
NEW OR NOTEWORTHY ORCHIDS FOR THE VENEZUELAN FLORA. VIII. NEW SPECIES AND COMBINATIONS FROM THE VENEZUELAN GUAYANA¹

Germán Carnevali^{2,3} and
Ivón Ramírez^{2,3}

ABSTRACT

In preparing the treatment of the Orchidaceae for the *Flora of the Venezuelan Guayana*, several new taxa have been detected. These include specimens from recently completed expeditions and earlier herbarium material. Reconsideration of generic boundaries within several subtribes has made necessary various nomenclatural changes. The following new taxa and combinations are proposed: *Cleistes huberi*, sp. nov.; *C. rosea* f. *pallida*, f. nov.; *C. unifoliata*, comb. nov.; *Octomeria romerorum*, sp. nov.; *Pleurothallis deborana*, sp. nov.; *P. pemonum*, sp. nov.; *Stelis garayi*, comb. nov.; *Sobralia oliva-estevae*, sp. nov. In addition, comments are supplied, where pertinent, on the affinities of the various taxa proposed.

The Orchidaceae are the largest of all flowering plant families, with probably more than 25,000 species. Its range is worldwide, but it is especially diverse in the tropics of both hemispheres (Dressler, 1981). It is also the largest family of plants in the Venezuelan Guayana, accounting for about 750 species now recognized; new taxa are constantly being added as new explorations are carried out. Our estimates suggest that this figure will eventually rise up to 800 or more once the whole area is well botanized. In this article six new taxa are described as the result of recently completed field trips or the study of earlier herbarium material. Furthermore, reconsideration of generic boundaries within several subtribes have made various nomenclatural changes necessary.

CLEISTES

The genus *Cleistes* L. C. Rich. consists of about 30 species (Dressler, 1981), widely ranging through the American tropics and subtropics, with a concentration of taxa in southern Brazil. This genus is closely related to *Pogonia* Juss., from which it

differs by having pollen grains coherent in tetrads. Some authors do not recognize both genera as distinct (Foldats, 1969), but most recent authors have preferred to retain the neotropical group *Cleistes* as a distinct entity. Nine species of *Cleistes* are known from Venezuela, eight of them occurring in the Venezuelan Guayana; one of these is newly described.

Cleistes huberi Carnevali & I. Ramírez, sp. nov.

TYPE: Venezuela. Bolívar: Aparamán-tepui, westernmost of four tepuis in the Aparamán Range, 2,150 m, 5°54'N, 62°07'W, summit of highly eroded sandstone mesa, 22 Mar. 1987, B. Holst 3480 (holotype, VEN; isotype, MO). Figure 1.

Species haec *Cleistes strictae* C. Schweinf. proxima sed statura vegetativa et florali minore, labello trilobato recedit.

Small, erect, heliophilous, terrestrial or subterrestrial herbs, 4–15 cm high, solitary or growing in small, loose colonies. Tubers ellipsoid, 1–1.5 cm long and wide. Stems subterete, erect, straight

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² Jardín Botánico de Caracas, Herbario Nacional de Venezuela, Aptdo. 2156, Caracas 1010 A, Venezuela.

³ Current address: Missouri Botanical Garden, P.O. Box 299, St. Louis, Missouri 63166-0299, U.S.A.

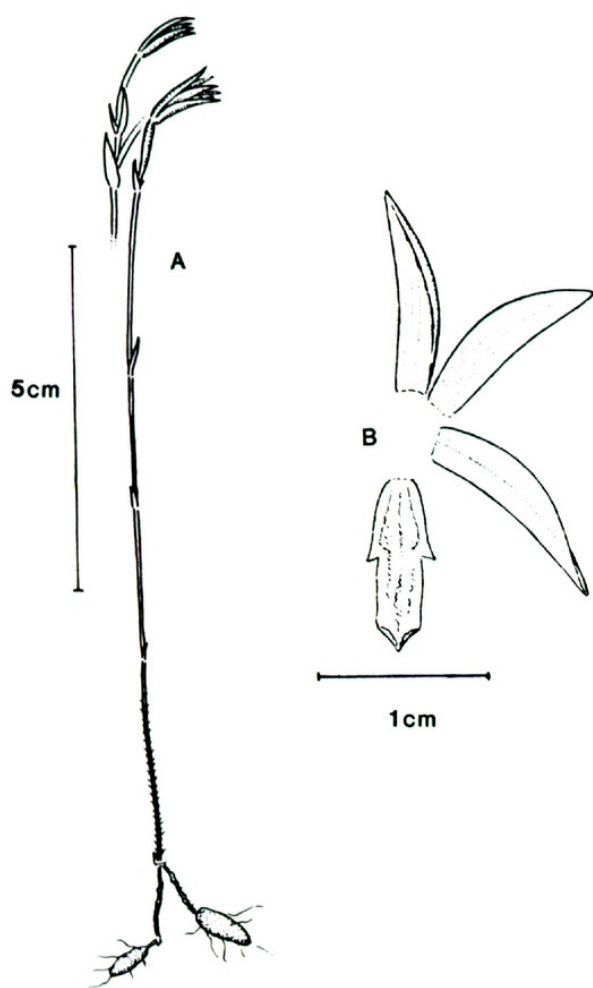


FIGURE 1. A, B. *Cleistes huberi* Carnevali & I. Ramírez. —A. Flowering habit. —B. Spread floral parts.

or slightly flexuous, glabrous, fistulose, internodes 3–35 mm long, clothed by strongly fused leaf sheaths. Leaves 4–7 mm long, 1.5–2 mm wide, reduced to small, fleshy, elliptic, acute, sheathlike blades, concave above, rounded below, margins finely erose. Inflorescences terminal, 1–2(–3)-flowered, flowers produced in succession. Floral bracts 2–5 mm long, similar to leaves but smaller. Flowers small for the genus, pale yellow to whitish, with subparallel perianth segments. Pedicellate ovary 7–10 mm long, subcylindric or narrowly ellipsoid, 6-ribbed. Sepals oblong-elliptic, acute, concave, 5-nerved, lateral sepals obliquely falcate; dorsal sepal 12–14 mm long, 2.2–2.5 mm wide, lateral sepals 11–13 mm long, 2.8–3 mm wide, dorsally carinate. Petals 10–12 mm long, 2.2–2.5 mm wide, linear-subfalcate, less concave than sepals, 3-nerved. Labellum 10 mm long, 3.5–4 mm wide, provided at base with 2 pedunculate, 0.2–0.3 mm long, subglobose calli, in outline narrowly oblong-ovate, 3-lobed about the middle; terminal lobe 5.5 mm long, 3.5–4 mm wide, linear-oblong to triangular-oblong, rounded or obtuse at apex, margins undulate, erect, making the blade concave; lateral

lobes very small, 0.5 mm long and wide, toothlike, acute, porrect; disc with a pair of longitudinal, elevated, oblong, tuberculate callosities, the callosity longitudinally sulcate in middle, highest toward the base, apically extended into 3 tuberculate carinae occupying the terminal lobe. Column 4.5–5 mm long, basally attenuate; clinandrium wide with 4 teeth about 1 mm long. Anther subquadrate, with 1.5-mm-long projections. Rostellum obtrian-gular. Capsule 15 mm long, obovoid, olive green.

Paratypes. VENEZUELA. BOLÍVAR: Distrito Roscio, cumbre del Yuruaní-tepui, al NNW del Cerro Kukenán, vegetación herbáceo-arbustiva sobre planicies de arenisca en el sector centro-este del tepui, 2,300 m, 5°19'N, 60°51'W, 27 abril 1984, O. Huber 9432 (VEN); Kukenán-tepui, cumbre del sector mas septentrional, algo separado del macizo principal, vegetación herbáceo-arbustiva sobre rocas de arenisca abiertas y alrededor de las lagunas, 2,500 m, 5°61'N, 60°48'W, 28 abril 1984, O. Huber 9461 (NY, VEN); summit of Cerro Roraima, parte noreste, inmediata al sur del hito que marca los límites de Guyana, Brazil y Venezuela, 2,750–2,800 m, 5°12'N, 60°42'W, 26 agosto–2 septiembre 1976, J. A. Steyermark et al. 112604 (VEN); cumbre del Tramén-tepui, en la porción mas nor-occidental del Macizo de Ilú-(Urú) tepui, 2,650 m, 5°27'N, 61°1'W, 23 enero 1985 (fr), O. Huber 10062 (MFY, NY, VEN).

Etymology. After Otto Huber, who has collected this new species on several occasions.

Cleistes huberi is closely related to *C. stricta* (C. Schweinf.) Garay & Dunsterv., also from the Roraima Formation Tepui Area, from which it differs in its smaller size and by the lobation of the labellum, which is variable in its development. The degree of lobation correlates with the shape of the terminal lobe. Pronounced lobing is associated with an oblong terminal lobe, while a triangular terminal lobe is correlated with less conspicuous lobation. Plants of *C. huberi* are 4–15 cm high (usually under 10 cm high) and 1–2(–3)-flowered, while plants of *C. stricta* are 23–100 cm high and are much more floriferous, producing 2–7 flowers on a longer rachis. The flowers of *C. huberi* have sepals 11–14 mm long versus sepals 18–20 mm long in *C. stricta*. *Cleistes paludosa* Reichb. f. from Surinam and northern Brazil is similar but has larger leaves (1–2.5 cm long), the floral bracts are longer than the pedicellate ovary, and the perianth segments are longer and differently proportioned (sepals 18–19 mm long, 2–2.5 mm wide; labellum 15–16 mm long, 6–8 mm wide); *Cleistes aphylla* (Barb. Rodr.) Hoehne from southern Brazil (Paraná) is apparently related but plants are larger (up to 25 cm high), flowers are white, and the perianth segments are wider.

Cleistes stricta and *C. huberi* have distinct dis-

tributional patterns: *C. stricta* tends to be more common in the cerros or tepuis of Territorio Federal Amazonas, while *C. huberi* is restricted to the northeastern part of the Roraima Formation in Estado Bolívar. Their ranges slightly overlap, however, in Chimantá-tepui, which is the northernmost known location of *C. stricta*.

A recent field trip uncovered an unknown form of the common *Cleistes rosea* Lindley.

***Cleistes rosea* Lindley forma *pallida* Carnevali & I. Ramírez, forma nova.** TYPE: Venezuela. Territorio Federal Amazonas: Depto. Átuces, morichal 1–2 km E de Piedra Tortuga, unos 8 km S de Puerto Ayacucho, 80–90 m, 30 junio 1988, ca. 5°32'N, 67°32'W, *G. Carnevali, I. Ramírez & G. A. Romero 2661* (holotype, VEN; isotypes, AMES, INPA, MO, MY, PORT, TFAV).

A *Cleistes rosea* Lindley forma *rosea* perigonis angustioribus, pallide viridis, apice roseis vel purpureo striatis differt.

This new form has narrower sepals, petals, and labellum than the typical *C. rosea*; its flowers are held in a more nodding position, and it is particularly noteworthy by its color. While in the typical form all perianth segments are basically rose, pink, or purple, with darker zones in the labellum, in this new form the sepals are greenish cream, the petals are white, and the labellum is white with apical pink suffusion, with nerves that are apically dull purple. The callus is deep yellow as in the typical form. Populations of this form seem to be restricted to the northern part of Venezuelan Territorio Federal Amazonas, always at low elevations, and in *Trachypogon* savannas or at the ecotone between these savannas and “morichales” or forests.

Paratypes. VENEZUELA. TERRITORIO FEDERAL AMAZONAS: Depto. Atabapo, sabana ubicada en el pie oriental del Cerro Cucurito en la ribera izquierda (Sur) del Medio Caño Yagua, 120 m, 3°36'N, 66°34'W, 28 junio 1979, *O. Huber 3872* (MYF, VEN); Depto. Atures, sabanas y bosques en la región de Rincones de Chacorro, unos 30 km N de Pto. Ayacucho, unos 5 km al NE de Galipero, 80 m, 5°48'N, 67°20'W, 9 mayo 1980, *O. Huber 5240* (MFY, VEN).

Our recognition of *Cleistes* Lindley as a distinct genus requires the following new combination.

***Cleistes unifoliata* (C. Schweinf.) Carnevali & I. Ramírez, comb. nov.** BASIONYM: *Pogonia unifoliata* C. Schweinf., Fieldiana, Bot. 28: 171, fig. 27. 1951. TYPE: Venezuela. Bolívar: Ptari-tepui, scrubby forest on rocky open por-

tion of plateau on SE-facing slopes, 1,600 m, 1 Nov. 1944, *J. A. Steyermark 59630* (holotype, F).

This rare species, previously known only from the type specimen and from recent material from Suriname (Werkhoven, 1986), has lately been collected several times in the Venezuelan Guayana, always on the Estado Bolívar tepuis, at 950–1,500 m.

Additional specimens examined. VENEZUELA. BOLÍVAR: Aparamán-tepui, 950 m, septiembre 1986, *A. Fernández 3580* (MFY, VEN); Amarway-tepui, 1,030 m, 5°55'N, 62°15'W, 27 mayo 1986, *Liesner et al. 21149* (MO, VEN); Cerro Guanacoco, cumbre, porción nor-oeste cerca del borde ríscoso, sabana rodeada por bosque enano, 1,450 m, 4°46'N, 63°55'W, *Steyermark et al. 109724* (VEN); Cerro Sarisariñama, cumbre, porción E, afloramiento de arenisca con zanjones en formación de bosque achaparrado y árboles enanos, 1,380 m, 4°41'N, 64°13'W, *Steyermark et al. 108961* (VEN).

SUBTRIBE PLEUROTHALLIDINAE

This group, composed of about 4,000 species widely ranging through the Neotropics, is the largest assemblage of taxa at the subtribal level in the Orchidaceae. The systematics of the Pleurothallidinae have been recently reviewed by Luer (1986a) and we follow here the generic concepts he proposed. This subtribe comprises about 170 species in 16 genera in the Venezuelan Guayana; the largest genera are *Pleurothallis* (ca. 55 species), *Octomeria* (ca. 30 species), and *Stelis* (ca. 18 species). Here we propose as new three ecologically similar species.

***Octomeria romerorum* Carnevali & I. Ramírez, sp. nov.** TYPE: Venezuela. Territorio Federal Amazonas: Depto. Átuces, carretera a Gavilán, ca. 3 km antes del puente sobre el Río Gavilán, julio 1987, *G. A. Romero, F. Guánchez & E. Gutiérrez 1324* (holotype, VEN; isotypes, K, MO, TFAV). Figure 2A–D.

Species *Octomeria gemmulae* Carnevali & I. Ramírez similis sed statura vegetativa manifeste minore, folio quam ramicaulo conspicue brevior et labello anchoriformi differt.

Diminutive, creeping, epiphytic herbs, forming clumps 3–8(–15) cm long and wide, adpressed to bark. Rhizome ca. 1 mm thick, bearing ramicauls 0.5–1 mm apart, concealed by scarious sheaths. Ramicauls 1–2 mm long, 0.6–0.8 mm thick toward apex, monophyllous, abbreviated, shorter than leaves, obconic to subcylindric, 1-articulated, suberect to horizontal, concealed by scarious sheaths.

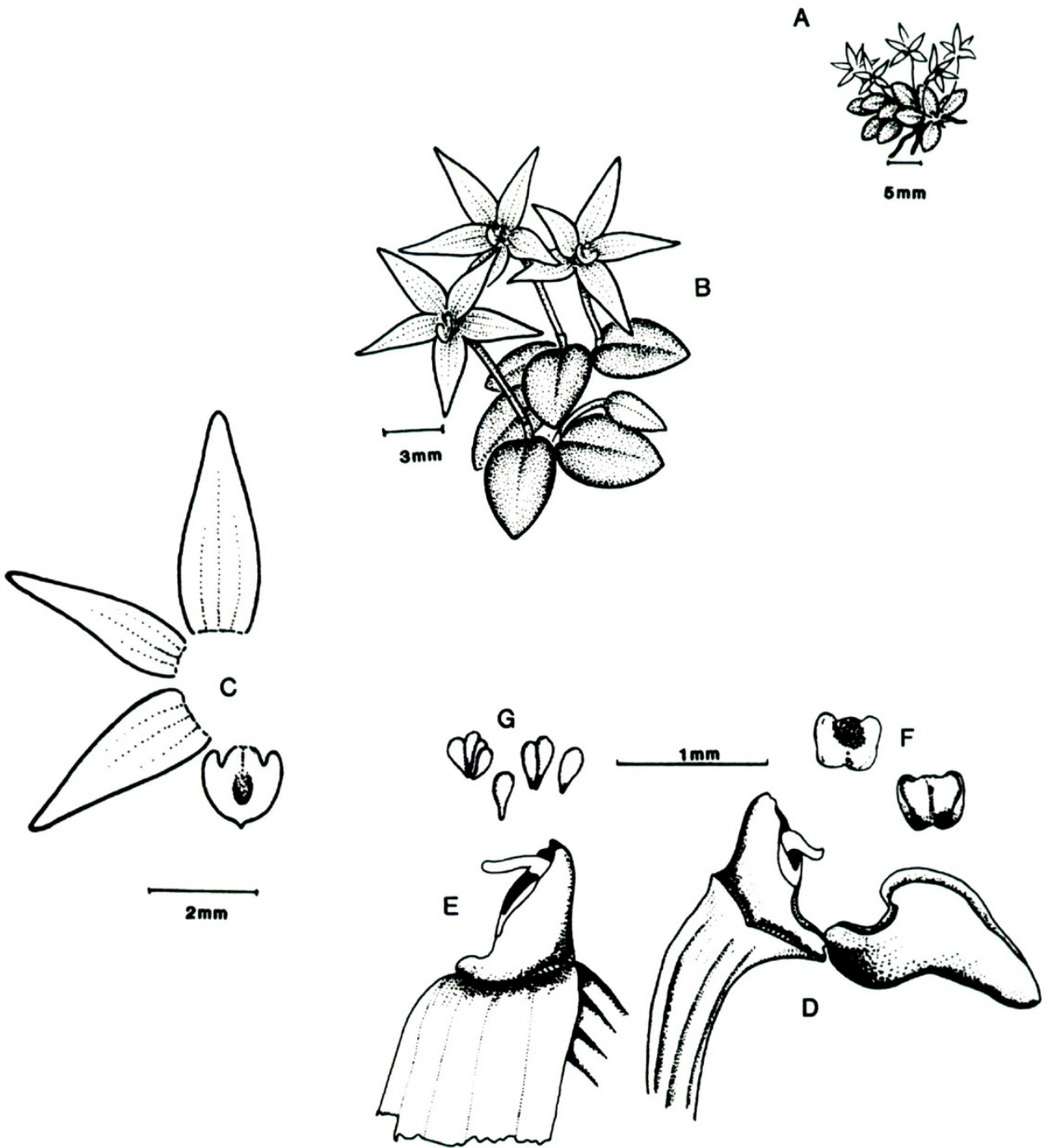


FIGURE 2. A-G. *Octomeria romerorum* Carnevali & I. Ramírez. —A, B. Flowering habit. —C. Perianth segments, flattened. —D. Lateral view of labellum and column. —E. Lateral view of column, showing rostellum. —F. Anther, ventral and dorsal view. —G. Pollinia.

Leaves 5–6(–7) mm long, 3.2–3.8 mm wide, fleshy coriaceous, thick, adpressed to the substrate, green, concolorous, elliptic to widely elliptic, apex usually obtuse but ranging from subacute to rounded, base rounded to obtuse, abaxially flat or somewhat convex with a flat to sulcate midrib, abaxially convex; the margins rounded. Inflorescences 1-flowered, successive, erect, originating from a mass of sheaths, peduncle 1.5–2.8 mm long, subterete, 1-articulate,

clothed with tubulose, scarious sheaths. Floral bracts rudimentary. Pedicellate ovary 4–5 mm long. Pedicel 3–4 mm long, thin, subterete. Ovary 0.8–1.2 mm long, straight or in angle with pedicel, somewhat hexasulcate. Flowers large for the plant, white-hyalinous, opening well with flat or somewhat recurved-reflexed perianth segments. Perianth segments membranaceous, subequal, 3-nerved. Sepals 3–4 mm long, 0.8–1.2 mm wide, free, narrowly

elliptic to narrowly ovate-elliptic, acute, the lateral sepals slightly oblique. Petals 3–4 mm long and ca. 1 mm wide, narrowly ovate-elliptic, acuminate, apically somewhat concave. Labellum 1.2–1.3 mm long and 1.1–1.3 mm wide, fleshier than the other perianth segments, concave, from a cuneate claw cordate-suborbicular to cordate-broadly ovate, acute, minutely apiculate; the claw 0.2–0.3 mm long; the blade 3-lobate, basal lobes 0.2 mm long, subfalcate-triangular, obtuse, rounded, to subacute, retrorse, thus making an anchiroid labellum; disc provided with a longitudinally elliptic, pulvinate callus. Column 0.5–0.6 mm long, short and thick, foot ca. 3 mm long. Rostellum 0.15–0.2 mm long, linguiform. Pollinia 8.

Etymology. This species is named after Gustavo and Peggy Romero, who first collected it.

This description was compiled from live and liquid-preserved material from the type collection. This species seems to be near to *Octomeria gemmula* Carnevali & I. Ramírez from the Río Sipapo drainage, with which it shares the small creeping habit (but not strongly “*Peperomia*-like” in *O. gemmula*, see discussion below), thick leaves, long-peduncled and proportionately large white flowers, and more or less similar labella. In both species the flowers open at about 7:00 A.M. and close at about 1:00 P.M. for 3–6 days. *Octomeria gemmula*, however, differs by its larger habit with proportionately longer ramicauls, purplish abaxial face of the leaves, and antrorse lateral lobes of the labellum. *Octomeria romerorum* seems to be restricted to dense forests where it grows on high branches, while *O. gemmula* grows low on shrubs in sandy, open scrublands.

Octomeria romerorum seems unique in the genus because of its habit, which recalls some of the species of *Pleurothallis* subg. *Specklinia* sect. *Muscosae* (Luer, 1986b) and a few species of *Platystele* Schltr. All these species have very short ramicauls along a short- to long-creeping rhizome with thick prostrate leaves forming small masses over the surface of the host tree. In habit they resemble some of the species of *Peperomia* in the *P. rotundifolia* (L.) HBK complex. It is interesting to note that in northern Territorio Federal Amazonas and in adjoining Distrito Cedeño of Edo. Bolívar, there are several species of *Pleurothallis* that share the same “*Peperomia*-like” habit and that grow more or less sympatrically, namely: *Pleurothallis pemonum* Carnevali & I. Ramírez, *P. deborana* Carnevali & I. Ramírez, *P. nanifolia* Fold., *Platystele ovalifolia* (Focke) Garay & Dunsterv., and this new species. This is an area of

heavy rainfall but with a marked dry season between December and March. It is quite probable that this “*Peperomia*-like” habit minimizes water loss because the stomata-bearing abaxial leaf surface is closely adpressed against the substrate, creating a closed, humid atmosphere.

Octomeria romerorum does not fit in any of the proposed subsections of sect. *Octomeria* (Cogniaux, 1896; Luer, 1986a). Its small vegetative stature would include it in subsect. *Pusillae* but its free lateral sepals would place it in subsect. *Octomeria*. The current classification of *Octomeria* appears artificial and a new intrageneric classification is needed.

Two small, creeping species of *Pleurothallis* of the affinity of *P. nanifolia* Fold. have been found in the northern Venezuelan Guayana which have proved to be new to science.

Pleurothallis deborana Carnevali & I. Ramírez, sp. nov. TYPE: Venezuela. Bolívar: Distrito Cedeño, bosque al borde de sabana al E del Río Parguaza, 125 km al N de Pto. Ayacucho, ca. 100 m, originalmente colectada por Bruce Holst y florecida en el vivero de los colectores, junio 1987, *G. Carnevali & I. Ramírez 2317* (holotype, VEN). Figure 3D, E.

Species *Pleurothallis nanifoliae* Fold. affinis, sed petalis ellipticis, acuminatis et labello anguste-obovato, apice rotundato, recurvato recedit (subg. *Specklinia*, sect. *Muscosae*).

Small, creeping epiphytes, adpressed to substrate, 2–6 cm long. Rhizome 1 mm thick, creeping, concealed by scarious sheaths, adult ramicauls 1–3 mm distant. Ramicauls 1–2 mm long and about 1 mm thick, subterete, apically thickened. Leaves 5.5–8 mm long, 4.5–6.5 mm wide, fleshy coriaceous, flat, prostrate over the substrate, broadly elliptic to (rarely) broadly ovate, obtuse, apiculate, base broadly cuneate. Inflorescences 1–2 originating from the ramicaul apex, racemes 1–3-flowered, erect, shorter than subtending leaves, provided with a tubulose, apiculate sheath. Rachis slightly flexuose, subterete. Floral bracts 1 mm long, applicate, apiculate, green. Pedicel 2–2.3 mm long, subterete, somewhat thickened apically, green tinged with red-purple. Ovary triquetrous, basally attenuate, 0.8 mm long, green with purple markings. Flowers resupinate, subcampanulate, small but large for plant size. Perianth segments subfleshy. Sepals 3.2 mm long, 0.8–1 mm wide, somewhat concave, clear greenish yellow, maroon-tinged within, narrowly ovate-lanceolate; lateral sepals slightly connate basally, somewhat falcate, dorsally carinate. Petals 3 mm long, 0.7 mm wide,

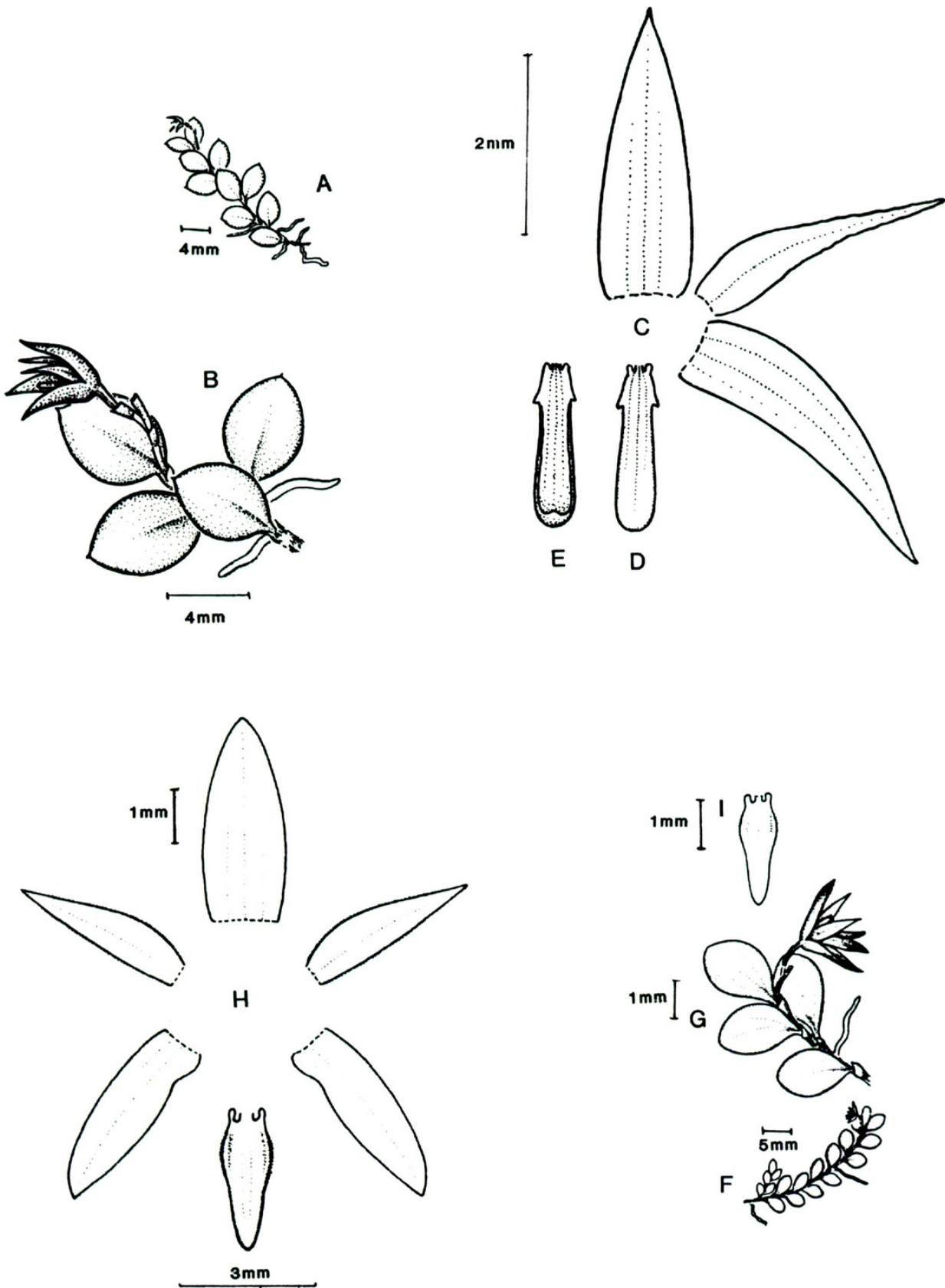


FIGURE 3. A–E. *Pleurothallis deborana* Carnevali & I. Ramírez. —A, B. Flowering habit. —C. Perianth segments, flattened. —D. Labellum, ventral view. —E. Labellum, dorsal view. F–I. *Pleurothallis pemonum* Carnevali & I. Ramírez. —F, G. Flowering habit. —H. Perianth segments, flattened. —I. Labellum, flattened. H redrawn from an original tracing by G. C. K. Dunsterville.

with the general coloration of the sepals but with a dark purple longitudinal central zone, narrowly ovate-lanceolate, acuminate, slightly falcate, margins finely erose toward apex. Labellum 1.8 mm long, 0.4 mm wide, fleshier than the other perianth segments, dark red-purple with a yellow longitudinal streak, the ventral surface finely papillose, narrowly oblong-obovate, apex recurved and acute beneath, the ventral face provided with a longitudinal concavity, margins carinate, at the basal $\frac{1}{4}$ provided with 2 small lobes 0.3–0.4 mm long, these somewhat falcate, acute; labellar base provided with two small auricles. Column 1.6 mm long, relatively slender, arcuate, alate in the apical half, clinandrium trilobed, 0.8–0.9 mm wide when expanded. Anther smooth, subglobose. Pollinia 2.

Etymology. After Debora, our daughter.

This description was prepared from living material from the only plant known. It was collected in the same tree where *Pleurothallis holstii* Carnevali & I. Ramírez was originally found. The only flower is preserved as the holotype.

Pleurothallis deborana shares the same general habit and similar flowers with *P. nanifolia*, *P. pemonum* Carnevali & I. Ramírez, *P. pachyphyta* Luer, and other species of *Pleurothallis* subg. *Specklinia* sect. *Muscocae*. Perhaps its closest ally is *P. pemonum*, which has identical habit and petals. However, *P. deborana* differs by its narrowly obovate labellum (vs. ovate-lanceolate) of smaller size (1.8 mm long vs. 2.5–3.2 mm long in *P. pemonum*), with a rounded, recurved apex (vs. not recurved). Both are easily differentiated from *P. nanifolia* by their apically attenuate petals (vs. obovate).

Pleurothallis pemonum Carnevali & I. Ramírez, sp. nov. TYPE: Venezuela. Territorio Federal Amazonas: Depto. Áturos, carretera a Gavilán, sobre *Parkia pendula*, ca. 5 km al E del Fundo Doña Juana, asociada con *Octomeria romerorum*, julio 1987, G. A. Romero 1334 (holotype, VEN; isotype, TFAV). Figure 3F–I.

Species *Pleurothallis nanifoliae* Fold. affinis, sed petalis ellipticis, acutis et labello subsimplici differt (subg. *Specklinia*, sect. *Muscocae*).

Small, creeping epiphytes up to 2 cm high. Rhizome 0.6–0.8 mm thick, subscandent, entirely concealed by scarious sheaths, bearing 1–2 relatively thick roots at each node. Ramicauls 1–3 mm long, 1–2 mm apart on the rhizome, subterete, noticeably thickened apically, concealed by tubular, scarious sheaths, apically monophyllous. Leaves

5–7(–9) mm long, 3–5 mm wide, very fleshy, usually adpressed to the host's bark but occasionally suberect, usually broadly elliptic or broadly obovate-elliptic, rarely elliptic to almost orbicular, apex obtuse to rounded, with a subapical mucro, base obtuse to rounded. Inflorescence 4–7 mm long, erect, originating from the leaf base, racemose, 1–2-flowered, basally enclosed by scarious sheaths. Floral bracts 0.8 mm long, ovate-elliptic, acute, acuminate, slightly scabrous. Pedicel subterete, 1.5–1.8 mm long. Ovary 0.6–0.8 mm long, obconic, subtriquetrous, in angle to pedicel. Flowers proportionately large, lateral sepals patent, dorsal sepal, petals, and lip parallel to labellum. Perianth segments subcoriaceous. Sepals trinerved; dorsal sepal 3.8–4 mm long, 0.8–1 mm wide, narrowly oblong, acute; lateral sepals 3.2–3.5 mm long, 1–1.2 mm wide, linear oblong, acute, slightly oblique, free to their bases where they form a shallow mentum. Petals 2.8–3.7 mm long, 0.8–0.9 mm wide, margins microscopically cellular. Labellum 2–2.2 mm long, 0.5–0.6 mm wide, parallel to the column, fleshier than the other perianth segments, narrowly ovate-lanceolate, apex acute to subobtuse, basally provided with a pair of small, rounded, 0.2 mm long lobules or auricles, ventral face provided with a dense, minute pubescence absent along a longitudinal concavity extending to the apex of the blade. Column 1.8–2 mm long, slightly arcuate, subterete, apically winged and trilobed; clinandrium fimbriate. Anther subventral.

Paratypes. VENEZUELA. BOLÍVAR: selva virgen siempre verde a lo largo de la Quebrada Los Brasileños, 4.5 km al S de Icabarú, 4°20'N, 61°48'W, 480 m, diciembre 1976, Steyermark et al. 117784 (VEN); Río Carrao, 450 m, Dunsterville & Dunsterville 1221 (AMES, VEN).

Etymology. After the Pemón Indies from La Gran Sabana, Edo. Bolívar, who live where this species occurs.

This small, creeping species is closely related to *Pleurothallis nanifolia* and *P. deborana*. (See discussion under the latter species.) The flowers of *P. pemonum* have semitranslucid, deep wine-red sepals, petals of the same hue but not translucid; the labellum is dark red with the central concavity yellow-cream, basally grandular-pubescent. The column is cream, red-tinged dorsally, ventrally dark red. The anther is creamy red, the ovary is yellow and the pedicel is creamy red.

Pleurothallis pemonum has a wide range in the Venezuelan Guayana and with little doubt is present in Brazil and Colombia. The Dunstervilles collected it in several places in Edo. Bolívar: Río Carrao, 450 m, and Cerro Guaiquinima, 700 m (G. C. K.

Dunsterville, pers. comm.). The authors have found it in the Akarui River at 750 m (no voucher), in the same state. The holotype collection is somewhat out of range but otherwise is identical.

We agree with Luer (1986a) that the kind of stigma structure (1-lobed, ventral) found in *Apatostelis* (as defined by Garay, 1980) is only an extreme case in a rather variable character and should not be used as a generic criterion. Hence, the following combination is required:

Stelis garayi (Dunsterv.) Carnevali & I. Ramírez, comb. nov. BASIONYM: *Apatostelis garayi* Dunsterv., Amer. Orchid Soc. Bull. 50: 1075. 1981. TYPE: Venezuela. Bolívar: Salto Paraván, Río Yuruán, ca. 250 m, G. C. K. Dunsterville 1418 (holotype, AMES; isotype, VEN).

This interesting little species, related to a group of mainly Central American species (*Stelis ciliaris* Lindley, *S. crescenticola* Schltr., *S. minimiflora* Schltr., and others), has recently been collected again, now in the Venezuelan Amazonas. The specimen is: Venezuela. Territorio Federal Amazonas: Depto. Atures, Río Autana, 200 m, enero 1988, G. A. Romero 1435 (TFAV, VEN).

SOBRALIA

The genus *Sobralia* Ruíz Lopez & Pavón, containing about 80 species, is mainly a Middle American and Andean genus. However, a secondary center of diversity is to be found in the Guayanian Highlands; most of the species occurring there are endemics to that area. The flowers of plants belonging to this genus are very difficult to study since they are thinly membranous and tend to agglutinate. Because of this problem, many species are ill-defined or poorly known and the genus is in need of a revision. There are 19–20 species of *Sobralia* in Venezuela, most of them restricted either to the Andean portion of the country or to the Guayana, where 13 species are known to occur. One of them is proposed as new here.

Sobralia oliva-estevae Carnevali & I. Ramírez, sp. nov. TYPE: Venezuela. Estado Bolívar: Parque Nacional Canaima, La Escalera, bosque nublado enano alrededor del km 125 al S de El Dorado, ca. 1,300 m, 30 agosto–8 septiembre 1987, I. Ramírez, G. Carnevali & F. Oliva-Esteva 150 (holotype, VEN). Figure 4.

Species *Sobralia speciosae* C. Schweinf. similis, sed caules ramificantes, subscandentes (vs. simples); folia abaxialia 2-carinata (vs. 3–5-carinata), inflorescentia sem-

per uniflora (vs. (2–)3–5-flora), petala apice non undulata (vs. undulata) recedit.

Medium-sized to rather large epiphytic to subterrestrial, suffruticose herbs. Roots thick. Stems 100–250 cm long, terete, erect, arcuately ascendent to subpendulous, sometimes red-tinged, somewhat lignified basally, branching and rooting at the upper half, basal internodes 18–25 cm long, nodes somewhat thickened, apical internodes and branches 1–8 cm long, leafy. Leaves 5–10.5 cm long, 1–1.9 cm wide, subfleshy when fresh, rigidly coriaceous when dry, abaxially with 2 raised nerves, decurved in natural position, narrowly ovate-elliptic to ovate-elliptic, long acuminate, articulate with their sheaths; sheaths 0.5–1.2 cm long, tightly clasping the stem. Inflorescences uniflorous, axillary from the upper portion of main stem or branches, up to 6 flowers per branch; peduncle 20–30 mm long, somewhat ancipital and apically thickened, its basal half enveloped by the subtending leaf sheath, apically produced into a fugacious aborted flower, noticeable only on fresh material. Pedicellate ovary 1.4–1.5 cm long, subterete, twisted. Flowers 9–12 cm natural spread, showy, resupinate, with submembranaceous, widely spreading perianth segments, lasting only one day. Sepals and petals purple, paler toward apex. Dorsal sepal 5 cm long, 1.8 cm wide, narrowly obovate-elliptic, subacute. Lateral sepals 5.2 cm long, 1.7 cm wide, elliptic, acute. Petals 5.3 cm long, 2.3 cm wide, obovate, abruptly acute, somewhat incurved in natural position. Labellum 5.7 cm long, 4.4 cm wide, rich purple with a white throat and a yellow central carina, this reaching only the opening of the throat, hairs on disc pale purple, in outline broadly obovate-elliptic or somewhat rhomboid, broadly rounded apically, emarginate and mucronulate, labellar margin undulate-crisped in the apical half, disc with 4 hairlike antrorse to suberect lamellae-covered carinae at each side of central nerve, this bearing lamellae at the apical third. Column 2.8 cm long, 4.5–5 mm thick, slender, somewhat clavate, apically triquetrous, clinandrium trilobate, central lobe larger than laterals.

Paratypes. GUYANA: Kaieteur Plateau, 11 May 1944, Maguire & Fanshawe 23380 (AMES, NY). VENEZUELA. BOLÍVAR: Uei-tepui, between southeastern slope and summit, between Luepa and Cerro Venamo, vicinity of km 125 S of El Dorado, 1,100–1,300 m, Mar. 1962, Steyermark & Aristeguieta 21 (VEN).

Etymology. After Francisco Oliva-Esteva, who participated in the collection of the type specimen.

This description was based on pickled material

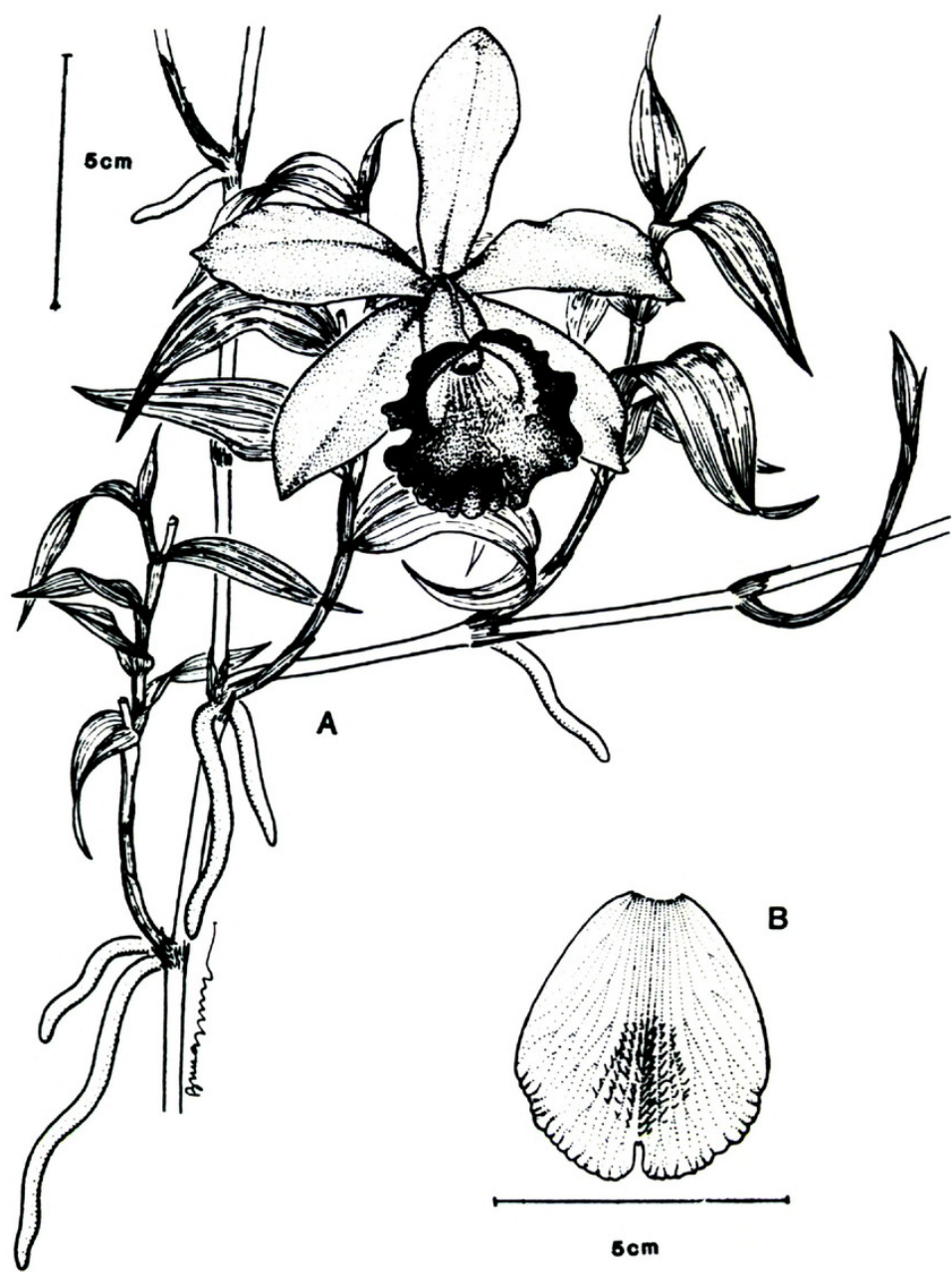


FIGURE 4. A, B. *Sobralia oliva-estevae* Carnevali & I. Ramírez.—A. Flowering habit.—B. Labellum, flattened.

from the holotype collection and on dried material from the paratypes.

The flowers of this showy species are almost identical to those of *Sobralia speciosa* C. Schweinf. from southern Territorio Federal Amazonas (Cerros Neblina, Avispa, and Aracamuni), but in *S. oliva-estevae* the petals are marginally flat, and the labellum is more obovate and proportionally wider. The pedicellate ovary in *S. speciosa* is proportionally longer than in *S. oliva-estevae*; in the first species it is 0.75–1.3 times longer than the column (p. ovary 2–4.7 cm, column 3–3.5 cm), while in the new species the pedicellate ovary is only about half as long as the column (p. ovary 1.4–1.5 cm,

column 2.8 cm). The most striking differences between both species, however, lie in the vegetative morphology and in their ecological preferences. *Sobralia speciosa* grows terrestrially in open savannalike tepui associations, usually in boggy conditions while *S. oliva-estevae* is an epiphyte in cloud forests. In *S. oliva-estevae* the stems are freely branching and proliferous in the upper half, rooting at the branching internodes; in this way the plants become subscaudent, eventually prostrate or pendulous. The stems in *S. speciosa* are simple and erect. The leaves of *S. speciosa* have 3–5 nerves raised abaxially, while in *S. oliva-estevae* there are only 2. In *S. speciosa* the inflorescence is a suc-



Carnevali Fernández-Concha, Germán and Ramírez de Carnevali, Ivón. 1990. "New or Noteworthy Orchids for the Venezuelan Flora. VIII. New Species and Combinations from the Venezuelan Guayana." *Annals of the Missouri Botanical Garden* 77, 549–558. <https://doi.org/10.2307/2399519>.

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