

New taxa and new combinations in Mesoamerican Stenorrhynchidinae (Orchidaceae, Spirantheae)

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Received 15 Dec. 2003, revised version received 10 Apr. 2004, accepted 8 June 2004

Rutkowski, P., Mytnik, J. & Szlachetko, D. L. 2004: New taxa and new combinations in Mesoamerican Stenorrhynchidinae (Orchidaceae, Spirantheae). — *Ann. Bot. Fennici* 41: 479–489.

The following new species of the Orchidaceae subtribe Stenorrhynchidinae are described and illustrated: *Coccineorchis cristata* Szlach., Rutk. & Mytnik, *C. dressleri* Szlach., Rutk. & Mytnik, *C. warszewicziana* Szlach., Rutk. & Mytnik, *Schiedeella tamayoana* Szlach., Rutk. & Mytnik, *S. williamsiana* Szlach., Rutk. & Mytnik, and *Svenkoeltzia pamela* Szlach., Rutk. & Mytnik. A new subgenus *Oestlundorchis* Szlach. subgenus *Mexicanthes* Szlach., Rutk. & Mytnik is proposed. A new combination *Stenorrhynchos vexillaris* (Szlach.) Szlach., Rutk. & Mytnik, *comb. & stat. nov.* is validated. Keys for identification of the Mesoamerican species of *Coccineorchis* and *Svenkoeltzia* are provided.

Key words: nomenclature, Orchidaceae, Spirantheae, Stenorrhynchidinae, taxonomy

The subtribe Stenorrhynchidinae (Orchidaceae, Spirantheae) as defined by Szlachetko (1995) embraces about 20 genera. The distinguishing features are a sheath-like viscidium, produced of the outer layer of rostellum cells, and a subulate rostellum remnant. Stenorrhynchidinae have two distinct geographical centres of diversity occurring almost symmetrically in relation to the equator: central Mexico, somewhat below the tropic of Cancer (Jalisco, Michoacan, Veracruz, San Luis Potosi), and south Brazil around the tropic of Capricorn (Espírito Santo, Rio de Janeiro and São Paulo). The interspecific differences are not clear and they were interpreted variously by taxonomists in the past.

Revising herbarium materials of Orchidaceae tribe Spirantheae for *Flora Mesoamericana*

treatment we have found several specimens that did not fit any species known so far.

The genus *Coccineorchis* was described by Schlechter (1920) based on *Spiranthes corymbosa*. These terrestrial and epiphytic, rather large plants are characterised by free, similar sepals; subparallel lateral sepals with an obliquely inserted base on top of the ovary without forming an observable mentum; petals agglutinate to dorsal sepal; lip distinctly unguiculate, conduplicate with an arcuate apex, basally auriculate, margins of lamina in the middle agglutinate to both sides of column; gynostemium part slender, elongate, pubescent in front, free from the dorsal sepal, with a distinct, oblique base on top of the ovary, stigma bilobed, the lobes touching each other in the middle, rostellum rigid, more or less cartilaginous, linear-lanceolate to

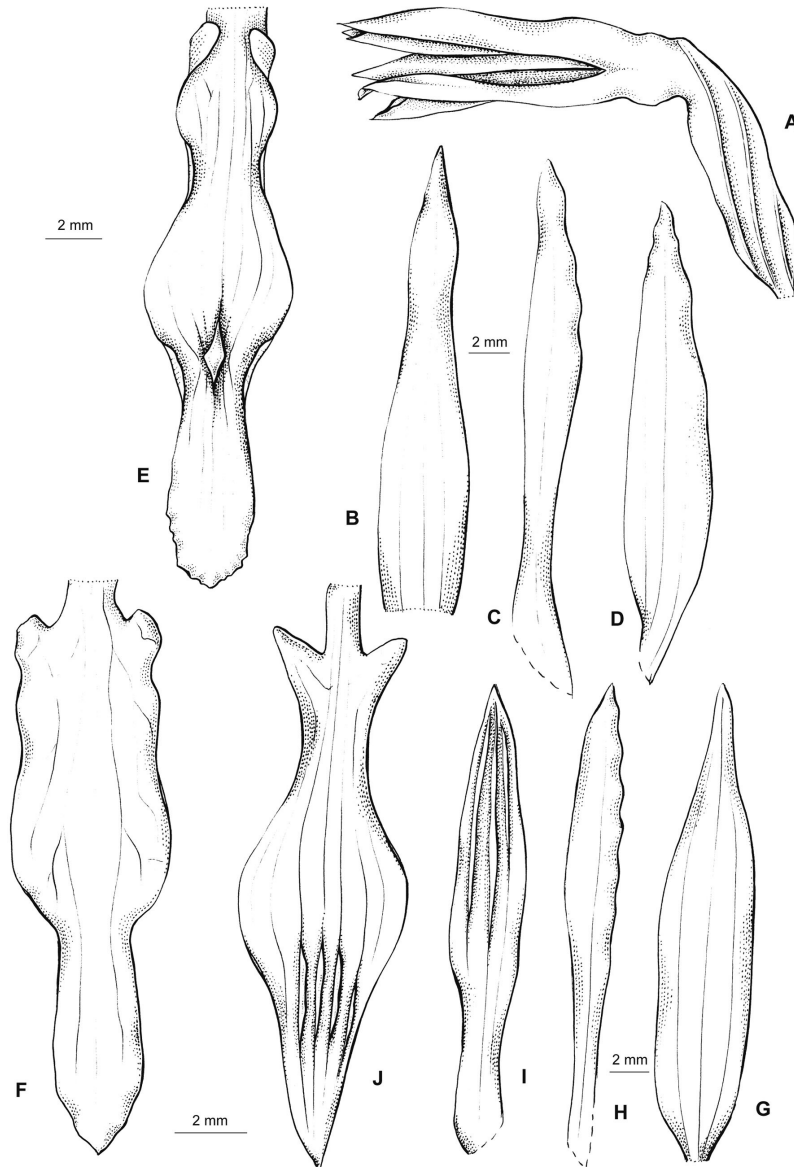


Fig. 1. *Coccineorchis warszewicziana* (A–E, from holotype). — A: Flower. — B: Dorsal sepal. — C: Petal. — D: Lateral sepal. — E: Lip. — *Coccineorchis dressleri* (F, Standley & Valerio 52382, US). — F: Lip. — *Coccineorchis cristata* (G–J, Dressler 4233, FLAS). — G: Dorsal sepal. — H: Petal. — I: Lateral sepal. — J: Lip.

subulate, and sharply pointed. The anther is ovate-lanceolate, acute, umbonate; pollinia are clavate with a slender, narrowly oblong viscidium. Garay (1982) placed in *Coccineorchis* four species native to higher elevation of Central and South America: *C. bracteosa*, *C. cernua*, *C. navarrensis* and *C. standleyi*. During the study of the Mesoamerican Spirantheae many specimens were found that are not referable to any recognised species so we describe three new species here.

Coccineorchis warszewicziana Szlach., Rutk. & Mytnik, *sp. nova* (Fig. 1A–E)

Species haec C. cernuo similis, sed recedit labello supra medium constricto, distincte concavo infra et super constrictionem cum quattuor distinctis lamellis inter se adherentibus.

TYPE: Costa Rica. Prov. San Jose, San Jose, III.1975 Pank s.n. (holotype SEL!).

Roots numerous, up to 25 cm long, 0.2–0.4 cm in diameter, fasciculate, fusiform, puberulent. Leaves 4–9, basal, petiolate; petiole 8.5–19.5 cm long, narrow; blade 5–16 cm long, 2–8.5 cm wide, elliptic-ovate, ovate- or elliptic-lanceolate, more or less oblique, acute to acuminate. Scape 28–47 cm long, erect or arcuate at apex, rather stout, densely pubescent below and within raceme. Cauline sheaths 2–6, tubular, acute, glabrous, shorter than internodes. Raceme 5–10.5 cm long, 8–15-flowered, subdense, subsecund. Flowers medium-sized, conspicuous, yellow to yellow-orange, floral bracts orange, dull orange red to dull pale red. Floral bracts 23–44 mm long, ovate-lanceolate, acute, herbaceous, with hyaline margins, glabrous. Pedicel 1–1.5 mm long, twisted. Ovary 10–18 mm long, narrowly cylindrical, subsessile, sparsely glandular in upper part. Sepals connate in lower quarter forming a narrow, glandular tube. Dorsal sepal 16–25 mm long, 2.8–5 mm wide, oblong elliptic-lanceolate, acute, 5-nerved. Petals 16–19 mm long, 1.4–2.5 mm wide, linear in lower part, oblong-lanceolate to oblanceolate above, acute to subobtusate, falcate, 3-nerved. Lateral sepals 16–25 mm long, 2.2–4.5 mm wide, obliquely oblong-lanceolate, acute, 5-nerved. Lip 14–22 mm long in total, 2.2–6 mm wide in middle, clawed; claw 1 mm long; basal lip auricles 1.2–2.2 mm long, thickened; lamina constricted near the apical third; hypochile oblong-ovate, concave near apex and here strongly squeezed with 2–5 thick lamellae, sometimes running to apex of epichile; epichile oblong ligulate, subobtusate. Gynostemium 12–14.5 mm long.

ETYMOLOGY: Named in honour of Józef Warszewicz (1812–1866), a Polish botanist who collected orchids from Central and South America.

ECOLOGY: Terrestrial in deep wet forest shade and in lower montane rain forests. Flowering between October and March.

DISTRIBUTION: Nicaragua (Dept. Matagalpa), Costa Rica (Prov. Heredia, Puntarenas & San Jose), Panama (Prov. Cocle & Veraguas). Alt. 800–3000 m.

This species is similar to *C. cernua* from which it is easily distinguished by the lip, which

is compressed above the middle and with four parallel lamellae, closely adnate to each other. The lip is distinctly concave above and strongly squeezed below.

ADDITIONAL SPECIMENS EXAMINED (paratypes). — **Nicaragua**. Dept. Matagalpa. Above Sta. Maria de Ostuma, 8. XII.1976 *Tomlin 115* (SEL!). **Costa Rica**. Prov. Heredia, Cerros de Zurqui, along Rio Para Blanca (Pacific drainage), 10°3'N, 84°1'W, 1600–1800 m, 6–7.II.1977 *Burger, Visconti & Gentry 10294* (F!). Prov. Puntarenas. Monteverde Cloud Forest Reserve, on continental divide in area of TV towers, 10°20'N, 84°50'W, 1700 m, 29.XII.1985 *Haber & Bello 3992* (MO!); Cerca de cumbre del Cerro Chomogo, 1600–1690 m, 27.XI.1976 *Dryer 987* (F!). Prov. San Jose. Cerro de las Vueltas, 2700–3000 m, 29.XII.1925–I.I.1926 *Standley & Valerio 43768* (US!). Sine Prov. Summit Sierra de la Muerte, III.1974 *Read & Daniels 74–111* (US!); Alto de la Palma de San Ramon, 1310 m, 5.XII.1922 *Brenes 3793* (F!); Yerba Buena, 22–28.II.1926 *Standley & Valerio 50187* (US!). **Panama**. Prov. Cocle. El Valle, 4.XII. 1983 *Luer 9241* (SEL!); Cerro Pilon, El Valle, 1000 m, 4.I.1968 *Duke & Lallathin 15019* (MO!).

Coccineorchis dressleri Szlach., Rutk. & Mytnik, *sp. nova* (Fig. 1F)

Species haec C. warszewicziano affinis, sed differt labello rectangulari-subpanduriformi in dimidio inferiore, subsessili, apice angustolanceolato, acuto, auriculis indistinctis et tepalis acuminatis.

TYPE: Panama. Prov. Chiriqui, Cerro Hornito, 1700 m, 14.XII.1976 *Luer, Luer, Dressler & Williams 1322* (holotype SEL!).

Roots numerous, 6–13 cm long, 0.2–0.4 cm in diameter, fasciculate, fusiform, puberulent. Leaves 3–6, basal, petiolate; petiole 6–12 cm long, narrow; blade 7.5–12 cm long, 3.4–6 cm wide, elliptic-ovate, ovate- or elliptic-lanceolate, more or less oblique, acuminate. Scape 25–46 cm long, erect, arcuate at apex at anthesis, delicate, sparsely glandular below raceme, densely so within. Cauline sheaths 3–7, tubular, acute, glabrous, shorter than internodes. Raceme 3–6 cm long, 6–20-flowered, dense, all-sided. Flowers medium-sized, conspicuous, red or yellow, floral bracts dull pale red. Floral bracts 19–39 mm long, ovate-lanceolate, acute, herbaceous,

with hyaline margins, glabrous. Pedicel 2 mm long, twisted. Ovary 8–14 mm long, narrowly cylindrical, subsessile, glabrous or occasionally with few glandular hairs at apex only. Sepals connate at base only, glabrous. Dorsal sepal 9.5–16 mm long, 1.6–3 mm wide, oblong lanceolate, acuminate, 3-nerved. Petals 9.5–16 mm long, 1.5–1.8 mm wide, linear oblanceolate, acute to acuminate, falcate, 3-nerved. Lateral sepals 10–19 mm long, 2.7–3 mm wide, oblong-lanceolate, acuminate, almost straight, 3-nerved. Lip 10–16 mm long in total, 4–5 mm wide at base, shortly clawed to almost sessile; basal lip auricles 0.3–0.8 mm long, broadly rounded, inconspicuous, slightly thickened; lamina constricted near middle; hypochile rectangular-subpandurate, truncate at base, slightly concave in centre, rather abruptly attenuate apically; epichile linear-lanceolate, acute to acuminate. Gynostemium 6–10 mm long.

ETYMOLOGY: Dedicated to Dr. Robert L. Dressler, an eminent American orchidologist.

ECOLOGY: Terrestrial in dark wet forests and cloud forests. Flowering from December to March.

DISTRIBUTION: Costa Rica (Prov. Heredia), Panama (Prov. Chiriqui). Alt. 1100–2400 m.

This species is similar to the previous one, but it is characterised by a subsessile, rectangular-subpandurate lip with a linear-lanceolate apical part, inconspicuous basal auricles, and acuminate tepals.

ADDITIONAL SPECIMENS EXAMINED (paratypes). — **Costa Rica**. Prov. Heredia. Cerro de las Caricias, N of San Isidro, 2000–2400 m, 11.III.1926 *Standley & Valerio 52382* (US!). Sine Prov. Cañas Gordas, 1100 m, II.1897 *Pittier 11138* (BR!). **Panama**. Prov. Chiriqui. Cerro Hornito, 1700 m, 14.XII.1976 *Luer, Luer, Dressler & Williams 1322* (SEL!); Continental Divide trail above Fortuna Dam, 1200 m, VI.1986 *Luther, Besse, Halton, Kress 1122* (SEL!).

Coccineorchis cristata Szlach., Rutk. & Mytnik, *sp. nova* (Fig. 1G–J)

Planta a labello rhombeo-ovali C. navarrensis affinis et a lamellis in parte superiori labelli C. warszewiczianum appropinquat sed labello in medium non constricto recedit.

TYPE: Panama. Prov. Panama, Cerro Jefe, ca. 800 m, 16.XII.1972 *Dressler 4233* (holotype FLAS!).

Roots numerous, 4–13 cm long, 0.2–0.4 cm in diameter, fasciculate, fusiform, puberulent. Leaves 6–7, basal, petiolate; petiole 6–11.5 cm long, narrow; blade 5–12 cm long, 3–5.5 cm wide, orbicular, elliptic, elliptic-ovate, ovate- or elliptic-lanceolate, more or less oblique, acute to acuminate. Scape 31–64 cm long, erect or arcuate, rather stout, densely glandular below and within raceme. Cauline sheaths 2–5, tubular, acute, glabrous, shorter than internodes. Raceme 5–10 cm long, 7–15-flowered, dense, all-sided to subsecund. Flowers medium-sized, conspicuous, coral red, orange-red to red outside and yellow within, floral bracts pink-red to orange. Floral bracts 20–34 mm long, ovate to elliptic, acute, herbaceous, with hyaline margins, glabrous. Pedicel 1–1.5 mm long, twisted. Ovary 8.5–16 mm long, narrowly cylindrical, sparsely or densely glandular. Sepals connate in the lower quarter, forming a narrow, sparsely glandular to almost glabrous tube. Dorsal sepal 14–19 mm long, 2.8–4 mm wide, oblong elliptic-lanceolate, acute, 3- or 5-nerved. Petals 12–19 mm long, 1.2–2.2 mm wide, linear in lower part, oblong-lanceolate to oblanceolate above, acute, falcate, 1- or 3-nerved. Lateral sepals 15.5–21 mm long, 2.5–3.8 mm wide, obliquely oblong-lanceolate, acute, 3- or 5-nerved, occasionally with 3 cristae in the upper half. Lip 13–19 mm long in total, 3.5–5 mm wide near middle, clawed; claw 1–1.5 mm long; basal lip auricles 0.5–1.2 mm long, thickened; lamina entire or subentire — rhomboid-ovate in outline, gradually attenuate from middle towards base and apex, with 3–5 longitudinal lamellae running from middle to below apex, acute to obtuse. Gynostemium 10 mm long.

ETYMOLOGY: The epithet refers to the lip covered by lamellae.

ECOLOGY: Terrestrial on thick humus in cloud forests. Flowering from October to December, occasionally at other times.

DISTRIBUTION: Costa Rica (Prov. San Jose), Panama (Prov. Chiriqui, Cocle & Panama), Colombia. Alt. 300–3200 m.

Coccineorchis cristata is similar to *C. navarrensis* in the lip form, which is rhomboid-ovate

in outline, and to *C. warszewicziana* in the presence of lip lamellae. However, in the latter species the lip is not compressed near the middle.

ADDITIONAL SPECIMENS EXAMINED (paratypes). — **Costa Rica.** Prov. San Jose, La Hondura de San Jose, 29.X.1932 *Brenes* 3 (NY!). Sine Prov. Detras de La Georgina, Carretera Panamericana Sur, 300 m. 28.VII.1965 *Jimenez* 3410 (F!). **Panama.** Prov. Chiriqui, above Cerro Punta, 2400 m, 13.II.1985 *Luer, Luer, Dressler & Dressler* 10524 (MO!). Prov. Cocle, Divide SW of La Mesa at end of lodging road, 80°5'W, 8°35'N, ca. 900 m, 26.XII.1982 *Stein & Hamilton* 986 (MO!). Cerro Jefe, along trail on ridge running NE from summit, ca. 1000 m, 18.XII.1974 *Mori, Kallunki* 3753, *Cochrane, Cochran, Hansen, Kowal & Nee* (F!, FLAS!, MO!, SEL!).

Coccineorchis embraces seven species from Central and South America. The species can be distinguished by the following key.

Key to the species of *Coccineorchis*

1. Lip lamina with prominent callus above centre 2.
1. Lip lamina ecallose 3.
2. Lip strongly compressed above middle, with a large thick callus above centre *C. warszewicziana*
2. Lip lamina not compressed, rhomboid-ovate in outline, with 3–5 cristae in upper half *C. cristata*
3. Inflorescence dense, subcorymbose, subsecund; floral bracts shorter than flowers 4.
3. Inflorescence elongate, usually multilateral; floral bracts longer than flowers 5.
4. Lip widest at base, lower part subquadrate, upper parts ligulate–lanceolate *C. dressleri*
4. Lip widest near middle, more or less lanceolate in outline *C. cernua*
5. Roots usually distributed on elongate rhizome; floral bracts twice as long as flowers, ca. 5–6 cm long *C. bracteosa*
5. Roots fasciculate; floral bracts as long as flowers or slightly longer 6.

6. Lip ribbon-like or ligulate; petals half as wide as dorsal sepal *C. standleyi*
6. Lip rhomboid or rhomboid-ovate in outline, widest near middle; petals as wide as dorsal sepal or only slightly narrower *C. navarrensis*

The genus *Oestlundorchis* was described by Szlachetko (1991b). It is characterised by scarious, semi-transparent cauline and floral bracts; arcuate flowers; lip with thickened margins in the basal part; and by the gynostemium structure. The column foot is partially free, rostellum base broad, rostellum remnant 3-dentate and the viscidium semi-sheathlike. *Deiregyne* differs from *Oestlundorchis* in having free lip auricles, long ovary neck and column foot, viscidium suspended below the outer epidermis of rostellum, and from *Schiedeella* in its scarious, semi-transparent cauline and floral bracts, long column foot and broad rostellum base (Table 1).

Oestlundorchis embraces 14 species distributed in Mesoamerica only. Based on the rostellum structure, *Oestlundorchis* can be divided into the subgenera *Oestlundorchis* and *Mexicanthes*. The former has the rostellum longer than stigma, viscidium attached to its upper half, and rostellum remnant 3-dentate and elongate, with the median tooth being the longest one. The flowers are usually large or medium-sized, rarely small, often conspicuous, gathered into a lax to fairly dense inflorescence, often subsecund.

Oestlundorchis subgenus *Mexicanthes* Szlach., Rutk. & Mytnik, *subgen. nov.*

Rostellum brevius quam stigma, breviter triden-

Table 1. Morphological comparison of *Deiregyne*, *Oestlundorchis* and *Schiedeella* (Szlachetko 1993). + = present, – = absent.

Feature	<i>Deiregyne</i>	<i>Oestlundorchis</i>	<i>Schiedeella</i>
Cauline and floral bracts	scarious semi-transparent	scarious semi-transparent	herbaceous
Sepaline tube	+	–	–
Lip claw	connate with lateral sepals	free	free
Lip auricles	free	fused with lip margins	free
Ovary neck	+	–	–
Column foot	long, adnate to ovary neck	short, free at apex	reduced
Rostellum base	broad	broad	narrow
Rostellum remnant	U-shaped	linear, acute	linear, acute
Viscidium	suspended at rostellum apex	sheath-like	sheath-like

tatum viscidio ablati, dentibus subaequalibus. Flores minuti vel parvi, inconspicui, in inflorescentia densa, paniculata aggregati.

TYPE SPECIES: *Oestlundorchis falcata* (L.O. Williams) Szlach.

Rostellum shorter than stigma, rostellum remnant shortly 3-dentate, all tooth subequal. Flowers small to tiny, inconspicuous, gathered in a usually dense, all-sided inflorescence.

The Mesoamerican genus *Schiedeella* proposed by Schlechter (1920) is characterised by an almost erect gynostemium, needle-like rostellum, rostellum remnant narrowly triangular and usually distinctly 3-dentate with the central tooth the longest; sheath-like viscidium; strongly reduced column foot; cuniculiform spur; basally nearly erect or only slightly arcuate lip; flat claw with unthickened margins, and herbaceous floral and cauline bracts. *Schiedeella* has 14 species. According to Szlachetko (1991a) it can be divided into three subgenera based on the rostellum structure: *Schiedeella*, *Schiedeellopsis* and *Gularia*. Revising herbarium materials for *Flora Mesoamericana* we found two specimens that did not fit any species known so far, so we describe two new species here.

ETYMOLOGY: The name is a combination of the words Mexico, where the genus has its centre of diversity, and *Spiranthes*, in which most species of this group have been placed.

Schiedeella tamayoana Szlach., Rutk. & Mytnik, *sp. nova* (Fig. 2)

Species haec S. alinae affinis, sed differ hypochilo deltoideo-ovato, circa 2/3 latius quam longius, lobis lateralibus triangularibus acutisque et sino acuto.

TYPE: El Salvador. Dept. Chalatenango, Finca El Pital, Cerro El Pital, 2600 m, 29.I.1978 *Hamer 681* (holotype MO!, isotype F!).

Roots 3–7, 1.5–8 cm long, 0.5–1 cm in diameter, fasciculate, tuberoid, densely woolly pubescent. Leaf single, usually withered at anthesis, basal, long-petiolate; petiole 9.5–18.5 cm long,

narrow; blade 5–14 cm long, 1.5–3.8 cm wide, lanceolate to oblong-lanceolate, acute. Scape 20–50 cm tall, relatively stout, erect, glabrous. Cauline sheaths 7–9, tightly adnate to stem, tubular, acuminate, herbaceous, glabrous, lower ones longer than internodes, upper ones shorter, or all shorter than internodes. Spike 4–20 cm long, loosely 5–30-flowered. Flowers small, inconspicuous, tubular, with reflexed petals and dorsal sepal. Floral bracts 7–18 mm long, ovate-lanceolate, acuminate, thin, herbaceous, delicate, glabrous. Ovary 5–7 mm long, cylindrical, sparsely glandular in upper part. Sepals dissimilar, free almost up to base, sparsely glandular at base only. Dorsal sepal 8.7–10 mm long, 2–2.2 mm wide, lanceolate to oblong-lanceolate, acute, 1(3)-nerved. Petals 8.2–9.1 mm long, 1–1.2 mm wide, linear-oblongate, falcate, rounded at the apex, 1-nerved. Lateral sepals 8–9 mm long, 1.1–2 mm wide, linear-lanceolate, subacute, slightly oblique at the base, 1(3)-nerved. Lip shortly clawed, constricted near the middle; hypochile 5.5–6 mm long, 4–4.2 mm wide, deltoid-ovate in outline, widest near apex, lateral margins triangular, acute, with small, basal auricles, minutely glandular near base; epichile 4 mm long, 3.1–4.5 mm wide, almost rounded, truncate at apex, irregularly and minutely denticulate along margins, papillate. Gynostemium 6 mm long. Viscidium 0.5 mm long.

ETYMOLOGY: Dedicated to Dr. Roberto Gonzalez Tamayo (BUG).

ECOLOGY: Terrestrial. Flowering from January to April.

DISTRIBUTION: Mexico (Hidalgo, Jalisco, Michoacan, San Luis Potosi) and El Salvador (Dept. Chalatenango). Alt. 2600 m.

ADDITIONAL SPECIMENS EXAMINED (paratypes). — **Mexico.** Hidalgo, Real del Monte near Pachuca, 98°38'W, 20°08'N, 2600 m, 22.III.1933 *Juan Gonzales 2178* (SEL!); Trinidad, near Honey Station, 25.IV.1904 *Pringle 11915* (MICH!, US!). Jalisco, Cerro Viejo, about 35 km S of Guadalajara city, *R. Gonzalez T. & al. s.n.* (R. Gonzalez T., *pers comm.*); Encarnacion, *R. Gonzalez T. s.n.* (R. Gonzalez T., *pers comm.*). Michoacan, WSW Irapea, *R. Gonzalez T. & Zamudio s.n.* (R. Gonzalez T., *pers comm.*); *Martinez s.n.* (R. Gonzalez T., *pers comm.*). San Luis Potosi, without locality, 1879 *Schaffner 256* (GOET!). **El Salvador.** Dept. Chalatenango, Finca El Pital, Cerro El Pital, 2600 m, 29.I.1978 *Hamer 681* (F!, MO!).

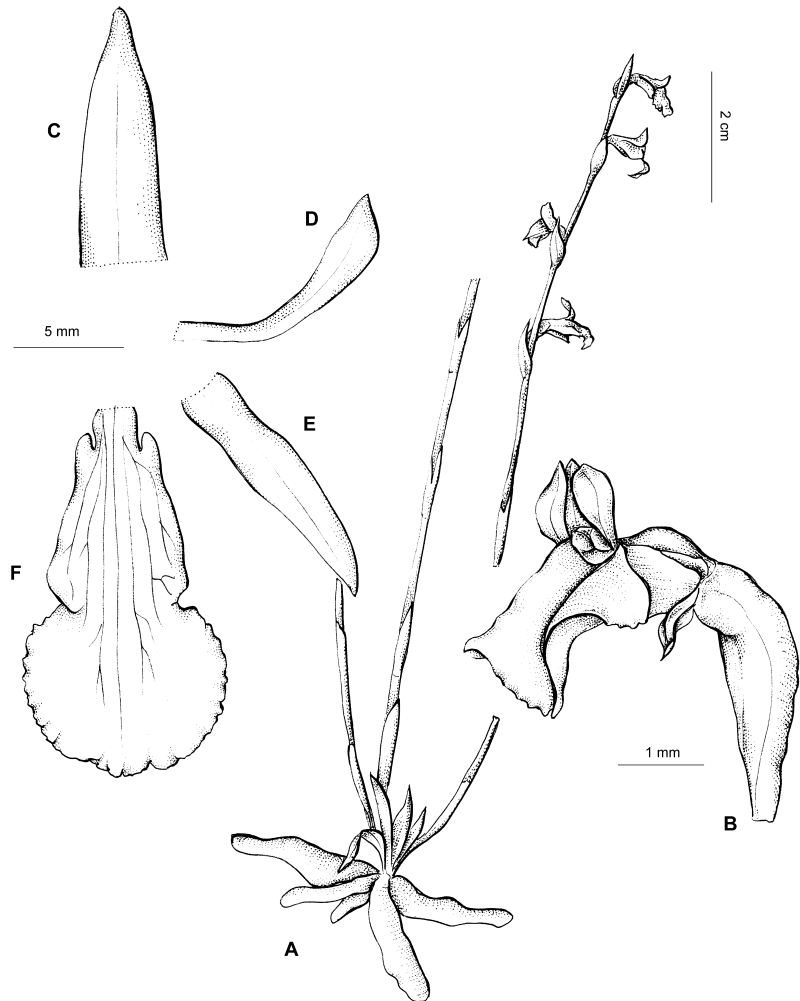


Fig. 2. *Schiedeella tamayoana* (from holotype). — **A:** Plant. — **B:** Flower. — **C:** Dorsal sepal. — **D:** Petal. — **E:** Lateral sepal. — **F:** Lip.

Schiedeella tamayoana is related to *S. alinae*, from which it differs clearly in the lip form. The hypochile of the new species is deltoid-ovate in outline, ca. 2/3 as wide as long, with acute, triangular lateral lobes and an acute sinus. In *S. alinae* the hypochile is oblong-ovate, with blunt lateral lobes, ca. 1.5–2 as long as wide, and the sinus is shallow and broad.

Schiedeella williamsiana Szlach., Rutk. & Mytnik, *sp. nova* (Fig. 3)

Species haec S. trilineatae affinis, sed labello distincte in hypochilo et epichilo diviso, epichilo distinctissime latiori et majori quam hypochilum.

TYPE: Mexico. Jalisco, Guadalajara, 1500 m, II.1978 *Rodriguez s.n.* (holotype AMO!).

Roots unknown. Leaves lacking at anthesis, unknown. Scape 11.5 cm high, erect, delicate, glabrous, whitish or brownish. Cauline bracts 4, adnate to stem, sharply pointed, herbaceous with hyaline margins, shorter than internodes. Spike 2.5 cm long, loosely 4-flowered, subsuccund. Flowers tubular, erect, divergent at apex only, glabrous, yellowish-white. Floral bracts up to 9 mm long, ovate to broad lanceolate, acute, semi-transparent, thin, herbaceous with hyaline margins. Ovary 4–5 mm long, slender, glabrous. Sepals subsimilar, connate at short basal distance. Dorsal sepal 12 mm long, 1.6 mm wide,

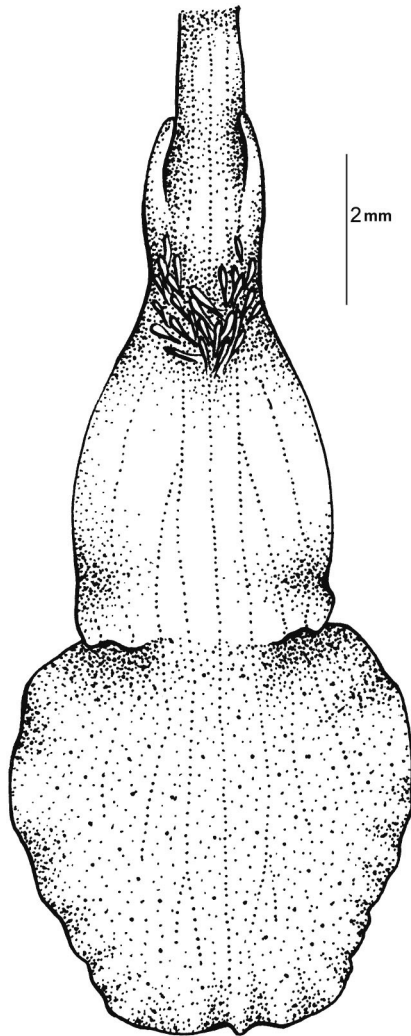


Fig. 3. *Schiedeella williamsiana* (from holotype), lip.

narrowly lanceolate, broadest beneath middle, acute, slightly concave near apex. Petals 11.5 mm long, 1 mm wide, linear-oblancoelate, sigmoid or falcate, acute. Lateral sepals 12 mm long, 1.2 mm wide, linear, acute, slightly sigmoid. Lip distinctly divided near middle, clawed; claw agglutinate with lateral sepals; hypochile 7 mm long, 4 mm wide, oblong at base with two fleshy auricles adnate to claw, ovate above, epichile 4.5 mm long, 5.1 mm wide, broadly ovate-cordate, truncate.

ETYMOLOGY: Dedicated to Louis O. Williams (1908–1991), an eminent American orchidologist.

ECOLOGY: No data available. Flowering in February.

DISTRIBUTION: Mexico (Jalisco). Alt. 1500 m.

This species belongs to the subgenus *Gularia* and it appears to be related to *S. trilineata*. It differs, however, from all species of this group in that the lip is constricted between the hypochile and epichile. The epichile is wider and distinctly larger than the hypochile.

Stenorrhynchos is a genus characterised by similar, free, parallel sepals, rather tightly connivent, and with flaring apices. The dorsal sepal is concave, free from gynostemium, and the lateral sepals are oblique, slightly gibbose at base, but not decurrent. The petals are agglutinate to dorsal sepal, without free apices, and slightly oblique at base. The lip is sessile, conduplicate with a gibbose base and the margins callose, thickened. The blade is conduplicate, arcuate with a recurved apex, and the lateral margins are agglutinate to both sides of gynostemium. The column is short and stout, with a distinct oblique base on top of the ovary; the rostellum is rigid, linear-lanceolate to almost circular, and sharply pointed. The anther is narrowly ovate-lanceolate, cordate at base, acute above, and the pollinia are linear-clavate, with a rather long, linear-lanceolate viscidium. *Stenorrhynchos* has ca. 10 species widely distributed in the New World tropics and subtropics. In the *Flora Mesoamericana* area it is represented by eight species, representing two subgenera: *Stenorrhynchos* with a sessile lip and *Dithyridanthus* with a clawed lip. We propose a new combination in this genus.

Stenorrhynchos vexillaris* (Szlach.) Szlach., Rutk. & Mytnik, *comb. & stat. nov.

BASIONYM: *Stenorrhynchos michoacanus* (Llave & Lex.) Lindl. ssp. *vexillaris* Szlach., *Fragm. Flor. Geobot.* 39: 420. 1994. — HOLOTYPE: Mexico. Vera Cruz, Orizaba, Müller 80 (holotype NY!). Paratypes: Mexico. Guerrero, Mina, Teotepic, 2400 m, 11.III.1939 Hinton & al. 14773 (MO!, NY!, US!); without locality, XII.1853 Müller 319/1004 (NY!).

The genus *Svenkoeltzia* was established by Burns-Balogh (1989). The main characteristic features of the genus are leaves usually absent at anthesis, forming a basal rosette, petiolate,

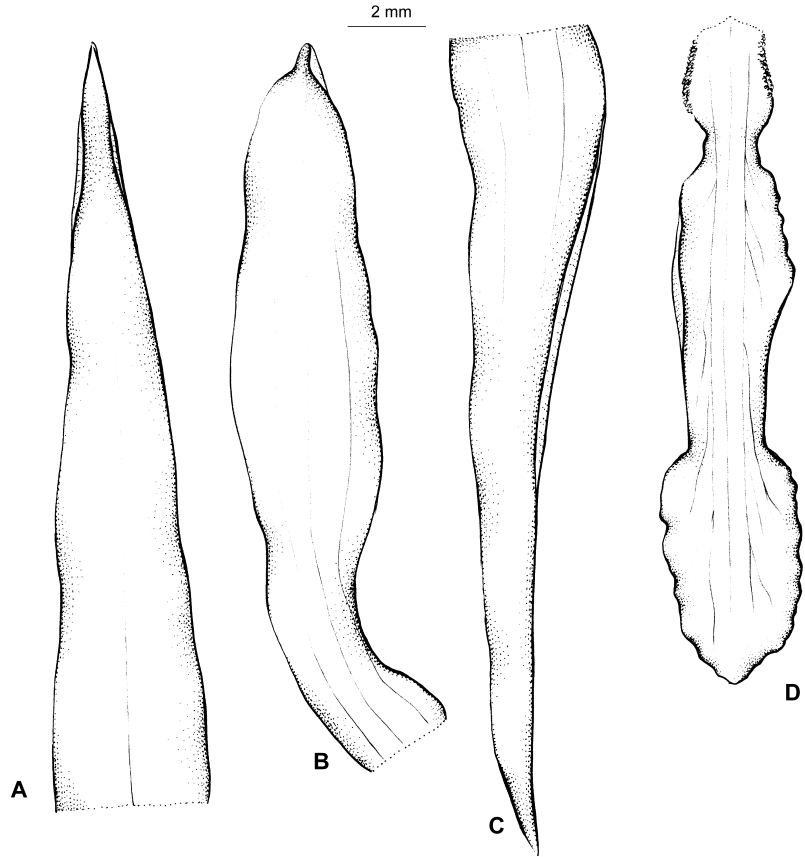


Fig. 4. *Svenkoeltzia pamelae* (from holotype). — **A:** Dorsal sepal. — **B:** Petal. — **C:** Lateral sepal. — **D:** Lip.

with an oblong-elliptical to lanceolate and acute blade. The erect, canaliculate, and sessile lip has a shallow constriction near the middle. The lamina is entire or constricted, and the hypochile is concave at the base and thickened slightly on the margins, lanceolate to oblong-ovate above. The epichile is oblong-ovate, sagittate, sometimes indistinctly 3-lobed, acute or obtuse, and papillate. The rostellum is formed of the apical part of the middle stigma lobe, is narrow at the base, linear, much elongate, longer than stigma, erect, and blunt. The viscidium is mesotonic, single, detachable, cellular, sheath-like, attached apically to the pollinium. The rostellum remnant is rather soft, pliable, acutely and unequally 3-dentate, the middle tooth being the longest one, the lateral ones are rudimentary. Burns-Balogh (1989) placed into this genus only *Svenkoeltzia congestiflora*. Szlachetko (1991a) divided the genus *Funkiella* into three sections: *Funk-*

iella, *Lueretta* and *Svenkoeltzia*, thus reducing the status of *Svenkoeltzia*. According to that author the section *Svenkoeltzia* is characterised by a subapical, few-flowered inflorescence with erect flowers, sessile lip, narrow, oblong symmetric perianth parts, and an erect gynostemium. Gonzalez Tamayo (2000) recognized *Svenkoeltzia* as an independent genus and described two new species from Jalisco, Mexico: *S. luzmariana* and *S. patriciae*. We came across a specimen collected by Suarez *sub* Greenwood from Oaxaca (Mexico), which, in our opinion, must be distinguished as representing a new species.

Svenkoeltzia pamelae Szlach., Rutk. & Mytnik, *sp. nova* (Figs. 4 and 5)

Species haec inter omnia speciebus generis flores maximi habet. A speciebus alliis generis inflo-



Fig. 5. *Svenkoeltzia pamelae* (from holotype), photograph of inflorescence.

rescentia elongata fere secunda differt. Planta labello supra medium distincte constricto S. congestifloram recedit.

TYPE: Mexico. Oaxaca, Comaltepec, IV.1976 Suarez, sub Greenwood 371 (holotype UGDA!, DLSz-spirit).

Roots 6, 3–6 cm long, 0.5–1.1 cm in diameter, clustered, tuberous, fleshy. Leaves absent at anthesis, unknown. Scape 17 cm high, erect, relatively stout, glabrous, covered by cauline bracts. Cauline bracts 7, herbaceous with hyaline margins, acute, thin, glabrous, lower ones imbricate, upper ones slightly longer than internodes. Spike 4.5 cm long, 10-flowered, rather lax, elongate, subsecund, with a glabrous axis. Flowers relatively large, erect, protandrous, tubular, yellow. Floral bracts 19–21 mm long, ovate-lanceolate, acute, yellow-greenish, 5-nerved. Ovary 12 mm long, sessile, obovoid-cylindrical, erect or slightly arcuate, glabrous. Dorsal sepal 20 mm long, 3.5 mm wide, oblong narrowly triangular, acute, 3-nerved. Petals 17.5 mm long, 2.8 mm wide, linear-lanceolate, falcate, subacute, 3–4-nerved. Lateral sepals 21 mm long, 3 mm wide, oblong-triangular, broadest at base,

acute, slightly falcate at base, 3-nerved. Lip erect, canaliculate, sessile, lamina distinctly constricted near apical third; hypochile 10.5 mm long, 3 mm wide, concave at base and thickened slightly on margins, oblong-obovate in general outline; epichile 7 mm long, 3.6 mm wide, oblong-ovate, obtuse, papillate. Gynostemium 9.5 mm long. Viscidium 0.2 mm long.

ETYMOLOGY: Named in honour of Dr. Pamela Burns-Balogh, who established this genus.

ECOLOGY: No data available. Flowering in April.

DISTRIBUTION: Mexico (Oaxaca).

Svenkoeltzia pamelae has the largest flowers in the genus and it is the only species with an elongate, subsecund inflorescence.

Key to Mexican species of *Svenkoeltzia*

1. Lip distinctly constricted above middle 2.
1. Lip entire or subentire 3.
2. Inflorescence elongate, subsecund; sepals 20–21 mm long *S. pamelae*
2. Inflorescence capitate to subcapitate, all-sided; sepals up to 17.5 mm long *S. congestiflora*
3. Epichile denticulate on margins *S. patriciae*
3. Epichile margins entire *S. luzmariana*

Acknowledgements

We are grateful to Prof. dr hab. Ryszard Ochrya for the Latin diagnoses. The studies were financed by the grant KBN 3PO4C 075 24.

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