.7-5.2 cm long, 0.5-0.7 cm wide, tubular, wider towards the apex, somewhat infundibuliform, conduplicate, acute, more or less appressed to the peduncle. **Inflorescence** 8 cm long, from the mature stem, apical, racemose, erect; peduncle 3.5 cm long, nearly totally hidden by the spathaceous bract. **Flowers** 3-4, simultaneous, non-resupinate, pink, the lip and column white; without fragrance. **Floral bracts** 2-6 mm long, 1-2 mm wide, much shorter than the ovary, triangular, acuminate. **Ovary** 30.5-37 mm long, 2-3 mm wide, inflated on the underside along the basal half, arched at the apical half, pink. **Sepals** 16.4-18 mm long, 4.7-7 mm wide, spreading, elliptic-obovate, acute to ob-

tuse, slightly mucronate, 5-7-veined, with secondary veins in between, margin entire, revolute. **Petals** 15 mm long, 3-5 mm wide, spreading, ligulate-oblongate, obtuse, 3-veined, the lateral veins branching near the base or above the middle. **Lip** 7.5-10 mm long, 6.5-9 mm wide, united to the column, cordiform-obovate, base cordate, fleshy, strongly revolute in natural position, margins irregularly erose, apex acute to emarginate, fleshy; bicallous, the calli subglobose, divergent, widely separate, with a wide, low thickened mid-rib reaching the apex. **Gynostemium** 7.5-9 mm long, straight, obconical. Clinandrium-hood reduced, margin entire. Anther semi-spherical, unornamented, 4-celled. Pollinia 4, lenticular, subequal. Lateral lobes of the stigma prominent, half as long as the stigmatic cavity. **Nectary** penetrating 2/3 of the ovary, dilated at the end, where the ovary arches, unornamented. **Capsule** not seen.

**HABITAT:** UNKNOWN; at about 2440 m alt.

**FLOWERING SEASON:** August.

**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cerrito.** Corregimiento de Tenerife, entre los Andes y el casco urbano de Tenerife. 27 Aug 2011. *O. Pérez & E. Parra s.n.* (VALLE!).

**OTHER SPECIMENS:** COLOMBIA: **COLOMBIA.** **Antioquia.** Carmen de Atrato, cult. at Colom-borquídeas. *R. Escobar 5352 sub Hágsater 11551* (COL!).

#### *Epidendrum mancum*-group

*Epidendrum mancum*-group is characterized by the sympodial growth, narrow spathaceous bracts with parallel sides, erect raceme with non-resupinate flowers and a generally reduced, fleshy lip. There is only one species in the Valle del Cauca.

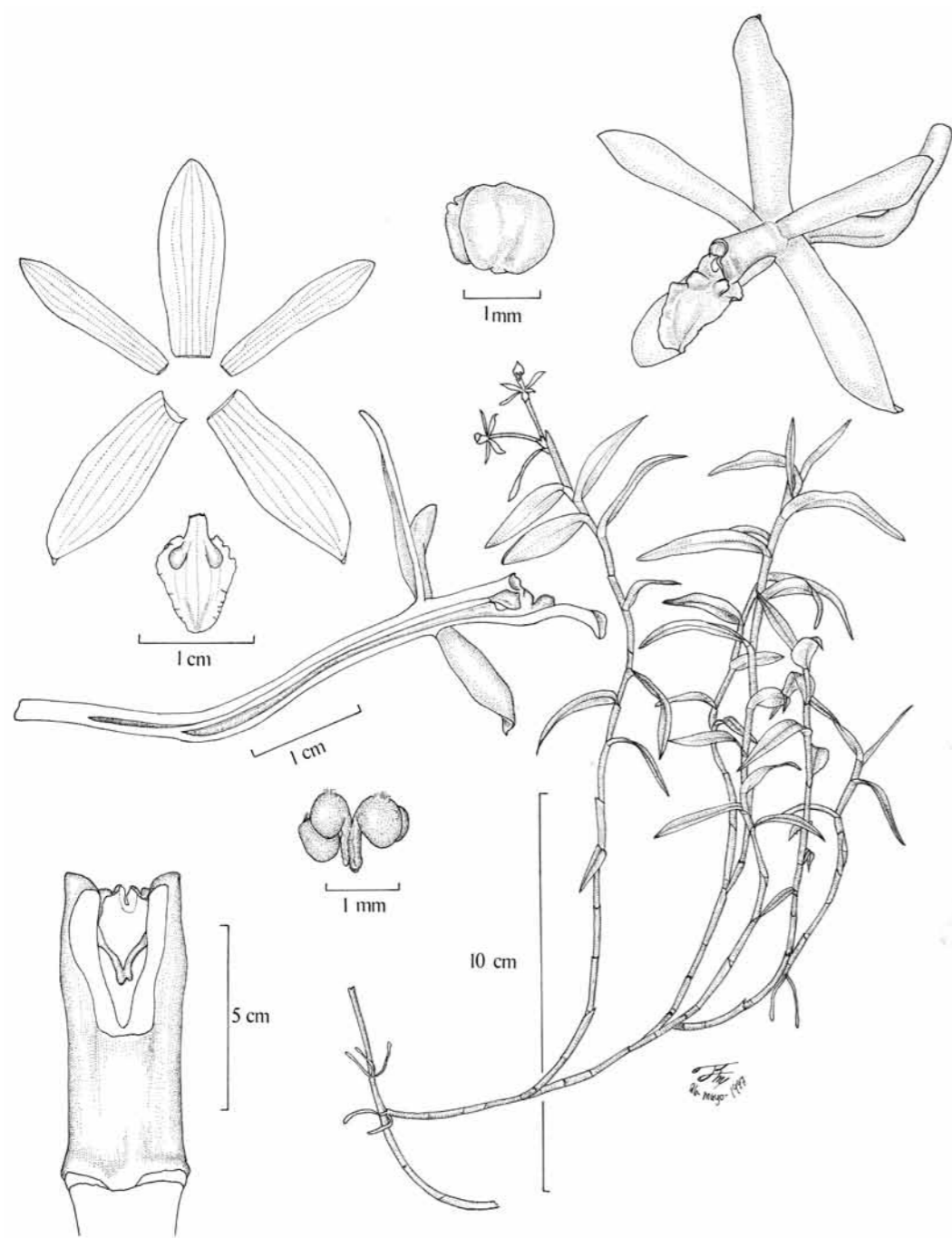


Fig. 164. *Epidendrum urraoënsis* Hágsater (*Colomborquideas*, R. Escobar sub Hágsater 11551, AMO – drawn by R. Jiménez Machorro).



Fig. 165. Distribution of *Epidendrum urraoënsis* Hágsater in Valle del Cauca.

***Epidendrum pseudomancum* Hágsater & L.Sánchez (Fig. 167).**

Icon. Orchid. 7: t. 782. 2004; TYPE: COLOMBIA. NARIÑO. Ipiales, southeast of Ipiales toward Victoria. Alt. 3000-3200 m. 22 Feb 1978. C. Luer, J. Luer & Hirtz 2721 (HOLOTYPE: SEL!).

**Epiphytic**, sympodial, caespitose, erect plants, 19-38 cm tall. **Stems** 9-18 cm long, 0.5-0.8 cm wide, cane-like, straight, laterally compressed. **Leaves** 2-3, 7-13 cm long, 3.0-4.8 cm wide, distributed along the apical half of the stem, erect, ovate-elliptic, unequally bilobed, with a dorsal keel, coriaceous, margin entire; sheath 1.5-3.5 cm long, laterally compressed, striated. **Spathaceous bracts** 1-2, 4-8 cm long, 3-4 cm wide, oblong, caespitose, acute. **Inflorescence** 11-25 cm long, apical, racemose, erect; peduncle terete to somewhat laterally compressed, straight. **Flowers** 14-32(50), simultaneous, non-resupinate, sepals and petals brownish red

on the outer side, sepals green-olive, petals green-yellowish internally, gynostemium and lip white, lip rarely with pink dots. Floral bracts 1-3 mm long, much shorter than the ovary, progressively smaller towards the apex of the raceme, triangular, acuminate. Ovary 8-10 mm long, terete, smooth. **Sepals** 6.5-7 mm long, about 5 mm wide, spreading, slightly concave, free, widely elliptic, obtuse, margin entire, 5-7-veined. **Petals** 5-6 mm long, 3-4 mm wide, spreading, slightly concave, free, asymmetrically suborbicular-spathulate, rounded, margin crenulate, 3-veined. **Lip** 4.8-5 mm long, 4-4.2 mm wide, united to the gynostemium, reduced, fleshy, entire, bicallose, calli prominent and elongate, with a thickened keel in the middle. **Gynostemium** 5-6 mm long, straight, ending in a pair of laminar, rounded wings. Clinandrium short, entire. Anther subspherical. **Nectary** short, smooth.

GENERAL DISTRIBUTION: Ecuador, Colombia.

OTHER SPECIMENS EXAMINED: **COLOMBIA**.

**Antioquia.** Jardín, Quebrada Bonita. Alt. 2300-2600 m. 26 May 1983. Escobar 2731 (SEL!); Cauca u. Antioquia [Antioquia]. Auf den Montaña de Caramanda [Caramanta]. Alt. 2500-2800 m. Lehmann 530 (K!, AMO! - photo). **Huila.** East of the pass, Páramo de Puracé. Alt. 2300 m. 14 Nov 1982. Luer 8405 (SEL!). **ECUADOR.** **Napo.** Cosanga. Alt. 2000 m. 5 Jul 1987. Dodson 17263 (MO!).

**NOTES.** Given that the species is known from Antioquia and Nariño, it is expected in the Valle del Cauca. The record of this species comes from the incorrect information about area of collecting by Lehmann 530 (K). The label on this herbarium specimen provides an information „Cauca u. Antioquia, auf den Montaña de Caramanda. 2500-2800 m” - this locality is in the Department of Antioquia.

***Epidendrum megalospathum*-group**

Caespitose or creeping plants, stems branching, inflorescence short, racemose, subtended

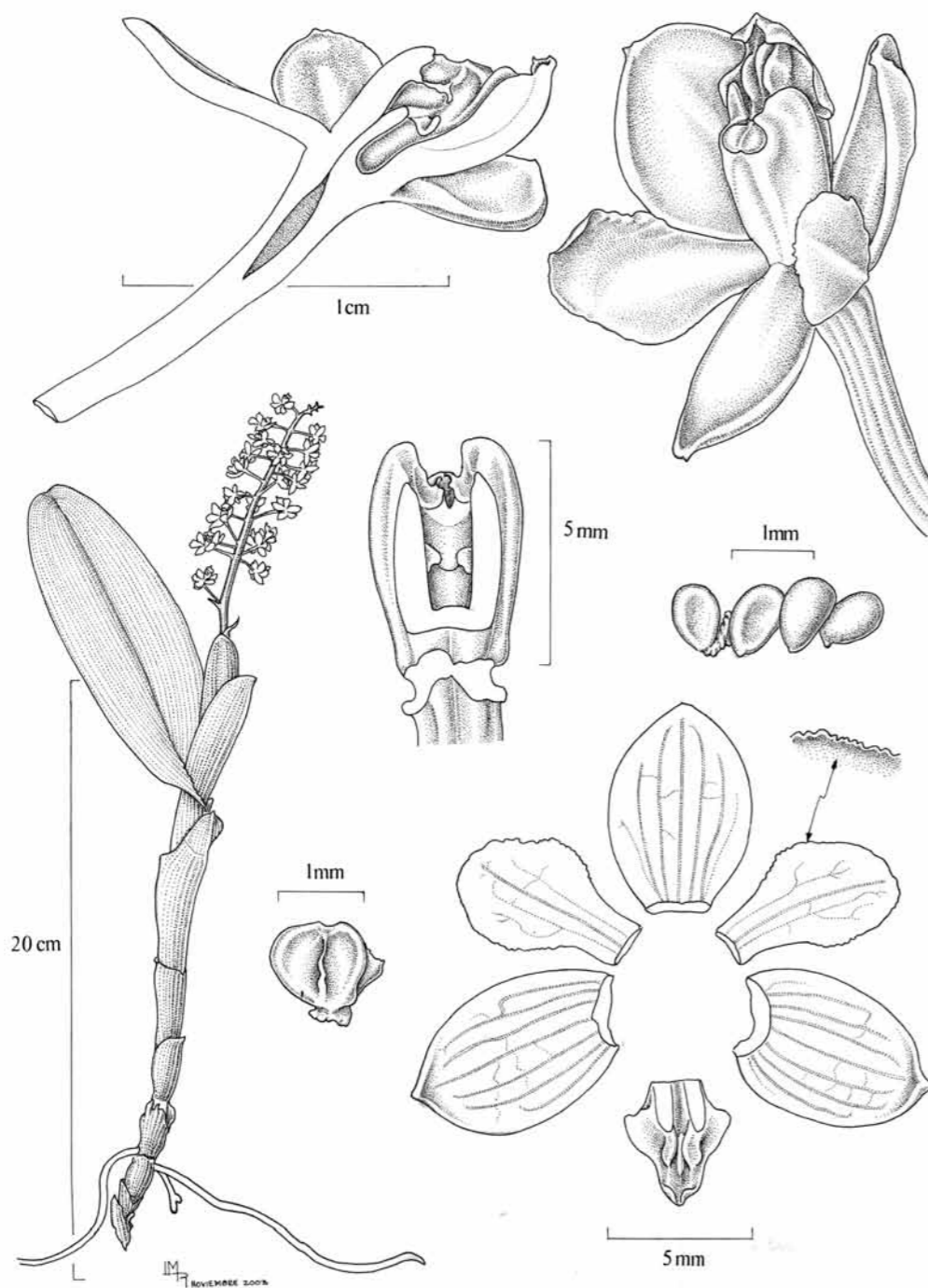


Fig. 166. *Epidendrum pseudomancum* Hágsater & L. Sánchez (C. Luer, J. Luer & A. Hirtz 2721, SEL – drawn by M.A. López Rosas).

by a large semi-ovate spathe. Four species of this group were reported from the Department of Valle del Cauca.

#### Key to species

1. Flowers non-resupinate, stems erect, plant creeping ..... 46.70. *E. geminiflorum*
1. Flowers resupinate, plants pendent ..... 2
2. Inflorescence 2-6 flowered ..... 46.71. *E. rhodochilum*
2. Inflorescence 1-2-flowered ..... 3
3. Lip suborbicular-elliptic, obtuse ..... 46.68. *E. commelinoides*
3. Lip ovate in outline, base cordate, apex long narrowly acuminate. .... 46.69. *E. escobarianum*

#### 46.68. *Epidendrum commelinoides* Schltr.

Repert. Spec. Nov. Regni Veg., Beih. 7: 128. 1920; TYPE: COLOMBIA. CAUCA. Alt. ca 2000 m. *Madero s.n.* (B†).

**Epiphytic**, about 14-17 cm tall. **Rhizome** decumbent. **Stems** about 3-4 cm distance from each other, simple, erect, subflexuose, loosely 4-5-leaved. **Leaves** 5-7.5 cm long, 0.9-1.1 cm wide in the middle part, erect-spreading, contracted at the base, lanceolate-ligulate, acute, subfalcate-oblique. **Inflorescence** apical, abbreviated, 1-2-flowered, subsessile, with a wide spathe about 2 cm long. Floral bracts thin, much shorter than the ovary. Pedicellate ovary about 17 mm long, glabrous. **Sepals** about 16 mm long, spreading, ligulate, obtuse, margins recurved, 5-7-veined, glabrous; lateral sepals obtuse. **Petals** subequal in length to the sepals, oblique, narrowly linear, obtuse, narrowed toward the base, 1-veined. **Lip** about 6 mm long, adnate to the gynostemium, suborbicular-elliptic, obtuse, margins subcrenulate, slightly undulate, base bicallose, apex with decurved margins. **Gynostemium** about 6 mm long, slightly curved, gradually enlarged towards the apex, auricles obliquely semiquadrate.

**HABITAT:** Premontane and montane forest; 1500-2000 m alt.

**FLOWERING SEASON:** April and May.

**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** Andes of Cali. Alt. 1500-2000 m. *Lehmann 8338* (AMES!, NY!).

#### 46.69. *Epidendrum escobarianum* Garay (Fig. 168-169).

Orchid Rev. 75: 280. 1967; TYPE: COLOMBIA. VALLE [del Cauca]. Trujillo. *G. Escobar R. 75* (HOLOTYPE: AMES!; ISOTYPE: JAUM!).

**Epiphytic**, pendent plants, up to 15 cm tall. **Stem** pendent, produced from near the base of the previous stem, laterally compressed, completely covered by evanescent, imbricating, foliaceous sheaths. **Leaves** 1.5-2.5 cm long, 0.7-1.2 cm wide, articulate, ovate or ovate-lanceolate, acute or subacuminate, grayish-green, transversely barred with purple. **Inflorescence** 1-2-flowered, abbreviated, from the infundibular spathe. **Flowers** fleshy, simultaneous. **Sepals** 32-36 mm long, 2-3 mm wide, subequal, narrowly lanceolate, acuminate, 5-6-veined. **Petals** 32-36 mm long, about 1 mm wide, filiform-linear, 3-veined. **Lip** 26-30 mm long, 12-14 mm wide, ovate in outline, base cordate, apex long narrowly acuminate; disc bicallose, base thickened, papillose. **Gynostemium** arched. **Nectary** small, not forming a vesicle behind the sepals.

**HABITAT:** Premontane and montane forest; 600-1700 m alt. It was found growing on branches of *Psidium guajava* L. (Myrtaceae).

**FLOWERING SEASON:** June, November, December.

**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Buenaventura. *Klaboch s.n.* (W!). **Mpio. Buenaventura/**

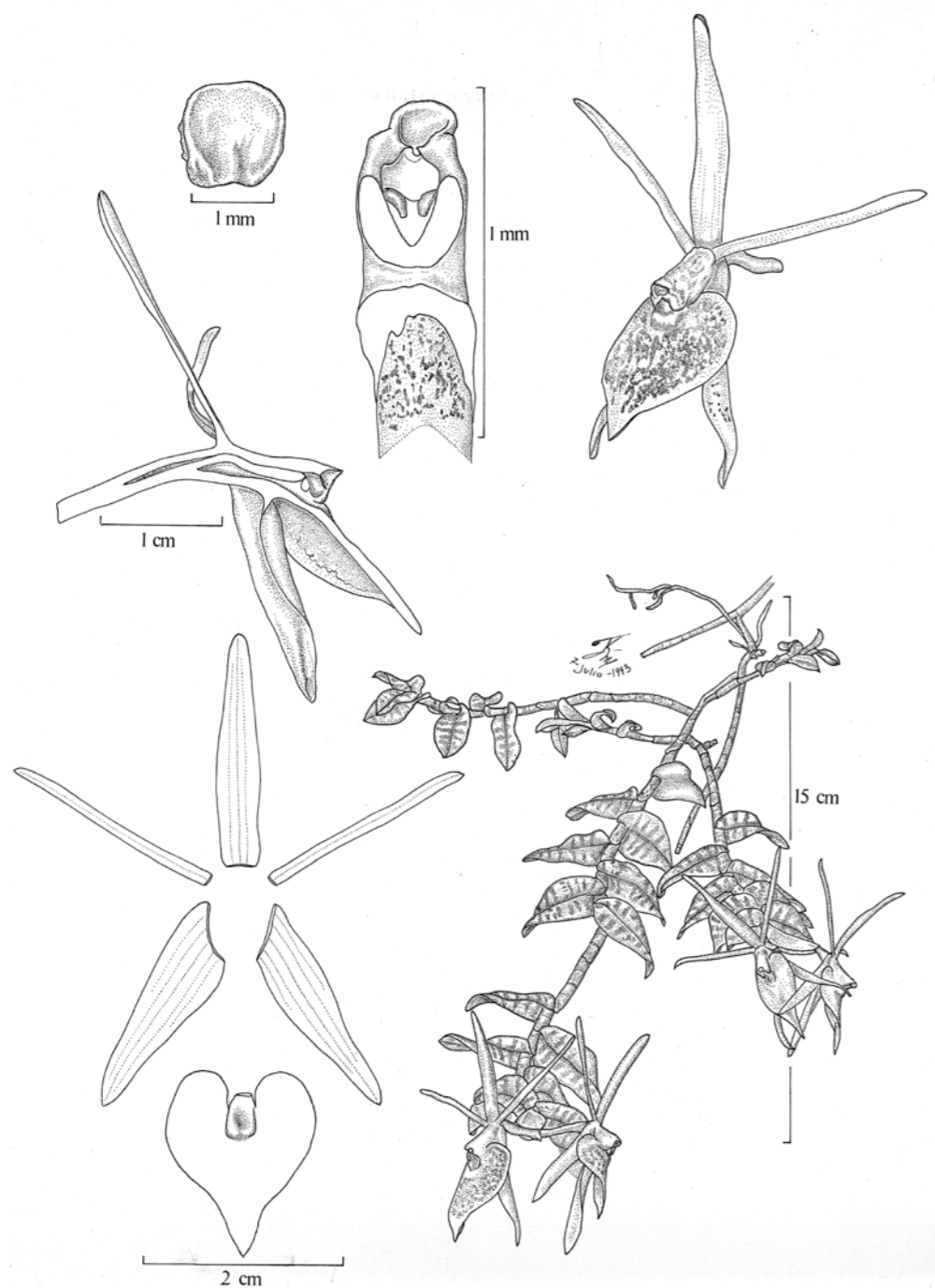


Fig. 167. *Epidendrum escobarianum* Garay (J. & L. *Orchids* sub Hágsater 11390, AMO – drawn by R. Jiménez Machorro).

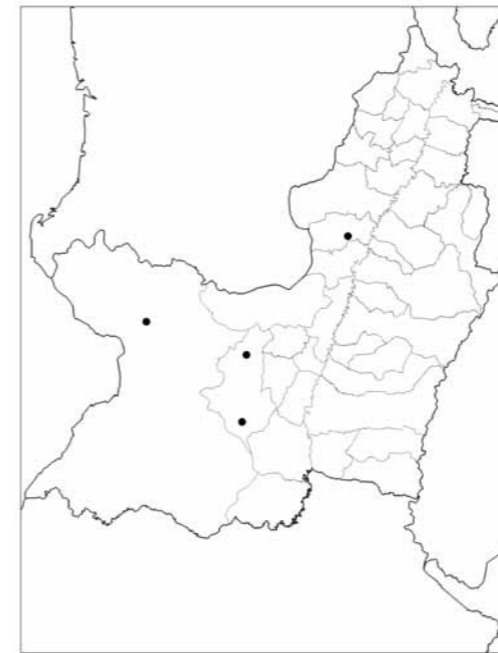


Fig. 168. Distribution of *Epidendrum escobarianum* Garay in Valle del Cauca.

**Dagua.** El Juntas. 2000 ft. *Chesterson* s.n. (W!).  
**Mpio. Dagua.** El Queremal, vieja carretera de Cali a Buenaventura, recolectado por Oscar & Marta de Robledo, cultivo en La Ceja. Alt. 1700 m. 12 Jun 1989. J.M. Munera & R. Escobar R. 708B (AMO!); El Queremal, Cali-Buenaventura. Fecha de prensado de material cultivado 20 Dec 1996. *Colomborquideas* sub Hágsater 11650 (AMO! x 2); Between El Queremal and Anchicayá. 29 Apr 1972. Dressler 4178 (AMO!).  
**Mpio. Trujillo.** Trujillo. Alt. 1700 m. 15 Nov 1967. G. Escobar R. 75 (JAUM!).

OTHER SPECIMENS EXAMINED: **COLOMBIA.**  
*Sine loc.* Hort. J. & L. *Orchids*, J. & L. *Orchids* sub Hágsater s.n. 11390 (AMO!).

46.70. *Epidendrum geminiflorum* Kunth (Figs 170, 171; Photos 93-94).

Nov. Gen. Sp. (quarto ed.) 1: 354. 1816; TYPE: Crescit in montanis, opacatis Provinciae Popayanensis, inter flumen Mayo et pagum La Cruz. Alt. 1040 hex. Floret Octobri. *Humboldt & Bonpland* 2103 (P!) - Schweinfurth, *Fieldiana*, Bot. 30(2): 448. 1959. - Foldats in Lasser, *Fl. Venezuela*, *Orchid.* 15(3): 261-262, 263 (Fig.). 1970. - Dunsterville & Garay, *Orchid. Venezuela* 1(A-G): 231. 1979.

**Epiphytic**, creeping plants with stiff ascending, stems. **Stems** (lateral branches) about 15 cm long, entirely or mostly concealed by loose, tubular sheaths, 3- to 4-leaved near the apex, more or less flexuose. **Leaves** up to 6.5 cm long, 2 cm wide, clasping at the base, more or less coriaceous, spreading, oblong-elliptic or oblong, obtuse or shortly bilobate at the apex. **Inflorescence** apical, 2-4-flowered, subumbellate; peduncle abbreviated, concealed by a conspicuous, conduplicate spathe 2-4 cm long. **Floral bracts** small, deltoid. Pedicellate ovary 20-45 mm long, elongate. **Flowers** yellowish green or brownish green. **Sepals** spreading, margins entire. **Dorsal sepal** up to about 18 mm long, oblong-lanceolate, subacute to acuminate. **Lateral sepals** similar but oblique, obtuse to acuminate. **Petals** 15 mm long, 1.5 mm wide, nearly as long as the sepals, obliquely linear-lanceolate. **Lip** about 12 mm long, up to 10 mm wide near the base, adnate to the gynostemium up to its apex, broadly ovate in outline, cordate at the base, 3-lobed at the middle; lateral lobes, small, 4.5 mm long, 5 mm wide, rounded or semi-quadrate; middle lobe triangular-ovate, 7 mm long, 5 mm wide; disc with 2 basal calli, laminar, small, parallel. **Gynostemium** about 5 mm long, gradually dilated towards the apex.

**HABITAT:** Premontane and montane wet forest; 1500-2600 m. alt.

**FLOWERING SEASON:** April, July, November.

**GENERAL DISTRIBUTION:** Peru, Ecuador, Colombia, Venezuela.

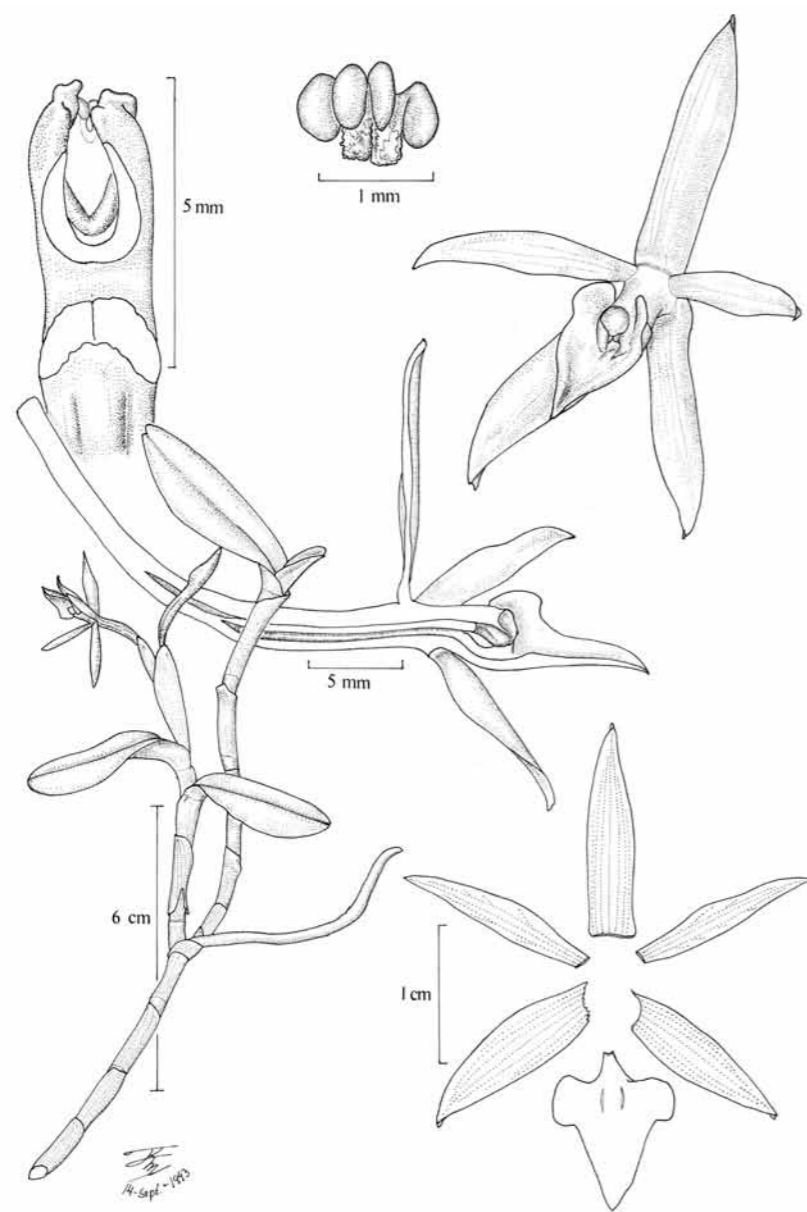


Fig. 169. *Epidendrum geminiflorum* Kunth (Hágsater, Dodson, Williams, Whitten, A. Embree, F.L. Stevenson & R.M. Chandler 11320, AMO – drawn by R. Jiménez Machorro).

DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA: **Mpio. Cali.** Cordillera Occidental Los Farallones de Cali. Creciendo en un bosque desmontado arriba & al norte de la finca Corea en la cuenca superior de Río Melendez. Alt. 2600

m. 4 Nov 1976. *Hartman 528* (CUVCI!); Cordillera Occidental, vertiente oriental; Hoya del río Cali, Pichindé; Morro Pelado. Alt. 2270-2320 m. *Cuatrecasas 18161* (US!, VALLE!). **Mpio. El Cairo.** Carretera El Cairo-Río Blanco, 16 km al

W de El Cairo, E de Las Amarillas, Cordillera Occidental, Serranía de Las Paraguas, frontera Valle-Choco. 04°44'N 76°16'W. Alt. 2080 m. 9 Nov 1997. *Silverstone-Sopkin, N. Paz & C. Franco 7992* (AMO!, CUVCI!); Cali-Buenaventura. Alt. 1500 m. 3 Jul 1965. *C.H. Dodson & H. Hills 3233* (SEL!). **Mpio. Tuluá.** Cordillera Central, vertiente occidental; Hoya del río Bugalagrande: Barragán, La Laguna. Alt. ca 2900 m. 17 Apr 1946. *Cuatrecasas 20874* (VALLE!).

OTHER SPECIMENS EXAMINED: **ECUADOR.** **Carchi.** Cantón Tulcán. Km 8.3 al. E de Maldonado hacia Tulcán. 0°54'N 78°06'W. Fecha de colecta 30 Apr 1993, fecha de prensado de material cultivado 24 Mar 1997. *Hágsater, Dodson, Williams, Whitten, A. Embree, F.L. Stevenson & R.M. Chandler 11320* (AMO!); East of Gruta La Paz. Alt. 3200 m. 13 Sep 2004. *A. Hirtz 9017 & W. Coeck, J. Coeck 9017* (AMO! x 3). **Cotopaxi.** Latacunga, Camino Quevedo-Latacunga, Km 61, arriba de Macuchi, epífitas a la orilla de arroyo. Alt. 6000 ft. 17 Jun 1983. *Hágsater, W. & B. Thurston, L. Latta 7584* (AMO! x 2); Quevedo, Latacunga Macuchi. Preparado de material cultivado 10 Sep 1983. *Hágsater, Thurston & L. Latta 7665* (AMO!); Cantón Sigchos, en el bosque hacia Triunfo Bajo; 00.31.54 S 78.59.23 W'. Alt. 2485 m. 8 Aug 2003. *J. Ramos, J. Contreras, L. Ramos & F. Biteri 7137* (CUVCI! x 2); Cantón Sigchos, entre Río Escaleras & zona Escaleras, en la carretera; 00.35.40 S 78.49.54 W. Alt. 2772 m. 17 Jul 2003. *J. Ramos, J. Contreras, L. Ramos, A. Tigse & R. Tigse 6166* (CUVCI!); Cantón Sigchos, bosque en sucesión, dosel ca 8 m por fuente de agua; 00°35'40"S 78°49'54"W. Alt. 3044 m. 21 Jul 2003. *J. Ramos, J. Contreras, L. Ramos & R. Tigse 6370* (CUVCI!). **Pichincha.** Tandayapa entre Nonomindo. Río Alambi. B. Mesofilo de Montaña lítofita en roca grande. Alt. 2200 m. 5 Dec 1986. *Hágsater, A. Hirtz & C.H. Dodson 8872* (AMO!); Pululahua. La Librería. Alt. 2000 m. Jan 1984. *A. Hirtz 1484* (AMO!). **COLOMBIA. Antioquia.** Mpio. El Retiro. Atrás de Hacienda Fizebad. Fecha de prensado de material cultivado 21 Jul 2000. *Co-*

*lomborquideas sub Hágsater 11642* (AMO! x 2); *Sine loc.* En raíces de Telipogon. Fecha de prensado de material cultivado 28 Feb 1997. *Colomborquideas sub Hágsater 11554* (AMO! x 2). **Boyacá.** Cañón de Río Pómeca, km 23 Barbabosa-Tunjá, entre Moniquirá & Arcabuca, pasando la cascada & subiendo al acantilado. Alt. 2400 m. Fecha de colecta 17 Mar 1996, fecha de prensado de material cultivado 3 Oct 1997. *Hágsater, P. Ortiz V., G. Schnitter & C.L. Patiño de Ruiz 11497* (AMO! x 2); The same loc. 17 Mar 1996. *E. Hágsater, P. Ortiz V., G. Schnitter & C.L. Patiño de Ruiz 11496* (AMO!). **Nariño.** Mpio. Ricaurte. Reserva Natural La Planada; Corregimiento de Chucunes, Vertiente Occidental. Borde del Camino que va hacia Pialpi hasta la quebrada la Calladita. Alt. 1800 m. 3 Aug 1992. *N. Paz 357* (CUVCI!); The same loc. Lado derecho del camino que va hacia Pialpi. Alt. 1800 m. 2 Aug 1992. *N. Paz 351* (CUVCI!); Reserva Natural La Planada; vertiente occidental de los Andes. Alt. 1800 m. 31 May 1994. *J.T. Otero 372* (CUVCI!).

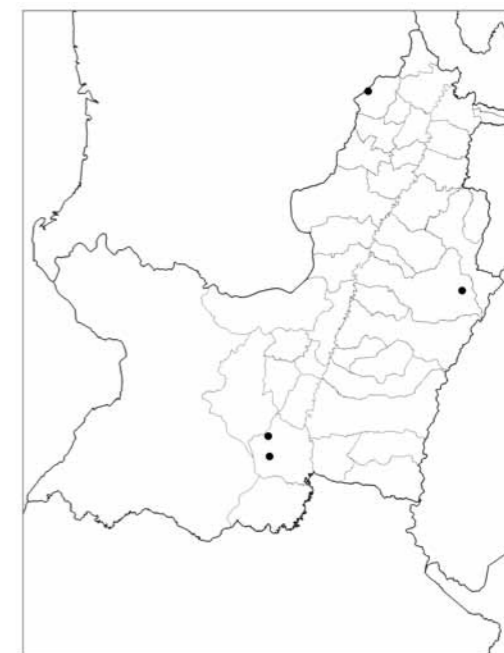


Fig. 170. Distribution of *Epidendrum geminiflorum* Kunth in Valle del Cauca.

46.71. ***Epidendrum rhodochilum*** (Schltr.) Hágsater & Dodson (Figs 172, 173; Photos 95-97).

Orquidea (Mexico City) 12(2): 296. 1992. ≡ *Diothonea rhodochila* Schltr., Repert. Sp. Nov. Regni Veg., Beih. 27: 61. 1927; TYPE: COLOMBIA. NARIÑO. Daza, 10 km NW von Pasto. Alt. 2600 m. Jan 1922. *Hopp 146* (B†).

Epiphytic, caespitose, sympodial, pendent herb, 15-24 cm long. **Roots** 0.1-0.15 cm in diameter, basal. Fleshy, thin. **Stems** simple, cane-like, laterally compressed, straight. **Leaves** 8-12, distichous, distributed throughout the stem; sheath 1-2.2 cm long, tubular, smooth; blade 3-4 cm long, 1.2-2 cm wide, articulate, ovate, oblique, apex aristate, apical margin erose, coriaceous, succulent, smooth, grayish green, somewhat tinged purple; the basal and apical leaves somewhat smaller. **Spathaceous bract** 1.8-2.6 cm long, 1.3-1.6 cm wide, single, wide, semi-orbicular, conduplicate, **Inflorescence** 4.5-6 cm long, apical, from the mature growth, flowering only once, pendent; peduncle totally covered by the spathaceous bract. **Flowers** 2-6, resupinate, simultaneous, sepals, petals, column and calli green, somewhat glaucous, blade of lip intense burgundy red; fragrance of ripe, *Opuntia* fruit. **Floral bract** 2.5 mm long, much shorter than the ovary, triangular, acute. **Ovary** 8-12 mm long, not inflated, terete, unornamented. **Sepals** partly spreading, free, ovate-oblong, without any dorsal keel, glabrous, 3-veined with irregular secondary veins, margins spreading; dorsal sepal 16-17 mm long, 7 mm wide, ovate-oblong, apex obtuse, apiculate; lateral sepals 17 mm long, 7 mm wide, acute, slightly arched. **Petals** 16 mm long, 5.5 mm wide, partly spreading, elliptic-lanceolate, somewhat oblique, succulent, apex acute, 3-veined, the lateral veins branching, margins entire, spreading. **Lip** 21 mm long, 19 mm wide, produced from the base of the column, free, suborbicular-obovate, the base somewhat cuneate, apical margin denticulate, apex emarginate; ecallose, with 3

ribs at the base, which disappear towards the basal 1/3 of the lip, followed by an area of pyramid-like papillae. **Gynostemium** 10 mm long including the clinandrium-hood, straight, thick, ventrally cuneate, narrower towards the apex. Clinandrium-hood short, without surpassing the body of the column, margin entire. Rostellum apical, slit. Lateral lobes of the stigma lacking. Anther reniform, 4-celled. Pollinia 4, obovoid, slightly compressed, subequal; caudicles soft and granulose, shorter than the pollinia; viscidium semi-liquid, transparent. **Nectary** very short, wide, barely penetrating behind the perianth, smooth, with abundant nectar.

**HABITAT:** Wet forest; at about 3000 m alt.

**FLOWERING SEASON:** October.

**GENERAL DISTRIBUTION:** Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cerrito.** Tenerife, cerca de Los Andes; escuela. Alt. ca 3000 m. 31 Oct 2009. *O. Pérez & E. Parra 430* (VALLE! x 2).

**OTHER SPECIMENS EXAMINED: COLOMBIA. Nariño.** Laguna de La Cocha. Alt. 3000 m. Cultivado en Colomborquideas. *R. Escobar 5340* (AMO!). **ECUADOR. Napo.** Papallacta, road Quita-Baeza. Alt. 2800 m. May 1984. *Hirtz s.n.* (MO! - illustration published in *Icon. Pl. Trop.* 2(5): pl. 473, 1989). **Sucumbios.** Después de Santa Bárbara. Alt. 2080 m. col. 8 Jul 1990. Pressed 3 Aug 1992. *Hágsater, Dodson, D. Rubio & N. Revelo 10560* (AMO! x 2); The same loc. Pressed 6 Nov 1992 (AMO!); The same loc. Pressed 19 Sep 1995. *Hágsater et al 10855* (AMO! x 3); Rd. to La Bonita. Col. 1 Nov 1991, pressed 9 Jul 1993. *J. & L. Orchids 103 sub Hágsater 11151* (AMO!); *Sine loc.* Pressed 22 Aug 1997. *J. & L. Orchids sub Hágsater 11831* (AMO!).

***Epidendrum miserrimum*-group**

It is characterized by short small, somewhat scandent plants with very thin stems, very narrow, more or less fleshy leaves, with a small, narrowly triangular, acute ligule opposite the

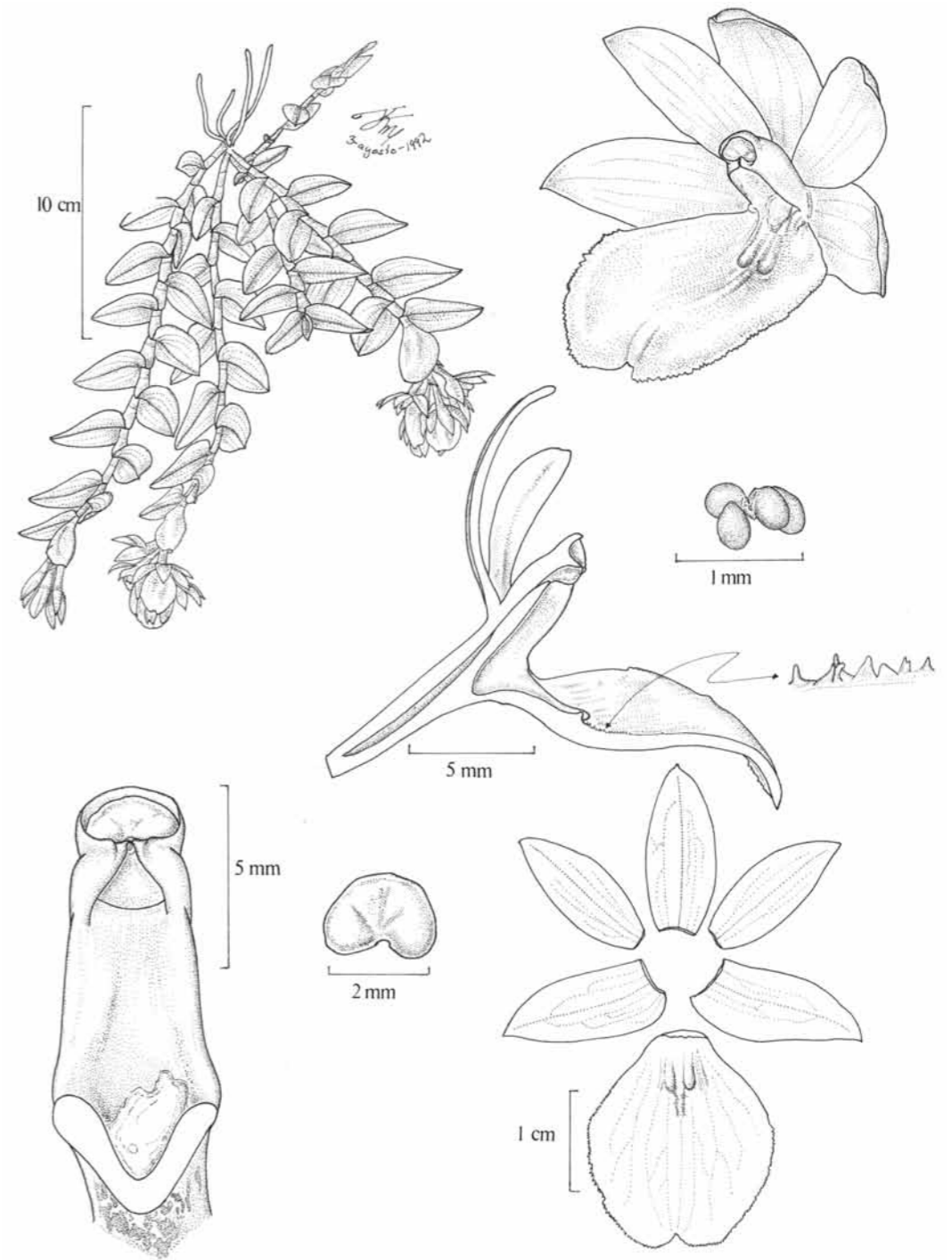


Fig. 171. *Epidendrum rhodochilum* (Schltr.) Hágsater & Dodson (*Hágsater, Dodson, D. Rubio & N. Revelo 10560*, AMO – drawn by R. Jiménez Machorro).



Fig. 172. Distribution of *Epidendrum rhodochilum* (Schltr.) Hágsater & Dodson in Valle del Cauca.

blade, an apical, distichous, usually secund inflorescence.

46.72. *Epidendrum miserrimum* Rchb.f. (Fig. 174-175).

Bonplandia 3: 220. 1855; TYPE: GUADELOUPE. In Monte Fulsbunes [forests of Bains Jaunes?]. *Duchassaing* s.n. (W! - the specimen is only annotated by Reichenbach as "*E. duchassaing?*", Pl!). - Santiago & Hágsater in Hágsater & Sánchez, Icon. Orchid. 9: pl. 959. 2007. =*Jacquiella miserrima* (Rchb.f.) Stehlé, Bull. Soc. Bot. France 84: 425. 1937. =*Microepidendrum miserrimum* (Rchb.f.) Brieger (*nom. illeg.*) Orchideen 9(33-36): 557. 1977. =*Epidendrum poaeforme* Schltr. Repert. Spec. Nov. Regni Veg. Beih. 19: 43. 1923.

**Epiphytic**, rarely terrestrial, sympodial, caespitose, very short herb 2.5-9 cm tall. **Roots** 0.02-0.04 cm in diameter, basal, fleshy, very thin. **Stems** 1.2-4.5 cm long, 0.03-0.12 cm wide,

cane-like, simple, originating from the basal internodes of the previous stem, terete, erect to slightly arching, slightly flexuous. **Leaves** 3-6(9), distributed throughout the stem, distichous, alternate, articulate, semiterete, generally ascending; sheaths 2-6 cm long, 0.03-0.12 cm wide, tubular, somewhat laterally compressed, minutely striated, with a ligule opposite the blade, small, triangular, subacute, conduplicate; blade 0.6-2.4 cm long, 0.07-0.17 cm wide, linear to linear-lanceolate, subacute, with a low dorsal keel, margin minutely papillose at the apex. **Inflorescence** 1.3-4 cm long, apical, racemose, erect, distichous, secund, lax-flowered; peduncle laterally compressed, two-winged, erect, straight; commonly provided along the apical half with 1-3 tubular bracts, conduplicate, apex acute. **Flowers** 3-9, simultaneous, non-resupinate, distichous, fleshy, greenish to yellowish, concolor, the sepals occasionally dorsally tinted reddish purple; fragrance diurnal, honey-like. **Floral bracts** 1.5-5 mm long, longer than the ovary, cucullate, widely ovate-elliptic when spread, apiculate, amplexicaul. **Ovary** 1-2 mm, very short, terete, thin, somewhat inflated behind the perianth, smooth. **Sepals** 2-3 mm long, 0.5-0.1 mm wide, partly spreading, free, narrowly triangular, slightly concave, acute, with a low dorsal keel, 3-veined; the lateral sepals slightly oblique. **Petals** 1.6-2.6 mm long, 0.2-0.3 mm wide, partly spreading, free, linear-oblong, subfalcate, acute, 1-veined, margin entire. **Lip** 1.6-2.4 mm long, 1.5-2.1 mm wide, united to the column, incipiently 3-lobed, base widely cuneate; scallose, with 3 parallel thickened veins, the central vein reaching the apex of the lip, the lateral pair shorter; lateral lobes 0.6-0.8 mm long, 0.9-1.4 mm wide, inserted near the base of the column, semielliptic, embracing the column in natural position without covering it, margin entire to minutely crenate; middle lobe 0.6-0.8 mm long, 0.5-0.8 mm wide, narrowly triangular, acute, fleshy, margin entire. **Gynostemium** 0.8-1 mm long, straight, thick, very short, with a pair of acute lateral teeth. Clinandrium-hood short, to-

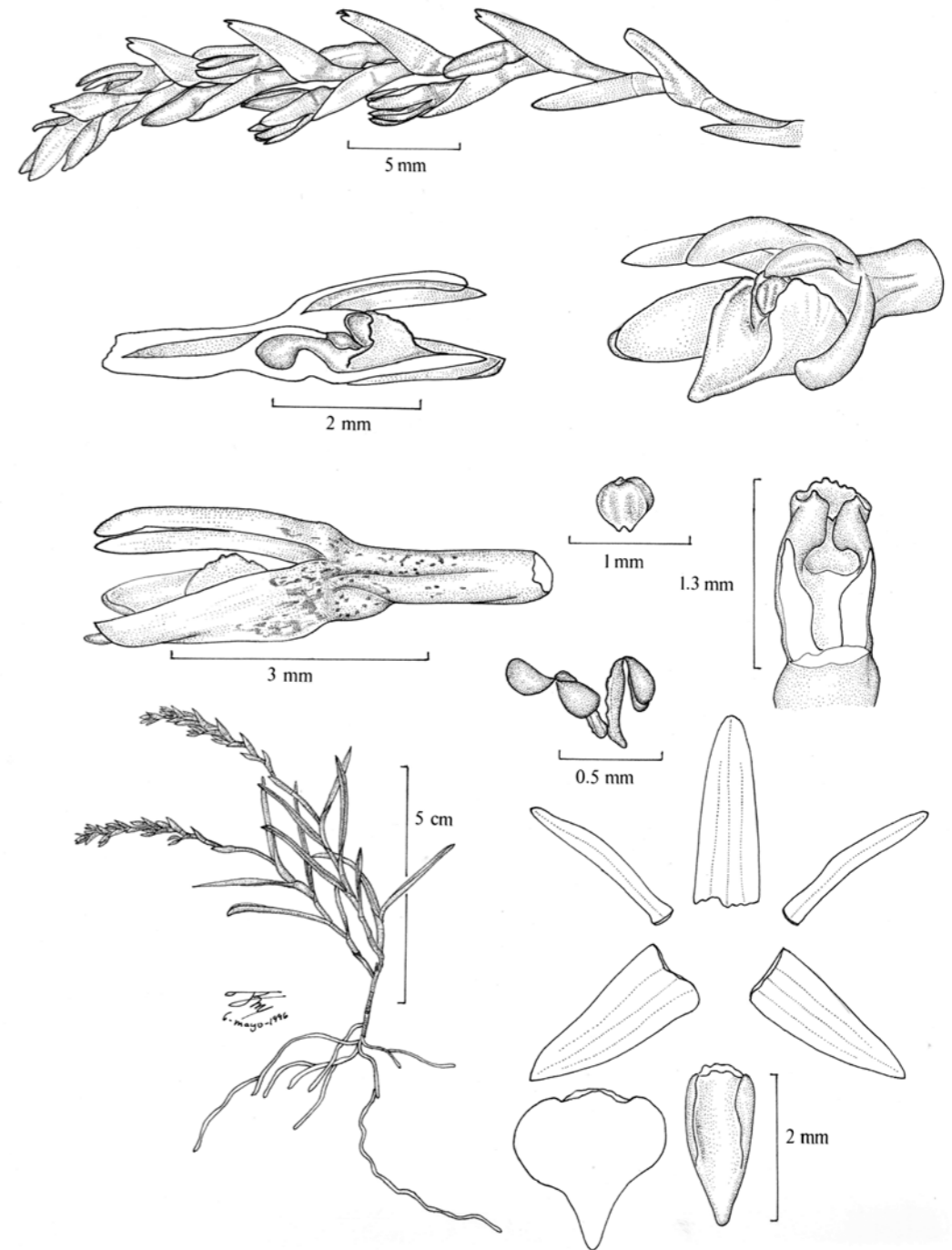


Fig. 173. *Epidendrum miserrimum* Rchb.f. (Hágsater, R. Escobar, G. Gerlach & C. de Gerlach 11692, AMO - drawn by R. Jiménez Machorro).



Fig. 174. Distribution of *Epidendrum miserrimum* Rchb.f. in Valle del Cauca.

tally covering the anther, margin erose. Anther reniform, apex bidentate, 4-celled. Pollinia 4, obovoid, subequal; caudicles twice as long as the pollinia. Rostellum subapical, slit. **Nectary** penetrating 1/3 of the ovary, narrowed at the perianth, inflated behind the perianth, smooth. **Capsule** 3-3.5 mm long, 2-2.5 mm wide, sessile, subglobose, apical neck obsolete, perianth persistent.

**HABITAT:** Wet forest; in the whole range between 300 and 1600 m alt.

**FLOWERING SEASON:** February.

**GENERAL DISTRIBUTION:** Brazil, Ecuador, Colombia, Venezuela, Surinam, Panama, Costa Rica, Nicaragua, The Antilles.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Anchicaya. 6 Feb 1970. *Dressler s.n.* (Herb. Dressler!).

**OTHER SPECIMENS EXAMINED:** **NICARAGUA.** **Rivas.** Isla Ometepe, Volcán Concepción, "Los Hatillos". Alt. ca 1500 m. 19 Apr 1985. *Robledo 1958* (MO!). **COSTA RICA.** **Alajuela.** In Cariblanco, Río Sarapiquí, N of Volcán Poás. Alt.

850 m. 24 Apr 1956. *Williams 20262* (AMES!, FI, SEL!, US!). **PANAMA.** **Panamá.** Cerro Campana. 27 Sep 1977. *Folsom 5649* (MO!). **VENEZUELA.** **Amazonas.** Atabapo, Cerro Marahuaca. Slopes "Sima" (sic) area. Alt. 1200 m. 17 Oct 1988. *Liesner 24984* (MO!). **COLOMBIA.** **Antioquia.** Yarumal, Above Quebrada El Oro. Alt. 1820-1880 m. 20 May 1983., *Escobar 2629* (SEL!); The same loc. Alt. 1900 m. 26 Mar 1996, pressed cult. 23 May 1996. *Hágsater 11686* (AMO!); Quebrada El Oro. Alt. 1900 m. *Hágsater, R. Escobar, G. Gerlach & C. de Gerlach 11692* (AMO!). **Cauca.** Bei Cuaiquer, von Pasto. Alt. 1000 m. 10 Jul 1880. *Lehmann 45* (W!); Río Timbiquí, Santa María. Alt. 300 m Aug 1903. *Lehmann 502* (K!). **ECUADOR.** **Esmeraldas.** Lita to Alto Tambo. Alt. 725 m. 20 May 1987. *Dodson 17144* (MO!). **CUBA.** Las Tunas: prope La Guinea. Sep 1859. *Wright s.n.* (K!). **HAITI.** Massif du Nord. Anse-a-Toleur, Morne Colombe, top of the mountain. Alt. ca 900 m. 20 Jun 1925. *Ekman 4352* (S!). **DOMINICAN REPUBLIC.** Cordillera Septentrional, Gaspar Hernández, carretera a Tenares, en ramal que llega a Jagua Clara, Loma La Cuculata. Alt. 775 m. 10 Jun 1978. *Dod 662* (Herb. Dod!, SEL!). **PUERTO RICO.** **Cayey.** Cayey at Pabilas border, Cerro La Santa, Carite For. Res. Alt. 870-890 m. 19 Mar 1989. *Ackerman 2568* (UPRRP!). **GUADELOUPE.** **Basse-Terre.** Yamasse. *Duss 3720* (US!). **MARTINIQUE.** Auftrag von Le Morne Rouge auf Montagne Paleé, Morne Calebasse. Alt. 600-700 m. 29 Jan 1970. *Renzi 10478* (RENZI!). **GRENADA.** Black forest, 1 May 1906. *Broadway 1879* (BM!).

#### *Epidendrum nocturnum*-group

Stems simple, flowers large, star-shaped flowers, lip usually 3-lobed. Ten species of this group occur in the Department of Valle del Cauca.

#### Key to species

1. Ovary more or less as long as the floral segments ..... 2
1. Ovary longer than the floral segments ..... 5
2. Leaves 2.5-3.5 cm wide, lateral lobes of the lip reduced, ovary inflated and forming a vesicle along the apical ventral half ..... 46.82. *E. rocalderianum*
2. Leaves generally 0.6-2.7 mm wide, lateral lobes of the lip elongate, ovary not inflated and not forming a vesicle. .... 3
3. Stems thin, 10-15 mm wide, ancipitose, leaves narrow, 0.6-0.9 cm wide, lateral lobes of the lip without thickened veins ..... 46.77. *E. litense*
3. Stems wider, 20-45 mm wide, laterally compressed without being ancipitose, leaves wide, 0.8-2.7 cm wide, lateral lobes of the lip with thickened veins ..... 4
4. Plants small, 12-15 cm tall, underside of leaves green, ovary 27-30 mm long, lateral lobes of lip nearly as long as the middle lobe ..... 46.79. *E. mininocturnum*
4. Plants larger, 17-30 cm tall, underside of leaves purple, ovary 35-50 mm long, lateral lobes of lip half as long as the middle lobe ..... 46.74. *E. buenaventurae*
5. Stems terete, body of capsule at the center of the ovary ..... 6
5. Stems laterally compressed to ancipitose, body of capsule at the basal or apical half of the ovary . . . . . 7
6. Stems with 4-12 leaves distributed along the apical half, pedicel and apical neck of the different in length, the pedicel longer (6 cm) ..... 46.80. *E. nocturnum*
6. Stems with 6-8 leaves distributed throughout, pedicel and apical neck of the capsule equal in length (1.5 cm long). .... 46.81. *E. pseudonocturnum*
7. Sepals and petals 26-35 mm long, column 13-14 mm long ..... 8
7. Sepals and petals 60-80 mm long, column 19-34 mm long ..... 9
8. Leaves length/width: 2:1, 4.9-6.5 x 2.4-3.4 cm, middle lobe of lip straight in natural position. . . . . 46.73. *E. anchinocturnum*

8. Leaves length/width: >3:1, 10-11.5 x 2.0-2.3 cm, middle lobe of lip recurved in natural position ..... 46.75. *E. campyloglossum*
9. Stems ca 50 cm tall, ovary 60-90 mm long, column 19-26 mm long. .... 46.76. *E. cocornocturnum*
9. Stems 30-120 cm tall, ovary 220-280 mm long, column 30-34 cm long. .... 46.78. *E. macrophorum*

#### 46.73. *Epidendrum anchinocturnum* Hágsater (Figs 176, 177; Photos 98-99).

Icon. Orchid. 3: t. 305. 1999; TYPE: COLOMBIA. VALLE DEL CAUCA. 8 km abajo del retén de Anchicayá. Alt. 250 m. col. 27 Apr 1983. Pressed 7 Aug 1983. *Hágsater, Dressler & Folsom 7383* (HOLOTYPE: AMO!; 2 Jan 1985 (CLONOTYPE: COL)).

**Epiphytic**, caespitose plants, about 14-16 cm tall. **Stems** about 9 cm long, 0.3-0.9 cm wide, laterally compressed, straight, simple, covered towards the base by tubular, ancipitous sheaths. **Leaves** 2-3, sheaths 1.5-2.2 cm long, 0.7-0.9 cm wide, blade 4.9-6.5 cm long, 2.4-3.4 cm wide distributed in the apical third of the stem, coriaceous, somewhat carinate-sulcate, ovate-suborbicular, apex rounded and retuse; sheath laterally compressed, ancipitous. Spathe absent. **Inflorescence** apical, pluriracemose, compact; peduncle covered by 1-2 imbricating bracts, oblong-triangular, acute. **Flowers** 1-4 per raceme, successive, one at a time per raceme, sepals bronze-green, petals yellowish-green, lip and gynostemium white, calli pale yellow. **Floral bracts** about 4 mm long, much shorter than the ovary, triangular, acute. **Ovary** 40-45 mm long, about 1.5 mm wide, terete. **Sepals** 26-29 mm long, 4-4.5 mm wide, spreading, linear-lanceolate, acuminate, margins entire, 7-9-veined with additional secondary veining. **Petals** 25-28 mm long, 1.5 mm wide, spreading, linear, acuminate, margin entire, 3-veined at the base, 5-veined above. **Lip** 17 mm long, 9 mm wide, 3-lobed; lateral lobes about 6 mm long, 3 mm



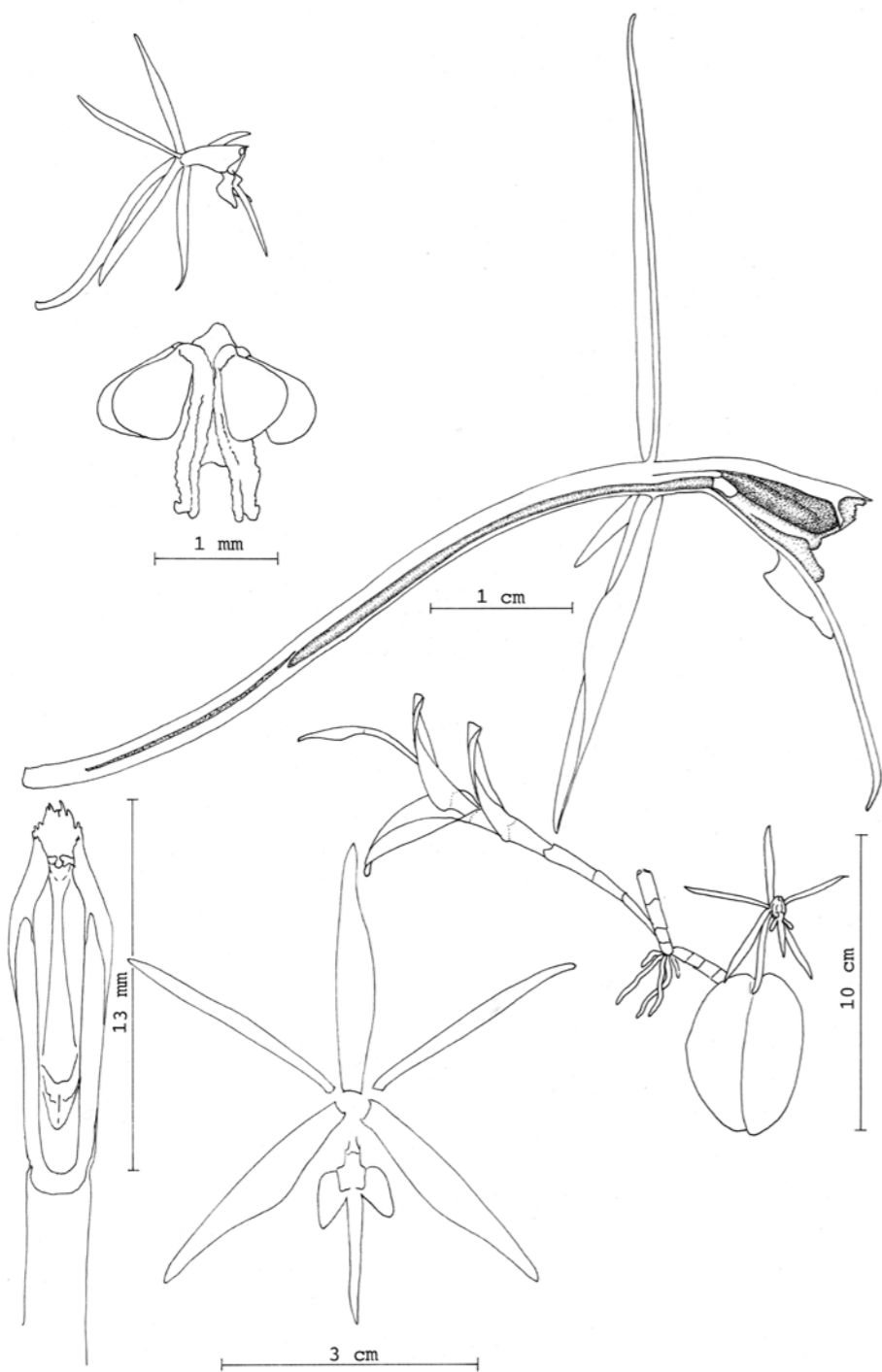


Fig. 175. *Epidendrum anchinoturnum* Hágsater (Hágsater, R.L. Dressler, K. Dressler & Folsom 7383, AMO – drawn by E. Hágsater).



Fig. 176. Distribution of *Epidendrum anchinoturnum* Hágsater in Valle del Cauca.

wide, oblique, semiovate, apex obtuse, margin entire; middle lobe linear, acuminate, margin entire; bicallose, callus laminar, prominent. **Gynostemium** 13 mm long, slightly arched near the middle. Clinandrium-hood short, ciliate to deeply dentate. **Nectary** penetrating somewhat more than half of the ovary.

**HABITAT:** Lowland tropical forest; at about 250 m alt.

**Flowering season:** Probably throughout the year.

**GENERAL DISTRIBUTION:** Endemic, known only from the Department of Valle del Cauca.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** 8 km abajo del retén del Alto Anchicayá. Alt. 250 m. Hágsater, Dressler & Folsom 7383 (AMO!, COL!).

**46.74. *Epidendrum buenaventurae* F. Lehm. & Kraenzl. (Figs 178, 179; Photo 100).**

Bot. Jahrb. Syst. **26:** 470. 1899; TYPE (Sánchez & Hágsater 2008): COLOMBIA. In silvis densis ad fluvium Río Dagua, in ditone silvarum oppidi Buenaventura. Alt. 0-500 m. *Lehmann 8313* (B†; LECTOTYPE: AMES!; ISOLECTOTYPES: AMES!, AMES!, G!, K! L!, NY!, W!). - Sánchez & Hágsater in Hágsater & Sánchez, Icon. Orchid. **11:** pl. 1107. 2008. = *Epidendrum nocturnum* var. *panamense* Schltr., Repert. Spec. Nov. Regni Veg., Beih. **17:** 36. 1922.

**Epiphytic** or **lithophytic**, sympodial, caespitose plants, 17-30 cm tall. **Stems** 8-22 cm long, 0.2-0.45 cm wide, simple, cane-like, laterally compressed. **Leaves** 3-7, 4-14 cm long, 0.8-2.7 cm wide, distributed throughout the apical half of the stem, coriaceous, elliptic-lanceolate, bilobed, dorsally carinate, the upper side green, the backside red-purple, about 5-6 times longer than broad; sheaths 1.5-2 cm long, tubular, laterally compressed. **Inflorescence** 3.5-6.5 cm long, apical, racemose to pluriracemose, producing one flower at a time and during several years. **Flower** resupinate, one at a time, sometimes two from different racemes, successive, sepals and petals greenish-brown to yellowish green, lip and gynostemium white, the apical half of the middle lobe rarely yellow, calli yellow; with a slight fragrance. **Floral bract** much shorter than the ovary, triangular, acute. **Ovary** 35-50 mm long, 1.2-1.5 mm wide, terete, noninflated, smooth. **Sepals** 25-46 mm long, 1.8-3 mm wide, spreading, narrowly elliptic-lanceolate, acuminate, with 9 main veins, some branched so as to appear 12-veined, margin entire-revolute. **Petals** 27-45 mm long, 1-1.5 mm wide, spreading, linear-lanceolate, acuminate, 5-veined, sometime with several secondary veins so as to appear 7-9-veined, margin entire, revolute. **Lip** 20-40 mm long, 10-15 mm wide, united to the gynostemium, base cordate, 3-lobed, margin entire, revolute; lateral lobes 16-25 mm long, 6-8 mm wide, oblique, ovate-triangular, acumi-

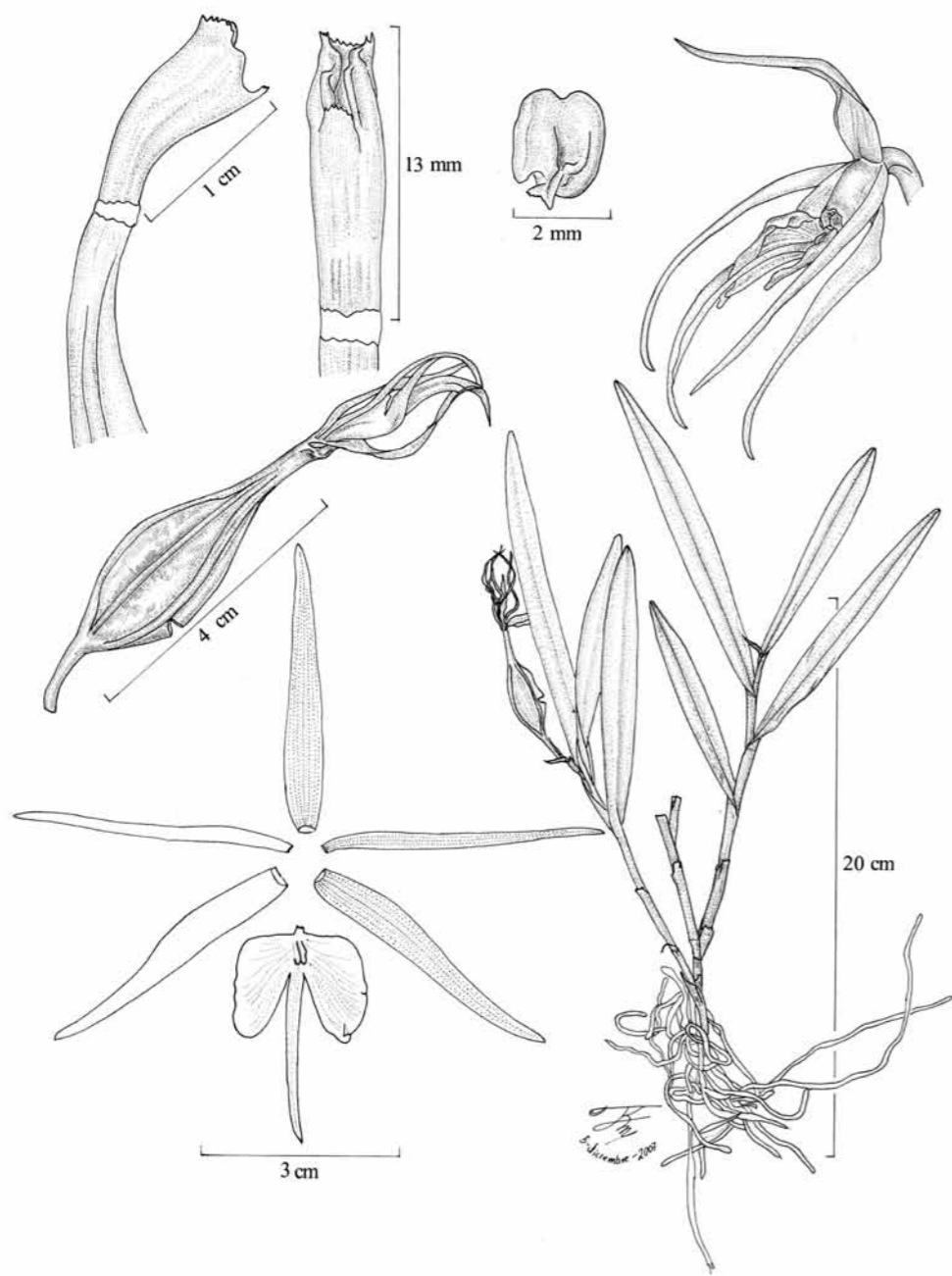


Fig. 177. *Epidendrum buenaventurae* F. Lehm. & Kraenzl. (*Salazar* (or *Alvarez*???) 4758, MEXU – drawn by R. Jiménez Machorro).

nate, acute to rounded with numerous thickened veins; middle lobe 23-45 mm long, 0.8-1.7 mm wide, linear-lanceolate, acuminate; bicallose,

calli laminar, prominent, divergent, one-keeled, keel low, prolonged to the apex of the middle lobe. **Gynostemium** 9-17 mm long, 2.5-3.8

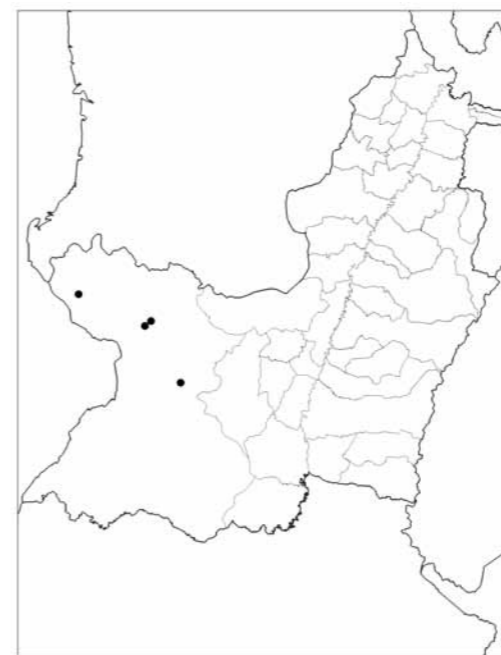


Fig. 178. Distribution of *Epidendrum buenaventurae* F. Lehm. & Kraenzl. in Valle del Cauca.

mm wide, straight to arching, dilated toward the apex. Clinandrium-hood prominent, margin dentate-fimbriate. Anther ovoid. **Nectary** penetrating 1/2 of the ovary, thin, smooth. **Capsule** 10-15 mm long, 0.8-1 mm wide, ellipsoid.

**HABITAT:** Lowland tropical forest; near sea level. It was reported growing on *Rhizophora* spp. (Rhizophoraceae).

**FLOWERING SEASON:** February, June, October.

**GENERAL DISTRIBUTION:** Ecuador, Colombia, Panama, Costa Rica, Nicaragua, Honduras, Mexico.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Buenaventura. Alt. 10 m. *Killip & Cuatrecasas* 38820 (AMES!), COL!, VALLE!); Road between Anchicaya and Buenaventura, near Agua Clara. Alt. 20-50 m. 14 Oct 1982. *Folsom, L. Albert de Escobar & D. Sánchez* 10507 (AMO!); [Rio Dagua]. *Lehmann* 8313 (K!); Punta Arenas, north shore of Buenaventura Bay. Alt. ca 10 m. 5 Jun 1944 *Killip & Cuatrecasas*

38618 (COL!, VALLE!); Bahía de Malaga, mouth of Quebrada Sierpe. 04°00N 77°15W. Alt. 0 m. 17 Feb 1983. *Gentry, A. Juncosa & H. Mazuera* 40428 (COL!, JAUM!, MO!, SEL!); Bajo Calima; concesión Pulpapel/Buenaventura. 3°55N 77°W. Alt. ca 100 m. 15 Oct 1987. *M. Monsalve* B. 1941 (MO!); *Sine loc.* Cultivado en Orquídeas del Valle cerca de Cali. *R. Escobar* R. 5373 (AMO!).

**OTHER SPECIMENS EXAMINED: COLOMBIA.**

**Cauca.** Um Coteje am Timbiquí. *Lehmann* Ic. Pl. t. 1056, pro parte, capsule (K!). **MEXICO.**

**Chiapas.** Ocosingo, a 4.5 km al SE de la zona arqueológica de Bonampak. Alt. 256 m. 10 Feb 2003. *Álvarez* 3701 (MEXU!); Ocosingo, a 1.5 km al NO del cruceo San Javier. Alt. 404 m 14 Apr 2003. *Salazar* 4758 (MEXU!). **Veracruz.**

Jesús Carranza, Región de Uxpanapa, donde inicia el lamería al pie de la vertiente N de la Sierra de Tres Picos, cerca del límite con Oaxaca. Alt. 180 m. 30 Mar 1999. *G. Salazar* 5530 (AMO!). **NICARAGUA. Matagalpa.** El Roblar. Alt. 2500 ft. *Heller* 3073 (SEL!). **COSTA RICA. Puntarenas.** Isla del Caño, 40 km NW Corcovado Natl. Park. 1 Feb 1983. *Gómez* 19984 (MO!). **PANAMA. Chiriquí.** 12.4 miles N of David. 14 Dec 1966. *Lewis* 713 (AMES!). **Coclé.**

Bismark above Penonomé. 19 Mar 1908. *Williams* 595 (NY!). **Panama.** Archipiélago de Las Perlas 2.5 hr walk from village La Esmeralda on trail to village La Guinea. Alt. 0-100 m. 20 Feb 1982. *Knapp* 2969 (MO!).

**HABITAT:** Lowland tropical forest; near sea level. It was reported growing on *Rhizophora* spp. (Rhizophoraceae).

**FLOWERING SEASON:** February, June, October.

**GENERAL DISTRIBUTION:** Ecuador, Colombia, Panama, Costa Rica, Nicaragua, Honduras, Mexico.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Buenaventura. Alt. 10 m. *Killip & Cuatrecasas* 38820 (AMES!), COL!, VALLE!); Road between Anchicaya and Buenaventura, near Agua Clara. Alt. 20-50 m. 14 Oct 1982. *Folsom, L. Albert de Escobar & D. Sánchez* 10507 (AMO!); [Rio Dagua]. *Lehmann* 8313 (K!); Punta Arenas, north shore of Buenaventura Bay. Alt. ca 10 m. 5 Jun 1944 *Killip & Cuatrecasas*

38618 (COL!, VALLE!); Bahía de Malaga, mouth of Quebrada Sierpe. 04°00N 77°15W. Alt. 0 m. 17 Feb 1983. *Gentry, A. Juncosa & H. Mazuera* 40428 (COL!, JAUM!, MO!, SEL!); Bajo Calima; concesión Pulpapel/Buenaventura. 3°55N 77°W. Alt. ca 100 m. 15 Oct 1987. *M. Monsalve* B. 1941 (MO!); *Sine loc.* Cultivado en Orquídeas del Valle cerca de Cali. *R. Escobar* R. 5373 (AMO!).

**OTHER SPECIMENS EXAMINED: COLOMBIA.**

**Cauca.** Um Coteje am Timbiquí. *Lehmann* Ic. Pl. t. 1056, pro parte, capsule (K!). **MEXICO.** **Chiapas.** Ocosingo, a 4.5 km al SE de la zona arqueológica de Bonampak. Alt. 256 m. 10 Feb 2003. *Álvarez* 3701 (MEXU!); Ocosingo, a 1.5 km al NO del cruceo San Javier. Alt. 404 m 14 Apr 2003. *Salazar* 4758 (MEXU!). **Veracruz.** Jesús Carranza, Región de Uxpanapa, donde inicia el lamería al pie de la vertiente N de la Sierra de Tres Picos, cerca del límite con Oaxaca. Alt. 180 m. 30 Mar 1999. *G. Salazar* 5530 (AMO!). **NICARAGUA. Matagalpa.** El Roblar. Alt. 2500 ft. *Heller* 3073 (SEL!). **COSTA RICA. Puntarenas.** Isla del Caño, 40 km NW Corcovado Natl. Park. 1 Feb 1983. *Gómez* 19984 (MO!). **PANAMA. Chiriquí.** 12.4 miles N of David. 14 Dec 1966. *Lewis* 713 (AMES!). **Coclé.** Bismark above Penonomé. 19 Mar 1908. *Williams* 595 (NY!). **Panama.** Archipiélago de Las Perlas 2.5 hr walk from village La Esmeralda on trail to village La Guinea. Alt. 0-100 m. 20 Feb 1982. *Knapp* 2969 (MO!).

**46.75. *Epidendrum campyloglossum* P.Ortiz & Hágsater (Figs 180, 181; Photo 101).**  
Icon. Orchid. 3: t. 319. 1999; TYPE: COLOMBIA. VALLE DEL CAUCA. Buenaventura, Bajo Calima. Plantación de caucho. Alt. ca 50 m. 1996. *E. Rozo & H. Calderón* 53 (HOLOTYPE: TOLI!).

**Epiphytic**, caespitose plants about 30 cm tall. **Stems** erect, acipitose, dilated towards the apex, straight. **Leaves** 7, 10-11.5 cm long, 2-2.3 cm wide, distributed toward the apical half

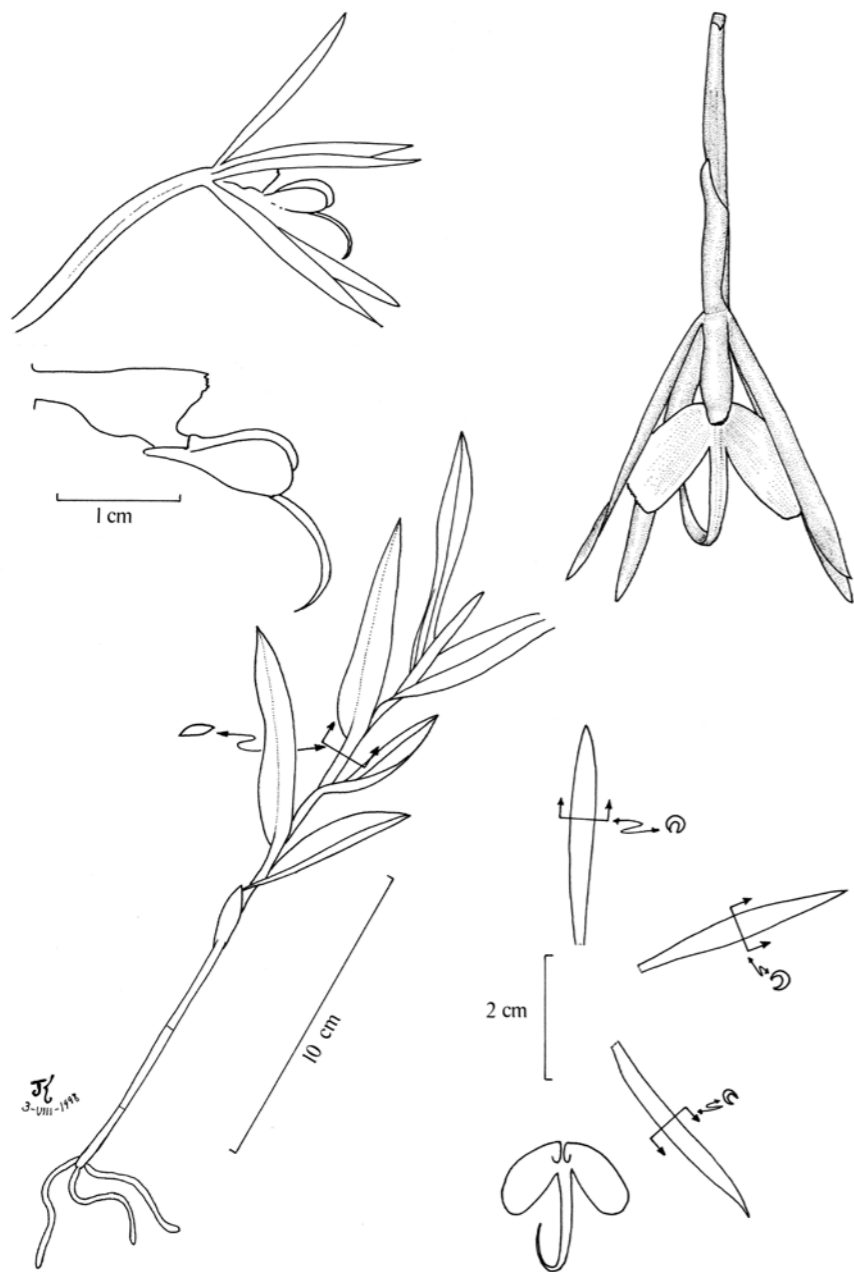


Fig. 179. *Epidendrum campyloglossum* P.Ortiz V. & Hágsater (*E. Rozo* & H. Calderón (via P. Ortíz V.) 53, TOLI – drawn by R. Jiménez Machorro).

of the stem, elliptic, acute, green above, purple below; sheath tubular, ancipitose. **Inflorescence** apical, pluriracemose, flowering during several

years. **Flowers** one at a time, successive, sepals and petals creamy-yellow, lip, callus and gynostemium white. **Ovary** about 50 mm long, terete,



Fig. 180. Distribution of *Epidendrum campyloglossum* P.Ortiz V. & Hágsater in Valle del Cauca.

noninflated. **Sepals** about 35 mm long, 4 mm wide, narrowly elliptic, acuminate, margin entire, revolute. **Petals** about 34 mm long, 4 mm wide, narrowly elliptic, acuminate, narrowed near the base, margin entire, revolute. **Lip** 33-36 mm long, 9-14 mm wide, 3-lobed; lateral lobes about 17 mm long, 6 mm wide, obovate, oblique, rounded to truncate; middle lobe about 24 mm long, 1.5 mm wide, acicular, recurved in natural position. **Gynostemium** about 14 mm long, straight, strongly dilated above the basal third. Clinandrium-hood short, margin serrate.

**HABITAT:** Pacific coastal plain, lowland wet forest, some populations have been reported growing in *Hevea* plantation; up to 100 m alt.

**FLOWERING SEASON:** March, July.

**GENERAL DISTRIBUTION:** Endemic, known only from the Department of Valle del Cauca.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Bajo Calima. Region between Buenaventura and Rio Calima, Carretera Hans at km 22 on main road to Ca-

nalete, in region of active clear-felling, ca 6 km N of main road. 04°02N 77°51W. Alt. 50-60 m. 21 Jul 1988. *Croat 69500* (CUVC! - xerox); Bajo Calima; concesión Pulpapel/Buenaventura. 03°55N 77°W. Alt. ca 100 m. 11 Mar 1986 *M. Monsalve B. 934* (MO!).

**46.76. *Epidendrum cocornocturnum* Hágsater (Figs 182, 183; Photo 102).**

Icon.Orchid. 3: t. 326. 1999; TYPE: COLOMBIA. ANTIOQUIA. Mpio. Cocorná. Quebrada El Viao, colectada por Francisco "Pacho" López, cult. Colomborquídeas. Pressed 29 Nov 1996. F. "Pacho" López sub *Colomborquídeas sub Hágsater 11652* (HOLOTYPE: COL!); 20 Dec 1996 (CLONOTYPE: AMO!); 11 Jun 1997 (CLONOTYPE: JAUM!); 9 Jan 1998 (CLONOTYPES: AMES!, QCNE!).

**Epiphytic**, caespitose plants, up to 50 cm tall. **Stems** 19-40 cm long, 0.4-1.2 cm wide, simple, cane-like, terete below, ancipitose and widened above, flexuose. **Leaves** 4-5, 5-18 cm long, 2.8-5 cm wide, distributed along the apical half of the stem, thin, subcoriaceous, flexible, elliptic to narrowly lanceolate, rounded and bilobed at the apex. **Inflorescence** producing successive racemes over several years, hidden within the base of apical leaf. **Flowers** several, 130-160 mm in diameter, resupinate, successive, one at a time, sepals and petals green, lip white at base and green at the apex of the lobes, callus and keel yellow, gynostemium white, fragrant at night. **Floral bracts** about 4 mm long, triangular. **Ovary** 60-90 mm long, 4-7 mm wide, terete. **Sepals** 64-90 mm long, 6-8 mm wide, narrowly lanceolate, acuminate, 13-veined. **Petals** 72-90 mm long, 4 mm wide, narrowly lanceolate, acuminate, 9-veined. **Lip** 60-63 mm long, about 17 mm wide, united to the gynostemium, base cuneate, 3-lobed; lateral lobes 22-29 mm long, 4-5 mm wide, semilanceolate, oblique, rounded; middle lobe 50-60 mm long, about 2.5-3 mm wide, over twice longer than the lateral lobes, linear-lanceolate, acute, straight; bicallous, callus

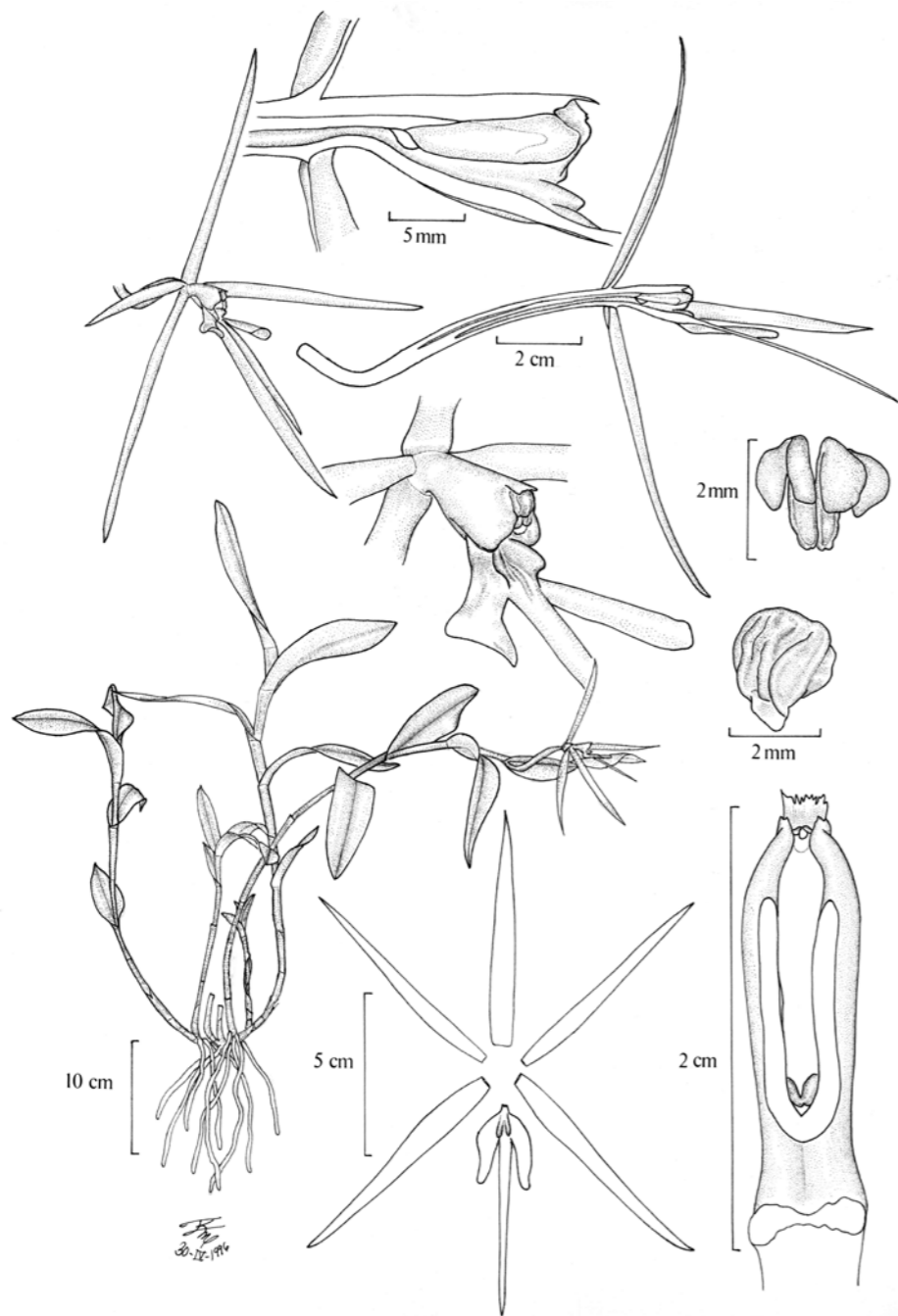


Fig. 181. *Epidendrum cocornocturnum* Hágsater (F. "Pacho" López sub *Colomborquideas* sub Hágsater 11652, COL – drawn by R. Jiménez Machorro).



Fig. 182. Distribution of *Epidendrum cocornocturnum* Hágsater in Valle del Cauca.

flat, long, with a short, low carina in the middle. **Gynostemium** 19-26 mm long, straight. Clinandrium-hood prominent, fimbriate-dentate. **Nectary** penetrating half the ovary. **Capsule** about 75 mm long.

**HABITAT:** Montane forest; 2000-2070 m alt.

**FLOWERING SEASON:** Probably throughout the year.

**GENERAL DISTRIBUTION:** Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** Pentes occidentales des Farallones de Cali. Alt. 2000 m. *Lehmann 2021* (G!); Yumbo, Dapa. Alt. 2070 m. 25 Apr 2010. *Parra 187* (VALLE!); The same loc. 20 Feb 2011. *Parra 398*. (VALLE!).

**OTHER SPECIMENS EXAMINED: COLOMBIA. Antioquia.** Frontino. *Lehmann 8312* (AMES!, K!). **Cundinamarca.** Anolaima, Vereda Santa Bárbara. Alt. 1750 m. Col. 23 Mar 2009, prens. 30 Oct. 2010. *P. Ortiz V. 1384* (HPUJ!). **ECUADOR. Carchi.** Cantón Tulcán. Km 9.8 de Mal-

donado hacia Tulcán. 0°54'N 78°06'W. Talud, vegetación secundaria avanzada. Alt. 2090 m. Fecha de colecta 1 May 1993, fecha de material cultivado 12 Sep 1997. *Hágsater, Dodson, Williams, Whitten, A. Embree, F.L. Stevenson & R.M. Chandler 11332* (AMO!).

**46.77. *Epidendrum litense* Hágsater & Dodson** (Fig. 184; Photos 103-104).

Icon.Orchid. 2: t. 152. 1993; TYPE: ECUADOR. ESMEERALDAS. Km 12-25 Lita to Alto Tambo along newly opened road. Alt. 800 m. *Hirtz 3504* (HOLOTYPE: QCNE; ISOTYPE: AMO!).

**Epiphytic**, caespitose plants, 10-28 cm tall. **Stems** 6-13 cm long, 0.1-0.15 cm wide at the base (0.2-0.4 cm wide near the apex), simple, reed-like, distally ancipitous. **Leaves** 4-6, 4-8 cm long, 0.7-0.9 cm wide, narrowly elliptic-lanceolate, pale green; sheaths 2-4.3 cm long, tubular. **Inflorescence** originally racemose, later producing further racemes, each producing one flower at a time, 2-3 racemes of the same inflorescence may have flowers simultaneously; sheaths up to 4.5 mm long, imbricating. **Flowers** up to 15 per raceme, resupinate, successive, sepals and petals bronze-green, lip and gynostemium white, with nocturnal fragrance of gardenia. **Floral bract** up to 6 mm long, triangular-acuminate. **Ovary** 26-36 mm long, terete. **Sepals** 28-35 mm long, about 3 mm wide, spreading, membranous, narrowly lanceolate, attenuate; dorsal sepal 9-veined; lateral sepals 8-veined. **Petals** 28-32 mm long, about 1.1 mm wide, spreading, membranous, sublinear, attenuate, 3-veined. **Lip** 22-26 mm long, about 10 mm wide, united to the gynostemium, membranous, bicarinate, 3-lobed; lateral lobes triangular-falcate, rounded; middle lobe ensiform, attenuate. **Gynostemium** 7-8 mm long (including the clinandrium-hood), straight, slender. Clinandrium prominent, irregularly toothed. Anther subglobose. **Nectary** penetrating 1/3 of the ovary.

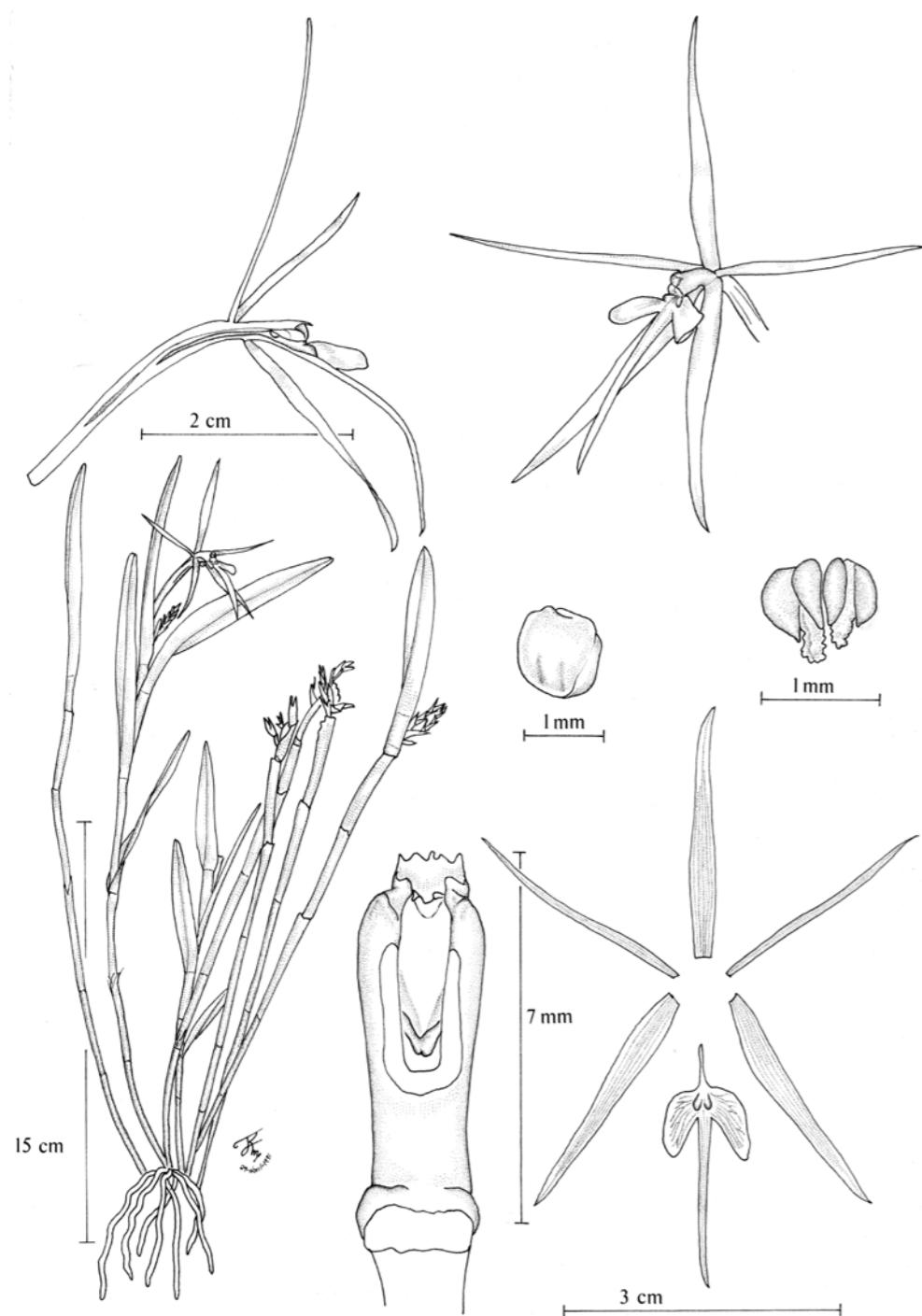


Fig. 183. *Epidendrum litense* Hágsater & Dodson (Hágsater, Dodson, D. Rubio & N. Revelo 10645, AMO – drawn by R. Jiménez Machorro).

HABITAT: Pacific wet forest; 300 m alt.

FLOWERING SEASON: From July to September.

GENERAL DISTRIBUTION: Ecuador, Colombia.

DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA: **Mpio. Buenaventura.** Près du Saltico au Río Dagua. Alt. 300 m. 20 Sep 1882. *Lehmann 1892* (G!).

OTHER SPECIMENS EXAMINED: **COLOMBIA.** **Nariño.** Bei Paramo am Wege von Barbacoas nach Pasto. Alt. 1200 m. 18 Jul 1889. *Lehmann 110* (G!) **ECUADOR. Esmeraldas.** Km 27.8 camino Lita a San Lorenzo, abajo del Alto Tambo, Selva mediana perennifolia, selva & precipitación de 8000 mm anuales. Alt. 670 m. Fecha de colecta 11 Jul 1990, fecha de prensado de material cultivado 31 May 1991. *Hágsater, Dodson, D. Rubio & N. Revelo 10645* (AMO!); Km 12 road from Lita to Alto Tambo. Alt. 750 m. 26 Aug 1987. *Dodson, Dressler, W. Williams & H. Hills 17327* (MO!).

**46.78. *Epidendrum macrophorum* Hágsater & Dodson** (Figs 185, 186; Photo 105).

Icon. Orchid. 3: t. 350. 1999; TYPE: ECUADOR. CARCHI. Tulcán, km 79.2 camino Tulcán-Maldonado, Tulcán. 0°47'N 77°56'W. Alt. 1540 m. 29 Apr 1993. *Hágsater & et al. 11373* (HOLOTYPE: QCNE; ISOTYPES: AMO!, COL!, MO!, SEL!).

**Epiphytic or lithophytic**, caespitose plants, 30-128 cm tall. **Stems** 25-106 cm long, simple, laterally compressed at the apex, terete below. **Leaves** 6-10, 9.5-20 cm long, 2.3-7 cm wide, 3-4 times longer than broad, coriaceous, distributed towards the apex of the stem, elliptic to oblong, retuse; sheaths 2-5.5 cm long, 0.5-1.7 cm wide, laterally compressed. **Inflorescence** 0.5-3.5 cm long, apical, pluriracemose; peduncle with 1-4 bracts. **Flowers** 1-5 per raceme, resupinate, successive, one at a time, pale to coppery green, lip and gynostemium white, the gynostemium turning reddish. **Floral bracts** 6-16 mm long, 6-12 mm wide, much shorter than the ovary,

triangular. **Ovary** 220-280 mm long, about 4 times longer than the sepals, terete. **Sepals** 62-78 mm long, 5-8 mm wide, spreading, linear-lanceolate, acuminate, mucronate, margin revolute, entire. **Petals** 60-74 mm long, 3-6 mm wide, similar but narrower. **Lip** 40-56 mm long, 28-38 mm wide, bicallose, callus laminar, prominent, unicarinate forming a keel between the callus, 3-lobed; lateral lobes 24-30 mm long, 9-12 mm wide, semiovate, rounded, margin entire; middle lobe 35-47 mm long, 2-3 mm wide, linear, acuminate. **Gynostemium** 30-34 mm long, slightly arched, thin at base, dilated at the apex. Clinandrium-hood short, deeply and irregularly dentate. **Nectary** penetrating the whole length of the ovary. **Capsule** 23.5-28 mm long, ellipsoid, very long, pedicel more than half the entire length, the body occupying the apical half, with a short apical neck.

HABITAT: Wet forest on rocks and trees; about 600-730 m alt.

FLOWERING SEASON: April.

GENERAL DISTRIBUTION: Ecuador, Colombia.

DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA: **Mpio. Buenaventura.** Carretera entre el embalse & las oficinas de la Central Hidroeléctrica del Alto Anchicayá. I. *Guarín O. 14* (COL). **Mpio. Dagua.** Camino Cali-Anchicayá, El Queremal, en potrero. Preparado de material cultivado 25 Apr 1983. *Hágsater, Dressler & Folsom 7322* (AMO!); Presa Alto Achincayá, junto a la cortina. Alt. 600 m. 26 Apr 1983. *Hágsater, R.L. Dressler, K. Dressler & Folsom 7373* (AMO!); “El Encanto”, carretera Cali-Buenaventura km 63. Alt. 730 m. *P. Ortíz V. & P.S. Restrepo 225* (HPUJ!).

OTHER SPECIMENS EXAMINED: **COLOMBIA. CAUCA.** Guapí, Isla de Gorgona, playas cercanas a las instalaciones del indirena. Alt. 0-150 m. 10 sep 1987. *J. L. Fernández A., O. Rangel, et al. 7471* (COL!). **ECUADOR. Cotopaxi.** Km 37 Quevedo-Latacunga. Montane cloud forest, epiphytic. Alt. 600-1500 m. Preparado de material cultivado 20 Jul 1984. *Thurston 3398 sub Hágsater 7754* (AMO!). **Carchi.** Tulcán. Ca 3 km abajo de

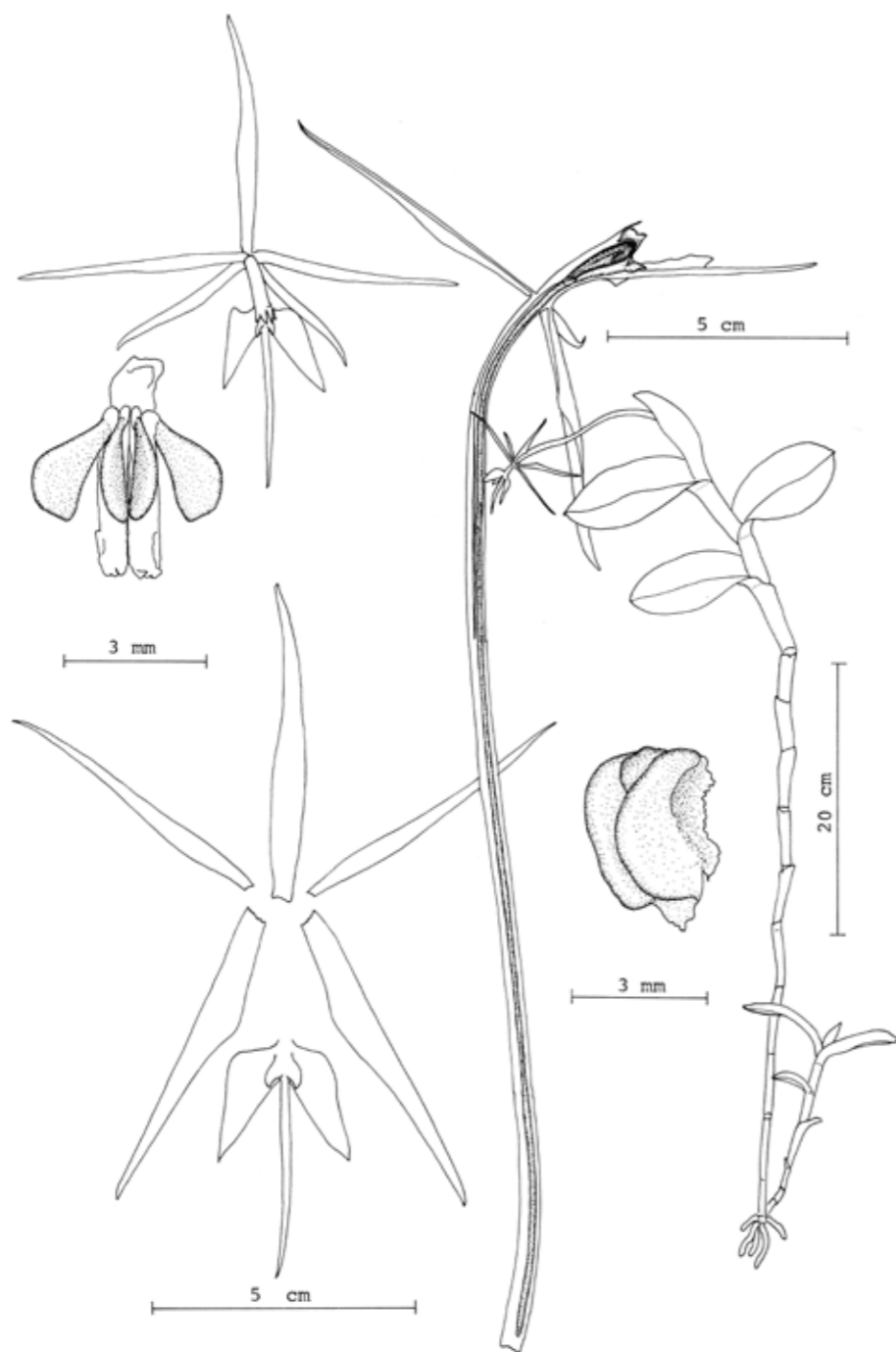


Fig. 184. *Epidendrum macroopborum* Hágsater & Dodson (Hágsater, R.L. Dressler, K. Dressler & Folsom 7373, AMO – drawn by E. Hágsater).

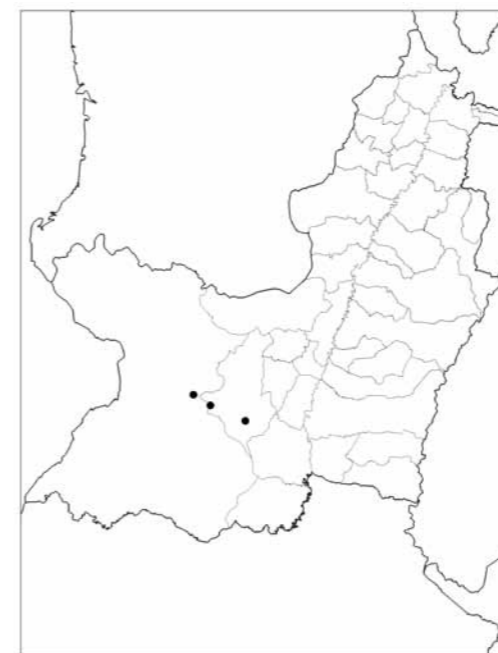


Fig. 185. Distribution of *Epidendrum macroopborum* Hágsater & Dodson in Valle del Cauca.

Maldonado hacia Chicaí. 0°54'N 78°06'W. Talud al borde del camino entre sacates Alt. 1412 m. 30 Apr 1993. Hágsater, Dodson, Williams, Whitten, A. Embree, F.L. Stevenson & R.M. Chandler 11326 (AMO! x 2).

**46.79. *Epidendrum mininocturnum* Dodson (Fig. 187, 188).**

Selbyana 2: 53. 1977; TYPE: ECUADOR. LOS RÍOS. Río Palenque Science Center, km 56 Quevedo-Santo Domingo. Alt. 150-220 m. 10 Mar 1977. In fruit. Dodson 6654 (HOLOTYPE: SEL!). - Dodson & Dodson in Dodson, Icon. Pl. Trop. 1(1): pl. 89. 1980. - Vásquez & Ibsch, Orquíid. Bolivia 2: 126-127. 2004. - Misas Urreta, Orquídeas de la Serranía de Baudó: 200-201. 2005.

**Epiphytic or lithophytic**, 12-15 cm, sympodial, caespitose, erect, short herb. **Roots** basal, fleshy. **Stems** 5-10 cm tall, 0.3-0.4 cm wide, simple, cane-like, laterally compressed towards the

apex, terete at the base, straight. **Leaves** 2-4, rarely 5-7, 3.2 cm long, 0.8-2 cm wide, distributed along the apical half of the stem; sheaths laterally compressed, blade narrowly elliptic to lanceolate, obtuse, coriaceous, slightly carinate, mucronate. **Inflorescence** apical, racemosa, becoming pluri-racemose through the years, producing one flower at a time per raceme; peduncle and rachis very abbreviated. **Flowers** several, successive, one per raceme at a time, resupinate, cleistogamous, sepals and petals pale green or yellowish green, lip and column white. **Floral bracts** much shorter than the ovary, amplexicaul, triangular, acute to acuminate. **Ovary** 27-30 mm long, terete, slightly inflated, unornamented, slightly longer than the sepals. **Sepals** 27-28 mm long, 4-5 mm wide, spreading, linear-oblongate, acute, 7-9-veined with several secondary veins and thus appearing 11-veined; lateral sepals slightly falcate, oblique. **Petals** 26-27 mm long, 1.5-2 mm wide, spreading, linear-elliptic, acute, 5-veined, with secondary veins so as to appear 7-veined, margin entire, spreading. **Lip** 18-20 mm long, 18-19 mm wide, united to column, 3-lobed; bicallose, calli laminar, prominent; lateral lobes 4-4.5 mm long, 11-13 mm wide, narrowly elliptic, falcate, obtuse to acute, external margin irregularly erose; middle lobe 12-13 mm long, 0.8-1 mm wide, linear to linear-oblongate, acute, margin entire. **Gynostemium** 12 mm long, slightly arching, dilated towards the apex. Clinandrium-hood short, entire to slightly dentate. **Capsule** pedicel short, body centered and occupying nearly the whole length, apical neck short.

**HABITAT:** Lowland wet forest; 30-100 m alt.

**FLOWERING SEASON:** May, October.

**GENERAL DISTRIBUTION:** Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Crrgto. Bajo Calima, Vereda San Isidro, km 39 of road to Bahía Malaga (under construction). Zona de Explotación Forestal (Cartón de Colombia), Frente B1 ("Canalete"). 4°02'N 76°58'W. Disturbed pluvial forest in dissected terrain. Alt. 30-50 m. 16 May

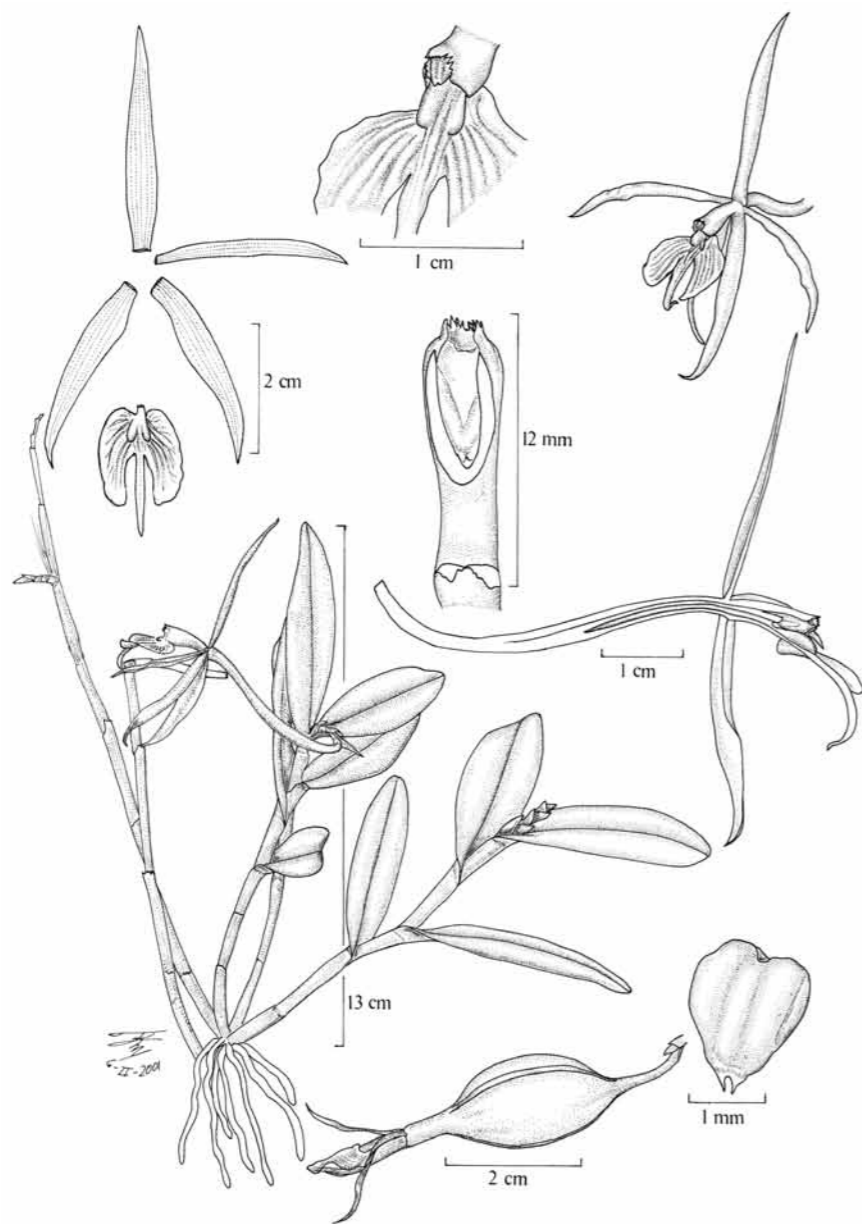


Fig. 186. *Epidendrum mininocturnum* Dodson (*J. Portilla sub Hágsater* 12268, AMO – drawn by R. Jiménez Machorro).

1989. *D.C. Daly*, *R. Callejas* & *M. Monsalve* 5992 (CUVCI); Córdoba, Dagua Valley. Alt. 80-100 m. 9 Oct 1922. *Killip* 11795 (AMES!).

OTHER SPECIMENS EXAMINED: **ECUADOR.**

**Esmeraldas** [Imbabura]. Lita-San Lorenzo, muy abajo, cult. Ecuagenera, Cuenca, Ecuador. Alt. 100 m. 8 Sep 1999. *J. Portilla sub Hágsater* 12268 (AMO!). **Los Ríos.** Río Palenque Science

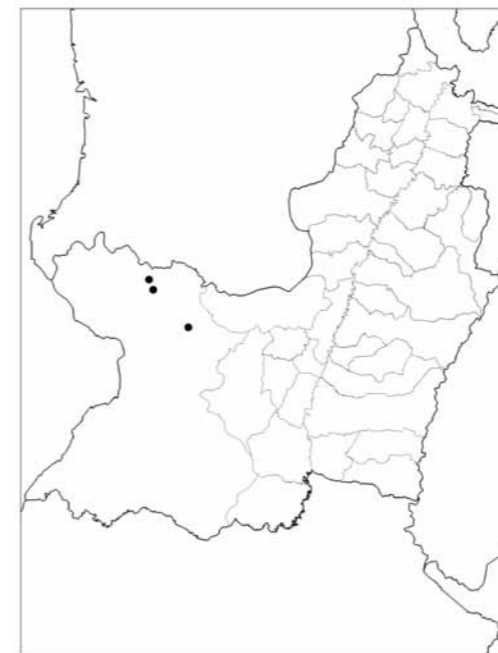


Fig. 187. Distribution of *Epidendrum mininocturnum* Dodson in Valle del Cauca.

Center, km 56 Quevedo-Santo Domingo. alt. 150-220 m. 5-14 Mar 1977, in fruit. *Dodson* 6654 (SEL!). **Pichincha.** Río Baba. 28 km south of Santo Domingo. Alt. 300 m. Nov. 1961. *Dodson* 1160 (AMO!).

**46.80. *Epidendrum nocturnum* Jacq.** (Figs 189, 190; Photo 106).

Enum. Syst. Pl. 29. 1760; TYPE (Garay & Sweet 1974): [MARTINIQUE]. Martinicae. *Jacquin s.n.* (LECTOTYPE: illustration in *Select. Stirp. Am.* t. 139. 1763). - Ames & Correll, *Fieldiana, Bot.* **26**(1): 62-63. 1952. 346-348-Schweinfurth, *Fieldiana, Bot.* **30**(2): 482-484. 1959. - Correll, *Fieldiana, Bot.* **31**(7): 197. 1965. - Foldats in Lasser, *Fl. Venezuela, Orchid.* **15**(3): 322-325. 1970. - Garay & Sweet in Howard, *Fl. Lesser Antill., Orchid.*: 148-150. 1974. - Hamer, *Orquid. El Salvador* **1**: 230-231. 1974. - Dunsterville & Garay, *Orchid. Venezuela* **1**(A-G): 259. 1979. - Williams & Allen, *Orchid. Panama*: 291-292. 1980. - Hamer, *Orchid. Central America, Selbyana* **10**(Suppl.): 236-238. 1988. - Ackerman & del Castillo Mayda, *Orchid. Puerto Rico & Virgin Islands*: 114.

1992. - Nir, *Orchid. Antill.*: 133-134. 2000. - Vasquez & Ibsch, *Orchid. Bolivia* **2**: 128. 2004. - Misas Urreta, *Orquídeas de la Serranía de Baudó*: 202-203. 2005. ≡ *Nyctosma nocturna* (Jacq.) Raf., *Fl. Tellur.* **2**: 9. 1837. ≡ *Auliza nocturna* (Jacq.) Small, *Fl. Miami*: 56. 1913. ≡ *Amphiglottis nocturna* (Jacq.) Britton, *Sci. Surv. Porto Rico & Virgin Islands* **5**: 200. 1924. = *Epidendrum carolinianum* Lam., *Encycl.* **1**: 182. 1783. = *Epidendrum discolor* A.Rich. & Galeotti, *Ann. Sci. Nat., Bot., III*, **3**: 22. 1845. = *Phaedrosanthus nocturnus* (Jacq.) Kuntze in Post & Kuntze, *Lex. Gen. Phanerog.* 429.1904. = *Auliza nocturna* (Jacq.) Small, *Fl. Miami*: 56. 1913. = *Epidendrum nocturnum* var. *angustifolium* Stehlé, *Fl. Descr. Antilles* **1**: 143. 1939.

**Epiphytic**, sympodial, caespitose herb. **Roots** basal, fleshy, thick. **Stems** 8-60 cm long, 0.2-0.5 cm wide, simple, cane-like, terete, straight. **Leaves** 4-12, 3.7-14.0 cm long, 0.8-4.2 cm wide, distributed along the apical 2/3 of the stem, coriaceous; sheath 1.8-6.3 cm long, 0.3-1.0 cm wide, tubular, terete; blade ovate-lanceolate to linear-elliptic, obtuse or retuse, mucronate, with an evident dorsal keel. **Inflorescence** apical, racemose to pluri-racemose, producing one flower at a time over several years. **Flowers** one at a time from each raceme, successive, resupinate, sepals and petals yellowish green to greenish white, lip and column white, calli yellow; nocturnal fragrance. **Floral bract** 3.5-10 mm long, 3.7-5.5 mm wide, much shorter than the ovary, triangular, acute. **Ovary** 50-80 mm long, terete, not inflated, smooth, about as long as the sepals. **Sepals** 35-75 mm long, 3-5 mm long, spreading, linear-lanceolate, acuminate, 7-9-veined, with numerous secondary veins, so as to appear 12-veined or more, margin entire, revolute; the laterals 40-70 mm long, 2-6.5 mm wide. **Petals** 38-72 mm long, 1.5-3.5 mm wide, descending, linear, acuminate, 3-veined, with several secondary veins so as to appear 5-7-veined, margin entire, revolute. **Lip** 25-55 mm long, 13-16 mm wide, united to the column, 3-lobed, base truncate, margin entire, spreading; bicallose, the calli laminar, prominent; one-keeled, the

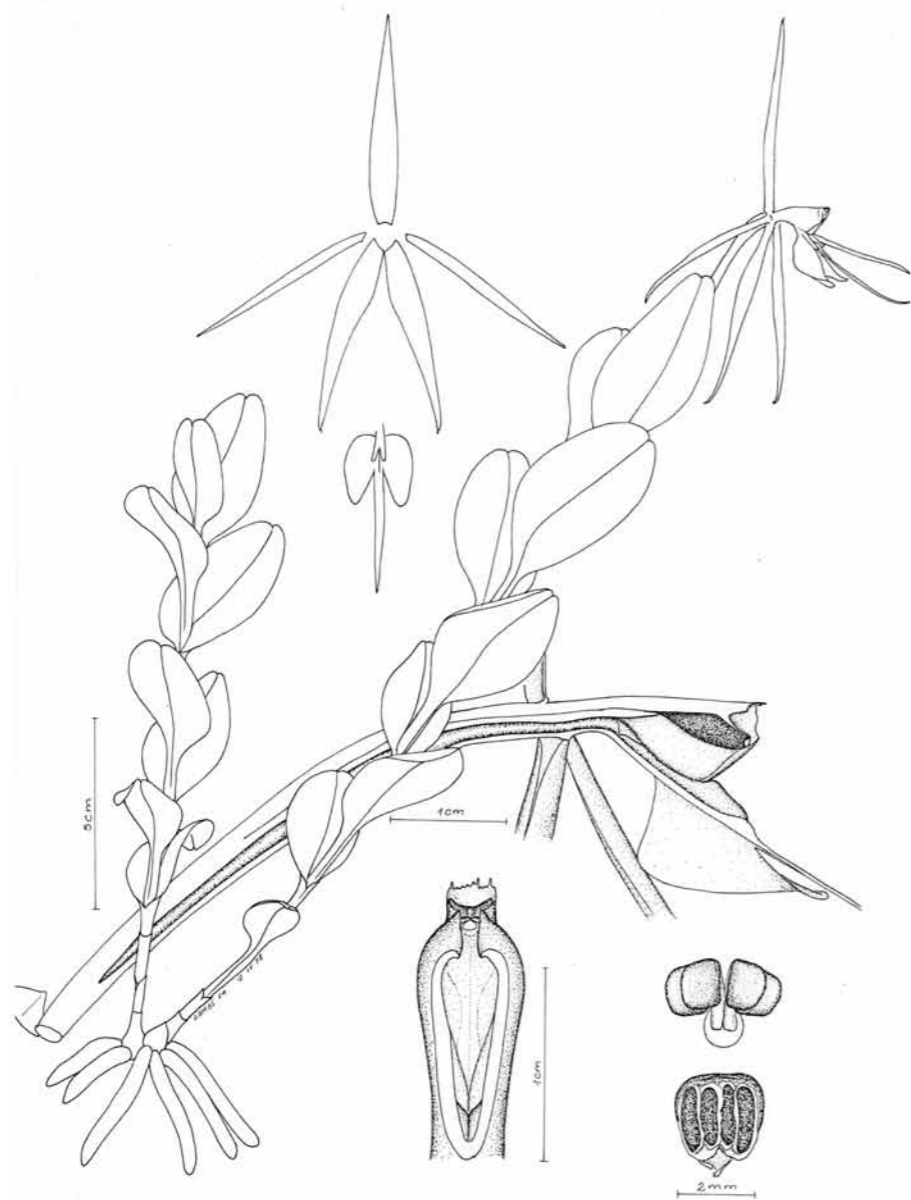


Fig. 188. *Epidendrum nocturnum* Jacq. (*Lamas s.n.*, AMO – drawn by E. Hágsater).

keel not evident, reaching the basal third of the middle lobe; lateral lobes 9-18 mm long, 3.8-7.2 mm wide, obliquely ovate to ovate-lanceolate, acute to rounded; middle lobe linear-triangular, acuminate. **Gynostemium** 15-20 mm long, 4.5-6.0 mm wide, straight to slightly arching, dilated

towards the apex. Clinandrium-hood prominent, margin entire to dentate. Anther obovoid, 4-celled. Pollinia 4, obovoid, laterally compressed; caudicles soft and granulose, about as long as the pollinia; viscidium semiliquid, transparent. Rostellum apical, slit. **Nectary** penetrating ne-

arly the whole ovary, thin, smooth. **Capsule** ellipsoid, pedicel short, body 4-5 cm long, 1.3-1.8 cm wide, occupying 3/4 of the length of the fruit, at the middle, apical neck short.

**HABITAT:** Sandy or clay loam exposed to direct sunlight; up to about 50 m alt.

**ECOLOGY:** This species was reported growing on Rhizophoraceae trees. Its flowers are pollinated by moths, but the autogamy has been also reported (Catling 1990, van der Cingel 2001).

**FLOWERING SEASON:** February-March.

**GENERAL DISTRIBUTION:** Brazil, Peru, Bolivia, Ecuador, Colombia, Venezuela, Guyana, Suriname, French Guiana, Panama, Costa Rica, The Lesser Antilles (Martinique), Nicaragua, Honduras, El Salvador, Guatemala, Belize, Mexico, USA (Florida).

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Costa del Pacífico, Estero del Cangrejal, entre las bocananas de los ríos Yurumanguí & Naya. 6 Feb 1944. *Cuatrecasas 16015* (VALLE! x 2); Río Yurumanguí. Alt. 5-50 m. 28 Feb 1944. *Cuatrecasas 15926* (AMES!, VALLE!); Río Calima (región del Chocó); La Trojita. Alt. 5-50 m. 19 Feb-10 Mar 1944. *Cuatrecasas 16471* (AMES!, VALLE!); Bahía de Buenaventura: Quebrada de Aguadulce, Alt. 0-10 m. 24 Feb 1946. *Cuatrecasas 19995* (VALLE!).

**OTHER SPECIMENS EXAMINED: COLOMBIA. Chocó.** Mpio. San José del Palmar. Al Oeste de éste, lomas a tres horas & media a pie del pueblo de San Pedro de Ingará. 5 Nov 1979. *Silverstone-Sopkin 401* (CUVC!); Mpio. Bahía Solano. Vereda Guaca. Reserva Natural Sabaletas, propiedad de Joel Otero Álvarez. Entre Río Guaca & Quebrada Rogelio. Hierva epífita en árbol caído (Guayabillo, Myrtaceae) al lado de la quebrada Rogelio. Alt. 30 m. 26 Dec 2001. *J.T. Otero (& N. Flanagan) 1186* (CUVC!); Riosucio Zona de Urabá, Región de Cerros del Cuchillo. Camino de Cuchillo Negro a la Cumbre Noroeste (J.Casas). 20-500 m 25 Mar 1988. *D. Cárdenas 1498* (MO!). Riosucio Zona de Urabá. Cerro del Cuchillo. Finca J. Casas. 20-200 m 13 Apr 1988. *D. Cárdenas 1599*

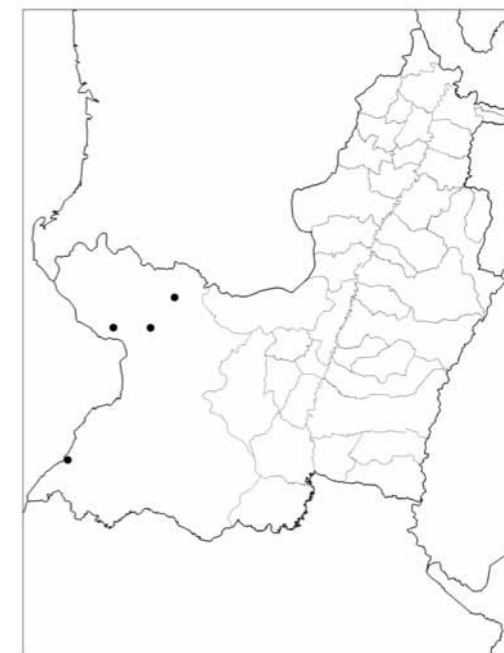


Fig. 189. Distribution of *Epidendrum nocturnum* Jacq. in Valle del Cauca.

(JAUM!) **Cauca:** Parque Nacional Isla Gorgona 2952 Guapí, Gorgona Island. 10 Oct 1924. *H. Craggs 560* (AMES! LE!) Parque Nacional Isla Gorgona, Guapí East side of Gorgona Island. 50-100 m. 11 Feb 1929. *E. P. Killip & H. García 22174* (AMES!) Parque Nacional Isla Gorgona, Guapí Gorgonilla Island, ca 0 m, 6 Feb 1929. *E. P. Killip & H. García 33064* (AMES!).

**BRAZIL. Amazonas.** Margin of Igapó, Manaus-Porto Velho road Black water; flooded river margin. 15 Mar 1974. *G.T. Prance, D.G. Campbell, J.C. Ongley, J.F. Ramos & O.P. Monteiro 20574* (AMES!). **PERU. Loreto.** Maynas. Distrito Iquitos; C. E. Alianza, carretera Quistococha, Purma, 03°45'S 73°15'W. Alt. 122 m. 17 May 1991. *C. Grández & J. Ruiz 2633* (MO!) **ECUADOR. Esmeraldas.** Along road under construction from Lita to Alto tambo (21 kms). Alt. 750-850 m. 17 May 1987. *Dodson, H. van der Werff & W. Palacios 17123* (MO!). **VENEZUELA. Barinas.** Río Caparo, Zwischen Santa Barbara und Savaneta. Alt. 300 m. 27 Oct 1949. *O. Renz & J.*



Renz 6022 (RENZ!). **GUIANA.** Delta Amacuro. Dpto. Antonio Díaz, Río Acure, entre la Piedrita y Baruma 08°25'N 61°05'W Alt. 0 m. 1 Feb 1987. *A. Fernández* 3779 (MO!). **SURINAME.** Paramaribo *Wullschlaegel* 555 (BR!). **FRENCH GUIANA.** Mont Chauve 3°49'N 52°44'W 220 m Forêt claire sur inselberg 11 Apr 1997. *Cremers & F. Crozier* 14863 (AMO!). **PANAMA.** Comarca de San Blas. Nusagandí El Llano Carthi [Carti] Road, 10-12 km from El Llano 400 m forest margins. 18 Sep 1974. *P.J.M. Maas, Dressler & H. Kennedy* 1779 (U!). **COSTA RICA.** Heredia. Parque Nacional Braulio Carrillo Estación Magsasay 10°24'04"N 85°03'03"W Alt. 1100 m. 5 Jul 1990. *G. Carballo* 168 (USJ!). **CUBA.** Pinar del Rio. La Palma, cerca de Mil Cumbres 1 Dec 1968. *J. Brisse* 15525 (HAJB!). **MARTINIQUE.** Kleine Antillen; von Le Morne Rouge auf Montagne Peleé, Morne Calabasse. Alt. 600-700 m. 29 Jan 1970. *J. Renz* 10486 (RENZ!). **NICARAGUA.** Zelaya. Waní Waní, ca 1/2 to 1 Km S of Village, between Río Prinzapolka and Quebrada San Rafael 13°42'N 84°50'W Alt. ca 100 m. secondary forest along roadside and adjacent to cleared areas, moist. 13 Mar 1979. *J.J. Pipoly* 4633 (SEL!). **HONDURAS.** Francisco Morazán. Cerro Uyuca, P. N. La Tigra Drainage of the Río Yeguaré: Santa Clara Creek 14°0'N 87°0'W. Alt. 2600 m. On *Quercus*. 14 Jul 1948. *S.F. Glassman* 1898 (ILL!). **EL SALVADOR.** San Salvador La Palma-El Refugio 1000 m terrestrial on fallen tree. 4 Mar 1969. *F. Hamer* 31 (AMES!). **GUA-TEMALA.** Petén. Puerto Chimono, Laguna Petexbatún, 20 km South of Sayaxché 16°34'N 90°14'W. Alt. 110 m. Growing on *Haematoxylum campechianum*, along waterside. 21 Oct 1989. *H. Zomer* 50 (U!). **BELIZE.** Cayo District. On a ridge between Oak Burn and Privassion Creeks, just west of San Miguel. 19 Mar 1990. *Hágsater* 10476 (AMO!). **MEXICO.** Chiapas. Camino Ocosocautla-Villa Flores, km 30, Finca Las Flores. 1 Dec 1970. *Hágsater* 1251 (AMO!); Whitout locality. *Lamas s.n.* (AMO!). **USA.** Florida. Collier Fahkahatchee Slough, 1/2 mi. W of dirt road ("Copeland Grade"), ca 7 mi.

NNW of Copeland, T51S, R29E Infrequent; on large horizontal limbs of *Annona glabra*, deep pond-apple swamp. 22 Sep 1965. *D.B. Ward & J. Beckner* 5361 (FLAS!).

46.81. ***Epidendrum pseudonocturnum*** Hágsater & Dodson (Figs 191, 192; Photos 107-108).

Icon. Orchid. 2: t. 178. 1993; TYPE: ECUADOR. ESME- RALDAS. Km 3,2 camino Lita-San Lorenzo, sobre talud en selva muy húmeda. Alt. 670 m. 11 Jul 1990. *Hágsater, Dodson, D. Rubio & N. Revelo* 10627 (HOLOTYPE: QCNE; ISOTYPES: AMES!, AMO!, SEL!).

**Terrestrial or epiphytic**, caespitose plants, 20-45 cm tall. **Stems** 18-41 cm long, 4-5 mm thick, simple, terete, straight. **Leaves** 6-8, 2-12 cm long, 1.2-3 cm wide, distributed throughout the stem, coriaceous, elliptic to oblong, apex unequally bilobed; sheath 3.5-5.5 cm long, tubular. **Inflorescence** apical, from the mature stem, during several years producing several racemes. **Flowers** successive, occasionally two open at the same time but at different degrees of maturity; sepals and petals greenish or yellowish-green, lip and gynostemium white, calli yellow. **Floral bracts** 8-10 mm long, much shorter than the ovary, cucullate, acute. **Ovary** 60-80 mm long, terete, noninflated. **Sepals** 48-52 mm long, 7-8 mm wide, free, spreading, somewhat fleshy, glabrous, attenuate, narrowly lanceolate, 7-veined. **Petals** 47-50 mm long, 3.5-4 mm wide, partially open, attenuate, linear-lanceolate, margins revolute, 5-veined. **Lip** 36-40 mm long, about 16 mm wide, united to the gynostemium, bicallose, with a low keel between the apices of the calli, 3-lobed; lateral lobes obliquely semiovate; middle lobe linear-triangular, attenuate, nearly twice as long as the lateral lobes. **Gynostemium** 18-22 mm long, straight, thick. Clinandrium-hood prominent, apex bidentate, lateral margins erose. Anther saddle-shaped, apex bilobed. **Nectary** very deep, penetrating 2/3 of the ovary. **Capsule**

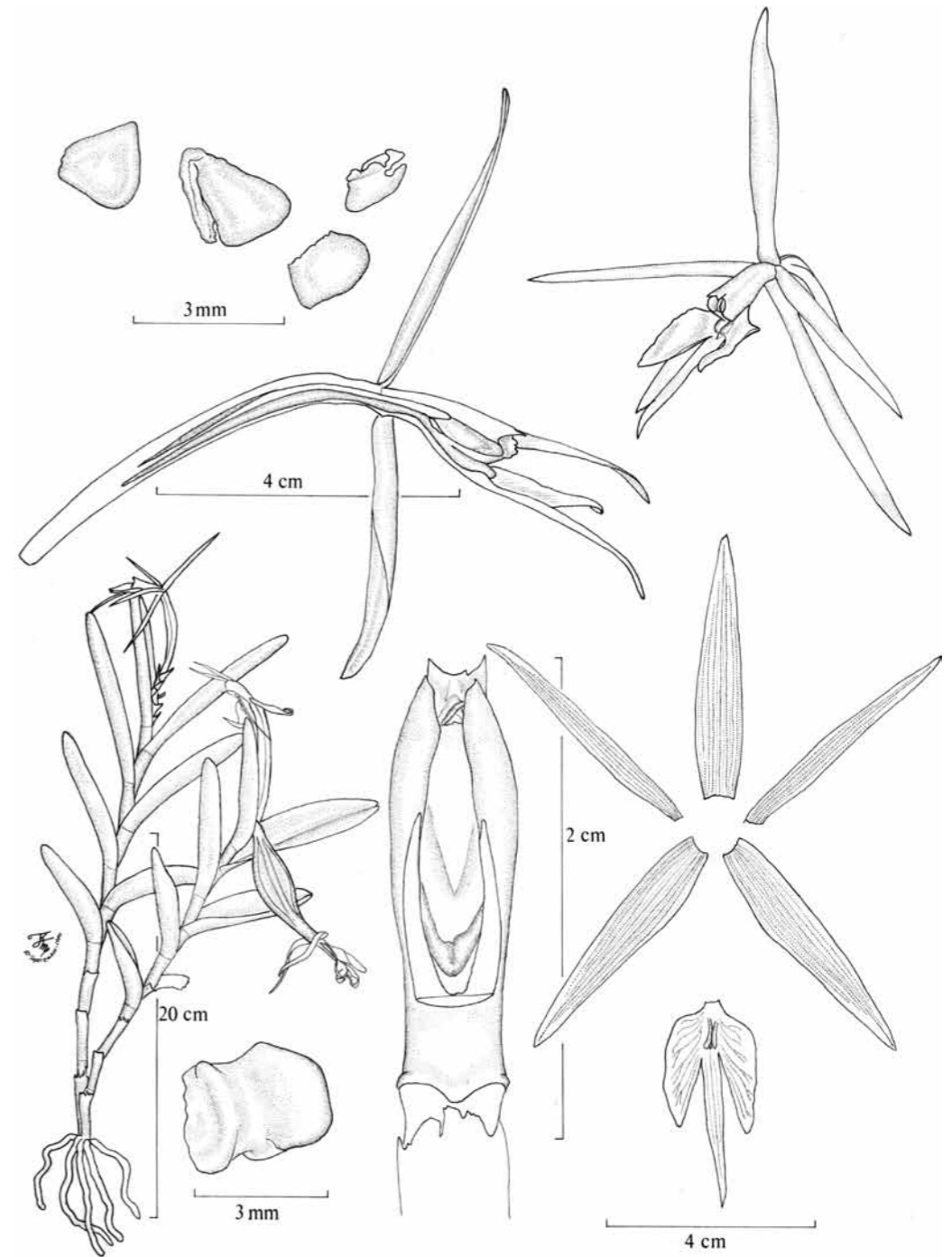


Fig. 190. *Epidendrum pseudonocturnum* Hágsater & Dodson (*Hágsater, Dodson, D. Rubio & N. Revelo* 10807, AMO – drawn by R. Jiménez Machorro).

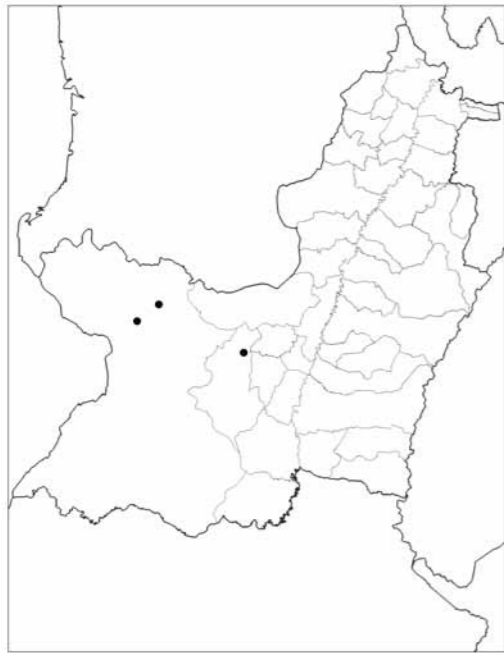


Fig. 191. Distribution of *Epidendrum pseudonocturnum* Hágsater & Dodson in Valle del Cauca.

about 5 cm long, about 1.5 cm wide, ellipsoid, with short apical beak.

**HABITAT:** Pacific lowland forest, but it was also found growing in the edges of the roads; up to 1000 m alt.

**FLOWERING SEASON:** February, June, July.

**GENERAL DISTRIBUTION:** Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Buenaventura. Next to the main road in the city. Near the sea level. 21 Feb 2010. *M. Kolanowska 150* (UGDA!); Buenaventura, Pacific Coast. Alt. 0-5 m. 7 May 1922. *Killip 5216* (AMES! K!); Bajo Calima Región; along road between Buenaventura and Málaga; vicinity of km 50.7 right (N side) of road in deep ravine along stream. 04°02'N 77°05'W. 12 Jul 1993. *Croat & D. Bay 75652* (MO!). **Mpio. Dagua.** Km 60 Cali-Buenaventura. Alt. 1000 m. 24 Jun 1965. *Dodson & H. Hills 3168* (SEL!).

**OTHER SPECIMENS EXAMINED:** **ECUADOR.** **Esmeraldas.** Probablemente km 38.4 camino

Lita a San Lorenzo (final de la construcción). Selva Alta Perenifolia. Alt. 250 m. 11 Jul 1990. *Hágsater, Dodson, D. Rubio & N. Revelo 10807* (AMO!); Cantón San Lorenzo, carretera Lita-San Lorenzo, 15-20 km al oeste de Lita. Ca 0°55'N 78°28'W. Bosque pluvial & bosque nublado de baja altitud & alta diversidad & biomasa de epífitas. Alt. 600-800 m. 25 Mar 1994. *G. Carnevali & Dodson 3413* (AMO!, CICY!). **COLOMBIA. Cauca.** Parque Nacional Isla Gorgona. Guapí. Parque Nacional Natural de isla Gorgona, frente al campamento. 8 Jun 1986. *G. Lozano, O. Rangel & Campo sistemática 5388* (COL!). **Chocó.** Mpio. Quibdó. Barrio Yesquita. 5 Sep 1984. *W.A. Cordoba & F. García 374* (MO!). **Nariño.** San Juan de Pasto Bei Barbacoas, in von Ebano. 1 Aug 1879. *Lehmann s.n.* (W!).

**46.82. *Epidendrum rocalderianum* P.Ortiz V. & Hágsater (Figs 193, 194; Photo 109).**

Icon.Orchid. 3: t. 379. 1999; TYPE: COLOMBIA. VALLE DEL CAUCA. Buenaventura, Bajo Calima. Alt. ca 50 m. 15 Mar 1997. *P. Ortiz V. 1097* (HOLOTYPE: HPUJ!).

**Epiphytic**, caespitose plants, about 30-40 cm tall. **Stems** erect, laterally compressed, dilated towards the apex, flexuose. **Leaves** 5, 10-19.5 cm long, 2.5-3.5 cm wide, distributed towards the apical half of the stem, elliptic, acute, green above, purple below; sheath tubular, laterally compressed. **Inflorescence** about 3 cm long, apical, pluriracemose, flowering during several years; rachis clearly visible between the apical leaves. **Flowers** one at a time, successive, sepals creamy-green, petals yellowish-green, lip white, middle lobe yellowish, callus yellow, gynostemium white. **Ovary** 25-40 mm long, inflated ventrally towards the apical half. **Sepals** 35-50 mm long, 4-5 mm wide, narrowly lanceolate, acuminate. **Petals** 34-48 mm long, 3-4 mm wide, narrowly lanceolate, acuminate. **Lip** 33-36 mm long, 9-14 mm wide, 3-lobed; lateral lobes

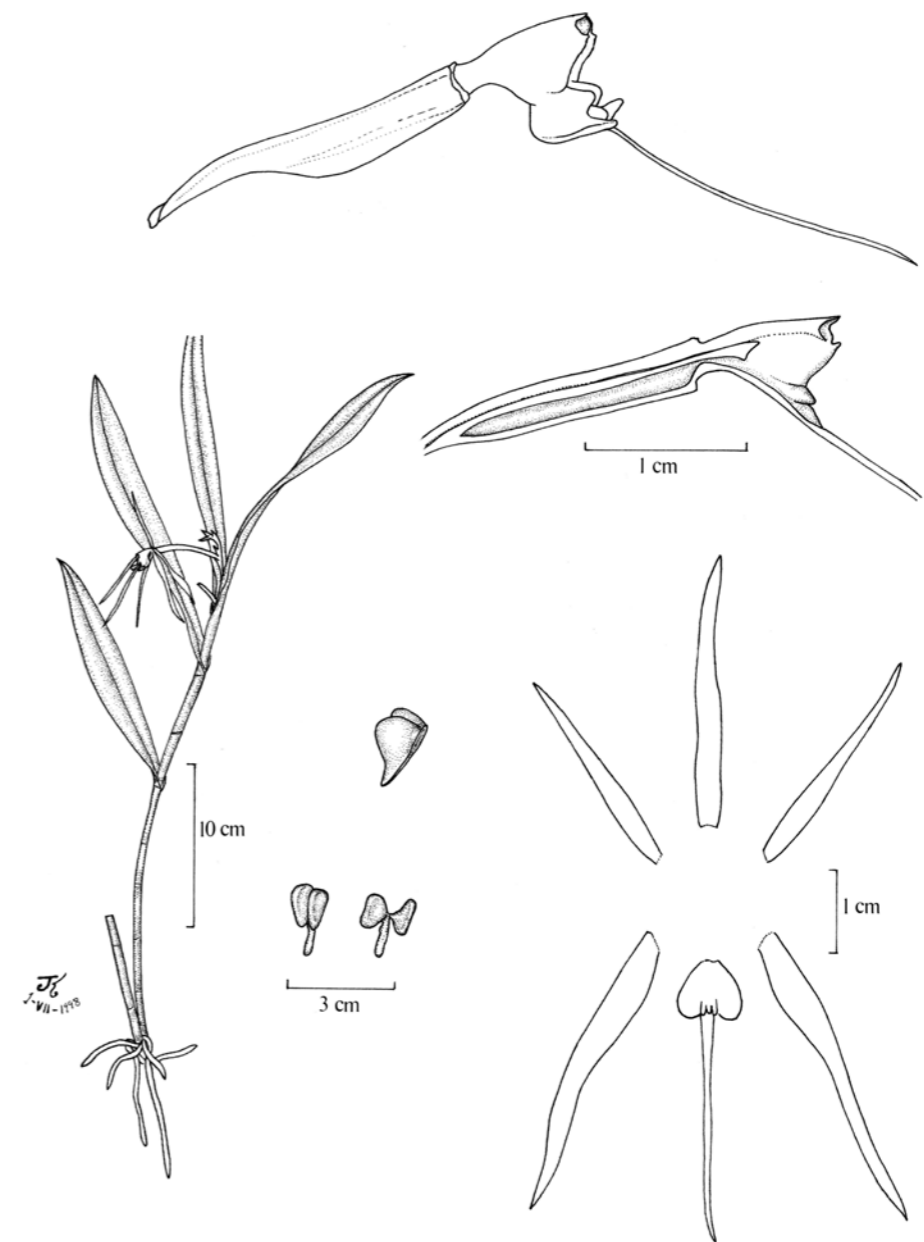


Fig. 192. *Epidendrum rocalderianum* P.Ortiz V. & Hágsater (*P. Ortiz V. 1097*, HPUJ – drawn by R. Jiménez Machorro).

4-6 mm long, 6-8 mm wide, subobovoid to suborbicular; middle lobe 18-30 mm long, 1.5-2 mm wide, acicular. **Gynostemium** 11-13 mm long, straight, strongly dilated above the basal third. **Clinandrium-hood** 3-lobed with wide sinuses,

lateral margins entire or serrate. **Nectary** penetrating 2/3 of the ovary and clearly inflated ventrally along the apical half.

**HABITAT:** Pacific lowland wet forest; at about 70 m alt.



Fig. 193. Distribution of *Epidendrum rocalderianum* P.Ortiz V. & Hágsater in Valle del Cauca.

FLOWERING SEASON: March.

GENERAL DISTRIBUTION: Known only from Colombia (Pacific slope).

DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA: **Mpio. Buenaventura.** Bajo Calima. Alt. ca 70 m. 15 Mar 1997. P. Ortiz V. 1091 (AMO! - drawing).

OTHER SPECIMENS EXAMINED: **COLOMBIA.** **Chocó.** Bahía Solano. Misas Urruta 37 (AMO! - drawing).

### *Oerstedella*-group

Caespitose plants, inflorescence from the middle or upper part of the stem, flowers colorful, lip 3-lobed with the middle lobe bilobate. Species of this group were considered to be representatives of separate genus, *Oerstedella* Rchb. f., which is characterized by the rostellum perpendicular to the longitudinal axis of the column, not protruding lateral lobes of the stigma

and lack of a semi-liquid viscidium. However, the genetic research has shown that those species are embedded in *Epidendrum* (Hágsater & Soto A. 2005). Two species of the group *Oerstedella* occur in the Department of Valle del Cauca.

### Key to species

1. Inflorescence short, 0.5-2 cm long; sepals (15)18-23 mm long, yellow with purple-red dots, lip white striped with purple-red; lateral lobes of the lip prominent, 6-10 x 5-7 mm, wider than the middle lobe ..... 46.84. *E. wallisii*
1. Inflorescence 7-25 cm long; sepals 13-15 mm long, dorsally violet, pale orange inside, marked with reddish brown, lip and apex of the column violet; lateral lobes of the lip small, 5 x 4 mm, as wide as the middle lobe ..... 46.83. *E. pseudoschumannianum*

### 46.83. *Epidendrum pseudoschumannianum* Fowlie (Fig. 195; Photos 110-111).

Orchid Digest **33**(8): 255. 1969; TYPE: PANAMA. COCLE. Beyond la Loma del Tigre, District of El Valle de Antón. Alt. 800-1000 m. Clarence K. Horich s.n. (HOLOTYPE: UCLA). - Santiago & Hágsater in Hágsater & Sánchez, Icon. Orchid. **8**: pl. 876. 2006.  
 ≡ *Oerstedella pseudoschumanniana* (Fowlie) Hágsater, Orquidea (Mexico City) **8**(1): 24. 1981.

**Epiphytic**, caespitose plants, 50-150 cm tall. **Stem** up to 135 cm long, 0.7-1 cm wide, simple, cane-like, terete, erect, covered at the base by tubular, non-foliaceous sheaths, covered by purple-grey warts. **Leaves** about 40, distributed throughout the upper half of the stems, alternate, articulate, subcoriaceous, sheaths 1.8-4.5 cm long, tubular, prominently verrucose; blade 4-10 cm long, 0.8-5.4 cm wide, narrowly oblong-elliptic to ovate, the apex obtuse, margin entire. **Inflorescence** 7-25 cm long, apical or lateral, racemose or paniculate, erect, lax, many-flowered; peduncle terete, thin. **Flowers** showy,

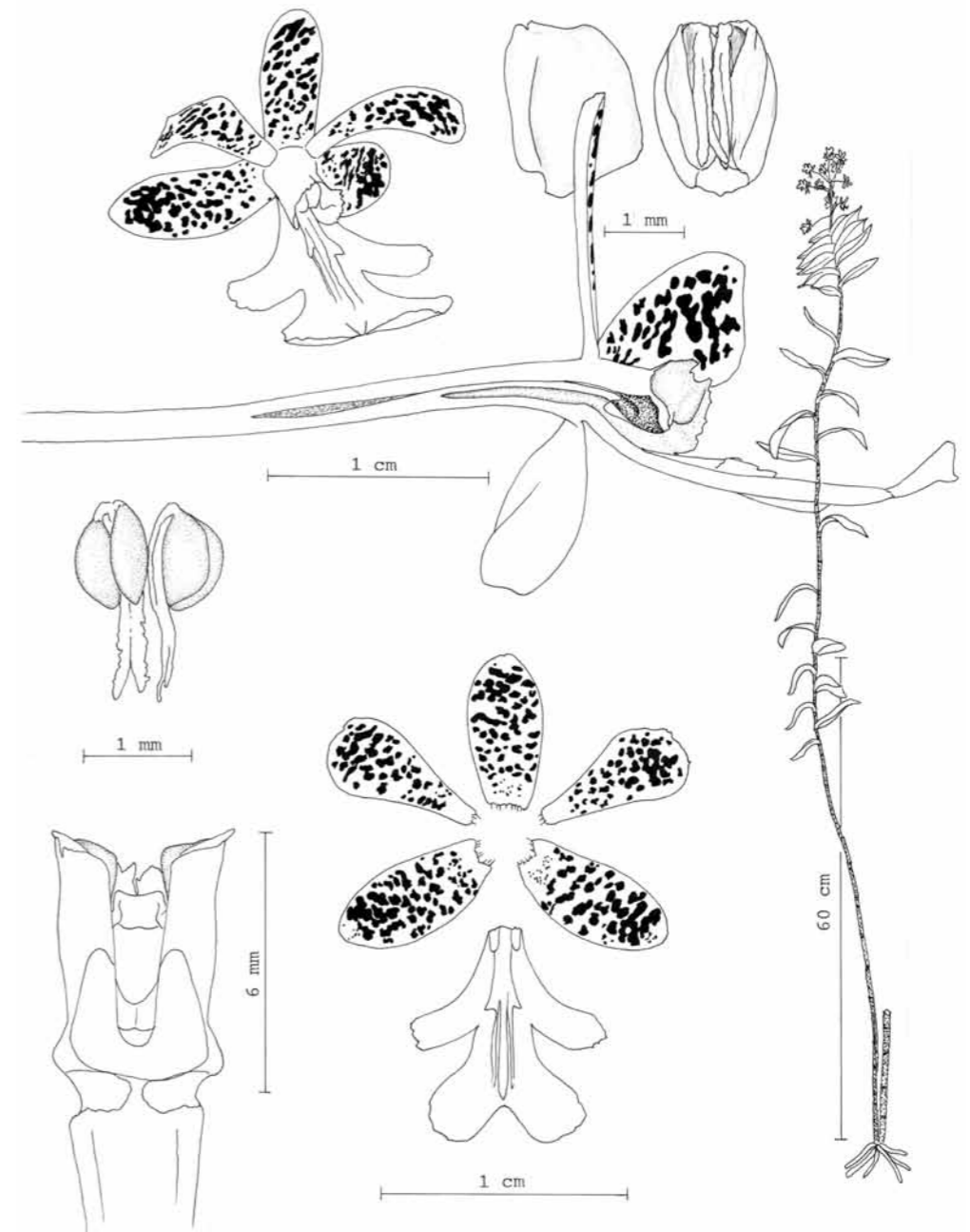


Fig. 194. *Epidendrum pseudoschumannianum* Fowlie (Hágsater & Dressler 6403, AMO – drawn by E. Hágsater).

simultaneous, resupinate, 5-15 per raceme, sepals and petals tinged violet-blue on the dorsal surface, the ventral surface pale orange with reddish-brown dots; lip and apex of the gyno-

stemium violet, callus yellow. **Floral bracts** 3-10 mm long, progressively shorter, much shorter than the ovary, lanceolate, acuminate. **Ovary** 13-33 mm long, terete. **Sepals** 13-15 mm long,

4.5-7 mm wide, spreading, free, fleshy, obovate-elliptic, apex slightly concave, rounded, minutely apiculate, 7-8-veined, margin entire; lateral sepals slightly oblique. **Petals** 8-15 mm long, 8-9 mm wide, spreading, free, spatulate, obtuse, 3-veined, lateral veins branching from the base so as to appear 5-veined, margin irregular. **Lip** 15-18 mm long, 15-17 mm wide, united to the gynostemium, 4-lobed, unguiculate; lateral lobes 5 mm long, 4 mm wide, subrectangular, truncate to subacute, lateral margin entire to erose; middle lobe 8-10 mm long, 11-12 mm wide, with a short, narrow isthmus at the base, bilobed, the lobes subquadrate with the margin erose; bicallose, the calli thin, acute, with the apex divaricate; disc with 3, thin keels, elongate, reaching the apex of the middle lobe. **Gynostemium** 6-7 mm, thick, straight, the apex somewhat funnel-shaped, with a pair of very fleshy, deltoid lateral lobes at the height of the anther, margin erose. **Nectary** penetrating 1/4th of the ovary, smooth.

**HABITAT:** Wet montane forest; at about 2000 m alt.

**ECOLOGY:** In Panama this species was found growing with *Huntleya burtii* and *Brassia allenii*. Fragrance of *E. pseudoschumannianum* flowers reminiscent that of *Stanbopea oculata* (G. Lodd.) Lindl. (Santiago & Hágsater 2006).

**FLOWERING SEASON:** October to April.

**GENERAL DISTRIBUTION:** Colombia, Panama.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cali.** Carretera al. mar. Alt. 2000 m. coll. Nelly de Villota. *P. Ortiz V. 1062* (HPUJ - flowers in liquid).

**OTHER SPECIMENS EXAMINED:** **PANAMA.** **Coclé.** Valle de Anton. *Hágsater & Dressler 6403* (AMO!).

**NOTES.** The specimen from the Department of Valle del Cauca cited above was not seen, the information about the locality and determination was given by P. Ortiz V. (1994).

**46.84. *Epidendrum wallisii* Rchb.f. (Figs 196, 197; Photo 112).**

Gard. Chron. 4(n.s.):66.1875; TYPE (Santiago & Hágsater 2006): COLOMBIA. *Wallis s.n.* (LECTOTYPE: W 50042! - *pro parte*, the 3-flowered specimen, which corresponds to the colored sketch with the description made by Rchb.f. and mounted on W!). - Hágsater & Soto Arenas, Lankesteriana 5(1): 73-75. 2005. - Santiago & Hágsater in Hágsater & Sánchez, Icon. Orchid. 8: pl. 899. 2006.  $\equiv$  *Oerstedella wallisii* (Rchb.f.) Hágsater, Orquidea (Mexico City), n.s., 8(1): 24. 1981.  $\equiv$  *Epidendrum pseudowallisii* Schltr., Repert. Spec. Nov. Regni Veg., Beih. 19: 124. 1923.  $\equiv$  *Oerstedella pseudowallisii* (Schltr.) Hágsater, Orquidea (Mexico City), n.s., 8(1): 24. 1981.

**Epiphytic or lithophytic**, caespitose, sympodial plants, 27-100 cm tall. **Stems** (10)23-85 cm long, 0.18-0.8 cm wide, simple, cane-like, terete, erect, straight, base covered by tubular, non-foliaceous sheaths. **Leaves** 5-15, about 3.3-13.2 cm long, 1-4.2 cm wide, distributed throughout the apical third of the stem, alternate, articulate, the lower ones deciduous, subcoriaceous, oblong-lanceolate to elliptic, acute, margin entire; sheaths 0.8-0.45 cm long, 0.18-0.8 cm wide, tubular, prominently verrucose. **Inflorescence** 0.5-2 cm long, apical and lateral, racemose, short, slightly arching, lax, few-flowered; peduncle 0.4-0.6 cm long, terete, thin. **Flowers** 1-4 per raceme, simultaneous, resupinate, sepals and petals yellow with dark purple dots, rarely immaculate lip white turning yellow with time dotted or striped with purple, fragrance pleasant of honey and musk. **Floral bracts** 3-7 mm long, much shorter than ovary, ovate-triangular, acute to acuminate. **Ovary** 16-33 mm long, terete, thin, smooth somewhat dilated behind the perianth. **Sepals** (15)18-23 mm long, 5-8 mm wide, free, spreading, fleshy, elliptic, apex rounded, minutely apiculate, 9-veined, lateral veins branching so as to appear 11-veined, margin entire. **Petals** (12)15-22 mm long, 5-7 mm wide, free, spreading, obovate-spathulate, obtuse, 5-veined, lateral veins branching from

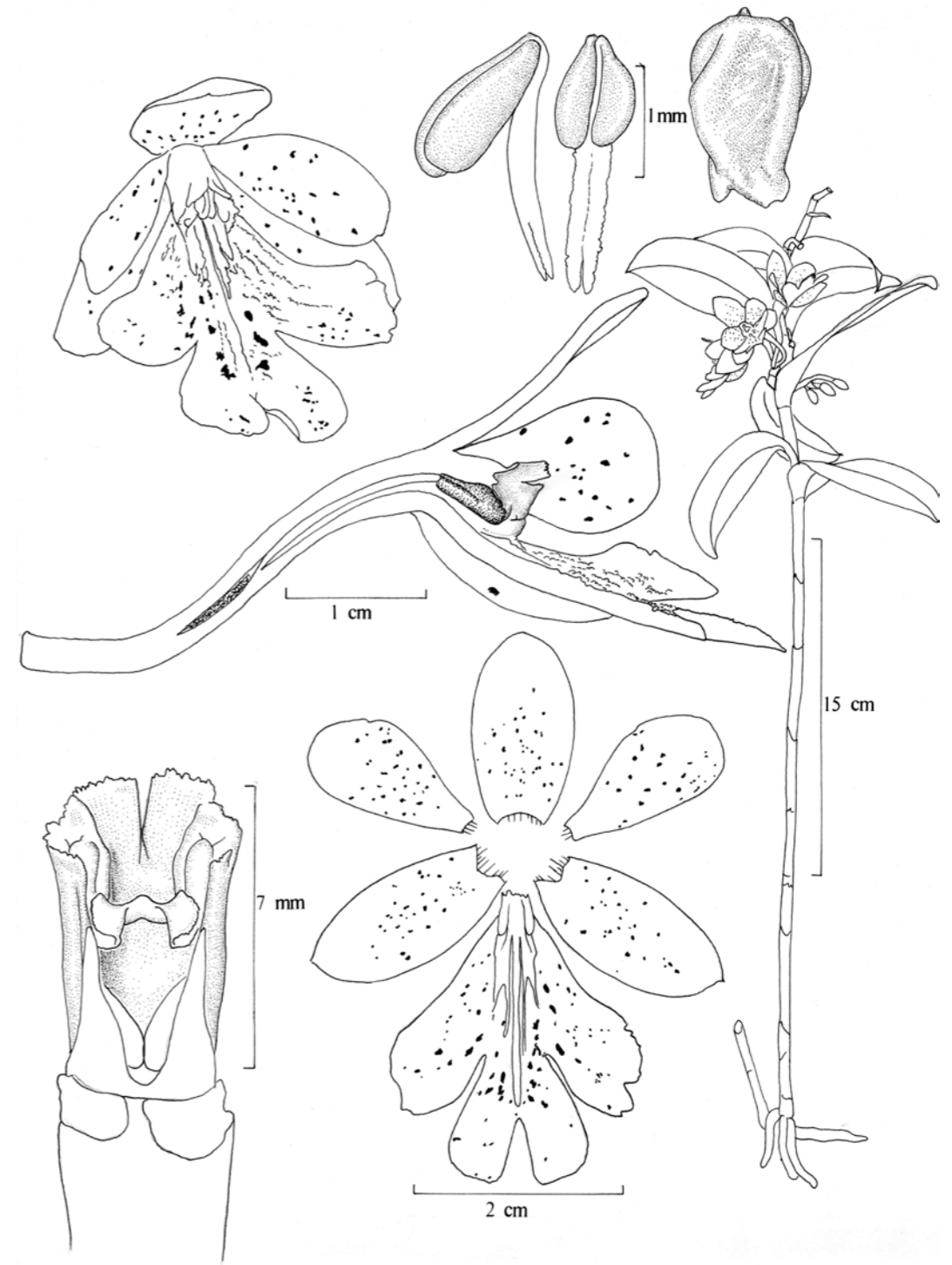


Fig. 195. *Epidendrum wallisii* Rchb.f. (Hágsater 8427, AMO - drawn by E. Hágsater).

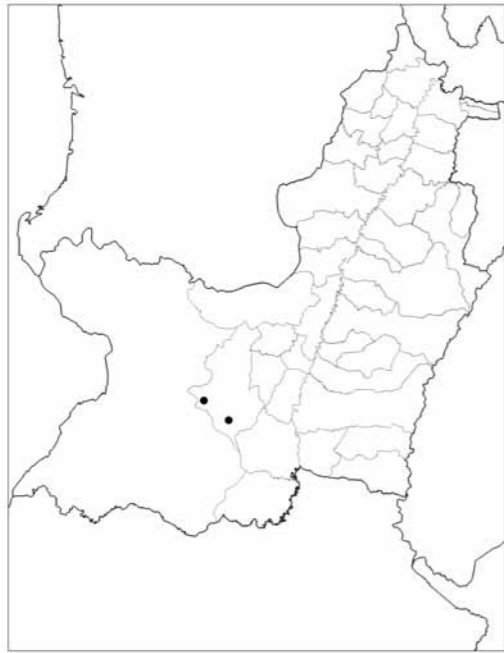


Fig. 196. Distribution of *Epidendrum wallisii* Rchb.f. in Valle del Cauca.

the base so as to appear 7-veined, margin entire. **Lip** 13-24 mm long, 14-22 mm wide, united to the gynostemium, cuneate-flabellate, bicallose, calli thin, acute, 4-lobed; disc provided with 3 keels the central keel prominent, elongate to the apex of the middle lobe, lateral pair much shorter; lateral lobes 6-10 mm long, 5-7 mm wide, subrectangular, rounded, slightly falcate, margin irregularly erose; middle lobe 8-13 mm long, 10-18 mm wide, with a short, narrow basal isthmus, bilobate, each lobe subrectangular-rounded, the apical margin erose. **Gynostemium** 6-8 mm long, thick, straight, slightly upturned to the clinandrium-hood, ending in 4 laminar lobes, apex somewhat funnel-shaped, truncate, the margin minutely erose. Clinandrium-hood short, bilobed, margin erose. Anther obovoid, apex truncate. **Nectary** penetrating half the ovary, smooth.

**HABITAT:** Premontane and cloud forest; at about 800 m alt.

**FLOWERING SEASON:** August.

**GENERAL DISTRIBUTION:** Ecuador, Colombia, Panama, Costa Rica.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Dagua.** La Cascada Carretera a Buenaventura. Alt. 800 m. 5 Aug 1966. *S. Espinal T. 1909* (AMES!); El Queremal, Rio abajo de El Queremal. Alt. 800 m. *Hágsater 7348* (AMO! - spirit).

**OTHER SPECIMENS EXAMINED: COSTA RICA.** **Alajuela.** Reserva Biológica Monteverde, Río Peñas Blancas. Alt. 800 m. 30 Mar 1989. *Bello 776* (CRI, MO!); Cariblanco. Cariblanco. *Hágsater 8427* (AMO!). **PANAMA. Darién.** Cerro Sapo. Alt. 2500 ft. 3 Feb 1978. *Hammel 1281* (MO!). **COLOMBIA. Antioquia.** Frontino. Alt. 1500-1800 m. 30 Oct 1884. *Lehmann 8190* (AMES!, K!). **Chocó.** Río Sucio, Zona de Urabá, cerros del Cuchillo. Alt. 500-540 m. 27 Jun 1988. *Cardenas 2184* (JAUM!).

#### *Epidendrum pergracile*-group and subgroup

Plants caespitose, inflorescence racemose, spathaceous bract prominent, lax-flowered, flowers membranous, lip not fleshy thickened. Only one species from the Department of Valle del Cauca, has been confirmed.

#### 46.85. *Epidendrum hartmanii* Hágsater & L.Sánchez (Figs 198, 199).

Icon. Orchid. 14: Pl. 1435. 2013; TYPE: COLOMBIA: VALLE [del Cauca]. Cali. Cordillera Occidental, Los Farallones de Cali, limite de la cuenca superior de Río Meléndez y Pichinde, queda 5-6 km al sur oriente de Pance. Bosque pluvial Montano. Alt. 3100 m. 4 Jan 1977. *Hartman 616* (HOLOTYPE: CUCV!).

**Sympodial**, caespitose terrestrial, herb 35 cm tall including the inflorescence. **Roots** 0.1-0.17 cm in diameter, basal, fleshy, thick, white. **Stems** 9-19 cm long, 0.14-0.26 cm wide, simple,

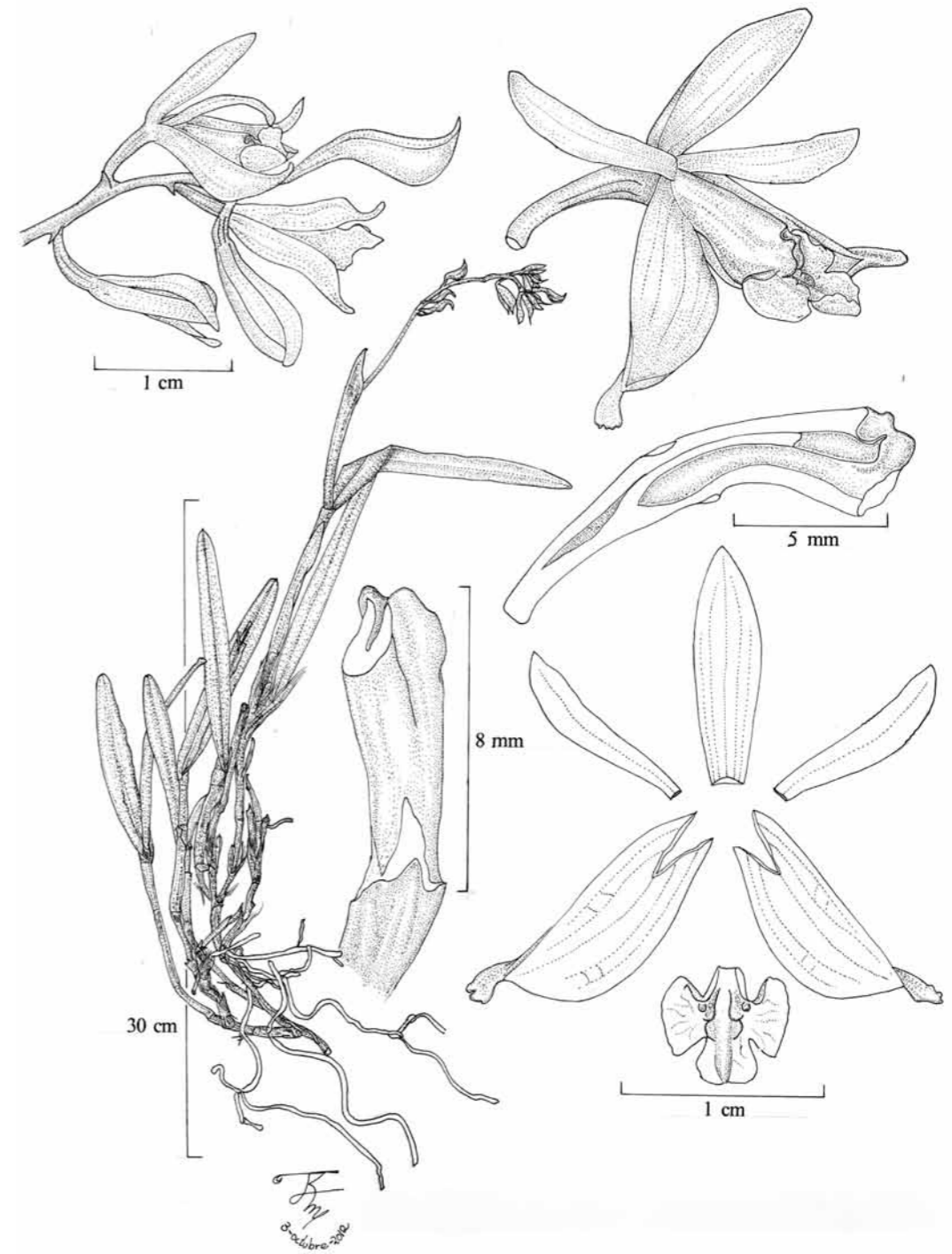


Fig. 197. *Epidendrum hartmanii* Hágsater & L.Sánchez (*D. Hartman 616*, CUCV – drawn by R. Jiménez Machorro).



Fig. 198. Distribution of *Epidendrum hartmanii* Hágsater & L.Sánchez in Valle del Cauca.

cane-like, terete at the base, laterally compressed towards the apex, erect; base covered by tubular sheaths 1.3-2 cm long, non-foliar, scarious. **Leaf** 1, apical, smooth, subcoriaceous; foliar sheath 1-2 cm long, tubular, laterally compressed, minutely striated; blade 8.5-12 cm long, 0.9-1.3 cm wide, oblong-lanceolate, apex subobtusely mucronate, margin entire. **Spathaceous bract** 1, 5.5-6 cm long, tubular, acute, covering 2/3 of the peduncle. **Inflorescence** 14.5 cm long, apical, racemose, arching-nutant, densely flowered; peduncle 9.5 cm long, thin, laterally compressed. **Flowers** 15, simultaneous, apparently opening from the apex towards the base, resupinate, red colored; fragrance not registered. **Floral bracts** 0.2-2 mm long, shorter than the ovary, progressively shorter towards the apex, triangular, acuminate. **Ovary** 4-5 mm long, terete, not inflated, unornamented. **Sepals** 11.7-13 mm long, 3.2-4.2 mm wide, partly spreading, oblong-elliptic, 5-veined, the dorsal sepal free, with rounded apex; lateral sepals obliquely united to the column, oblique, with a

prominent dorsal keel. **Petals** 10 mm long, 2 mm wide, partly spreading, free, linear-oblongate, acute, 1-veined, oblique, margin somewhat dentate towards the apex, spreading. **Lip** 5 mm long, 6 mm wide, united to the column, 3-lobed, subequal in size, base cordate; bicallose, the calli small, laminar prolonged into a pair of laminar, short, ribs, parallel to the mid-rib which reaches the apex of the middle lobe, at the base of each callus a minute globose, fleshy growth; lateral lobes 2.2 mm long, 4 mm wide, obliquely ovate, margin undulate; middle lobe 2.2 mm long, 3 mm wide, short, without any evident isthmus, apex rounded, margin entire. **Gynostemium** 7.5-8 mm long, straight, wide, with a pair of acute horns at the apex. Clinandrium-hood reduced, margin entire. Anther and pollinia not seen. Rostellum subapical, slit. Lateral lobes of the stigma not seen. **Nectary** wide, barely penetrating behind the perianth, not inflated, unornamented. **Capsule** not seen.

**HABITAT:** Montane pluvial forest; at about 3100 m alt.

**FLOWERING SEASON:** January.

**GENERAL DISTRIBUTION:** Endemic, known only from the Department of Valle del Cauca.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cali.** Cordillera Occidental, Los Farallones de Cali, limite de la cuenca superior de Río Meléndez y Pichinde, queda 5-6 km al sur oriente de Pance. Alt. 3100 m. 4 Jan 1977. *Hartman 616* (CUCV!).

### Physinga-group

Characterized by the generally small, caespitose plants, the inflorescence apical and racemose producing new racemes with time and thus pluriracemose, the successive flowers opening one at a time on an elongate peduncle with acuminate bracts, the lip entire and the ovary with a prominent vesicle. Only one species of this group occurs in the Department of Valle del Cauca.

### 46.86. *Epidendrum hellerianum* A.D. Hawkes (Fig. 200; Photos 113-115).

Orchid Digest **30**(8): 258-259. 1966; TYPE: NICARAGUA. Chontales. La Libertad district, El Chamorro Mine [published as Chamorro]. Alt. 1950 ft. Dec 1959. *Heller 1075* (HOLOTYPE: F!; ISOTYPE: SEL! - [labelled as Sta. María Ostumas] single flower, with illustration; K! - illustration by Heller, SEL! - illustration and personal notes by Heller, AMO! - xerox). - Orchid Digest. **30**(8): 259. 1966. - Hamer, Icon. Pl. Trop. **1**(8): pl. 718. 1982.

**Epiphytic**, sympodial, caespitose, herb, 30-50 cm tall. **Roots** 0.1-0.3 cm in diameter, basal, thick, fleshy. **Stems** 24-35 cm tall, 0.1-0.2 cm, simple, cane-like, terete at the base, laterally compressed towards the apex, thin, arching, straight. **Leaves** 5-7, distributed along the apical half of the stem, articulate, alternate, grass-like, inserted at an angle of 45°; sheaths 1.1-3.3 cm long, 0.1-0.2 cm wide, tubular, laterally compressed, smooth, sometimes tinged with purple; blade 6-18 cm long, 0.3-0.5 cm wide, linear, acuminate, minutely apiculate, margin entire, somewhat revolute, deep green adaxially, glaucous abaxially. **Inflorescence** 9-13 cm long, apical, elongate, slightly arching, racemose, producing new racemes over several years and thus pluriracemose, lax, few-flowered; peduncle 8-10 cm long, filiform, strongly fractiflex, provided with 4-7 tubular bracts 5-23 mm long, that envelop it totally, somewhat ancipitose, acuminate, partly imbricated, green, progressively shorter; rachis 2.5-3 cm long, short, filiform. **Flowers** 3-11, successive, developing one at a time, resupinate, sepals and petals white to pale pink, lip white; fragrance not recorded. **Floral bracts** 1 mm long, much shorter than the ovary, ovate, acute. **Sepals** 25-30 mm long, 3-4 mm wide, spreading, free, acute, 3-veined, margin entire, strongly revolute (except for the apical portion); dorsal sepal linear oblong, the lateral sepals linear-oblongate. **Petals** 30 mm long, 2 mm wide, spreading, free, linear, acute, 1-veined, margin entire, strongly revolute (except for the

apical portion). **Lip** 16-17 mm long, 16-18 mm wide, united to the column, 3-lobed, base truncate, deflexed at the apex, margin entire; bicallose, the calli erect, thin, somewhat divaricate, disc provided with 3 thin keels, the mid-keel reaching the apex, the lateral pair disappearing before the middle lobe; lateral lobes 8 mm long, 10 mm wide, dolabriform, with 3 or 4 radiating, thickened veins at the base of each lobe; middle lobe 6-8 mm long, 8-9 mm wide, triangular, acute. **Gynostemium** 15-17 mm long, thin, elongate, straight. Clinandrium-hood short, margin subentire. Anther spherical, 4-celled. Pollinia 4, obovoid, laterally compressed; caudicles soft and granulose, slightly longer than the pollinia. Rostellum apical, slit. Lateral lobes of the stigma obsolete. **Nectary** penetrating nearly 3/4 of the ovary, forming a thin, elongate, ventral vesicle, smooth translucent. **Capsule** not seen.

**HABITAT:** Lowland wet forest; near sea level.

**FLOWERING SEASON:** December-July in the whole range.

**GENERAL DISTRIBUTION:** Colombia, Panama, Costa Rica, Nicaragua.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Bajo Calima. 2013. *Fabio Lozano Useche s.n.* (AMO! - photo).

**OTHER SPECIMENS EXAMINED:** **NICARAGUA. Chontales.** La Libertad distr.: near Chamorro Mine. Alt. 1950 ft. *Heller 5825* (F! x 2, SEL!). **COSTA RICA. Limón.** W side of Río Colorado. Alt. 5 m. 25 Jan 1986. *Stevens 24044* (INB!); Cerro Coronel, E of Laguna Danto. Alt. 20-170 m. 15 Sep 1986. *Stevens 24598* (INB!, MO!); The same loc. Alt. 60-100 m. 15 Mar 1987. *Stevens 24850* (MO!); S of Laguna Pereira. Alt. 2-4 m. 20 Mar 1987. *Stevens 25170* (MO!). **PANAMA. Panamá.** Cerro Jefe. 26 Jul 1970. *Dressler 3879* (Herb. Dressler!); Madden & Gatun Lakes. Alt. ca 1500 ft. 24 May 1955. *Walters s.n.* (AMES!). *Sine loc. Dressler 3689* (Herb. Dressler!). **COLOMBIA. Antioquia.** Río Carepa, 12 km NE of Chigorodó, S of Turbó. Alt. ca 100 m. 1 Jun 1945. *Haught 4738* (US!).



Fig. 199. Distribution of *Epidendrum hellerianum* A.D. Hawkes in Valle del Cauca.

### *Epidendrum pleuranthium*-group

Stems terete, inflorescences lateral from the middle part of the stem. Three species of this group occur in the Department of Valle del Cauca.

#### Key to species

1. Inflorescence producing one flower at a time; floral segments spreading; clinandrium-hood elongate, twice as long as the body of the column; lip 3-lobed . . . . . **Phragmites-subgroup: *E. phragmitoides***
1. Inflorescence producing several flowers at one time, floral segments spreading; clinandrium-hood short; lip entire. . . . . **Dendrobii-subgroup (2)**
2. Ovary short, 7-13 mm long; sepals oblong-elliptic, the apex rounded, 10 mm long; lip reniform, apex emarginate . . . . . 46.88. ***E. dendrobii***
2. Ovary long, 25-45 mm long; sepals oblong to triangular-lanceolate, the apex obtuse, 13-15 mm

long; lip cordiform, the apex obtuse . . . . .  
 . . . . . 46.89. ***E. dendromacroophorum***

### *Phragmites*-subgroup

Stems cane-like, elongate, with several short, single flowered, lateral inflorescences, the clinandrium-hood prominent, long. Only one species of this group occurs in the Department of Valle del Cauca.

#### 46.87. *Epidendrum phragmitoides* Hágsater (Figs 201, 202; Photo 116).

Icon. Orchid. (Mexico) **13**: pl. 1371. 2010; TYPE: COLOMBIA. VALLE DEL CAUCA. Abajo de El Queremal, cerca del río arriba de Anchicayá. Alt. 800 m. Pressed cult. 1 Aug 1983. Hágsater, R.L. Dressler, K. Dressler & Folsom 7362 (HOLOTYPE: AMO! – a single flower).

**Epiphytic**, caespitose plants, over 20 cm tall. **Stems** about 20 cm long, 0.3-0.5 cm wide, cane-like, simple, terete, straight, green, base covered with nonfoliaceous, tubular sheaths. **Leaves** numerous, 2-5 cm long, 1-2 cm wide, unequal in size (the basal and apical leaves smaller), distributed throughout the stem, only 2 persistent at the apex of the stem, articulate, suberect-spreading, coriaceous, ovate-elliptic to lanceolate, obtuse, bilobed; sheaths 1-2 cm long, tubular, scarious, minutely striated and somewhat rugose. **Inflorescences** about 5 mm long, lateral, produced from the base of the internodes through the foliar sheaths, subsessile; peduncle 0.2-0.3 cm long, totally hidden by 2-3 short, tubular, imbricating bracts. **Flower** single, green. **Floral bracts** about 2 mm long, shorter than the ovary, tubular. **Ovary** about 6 mm long, terete, thickened, somewhat ventrally inflated along the apical half. **Sepals** about 10 mm long, 3 mm wide, partially spreading, free, oblong-lanceolate, slightly concave, obtuse, margin spreading, entire; dorsal sepal

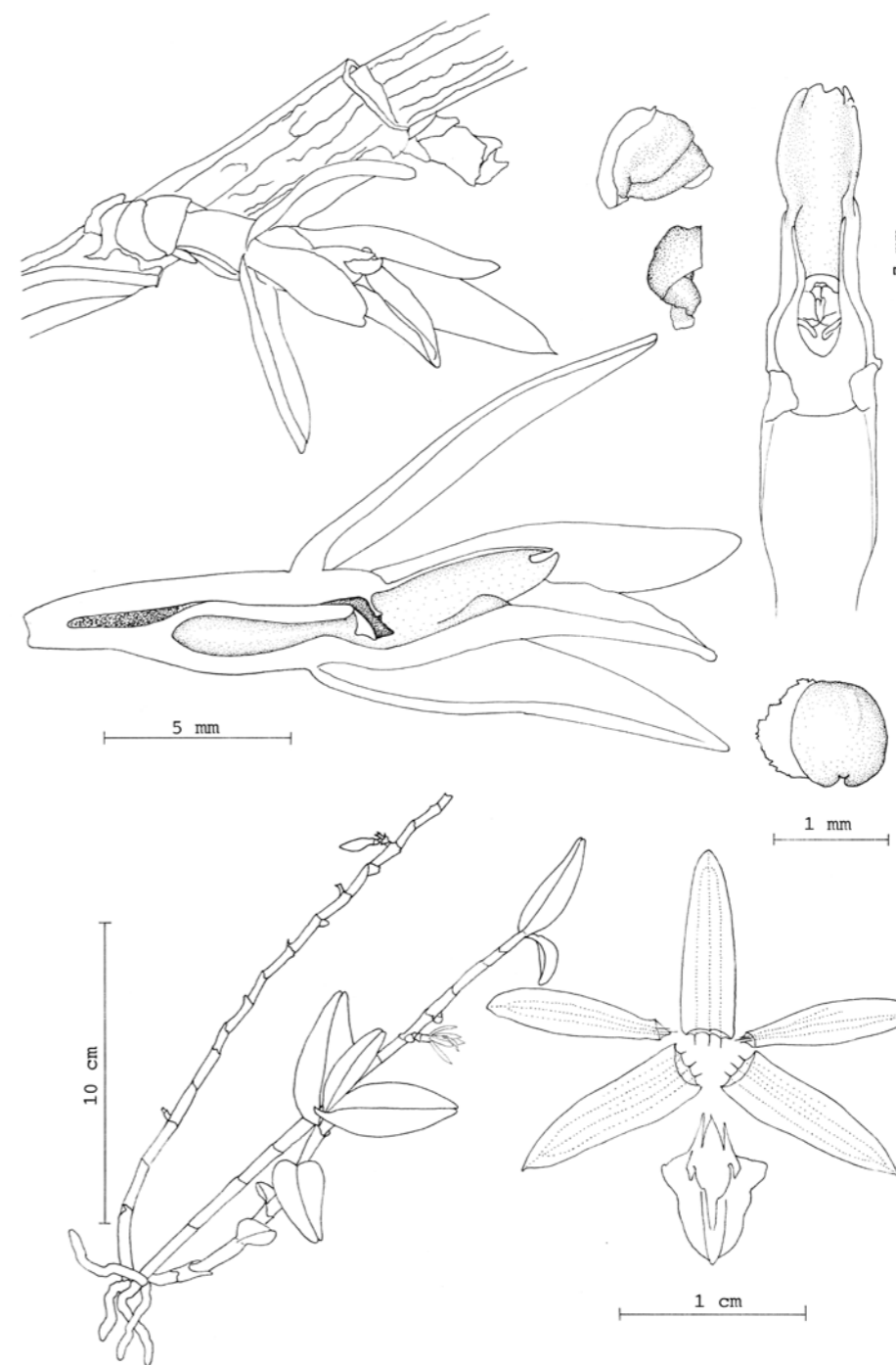


Fig. 200. *Epidendrum phragmitoides* Hágsater (Hágsater, R.L. Dressler, K. Dressler & Folsom 7362, AMO – drawn by E. Hágsater).



Fig. 201. Distribution of *Epidendrum pragmitoides* Hágsater in Valle del Cauca.

3-veined; lateral sepals 5-veined, minutely apiculate. **Petals** about 9.5 mm long, 2 mm wide, free, partially spreading, narrowly oblanceolate, obtuse, 3-veined, margin entire, spreading. **Lip** about 6 mm long, 5.5 mm wide, united to the gynostemium, subentire, base truncate, apex subobtusate, margin entire, spreading, bicallose, calli laminar, prominent, nearly touching each other in natural position; disc 1-keeled, keel prominent, fleshy, prolonged slightly beyond the apex of the lip; lateral lobes about 1.3 mm long, 2.3 mm wide, widely subtriangular, minutely apiculate; middle lobe about 4 mm long and wide, broadly subtriangular, minutely apiculate. **Gynostemium** about 7 mm long (including clinandrium-hood), thick. Clinandrium-hood very prominent, arching upwards, semi-tubular, apical margin erose. Anther subreniform. **Nectary** penetrating about half the ovary, wide, slightly inflated, smooth.

**HABITAT:** Semi-evergreen seasonal forest; at about 800 m alt.

**FLOWERING SEASON:** August (in cultivation in Mexico).

**GENERAL DISTRIBUTION:** Endemic, known only from the Department of Valle del Cauca.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Dagua/Buenaventura.** Carr. Cali-Anchicayá, cerca del río, arriba de Anchicayá. Bosque tropical subcaducifolio. Alt. 800 m. pressed cult. Fecha de colecta 24 Apr 1983, fecha de prensado de material cultivado 1 Aug 1983. Hágsater, R.L. Dressler, K. Dressler & Folsom 7362 (AMO!).

### *Dendrobii*-subgroup

Plants sympodial, caespitose, with cane-like and tall stems, several short, lateral inflorescences with several flowers per raceme, and a short or reduced clinandrium-hood.

### 46.88. *Epidendrum dendrobii* Rchb.f. (Figs 203, 204; Photo 117).

Linnaea 22: 841. 1850; TYPE: VENEZUELA. MÉRIDA. Im Hochgebirge. Moritz 1074 (W!, BM). - Foldats in Lasser, Fl. Venezuela, Orchid. 15(3): 226-228. 1970. = *Epidendrum pileatum* Rchb.f., Bonplandia 3: 68. 1855.

**Terrestrial**, caespitose, profusely branching herb, up to 200 cm tall. **Roots** basal, thick, white. **Stems** cane-like, terete, the main stem 200 cm tall, 0.35-0.6 cm wide, vigorous, profusely branched along much of its length when mature; the branches shorter, 24-31 cm long, 0.24-0.38 cm wide. **Leaves** numerous, distributed through the apical 3/4 of the main stem, 8-13 on the branches, alternate, the lower ones deciduous, some conduplicate and falcate; sheaths 1.3-3.1 cm long, 0.24-0.38 cm wide, tubular, minutely striated when dry; blade linear to oblong-lanceolate on the main stem, 8-15 cm long 0.7-2.2 cm wide; on the branches 3.5-8.5 cm long, 0.4-1.2 cm wide, narrowly elliptic to lanceolate. **Inflo-**

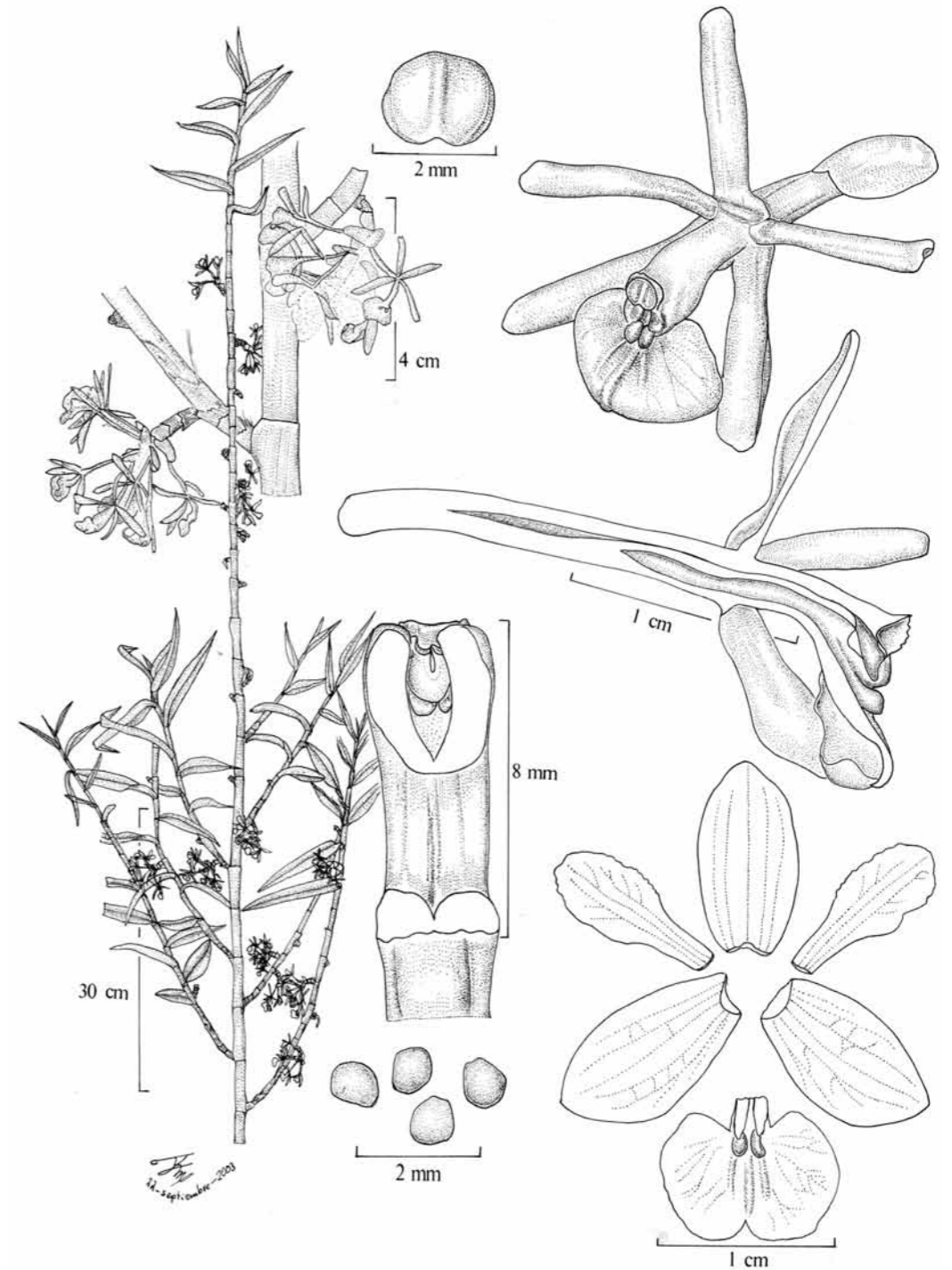


Fig. 202. *Epidendrum dendrobii* Rchb.f. (Hágsater, Dressler, Folsom & N. Villota 7426, AMO – drawn by R. Jiménez Machorro).



**rescence** 2-3.7 cm long, lateral, pluri-racemose, producing new racemes through time; peduncle 4-8 mm long, terete, short, thick, nearly totally hidden by 3-8 tubular, imbricating bracts 0.2-0.34 cm long, 0.25-0.3 cm wide; rachis terete, thin, straight, 5-13 mm long. **Flowers** 4-8 per raceme, simultaneous, resupinate, sulphur yellow. **Floral bracts** 4-5.3 mm long, 2-2.5 mm wide, much shorter than the ovary, widely ovate, rounded, amplexicaul. **Ovary** 7-13 mm long, terete, thin, smooth, not inflated. **Sepals** free, glabrous, oblong-elliptic, rounded, 5-veined, the lateral veins shorter, margin entire, slightly revolute; the dorsal sepals 10.2 mm long, 3 mm wide, spreading; lateral sepals 9.5 mm long, 3.8 mm wide, partly spreading, oblique. **Petals** 9.3 mm long, 2.2 mm wide, partly spreading, free, base unguiculate, oblong-oblancoate, rounded, 3-veined, margin entire. **Lip** 5.9 mm long, 6.8 mm wide, united to the column, base cordate, reniform, apex retuse, margin entire; bicallose, the calli small, rounded; disc provided with 3 smooth ribs, smooth, narrow, subacute, elongate to the apex of the lip. **Gynostemium** 5 mm long, thin, slightly arched, with a pair of short, ventral wings ending in a pair of rounded horns at the apex. Clinandrium-hood short, entire, funnel shaped. Pollinia 4. Lenticular. Rostellum apical, slit. Lateral lobes of the stigma 1/3 the length of the stigmatic cavity. **Nectary** penetrating 1/3 of the ovary, thin, not inflated, unornamented.

**HABITAT:** Steep slopes of montane and cloud forest; 2070-2300 m alt.

**FLOWERING SEASON:** March, April.

**GENERAL DISTRIBUTION:** Ecuador, Colombia, Venezuela.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Palmira.** Camino Palmira-Ataco. Terrestre entre arbustos en Talud. Alt. 2300 m. 19 Apr 1983. *Hágsater, Dressler, Folsom & N. Villota 7426* (AMO! x 8). **Mpio. El Cairo.** Las Amarillas, frontera Valle-Chocó, Cordillera Occidental, Serranía de los Paraguas, carretera El Cairo-Río Blanco a 1 hora en jeep de El Cairo (Valle), bosque nublado secundario. Alt. 2070 m.



Fig. 203. Distribution of *Epidendrum dendrobium* Rchb.f. in Valle del Cauca.

31 Mar 1988. *Silverstone-Sopkin, N. Paz, R. Eriksson & al. 3870* (AMO!, MO!, CUVCI!).

**OTHER SPECIMENS EXAMINED: ECUADOR.**

**Sucumbios.** Along road between La Bonita and Santa Barbara, 3.8 km N of La Bonita, 6.8 km S of Higuerón, 33.3 km S of Santa Barbara. 00°29'20"N 077°31'38"W. Alt. 2088 m. 22 Aug 2004. *Croat & G. Ferry 93796* (AMO! ex MO!).

**COLOMBIA. Antioquia.** Mpio. Yarumal. Quebrada El Oro. Alt. 1900 m. *Hágsater, R. Escobar, Gerlach & Corina de Gerlach 11684* (AMO!).

**Boyacá.** Mpio. Arabuco. Cañón del Río Póme-ca, km 23 Barbabosa-Tinjá, entre Moniquirá & Arabuca. Alt. 2400 m. Talud, con *Epidendrum fimbriatum* H.B.K., *E. aff. macrostachyum* Lindley, *E. elongatum* Jacq. 17 Mar 1996. *Hágsater, P. Ortiz V., G.R. Schnitter & C.L. Patiño de Ruiz 11490* (AMO! x 7). **Cundinamarca.** Bergkette zwischen Une und Gutiérrez. Alt. 2800 m. 11 Mar 1955. *Renzi 8391* (RENZI!). **Tolima.** "Gallegos" to "Toche" old Quindio trail, Cordillera Central. Alt. 2000-2700 m. 2 Aug 1922. *Killip 9547*

(AMES!, NY!, US!). **Santander.** Tona, km.30 de carretera a Pamplona. *P. Ortiz V. 4346* (HPUJ!). **VENEZUELA. Merida.** Im Hochgebirge. *Moritz 1074* (W!); Alrededores de Mérida. Jul 1971. *Aristeguieta 7888* (MO!, NY!). **Táchira.** Zwischen Zumbador und Queniquea, kelkfelnu fenth. Alt. 2000 m. *Renzi 5897* (RENZI!).

**46.89. *Epidendrum dendromacrophorum***  
Hágsater, E. Santiago & O.Pérez (Figs 205, 206; Photos 118-119).

Icon. Orchid. 14: Pl. 1422. 2013; TYPE: COLOMBIA. VALLE DEL CAUCA. 18 km below Queremal on Road to Anchicaya. Alt. 1100-1200 m. 4 Oct 1982. *Folsom 10448* (HOLOTYPE: AMO!).

**Terrestrial**, caespitose, sympodial, branching herb ca. 2-5 m tall. **Roots** not seen. **Stems** ca. 2-5 m tall, branching, the main stem 1-1.3 cm in diameter, the branches much shorter, 0.4-0.5 cm in diameter; cane-like, terete, erect, covered towards the base by non-foliar sheaths 7.3-7.8 cm long, 1.0-1.5 cm wide, tubular, minutely striated, scarious. **Leaves** numerous, distributed throughout the stems, articulate, alternate, spreading, unequal in size (those on the main and secondary stems long and wide, 17 cm long, 3.2 cm wide, those on the tertiary stems shorter and narrower, 10-13 cm long, 1.5-2.2 cm wide); sheaths 1.6-4.2 cm long, 0.4-0.7 cm wide, tubular, minutely striated; blade elliptic, acuminate, membranous, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescences** 2-4 cm long, lateral, numerous, originating from the middle of the internodes, through the foliar sheaths, racemose to pluri-racemose (producing new racemes from the apex of the peduncles), laxly few-flowered; peduncle 1.5-3 cm long, laterally compressed, totally hidden by 3-5 bracts 3-10 mm long, tubular, minutely striated, scarious, the basal ones slightly imbricated. **Flowers** 2-6, disposed helicoidally long the short rachis, yellow-green the apex of the column, calli and

disc of the lip white, lip bright yellow; fragrance not registered. **Floral bracts** 8-9 mm long, much shorter than the ovary, cymbiform, amplexicaul. **Ovary** 25-45 mm long, terete, thin, not inflated, unornamented. **Sepals** 13-15 mm long, 3.3-4.2 mm wide, free, acute, margin entire, revolute; the dorsal sepal spreading, triangular-lanceolate, 5-veined; lateral sepals partly spreading, oblong, oblique, aristate, 3-veined, with a short dorsal keel. **Petals** 12-14 mm long, 1.75 mm wide, partly spreading, free, oblanceolate, acute, 3-veined, margin entire, revolute. **Lip** 8.4-10 mm long, 8-9.3 mm wide, united to the column, entire, cordiform, base slightly cordate, apiculate, margin entire, revolute, thus subquadrate in natural position, due to the revolute lateral and apical margins; bicallose, the calli small, sublaminar, slightly divergent; disc with a low rib reaching the apicule. **Gynostemium** 7 mm long, short, thick, arching upwards at the clinandrium-hood. Clinandrium-hood short, slightly surpassing the body of the column, arching upwards, margin erose. Anther subreniform, 4-celled. Pollinia 4, subobovoid, laterally compressed, unequal in size and shape (the inner pair smaller); caudicles soft and granulose, as long as the inner pollinia. **Nectary** penetrating more than half of the ovary, thin, not inflated, unornamented. **Capsule** ellipsoid, 6.5 mm long, 1.4 mm wide; body 4 mm long, 1.4 mm wide; pedicel 10 mm long; apical neck 15 mm long, perianth persistent.

**HABITAT:** Unknown; 1100-1500 m alt.

**FLOWERING SEASON:** January-February, October, December.

**GENERAL DISTRIBUTION:** Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Dagua.** El Queremal. Alt. 20 Jan 1980. *I. Guarín O. 70* (COL 211868!, VALLE!); Hwy. El Queremal-Buenaventura (old road from Cali). Alt. 1300 m. 6 Feb 1984. *Juncosa 1992* (MO!, NY!, VALLE!); El Queremal, vía antigua al mar. Alt. ca 1500 m. 29 Dec 2010. *Pérez 1053* (VALLE! x 4, AMO! - photo), 18 km below Queremal on Road to Anchicaya. Alt. 1100-1200 m. 4 Oct 1982. *Folsom 10448* (AMO!).

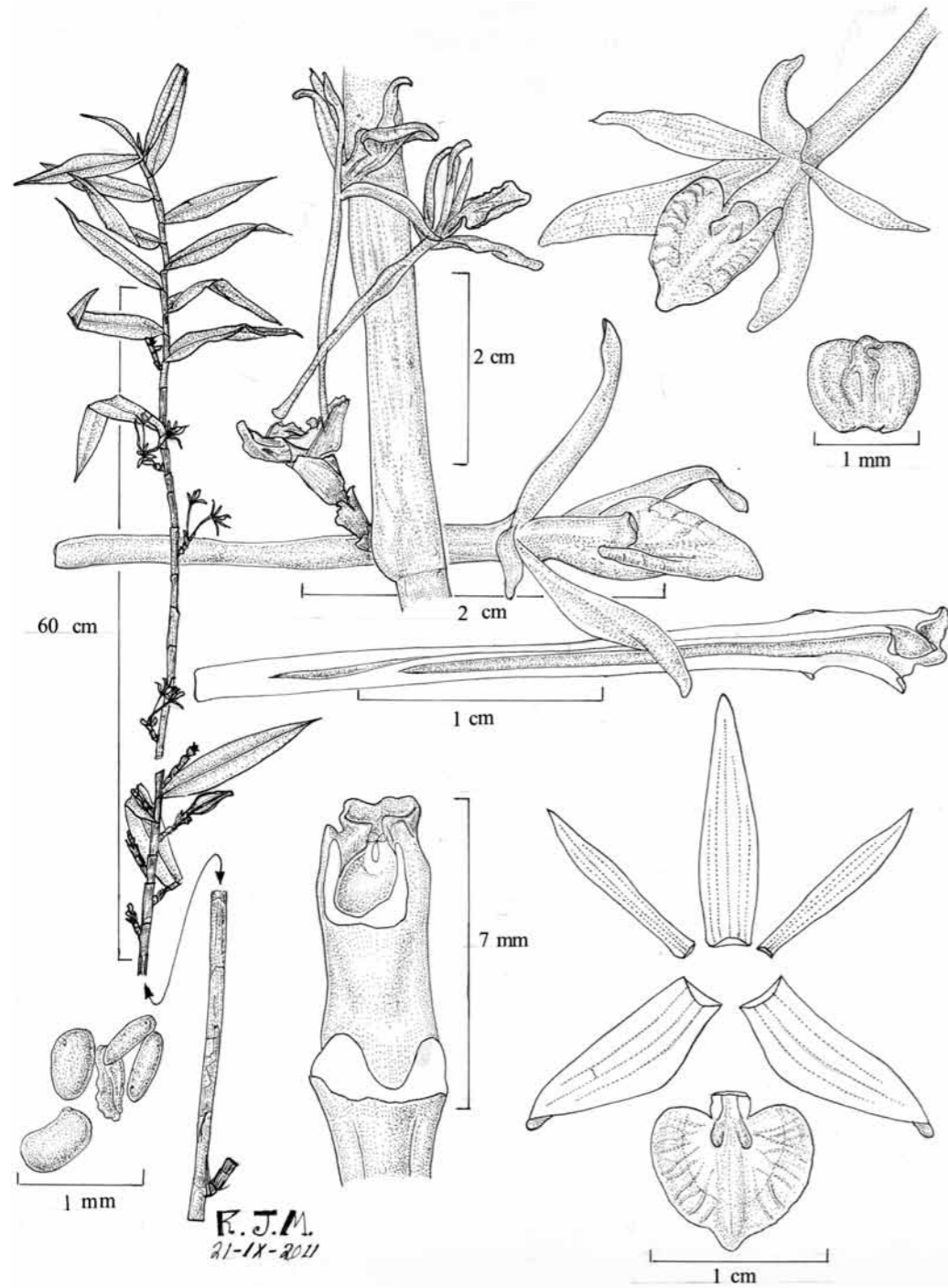


Fig. 204. *Epidendrum dendromacrophorum* Hágsater, E. Santiago & O.Pérez (*Folsom 10448*, AMO – drawn by R. Jiménez Machorro).

OTHER SPECIMENS EXAMINED: **COLOMBIA**. **Cauca**. El Tambo, La Costa. Alt. 1300 m. 26 Jul 1936. *von Sneider 855* (AMES!, FI, NY!, SI!). **Chocó**. San José del Palmar, Cerro del Torrá, vertiente oriental vereda de Río Negro. Alt. 1620-1900 m. 26 Aug 1988. *Ramos 1568* (MO!). **Nariño**. Ricaurte to Altaquer, km 81-88 on road Tuqueres to Tumaco. Alt. 1100 m. 22 Jul 1989. *Dodson 18094* (AMO!); Junin-Barbacoas road, 2-10 km N of Junin. Alt. 900-1000 m. 26 Jul 1986. *Gentry 55293* (MO!); Barbacoas, Corregimiento Santander (Buenavista) a Barbacoas. Alt. 200-840 m. 3 Aug 1948. *García-Barriga 13160* (COL!, US!). **ECUADOR**. **Esmeraldas**. Lita-San Lorenzo, km 18. Alt. 850 m. 28 Dec 1990. *Dodson 18592* (MO!). **Pichincha**. Dos Rios, km 84 Camino viejo via Chiriboga, Quito-Santo Domingo. Alt. 1150 m. 8 Apr 1984. *Dodson 14185* (MO!, QCNE!, RPSC!).

#### **Porpax-group**

Characterized by the sympodial, somewhat repent habit, usually forming large mats, short, cane-like stems with very fleshy, succulent, articulate, distichous leaves, the apical margin minutely ciliate, a single-flowered, sessile inflorescence, and the lip generally reddish purple.

#### **46.90. *Epidendrum lambeauanum* De Wild. (Figs 207, 208; Photo 120).**

Chron. Orchid. 2: 29. 1904; TYPE: COLOMBIA. Importée avec *Cattleya labiata*. M.F.Lambeau - illustration, Dict. Icon. Orch. 4: *Epidendrum*. t. 24. 1905.

**Epiphytic**, sympodial, creeping herb, ca 6-8 cm tall. **Roots** 0.03-0.07 cm in diameter, basal, fleshy, thin, white, distributed throughout the rhizome 1-3 cm long, elongate, terete, formed by 3-4 internodes. **Stems** 3-6 cm long, 0.1-0.3 cm wide, simple, cane-like, terete, somewhat reclining. **Leaves** 4-8, distributed throughout the stem, distichous, spreading, slightly arching, articulate, succulent; sheaths 0.3-0.8 cm long, tubular, somewhat widened towards the apex, laterally compressed; blade 1-3 cm long, 0.4-0.8 cm wide, narrowly ovate-lanceolate, subacute, margin minutely ciliate at the apex. **Spathaceous bract** 0.7-1.2 cm long, single, semi elliptic when spread, conduplicate in natural position, apex rounded and slightly oblique. **Inflorescence** apical, sessile, single-flowered. **Flower** 1, resupinate, fleshy, green with the lip reddish purple, lustrous, the margin frequently greenish. **Floral bracts** much shorter than the ovary and totally hidden by the spathaceous bract. **Ovary** 16-24 mm long, terete, thin, slightly ventrally inflated along the apical half. **Sepals** 10-16.5 mm long, 4-6 mm wide, subacute, minutely apiculate, 5-veined, margin entire, spreading; dorsal sepal spreading, free, elliptic-lanceolate; lateral sepals descending, obliquely adnate to the basal half of the column, triangular-ovate,

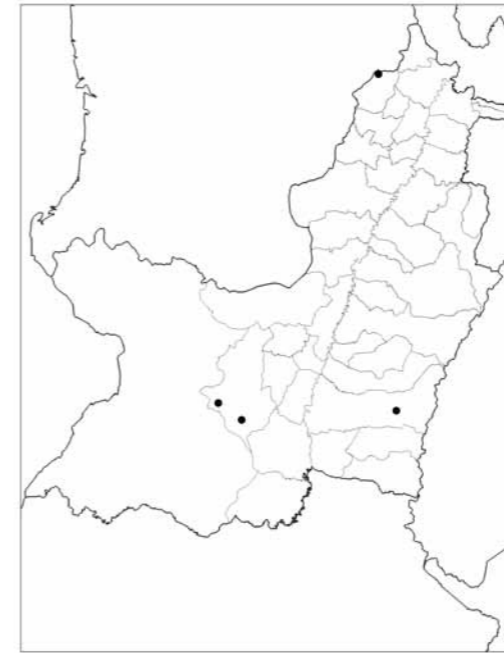


Fig. 205. Distribution of *Epidendrum dendromacrophorum* Hágsater, E. Santiago & O.Pérez in Valle del Cauca.

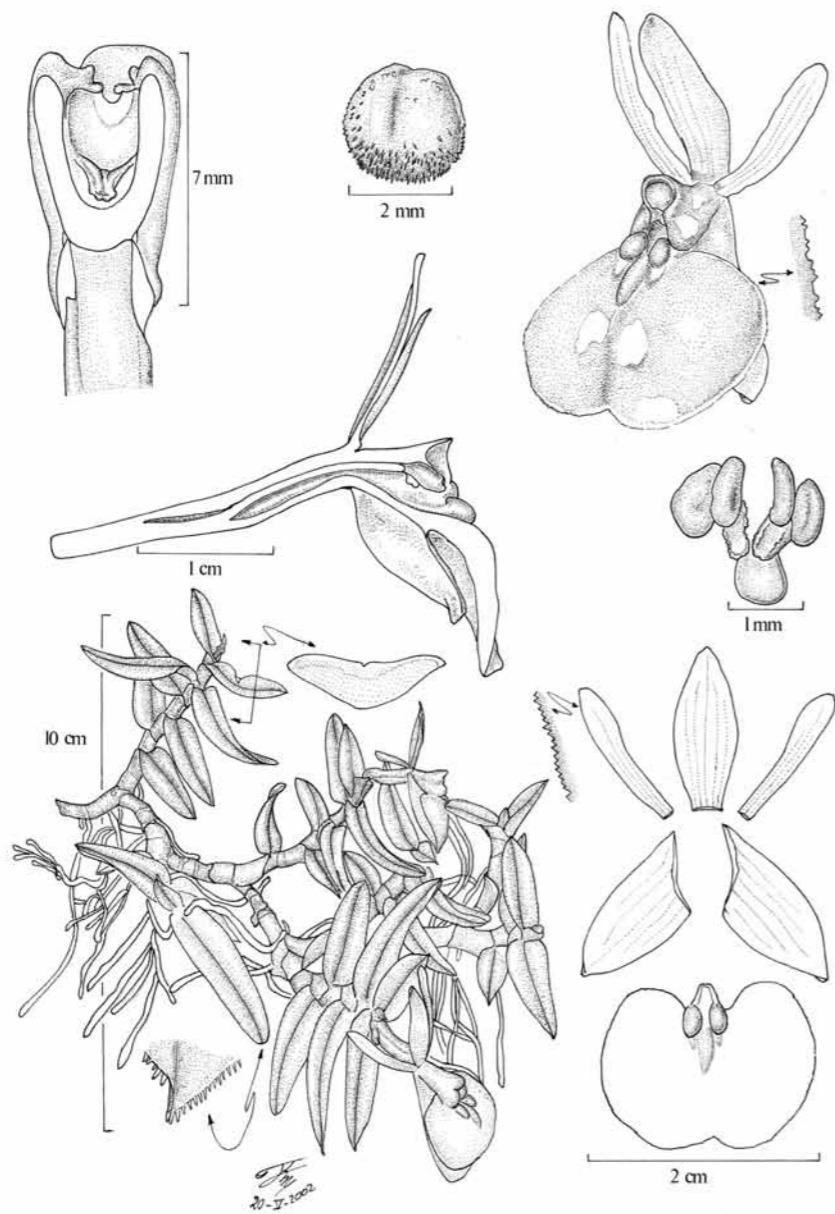


Fig. 206. *Epidendrum lambeauanum* De Wild. (*Colomborquídeas sub Hágsater 11560*, AMO – drawn by R. Jiménez Machorro).

with a low dorsal keel. **Petals** 10-14 mm long, 1.5-2 mm wide, erect-spreading, free, narrowly oblanceolate, curved, 3-veined, apex rounded, margin spreading, crenate-denticulate towards the apex. **Lip** 11-16 mm long, 13-18 mm wide,

united to the column, bilobed, convex, base cordate, reniform, rounded, apex somewhat emarginate, margin erose-dentate; bicallose, the calli prominent, globose; disc with 3 sub-acute ribs, the lateral pair much shorter than



Fig. 207. Distribution of *Epidendrum lambeauanum* De Wild. in Valle del Cauca.

the prominent central rib which disappears at the middle of the lip. **Gynostemium** 7-8 mm long, straight, thin at the base, thickened towards the apex. Clinandrium-hood prominent, cucullate, margin entire. Anther spherical, the surface strongly speculate, 4-celled. Pollinia 4, obovoid, laterally compressed; caudicles as long as the pollinia, soft and granulose; viscidium semi-liquid. Rostellum subapical, split. Lateral lobes of the stigma prominent, occupying 1/3 of the stigmatic cavity. **Nectary** penetrating 1/2 the ovary, not inflated, unornamented.

**HABITAT:** Premontane and montane forest; 1200-2300 m alt.

**ECOLOGY:** It grows on a many different species of phorophytes, including *Ladenbergia magnifolia* (Ruiz & Pav.) Klotzsch. (Rubiaceae) and *Pouteria caimito* (Ruiz & Pav.) Ralchk. (Sapotaceae).

**FLOWERING SEASON:** February-May, September-December.

**GENERAL DISTRIBUTION:** Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cali.** Cordillera Occidental, vertiente oriental; Hoya del río Cali, vertiente derecha confluencia del río Pichindecito & el Pichindé. Alt. 1580-1650 m. 7 Nov 1944. *Cuatrecasas 18763* (VALLE!). **Mpio. La Cumbre.** “Mozambic”, north of La Cumbre, cordillera occidental. 16 Sep 1922. *Killip 11272* (AMES ex GH), Hindu tea plantation above Bitaco. Alt. ca 2000 m. 10 Oct 1982. *Folsom, L. Escobar, D. Sánchez & Jorge 10445* (AMO! x 2). Road to Bitaco, 5000 ft, 18 Nov. 1963, pressed 21 Feb. 1967, *P.C.Hutchison & J.M.Idrobo 3056* (UC!). **Mpio. Dagua.** Bei Porquera am obern Río Dagua, 1800 m, 24 Sept 1882, *Lehmann 1890* (G!); Bei Papagayeros, 24 Nov. 1878, *Lehmann s.n.*, W! an den Quebrada Agua Clara über Palmira, 6000 ft, 25 Oct 1877, *Lehmann s.n.* (W!); Palmira, Quebrada Agua Clara, 1500 m, 23 Sept 1882, *Lehmann 1990* (G!). **Mpio. Darién.** Top of Mtn. overlooking dam at Calima, near main road from Buga. Alt. 1650 m. 17 Oct 1982. *Folsom, L. Escobar, D. Sánchez & Jorge 10515* (AMO!); West Cordillera, Las Pares. Alt. 2300 M.E. *Dryander 2469* (US!). **Mpio. Yotoco.** Reserva Natural de Yotoco. Estación “Complejo Epibiofitico”. Alt. 1200-1700 m. 30 May 2007. *O. Pérez 0019* (VALLE!); Reserva Natural de Yotoco - the upper part of the Reserve. 11 Feb 2010. *M. Kolanowska, O. Pérez & E. Parra s.n.* (UGDA!, UGDA - flower in spirit!); Reserva Forestal de Yotoco, Cordillera Occidental, vertiente oriental, 18 km W de Buga, bosque, 3°52'N 76°33'W. Alt. 1600 m. 29 Apr 1995. *Silverstone-Sopkin & Néstor Paz 7496* (AMO!, CUVC!).

**OTHER SPECIMENS EXAMINED: COLOMBIA. Cauca.** Cordillera Central, vertiente occidental. Hoya del río Palo, márgenes del río Tacueyó & La Tolda. Alt. 1780-1900 m. 19 Dec 1944. *Cuatrecasas 19497* (US!, VALLE!); *Sime loc.* Hort Medellín. Fecha de colecta 1 Aug 1990, fecha de prensado de material cultivado 10 Oct 1997. *Colomborquídeas sub Hágsater 11560* (AMO! x 2).

**NOTES.** The name *Epidendrum mathesii* Rchb.f., a species from the Amazon basin, has

been used for all plants from the Andes that have the look of the flowers of this species. There are, however, various species which are better recognized by the plant habit, especially the position and shape of the leaves. *Epidendrum peperomia* Rchb.f. has also been used mistakenly for plants from the Valle del Cauca. All specimens seen from the Western Cordillera in south-western Colombia correspond to the endemic *E. lambeauanum*.

### ***Epidendrum pseudepidendrum*-group**

Caespitose plants, stems cane-like, inflorescence apical, without spathe, petals filiform, lip usually 3-lobed with the middle lobe bifid. The occurrence of fourteen species of this group was confirmed.

#### **Key to subgroups**

1. Inflorescence clearly paniculate or rarely racemose, (never producing successive racemes from the same peduncle) . . . . . 2
1. Inflorescence racemose, producing successive racemes from the same peduncle. . . . . *Turialvae*-subgroup
2. Flowers pink, the disc of the lip occasionally white or intense pink; calli large, horn-like . . . . . *Porphyreum*-subgroup
2. Flowers green, the lip white, the disc of the lip occasionally marked with reddish purple; calli small, nearly always subglobose. . . . . *Paniculatum*-subgroup

### ***Epidendrum paniculatum*-subgroup**

The subgroup is recognized by the green flowers, the lip and apical half of the column white, the disc of the lip occasionally marked with reddish purple; calli small, nearly always subglobose. The name *Epidendrum paniculatum* Ruiz & Pav. has been used to identify nearly

all the species of the subgroup, but is endemic to Peru, Eastern Cordillera from Huánuco to Cusco, epiphytic, growing at 1700-2800 m altitude, and thus not found in Colombia.

#### **Key to species**

1. Flowers small, sepals 6-7 mm long. . . . . 2
1. Flowers larger, sepals 11-19 mm long. . . . . 3
2. Lateral lobes of the lip with cirrhose apex; inflorescence paniculate, many-flowered; callus single, its apex bilobed . . . . . 46.92. *E. cirrbochilum*
2. Lateral lobes of lip with apex rounded; inflorescence racemose, few-flowered; callus bicallose, calli horn-like . . . . . 46.93. *E. guaridense*
3. Middle lobe of lip divided into a pair of linear-spathulate lobes, the apex obliquely truncate and erose . . . . . 46.91. *E. bispathulatum*
3. Middle lobe of the lip divided into a pair of linear lobes with the apex acute or rounded and the margin entire. . . . . 4
4. Leaves orbicular; lip immaculate, sepals clear green colored . . . . . 46.95. *E. paniculorotundifolium*
4. Leaves elliptic to elliptic-lanceolate; lip marked with reddish purple or pink-purple on the disc; sepals green tinged with brown . . . . . 5
5. Lateral lobes of the lip dolabriform; sepals green brown, 13-15 mm long; apical half of the column and lip white. . . . . 6
5. Lateral lobes of lip transversely oblong-sub-rectangular; sepals greenish brown (dorsally tinged pink, 17-19 mm long; apical half of the column and lip pink . . . . . *E. lopezii* (unconfirmed)
6. Disc of the lip with 5 ribs, strongly marked with reddish purple lines on the ribs . . . . . 46.96. *E. weerakitianum*
6. Disco of the lip with 3 ribs, slightly tinged with purple on the ribs. . . . . 46.94. *E. kolanowskiae*

46.91. ***Epidendrum bispathulatum*** Hágsater, O. Pérez & E. Santiago (Figs 209, 210; Photo 121).

Icon. Orchid. 13: pl. 1307. 2010; TYPE: COLOMBIA. VALLE DEL CAUCA. Mpio. Yotoco. Reserva Natural de Yotoco, Interior del relicto superior. Alt. 1600 m. 11 Apr 2010. O. Pérez, E. Parra & V. Hidalgo 513 (HOLOTYPE: VALLE!). - Kolanowska & al., Ill. field guide orchid. Yotoco Forest Reserve (Colombia): 85. 2011.

**Epiphytic plants, 100-160 cm tall. Stems** 77-131 cm long, 0.47-1 cm wide; simple, cane-like, terete at the base, slightly laterally compressed

towards the middle and above, erect when young, arching or pendent when mature, base without foliaceous sheaths. **Leaves** 18-33, 4-14 cm long, 0.98-3.75 cm wide, articulate, alternate, unequal in size, elliptic, acute. **Inflorescence** 20-28.3 cm long, apical, paniculate, many-flowered; peduncle subterete, short; rachis slightly flexuose. **Flowers** numerous, resupinate; mature flowers with sepals creamy yellow proximally, distally greenish; petals proximally somewhat greenish, creamy yellow towards the middle and apex, basal half of gynostemium greenish, the apical half creamy-yellow, lip including the calli creamy-yellow, the middle lobe somewhat

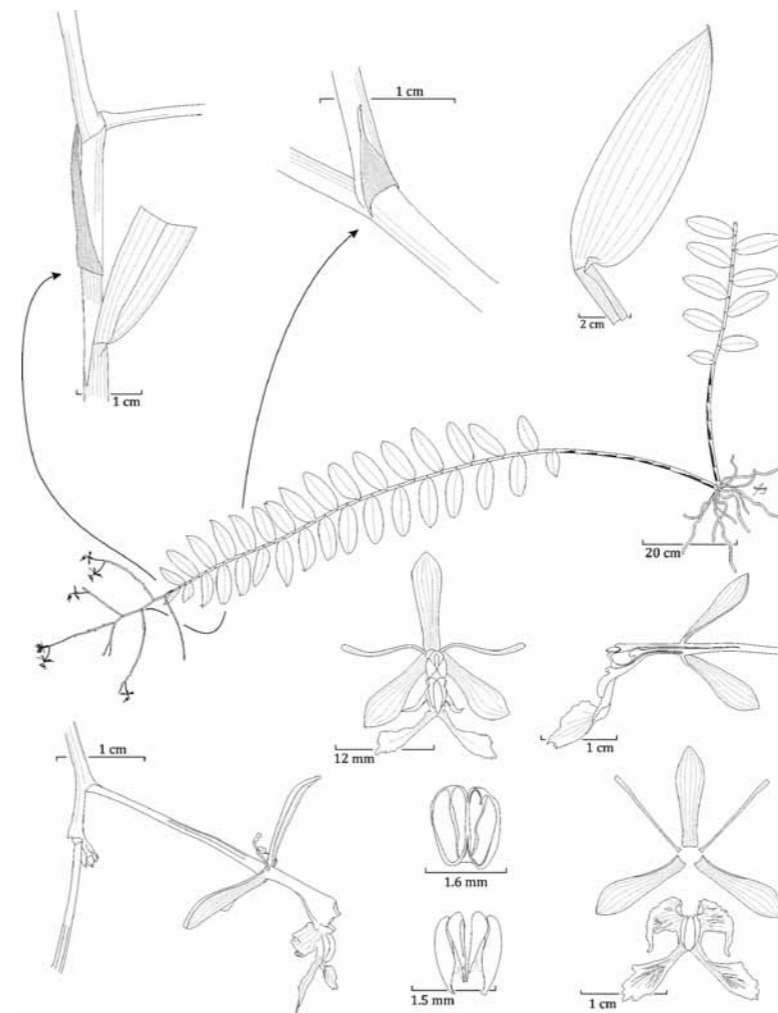


Fig. 208. *Epidendrum bispathulatum* Hágsater, O. Pérez & E. Santiago (O. Pérez, E. Parra & V. Hidalgo 513, VALLE – drawn by O. Pérez).

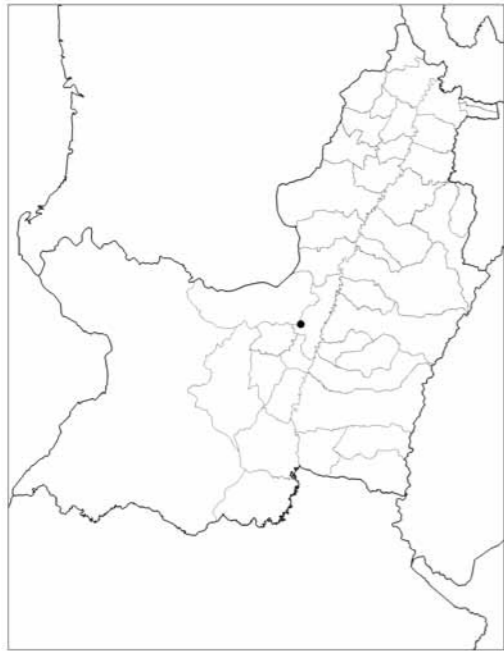


Fig. 209. Distribution of *Epidendrum bispathulatum* Hágsater, O. Pérez & E. Santiago in Valle del Cauca.

pale green towards the apex; fragrance diurnal, agreeable. Floral bracts inconspicuous. Ovary terete, thin, noninflated, unornamented. **Sepals** 11-14 mm long, 3-4 mm wide, free, spreading to slightly reflexed, linear-spathulate, subacute, slightly concave, 5-veined, margin entire. **Petals** 12-13 mm long, 0.5 mm wide, slightly reflexed, free, filiform, 1-veined, apex rounded, margin entire. **Lip** 10-12 mm long, 12-16 mm wide, united to the gynostemium, base truncate, bicallose, 3-lobed; lateral lobes obliquely triangular, apex acuminate, outer margin crenulate; middle lobe deeply bilobed, the lobes slightly divaricate, each lobe linear-spathulate, apex obliquely truncate, the margin erose; disc with 3 fleshy, narrow, acute, parallel keels, the lateral keels shorter than the middle one. **Gynostemium** about 10 mm long, short, margin entire. Anther ovoid. Pollinia 4, "bird-wing" type. **Nectary** shallow, without penetrating the ovary, noninflated.

**HABITAT:** Premontane forest; about 1600-2200 m alt.

**FLOWERING SEASON:** January, March, October.  
**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** Farallones de Cali. Alt. 1600-2200 m. *Lehmann 8316* (AMES! x 2, K!). **Mpio. Yotoco.** Bosque de Yotoco. 15 Jan 1980. *I. Guarín O. 49* (COLI, VALLE!); Reserva Natural de Yotoco: Interior del relicto superior. Alt. 1600 m. 23 Mar 2008. *O. Pérez & E. Parra 254* (VALLE!).

**OTHER SPECIMENS EXAMINED:** COLOMBIA. **Caldas.** Guátira to Anserma Vieja. Alt. 2000 m. 26 Oct 1986. *Lehmann 3274* (G!). **Cundinamarca.** Subachoque. 20 Jan 2012. *E. Parra s.n.* (AMO! – photo).

**46.92. *Epidendrum cirrhochilum* F. Lehm. & Kraenzl.** (Figs 211, 212; Photos 122-124).

*Bot. Jahrb. Syst.* **26**(5): 466. 1899; TYPE: ECUADOR. [GUAYAS]. Circa Puente de Chimbo, at the foot of the Andes above Milagro. Alt. 200-600 m. *Lehmann 6713* (AMES!, K!). - Dodson & Dodson *in* Dodson, *Icon. Pl. Trop.* **1**(4): pl. 374. 1980. - Kolanowska & al., *Ill. field guide orchid. Yotoco Forest Reserve* (Colombia): 87. 2011.

**Epiphytic** (rarely terrestrial), sympodial, caespitose herb 30-100 cm tall. **Roots** basal, thin. **Stems** 16-55 cm tall, 0.3-0.6 cm wide, simple, cane-like, laterally compressed, thin, erect, straight; the base covered by non-foliar sheaths 4.5-6 cm long, somewhat infundibuliform, becoming fibrous with age. **Leaves** 10, distributed throughout the stem, articulate, alternate; sheaths 1.2-4 cm long, 0.3-0.6 cm wide, tubular, minutely striated; blade 7-17 cm long, 1.6-2.7 cm wide, linear-lanceolate to oblong-elliptic, acuminate, margin entire. **Inflorescence** 20-45 cm long, apical, suberect, paniculate, few-flowered; peduncle 4.5-9 cm long, laterally compressed, short, occasionally with a prominent bract 6.5 cm long, nearly totally covering it, tubular, long-acuminate; rachis 15-30 cm long, slightly

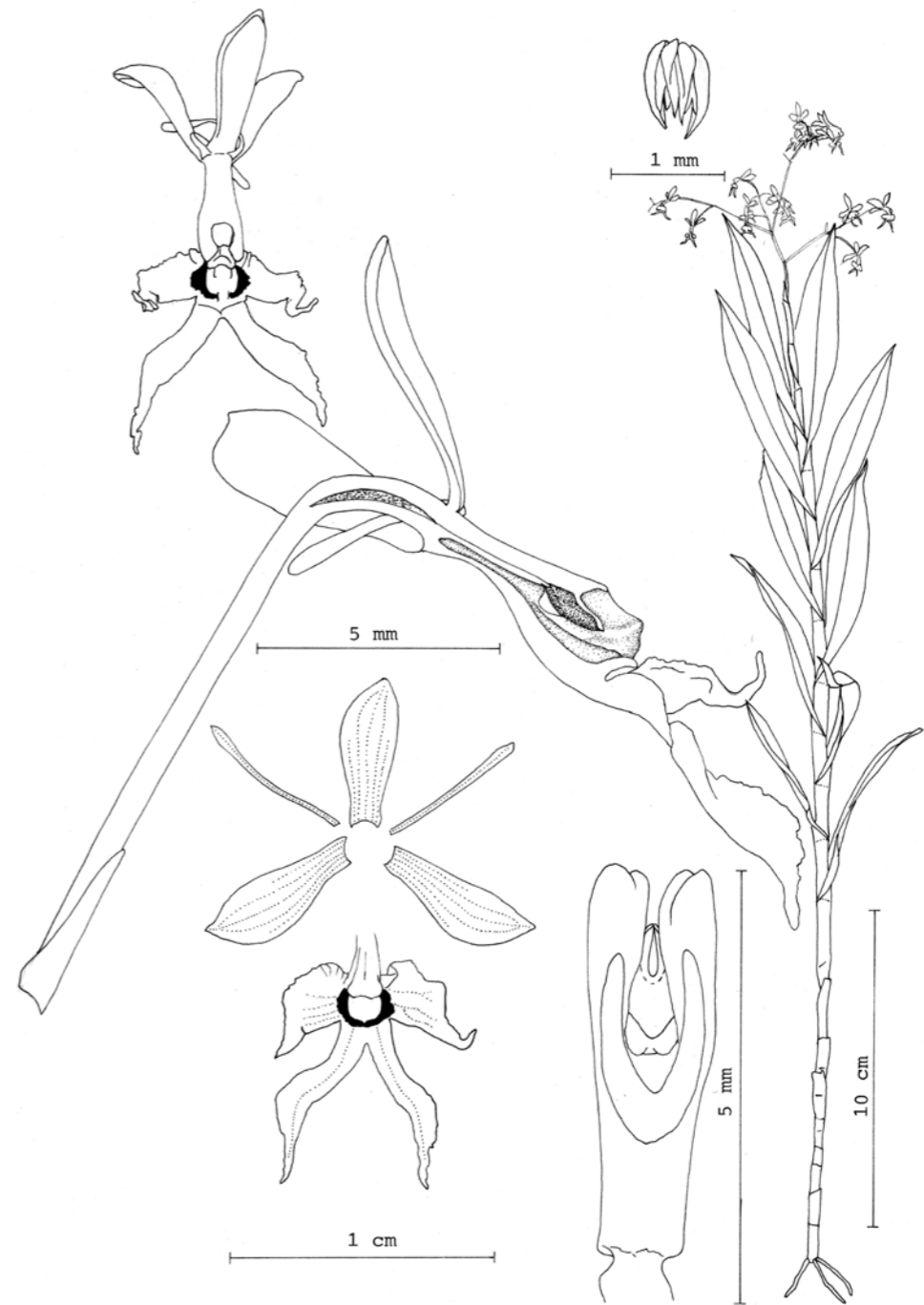


Fig. 210. *Epidendrum cirrhochilum* F. Lehm. & Kraenzl. (Hágsater, R.L. Dressler, K. Dressler & Folsom 7369, AMO – drawn by E. Hágsater).

flexuous; racemes 7-20 cm long, spreading, lax, few-flowered, each subtended by a narrowly triangular, acuminate, amplexicaul bract. **Flowers** 50-200, successive, resupinate, sepals, petals and base of the column green, apical of the column and lip white with a purple semi-circle surrounding the disc. **Floral bracts** 2-8 mm long, much shorter than the ovary, linear-lanceolate, acuminate, amplexicaul. **Ovary** 15-18 mm long, terete, thin, not inflated, smooth. **Sepals** 6-7 mm long, 1.5 mm wide, reflexed, free, linear-spathulate, subacute, slightly concave, 5-veined, margin entire, spreading. **Petals** 6 mm long, 0.4 mm wide, reflexed, free, filiform, apex rounded, 1-veined, margin entire, spreading. **Lip** 5 mm long, 10 mm wide, united to the column, 3-lobed, base slightly cordate; callus entire, the apex slightly 3-lobed; disc provided with 3 fleshy, rounded, acute, parallel keels, the lateral ones shorter, all disappearing before reaching the apical sinus of the lip; lateral lobes 3-4 mm long, 2-3 mm wide, obliquely triangular, apically long-acuminate, cirrhose, the basal margin crenulate; middle lobe 6.5-7 mm long, 7 mm wide, deeply bilobed; each lobe 6.7 mm long, 0.7 mm wide, linear-filiform, long-acuminate, generally cirrhose. **Gynostemium** 5 mm long, straight, base thin, gradually widened towards the apex, with a pair of minute teeth at the apex. Clinandrium short, margin entire. Anther ovoid, 4-celled. Pollinia 4, "bird-wing" type, strongly laterally compressed, the inner pair smaller; caudicles laminar, somewhat shorter than the pollinia. Rostellum subapical, slit. **Nectary** short, without penetrating the ovary, not inflated, smooth.

**HABITAT:** In wet montane forest; at about 1000 m alt.

**FLOWERING SEASON:** September, October. April in cultivation.

**GENERAL DISTRIBUTION:** Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Carr. Cali-Buenaventura, km 66. Alt. 1000 m. 11 Oct 1982. *Albert de Escobar & Folsom 2506* (HUA!); Hidroeléctrica de Anchicaya. Preparado de material



Fig. 211. Distribution of *Epidendrum cirrbochilum* F. Lehm. & Kraenzl. in Valle del Cauca.

cultivado, 26 Apr 1983 *Hágsater, R.L. Dressler, K. Dressler & Folsom 7369* (AMO! x 4, QCNE!); Hidroeléctrica de Anchicayá, pressed cult. 10 Sep 1983. *Hágsater 7666* (AMO!).

**OTHER SPECIMENS EXAMINED: ECUADOR.** **Chimborazo.** Epiphytica in silvis humidissimis circa Puente de Chimbo. Alt. 200 m. *Lehmann 6713* (AMES!, K!). **Pichincha.** Dos Rios, km 86 Wuito- Santo Domingo, old road. Alt. 1100 m. Flowering in cultivation 9 Oct 1978. *Dodson 9338* (AMO! x 2, SEL!); Dos Rios, Old road to Quito. Fecha de prensado de material cultivado 20 Dec 1990. *SEL sub Hágsater 6064* (AMO! x 2, QCNE!). **COLOMBIA. Antioquia.** Mpio. Frontino. Mina de oro cerca a Muri. Alt. 1700 m. recolectada por M. R. Robledo 1982, cultivo cerca a Medellín 10 May 1989. *J.M. Múnera & R. Escobar 645* (AMO!). **Bolívar. [Córdoba]** Boca Antizales, on Río Esmeralda. 26 Feb 1918. *Pennell 4490* (AMES!, NY!). **Magdalena.** Parque Nacional de Santa Marta, Cuchilla de San Lorenzo. 18 Jun 1969 *Díaz 140* (COL!). **Santander.** Vicin-

ity of Barranca Bermeja, between Sogamoso and Carare Rivers. Alt. 100-500 m. 22 Jul 1936. *Haught 1941* (AMES!, US!).

**46.93. *Epidendrum guaridense* Hágsater & E. Santiago** (Figs 213, 214).

Icon. Orchid. (Mexico) **13:** pl. 1336. 2010; TYPE: COLOMBIA. VALLE DEL CAUCA. Cordillera Occidental, vertiente occidental: monte La Guarida, filo de la cordillera sobre La Carbonera (entre Las Brisas & Albán). Alt. 1950-2000 m. 16 Oct 1946. *Cuatrecasas 22152* (HOLOTYPE: F!; ISOTYPES: US!, VALLE!).

**Epiphytic**, sympodial, caespitose, erect plants, 60-66 cm tall. **Stems** 46-48 cm long, 0.2-0.35 cm wide, simple, cane-like, terete, thin straight, base covered by nonfoliaceous, scarios sheaths, becoming fibrous with time. **Leaves** 11-12, 5-13 cm long, 1.1-1.5 cm wide, unequal in size (lower leaves smaller), alternate, articulate, erect-spreading, subcoriaceous, narrowly oblong-lanceolate, acuminate, margin entire; sheaths 1.3-4 cm long, 0.2-0.35 cm wide, tubular, minutely striated. **Inflorescence** 14-18 cm long, apical, racemose, erect, laxly few-flowered; peduncle laterally compressed, thin, straight, covered by 2 tubular, acuminate bracts. **Flowers** 23-27, resupinate, successive, sepals dorsally pale green, ventrally pale violaceous, lip white, disc lilac. Floral bracts

6-15 mm long, much shorter than the ovary, narrowly triangular, acuminate, amplexicaul. Ovary 17-20 mm long, terete, thin, long, slightly widened along the apical half, minutely papillose. **Sepals** 6-7 mm long, 2-2.2 mm wide, free, partially spreading, narrowly elliptic, obtuse, 7-veined, dorsal surface minutely papillose towards the apex, margin entire, spreading; lateral sepals minutely apiculate, slightly oblique. **Petals** about 6 mm long, 0.4 mm wide, free, partially spreading, filiform, apex rounded, 1-veined. **Lip** about 2.6 mm long, 5 mm wide, united to the gynostemium, base slightly cordate, 3-lobed; lateral lobes about 2 mm long, 1.7 mm wide, transversely rectangular, rounded, margin slightly crenate, spreading; middle lobe about 1.2 mm long, 4.3 mm wide, forming a wide isthmus

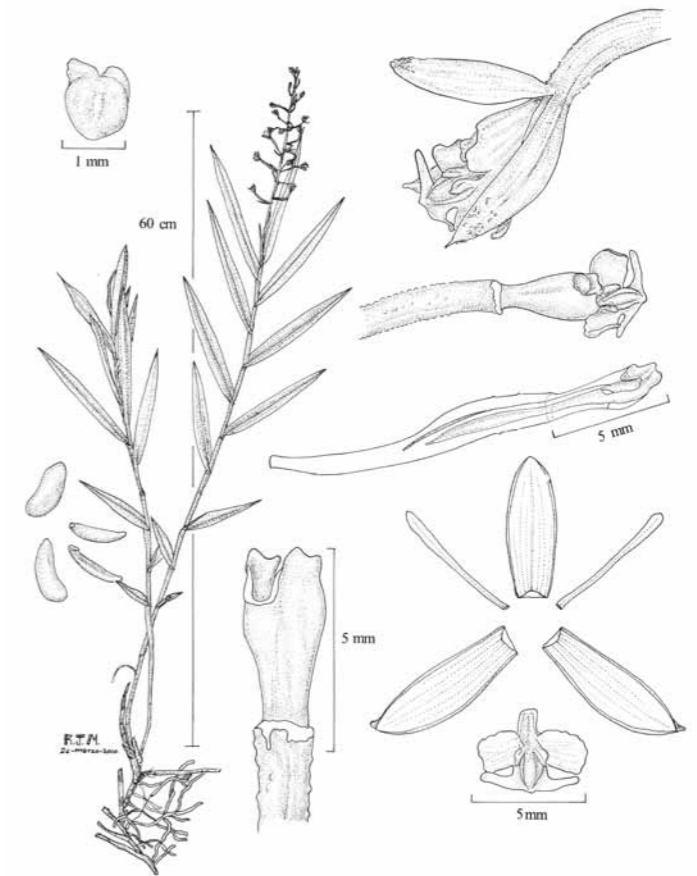


Fig. 212. *Epidendrum guaridense* Hágsater & E. Santiago (*Cuatrecasas 22152*, F – drawn by R. Jiménez Machorro).



Fig. 213. Distribution of *Epidendrum guaridense* Hágsater & E. Santiago in Valle del Cauca.

at the base, the apex bilobed, with the lobes strongly divaricate, margin entire, each lobe linear, apex rounded; bicallose, calli prominent, somewhat hornlike, elongate, reaching the base of the middle lobe; disc with 3 fleshy keels that run to the apical sinus. **Gynostemium** about 5 mm long, thin, straight, with a pair of prominent wings at the apex. Clinandrium-hood reduced, margin entire. Anther obovoid. Pollinia 4, “bird-wing” type, strongly laterally compressed, the inner pair narrower. **Nectary** penetrating half of the ovary, noninflated, unornamented.

**HABITAT:** Montane forest; 1950-2600 m alt.

**FLOWERING SEASON:** October-November.

**GENERAL DISTRIBUTION:** Endemic, known only from the Department of Valle del Cauca.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** Cordillera Occidental, vertiente occidental: monte La Guarida, filo de la cordillera sobre La Carbonera (entre Las Brisas & Albán). Alt. 1950-2000 m. 16 Oct 1946. *Cuatrecasas* 22152 (F!, US!, VALLE!). **Mpio. Cali.** Los Farallones

de Cali, Cuenca superior del Río Melendez. Alt. 2600 m. 4 Nov 1976. *Hartman* 529 (AMO!).

**OTHER SPECIMENS EXAMINED: COLOMBIA.**

**Huila.** Río Villalobos, Región of the confluence of Ríos Villalobos and Canchos. Alt. 1400 m. *Schultes s.n.* (HB!).

46.94. *Epidendrum kolanowskiae* Hágsater, O.Pérez & E.Santiago (Figs 215, 216; Photos 125-128).

Icon. Orchid. 14: Pl. 1447. 2013; TYPE: COLOMBIA. VALLE DEL CAUCA. Mpio. Yumbo. Dapa, en frente de la Finca “Cielo Azul”. Alt. 1900 m. 1 Aug 2010. *O. Pérez* 821 (HOLOTYPE: CUVC!).

**Epiphytic or lithophytic**, sympodial, caespitose, decumbent herb, ca 42 cm tall. **Roots** 0.2-0.3 cm in diameter, basal, fleshy, thin. **Stems** simple, cane-like, 16-30 cm tall, 0.3-0.6 cm wide, terete, straight; the basal half covered by non-foliar, tubular sheaths 1.8-2.5 cm long. **Leaves** 7-13, distributed throughout the apical half of the stem, alternate, articulate, erect-spreading, amplexicaul, some unequal in size, green and concolor when young, the underside turning purple when mature; sheath tubular, 1.8-2 cm long. **Blade** orbicular to elliptic, 2.6-7.5 cm long, 1.8-2 cm wide, acute, subcoriaceous, margin entire, spreading. **Spathaceous bracts** lacking. **Inflorescence** apical, 26 cm long, racemose or paniculate, flowering only once, lax, few-flowered; peduncle 7 cm long, elongate, straight, thin, provided with 2 lanceolate, acuminate, amplexicaul bracts, 8 mm long; rachis 19 cm long, when paniculate, with a spreading basal, short, few-flowered branch subtended by a basal narrowly triangular, acuminate, amplexicaul bract. **Flowers** 8-17, simultaneous, resupinate, sepals, petals and basal half of the column green, lip and apical half of the column with the disc surrounded by pale purple spots spilling onto the lobes of the lip. **Floral bracts** 12-20 mm

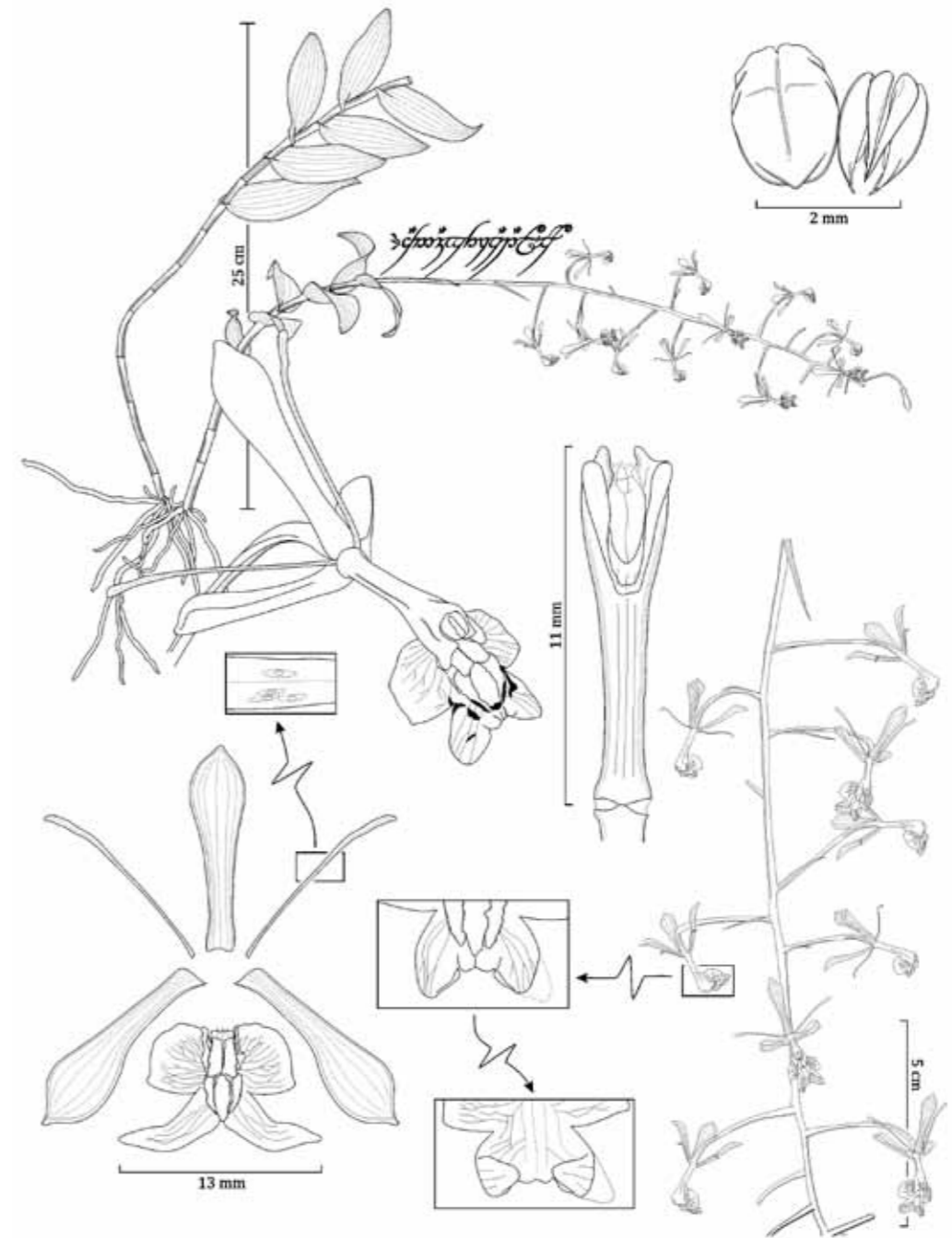


Fig. 214. *Epidendrum kolanowskiae* Hágsater, O.Pérez & E.Santiago (*O. Pérez* 821, CUVC – drawn by O.Pérez).



Fig. 215. Distribution of *Epidendrum kolanowskiae* Hágsater, O.Pérez & E.Santiago in Valle del Cauca.

long, prominent, unequal in size, the basal ones about half as long as the ovary, the apical ones 1/4 the length of the ovary, linear-triangular, acuminate, amplexicaul. **Ovary** 25-28 mm long, terete, thin, not inflated. **Sepals** 13 mm long, 3.5 mm wide, reflexed, free, oblanceolate-spathulate, obtuse, fleshy, slightly concave towards the apex, 4-5-veined, margin entire, spreading. **Petals** 13 mm long, 0.3 mm wide, reflexed, free, filiform, slightly falcate, 1-veined, apex rounded, margin entire, spreading. **Lip** united to the column, 8.3 mm long, 13 mm wide, slightly convex, fleshy, 3-lobed, base cordate, margin entire; bicallose, the calli prominent, rectangular-cubical, disc provided with 3 parallel ribs which extend to apical sinus, fleshy; lateral lobes 3.6 mm long, 4.6 mm wide, dolabriform; middle lobe bilobed, divaricate, lobes narrowly triangular, falcate, apex acute, revolute, each lobe 6.6 mm long, 2.3 mm wide. **Gynostemium** 11 mm long, straight, thin at the base, dilated towards the apical half. Clinandrium-hood reduced, margin entire. An-

ther ovoid, 4-celled. Pollinia 4, bird-wing type, the inner pair somewhat smaller, caudicles laminar, shorter than the pollinia. Rostellum apical, slit. **Lateral lobes of the stigma, nectary and capsule** not seen.

**HABITAT:** Cloud forest; at about 1900-1950 m alt.

**FLOWERING SEASON:** January, July, August, December.

**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Argelia.** Vereda "Las Brisas". Alt. 1950 m. 22 Jan 1983. *Franco 1746* (COL!). **Mpio. Versalles.** Versalles. 2 Jul 2012. *Rincón-Useche & Ríos 43* (VALLE!). **Mpio. Yumbo.** Dapa. 21 Dec 2010. *Pérez 1023* (VALLE!, AMO! - digital image), Dapa, en frente de la Finca "Cielo Azul". Alt. 1900 m. 1 Aug 2010. *O. Pérez 821* (CUVC!).

**OTHER SPECIMENS EXAMINED: COLOMBIA. Antioquia.** Fredonia: Cerro Bravo. Alt. 1770-2050 m. 6 Jun 1992. *Fonnegra 4384* (COL!, HUA!, NY!).

**46.95. *Epidendrum lopezii* Hágsater (Fig. 217; Photos 129-130).**

Icon.Orchid. 3: t. 348. 1999; TYPE: COLOMBIA. ANTIOQUIA. El Retiro, Normandía. cult. en Colomborquídeas. *Hágsater 11648* (HOLOTYPE: AMO!).

**Epiphytic or lithophytic**, caespitose, 110-170(250) cm tall. **Stem** 65-90 cm long, 0.6-1.5 cm wide, cane-like, terete. **Leaves** 10-13, 12.5-17 cm long, 2.6-5.5 cm wide, distributed throughout the stem, elliptic-lanceolate, acute, dark green. **Inflorescence** 40-80 cm long, apical, from mature growth, flowering only once, paniculate, very large, laxly flowered, several branched, with a long, acute bract at base, followed by sequentially smaller bracts becoming those of the rachis. **Flowers** numerous, up to over 80, successive (the buds are all the same size when

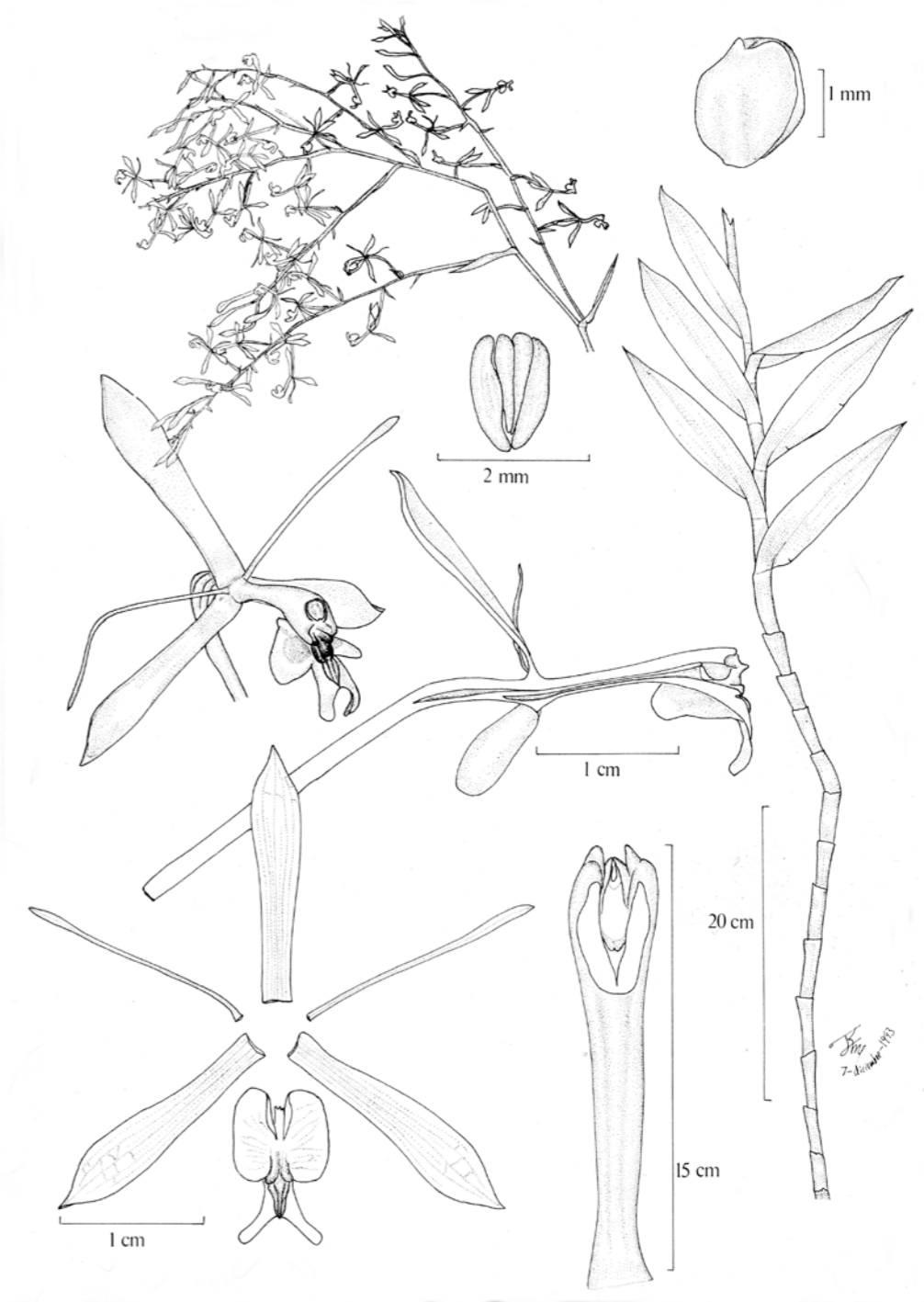


Fig. 216. *Epidendrum lopezii* Hágsater (*López sub R. Escobar 5168*, AMO – drawn by R. Jiménez Machorro).



the first flowers open), resupinate, sepals grayish-green inside, dark rose-lilac outside, petals grayish-green, gynostemium and lateral lobes of lip rose-lilac, middle lobe green, callus pink with apex purple, basal half of keels purple, anther greenish, ovary rose-lilac. **Floral bracts** 3-12 mm long, about 2 mm wide, triangular acuminate. **Ovary** 25-39 mm long, 1.4-2 mm wide, dilated and arched near the apex. **Sepals** 17-19 mm long, 3-4 mm wide, narrowly ovate-spathulate, acute, concave, 5-veined. **Petals** 17-19 mm long, 0.6 mm wide, filiform, 1-veined. **Lip** 10-11 mm long, 6-8.5 mm wide, 3-lobed, fleshy, bicarinate, 3-carinate; lateral lobes 3-3.5 mm long, about 6 mm wide, much larger than middle lobe, equally wide between the lateral and middle lobe, transversely oblong-rectangular, entire, retrorse; middle lobe about 4 mm long, 1.6 mm wide, bilobate, lobes bifurcate, narrow. **Gynostemium** 14-16 mm long, straight, thin. Clinandrium-hood reduced, entire. Pollinia birdwing type. **Nectary** penetrating slightly the ovary.

**HABITAT:** Unknown; at about 1800 m alt.

**FLOWERING SEASON:** September in the Department of Cauca.

**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. El Dovio.** Comprada a un "matero" El Dobio, entre los Departamentos de Chocó & Risaralda. Alt. 1800 m. *O. Duque 683* (AMO! - photo).

**OTHER SPECIMENS EXAMINED: COLOMBIA.** **Antioquia.** *Escobar 922* (AMES!); *López sub R. Escobar 5168* (AMO!). **Cauca.** Munchique. Alt. 2400 m. 25 Sep 1939. *von Sneidern 2001* (F!, G!, NY!, SI, US!).

**NOTES.** The specimen cited above in the electronic data base of AMO is marked as a specimen from the department of Valle del Cauca, but except lacking the precise information about locality, this specimen was purchased and its origin is unknown. However, the species is recorded from Antioquia and Cauca, and therefore expected in the Valle del Cauca.

**46.96. *Epidendrum paniculorotundifolium*** Hágsater, Kolan. & E.Santiago (Figs 218, 219; Photos 131-132).

Icon. Orchid. 14: Pl. 1469. 2013; Type: COLOMBIA. VALLE DEL CAUCA. Dapa. Path from the local car stop to the farms. N3° 33.690' W76° 34.561'. Alt. 1908 m. 13 Feb 2010. *M. Kolanowska, O. Pérez & E. Parra 290* (HOLOTYPE: VALLE!, AMO! - digital image, UGDA! - drawing).

**Epiphytic**, sympodial, caespitose, herb, ca 55 cm tall. **Roots** basal. **Stems** ca 27.5 cm tall, 0.5-0.6 cm wide, simple, cane-like, terete, erect, straight; the basal half covered by non-foliaceous, tubular sheaths, 2.1-2.7 cm long. **Leaves** 7-12, distributed along the apical half of the stem, alternate, articulate, erect-spreading, amplexicaul; sheaths 1.9-3 cm long, 0.5-0.6 cm wide, tubular, minutely striated, green; blade 2-7 cm long, 1.3-4 cm wide, orbicular-elliptic, obtuse, margin entire, spreading, about 5:3 (length/width). **Spathaceous bract** lacking. **Inflorescence** 24-26 cm long, apical, paniculate, flowering only once, suberect, lax, few-flowered; peduncle 2.4 cm long, short, erect, straight; rachis 7-10.5 cm long, with 5 spreading, lax, few-flowered racemes, each raceme subtended by a narrowly triangular, acuminate, amplexicaul, basal bract 0.8-2.5 cm long. **Flowers** 45-60, simultaneous, resupinate, sepals, petals and basal half of the column green, apical half of the column and lip white, turning yellowish with age, without colored markings; fragrance not recorded. **Floral bracts** 2.5-10 mm long, shorter than the ovary, linear-triangular, acuminate, amplexicaul. **Ovary** 24-32 mm long, long, terete, thin, not inflated, unornamented. **Sepals** 13-15 mm long, 4 mm wide, reflexed, free, oblanceolate-spathulate, obtuse, fleshy, somewhat concave, 3-veined, margin entire, spreading. **Petals** ca 12-14 mm long, 0.6 mm wide, reflexed, free, filiform, 1-veined, apex rounded, margin entire, spreading. **Lip** 7-8 mm long, 13-14 mm wide, united to the column, slightly convex, 3-lobed, base cordate, nearly as

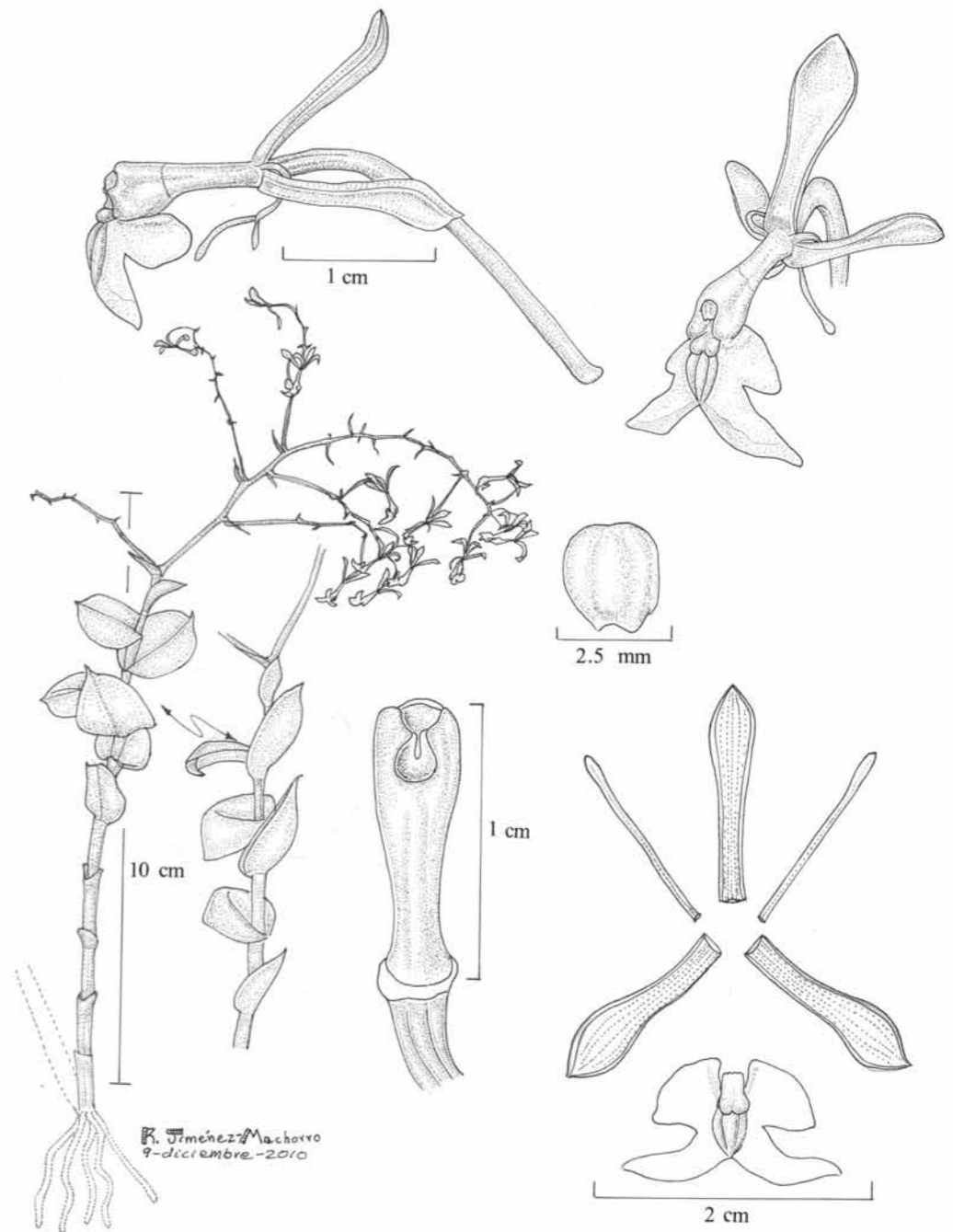


Fig. 217. *Epidendrum paniculorotundifolium* Hágsater, Kolan. & E.Santiago (*Kolanowska, O. Pérez & E. Parra 290*, UGDA - drawn by R. Jiménez Machorro).



Fig. 218. Distribution of *Epidendrum paniculorotundifolium* Hágsater, Kolan. & E.Santiago in Valle del Cauca.

wide between the lateral lobes as between the apical lobes, margin entire, spreading; bicallose, the calli small, subglobose; disc provided with 3 parallel ribs that reach the apical sinus; lateral lobes 3-4 mm long, 4-5 mm wide, dolabriform; middle lobe widely emarginate, forming a pair of linear-oblong, acute, slightly divaricate lobes, each lobe 5-6 mm long, 2-3 mm wide. **Gynostemium** 10 mm long, straight, thin at the base, dilated above the middle, with a pair of minute teeth at the apex. Clinandrium-hood reduced, margin entire. Anther obovoid, 4-celled. Pollinia 4, bird-wing-type. Rostellum apical, slit. Lateral lobes of the stigma, **nectary** and **capsule** not seen.

**HABITAT:** Unknown; about 1900 m alt.

**FLOWERING SEASON:** January, February.

**GENERAL DISTRIBUTION:** Endemic, known only from the Department of Valle del Cauca.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Dapa.** Alt. 1908 m. Feb 2010. *O. Pérez 646* (VALLE! x 2, AMO! - digital

image). **Mpio. Palmira.** “La Nevera”. 26 Jan 1980. *I. Guarín O. 100* (COL!).

46.97. *Epidendrum weerakitianum* Hágsater, O.Pérez & E.Santiago (Figs 220, 221; Photo 133).

Icon. Orchid. 14: Pl. 1495. 2013; TYPE: COLOMBIA. VALLE DEL CAUCA Mpio. Yumbo. Dapa. 3 Apr 2011. *O. Pérez & E. Parra 1106* (HOLOTYPE: VALLE!).

**Lithophytic**, rupicolous, sympodial, caespitose, decumbent herb, ca 65 cm tall. **Roots** ca 0.3 cm in diameter, basal, fleshy, thin. **Stems** simple, cane-like, terete, 50 cm tall, 0.6 cm wide; the basal half covered by non-foliar, minutely striated, tubular sheaths 1.5-3.6 cm long. **Leaves** 12, distributed throughout the apical half of the stem, alternate, articulate, amplexicaul, erect-spreading, similar in size; sheath tubular, 1.2-3 cm long, 0.3-0.6 cm wide, minutely striated, green; blade elliptic, 7-11 cm long, 2-3.3 cm wide, acute, subcoriaceous, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescence** apical, 14 cm long, paniculate, flowering only once, lax-, few-flowered; peduncle short, 5 cm long, straight, thin, provided with 1 lanceolate, acuminate, amplexicaul bract 1.5 cm long; rachis 9 cm long. **Floral bracts** 6-8 mm long, much shorter than the ovary, narrowly triangular, acuminate, amplexicaul. **Ovary** 21-22 mm long, terete, thin, not inflated, arching at the apical 1/3. **Flowers** 10-20, simultaneous, resupinate, sepals, petals and basal half of the column green, apical half of the column and lip white (turning yellowish with time), the lip with 5 reddish-purple lines on the ribs, lobes of the lip densely spotted with reddish-purple; fragrance not recorded. **Sepals** 15 mm long, 4.3 mm wide, reflexed, free, oblanceolate-spathulate, obtuse, fleshy, slightly concave towards the apex, 3-veined, margin entire, spreading. **Petals** 17 mm long, 0.7 mm wide, reflexed, free, filiform, apex rounded, 1-veined, oblique, margin

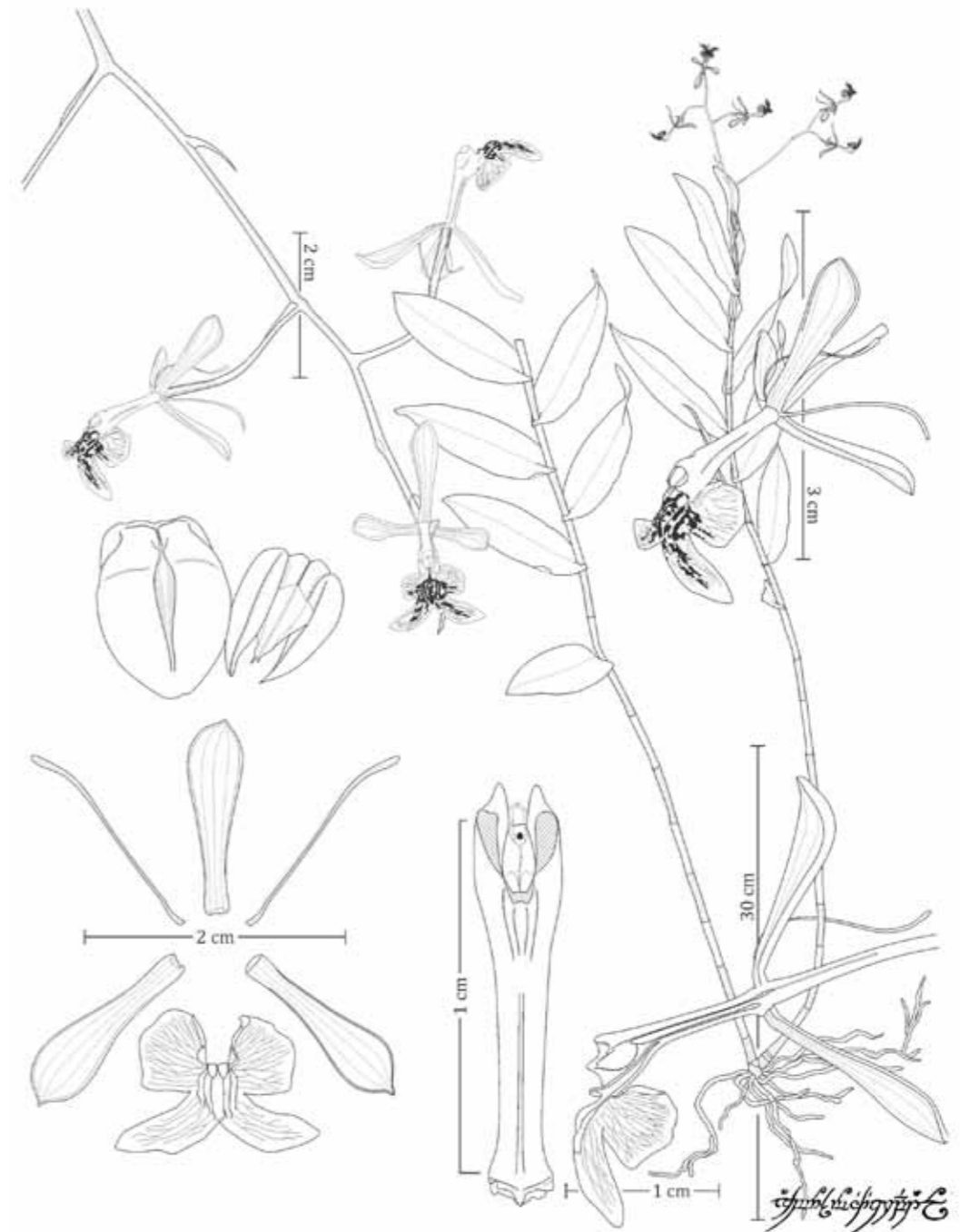


Fig. 219. *Epidendrum weerakitianum* Hágsater, O.Pérez & E.Santiago (*O. Pérez & E. Parra 1106*, VALLE – drawn by O. Pérez).

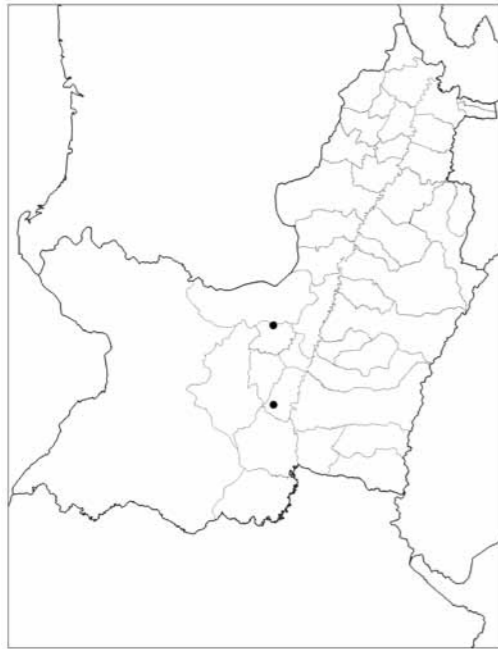


Fig. 220. Distribution of *Epidendrum weeraktianum* Hágsater, O.Pérez & E.Santiago in Valle del Cauca.

entire, spreading. **Lip** united to the column, 10 mm long, 15 mm wide, slightly convex, fleshy, 3-lobed, base cordate, margin entire; bicallose, the calli prominent, rectangular, disc provided with 5, fleshy, parallel ribs, which extend nearly to the apical sinus; lateral lobes dolabriform, 4.3 mm long, 6 mm wide; middle lobe 4.7 mm long, 15 mm wide, widely emarginate, forming a pair of linear, acute, slightly divaricate lobes, each lobe 7.2 mm long, 3.2 mm wide. **Gynostemium** 10 mm long, straight, thin along the basal 2/3, and gradually dilated towards the apex. Clinandrium-hood reduced, margin entire. Anther ovoid, 4-celled, with a low dorsal keel. Pollinia 4, bird-wing type; caudicles laminar, somewhat shorter than the pollinia. Rostellum apical, slit. Lateral lobes of the stigma prominent. **Nectary** thin, unornamented, without penetrating the ovary. **Capsule** not seen.

**HABITAT:** Montane forest; at about 1800 m alt.

**FLOWERING SEASON:** September, December, April.

**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Dagua.** Represa del Calima. 17 Sep 1966. *Espinal 2041* (MO!). **Mpio. Yumbo.** Corregimiento de Dapa. Alt. 1800 m. 13 Dec 2009. *Parra & Pérez s.n.* (AMO! – photo), Dapa. 3 Apr 2011. *O. Pérez & E. Parra 1106* (VALLE!).

**OTHER SPECIMENS EXAMINED: COLOMBIA.** *Sine loc.* as *E. aff. paniculatum* (1 y 2) photo *C. Uribe s.n.* (Ortiz & Uribe 2007); The same loc. as *E. rodrigoii* 2 photos *C. Uribe s.n.*, (Ortiz & Uribe 2007). **Antioquia.** *Sine loc.* *G. Escobar 677* (AMO! – photo). **Quindío.** Circasia. *Sine coll.* photo published as *Epidendrum paniculatum* (Mejía de Moreno 2007).

#### *Epidendrum porphyreum*-subgroup

Plants with flowers reddish orange, deep purple or lilac-pink, the calli generally prominent, sometimes horn-like.

#### Key to species

1. Flowers pink, the disc of the lip white or creamy; racemes of the inflorescence spreading on the rachis, lateral lobes of the lip never bilobed . . . . . 2
1. Flowers orange, the disc of the lip yellow; racemes of the inflorescence subparallel to the rachis; lateral lobes of the lip slightly bilobed. . . . . 46.101. *E. spatbatum*
2. Flowers pink, the disc of the lip white or creamy; middle lobe of the lip bifurcate, forming oblong lobes, slightly divaricate, forming a “V” . . . . . 3
2. Flowers pink, the ventral surface of the sepals yellowish; middle lobe of the lip bifurcate, the lobes linear, strongly divaricate, opposite . . . . . 4
3. Inflorescence densely many-flowered, with up to 180 flowers; leaves green. Concolor; sepals 9-10 mm long; lateral lobes of lip dolabriform, margin spreading (not involute); lip equally wide between the lateral lobes and the apical lobes . . . . . 46.99. *E. laeve*

3. Inflorescence laxly flowered, 40-70 flowers; leaves bicolor, green above, ventrally purple; sepals 11-16 mm long; lateral lobes of lip trapexoid, slightly falcate, basal margin somewhat involute; lip wider between the lateral lobes than between the apical lobes . . . . . 46.98. *E. hypoporphyreum*
4. Leaves concolor, green; lateral lobes of lip falcate, oblong, strongly retrorse and semi-parallel to the apical half of the column; middle lobe of lip with a short isthmus at the base, the apex deeply emarginate, forming a pair of strongly divaricate, linear lobes . . . . . 46.100. *E. peraltum*
4. Leaves bicolor, the upper side green, the underside deep purple; lateral lobes of the lip dolabriform; middle lobe without an isthmus at the base; apex forming a pair of hastate, linear lobes . . . . . 46.97. *E. giraldo-cannasii*

46.98. *Epidendrum giraldo-cannasii* Hágsater, O.Pérez & E.Santiago (Figs 222, 223; Photos 134-136).

Icon. Orchid. 14: Pl. 1432. 2013; TYPE: COLOMBIA. VALLE DEL CAUCA. Mpio. Yumbo. Dapa. Alt.ca. 1800 m. 15 Feb 2011. *O. Pérez & E. Parra 1103* (HOLOTYPE: CUVCI).

**Epiphytic**, sympodial, caespitose herb up to 120 cm tall. **Roots** ca 0.3 cm in diameter, basal, fleshy, white. **Stems** 77 cm tall, 1 cm wide, simple, cane-like, terete, straight, ascending; the basal 1/3 covered by non-foliar, tubular sheaths 3.1-5.2 cm long, minutely striated, scarious. **Leaves** 11, distributed along the apical 2/3 of the stem, alternate, articulate, spreading, unequal in size, the basal ones smaller; sheaths 2.4-7 cm long, 0.35-1 cm wide, tubular, minutely striated, purple; blade 4.1-14.5 cm long, 3-4 cm wide, elliptic, acuminate, coriaceous, the upper face green, the underside purple, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescence** 40 cm long, apical, paniculate, flowering only once, laxly many-flowered, arched-nutant; peduncle 6 cm long, short, straight, thin, totally hidden by

a single tubular bract 7.5 cm long, acuminate, amplexicaul; rachis 34 cm long, terete, gradually becoming thinner towards the apex, with some 8 few-flowers racemes 11-15 cm long, each subtended by a bract 2-4.5 cm long, linear-triangular, long-acuminate, amplexicaul. **Flowers** ca 100, resupinate, most of them simultaneously at anthesis (only a few apical flowers in bud), sepals dorsally magenta, internally ochraceous, petals and lip pale pink, column magenta, somewhat yellowish at base; fragrance diurnal, delicate, agreeable. **Floral bracts** 3-17 mm long, small, much shorter than the ovary, narrowly triangular, acuminate, amplexicaul. **Ovary** 31 mm long, terete, striated, papillose, magenta colored, slightly inflated along the apical half, and bent at the middle into an angle of 135°. **Sepals** 13.5 mm long, 3.6 mm wide, partly spreading, free, oblanceolate, acute, apiculate, fleshy, slightly concave near the apex, 3-veined, margin entire, spreading; the lateral sepals slightly oblique. **Petals** 11 mm long, 0.6 mm wide, partly spreading, free, filiform, slightly oblique, apex subacute, 1-veined, margin entire, spreading. **Lip** 6.4 mm long, 7.5 mm wide, united to the column, 3-lobed, base cordate; bicallose, the calli thin, prominent, elongate to the base of the middle lobe; disc provided with 3 fleshy, parallel ribs, the mid-rib reaching the apical sinus, the lateral pair shorter and lower; lateral lobes 3 mm long, 5 mm wide, dolabriform, margin somewhat erose; middle lobe 1.5 mm long, 7 mm wide, forming a pair opposite lobes 3.5 mm long, 0.6 mm wide, horn-like, falcate, apex narrowly rounded. **Gynostemium** 11 mm long, straight, thin at the base, gradually dilated towards the apical half, apex bidentate. Clinandrium-hood reduced, margin entire. Anther ovoid, 4-celled. Pollinia 4, bird-wing type; caudicles laminar, shorter than the pollinia. Rostellum apical, slit. Lateral lobes of the stigma not seen. **Nectary** penetrating nearly half of the ovary, not inflated, unornamented. **Capsule** not seen.

**HABITAT:** Cloud forest; at about 2000 m.

**FLOWERING SEASON:** February, June in cultivation.

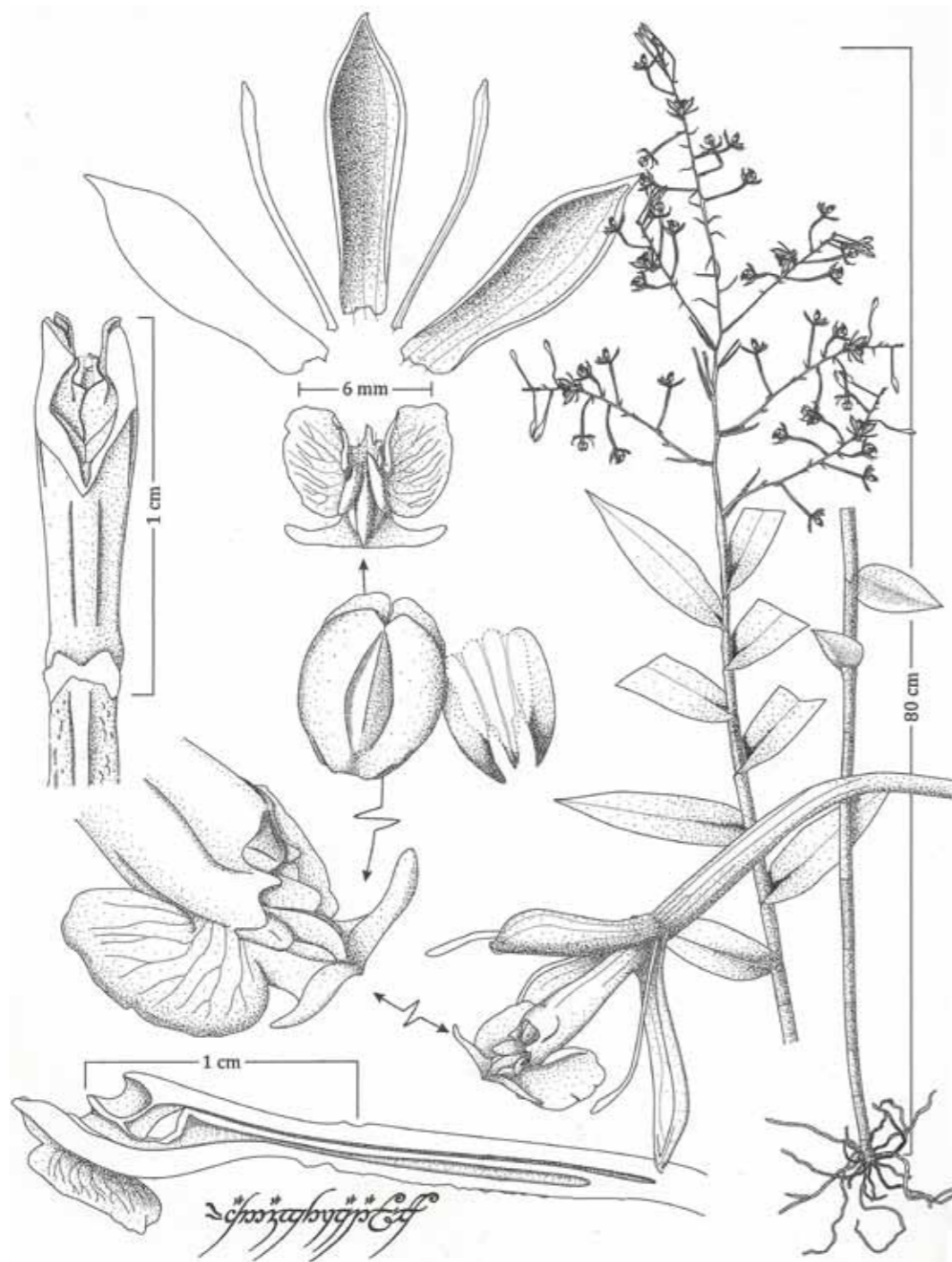


Fig. 221. *Epidendrum giraldo-cannasii* Hágsater, O. Pérez & E. Santiago (O. Pérez & E. Parra 1103, CUVC – drawn by O. Pérez).

GENERAL DISTRIBUTION: Known only from Colombia.

DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA: **Mpio. Dagua.** Cali-Buenaventura. Alt. 2000–2050 m. col. 24 Apr 1983, pressed cult. 28 Jun 1992. Hágsater 7306 (AMO!, AMO! - drawing). **Mpio. Yumbo.** Dapa. Alt. ca. 1800 m. 15 Feb 2011. O. Pérez & E. Parra 1103 (HOLOTYPE: CUVC!).

**46.99. *Epidendrum hypoporphyreum*** Hágsater, E. Santiago & E. Parra (Figs 224, 225; Photos 137–138).

Icon. Orchid. 14: Pl. 1441. 2013; TYPE: COLOMBIA. [ANTIOQUIA]. Medellín-Boquerón-San Jerónimo, Cerro del Padre Amaya. Alt. 2380 m. Col. 22 Apr 1983, pressed cult. 21 Jun 1994. Hágsater, R. Escobar, Luer, Pridgeon & M. Webb 7248 (HOLOTYPE: AMO!; ISOTYPE: COL!; CLONOTYPES: Pressed cult. 12 Nov 1984 - HUA!, 10 Jun 1987 - VALLE!, 18 May 1991 - MO!).



Fig. 222. Distribution of *Epidendrum giraldo-cannasii* Hágsater, O. Pérez & E. Santiago in Valle del Cauca.

**Epiphytic**, sympodial, caespitose, erect herb, to 120 cm tall. **Roots** 0.1–0.25 cm in diameter, basal, fleshy, thin, white. **Stems** 60 cm tall, 0.5 cm wide, simple, cane-like, terete, thin, straight; the basal half covered by tubular, non-foliar, scarious sheaths 4–5 cm long, becoming fibrous with time. **Leaves** 5–10, distributed throughout the apical half of the stem, alternate, articulate; sheaths 2.5–3.6 cm long, 0.4–0.5 cm wide, tubular, minutely striated; blade 4.2–12 cm long, 1.9–2.5 cm wide, oblong-elliptic, apex short-acuminate, subcoriaceous, the underside tinged with purple, margin entire, spreading. **Spathaceous bract** lacking. **Inflorescence** 15–25 cm long, apical, paniculate, erect, densely many-flowered; peduncle 10.5 cm long, thin, somewhat laterally compressed, straight, covered by 3 tubular, scarious, acuminate, partly imbricating bracts, 3–5.5 cm long; rachis with 3–5 short branches, somewhat spreading, densely few-flowered; each subtended by a narrowly triangular, acuminate, amplexicaul bract, 14–31 mm long. **Flowers** 40–70, successive, resupinate, purple-rose, the calli and the disc cream-colored; fragrance soft. **Floral bracts** 4–12 mm long, much shorter than the ovary, narrowly triangular, acuminate, amplexicaul. **Ovary** 18–36 mm long, terete, thin, not inflated, unornamented. **Sepals** 11–16 mm long, 4–4.5 mm wide, spreading, free, fleshy, elliptic, obtuse, 5-veined, margin entire, spreading; the lateral sepals oblique, slightly falcate, minutely apiculate. **Petals** 11.5–14 mm long, 1.2 mm wide, partly spreading, free, linear-oblongate, apex

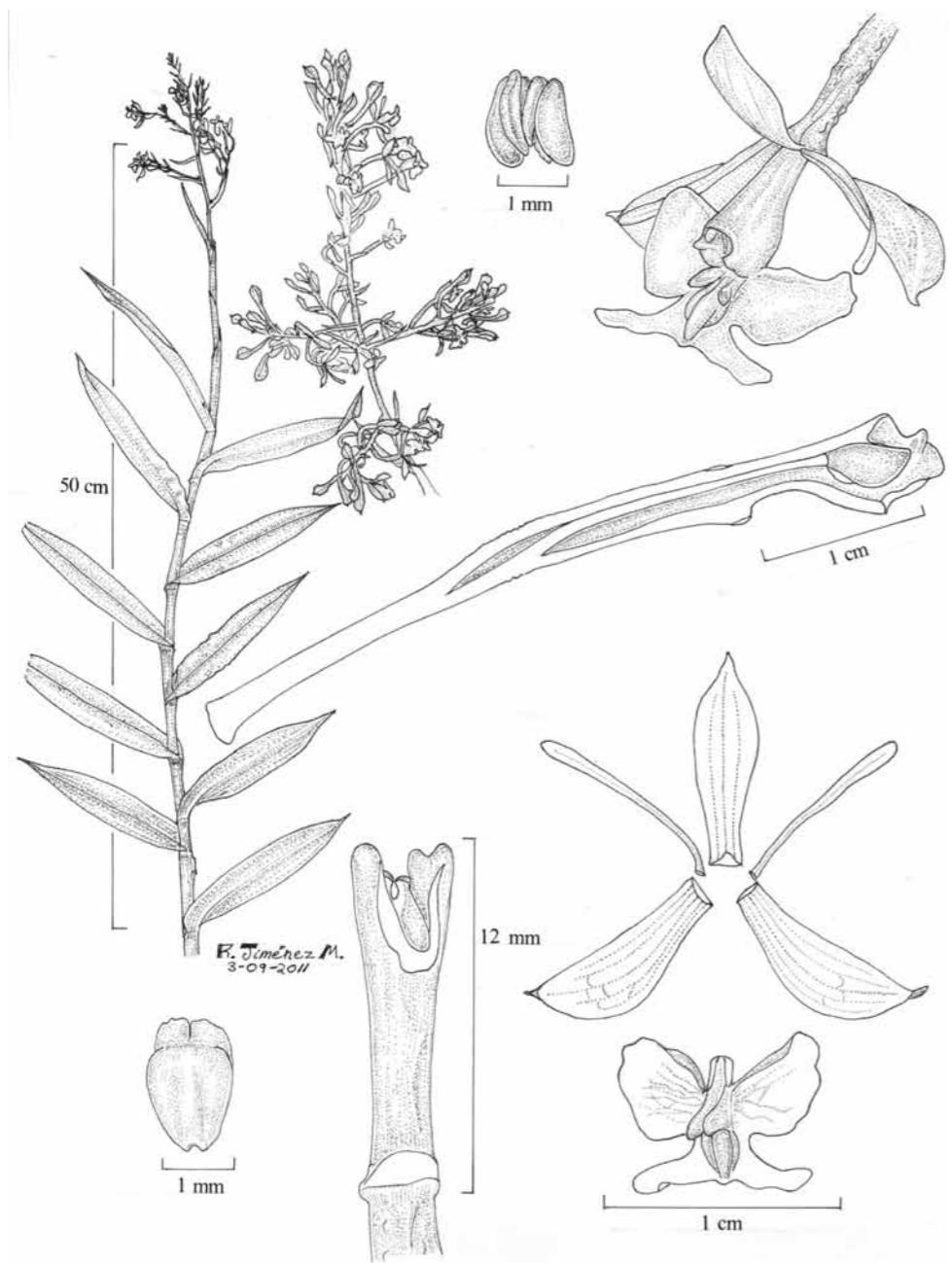


Fig. 223. *Epidendrum hypoporphyreum* Hágsater, E.Santiago & E.Parra (*Hágsater*, R. Escobar, Luer, Pridgeon & M. Webb 7248, AMO – drawn by R. Jiménez Machorro).

rounded, 1-veined, margin entire, spreading. **Lip** 11-16 mm long, 10-12 mm wide, united to the column, 3-lobed, base deeply cordate; bicallose, the calli prominent, thin, somewhat horn-sha-

ped, elongate, reaching the base of the middle lobe; disc provided with 3 parallel, fleshy ribs, reaching the apical sinus; lateral lobes 5 mm long, 7.5 mm wide, trapezoid, somewhat falcate,



Fig. 224. Distribution of *Epidendrum hypoporphyreum* Hágsater, E.Santiago & E.Parra in Valle del Cauca.

margin irregular, revolute at the base; middle lobe 4 mm long, 10 mm wide, widely triangular, widely emarginate, margin entire, spreading, forming a pair of oblong, divergent lobes, the apices rounded, each lobe 5 mm long, 2 mm wide. **Gynostemium** 9-11 mm long, thin, straight, apex with a triangular tooth on each side. Clinandrium-hood reduced, margin entire. Anther obovoid, 4-celled, apex truncate. Pollinia 4, “bird-wing type”, strongly laterally compressed. Rostellum subapical, slit. Lateral lobes of the stigma prominent, half as long as the stigmatic cavity. **Nectary** short, penetrating 1/5<sup>th</sup> of the ovary, not inflated, unornamented.

**HABITAT:** Premontane tropical forest; 1500-2870 m alt.

**FLOWERING SEASON:** From March to October.

**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buga.** Nogales. *Jiménez*

15 (COL!). **Mpio. Cali.** Los Farallones. Alt. 2600-2870 m. 13 Oct 1944. *Cuatrecasas 18120* (VALLE!); Cali. Alt. 1600-2000 m. 16 Aug 1883. *Lehmann 3012* (G!). **Mpio. Dagua.** Hoya del Río Dígua, arriba de Queremal. Alt. 1950-2050 m. 20 Mar 1947. *Cuatrecasas 23902* (VALLE!); Vereda Tokio corregimiento El Queremal. Alt. 1700 m. 29 May 2011. *Parra s.n.* (VALLE!). **Mpio Yotoco.** Las Delicias, N.W. of Restrepo. Alt. 5000 ft. 3 Aug 1962. *Bridgeman 219* (K-L, US!, AMO! - drawing).

**OTHER SPECIMENS EXAMINED: COLOMBIA. Antioquia.** Caldas-Las Minas. Alt. 2000 m. 19 Oct 1947. *Barkley 17C303* (AMES!); Medellín-Boquerón. Alt. 2380 m. Pressed cult. 28 Feb 1984. *Hágsater 7249* (AMO!); The same loc. 7 May 1985. *Hágsater 7249* (AMES!); The same loc. *Hágsater 7249* (CUVC!); Medellín, Boquerón-San Jerónimo, Cerro del Padre Amaya. Pressed cult. 24 Jun 1985. *Hágsater 7257* (AMO!); Palmitas. Alt. 2150 m. Col. 22 Apr 1983, pressed cult. 17 Jul 1986. *Hágsater 7259* (AMO!, JAUM!); Cerro del Padre Amaya. *Ospina 13* (JAUM!); Cerro del Padre Amaya, [Boquerón de Toyó]. 8 Apr 1968. *P. Ortiz V. 80* (HPUJ!); San Jerónimo, “Boquerón”. Alt. 2500 m. 16 Aug 1957. *Ospina 199* (AMES!). **Caldas.** Parque Regional Piedras Blancas. Alt. ca 2400 m. *Ospina 415* (JAUM!).

**46.100. Epidendrum laeve** Lindl. (Figs 226, 227; Photo 139).

Edwards’s Bot. Reg. 30(Misc.): 24. 1844; TYPE: COLOMBIA. [CAUCA]. In ascensu ad Sotará, Prov. Popayán. 1842. *Hartweg 1425* (K-L!, W-R 49541! (Note: ad Montaña de Menezes et Berrucos, Prov. Pasto [Nariño]; see Bentham, 1846).

=*Epidendrum ionodesme* Schltr., Repert. Sp. Nov. Regni Veg., Beih. 7: 134. 1920.

**Epiphytic or terrestrial**, sympodial, caespitose, erect herb 60-135 cm tall. **Roots** 2-3 mm in diameter, basal, fleshy, thick. **Stems** 40-90 cm tall, 0.6-0.9 cm wide, simple, cane-like, te-

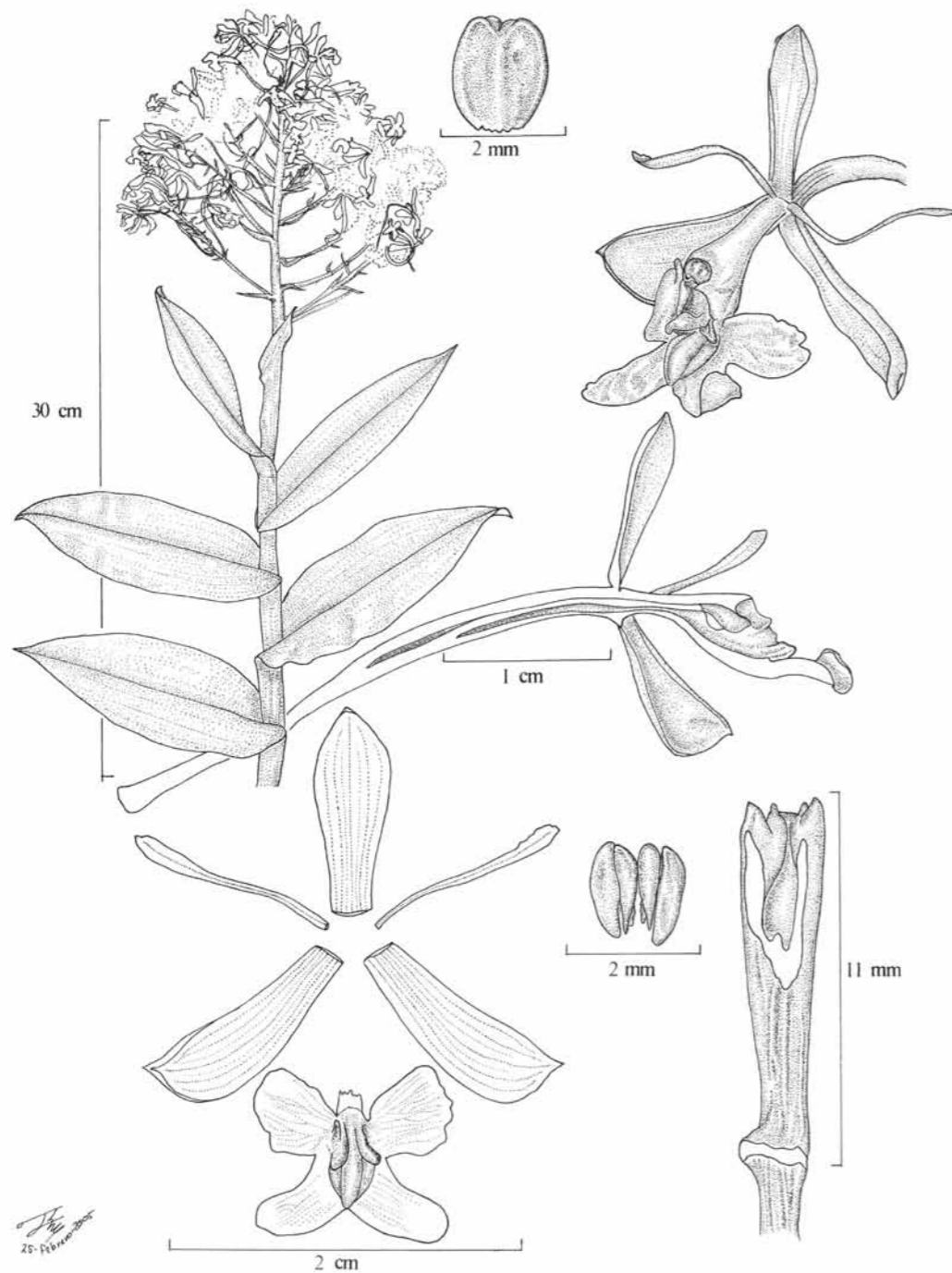


Fig. 225. *Epidendrum laeve* Lindl. (Triana 576, P – drawn by R. Jiménez Machorro).

rete, erect, straight; the base covered by tubular, non-foliar, scariose sheaths 4.5-6 cm long, becoming fibrous with time. **Leaves** 13, distributed along the apical half of the stem, alternate, articulate; sheaths 2.3-5.5 cm long, 0.6-1 cm wide, tubular, minutely striated; blade 8-18.5 cm long, 2.5-4.5 cm wide, oblong-lanceolate, acute, subcoriaceous, margin entire. **Spathaceous bract** lacking. **Inflorescence** 20-45 cm long, apical, paniculate, erect, densely many-flowered; peduncle 8-15 cm long, thin, laterally compressed, straight, covered by 2 or 4 tubular, scariose, acute, partially imbricating bracts 5-13 cm long; rachis terete, with 3-10 short, somewhat spreading, densely many-flowered racemes, each subtended by a long, narrowly triangular, acuminate bract 1.2-4.5 cm long. **Flowers** 50-180, simultaneous, resupinate, dark pink, lip pink with the calli and disc white. **Floral bracts** 3-9 mm long, much shorter than the ovary, narrowly triangular, acuminate, amplexicaul. **Ovary** 15-37 mm long, terete, thin, not inflated, scarcely papillose. **Sepals** 9-10 mm long, 3-4 mm wide, spreading, free, fleshy, obovate-oblongate, obtuse, apiculate, 3-veined, dorsally scarcely papillose, margin entire; lateral sepals slightly oblique. **Petals** 9-10 mm long, 1 mm wide, partly spreading, free, linear-oblongate, rounded, 1-veined, margin entire, spreading. **Lip** 7-9 mm long, 8-12 mm wide, united to the column, 3-lobed, base deeply cordate, spreading in natural position, with the apical lobes turned upwards; bicallose, the calli prominent, thin, somewhat horn-like, elongate to near the base of the middle lobe; disc provided with 3 parallel, fleshy keels, all reaching the apical sinus; lateral lobes 4-5 mm long, 5-6.5 mm wide, dolabriform-trapezoid, somewhat falcate, margin irregular; middle lobe 2-4 mm long, 7-12 mm wide, deeply bilobed, forming a pair of linear-oblong, rounded, divergent lobes, margin entire. **Gynostemium** 8-9 mm long, thin, slightly arching, the apex bidentate, with a pair of rounded, lateral wings. Clinandrium-hood reduced, margin entire. Anther obovoid, 4-celled, apex truncate. Pollinia 4,

“bird wing” type, strongly laterally compressed, the inner pair smaller; caudicles laminar. Rostellum subapical, slit. **Nectary** penetrating as far as the middle of the ovary, not inflated, smooth.

**HABITAT:** Unknown; at 1800-2160 m alt.

**FLOWERING SEASON:** January, October.

**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buga.** Nogales. Jiménez 15 (CUCV!). **Mpio. Cali.** Hoya del río Cali, Pichindé, Alt. 2160 m. 26 Oct 1944. Cuatrecasas 18276 (AMES! x 2, F!); Cuenca del Río Cali, cercanías de Peñas Blancas. 23 Jan 1963. L. Figueiras 8303 (VALLE! x 3). **Mpio. Palmira.** Río Nima, above Tenjo. Alt. 1800 m. 2 Oct 1974. Mass 1831 (AMES!, SEL!, U!).

**OTHER SPECIMENS EXAMINED: COLOMBIA.** *Sine loc.* (W-R 49528!); *Sine loc.* (W-R 49530!); *Sine loc.* Linden 1286 (BR!, G!, W-R! x 3). **Antioquia.** *Sine loc.* Jameson s.n. (K-L!); *Sine loc.* Lewise s.n. (K-L!); Medellín. Feb 1931. Archer 1596 (US!); Boquerón de San Cristobal. Alt. ca 2500 m. 2 Jun 1948. Barkley 103 (US!); Boquerón de San Cristóbal. 3 Aug 1965. Barkley 35413 (AMES! x 2, ENCB!); La Tumba, Uramita-Peque. Alt. 2500-2650 m. 3 Apr 1983. Bernal 549 (COL! x 2); Caramanta-Supia. Alt. 2140-2420 m. 16 Oct 1988. Betancur 1088 (MO!); Santa Elena. Mar 1935. Daniel 1389 (AMES!); Piedras Blancas. Alt. 2350 m. 23 Sep 1995. Fonnegra 5641 (MO!); Urrao. Alt. 2000 m. 9 Aug 1986. Hágsater 7301 (AMO!); The same loc. 21 Jun 1992. Hágsater 7301 (AMO! x 3); Caldas-Santa Barbara. Alt. 2500 m. 1 Nov 1955. Hatheway 1585 (AMES!); Boquerón, Medellín-Palmitas. Alt. 2300-2500 m. 12 May 1946. Hodge 6834 (AMES!); Boquerón, Medellín-Palmitas. Alt. 2300-2500 m. 22 Mar 1948. Johnson 18C480 (US!); Santa Helena, Medellín-Rionegro. Alt. ca 2500 m Aug 1945. Molina 33 (US!); Medellín. Alt. 1500 m. Metcalf 30035 (AMES!, UC!); Alto El Chuzcal, cultivado en Colomborquídeas, El Retiro. Alt. 2400 m. 19 Oct 1988. Múnera 236 (AMO!); El Cedro. Alt. 2400 m. 13 Aug 1969. P. Ortíz V. 4057

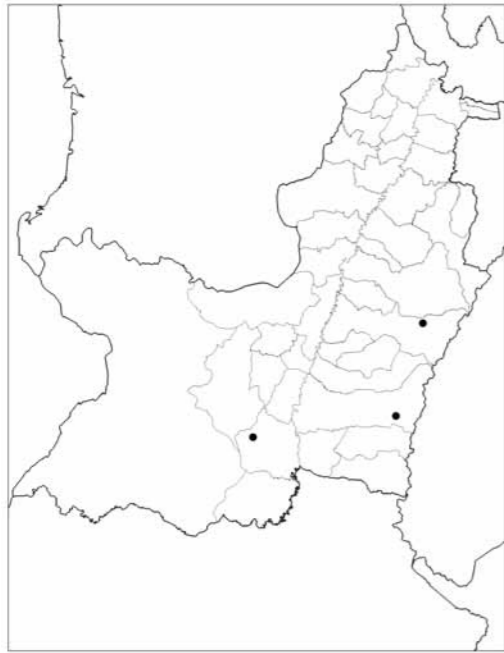


Fig. 226. Distribution of *Epidendrum laeve* Lindl. in Valle del Cauca.

(HPUJ!); Piedras Blancas, Medellín-Guarne. Alt. 2300-2400 m. *Ospina* 201 (JAUM!); Quindío. 10 Dec 1887. *Schmidtchen s.n.* (W-R 14053!); Sonsón. 20 Jul 1928. *Toro* 1228 (NY!); Salgai. 20 Jul 1928. *Toro* 1274 (NY!); Santa Barbara. Jun 1931. *Tracey* 405 (K-L!); Medellín, Las Palmas. Alt. ca 2100 m. 11 Jan 1952. *Uribe* 2252 (COL!, NY!, U!); La Ceja. Alt. 2500 m. 30 Jul 1959. *Uribe* 3344 (AMES!, MO!); Alto de Ventanas. Alt. 2700-2790 m. 29 Oct 1988. *Zarucchi* 6921 (MO!). **Caldas** [Tolima]. Vereda Líbano, Quebrada Negra. Alt. 2400 m. 11 Jul 1982. *A. de Escobar* 2119 (HUA!); Manizales. Alt. 2400 m. 6 Apr 1956. *Renç* 8583 (RENZ! x 2); Manizales-Papayal. Alt. 2200 m. 10 Apr 1956. *Renç* 8637 (RENZ! x 2); Cerro Tatama. Alt. 2600-2800 m. *Pennell* 10360 (AMES!); Laguneta Salento. Alt. 2800 m. 20 Sep 1942. *von Sneider* 3026 bis (AMES!, S!). **Cauca**. La Playa, near headwaters of Río Guengue. Alt. 2300 m. 8 Jan 1944. *Core* 196 (US!); Cabeceras del Río Palo. Alt. 2700-2800 m. 13 Dec 1944. *Cuatrecasas* 19194

(AMES! x 2, MO!, NY!, US!); Paisabamba and Vulcan de Sotará. Alt. 2500-2800 m. *Lehmann* 6282 (K-L!); "Calaguala", Coconuco. Alt. 2500-2800 m. 14 Jul 1922. *Pennell* 7127 (AMES! x 2, NY!, US!). **Nariño**. Isla La Corota. Alt. 2800 m. 4 Feb 1986. *Benavidez* 6157 (COL!); Pasto. Alt. 2620 m. 24 Jan 1976. *Luteyn* 4989 (COL!); Puruguai, Pasto. Alt. 2500 m. *Triana* 576 (P!, US!); Puruguai. Alt. 2500 m. 1853. *Triana* 1371 (COL!, P!, W-R!). **[Quindío]** Lagunetas. 25 Nov 1853. *Holton* 178 (K-L!, NY!); Salento. 11 Mar 1973. *André* 2334 (K!). **Risaralda**. Pereira, Parque Ucumari. Alt. 1900 m. 19 Feb 1990. *Croat* 70783 (COL!); The same loc. Feb 1989. *Franco* 2803 (COL!); The same loc. Alt. 2450-2650 m. 24 Jul 1989. *Galeano* 107 (COL!); The same loc. 30 Jun 1990. *Galeano* 463 (COL!); The same loc. Alt. 2200-2450 m. 14 Jun 1989. *González* 1637 (COL!); The same loc. Alt. 2610 m. 11 Oct 1989. *Rangel* 5417 (COL!); The same loc. *Rangel* 5475 (COL!). **Tolima**. Herveo, Letras-Padua. Alt. ca 2800 m. 25 Aug 1983. *A. de Escobar* 3607 (MO!); Mariquita, Azufral to Machín. Alt. 1200 m. *Linden* 1286 (K-L!); Quebrada Cajamarca to „Mermillon“, new Quindío Trial. 14 Aug 1922. *Killip* 9754 (AMES!, US!); Toche. Alt. 2300 m. 19 May 1942. *von Sneider* 3059 (AMES!, NY!, S!).

46.101. *Epidendrum peraltum* Schltr. (Figs 228, 229).

Repert. Spec. Nov. Regni Veg., Beih. 7: 250. 1920. ≡ *Epidendrum altissimum* F. Lehm. & Krzl., Bot. Jahrb. Syst. 26: 471. 1899; TYPE: COLOMBIA. NARIÑO. Tuquerres. Alt. 1400-1800 m. *Lehmann* 8317 (K-L!, AMES! x 2). - non *Epidendrum altissimum* Jacq., 1760 (= *Oncidium altissimum* (Jacq.) Sw.), non *Epidendrum altissimum* Jacq., 1763 (= *Oncidium jacquinianum* Garay & Stacy Bradea, non Bateman 1838 (= *Encyclia altissima* (Batem. ex Lindl.) Schltr.).

**Epiphytic or terrestrial**, sympodial, caespitose, erect, 60-250 cm tall herb. **Roots** 0.2-0.3 cm in diameter, basal, fleshy, thick. **Stems** 35-90 cm tall, 0.7-1.5 cm wide, simple, cane-like,

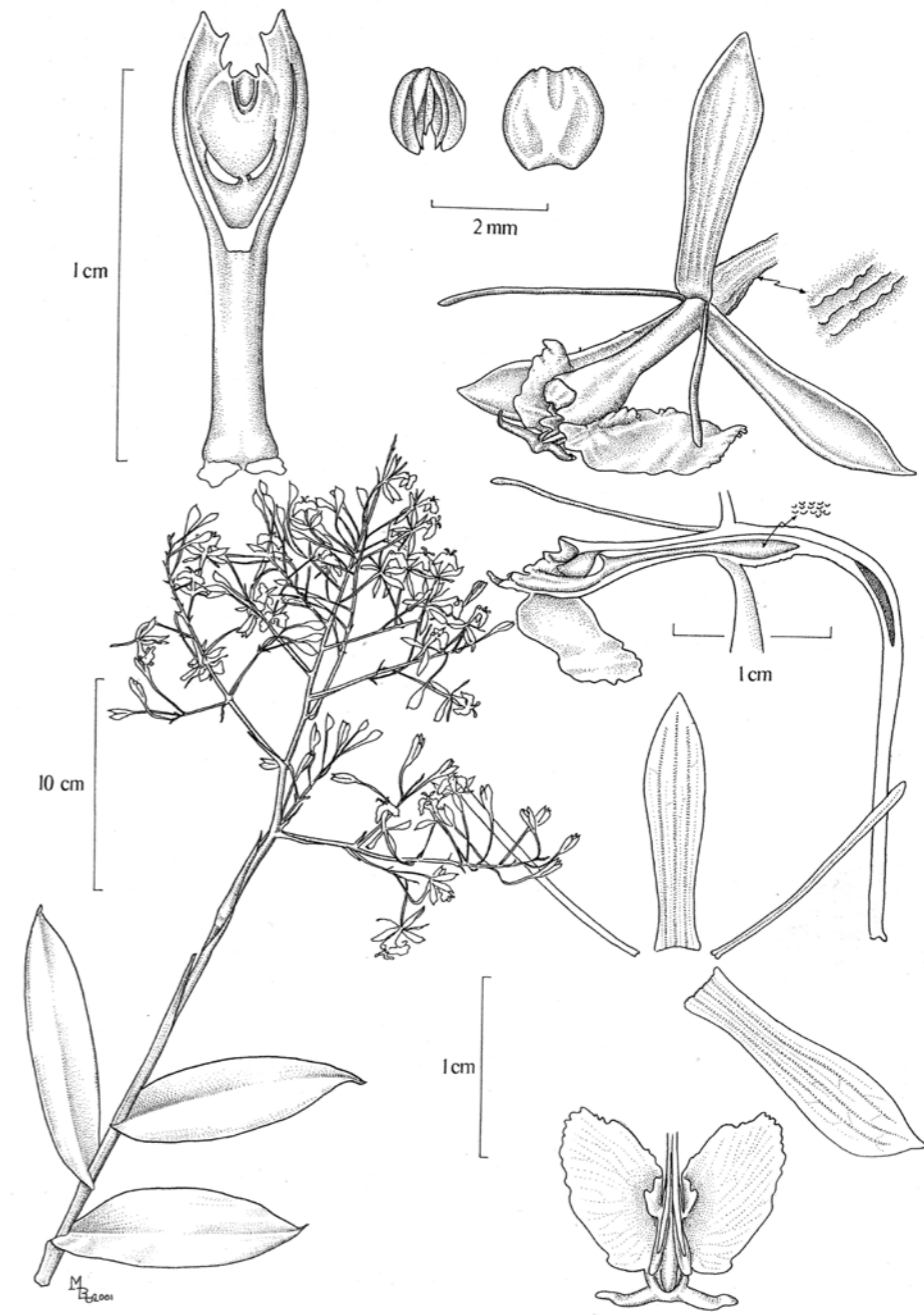


Fig. 227. *Epidendrum peraltum* Schltr. (Hágsater, Dodson, Williams, Whitten, A. Embree, F.L. Stevenson & R. M. Chandler 11341, AMO – drawn by M.A. López Rosas).

terete at the base, laterally compressed towards the apex, erect, straight; the basal half covered by non-foliar, scarious sheaths 4.5-7 cm long,

becoming fibrous with time. **Leaves** 11 or more, distributed along the apical half of the stem, distichous, articulate, erect-spreading, unequal

in size (the basal one smaller); sheaths tubular 2-6 cm long, 0.7-1.5 cm wide, minutely striated; blade 5.5-20 cm long, 2.5-4.6 cm wide, lanceolate, short-acuminate, subcoriaceous, margin entire. **Spathaceous bract** lacking. **Inflorescence** 25 cm long, apical, paniculate, erect, many-flowered; peduncle 11 cm long, thin, laterally compressed, straight, covered by 2 tubular, scarious, acuminate, partly imbricating bracts; rachis terete, thin, with 5-8 racemes (the basal ones themselves branching), spreading, lax, few-flowered; each with a narrowly triangular, acuminate bract 2-6 cm long, at the base. **Flowers** ca 90, successive, resupinate, greenish yellow tinged with pink to totally dirty pink; without fragrance. **Floral bracts** 4-11 cm long, shorter than the ovary, narrowly triangular, acuminate, amplexicaul. **Ovary** 25 cm long, terete, thin, not inflated, slightly papillose, long. **Sepals** 14-16 mm long, 3.5-4 mm wide, spreading, free, fleshy, oblong-ob lanceolate, obtuse, 3-veined, unornamented, margin entire; lateral sepals slightly oblique. **Petals** 14-15 mm long, 0.3 mm wide, free, filiform, 1-veined, apex rounded, margin entire, spreading. **Lip** 10 mm long, 7-8 mm wide, united to the column, 3-lobed, base deeply cordate; bicallose, the calli prominent, horn-like, laterally compressed, elongate beyond the base of the middle lobe; disc provided with 3 parallel keels, the mid-keel prominent, very fleshy, disappearing before reaching the apical sinus, the lateral pair somewhat shorter and smaller; lateral lobes 2.5 mm long, 8 mm wide, falcate-oblong, strongly retrorse, semi-parallel to the apical half of the column, margin irregular; middle lobe 4.5 mm long, 8 mm wide, bilobed, with a short isthmus at the base, the apex deeply emarginate, forming a pair of strongly divaricate linear lobes, margin entire. **Gynostemium** 13 mm long, straight, thin, long, with a pair of prominent, rounded wings at the apex. Clinandrium-hood reduced, margin entire. Anther obovoid, 4-celled. Pollinia 4, "bird-wing" type, strongly laterally compressed, inner pair smaller; caudicles laminar. Rostellum subapical, slit. **Nectary**



Fig. 228. Distribution of *Epidendrum peraltum* Schltr. in Valle del Cauca.

shallow, barely penetrating the ovary, slightly inflated, slightly papillose.

**HABITAT:** Unknown; 1700-2200 m altitude.

**FLOWERING SEASON:** Throughout the year.

**GENERAL DISTRIBUTION:** Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cali.** Farallones de Cali. Alt. 2000 m. 30 Dec 1883. *Lehmann 2013* (G!). **Mpio. Dagua.** Cali-Buenaventura. Alt. 2000-2050 m. Col. 24 Apr 1983, pressed cult. 28 Jun 1992. *Hágsater 7306* (AMO!); La Cumbre. Alt. 1700-2200 m. 11 Sep 1922. *Killip 11420* (AMES!); Tocotá. Alt. 1800-2300 m. Jul 1890. *Lehmann 8176* (K-L!); Tocotá. Alt. 1800 m. 30 Dec 1883. *Lehmann 4154* (G! x 2).

**OTHER SPECIMENS EXAMINED:** **COLOMBIA.** St. Albans, Sander & Co. (K-L!); Arcos. *Lehmann 273* (K-L!, L!, NY!). **Cauca.** El Tambo, Munchique. Alt. 1900 m. 27 Aug 1938. *von Sneider 378* (S!). **ECUADOR.** *Sine loc.* Hort. Alfonso Pozo. *Hágsater 9600* (AMO!). **Carchi.** Maldonado. Alt. 2500 m. 28 Nov 1984. *Dodson*

*15466* (MO!); Paramo El Angel. Alt. 2600 m. 1 Aug 1985. *Dodson 16148* (GHI, QCNE!, RPSC!); Tulcán-Maldonado. Alt. 2855 m. Col. 29 Apr 1993, pressed cult. 10 Nov 1993. *Hágsater 11264* (AMO!); Machines. Alt. 2200-2400 m. *Harling 12311* (AMES!, GB!); Maldonado-Tulcán. Alt. 2525 m. 1 May 1993. *Hágsater, Dodson, Williams, Whitten, A. Embree, F.L. Stevenson & R. M. Chandler 11341* (AMO!, QCA!, W-R!); The same loc. *Hágsater 11346* (AMO!); Tulcán-Maldonado. Alt. ca 2600 m. 1 Mar 1974. *Harling 12367* (GB!); Tuñiño. Alt. 3000-4000 m. 28 Jul 1989. *van der Werff 10664* (MO!, QCNE!); Maldonado-Tulcán. Alt. ca 1700-2000 m. 21 Feb 1978. *Luer 2676* (SEL!); Maldonado, Río Chilma Valley. Alt. 2350-2450 m. 30 May 1985. *Stein 2908* (MO!); Cerro Golondrinas. Alt. 2000-2400 m. 18 Aug 1994. *Tirado 1299* (QCNE!). **Loja.** Río Yambala. Alt. 2400 m. 13 Feb 1982. *Dalessandro 151* (SEL!); Vilcabamba. Alt. 2100 m. Apr 1985. *Dalessandro 385* (RPSC!). **Zamora-Chinipe.** Zumba. Alt. 1800 m. 25 Jan 1989. *Höijer 1192* (SEL!).

#### 46.102. *Epidendrum spathatum* Schltr. (Fig. 230; Photos 140-142).

Repert. Spec. Nov. Regni Veg. **15**: 55. 1917; TYPE: ECUADOR. [PICHINCHA] In silvis prope Niebly ad praed. Boloña. Jan 1883. *Sodiño 62* (B, Published sketch of flower, AMES!); LECTOTYPE (Dodson 1999): Riobamba. Pangor. 1886. *Sodiño 169/62* (QPLS! - rejected by Santiago & Hágsater 2010; LECTOTYPE (Santiago & Hágsater 2010) *Sodiño 62* (BR! - the sheet with a single mounted specimen; ISOLECTOTYPE: BR! - the sheet with 3 plants mounted, the stem with the inflorescence on the right hand side). - Hágsater & L. Sánchez, *Icon. Orchid.* **13**: pl. 1388. 2010. =*Epidendrum embreei* Dodson, *Icon. Pl. Trop.* **1**(4): pl. 426, 1982.

**Terrestrial** or **lithophytic**, caespitose herb 70-100 cm tall. **Roots** 0.15-0.3 cm in diameter, basal, fleshy, thick. **Stems** 70-100 cm tall, 0.5-1 cm wide, simple, laterally compressed, decum-

bent. **Leaves** 9-27, distributed throughout the stem, articulate, distichous; sheaths 1.2-4.5 cm long, 0.5-1 cm wide, tubular, minutely striated; blade 3-14.5 cm long, 1.5-5 cm wide, elliptic, short acuminate, margin entire, spreading. **Inflorescence** 10-31 cm long, apical, paniculate, flowering only once; peduncle 7-12 cm, laterally compressed, provided with 2-4 tubular, conduplicate, ancipitose, acuminate bracts; rachis terete, with 5-6 branches subparallel to the rachis, few-flowered, each with a narrowly triangular, acuminate bract 5-9.5 cm long, at the base. **Flowers** 50-140, simultaneous, resupinate, orange-colored, the lip and column creamy white; without fragrance. **Floral bracts** 6-11 mm long, shorter than the ovary, triangular-lanceolate, long-acuminate. **Ovary** 25-30 mm, terete, thin, not inflated, scarcely verrucose. **Sepals** 10-12 mm long, 2-4 mm wide, partly spreading, free, oblanceolate, obtuse, dorsally pustulate, slightly concave, margin entire, spreading, very fleshy; the lateral sepals slightly oblique. **Petals** 10-11 mm long, 1 mm wide, partly spreading, free, linear-filiform, somewhat wider at the apex, rounded, margin entire. **Lip** 4-5.5 mm long, 4-6 mm wide, united to the column, 3-lobed, base slightly cuneate, margin entire; bicallose, the calli very prominent, fleshy, thin, somewhat horn-like, elongate, reaching the base of the middle lobe; disc provided with 3 keels, the central keel reaching the apical sinus; lateral lobes 2.5 mm long, 3.5 mm wide, semi pandurate to semi-orbicular, slightly bilobed, the basal margin sometimes folded; middle lobe 2 mm long, 5.5 mm wide, bifid, emarginate, the lobes divaricate, triangular, the apex obtuse to rounded. **Gynostemium** 7-9 mm long, straight, thin at the base, dilated towards the apex, apex two-winged, the wings bi-dentate, prominent. Clinandrium-hood reduced, margin entire. Rostellum subapical, slit. Pollinia 4, bird-wing type, the inner pair smaller. **Nectary** shallow, without penetrating the ovary.

**HABITAT:** On rocks and road banks; 2200-2800 m alt.



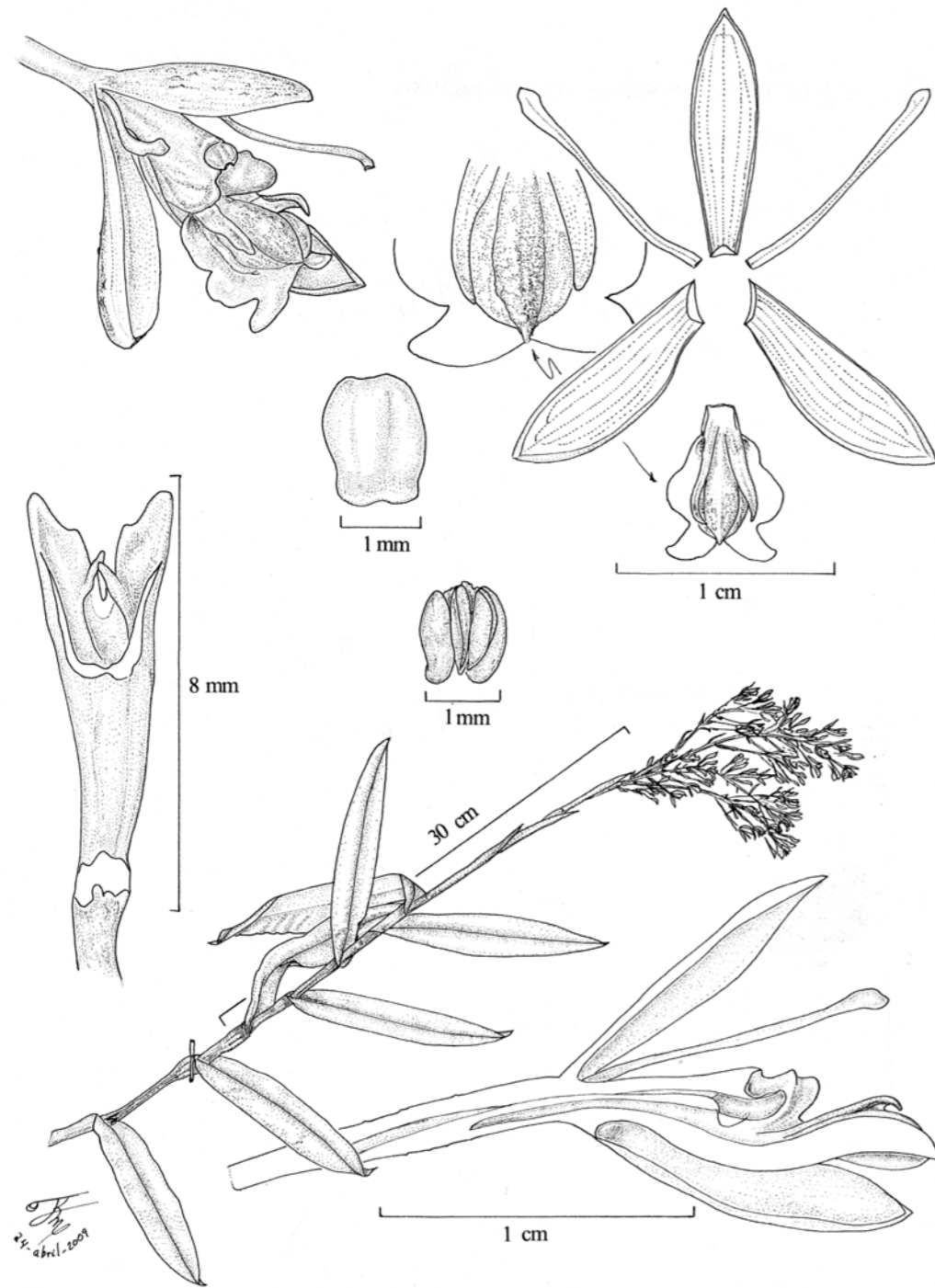


Fig. 229. *Epidendrum spatbatum* Schltr. (Gentry 9497, MO – drawn by R. Jiménez Machorro).

FLOWERING SEASON: November.

GENERAL DISTRIBUTIO: Colombia, Ecuador.

DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA: Cordillère Occidentale, versant est. Alt. 2200-2800 m. 27 Nov 1899. *Langlassé 98b* (K-L!, P!).

OTHER SPECIMENS EXAMINED: **COLOMBIA.** **Cauca.** Entre Popayán y Puracé, cultivada en Colomborquídeas. Alt. 2500 m. *Escobar 5049* (AMO!); Coconuco. 6 Nov 1968. *Espinal 3230* (CUCV!, F!); Popayán. *Hartweg 1426* (K-L! x 2); Palacé [Puracé]. *Lehmann 274* (K-L!, L!); Popayan. Alt. 1800-2300 m. Dec 1906. *Lehmann 6086* (K-L!). **ECUADOR.** *Sine loc. Sodiro s.n.* (QPLS! x 8); Forest of the Andes. *Jameson 736* (AMES!, K-L!). **Carchi.** Tulcán-Maldonado. Alt. 2600 m. 1 Aug 1985. *Dodson 16143* (MO!, QCA!, QCNE!); The same loc. *Dodson 16144* (MO!); The same loc. Alt. 2200-2400 m. 28 Feb 1974. *Harling 12299* (AMES!, GB!); Maldonado. Alt. 2200-2400 m. 28 Feb 1974. *Harling 12317* (GB!); Tulcán-Maldonado. Alt. 2100-2200 m. 20 May 1973. *Holm-Nielsen 6055* (AAU!, AMES!, S!, SEL!); The same loc. Alt. 2000-2200 m. 25 Nov 1985. *Luther 944* (SEL!). **Cotopaxi.** Corazón. Alt. 2000-2500 m. 14 Jan 1881. *Lehmann 229* (G!, W-R!); Silante, W of Corazón. Alt. 1800-2500 m. Dec 1892. *Lehmann 8185* (K-L!, LE!). **Imbabura.** Hda. La Florida. Alt. 1900-2500 m. 27 Aug 1992. *Álvarez 597* (AMO!); Otavalo-Selva Alegre. Alt. 2400 m. 6 Dec 1986. *Dodson 16682* (AMO!, QCNE!, RPSC!, SEL!); Otavalo. Alt. 6000 ft. 25 Nov 1943. *Drew E-30* (AMES! x 2); Intag. Alt. 6500 ft. 9 Jul 1944. *Drew E-521* (AMES! x 4); Otavalo-Apuela. Alt. 2500 m. 3 Dec 1975. *Madison 2300* (AMES!, SEL!). **Pichincha.** Quito. *Sine coll.* (LE!); Niebly. Dec 1887. *Sodiro s.n.* (QPLS!); Guarumal. Alt. ca 2100 m. 26 Apr 1955. *Asplund 16046* (NY!); Chiriboga-Guarumal. Alt. ca 2000 m. 31 Dec 1955. *Asplund 18966* (AMES!, G!, K-L!, NY!); Tandapi. Alt. 1500-2000 m. Jan 1979. *Besse 174* (SEL!); Nono-Nanegal. Alt. 2400 m. 17 Jan 1982. *Balslev 2151* (AMES!, NY!, QCA!); Santo Domingo road. Alt. ca 6000-8000 ft. *Calboun 9* (F!); The

same loc. Alt. ca 8000 ft. 19 Jun 1949. *Calboun 124* (F!); Calacalí. Alt. 1600 m. 7 Sep 1988. *Cerón 4757* (QCNE!); Río Saloya. Alt. 1600 m. 7 Dec 1989. *Cerón 7971* (MO!, QCNE!); Reserva Forestal "La Favorita". Alt. 1600-1800 m. 8 Mar 1990. *Cerón 8959* (MO!, QCNE!); Chiriboga. Alt. 2100-2160 m. 16 Feb 1992. *Croat 72188* (MO!, QCNE!); Quito-Chiriboga. 14 Mar 1963. *Dodson 2372*. (QCA!, SEL!); Quito-Santo Domingo. Alt. 2600 m. 21 Jan 1981. *Dodson 10578* (SEL!) Quito-Santo Domingo vía Chiriboga. Alt. 2670 m. 15 May 1981. *Dodson 10871* (SEL!); Quito-Santo Domingo. Alt. 2500 m. 10 Oct 1984. *Dodson 15561* (MO!, QCNE!); The same loc. Chiriboga. Alt. 2300 m. 3 May 1985. *Dodson 15829* (MO!); Chiriboga. *Fagerlindi 1861* (S!); Sto. Domingo-Quito. Alt. 2800 m. 1 Feb 1974. *Gentry 9497* (MO!, QCNE!); Mindo. Pressed cult. 27 Sep 1981. *Hágsater 5910* (AMO! ENCB – drawing); The same loc. Pressed cult. 19 May 1982. *Hágsater 5910* (AMO!); The same loc. Pressed cult. 8 Feb 1984. *Hágsater 5910* (AMO!); Cui-cocha-Selva Alegre. Alt. 2550 m. 6 Dec 1986. Pressed cult. 6 Oct 1991. *Hágsater 8960* (AMO! x 3); Entre Nono y Tandayapa. Alt. 2200 m. 5 Dec 1986. *Hágsater 8867* (AMO!); Cornejo Astorga. Alt. 2300 m. 7 May 1968. *Harling 9354* (AMES!, GB!); Tandayapa-Nono. Alt. ca 1900 m. 26 Jan 1974. *Harling 11622* (GB!); Nono. Alt. 2200-2400 m. 27 Jan 1977. *Harling 14867* (GB!); Nono-Tandayapa. Alt. 2300-2700 m. 28 Jan 1982. *Harling 20000* (AMES!, GB!); Chiriboga. Alt. 2100-3000 m. 5 Apr 1942. *Haught 3221* (AMES!, US!); Saloya. 29 Nov 1933. *Heinrichs 548* (M!); Niebli. 21 Oct 1920. *Holmgren 938* (AMES!); Calacalí-Nanegalito. Alt. 1800-2000 m. 19 Jan 1989. *Hurtado 1437* (MO!); The same loc. *Hurtado 1441* (MO!, QCNE!); Mt. Pichincha. Alt. 7000 ft. *Jameson s.n.* (K-L!); Quito. *Jameson 726* (W-R 50180!) - with some flowers of *E. porphyreum*; Andes du Quito. *Jameson 776* (G! x 2); Santo Domingo. Alt. 7000 ft. *Lehmann 105* (W-R!); Chiriboga. Alt. ca 1900 m. 22 Mar 1979. *Lojtnant 11276* (AAU!); Quito-Santo Domingo. Alt. ca 2700 m. 13 Mar 1976. *Luer 843*

(SEL!); Tandapi. Alt. 2500 m. 31 Mar 1985. *Luer 11018* (MO!); Calacalí-Nanegalito. Alt. 2100 m. *Palacios 3589* (QCNE!, MO!); Chiriboga-Dos Ríos. Alt. 951-1863 m. 4 Feb 1949. *Scolnik 1617* (AMES!); Río Alambí-Nanegal. Alt. 2000 m. 27 Dec 1987. *Molan 2215* (GB!, QCA!); Niebli. *Sodiño 66/1371* (AMES! x 2); Saloya-Santo Domingo. Alt. 1800 m. 4 Feb 1945. *Solis 12053* (F!); Aloag-Santo Domingo. Alt. 2000 m. 11 Feb 1967. *Sparre 14329* (S!); The same loc. *Sparre 14343* (S!); Nono-Nanegal, Río Alambí. Alt. 2200-2500 m. 7 May 1967. *Sparre 15960* (S!); Nono. Alt. 2300 m. 26 May 1985. *Stein 2862* (MO!, QCNE!); Río Saloya. Alt. 1830-2430 m. 22 Apr 1963. *Steyermark 52514* (AMES!, F! x 2); El Pahuma. Alt. 2000 m. 19 Oct 1999. *Suin 361* (MO!); The same loc. 26 Oct 1999. *Suin 376* (MO!); Río Alambi. Alt. 2300 m. 13 Mar 2000. *Suin 548* (MO!); Nanegalito. Alt. 2225 m. 2 Sep 1993. *Webster 30098* (QCNE!); Nanegalito. Alt. 2000 m. 12 Jan 1995. *Webster 31181* (SEL!). *Sine loc.* Hort. Royal Botanic Gardens Glasnevin. 23 Feb 1899. (K-L!); *Sine loc. Sine coll. 1426* (W-R 50191!).

### *Epidendrum turialvae*-subgroup

Plants with racemose, few-flowered inflorescences, generally producing additional racemes in successive years from the same peduncle.

#### Key to species

1. Sepals 29 mm long; lip slightly convex with the margin crenulate; leaves green, concolor. . . . . 46.103. *E. xanthoanthinum*
1. Sepals 7-11 mm long; lip strongly convex and reflexed, margin strongly lacerate; leaves green on the upper side, purple on the underside. . . . . 46.102. *E. ionophyllum*

### 46.103. *Epidendrum ionophyllum* P.Ortiz V. (Figs 231, 232; Photos 143-144).

Orquideología **20**(3): 316. 1997; TYPE: COLOMBIA. VALLE DE CAUCA. Bajo Calima, Río Bravo. Alt. 1400 m. 28 Jun 1996. P. Ortiz V. 1075 (HOLOTYPE: HPUJ!). - Hågsater in Hågsater & Sánchez, Icon.Orchid. **8**: pl. 846. 2006. - Kolanowska & al., Ill. field guide orchid. Yotoco Forest Reserve (Colombia): 100. 2011.

**Epiphytic**, caespitose herb ca 65 cm tall. **Roots** basal, fleshy, thick. **Stems** ca 50 cm tall, 0.4-0.8 cm wide, simple, cane-like, laterally compressed, ancipitose, wide. **Leaves** 7-12, distributed along the apical 2/3 of the stem, suberect, alternate, subcoriaceous; sheaths 2.5-3.8 cm long, 0.5-0.8 cm wide, tubular laterally compressed, ancipitose, slightly striated; blade 9-12 cm long, 2.3-3.5 cm wide, elliptic, acute, margin entire; upper side dark green, underside purple. **Spathaceous bract** lacking. **Inflorescence** apical, elongate, pluri-racemose, the racemes produced in succession, peduncle flexuose, base covered by tubular bracts 6-9 cm long, 0.3-0.6 cm wide; each raceme 3.2-4.5 cm long, few-flowered, arching nutant, produced from the middle of the peduncle of the previous raceme; peduncle 2.3-2.7 cm long, thin, terete, provided at the base with a triangular, amplexicaul, acute bract 4-5 mm long; rachis 1.2-1.8 cm long, terete, thin. **Flowers** 8-11 per raceme, simultaneous, resupinate, radiate, perfectly distributed around the axis, green, sometimes tinged with purple, or purple-brown, the lip and apical half of the column white, the calli and disc pale purple; without fragrance. **Floral bracts** 2 mm long, much shorter than the ovary, narrowly triangular, acuminate. **Ovary** 8-12 mm long, terete, very thin, somewhat dilated towards the apex. **Sepals** 7-8 mm long, 2.2-3 mm wide, reflexed, free, apex concave, fleshy, narrowly obovate, obtuse, 3-veined, margin spreading, unornamented. **Petals** 7-8 mm long, 0.3-0.4 mm wide, reflexed, free, linear-filiform, slightly wider towards the apex, rounded, 1-veined, margin spreading, entire.

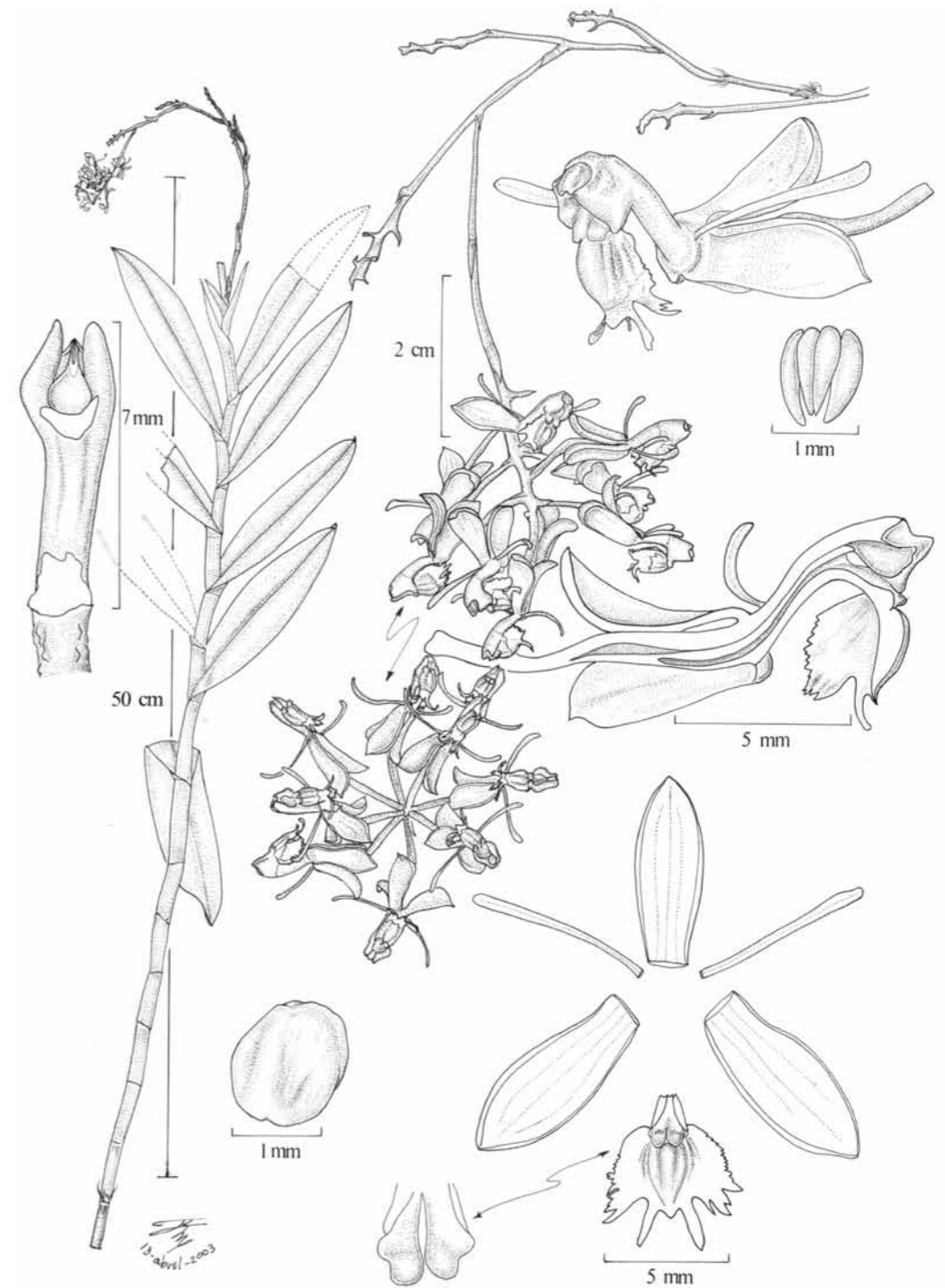


Fig. 230. *Epidendrum ionophyllum* P. Ortiz V. (H. Medina T., *Ecuagenera sub Hågsater 13840*, AMO – drawn by R. Jiménez Machorro).



Fig. 231. Distribution of *Epidendrum ionophyllum* P. Ortiz V. in Valle del Cauca.

**Lip** 4.5 mm long, 5.6 mm wide, united to the column, 3-lobed, base truncate, margin lacerate, strongly convex in natural position; bicallose, the calli short, thin, the apex globose; disc provided with 3 fleshy, acute ribs, the mid-rib elongate, nearly reaching the apical sinus, with an additional pair of thickened veins at the base of the lateral lobes; lateral lobes 1.6 mm long, 3.9 mm wide, ovate, semi elliptic, reflexed, conduplicate; middle lobe 1.8 mm long, 2.7 mm wide, bilobed, minutely apiculate, the lobes horn-like, subacute. **Gynostemium** 7 mm long, sigmoid, arching upwards at the base, then downwards, the basal 2/3 thin, apex obconical, terminating in a pair of subacute teeth. Clinandrium-hood reduced, margin entire. Rostellum subapical, slit. Lateral lobes of the stigmatic cavity sort, 1/5 the length of the cavity. Anther subspherical, 4-celled. Pollinia 4, bird-wing type, strongly laterally compressed, the inner pair somewhat smaller, **Nectary** penetrating 1/4 of the ovary, not inflated, unornamented.

**HABITAT:** Premontane forest; about 1400-1600 m alt.

**FLOWERING SEASON:** June and July.

**GENERAL DISTRIBUTION:** Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** [Mpio. Darién]. Bajo Calima, Río Bravo. Alt. 1400 m. 28 Jun 1996. P. Ortiz V. 1075 (HPUJ! – photo; AMO! – duplicate). Mpio. Yotoco. Reserva Natural de Yotoco. Alt. 1600 m. 10 Jul 2009. O. Pérez & E. Parra 174 (VALLE!).

**OTHER SPECIMENS EXAMINED: ECUADOR.** *Sine loc.* Hort. Ecuagenera. Fecha de prensado de material cultivado 8 Mar 2003. H. Medina T., *Ecuagenera sub Hágsater 13840* (AMO!).

46.104. *Epidendrum xanthoanthinum* Hágsater (Figs 233, 234; Photos 145-149).

Icon. Orchid. 2: pl. 197. 1993, based on *Epidendrum pseudepidendrum* var. *auratum* Rchb. f., Gard. Chron.: 406. 1885 (W 49599! - Hort. William Bull, watercolor sketch) - non *Epidendrum auratum* Lindl. nec *Epidendrum auratum* Bateman ex Gajón Sánchez.

**Terrestrial**, caespitose plants, about 60 cm tall. **Stems** straight, reed-like, terete. **Leaves** about 15 cm long, 2.4 cm wide, numerous, narrowly elliptic, acute, distributed along the apical 2/3 of the stem; sheath tubular, up to 4.5 cm long, 0.8 cm wide. **Inflorescence** apical, flowering during several years; peduncle 6-10 cm long, elongate, arcuate, covered by bracts; raceme apical, short. **Flowers** 3-4, simultaneous, resupinate, sepals and petals green, lip lemon-yellow with the disc purple, gynostemium green at the base, the apex white and purple, anther white. **Ovary** 44-48 mm long, slim. **Sepals** reflexed, oblanceolate-spathulate, acute, fleshy, 5-veined; lateral sepals about 27 mm long, 6 mm wide. **Petals** about 27 mm long, 1 mm wide, filiform, reflexed, 1-veined. **Lip** about 16 mm long, 18 mm wide, united to the gynostemium, apical margin erose 3-lobed; lateral lobes suborbicular, middle lobe bilobed, lobules divaricate, subquadrate; disc

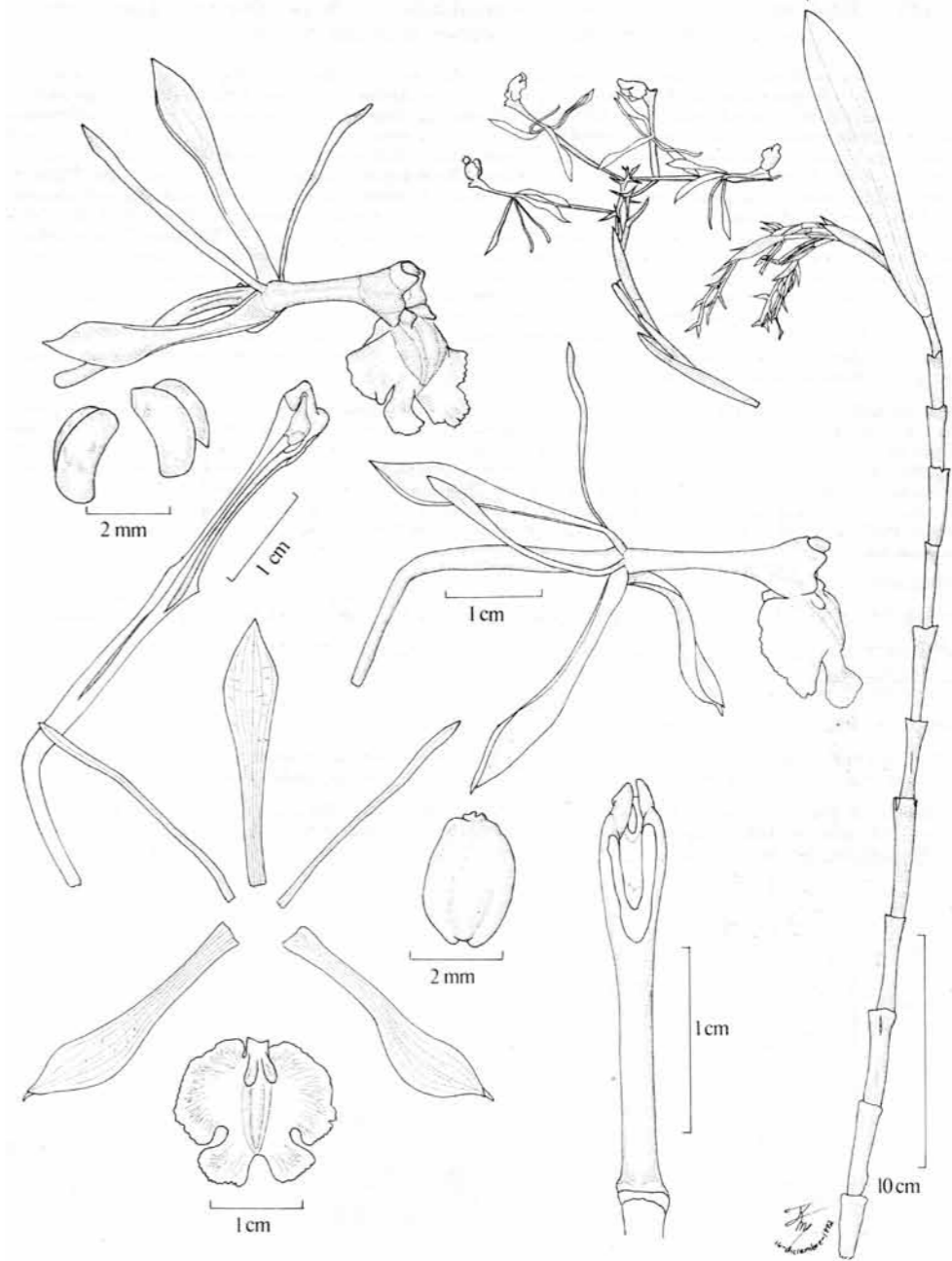


Fig. 232. *Epidendrum xanthoanthinum* Hágsater (J.M. Munera & R. Escobar 154, AMO – drawn by R. Jiménez Machorro).



Fig. 233. Distribution of *Epidendrum xanthoanthinum* Hágsater in Valle del Cauca.

bicallose, 3-keeled, keels running down to the 1/3 of the middle lobe. **Gynostemium** about 21 mm long, straight, slender. **Clinandrium-hood** obsolete. **Anther** ovoid. **Pollinia** "bird-wing" type. **Nectary** shallow, barely penetrating beyond the perianth.

**HABITAT:** Montane forest; 1500-1800 m alt.

**FLOWERING SEASON:** September, November.

**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio El Cairo.** Carretera La Bodega-Salemlia, Vereda El Madroño. Alt. 1500 m. 15 Nov 2011. *García-Ramírez 101* (CUVC!). **Mpio. El Dovio.** Serranía de Garrapatas, cultivado por M. Robledo en La Ceja, cerca a Medellín. Alt. ca 1800 m. 17 Sep 1988. *J.M. Múnera & R. Escobar 154* (AMO!).

### *Epidendrum psilanthemum*-group

Caespitose plants, inflorescence paniculate, usually from an abortive stem, from the base of the plant, flowers distichous, delicate, yellow with purple spots. Two species of this group are cultivated in the Department of Valle, but the species are not native to southwestern Colombia; they are found along the north coast or the Llanos Orientales.

#### Key to species

1. Plants 13-24 cm tall, pseudobulbs 3.5-12 x 0.4-1.6 cm, fusiform, flowers pink ..... 46.104. *E. leeanum*
1. Plants up to 50 cm tall, pseudobulbs 8-27 x 0.5-2 cm, fusiform, flowers yellow. .... 46.105. *E. stamfordianum*

#### 46.105. *Epidendrum leeanum* (Rchb.f.) Hágsater (Figs 235, 236; Photos 150-152).

Icon. Orchid. 11: t. 1137. 2008. ≡ *Epidendrum stamfordianum* Bateman var. *leeanum* Rchb.f., Gard. Chron. Ser. 3, 3: 521. 1888; TYPE: COLOMBIA. *Wallace s.n.* (W! - watercolor of floral segments).

**Epiphytic**, sympodial, caespitose plants, 13-24 cm tall. **Stems** 3.5-12 cm long, 0.4-1.6 cm wide, forming fusiform, homoblastic pseudobulbs with a thin pedicel, covered by tubular sheaths, minutely striated, scarious, becoming fibrous with time. **Leaves** 2-3, 5-11 cm long, 1.3-3 cm wide, aggregate towards the apex of the pseudobulb, alternate, articulate, erect-spreading, coriaceous, oblong to lanceolate, subacute, margin entire; sheath 0.8-1.1 cm long, tubular, minutely striated. **Inflorescence** 13-15 cm long, from an abortive pseudobulb, so as to appear basal from the rhizome, racemose to paniculate, compact, slightly arching; peduncle terete, thin, provided with 4-6 tubular bracts; bracts acuminate, minutely striated, amplexicaul,

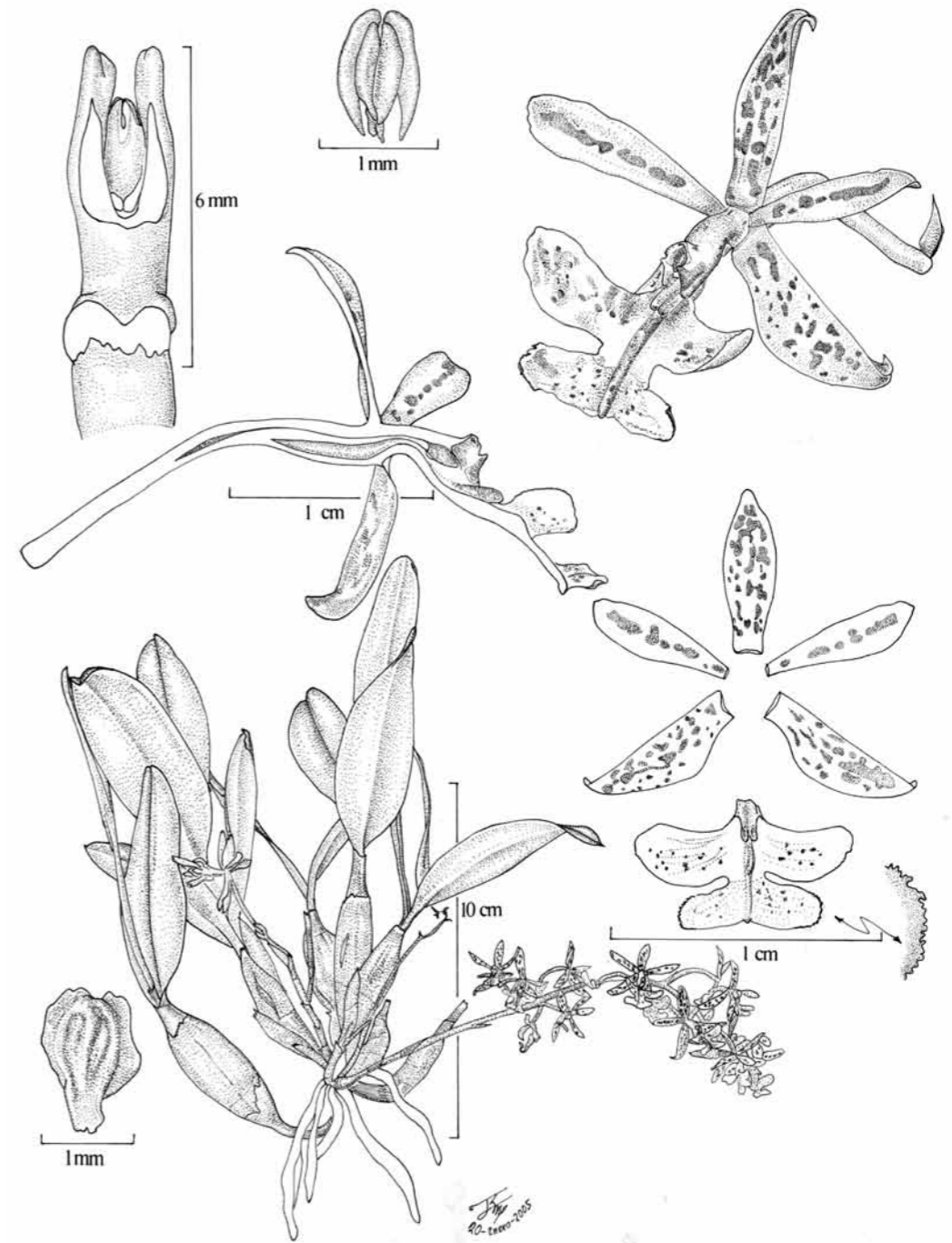


Fig. 234. *Epidendrum leeanum* (Rchb.f.) Hágsater (*Campuzano sub Hágsater 13951*, AMO – drawn by R. Jiménez Machorro).



Fig. 235. Distribution of *Epidendrum lecanum* (Rchb.f.) Hágsater in Valle del Cauca.

the basal ones imbricating. **Flowers** 13-30, resupinate, simultaneous, sepals and petals greenish yellow with lilac-rose spots along the veins, lip and gynostemium white tinged with pink, with scarlet dots; fragrance vespertine, sweet. Floral bracts 2-6 mm long, much shorter than the ovary, triangular, acute. Ovary 12-19 mm long, terete, thin, smooth, slightly inflated behind the sepals. **Sepals** 11-13 mm long, 3.8-4 mm wide, free, spreading, oblanceolate, acute, 3-veined, lateral veins branching from the base so as to appear 5-veined, margin entire; lateral sepals oblique, with a minute dorsal keel. **Petals** 11-13 mm long, 2.8-3 mm wide, free, spreading, oblanceolate, rounded, 1-veined, vein branching from the base so as to appear 3-veined, apical margin slightly erose, spreading. **Lip** 7-7.5 mm long, 14-16 mm wide, united to the gynostemium, 3-lobed, base cuneate, bicallose, calli digitiform, parallel, short, with a central, thin, smooth keel running down to the apex of the middle lobe; lateral lobes 6-7.5 mm long, 3-4 mm wide, di-

varicate, oblong, rounded, slightly arching back, margin entire; middle lobe 3.5-3.8 mm long, 9-10 mm wide, with a narrow isthmus at the base, bilobed, apiculate, formed by two divaricate, oblong, rounded lobes, somewhat smaller than the lateral lobes, margin denticulate. **Gynostemium** about 6 mm long, slightly arching at the thin base, gradually ciliated towards the apex. Clinandrium-hood short, funnel-shaped, margin 4-lobed, dorsal lobes rounded, lateral lobes acute. Anther obovoid. Pollinia 4, bird-wing type. **Nectary** penetrating about 1/3 of the ovary, thin, noninflated, smooth.

**HABITAT:** Unknown; about 1000 m alt.

**FLOWERING SEASON:** April.

**GENERAL DISTRIBUTION:** Colombia, Venezuela.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Jamundí.** Collectada en los Llanos Orientales; hort. Finca del Asombro, Monte de Sardi, Valle de Cauca, Cali-Jamundi. Alt. 1000 m. 28 Apr 1983. *N. Villota sub Hágsater 7459* (AMO!).

**OTHER SPECIMENS EXAMINED: COLOMBIA.** *Sine loc.* Cultivado por A. Mejia en El Hatillo. 25 Nov 1988. *J.M. Munera & R. Escobar 384* (AMO! x 2). **Boyacá.** Rio Tocaria, Einschnitt durch die erste Cordilleren Kette. Alt. 400 m. 24 Apr 1937. *Renç 3070* (RENZ!). **Meta.** Hda. Santa María, San Pedro de Arimena. 13 Jan 1969. *P.Ortiz V. 168* (HUPJ!); Loma Chichimena, Weg Villavencio-San Martín. Alt. ca 300 m. Nov 1937. *Renç 3092* (RENZ!). **VENEZUELA.** Guárico. San Juan de Morros, hort. Caracas, Venezuela. *Campuzano sub Hágsater 13951* (AMO!).

**46.106. *Epidendrum stamfordianum* Bate-**  
**man (Figs 237, 238; Photo 153).**

Orchid. Mexico & Guatem.: t. 11. 1838; TYPE: GUATEMALA. Isabal, Lago Izabal. Jun 1837. *Skinner s.n.* (K-L!). - Ames & Correll, Fieldiana, Bot. **26**(1): 380-382. 1952. - Foldats in Lasser, Fl. Venezuela, Orchid. **15**(3): 398-402. 1970. - Hamer, Orquid. El Salvador **1**: 26-261. 1974. - Williams & Allen, Orchid. Panama: 268. 1980. - Hamer, Orchid. Central America, Selbyana

**10**(Suppl.): 262. 1988. Jiménez & Hágsater, Orchid. **11**: t. 1182. 2008.  
= *Epidendrum basilare* Klotzsch, Allg. Gartenzeitung **11**: 193. 1843.  
= *Epidendrum cynostalix* Rchb.f., Bot. Zeitung (Berlin) **10**: 731. 1852.  
= *Epidendrum stamfordianum* var. *parviflorum* Regel, Ann. Sci. Nat., Bot., IV, **6**: 374. 1856.  
= *Epidendrum cynostachys* Rchb.f. ex Benth., J. Linn. Soc., Bot. **18**: 314. 1881. *sphalm.*  
= *Epidendrum stamfordianum* var. *wallacei* Rchb.f., Gard. Chron., III, **1**: 543. 1887.  
= *Epidendrum stamfordianum* var. *pictum* Ram.Goyena, Fl. Nicarag. **2**: 759. 1911 *nom. illeg.*

**Epiphytic**, caespitose plants, up to about 50 cm tall. **Stems** forming fusiform pseudobulbs 8-27 cm long, 0.5-2 cm in diameter, straight, covered when young by 3-7 tubular sheaths, minutely striated, scarios, becoming fibrous with time. **Leaves** 1-5, 10-27 cm long, 3-7 cm wide, coriaceous, variable in shape, ligulate, oblong-lanceolate, or oblanceolate to elliptic, obtuse. **Inflorescence** up to about 60 cm long, spreading or pendent, simple or paniculate, usually many-flowered, terminal from a short fertile shoot, or rarely on the pseudobulb; peduncle terete, thin, provided with 2-8 tubular bracts, acute, minutely striated. **Flowers** 8-65, resupinate, simultaneous. Floral bracts much shorter than ovary. Ovary terete, thin, smooth, slightly inflated behind the sepals. **Dorsal sepal** 15-18 mm long, 4-6 mm wide, elliptic or lanceolate, acute or acuminate. **Lateral sepals** 14-18 mm long, 4-6 mm wide, lanceolate or oblong-lanceolate, strongly oblique, acute or acuminate. **Petals** 14-18 mm long, 1.5-4.5 mm wide, linear, elliptic, linear-oblong to lanceolate, acute. **Lip** 11-16 mm long, 13-20 mm wide, unguiculate, claw adnate to gynostemium, 3-lobed; lateral lobes large, spreading, oblong, oblique, obtuse, entire or crenulate; middle lobe bilobate, retuse, transversely oblong in outline, provided with a narrow, often cuneate claw at the base, entire or usually crenulate or serrulate; disc provided with a pair of parallel, short, lamellate calli or a single

deeply sulcate callus at the base near the apex of the gynostemium, median nerve thickened or raised into a low lamella. **Gynostemium** arching near the base, thin, gradually dilated towards the apex, apex 4-lobed; lateral lobes triangular, acute; dorsal lobes rounded, forming a short funnel-shaped clinandrium hood, margin entire.

**HABITAT:** Seasonally dry forest; about 1000 m alt.

**FLOWERING SEASON:** April (in cultivation).

**GENERAL DISTRIBUTION:** Colombia, Venezuela, Panama, Costa Rica, Nicaragua, Honduras, El Salvador, Guatemala, Belize, Mexico.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cali.** Hort. Finca El Asombro, Monte de Sardi, Carr. Cali-Jamundi. Alt. 1000 m. Preparado de material cultivado 1 Apr 1986. *R.L. Dressler, Folsom, N. Villota & Hágsater 7459* (AMO!).

**OTHER SPECIMENS EXAMINED: COLOMBIA.** **Antioquia.** *Sine loc.* Alt. 500 m. 22 Oct 1884. *Lehmann 148* (G!); The same loc. 1 Jan 1884. *Lehmann 4000* (G!); Bei Antioquia. Alt. 1000-1500 m. 21 Oct 1884. *Lehmann 5000* (BM!); Bei Antioquia. Alt. 500-1000 m. *Lehmann s.n.* (K-L!). **Magdalena.** Santa Martha, *Sine col.*, (K-L!); La Guajira. Riohacha, Rio de Hacha. 1 Dec 1866. *Purdie s.n.* (K-L!). **COSTA RICA.** **Guanacaste.** Cantón de Bagaces. Valle del Tempisque. Lomas Barbudal. 10°29'45"N 85°22'45"W. Alt. 100-200 m. 18 Nov 1993. *Ulises Chavarría 876* (AMO!). **NICARAGUA.** Boaco. San Lorenzo, 2 km al. E, Sierra el Espino. 12°23'N 85°39'W. Alt. 500-600 m. 11 Nov 1982. *P.P. Moreno 18553* (AMO!). **MEXICO.** **Campeche.** Ruinas de Chicanna, camino Escárcega Chetumal, cerca de Xpujil. Feb 1972. Preparado de material cultivado 25 Jan 1977. *A. Jones s.n.* (AMO!); Hopelchén. 3.4 km hacia Nuevo Bécál, partiendo de la carretera de Zoh-Laguna a Chunchintok. 18°37'00"N 89°22'35"W. Selva mediana subperennifolia. 12 Mar 1996. *J.C. Trejo, I. Olmsted & J. Granados 569* (AMO! x 2); Las Pailas. Selva baja subcaducifolia, suelo Akalché. 10 Jan 1992. *M. Sarmiento 32* (AMO! x 3). **Chiapas.** Mpio. Ocosingo. En Esta-

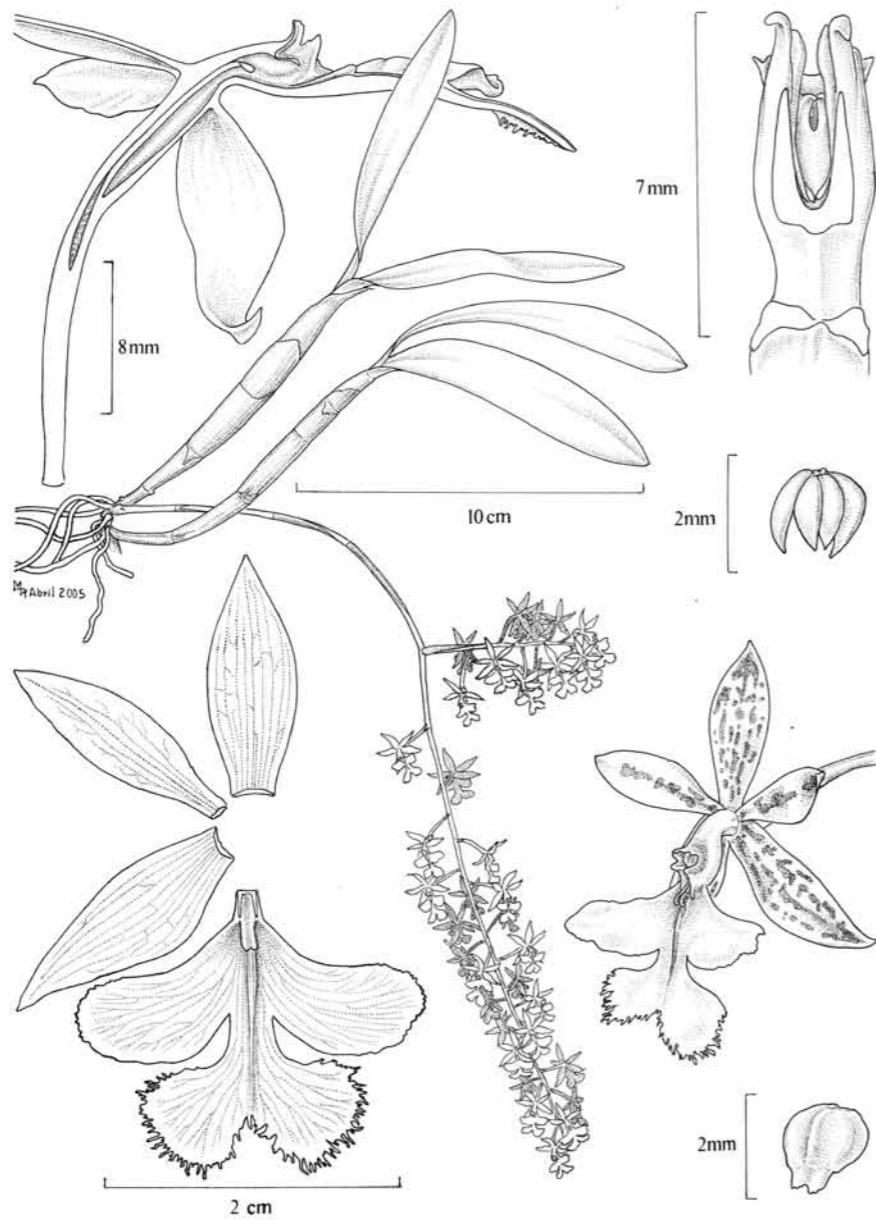


Fig. 236. *Epidendrum stamfordianum* Bateman (M.A. Soto 10772, AMO – drawn by M.A. López Rosas).

ción Chajul. Selva baja subperennifolia. Alt. 150 m. 14 Mar 1993. E. Martínez S. & C.H. Ramos 26315 (AMO!); *Sine loc.* M. A. Soto 10772 (AMO!). **Oaxaca.** Mpio. Sta. María Chimalapa. Río Negro, en vereda a Paso La Ciruela (Tuniayja) ca 7 km al S de Sta. María. 16°52'N 94°41'W. Alt.

200 m. 26 Feb 1985. H. Hernández G. 905 (AMO! ex CHAPA); Arroy Sangre, ca 2 Km al E de Sta. María. 16°54'30"N 94°40'W. Alt. 250 m. 23 Feb 1985. H. Hernández G. 901 (AMO! ex CHAPA). **Quintana Roo.** Mpio. Othón P. Blanco. Cercanías de una cuenca alrededor de un gran



Fig. 237. Distribution of *Epidendrum stamfordianum* Bateman in Valle del Cauca.

cenote 5 km al. N de La Unión. 18°30'00"N 87°58'00"W. Alt. ca 0-50 m. 28 Jan 1999. L. Sánchez, R. Jiménez, G. Carnevali, J.L. Tapia, F. May, A. Cibrian & M. Gómez 566 (AMO! ex CICY); Ejido Caobas, Sabana del Jaguactal, un desvío de 9.5 km por carretera de terracería al. oeste de la carretera hacia Tres Garantías, unos 21 km al. sur de la carretera principal Xpujil-Chetumal, aprox. 18°18'00"N 89°07'00"W. Tintal (selva baja inundable). 28 Jan 1999. L. Sánchez, R. Jiménez, G. Carnevali, J.L. Tapia, F. May, A. Cibrian & M. Gómez 593 (AMO! ex CICY); 3-4 km al Oeste Nueva Jerusalén, unos 11 km al. oeste de Graciano Sánchez (La Pantera), aprox. 19°04'30"N 88°42'10"W. Selva baja inundable (tintales) & alta biomasa i diversidad de epifitas. 4 Feb 1998. G. Carnevali, R. Jiménez, M. Gómez, C. Espadas & D. Mondragón 4977 (AMO! ex CICY); A 1 km de la Galera del Rancho de Rodolfo Hurtado, aprox. a 7 km de la Unidad Agrícola „Lázaro Cárdenas“. Selva unundable, selva baja inundable (Ak'alche), secundaria. Alt. 50 m. Fecha de colecta 23 Jan

1999, fecha de prensado de material cultivado 2 Feb 2001. L. González 60 (AMO! x 2); The same loc. 23 Jan 1999. L. Ibarra González 60 & M. Terrón Santana, T.V. López, C. Xiu A., R.H. Saavedra sub Hágsater 12139 (AMO!). **Veracruz.** Tula, Los Tuxtlas. Preparado de material cultivado 3 Apr 1982 / 8 May 1986 / 3 Jun 1985 / 14 Sep 1989. Pastrana 467 sub Hágsater 5522 (AMO! x 4); The same loc. Preparado de material cultivado 22 Mar 1984. J. Pastrana 468 sub Hágsater 5522 (AMO!); San Andrés Tuxtla. Estación de Biología Tropical Los Tuxtlas. Laguna Escondida, ca 3 km NE de la estación. Alt. ca 200 m. 22 Feb 1985. G.A. Salazar & S. Sinaca 540 (AMO!).

### *Epidendrum ramosum*-group

Stems repent or erect, branching, inflorescence distichous, callus single. Six species of this group were reported from the Department of Valle del Cauca, but the occurrence of one of them was not confirmed.

### Key to subgroups

1. Leaves >4 mm wide, not acuminate . . . . . 2
1. Leaves <3 mm wide, acuminate. . . . . 46.106. *E. isomerum* (*Isomerum*-subgroup)
2. Leaves <2.5 cm long, very similar, floral segments <8 mm long . . . . . *Repens*-subgroup (3)
2. Leaves > 4 cm long, unequal; floral segments 9-15 mm long . . . . . 4
3. Plants 5-13 cm long, ovary forming a vesicle behind the perianth; lip with single callus, laminar, with a pair of cavities beneath; lip somewhat thickened, appearing as having 3 ribs on the disc. . . . . 46.109. *E. cornanthera*
3. Plants 20-60 cm long; ovary thickened without forming a vesicle; lip with a single, 3-dentate callus, the mid-tooth somewhat longer. . . . . *E. luckei* (unconfirmed)
4. Leaves undulate, reflexed, lip 3-lobed . . . . . 46.110. *E. sculptum* (*Sculptum*-subgroup)
4. Leaves smooth, spreading, lip entire . . . . . 5

5. Plantae pendent, leaves of the main stem 10-17 cm long, inflorescence with 4-9 flowers, creamy white, the base of the column green . . . . . 46.107. *E. mora-retanae* (*Paranaense*-subgroup)
5. Plants erect, leaves of the main stem 3-10.5 cm long, inflorescence generally with 3-6 flowers, green to yellowish green. . . . . 46.108. *E. ramosum* (*Ramosum*-subgroup)

***Epidendrum isomerum*-subgroup**

Plants monopodial, pendent, branching throughout, shorter secondary stems, and still shorter flowering branches; leaves long and narrow, acuminate; flowers single, callus “V” shaped.

**46.107. *Epidendrum isomerum* Schltr.** (Figs 239, 240; Photos 154-155).

Repert. Spec. Nov. Regni Veg. 2: 132. 1906; TYPE: GUATEMALA. Alta Verapaz. Cubilquitz. ca 350 m. blühend im August 1904. von *Tuerckheim II 167* (B†; LECTOTYPE (designated by E. Hágsater, 1990): US!; ISOLECTOTYPES: AMES!, BP!, G!, MO!, Z!). - Ames & Correll, Fieldiana, Bot. 26(1): 338. 1952. - Williams & Allen, Orchid. Panama: 289. 1980. - Hamer, Orchid. Central America. Selbyana 10(Suppl.): 227. 1988. Hágsater in Hágsater & Salazar, Icon. Orchid. 1: pl. 32. 1990. - Misas Urreta, Orquideas de la Serranía del Baudó: 186-187. 2005. = *Epidendrum guayasense* Schltr., Repert. Spec. Nov. Regni Veg., Beih. 8: 73. 1921.

**Epiphytic**, pendent, caespitose, monopodial, 60-200 cm tall **herb.** **Roots** basal, fleshy, filiform. **Stems** terete, straight, branching, the main stem 18-76 cm tall, 0.12-0.30 cm wide, very long, the secondary stems about half the size, 5-22 cm long, 0.12-0.27 cm wide, with short flowering branches produced from both and in succession, near the apex of previous flowering branches. **Leaves** numerous, more than 20 on the main stem, 3-5 on the flowering branches; sheaths 10-15 cm, tubular, minutely rugose; blade narrowly lanceolate, acute to acuminate, apex

short mucronate, coriaceous, slightly carinate, those of the main stem 5-11 cm long, 0.2-0.3 cm wide, somewhat larger than those of the secondary branches, those of the flowering branches unequal. **Inflorescence** apical, from the flowering branches, one-flowered, flowering only once, peduncle obsolete. **Flower** 1, resupinate, green to yellowish green, nocturnal fragrance of lemon grass. **Floral bracts** 10-10.9 mm long, 2.5-2.7 mm wide, as long as the ovary and covering it, imbricating with an additional bract of the peduncle, ovate-oblong, rounded. **Ovary** 9-12 mm long, 1.4-2 mm wide, terete, smooth. **Sepals** 15-16.5 mm long, 1.7-2 mm wide, partly spreading, narrowly triangular lanceolate, acute, mucronate, 12-veined, margin slightly revolute, entire. **Petals** 14.8-16 mm long, 0.9-1.3 mm wide, partly spreading, linear-elliptic, acute, mucronate, 5-veined, margin spreading, entire. **Lip** 9.6-11 mm long, 2-2.4 mm wide, entire, slightly conduplicate in natural position, rhombic-triangular, acute, margin entire; callus “V” shaped, laminar, prominent, and prolonged into a prominent central keel reaching the apex of the lip. **Gynostemium** 4.8-5 mm long, straight, tubular, thin, short. Clinandrium hood surpassing the body of the column, bilobed, margin entire. Anther obovoid, ending in two petaloid processes, 4-celled. Pollinia 4, laterally compressed; caudicles soft and granulose, longer than the pollinia; viscidium semiliquid, transparent. Rostellum subapical, slit. **Nectary** deep, penetrating 1/2 of the ovary, smooth. **Capsule** ellipsoid, 2.1-2.3 cm long, with a long apical neck.

**HABITAT:** Lowland humid forest, next to the river; up to about 280 m alt..

**FLOWERING SEASON:** January, July, May.

**GENERAL DISTRIBUTION:** Ecuador, Colombia, Venezuela, Guyana, Panama, Costa Rica, Nicaragua, Honduras, El Salvador, Guatemala, Belize, Mexico.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** La Delfina. 3°49'23"N 76°46'53"W. Alt. 279 m. 4 Jan 2011. *M. Kolanowska* & *O. Pérez* 270 (UGDA!); Bue-

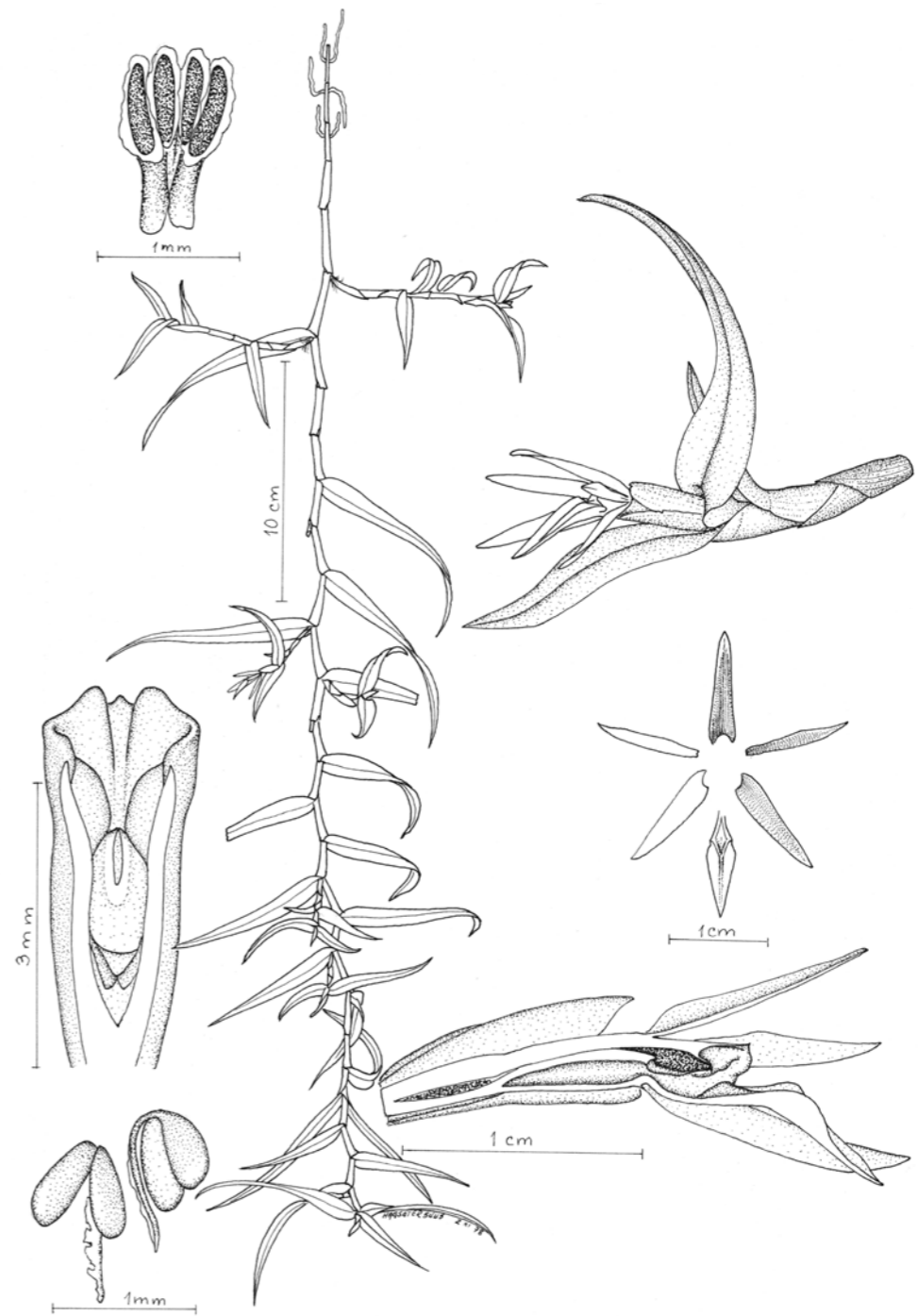


Fig. 238. *Epidendrum isomerum* Schltr. (Hágsater, Dumont & Thurston 5445, AMO – drawn by Hágsater).

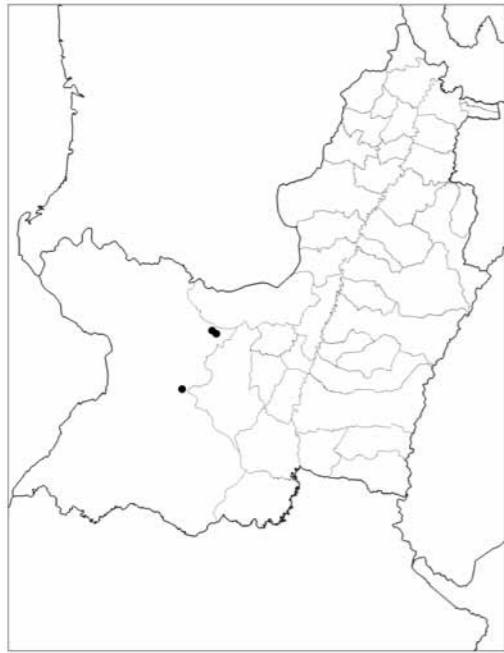


Fig. 239. Distribution of *Epidendrum isomerum* Schltr. in Valle del Cauca.

naventura, Cacao grove at km 77 Cali-Buenaventura. 3 Jul 1965. *Dodson & H. Hills 3229* (SEL!); Anchicaya, km 8 abajo del reten. Alt. 250 m. 13 May 1985. *Hágsater 7400* (AMO!).

OTHER SPECIMENS EXAMINED: **GUYANA. Region Cuyuni-Mazaruni.** Along the Koatse R.  $\pm$  2 km E of Pong R.,  $\pm$  5 hrs walk S of Chinoweing Village.  $5^{\circ}28'N$   $60^{\circ}04'W$ . Riverine flood plain forest on white and brown sands. Alt. 600-650 m. 28 Feb 1987. *J.J. Pipoly 10815* (AMO!). **COSTA RICA.** Vertiente Atlántica oriental, orillas del Río Pejibaye entre El Oriente & Pejibaye. Alt. ca 600 m. Preparado de material cultivado 20 Mar 1982. *Horich s.n.* (AMO!); San Carlos, vertiente atlántica. Alt. 3500 m. Preparado de material cultivado 3 Nov 1980. *M. Rodríguez sub Hágsater 5265* (AMO!). **Alajuela.** Hidroeléctrica Cingo. Preparado de material cultivado 22 Aug 1984. *Hágsater 6790* (AMO!). **BELIZE. Toledo.** Southern Maya Mountains, Bladen Nature Reserve, southern end of Ek Xux valley, near its junction with the upper Bladen

Branch.  $16^{\circ}29'18''N$   $88^{\circ}53'44''W$ . Alt. 200 m. 17 May 1997. *Davidse, DL. Holland & A. Whittemore 36530* (AMO!). **MEXICO. Chiapas.** 11.3 km S de Chancala. En selva alta. Alt. 1400 ft. 1 Nov 1977. *Hágsater, Dumont & Thurston 5445* (AMO! x 4); A 33 km del Vertice del rio. Chixoy camino a Chajul en zona Marquez de Comillas. Selva media subperennifolia. Alt. 130 m. 10 Jan 1986. *E. Martínez S. 16221* (AMO!). **Veracruz.** Mpio. San Andrés Tuxtla. Estación de Biología Tropical Los Tuxtlas, UNAM.  $18^{\circ}34'-18^{\circ}36'N$   $95^{\circ}04'-95^{\circ}09'W$ . 8 Feb 1985. *G.A. Salazar 468* (AMO! x 3); The same loc. *G.A. Salazar 471* (AMO! x 2); The same loc. *G.A. Salazar & S. Sinaca 2270* (AMO!); Laguna Escondida, 3 km NO de la Estación de Biología Tropical Los Tuxtlas. Selva alta perennifolia. Alt. 140 m. 10 Oct 1985. *S. Sinaca C. & F. Chigo Seba 267* (AMO!); Parque de la Flora & Fauna silvestre Tropical.  $18^{\circ}26'48''-18^{\circ}27'47''N$   $95^{\circ}01'34''-95^{\circ}02'51''$ . Selva alta perennifolia. Alt. 420 m. 1 Sep 1993. *G.C. Díaz 77* (AMO!). **ECUADOR. Esmeraldas.** Km 122 Santo Domingo-Esmeraldas. Alt. 100 m. 13 Sep 1980. *Dodson 10422* (SEL!). **VE-NEZUELA. Barinas.** Entre Ciudad Bolivia (Pedraza) y Santa Barbara, Rio Bumbun. Alt. 100 m. 9 Feb 1952. *Renzi 7911* (RENZ! x 2). **PANAMA. Bocas del Toro.** Rio Cricamola between Finca St. Louis and Konkintoe. Alt. ca 10-50 m. 17 Aug 1938. *Woodson Jr. 1886* (AMES!, MO!, SEL!, US!). **NICARAGUA. Zelaya.** On volcanic cone, Rama. 13 Jul 1968. *Atwood 482* (NY!, SEL!, UC!). **HONDURAS. Atlantida.** Guaymas vicinity of Tela. 17 Mar 1923. *Ames s.n.* (AMES!). **GUATEMALA. Alta Verapaz.** South of Cubilgüitz. Alt. 300-400 m. 3 Mar 1942. *Steyermark 44492* (AMES!, F!).

#### *Epidendrum paranaense*-subgroup

Plants monopodial, pendent, branching, the secondary branches shorter than main stem, and very short flowering branches, inflorescence distichous, with several simultaneous flowers.

#### 46.108. *Epidendrum mora-retanae* Hágsater (Figs 241, 242; Photos 156-159).

in E. Hágsater & Salazar. (eds.), *Icon. Orchid.* 2: pl. 160. 1993; TYPE: PANAMA. CHIRIQUÍ. Cuesta de Piedra-Finca El Milagro. Alt. 800-1000 m. Prepared from cultivated material, 27 Feb 1984. *Hágsater & Dressler 6499* (AMO!). – Hamer, *Icon. Pl. Trop.* 1(8): pl. 735. 1982.

**Epiphytic**, pendent, monopodial, branching herb, 80-300 cm long. **Roots** 0.1-0.2 cm in diameter, produced only at the base of the main stem, fleshy. **Stems** pendent, branched, cane-like, terete, straight, 5-8 mm in diameter, the main stem to 300 cm tall, 0.6-1 cm wide, secondary branches to 80 cm long, 0.5-0.9 cm wide, floral branches short, 7-11 cm long, 0.4-0.7 cm wide; main and secondary branches with longer leaves than the flowering branches, which are produced from either the main stem or the secondary branches. **Leaves** evenly distributed throughout the stems and branches, narrowly lanceolate, apex bilobed, coriaceous; those of the main stem 10-17 cm long, 2-2.5 cm wide; the leaves of the secondary stem 5-17 cm long, 1.6-2.5 cm wide, somewhat shorter than those of the main stem; those of the flowering branches 4-7 cm long, 0.7-1.2 cm wide, about half the size of the leaves of the main stem. **Inflorescence** 4-7 cm long, apical, from the branches, distichous, flowers only once; peduncle short, with 3-5 bracts 15-23 mm long, imbricated, conduplicate. **Flowers** 4-9, simultaneous, creamy white, the base of the column green, apex creamy white; fragrance diurnal, sweet, strong. **Floral bracts** 18-25 mm long, longer than the ovary, shortly closely spaced to partly imbricated, green with small blackish dots, rapidly turning brown. **Ovary** 15-22 mm long, not inflated, terete, unornamented, green. **Sepals** 10-12 mm long, 3-5 mm wide, spreading, free, with a low dorsal keel, glabrous, margins entire, somewhat revolute; dorsal sepal ovate-elliptic, acute; lateral sepals ovate-lanceolate, acute. **Petals** 10-11 mm long, 2-3.5 mm wide, spreading, membranous, nar-

rowly elliptic-oblancoate, obtuse to rounded, many-veined, margin entire, spreading. **Lip** 8.5-10 mm long, 6-10 mm wide, united to the column, entire, fleshy, cordiform, with a V-shaped callus extended into a central rib, margin entire. **Gynostemium** 4-5 mm long, straight, short. Clinandrium-hood short, margin erose. Anther obreniform, 4-celled. Pollinia 4; semi-obovoid, laterally compressed, subequal; caudicles soft and granulose, twice as long as the pollinia; viscidium semi-liquid, transparent. Rostellum subapical, slit. **Nectary** deep, penetrating half the ovary, unornamented. **Capsule** pyriform, body 20-25 mm long, 10-12 mm wide, apical neck 5-6 mm.

**HABITAT:** Hanging from the tallest trees in tall evergreen forest; 1500-1600 m alt..

**FLOWERING SEASON:** January to May.

**GENERAL DISTRIBUTION:** Colombia, Panama, Costa Rica, Nicaragua.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** Vía a la Reserva de Pícoloro, Parque Natural Los Farallones. Alt. 1580-1600 m. Recv'd. Jan 2011. *Parra 379* (AMO! - digital images of live plant, flowers in spirit, VALLE). Cordillera Occidental, los Farallones de Cali, Río Pance. Alt. 1500 m. 16 Oct 1975. *Hartman 3* (CUVC!).

OTHER SPECIMENS EXAMINED: **NICARAGUA. Sine loc. Heller 1590** (SEL! x 2). **COSTA RICA. Alajuela.** Cariblanco, en camino antes de llegar a Cariblanco. 19 Mar 1982. *Hágsater 6689* (AMO!); Alfaro Ruiz, Lajas de Alfaro Ruiz. 1 Jul 1997. *Mora de Retana s.n.* (USJ!). **Cartago.** Las Concavas, cult. in Lankester's Garden, from Peralta. Alt. 1400 m. 27 Feb 1924. *Standley 36008* (AMES!, US!). **Guancaste.** Tilaran, Los Ayotes, near Tilaran. Alt. 600-700 m. 21 Jan 1926. *Standley 45636* (US!). **Limón.** Talamanca Bratsi, Amubri, Alto Lari, Kivut. Alt. 1300 m. 8 Mar 1992. *Herrera 5238* (AMO! x 2). **Puntarenas.** Rio Coto Brus, near Cotan, 23 km N of La Union (on Panama border). 9 Aug 1974. *Croat 26671* (MO! x 2). **San José.** Pérez Zeledón, Valle de San Isidro del General, Chirripó, Canaan; ultima finca antes del parque nacional. Alt. ca 1500 m. 8



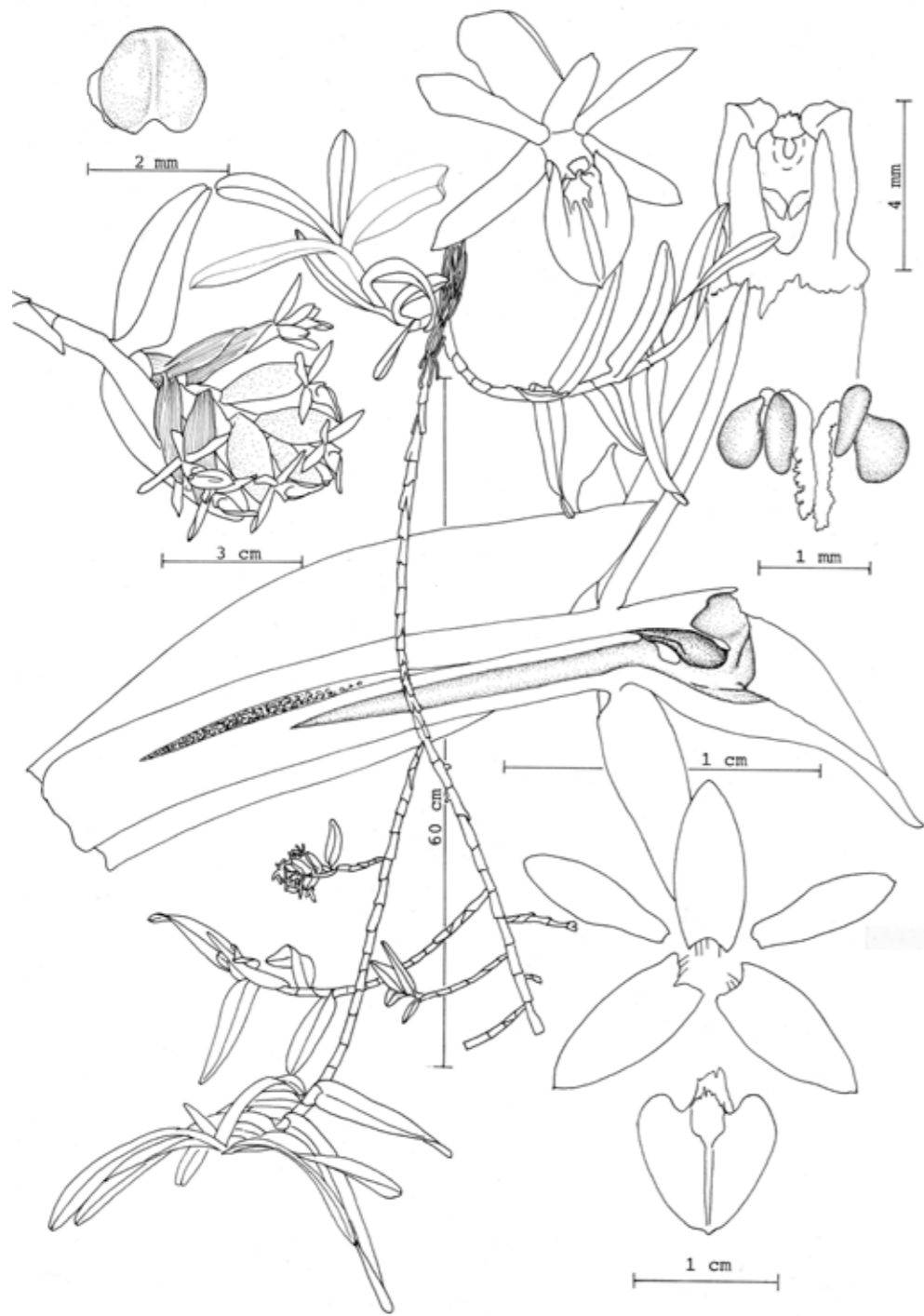


Fig. 240. *Epidendrum mora-retanae* Hágsater (*Hágsater & Dressler 6499*, AMO – drawn by E. Hágsater).

Mar 1986. *Hágsater 8188* (AMO! x 4) **PANAMA**. **Chiriquí**. Boquete Bajo Chorro. Alt. 6000 ft. 21 Jan 1938. *Davidson 213* (AMES!, F!); The same loc. Alt. 7000 ft. 25 Mar 1938. *Davidson 434* (F!).



Fig. 241. Distribution of *Epidendrum mora-retanae* Hágsater in Valle del Cauca.

#### *Epidendrum ramosum*-subgroup

Plants erect, monopodial, branching, many oblong-lanceolate leaves, distichous inflorescence from the apex of short tertiary, flowering branches.

**46.109. *Epidendrum ramosum* Jacq.** (Figs 243, 244; Photos 160-161).

Enum. Syst. Pl.: 29. 1760; TYPE (Cervantes & al. 2003): Jacquin, *Select. Stirp. Amer. Hist.* t. 132. 1763, op cit., perhaps based on «Martinique. Jacquin s.n.» (LECTO-TYPE: LINN!). - Ames & Correll, *Fieldiana, Bot.* **26**(1): 364-366. 1952. - Schultes, *Nat. Orchid. Trinidad & Tobago*: 121. 1960. - Foldats *in* Lasser, *Fl. Venezuela, Orchid.* **15**(3): 357-360. 1970. - Garay & Sweet *in* How-

ard, *Fl. Lesser Antill., Orchid.*: 154-156. 1974. - Hamer, *Orquid. El Salvador* **1**: 248-249. 1974. - Williams & Allen, *Orchid. Panama*: 301. 1980. - Dodson & Bennett, *Icon. Pl. Trop.* **2**(1): pl. 228. 1989. - Ackerman & del Castillo Mayda, *Orchid. Puerto Rico & Virgin Islands*: 116. 1992. - Bennett & Christenson, *Icon. Orch. Peruv.*: pl. 250. 1995. - Nir, *Orchid. Antill.*: 136-137. 2000. - Cervantes & al. *in* Hágsater & Soto, *Icon. Orchid.* **5-6**: pl. 581. 2003. - Vásquez & Ibisch, *Orquíid. Bolivia* **2**: 133. 2004. - Toscano de Brito & Cribb, *Orquídeas da Chapada Diamantina*: 155. 2005. - Misas Urreta, *Orquídeas de la Serranía del Baudó*: 210-211. 2005. - Kolanowska & al., *Ill. field guide orchid. Yotoco Forest Reserve (Colombia)*: 109. 2011. ≡ *Isobilis ramosus* (Jacq.) Spreng., *Syst. Veg.* **3**: 734. 1826. ≡ *Spathiger ramosus* (Jacq.) Britton, *Sci. Surv. Porto Rico & Virgin Islands* **5**: 202. 1924. = *Epidendrum rigidum* Lodd., *Bot. Cab.* **16**: t. 1600. 1829, *nom. illeg.* (*non Epidendrum rigidum* Jacq., 1760) = *Epidendrum sellowii* Rchb.f., *Linnaea* **22**: 839. 1850. = *Epidendrum ramosum* House, *Muhlenbergia* **1**: 129. 1906, *nom. illeg.* = *Epidendrum ramosum* var. *lineare* Stehlé, *Bull. Agric. Martinique* **8**: 249. 1939.

**Epiphytic**, monopodial, caespitose, erect, much branched herb 20-90 cm tall. **Roots** 0.1-0.2 mm in diameter, only from the base of the main stem, fleshy, filiform. **Stems** 2-7.7 cm long, 0.02-0.04 cm wide, terete, flexuous, the secondary stems determinate, 3.5-18.5 cm long, 0.1-0.3 cm wide; the tertiary stems determinate, 1.7-5.2 cm long, 0.1-0.2 cm wide. **Leaves** numerous, more than 16 on the main stem, distributed throughout, 3-5 on the secondary stems, with tubular, papiraceous sheaths 0.5-3 cm long, rarely and scarcely rugose; blades narrowly oblong-lanceolate, retuse, coriaceous, carinate, those of the main stem 3-10.5 cm long, 0.5-1.1 cm wide, on the secondary stems 2-9.5 cm long, 0.2-0.5 cm wide, and on the tertiary stems 1-5.5 cm long, 0.2-0.3 cm wide. **Spathaceous bract** lacking. **Inflorescence** 2-4 cm long, apical, produced from any stem, a distichous raceme, lax flowered, with a basal bract 5-6.5 mm long, 1.5-2.5 mm wide, oblong-triangular, acute, conduplicate, amplexicaul; rachis somewhat zig-zag. **Flowers** 3-6(8), distichous, simultaneous, the lip always towards the rachis, green to yellowish

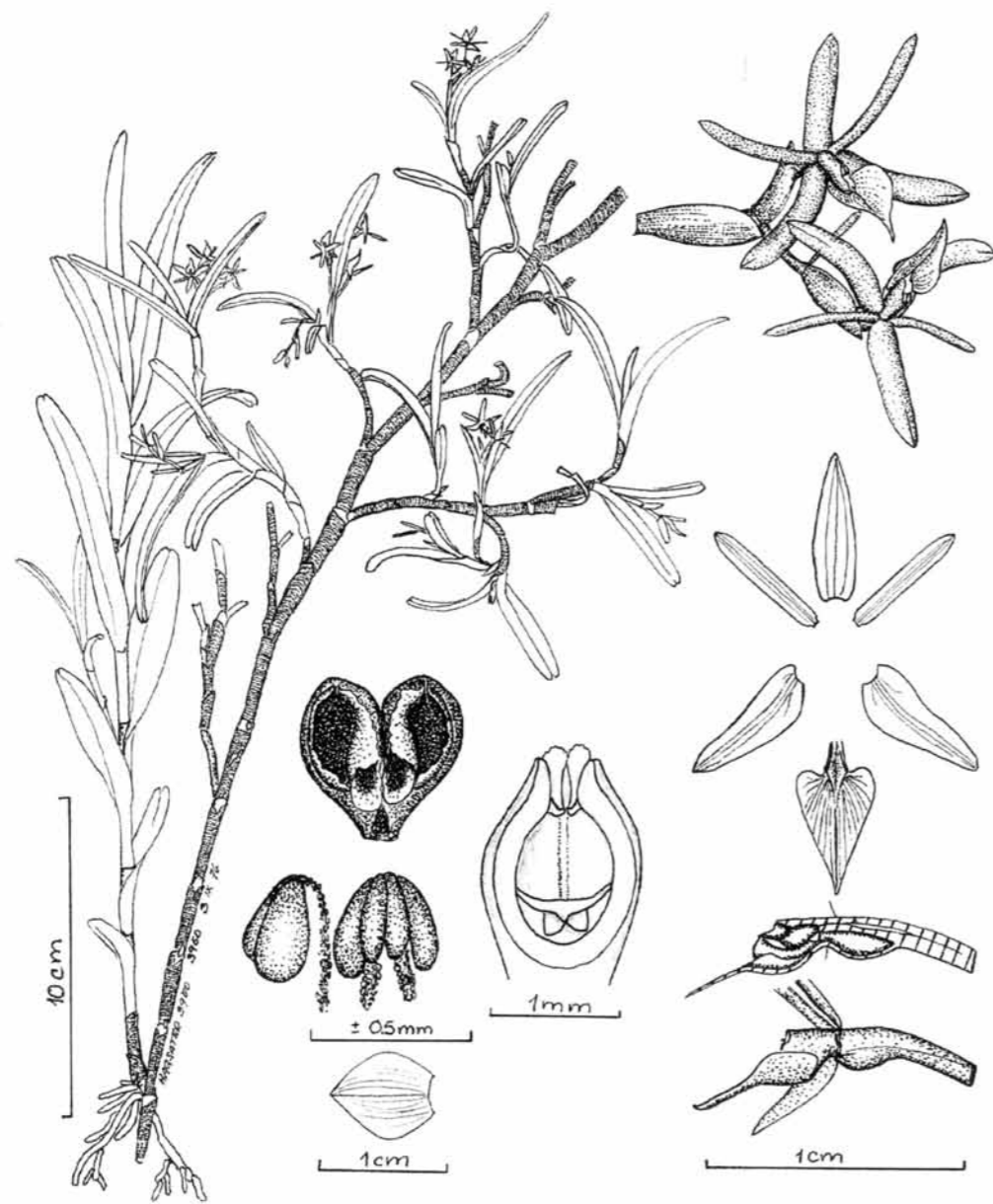


Fig. 242. *Epidendrum ramosum* Jacq. (Hágsater 3950, AMO – drawn by E. Hágsater).

green; without fragrance. **Floral bracts** 6.5-10 mm long, 4.5-5 mm wide, longer than the ovary, conduplicate, triangular-oblong, acute. **Ovary** 4-8 mm long, 0.3-0.5 mm wide, slightly inflated behind the perianth. **Sepals** 5-7.5 mm long, 1-2 mm wide, acute, 5-veined, margin entire, slightly revolute; the dorsal sepals reflexed, narrowly lanceolate; the lateral sepals inflexed, obliquely ovate-lanceolate. **Petals** 5-7 mm long, 0.5-1.3 mm wide, reflexed, linear, acute, 3-veined. **Lip** 4-6 mm long, 2-4 mm wide, entire, triangular ovate, acute, base cordate, margin entire; callus “V” shaped, prolonged by an evident mid-rib to the middle of the lip. **Gynostemium** 2-3 mm long, 0.5-1 mm wide, straight, obconical, thin, short. Clinandrium-hood short, margin entire. Anther obovoid, 4-celled. Pollinia 4, obovoid, laterally compressed; caudicles soft and granulate, longer than the pollinia; viscidium semi-liquid, transparent. Rostellum subapical, slit. Lateral lobes of the stigma more than half as long as the stigmatic cavity. **Nectary** penetrating 2/3 of the ovary, unornamented. **Capsule** 9-15 mm long, flobose to subspherical; body 4-9 mm long, 4-8 mm wide, apical neck 1-1.5 mm long.

**HABITAT:** Low montane and wet cloud forest, also on rocks; from sea level to 1875 m alt.

**FLOWERING SEASON:** February, April-May, July, August.

**GENERAL DISTRIBUTION:** Brazil, Bolivia, Peru, Ecuador, Colombia, Venezuela, Guyana, Suriname, French Guiana, Panama, Costa Rica, The Lesser Antilles (Grenada, St. Vincent, St. Lucia, Martinique, Dominica, Guadeloupe), The Greater Antilles (Puerto Rico, Hispaniola, Jamaica, Cuba), Nicaragua, Honduras, El Salvador, Guatemala, Belize, Mexico.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cartago.** Cordillera Occidental; vertiente occidental: Hoya del río Dagua, lado izquierdo: Piedra de Moler, bosques, Alt. 900-1180 m. 19-28 Aug 1943. *Cuatrecasas 14954* (VALLE!). **Mpio. Yotoco.** Bosque de Yotoco. 10 Apr 1980. *I. Guarín O. 121* (VALLE!); Reserva Natural de Yotoco. Linderos del relicto supe-

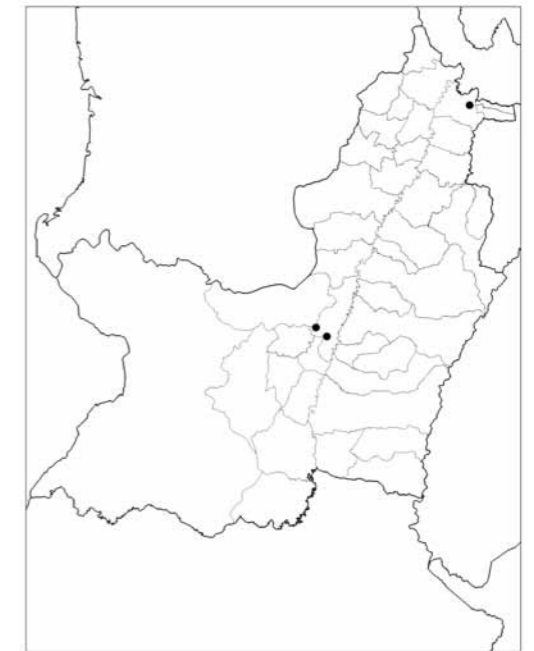


Fig. 243. Distribution of *Epidendrum ramosum* Jacq. in Valle del Cauca.

rior. Alt. 1600 m. 11 Jul 2009. *E. Parra & O. Pérez 147* (VALLE!); Reserva Natural de Yotoco. Estación “Complejo epibiofítico”. Alt. 1600 m. 3 May 2007. *O. Pérez 189* (VALLE!); Reserva Natural de Yotoco. Lindero derecho del relicto inferior. Alt. ca 1600 m. 7 Aug 2009. *O. Pérez & E. Parra 214* (VALLE!); Relictos ubicados a la orilla de la carretera Buga-Loboguerrero, cerca de la Reserva Natural de Yotoco. Alt. ca 1600 m. 21 Mar 2009. *W. Hincapié & O. Pérez 0141* (VALLE!); Hato Viejo. 3°49'48"N 76°26'02"W. Alt. 1875 m. 17 Feb 2010. *M. Kolanowska, O. Pérez & E. Parra 154* (VALLE!, UGDA! - drawing).

**OTHER SPECIMENS EXAMINED: MEXICO.** **Chiapas.** Cerca del km 16, camino Berriozabal-El Cairo (Selva del Ocote). Selva achaparrada, Alt. ca 1050 m. Fecha de colecta 17 Apr 1989, fecha de prensado de material cultivado 16 Nov 1990. *M.A. Soto & E. Martínez 5375* (AMO!). **Veracruz.** Sierra de Santa Marta Bastonal. Bosque Mesofilo. Preparado de material cultivado 22 Nov 1985. *I. Aguirre, G. Salazar, R. Cedillo 833*

sub *Hágsater* 8037 (AMO!); Mpio. Tlepacoya. La Huerta. Bosque de pino, cañada. Alt. 550 m. 22 Feb 1978. *F. Ventura* A. 16879 (AMO!). **Guerrero**. Atoyac de Álvarez: Atoyac-Paraiso, km 60. Alt. 1300 m. *Hágsater* 3950 (AMO!). **NICARAGUA. Jinotega**. Along Hwy. between Matagalpa and Jinotega, ca 6.8 km (at intersection of bypass), 14 Sep 1980. *W. D. Stevens, B. A. Krukoff & O. M. Montiel* 17839 (MO!). **HONDURAS**. El Paraíso, Volcanes, 6 km SE de El Paraíso. Alt. 1300 m. Bosque húmedo subtropical. *A. Irias* 198 (TEFH!). **GUATEMALA. San Marcos**. Between Finca El Porvenir to "Número 6", lower south-facing slope of Volcán Tajumulco, bordering Río Chapal. Alt. 1300-1500 m. 7 Mar 1940. *Steyermark* 37120 (F!). **BELIZE. Toledo**. Little Quartz Ridge. 4.5 km east of Union Camp. Area 1 km East-northeast of helicopter landing on main ridge of southwest end of little quartz ridge. *T. Hawkins* 1530. (MO!). **COSTA RICA. Puntarenas**. Cantón San Vito. Camino Paraguas. 8°46'54"N 82°58'42"W. Bosque de neblina. Alt. 1200-1300 m. 2 Oct 1996. *L. Sánchez, J. García-Cruz & E. Lepiz* 457 (AMO!). **San José**. Cantón de Perez Zeledon. Cordillera de Talamanca. Pilar de Cajón. 09°17'20"N 83°36'45"W. Alt. 1400 m. 5 Aug 1995. *E. Alfaro* 326 (AMO! ex MO); Headwaters of Río Columbre, Bocas del Toro. Alt. 2400-2550 m. 3 Mar 1984. *L. D. Gómez, I. Chacón, Davidse & G. Herrera* 22377 (AMO!). **Cartago**. 1.5 miles east of Cachi, 10.2 miles NE of junction at Paraiso, disturbed forest. 5 Feb 1979. *Croat* 47077 (AMO! ex MO). **PANAMA. Chiriqui**. Boquete, Between Dentamia and Río Caldera, 1 Jul 1923. *C. W. Powell* 1244. (AMES!). **CUBA**. Gran Piedra. Escambray 1983, hort. Main Botanical Garden, Moscow, Russia (MHA). Jun 1992. *A. N. Vasiljev* s.n. (AMO!). **ECUADOR. Esmeraldas**. Cantón San Lorenzo, Carretera Lita-San Lorenzo, 15-20 km al oeste de Lita. ca 0°55'N 78°28'W. Bosque pluvial & bosque nublado de baja altitud & alta diversidad & biomasa de epifitas. Alt. 600-800 m. 25 Mar 1994. *G. Carnevali & Dodson* 3418 (AMO!). **Imbabura**. Km 62.1 camino de Lita,

desde la desviación de la carretera Ibarra-Tulcán. Alt. 740 m. 12 Jul 1990. *Hágsater, Dodson, D. Rubio & N. Revelo* 10666 (AMO!). **Napo**. Edo. Tena. Mpio. Archidona. Cotundo-Coca. *A. Hirtz* 1529 (AMO!). **COLOMBIA. Antioquia**. Mpio. San Francisco. Corregimiento Aquitania, Finca La Ilusión. Alt. 1200-1500 m. 2 Apr 1992. *R. Fonnegra & Curso* Tax. Plant. Vasc. 4124 (COL!); Mpio. San Rafael. Vereda de Quebrada Honda. Cual km en aval de la desembocadura de la Quebrada Churimo en la desamboardura del Río Guatepé. 15 Oct 1981. *C. I. Orozco, J. Rivero, J. H. Torres, G. Lozano & P. Pinto* 910 (COL!); Vereda Quebradona. Margen derecha de la Quebrada Churimo. Alt. 1100 m. 14 Oct 1981. *C. I. Orozco, J. Rivero, J. H. Torres, G. Lozano & P. Pinto* 870 (COL!). **Cundinamarca**. Mpio. Medina. Alto de Quemara, Gazaunta Valley, 10 km north-west of Medina. Subtropical forest. Alt. 1430 m. 5 Oct 1944. *M. L. Grant* 10385 (COL!); Mpio. Gachala. Fca de la Energía. 8 Oct 1992. *A. Chaparro de Barrera & E. Barrera Torres* 206(1) (COL!); Mpio. Caparrapi. Inspección San Pedro, Vda. Guasas. Alt. 1320 m. 9 Dec 1992. *A. Chaparro de Barrera & E. Barrera Torres* 204(2) (COL!). **Meta**. Mpio. La Macarena. Sierra de la Macarena, Central Mountains North Ridge. Alt. 1400 m. 23 Dec 1949. *W. R. Philipson & J. M. Idrobo* 1976 (COL!); Mpio. Villaviciencio. Cordillera Oriental. Quebrada Playón, Río Manzanares Valley, 8 kilometers west of La Esperanza, 30 km w of Villaviciencio. Subtropical forest. Alt. 1200 m. 2 Sep 1944. *M. L. Grant* 10114 (COL!). **Norte de Santander**. Mpio. Convención. Between Convencion & El Carmen. Alt. 4700 ft. 23 Sep 1946. *H. B. & R. Foster* 1767 (COL!). **Putumayo**. Mpio. Mocoa. Corregimiento de San Antonio, vereda Alto Campucana, finca La Mariposa. 76°38'W 1°12'N. vertiente amazónica de Colombia. Alt. 1350-1420 m. 20 Apr-1 May 1994. *J. L. Fernández A., Cameron, Z. Marin & E. Mesa* 11017 (COL!); The same loc. 20 Apr-1 May 1994. *Betanzur, P. Galvis & Z. Marin* 5182 (COL!). **Santander**. Santander del Sur. Carretera entre Charalá and Duitama, between 1/3 to 1/2 the distance to-

wards Duitama. Alt. ca 1900-2500 m. Jul 1964. *Kapular & Hascall* 91 (COL!). **VENEZUELA. Tachira**. Deforested zone on summit of ridge with Iriartega palms covered with epiphytes. Cerro Las Minas, bordering Quebrada Las Minas, 18 km SE of Santa Ana. 7°36'N 72°13'W. Alt. 1250 m. 29 Jul 1979. *Steyermark & Lesner* 118976 (MO!). **GUYANA. Region Cuyuni-Mazaruni**. Utshe River and surrounding woods above falls. 5°44'N 61°08'W. Alt. 900-975 m. 24 May 1990. *T. McDowell & D. Gopaul* 2804 (COL!). **SURINAME. Sipaliwini**. Lisa Kreek Savannah, Tafelberg Mountain. Low forest savannah on top of Tafelberg Mountain located 1/2 km SW of Lisa Kreek camp. 3°54'32"N 56°12'44"W. Alt. 600 m. *Hankins* 1796 (MO!). **FRENCH GUIANA**. Arrondissement Cayenne. Cantón Sinnamary. Valle du Sinnamary, en amont du barrage de Petit Saut, 5-10 km du barrage, hort. Jardín Botanique de Nantes. 5°3'N 53°3'W. Alt. 25 m. Fecha de colecta 22 Mar 1994, fecha de prensado de material cultivado 2 Sep 1994. *G. Chiron mission AFCPO sub Hágsater* 11474 (AMO!). **BRAZIL. Pernambuco**. Pe. Cortes, Mata da Canoa, sobre morro proximo a cidade, sobre grande arvore. 7 Oct 1972. *Dárdano de Andrade Lima* s.n. (HB!). **BOLIVIA. La Paz**. Prov. Murillo. 44 km below Lago zone dam, vicinity of Cahua hydroelectric plants. 16°03'S 68°01'W. Alt. 1200 m. 12-15 Sep 1983. *J. C. Solomon* 10784 (MO!). **PERU. Loreto**. Cordillera Azul, Coronel Portillo, Divisoria entre Tingo María y Pucallpa. Alt. 1500-1600 m. Selva tropical, sobre arboles altos. 28 Feb 1947. *R. Ferreyra* 1679 (USM!).

#### ***Epidendrum repens*-subgroup**

Plants pendent, monopodial, branching, leaves short, less than 2.5 cm long, inflorescence distichous, few flowered.

**46.110. *Epidendrum cornanthera* F. Lehm. & Kraenzl.** (Figs 245, 246; Photo 162).

Bot. Jahrb. Syst. 26: 463. 1899; TYPE: COLOMBIA. VALLE DEL CAUCA. In declivitatibus circa Playa larga ad fluvium Dagua, et in silvis densis Buenaventurae. Alt. 0-300 m. *Lehmann* 8341 (K! - label indicates "East Andes of Loxa"). - Misas Urruta, Orquídeas de la Serranía del Baudó: 164-165. 2005. - Sánchez, & Hágsater in Hágsater & Sánchez, Icon. Orchid. 9: pl. 923. 2007.

**Epiphytic**, pendent plants, 5-13 cm tall. **Stems** 3-10 cm long, cane-like, short, branching from the subapical internodes. **Leaves** 5-10, 1-2 cm long, 0.4-0.8 cm wide, distributed throughout the stems, articulate, strongly carinate, ovate-elliptic, unequally bilobed; sheaths tubular, laterally compressed. **Inflorescence** apical, racemose, distichous. Floral bracts 5-8 mm long, amplexicaul, imbricating, widely ovate to elliptic, obtuse, longer than the ovary. Ovary 5-7 mm long, terete, with a central vesicle behind the perianth. **Flowers** 2-6, non-resupinate, simultaneous, yellowish-green. **Sepals** 5-6 mm long, 1.2-2 mm wide, free, partially spreading, lanceolate, acute, margin entire; dorsal sepal 3-veined, lateral veins branching; lateral sepals slightly oblique, 5-veined, with the lateral veins bifurcate at the base and thus appearing 7-veined. **Petals** 4-5 mm long, 1.5-2.2 mm wide, free, partially spreading, linear, acute, 3-veined, margin entire. **Lip** 4-4.4 mm long, 3.5-4 mm wide, united to the gynostemium, entire, triangular, base cordate, acute, sides embracing the gynostemium without covering it, callus single, laminar, forming a cavity on each side. **Gynostemium** 2-3 mm long, straight, thick, with a pair of lateral, incurved teeth at the apex. Clinandrium-hood short, entire. Anther ending in a pair of involute, petaloid horns. **Nectary** penetrating half the ovary, inflated behind the perianth, smooth.

HABITAT: Lowland wet forest; 250-650 m alt.

FLOWERING SEASON: April. October.

GENERAL DISTRIBUTION: Ecuador, Colombia, Panama.

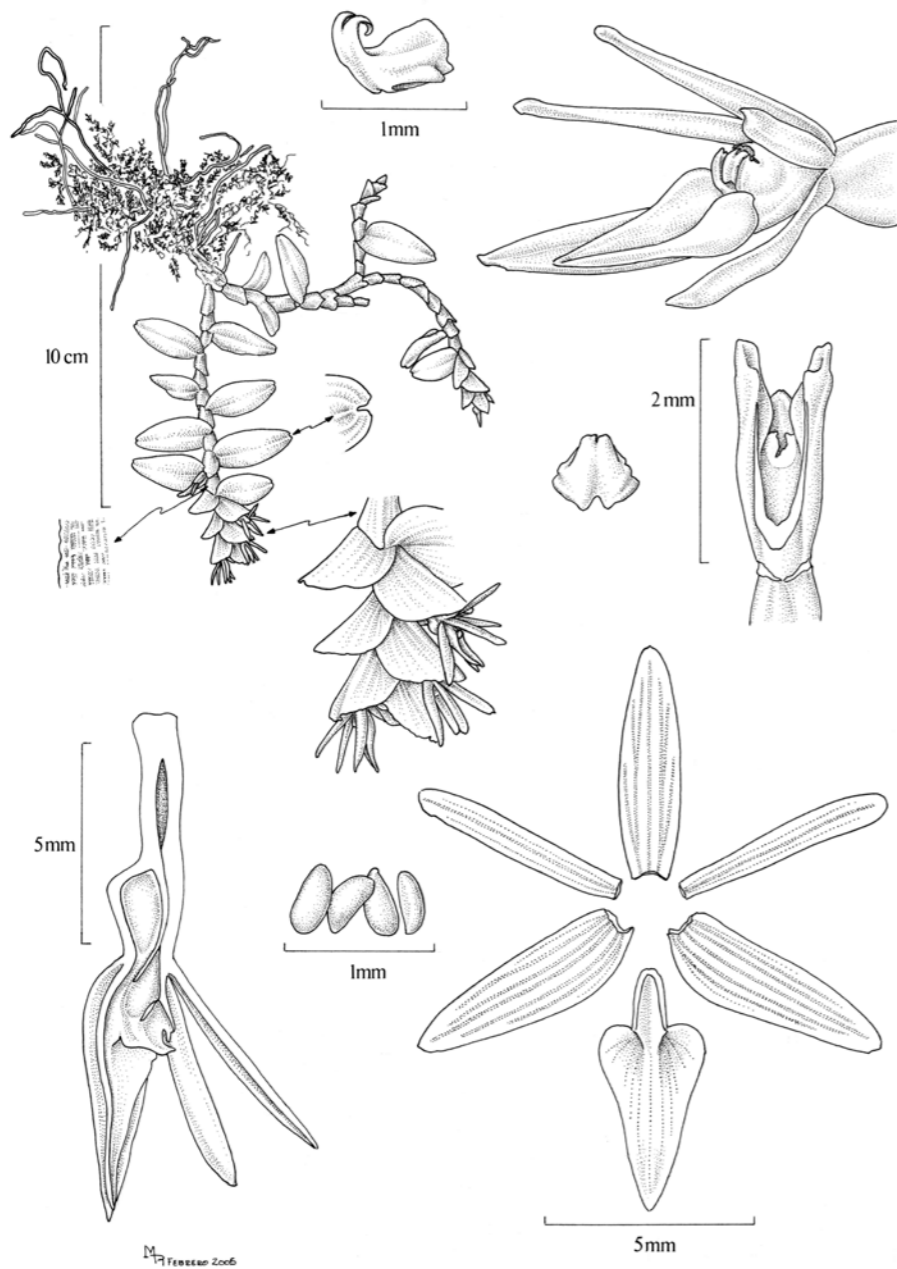


Fig. 244. *Epidendrum cornanthera* F.Lehm. & Kraenzl. (Dressler 4868, AMO – M.A. López Rosas).

DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA: **Mpio. Buenaventura.** Carr. Cali-Buenaventura, km 52, entre Anchicayá &

Buenaventura, después de las cascadas, casa de Ernesto. Alt. 250 m. 27 Apr 1983. *Hágsater* 7398 (AMO! - flower in spirit). **Mpio. Buenaventura/**



Fig. 245. Distribution of *Epidendrum cornanthera* F.Lehm. & Kraenzl. in Valle del Cauca.

**Dagua.** Below El Queremal km 65. Alt. 650 m. 12 Oct 1982. *Folsom, L.A. de Escobar & D. Sánchez* 10474 (AMO! x 2).

OTHER SPECIMENS EXAMINED: **ECUADOR.** **Esmeraldas.** Km 122 Santo Domingo-Esmeraldas. Alt. 100 m. 13 Sep 1980. *Dodson* 10404 (SEL! – p.p.). **PANAMA.** **Panama.** Río Pequení, 10-15 minutes upstream from hydrographic station by motor. 10 Dec 1974. *Dressler* 4868 (AMO!).

NOTES. While describing *E. cornanthera*, Lehmann and Kraenzlin indicated the Buenaventura region as a place of collecting the type specimen. However, the specimen nr 8341 collected by Lehmann stored in K herbarium indicates *locus classicus* of this species in Ecuador. The species is strictly from humid lowlands, and not from Loja, in Ecuador.

***Epidendrum luckei* I.Bock (Fig. 247).**

Orchidee (Hamburg) **35:** 100. 1984; TYPE: COLOMBIA. CHOCÓ. Río Atrato. Alt. ca 50 m. Aug 1979. *K.H. & I. Bock* 14 (HOLOTYPE: Herb.Bock). - Sánchez, & Dodson in Hágsater & Sánchez, Icon. Orchid. **9:** pl. 953. 2007.

**Epiphytic**, pendent, monopodial plants, 20-60 cm tall. **Stems** branching, the main stem 18-50 cm long, 0.13 -0.17 cm wide, branches much shorter, spreading from the main stem and continue produce new flowering stems from near the apex of the previous stem, cane-like, terete. **Leaves** 1-4, 1.3-5 cm long, 0.3-1 cm wide, distributed along the secondary stem, articulate, coriaceous, surface rugose when dry, with 1-2 nonfoliaceous sheaths towards the base, ligulate, narrowly elliptic, apex bilobed, blades unequal in size; sheaths 0.4-1.1 cm long, 0.13-0.2 cm wide, tubular, slightly compressed, rugose.

**Inflorescence** 6-10 cm long, from apex of the branches, sessile, with 2 imbricating bracts at the base, similar to the floral bracts. **Flowers** 3-5, pale green, somewhat brownish, apex of the gynostemium and the anther purplish. Floral bracts 5-8 mm long, 7-9 mm wide, as long as or longer than the ovary, triangular, obtuse. Ovary 5-6 mm long, thick, terete, smooth. **Sepals** 5-6.2 mm long, 1.2-1.7 mm wide, free, partially spreading, narrowly elliptic, apex obtuse, 7-9-veined, margin entire, somewhat revolute; lateral sepals oblique, apically carinate. **Petals** 4.7-5.4 mm long, 0.6-0.75 mm wide, free, partially spreading, oblong, obtuse, 5-veined, margin entire. **Lip** about 3.5 mm long, 1.9-2.2 mm wide, united to the gynostemium, entire, triangular, acute, base truncate, callus single, tridentate, the middle tooth longer than the lateral. **Gynostemium** 2-2.5 mm long, arching upwards at the apical half, with a pair of apical, lateral, teeth. Clinandrium-hood short, entire. Anther ovoid, with a pair of laminar, elongate horns at the apex. **Nectary** penetrating nearly half the length of the ovary. **Capsule** globose, pedicel and apical neck very short.

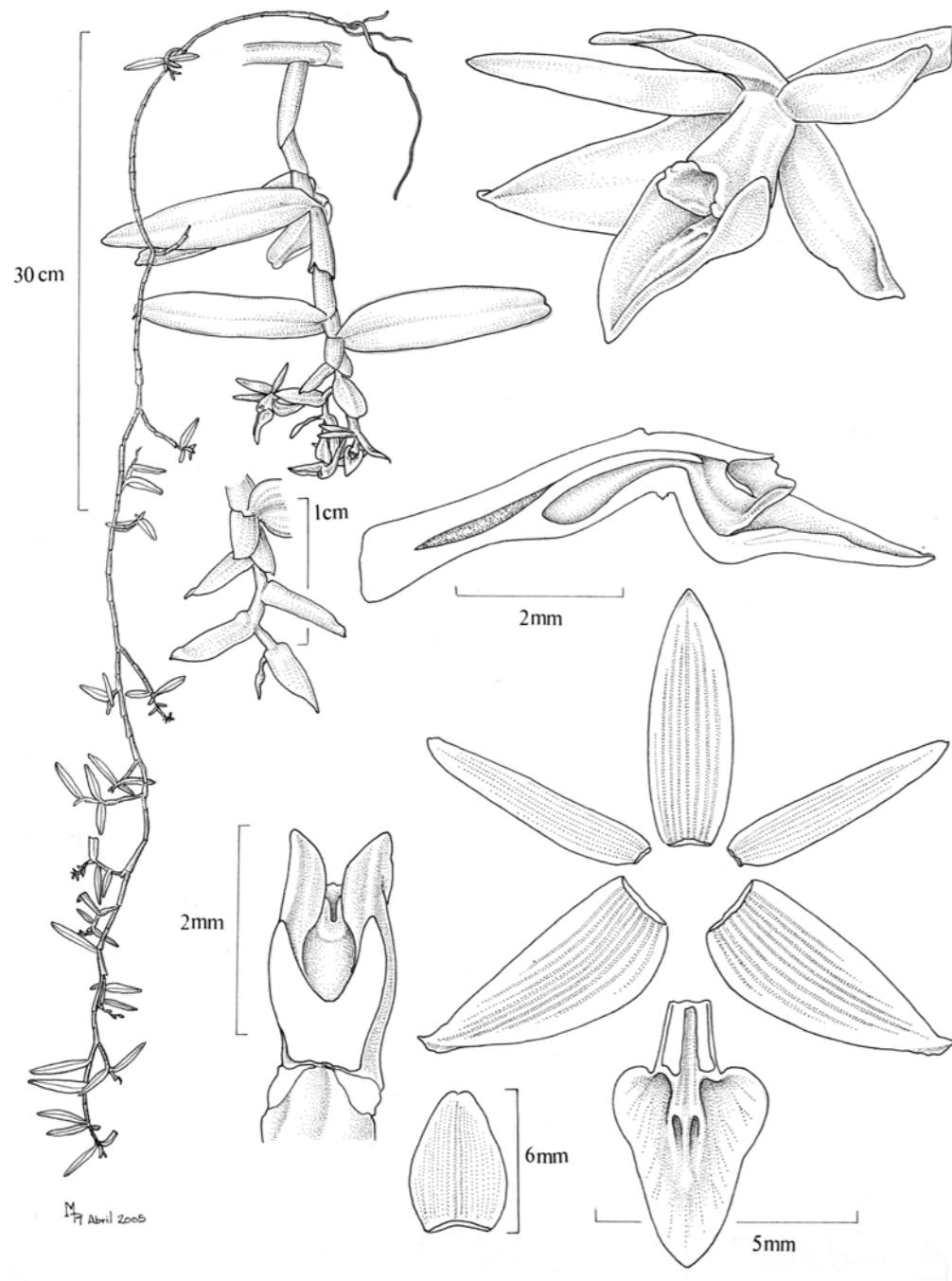


Fig. 246. *Epidendrum luckei* I.Bock (B. Hammel 7322, AMO – drawn by M.A. López Rosas).

HABITAT: Epiphyte growing in “ranconchal” mixed with “mangle” mangroove swamp. Alt. 40-200 m.

FLOWERING SEASON: March-July.

GENERAL DISTRIBUTION: Ecuador, Colombia, Panama.

REPRESENTATIVE SPECIMEN: **COLOMBIA**. [Cauca]. Timbiqui. *Lehmann, Bentham Thrustees 261* (AMES, NY, K).

OTHER SPECIMENS EXAMINED: **ECUADOR**. **Esmeraldas**. Epiphyte growing in “ranconchal” mixed with “mangle” mangroove swamp, Estero Batia. 22 Jul 1967. *C. Játiva & C. Epling 1195* (AMO!). **COLOMBIA**. **Antioquia**. Mpio. Mutatá. 3.5 km N of Mutatá on road to Chigorodó. Roadside vegetation. 07°16'N 76°25'W. Alt. 140 m. 26 Mar 1987. *J. Zarucchi, Betancur, B. Echeverry & F.J. Roldán 5029* (AMO! ex MO). **Chocó**. Rio Truando. Gallery between the boom (bun) and Rio Salado. 18 May 1967. *J.A. Duke 11114(3)* (AMO!); Near Helipad in Raphia Swamp. Rio Trunando at Junction with Q. Buche. Alt. ca 40 m. 1 Apr 1968. *J.A. Duke 15744* (AMO!); Hydro Camp np 14. R. Salaquí, 6 days upstream from R. Sucio. Alt. ca 200 m. 23 May 1967. *J.A. Duke 11355(2)* (AMO!). **PANAMA**. **Darién**. In forest along Río San Antonia, 2 hours walk upstream from Garachiné. Alt. 500 ft. 10 May 1979. *B. Hammel 7322* (AMO!).

NOTES. The only record of this species from the Department of Valle del Cauca is cited above, Timbiqui river, however, is located in the Department of Cauca, not Valle del Cauca. However, the species is found both north and south, so the area is within the range of its natural distribution.

#### *Epidendrum sculptum*-subgroup

Plants pendent, monopodial, leaves somewhat recurved, margin undulate, oblong-elliptic, flowers generally 2, distichous, back to back, lip obscurely 3-lobed.

46.111. *Epidendrum sculptum* Rchb.f. (Figs 248, 249; Photo 163).

Bonplandia (Hannover) 2: 89. 1854; TYPE: PANAMA. Von Chagres von Herrn Keferstein eingeführt von Herrn Lehmann cultivirt. *Lehmann s.n.* (W!). - Correll, Fieldiana, Bot. 31(7): 199-200. 1965. - Williams & Allen, Orchid. Panama: 306. 1980. - Foldats in Lasser, Fl. Venezuela, Orchid. 15(3): 387-388. 1970. = *Epidendrum colonense* Ames, Schedul. Orchid. 1: 4. 1922. = *Epidendrum sculptum* var. *arevaloi* Schltr., Repert. Spec. Nov. Regni Veg., Beih. 27: 74. 1924. = *Epidendrum sculptum* Rchb.f. var. *linearifolium* Rchb.f., Linnaea 41: 131. 1877, = *Epidendrum florijugum* Barb. Rodr., Gen. Sp. Orch. Nov. 1: Tab. 3. fig. II. 57. 1877. = *Epidendrum biflorum* Cogn., Bull. Herb. Boiss II, 2: 337. 1902. = *Epidendrum boissierianum* Schltr., Beih. Bot. Centralb. 36(2): 459. 1918. = *Huebneria yanaperyensis* auct. non Schltr. in Hoehne, Icon. Orch. Brasil.: t. 99. 1949.

**Epiphytic**, pendent, monopodial, branching, ca 100 cm herb. **Roots** produced from the base of the main stem and some branches, fleshy, thin. **Stems** pendent, branching, cane-like, terete, flexuous, densely foliose, the main stem long, 30-50 (100) cm tall, 0.4-0.7 cm wide, with leaves throughout, 3-6.5 cm long, 1-2.5 cm wide; the secondary stems short, with 3-5 unequal leaves, produced, from both the main stem and from a subapical internode of a previous secondary stem, which may thus appear longer, as chains of secondary stems. **Leaves** 7-12, many throughout the main stem, 3-5 on secondary stems, slightly recurved and undulate, green; sheathes tubular, rugose; blade oblong-elliptic, retuse to bilobed. **Inflorescence** apical, racemose, distichous, sessile. **Flowers** (1)2-(3), simultaneous, the lip always towards the rachis, green to yellowish green, without fragrance. **Floral bracts** slightly shorter than the ovary, ovate, retuse. **Ovary** 10-18 mm, terete, smooth. **Sepals** 9-15 mm long, 2-3 mm wide, partly spreading, free, glabrous, lanceolate to narrowly lanceolate, 5-7-veined, with numerous secondary veins, ap-

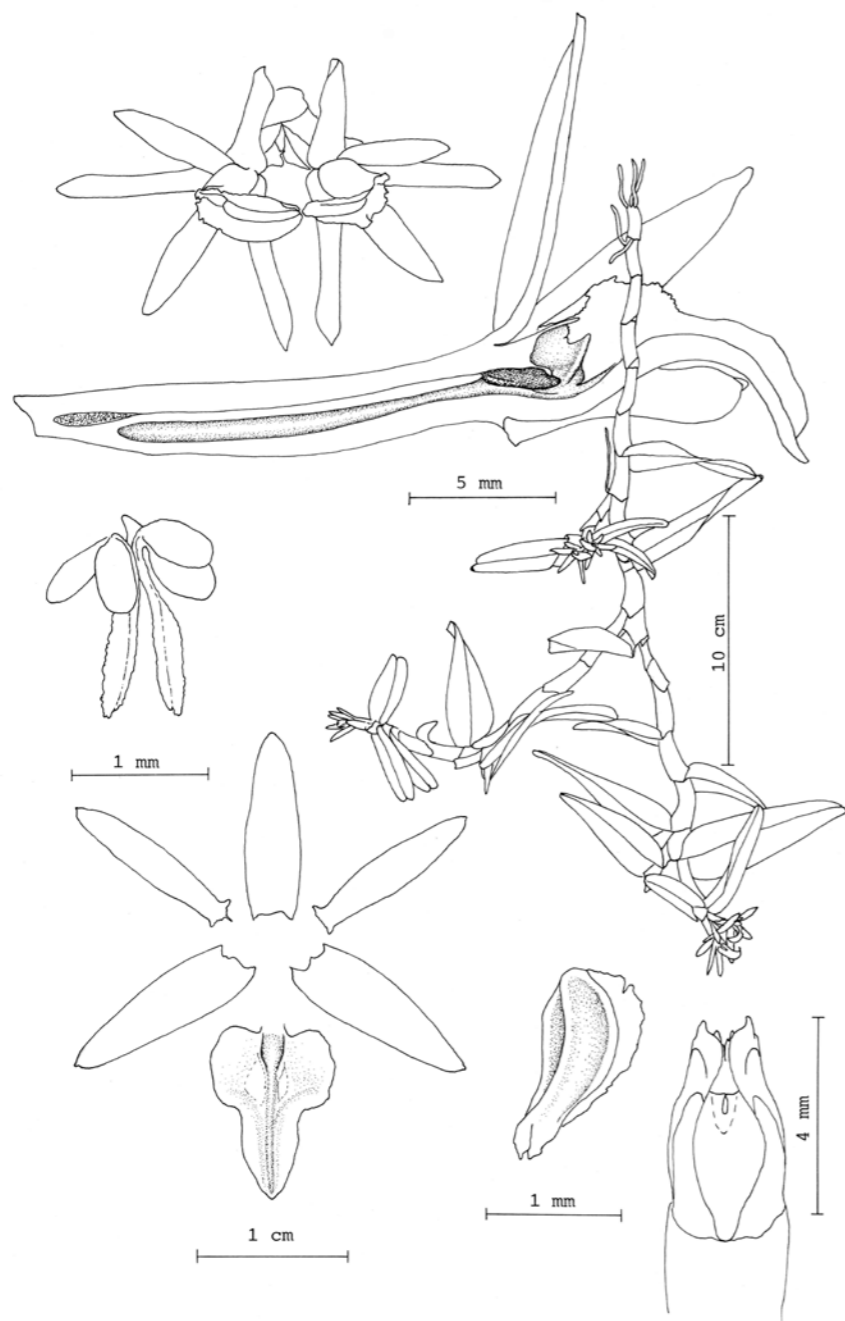


Fig. 247. *Epidendrum sculptum* Rehb.f. (*C. Horich sub Hágsater* 7642, AMO – drawn by E. Hágsater).

pearing 12-veined, margin entire, revolute, the laterals oblique, obtuse. **Petals** 9-14 mm long, 1.5-3 mm wide, partly spreading, free, glabrous, linear to linear-oblongate, obtuse, 3-veined,

with 4 secondary veins and appearing 7-veined, margin entire, spreading. **Lip** 9-14 mm long, 5-7 mm wide, united to the column, base cordate, obovate-lanceolate, obscurely 3-lobed, acute,

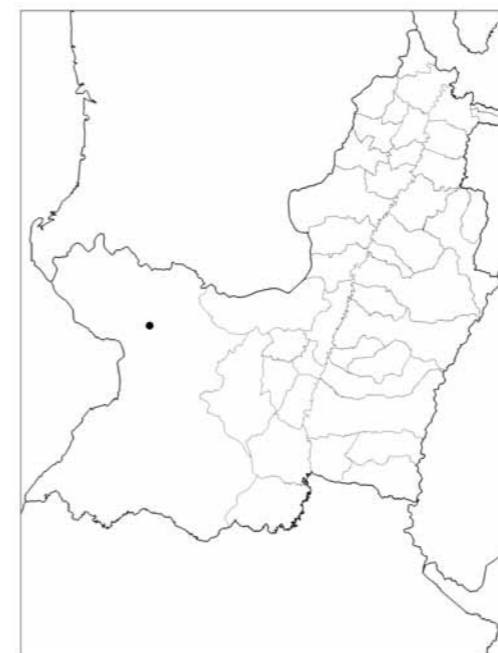


Fig. 248. Distribution of *Epidendrum sculptum* Rehb.f. in Valle del Cauca.

conduplicate and embracing the column without covering it, margin entire to somewhat erose; callus "Y" shaped, prolonged into a central keel extending to the apex of the lip; lateral lobes semi-ovate to semi-elliptic; middle lobe lanceolate to narrowly lanceolate, acute, somewhat more than half the total length of the lip. **Gynostemium** 2-4.5 mm, straight, short, with a pair of acute lateral processes. Clinandrium-hood short, margin erose. Anther narrowly ovoid, with two petaloid processes at the apex, 4-celled. Pollinia 4, laterally compressed, subequal; caudicles twice as long as the pollinia. **Nectary** prominent, penetrating more than 3/4 of the ovary, smooth.

**HABITAT:** Mangroves and very wet rain forest; up to 500 m alt.

**FLOWERING SEASON:** Throughout the year in the whole range.

**GENERAL DISTRIBUTION:** Brazil, Bolivia, Ecuador, Colombia, Guyana, Panama, Costa Rica, Nicaragua, Honduras, Belize.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE**

DEL CAUCA: **Mpio. Buenaventura.** Buenaventura. Near the sea level. *Killip & Cuatrecasas* 38819 (US!, VALLE!).

**OTHER SPECIMENS EXAMINED: NICARAGUA. Zelaya.** Bridge over Rio Mico on the road to Rama. Alt. 300 m. *Heller* 3719 (SEL! x 2). **BE-LIZE. Toledo.** Punta Gorda-Seven Hills Road. 30 Nov 1944. *Gentle* 5029 (LL!). **COSTA RICA. Puntarenas.** Orillas del Rio Ceibo. Alt. 150 m. 2 Oct 1983. *C. Horich sub Hágsater* 7642 (AMO! x 2, ENCB! – spirit, MEXU!, USJ!). **PANAMA. Colón.** Río Chagres, Juan Mina. Alt. 80 ft. 24 Aug 1947. *Allen* 5076 (SEL!). **ECUADOR. Esmeraldas.** Mangrove, Rio Limones. Alt. 1 m. 1 Jul 1982. *Dodson* 13107 (SEL!). **COLOMBIA. Nariño.** Tumaco, caserío de Trujillo. 9 Jun 1955. *Romero* 5132 (COL!). **VENEZUELA. Delta Amacuro.** 33 km al E del Río Grande. Alt. 320 m. *Steyermark* 93061 (VEN?). **GUYANA.** Dimerara River. 1 Aug 1890. *Jameson* 6178 (AMES!). **SURINAME.** Marowijne. 29 Mar 1949. *Lanjouw* 2965 (U!). **FRENCH GUIANA.** *Sine loc. Lemes s.n.* (P!). **BRAZIL. Amazonas.** Rio Parauari (tributary of Maues-Acu), 16 Jul 1983. *Todzia* 2348. (NY!). **BOLIVIA. Pando.** Madre de Dios, Río Sena. Aug 1996. *R. Vásquez* 2769 (VASQ, AMO! - illustration xerox copy).

### *Epidendrum secundum*-group

Recognized by the caespitose habit, numerous coriaceous leaves, and generally elongate peduncle to a pluri-racemose inflorescence, brightly colored flowers generally pollinated by hummingbirds, and the caudicles of the pollinarium granulate, the tetrads appearing like a loose pile of roof-tiles. It is divided into two groups, *Calanthum*-subgroup is recognized by the bicallose lip with a central, narrow, long, wavy keel, the column is apically high, with the anther generally decumbent; and the *Elongatum*-subgroup which has a complicated, pluri-tuberculate callus on the lip, and the column is low, with the anther incumbent.

**Key to species**

1. Callus of lip bicallose, calli globose, with a prominent mid keel running down the disc ..... *Calanthum*-subgroup (2)
1. Callus of lip complicated, formed by 3-7 tubercles, massive, without any keel running, or if down the disc present very short. .... *Elongatum*-subgroup (5)
2. Flowers non-resupinate, purple, epiphytic, myrmecophilous ..... 46.112. *E. flexuosum*
2. Flowers resupinate, red to orange, terrestrial or lithophytic, and non myrmecophilous except in *E. macrocarpum* which is both epiphytic and myrmecophilous. .... 3
3. Plants scandent, creeping, producing roots along the whole stem among the leaves, column arching ..... 46.114. *E. radicans*
3. Plants caespitose, producing roots only at the base of the stems, below the leaves, column straight. .... 4
4. Flowers vermilion with yellow column, calli and central keel; epiphytic or lithophytic ..... 46.111. *E. baumannianum*
4. Flowers red, the apex (only) of the column yellow; always epiphytic and myrmecophilous. .... 46.113. *E. macrocarpum*
5. Middle lobe of lip entire, margin entire, flowers red, callus and anther yellow. .... 46.118. *E. igneum*
5. Middle lobe of lip more or less bifid, apical margin fimbriate, flowers yellow, red to pink-purple or in between. .... 6
6. Leaves oblong, narrow, length/width = 5-8:1. .... 7
6. Leaves, ovate to lanceolate-elliptic, length/width = 2-3:1. .... 8
7. Margin of lip short-fimbriate, spreading, flowers pink-purple, small, white to yellow to red, plants generally epiphytic and myrmecophilous, small ..... 46.120. *E. ptoticum*
7. Margin of lip deeply fimbriate, in natural position fimbria are geniculate in all directions, appearing in total disorder, flowers golden yellow, plants terrestrial, never myrmecophilous, large ..... 46.116. *E. aura-usebeae*

8. Flowers variously colored but not a clean yellow, red or pink-purple, a hybrid population. .... *E. melinanthum* × *arachnoglossum*
8. Flowers with a clean color, either yellow, red or pink-purple. .... 9
9. Flower yellow, callus a very fleshy, shallowly 3-lobed structure the mid rib terminating in the globos knob ..... 46.119. *E. melinanthum*
9. Flowers wine-red or pink-purple, callus complicated 5-7 tuberculate ..... 10
10. Flowers pink-purple, the callus white with the base yellow ..... 46.115. *E. arachnoglossum*
10. Flowers wine-red, callus white ..... 46.117. *E. catillus*

***Epidendrum calanthum*-subgroup**

Recognized by bicallose lip with a wavy, narrow keel in the middle, the truncate apex of the column, and the anther perpendicular to the axis of the column.

**46.112. *Epidendrum baumannianum* Schltr. (Figs 250, 251; Photos 164-165).**

Repert. Spec. Nov. Regni Veg., Beih. 7: 126. 1920; TYPE (Santiago & Hágsater 2008): COLOMBIA. CAUCA. Alt. ca 1000 m. *Madero s.n.* (B†), NEOTYPE (Santiago & Hágsater 2008): CAUCA. Cortina presa Anchicayá. Alt. 600 m. 26 Apr 1983. Pressed cult. 10 April 1984. *Hágsater, R.L. Dressler, K. Dressler & Folsom 7365* (AMO!). - Misas Urreta, *Orquideas de la Serranía del Baudó*: 160-161. 2005. - Santiago & Hágsater in *Hágsater & Sánchez, Icon. Orchid. 11*: pl. 1104. 2008.

**Epiphytic, lithophytic** or rarely **terrestrial**, occasionally myrmecophilous, sympodial, caespitose plants, 50-115 cm tall. **Stems** 38-60 cm long, 0.35-0.85 cm wide, simple, cane-like, terete, thin, erect, covered at the base by tubular sheaths; sheaths 38-60 mm long, non-foliaceous, scarios, becoming fibrous with time. **Leaves** 6-10, 5-12.5 cm long, 1.6-3.3 cm wide, distribu-

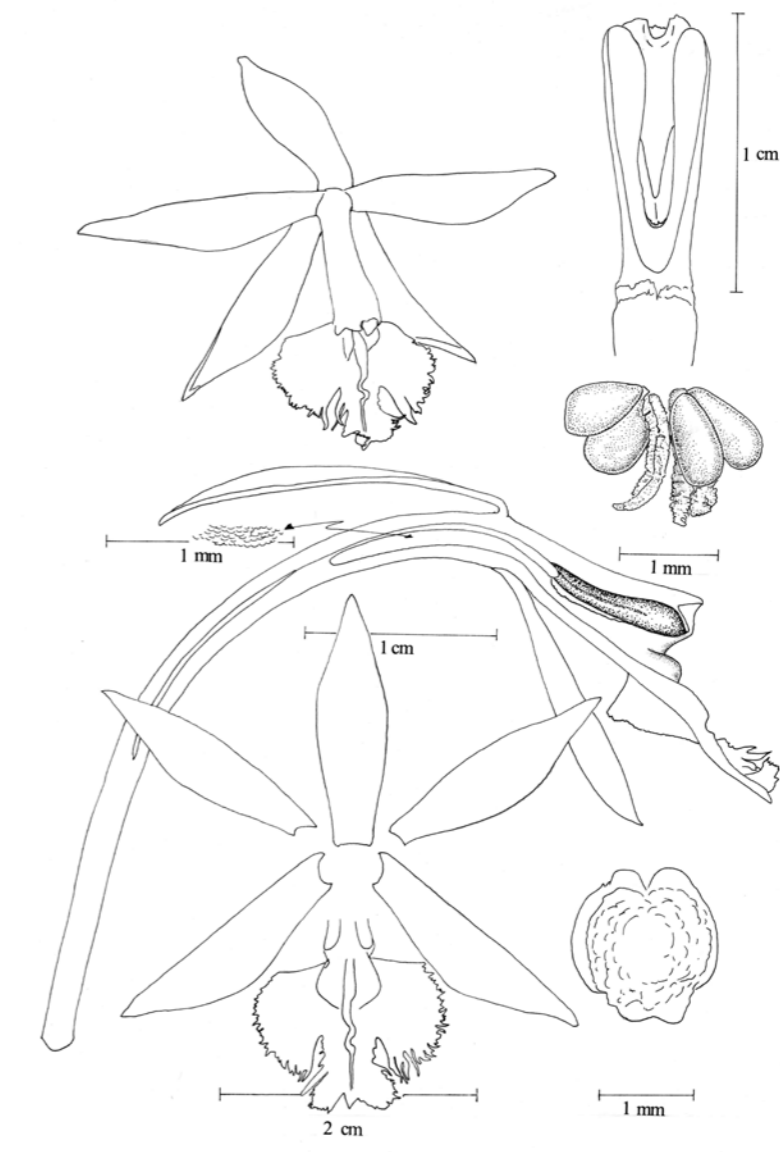


Fig. 249. *Epidendrum baumannianum* Schltr. (Hágsater, R.L. Dressler, K. Dressler & Folsom 7365, AMO – drawn by E. Hágsater).

ted along the apical half of the stem, distichous, suberect, articulate, coriaceous, oblong to oblong-elliptic, apex obtuse, slightly bilobed, margin entire, spreading; sheaths 2-7 cm long, 0.35-1 cm wide, tubular, minutely striated. **Inflorescence** 21-50 cm long, apical, elongate, racemose, erect (producing an additional raceme near the apex of the peduncle when the initial

raceme has finished flowering), many-flowered; rachis short; peduncle 19-50 cm long, elongate, terete, thin, erect, slightly sinuous, covered nearly totally by 6-7 tubular, subacute, minutely striated, scarios bracts 20-66 mm long. **Flowers** 6-30, resupinate, simultaneous, reddish orange, apex of the gynostemium, calli and keel yellow. Floral bracts 3-7 mm long, much shorter than



Fig. 250. Distribution of *Epidendrum baumannianum* Schltr. in Valle del Cauca.

the ovary, linear-triangular, acuminate. Ovary 28-50 mm long, terete, thin, noninflated, smooth, somewhat arching, reddish orange. **Sepals** 12.5-20(25) mm long, 4.0-5.5 mm wide, free, spreading, short-acuminate, 7-veined, margin entire. Dorsal sepal reflexed, narrowly oblanceolate. Lateral sepals spreading, oblong, very oblique. **Petals** 12-20(24) mm long, 4-5 mm wide, spreading, free, oblong, short-acuminate, 5-veined, margin entire. **Lip** 8-12 mm long, 12-15 mm wide, united to the gynostemium, bicallose, calli prominent, laminar, slightly divaricate, base truncate, margin dentate, 3-lobed; lateral lobes 6-9 mm long, 6-8 mm wide, dolabriform; middle lobe 5-7 mm long, 6-8 mm wide, with a basal, subquadrate, isthmus, apex flabellate, apiculate; disc provided with a laminar, thin, sigmoid keel which reaches the apical sinus. **Gynostemium** 9-11 mm long, thin, straight, apex slightly upturned, with a pair of deltoid appendices. Clinandrium-hood short, entire, margin slightly dentate. Anther ovoid. **Nectary**

penetrating 1/4 of the ovary, thin noninflated, minutely papillose. **Capsule** 30-32 mm long, 14-18 mm wide, ellipsoid, with prominent longitudinal keels.

**HABITAT:** Pacific lowlands; about 600 m alt.

**ECOLOGY:** Occasionally myrmecophilous.

**FLOWERING SEASON:** April.

**GENERAL DISTRIBUTION:** Ecuador, Colombia, Costa Rica, Nicaragua, Honduras.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Anchicayá, cortina de hidroeléctrica del Alto Anchicaya. Alt. 600 m. 26 Apr 1983. *Hágsater, Dressler & Folsom 7363* (AMO!) (photo voucher). Ibid: *Hágsater, Dressler & Folsom 7365* (AMO!)

**OTHER SPECIMENS EXAMINED:** **COLOMBIA. Cauca.** Um Timbiquí, 1898, *Lehmann, B.T. 1302*, K-Lindl. **Chocó.** Virudo. Alt. 10 m. 4 Aug 1973. *White 103* (AMES!). **Nariño.** Tumaco, Guandarájo. 28 May 1951. *Romero 2581* (COL!).

**46.113. *Epidendrum flexuosum* G. Mey (Figs 252, 253; Photos 166-167).**

Prim. Fl. Esseq.: 260. 1818; TYPE: GUYANA. In arboribus ad ripas rivi Arowabischkreek. Oct. *G. Meyer s.n.* (GOET). - Vásquez & Ibsch, Orchid. Bolivia 2: 121. 2004. - Santiago & Hágsater in Hágsater & Sánchez, Icon. Orchid. 11: pl. 1125. 2008.

= *Epidendrum imatophyllum* Lindl., Gen. Sp. Orchid. Pl.: 106. 1831. - Ames & Correll, Fieldiana, Bot. 26(1): 335. 1952. - Schultes, Nat. Orchid. Trinidad & Tobago: 111-112. 1960. - Foldats in Lasser, Fl. Venezuela, Orchid. 15(3): 282-283. 1970. - Williams & Allen, Orchid. Panama: 287. 1980. - Misa Urreta, Orquídeas de la Serranía del Baudó: 184-185. 2005.

= *Epidendrum palpigerum* Rchb.f., Gard. Chron., n.s., 12: 40. 1879.

= *Epidendrum buenavistae* Kraenzl., Repert. Spec. Nov. Regni Veg. 6: 19. 1908.

= *Epidendrum lorifolium* Schltr., Repert. Spec. Nov. Regni Veg., Beih. 17: 35. 1922.

**Epiphytic. Stems** erect, slender or stout, slightly compressed. **Leaves** up to 12 cm long, 1.2 cm wide. **Inflorescence** up to 25 cm long,

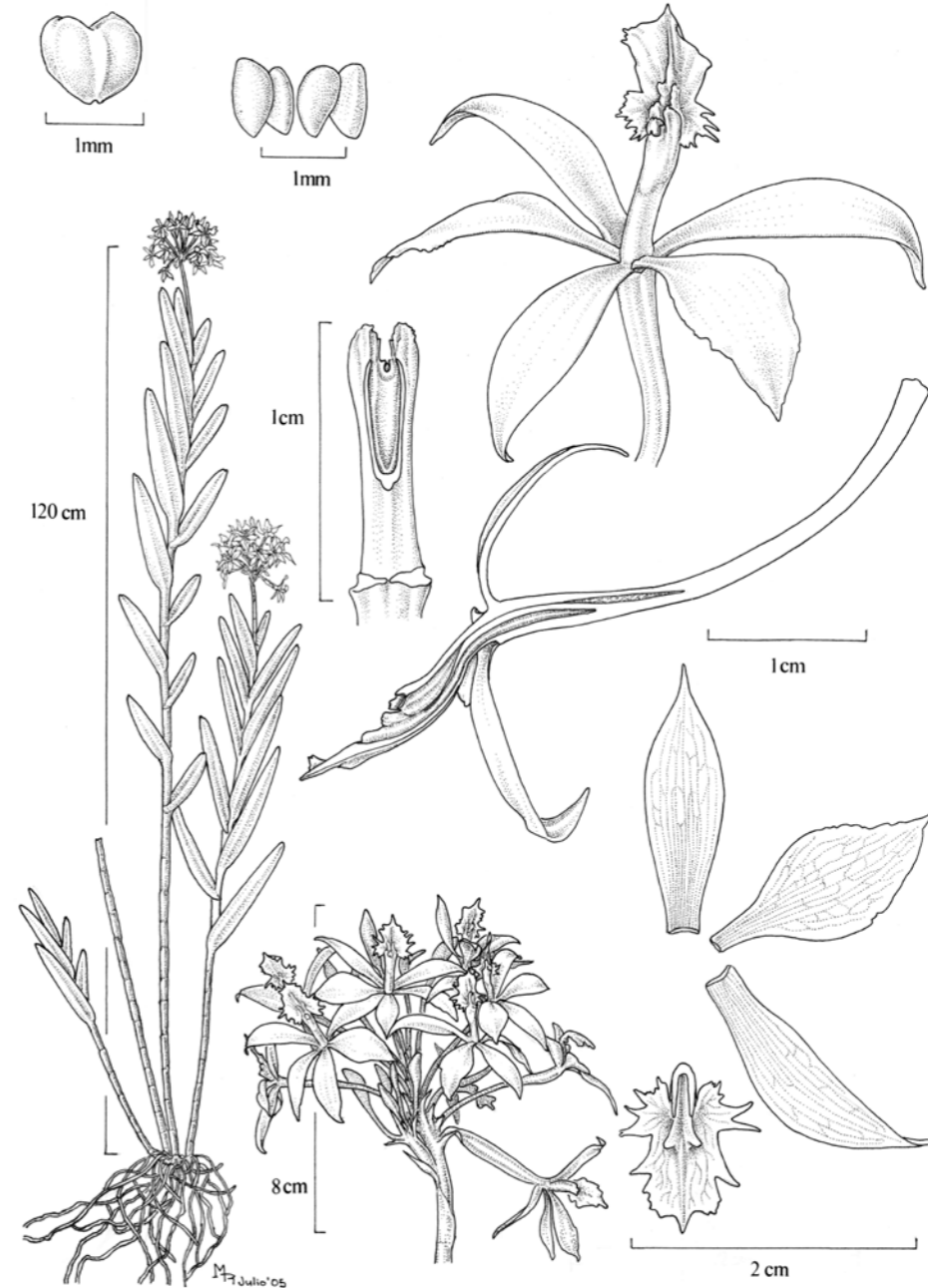


Fig. 251. *Epidendrum flexuosum* G. Mey (*M.A. Soto 10799*, AMO – drawn by M.A. López Rosas).

elongate, many-flowered; peduncle 4-5 cm long. **Flowers** purple, non-resupinate, open in succession over a long period of time. Floral bracts

up to 8 mm long. Pedicel and ovary up to 20 mm long. **Dorsal sepal** 18 mm long, 4-4.5 mm wide, oblong-lanceolate to linear-lanceolate,





Fig. 252. Distribution of *Epidendrum flexuosum* G.Mey in Valle del Cauca.

acuminate. **Lateral sepals** about 17 mm long, 4 mm wide, oblong or narrowly lanceolate, acuminate, slightly sigmoid. **Petals** 16-17 mm long, 6-7 mm wide, narrowed towards the base, lanceolate-deltic, acute, upper margins irregularly and minutely denticulate. **Lip** connate to the gynostemium in the basal 10 mm, deeply 3-lobed above, free part about 9 mm long, 11 mm wide; lateral lobes about 4 mm long, 3 mm wide, oblong-rectangular, deeply and irregularly dentate on the apical margins; middle lobe about 6 mm long and wide, elliptic to rounded, apiculate, irregularly and coarsely dentate; disc with 2 calli and a central keel.

**HABITAT:** Wet premontane forest; 1000-1300 m alt.

**ECOLOGY:** This species is strictly myrmecophilous and it grows in "ant gardens".

**FLOWERING SEASON:** Unknown.

**GENERAL DISTRIBUTION:** Brazil, Bolivia, Peru, Ecuador, Colombia, Venezuela, Guyana, Suriname, French Guiana, Trinidad, Tobago, Panama,

Costa Rica, Nicaragua, Honduras, Guatemala, Belize, Mexico.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Zarzal.** La Paila valle. Alt. 1000 m. *Lehmann 3104* (G, LE), Río Agua Bonita to Río Vieja, east of Zarzal. Alt. 1100-1300 m. *F.W. Pennell, Killip & T.E. Hazen 8588* (AMES!, US!).

**OTHER SPECIMENS EXAMINED: MEXICO. Chiapas.** Lacanjá-Tzetzal. *M.A. Soto 10799* (AMO!). **COLOMBIA. Distrito Capital Bogotá.** 100 m NW of Bogotá. Alt. 3000-4000 ft. 4 Aug 1932. *Lawrence 384* (MO!). **VENEZUELA. Terr. Fed. Amazonas.** 0.5-3 km NE and E of San Carlos de Río Negro. N of airstrip. 1°51'W 67°03'W. Alt. 120 m. 22 Jan 1980. *Liesner 8574* (MO!). **GUYANA.** Saini River. 2 Feb 1922. *J.S. de La Cruz 1255* (MO!). **PERU. San Martín.** Zepelacio, near Moyobamba. Alt. ca 1100 m. Jun 1914. *Klug 3669* (MO!).

**46.114. *Epidendrum macrocarpum* L.C. Rich. (Photo 168).**

Act. Sci. Hist. Nat. Paris 1: 112. 1792; TYPE: FRENCH GUYANA. Near Cayenne. *Le Blond s.n.* (W!). = *Epidendrum schomburgkii*, Lindl., Bot. Reg. 24: Misc. 15. 1838. ≡ *Epidendrum ibaguense* Kunth var. *schomburgkii* (Lindl.) C. Schweinf., Not. Mus. Leaf. 11(8): 235. 1944. = *Epidendrum fulgens* Focke, Tijdschr. Wis. Natuurk. Wetensch. Eerste Kl. Kon. Need. Inst. Wetensch. 4: 66. 1851, non *Epidendrum fulgens* Borgn. = *Epidendrum incisium* Vell., Fl. Flumin. 9: t. 18. 1831 (published in Arrabida in Arch. Mus. Nac. Rio 5: 360. 1881). = *Epidendrum splendens* Schltr., Fedde Repert. Sp. Nov. Regni Veg., Beih. 9: 93. 1921.

**Epiphytic**, and always myrmecophilous, sympodial, caespitose plants, 50-150 cm tall. **Stems** 40-60 cm tall, 0.35-0.85 cm wide, simple, cane-like, terete, erect, covered at the base by sheaths 3.8-6 cm long, tubular, non-foliaceous, scarios, becoming fibrous with time. **Leaves** 6-10, to 14 cm long, 3.8 cm wide, distributed

along the apical half of the stem, distichous, suberect, articulate, coriaceous, oblong to oblong-elliptic, apex obtuse, slightly bilobed, margin entire, spreading; sheaths 2-7 cm long, 0.35-1 cm wide, tubular, minutely striated. **Inflorescence** 21-50 cm long, apical, elongate, racemose, erect, many-flowered; rachis short; peduncle 19-45 cm long, elongate, terete, thick, erect, straight, covered nearly totally by 6-7 tubular, acute, minutely striated, scarios bracts to 60-130 mm long. **Flowers** to 40, resupinate, successive, about 6-8 open at one time, bright reddish, apex of the column yellow, turning purple when the pollinia are removed; fragrance absent. **Floral bracts** 2-30 mm long, generally much shorter than the ovary, linear-triangular, acuminate. **Ovary** 33-50 mm long, terete, thin, not inflated, smooth, somewhat arching at the apex. **Sepals** 17-22 mm long, 4-5 mm wide, free, spreading, acuminate, 5-veined, the lateral ones bifurcate so as to appear 7-veined, margin entire, spreading; dorsal sepal reflexed, narrowly oblanceolate, lateral sepals spreading, oblong, very oblique. **Petals** 17-22 mm long, 3-4 mm wide, spreading, free, oblong, acute, 5-veined, margin entire, spreading. **Lip** 8-10 mm long, 10-12 mm wide, united to the column, base truncate, apical margins dentate, deeply 3-lobed; bicallose, calli prominent, botuliform, divaricate, disc provided with a laminar, wavy mid-rib; lateral lobes 5-7 mm long and wide, dolabriform; middle lobe 6-7 mm long, 5-6 mm wide, with a basal, subquadrate, isthmus, apex flabellate, apiculate. **Gynostemium** 11 mm long, thin, straight, truncate. Clinandrium-hood short, margin, entire. Anther ovoid, 4-celled. Pollinia 4, obovoid, laterally compressed, subequal; caudicles granulose, formed by tetrads that look like a pile of tiles; viscidium semi-liquid. Rostellum apical, slit. **Nectary** penetrating 1/4 of the ovary, thin, non-inflated, minutely papillose. **Capsule** 85-95 mm long, 26 mm wide, large and often numerous, ellipsoid; the pedicel 30 mm long, 1.5 mm, body 45-26 mm, apical neck 15 mm long, 3 mm wide.

**HABITAT:** Unknown.

**ECOLOGY:** Epiphytic in ant nests, myrmecophilous.

**FLOWERING SEASON:** March, September.

**GENERAL DISTRIBUTION:** Pacific lowlands in Ecuador and Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** Corriente del Gingillo. 28 Sept 1876. *André 4249* (K!); Tuluá-Buga. 28 Mar 1876. *André 2468* (K!).

**OTHER SPECIMENS EXAMINED: COLOMBIA. Cauca. Mpio. Guapí.** Isla Gorgona. 20 Nov 1924. *Collenette 703* (K!); Río Teta. Alt. 900-1200 m. 1896. *Lehmann sub Lehmann Trustees 268* (AMES!, K!, NY!).

**46.115. *Epidendrum radicans* Pav. ex Lindl. (Figs 254, 255; Photo 169).**

Gen. Sp. Orchid. Pl.: 104. 1831; TYPE: MEXICO. Hab. in Mexico. Sessé & Mociño in herb. *Pavón s.n.* (BM). - Hágsater, Icon. Orchid. 1: t. 40. 1990. = *Epidendrum rhizophorum* Bateman ex Lindl., Edwards's Bot. Reg. 24(Misc.): 8. 1838. = *Epidendrum pratense* Rchb.f., Beitr. Orchid.-K. C. Amer.: 84. 1866. = *Epidendrum radicans* var. *fuscatum* Rchb.f., Gard. Chron. 1889: 5. 1889. = *Epidendrum radicans* var. *chiriquense* Schltr., Repert. Spec. Nov. Regni Veg., Beih. 17: 39. 1922.

**Terrestrial** creeping plants. **Stems** to 150 cm long, simple, usually slender and leaf-bearing on the newer growths, provided with long whitish roots amongst the leaves, nearly anywhere along the stems, a unique feature amongst this group, which originate opposite the bases of some of the leaves. **Leaves** 3-9 cm long, 1-2.8 cm wide, elliptic to ovate, apex unequally bilobed, fleshy, lax. **Inflorescence** 25-50 cm long, a raceme of successive flowers, producing new racemes from the apex of an elongate, slender, peduncle, covered with scarios, appressed bracts or becoming naked. **Flowers** successive, numerous, 4-12 open at one time, resupinate from red to yellow, the lip

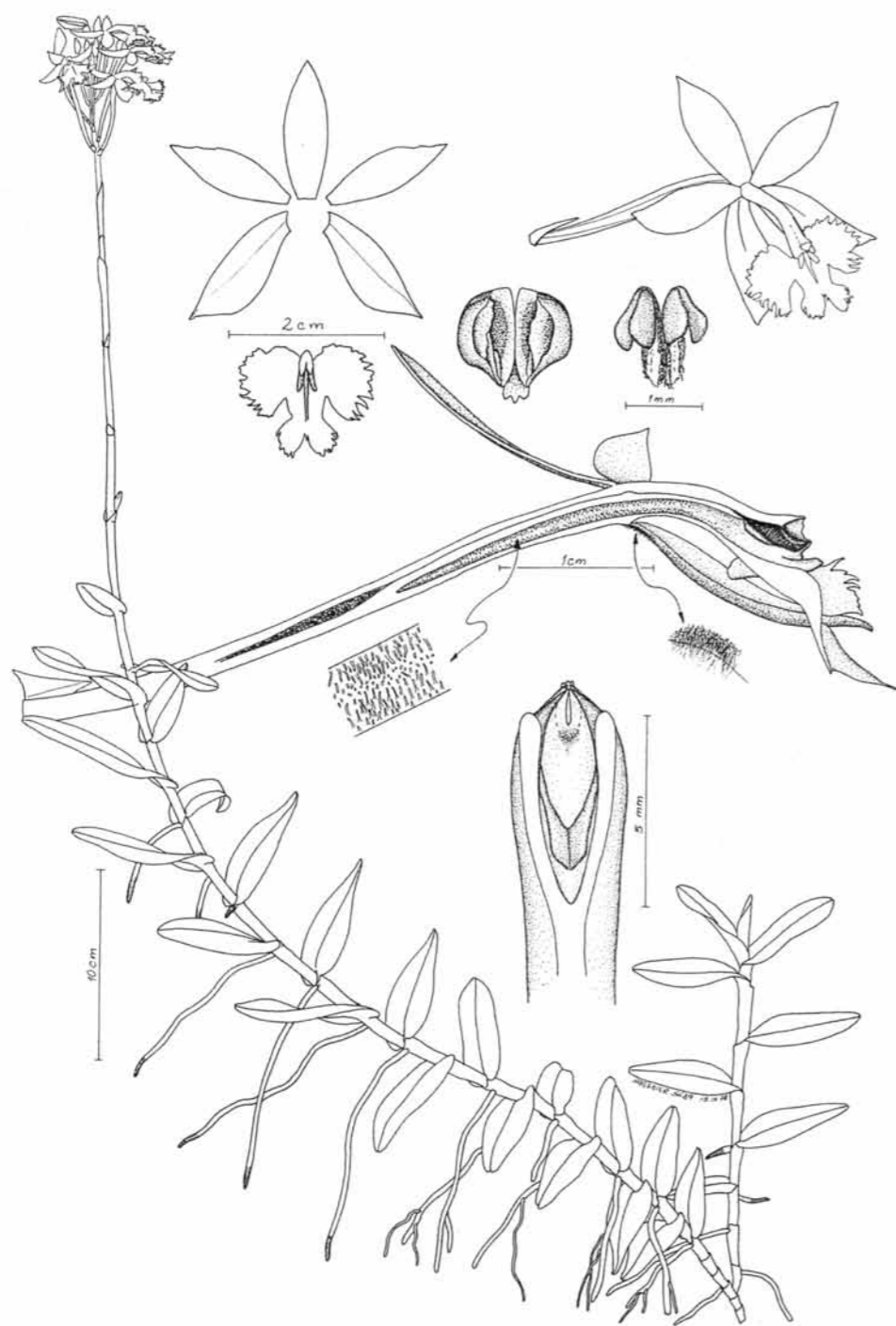


Fig. 253. *Epidendrum radicans* Pav. ex Lindl. (J. Haager & al. sub Hágsater 5489, AMO – drawn by E. Hágsater).

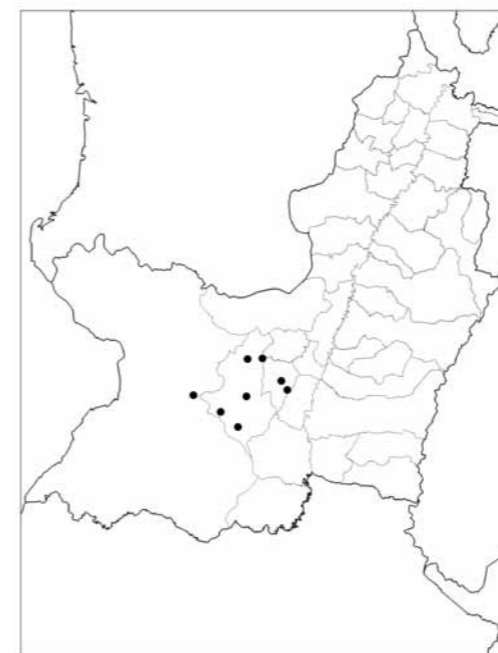


Fig. 254. Distribution of *Epidendrum radicans* Pav. ex Lindl. in Valle del Cauca.

generally yellow in the center, frequently with a few red dots. **Dorsal sepal** 12-18 mm long, 4-6 mm wide, elliptic, acute; dorsally pubescent at base. **Lateral sepals** similar but slightly oblique. **Petals** 12-17 mm long, 3-6 mm wide, elliptic, acute. **Lip** 8-14 mm long, 12-17 mm wide, unguiculate, claw adnate to the gynostemium, suborbicular-cordate in outline, deeply 3-lobed; lateral lobes large, rounded, larger than the middle lobe, apical margins deeply lacinate; middle lobe usually oblong in outline, bilobate with the lobules divergent, apical margin lacinate, exceeding the tips of the lateral lobes in length; disc with 2 laterally flattened calli at the base and a single rib extending from the base of the lip to the middle. gynostemium 10-13 mm long, arching downwards.

**HABITAT:** Open areas among grasses and rocks, especially on roadside banks, in wet montane forest; 700-1850 m alt.

**ECOLOGY:** This species is pollinated by butterflies (van der Cingel 2001) and it usually grows

together with similar coloured species of *Lantana* (Verbenaceae) or *Asclepias* (Apocynaceae).

**FLOWERING SEASON:** August, October, November, December.

**GENERAL DISTRIBUTION:** Colombia, Panama, Costa Rica, Nicaragua, Guatemala, Honduras, Mexico.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cali.** Cordillera Occidental, los Farallones de Cali, a lo largo de la trocha que sube arriba del Topacio. Alt. 1850 m. 5 Nov 1976. *Hartman 536* (CUVC!). **Mpio. Dagua.** 3 km abajo del punte sobre el río Digua. 19 km. O de El Queremal, Carretera vieja Cali-Buenaventura, Cordillera Occidental, Vertiente Occidental. Alt. 700 m. 12 Oct 1982. *L.A. de Escobar & Folsom 2604* (MO!); Carretera al Mar, west of Cali, Cordillera Occidental. Alt. 1800 m. 13 Nov 1948. Km 26, de la Carretera Cali-Buenaventura. 5 Jan 1980. *I. Guarín O. 2* (COL!, VALLE!); Sine loc., *Killip & Lehmann 39811* (US!); Between El Queremal and La Elsa. 20 Dec 2010. *M. Kolanowska 230* (UGDA! – flower in spirit); Corregimiento de Loboguerrero, Hacienda de Los Chancos, Bosque La Playa, Estudio de Impacto Ambiental carretera a Buenaventura; Madroñal-Córdoba. Alt. 700 m. 9 Aug 1996. *N. Paz, E. Forero & W. Mina 601* (AMO!); SE of Dagua on road to El Queremal. Alt. ca 1000 m. *Gentry & A. Juncosa 40799* (MO!); Juntas. *Lehmann 269* (AMES!). **Mpio. La Cumbre.** Road from La Cumbre to Yumbo. N3 38.166 W76 33.184. Alt. 1723 m. *M. Kolanowska s.n.* (photo!); Cordillera Occidental: Pavas. Alt. 1500-1600 m. *Killip 5935* (AMES!).

**OTHER SPECIMENS EXAMINED: MEXICO.** **Chiapas.** Mpio. Mitontic. 2 km después de Soyahó, camino San Cristóbal-Chalam. 16°53'20"N 92°34'10"W. Bosque secundario muy perturbado & *Alnus*, *Liquidambar*, *Clethra*, *Pteridium*, poco encino & casi nada de pino. 22 Apr 1993. Alt. 1940 m. *M. González-Espinosa, S. Ochoa Gaona, N. Ramírez-Marcial, M. Martínez-Icó & T. Santiago Vera 1881* (AMO!); Mpio. Unión Juárez. Monte Perla. Matorral en ladera de cerro, orilla

de camino. Alt. 950 m. 6 May 1986. *E. Ventura-E. López 3592* (AMO!). **Oaxaca.** Dist. Ixtian. Mpio. Comaitepec. Vista Hermosa. Bosque mesofilo. 17°45'N, 96°30'W. Alt. 1400 m. *R. López Luna 0539* (AMO!). **Veracruz.** Tequila: Zongolica, prope Orizaba. *J. Haager & al. sub Hagsater 5489* (AMO!). **COLOMBIA. Antioquia.** Mpio. Fredonia. Vereda Combia, camino de Fredonia a Combia. 75°40'W 5°54'N. 1740-1830 m. 16 Mar 1986. *F.J. Roldán & O. Marulanda 247* (MO!).

**NOTES.** This species has often been confused with *Epidendrum ibaguense* Kunth which is endemic to northern Colombia; the flowers are similar but that species has a shorter, straight column, and plants are erect and caespitose, producing roots only at the leafless basal part of the stem.

#### ***Epidendrum elongatum*-subgroup**

Recognized by the generally non-resupinate flowers, the very low apex of the column which is prolonged onto the lip with a pluri-tuberculate, complicated, often massive callus.

#### **46.116. *Epidendrum arachnoglossum* Rchb.f. ex André (Figs 256, 257).**

Rev. Hort. **54**: 554. 1882; TYPE: COLOMBIA. Sur le chemin de Popayan au volcan de Puracé (Nouvelle-Grenade) environ par le 2°20' de lat., et dans les environs de l'Union. 1837 m, col. avril 1876, *Edouard André s.n.*; hort. Serres de Lacroix, Touraine; distributed by Godefroy-Lebeuf, hoticulteur à Argenteuil, Seine et Oise (W-R!). - Illustration in Rev. Hort. **54**: 554. 1882, based on region de Popayan au Volcán de Puracé, col. 1880, hort. 1882, Serres de Lacroix, Touraine (W-R!).

**Terrestrial and epiphytic**, sympodial, caespitose, erect herb 50-160 cm tall including the inflorescence. **Roots** 0.1-0.2 cm in diameter, basal, fleshy, thin. **Stems** 15-70 cm long, 0.8-1 cm wide, simple, cane-like, terete, erect, straight, green when young, tinged with purple with age.

**Leaves** 18-24, distichous, distributed throughout the stem, alternate, articulate, green, unequal in size, the basal and apical leaves somewhat shorter; sheaths 1.6-2.5 cm long, 0.8-1 cm wide, tubular, minutely striated; blade 4-12 cm long, 1.5-2.5 cm wide, narrowly elliptic-lanceolate to lanceolate oblong, apex subobtuse, coriaceous, dark green, occasionally tinged with purple. **Spathaceous bract** lacking. **Inflorescence** 20-60 cm long, apical, racemose, producing new racemes with time and thus pluri-racemose, each raceme compact, densely many-flowered: peduncle 18-25 cm long, elongate, terete, covered by 3-4 bracts 1-4.5 cm long, tubular, acute, not imbricated, brown. **Flowers** numerous, successive, though many can be open at one time, non-resupinate, pink-purple, the callus white with the base yellow, without fragrance. **Floral bracts** 5-11 mm long, much shorter than the ovary, linear-triangular, acuminate. **Ovary** 30-38 mm long, terete, thin, not inflated, unornamented, tinged with reddish purple. **Sepals** 12-13 mm long, 4-5 mm wide, spreading, free, recurved, slightly convex, elliptic, 7-veined, margin entire, spreading; dorsal sepal apically rounded; lateral sepals oblique, minutely apiculate. **Petals** 11-12 mm long, 3-3.5 mm wide, spreading, free, narrowly obovate-spathulate, obtuse, 5-veined, the margin entire, spreading. **Lip** 12.5 mm long, 15 mm when spread, the outline is cordiform, united to the column, 3-lobed, base cordate, margin deeply fimbriate; callus complex, massive, represented by a 9-tuberculate structure, the tubercles unequal, the basal pair short, bidentate, acute, the apical group formed by a pair of subacute tubercles on the sides, and a 3-tuberculate middle group, with the central one acute, and the lateral pair rounded, sometimes the apex notched; lateral lobes 6.2 mm long and wide, shaped like a quarter circle; middle lobe 6.5 mm long, 11 mm wide, flabelliform, separated from the lateral lobes by very narrow sinuses, apex narrowly emarginate. **Gynostemium** 8 mm long, straight, thin, with a pair of prominent wings at the apex, these slightly arched upwards,

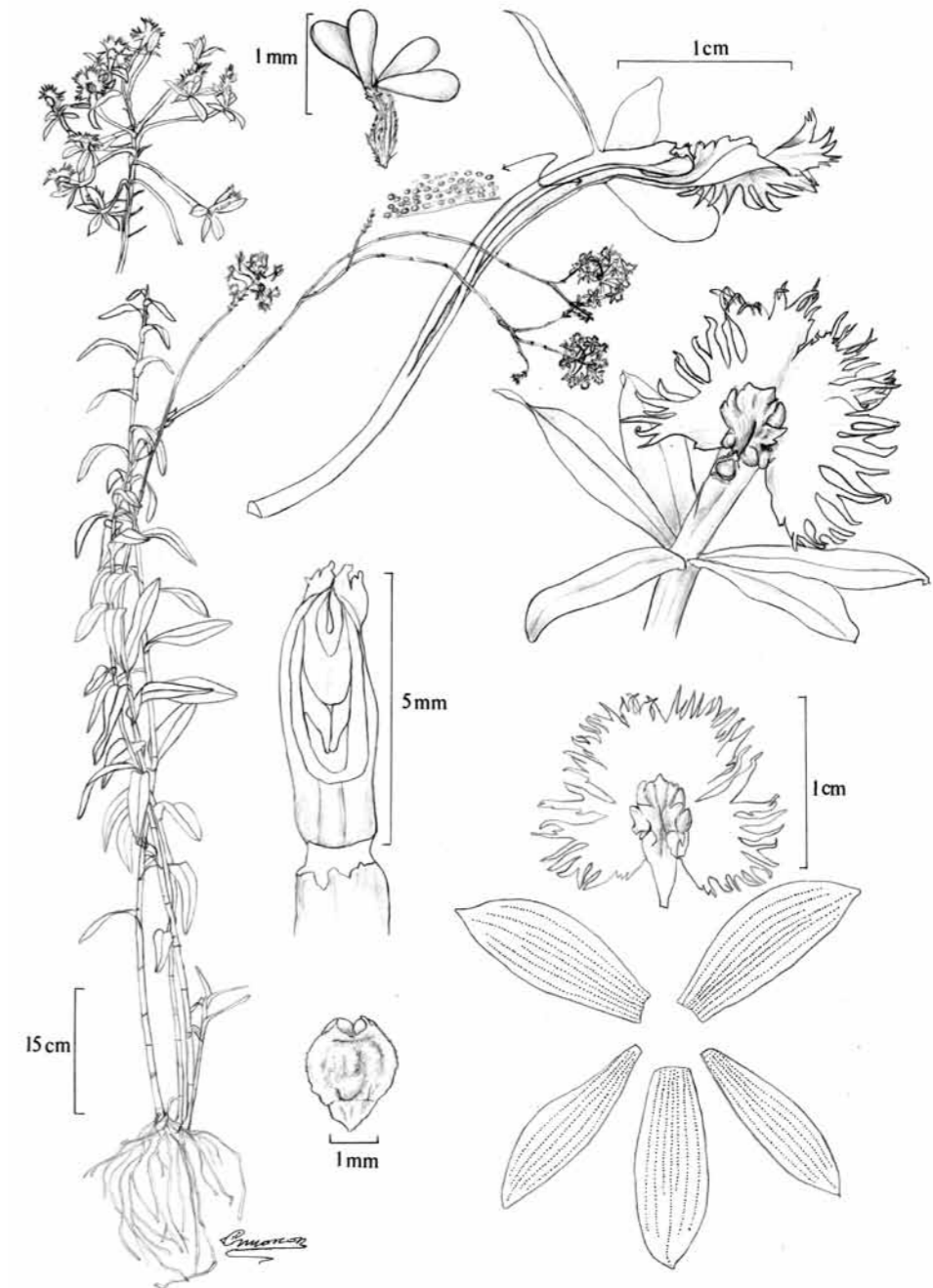


Fig. 255. *Epidendrum arachnoglossum* Rchb.f. ex André (*Hagsater, P. Ortiz V., G. Ruiz Schnitter & C.L. Patiño de Ruiz 11695*, AMO – drawn by M.A. López Rosas).



Fig. 256. Distribution of *Epidendrum arachnoglossum* Rchb.f. ex André in Valle del Cauca.

truncate, the margin dentate. Clinandrium-hood reduced, margin entire. Rostellum apical, slit. Anther obovoid, the apex acute, 4-celled, green. Pollinia 4, narrowly obovoid, similar in size; caudicles as long as the pollinia, formed by tetrads which look like a pile of roof tiles; viscidium semi-liquid. **Nectary** penetrating 1/3 of the ovary, not inflated, papillose.

**HABITAT:** Montane forest, road edges; 2250-2750 m alt.

**FLOWERING SEASON:** April.

**GENERAL DISTRIBUTION:** Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Palmira.** Finca El Socorro, Sitio La Nevera, en separación entre cuenca del Rio Nima & Rio Amaime, en borde de la carretera y se encuentra invadiendo barrancos. Alt. 2250 m. 1 Apr 1990. *S. Sarría, I. Cabrera & L.V. Malaver 1077* (CUVC!); Hoya del Río Bugalagrande: Loma de Barragan, desde La Parilla a La Machuca. Alt. 2600-2750 m. 14 Apr 1946. *Cuatrecasas 20761* (AMES!, FI!, US!, VALLE!).

**OTHER SPECIMENS EXAMINED: COLOMBIA. Cundinamarca.** Mpio. Mosquera. Zano „La Herrera”, parte baja del „Zanjón de las Cátedras”. 12 Aug 1986. *J.L. Fernández A., R. Jaramillo & al. 6663* (MO!). Mpio. Sopó. Gachancipá, a 37 km de Bogotá, sobre carretera a Boyacá. Alt. 2680 m. 17 Mar 1996. *Hágsater, P. Ortiz V., G. Ruiz Schnitter & C.L. Patiño de Ruiz 11695* (AMO!); The same loc., hort. 28 May 1999 (AMO!).

**NOTES.** The common name of this species is “Arañas” (Carvajal V. 2004). In the Department of Valle del Cauca especially on the western slope of the Central Cordillera the species hybridizes with a yellow-flowered species, *Epidendrum melinanthum* producing a hybrid population, which was seen specially around Atacó. It is impossible to determine dried specimens of the hybrid to one species or the other.

**46.117. *Epidendrum aura-usecheae* Hágsater, C.Rincón-Useche & O. Pérez** (Figs 258, 259; Photos 170-171).

Icon. Orchid. 14: Pl. 1410. 2013; TYPE: COLOMBIA. CUNDINAMARCA. Mpio. Junín. Vereda San Rafael. Alt. ca 1600 m. 20 Apr 2011. *C.C. Rincón-Useche 003* (HOLOTYPE: COL!; ISOTYPE: CUVC!).

**Terrestrial** or **lithophytic**, sympodial, caespitose, erect herb, 54-142 cm tall including the inflorescence. **Roots** fleshy, 0.07-0.21 cm, basal, thick. **Stems** 38-105 cm tall, 0.35-0.86 cm, simple, cane-like, erect when young, arching when mature, purple at the base, pale purple in the middle, apically green. **Leaves** 26 distichous, alternate, dark green, distributed throughout upper 2/3 of the stem; sheaths 1.9-3.5 cm long, 0.4-0.9 cm wide, tubular, striated; blade 3-12 cm long, 0.7-2 cm wide, narrowly elliptic-lanceolate, apex obtuse, faintly bilobed, coriaceous, smooth, green, unequal in size, the lower and upper leaves smaller. **Spathaceous bract** lacking. **Inflorescence** apical, racemose, successive, pluri-racemose (producing new racemes

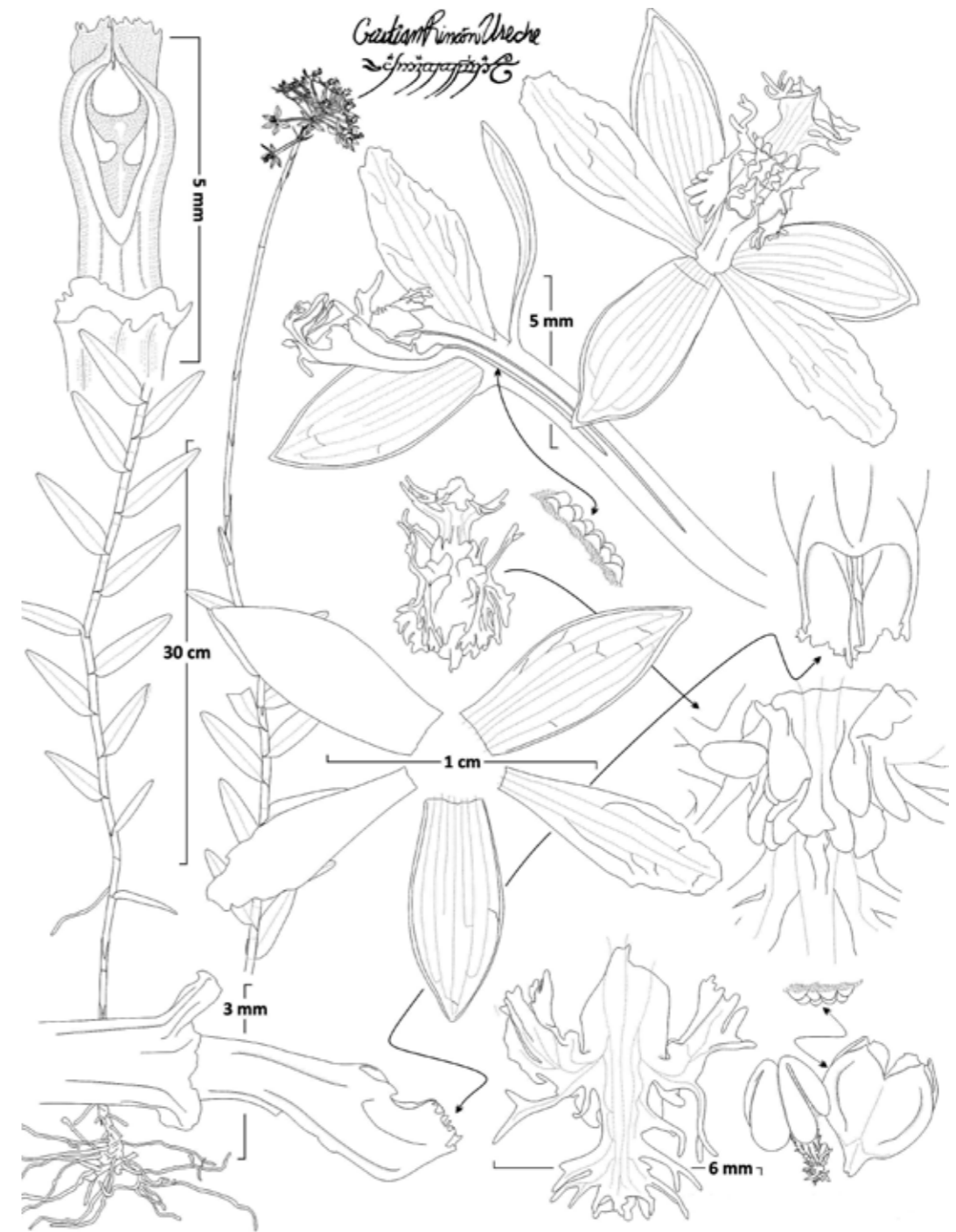


Fig. 257. *Epidendrum aura-usecheae* Hágsater, C.Rincón-Useche & O. Pérez (*C.C. Rincón Useche 003*, COL – drawn by C.C. Rincón Useche & O. Pérez).



Fig. 258. Distribution of *Epidendrum aura-usecheae* Hagsater, C.Rincón-Useche & O. Pérez in Valle del Cauca.

through the time); each raceme compact, many-flowered, dense, peduncle elongate, terete up to 42.5 cm long; covered by several tubular, acute, imbricating bracts, 4.2-7 cm long. **Flowers** numerous, successive, 12-16 open at one time, non-resupinate, yellow, callus yellow to orange in mature flowers, column orange; no fragrance recorded. **Floral bracts** 3.1-12 mm long, much shorter than the ovary, triangular, acuminate. **Ovary** 3.27-3.95 cm long, thin, terete, not inflated. **Sepals** 8.3-9.2 mm long, 3.2-3.8 mm wide, spreading, free, elliptic, slightly acute at the apex, 6-7-veined, margin entire; the **lateral** sepals with a low raised, dorsal keel. **Petals** 9 mm long, 3.2 mm wide, free, spreading, obovate-spathulate, obtuse, margin erose along the apical half, basal half entire, 3-veined, lateral veins branching from the middle. **Lip** 7.5-8 mm long, 6.5-7 mm spreading, united to the column, 3-lobed, base deeply cordate, margin deeply fimbriate, in natural position the fimbria are geniculate in all

directions, appearing in total disorder; the calli complex, massive, occupying the isthmus and base of the lip, represented by a structure of 12-14 unequal tubercles, the basal pair and lateral pair more prominent; disc without keels; lateral lobes 2 mm long, 4.2 mm wide, trapezoid, deeply emarginate towards the posterior margin, almost forming a pair of additional lobes, appearing to be 5, anterior margin folded horizontally; middle lobe 3.3 mm long, 3.4 mm wide, deltate, base forming an elongate isthmus, apex slightly folded toward the adaxial part of the lip. **Gynostemium** 4-4.7 mm long, short, slightly arched, thin, with a pair of prominent apical, upturned wings, the apical margin truncate, and irregularly dentate. Clinandrium-hood reduced, margin entire. Rostellum apical, slit. Lateral lobes of the stigmatic cavity prominent, occupying 1/3 of the cavity. Anther obovoid, apiculate, papillose, 4-celled. Pollinia 4, obovoid, laterally compressed, subequal, caudicles longer than the pollinia, formed by tetrads which appear like a pile of roof tiles. **Nectary** penetrating 1/3 of the ovary, papillose. **Capsule** narrowly elliptic, pedicel 11-14 mm long, apical neck short.

**HABITAT:** In rocky outcrops in grassland and among low shrubs; at about 1400 m alt.

**ECOLOGY:** Forming large populations and apparently not hybridizing.

**FLOWERING SEASON:** November.

**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** [Mpio. Dagua]. Vía al mar km 13. Alt. 1400 m. 8 Nov 2007. *J. Farfán s.n.* (AMO! – photo).

**OTHER SPECIMENS EXAMINED: COLOMBIA. Antioquia.** Quebrada at head-waters of Río Tenche, near Carolina. Alt. 2080 m. 15 May 1944. *Core 719* (US!); W slope of Cordillera Occidental, 50 km NW of Antioquia and 75 km SE of Uramita. Alt. 1810 m. 9 Oct 1977. *Gentry 20292* (COL!, MO!, SEL!); Mpio. Frontino. Km 10 of road Nutibara-Murri. Alt. 1970 m. 26 Sep 1987. *Zaruchi 5814* (MO!). **Boyacá.** Entre Santama-

ría y Piedra-campana. Alt. 800-1100 m. 20-25 Jul 1964. *García-Barriga 18084* (AMES!, COL!); Arcabuco-La Cumbre; ca Serranía El Peligro, margen de carretera que conduce a Moniquirá. Alt. 2600 m. 2 Sep 2011. *Pérez 1162* (VALLE!). **Cundinamarca.** Alto de Quemara, Gazaunta Valley, 10 km NW of Medina. Alt. 1430 m. 5 Oct 1944. *Grant 10380* (COL!, US!, WIS!). **Santander.** Alrededores de Bucaramanga. Alt. 1500 m. 27 Aug 1948. *Araque 185174* (AMES!, MEDEL!, US!); Along road to Tona, 3 km off Bucaramanga-Pamplona. Alt. 1950 m. 3 May 1983. *Croat 56401* (MO! x 2); Mpio. Virolín. Alt. 1800 m. 6-12 May 1986. *Fernández Alonso 6203* (COL!, AMO! - drawing); Between Piedecuesta and Las Vegas. Alt. 1200-2000 m. 19 Dec 1926. *Killip 15473* (AMES!, NY!, US!); Bucaramanga. Alt. ca 1000 m. 16 Feb 1927. *Killip 19341* (AMES!, NY!, US!); La Corcova (Tona). Alt. 1866 m. 12 Oct 1977. *Rentería 650 (6)* (COL!, MO!).

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

**46.118. *Epidendrum catillus* Rchb.f. & Warsz. (Figs 260, 261).**

**Bonplandia 2:** 112. 1854; **TYPE:** [COLOMBIA]. Neu-Granada. West Cordillera. *Warszewicz s.n.* (W!, AMES! - tracing of drawing from Herb. Reichenbach).

**Terrestrial or lithophytic,** sympodial, caespitose, erect herb, 64 cm tall including the inflorescence. **Roots** fleshy, 0.1-0.25 cm, basal, thick. **Stems** 20-34 cm tall, 0.5-0.66 cm wide, simple, cane-like, erect when young, arching when mature, green. **Leaves** 6-12 distichous, alternate, green, distributed throughout upper 1/3 of the stem; sheaths 1.5-3.2 cm long 0.7-0.85 cm wide, tubular, striated; blade 7-10 cm long, 2.2-3 cm wide, ovate-elliptic, apex obtuse, faintly bilobed, coriaceous, smooth, green, unequal

in size, the upper leaves smaller. **Spathaceous bract** lacking. **Inflorescence** apical, racemose, successive, pluri-racemose (producing new racemes through the time); each raceme compact, many-flowered, dense, peduncle elongate, terete up to 16 cm long; covered by several tubular, acute, imbricating bracts, 1.5-6 cm long. **Flowers** numerous, successive, 9-10 open at one time, non-resupinate, wine-red, callus white; no fragrance recorded. **Floral bracts** 2-6.5 mm long, much shorter than the ovary, triangular, acuminate. **Ovary** 13-22 mm long, thin, terete, not inflated. **Sepals** 10-11 mm long, 4 mm wide, spreading, free, elliptic, slightly acute, 5-7 veined, margin entire; the lateral sepals with a low raised, dorsal keel. **Petals** 10-10.5 mm long, 3.7-4 mm wide, free, spreading, obovate, obtuse, margin erose along the apical half, basal half entire, 3-veined, lateral veins branching from the middle. **Lip** 7.6 mm long, 11.3 mm wide, united to the column, 3-lobed, base cordate; callus complex, formed by a pair of prominent calli that are a continuation of the column wings, placed above the fleshy platform which is irregularly lobed and occupies the whole disc and base of the middle lobe of the lip; lateral lobes 5 mm long, 4.8 mm wide, subquadrate, distal margin erose-dentate, the lateral margins entire; middle lobe 2.7 mm long, 2.2 mm wide, triangular, apex obtuse, margin entire. **Gynostemium** 6-7 mm long, short, straight, with two pairs of prominent, apical wings, the upper pair separated from the lower pair by deep sinuses, the lower pair united to the lip and joined to the prominent calli. Clinandrium-hood reduced, margin entire. Rostellum apical, slit. Anther operculate, obovoid, apiculate, papillose, 4-celled. Pollinia 4, obovoid, laterally compressed, subequal, caudicles longer than the pollinia. **Nectary** penetrating 1/3 of the ovary, papillose. **Capsule** 35 mm long, elliptic, pedicel 5 mm long, apical neck short.

**HABITAT:** Unknown; at about 2270-2320 m alt.

**FLOWERING SEASON:** October.

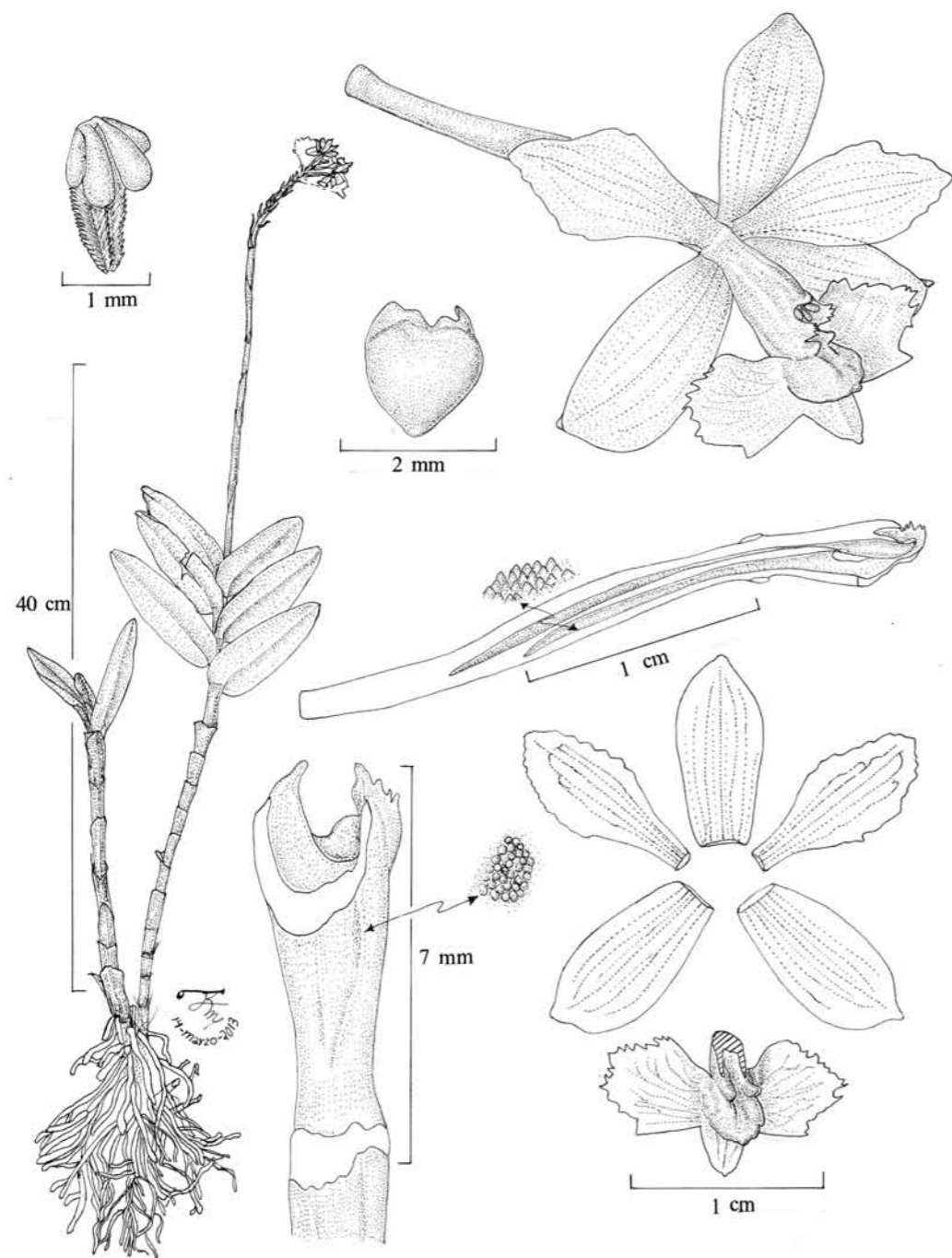


Fig. 259. *Epidendrum catillus* Rchb.f. & Warsz. (*Cuatrecasas 18144*, AMES – drawn by R. Jiménez Machorro).



Fig. 260. Distribution of *Epidendrum catillus* Rchb.f. & Warsz. in Valle del Cauca.

GENERAL DISTRIBUTION: Known only from Colombia.

DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA: **Mpio. Cali:** Hoya del Río Cali, Pichindé, Cordillera Occidental, vertiente oriental; Morro Pelado. Alt. 2270-2320 m. 17 Oct 1944. *Cuatrecasas 18144* (AMES!, VALLE! x 3).

46.119. *Epidendrum igneum* Hágsater (Figs 262, 263; Photos 172-173).

Icon. Orchid. 7: t. 747. 2004; TYPE: COLOMBIA. CHOCÓ. Antes de San José del Palmar. Alt. 1900 m. Cultivated in Colomborquídeas, and later in México City. Collected Jun 1990 by J.C. Miranda, pressed 17 Jul 1997. *Hágsater 11562* (HOLOTYPE: COL!), cultivated at Colomborquídeas. R. Escobar 5277 (CLONOTYPE: AMO!).

**Terrestrial**, caespitose plants, 140-190 cm tall (including inflorescence). **Stems** 70-90 cm long, 5-9.5 mm wide, cane-like, terete. **Leaves**

numerous, 8-15 cm long, 3.9-5.1 cm wide, coriaceous, ovate, apex bilobed; sheaths 2.5-5.5 cm long, tubular, scarious. **Inflorescence** about 65 cm long, apical, racemose, erect; peduncle about 57 cm long, completely covered by tubular, imbricated sheaths. **Flowers** about 35, successive, about 20 open at one time, non-resupinate, red with yellow callus and yellowish anther. Floral bracts 3-11 mm long, about 2 mm wide, much shorter than the ovary, triangular, acute to acuminate. Ovary 19-27 mm long, straight, noninflated. **Sepals** elliptic, acute, margin entire, 5-veined; dorsal sepal 9.5-10 mm long, 5-5.5 mm wide; lateral sepals 10-10.5 mm long, 6.5-7 mm wide. **Petals** about 9.5 mm long, 4.5 mm wide, somewhat narrower than the sepals, oblong, acute, margin entire, 5-veined. **Lip** about 8 mm long, 10-11 mm wide, base deeply cordate, 3-lobed; apical lobe 3-3.5 mm long, 3-3.5 mm wide, subquadrate with a triangular, mucronate, obtuse apex; lateral lobes 5-5.5 mm long, 4.5-5 mm wide, subrhombic, oblique, apical margin dentate, twice the size of the apical lobe; callus massive covering the disc, thickened, flabellate, ending in a short keel, with two concave holes at each side near the base. **Gynostemium** 5-5.5 mm long, arched at base with respect to the ovary, straight, the sides long, arched upwards at the apex. Clinandrium-hood short, margin entire. **Nectary** penetrating 1/3 of the ovary, ornamented with numerous papillae.

**HABITAT:** Grows on rocks in very humid areas; about 1900 m alt.

**FLOWERING SEASON:** June.

**GENERAL DISTRIBUTION:** Known only from Colombia.

DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA: **Mpio. El Cairo.** Serranía de los Paraguas, A. Niessen, personal communication. Camino a Buenaventura. P. Ortiz V. s.n. (AMO! – slide); Carretera vieja a Buenaventura, antes de San José del Palmar. Alt. 1900 m. 1 Jun 1990. Colomborquídeas. J.C. Miranda, R. Escobar R. 5271 & Hágsater 11562 (AMO!).

**NOTES.** The occurrence of the hybrid popula-

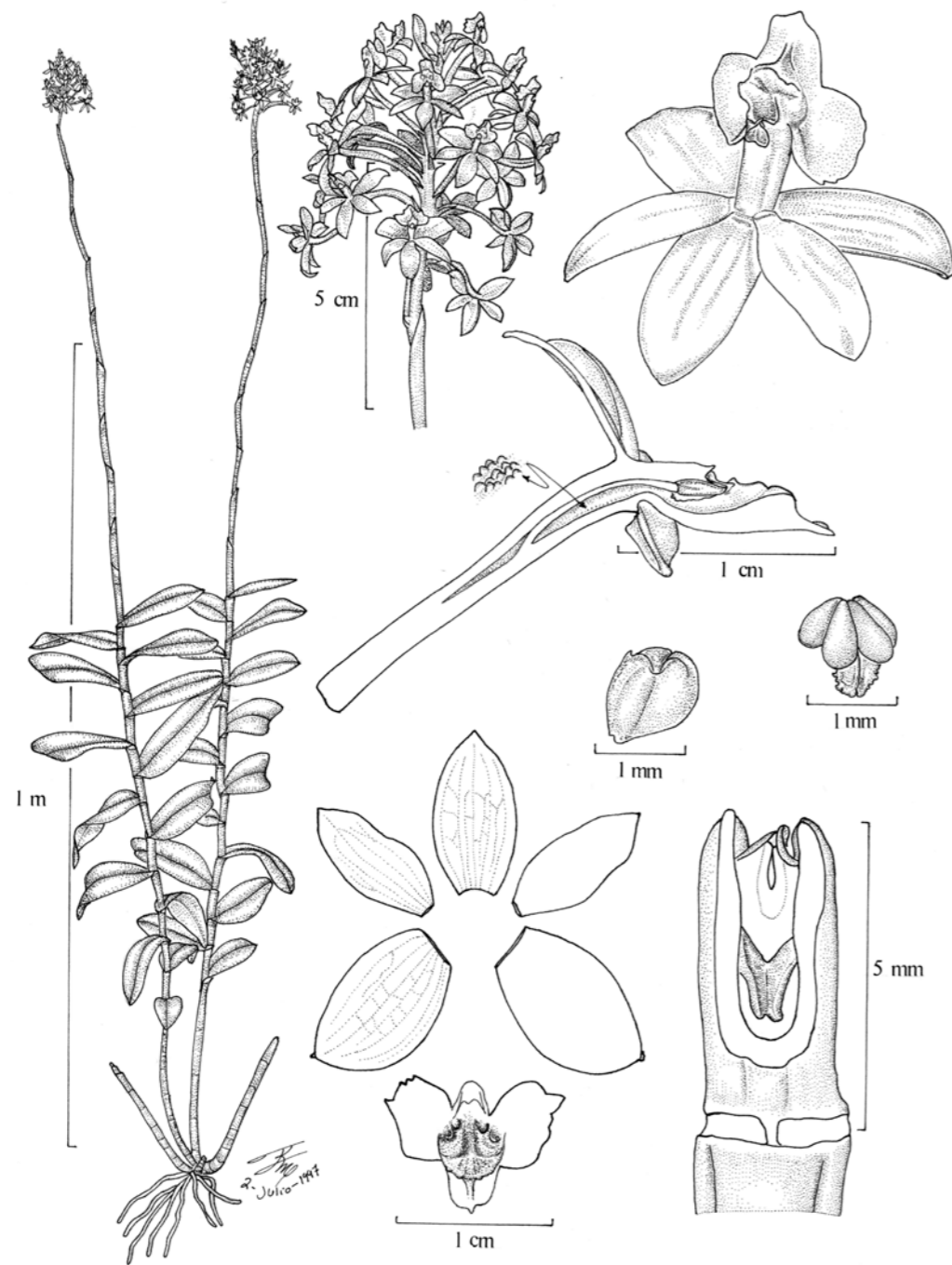


Fig. 261. *Epidendrum igneum* Hágsater (*Hágsater 11562*, COL – drawn by R. Jiménez Machorro).

tion of *Epidendrum catillus* x *E. igneum* was reported growing near the town of Ansermanuevo in the Department of Valle del Cauca (for details see *E. catillus*).



Fig. 262. Distribution of *Epidendrum igneum* Hágsater in Valle del Cauca.

**46.120. *Epidendrum melinanthum* Schltr.** (Figs 264, 265; Photos 174-175).

Repert. Spec. Nov. Regni Veg., Beih. 7: 139. 1920; TYPE (Christenson 1996): COLOMBIA. CAUCA. Papagayeros. „Fleurs antiérement jaunes”. Alt. 800-1200 m. Nov 1899. *Langlassé 11* (B†; LECTOTYPE: K!; LECTOTYPES: AMES! G! P, US!).

**Epiphytic** or **lithophytic**, erect plants, about 70 cm tall. **Stems** simple, terete, rigid, sheathed at the base. **Leaves** 3.5-4.5 cm long, 1.2-1.4 cm wide in the middle, erect-spreading, narrowly oblong, fleshy. **Inflorescence** apical, elongate, subcorymbose-abbreviate, racemose, densely many flowered, embraced by about 7 bracts. **Flo-**

**wers** yellow, glabrous. Floral bracts erect-spreading, lanceolate, acuminate. Pedicellate ovary about 22 mm long, slender, glabrous. **Sepals** about 9 mm long, spreading, narrowly oblong, obtuse; lateral sepals oblique. **Petals** subequal in length and slightly narrower than sepals, obliquely oblanceolate-spathulate, obtuse, margins irregular. **Lip** about 6.5 mm long, linear, adnate to the gynostemium, deeply 3-lobed; middle lobe about 4 mm long, 7 mm wide; lateral lobes spreading, cuneate, exterior margin irregularly dentate; callus 3-lobed, the central one slightly longer than the lateral pair. **Gynostemium** about 6.5 mm long, straight, with bilobed auricles.

**HABITAT:** Disturbed, open dry areas, steep slopes of premontane forest; 800-1500 m alt.

**FLOWERING SEASON:** February, April, September, November.

**GENERAL DISTRIBUTION:** Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buga.** A Orilla de carretera que conduce al Suroriente de la Cordillera Central. Alt. 1200 m. 12 Sep 1987. *L.D. Henao 6* (CUVCI, AMO! - database). **Mpio. Cali.** Carretera Cali-Buenaventura km 17, Cordillera Occidental, vertiente oriental, ladera de la colina, vegetación abierta perturbada (hierbas & arbustos). Alt. ca 1900 m. 23 Jun 1986. *Silverstone-Sopkin 2301* (CUVCI); Cerca del Club Campestre. Alt. 1000-1010 m. 14 Aug 1975. *H. Ramírez 20* (CUVCI); Corregimiento de Pance. Alt. 1200 m. Feb 1982. *N. Cordero s.n.* (CUVCI!); Cerro las Tres Cruces, adyacente a Cali, pie de monte vert, oriental Cordillera Occidental. 29 Sep 2002. *A. Girón 7* (CUVCI!). **Mpio. Dagua.** Near Machado, road to El Queremal, roadside weeds. *Folsom 10470* (AMO! 3891); Hacienda Río Grande, cañon del Río Grande antes de cruzar el puente sobre el río, a mano derecha. Alt. 1200 m. 25 Aug 1987. *N.D. Heredia 386* (CUVCI!, AMO! - database); SE of Dagua on road to El Queremal. Alt. ca 1000 m. 25 Feb 1983. *Gentry & A. Juncosa 40798* (JAUM!); Westcordilliere. Alt. 1200 m. *Lehmann 754* (G!); Bei Tocotá und Río Dagua. 3°32'N 76°39'W. Alt. 500-1500 m. *Lehmann 1896*

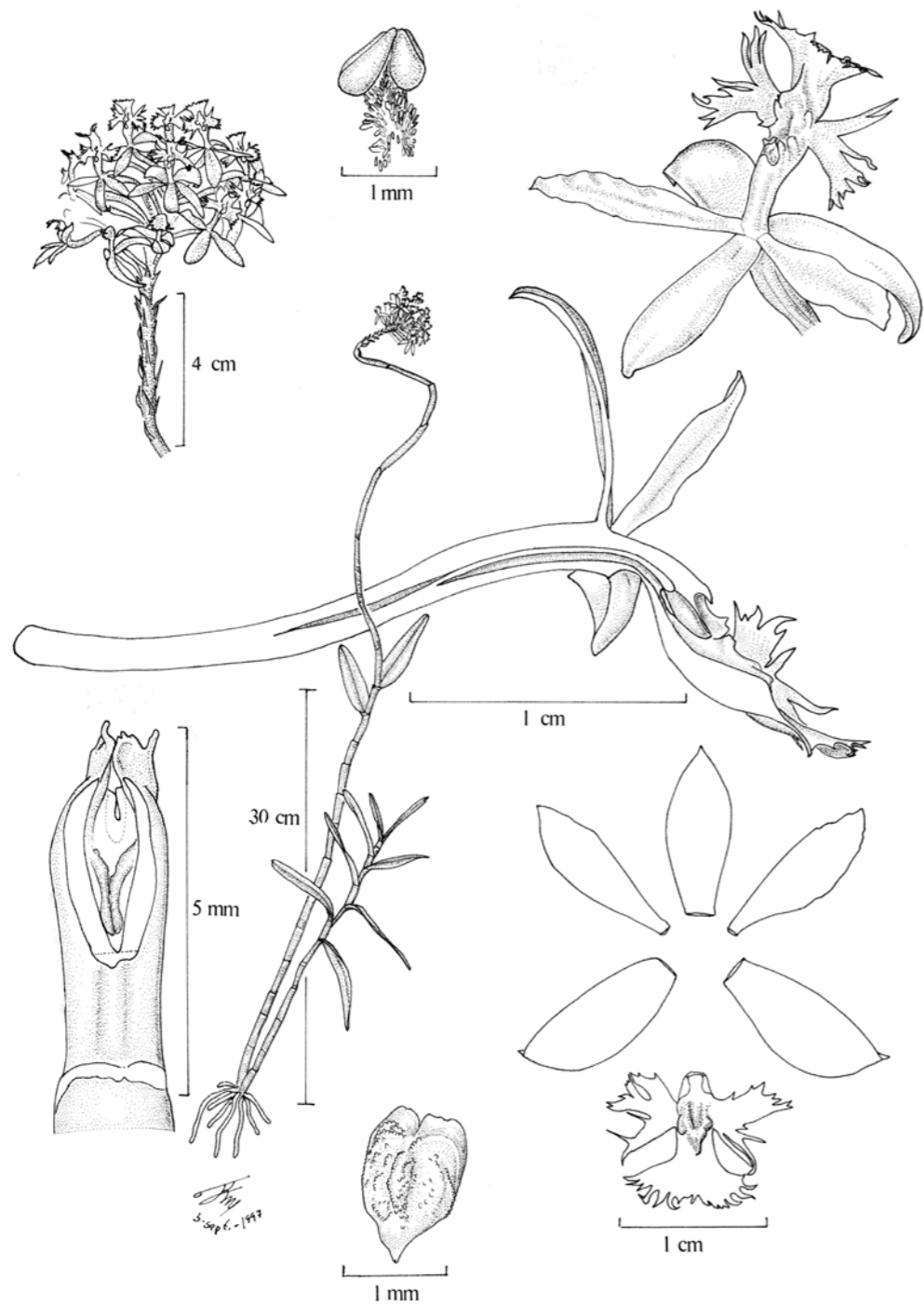


Fig. 263. *Epidendrum melinanthum* Schltr. (Hágsater 11930, AMO – drawn by R. Jiménez Machorro).

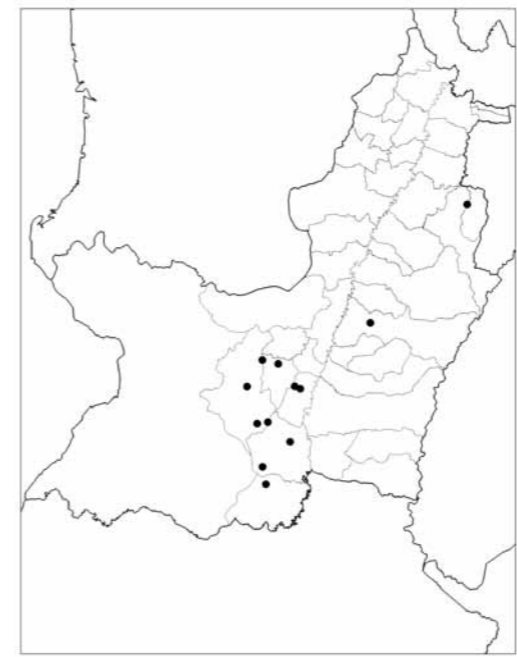


Fig. 264. Distribution of *Epidendrum melinanthum* Schltr. in Valle del Cauca.

(AMES!, G!, K!, NY!, US!, W!); Papagayeros [=Dagua]. „Fleurs antièrement jaunes”. Alt. 800-1200 m. Nov 1899. *Langlassé 11* (AMES!, G!, K!, P!, US!). **Mpio. Jamundí.** San Vicente. 3°16'06"N 76°37'40"W. Alt. 1417 m. 11 Sep 2009. *M. Kolanowska 103* (UGDA!). **Mpio. Restrepo.** Vereda de Río Grande entre Pavas & Restrepo abajo del puente, margen derecha. Alt. ca 1300 m. 1 Nov 1987. *J.E. Ramos 832* (CUVC!). **Mpio. Tuluá.** Márgenes del Río Bugalagrande. Alt. ca 2000 m. 27 Mar 1946. *Cuatrecasas 20477* (AMES!, VALLE.) **Mpio. Yumbo.** Corregimiento de Múlaló ca 1.5 km de la carretera panorama cerca a la calera, Alt. ca 1100 m. 12 Oct 1987. *J.E. Ramos 777* (CUVC!); Carretera Mulaló-La Cumbre, ca 1/2 hora en carro arriba de Mulaló (Cordillera Occidental, vertiente oriental); área muy seca & cactus, pero hay manchas de bosque en fillos de lomas; lado de quebrada seca, suelo húmedo, & árboles pequeños. 12 Sep 1981. *Silverstone-Sopkin 624* (CUVC!). **Mpio. Sevilla.** Cordillera Central, vertiente occidental, carretera Sevilla-Barragán,

a 34.2 Km arriba de Sevilla, área abierta al lado de carretera. 12 Oct 1981. *Silverstone-Sopkin 809* (CUVC!); Probablemente El Queremal o Ataco. *Hágsater 11930* (AMO!).

OTHER SPECIMENS EXAMINED: **COLOMBIA. Cauca.** Mpio. Caldono. Alt. 1500 m. 11 Sep 1968. *S. Espinal T. & J.E. Ramos 2735* (CUVC!); Cerca a Pescador, Alt. 1450 m. 7 Apr 1970. *S. Espinal T., J. Palacio & J.E. Ramos 3883* (CUVC!); Mpio. Santander de Quilichao. Mondomo. Alt. 1500 m. 2 Oct 1968. *S. Espinal T. & J.E. Ramos 2887* (CUVC!); *Sine loc.* Alt. 1550 m. 14 Mar 1988. *I. Cabrera R. 15224* (CUVC!). **ECUADOR. Pichincha.** Tandapi, Hort. Selby Bot Gard. 77-429. 14 May 1984. *Hágsater 6061* (AMO!).

NOTES. In the Department of Valle del Cauca, especially on the western slope of the Central Cordillera, the species hybridizes with the pink-flowered *Epidendrum arachnoglossum* producing hybrid populations, which were seen specially around Atacó. It is impossible to determine dried specimens to one species or the other.

***Epidendrum melinanthum x arachnoglossum* (Fig. 266; Photo 176).**

**Terrestrial** or **lithophytic** (rarely **epiphytic**), up to 150 cm tall. **Stems** caespitose, covered with close, tubular, imbricating, foliaceous sheaths. **Leaves** 8-14 cm long, 1.5-5 cm wide, coriaceous, elliptic-oblong, oblong-lanceolate, obtuse or acute. **Inflorescence** 25-60 cm long, apical, enclosed by acute or somewhat obtuse distant sheaths 2-5 cm long, terminated in a subglobose, many-flowered raceme. **Flowers** fleshy, small, yellow-brown to purple-brown; lip with yellowish white calli. Floral bracts 3-7 mm long, acuminate. Ovary 20-30 mm long. **Dorsal sepal** up to 13 mm long, 5 mm wide, elliptic-oblong, cuneate, acute. **Lateral sepals** up to 14 mm long, 6 mm wide, oblique, oblong-oblancoate, acute. **Petals** about as large as the sepals, elliptic-oblancoate, acute, cuneate. **Lip** 5-10 mm long, 6-15 mm wide, 3-lobed;



lateral lobes suborbicular to subtruncate; middle lobe subquadrate, recurved, reflex in front. **Gynostemium** 5-6 mm long, dilated upward. Clinandrium-hood shallowly crenate.

**HABITAT:** Steep slopes in wet premontane forest; 1100-2500 m alt.

**FLOWERING SEASON:** Throughout the year.

**GENERAL DISTRIBUTION:** Known only from Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buga.** Nogales. Alt. 2400 m. 16 Sep 1969. *B. Jiménez 15* (CUVC!); Cordillera Central, vertiente occidental, Inspección de Policía El Placer, Finca Campoalegre, potrero & malezas & algunos árboles. Alt. ca 2200 m. 15 Nov 1981. *Silverstone-Sopkin 962* (CUVC!); Hoya del río Guadalajara, cerca a La Habana (V.), Alt. 2500 m. 27 Feb 1969. *S. Espinal T., Cuatrecasas & J. Ramos 3647* (CUVC! x 2). **Mpio. Palmira.** La Nevera. 26 Jan 1980. *I. Guarín O. 103* (VALLE!); Reserva la Sierra, margen izquierda quebrada la Betulia. Alt. 2500 m. 31 May 1997. *C. Restrepo, F. Prado & E. Buttkeus 1218* (MO! ex CUVC); Palmira-Ataco, vertiente poniente de la cordillera central. *Hágsater, Dressler, Folsom & N. Villota 7423* (AMO!). **Mpio. Roldanillo.** Quebrada El Rey, vía hacia El Dovio. Alt. 1100 m. 25 Feb 1985. *W. Devia A. 943* (MO!). **Mpio. Tuluá.** Cordillera Central, vertiente occidental, carretera Barragán - Tuluá, a 21.1 km abajo de pueblo de Barragán, falda, borde de bosque secundario, lado de carretera. 12 Oct 1981. *Silverstone-Sopkin 817* (CUVC!). **Mpio. Yotoco.** Reserva Natural de Yotoco. Relicto superior, en el borde de carretera. Alt. 1600 m. 8 Mar 2009. *O. Pérez & E. Parra 0085* (VALLE!); Orilla de la carretera Buga - Loboguerrero, cerca de Reserva Natural de Yotoco. Alt. 1600 m. 15 Mar 2009. *O. Pérez & E. Parra 0127* (VALLE!).

**OTHER SPECIMENS EXAMINED: COLOMBIA.** **Antioquia.** Ituango. Camino entre El Retiro & Cerro Paramillo. Alt. 3200-3600 m. 25 Feb 1993. *H. Cuadros 4968* (MO!). **Cauca.** Cerca a Morales. Alt. 1800 m. 8 Oct 1968. *S. Espinal & J.E. Ramos 2941* (CUVC!). **ECUADOR. Cotopaxi.** Cantón

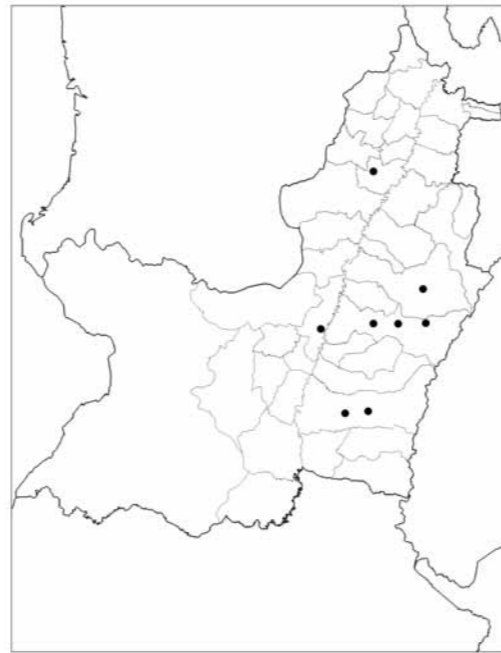


Fig. 265. Distribution of *Epidendrum melinanthum* x *arachnoglossum* in Valle del Cauca.

Sigchos. Alt. 2840 m, en la carretera ca 3020-2660 m. 21 Jul 2003. *J. Ramos, J. Contreras, L. Ramos & R. Tigse 6400* (CUVC!); Cantón Sigchos. Alt. 2500 m, por la carretera en Triunfo Grande, entre 2575-2427 m. 3 Aug 2003. *J. Ramos, J. Contreras & L. Ramos 6905 & 6906* (CUVC!). **PERU. San Martín.** Prov. Rioja. 6 km E of Río Nieve (Amazonas border) on Pomacocha-Rioja road. 5°45'S 77°42'W. Alt. 1980 m. 9 Feb 1984. *Gentry & D.N. Smith 45218* (MO!).

46.121. ***Epidendrum ptochicum*** Hágsater (Figs 267, 268; Photos 177-178).

Icon. Orchid. 8: 877. 2006; TYPE: COLOMBIA. Anchicayá, entre campamento & retén, epífita. Collected 26 Apr 1983, pressed 13 Dec 1984. *Hágsater, Dressler & Folsom 7378* (HOLOTYPE: AMO!).

**Epiphytic**, generally myrmecophilous, caespitose, erect plants, 36-100 cm tall. **Stems** 36-

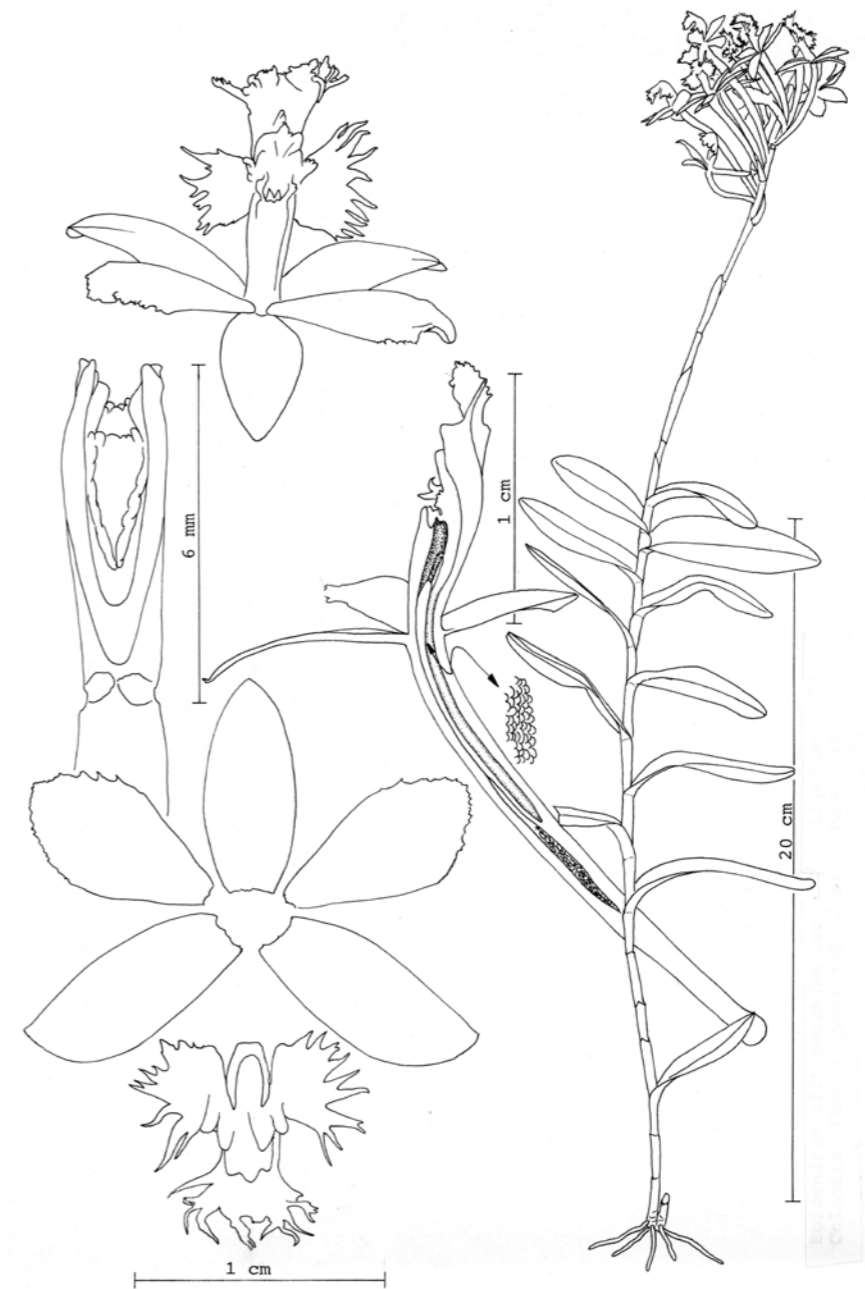


Fig. 266. *Epidendrum ptochicum* Hágsater (*Hágsater, Dressler & Folsom 7378*, AMO – drawn by E. Hágsater).

100 cm long, 0.3-0.4 cm wide, simple, cane-like, terete, thin, straight. **Leaves** 15, 4.3-13 cm long, 0.8-1.4 cm wide, alternate, distichous, distribu-

ted throughout the stem, sometimes dorsally carinate, coriaceous, smooth, narrowly elliptic to lanceolate, apex rounded to bilobed, margin

entire; sheaths 0.8-1.5 cm long, 0.3-0.7 cm wide, tubular, smooth, minutely striated when dry. **In-  
florescence** 14.5-57 cm long, apical, racemose, erect; peduncle 8.5-50 cm long, elongate, terete, covered by tubular, acute sheaths, producing new racemes from the subapical nodes. **Flowers** 13-33, successive, several open at one time, non-resupinate, deep orange to red, lip with a canary yellow callus, bordered by pale orange, gynostemium orange with the apex yellow. Floral bracts 2-10 mm long, much shorter than the ovary, triangular, acuminate. Ovary 14-25 mm long, thin, terete, noninflated, smooth. **Sepals** 8-9 mm long, 3.5-4 mm wide, free, spreading, elliptic, obtuse, apiculate, with a minute dorsal keel, glabrous, 5-veined, margin spreading and entire; lateral sepals slightly oblique. **Petals** about 8 mm long, 3-4 mm wide, free, spreading, obovate to oblanceolate, rounded, 5-veined, veins branching, margin generally erose along the apical half. **Lip** about 7.6 mm long, 9.6 mm wide, united to the gynostemium, base deeply cordate, margin fimbriate, 3-lobed, callus massive, formed by 4 basal, finger-like structures, lateral ones shorter the central ones superposed on a 3-toothed, laminar structure, elongate and reaching the centre of the lip middle lobe; lateral lobes of the lip about 3.8 mm long, 5.3 mm wide, irregular-dolabriform; middle lobe about 4.4 mm long, 5.9 mm wide, cuneate, more or less bilobed at the apex. **Gynostemium** about 6 mm long, straight, thin. Clinandrium-hood reduced, entire. Anther ovoid, apex bifid. **Nectary** penetrating 2/3 of the ovary, thin, papillose. **Capsule** ellipsoid, somewhat conical, the distal part wider, with long, thin pedicel and apical neck.

**HABITAT:** Pacific lowland forest; 600-700 m alt.

**FLOWERING SEASON:** April, August.

**GENERAL DISTRIBUTION:** Peru, Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Carr. Cali-Anchicayá, entre el campamento de la hidroeléctrica del Alto Anchicayá & el retén de policía de



Fig. 267. Distribution of *Epidendrum ptochicum* Hágsater in Valle del Cauca.

la desviación. Alt. 600 m. 26 Apr 1983. *Hágsater, R.L. Dressler, K. Dressler & Folsom 7378* (AMO!). **Mpio. Dagua.** Corregimiento de Loboguerrero, Hacienda de Los Chancos, Bosque La Playa, Estudio de Imapacto Ambiental carretera a Buenaventura; Madroñal-Córdoba. Alt. 700 m. 9 Aug 1996. *N. Paz, E. Forero & W. Mina 602* (AMO!).

#### ***Epidendrum siphonosepalum*-group**

Caespitose plants, stems erect. Leaves distichous, inflorescence apical, concealed by 2 spathes. Only one species of this group grows in the Department of Valle del Cauca.

#### **46.122. *Epidendrum siphonosepalum* Garay & G.C.K. Dunst. (Fig. 269; Photo 179).**

Venez. Orchids III. 5: 102. 1972; TYPE: VENEZUELA. LARA. Parque Nacional de Yacambú. *G.C.K. Dunsterville 1152* (HOLOTYPE: AMES!). - Vásquez & Ibsch, Orquíid. Bolivia 2: 139. 2004.

**Epiphytic.** Stems up to 5 cm long, short, caespitose, leafy stems, branching and forming mats. **Leaves** up to 2.5 cm long, 0.7 cm wide (excluding short sheathing base), very fleshy, middle nerve sulcate, dorsally angled, the extreme apex sharply carinate. **Spathaceous bracts** large, conduplicate, apex narrow. **Inflorescence** apical, sessile, arising through 2 spathaceous sheaths that conceal the peduncle. **Flowers** 2, successive, pale green, tube-like, only the apices of the floral segments partly spreading. **Ovary** about 5 mm long, with a small nectary below, at the apex. **Sepals** united at the base for 1.5-2 mm, 3-veined; dorsal sepal about 10 mm long, 1.7 mm wide, lateral sepals about 11 mm long, 2 mm wide; middle veins sharply and strongly dorsally carinate. **Petals** about 9 mm long, 1.7 mm wide, 2-veined, one vein bifurcate near the base and thus appearing 3-veined, apex fleshy. **Lip** about 10 mm long, 2.6 mm wide, very narrow, lateral lobes folded upwards, ecallose. **Gynostemium** 2 mm long including the clinandrium-hood, very short, adnate basally to the lip. Anther ovoid, apex truncate, 4 celled. Clinandrium-hood long, irregularly dentate. Pollinia 3, obovoid, caudicles granulate, narrow and longer than the pollinia, viscidium semi-liquid. Rostellum subapical, slit.

**HABITAT:** Montane wet forest; at about 1500 m alt.

**FLOWERING SEASON:** October.

**GENERAL DISTRIBUTION:** Bolivia, Ecuador, Colombia, Venezuela.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cali.** Cordillera occidental, los Farallones de Cali, zona de cultivos de café a lo largo del río Pance, 2-4 km abajo del pueblo

de Pance. Alt. 1500 m. 16 Oct 1975. *Hartman 2* (CUVC!).



Fig. 268. Distribution of *Epidendrum siphonosepalum* Garay & G.C.K. Dunst. in Valle del Cauca.

#### ***Spathiger*-group**

Plants with racemose, distichous inflorescence and prominent bracts, flowers green to purplish. This group was considered to be a separate genus. Three species of this group occur in the Department of Valle del Cauca.

#### **Key to species**

1. Lip up to 6 mm long, entire, broadly ovate to suborbicular, strongly cordate at the base, obtuse (rarely subtruncate or acute) at the apex . . . . . 46.122. *E. rigidum*
1. Lip 7-15 mm long, entire, cordate-reniform to obreniform . . . . . 2
2. Inflorescence much longer than the leaves, floral bracts acuminate . . . . . 46.124. *E. villotae*

2. Inflorescence subequal to the leaves, floral bracts rounded. . . . .46.123. *E. summerbayesii*

46.123. *Epidendrum rigidum* Jacq. (Figs 270, 271; Photos 180-182).

Enum. Syst. Pl.: 29. 1760; TYPE: MARTINIQUE. *Jacquin s.n.* (BM!). - Schweinfurth, *Fieldiana, Bot.* 30(2): 505. 1959. - Schultes, *Nat. Orchid. Trinidad & Tobago*: 121-123. 1960. - Foldats in *Lasser, Fl. Venezuela, Orchid.* 15(3): 368-372. 1970. - Garay & Sweet in *Howard, Fl. Lesser Antill., Orchid.*: 156, 157. 1974. - Hágsater in Hágsater & Salazar, *Icon. Orchid.* 1: pl. 41. 1990. - Ackerman & del Castillo Mayda, *Orchid. Puerto Rico & Virgin Islands*: 118. 1992. - Nir, *Orchid. Antill.*: 138. 2000. - Vásquez & Ibisch, *Orquid. Bolivia* 2: 133-134. 2004. - Misas Urreta, *Orquídeas de la Serranía del Baudó*: 212-213. 2005. - Verlag, *Flora de la República de Cuba* 12(1): 54-55. 2007. - Kolanowska & al., *Ill. field guide orchid. Yotoco Forest Reserve (Colombia)*: 114. 2011. ≡ *Spathiger rigidus* (Jacq.) Small, *Fl. Miami*: 55. 1913. = *Epidendrum pium* Rchb.f. & Warm. in *H.G.Reichenbach, Otia Bot. Hamburg.*: 92. 1881.

**Epiphytic**, 12-30 cm tall. **Stems** 5-35 cm long, erect, ascending or arcuate, simple, approximate to subremote, entirely concealed by tubular sheaths which are leaf bearing except in the lower portion, strongly complanate above. **Leaves** 2.5-13 cm long, 0.4-2.5 cm wide, distichous, articulated, coriaceous, oblong-elliptic to linear-oblong, obtuse and usually obliquely retuse at the apex. **Inflorescence** 4.5-16 cm long including the short peduncle, a slender, rigid, spicate raceme of few or many scattered flowers. **Flowers** very small, rigid-fleshy, green to yellowish. Floral bracts 9-25 mm long, 7-12 mm wide, large and conspicuous, equitant, dorsally carinate, obtuse, surpassing the flower or equalling the ovary in the course of development. Ovary 6-11 mm long, cuniculate. **Dorsal sepal** 4.5-9 mm long, 2.5-3.5 mm wide, ovate-oblong or elliptic-oblong, subacute. **Lateral sepals** 4.5-9.5 mm long, 2.5-3.5 mm wide, slightly larger than the dorsal sepal, obliquely oblong-ovate or elliptic-ovate. **Petals** 4-9 mm long, 0.8-2.5

mm wide, linear or oblanceolate-linear, acute or obtuse. **Lip** up to 6 mm long, adnate to the gynostemium up to its apex, subequalling the lateral sepals, entire, broadly ovate to suborbicular, strongly cordate at the base, obtuse (rarely subtruncate or acute) at the apex; disc bicallose at the base with a more or less conspicuous thickened median line. **Gynostemium** up to 4 mm long, short, stout, dilated upward in front. **Capsule** 7-20 mm long, ellipsoid to ovoid, with persistent perianth.

**HABITAT**: Growing epiphytically along coastal and riverside habitats, in tropical rainforest, and scrubby coastal forest; from sea level to 1000 m alt.

**ECOLOGY**: The autogamy of this species has been reported by (Catling 1990).

**FLOWERING SEASON**: March, April, May, June, November.

**GENERAL DISTRIBUTION**: Argentina, Brazil, Bolivia, Peru, Ecuador, Colombia, Venezuela, Guyana, Suriname, Bahamas, Panama, The Lesser Antilles (Grenada, St. Vincent, St. Lucia, Martinique, Dominica, Guadeloupe), The Greater Antilles (Cuba, The Cayman Islands, Jamaica, Hispaniola, Puerto Rico), USA (Florida).

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA**: **Mpio. Cali**. Finca El Asombro, carretera Cali-Jamundí. Bosque subcaducifolio. Alt. 1000 m. 28 Apr 1983. Hágsater, R.L. Dressler, *Folsom & N. Villota 7453* (AMO!). **Mpio. Jamundí**. Finca Colinder, parte plana del Valle del Río Cauca, entre Carretera Panamericana con confluencia de Ríos Palo & Cauca, entre caseríos de Guabal & Bocas del Palo. Alt. 975 m. 6 Jun 1986. Silverstone-Sopkin, C. Restrepo & Z. Piñeros 2272 (AMO!, CUVCI!). **Mpio. Yotoco**. Reserva Natural de Yotoco. 5 Apr 2007. O. Pérez & E. Parra s.n. (photo!). **Mpio. Zarzal**. Hacienda el Medio. 3 Apr 1980. I. Guarín O. 118 (COL!, VALLE!); Hacienda El Medio (Carretera Panamericana entre La Paila & Zarzal, parte plana del Valle del Río Cauca), bosque secundario (viejo cacao-tal) domino por *Anacardium excelsum* hasta 40 m altura. Alt. 950 m. 20 Jun 1987. Silverstone-Sopkin

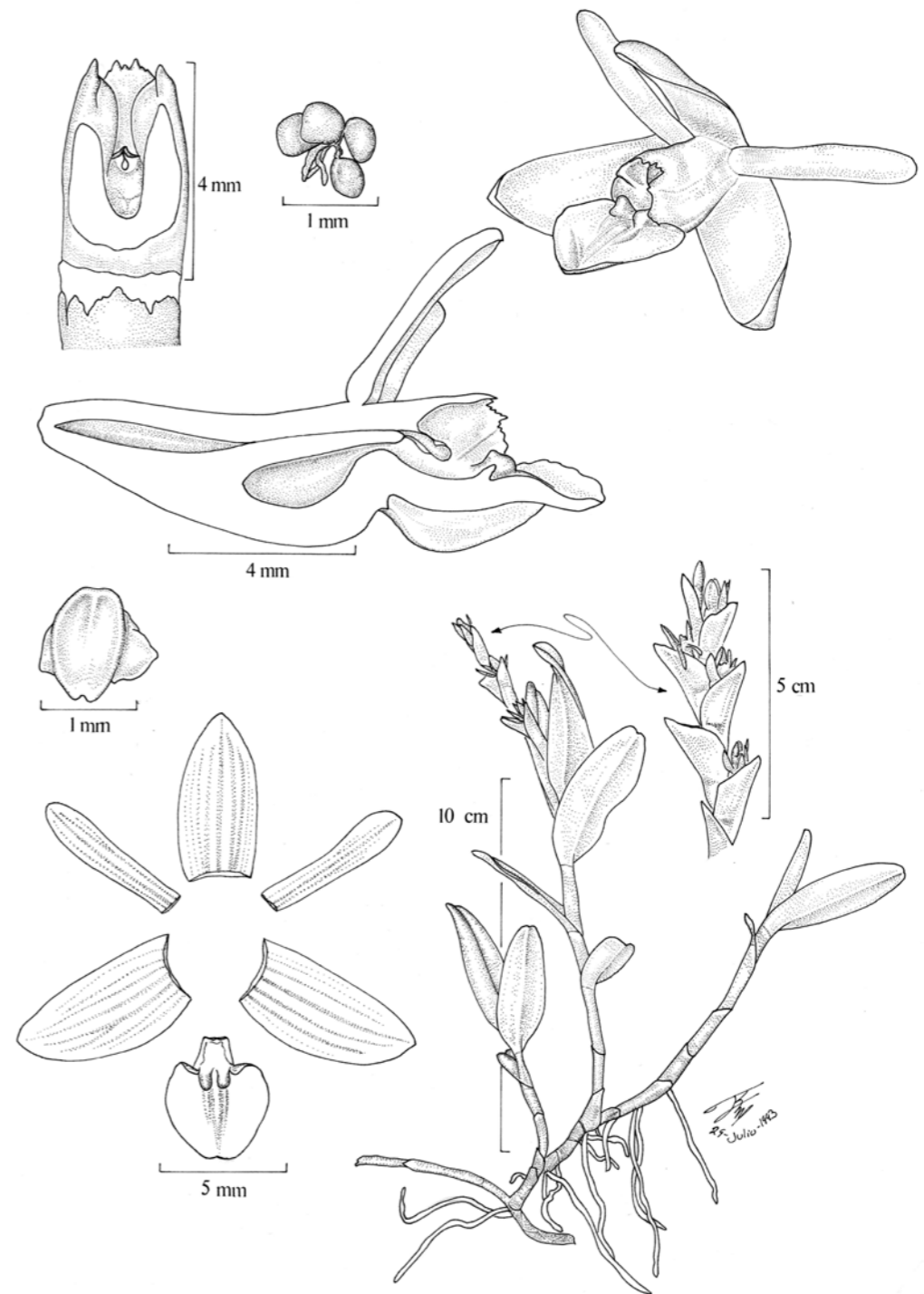


Fig. 269. *Epidendrum rigidum* Jacq. (Hágsater, Dodson, D. Rubio & N. Revelo 10669, AMO – drawn by R. Jiménez Machorro).

♂ N. Paz 3229 (AMO! x 2, CUVCI); The same loc. 16 Nov 1986. *Silverstone-Sopkin*, N. Paz & R.T. González 2560 (AMO!, CUVCI); The same loc. 13 Jun 1988. *Silverstone-Sopkin* & N. Paz 4108 (AMO!, CUVCI); The same loc. 17 Feb 1988. *Silverstone-Sopkin* & N. Paz 3568 (CUVCI); The same loc. 19 Mar 1988. *Silverstone-Sopkin* & N. Paz 3701 (AMO!, CUVCI); The same loc. 17 May 1991. *Silverstone-Sopkin* & al. 6104 (AMO!, CUVCI).

OTHER SPECIMENS EXAMINED: **PERU. Loreto.** Prov. Mayanas. Dtto. Iquitos. In clusters or singly on a calabash tree in a pasture beside the riverbank. On the island in the Amazon river directly in front of Iquitos. 17 Feb 1968. D.R. Simpson & J. Schunke V. 692 (COL!). **ECUADOR. Imbabura.** Km 62.1 camino de Lita, desde la desviación de la carretera Barra-Tulcán. Alt. 740 m. Fecha de colecta 12 Jul 1990, fecha de prensado de material cultivado 29 Jul 1993. Hågsater, Dodson, D. Rubio & N. Revelo 10669 (AMO! x 2). **BRAZIL. Amazonas.** Manaus, Igapó Tarumá. 10 Mar 1994. M. Ospina H. 1.349 (COL!). **Sao Paulo.** Ilha do Cardoso. Restinga. 7 Oct 1980. E. Forero, E.A. Lopes, S.L. Jung, M.M.R.F. Melo & F. de Barros 8565 (COL!). **BOLIVIA. Pando.** W bank of Rio Madeira between Cachoairas Madeira and Misericordia. Forest on terra firme. 29 Jul 1988. G.T. Prance, E. Forero, B.L. Wrigley, J.F. Ramos & L.G. Farias 6603 (COL!); S bank of Rio Abura between Cachoeira Tres S. and Fortaleza, 3-16 km above mouth. Forest on high riverbank. 18 Jul 1968. G.T. Prance, E. Forero, B.L. Wrigley, J.F. Ramos & L.G. Farias 6147 (COL!). **ARGENTINA. Argentina Misiones:** Parque Nacional Iguazú, área cataratas, paseos superiores. 17 Feb 1992. Johnson 422 (AMO! - xerox of illustration); The same loc., Johnson 263 (AMO! - photo). **COLOMBIA. Antioquia.** Mpio. San Luis: Quebrada "La Cristalina". 6°N 74°45'W. Sector SE. Alt. 770-500 m. 23 Mar 1987. J.G. Ramírez & D. Cárdenas López 723 (COL!). **Boyacá.** *Sine loc.* Alt. 700 m. 17 Nov 1938. O. Renz 3089 (RENZ!). **Caldas.** Entre Victoria & Samaná en el rio La Miel. Alt. 600 m. 19 Jan 1963. H. Schmidt-Mumm

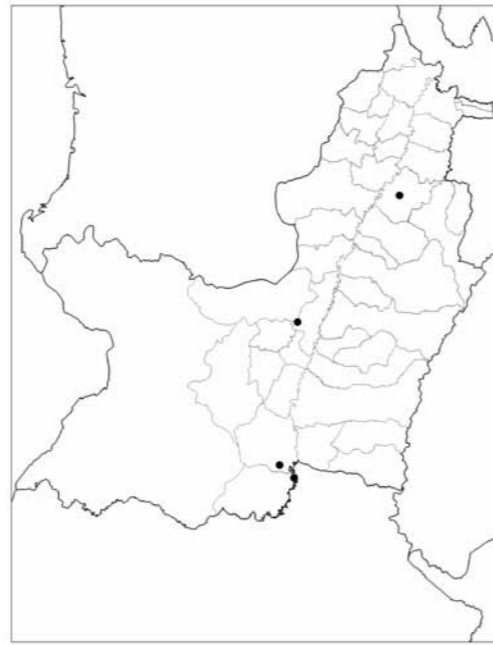


Fig. 270. Distribution of *Epidendrum rigidum* Jacq. in Valle del Cauca.

180 (COL!). **Cauca.** Mpio. Guapi. Parque Nal. Natural Gorgona - Camino a Pablo Sexto. 10 Sep 1987. G. Lozano & O. Rengel 5760 (COL!). **Cundinamarca.** Mpio. Sasaima. Crece como epífita sobre *Citrus* spp. Florace en Enero & Octubre. Alt. 1280 m. 28 Dec 2005. J.C. Ordóñez s.n. (COL!); Mpio. Pacho. Vía el Peñón. Vda. Guanacas. Alt. 1125 m. 11 Jun 1993. A. Chaparro de Barrera & E. Barrera Torres 180(1) (COL!); *Sine loc.* Alt. 600 m. Dec 1937. O. Renz 3095 (RENZ!). **Huila.** Rio del Oro, Garzón. Epífita, bosque seco subandino. Alt. 1000-1200 m. 26 Nov 1994. M. Ospina H. 1.406 (COL!). **Meta.** Sierra de la Macarena: Plana Bonita. Dense humid forest. Alt. 400 m. 16 Nov 1949. W.R. Philipson, J.M. Idrobo & A. Fernandez 1442 (COL!); *Sine loc.* Alt. 600 m. 27 Apr 1937. O. Renz 3081 (RENZ!). **Norte de Santander.** Región del Sarare. Hoya del rio Chitagá entre Chorro Colourado Bata. Alt. 1300 m. 14 Oct 1941. Cuatrecasas, Schultes & E. Smith 12212 (COL!); Teoram Trail. Alt 5,000 ft. 10-11 Sep 1946. M.B. & R. Foster s.n. (COL!).

**Santander.** Santander del Sur. *Sine loc.* Alt. ca 120 m. O. Renz 3184 (RENZ!). **VENEZUELA. Trujillo.** *Sine loc.* Alt. 1200 m. 22 Dec 1947. O. Renz 4534 (RENZ!). **FRENCH GUIANA.** Roche Touatou. Bassin de l'Dyapock. 52°32' 2°57'. Alt. 120 m. 10 May 1995. Cremers & de Granville 14014 (AMO!). **PANAMA.** Tributary of Rio Chagres, 5 miles SW of Cerro Brewster. Sandy and rocky riverbanks. Alt. ca 1,000 ft. 14 Dec 1967. W.H. Lewis, W.H. Blackwell Jr., J.L. Hawker, C.O. Little, J.W. Nowicke & R.L. Oliver 3465 (COL!); Barro Colorado Island, Canal zone. Short cut from AVA 900 to Zetek 300. 30 Apr 1970. Croat 10106 (COL!). **MARTINIQUE.** Morne Rouge. Vieux orangier sur Morne Bali-sier. Alt. ca 600 m. 16 Jul 1986. Hågsater, G. Julius & H. Jeannet 8720 (AMO! x 2).

46.124. *Epidendrum summerhayesii* Hågsater (Figs 272, 273; Photo 183).

Icon. Orchid. 2: t. 189. 1993; TYPE: COSTA RICA. Arriba de San Jerónimo en camino a La Hondura. Colecta Mar 1982, prensado 3 Jul 1982. Hågsater & Thurston 6662 (HOLOTYPE: AMO!; ISOTYPE: CR; CLONOTYPE: KI). - Dressler in Hammel & al., Manual de Plantas de Costa Rica 3. Monogr. Syst. Bot. Missouri Bot. Gard. 39: 166. 2003. - Kolanowska & al., Ill. field guide orchid. Yotoco Forest Reserve (Colombia): 126. 2011.

**Epiphytic**, caespitose plants, 18-40 cm tall; the whole plant olive-green more or less tinged with purple. **Stem** 6-23 cm long, 0.5-1.3 cm wide, simple, reed-like, laterally compressed, straight. **Leaves** 2-3(4), about 26 cm long, 1.6-2.9 cm wide, coriaceous, narrowly elliptic to sublinear, apex bilobed. **Inflorescence** 12-25 cm long, apical, from the mature stem, flowering only once, distichous, racemose, erect; rachis fractiflex, laterally compressed, ancipitous. **Flowers** 4-20, successive, 2-5 open at a time, purple, gynostemium and the keel of the lip green, nocturnal with a weak, disagreeable fragrance. Floral bracts as long as the ovary and

perianth combined, 16-30 mm long, conduplicate, rounded, incurved. Ovary 9-12 mm long, inflated towards the apex. **Dorsal sepal** about 12 mm long, 5 mm wide, ovate, acute, 5-veined. **Lateral sepals** about 12 mm long, 7 mm wide, ovate, acute, 7-veined. **Petals** about 12 mm long, 2 mm wide, linear, rounded, 1-veined. **Lip** about 9 mm long, 18 mm wide, united with the gynostemium, entire, reniform, ecallose, with a low, central, rounded keel, base somewhat cordate, apex notched. **Gynostemium** about 6 mm long, straight. Clinandrium-hood obsolete. Anther ovoid. **Nectary** deep, penetrating half the ovary, inflated below the perianth. **Capsule** about 30 mm long, 20 mm wide, ellipsoid, sessile.

**HABITAT:** Wet premontane forest; at about 1600 m alt.

**FLOWERING SEASON:** March.

**GENERAL DISTRIBUTION:** Colombia, Panama, Costa Rica.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA: Mpio. Yotoco.** Relictos ubicados a la orilla de la carretera Buga-Loboguerrero, cerca de la Reserva Natural de Yotoco. Alt. 1600 m. 21 Mar 2009. O. Pérez & E. Parra 0142 (VALLE!).

OTHER SPECIMENS EXAMINED: **COSTA RICA. Puntarenas.** Monteverde Reserve. 2 km SW Station, in leeward cloud forest. 10°18'N, 84°48'W. Alt. 1500-1550 m. 10 Jul 1992. S. Ingram, K. Ferrell-Ingram & N. Edmondson 1495 (AMO!); Prov. San José. Arriba de San Jerónimo en camino a La Hondura, colecta marzo 1982, prensado 3 Jul 1982. Hågsater & Thurston 6662 (AMO!, KI!); Cordillera de Talamanca, cerca de El Cangrejo. Alt. 1750 m. fecha de colecta 27 Jun 1983, preparado de material cultivado 27 Jun 1983. Horich sub Hågsater 6910 (AMO!). **PANAMA. Chiriquí.** Camp Hornito, Fortuna Dam site. 82°10'W, 8°44'N, to cerro Fortuna. Alt. 1200-1500 m. 16 Aug 1976. R.L. Dressler 5394 (AMO!); Cerro Colorado, about 50 km north of San Félix, Alt. ca 1300 m. 19 Aug 1975. R.L. Dressler 5122 (AMO!). **COLOMBIA. Cauca.** Mpio. Popayán/Puracé. Up the hill to Páramo Puracé from la Plata. Aug 1964. Kapuler & Hascall 172 (COL!).

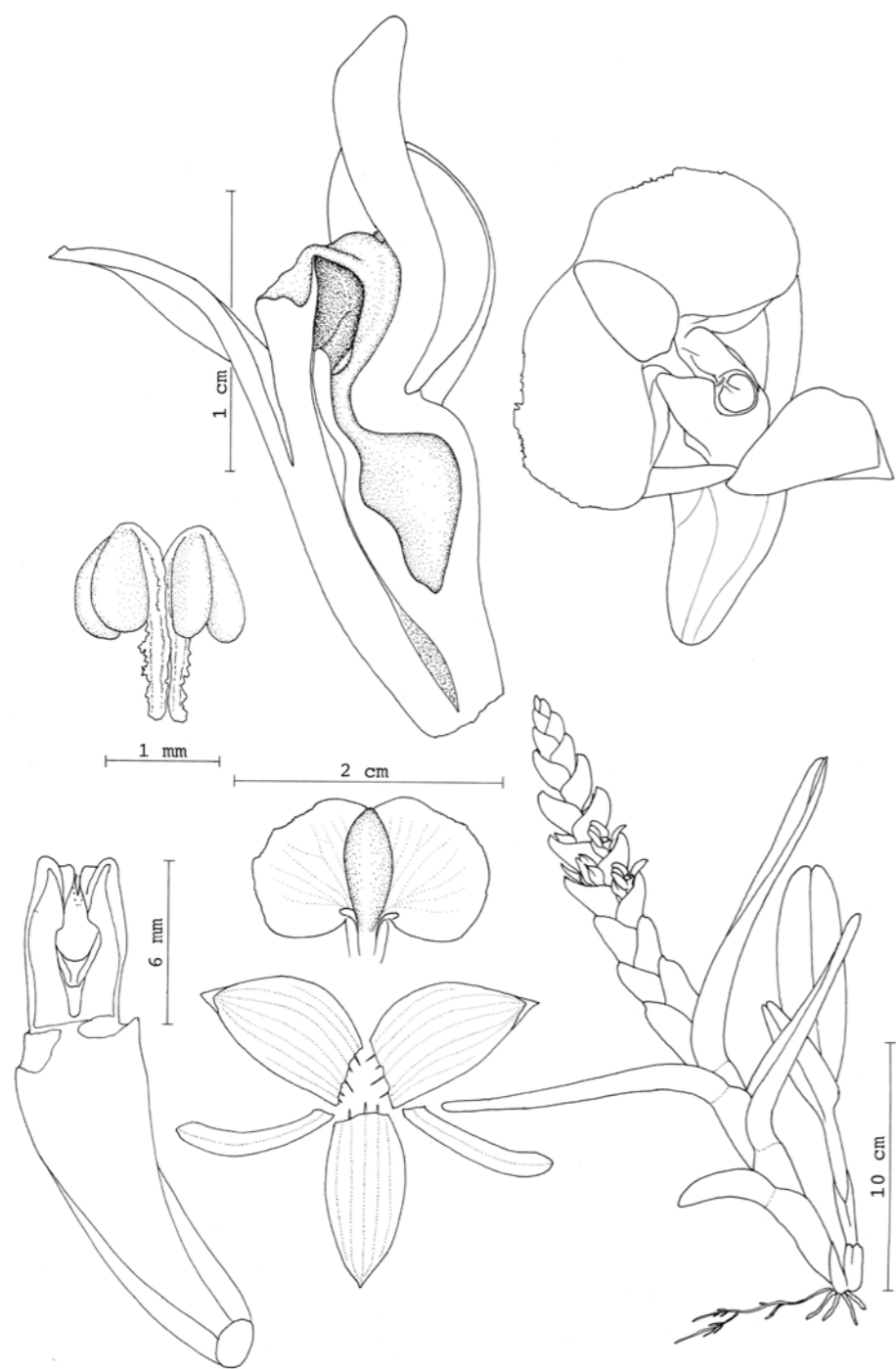


Fig. 271. *Epidendrum summerbayesii* Hágsater (*Hágsater & Thurston 6662*, AMO – drawn by E. Hágsater).



Fig. 272. Distribution of *Epidendrum summerbayesii* Hágsater in Valle del Cauca.

46.125. *Epidendrum villotae* Hágsater & Dodson (Figs 274, 275; Photo 184).

ICON. Orchid. 3: t. 398. 1999; TYPE: ECUADOR. ESMERALDAS. Lita to San Lorenzo km 50. Alt. 260 m. 12 May 1990. *Dodson, Gentry, B. Boyle & D. Rubio 18221* (HOLOTYPE: RPSC). 14 May 1993 (plant later cultivated in Mexico City). *Dodson 18221 sub Hágsater 10680* (CLO-NOTYPE: AMO!, COL!).

**Epiphytic**, caespitose plants, 35-90 cm tall. **Stems** 27-33 cm long, 0.5-0.9 cm wide, simple, laterally compressed. **Leaves** 4-6, (5)9-20 cm long, 1.2-2.1 cm wide, distichous, subcoriaceous, narrowly oblong, apex unequally bilobed, pale green, the margin purple. **Inflorescence** (7)50-100 cm long, apical from mature growth, rac-

emose, distichous, erect, flexuose; rachis laterally compressed, ancipitose. **Flowers** up to 60, successive, developing and open 1-2 at a time, apple green. Floral bracts 18-35 mm long, longer than the ovary, conduplicate, acute, not imbricated, except for the basal bracts which are much longer and imbricating. Ovary 12-18 mm long, thick, terete. **Sepals** 17.5-18 mm long, 6-9 mm wide, elliptic, aristate, dorsally keeled, 7-9-veined. **Petals** about 17 mm long, 3 mm wide, oblanceolate, acute, free or adnate to lateral sepals, 3-veined. **Lip** about 12.5 mm long, 17.5 mm wide, entire, obreniform, notched-mucronate, margin entire to finely erose; ecallose. **Gynostemium** about 10 mm long, straight. Clinandrium-hood reduced. Anther ovate. **Nectary** penetrating 3/4 of the ovary.

**HABITAT**: Lowland pacific forest and premontane wet forest; up to 1600 m alt.

**FLOWERING SEASON**: March, May.

**GENERAL DISTRIBUTION**: Ecuador, Colombia, Costa Rica.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA**: **Mpio. Buenaventura**. Mangrove swamp along Rio Dagua. 7 May 1922. *Killip 5323* (AMES). **Mpio. Dagua**. Alto Calima. Alt. 1500-1600 m. *P. Ortiz V. & Restrepo 259* (HPUJ); Hort. Cali. *Villota sub Hágsater 7449* (AMO!). **Mpio. Yotoco**. Borde de carretera Buga-Loboguerrero. Hierba terrestre-rupícola con flores color verde-amarillento. Escasa, encontrada en zonas abierta o helechales del borde de carretera. Alt. 1600 m. 23 Mar 2009. *O. Pérez & E. Sánchez 0259* (VALLE!).

**OTHER SPECIMENS EXAMINED**: **ECUADOR. Prov. Esmeraldas**. Cantón. Lita to San Lorenzo, ca 50 km, end of &struction. Selva alta perennifolia, selva muy humeda calurosa. Alt. 260 m. 12 May 1990. *C.H. Dodson, Gentry, B. Boyle & D. Rubio sub Hágsater 10680* (AMO! x 2).

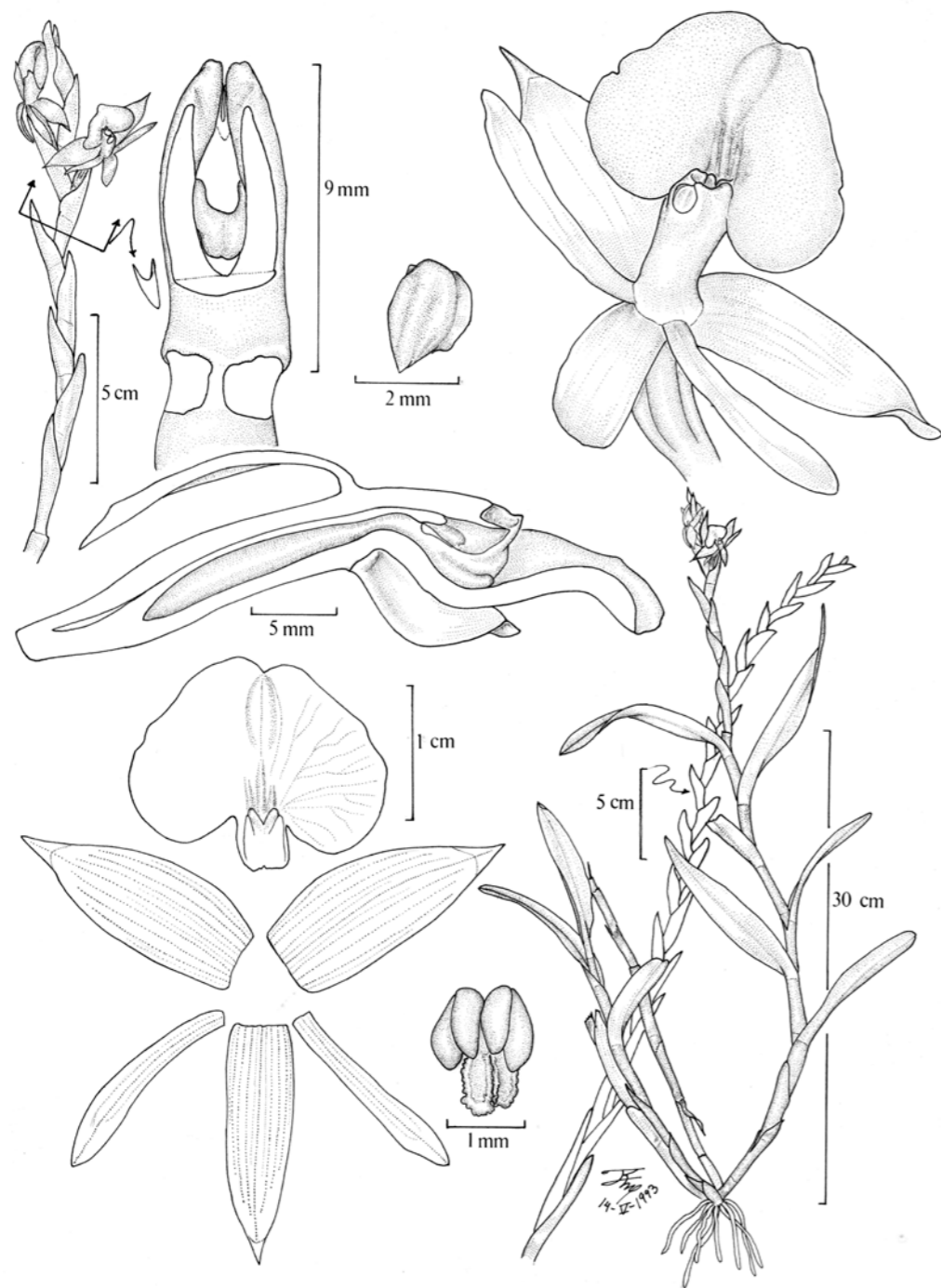


Fig. 273. *Epidendrum villotae* Hágsater & Dodson (*Dodson 18221 sub Hágsater 10680*, AMO – drawn by M.A. Jiménez Machorro).



Fig. 274. Distribution of *Epidendrum villotae* Hágsater & Dodson in Valle del Cauca.

#### *Stenoglossum*-group

Sympodial, caespitose habit, simple, erect stems, racemose inflorescence subtended by 1-2 narrow, long spathaceous bracts, flowers non-resupinate, the lip linear, ecallose, digitiform.

#### 46.126. *Epidendrum coryophorum* (Kunth) Rchb.f. (Figs 276, 277; Photos 185-186).

Bonplandia 2(2): 20. 1854 (as *Epidendrum coriophorum*). ≡ *Stenoglossum coryophorum* Kunth, Nov. Gen. Sp. 1: 356, tab. 87. 1815; TYPE: COLOMBIA. [CAUCA] Crescit in convallibus humidis, vestitis Andium Novogranatensium juxta urbem Almaguer in radicibus Parami Cuyrcuensis, alt. 1080 hex. Floret. Novembri. *Humboldt & Bonpland s.n.* (P! x 3; P! – drawing; AMES! – sketch of the type, P!, W!).

= *Stenoglossum subulatum* Lindl., Hooker's Icon. Pl. 1: t. 51. 1837.

= *Epidendrum linearilingue* Rchb.f. Linnaea 41(7): 114. 1877.

= *Epidendrum bolbophylloides* F.Lehm. & Kraenzl., Engler Bot. Jahrb. 26: 463. 1899.

**Sympodial**, caespitose, creeping epiphytic herb 15-30 cm tall including the inflorescence. **Roots** 0.06-0.2 mm in diameter, from the base of each stem, thin, fleshy. **Stems** 3-10.5 cm tall, 0.15-0.23 cm wide, erect, straight, terete at the base, laterally compressed towards the apex, produced from the lower internodes of the previous stem, base covered by 1-2 non-foliar, scarious sheaths, striated, minutely rugose. **Leaves** 1-2, distributed along the apical 1/3 of the stem; sheaths 0.7-2 cm long, tubular, striated, minutely rugose when dry; blade 4-13 cm long, 0.8-1.7 cm wide, narrowly lanceolate-elliptic to oblong, apex obtuse, aristate, margin entire. **Spathaceous bracts** 3-6 cm long, 0.6-1.0 cm wide, 1(2), ancipitose, oblong, acute, aristate. **Inflorescence** 8-23 cm long, apical, racemose, elongate, rat-tail, generally densely flowered; peduncle 3-9.5 cm, erect, 3/4 covered by the spathaceous bracts, rachis somewhat to completely arching. **Flowers** 10-34, simultaneous, non-resupinate, floral segments purple-red, the apical third generally white to greenish white. **Floral bracts** 0.5-1.3 mm long, much shorter than the ovary, triangular, acute. **Ovary** 4-6 mm long, short, not inflated. **Sepals** 4.5-5.7 mm long, 1.7-2.7 mm wide, elliptic, acute-acuminate, margin entire, the dorsal sepals erect to reflexed, 3-veined, the lateral sepals parallel to the column, 3-4-veined. **Petals** 4.3-5.3 mm long, 0.5-0.6 mm wide, parallel to the column, linear, acute, 1-veined, margin entire, spreading. **Lip** 4-7 mm long, 1-2 mm wide, united to the column, entire, linear; ecallose. **Gynostemium** 1.7-2 mm long, very short, thick. Clinandrium-hood short, entire, margin undulate. Anther cordiform, 4-celled. Pollinia 4, obovoid, laterally compressed; caudicles soft and granulose; viscidium viscous, translucent. Rostellum apical, slit. **Nectary** very wide and short, rounded, without penetrating the ovary, smooth. **Capsule** ellipsoid, surface rugose, with

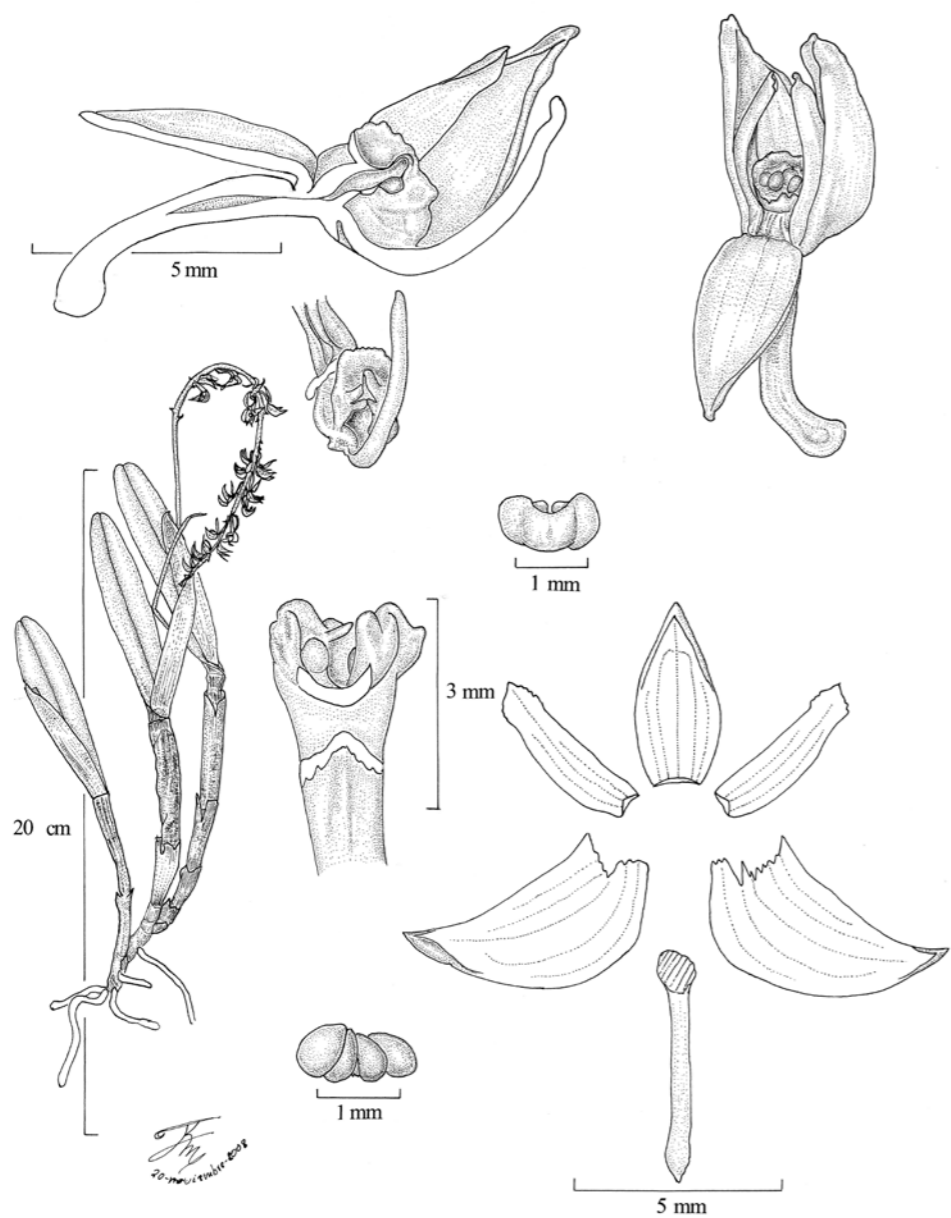


Fig. 275. *Epidendrum coryophorum* (Kunth) Rchb.f. (*Lehmann 8186*, US – drawn by Jiménez Machorro).

a short pedicel 1.2-2 mm long, 0.5-0.7 mm, body 6.3-7 mm long, 7.8-9.2 mm wide, and a reduced apical neck.

**HABITAT:** Epiphytic in montane forest; at about 3500 m altitude.

**FLOWERING SEASON:** February.

**GENERAL DISTRIBUTION:** Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. El Cerrito.** Corregimiento de Tenerife. Alt. 3500 m. 6 Feb 2011. *E. Parra*



Fig. 276. Distribution of *Epidendrum coryophorum* (Kunth) Rchb.f. in Valle del Cauca.

385 (TULV, AMO! - digital image of live plant).

**OTHER SPECIMENS EXAMINED:** **COLOMBIA. Antioquia.** Cultivado en Colomborquideas. *Escobar 5046* (AMO!). **Antioquia/Chocó.** De Ur Rao a Carmen de Atrato. Alt. 2500 m. Jan 1995, pressed 30 Jan 1998. *Hágsater 11663* (AMO! x 3); The same loc. Pressed 7 May 1999. *Sine coll.* (AMO!). **Cauca.** Central Cordillera von Popayán. Alt. 1750-2000 m. 28 Oct 1882. *Lehmann 2070* (G!, LE!, US!); The same loc. 29 Oct 1884. *Sine coll?* (G!). [**Cauca:**] In silvis haud ita densis circa Chiribio et Paniquitá, prope Popayán. Alt. 800-1400 m [1800-2400 m.] March 1885. *Lehmann 8186* (AMES x 3!, L!, LE!, NY!, US!). **Nariño.** El Encano. Isla La Carota. Alt. 2800 m. 6 May 1988. *Benavides 796* (COL!); El Encano, La Cocha, Isla de La Corota. Alt. 2900 m. 16 Jun 1964. *Mora 3086* (AMES!). **Putumayo.** 1.5 km E Sibundoy. Alt. 2200 m. 5 May 1963. *Bristol 927* (AMES!, US!); Sibundoy. Alt. 2300 m. 1 Apr 1977. *P. Ortíz V. 928* (HPUJ!). **Quindío [Tolima?].** Parque Nacional de Cocora,

Quebrada Sta. Lucía. Alt. 3000 m. 8 May 1990. *Franco 3109* (COL!). *Sine loc. Humboldt 1599* (P!). **ECUADOR. Azuay.** 1-8 km north of the village of Sevilla de Oro. Alt. 8000-9000 ft. 27 Jul 1943. *Camp E-4374* (AMES!, MO!, QCNE!, S! x 2, SEL!). **Cañar.** Cerro Yanguán NE of Pindilig. Alt. 3100 m. 13 Dec 1980. *Holm-Nielsen 29305* (AAU!). **Carchí.** Tulcán Colonia Huaqueña, Loma El Corazón. Alt. 3000 m. 8 Jul 1992. *Ti-paz 1573* (QCNE!). **Imbabura.** Cordillera Occidental, Along trail between Pinan and Irubi, N of Volcan de Cotacachi. Alt. 8500 ft. 15 Mar 1944. *Drew E-123* (AMES!). **Loja.** Saraguro, Carretera Loja-Saraguro, colecciones en la Loma del Oro, siguiendo la via que conduce a las Antenas Militares. Alt. 2800 m. 23 Aug 1983. *Jaramillo 5844* (QCA!). **Morona-Santiago.** Gualaquiza, Area de Bosque Vegetación Protectora Tambillo. Alt. 2710 m. 26 Jun 2001. *Suin 1020* (AMO!, QCNE!). **Napo.** Carretera Quito-Baeza, near Cuyuja. Alt. 2400-2600 m. *Van der Werff 9613* (MO!, QCNE!). **Pichincha.** Reserva Geobotánica Pululahua, Calacalí, Parroquia Calacali, camino a Lulumbamba. Alt. 2000-2500 m. 26 Feb 1987. *Ceron 903* (MO!, QCNE!). **Tungurahua.** Caserío Runtún, ca 3-4 km from Baños. 28 Apr 1969. *Lugo 1221* (AMES!, GB!).

#### *Epidendrum tipuloideum*-group

Stems simple, leaves aggregate towards the apex of the stem, narrow, subterete or grass-like, inflorescence apical. Two species of this group were reported from the Department of Valle del Cauca.

#### Key to species

1. Leaf flat, thin, dorsal sepal obovate or oblong, acute, petals spatulate, acuminate, lip entire, subquadrate in outline. . . 46.127. *E. recurvatum*
1. Leaf subterete, fleshy, dorsal sepal narrowly lanceolate, long-acuminate, petals narrowly linear, lip deeply 3-lobed, lateral lobes rounded-dolabriform;

middle lobe narrowly triangular, long-acuminate  
 ..... 46.126. *E. porquerense*

**46.127. *Epidendrum porquerense* F.Lehm. & Kraenzl. (Figs 278, 279; Photo 187).**

Bot. Jahrb. Syst. **26**: 461. 1899; TYPE: COLOMBIA. Supra arbores et rupes ad le Porquera, in andibus civit. Cali. Alt. 1600-1700 m. Apr 1886. *Lehmann 6416* (AMES!, K!). - Schweinfurth, Fieldiana, Bot. **33**: 41. 1970. - Kolanowska & al., Ill. field guide orchid. Yotoco Forest Reserve (Colombia): 107. 2011.

**Epiphytic.** **Stems** 3-7.5 cm long, linear-cylindrical, entirely concealed by close, imbricating, membranous sheaths, unifoliate at the apex. **Leaf** up to 16.2 cm long, 0.3 cm wide, usually narrower, narrowly linear, subterete, channelled, acute. **Inflorescence** up to 5 cm long, a short, loosely few-flowered, raceme. **Flowers** large for the plant, greenish-yellow or cream-yellow. **Dorsal sepal** up to 14 mm long, 1.5 mm wide, narrowly lanceolate, long-acuminate. **Lateral sepals** obliquely lanceolate, a little longer and wider than the dorsal sepal. **Petals** narrowly linear, distinctly shorter than the sepals. **Lip** about 7 mm long, shorter than the sepals, with claw entirely adnate to the gynostemium, deeply 3-lobed, cordate below, bicallose at base; lateral lobes

rounded-dolabriform; middle lobe narrowly triangular, long-acuminate.

**HABITAT:** Wet premontane forest; at about 1600-1700 m alt.

**ECOLOGY:** Some populations were reported growing on the *Ladenbergia magnifolia* (Ruiz & Pav.) Klotzch. (Rubiaceae) and *Eugenia biflora* (L.) DC. (Myrtaceae).

**FLOWERING SEASON:** March, April, October.

**GENERAL DISTRIBUTION:** Peru, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buga.** Top of Mtn overlooking dam at Calima, near main road from Buga. Alt. 1650 m. *Folsom, L.A. de Escobar & D. Sánchez 10517* (AMO! x2). **Mpio. Restrepo.** Relicto de borde de la carretera Buga-Loboguerrero. Alt.

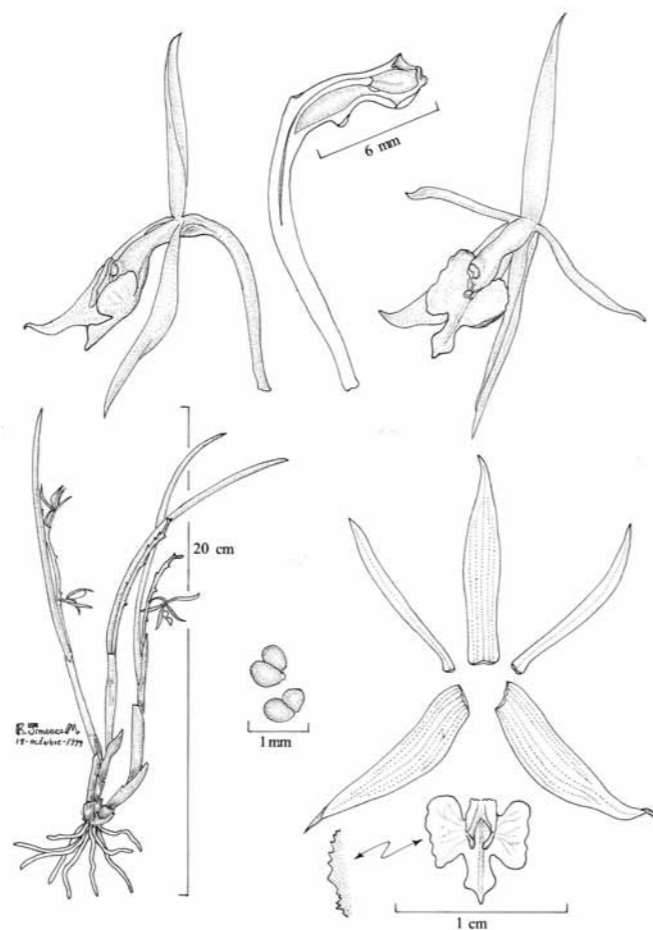


Fig. 277. *Epidendrum porquerense* F.Lehm. & Kraenzl. (*Folsom, L.A. de Escobar & D. Sánchez 10517*, AMO – drawn by R. Jiménez Machorro).

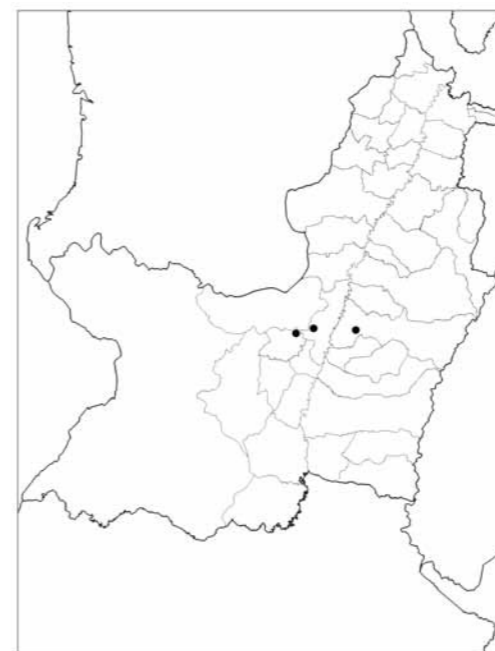


Fig. 278. Distribution of *Epidendrum porquerense* F.Lehm. & Kraenzl. in Valle del Cauca.

1600-1700 m. 22 Mar 2009. *O. Pérez 0250* (VALLE!). **Mpio. Yotoco.** Junto al camino que &duce al “El Dorado”, cerca del vivero “La Mejorana”. Alt. 1600 m. *O. Pérez & E. Parra 515* (VALLE!); Reserva Natural de Yotoco. 27 Oct 2007. *O. Pérez & E. Parra s.n.* (photo!); Yotoco. 4 Abril 1980. *I. Guarín O. 133* (COL!); Supra arbores et rupes ad le Porquera, in andibus civit. Cali. Alt. 1600-1700 m. Apr 1886. *Lehmann 6416* (AMES!, K!).

**46.128. *Epidendrum recurvatum* Lindl. (Fig. 280; Photos 188-191).**

Edwards’s Bot. Reg. **31**(Misc.): 77. 1845; TYPE: VENEZUELA. MÉRIDA. Páramo de Los Bailadores. *Linden 1472* (K-L!, W-R!). - Dunsterville & Garay, Venez. Orchid. Ill. **1**: 130. 1959. - Escobar, Orquídeas Nativas de Colombia **5**, suppl. 758, photo 870.

**Epiphytic**, erect or suberect herb, up to 68 cm tall. **Roots** basal, few, thick, somewhat

flattened. **Stem** 41 cm tall, 0.4 cm wide, terete, covered by tight fitting tubular sheaths. **Leaves** 3-4, aggregate towards the apex of the stem, up to 22 cm long, 1 cm wide, thin, green, sometimes slightly dorsally carinate. **Inflorescence** to 28 cm long, apical, racemose or paniculate; peduncle short, rachis flattened, somewhat zigzag. **Flowers** up to 80, opening in succession, but eventually most open at one time, rather fleshy, pale greenish-brown suffused with maroon, or reddish brown, disc of the lip with the middle of the 3 ribs cream-colored. **Dorsal sepal** 6-8 mm long, 2.5 mm wide, obovate, obtuse. **Lateral sepals** 6-8 mm long, 3.5 mm wide, obovate-oblong, apiculate, somewhat revolute towards the apex. **Petals** 5.8-7 mm long, 1.3 mm wide, oblanceolate, obtuse. **Lip** 6.5 mm long and wide, united to the column, subentire, subquadrate in outline, base cordate, apex emarginate, formed by a pair of small, wide, rounded lobes, lateral margins somewhat revolute; ecallose, with a raised ridge formed by 3 lengthwise sections of nearly equal length, the basal one formed by two ribs, the mid-section formed by 3, parallel ribs, and the apical section also formed by 3 parallel ribs, but lower, terminating in an obtuse point in the apical sinus of the lip. **Gynostemium** short, strongly bent in the center which is strongly constricted. Anther widely obovoid, 4-celled. Pollinia 4, obovoid, laterally compressed, in 2 pairs, caudicles granulose, slightly longer than the pollinia. Rostellum apical, slit. Lateral lobes of the stigma not seen. **Nectary** not seen. **Capsule** not seen.

**HABITAT:** Grows on the *Ladenbergia magnifolia* (Ruiz & Pav.) Klotzch. in premontane forest; at about 1800 m alt.

**FLOWERING SEASON:** April.

**GENERAL DISTRIBUTION:** Colombia, Venezuela.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Yotoco.** Hato Viejo. Alt. ca 1800 m. 8 Apr 2010. *O. Pérez & E. Parra 0649* (VALLE!).





Fig. 279. Distribution of *Epidendrum recurvatum* Lindl. in Valle del Cauca.

#### 47. *Jacquiiniella* Schltr.

Rep. Sp. Nov. Regni Veg., Beih. 7: 123. 1920; GEN-  
 ERITYPE: *Jacquiiniella globosa* (Jacq.) Schltr. [ $\equiv$  *Epidendrum*  
*globosum* Jacq.]. - Ames & Correll, Fieldiana, Bot. 26(2):  
 446-448. 1953. - Schultes, Nat. Orchid. Trinidad &  
 Tobago: 145. 1960. - Foldats in Lasser, Fl. Venezuela,  
 Orchid. 15(3): 138. 1970. - Garay & Sweet in Howard,  
 Fl. Lesser Antill., Orchid.: 120-122. 1974. - Szlachetko  
 & Margońska, Acta Bot. Fenn. 173: 192-194. 2002. -  
 Vásquez & Ibsch, Orquídeas. Bolivia 2: 270-271. 2004.

Caespitose, epiphytic plants. Pseudobulbs  
 absent. Stems numerous, in tufts, elongate,  
 terete, leafy. Leaves terete to equitant, more or  
 less arched, distichous. Inflorescence of termi-  
 nal fascicles, usually with 1 flower open at a  
 time. Flowers tubular, inconspicuous, often tiny,  
 greenish-yellow or yellow. Sepals subsimilar,  
 oblong-lanceolate, connate to various degrees.  
 Petals usually smaller than the sepals. Lip free,

simple or slightly 3-lobed above, shortly clawed,  
 sometimes constricted below the middle and  
 reflexed, upper portion oblong or orbicular to  
 subrhomboid, concave. Gynostemium relatively  
 short and massive, erect to weakly arched. Col-  
 umn part contiguous with the lip in its lower  
 part, more or less winged above. Column foot-  
 less. Anther suberect to subincumbent, motile,  
 dorsiventrally compressed, ellipsoid, 2-cham-  
 bered. Connective wide and rather thick, en-  
 larged apically. Pollinia 4, in two pairs, subequal  
 in size and form, laterally flattened, cylindri-  
 cal to ellipsoid, slightly oblique, rather soft to  
 relatively hard. Caudicles not observed. Apical  
 clinandrium obscure, entire. Stigma confluent,  
 elliptic in outline, concave, sticky. Rostellum  
 erect, shelf-like, truncate, with a sinus on the  
 apical margin (Fig. 281).

The genus comprises about 12 species dis-  
 tributed from Brazil and Peru to Mexico. Three  
*Jacquiiniella* species occur in the Department of  
 Valle del Cauca.

#### Key to species

1. Leaves up to 2 cm long, 0.15-0.2 cm in diameter,  
 floral bracts about 1.3 mm long . . . 47.1. *J. globosa*
1. Leaves up to 10 cm long, 0.4 cm wide, floral bracts  
 up to 8 mm long. . . . . 2
2. Sepals about twice as long as the petals, lip termi-  
 nally thickened into a triangular, cushion-like apex  
 . . . . . 47.3. *J. teretifolia*
2. Sepals and petals, lip terminally attenuate-deltoid  
 . . . . . 47.2. *J. pedunculata*

#### 47.1. *Jacquiiniella globosa* (Jacq.) Schltr. (Figs 282, 283).

Repert. Spec. Nov. Regni Veg., Beih. 7: 124. 1920.  
 - Ames & Correll, Fieldiana, Bot. 26(2): 448. 1953. -  
 Schultes, Nat. Orchid. Trinidad & Tobago: 145-146, 147  
 (Fig). 1960. - Foldats in Lasser, Fl. Venezuela, Orchid.  
 15(3): 139-140. 1970. - Garay & Sweet in Howard, Fl.  
 Lesser Antill., Orchid.: 122-124. 1974. - McLeish & al.,  
 Nat. Orchid. Belize: 200. 1995. - Nir, Orchid. Antill.:

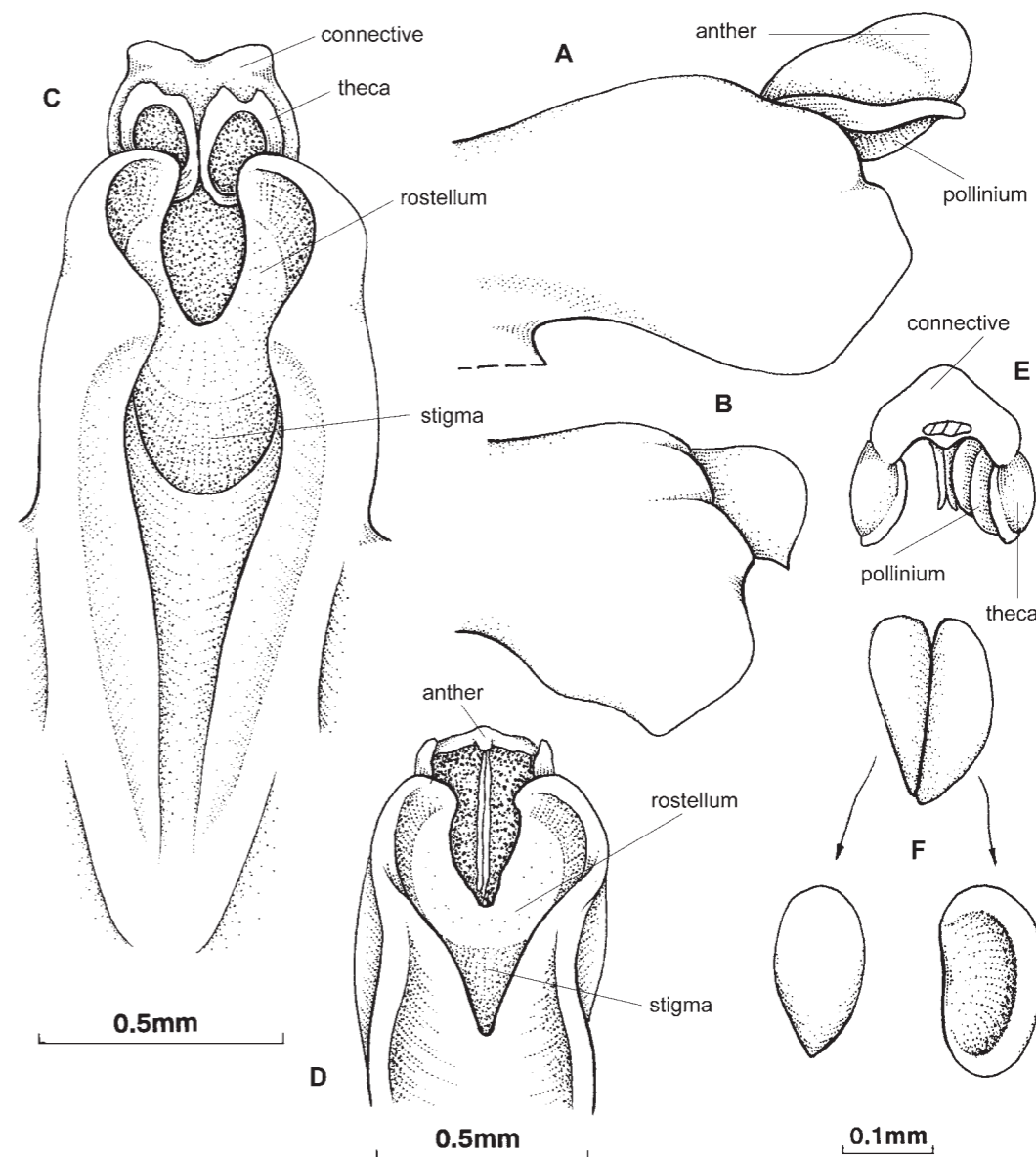


Fig. 280. Gynostemium structure of *Jacquiiniella* Schltr.: *Jacquiiniella globosa* (Jacq.) Schltr. - A: Gynoste-  
 mium, side view. - C: Gynostemium, bottom view. *J. leucomelana* Schltr. - B: Gynostemium, side view. - D:  
 Gynostemium, bottom view. - E: Anther. - F: Pollinia (Szlachetko & Margońska 2002).

167-168. 2000. - Vásquez & Ibsch, Orquídeas de Bolivia 2: 271. 2004. - Misa Urrutia, Orquídeas de la Serranía del Baudo: 270-271. 2005. - Verlag, Flora de la República de Cuba 12(1): 64-65. 2007. - Kolanowska & al., Ill. field guide orchid. Yotoco Forest Reserve (Colombia): 156. 2011. ≡ *Epidendrum globosum* Jacq., Enum. Syst. Pl.: 29. 1760; TYPE: MARTINIQUE. *Jacquin s.n.* (BM!). ≡ *Cymbidium globosum* (Jacq.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 72. 1799. ≡ *Isochilus globosus* (Jacq.) Lindl., Gen. Sp. Orchid. Pl.: 112. 1831. = *Epidendrum kuhlmannii* Schltr., Beih. Bot. Centralbl. 42(2): 79. 1925, *nom. illeg.* = *Epidendrum geraldii* Porto & Brade, Rodriguésia 1(2): 30. 1935. = *Epidendrum rudolfianum* Hoehne, Ind. Bibl. Num. Pl. Col. Com. Rond.: 172. 1951, *nom. illeg.*

**Epiphytic**, 2-15 cm tall. **Rhizome** quite short. **Stem** leafy throughout, slender, occasionally fractiflex, concealed by the closely appressed leaf sheaths. **Leaves** up to 2 cm long, 0.15-0.2 cm in diameter, distichous, terete, fleshy, distally medially ridged, somewhat arcuate, blunt or subacute, basally articulated with their sheaths. **Inflorescence** a short, terminal fascicle, 1-flowered. **Flowers** deflexed, yellowish with the sepals often tipped with red or dull rose. Floral bracts about 1.3 mm long, amplexicaul, infundibular, obliquely subtruncate and apiculate at the apex, with a weak keel extending to the apiculus. Pedicel about 2 mm long, slender, enveloped at the base by several short closely imbricate bracts. **Sepals** about 2-2.5 mm long, 1.2-1.3 mm wide, elliptic, fleshy-thickened at the subacute apex, concave, 3-veined. **Dorsal sepal** slightly broader than the lateral sepals. **Lateral sepals** united at the base and combining with the lower part of the lip to form a goitre-like sac. **Petals** 2-2.3 mm long, about 1 mm wide, elliptic, acute, slightly narrowed below the middle, 1-veined. **Lip** 2.5-3 mm long, fleshy, entire, obovate-rhomboid, thickened into a pouch at base, apically obtuse, margin entire; disc obscurely 2-callose. **Gynostemium** 1-5 mm long, terete, slightly dilated above. **Capsule** 5-6 mm long, obliquely globose-ovoid, prominently 6-ribbed.

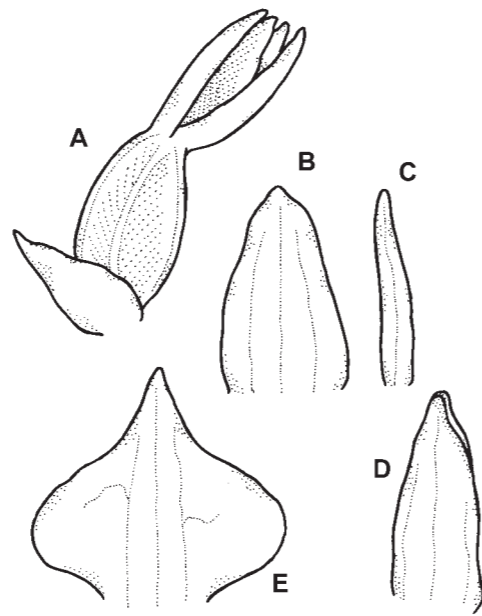


Fig. 281. *Jacquiniella globosa* (Jacq.) Schltr.: A: Flower. – B: Dorsal sepal. – C: Petal. – D: Lateral sepal. – E: Lip (L.C. Richard herb., W-R – drawn by M. Lamczyk).

**HABITAT:** Tropical dry forest to premontane cloud forest; 950-1800 m alt.

**FLOWERING SEASON:** Throughout the year.

**GENERAL DISTRIBUTION:** Brazil, Bolivia, Peru, Ecuador, Colombia, Venezuela, Guyana, Suriname, French Guiana, Panama, Costa Rica, The Lesser Antilles (Grenada, St. Vincent, St. Lucia, Martinique, Dominica, Guadeloupe, St. Kitts, St. Eustatius, Saba), The Greater Antilles (Puerto Rico, Hispaniola, Jamaica, Cuba), Nicaragua, Honduras, El Salvador, Guatemala, Belize, Mexico.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Dagua.** Corregimiento de Atuncela. Alt. 1100 m. 24-28 Aug 1998. *W.G. Vargas 4992* (COL!). **Mpio. Restrepo.** Vereda de Roman, cerca a Río Grande, vertiente de Río Grande; bosque de neblina. Alt. 1800 m. 22 May 1988. *J.E. Ramos, C. Reyna & A. Reyna 953* (CUVCI!). **Mpio. Yotoco.** Reserva Natural de Yotoco. Alt. 1600 m. 19 Jun 2009. *O. Pérez & E.*

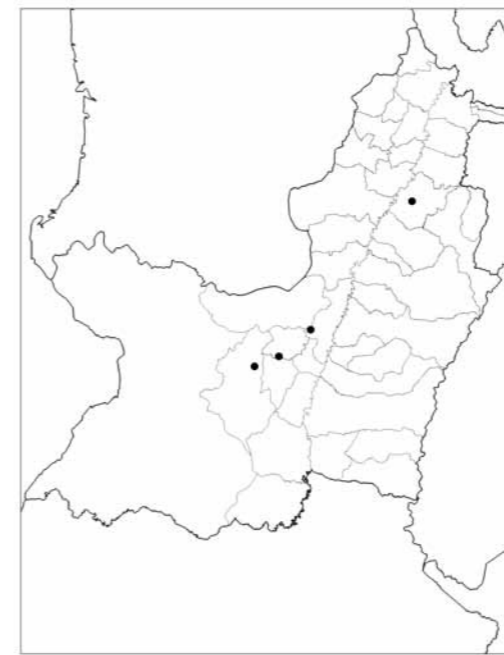


Fig. 282. Distribution of *Jacquiniella globosa* (Jacq.) Schltr. in Valle del Cauca.

*Parra 0157* (VALLE!). **Mpio. Zarzal.** Hacienda El Medio (Carretera Panamericana entre La Paila & Zarzal, parte plana del Valle del Río Cauca), bosque remanente parcialmente primario, dominado por *Anacardium excelsum* hasta 40 m altura, 1.73 DAP. Alt. ca 975 m. 22 Mar 1986. *Silverstone-Sopkin & A. Rodríguez M. 2154* (CUVCI!); Hacienda El Medio (Carretera Panamericana entre La Paila & Zarzal, parte plana del Valle del Río Cauca), bosque remanente parcialmente primario, dominado por *Anacardium excelsum* hasta 40 m altura, 1.73 DAP. Alt. ca 950 m. 23 May 1987. *Silverstone-Sopkin & N. Paz 3138* (CUVCI!, MO!); Hacienda El Medio (Carretera Panamericana entre La Paila & Zarzal, parte plana del Valle del Río Cauca), vegetación ribereña a lo largo del Río La Paila, & *Guadua, Gynerium* & unos pocos *Anacardium excelsum*. Alt. 950 m. 21 Mar 1988. *Silverstone-Sopkin & N. Paz 3726* (CUVCI!, MO!); Hacienda El Medio (Carretera Panamericana entre La Paila & Zarzal, parte plana del Valle del Río Cauca), bosque secundario (viejo cacaotal)

dominado por *Anacardium excelsum* hasta 40 m altura. Alt. ca 950 m. 4 Nov 1990. *Silverstone-Sopkin & al. 6022* (CUVCI!); Hacienda El Medio (Panamericana Highway between La Paila & Zarzal, flat part of Cauca Valley), secondary forest (old cacao grove) dominated by *Anacardium excelsum*. Alt. 950 m. 14 Feb 1992. *Silverstone-Sopkin & al. 6499* (CUVCI!, MO!).

**OTHER SPECIMENS EXAMINED:** **BRAZIL. Roraima.** Summit of Serra da Lua, cloud forest - 2°25'-29'N, 60°11'-14'W. Alt. 1400 m. 24 Jan 1969. *G.T. Prance, J.R. Steward, J.F. Ramos & L.G. Farias 9414* (COL!). **PERU. Huanuco.** Leoncio Prado. Distr. Rupa Rupa. Al este de Tingo María, cerca al Cerro Quemado. Alt. 700-800 m. 15 Sep 1978. *J. Schunke V. 10610* (MO!). **ECUADOR. Napo.** Km 5 Tena-Puerto Napo. Alt. 550 m. 18 Jun 1983. *C.H. & P.M. Dodson, D. Benzig & A. Hirtz 14057* (MO!). **COLOMBIA. Cauca.** Isla de Gorgona, playas con zonas cercanas a las instalaciones del Inderena. Trocha en dirección a la playa de Pablo VI. Alt. 0-150 m. 10-14 Sep 1987. *J.L. Fernández A., O. Rangel, G. Lozano & al. 7551* (COL!). **Cundinamarca.** Mpio. Viotá. Vda. San Gabriel. Alt. 1300 m. 11 Jan 1992. *A. Chaparro de Barrera & E. Barrera Torres 246(2)* (COL!); Mpio. Sasaima: Nanay. A orillas del río. 20 May 1989. *A. Chaparro de Barrera & E. Barrera Torres 96(3)* (COL!); San Bernardo. Alt. 1600 m. 5 Nov 1950. *Schneider 306* (COL!); Mpio. San Francisco. Vda. San Miguel. Fca Tomuco. 24 Oct 1992. *A. Chaparro de Barrera & E. Barrera Torres 273(1)* (COL!); Mpio. Yacopi. Vda. Yacopi viejo. Alt. 1280 m. 12 Oct 1992. *A. Chaparro de Barrera & E. Barrera Torres 245(1)* (COL!). **Guajira.** [Mpio. Uribia]. Serranía de Macuira. Kalal. Cloud forest on edge of clearing. Alt. 700 m. 19 Apr 1977. *A. Sugden 284* (COL!); Serranía La Macuira. Bosques de Junnapai. Alt. arriba de 2200 pies. 11-12 Apr 1964. *C. Saravia T. & M.E. de Saravia 3596* (COL!). *Sine loc.* Norte de la Costa Pacífica. Planta epífita de estrato arboreo medio áreas expuestas en la primera vegetación de las playas en bosque degradado prefiere árboles de totumo. Jul 1988. *G. Misa Urrutia 24* (COL!).

**Huila.** Mpio. La Flata. Hacienda La Limona. Alt. 1020 m. 8 Oct 1984. *G. Lozano, O. Rangel, L.F. de Turbay, A. Sanabria & N. Espejo 4834* (COL!). **Risaralda.** Mpio. Pereira. Hacienda Alejandria, Km 6 carretera La Virginia-Cerritos, lomas bajas, en extremo norteño de parte ancha del Valle del Río Cauca, mancha de bosque primario & muchas palmas (*Syagrus sancona*). Alt. 940 m. 7 May 1989. *Silverstone-Sopkin & N. Paz & J.E. Arroyo V. 5199* (CUVCI!); Mpio. Marsella. Vereda La Nona, Finca Palermo, cerca al caserío Caracas. Cordillera Central, vertiente occidental. Alt. 1250 m. 26 Jul 1980. *Cleef, O. Rangel & S. Salamanca 10093* (COL!). **VENEZUELA.** **Terr. Fed. Amazonas.** Atures. Serranía Batata, 2 km al NE de Salto Colorados, caño Colorado. 55 km SE Puerto Ayacucho. 5°33'N 67°08'W. Alt. 550 m. Sep 1989. *A. Fernandez, E. Sanoja & M. Yanez 6349* (MO!). **GUYANA. Region Potaro-Siparuni.** Pakaraima Mts., Cipo Mtn. Summit ridge 0.5 km N to NE'ernmost escarpment. 4°54'N 60°05'W. Alt. 1250 m. 29 Jan 1993. *Henkel, M. Chin & W. Ryan 1095* (MO! ex US). **CUBA. Guantamo.** Imías. Falda oeste de la Loma de Majagua Hueca Alt. 600 m. 16 Apr 1984. *J. Bisse, J. Gutierrez, K.P. Günther, F.K. Meyer, B. Mory, C. Schez, R. Rankin & I. Arias 53154* (AMO!). **Holguin.** Sierra de Moa subida Norte vegetación pluvisilva. Alt. 800 m. 15 Apr 1981. *J. Bisse, M. Diaz, H. Dietrich, A. Leiva, L. Lepper, B. Mory & C. Calasus 5593* (AMO!). **PANAMA. Chiriquí.** Slope NW of confluence of Río Hornito and Río Chiriquí. ca 8°44'N 82°13'W. Cloud for Alt. 1050-1100 m. 11 Nov 1980. *W.D. Stevens 18297* (AMO!). **MEXICO. Chiapas.** Mpio. Ocosingo. En Estación Chajul. Selva alta perennifolia. Alt. 150 m. 28 Oct 1992. *E. Martínez S., C.H. Ramos, R. Lombera & G. Domínguez 25554* (AMO!). **Oaxaca.** 27 miles N of Pochutlá on Hwy 175 (Oaxaca - Porto Angel). In cafetal. 96°28'W 15°56'N. Alt. 1220 m. 17 Oct 1983. *M.W. Chase 83342* (AMO! x 2).

NOTES. *J. globosa* is the smallest member of the genus in the Valle del Cauca Department. It is easily separable from the other two species

of *Jacquiiniella* by its short leaves up to 2 cm long and short floral bracts up to 1.3 mm long.

**47.2. *Jacquiiniella pedunculata* Dressler** (Figs 284, 285).

Orquideología 5: 24. 1970; TYPE: PANAMA. COLÓN. Camino maderero de Santa Rita. Preparada de cultivo 28 Jan 1966. *R.L. Dressler 2986* (HOLOTYPE: US!; TOPOTYPE: K!).

**Epiphytic**, caespitose plants. **Stems** 9-22 cm long including the peduncle, enclosed at the base by 2-3 tubular sheaths and leaf bases. **Leaves** 4, 2.5-10 cm long, 3-4 mm wide, coriaceous, semicylindric, acute. **Inflorescence** about 5.5-12 cm long, slightly compressed with a filiform bract 2.5-5 cm long near the apex. Spathe about 2-5 mm long, triangular, conduplicate. **Flowers** fasciculate, successive, fleshy, green or greenish-brown. Pedicels about 2.5 mm long, thin. Ovary with pedicel about 15-18 mm long including a saccate nectary about 9-12 mm long. **Sepals** 10-11.5 mm long, 2.6-3 mm wide, elliptic-lanceolate; dorsal sepal obtuse; lateral sepals oblique and acute. **Petals** about 9 mm long, 2 mm wide, elliptic, asymmetric, abruptly acute. **Lip** 9-11 mm long, about 5.5 mm wide when expanded, briefly united with the base of the gynostemium, 3-lobed, base cuneiform; lateral lobes transversely oblique, obtuse, enfolding the column; middle lobe about 4.5 mm long, attenuate-deltoid; callus in the centre of the lip consisting of 2 low carinae. **Gynostemium** about 3.7-4 mm long, erect, clavate.

HABITAT: Lowland wet forest; near sea level.

FLOWERING SEASON: June, December.

GENERAL DISTRIBUTION: Colombia, Panama.

DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA: **Mpio. Buenaventura.** El Forge, near Buenaventura, sea level. 5, 8 Jun 1944. Epiphyte, segment greenish yellow. *Killip & Cuatrecasas 38952* (US); Buenaventura, blüht in Dezember. *Lehmann 440* (K).



Fig. 283. *Jacquiiniella pedunculata* Dressler: A: Habit. – B: Dorsal sepal. – C: Petal. – D: Lateral sepal. – E: Lip (redrawn by S. Nowak from Dressler 1970).

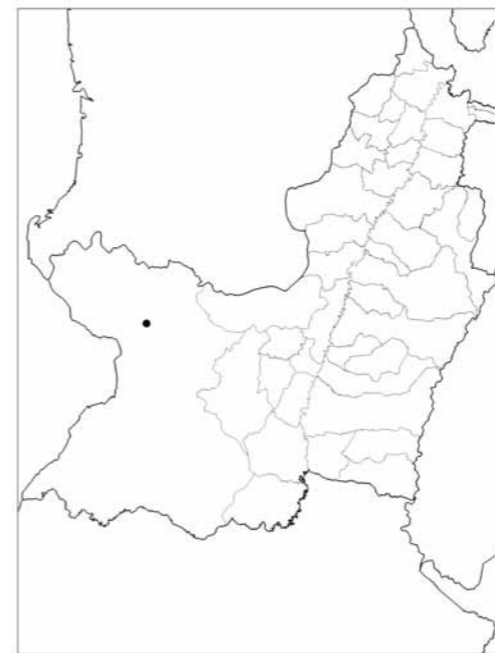


Fig. 284. Distribution of *Jacquiiniella pedunculata* Dressler in Valle del Cauca.

NOTES. The specimens cited above were not seen. The locality information follows Dressler (1970).

**47.3. *Jacquiiniella teretifolia* (Sw.) Britton & P.Wilson** (Figs 286, 287).

Sci. Surv. Porto Rico & Virgin Islands 6: 340. 1926. - Garay & Sweet in Howard, Fl. Lesser Antill., Orchid.: 124. 1974. - McLeish & al., Nat. Orchid. Belize: 201. 1995. - Nir, Orchid. Antill.: 168. 2000. ≡ *Epidendrum teretifolium* Sw., Prodr.: 122. 1788; TYPE: JAMAICA. *Swartz s.n.* (BM!, S). - Ames & Correll, Fieldiana, Bot. 26(1): 385. 1952. - Foldats in Lasser, Fl. Venezuela, Orchid. 15(3): 422-425. 1970. ≡ *Cymbidium teretifolium* (Sw.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 72. 1799. ≡ *Isobilis teretifolius* (Sw.) Lindl., Gen. Sp. Orchid. Pl.: 112. 1831. ≡ *Briegeria teretifolia* (Sw.) Senghas, Orchidee (Hamburg) 31: 30. 1980. - Verlag, Flora de la República de Cuba 12(1): 30-31. 2007. = *Epidendrum teres* Rchb.f., Bonplandia (Hannover) 3: 220. 1855, *nom. illeg.* ≡ *Jacquiiniella teres* Hamer & Garay in F.Hamer, Orquid. El Salvador 2: 30. 1974. = *Epidendrum subuliferum* Schltr., Beih. Bot. Centralbl. 36(2): 409. 1918. = *Epidendrum teretifolium* var. *powellianum* Schltr., Repert. Spec. Nov. Regni Veg., Beih. 17: 41. 1922.

**Epiphytic**, caespitose plants, up to 35 cm tall. **Stems** erect or arcuate, fasciculate, simple, slender, terete, leafy. **Leaves** up to 5 cm long, 0.25 cm wide, distichous, terete-trigonus, fleshy, rigid, obtuse, basally articulate with their sheaths. **Inflorescence** terminal, 1-flowered. **Flowers** small, erect, subsessile, greenish-yellow, lip sometimes purple. Floral bracts up to 8 mm long, conferted, carinate, completely covering the peduncle. Ovary with the long pedicel up to about 20 mm long, cylindrical, cuniculate. **Sepals** up to 12 mm long, free, subsimilar, quite fleshy, thickening towards the apex, navicular, linear-lanceolate, acute; lateral sepals not gibbose. **Petals** up to about 7 mm long, much shorter than the sepals, distally fleshy, linear-subspathulate. **Lip** up to about 9 mm long, 3.8 mm wide, entire, fleshy, concave, adnate to about half the gyno-

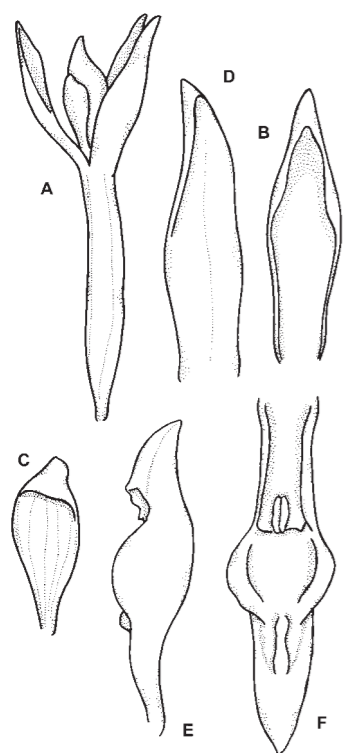


Fig. 285. *Jacquiniella teretifolia* (Sw.) Britton & P.Wilson: A: Flower. – B: Dorsal sepal. – C: Petal. – D: Lateral sepal. – E & F: Lip (*Endres 154*, W-R - drawn by M. Lamczyk).

stemium by a narrow claw, rhomboid-ligulate, terminally thickened into a triangular, cushion-like apex; the disc bears a median trifid keel. **Gynostemium** up to 4.8 mm long, short, terete. **Capsule** up to 18 mm long, ellipsoid-fusiform. **HABITAT**: Xerophytic scrub; about 610–630 m alt.

**FLOWERING SEASON**: September.

**GENERAL DISTRIBUTION**: Brazil (?), Colombia, Venezuela, Guyana, Suriname, French Guiana, Panama, Costa Rica, The Lesser Antilles (Dominica, Guadeloupe), The Greater Antilles (Puerto Rico, Hispaniola, Jamaica, Cuba), Nicaragua, Honduras, El Salvador, Guatemala, Belize, Mexico, USA.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE**



Fig. 286. Distribution of *Jacquiniella teretifolia* (Sw.) Britton & P.Wilson in Valle del Cauca.

**DEL CAUCA: Mpio. Dagua**. Cordillera Occidental, vertiente occidental: Lobo Guerrero, en matorrales xerofitos. Alt. 610–630 m. 3–10 Sep 1944. *Cuatrecasas 17813* (VALLE!).

**OTHER SPECIMENS EXAMINED: VENEZUELA. Bolivar**. Distr. Piar. Auyan-tepui, summit, in south central region, headwaters of Río Churun. 5°51'N 62°32'W. Alt. 1700–1800 m. 31 Mar 1987. *Holst 3817* (MO!). **HISPANIOLA**. Civ. Santo Domingo. Cordillera Central, Sto. Domingo, La Cumbre. In forest, high up in the trees. Alt. ca 300 m. 5 May 1929. *Ekman 12371* (K!).

**NOTES**. *J. teretifolia* is characterized by its sepals being twice as long as petals and the lip which ends in a cushion-like apex.

### 3.4. Subtribe *Ponerinae* Pfitz.

Entw. Nat. Anord. Orchid.: 101. 1887.

Pseudobulbs slender. Leaves conduplicate. Inflorescence terminal. Lip hinged on the prominent, massive column foot. Mentum well-developed. Column erect. Clinandrium usually reduced. Rostellum short, truncate. Viscidia apparently absent. Anther bent forward, fleshy, 4-chambered, motile. Pollinia 4, ovate to elliptic, laterally compressed, joined to the sticky caudicles.

A large, poorly known group of orchids with usually small, inconspicuous flowers.

### 48. *Scaphyglottis* Poepp. & Endl.

Nov. Gen. Sp. Pl. 1: 58. 1835; **GENERITYPE** (Dressler 1960): *Scaphyglottis graminifolia* (Ruiz & Pavón) Poepp. & Endl. [= *Fernandezia graminifolia* Ruiz. & Pavón]. - Ames & Correll, Fieldiana, Bot. 26(2): 429. 1953. - Schultes, Nat. Orchid. Trinidad & Tobago: 150. 1960. - Schweinfurth, Fieldiana, Bot. 30(3): 541. 1960. - Foldats in Lasser, Fl. Venezuela, Orchid. 15(3): 77–78. 1970. - Garay & Sweet in Howard, Fl. Lesser Antill., Orchid.: 170–172. 1974. - Hamer, Orquid. El Salvador 2: 277. 1974. - Williams & Allen, Orchid. Panama: 318. 1980. - Dressler, Taxon 43: 665–666. 1994. - Szlachetko & Margońska, Ann. Bot. Fenn. 173: 212. 2002. - Vásquez & Ibsch, Orquid. Bolivia 2: 317. 2004. - Pridgeon & al., Genera Orchid. 4: 310–313. 2005.

Epiphytic, caespitose plants. Rhizome creeping. Pseudobulbs narrowly cylindrical or stipitate, arising from the rhizome or the apices of older pseudobulbs. Leaves 1–3, apical, conduplicate, chartaceous or fleshy, with several papery sheaths, linear to oblong or ovate. Inflorescence fasciculate or racemose, often successive. Flow-

ers resupinate. Sepals similar, free, porrect or spreading. Petals usually wider than sepals. Lip articulate to the column foot, rarely firmly united, entire or 3-lobed, with or without calli. Gynostemium elongate, slender, more or less arched, sometimes almost erect. Column part prominent, much longer than the anther, more or less winged, especially at the apex, often with lateral appendages of various forms: filamentous or membranous. Column foot conspicuous, slender or stout. Anther incumbent, occasionally erect, transversely ellipsoid to subglobose, motile, easily detached, 4-chambered. Pollinia 4, unequal in size and form, obovoid to ellipsoid, distinctly attenuate towards the apex, laterally flattened, formed of relatively loosely aggregated tetrads. Caudicles very delicate, attached to the apices of each pollinium, lamellar-granular, sticky. Apical clinandrium conspicuous, obscurely 3-lobed. Stigma large to rather small, transversely elliptic, deeply concave, filled with a sticky plug. Rostellum ligulate, rounded and thickened at the apex upon which are deposited a few layers of isodiametric cells; rostellum bent over the stigmatic surface, occasionally erect. Neither viscidium nor tegula are produced. Capsule ellipsoid to subglobose, 6-ribbed or 3-angled, often beaked (Fig. 288).

Most *Scaphyglottis* species grow in humid to wet forest or cloud forest. The flowers are probably pollinated by hummingbirds (Adams 1993).

The genus contains about 60 species distributed from Bolivia and Brazil to Mexico, with the greatest diversity in Costa Rica and Panama (about 70% of the species). Ten *Scaphyglottis* species have been reported from the Department of Valle del Cauca, although the occurrence of one of them was not confirmed. Because of the poor knowledge of *Scaphyglottis* we have decided to include also a key to the determination of all the species ever reported from Colombia.

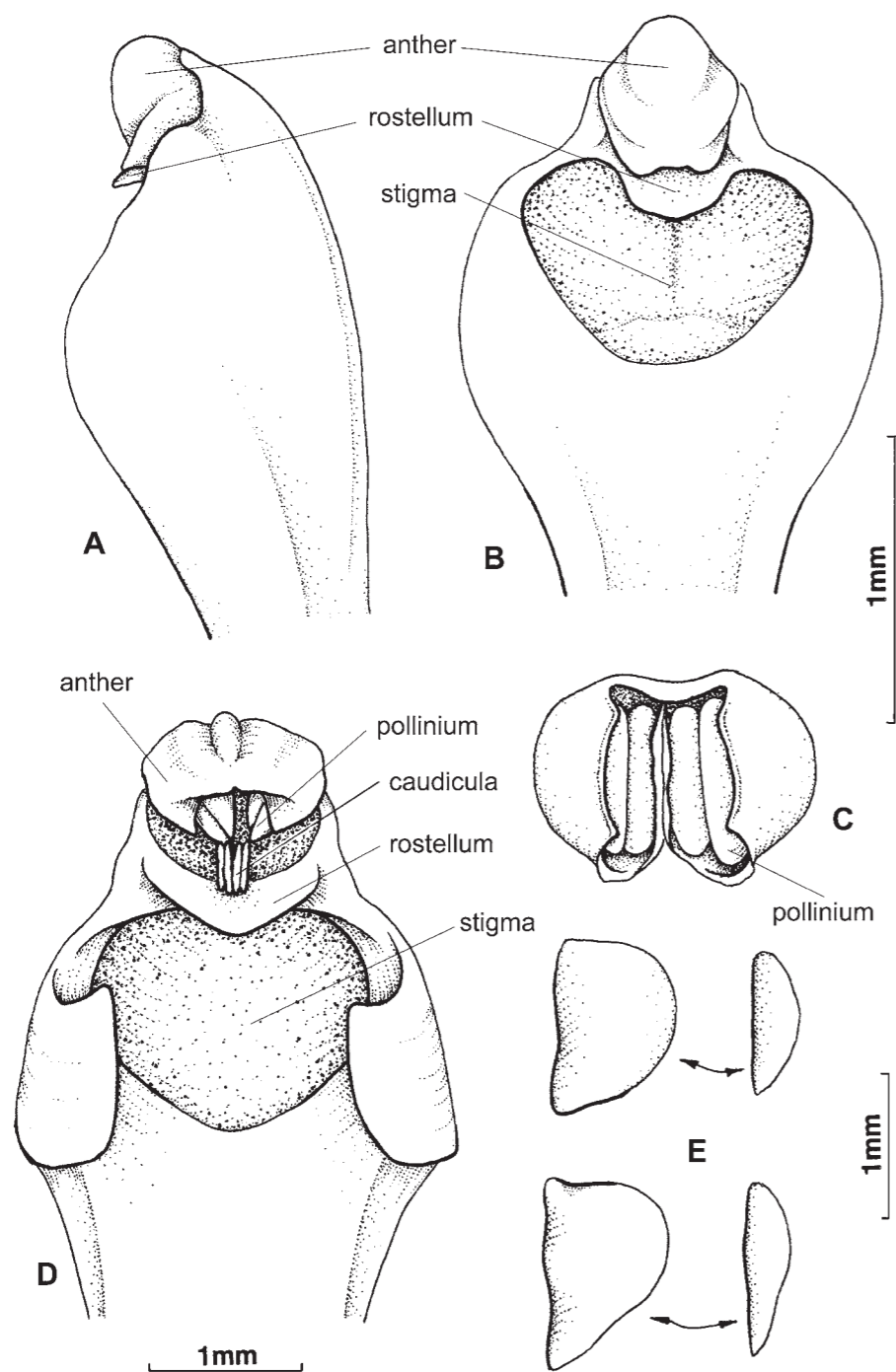


Fig. 287. Gynostemium structure of *Scaphyglottis* Poepp. & Endl.: A: Apical part of gynostemium, side view. – B & D: Apical part of gynostemium, bottom view. – C: Anther. – E: Pollinia, various views (Szlachetko & Margońska 2002).

#### Key to species reported from Valle del Cauca

1. Inflorescence racemose ..... 48.3. *S. gentryi*
1. Inflorescence a single flower or a fascicle of a few flowers. .... 2
2. Inflorescence a few-flowered fascicle. .... 3
2. Inflorescence single-flowered or a fascicle of 2 flowers ..... 5
3. Lip broadly rounded and apiculate in front. .... 48.7. *S. propinqua*
3. Lip retuse or obtuse at the apex ..... 4
4. Petals narrowly elliptic-oblong, acute or obtuse, lip obovate to oblong, with small, semi-orbicular, auricular lobes near the middle ..... 48.5. *S. minutiflora*
4. Petals linear-oblong, subobtuse, lip faintly 3-lobed, middle lobe obovate-cuneate with a retuse apex and erose crenulate margins ..... *S. graminifolia* (excluded)
5. Leaves grass-like, usually less than 0.5 cm wide. .... 6
5. Leaves linear-lanceolate, usually more than 0.5 cm wide. .... 7
6. Lip middle lobe acute at the apex. .... 48.4. *S. longicaulis*
6. Lip middle lobe long acuminate, apex revolute ..... 48.2. *S. chocoana*
7. Petals about twice as long as wide, elliptic to ovate-elliptic, shortly clawed. .... 48.1. *S. aurea*
7. Petals 4-8 times as long as wide, linear to elliptic-oblong. .... 8
8. Pedicellate ovary very short, 3-4 mm long ..... 48.6. *S. prolifera*
8. Pedicellate ovary long, 15-18 mm long ..... 9
9. Lip 7-8.5 x 3.4-6.8 mm, slightly exceeding the sepals, sessile, entire, from a cuneate base obovate-pandurate in outline, truncate or very broadly rounded and apiculate or slightly retuse and apiculate in front. .... 48.8. *S. punctulata*
9. Lip 11-11.5 x 6-7 mm wide, equal in length to the sepals, clawed, 3-lobed above the middle, lateral lobes triangular, somewhat antrorse, middle lobe strongly decurved, subquadrate, retuse ..... 48.9. *S. triloba*

#### Key to all the Colombian species

1. Lip not motile. .... 2
1. Lip motile. .... 3
2. Lateral sepals linear-lanceolate, lip lateral lobes rounded. .... *S. emarginata*
2. Lateral sepals obliquely oblong-ovate to ovate-lanceolate, lip lateral lobes obtuse-triangular ... *S. reflexa*
3. Lip distinctly 3-lobed ..... 4
3. Lip entire or obscurely 3-lobed ..... 17
4. Inflorescence a fascicle, each branch bearing 1-2 flowers ..... 5
4. Inflorescence a fascicle, each branch bearing more than two flowers. .... 13
5. Leaves grass-like, usually less than 0.5 cm wide. .... 6
5. Leaves linear-lanceolate to elliptic, usually more than 0.5 cm wide ..... 8
6. Lip middle lobe subquadrate. .... *S. exilis*
6. Lip middle lobe subtriangular. .... 7
7. Lip middle lobe acuminate, lateral lobes rounded. .... *S. chocoana*
7. Lip middle lobe acute, lateral lobes obtuse ..... *S. longicaulis*
8. Leaves linear-ligulate, bilobulate at the apex. .... 9
8. Leaves lanceolate, acute. .... 11
9. Lip middle lobe decurved, subquadrate, margins crenulate. .... *S. triloba*
9. Lip middle lobe not decurved, suborbicular-flabellate or subquadrate, apex bifid ..... 10
10. Lip middle lobe widest at the base, rounded at the apex ..... *S. bilineata*
10. Lip middle lobe widest at the apex, truncate. .... *S. lueckelii*
11. Lateral lobes obliquely subquadrate ..... *S. stricta*
11. Lateral lobes obliquely obovate. .... 12
12. Lip middle lobe rounded, obtuse ... *S. boliviensis*
12. Lip middle lobe long acuminate, acute ..... *S. huebneri*
13. Middle lobe of the lip emarginate, retuse ..... 14
13. Middle lobe of the lip apiculate, acute to obtuse ... *S. modesta*
14. Lip longer than the tepals. .... 15

14. Lip subequal to the tepals . . . . . 16  
 15. Leaves elliptic to oblong-lanceolate . . . . . *S. bifida*  
 15. Leaves linear-oblong . . . . . *S. bebrrii*  
 16. Lip 3-3.5 mm long, middle lobe elliptic-obovate . . . . .  
 . . . . . *S. violacea*  
 16. Lip 6-8.5 mm long, middle lobe ligulate to rectangular . . . . . *S. stellata*  
 17. Inflorescence a fascicle of few flowers . . . . . 18  
 17. Inflorescence 1-2-flowered . . . . . 19  
 18. Lip about 10 x 5 mm, subpandurate . . . . .  
 . . . . . *S. coriacea*  
 18. Lip 2.5-4 x 1.5-2.5 mm, obovate to oblong . . . . .  
 . . . . . *S. minutiflora*  
 19. Leaves oblong-elliptic to elliptic-lanceolate . . . . . 20  
 19. Leaves linear . . . . . 22  
 20. Pedicellate ovary about 20 mm long, lip panduriform-obovate . . . . . *S. arctata*  
 20. Pedicellate ovary about 3-4 mm long, lip spatulate . . . . . 21  
 21. Sepals up to 3.5 mm long, petals subobtusate . . . . .  
 . . . . . *S. sickii*  
 21. Sepals up to 2.5 mm long, petals emarginate . . . . .  
 . . . . . *S. signata*  
 22. Sepals linear-lanceolate, ligulate to lanceolate . . . . . 23  
 22. Sepals elliptic-ovate . . . . . 25  
 23. Lip spatulate to cuneate-flabellate . . . . . 24  
 23. Lip oblong-ovate . . . . . *S. isochiloides*  
 24. Apical part of the lip obtuse . . . . . *S. esuriens*  
 24. Apical part of the lip semi-orbicular . . . . .  
 . . . . . *S. fusiformis*  
 25. Lip anchoriform . . . . . *S. gentryi*  
 25. Lip subquadrate, cuneate-ovate, oblong-lanceolate to ovate . . . . . 26  
 26. All tepals similar in size and shape . . . . . 27  
 26. Petals differing in size and shape from the sepals . . . . . 30  
 27. Leaves less than 5 mm wide . . . . . *S. sessilis*  
 27. Leaves more than 5 mm wide . . . . . 28  
 28. Tepals elliptic to ovate-elliptic . . . . . *S. aurea*  
 28. Tepals lanceolate-oblong to ovate-oblong . . . . . 29  
 29. Stems usually simple, or with just a few branches . . . . .  
 . . . . . *S. punctulata*  
 29. Stems branched . . . . . *S. summersii*  
 30. Lip flabellate, cuneate-ovate . . . . . 31

30. Lip subquadrate to ovate-quadrate . . . . . *S. livida*  
 31. Pseudobulbs stipitate . . . . . *S. graminifolia*  
 31. Pseudobulbs cylindrical-fusiform . . . . . *S. prolifera*

48.1. *Scaphyglottis aurea* (Rchb.f.) Foldats (Figs 289, 290).

Acta Biol. Venez. 2: 381. 1959. ≡ *Scaphyglottis ruberrima* var. *aurea* Rchb.f., Linnaea 22: 856. 1850; TYPE: VENEZUELA. Colonia Tovar. Jun-Jul 1845. Moritz 861 (W!, BM, K, LE). ≡ *Tetragamestus aureus* (Rchb.f.) Rchb.f., Bonplandia (Hannover) 2: 22. 1854. ≡ *Hexisea aurea* (Rchb.f.) Dressler, Taxon 13: 246. 1964. = *Scaphyglottis genychnila* Schltr., Repert. Spec. Nov. Regni Veg., Beih. 7: 122. 1920.

**Terrestrial or epiphytic**, erect to straggling or pendent plants, 22-65 cm tall or up to 100 cm long. **Pseudobulbs** 0.5-4.2 cm long, up to 0.7 cm wide, stipitate, enveloped by imbricate, tubular sheaths, bifoliate at the apex. **Leaves** 12-16 cm long, 0.4-1.3 cm wide, erect-spreading, linear to narrowly lanceolate or oblong-elliptic, chartaceous or subcoriaceous. **Inflorescences** 1(2)-flowered, subtended by a few conduplicate bracts, the outermost bract up to 2.5 cm long. **Flowers** with an inconspicuous obtuse mentum, erect to pendulous, pale to dark yellow, often with a brownish or mauve anther. Floral bracts about 4, up to 15 mm long, apiculate, imbricate, keeled, subtending branches. Pedicel and ovary 14-22 mm long, long exerted from the subtending bracts. Sepals obtuse, rarely subacute, usually rather fleshy. **Dorsal sepal** 6-10 mm long, 3-4.5 mm wide, elliptic to ovate-elliptic, concave. **Lateral sepals** 5.5-9 mm long, 3-4 mm wide, connate for about 0.5 mm at the base, somewhat obliquely oblong-elliptic, more or less keeled. **Petals** 5.5-8 mm long, 2.3-4 mm wide, elliptic to ovate-elliptic, shortly clawed, obtuse or somewhat apiculate. **Lip** 5.5-7.5 mm long (including the claw), united with the column foot, with a cuneate claw 1-1.5 mm long, oblong-lanceolate to ovate in outline, prominently auriculate in the

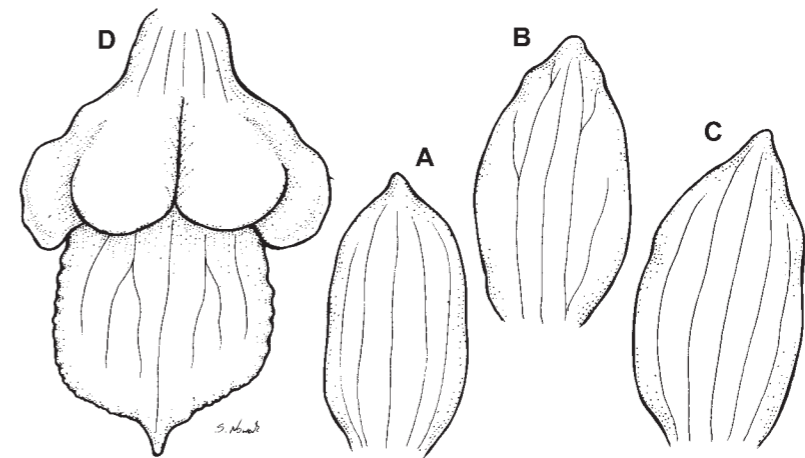


Fig. 288. *Scaphyglottis aurea* (Rchb.f.) Foldats: A: Dorsal sepal. – B: Petal. – C: Lateral sepal. – D: Lip (xxx – drawn by S. Nowak).

lowest third with the erect auricles, the upper two-thirds strongly deflexed, obtuse to rounded or somewhat retuse at the apex, margins denticulate or entire, with a large, obovate callus at the base of each of the auricles, 3-4.5 mm across the auricles when spread. **Gynostemium** 4-5 mm long, arcuate, commonly more or less winged, wings rounded; column foot about 0.7 mm long, projecting downwards. **Capsules** 9-12 mm long (including a beak about 1.5 mm long), ellipsoid, with most of the perianth and gynostemium usually persistent.

**HABITAT:** Wet montane forest; about 2500 m alt.

**FLOWERING SEASON:** January.

**GENERAL DISTRIBUTION:** Ecuador, Colombia, Venezuela.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cali.** Cordillera Occidental Los Farallones de Cali. Creciendo a la larga de la trocha a la finca Corea, aprox. 1 Km abajo del Corea en un bosque. Alt. 2500 m. Bosque pluvial montano bajo. 4 Jan 1974. Hartman 631 (CUVCI).

**OTHER SPECIMENS EXAMINED:** **COLOMBIA.** **Antioquia.** Mpio. Sonsón. West flank of cerros



Fig. 289. Distribution of *Scaphyglottis aurea* (Rchb.f.) Foldats in Valle del Cauca.

de La Vieja. Ca 10 km NE of Sonsón. 5°47'N 75°15'W. Alt. 2700 m. 7 Dec 1986. *Zarucchi & N. Bedoya 4482* (MO!). **VENEZUELA.** Colonia Tovar. Jun-Jul 1845. *Moritz 861* (W!).

NOTES. *S. aurea* is somewhat similar to *S. proliferata*, but clearly differs from it in the form of the petals.

#### 48.2. *Scaphyglottis chocoana* I.Bock (Figs 291, 292).

Orchidee 35(5): 176. 1984; TYPE: COLOMBIA. CHOCÓ. Río Atrato, ca 50 m uNN. Aug 1979. *K.H. & I. Bock s.n.* (HOLOTYPE: Herbarium Bock 16/t.9)

**Epiphytic**, caespitose plants. **Roots** glabrous, filiform. **Pseudobulbs** up to 13 cm long and 0.3 cm wide, cylindric, reddish-green, bifoliate, sheaths up to 3 cm long and 0.3 cm wide, acute. Leaves 5-13 cm long and 0.3 cm wide, grass-like, sulcate on the upper side, dorsally inconspicuously carinate. **Inflorescence** produced in succession, single-flowered; peduncle up to 1.3 cm long, reddish-green. **Flower** non-resupinate, rose with red veins. **Dorsal sepal** 6.4 mm long, 1.5 mm wide, 3-veined. **Lateral sepals** 5.4 mm long, 1.8 mm wide, 3-veined, basally connate forming an obtuse mentum. **Petals** 5.3 mm long, 1.3 mm wide, parallel to the dorsal sepal. **Lip** 5.9 mm long, 3.1 mm wide, ecallous, narrowly cuneate at the base, 3-lobed; lateral lobes rounded; middle lobe long acuminate, apex revolute. **Gynostemium** 5 mm long, erect, apex somewhat dilated, 0.9 mm wide.

**HABITAT:** Mainly in primary lowland forest; near sea level.

**FLOWERING SEASON:** March.

**GENERAL DISTRIBUTION:** Probably endemic to Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Río Raposo, colinas al NW del campamento de la Rockefeller. 26 Mar 1963. *A. Fernández P. 6024* (COL!).

**OTHER SPECIMENS EXAMINED:** **COLOMBIA.**



Fig. 290. *Scaphyglottis chocoana* I.Bock: A: Dorsal sepal. – B: Petal. – C: Lateral sepal. – D: Lip (*Arevalo & al. 736*, COL – drawn by S. Nowak).

**Caldas.** Mpio. Norcasia. Zona embalse La Miel, Río Moro. Alt. 350 m. Mar 2002. *W. Vargas 9341* (COL!). **Chocó.** Mpio. Bahía Solano. Parque Nacional Natural Ensenada de Utria, Serranía del Baudo, camino a Boro-Boro. 6°03'06"N 77°19'40"W. Alt. 30-60 m. 23 Jun 1999. *Betancur & N. García 8006* (COL!); Mpio. Nuquí. Corregimiento Jurubida, Morro Mico, camino Playa del Medio. Bosque primario en la colina de la Serranía del Baudo. 5°52'N 77°17'W. Alt. to 100 m. 22 Sep 1999. *Betancur & C. Devenish 8436* (COL!); Mpio. Nuquí. Quebrada Chacuí. 5°40'N 77°16'W. Alt. 200 m. *G. Galeano, J. Grueso, O. Hurtado & L. Perea 4822* (COL!); Corregimiento de Arusi, Estación Biológica El Amargal. Bosque primario. Alt. 80 m. Feb 1992. *G. Galeano 3216* (COL!); Corregimiento de Coqui, quebrada Trapiche al SE de Coqui. 5°32'N 77°15'W. Alt. 100-160 m. Feb-Mar 1994. *G. Galeano, A. Moreno, G. Moreno & J. Perea 5492* (COL!); Mpio. Quibdó. Sector Pando, Reserva



Fig. 291. Distribution of *Scaphyglottis chocoana* I.Bock in Valle del Cauca.

de la Corporación Michita. 5°40.9'N 76°36.9'W. Alt. 98-100 m. 8 May 2007. *R. Arevalo, Betancur, S. Hoyos & E. Rentería 736* (COL!); Carretera Quibdo-Yuto, km 8-9, ramal hacia el Real de Tanando. Selva primaria. Alt. 80 m. 29 Jun 1983. *E. Forero, R. Jaramillo M., J. Espina & L.M. Quinones 9601* (COL!); Carretera Quibdo-Guayabal. Alt. 45 m. 5 Sep 1976. *E. Forero & R. Jaramillo M. 2513* (COL!); Road to Lloro (under construction) 1-2 km SE of Yuto, ca 30 km S of Quibdo. Alt. 80 m. 7 Jan 1979. *Gentry & E. Rentería 23793* (COL, MO); Carretera en construcción Yuto-Lloro. 1 km de Yuto. Alt. 70 m. 9 Sep 1976. *E. Forero & R. Jaramillo M. 2731* (COL!); Alrededores de Quibdo. Carretera Quibdo-Guayabal. Alt. 30-50 m. 23 Apr. 1975. *E. Forero, R. Jaramillo M. & J. McElroy 1114* (COL!); Carretera Quibdo-Guayabal, 4 km de Quibdo. Alt. 40 m. 1 May 1975. *E. Forero, R. Jaramillo M. & J. McElroy 1412* (COL!); Mpio. Tado. Vereda Gingaraba. 25 Apr 1991. *G. Lozano C. & Estud. Int. Sist. 6128* (COL!); Mpio. Turbo. Carretera Tapon del Darién, sector

Leon-Lomas Aisladas, km 37. Bosque perturbado. Alt. 10-20 m. 28 Nov 1983. *J. Brand & M. González 662* (COL!); Vicinity of Guayabal, forest beside small creek. 21 Apr 1982. *G.T. Prance 28025* (COL, NY); Norte de la Costa Pacífica. Periantho blanco, labelo morado. Jul 1988. *G. Misas Urreta 54* (COL!); Alrededores de Condotó. 31 Aug 1955. *J.M. Idrobo 1902* (COL!); Corregimiento de Puerto Povel, a 3 km en la carretera Puerto Nuevo-La Victoria. 21 Nov 2010. *R. Camara-Leret & J.C. Copete M. 1739* (COL!).

NOTES. This species is often treated as conspecific with *S. longicaulis*. The two are separable mainly by the form of the lip middle lobe.

#### 48.3. *Scaphyglottis gentryi* Dodson & Monsalve (Figs 293, 294).

Orquideología 21: 8. 1998; TYPE: COLOMBIA. VALLE DE CAUCA. Bajo Calima, Canalete Area, 40 km N of Buenaventura, W of San Isidro. Flowers white. 19 Dec 1982. *Gentry, M. Monsalve, M.D. Heredia & P. Keating 59593* (HOLOTYPE: MO!).

**Epiphytic**, caespitose plant, up to 70 cm tall. **Pseudobulbs** stipitate, concealed when young by imbricating sheaths, usually unifoliate. **Leaf** up to 16 cm long, 1 cm wide, clasping at the base, linear-oblong, obtuse at the apex. **Inflorescences** short, racemose, 1-2-flowered, produced in succession from scarious, imbricating sheaths to 1 cm long. **Flowers** white with a flush of yellow on the inner portion of the lip. Sepals free to the base, erect-cucullate thus surrounding the lip and gynostemium. **Dorsal sepal** up to 12 mm long, 3.5 mm wide, narrowly ovate, concave, obtuse at the apex. **Lateral sepals** up to 12 mm long, 4 mm wide, obliquely ovate, acute at the apex, united with the very short column foot. **Petals** up to 11 mm long, 2 mm wide, linear-oblong, rounded at the apex. **Lip** up to 12 mm long, 8 mm wide, clavate, base of the claw adnate to the base of the gynostemium, anchoriform, retuse at the apex, with a smaller lobe on each

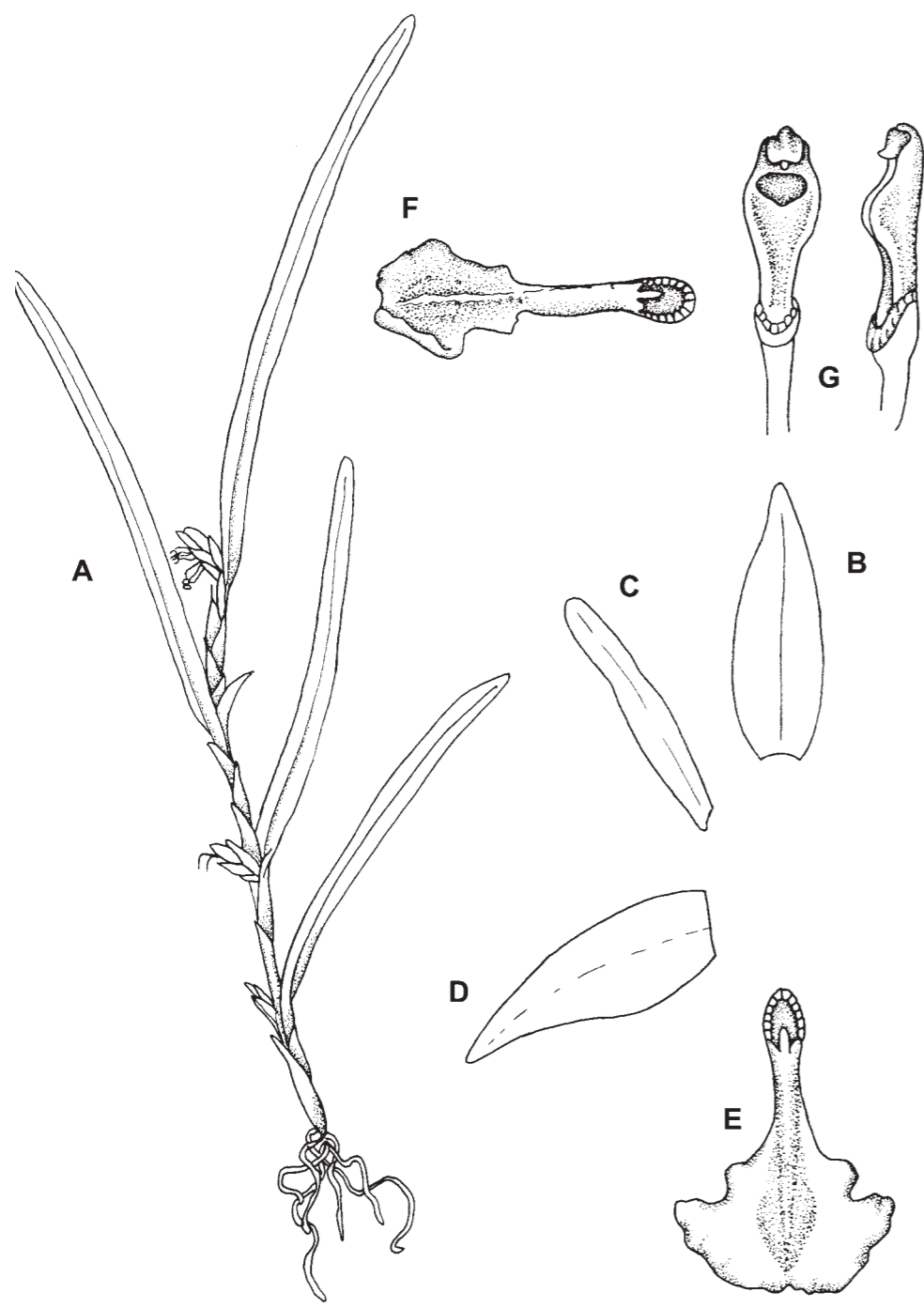


Fig. 292. *Scaphyglottis gentryi* Dodson & Monsalve: A: Plant. – B: Dorsal sepal. – C: Petal. – D: Lateral sepals. – E & F: Lip various views. – G: Gynostemium (redrawn by K. Ostaszewska from Dodson & Monsalve, 1998).



Fig. 293. Distribution of *Scaphyglottis gentryi* Dodson & Monsalve in Valle del Cauca.

side at the midpoint, lamina 2-lobed, the base minutely 3-lobed, not forming a sac, with a keel down the midline to near the apex of the lip. **Gynostemium** capitate, erect, with broad, shallow, fleshy lobes on each side above the middle.

**HABITAT:** Wet lowland forest and its transition into pluvial forest, on lateritic soils; up to 100 m alt.

**FLOWERING SEASON:** November, December.

**GENERAL DISTRIBUTION:** Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Bajo Calima; concesión Pulpapel/Buenaventura. Bosque Pluvial Tropical. 3°55'N 77°W. Carretera El Lijal. Suelos deficientes en nutrientes principalmente en P, Ca, K, Mg, Cu, B, Mn, Zn con un alto porcentaje de saturación de Al. Alt. aprox. 100 m. 21 Nov 1984. *M. Monsalve B. 530* (CUVCI, MO!); Bajo Calima, Canaleta Area, Km 40 N of Buenaventura, W of San Isidro, Wet forest/pluvial forest transition, on lateritic soil. Epiphyte. 03°58'N 77°00'W. Alt. ca 50 m. 19 Dec

1987. *Gentry, M. Monsalve B., M.D. Heredia & P. Keating 59593* (MO!).

**NOTES.** This is the only species of the genus collected so far in the Valle del Cauca which has a racemose inflorescence.

***Scaphyglottis graminifolia*** (Ruiz & Pav.) Poepp. & Endl. (Figs 295, 296; Photos 192-195).

Nov. Gen. Sp. Pl. 1: 59. 1836. - Foldats in Lasser, Fl. Venezuela, Orchid. 15(3): 92-93, 94 (fig. 418). 1970. - Hamer, Icon. Pl. Trop. 1(12): pl. 1153. 1984. - Vásquez & Ibisch, Orquídeas de la Serranía del Baudó: 628-629. 2005. ≡ *Fernandezia graminifolia* Ruiz & Pav., Syst. Veg. Fl. Peruv. Chil.: 241. 1798; TYPE: PERU. 1778-88. *Ruiz & Pavon 4/96* (MA!). ≡ *Nemaconia graminifolia* (Ruiz & Pav.) Knowles & Westc., Fl. Cab. 2: 129. 1838. ≡ *Ponera graminifolia* (Ruiz & Pav.) Rchb.f., Bonplandia (Hannover) 2: 22. 1854, *nom. illeg.* ≡ *Cladobium graminifolium* (Ruiz & Pav.) *ined.*

= *Scaphyglottis antonii* Schltr., Repert. Spec. Nov. Regni Veg., Beih. 9: 78. 1921.

= *Scaphyglottis loretoensis* Schltr., Repert. Spec. Nov. Regni Veg., Beih. 9: 79. 1921.

= *Scaphyglottis boliviana* Schltr., Repert. Spec. Nov. Regni Veg., Beih. 10: 44. 1922.

= *Ponera subquadrilabia* Correll, Bot. Mus. Leaflet, Harvard Univ. 9: 141. 1941.

**Epiphytic**, fasciculate, branched, caespitose plants, up to 45 cm tall. **Pseudobulbs** 4-20 cm long, 0.7 cm in diameter, slender, bifoliate at the apex. **Leaves** up to 20 cm long, 0.6 cm wide, grasslike, linear. **Inflorescence** 1-flowered, produced in fascicles at the apex of new and old pseudobulbs. **Flowers** white. Floral bract up to 3 mm long. Pedicellate ovary 5-10 mm long. Sepals subobtusate, dorsally carinate. **Dorsal sepal** about 3.3 mm long, 1.3 mm wide. **Lateral sepals** about 4.5 mm long, 1.3 mm wide. **Petal** about 3 mm long, 0.7 mm wide, subobtusate. **Lip** about 4 mm long, 2.3 mm wide, weakly 3-lobed, erect and parallel to the gynostemium in natural position; middle lobe obovate-cuneate with a retuse apex and erose, crenulate margins.



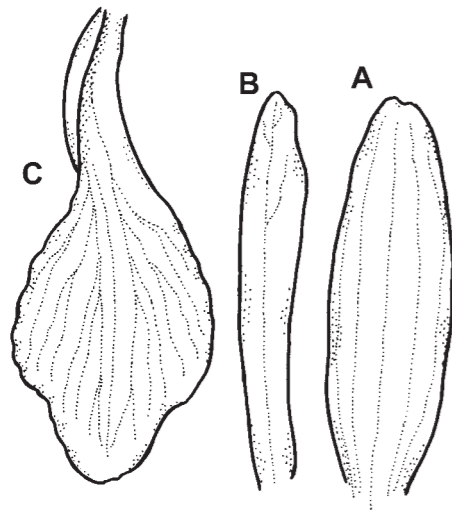


Fig. 294. *Scaphyglottis graminifolia* (Ruiz & Pav.) Poepp. & Endl.: A: Dorsal sepal. – B: Petal. – C: Lip (Poeppig s.n., W – drawn by M. Lamczyk).

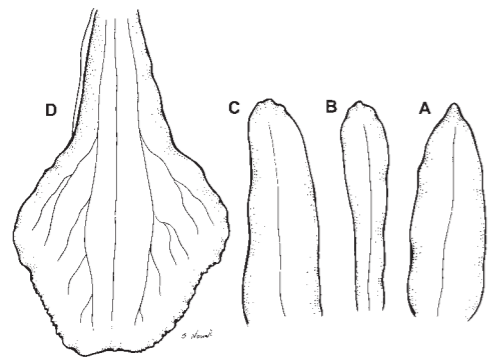


Fig. 295. *Scaphyglottis graminifolia* (Ruiz & Pav.) Poepp. & Endl.: A: Dorsal sepal. – B: Petal. – C: Dorsal sepal. – D: Lip (xxx – drawn by A. Król).

**Gynostemium** about 4 mm long, with a foot. Pollinia 4.

**GENERAL DISTRIBUTION:** Bolivia, Peru, Ecuador, Colombia, Venezuela, Guyana, Suriname, French Guiana, Panama, Costa Rica, Nicaragua, Honduras, El Salvador, Guatemala, Mexico.

**SPECIMENS EXAMINED.** **BOLIVIA.** La Paz. S. Yungas. Basin of Rio Bopi, San Bartolome (near

Calisaya). Alt. 750-900 m. 1-22 Jul 1939. *Krukoff 10172* (MO!). **ECUADOR.** Napo. Aguarico. Reserva Etnica Huaorani. Carretera con oleoducto de Maxus. Km 108. Area del SPF. 0°59'S 76°12'W. Alt. 245 m. 11 Jan 1995. *M. Aulestia, G. Oucare & Quibuiñano 2999* (MO!). **VENEZUELA.** Aragua. Parque Nacional Henry Pittier NW of Maracay, Ranchi Grande; along trail through cloud forest behind R. Grande. Alt. 1150 m. 13 Nov 1971. *Davidse 3041* (MO!).

**NOTES.** The only record of this species from the Department of Valle del Cauca comes from an incorrectly determined specimen collected by *Cuatrecasas 14061 & 16537* (VALLE), which is actually a specimen of *S. longicaulis* S.Watson. *S. graminifolia* appears to be related to *S. minutiflora*, from which it differs in the petals and form of the lip.

#### 48.4. *Scaphyglottis longicaulis* S.Watson (Figs 297-299).

Proc. Amer. Acad. Arts 23: 286. 1888; TYPE: GUATEMALA. CHOCÓN. From the Chacón forests, eastern portion of Verapaz and Chiquimula. 1885. *Watson s.n.* (GH). - Ames & Correll, *Fieldiana, Bot.* 26(2): 439. 1953. - Williams & Allen, *Orchid. Panama:* 321-322. 1980. - Hamer, *Icon. Pl. Trop.* 1(12): pl. 1155. 1984. - McLeish & al., *Nat. Orchid. Belize:* 213-214. 1995. = *Scaphyglottis unguiculata* Schltr., *Repert. Spec. Nov. Regni Veg.* 12: 206. 1913.

**Epiphytic**, erect-spreading plant, up to 30 cm tall. **Pseudobulbs** up to 12 cm long, 0.3 cm in diameter, cylindrical, partially enclosed in sheaths when young, 2-3-leaved. **Leaves** up to 16 cm long, 0.4 cm wide, erect-spreading, dark green, grass-like, linear, unequally bilobed at the apex. **Inflorescence** terminal, short, 1-flowered, subtended by several short bracts. **Flowers** opening in succession or 2 simultaneously, commonly nodding. Pedicellate ovary slender, together with the upper part of the branch exerted from subtending bracts up to



Fig. 296. *Scaphyglottis longicaulis* S.Watson: Habit (redrawn by S. Nowak from Dodson 1984).

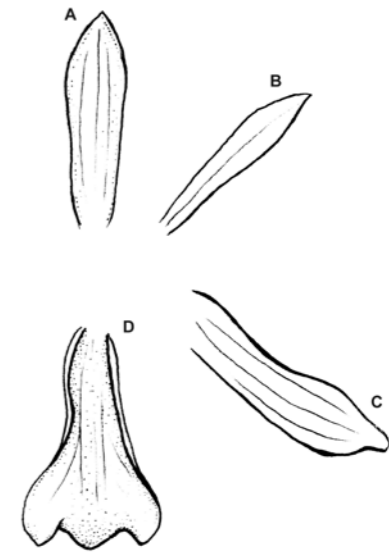


Fig. 297. *Scaphyglottis longicaulis* S.Watson: A: Dorsal sepal. – B: Petal. – C: Dorsal sepal. – D: Lip (redrawn by S. Nowak from Dodson 1984).

10 mm long. **Dorsal sepal** 5-7 mm long, about 1.5 mm wide, linear-oblong to linear-oblongate, acute, somewhat cucullate. **Lateral sepals** 5.5-7 mm long, 1.5-2 mm wide, linear-oblong, acute, forming a distinct mentum at the base. **Petals** 5-7 mm long, about 0.7-1 mm wide, linear-oblongate, obtuse or acute. **Lip** 5-7 mm long, 3-4 mm wide near the apex, unguiculate, cuneate-flabellate, trilobate at the acute apex; disc ecallous. **Gynostemium** sometimes with lateral teeth at the apex.

**HABITAT:** Wet lowland forest; up to about 100 m alt.

**FLOWERING SEASON:** January-February.

**GENERAL DISTRIBUTION:** Colombia, Costa Rica, Panama, Nicaragua, Honduras, Guatemala, Belize.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Bajo Calima. Near the sea level. 3 Jan 2011. *M. Kolanowska & O. Pérez 255* (COLI, UGDA! - drawing); Las Zabaletas. N3 46.425 W76 58.487. Alt. 104 m. *Kolanowska 327* (COLI, UGDA! - drawing).

**OTHER SPECIMENS EXAMINED: COLOMBIA. Antioquia.** Mpio. San Luis. Quebrada "La Cristalina". 6°N 74°45'W. Alt. 600-770 m. 27 Sep 1987. *J.G. Ramirez & D.C. López 1707* (MO!).

**Chocó.** Banks of Quebrada Togoramá; dense tidal for Epiphyte. 13 Jun 1944. *Killip & Cuatrecasas 39132* (VALLE!).

**NOTES.** Closely related to, or maybe conspecific with *S. chocoana*.



Fig. 298. Distribution of *Scaphyglottis longicaulis* S. Watson in Valle del Cauca.

**48.5. *Scaphyglottis minutiflora* Ames & Correll (Figs 300, 301).**

Bot. Mus. Leaflet, Harvard Univ. **10**(4): 83, pl. 9. 1942; TYPE: GUATEMALA. IZABAL. La Vigía, between Bananera and Quiriguá. 15 Sep 1936. *M.W. Lewis 186* (AMES!). - Ames & Correll, Fieldiana, Bot. **26**(2): 440-442. 1953. - Williams & Allen, Orchid. Panama: 323-325. 1980. - Hamer, Icon. Pl. Trop. **1**(12): pl. 1156. 1984. - Hamer, Orchid. Central America: an illustrated field guide. M-Z. Selbyana **10**(Suppl.): 749. 1990.

**Epiphytic**, caespitose plants, up to about 75 cm tall. **Pseudobulbs** cylindrical to slightly fusiform, 1-2-leaved. **Leaves** 5-18 cm long, 0.3-1 cm wide, linear, acute or obtuse, retuse and unequally bilobed at the apex. **Inflorescence** a few-flowered fascicle, borne at the apices of segments of the stem. **Dorsal sepal** about 2.4 mm long, 1.3 mm wide, elliptic, acute. **Lateral sepals** about 2.5 mm long, 1.4 mm wide, elliptic-oblong, acute, forming an inconspicuous

mentum at the base. **Petals** about 2.2 mm long, 0.6 mm wide, narrowly elliptic-oblong, acute or obtuse. **Lip** 2.5-4 mm long, 1.5-2.5 mm wide, obovate to oblong, obtuse or obscurely retuse, furnished with small, semi-orbicular, auricular lobes near the middle.

**HABITAT:** Lowland wet forest; near sea level.

**FLOWERING SEASON:** June.

**GENERAL DISTRIBUTION:** Colombia, Panama, Costa Rica, Nicaragua, Honduras, El Salvador, Guatemala, Belize, Mexico.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** El Forge, near Buenaventura. Epiphyte. Sea level. 5, 8 Jun 1944. *Killip & Cuatrecasas 38949* (VALLE!).



Fig. 299. *Scaphyglottis minutiflora* Ames & Correll: A: Plant. - B: Dorsal sepal. - C: Petal. - D: Lateral sepal. - E: Lip and gynostemium side view. - F: Lip. - G: Gynostemium (redrawn by N. Rhoda from xxx).



Fig. 300. Distribution of *Scaphyglottis minutiflora* Ames & Correll in Valle del Cauca.

**OTHER SPECIMENS EXAMINED: COSTA RICA. Puntarenas.** Cantón de Osa Aguabuena. Cuenca media & superior de Quebrada Orito. 8°42'40"N 83°31'40"W. Alt. 350 m. 24 Oct 1990. *G. Herrera 4490* (AMO! ex CR). **GUATEMALA. Izabal.** La Vigía, between Bananera and Quiriguá. Sep 15 1936. *M.W. Lewis 186* (AMES!). **MEXICO. Chiapas.** Mpio. Ocosingo. A 2 km al N de estación Chajul. Selva alta perennifolia. Alt. 150 m. 8 Sep 1992. *E. Martínez S., H. Ramos & R. Lombera 25240* (AMO!); En Ejido Chajul. Selva media subperennifolia. Alt. 150 m. 13 Sep 1992. *E. Martínez S., R. Lombera & C.H. Ramos 25402* (AMO!); A 33 km al W del Vertice del Rio Chixoy, camino a Chajul; en zona Marquez de Comillas. Selva media subperennifolia. Alt. 130 m. 10 Jan 1986. *E. Martínez S. 15948* (AMO! ex MEXU).

**NOTES.** Appears to be related to *S. minutiflora*, from which it differs by the petals and lip form.

**48.6. *Scaphyglottis prolifera* (R.Br.) Cogn. (Figs 302, 303).**

Fl. Bras. **3**(5): 15. 1898. - Dodson & Vásquez, Icon. Pl. Trop. **2**(3): pl. 292. 1989. - Misa Urreta, Orquideas de la Serranía del Baudó: 632-633. 2005. ≡ *Isophilus proliferus* R.Br. in W.T. Aiton, Hortus Kew. **5**: 209. 1813; TYPE (Adams 1993): BRAZIL. *Pobl 4687* (LECTOTYPE: W!; ISOLECTOTYPE: BR).

= *Tetragamestus gracilis* Schltr., Beih. Bot. Centralbl. **36**(2): 400. 1918. ≡ *Scaphyglottis gracilis* (Schltr.) Schltr., Repert. Spec. Nov. Regni Veg., Beih. **19**: 28. 1923.

= *Scaphyglottis wercklei* Schltr., Repert. Spec. Nov. Regni Veg., Beih. **19**: 28. 1923.

= *Ponera mapiriensis* Kraenzl., Repert. Spec. Nov. Regni Veg. **25**: 22. 1928.

**Epiphytic.** **Pseudobulbs** fusiform, bifoliate at the apex. **Leaves** about 4.5 cm long, 0.6 cm wide, subopposite, bilobed at the apex. **Inflorescences** apical, short, 1-flowered. **Flowers** small, white, lip white with pale violet venation, gynostemium dark violet. Pedicellate ovary 3-4 mm long, arcuate. **Sepals** about 4-7 mm long, 1.8-3 mm wide, ovate-ligulate, obtuse; lateral sepals slightly oblique, shortly connate into a mentum. **Petals** 4-6 mm long, about 0.5-1 mm wide, linear-oblong, acute. **Lip** 5.5-6 mm long, 3-4 mm wide, cuneiform, clawed, curved, apex bifid, apical margin scalloped; callus slightly raised. **Gynostemium** about 6 mm long, slightly curved, without wings. Anther dark violet. Pollinia 4 in 2 pairs, flattened.

**HABITAT:** On a tree trunk in secondary forest (old cacao plantation), disturbed primary dry forest dominated by *Anacardium excelsum* (Kunth) Skeels (Anacardiaceae), wet lowland forest; 100-1150 m alt.

**FLOWERING SEASON:** March, June, November-December.

**GENERAL DISTRIBUTION:** Brazil, Bolivia, Peru, Ecuador, Colombia, Venezuela, Guyana, Suriname, French Guiana, Trinidad, Tobago, Panama, Costa Rica, Nicaragua, Honduras, Guatemala, Belize, Mexico.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE**

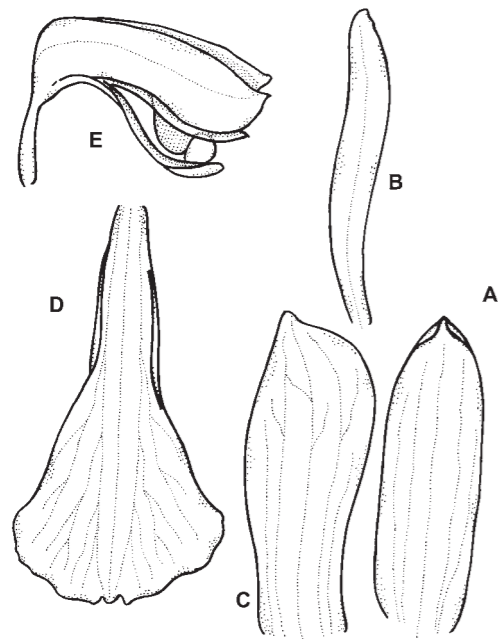


Fig. 301. *Scaphyglottis prolifera* (R.Br.) Cogn.: A: Dorsal sepal. – B: Petal. – C: Lateral sepal. – D: Lip. – E: Flower (Endres 259, W-R – drawn by M. Lamczyk).

DEL CAUCA: **Mpio. Buenaventura.** Bajo Calima; concesión Pulpapel/Buenaventura. Carretera El Lijal. 3°55'N 77°W. Bosque Pluvial Tropical. Alt. 100 m. 27 Nov 1986. *M. Monsalve B. 1367* (CUVCI!). **Mpio. Caicedonia.** Finca La Carmelita, 7 km N de Caicedonia, valle del Río La Vieja (valle interior del lado occidental de Cordillera Central), terreno plano, bosque parcialmente primario intervenido. Alt. ca 4°23'N 75°48'W. Alt. 1150 m. 11 Jun 1944. *Silverstone-Sopkin & N. Paz 6729* (CUVCI!). **Mpio. Zarzal.** Hacienda El Medio (carretera Panamericana entre La Paila & Zarzal, parte plana Valle del río Cauca), bosque remanente parcialmente primario, dominado por *Anacardium excelsum* hasta 40 m altura, 1.73 m DAP. Alt. ca 975 m. 16 Nov 1986. *Silverstone-Sopkin & N. Paz, R.T. González 2559* (CUVCI!); The same loc. 22 Mar 1986. *Silverstone-Sopkin & A. Rodríguez M. 2150* (CUVCI!); Hacienda El

Medio (carretera Panamericana entre La Paila & Zarzal, parte plana Valle del río Cauca), bosque secundario (viejo cacaotal) dominado por *Anacardium excelsum* hasta 40 m altura. Alt. ca 950 m. Colectada 14 Aug 1989, estéril; floreció bajo cultivo; prensada 23 Dec 1989. *Silverstone-Sopkin & J.E. Arroyo 5826* (CUVCI!).

OTHER SPECIMENS EXAMINED: **BOLIVIA.** **La Paz.** Nor Yungas. 13.7 km NW of San Pedro on road through Incahuara-Mejillones & along trail to 12 de Octubre. 15°58'S 67°37'W. Alt. 1500 m. 12-14 Feb 1983. *J.C. Solomon 9543* (MO!). **PERU.** **Amazonas.** Bagua. Distr. Imaza. Cerros de Putuim. Bosque primario. 5°03'20"S 78°20'23"W. Alt. 350 m. 13 Jun 1996. *R. Vásquez, A. Vásquez & L. Dekantai 21127* (MO!). **ECUADOR.** Quininde Cantón. Bilsa Biological Station. Moñtanas de Mache, 35 km W of Quininde, 5 km W of Santa Isabel. Premontane Wet For Mature Forest between la casa de papaya and Pascual's house. 00°21'N 79°44'W. Alt. 400-600 m. 20 May 1995. *J.L. Clark & C. Watt 940* (COL! ex MO). **COLOMBIA.** **Chocó.** Hoya del Río San Juan. Río Bicordó, arriba de Nonamá. Orillas del Río. Ca 4°42'N 76°55'W. 6 Apr 1979. *E. Forero, R. Jaramillo, J. Espina Z. & P. Palacios H. 4746* (COL!). **Cundinamarca.** Mpio. La Palma. Allrededor del pueblo. Alt. 1650 m. 11 Dec 1992. *A. Chaparro de Barrera & E. Barrera Torres 305(2)*. **Meta.** Mpio. Cubarral. Vereda aguas Claras, alrededores de la quebrada Aguas Claras. Alt. 680 m. 21 Nov 1995. *M.E. Morales, G. Lozano, J. Ordoñez & E. Palacios 0697(2)* (COL!). **Risaralda.** Mpio. Pereira. Hacienda Malabar, 4 km desde Cerritos por carretera Cerritos-Pereira, terreno ligeramente ondulado, bosque primario perturbado, árboles hasta 25 cm altura. Alt. 1150 m. 27 Nov 1989. *Silverstone-Sopkin, J. Giraldo-Gensini & H.M. Cabrera 5733* (CUVCI!); Hacienda Alejandría, km 6 carretera La Virginia-Cerritos, extremo norteño de parte ancha del Valle del Río Cauca, lomas bajas, bosque primario & muchas palmas (*Syagrus sancona*). Alt. ca 940 m. 10 Feb 1990. *Silverstone-Sopkin & N. Paz, H. M. Cabrera 5864* (CUVCI!); Hacienda Córcega, a 18

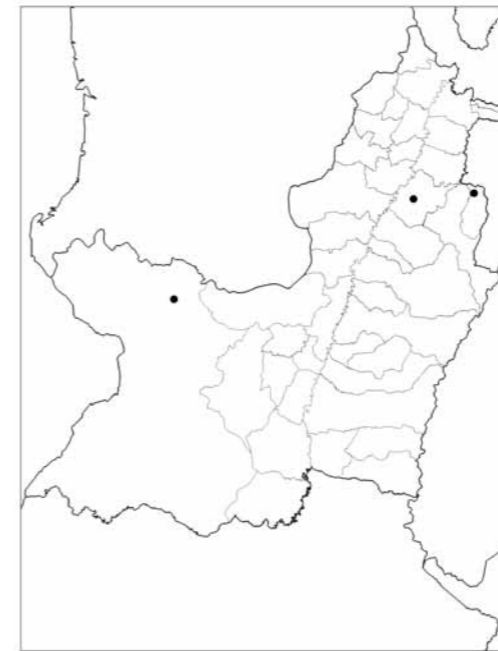


Fig. 302. Distribution of *Scaphyglottis prolifera* (R.Br.) Cogn. in Valle del Cauca.

km de La Virginia por carretera, a 7 km al oeste de carretera La Virginia-Cerritos por carretera a El Trapiche, extremo norte de parte ancha del Valle del Río Cauca, lomas bajas, bosque primario relictual perturbado. Alt. 950 m. 28 Nov 1989. *Silverstone-Sopkin, J. Giraldo-Gensini & H.M. Cabrera 5741* (CUVCI!). **VENEZUELA.** **Zulia.** Distr. Perijá. Quebrada Tayaya, 1 km W of Los Angeles de Tucuco, foothills of Cerro Yurmuto (Serranía de Perijá). 9°51'N 72°49'W. Alt. 280-450 m. 23 Jun 1980. *Davidse, A. C. González & R.A. León 18490* (MO!). **GUYANA.** **Potaro-Siparuni Region.** Tukeit, abandoned farm along Potaro River, 4 km downstream from Kaieteur Falls. 5°13'N, 59°27'W. Regenerating secondary vegetation. Soil very infertile, mainly white sand. Alt. 100 m. 11 Oct 1987. *L.P. Kvist, X. Londoño, O.C. Steele & S. Timari 202* (COL!). **PANAMA.** **Veraguas.** Camino cerca del desvío del Río San Juan, La Yeguada. 7 Oct 1977. *I. Luna 11* (AMO!). **NICARAGUA.** **Chontales.** Along road between Río Bizcocho and Río El

Jordán (near confluence with Río La Pradera), ca 12°12-16'N 85°15-17'W. Remnants of evergreen forest among pastures. Alt. 350-550 m. 18 Dec 1983. *W.D. Stevens 22604* (AMO!); Loma San Gregorio, 21 km NW de Santo Domingo. 12°16'N 85°05'W. Alt. 700 m. 23 Jan 1985. *J.C. Sandino 5120* (AMO!). **MEXICO.** **Chiapas.** Mpio. Ocosingo. En Estación Chajul. Sabana. Alt. 150 m. 26 Jan 1992. *E. Martínez S. & R. Lombera 26123* (AMO!); The same loc. Selva alta perennifolia. *E. Martínez S. & R. Lombera 26167* (AMO!).

NOTES. One of the commonest orchid species in the Department of Valle del Cauca, but often overlooked.

**48.7. *Scaphyglottis propinqua* C.Schweinf. (Figs 304-306).**

Bot. Mus. Leaf., Harvard Univ. **17:** 46. 1955; TYPE: PERU. JUNIN. Pichis Trail, San Nicholas, epiphyte in dense forest. Alt. ca 1100 m. 4-5 Jul 1929. *Killip & A. C. Smith 26061* (HOLOTYPE: AMES!; ISOTYPE: F). - Schweinfurth, Fieldiana, Bot. **30(3):** 546, 548. 1960. - Foldats in Lasser, Fl. Venezuela, Orchid. **15(3):** 104-105. 1970.

**Epiphytic**, straggling plants. **Pseudobulbs** up to 18 cm long, fusiform, commonly dichotomously branching above, bifoliate. **Leaves** up to 10 cm long, 1 cm wide, linear-oblong or linear-lanceolate, obliquely bilobate at the apex, sessile at the base, spreading. **Inflorescences** numerous, 1-flowered, abbreviated, densely fasciculate in the axils of the leaves. **Flowers** small, membranous, white to pinkish-white. **Dorsal sepal** about 3.7 mm long, oblong, subacute, deeply concave. **Lateral sepals** similar but a slightly larger, forming an indistinct mentum with the short column foot. **Petals** linear-oblong, apiculate at the rounded apex, slightly shorter than the dorsal sepal. **Lip** about 4 mm long, 2 mm wide across the middle when expanded, tubular-concave in its natural position, rhomboid-obovate when expanded, with small, rounded



Fig. 303. *Scaphyglottis propinqua* C.Schweinf.: A: Habit. – B: Leaf apex (redrawn by S. Nowak from Foldats 1970).

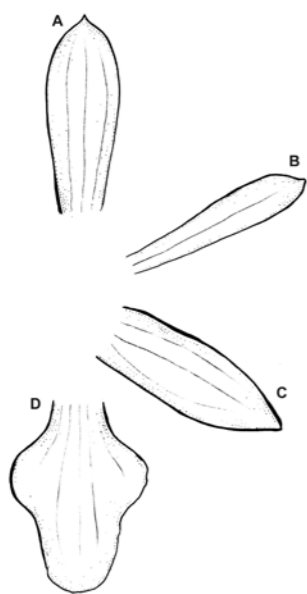


Fig. 304. *Scaphyglottis propinqua* C.Schweinf.: A: Dorsal sepal. – B: Petal. – C: Lateral sepal. – D: Lip (redrawn by S. Nowak from Foldats 1970).

lateral lobules at the middle, broadly rounded and apiculate in front. **Gynostemium** about 2.9 mm long, stout, straight, wingless.

**HABITAT:** Transition between wet and pluvial forest; about 500 m alt.

**FLOWERING SEASON:** March.

**GENERAL DISTRIBUTION:** Peru, Ecuador, Colombia.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Bajo Calima area, ca 15 km N of Buenaventura, Cartón de Colombia concession, transition, between wet and pluvial for Juanchaco region. Epiphyte. 03°56'N 77°08'W. Alt. 500 m. 27 Mar 1986. *Gentry, E. Zardini, M. Monsalve & J.D. Caicedo 53653* (CUVCI, MO!).

**NOTES.** *S. propinqua* differs from other species with few-flowered, fasciculate inflorescences, i.e. *S. minutiflora* and *S. graminifolia*, by the lip, which is broadly rounded and apiculate at the apex.

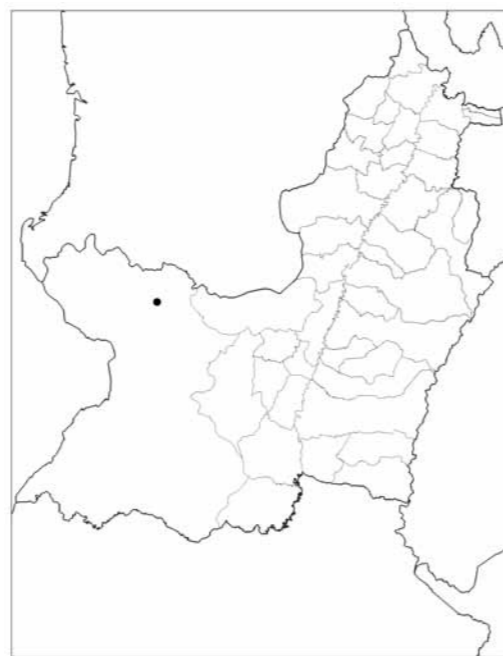


Fig. 305. Distribution of *Scaphyglottis propinqua* C.Schweinf. in Valle del Cauca.

#### 48.8. *Scaphyglottis punctulata* (Rchb.f.) C.Schweinf. (Figs 307, 308; Photos 196-197).

Bot. Mus. Leaflet, Harvard Univ. 17: 47. 1955. - Schweinfurth, Fieldiana, Bot. 30(3): 548. 1960. - Foldats in Lasser, Fl. Venezuela, Orchid. 15(3): 106-108. 1970. - Bennet & Christenson, Icon. Orchid. Peruv.: pl. 566. 1998. - Nir, Orchid. Antill.: 342-343. 2000. - Vasquez & Ibsch, Orchid. Bolivia 2: 320-321, 327 (Fig). 2004. - Misas Urreta, Orquideas de la Serranía del Baudo: 634-635. 2005. ≡ *Ponera punctulata* Rchb.f., Bonplandia (Hanover) 3: 220. 1855; TYPE: VENEZUELA. Introduced to cultivation by Hrn. Handelsgärtner *Geitner s.n.* (W). ≡ *Helleriella punctulata* (Rchb.f.) Garay & Sweet in Howard, Fl. Lesser Antilles, Orchid.: 167. 1974. ≡ *Pseudoponera punctulata* (Rchb.f.) Brieger, Schlechter Orchideen 8(29-32): 475. 1976, *nom. inval.* = *Scaphyglottis arundinacea* Regel, Ann. Sci. Nat., Bot., IV, 6: 376. 1856. = *Tetragamestus isochiloides* Regel, Index Seminum (LE) 1856: 20. 1856. ≡ *Scaphyglottis isochiloides* (Regel) Foldats, Acta Biol. Venez. 2: 381. 1959. = *Epidendrum dussii* Cogn. in Urban, Symb. Antill. 6: 482. 1910. ≡ *Pseudoponera dussii* (Cogn.) Brieger, Schlechter Orchideen 8(29-32): 475. 1976, *nom. inval.*

**Terrestrial or epiphytic**, caespitose plants, up to 52 cm tall (including the uppermost leaf). **Pseudobulbs** mostly concealed by imbricating leaf sheaths, bifoliate at the apex. **Leaves** up to 12.9 cm long, 0.9 cm wide, erect-spreading, in subopposite pairs at the apex of the stem, linear or linear-lanceolate, obtuse or bilobate at the apex, clasping at the base. **Inflorescence** terminal on the stem or branches, abbreviated, (1)2-flowered, issuing from a pair of erect, imbricating, evanescent spathes. **Flowers** rather small, campanulate, lavender tinged with green, or green, dotted with dark violet or pink, lip greenish-white. Pedicellate ovary about 16 mm long, slender. **Dorsal sepal** about 7-9 mm long, less than half as wide, ovate-oblong, concave, acute or short-acuminate. **Lateral sepals** about as large as the dorsal sepal, obliquely lanceolate-ovate, acute or short-acuminate, decurrent on the column foot. **Petals** smaller than the sepals, lanceolate-oblong or elliptic-oblong, abruptly subacute to acute or apiculate. **Lip** about 7-8.5

mm long when expanded and 3.4-6.8 mm wide across the tip, slightly exceeding the sepals, articulated to the column foot without a claw, from a cuneate base obovate-pandurate in outline, truncate or very broadly rounded and apiculate or weakly retuse and apiculate, arcuate-recurved below with more or less incurved sides; disc below with a more or less prominent, large, fleshy, sulcate callus below which extends into verruculose lines above. **Gynostemium** about 5-6.6 mm long, conspicuous, arcuate, prominently auriculate-dilated at the apex, produced into a short foot.

**HABITAT:** Wet montane forest; 1800-2200 m alt.

**FLOWERING SEASON:** February, April, December.

**GENERAL DISTRIBUTION:** Bolivia, Peru, Ecuador, Colombia, Venezuela, The Lesser Antilles (Grenada, St. Vincent, Martinique, Dominica, Guadeloupe), The Greater Antilles (Puerto Rico).

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Cali.** La Elvira: Finca Zingara, primary forest at 1800-2200 m; ca 25 km W of Cali a Km 18; ca 3°28'N, 76°37' W. Scandent, stoloniferous herb. 19 Apr 1989. *Luteyn & J. Giraldo-Gensini 12527* (CUVCI). **Mpio. Yotoco.** Hato Viejo. 3°49'48"N 76°26'02"W. Alt. 1875. 17 Feb 2010. *M. Kolanowska, O. Pérez & E. Parra 127* (UGDA!). **Mpio. Yumbo.** Alto Dapa. Alt. about 2070 m. 13 Feb 2010. *M. Kolanowska, O. Pérez & E. Parra 208* (COL!, UGDA! - spirit, VALLE!); The same loc. 18 Dec 2010. *M. Kolanowska & O. Pérez 208, 209* (COL!, UGDA!).

**OTHER SPECIMENS EXAMINED: PERU. Cajamarca.** San Ignacio. San José de Lourdes. Localidad Camaná. 5°00'00"S 78°55'00"W. Alt. 2000-2200 m. 20 Mar 1997. *J. Campos & S. Corrales 3592* (MO!).

**NOTES.** Similar to *S. triloba*, but with a different lip form.

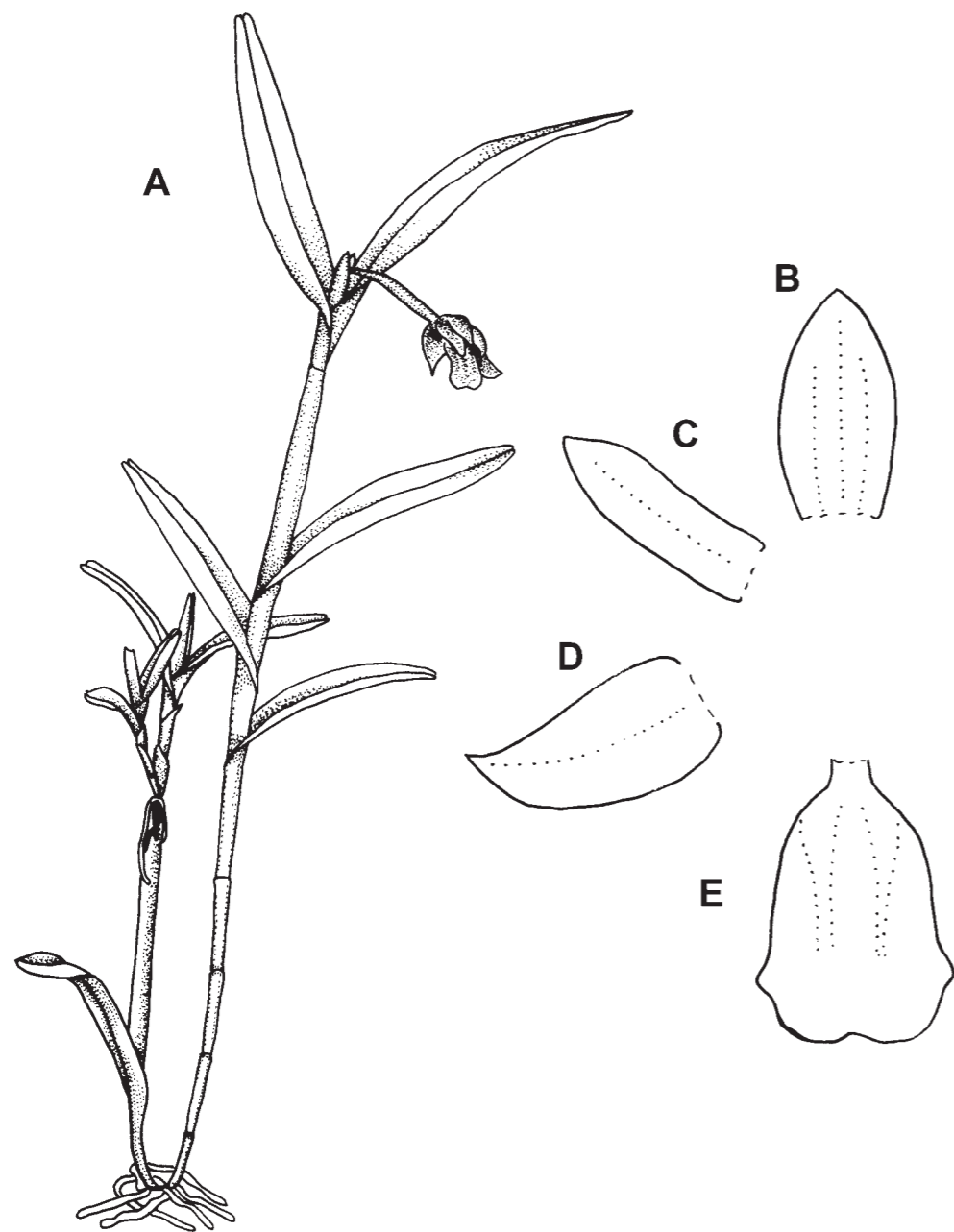


Fig. 306. *Scaphyglottis punctulata* (Rchb.f.) C.Schweinf.: A: Plant. – B: Dorsal sepal. – C: Petal. – D: Lateral sepals. – E: Lip (redrawn by K. Ostaszewska from Vasquez & Ibisch, 2004).



Fig. 307. Distribution of *Scaphyglottis punctulata* (Rchb.f.) C.Schweinf. in Valle del Cauca.

48.9. *Scaphyglottis triloba* B.R.Adams (Figs 309, 310).

Phytologia 64: 256. 1988; TYPE: COLOMBIA. VALLE DEL CAUCA. Km 54 Cali-Buenaventura (old road). 20 Jun 1965. *Dodson & Hills 3128* (HOLOTYPE: SEL!).

**Epiphytic**, erect-spreading to straggling plants, up to 100 cm tall. **Pseudobulbs** 5-22 cm long, 0.15-0.35 cm in diameter, cylindrical, slightly compressed above, bifoliate; new pseudobulbs produced 1-4 together from the apex of the pseudobulb below, often developing aerial roots at the base. **Leaves** 7-14 cm long, 0.5-1.15 cm wide, erect-spreading, linear-lanceolate to linear, subcoriaceous, unequally bilobate at the apex. **Inflorescences** terminal, initially 1-flowered, subtended by 4 conduplicate bracts up to 2 cm long which conceal the 7-10 mm long peduncle; during the following season a second flower sometimes develops from a basal bud forming a 1-flowered branch subtended by

several further bracts. **Flowers** with an inconspicuous, obtuse mentum, often nutant, sepals and petals greenish or yellowish, lip white, often marked with purple in the centre. Pedicel and ovary about 15-18 mm long, longer than the subtending bracts. **Dorsal sepal** 11-11.5 mm long, 2.7-3.2 mm wide, narrowly oblong, acute. **Lateral sepals** 11-11.5 mm long, 3.3-3.5 mm wide, united for about 1 mm at the base, obliquely oblong, adjacent margins somewhat dilated in the lowest third, acute. **Petals** 10.5-11 mm long, 1.5-1.7 mm wide, somewhat obliquely ligulate, rounded at the apex. **Lip** 11-11.5 mm long, 6-7 mm wide, subarticulate with the column foot, with a well-developed claw, 3-lobed

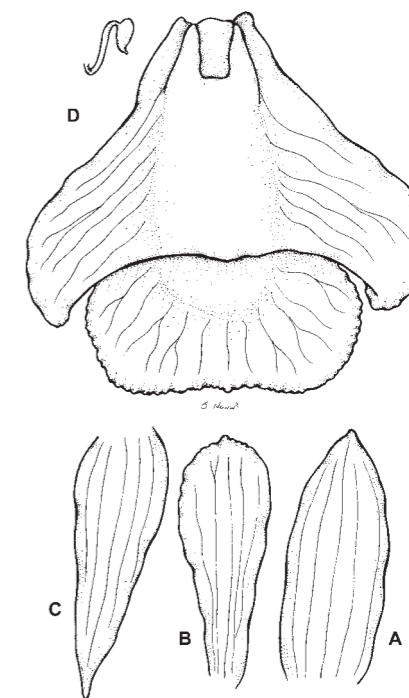


Fig. 308. *Scaphyglottis triloba* B.R.Adams: (xxx)

above the middle; claw fleshy-thickened, markedly geniculate with the basal third folded under the rest of the lip, bearing a pair of parallel keel-like calli running from near the base to



Fig. 309. Distribution of *Scaphyglottis triloba*  
B.R.Adams in Valle del Cauca.

between the lateral lobes; lateral lobes triangular, somewhat antrorse; middle lobe strongly decurved, subquadrate, retuse, with crenulate margins. **Gynostemium** 9-9.5 mm long, 3.2-3.5 mm wide across the wings when spread, rather slender, winged below the apex, wings small, rounded-triangular; column foot 3-3.5 mm long, projecting forward, strongly concave.

**HABITAT:** Exposed, grassy slopes; at about 1350 m alt.

**FLOWERING SEASON:** June, September.

**GENERAL DISTRIBUTION:** Endemic, known only from the Department of Valle del Cauca.

**DISTRIBUTION IN THE DEPARTMENT OF VALLE DEL CAUCA:** **Mpio. Buenaventura.** Km 54 Cali-Buenaventura (old road). 20 Jun 1965. *Dodson & Hills 3128* (SEL!). **Mpio. Dagua.** Between El Queremal and La Elsa. N3 31.582 W76 44.313. Alt. about 1378 m. 24 Sep 2011. *Kolanowska, Pérez & Useche 333* (COL!, UGDA!).

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Photo 92. *Epidendrum urraoense* Hágsater (R. Jiménez Machorro)



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Photo 99. *Epidendrum anchinocturnum* Hágsater (E. Hágsater)



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Photo 119. *Epidendrum dendromacrophorum*  
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Photo 120. *Epidendrum lambeauanum* De Wild. (O. Pérez Escobar)



Photo 121. *Epidendrum bispathbulatum*  
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Photo 122. *Epidendrum cirrhocilum*  
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Photo 123. *Epidendrum cirrhocilum* F. Lehm. & Kraenzl. (C. Uribe)



Photo 124. *Epidendrum cirrhocbilum* F. Lehm. & Kraenzl. (C. Uribe)



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Photo 126. *Epidendrum kolanowskiae* Hágsater, O.Pérez & E.Santiago (O. Pérez Escobar)



Photo 127. *Epidendrum kolanowskiae* Hágsater, O.Pérez & E.Santiago (O. Pérez Escobar)



Photo 128. *Epidendrum kolanowskiae* Hágsater, O.Pérez & E.Santiago (O. Pérez Escobar)



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Photo 130. *Epidendrum lopezii* Hágsater  
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Photo 132. *Epidendrum paniculorotundifolium*  
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Photo 135. *Epidendrum giraldo-cannasii*  
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Photo 136. *Epidendrum giraldo-cannasii* Hágsater, O.Pérez & E.Santiago (O. Pérez Escobar)



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Photo 139. *Epidendrum laeve* Lindl. (D. Calderón-F.)



Photo 140. *Epidendrum spathbatum* Schltr. (E. Hågsater)



Photo 141. *Epidendrum spathbatum* Schltr. (P. Ortiz Valdivieso & C. Uribe)



Photo 142. *Epidendrum spathatum* Schltr. (P. Ortiz Valdivieso & C. Uribe)



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Photo 160. *Epidendrum ramosum* Jacq. (E. Hágsater)



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Photo 166. *Epidendrum flexuosum*  
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Photo 169. *Epidendrum radicans* Pav. ex Lindl. (M. Kolanowska)



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Photo 171. *Epidendrum aura-usecheae* Hágsater, C.Rincón-Useche & O. Pérez (O. Pérez Escobar)



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Photo 173. *Epidendrum igneum* Hágsater  
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Photo 190. *Epidendrum recurvatum* Lindl.  
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Photo 191. *Epidendrum recurvatum* Lindl. (O. Pérez Escobar)



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Photo 193. *Scaphyglottis graminifolia* (Ruiz & Pav.) Poepp. & Endl. (T. Kusibab)





Photo 194. *Scaphyglottis graminifolia* (Ruiz & Pav.) Poepp. & Endl. (T. Kusibab)



Photo 195. *Scaphyglottis graminifolia*  
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Photo 197. *Scaphyglottis longicaulis* S.Watson (M. Kolanowska)



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Photo 199. *Scaphyglottis punctulata*  
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Photo 200. *Scaphyglottis triloba*  
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Photo 201. *Scaphyglottis triloba* B.R.Adams (M. Kolanowska)