
Novelties in the Pleurothallidinae (Orchidaceae) for the Venezuelan Flora

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ABSTRACT. Two new species, *Pleurothallis phoenicoptera* and *P. steinbuchiae*, are described. *Pleurothallis delascioi* is synonymized under *P. kerrii*. Several other members of the Pleurothallidinae are recorded for the first time for Venezuela.

During the course of our studies on the Venezuelan orchid flora for several floristic projects, including the *Flora of the Venezuelan Guayana*, the following species, previously unrecorded within the country's boundaries, were detected.

Lepanthes spelynx Luer & Escobar, Amer. Orchid Soc. Bull. 54: 586. 1985.

Among several other *Lepanthes* species recently collected in Andean Venezuela, this taxon is a new record for Venezuela.

Specimen examined. VENEZUELA. **Mérida:** cloud forest at La Montaña study area, ca. 0.5 km S of La Montaña Teleférico Station, 2,450–2,650 m, 26 Sep. 1987, D. L. Kelly 9100 (K, VEN).

Pleurothallis archidiaconi Ames, Sched. Orch. 9: 29. 1925. TYPE: Trinidad–Tobago. Trinidad: Verdant Valley, 11 Dec. 1924, *Homersley s.n.* (holotype, AMES).

Pleurothallis archidiaconi Ames is widespread in the northern Amazon Basin, the Guayana Highlands, the Coastal Range of Venezuela, Trinidad–Tobago, and along the lower elevations of the eastern Andean foothills in Venezuela at 50–1,300(–1,500) m. Although similar to many other species in the *Macrophyllae-Fasciculatae*, *Pleurothallis archidiaconi* is characterized by its shallowly cordate,

apically acuminate leaf, a 3-nerved dorsal sepal, 5–7 mm long, subequal or somewhat narrower than the synsepal, relatively broad, oblong petals with serrate or denticulate margins and obtuse to acute apices. The labellum is broadly ovate to broadly ovate-oblong, convex above the middle, and the apex is obtuse to rounded. The margins of the labellum are microscopically erose. The corners at the base of the labellum are distinctly angled to either side of the concavity, which accommodates the column foot. In some populations, the margins of the labellum are somewhat incurved in the middle part making the labellar outline pandurate in natural shape. The flower color varies from dark red in the Venezuelan Guayana and Coastal Range to yellow-brown with darker brown or reddish nerves in most other populations, including the typical one from Trinidad; all color combinations may be present in some populations. The plants are average sized for the *Macrophyllae-Fasciculatae*. Although collected many times, especially in Venezuela, the species has frequently been misidentified. Forms of the species with incurved labellar margins have been collected in Surinam (photographed by Werkhoven, 1986: 181, as *P. monocardia* Reichenbach f.) and in some areas of the Venezuelan Guayana, from where it was misidentified as *Pleurothallis stenocardium* Schlechter by Foldats (1970: 418). *Pleurothallis stenocardium* is a species from higher elevations in the Guayana Highland tepuis with smaller flowers and different perianth segments. The Venezuelan material from the Coastal Range and the Andes has been identified by Dunsterville & Garay (1959: 337) and by Foldats (1970: 345) as *Pleurothallis monocardia*, a Colombian Andean species with differ-

ently proportioned flowers. The name *Pleurothallis archidiaconi* was mistakenly applied by these same authors to a completely unrelated Andean species (known in Venezuela from Táchira and Trujillo) with smaller yellow flowers and reflexed petals, probably *Pleurothallis phyllocardioides* Schlechter (C. Luer, pers. comm.). *Pleurothallis omoglossa* Luer, from the eastern slopes of the Andes in Ecuador, is very closely related and may prove to be conspecific. The Guyanan *Pleurothallis curvifructa* H. G. Jones [Bradea 1(23): 263. 1972] may also be conspecific with *P. archidiaconi*, judging from the scanty description, but the type of this concept has not been available for confirmation. The material cited as *Pleurothallis monocardia* from French Guiana by Cremers & Hoff (1992: 66) probably also represents this species. A good picture of the flower of *Pleurothallis archidiaconi* was published by Kenny (1988: 29).

The Surinamese and Brazilian collections cited herein are the first published records of *Pleurothallis archidiaconi* from these countries.

Representative specimens examined. BRAZIL. **Pará:** Rio Maicuru, 1°00'S, 54°30'W, 25–26 July 1981, *Jan-goux & Ribeiro 1531* (INPA, MPEG, NY, SEL). SURINAM. Wilhelmina Mountains, 900 m, 7 July 1981, collected by R. Determann s.n., cultivated at SEL under the reference number 81-2180, flowering 1 Feb. 1982, *Luer 6818* (SEL). VENEZUELA. **Bolívar:** Carretera El Dorado–Santa Elena de Uairén road, *Aristeguieta 3708* (VEN), km 115 S of El Dorado, ca. 800 m, 2 Aug. 1993, *Carnevali et al. 3233* (MO, MY, VEN). **Distrito Federal:** between Petaquire and Carayaca, 1,300–1,500 m, *Steyermark & Nevling 95925* (VEN).

Pleurothallis chloroleuca Lindley, Orch. Linden. 2: 1846.

This species, closely related to *Pleurothallis ruscifolia* (Jacquin) R. Brown, but much larger, is recorded for the first time from Venezuela.

Specimen examined. VENEZUELA. **Táchira:** cloud forest, Páramo de Tamá, *Dunsterville 1001* (VEN; line drawing, AMES).

Distribution. Colombia (type), Ecuador, Venezuela.

Pleurothallis corynetes Luer & Vásquez, Phytologia 46(6): 363. 1980.

This species resembles *Pleurothallis setigera* Lindley but the apex of the labellum is clavate, echinate. Previously known only from Bolivia, it is now recorded for the first time from Venezuela.

Specimen examined. VENEZUELA. **Mérida:** Carretera Guaraque–Tovar, 2,460 m, 7 June 1967, *Trujillo & Del Castillo 8297* (MY).

Distribution. Bolivia, Venezuela.

Pleurothallis geographica Luer, Selbyana 3: 310. 1977.

This member of subgenus *Pleurothallis* sect. *Macrophyllae-Fasciculatae* is characterized by elongated stems, relatively small cordate, acuminate leaves, and small flowers with a distinctive labellum with minute, irregular, branching rows of shallow verrucae with larger tuberosities toward the apex, resembling a geographic surface. It was previously known from Andean Ecuador and Colombia (C. Luer, pers. comm.), but it has been collected recently from the top of one of the Guayanian tepuis. The Andean populations of this species have somewhat larger flowers (dorsal sepal 6.5–8 mm long) with yellow sepals and petals and a red-purple labellum, whereas the Guayanian material exhibits a dorsal sepal 4–4.5 mm long and the flowers have been described by the collectors as magenta.

Specimen examined. VENEZUELA. **Bolívar:** Macizo del Chimantá, Apacaratépuí, in clumps on rock outcrops of bluff escarpment along stream, 5°20'N, 62°12'W, ca. 2,200 m, 20 Jan. 1983, *Steyermark, Huber & Carreño-Espinoza 128271* (MO, VEN).

Pleurothallis kerrii Braga, Bradea 3: 172. 1981. TYPE: Brazil. Amazonas: afluente do rio Marié, 16 Oct. 1978, *Madison, Braga & Kennedy (PFE 366)* (holotype, INPA 85086).

Pleurothallis delascioi Carnevali & I. Ramírez, Ernstia 31: 6. 1985. Syn. nov. TYPE: Venezuela. Amazonas: 1–2 km SE and E of San Carlos de Río Negro, ca. 20 km S of confluence of Río Negro and Brazo Casiquiare, 1°56'N, 67°3'W, 120 m, 22 Apr. 1979, *Liesner 6860* (holotype, VEN; isotype, MO).

Pleurothallis delascioi was described from badly preserved herbarium material and was judged at that time to be different from Braga's species. More abundant material has shown both concepts to be conspecific. Recently it was collected in Amazonian Peru, a new record for that country. All previously known collections were from dwarf forests on white sand soils, with annual precipitation of more than 3,000 mm; recently it has been documented from tropical rainforests in northern Amazonas in Venezuela in areas with ca. 2,000–2,500 mm of precipitation. These collections are mostly cleistogamous. *Pleurothallis kerrii* is now known from Amazonian Brazil, Peru, and Venezuela.

Representative specimens studied. PERU. **Loreto:** Distrito Iquitos, Maynas, km 8 carretera Quisto–Cocha, Varillal, perched forest over sand, 130 m, epiphytic with habit of *Peperomia*, 24 July 1984, *McDaniel & Rimachi 27837* (MO). VENEZUELA. **Amazonas:** Departamento

Atures, Río Cataniapo, vic. Salto Nieves, 100–200 m, 14 nov. 1984, *Romero & Beer-Romero 1431* (VEN); Caño Coromoto, ca. 1 km al E del Tobogán de la Selva, 100–200 m, 9 oct. 1988, *Romero & Guánchez 1613* (AMES, MO, TFAV, VEN).

Pleurothallis macrocardia Reichenbach f., *Bonplandia* 3: 72. 1855.

This member of the cordate-leaved section of *Pleurothallis* features one of the largest flowers in the group. Originally described from Ocaña, Norte de Santander, Colombia, just across the border from Venezuela, it has recently been collected on the Venezuelan side of the Páramo de Tamá. It is also recorded from Ecuador (C. Luer, pers. comm.) The Venezuelan material has translucent straw-yellow sepals, petals of the same basic color but suffused with red, and a dark red-maroon labellum.

Specimen examined. VENEZUELA. **Táchira:** Páramo de Tamá, 2,400 m, 1992, leg. Carlos García-Esquivel, *Carnevali 2969* (VEN).

Pleurothallis phoenicoptera Carnevali & G. Romero, sp. nov. TYPE: Venezuela. Bolívar: Cerro de la Piedra del Canaima, 10–12 km SE of Santa Elena de Uairén, dwarf sclerophyllous cloud forest with many epiphytes, 1,250 m, Nov. 1982, *Carnevali & Pivat 1426* (holotype, VEN). Figure 1.

Species haec *P. hamosa* Barbosa Rodrigues sed inflorescentis unifloris, floribus flavo-viridis recurvatis, sepalo dorsali linear acuto, synsepalo integro abhorret.

Epiphytic herbs, creeping. Rhizome elongate, 1–2 cm between stems, covered by scarious sheaths. Stems 2–5 cm long, erect or subpendent, apically recurved, apical half ca. 3 mm thick, markedly compressed with the adaxial margin minutely sulcate below the junction with the leaf, narrowly rhombic-elliptic in cross section. Leaves 3–4 cm long, 2–3 cm wide, ovate or ovate-elliptic, apex obtuse, minutely tridenticulate, blade green-purple, thickly fleshy, at an angle of 90° or more to the stem, deeply and rigidly concave. Inflorescences 1-flowered, from the base of the leaf; peduncle ca. 5 mm long; pedicel ca. 5 mm long. Flowers deeply seated in the concavity of the leaf, resupinate, apparently always cleistogamous, parallel to the leaf, fleshy. Sepals dorsally carinate, white suffused with purple within, becoming green-yellow on the fruit; dorsal sepal 5–8 mm long, 1–1.2 mm wide, linear-oblong, concave, 3-nerved, recurved in the apical third on the fruit; lateral sepals totally connate into a deeply concave synsepal 7.5–8 mm long, 4.5–5.5 mm wide, decurved apically, when forcefully

flattened ovate, acute, 6-nerved. Petals 2–2.5 mm long, 0.7–1 mm wide, white, rhombic-elliptic, slightly oblique, acute, 1-nerved, basally attenuated, apical margins erose or finely denticulate. Labellum 3–4 mm long, ca. 2 mm wide, white, lightly marked with purple on the margins, fleshy, in general outline ovate triangular, acute, margins ciliate-fimbriate, basally broadly hinged and provided just above the hinge with a pair of oblong, truncate, retrorse lobules ca. 4 mm long; disk verruculose, provided in the basal two-thirds with two thick crests that flank a central concavity. Column 2.4–3 mm long, terete, apically shallowly two-winged, basally produced into a ca. 1-mm-long, dark purple foot. Capsules ellipsoid, 10–15 mm long. [Subgenus *Acianthera* (Schweidweiler) Luer, sect. *Sicariae* Lindley, subsect. *Pectinatae* Luer.]

This species resembles vegetatively and florally the south Brazilian species *Pleurothallis hamosa* Barbosa Rodrigues. It is distinct, however, in the 1-flowered inflorescences, the linear or linear-oblong, acute dorsal sepal and in the completely connate, concave synsepal. The same set of character states clearly differentiates *P. phoenicoptera* from the Andean *P. harpophylla* Reichenbach f. The flowers are apparently always cleistogamous, almost cylindric but apically recurved. Eventually all flowers develop into conspicuous capsules that are partially hidden by the deep concavity of the leaf. This is the second species of the Brazilian subsection *Pectinatae* to be found in the Guayana Highlands, the other being *P. prolifera* Herbert ex Lindley.

Pleurothallis phoenicoptera grows as an epiphyte in dwarf sclerophyllous cloud forests at 1,250–1,450 m altitude where it has been collected only three times. The epithet suggests a fancied resemblance of the unopened persistent perianth on top of the fully developed capsules to the head and beak of a flamingo (*Phoenicopterus* spp.).

Paratypes. VENEZUELA. **Amazonas:** Cerro Duida, Savanna Hills, 4,400 ft., Aug. 1928–Apr. 1929, *Tate 823* (NY). **Bolívar:** Salto Torón, between Luepa and Kavanayén, 1,300 m, Jan. 1980, *Dunsterville 1411* (AMES, SEL).

Pleurothallis prognatha Luer & Escobar, *Orquideología* 16(1): 30. 1983.

This unique species of subgenus *Acianthera* sect. *Brachystachyae* Lindley was described from Andean Colombia close to the Venezuelan border. Now it is documented for the first time for Venezuela.

Specimens examined. VENEZUELA. **Táchira:** Cazadero, Quebrada Cazadero, 16 km NW of San Cristóbal, 7°54'N, 72°18'W, 650–900 m, 4 May 1981, *Liesner*

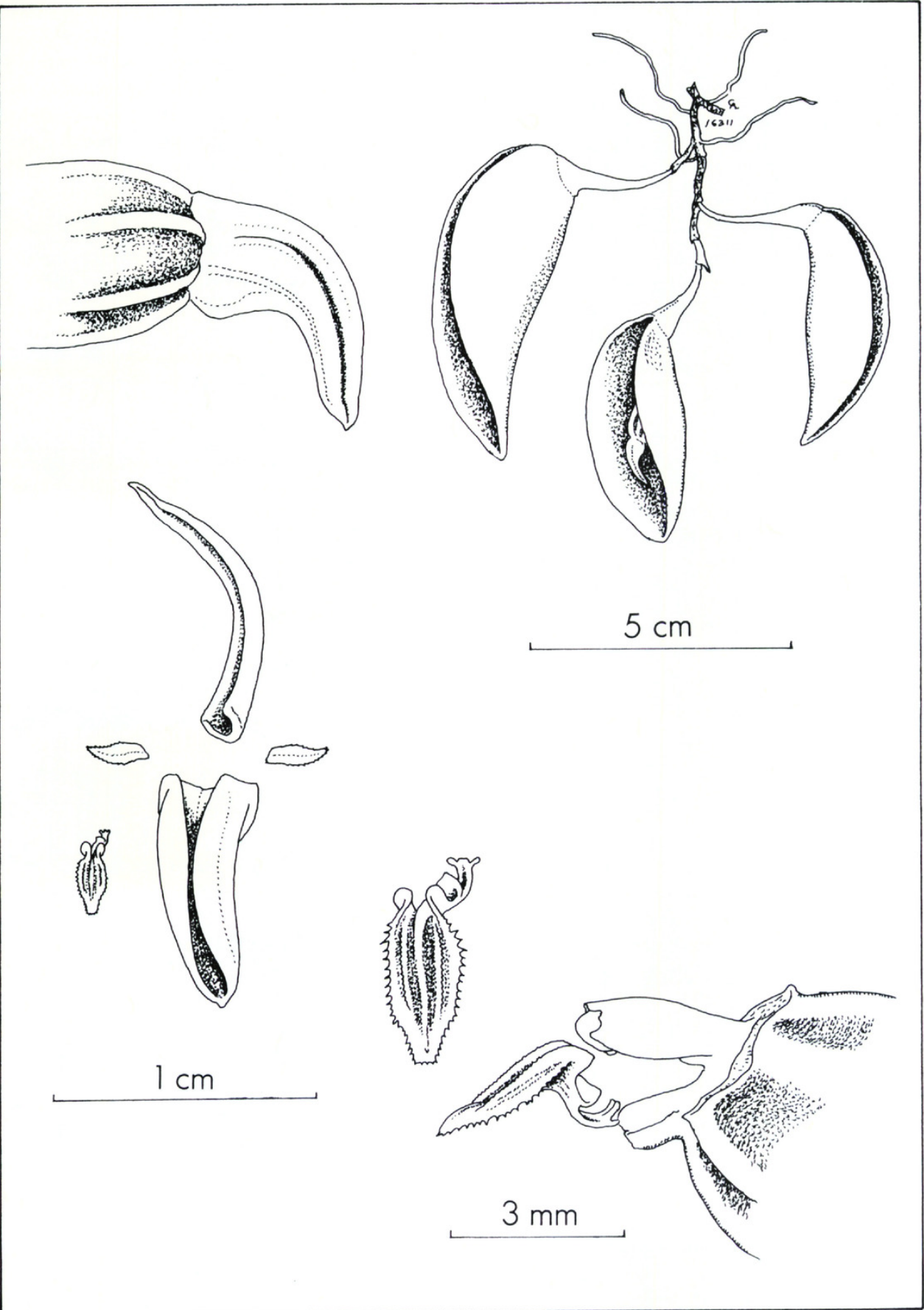


Figure 1. *Pleurothallis phoenicoptera* Carnevali & G. Romero (based on Carnevali & Pivat 1426, VEN).

& *Guariglia* 11794 (MO, VEN); Páramo de Tamá?, cultivated and flowered by L. Ferré from Caracas, 1992, *Carnevali* 2972 (VEN).

Pleurothallis serpens Luer & Escobar, *Orquideología* 16(1): 31. 1983.

This species of the affinity of *Pleurothallis lindleyi* Lindley was described from the Santander del Norte Colombian Department, just across the Venezuelan border. It is now reported for the first time in Venezuela.

Specimen examined. VENEZUELA. **Táchira:** Selva nublada, faldas debajo del Páramo de Tamá, cerca de la frontera con Colombia, 2,475–2,550 m, 18–20 mayo 1967, *Steyermark et al.* 98494 (VEN).

Pleurothallis steinbuchia Carnevali & G. Romero, sp. nov. TYPE: Venezuela. Bolívar: Cerro Guaiquinima, originally collected by Gustavo Santana and Edith Steinbuch, *Carnevali* 2957 (holotype, VEN). Figure 2.

Species haec *P. barbulata* Lindley sed planta prostrata, rhizoma repente, foliis proportione latioris, rachis elongatiore longioribus, petalis latioribus apice rotundatis, labello linear-oblongo eciliato differt.

Epiphytic herbs, creeping, stems and leaves prostrate or suberect. Rhizome terete, 0.5 mm thick, 1–3 mm long between stems, clothed by scarious sheaths. Stems 0.8–1 mm long, terete. Leaves 5–8 mm long, 2.5–3.5 mm wide, elliptic to obovate-elliptic, somewhat oblique, apex minutely mucronate, base attenuated into a short, thick pseudopetiole ca. 1 mm long, margins marginate; blade fleshy, face lightly concave, back convex, no midnerve indicated on either side. Inflorescence 8–15 mm long, a lengthening raceme of successive flowers borne from the apex of the stem; peduncle 7–11 mm long, terete, with a 1-mm-long sheath about the middle; rachis 3–4 mm long, fractiflex, 2–5(more?)-flowered; floral bracts ca. 1 mm long, elliptic. Flowers resupinate, widely opening, sepals and petals translucent maroon-pink, labellum dark maroon. Sepals convex; dorsal sepals 3.3–3.5 mm long, 1–1.2 mm wide, 3-nerved, narrowly elliptic to narrowly lanceolate, acute; lateral sepals united into a synsepal 3–4 mm long, 2–2.5 mm wide, 4-nerved, ovate, the apical 0.2–0.5 mm free. Petals 1.3–1.6 mm long, ca. 0.7 mm wide, parallel to the column, 1-nerved, narrowly oblong to oblong-obovate, rounded, apical margins erose. Labellum 3–3.2 mm long, 0.8–1.1 mm wide, ligulate, articulate with the base of the column, linear-oblong to oblong, apex obtuse, basal margins finely ciliate or subfimbriate, apical

margins glabrous, blade convex with a longitudinal groove in the basal three-fourths flanked by two longitudinal calli that terminate in an erect bilobed projection above the base, base membranously bilobed. Column ca. 2.5 mm long, membranous, slightly arcuate, apical margins irregularly toothed; stigma ventral. [Subgenus *Specklinia* (Lindley) Garay sect. *Muscosae* Lindley.]

Pleurothallis steinbuchia belongs to a small group within section *Muscosae* characterized by tiny plants with very abbreviated stems and mostly obovate leaves, hyaline, pink to dark maroon flowers, convex, widely spreading sepals with highly connate synsepals, erose to dentate petal apices, and usually ciliate to fimbriate labella. Close relatives of *Pleurothallis steinbuchia* are *P. barbulata* Lindley, *P. minima* C. Schweinfurth, and *P. abjecta* Ames. *Pleurothallis steinbuchia* is easily distinguished from these three species by the creeping rhizome and prostrate leaves, by the apically rounded petals, and the eciliate apical half of the labellum.

The following key summarizes the differences between the species of this complex that occur in the Venezuelan Guayana:

- 1a. Rhizome elongate, plants shortly creeping; leaves prostrate or ascending; petals apically rounded; labellum glabrous except for some subfimbriate, short hairs near base *P. steinbuchia*
- 1b. Rhizome abbreviated, plants caespitose; leaves erect; petals acute to acuminate; labellum marginally ciliate throughout.
 - 2a. Rachis short but conspicuous; flowers not emerging from a cuplike bract at the top of the peduncle; clinandrium deeply trilobed; synsepal concave, only slightly reflexed in natural position *P. minima*
 - 2b. Rachis very abbreviated, all flowers emerging from a cuplike bract at the top of the peduncle; clinandrium irregularly dentate; synsepal reflexed in natural position
..... *P. barbulata*

Dunsterville & Dunsterville 16 was based on an immature flower bud, which may explain the floral differences when compared to the type specimen. The species is named after Edith Steinbuch of Caracas, Venezuela, who participated in the collection of the type specimen and is one of the most knowledgeable and enthusiastic orchid amateurs in Venezuela.

Paratype. VENEZUELA. **Bolívar:** W margin of “False Falls” tributary of Río Churún, ca. 1,600 ft., Sep. 1966, *Dunsterville & Dunsterville 16* (AMES).

Restrepia striata Rolfe, *Gard. Chron.* ser. 3, 9: 137. 1891.

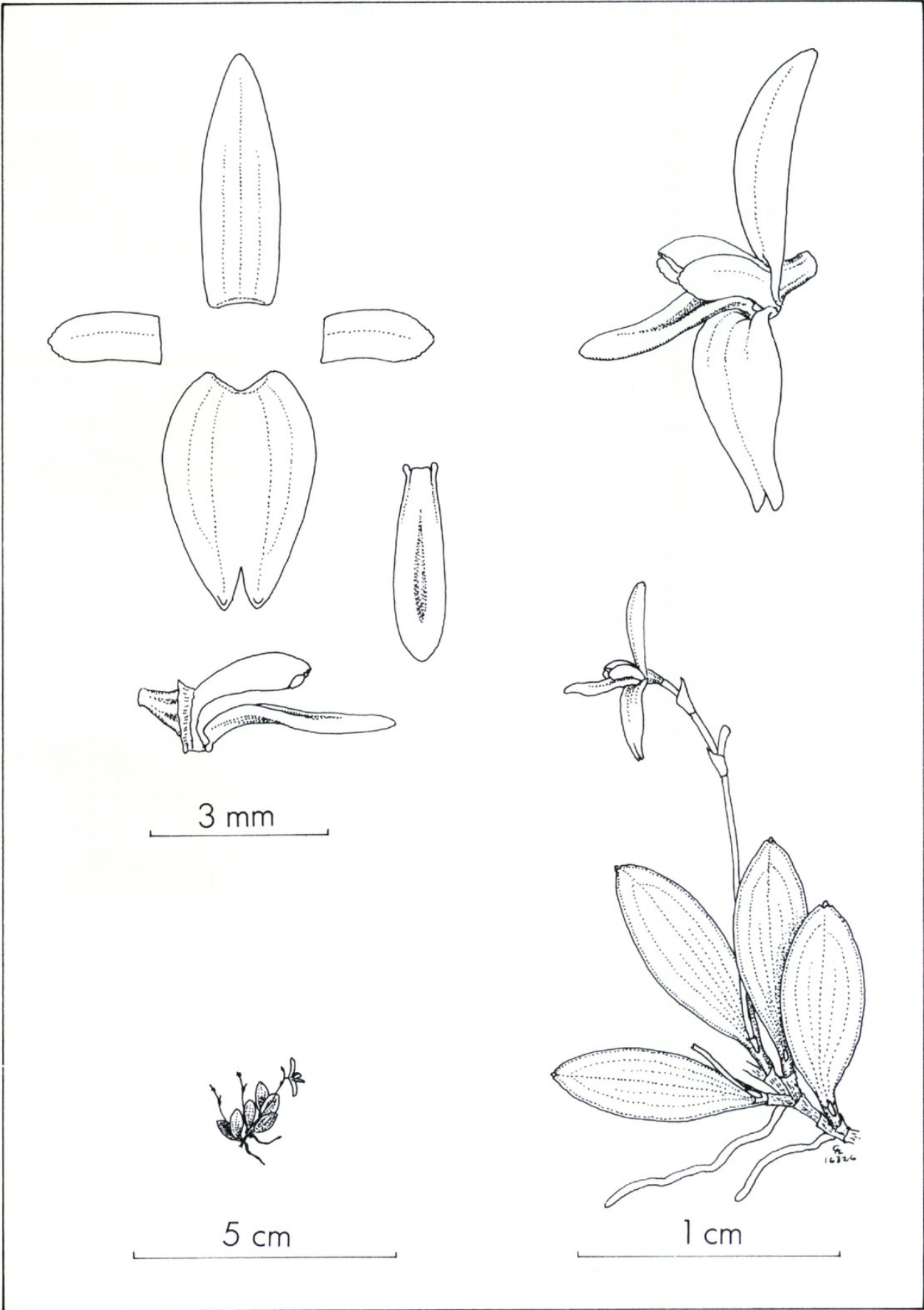


Figure 2. *Pleurothallis steinbuchiiae* Carnevali & G. Romero (based on Carnevali 2957, VEN).

This showy species is characterized by the conspicuously papillate labellum and large flowers. Here it is recorded for the first time from Venezuela. It was previously known from Colombia.

Specimen examined. VENEZUELA. **Táchira:** Páramo de Tamá, 2,400 m, 1992, leg. Carlos García-Esquivel, *Carnevali* 2971 (VEN); northern side of the pass N of Las Delicias, 1,900 m, collected by R. Mejía, *Dunsterville & Dunsterville* 1215 (AMES).

Stelis pygmaea Cogniaux, Urb. Symb. Ant. 6: 390. 1909.

Venezuelan material of this little species has been previously misidentified as *Stelis trichorrhachis* Reichenbach f., a much larger and differently proportioned taxon from the eastern Andes. The species is easy to recognize among Guayanan *Stelis* because of its small vegetative size and well developed stems; the flowers are pale green or greenish yellow, always cleistogamous. *Stelis pygmaea* occurs in cloud forests at elevations of 800–1,500 m, where it can be locally common. Good illustrations of this species are found in *Dunsterville & Garay* (1966: 323, as *Stelis trichorrhachis*, plant and flower) and in *Garay* (1979: 228, flower). The distribution of *Stelis pygmaea* fits the pattern found for several other pleurothallids that are only known from northeastern and Guayanan Venezuela, and the West Indies (*Carnevali & Ramírez*, 1993). Examples of this distributional pattern are *Brachionidium parvum* Cogniaux, *Lepanthes dussii* Urban, and this *Stelis*. In other cases, the closest relatives of a Guayanan species are Antillean taxa. Examples are *Lepanthes marahuacensis* Carnevali & I. Ramírez and *L. unistrinervis* Carnevali & I. Ramírez, both of which are closely related to the West Indian complex of species around *L. dussii*.

Representative specimens studied. VENEZUELA. **Bolívar:** La Escalera, km 115 S of El Dorado, ca. 800 m, 15 Aug. 1987, *Carnevali & I. Ramírez* 3133 (VEN), 2 Aug. 1993, *Carnevali et al.* 3232 (MO, NY, VEN). **Falcón:** Sierra de San Luis, 1,200–1,400 m, 9 Aug. 1993, *Carnevali et al.* 3285 (MO, VEN). **Miranda:** Los Guayabitos, 1,200–1,500 m, June 1955, *Dunsterville & Dunsterville* 282 (AMES, VEN; the plate mistakenly published as #283 in *Ven. Orch. Ill.* 4: 321. 1966).

Trichosalpinx egleri (Pabst) Luer, *Phytologia* 54: 395. 1983. *Pleurothallis egleri* Pabst, *Ann. XIV Congr. Bot. Bras.*: 14. 1964.

Most of the Guayanan collections previously attributed by Foldats (1970: 218–219) to *Pleurothallis blaisdelli* S. Watson [= *Trichosalpinx blaisdelli* (S. Watson) Luer] have proven to represent this species described from Amazonian Brazil, and

as such they represent a new record for the Venezuelan orchid flora. The true *T. blaisdelli* is restricted to Central America. *Trichosalpinx egleri* is also known from Guyana and Surinam. The plant pictured by Werkhoven (1986: 188) as *Pleurothallis ciliaris* (Lindley) L. O. Williams [= *Trichosalpinx ciliaris* (Lindley) Luer] is *Trichosalpinx egleri*. Both the illustration published as *Pleurothallis blaisdelli* by *Dunsterville & Garay* (1976: 329) and the plant pictured as *Pleurothallis memor* Reichenbach f. [= *Trichosalpinx memor* (Reichenbach f.) Luer] by Werkhoven (1986: 202) are *Trichosalpinx dependens* (Luer) Luer.

Specimens examined. VENEZUELA. **Delta Amacuro:** Río Cuyubini, Cerro La Paloma, Sierra Imataca, 100–200 m, 18 Nov. 1960, *Steyermark* 87660 (NY). **Bolívar:** Sierra Imataca, Río Toro (Río Grande), between Río La Reforma and Puerto Rico, N of El Palmar, 200–250 m, 14 Dec. 1960, *Steyermark* 88072 (NY, VEN); cloud forest on Cerro El Picacho, N of Las Nieves, 45 km E of Tumeremo, Altiplanicie de Nuria, 600–650 m, 5–6 Feb. 1961, *Steyermark* 89215 (NY).

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