

ICONES STELIDARUM (ORCHIDACEAE) COLOMBIAE II¹

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Abstract. An additional fifty new species of *Stelis* from Colombia are described and illustrated in this the second of a series, of fifty species at a time, that includes those not identified when compared with any of the previously known species.

Keywords: Colombia, Orchidaceae, Pleurothallidinae, *Stelis*

While continuing to revise the genus *Stelis* Sw. for Colombia, an additional 50 new species are described and illustrated.

All species of the genus *Stelis* Sw. are distinguished by a short column that is closely surrounded by the petals and the lip into a compact unit, referred to herein as the “central apparatus.” The column bears two stigmas, sometimes confluent, and the anther with two pollinia; two short petals flank the column; and the lip below is closely associated with the undersurface of the column.

When describing species based on collections not gathered by the author, I add my illustration number to the protologue.

Stelis aggregata Luer & R. Escobar, *sp. nov.* TYPE: COLOMBIA. Chocó: Urrao, south of the pass between Urrao and Carmen de Atrato, 2700 m, 20 May 1995, C. Luer, J. Luer, R. Escobar et al. 17632 (Holotype: MO). Fig. 1.

This medium-sized, caespitose species is characterized by numerous, simultaneous, many-flowered inflorescences about as long as an elliptical leaf; a five-veined dorsal sepal; three-veined petals; and an obtuse lip with the dorsum descending 45°.

Plant medium in size, epiphytic, densely caespitose. Ramicauls erect, slender, 13–15 cm long, with a close, tubular sheath from near the middle, another 2 sheaths below and at the base. *Leaf* erect, coriaceous, elliptical, acute, 9–10 cm long, with an ill-defined petiole, 2 cm wide in the dry state, cuneate below to the base. *Inflorescence* 3–12; 5–12 cm long, the racemes erect, strict, subcongested, distichous, many-flowered; floral bracts oblique, acute, 3.5 mm long; pedicels 2.5 mm long; ovary 1.5 mm long; the peduncle ca. 2 cm long, subtended by a fugacious spathe, from a node at the apex of the ramicaul; flowers rose-colored; *sepals* glabrous, expanded, ovate, connate below the middle, the dorsal sepal acute, 4 mm long, 3 mm wide, 5-veined, the lateral sepals oblique, 2.5 mm long, 3 mm wide, 4-veined; *petals* transversely semilunate, 1 mm long, 1.75 mm wide, 3-veined, concave, the apex broadly rounded, thickened, with a transverse carina; *lip* ovoid-triangular, 1 mm long, 1 mm wide, 0.5 mm deep, slightly concave below a thick bar without a glenion, the apex rounded with margin thick, the dorsum smooth, acutely descending to the base, the base connate to the base of the column; *column* stout, ca. 1 mm

long and wide, the anther and the stigmatic lobes apical.

Etymology: From the Latin *aggregatus*, “clustered,” referring to the fascicle of racemes.

This medium-sized, caespitose species is remarkable for the large number of simultaneous racemes about as long as the leaf. The dorsal sepal is five-veined and the petals are three-veined. The dorsum of the obtuse lip descends 45°.

Stelis ambrosia Luer & R. Escobar, *sp. nov.* TYPE: COLOMBIA. Putumayo: between La Cocha and Sibundoy, 2700 m, 30 July 1978, C. Luer, J. Luer, R. Escobar et al. 3071 (Holotype: SEL). Fig. 2–3.

This medium to large species is distinguished by a repent rhizome of various lengths, and a long, successively flowered raceme that far exceeds the leaf; an elliptical, three-veined dorsal sepal; lateral sepals connate into a deeply concave synsepal; semilunate, three-veined petals; and a subquadrate lip with an acute apex and a glenion.

Plant medium to large, epiphytic, short- to long-repent, scandent, the rhizome slender, 1–7 cm long between ramicauls; roots slender. Ramicauls ascending, erect, 3–5 cm long, with a tubular sheath from near the middle and another 1–2 sheaths below and at the base. *Leaf* erect, coriaceous, elliptical, subacute, 4.5–7.5 cm long including a petiole 0.5–1 cm long, the blade 1–2.5 cm wide in the dry state. *Inflorescence* single; 8–14 cm long, the raceme erect, strict, congested, more or less secund, successively flowered, with many flowers open simultaneously; floral bracts oblique, acute, 2–2.5 mm long; pedicels 1 mm long; ovary 1 mm long; peduncle 2–3 cm long, from a node at the apex of the ramicaul; *sepals* glabrous, the dorsal sepal erect, elliptical, obtuse to round at the tip, 4–5 mm long, 3 mm wide, 3-veined, connate ca. 1 mm, the lateral sepals red-brown or yellow, oblique, connate to the tip into a deeply concave synsepal, 2 mm long, 4.5 mm wide; *petals* orange or purple, transversely semilunate, concave, the apex rounded, 0.6 mm long, 0.8–1 mm wide, 3-veined, with a transverse callus; *lip* orange or purple, subquadrate, 0.5 mm long, 0.8 mm wide, 0.5 mm deep, concave below a bar cleft with a glenion, the apex broadly obtuse with an acute, triangular apiculus, the dorsum convex with an low, ill-defined callus, the base truncate, hinged to the base of the column; *column* clavate, ca. 1 mm wide and long, the anther and the bilobed stigma apical.

The author is grateful to the staff of MO and SEL for making their specimens available for study, to S. Dalström for inking the figures presented herein, all based on pencil drawings by the author, and to the generosity of the Pleurothallid Alliance for making the inking possible.

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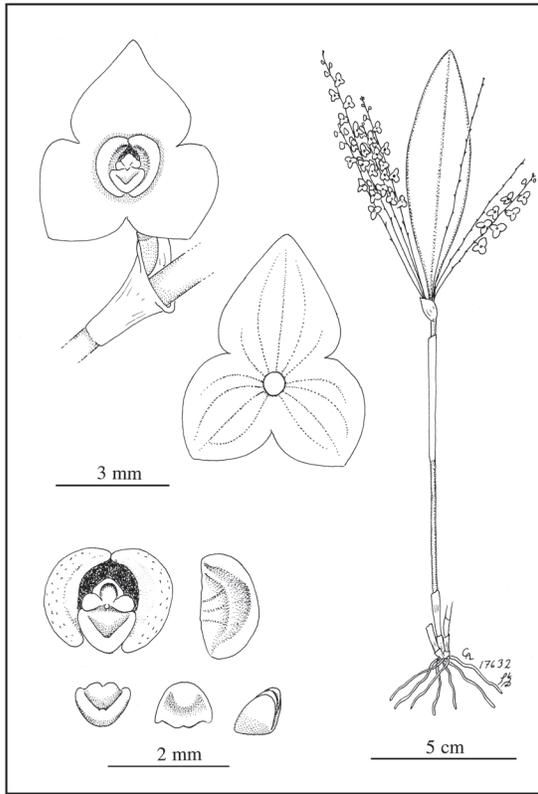


FIGURE 1. *Stelis aggregata* Luer & R. Escobar

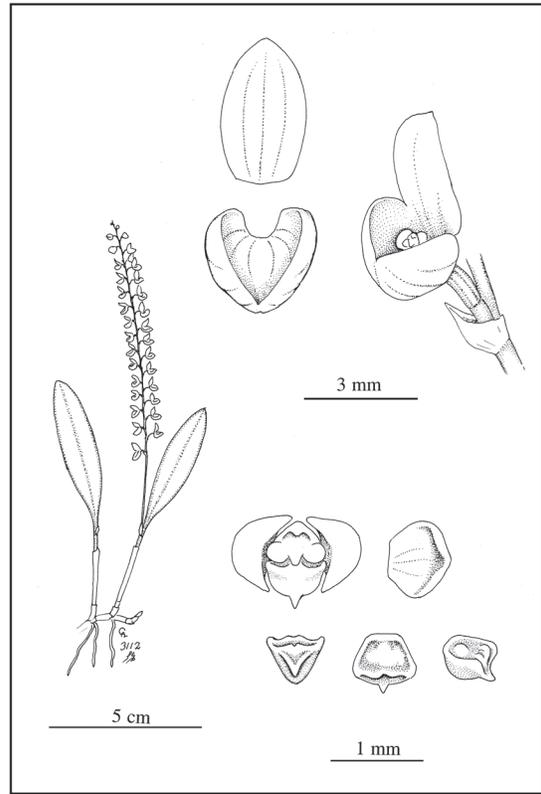


FIGURE 2. *Stelis ambrosia* Luer & R. Escobar

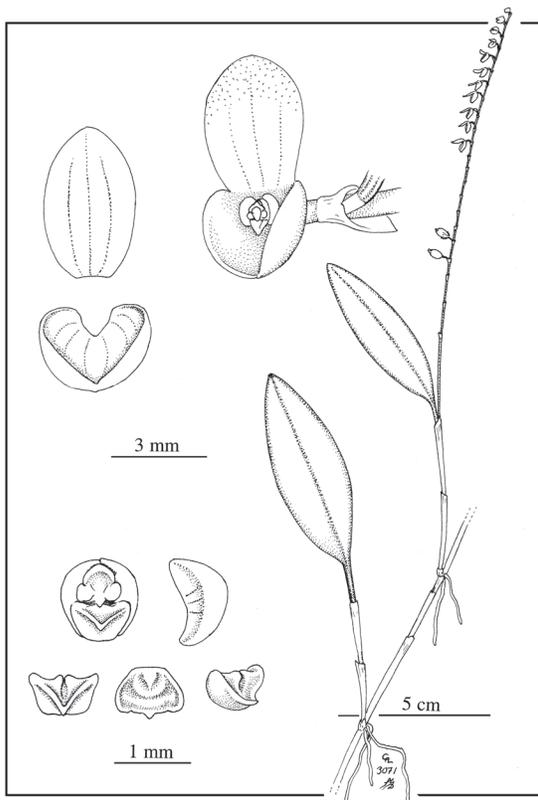


FIGURE 3. *Stelis ambrosia* Luer & R. Escobar

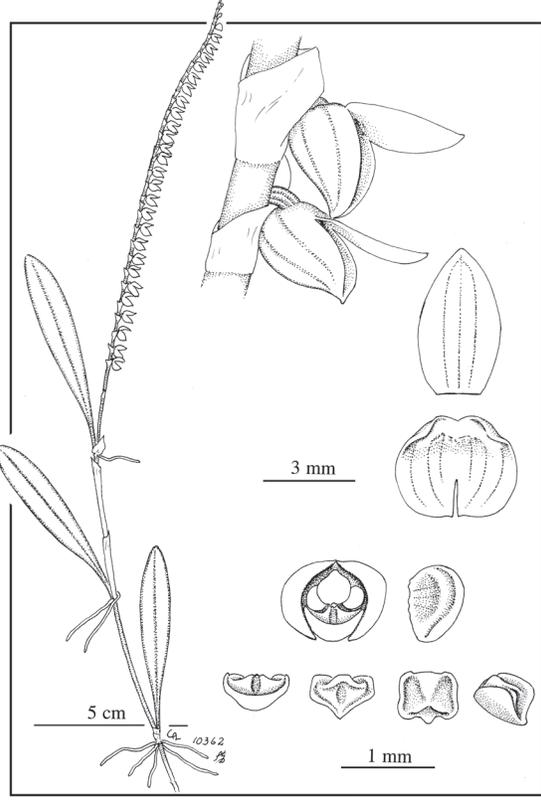


FIGURE 4. *Stelis arrecta* Luer & R. Escobar

Etymology: From the Latin *ambrosius*, “lovely,” referring to the appearance of a flowering plant.

Additional specimens examined: COLOMBIA. Putumayo: between La Cocha and Sibundoy, 2700 m, 30 July 1978, *C. Luer, J. Luer, R. Escobar et al.* 3075 (Holotype: SEL); same locality and date, *C. Luer, J. Luer, R. Escobar et al.* 3073, 3084, 3112 (Holotype: SEL); Santiago, San Antonio de Bellavista, Páramo de Bordoncillo, 3240 m, 18 March 1999, *S.M. Pasmíño & M.R. Posso* 013 (MO, PSO).

This species is repent, the lengths of the rhizome apparently influenced by local conditions, but details of the inflorescence remain the same. Flowers are produced slowly in a long raceme. Capsules are appearing low in the raceme, while many flowers persist above. The dorsal sepal is three-veined and elliptical with a rounded apex; the petals are three-veined; and the lip is short, broader than long, with an acute, triangular tip, and a deep glenion.

Stelis arrecta Luer & R. Escobar, *sp. nov.* TYPE: COLOMBIA. Cundinamarca: between Une and Gutiérrez, south of Bogotá, 2200 m, 19 May 1984, *C. Luer, J. Luer & R. Escobar* 10362 (Holotype: MO). Fig. 4.

This species is distinguished by erect, prolific, branching ramicauls; racemes to twice longer than an elliptical leaf; a three-veined, dorsal sepal and a concave synsepal; thick, three-veined petals; and a short, broad lip with a glenion.

Plant medium in size to large, epiphytic, erect, prolific, branching, slender; roots slender from the node at the base of the leaf. Ramicauls erect, stout, 5–6 cm long, producing another ramicaul from the node at the base of the leaf, with an evanescent, tubular sheath from below the middle, and 1–2 other sheaths about the base. *Leaf* erect, coriaceous, elliptical, subacute, 6–7 cm long including a petiole ca. 1 cm long, the blade 1–1.5 cm wide in dry state, cuneate below into the petiole. *Inflorescence* single; 12–15 cm long, the raceme erect, secund, crowded, simultaneously many-flowered, floral bracts tubular, subacute, 3–4 mm long; pedicels 2 mm long; ovary 1.5 mm long; the peduncle ca. 2 cm long, from a fugacious spathe ca. 5 mm long at the apex of the ramicaul; flowers yellow; *sepals* glabrous, the dorsal sepal ovate, subacute, 4.5 mm long, 2.75 mm wide, 3-veined, connate 1 mm to the lateral sepals. the lateral sepals connate above the middle into a deeply concave, ovoid, synsepal, 3.5 mm long, 4 mm wide, 6-veined, the rounded apex shortly cleft with the tips minutely acuminate; *petals* transversely elliptical, concave, the apex broadly rounded with a thick margin, and with an indistinct, transverse carina, 0.75 mm long, 1.2 mm wide, 3-veined; *lip* thick, subquadrate, 0.5 mm long, 0.8 mm wide, 0.6 mm deep, shallowly concave below a thick bar with a glenion, the apex broadly obtuse with a short, obtuse tip, the dorsum with a low, rounded, central callus, the base truncate, hinged to the base of the column; *column* clavate, ca 1 mm wide and long, the anther and the bilobed stigma apical.

Etymology: From the Latin *arrectus*, “upright,” referring to the habit of the plant.

This species is characterized by an erect, more or less strict succession of prolific ramicauls. From each abscission layer at the base of a leaf, the next ramicaul, the

inflorescence, and roots emerge. A solitary, simultaneously many-flowered, raceme far surpasses the elliptical leaf. The lateral sepals form a deeply concave synsepal, the petals are three-veined, and the broader than long lip has a glenion and short, obtuse apiculum.

Stelis bracteolenta Luer & R. Escobar, *sp. nov.* TYPE: COLOMBIA. Cundinamarca; above Gutiérrez S of Bogotá, 2700 m, 19 May 1984, *C. Luer, J. Luer & R. Escobar* 10369 (Holotype: SEL). Fig. 5.

This medium-sized, caespitose species is distinguished by a loosely multiflowered raceme that exceeds the leaf; conspicuous, floral bracts with dilated, more or less recurved margins; multiveined sepals with the lateral sepals connate into a concave synsepal; thick, three-veined petals; and an ovoid, obtuse lip concave below a bar.

Plant medium in size, epiphytic, caespitose; roots slender. Ramicauls erect, slender, 4–5 cm long, enclosed by a tubular sheath from below the middle and another 1–2 sheaths below and at the base. *Leaf* erect, coriaceous, elliptical, subacute to obtuse 7–9 cm long including a petiole 1.5 cm wide, the blade 1.5–2 cm wide in dry state, cuneate below to the petiole. *Inflorescence* single; to 14 cm long, the raceme erect, strict, distichous, loosely many-flowered; floral bracts infundibular, dilated with the tip acute, more or less reflexed, 3–4 mm long, 3–4 mm wide expanded; pedicels 2 mm long; ovary 2 mm long; peduncle ca. 2 cm long, with a spathe ca. 8 mm long, from a node below the apex of the ramicaul; flowers dark purple; *sepals* microscopically ciliate-pubescent, the dorsal sepal erect, ovate, obtuse, 10 mm long, 7 mm wide, 5-veined, with accessory veins to incompletely 7-veined; *petals* transversely elliptical, 1.5 mm long, 2 mm wide, the apical margin thick, 3-veined below a transverse carina; *lip* ovoid, 1.6 mm long, 1.6 mm wide, 1.2 mm deep, concave below a shallowly cleft bar, the apex obtuse with the margin thickened, the dorsum with 3 low, rounded calli, the base truncate, hinged to the base of the column; *column* stout, ca. 1.8 mm long and wide, the anther and bilobed stigma apical, the foot obsolescent.

Etymology: From the Latin *bracteolentus*, “well developed bracts” referring to the appearance of the floral bracts.

This medium-sized, caespitose species is distinguished by a loosely flowered raceme with rather large, dilated floral bracts with margins and tip more or less recurved. The flowers are dark purple and large with the sepals multiveined, the lateral sepals connate into a concave synsepal; the petals are thick, three-veined; the lip is type A with the three veins thickened on the dorsum as low, rounded calli.

Stelis chalatantha Luer & Hirtz, *sp. nov.* TYPE: COLOMBIA. Nariño: above Ricaurte, 1600 m, 3 November 1979, *C. Luer, J. Luer & A. Hirtz* 4597 (Holotype: SEL). Fig. 6.

This large, caespitose species is characterized by one or three, loosely-flowered racemes that equal or exceed an elliptical leaf; ovate, shortly pubescent sepals; three-veined petals; and a lip with the center of the bar elevated with a glenion.

Plant large, epiphytic, densely caespitose. Ramicauls erect, slender, 5–9 cm long, with a tubular sheath from below the middle, and another 2 sheaths below and at the base. *Leaf* erect, coriaceous, elliptical, acute, 9–12 cm long including a petiole 1.5–2.5 cm long, the blade 1.2–1.5 cm wide in the dry state, cuneate below to the petiole. *Inflorescence* 1–3; 10–12 cm long, the raceme erect, lax, distichous, many-flowered; floral bracts oblique, acute, 2 mm long; pedicels 2 mm long; ovary 1.5 mm long; the peduncle ca 2 mm long, subtended by a slender spathe 1 cm long, from a node below the apex of the ramicaul; flowers yellow; *sepals* glabrous, shortly pubescent, ovate, obtuse, three-veined, connate basally, the dorsal sepal 3 mm long, 2 mm wide, the lateral sepals oblique, 2.5 mm long, 2 mm wide; *petals* transversely ovate, concave, obtuse, 0.75 mm long, 0.9 mm wide, 3-veined, the apical margin thickened, with a transverse carina; *lip* type A, subquadrate, 0.4 mm long, 0.6 mm wide, 0.5 deep, obtuse, shallowly concave below the bar that is elevated centrally with a glenion, the dorsum convex centrally, the base broadly truncate, hinged to the base of the column; *column* stout, ca. 1 mm long and wide, the anther and the stigmatic lobes apical.

Etymology: From the Greek *chalatanthos*, “with loose, relaxed flowers,” referring to the raceme.

This caespitose species is characterized by one to three, loosely flowered racemes equaling or slightly surpassing an acute, elliptical leaf. The sepals are narrowly obtuse, three-veined and shortly pubescent. The petals are also obtuse and three-veined. The lip is type A with the bar elevated centrally with a glenion.

Stelis clematis Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Antioquia: Concepción, between Barbosa and Concepción, 2200 m, coll. by E. Valencia, 17 April 1988, C. Luer 13261 (Holotype: MO). Fig. 7.

This small, branching, repent species is similar to *Stelis pusilla* Kunth, but differs in the morphology of the lip, which has a broadly rounded apex (without an apiculum), an entire bar (instead of cleft), and a descending dorsum.

Plant small, epiphytic, repent, branching; roots slender. Ramicauls erect, slender, 5–8 mm long, enclosed by a tubular sheath and another sheath at the base. *Leaf* erect, coriaceous, linear-elliptical, acute, 2–3 cm long, 1–2.5 mm wide, narrowed below to the base. *Inflorescence* single; 4–8 cm tall, the raceme erect, strict, successively many-flowered with many flowers open simultaneously; floral bracts oblique, acute, 1 mm long, pedicels 1 mm long; ovary 1 mm long; the peduncle ca. 2 cm long, from a node at the apex of the ramicaul; flowers light yellow; *sepals* similar, glabrous, ovate, obtuse, connate in lower third, 1.5 mm long, 1.2 mm wide, 3-veined; *petals* thin, semilunate, broadly rounded at the apex, slightly thickened on the margin, without a transverse callus, 0.5 mm long, 0.6 mm wide, 1-veined; *lip* subquadrate, 0.4 mm long, 0.6 mm wide, 0.4 mm deep, shallowly concave below a slightly curved, entire bar, the apex broadly rounded with thickened margins, the dorsum descending, slightly convex and microscopically pubescent, the base hinged to the base of the column; *column* clavate,

ca. 0.5 mm long and wide, the anther and the stigmatic lobes apical.

Etymology: From the Greek *clematis*, “a small, branching plant,” referring to the habit.

This small, branching, repent species is similar to the hoard of other, vegetatively variable species treated as variations of the ubiquitous *Stelis pusilla* Kunth, but *Stelis clematis* differs in the morphology of the lip. The lip is wider than long with the apex entire and broadly rounded, and with a smooth, curved bar. The dorsum is descending, slightly convex and microscopically pubescent.

Stelis climacella Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Antioquia: Alto de Cuevas, above Nutibara, 2050 m, 3 May 1983, C. Luer, J. Luer, R. Escobar et al. 8959 (Holotype: SEL). Fig. 8.

This tall, slender, caespitose species is characterized by acute, narrowly elliptical, long-petiolate leaves and a much longer, strict raceme with protruding dorsal sepals of nutant flowers; antrorse lateral sepals; single-veined petals; and a short lip with an obtuse, triangular tip.

Plant medium or large, epiphytic, densely caespitose. Ramicauls erect, slender, 6–10 cm long, with a close, tubular sheath from near the middle, and another 1–2 sheaths below and at the base. *Leaf* erect, coriaceous, narrowly elliptical, acute, 8–10 cm long including a slender petiole 2.5–3 cm long, 1–1.3 cm wide in the dry state, cuneate below into the petiole. *Inflorescence* single; 12–20 cm tall, the raceme erect, strict, congested, distichous, many-flowered with many flowers open simultaneously, floral bracts tubular, obtuse, 2 mm long, pedicels 1.5 mm long; ovary 1 mm long; the peduncle 3–5 cm long, subtended by a spathe 6–7 mm long, from a node near the apex of the ramicaul; flowers light green; *sepals* glabrous, the dorsal sepal suffused with rose, erect, elliptical, obtuse to rounded at the lip, 4.5 mm long, 2.25 mm wide, 3-veined, connate basally to the lateral sepals, the lateral sepals antrorse, ovate, subacute, oblique, 4 mm long, 2.6 mm wide, 3-veined, connate 1 mm; *petals* transversely ovate, concave, 0.75 mm long, 0.9 mm wide, 1-veined, the apical margin rounded and thickened, without a transverse carina; *lip* subquadrate, 0.5 mm long, 0.8 mm wide, 0.5 mm deep, with a shallow, semicircular depression below the bar, the apex truncate with an obtuse, triangular tip, the dorsum with a central, suborbicular callus, the base truncate, connate to the base of the column; *column* stout, ca. 1 mm long and wide, the anther and the stigmatic lobes apical.

Etymology: From the Latin *climacella*, “a little ladder,” referring to the long, erect raceme with protruding dorsal sepals like steps.

This slender, caespitose species is distinguished by narrowly elliptical, long-petiolate leaves, far exceeded by a long, distichous, many-flowered raceme with evenly spaced, nutant flowers with conspicuous, horizontally oriented dorsal sepals. The petals are single-veined. The lip is a modified type A with a broadly subtruncate apex with an obtuse, marginal triangle.

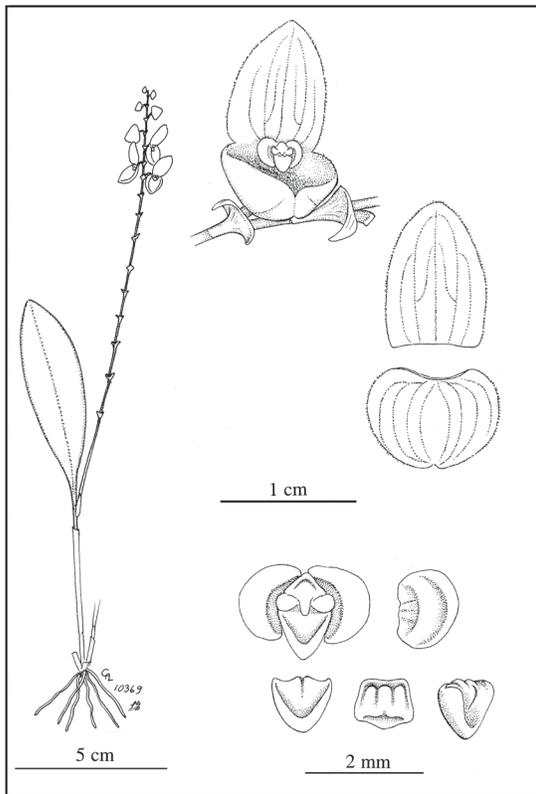


FIGURE 5. *Stelis bracteolenta* Luer & R.Escobar

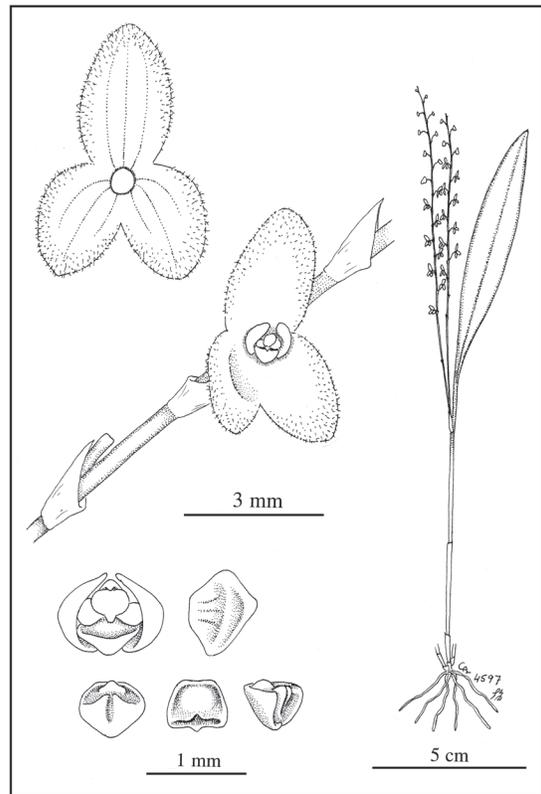


FIGURE 6. *Stelis chalatantha* Luer & Hirtz

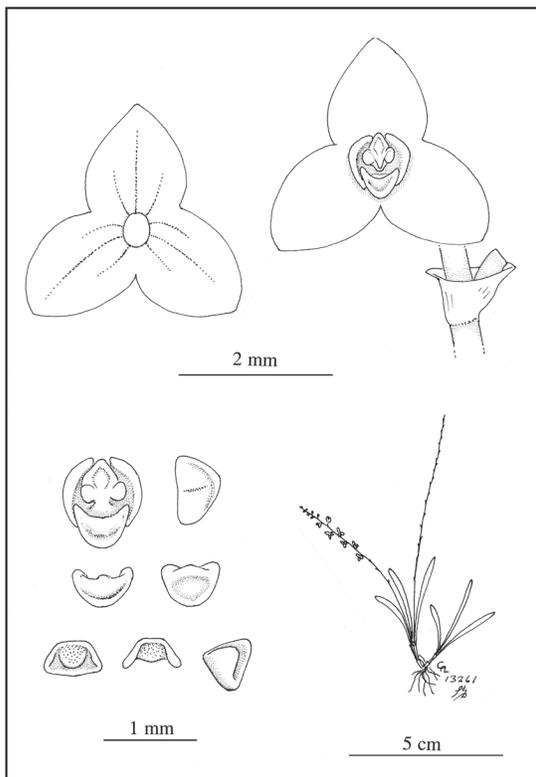


FIGURE 7. *Stelis clematis* Luer & R.Escobar

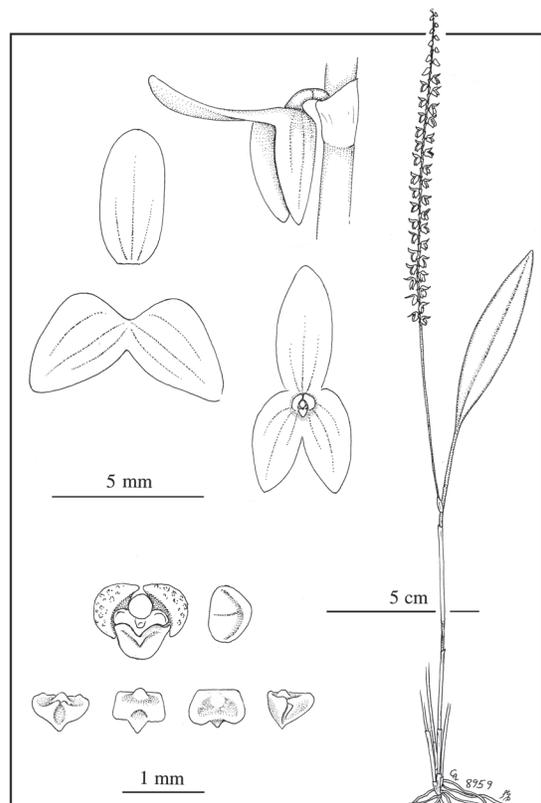


FIGURE 8. *Stelis climatella* Luer & R.Escobar

Stelis colossus Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Valle del Cauca: Alto de Los Galápagos, below the pass between Valle del Cauca and Chocó, 1750 m, 13 May 1993, C. Luer, J. Luer & R. Escobar 16812 (MO). Fig. 9.

This huge, caespitose species is characterized by a tall ramicaul; a large, elliptical leaf; a long, many-flowered raceme with imbricating floral bracts; obtuse, multiveined sepals; three-veined petals; and a lip with a cleft bar and an obtuse apex.

Plant large, epiphytic, densely caespitose. Ramicauls erect, stout, 20–22 cm tall, with a loose tubular sheath on the upper third, another two sheaths below at the base. *Leaf* erect, coriaceous, ovate, subacute, 15 cm long including a petiole 1.5 cm long, the blade 4 cm wide in the dry state, cuneate below to the petiole. *Inflorescence* single; to 45 cm tall, the raceme erect, congested, distichous, many-flowered; floral bracts imbricating, oblique, acute, 6–7 mm long; pedicels 3 mm long; ovary 2 mm long; the peduncle 5–7 cm long, subtended by a spathe 17 mm long, from a node below the apex of the ramicaul; flowers bright yellow-green; *sepals* glabrous, transversely ovate, obtuse, connate to near the middle, the dorsal sepal 3.5 mm long, 4.5 mm wide, 5-veined, with an accessory pair, the lateral sepals 3.5 mm long, 4.5 mm wide, 5-veined; *petals* transversely elliptical, 1.5 mm long, 1.75 mm wide, 3-veined, concave below a thick, rounded apex, without an obvious transverse carina; *lip* type A, subquadrate, 1 mm long, 1.5 mm wide, 1 mm deep, shallowly concave below the bar, cleft with a deep glenion, broadly obtuse at the apex, the dorsum convex with a row of three, rounded calli, the base broadly truncate, hinged to the base of the column; *column* stout, 1.5 mm long and wide, the anther and the stigmatic lobes apical.

Eponymy: Named for the Colossus of Rhodes, the gigantic monument, one of the Seven Wonders of the Ancient World.

The bright yellow-green flowers of this huge species are produced on a tall raceme of large, imbricating floral bracts. Only one loose sheath is present on the upper third of a nearly naked ramicaul, the other sheaths being at the base. The leaf is large and petiolate. The sepals are transversely ovate, obtuse and five-veined, and the type A lip is obtuse with a deep glenion and with three rounded calli on the dorsum.

This species is similar to *Stelis purdiaei* Lindl. with the large leaf borne by a tall ramicaul with a loose sheath above the middle, but instead of a few, slender racemes with small floral bracts, the single raceme is stout with large, imbricating floral bracts.

Stelis cyathochila Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Norte de Santander: Alto de San Francisco, above Villacaro, 2600 m, 11 May 1984, C. Luer, J. Luer & R. Escobar 10257 (Holotype: MO). Fig. 10.

This large species is characterized by a many-flowered raceme that far exceeds an elliptical, petiolate leaf; medium-sized flowers with three-veined, subacute, ovate sepals; three-veined petals; and a smooth, spoon-shaped lip with a thick base.

Plant large, epiphytic, densely caespitose. Ramicauls erect, stout, 10–16 cm long, with a close, tubular sheath from below the middle, another two below and at the base. *Leaf* erect, coriaceous, elliptical, acute to subacute, 11–12.5 cm long including a petiole, 2–2.5 cm long, the blade 1.5–2 cm wide in the dry state, narrowly cuneate below to the petiole. *Inflorescence* single; to 25 cm tall, the raceme erect, congested, distichous, many-flowered with most flowers open simultaneously, floral bracts tubular, close, obtuse, 3 mm long; pedicels 2 mm long; ovary 2.5 mm long; peduncle 8 cm long, subtended by a spathe 1.5 cm long, from a node below the apex of the ramicaul; flowers pale green; *sepals* suffused with rose, glabrous, ovate, subacute, connate below the middle, 4 mm long, 3 mm wide, 3-veined, the lateral sepals oblique, antrorse; *petals* transversely obovate, 1.5 mm long, 1.5 mm wide, 3-veined, concave below the rounded apex, with a transverse carina; *lip* oblong, 2 mm long, 1.5 mm wide, 0.6 mm deep at the base, the apex and sides rounded with thin margins, concave, smooth, the base transversely thickened, truncate, connate to the base of the column; *column* stout, ca. 1.5 mm long and wide, the anther and the stigmatic lobes apical.

Etymology: From the Greek *cyathochilos*, “spoon-shaped lips,” referring to the smooth, concave lip.

While searching for the long-lost *Masdevallia mastodon* Rchb.f., this species was collected 30 years ago at a remote location in the Eastern Cordillera. It is characterized by a large habit with stout ramicauls; an elliptical, petiolate leaf; and a long raceme of medium-sized flowers. The sepals are ovate with the lateral sepals antrorse. The spoon-shaped lip is smooth and rounded with narrow margins, but a thick, transverse callus occupies the base.

Stelis dasysepala Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Antioquia: W of Medellín, E of Boquerón. 2380 m, 22 April 1983, C. Luer, J. Luer, R. Escobar *et al.* 8749 (Holotype: SEL). Fig. 11.

This small, caespitose species is distinguished by narrowly elliptical leaves exceeded by a distichous, subflexuous raceme; ovate, coarsely pubescent, three-veined sepals; three-veined petals; and a rounded lip with a callus that extends over the bar from the dorsum to descend into a glenion.

Plant small, epiphytic, densely caespitose, roots slender. Ramicauls erect, fasciculate, stout, 1–1.5 cm long, with a loose, tubular sheath from below the middle and another sheath at the base. *Leaf* erect, coriaceous, narrowly elliptical, subacute, 2.5–3 cm long, 0.4–0.5 cm wide in the dry state, narrowed below to the base with an indistinct petiole ca. 0.5 cm long. *Inflorescence* single; 6–8 cm tall, the raceme erect, subflexuous, distichous, many-flowered, with several flowers open simultaneously; floral bracts oblique, acute, 2 mm long; pedicels 3 mm long; ovary 1.5 mm long; the peduncle ca. 3 cm long, from a node at the tip of the ramicaul, with a spathe ca. 3 mm long; flowers purple; *sepals* coarsely pubescent, expanded, ovate, subacute, 3-veined, connate to near the middle, the dorsal sepal 2 mm long, 2.5 mm wide, the lateral sepals 2.5 mm long, 2.5 mm wide; *petals* transversely elliptical, thin, concave, narrowly thickened

on the margin of a subtruncate apex, without a transverse carina, 1 mm long, 1.4 mm wide, veined; *lip* subquadrate, 1 mm long, 1.3 mm wide, 0.7 mm deep, shallowly concave below the bar with an elevated callus that descends over the bar into a glenion, the apex rounded, the dorsum with the central callus that descends forward, the base truncate, hinged to the base of the column; *column* clavate, ca. 1 mm wide and long, the anther and the bilobed stigma apical.

Etymology: From the Greek *dasysepalá*, “with shaggy sepals,” referring to the pubescence.

This little, caespitose species is characterized by fasciculate, loosely sheathed ramicauls with narrowly elliptical leaves; a much longer, subflexuous raceme; broadly ovate, three-veined, coarsely pubescent sepals; thin, three-veined petals; and a type C lip with an elevated callus that descends from the dorsum over bar into a glenion.

Stelis divaricans Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Putumayo: between La Cocha and Sibundoy, 2700 m, 30 July 1978, C. Luer, J. Luer, R. Escobar et al. 3161 (Holotype: SEL). Fig. 12.

This large, caespitose species is distinguished ramicauls much longer than acute, elliptical leaves; two long, loosely flowered racemes; ovate, three-veined sepals; three-veined petals; and a lip with an acutely descending dorsum.

Plant large, epiphytic, densely caespitose; roots slender. Ramicauls erect, slender, 15–20 cm tall, with a relatively short, tubular sheath from near the middle, another sheath below the middle, and another at the base. *Leaf* erect, coriaceous, elliptical, acute, 12–13 cm long including a petiole 2 cm long, the blade 1.5–2 cm wide in the dry state, cuneate below into the petiole. *Inflorescence* 2 simultaneous; 15–18 cm long, the racemes erect, strict, lax, distichous, many-flowered with many flowers open simultaneously; floral bracts oblique, acute, 3–4 mm long; pedicels 1.5 mm long; ovary 3 mm long; the peduncle 3–4 cm long, subtended by a slender spathe 1 cm long, from a node below the apex of the ramicaul; flowers dark purple; *sepals* glabrous, expanded, ovate, 3-veined, connate in lower quarter, the dorsal sepal subacute, 5 mm long, 4.5 mm wide, the lateral sepals obtuse, 3.5 mm long, 4 mm wide; *petals* transversely ovate, 1 mm long, 1.75 mm wide, 3-veined, the apex broadly rounded with a thickened margin, concave with an obscure transverse carina; *lip* type A, 0.8 mm long, 1.3 mm wide, 1 mm deep, concave below a narrow, protruding bar with a distinct glenion, concave within a thickened, obtuse margin, the dorsum acutely descending, with a low, central callus, the base truncate, attached to the base of the column; *column* stout, ca. 1 mm long and wide, the anther and the stigmatic lobes apical.

Etymology: From the Latin *divaricans*, “spreading out,” referring to the loosely flowered raceme.

This large, caespitose species is characterized by long ramicauls with acute, elliptical leaves and a pair of long racemes from each of the four stems of the present collection. The racemes are loosely flowered all the way to the tip. The flowers are dark purple and relatively large with three-veined sepals and petals. The lip is triangular in lateral view with the acutely descending dorsum being the hypotenuse.

Stelis glochochila Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Antioquia: Frontino, Alto de Cuevas. above Nutibara, 2050 m, 3 May 1983, C. Luer, J. Luer, R. Escobar et al. 8962 (Holotype: SEL). Fig. 13–14.

This medium-sized to large species is characterized by an acute, elliptical leaf exceeded by a congested, distichous raceme of large, purple, totally glabrous flowers with transversely ovate sepals; a five-veined dorsal sepal; proportionately large, thick petals; and a totally glabrous lip with an acute, triangular apex.

Plant medium to large in size, epiphytic, caespitose. Ramicauls erect, slender, 5–13 cm long, with a close, tubular sheath from below the middle, and another 1–2 sheaths below and at the base. *Leaf* erect, coriaceous, elliptical, acute, 8–13 cm long including a petiole 1.5–2 cm long, the blade 1–1.5 cm wide in the dry state, narrowly cuneate below into the petiole. *Inflorescence* single; to 18 cm long, the raceme erect congested, distichous, many-flowered with many flowers open simultaneously, floral bracts oblique, acute, 3–4 mm long; pedicels 1.5–2.5 mm long; ovary 1–1.5 mm long; the peduncle 2–3 cm long, subtended by a slender spathe 12 mm long, from a node at the apex of the ramicaul; flowers purple; *sepals* glabrous, transversely ovate, obtuse, connate to near the middle, the dorsal sepal 5 mm long, 5.75 mm wide, 5-veined, the lateral sepals oblique, 3 mm long, 4.75 mm wide, 4-veined; *petals* thick, transversely semilunate with the angles rounded, the apex round with a broad, convex margin, shallowly concave, deeply concave below a transverse carina, 1 mm long, 1.25 mm wide, 3-veined; *lip* subquadrate, concave below a shallowly notched bar, 0.75 mm long, 0.75 mm wide, 1 mm deep, the apex triangular, acute, the base truncate, hinged to the base of the column; *column* stout, ca. 1 mm long and wide, the anther and the stigmatic lobes apical.

Etymology: From the Greek *glochochilus*, “an arrow-headed lip,” referring to the pointed labellum.

Additional specimens examined: COLOMBIA. Antioquia: Frontino, Alto de Cuevas. above Nutibara, 2050 m, 3 May 1983, C. Luer, J. Luer, R. Escobar et al. 8940 (SEL); Yarumal, road to El Cedro, 1650 m, 15 March 1989, C. Luer, J. Luer, S. Dalström & W. Teague 14155 (MO).

This large species is characterized by a crowded, distichous raceme of large purple flowers, transverse sepals with the dorsal sepal 5-veined, and thick, proportionately large, semilunate petals. The lip is concave below a shallowly notched bar with the apex triangular and acute.

Stelis glochochila is related to *Stelis barbuda* O.Duque, but differs with leaves half the width; short, close, cauline sheaths instead of long and loose; and totally glabrous sepals and lip in all three cited collections, instead of sepals with villous edges and papillose-villous within, and lip without “a tuft of short hairs.”

Stelis hercules Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Cauca: La Vega, Páramo de Las Barbillas, 3150 m, 13 November 1982, C. Luer & R. Escobar 8360 (Holotype: SEL). Fig. 15.

This large, robust, repent species is characterized by a thick rhizome; erect ramicauls; large, petiolate leaves

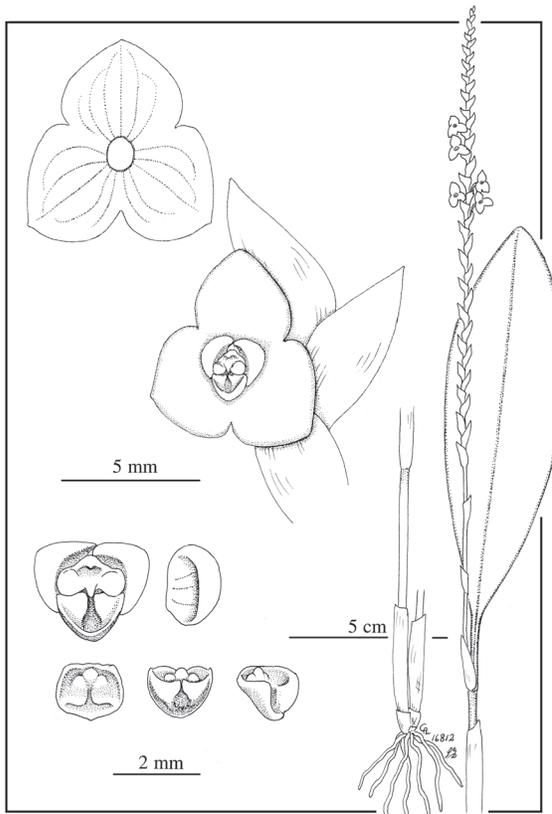


FIGURE 9. *Stelis colossus* Luer & R. Escobar

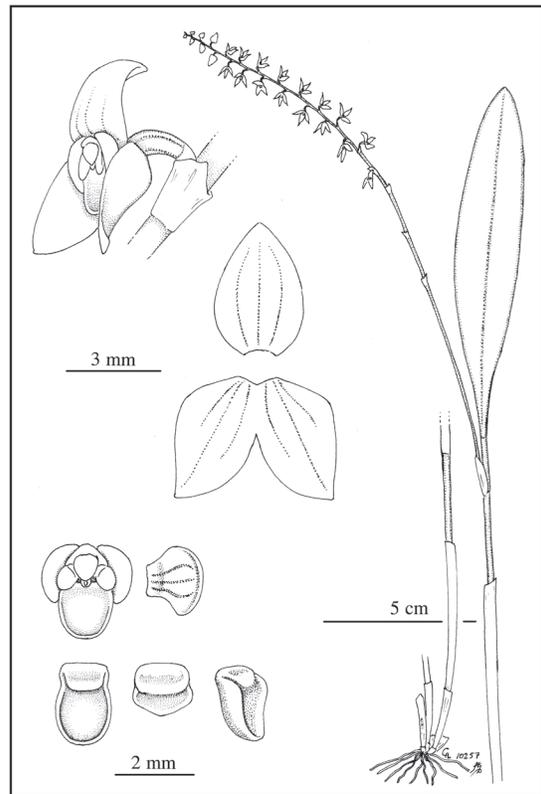


FIGURE 10. *Stelis cyathochila* Luer & R. Escobar

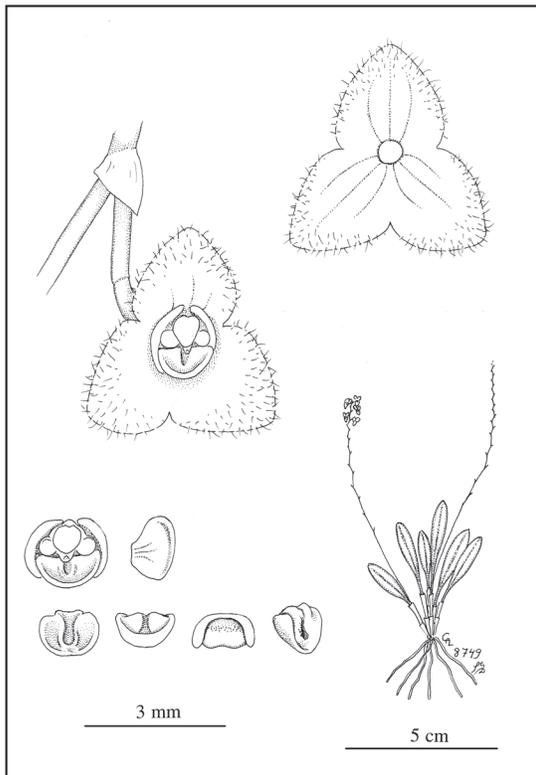


FIGURE 11. *Stelis dasysepala* Luer & R. Escobar

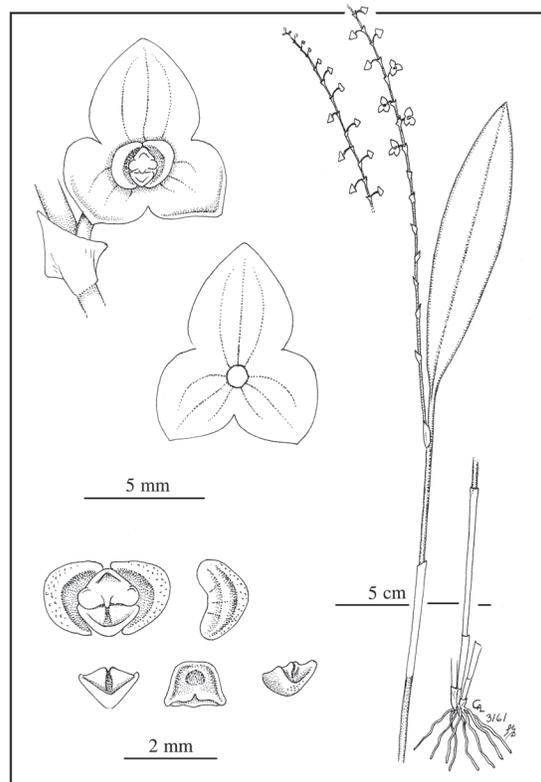


FIGURE 12. *Stelis divericans* Luer & R. Escobar

exceeded by a much longer raceme with medium-sized flowers with three-veined, long-pubescent sepals; three-veined petals; and an ovoid lip with a rounded apex.

Plant large, epiphytic, repent, the rhizome stout, 3 mm thick, 3–5 cm long between ramicauls. Ramicauls erect, stout, 9–11 cm long, with a tubular sheath from below the middle, and another 1–2 sheaths below and at the base. *Leaf* erect, coriaceous, elliptical, subacute, 9–11 cm long including a petiole 2–2.5 cm long, the blade 2.5–3.5 cm wide in the dry state, cuneate below into the petiole. *Inflorescence* single; 18–25 cm tall, the raceme erect, loose, distichous, many-flowered; floral bracts oblique, acute, 3–4 mm long; pedicels 2 mm long; ovary 2 mm long; the peduncle 10–12 cm long, subtended by a slender spathe 1.3–1.8 mm long, from a node below the apex of the ramicaul; *sepals* dull yellow, pubescent, ovate, 3-veined, connate below the middle, concave in the basal quarter, the dorsal sepal subacute, 5 mm long, 4 mm wide, the lateral sepals obtuse, 3 mm long, 5 mm wide; *petals* yellow-green, transversely oblong, the apex rounded with a narrowly thickened margin, concave, with a minimal transverse carina, 2 mm long, 2.5 mm wide, 3-veined; *lip* yellow-green, ovoid, 2 mm long, 2 mm wide, 1.5 mm deep, concave below a thick bar with a thick-rimmed glenion, the apex broadly obtuse apex, the dorsum convex, pubescent, the base truncate, hinged to the base of the column; *column* clavate, ca. 2.5 mm long, 2 mm wide, connate to the base of the column, the anther and the stigmatic lobes apical.

Eponymy: Named for Hercules, a mythological character with great strength, referring to the robust habit.

Vegetatively, this large, robust, repent species of the Central Cordillera of the department of Cauca, is indistinguishable from *Stelis samson* Luer & R.Escobar, published herein, of the Eastern Cordillera, but it differs with long-pubescent, instead of glabrous sepals, and a lip with a smooth, obtuse apex; a thickly margined glenion; and a convex, pubescent dorsum.

Stelis hiatilabia Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Tolima: N of Ibaqué, southern slope of Mt. Tolima. 2600 m, 21 April 1982, C. Luer, J. Luer & R. Escobar 7501 (Holotype: SEL). Fig. 16.

This medium-sized, caespitose species is characterized by narrowly elliptical leaves surpassed by a many-flowered, distichous raceme; glabrous, ovate, obtuse, three-veined sepals; thick, convex, three-veined petals; and a thick, obtuse lip with a deeply cleft bar.

Plant medium in size, epiphytic, densely caespitose. Ramicauls erect, 3–4 cm long, with a tubular sheath from below the middle, and another 1–2 sheaths below and at the base. *Leaf* erect, coriaceous, narrowly elliptical, subacute to obtuse, 5–7 cm long including the petiole 1–1.5 mm long, the blade 0.9–1.2 cm wide in the dry state, cuneate below to the petiole. *Inflorescence* single; 9–11 cm tall, the raceme, distichous, congested, many-flowered with many flowers open simultaneously; floral bracts oblique, acute, 2 mm long; pedicels 2 mm long; ovary 2 mm long; the peduncle 3–5 cm long, subtended by a spathe ca. 4 mm long, from a node at the apex of the ramicaul; *sepals* light yellow with

rose, central stripe, glabrous, ovate, narrowly obtuse at the tip, connate basally, 3-veined, the dorsal sepal 4.5 mm long, 2.5 mm wide, the lateral sepals, 4 mm long, 3.5 mm wide; *petals* yellow, reniform, thick, convex, 1 mm long, 1.4 mm wide, 3-veined below an ill-defined transverse carina; *lip* subovoid, 1 mm long, 1 mm wide, 1 mm deep, deeply concave below a deeply cleft bar, the sides with obtusely angled margins to either side, the apex thick, obtuse, the dorsum cleft with the bar, slightly convex, the base connate to the base of the column; *column* stout, ca. 1 mm long and wide, the anther and the stigmatic lobes apical.

Etymology: From the Latin *hiatilabia*, “with an opening in the lip,” referring to deep cleft of the bar of the lip.

This medium-sized, caespitose species is characterized by narrow leaves and a longer many-flowered raceme of medium-sized flowers. The sepals are glabrous, ovate, three-veined and more or less rounded at the apex; the petals are thickly reniform and convex. The lip is thick and concave beneath a deeply cleft bar.

Stelis hypsitera Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Antioquia: La Union, Sonsón, coll. by E. Valencia, fl. in cult. at Colomborquídeas, 23 May 1995, C. Luer 17571 (Holotype: MO). Fig. 17.

This tall, caespitose species is characterized by ramicauls much longer than large, elliptical-ovate, petiolate leaves; three or four racemes twice longer than the leaf; ovate, pubescent sepals; thick, three-veined petals; and a short lip with rounded apex and a single, round callus on the dorsum.

Plant large, epiphytic, caespitose; roots slender. Ramicauls erect, slender, 28–34 cm long, with a close, tubular sheath above the middle, and another 2 sheaths below and at the base. *Leaf* erect, coriaceous, multiveined, elliptical-ovate, acute, petiolate, 13–15 cm long including a petiole 3–3.5 cm long, the blade 3.5–4.5 cm wide in the dry state, cuneate below into the petiole. *Inflorescence* 3–4 simultaneous; 15–22 cm long, the racemes erect, distichous, strict, many-flowered, with many flowers open simultaneously; floral bracts tubular, obtuse, 2 mm long; pedicels 1 mm long; ovary 1 mm long; the peduncle 2–3 cm long, subtended by a spathe 1.5–1.8 cm long, from a node below the apex of the ramicaul; flowers light yellow; *sepals* expanded, pubescent, more or less convex, subacute to obtuse, connate below the middle, the dorsal sepal, 4.5 mm long, 3.5 mm wide, 5-veined, the lateral sepals oblique, 3.5 mm long, 3 mm wide, 4-veined; *petals* thick, transversely semilunate, the apex rounded with the corners acuminate, 0.8 mm long, 1.4 mm wide, 3-veined, concave below the thickened margin, and concave below a transverse carina; *lip* obovoid, 0.75 mm long, 0.8 mm wide, 0.5 mm deep, shallowly concave below the bar and within the obtuse apex with a thickened margin, the dorsum with a single, central, rounded callus, the base truncate, hinged to the base of the column; *column* stout, ca. 1 mm long and wide, the anther and the stigmatic lobes apical.

Etymology: From the Greek *hypsiteros*, “higher,” referring to the inflorescences being taller than those of vegetatively similar species.

The flowers of this large, tall, caespitose species are

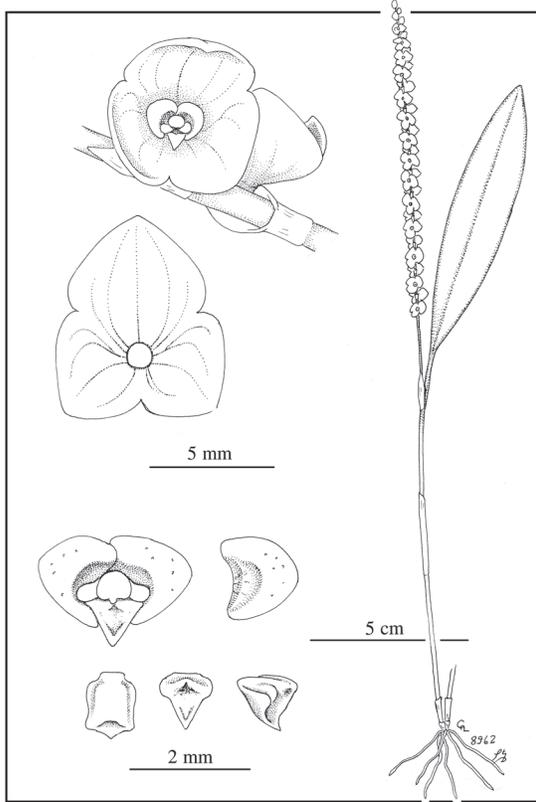


FIGURE 13. *Stelis glochochila* Luer & R. Escobar

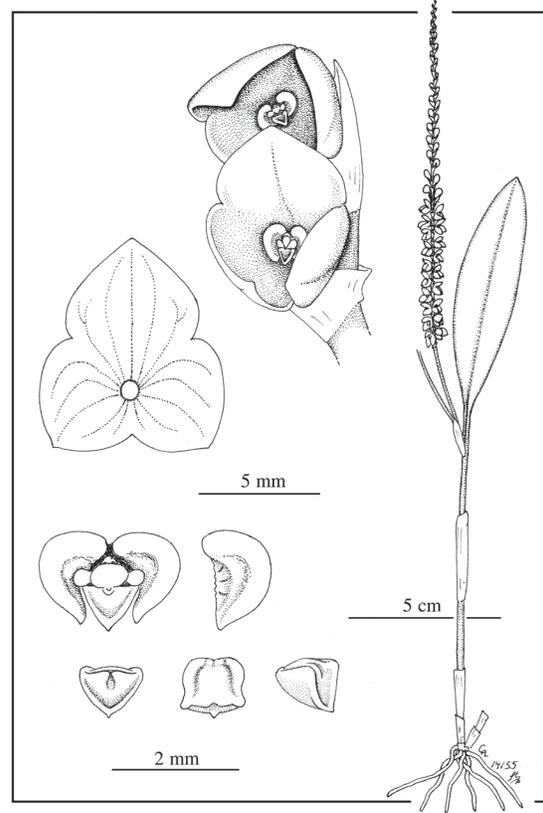


FIGURE 14. *Stelis glochochila* Luer & R. Escobar

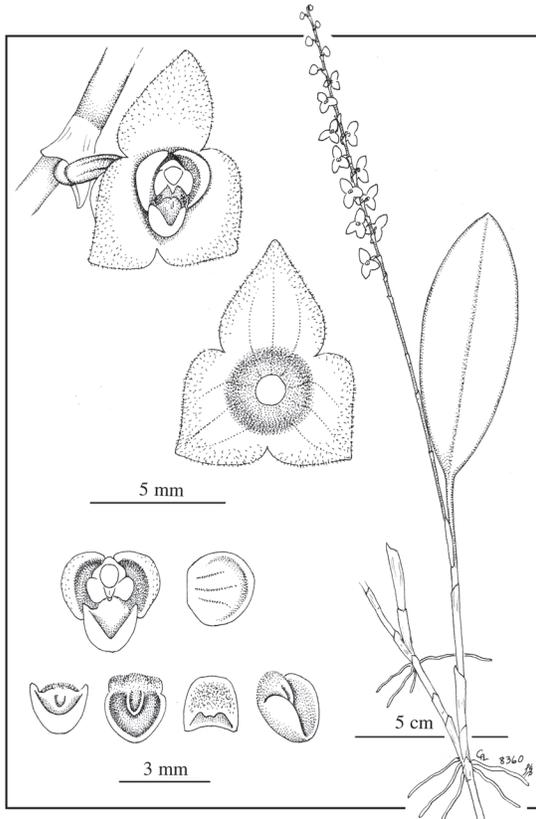


FIGURE 15. *Stelis hercules* Luer & R. Escobar

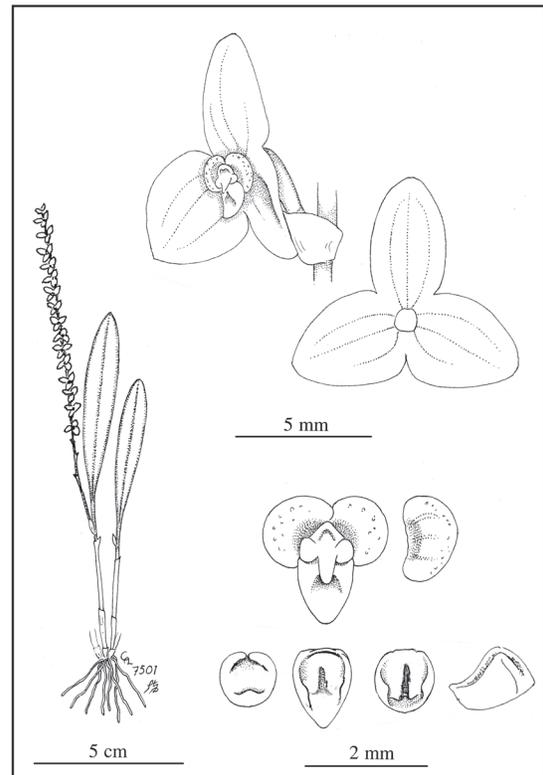


FIGURE 16. *Stelis hiatilabia* Luer & R. Escobar

similar to those of *Stelis grandiflora* Lindl., but distinguished by proportionately much longer ramicauls, about thrice longer than broad, multiveined leaves; three to four simultaneous racemes much longer than the leaf; ovate, multiveined, pubescent sepals; thick, three-veined petals; and a type A lip with a solitary, round callus on the dorsum.

Stelis lacertina Luer & R. Escobar, *sp. nov.* TYPE:

COLOMBIA. Risaralda: Fl. in cult. by S. Tsubota at Ran Orchids, Pereira, 10 May 1993, *C. Luer 16761* (Holotype: MO). Fig. 18.

This large, caespitose species is characterized by three or four long, many-flowered racemes of flowers with an antrorse dorsal sepal that is connate nearly a third of its length into a mentum; a synsepal formed by semiconnate lateral sepals; and a shallow lip with a short, broadly and deeply cleft bar.

Plant large, epiphytic, densely caespitose; roots slender. Ramicaul erect, stout, 5–14 cm long, with a loose, tubular sheath from below the middle, and another 1–2 sheaths below and about the base; *Leaf* erect, coriaceous, elliptical-ovate, obtuse to rounded at the tip, 9–12 cm long including a petiole 1.5–2 cm long, the blade 1–2.3 cm wide in the dry state, cuneate below into the petiole. *Inflorescence* 3–4; 12–18 cm tall, the raceme erect, strict, secund, congested, simultaneously flowered; floral bracts tubular, obtuse, 2 mm long; pedicels 2 mm long; ovary 1 mm long; the peduncle 2–3 cm long, subtended by a slender spathe 1.5–2 cm long, from a node below the apex of the ramicaul; flowers green; *sepals* glabrous, the dorsal sepal ovate, subacute, 5 mm long, 2.75 mm wide, 3-veined, connate 1.5 mm to the synsepal, the lateral sepals ovate, acute, oblique, connate to the middle into a concave, ovoid synsepal with recurved margins, 5 mm long, each 2.75 mm wide, 3-veined; *petals* transversely ovate, 0.5 mm long, 1 mm wide, 3-veined, concave within the rounded, thickened apical margin, with an indistinct transverse callus; *lip* subquadrate, 0.5 mm long, 0.7 mm wide, 0.5 mm deep, concave below a shortly but widely cleft bar with a concave glenion, the apex rounded, the margins thin, the dorsum with a rounded, midline callus; the base truncate, hinged to the base of the column; *column* ca. 0.75 mm broad and long, the anther and stigmatic lobes apical.

Etymology: From the Latin *lacertinus*, “like a lizard,” referring to the flower resembling the head of a lizard.

This large, caespitose species is characterized by stout ramicauls clad in long, loose, tubular sheaths, elliptical-ovate leaves, and three or four longer racemes of numerous, green flowers. The dorsal sepal is connate to the lateral sepals for nearly two millimeters to form the roof of a retrorse chin of the synsepal. The synsepal is formed by semiconnate lateral sepals with recurving margins. The petals are three-veined. The lip is a variation of type A with a short, rounded apex, a deeply concave glenion descending from a broad cleft in the bar, and a round callus in the center of the dorsum.

Stelis lagarantha Luer & R. Escobar, *sp. nov.* TYPE: COLOMBIA. Santander: W of Velez, road to Landázuri, 2000 m, 4 May 1984, *C. Luer, J. Luer & R. Escobar 10146* (Holotype: MO). Fig. 19.

This small to medium-sized, caespitose species is characterized by loose racemes longer than acute, narrowly ovate leaves; obtuse, three-veined sepals; thick, three-veined petals; and a subquadrate, obtuse lip with an orbicular callus on the dorsum.

Plant small to medium in size, epiphytic, densely caespitose; roots slender. Ramicauls slender, erect, 4–7 cm long, enclosed by a close, tubular sheath from below the middle, and another 1–2 sheaths below and at the base. *Leaf* erect, coriaceous, narrowly ovate, acute, 5–6 cm long including a petiole ca. 1.5 cm long, the blade 0.5–0.8 cm wide in the dry state, narrowly cuneate below to the petiole. *Inflorescence* 1–2; 5–11 cm tall, the racemes erect, strict, distichous, loosely many-flowered; floral bracts oblique, acute, 2 mm long and wide; pedicel 1.5 mm long; ovary 1.5 mm long; peduncle 2–3 cm long, from the apex of a ramicaul with a spathe ca. 5 mm long; flowers purple; *sepals* glabrous, broadly ovate, obtuse, 3-veined, the dorsal sepal 4 mm long, 4 mm wide, the lateral sepals 3 mm long, 3 mm wide; *petals* transversely ovate, 1 mm long, 1.6 mm wide, 3-veined, concave, the apical margin rounded, thickened, with a transverse carina; *lip* subquadrate, 0.6 mm long, 1 mm wide, 0.5 mm deep, shallowly concave below the bar, the apex obtuse with thickened margin, the dorsum with a central, orbicular callus, the base truncate, hinged to the column-foot; *column* stout, ca. 1 mm long and wide, the anther and small stigmatic lobes apical.

Etymology: From the Greek *lagarantos*, “loosely flowered,” referring to the raceme.

Both medium-sized and small, caespitose variations of this species grow together. They are characterized by loosely flowered racemes of purple flowers that exceed narrowly ovate, acute leaves. The sepals are broadly ovate and three-veined; the petals are thick and three-veined; and the lip is type A with a spherical callus on the dorsum.

Stelis laplanadensis Luer & Escobar, *sp. nov.* TYPE: COLOMBIA. Nariño: near Ricaurte, 1800 m, fl. in cult. at the La Planada Orquiarario, 25 January 1987, *C. Luer 12515* (Holotype: MO). Fig. 20.

This caespitose species is distinguished by a congested, secund raceme of small flowers that exceeds the leaf; three-veined sepals with the lateral sepals antrorse to form a concave synsepal; three-veined petals; and a lip with a broadly obtuse apex.

Plant medium in size, epiphytic, densely caespitose; roots slender. Ramicaul erect, slender, 7–8 cm long, with a close, tubular sheath on the middle third, and another 2 sheaths below and about the base. *Leaf* erect, coriaceous, elliptical, acute to subacute, 9–11 cm long including a petiole 1.5–2 cm long, the blade 1.5–2 cm wide in the dry state, cuneate below into the petiole. *Inflorescence* single; 11 cm tall, the raceme erect, secund, congested, simultaneously many-flowered; floral bracts tubular, obtuse, 2 mm long; pedicels 1 mm long; ovary 1 mm long; the peduncle 2 cm long, subtended by a slender spathe 1 cm long, from a node below the apex of the ramicaul; flowers yellow; *sepals* glabrous, the dorsal sepal elliptical-oblong, convex, with the apex obtuse, 4 mm long, 2 mm wide, 3-veined, the lateral sepals ovate,

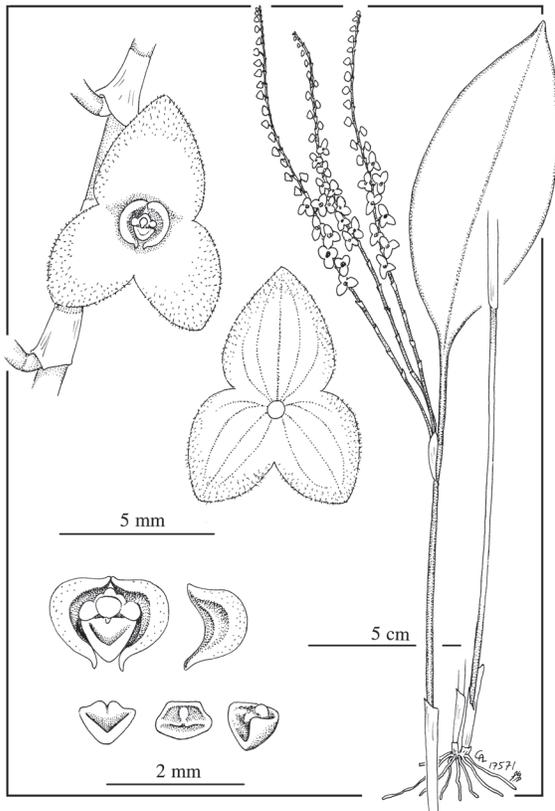


FIGURE 17. *Stelis hypsitera* Luer & R. Escobar

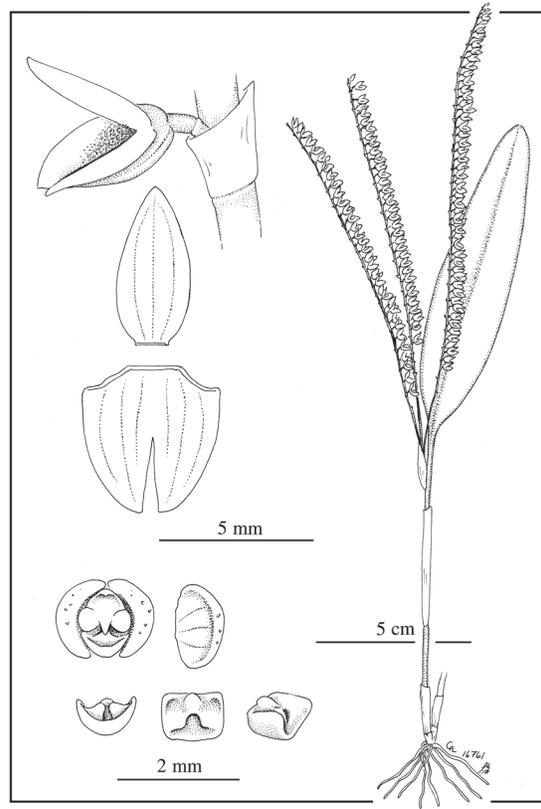


FIGURE 18. *Stelis lacertina* Luer & R. Escobar

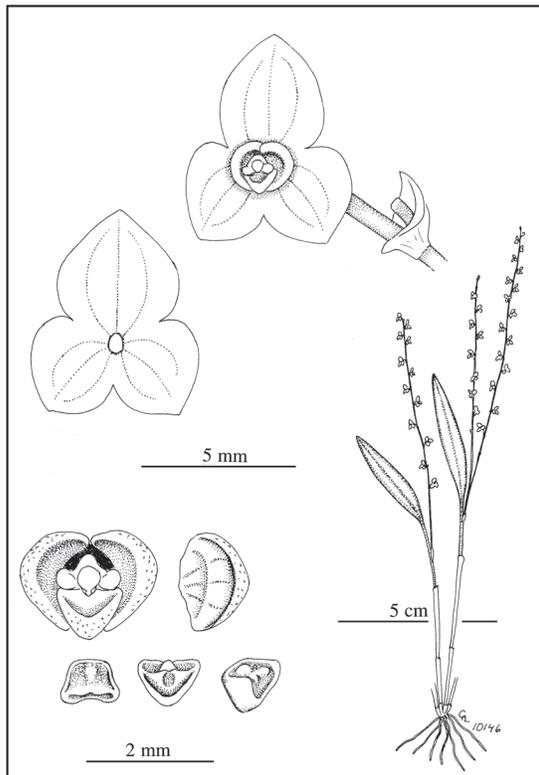


FIGURE 19. *Stelis lagarantha* Luer & R. Escobar

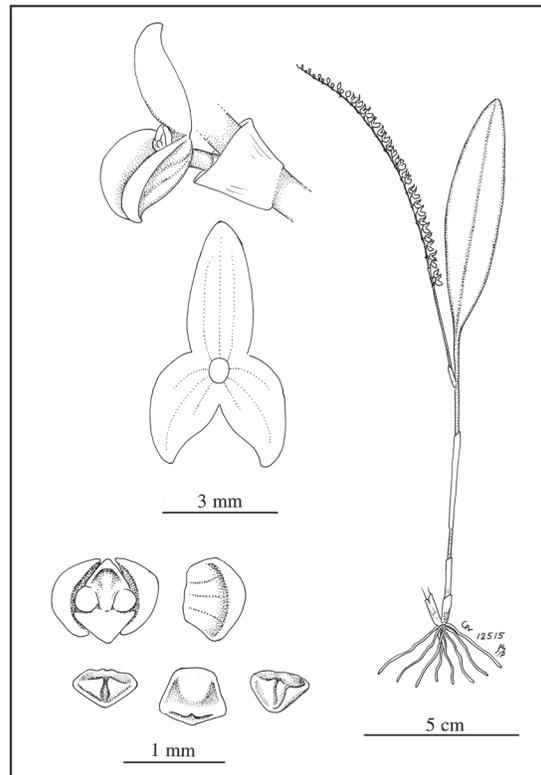


FIGURE 20. *Stelis laplanadensis* Luer & R. Escobar

oblique, concave, connate in the basal fourth, antrorse, with the tips in apposition, forming a concave synsepal, with the margins recurved, each 2.5 mm long, 2 mm wide, 3-veined; *petals* concave, transversely ovate, 0.5 mm long, 0.75 mm wide, 3-veined, with the rounded apical margin thickened, without an indistinct transverse carina; *lip* subquadrate, 0.5 mm long, 0.75 mm wide, 0.3 mm deep, shallowly concave below a cleft bar with a glenion, the apex broadly obtuse, the dorsum thickened with a low, rounded callus; the base truncate, hinged to the base of the column; *column* ca. 0.75 mm broad and long, the anther and stigmatic lobes apical.

Eponymy: Named for the La Planada Research Center where this species was discovered and cultivated.

This caespitose species, cultivated by the La Planada Research Center, is distinguished by a congested, secund raceme of small flowers that exceeds the leaf. The sepals are three-veined with the lateral sepals shallowly connate and antrorse to form a concave synsepal. This is one of many that are not clearly defined as belonging to section *Humboldtia*. The petals are three-veined, and the lip is type A with a broadly obtuse apex.

Stelis leprina Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Risaralda: Pereira, Ucumarí, Regional Reserve, 2100 m, flowered at La Pastora, April 1992, A. de Wilde 005 (Holotype: MO), C. Luer illustr. 21920. Fig. 21.

This small, caespitose species is distinguished by numerous deposits of a granular substance in all floral and vegetative parts; minute flowers produced in a crowded, secund raceme; elliptical sepals; ovate petals; and a lip with a cleft bar and an obtuse, apiculate tip.

Plant small, epiphytic, densely caespitose; roots slender. Ramicauls erect, slender, 2–2.5 cm long, enclosed by a tubular sheath from below the middle, and another sheath at the base. *Leaf* erect, coriaceous, narrowly elliptical, acute, 3–5 cm long including a petiole ca. 1 cm long, 0.5 mm wide when dry, narrowed below into the petiole. All floral parts infested with irregular, granular deposits of an unidentified substance: *Inflorescence* solitary; 8 cm long, the raceme erect, congested, many-flowered, secund with most flowers open simultaneously; floral bracts oblique, acute, 1.5–2 mm long; pedicels 1 mm long; ovary 1 mm long; the peduncle ca. 2 cm long, from a node at the apex of the ramicaul; *sepals* probably yellow or white, similar, glabrous, elliptical, subacute, connate basally, 1.5 mm long, 1 mm wide, indistinctly 3-veined, the lateral sepals antrorse; *petals* thin, ovate, obtuse, 0.4 mm long, 0.4 mm wide, without a visible vein; *lip* subquadrate, obscurely 3-lobed, 0.5 mm long, 0.5 mm wide, 0.3 mm deep, concave below a channeled bar, the apex triangular, subacute, with acute basal angles or lateral lobes, the dorsum truncate, deeply cleft, densely short-pubescent, the base connate to the base of the column; *column* ca. 0.5 mm long and wide, the anther and the stigmatic lobes apical.

Etymology: From the Latin *leprinus*, “having leprosy (*lepra*),” referring to the substance within the floral parts that are superficially similar to diseased tissue of leprosy.

This little, caespitose species is distinguished by a congested, secund raceme of minute flowers. Most

vegetative and floral parts contain irregular particles of an unknown substance, similar to what is seen in the similar *Stelis coralloides* Luer & Hirtz. From the latter, *Stelis leprina* is distinguished by extremely small petals and lip, the lip being half as large as a sepal of *S. coralloides*. The petals and lip disappear in older flowers, but near the tip of the raceme they persist without invasion by the mysterious substance.

Stelis leptorhiza Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Antioquia: El Retiro, coll. above Colomborquídeas by unknown collector, ca. 1500 m, fl. in cult. at Colomborquídeas. 16 May 1993, C. Luer 16919 (Holotype: MO). Fig. 22.

This large, slender-repent species is characterized by a slender, long-creeping rhizome; long, slender ramicauls; broad, acuminate, petiolate leaves; one or two long, many-flowered racemes; and a five-veined dorsal sepal above a concave synsepal.

Plant large, epiphytic, long-repent, the rhizome slender, 1.5–2 cm long between ramicauls; roots slender. Ramicaul erect, slender, 12–20 cm long, with a close, tubular sheath on the middle third from below the middle, and another 1–2 sheaths about the base. *Leaf* erect, thinly coriaceous, broadly elliptical, acute, acuminate, 9–14 cm long including a petiole 1.5–3 cm long, the blade 3–4.5 cm wide in the dry state, cuneate below into the petiole. *Inflorescence* 1–2; 13–20 cm tall, the raceme erect, strict, secund, subdense, simultaneously many-flowered with many flowers open simultaneously; floral bracts infundibular, acute, 2 mm long; pedicels 1 mm long; ovary 1 mm long; the peduncle 6–8 cm long, subtended by a slender spathe 1 cm long, from a node below the apex of the ramicaul; *sepals* yellow-green, glabrous, the dorsal sepal ovate, subacute, 5.5 mm long, 4 mm wide, 5-veined, the lateral sepals connate to the tips into a concave, subcircular synsepal with recurved margins, 4 mm long, 6 mm wide, expanded, 8-veined; *petals* yellow-green with brown edges, semilunate, 0.75 mm long, 1 mm wide, 3-veined, with the rounded, apical margin thickened, with an indistinct transverse callus; *lip* subquadrate, 0.5 mm long, 0.75 mm wide, 0.6 mm deep, concave below an elevated bar with a glenion, the apex subacute, with a triangular apiculum, the margins thick, the dorsum with a rounded callus; the base truncate, hinged to the base of the column; *column* ca. 0.75 mm broad and long, the anther and stigmatic lobes apical.

Etymology: From the Greek *leptorhiza*, “with thin rhizome,” for obvious reasons.

This large species is long-repent with a thin, creeping rhizome that produces a tall, slender ramicaul about every two centimeters. The leaf is large, thinly coriaceous, elliptical, acuminate at the tip and long-petiolate at the base. One or two racemes of medium-sized flowers far surpass the leaf. The dorsal sepal is five-veined, the petals are three-veined, and the lip is a modified type A.

Stelis marginata Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Cauca: Popayán, Páramo de Barbillas, SE of Popayán, 3150 m, 13 November 1982, C. Luer, J. Luer & R. Escobar 8359 (Holotype: SEL). Fig. 23.

This long-repent species is similar to *Stelis scansor* Rchb.f., but differs with a larger habit, longer floral bracts, larger flowers with narrowly thickened margins, and a lip with a pubescent, basal callus.

Plant small, epiphytic, scandent, long-repent, the rhizome stout, 0.5-1 cm between ramicauls; roots slender. Ramicauls ascending, slender, 3-4 cm long, enclosed by a tubular sheath from below the middle and 1-2 other sheaths below and at the base. *Leaf* erect, coriaceous, elliptical, subacute to obtuse, 4-6 cm long including the petiole 1.5 cm long, the blade 1-1.5 cm wide in dry state, cuneate below into the petiole. *Inflorescence* solitary; 10-13 cm long, the raceme erect, strict, congested, distichous, many-flowered; floral bracts oblique, acute, 4 mm long; pedicels 1.5 mm long; ovary 1 mm long; the peduncle 5 mm long, from a node below the apex of the ramicaul; *sepals* light green above the middle, purple below the middle, glabrous, elliptical-ovate, obtuse, with narrowly thickened margins, 3-veined, connate basally, the dorsal sepal 3.5 mm long, 2.5 mm wide, the lateral sepals 3 mm long, 2.2 mm wide; *petals* green, thin, transversely elliptical, 1 mm long, 1.25 mm wide, 1-veined, concave, the apex broadly rounded with the margin slightly thickened, without a transverse callus; *lip* green, subquadrate, 0.6 mm long, 1 mm wide, 0.75 mm deep, shallowly concave below a longitudinally grooved bar without a glenion, the apex broadly obtuse, the dorsum with a semiorbicular, minutely pubescent callus at the base, the base truncate, hinged to the base of the column; *column* clavellate, elongated, 1 mm long and wide, the anther and the bilobed stigma apical.

Etymology: From the Latin *marginatus*, "margined," referring to the narrowly thickened margins of the sepals.

This small, scandent species is superficially similar to the relatively frequent and sympatric *Stelis scansor* Rchb.f., but *S. marginata* is a larger plant with a stout rhizome with a shorter distance between ramicauls. A longer raceme with much longer floral bracts bears medium-sized flowers with obtuse, three-veined sepals with narrowly thickened margins. The petals are similarly single-veined, and the lip is type A with a rounded, pubescent callus at the base.

Stelis menippe Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Antioquia: Frontino, above Frontino toward Nutibara, 1900 m, 5 May 1983, C. Luer, J. Luer, R. Escobar *et al.* 9025 (Holotype: SEL). Fig. 24.

This small species is distinguished by a crowded raceme barely surpassing a narrowly linear leaf; an acutely reflexed, convex dorsal sepal; much larger, concave, antrorse lateral sepals; small, thin, three-veined petals; and a concave lip with an acute, triangular apex.

Plant small, epiphytic, caespitose; roots slender. Ramicauls erect, 1.5-3 cm long, enclosed by a tubular sheath from below the middle, and another 1-2 sheaths at the base. *Leaf* erect, coriaceous, narrowly linear, subacute, 3-4 cm long, 0.3-0.4 cm wide, narrowed below to the base. *Inflorescence* solitary; 2.5-5 cm long, the raceme erect, congested, distichous, successively many-flowered raceme, with several flowers open simultaneously, flowering from the base, floral bracts oblique, acute, 1.5-2 mm long;

pedicel 1 mm long; ovary 1 mm long; the peduncle subnil, the few-millimeter base subtended by a spathe 7 mm long, from a node below the apex of the ramicaul; flowers greenish white; *sepals* glabrous, the dorsal sepal ovate, obtuse, convex, acutely reflexed, 2.5 mm long, 2 mm wide, 3-veined, free from the lateral sepals, the lateral sepals, ovate, oblique, obtuse, concave, parallel, antrorse, 3 mm long, 2.5 mm wide, 3-veined; *petals* transversely elliptical, concave, the rounded margin slightly thickened, 0.5 mm long, 0.75 mm wide, 3-veined; *lip* trilobed, 1.25 mm long, 0.75 mm wide, 0.5 mm deep, the bar broad, thick, between the erect, rounded, lateral lobes, the apical lobe triangular, acute, the disc filled with the bar as a smooth callus, the base truncate, hinged to the column-foot; *column* stout, 0.75 mm long and wide, the anther and stigmatic lobes apical.

Eponymy: Named for *Menippe*, a genus of crabs, with some species reminiscent of this species.

This small, caespitose species is characterized by a narrowly linear leaf and a congested, distichous, successively flowered raceme about as long, with several flowers open simultaneously. The dorsal sepal is convex and reflexed, the lateral sepals, considerably larger than the dorsal sepal, are concave, parallel and antrorse, vaguely suggesting a pair of stone-crab claws. The petals are 3-veined, and the lip is 3-lobed with the apical lobe triangular and acute.

Stelis miranda Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA: Norte de Santander: Páramo de Jurisdicciones, 3150 m, 30 April 1982, C. Luer, J. Luer & R. Escobar 7633 (Holotype: SEL). Fig. 25.

This very small, caespitose species is distinguished by narrowly elliptical leaves; a long, filamentous peduncle with a series long-pedunculate flowers; single-veined petals abruptly contracted into slender tails; and an ovate, concave lip with a basal callus that is bifurcated above the middle.

Plant small, epiphytic, densely caespitose, roots slender. Ramicauls erect, slender, 10-20 mm long, with a tubular sheath from below the middle and another above the base. *Leaf* erect, coriaceous, narrowly elliptical, acute to subacute, 8-30 mm long, with a petiole 0.5-1 mm long, the blade 3-5 mm wide in the dry state, gradually narrowed below into the petiole. *Inflorescence* single; 4-8 cm long, the peduncle and rachis filamentous, weak, more or less arching, the raceme lax with 5-8 long-pedicellate flowers, the pedicels decreasing in length toward the tip; floral bracts acute, oblique, 1.5 mm long; pedicels 12-4 mm long; ovary 1.5 mm long; peduncle 3-5 cm long, from a node at the tip of the ramicaul; *sepals* translucent lavender, glabrous, antrorse, 3-veined, connate basally, the dorsal broadly ovate, obtuse, 2 mm long, 2.3 mm wide, the lateral sepals oblong, obtuse, oblique at the apex, 3 mm long, 1.3 mm wide, connate midway; *petals* purple, the blade subquadrate to oblong, 1.3 mm wide and long excluding the tail, 1-veined, the apex truncate, abruptly contracted into a slender process 1.3 mm long; *lip* green, obovate 1.5 mm long, 1.3 mm wide, dilated and shallowly concave above the middle, the apex obtuse to rounded, the basal third oblong, thick, minutely pubescent, bifurcated near the middle at the base of the concavity, the base truncate, connate to the base of the column; *column*

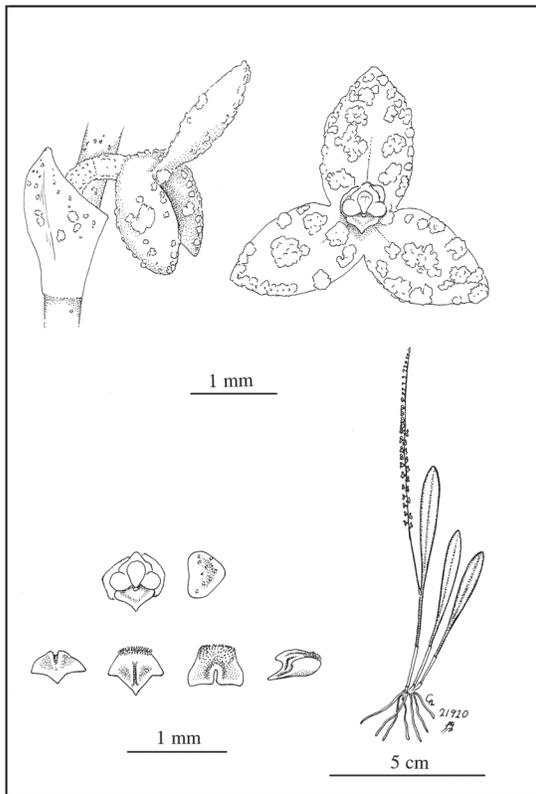


FIGURE 21. *Stelis leprina* Luer & R. Escobar

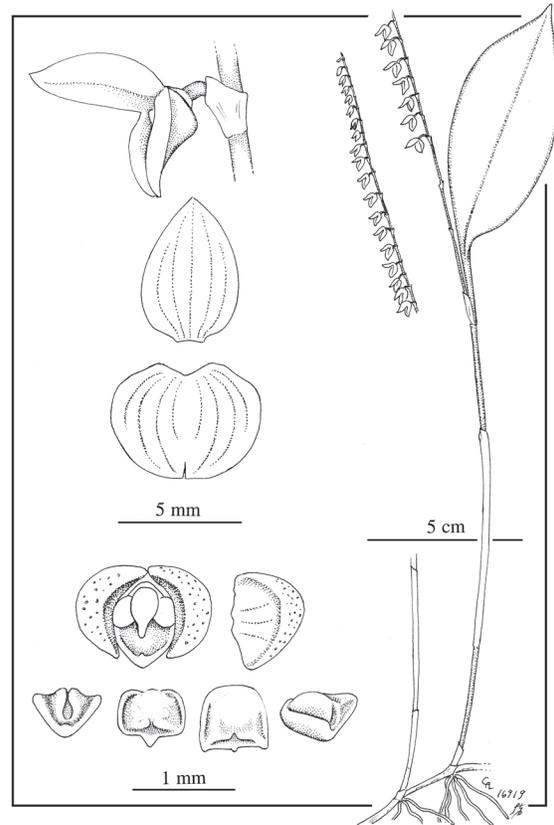


FIGURE 22. *Stelis leptorhiza* Luer & R. Escobar

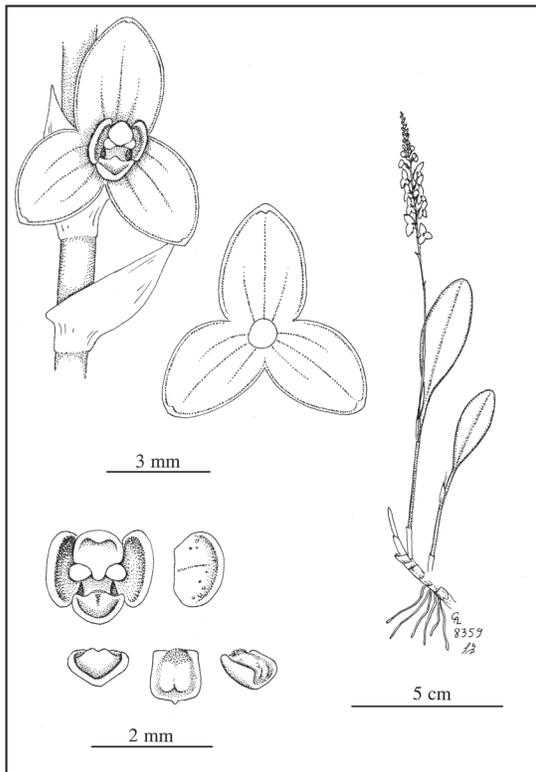


FIGURE 23. *Stelis marginata* Luer & R. Escobar

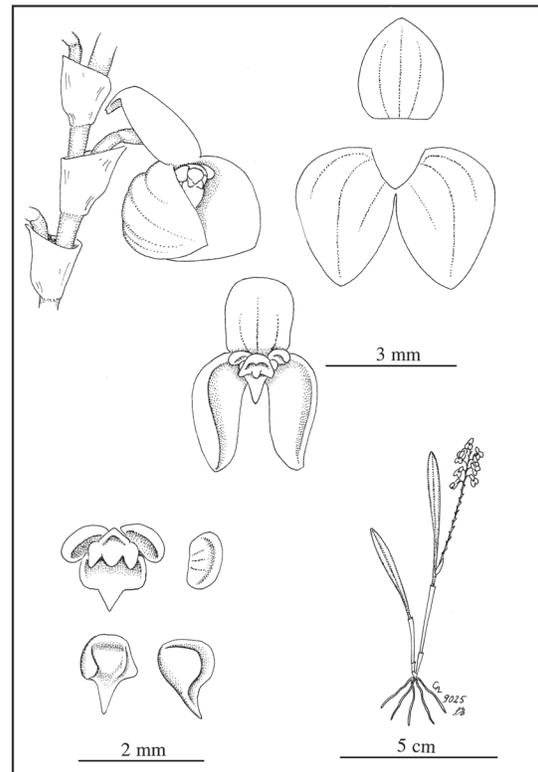


FIGURE 24. *Stelis menippe* Luer & R. Escobar

semiterete, 1.3 mm long, 0.75 mm wide, the anther and the bilobed stigma apical.

Etymology: From the Latin *mirandus*, "strange," referring to the unusual, floral morphology.

This unusual species is similar to three, small Bolivian species distinguished by a filamentous peduncle and rachis, and long-pedicellate flowers: *Stelis antennata* Garay, *Stelis ballatrix* Luer & R.Vásquez and *Stelis saltatrix* Luer & R.Vásquez. *Stelis miranda* differs from all of them by a smaller habit with narrowly elliptical leaves, single-veined petals abruptly contracted into filamentous tips, and a concave lip with a bifid callus.

Stelis molecula Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Norte de Santander: below Páramo de Jurisdicciones, 2600 m, 10 May 1904, *C. Luer, J. Luer & R. Escobar 10218* (Holotype: MO). Fig. 26.

This very small, caespitose species is distinguished by elliptical leaves; a twice longer, subflexuous, successively-flowered raceme of tiny flowers; subacute sepals about one millimeter long; single-veined petals; an ovate lip with a large central callus; and stigmatic surfaces within the clinandrium.

Plant very small, epiphytic, caespitose, sometimes forming large clumps, roots slender. Ramicauls erect, slender, 5–8 mm long, enclosed by 2 close, tubular sheaths. *Leaf* erect, coriaceous, elliptical, acute, 5–12 mm long, 2–3 mm wide in the dry state, narrowed below to the subpetiolate base. *Inflorescence* single; 3–4 cm long, the raceme erect, subflexuous, successively many-flowered with several flowers open simultaneously; floral bracts oblique, acute, 1 mm long; pedicels 1 mm long; ovary 0.5 mm long; the peduncle 1–1.5 mm long, from the apex of a ramicaul; flowers purple; *sepals* glabrous, expanded, ovate, obtuse, 3-veined, connate basally, 1 mm long, 1 mm wide; *petals* broadly ovate, thin, slightly thickened on the rounded margin, 0.75 mm long, 0.75 mm wide, 1-veined; *lip* ovoid, 0.5 mm long, 0.5 mm wide, 0.5 mm deep, concave surrounding a rounded, central callus within the obtuse, thickened margin of the obtuse apex, thickened and microscopically pubescent at the base of the callus, the base truncate, hinged to the base of the column; *column* clavate, 0.5 mm long and wide, the anther apical, the stigmatic lobes narrow, within the margin of the clinandrium.

Etymology: From the Latin *molecula*, diminutive *moles*, "a mass that cannot be divided," referring to the minute size.

This very small, caespitose species is characterized by elliptical leaves and a twice longer, subflexuous raceme of tiny, purple flowers. The sepals are one millimeter long and wide; the petals are thin and single-veined; and the lip has a rounded callus surrounded by a moatlike cavity. The stigmatic lobes are within the margins of the clinandrium.

Stelis mordica Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Cauca: Páramo de Guanacas, between Totoró and Inza, 2850 m, 15 November 1982, *C. Luer & R. Escobar 8411* (Holotype: SEL). Fig. 27.

This slender, medium-sized, caespitose species is characterized by one or two long, many-flowered racemes of flowers

with an antrorse dorsal sepal connate a third of its length to a synsepal formed by the inflated base of the synsepal; and a subquadrate lip with a truncate, three-lobed apex.

Plant medium in size, epiphytic, densely caespitose; roots slender. Ramicaul erect, slender, 4–6 cm long, with a tubular sheath on the middle third, and another 1–2 sheaths below and about the base; *Leaf* erect, coriaceous, narrowly elliptical, acute, 5–7 cm long including a petiole 1.5 cm long, the blade 0.5–0.8 cm wide in the dry state, cuneate below into the petiole. *Inflorescence* 1–2; 13–15 cm tall, the racemes erect, strict, secund, congested, multiflowered with many flowers open simultaneously, floral bracts tubular, subacute, 3 mm long; pedicels 2 mm long; ovary 2.5 mm long; the peduncle ca. 3 cm long, subtended by a slender spathe 1 cm long, from a node below the apex of the ramicaul; flowers purple; *sepals* glabrous, the dorsal sepal antrorse, oblong-ovate, subacute, 5 mm long, 2 mm wide, 3-veined, connate ca. 2 mm to the synsepal, the lateral sepals connate to the tip into a suborbicular synsepal, 4.5 mm long, 4.5 mm wide unexpanded, each 3-veined; *petals* transversely ovate, 0.75 mm long, 1.3 mm wide, 3-veined, concave within the obtuse, thickened apical margin, with an indistinct transverse callus; *lip* subquadrate, 1.25 mm long, 0.75 mm wide, 0.75 mm deep, concave below a widely cleft bar near the middle of the lip with an incomplete glenion, the apex truncate, indistinctly 3-lobed, the lateral angles obtuse, the middle lobe being an obtuse triangle, the dorsum convex centrally; the base truncate, hinged to the base of the column; *column* ca. 0.8 mm broad and long, the anther and stigmatic lobes apical.

Etymology: From the Latin *mordicus*, "biting, snapping," an allusion to the fancied appearance of the flower.

This medium-sized, caespitose species is characterized by slender ramicauls, an elliptical leaf less than one centimeter wide, and one or two longer multiflowered racemes of purple, bilabiate flowers. The dorsal sepal is connate to the lateral sepals for nearly two millimeters to form the roof of the retrorse mentum at the base of the inflated synsepal. The petals are three-veined. The lip is a variation of type A with the bar forked near the middle, and a trilobed-truncate apex, a low, obtuse, marginal triangle being the middle lobe between obtusely angled corners.

Stelis nexosa Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Tolima: terrestrial on the road cut to the TV antenna, La Linea, between Ibagué and Armenia, 3500 m, 20 October 1982, *C. Luer & R. Escobar 8491* (Holotype: SEL). Fig. 28.

This small, species is distinguished by clusters of branching, overlapping rhizomes; narrowly elliptical leaves about as long as the ramicaul, and surpassed by a loose, several-flowered raceme; obtuse, three-veined sepals; single-veined petals; and a lip with a raised callus across the bar.

Plant small, terrestrial, epiphytic, repent, the rhizome branching, slender, 2–5 mm long between ramicauls; roots slender. Ramicauls ascending, slender, branching, 1–1.5 cm long, enclosed by a tubular sheath and another sheath at the base. *Leaf* erect, coriaceous, narrowly elliptical, acute, 1–2 cm long including an ill-defined petiole, 2–3 mm wide dry,

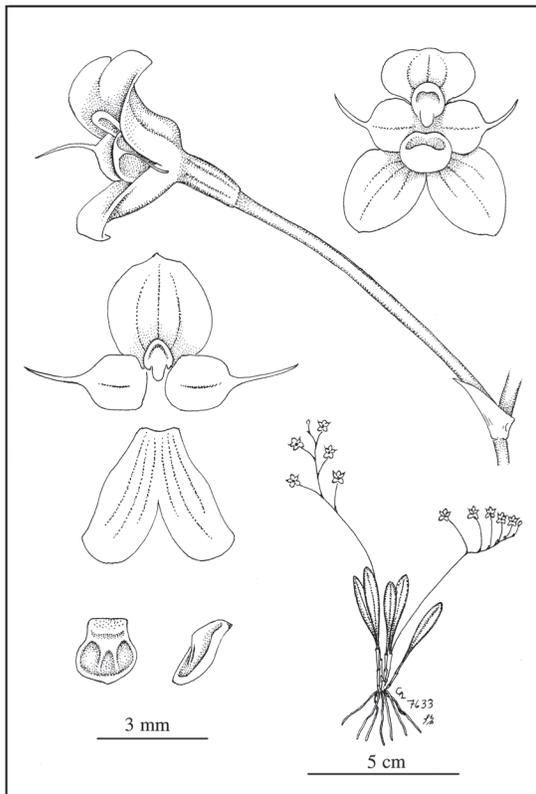


FIGURE 25. *Stelis miranda* Luer & R. Escobar

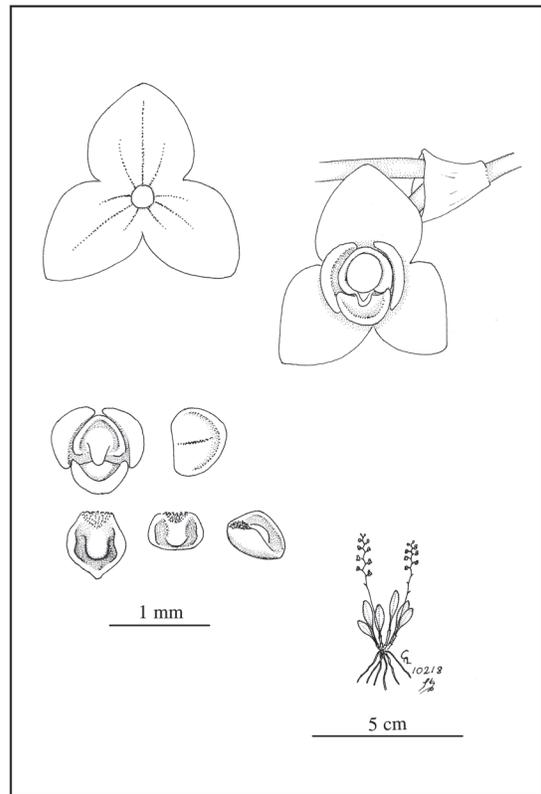


FIGURE 26. *Stelis molecula* Luer & R. Escobar

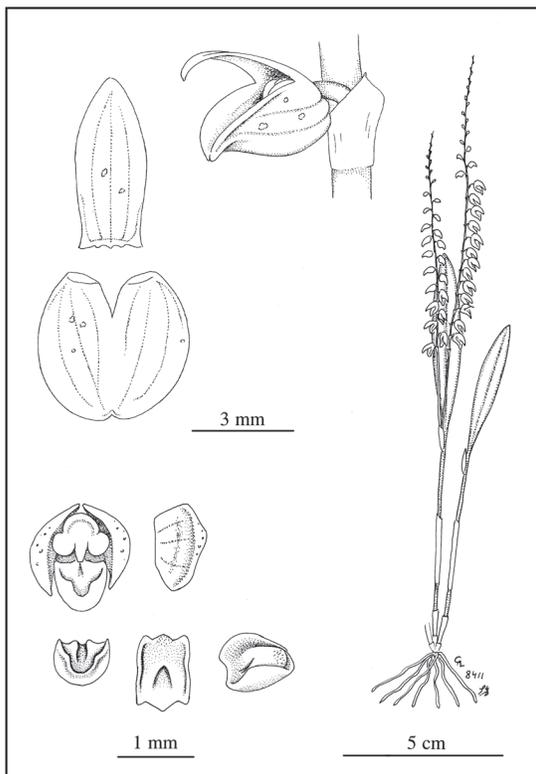


FIGURE 27. *Stelis mordica* Luer & R. Escobar

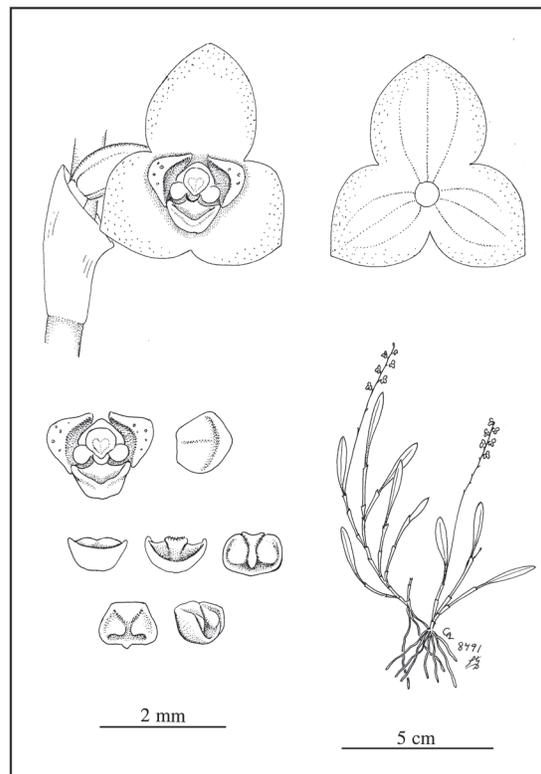


FIGURE 28. *Stelis nexosa* Luer & R. Escobar

gradually narrowed below to the base. *Inflorescence* single; 2–4 cm long, the raceme erect, loosely 6– to 10–flowered, with several flowers open simultaneously; floral bracts tubular, acute, 1.5 mm long; pedicels 0.5 mm long; ovary 1–2 mm long; the peduncle ca. 1 cm long, from a node at the apex of the ramicaul; *sepals* light green, expanded, similar, glabrous, broadly ovate, obtuse, connate below the middle, 3-veined, the dorsal sepal 2.2 mm long, 2 mm wide, the lateral sepals 1.75 mm long, 2 mm wide; *petals* yellow-brown, transversely obovate, concave, 0.5 mm long, 0.9 mm wide, 1-veined, the apex broadly obtuse; *lip* dark brown, subquadrate, 0.6 mm long, 0.9 mm wide, 0.5 mm deep, concave within the broadly rounded apex, the dorsum with a flat, raised callus that begins at the base, narrows at the middle as it curves downward and descends, the base truncate, hinged to the base of the column; *column* stout, ca. 1 mm long and wide, the anther and the bilobed stigma apical.

Etymology: From the Latin *nexusus*, “tangled,” referring to the mass of overlapping, intertwined, branching habit.

This small species was found growing in great clumps of overlapping, branching rhizomes on the road embankment at a high altitude. A several-flowered, loose raceme of little flowers exceeds the leaf about twice its length. The sepals are obtuse and three-veined, and the petals are single-veined. The lip is a modified type C with a flat, elevated callus from across the base, then narrowed as it curves over the rounded bar.

Stelis oblector Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Putumayo: between La Cocha and Sibundoy. 2700 m, 30 July 1978, C. Luer, J. Luer, R. Escobar et al. 3087 (Holotype: SEL). Fig. 29.

This medium-sized, caespitose species is distinguished by an erect, loosely and successively flowered raceme; a rounded, three-veined dorsal sepal; a suborbicular synsepal; single-veined petals; and a lip with a triangular apiculum.

Plant medium in size, epiphytic, caespitose; roots slender. Ramicaul erect, slender, 6–7 cm long, with a loose, tubular sheath on the middle third from below the middle, and another 1–2 sheaths about the base. *Leaf* erect, coriaceous, elliptical-ovate, subacute, 7–8 cm long including a petiole 1.5 cm long, the blade 1.6–1.7 cm wide in the dry state, cuneate below into the petiole. *Inflorescence* single; 13–15 cm tall, the raceme erect, distichous, loose, successively flowered with 4–5 flowers open simultaneously; floral bracts infundibular, acute, 5 mm long; pedicels ca. 2 mm long; ovary 1.5 mm long; the peduncle 8–15 cm long, subtended by a slender spathe 1–1.5 cm long, from a node below the apex of the ramicaul; flowers yellow; *sepals* glabrous, the dorsal sepal elliptical, convex, with the apex rounded, 3.3 mm long, 2.3 mm wide, 3-veined, the lateral sepals concave, connate to the tips into a suborbicular synsepal, 2.5 mm long, 3 mm wide, unexpanded, 6-veined; *petals* thin, concave, subcircular, 0.75 mm long, 1 mm wide, 1-veined, with the apical margin narrowly thickened, without a transverse carina; *lip* obovoid, 0.4 mm long, 0.6 mm wide, 0.3 mm deep, concave below a narrow, arched bar, the apex with a subacute, triangular apiculum, the dorsum thickened with a low, rounded callus; the base truncate, hinged to the

base of the column; *column* ca. 0.75 mm broad and long, the anther and stigmatic lobes apical.

Etymology: From the Latin *oblector*, “a charmer,” referring to pleasing qualities of the plant.

This caespitose species is distinguished by a long, loosely flowered raceme with a peduncle longer than an elliptical leaf. A convex dorsal sepal stands above a suborbicular synsepal created by connate, concave lateral sepals. The petals are single-veined, and the apex of the lip is a subacute, triangular apiculum.

Stelis ocreosa Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Cauca: Páramo de Puracé, terrestrial on the road cut W of the pass, 3200 m, 14 November 1982, C. Luer & R. Escobar 8391 (Holotype: SEL). Fig. 30.

This small, caespitose species is distinguished by purple floral bracts longer than obtuse, three-veined sepals in a raceme that exceeds the leaf; single-veined petals; and an obtuse lip with a large glenion.

Plant small, epiphytic, caespitose; roots slender. Ramicauls erect, slender, 5–15 mm long, enclosed by a loose, tubular sheath from near the middle and another 1–2 sheaths below and at the base. *Leaf* erect, coriaceous, elliptical, acute to subacute, 10–28 mm long including the petiole 5–8 mm long, the blade 3–6 mm wide in the dry state, cuneate below to the petiole. *Inflorescence* single; 6–7 mm long, the raceme erect, strict, distichous successively many-flowered; floral bracts purple, acute, oblique, 3–4 mm long; pedicels 1.5–2 mm long; ovary 1 mm long; the peduncle 2–3 cm long, from a node at the apex of the ramicaul; *sepals* yellow, brown centrally, glabrous, ovate, obtuse, 3-veined, connate basally, the dorsal sepal 2.5 mm long, 2.25 mm wide, the lateral sepals 2.5 mm long, 2 mm wide; *petals* yellow-green, transversely elliptical, 1 mm long, 1.3 mm wide, 1-veined, concave, the apex rounded with the margin narrowly thickened; *lip* yellow-green, type-A, subquadrate, 0.8 mm long, 1 mm wide, 0.5 mm deep, concave below a thick, cleft bar with a deep glenion, the apex truncate, with a short, low apiculum, the dorsum cleft, the base truncate, hinged to the base of the column; *column* clavate, ca. 1 mm long and wide, the anther and the bilobed stigma apical.

Etymology: From the Latin *ocreosus*, “with well-developed sheaths,” referring the large, purple floral bracts.

This little, caespitose species differs from the numerous variations allowed in *Stelis pusilla* Kunth by having larger flowers; conspicuous, large, purple floral bracts; and a lip with a cleft bar and large glenion.

Stelis ophiodontodes Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Antioquia: Unión, 2400 m, coll. by E. Valencia, 1991. fl. in cult. at Colomborquídeas, 27 December 1992, R. Escobar 5142 (Holotype: SEL), C. Luer illustr. 21914. Fig. 31.

With long stigmatic processes this species is similar to the Ecuadorian *Stelis odobenella* Luer, but differs with a strict raceme, instead of flexuous, and with details of the lip, which lacks the pair of mammiliform calli, and possesses a single callus on the acutely descending, concave dorsum.

Plant small, epiphytic, caespitose; roots slender.

Ramicauls erect, slender, 13 mm long, enclosed by 2–3 thin, tubular sheaths. *Leaf* erect, coriaceous, elliptical, subacute to obtuse, 35 mm long including a petiole ca. 10 mm long, 6 mm wide, cuneate below into the petiole. *Inflorescence* single; 7 cm long including a peduncle 3 cm long, the raceme erect, strict, lax, several-flowered with 3–4 flowers open simultaneously, the peduncle from an annulus below the apex of the ramicaul; floral bracts oblique, acute, 1.5 mm long; pedicels 1.5 mm long; ovary 1 mm long; *sepals* glabrous, the dorsal sepal red, erect, broadly ovate, obtuse, 5 mm long, 5 mm wide, 3-veined, connate basally to the synsepal for 1 mm, the lateral sepals white, connate into a broadly ovoid, deeply concave synsepal, 6 mm long, 6 mm wide expanded; *petals* red, transversely ovate, 0.5 mm long, 1.25 mm wide, 3-veined, concave basally, thickened transversely across the middle, the apex broadly rounded, thickened on the margin; *lip* red, subtriangular, 0.75 mm long, 0.75 mm wide, 0.5 mm deep, the bar elevated and thin between narrow sides, the anterior surface featureless behind an obtuse, thickened, broadly obtuse, apical margin, the dorsum, or posterior surface, acutely descending and concave with a central callus, prominently 3-veined to the truncate base, hinged to the base of the column; *column* stout, ca. 0.5 cm long and wide, the anther and the bilobed stigma apical, each stigma with a fang-like process 1 mm long.

Etymology: From the Greek *ophiodontodes*, “like fangs (snake teeth),” referring to the elongated stigmatic processes.

This species is allied to *Stelis odobonella* Luer which is frequent in southeastern Ecuador. Except for a trivial difference of a strict, instead of a flexuous rachis, the plants are very similar, but the lips differ. The pair of mammillate calli found in *S. odobonella* are absent. The dorsum, or steeply sloping posterior surface of the lip, is concave with a central callus.

Stelis oreibator Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Nariño: near the pass between Pasto and La Cocha, 3150 m, 27 January 1987, *C. Luer, J. Luer & C. Dodson 12549* (Holotype: MO). Fig. 32.

This medium to large, coarsely repent species is characterized by a thick rhizome; stout ramicauls bearing elliptical leaves and a longer raceme of flowers with ovate, three-veined, pubescent sepals; three-veined petals; and a subquadrate lip with a large callus filling the disc.

Plant medium to large, epiphytic, coarse, ascending-repent, the rhizome stout, branching, 4–5 mm thick, 1–2 cm long between ramicauls; roots coarse. Ramicauls ascending, stout, 5–6 cm long, enclosed by tubular sheath from below the middle, and 1–2 sheaths about the base. *Leaf* erect, coriaceous, elliptical, acute to subacute, 6–7 cm long including a petiole 1–1.5 mm long, the blade 1.5–2.5 cm wide in the dry state, cuneate below into the petiole. *Inflorescence* single; 15–18 cm tall, the raceme strict, erect, congested, distichous, simultaneously many-flowered; floral bracts tubular, obtuse, 3 mm long; pedicels 2 mm long; ovary 1.5 mm long; the peduncle 3–4 cm long, subtended by a spathe 12 mm long, from a node below the apex of the ramicaul; *sepals* yellow with rose pubescence, ovate, connate below the middle, 3-veined, the dorsal sepal

acute, 5.5 mm long, 3 mm wide, the lateral sepals oblique, obtuse, 2.5 mm long, 3.75 mm wide; *petals* yellow, thin, concave, subcircular, thickened on the apical margin, 1.3 mm long, 1.3 mm wide, 3-veined; *lip* yellow, subquadrate, 1.5 mm long, 1.4 mm wide, 1.3 mm deep, the apex broadly rounded, thin, concave below a thick, shallowly cleft callus that occupies ca. 75% of the disc, the base truncate, hinged to the base of the column; *column* ca. 1 mm long and wide, the anther and the stigmatic lobes apical.

Etymology: From the Greek *oreibator*, “a mountain climber,” referring to the repent habit.

Additional specimens examined: COLOMBIA. Nariño: near the pass between Pasto and La Cocha, 3000 m, 21 January 1979, *C. Luer & J. Luer 3765, 3768* (SEL).

This robust, repent species is characterized by a thick, branching rhizome that bears single ramicauls as well as pairs or clusters of a few ramicauls, each bearing an elliptical, petiolate leaf and a tall, strict raceme. The sepals are three-veined and yellow with a rose-colored pubescence. The lateral sepals are antrorse, short, oblique and obtuse in contrast to the acute, erect dorsal sepal. The lip is filled with a large, shallowly grooved callus that extends from near the base to the cavity within the rounded apex.

Stelis otara Luer & R.Escobar, *sp. nov.* TYPE: Antioquia: Frontino, Alto de Cuevas, 2050 m, 4 May 1983, *C. Luer, J. Luer, R. Escobar et al. 8961A* (Holotype: SEL). Fig. 33.

This large, densely caespitose species is distinguished by a many-flowered, flexuous, large-flowered raceme that exceeds the leaf; a five-veined dorsal sepal; an ovoid synsepal; proportionately large, three-veined petals; and a suborbicular lip with a thick, rounded apex.

Plant large, epiphytic, densely caespitose; roots slender. Ramicaul erect, slender, 10–14 cm long, with a close, tubular sheath on the middle third, and another 1–2 sheaths below and about the base. *Leaf* erect, coriaceous, elliptical, acute at the tip, 8–10 cm long including a petiole 1.5 cm long, the blade 1.5–2 cm wide in the dry state, cuneate below into the petiole. *Inflorescence* single; 10–20 cm tall, the raceme erect, distichous, flexuous, many-flowered, flowering from near the base; floral bracts oblique, acute, 3–4 mm long; pedicels 3 mm long; ovary 1.5 mm long; the peduncle subnil, subtended by a spathe 6–7 mm long, from a node near the apex of the ramicaul; *sepals* glabrous, the dorsal sepal purple, elliptical, obtuse, 9 mm long, 5 mm wide, 5-veined, the lateral sepals white, light purple along the veins, concave, antrorse, connate less than midway into an imperfect, ovoid synsepal, 7 mm long, each 5 mm wide, 6- to 7-veined; *petals* dark purple, transversely semilunate, 0.75 mm long, 1.75 mm wide, 3-veined, with the apical margin rounded, thickened, and with a transverse callus; *lip* dark purple, suborbicular, 0.75 mm long, 0.8 mm wide, 0.5 mm deep, concave within the broad, rounded apical margin, concave below the basal margin, the base truncate, hinged to the base of the column; *column* ca. 1 mm broad and long, the anther and stigmatic lobes apical.

Etymology: From the Greek *otaros*, “large-eared,” referring to the proportionately large petals.

This large, densely caespitose species is distinguished by

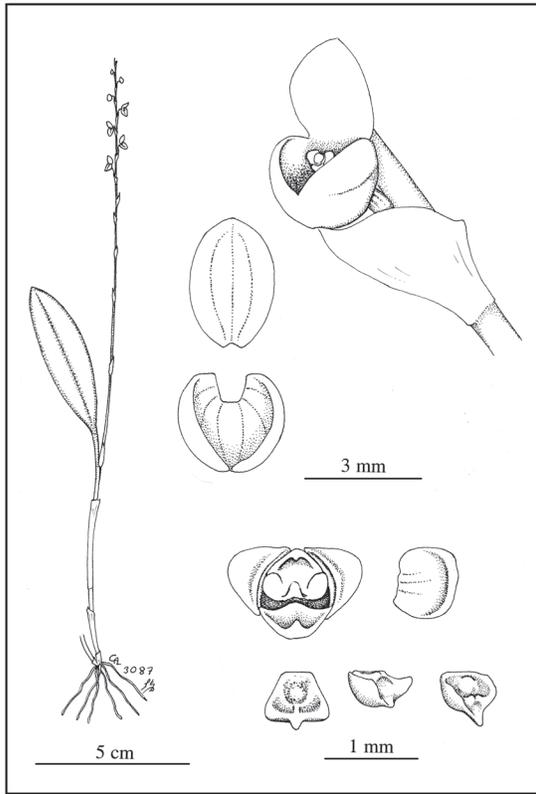


FIGURE 29. *Stelis oblector* Luer & R.Escobar

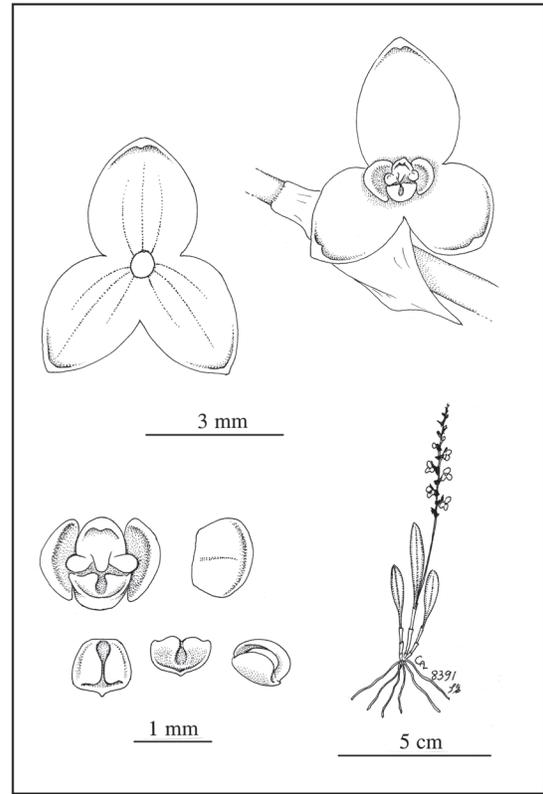


FIGURE 30. *Stelis ocreosa* Luer & R.Escobar

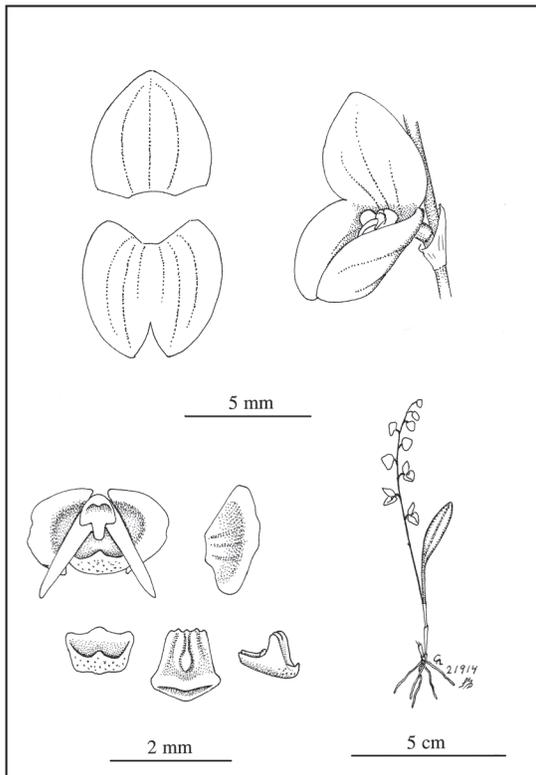


FIGURE 31. *Stelis ophiodontodes* Luer & R.Escobar

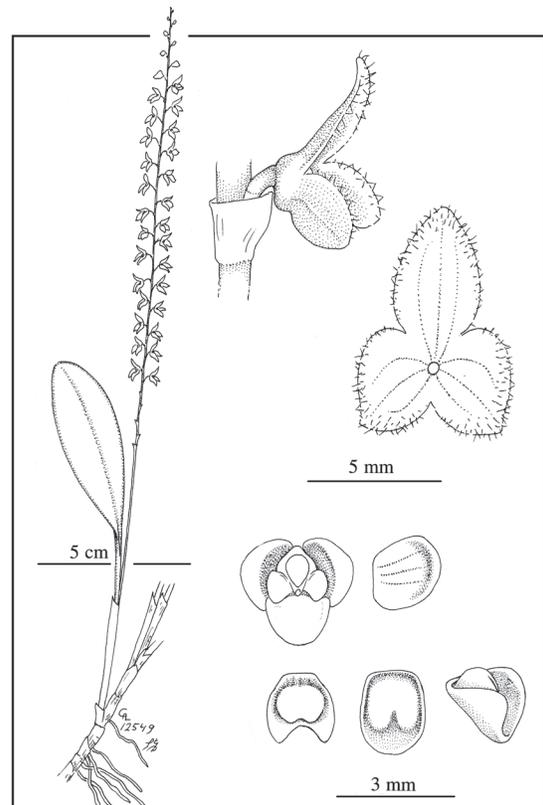


FIGURE 32. *Stelis oreibator* Luer & R.Escobar

a flexuous, many-flowered raceme of large, bilabiate flowers that exceeds an acute, elliptical leaf. The dorsal sepal is five-veined; the partially connate, multiveined lateral sepals are antrorse to form an imperfect synsepal; the petals are thick, three-veined, and proportionately large, dominating the central apparatus. The lip is suborbicular and concave within a broadly rounded apex.

Stelis ozota Luer & R. Escobar, *sp. nov.* TYPE: COLOMBIA. Putumayo: between La Cocha and Sibundoy, 2700 m, 30 July 1978, C. Luer, J. Luer, R. Escobar et al. 3107 (Holotype: SEL). Fig. 34.

This species is distinguished by prolific ramicauls; oblong, obtuse leaves; a many-flowered, subflexuous raceme; three-veined, dark purple flowers with obtuse, three-veined sepals; three-veined petals; and an obovoid, broadly obtuse lip with a thin, shelf-like bar.

Plant medium in size to large, epiphytic, caespitose; roots slender. Ramicauls erect, slender, 5–16 cm long, with a tubular sheath from below the middle, and 1–2 other sheaths below and at the base. *Leaf* erect, coriaceous, oblong, obtuse, 4.5–8 cm long, including a petiole 1–2 cm long, the blade 1.5–2.5 cm wide in dry state, cuneate below into the petiole. *Inflorescence* single; 7–12 cm long, the raceme erect, subflexuous, distichous, simultaneously many-flowered; floral bracts oblique, inflated, acute, acuminate, 3 mm long; pedicels 1.5 mm long; ovary 1.5 mm long; the peduncle 3–4 cm long, from a spathe 1 cm long near the apex of the ramicaul; flowers dark purple; *sepals* expanded, shortly pubescent, ovate, 3-veined, connate above the base, the dorsal sepal, 5 mm long, 6 mm wide, the lateral sepals 4 mm long, 4 mm wide; *petals* transversely ovate, 1 mm long, 2 mm wide, 3-veined, the apex broadly rounded with a thick margin, concave, without a transverse carina; *lip* obovoid, 1.5 mm long, 1.5 mm wide, 1 mm deep, concave below a curved, shelf-like bar slightly below the middle, the apex broadly obtuse with a thin margin, the dorsum smooth, the base truncate, hinged to the base of the column; *column* clavate, ca. 1 mm wide and long, the anther and the bilobed stigma apical.

Etymology: From the Greek *ozotos*, “branched,” referring to the prolific habit.

This species with prolific ramicauls is distinguished by a subflexuous raceme of dark purple flowers that exceeds an oblong, obtuse leaf. The sepals and petals are three-veined. The lip is concave below a thin, transverse bar.

Stelis pachoi Luer & R. Escobar, *sp. nov.* TYPE: COLOMBIA. Antioquia: Altos de Fitzebad, coll. by Pacho Lopez, fl. in cult. at Colomborquídeas, 23 May 1995, C. Luer 17603 (Holotype: MO). Fig. 35.

This medium-sized, caespitose species is distinguished by an erect, subclax, subflexuous many-flowered raceme that exceeds a narrowly elliptical leaf; a five-veined dorsal sepal spread ca. 180° from an eight-veined synsepal; three-veined petals; and a rounded lip with protruding bar and tricallous dorsum.

Plant medium in size, epiphytic, densely caespitose; roots slender. Ramicaul erect, slender, 7–10 cm long, with

a tubular sheath from below the middle, and another 1–2 sheaths below and about the base. *Leaf* erect, coriaceous, elliptical, acute, 10–13 cm long including a petiole 2–3 cm long, the blade 1.2–1.5 cm wide in the dry state, narrowly cuneate below into the petiole. *Inflorescence* 1–2; 12–20 cm tall, the racemes erect, distichous, subclax, subflexuous, many-flowered; floral bracts oblique, acute, 2–4 mm long; pedicels 2 mm long; ovary 1 mm long; the peduncle 3–5 cm long, subtended by a slender spathe ca. 8 mm long, from a node below the apex of the ramicaul; *sepals* glabrous, the dorsal sepal purple, ovate, with the apex obtuse to rounded, 6 mm long, 5 mm wide, 5-veined, the lateral sepals purple with the mid-third light green, connate to the tips into an ovate synsepal, shallowly concave above the middle, 5 mm long, 5 mm wide, unexpanded, 8-veined; *petals* purple, transversely semilunate, 1 mm long, 1.75 mm wide, 3-veined, with the apical margin broadly rounded, thickened, with a transverse carina; *lip* purple, subquadrate, 0.6 mm long, 1 mm wide, 0.75 mm deep, concave below a protruding, shallowly sulcate bar, the apex broadly rounded, the dorsum with a central, hemispherical callus flanked by a smaller calli on either side; the base truncate, hinged to the base of the column; *column* ca. 1 mm broad and long, the anther and stigmatic lobes apical.

Eponymy: Named in honor of Francisco “Pacho” Lopez, curator of orchids at Colomborquídeas, who discovered this species.

This slender, caespitose species is distinguished by one or two subflexuous racemes that eventually surpass narrow leaves. The dorsal sepal spreads about 180° from a synsepal that is concave near the apex. The petals are three-veined, and the apex of the lip is broadly rounded, the bar is protuberant, and a row of three calli is present on the dorsum.

Stelis pachytrix Luer & R. Escobar, *sp. nov.* TYPE: COLOMBIA. Santander: W of Velez, road to Landázuri, 2150 m, 5 May 1984, C. Luer, J. Luer & R. Escobar 10114 (Holotype: MO). Fig. 36.

This species is characterized by an elongated rhizome; ramicauls with loose, tubular sheaths; a many-flowered inflorescence that far exceeds the leaf; broadly ovate, three-veined sepals with a sparse pubescence of long, thick, trichomes; round, three-veined petals; and a rounded lip with a small, central callus.

Plant medium in size, epiphytic, repent, the rhizome stout, to at least 15 cm long, 1–3 cm long between ramicauls. Ramicauls ascending, erect, 4–5 cm long, with a loose, tubular sheath from below the middle, and another sheath at the base. *Leaf* erect, coriaceous, elliptical, acute, 5–6 cm long, 0.8–1.1 cm wide in the dry state, cuneate below into a subpetiolate base. *Inflorescence* single; 12–14 cm long, the raceme erect, subcongested, distichous, many-flowered with several flowers open simultaneously; floral bracts oblique, acute, 2.5 mm long; pedicels 1.5 mm long; ovary 1.5 mm long; the peduncle 3–7 cm long, subtended by a spathe ca. 5 mm long, from a node at the apex of the ramicaul; flowers light yellow; *sepals* glabrous externally, with a sparse pubescence of thick trichomes within, mostly toward the margins, connate below the middle, 3-veined,

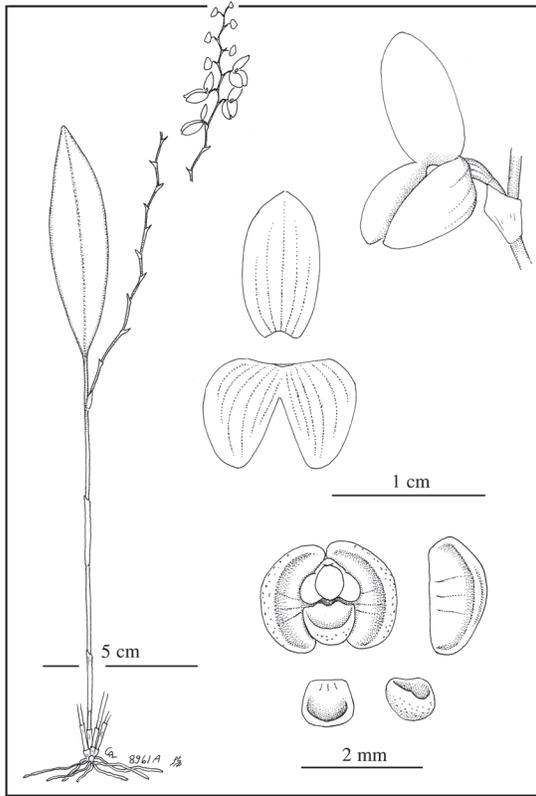


FIGURE 33. *Stelis otara* Luer & R. Escobar

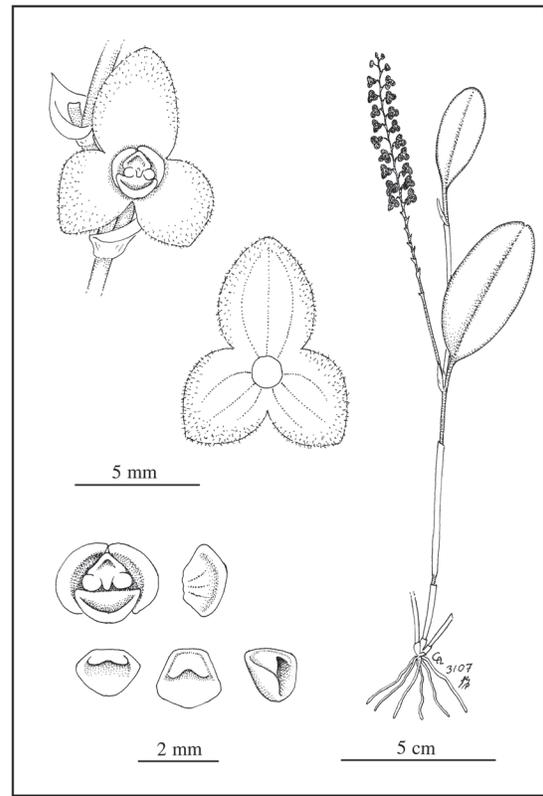


FIGURE 34. *Stelis ozota* Luer & R. Escobar

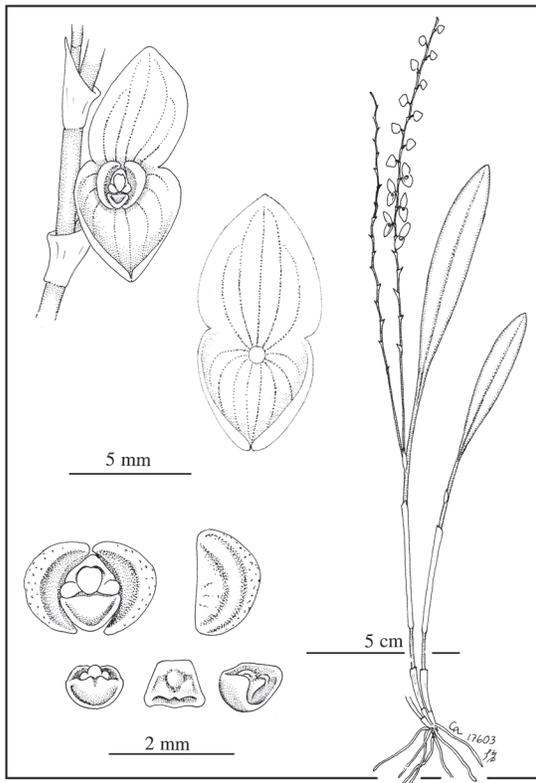


FIGURE 35. *Stelis pachoi* Luer & R. Escobar

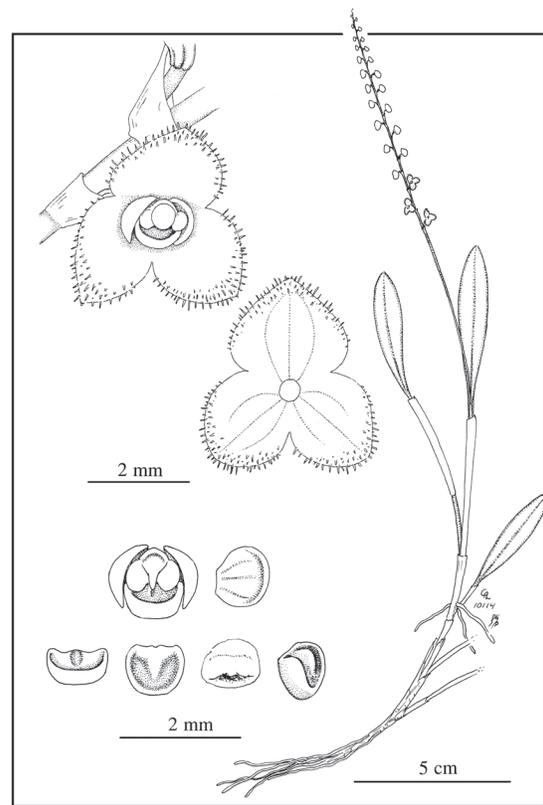


FIGURE 36. *Stelis pachythrix* Luer & R. Escobar

the dorsal sepal transversely ovate, broadly obtuse, 2 mm long, 2.5 mm wide, the lateral sepals broadly ovate, obtuse, subcircular, 2 mm long, 2 mm wide; *petals* thin, subcircular, broadly obtuse, narrowly thickened on the margin, shallowly concave, without a transverse carina, 1 mm long, 1 mm wide, 3-veined; *lip* subhemispherical, 0.75 mm long, 1 mm wide, 0.5 mm deep, shallowly concave below a round bar with an obscure glenion, the apex rounded, concave within a thin margin, the dorsum narrow, featureless, the base broadly truncate, connate to the base of the column; *column* stout, ca. 1 mm long and wide, the anther and the stigmatic lobes apical.

Etymology: From the Greek *pachythrrix*, “thick hair,” referring to the pubescence.

This creeping, climbing species with a long, many-flowered raceme is distinct with a sparse pubescence of conspicuously thick hairs toward the margins of broadly ovate sepals. The petals are thin, circular and three-veined. The lip is a variation of type C, and shallowly concave within a smooth, thin, rounded margin.

Stelis paradoxa Luer & R. Escobar, *sp. nov.* TYPE: COLOMBIA. Antioquia: Betania, Farallones, 2200 m, fl. in cult. by Marta and Oscar Robledo at La Ceja, 19 March 1989, *C. Luer 14263* (Holotype: MO). Fig. 37.

This small, pendent species is characterized by a successively flowered raceme of relatively large, white, pubescent sepals and dark purple petals and lip; five-veined sepals; thick three-veined petals; and a rounded lip.

Plant small, epiphytic, pendent, repent, the rhizome stout, descending, enclosed by loose sheaths, 0.5–1 cm long between ramicauls; roots slender. Ramicauls descending, relatively stout, 1–2 cm long, enclosed by a loose, tubular sheath and another loose sheath at the base. *Leaf* descending, coriaceous, elliptical, obtuse, 2–4 cm long, 1.5–1.8 mm wide, narrowed below to a subpetiolate base. *Inflorescence* single, pendent, 4–7 cm long, the raceme strict, lax, successively flowered with few, non-resupinate flowers open simultaneously; floral bracts oblique, acute, 3 mm long; pedicels 3–5 mm long; ovary 5–7 mm long; the peduncle 1–2 cm long, from a node at the apex of the ramicaul; *sepals* white, widely expanded, microscopically pubescent, ovate, obtuse, connate in lower third, the middle sepal 7 mm long, 7.5 mm wide, 5-veined, the lateral sepals 6 mm long, 7 mm wide, 4-veined; *petals* dark purple, semilunate, 1.5 mm long, 1.9 mm wide, 3-veined, the apex broadly obtuse with a thick margin 1 mm wide; *lip* dark purple, thickly triangular, 1.8 mm long, 1.5 mm wide, 1 mm deep, shallowly concave below a minutely notched bar, smooth, the apex broadly rounded with thickened margins, the dorsum descending, glabrous, slightly concave with the three veins thick and obscure at the base, the base hinged to the base of the column; *column* stout, ca. 1 mm long and wide, the anther and the stigmatic lobes apical.

Etymology: From the Latin *paradoxus*, referring to the strange behavior of the species.

This small, pendent species is similar to *Stelis pendulata* O. Duque, but differs with smaller, elliptical leaves and shorter ramicauls produced along a descending rhizome.

The pendent raceme exceeds the leaf, and bears relatively large flowers with widely spread, white sepals and dark purple petals and lip.

Stelis pollerecta Luer & R. Escobar, *sp. nov.* TYPE: COLOMBIA. Huila: Páramo de Puracé, E of the pass, 3050 m, 14 November 1982, *C. Luer & R. Escobar 8393* (Holotype: SEL) Fig. 38.

This large, repent species, related to *Stelis elongata* Kunth, is distinguished by a secund, simultaneously flowered raceme with proportionately long, erect, dorsal sepals, an inflated synsepal, and a similar, trilobed lip with a long-acuminate tip.

Plant large, epiphytic, repent, the rhizome stout, 1–2 cm long between ramicauls; roots slender. Ramicauls erect, 3–8 cm long, with a tubular sheath from below the middle third, and another 2–3 sheaths below and at the base. *Leaf* erect, coriaceous, elliptical, acute, 8–11 cm long, including a petiole 1.5–2 cm long, the blade 1–1.8 cm wide in the dry state, cuneate below to the petiole. *Inflorescence* solitary; 15–17 long, the raceme erect, secund, many-flowered, with many flowers produced simultaneously; floral bracts oblique, acute, acuminate, 5–7 mm long; pedicels 2 mm long; ovary 1.5–2 mm long; the peduncle 5–7 cm long, from a node near the abscission layer, with a spathe 1 cm long; *sepals* glabrous, the dorsal sepal purple with apex yellow, erect, narrowly obovate, obtuse to rounded at the apex, 8–10 mm long, 3 mm wide, 3-veined, connate basally 2 mm to the synsepal, the lateral sepals yellow, ovate, oblique, obtuse, with recurved tips, adherent to near the tip, 5–6 mm long, 4–6 mm wide, 3-veined; *petals* orange, transversely elliptical, concave, broadly rounded at the apex with the margin thick with numerous, irregular crystals, without a transverse carina, 0.75 mm long, 1 mm wide, 3-veined; *lip* orange, obscurely 3-lobed, 1.5 mm long, 0.5 mm wide, 0.5 mm deep, subquadrate in the basal third with rounded lateral lobes, constricted below the basal third into a narrowly ovate, acute, acuminate, protruding midlobe, the dorsum slightly convex, the base truncate, hinged to the base of the column; *column* semiterete, ca. 0.5 mm long and wide, the anther and the bilobed stigma apical.

Etymology: A literal translation into Latin for “with thumbs up,” *pollicibus erectibus*, “with erect thumbs,” an allusion to the appearance of a column of numerous, erect dorsal sepals.

Paratype: COLOMBIA. Putumayo: between La Cocha and Sibundoy, 2700 m, 30 July–5 August 1978, *C. Luer, J. Luer, R. Escobar et al. 3103* (Holotype: SEL).

This species is the king of the elongata clan, those repent species with a distinctive lip that appear to be variations of a common ancestor. *Stelis pollerecta* is distinguished by large flowers with erect, narrowly obovate dorsal sepals that are aligned in a row in a crowded raceme. The long, narrow dorsal sepal stands above the free but opposed lateral sepals creating a deep bucket-like synsepal; the petals are three-veined with a markedly rough margin, and the long, pointed lip is similar to that of the widely distributed and variable *Stelis elongata* Kunth.

Stelis prionota Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Antioquia: Cerro Padre Amaya, 2400 m, coll. by E. Acevedo, fl. in cult. at Colomborquídeas. 5 May 1993, *C. Luer 16696* (Holotype: MO). Fig. 39.

This caespitose species is distinguished by a narrow, linear-elliptical leaf far surpassed by a crowded, distichous raceme with protruding floral bracts; three-veined sepals concave and connate in their basal thirds; three-veined petals, and a lip concave below a notched bar.

Plant medium to large, epiphytic, densely caespitose, roots slender. *Ramicauls* erect, slender, 5–9 cm long, with a loose, tubular sheath from near the middle, another sheath from above the base, and another at the base. *Leaf* erect, coriaceous, linear-elliptical, subacute, 10–12 cm long including a petiole ca. 1.5 cm long, the blade 0.8–1.2 cm wide in dry state, narrowly cuneate below into the petiole. *Inflorescence* single; to 25 cm long, the raceme erect, congested, strict, distichous, with many flowers open simultaneously; floral bracts oblique, acuminate, acute, 8 mm long below to 5 mm long toward the tip; pedicels 2–3 mm long; ovary 1 mm long; peduncle ca. 10 cm long, from a node near the apex of the ramicaul; *sepals* greenish-white, minutely pubescent, rigid, ovate, obtuse, concave and connate in basal third, 3-veined, the dorsal sepal 3 mm long, 3.5 mm wide, the lateral sepals 3 mm long, 4 mm wide; *petals* purple, transversely ovate, concave below the broadly obtuse, thickened and minutely verrucose apical margin, 1.25 mm long, 1.5 mm wide, 3-veined; *lip* purple, subhemispherical with the apex rounded, 1.8 mm long, 1.8 mm wide, 1.6 mm deep, concave and smooth below a thin, deeply notched bar, the dorsum smooth, connate to the base of the column; *column* stout, ca. 1 mm long and wide, the anther and the stigmatic lobes apical.

Etymology: From the Greek *prionotos*, “jagged like a saw,” referring to the floral bracts in the raceme.

Paratype: COLOMBIA. Putumayo: Valley of Sibundoy, Sibundoy, 2225–2300 m, 29 May 1946, *R.E. Schultes & M. Villarreal 7685* (AMES), *C. Luer* illustr. 21958.

This caespitose species is distinguished by an elongated, distichous raceme that far surpasses narrow, linear-elliptical, subacute leaves. Acuminate floral bracts protrude on both sides beyond the flowers. The sepals are obtuse and connate in their basal thirds to create a cavity for the central apparatus. The petals are small and three-veined. The lip is subhemispherical and deeply concave below a transverse, notched bar.

Stelis radicans Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Cauca: Páramo de Las Delicias, 3250 m, 17 November 1982, *C. Luer & R. Escobar 8469* (Holotype: SEL). Fig. 40.

This medium-sized, ascending species is distinguished by a more or less erect, thick rhizome with numerous roots; erect ramicauls with acute, narrowly elliptical leaves; subacute sepals; three-veined petals; and a subquadrate lip with a flat, nonconcave, anterior surface, and a hemispherical callus on the dorsum.

Plant medium-sized, epiphytic, ascending-repent, the rhizome erect, stout, ca. 4 mm thick, roots numerous,

ramicauls adjacent to 1 cm apart. Ramicauls erect, slender, 5–6 cm long, enclosed by a close, tubular sheath from below the middle and another 1–2 sheaths below and at the base. *Leaf* erect, coriaceous, narrowly elliptical, acute, 7–9 cm long including the petiole ca. 2 cm long, the blade 1–1.2 cm wide dry, narrowly cuneate below into the petiole. *Inflorescence* 1–2; 4–5 cm. tall, the racemes erect, congested, distichous, many-flowered, with many flowers open simultaneously; floral bracts oblique, acute, 3 mm long; pedicels 1.5 mm long; ovary 1.5 mm long; the peduncle ca. 1 cm long, from a node below the apex of the ramicaul; flowers purple; *sepals* similar, diffusely cellular, broadly ovate, subacute, connate in lower quarter, 3.5 mm long, 3.5 mm wide, 3-veined; *petals* transversely elliptical, the apex broadly rounded with a thickened margin, 1 mm long, 1.25 mm wide, 3-veined, with a transverse carina; *lip* thick, subquadrate, 0.75 mm long, 1 mm wide, 0.6 mm deep, the bar thick between obtuse, marginal angles, the anterior surface smooth without a glenion, the apex broadly obtuse with an erect margin against the smooth surface, the dorsum with a central, hemispherical callus, the base truncate, hinged to the base of the column; *column* stout, ca. 1 mm long and wide, with the rostellum elongated, the anther and the bilobed stigma apical.

Etymology: From the Latin *radicans*, “producing roots,” referring to the rhizome with roots.

This species is distinguished by a thick, more or less erect rhizome with numerous roots; slender, erect ramicauls with acute, narrowly elliptical leaves; one or two, distichous racemes slightly shorter than the leaf; and three-veined sepals and petals. The lip is an unusual variation of type A without being concave below the bar. The anterior surface is smooth without a glenion, but with a rounded callus on the dorsum.

Stelis rectangularis Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Antioquia: Frontino, near airport below El Plateado, 1820 m, 3 May 1983, *C. Luer, J. Luer, R. Escobar et al. 9052* (Holotype: SEL). Fig 41.

This large, caespitose species is distinguished by long, distichous racemes with nutant flowers; ovate, subacute, pubescent sepals; three-veined petals with a right-angled apex; and a lip with a deep glenion, and a right-angled apex.

Plant large, epiphytic, densely caespitose; roots slender. Ramicauls erect, slender, 4–8 cm long, with a close tubular sheath above the middle and another 1–2 sheaths below and about the base. *Leaf* erect, coriaceous, elliptical, subacute, 7–12 cm long including a petiole 1.5 cm long, the blade 1.5–2 cm wide in dry state, cuneate below into the petiole. *Inflorescence* 2–3; 12–14 cm tall, the racemes erect, strict, subcongested, distichous, with many simultaneous, nutant flowers; floral bracts oblique, acute, 3 mm long; pedicels 2 mm long; ovary 1 mm long; the peduncle ca. 3 cm long, from a node near the apex of the ramicaul, with a slender spathe 8 mm long; flowers yellow; *sepals* pubescent, ovate, subacute, connate near the base, 3-veined, the dorsal sepal 3.5–4 mm long, 2 wide, the lateral sepals antrorse, 3.5 mm long, 2 mm wide; *petals* transversely ovate to triangular, 0.6 mm long, 1 mm wide, 3-veined, concave, the apex

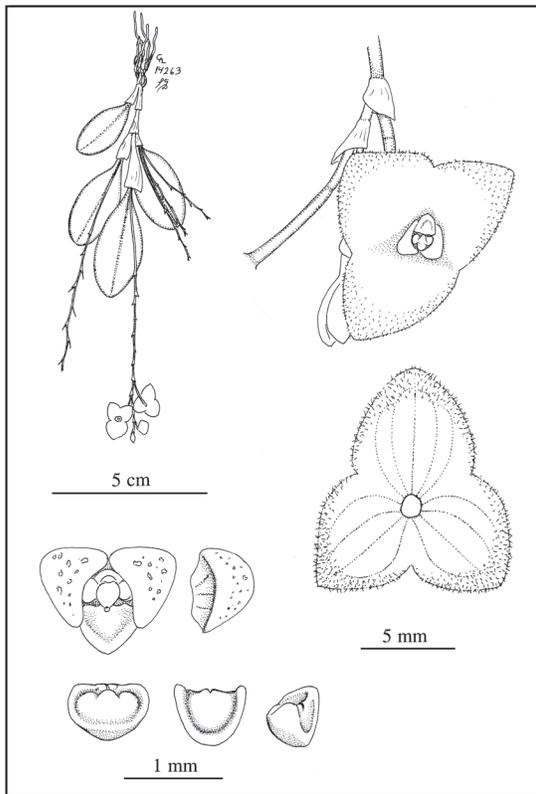


FIGURE 37. *Stelis paradoxa* Luer & R. Escobar

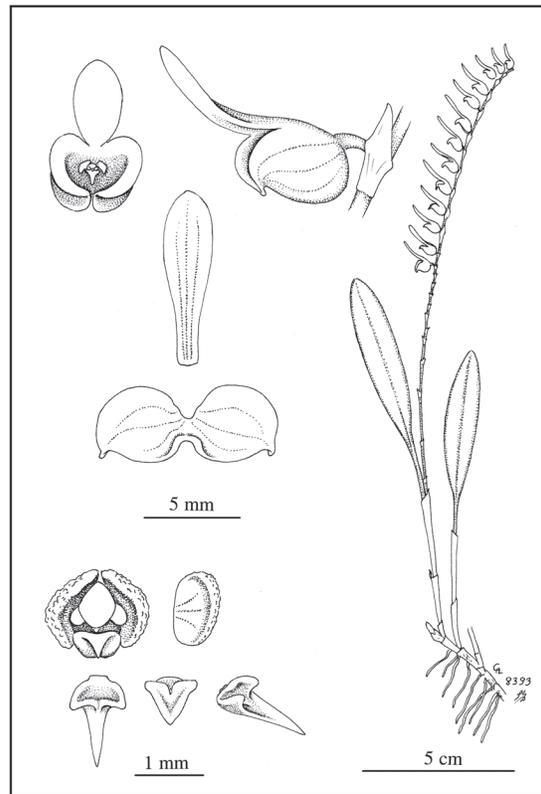


FIGURE 38. *Stelis pollerecta* Luer & R. Escobar

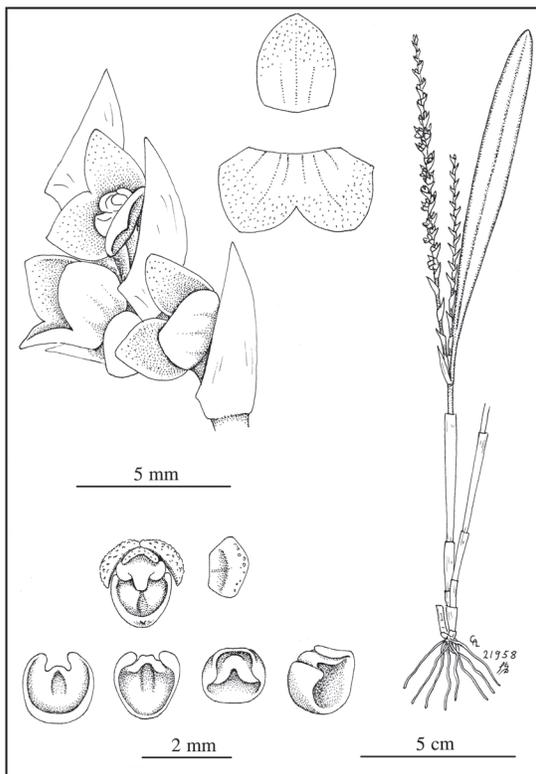


FIGURE 39. *Stelis prionota* Luer & R. Escobar

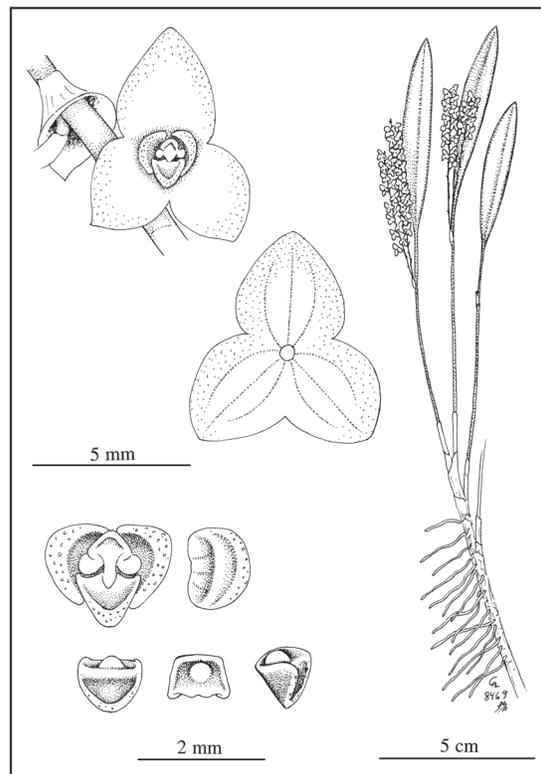


FIGURE 40. *Stelis radicans* Luer & R. Escobar

subacute or right-angled, with the margin thickened, with an indistinct transverse carina; *lip* subquadrate, 0.8 mm long, 0.8 mm wide, 0.6 mm deep, shallowly concave below the bar with a deep glenion, the apex subacute or right-angled, the dorsum slightly and widely convex, the base truncate, hinged to the base of the column; *column* clavate, ca. 0.8 mm long and wide, the anther and the stigmatic lobes apical.

Etymology: From the Latin *rectangularis*, "with right angles," referring to the 90 degree angle of the tips of the petals and lip.

This large, caespitose species is distinguished by two or three long racemes of nutant flowers. The sepals are pubescent with the lateral sepals antrorse. Most distinctive are the right-angled apices of both petals and lip.

Stelis silvestris Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Nariño: forest surrounding the crater lake, E slope of Volcán Galeras, 3200 m, 21 January 1979, C. Luer, J. Luer & R. Escobar 3706 (Holotype: SEL). Fig. 42.

This small, long-repent species is similar to *Stelis scansor* Rchb.f., but differs with a very slender rhizome with ramicauls spaced farther apart; an inflorescence twice longer than an elliptical leaf; larger, nodding flowers; and a lip with a single, central callus.

Plant small, epiphytic, scandent, long-repent, the rhizome very slender, 2–3 cm between ramicauls; roots slender, sparse. Ramicauls ascending, slender, 1.5–3 cm long, enclosed by a 2 tubular sheaths and another at the base. *Leaf* erect, coriaceous, elliptical, subacute to rounded at the tip, 2–3.5 cm long including the petiole 0.5–0.7 cm long, the blade 0.8–1 cm wide in the dry state, cuneate below into the petiole. *Inflorescence* single; 5–10 cm long, the raceme erect, lax, secund, many-flowered with several, downward-facing flowers open simultaneously; floral bracts oblique, acute, 3 mm long; pedicels 3 mm long; ovary 1.5 mm long; the peduncle 2.5–4 cm long, subtended by a spathe 3 mm long, from a node below the apex of the ramicaul; flowers green, suffused and minutely dotted with purple, nutant; *sepals* glabrous, three-veined, connate above the base, the dorsal sepal ovate, acute to subacute, 3 mm long, 2.5 mm wide, the lateral sepals broadly ovate, oblique, obtuse, 2.5 mm long, 2.6 mm wide; *petals* broadly ovate, obtuse, with a narrowly thickened margin, 1.6 mm long, 1.6 mm wide, 3-veined, without transverse carina; *lip* ovate, obtuse to subacute, 1.6 mm long, 1.3 mm wide, 1 mm deep, concave below the bar modified into a central, erect, subquadrate callus, the base truncate, hinged to the base of the column; *column* stout, 1.3 mm long and wide, the anther and the bilobed stigma apical.

Etymology: From the Latin *silvestris*, "of the forest," referring to the habitat.

This apparently uncommon, little species is similar to the relatively frequent and widely distributed *Stelis scansor* Rchb.f. *Stelis silvestris* is distinguished by a slender, long-repent rhizome, with elliptical, obtuse leaves that are surpassed by an erect, loosely flowered raceme with larger flowers facing downward. The sepals and the petals are three-veined; and the lip is ovate and shallowly concave with a central, erect, subquadrate callus.

Stelis stipitata Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Antioquia: NE of La Ceja, 2400 m, 29 April 1983, C. Luer, J. Luer, R.Escobar et al. 8856 (Holotype: SEL). Fig. 43.

This large species with long, slender ramicauls produced in a dense fascicle is characterized by one or two congested, small-flowered racemes that exceed the leaf; ovate, shortly pubescent sepals; three-veined petals; and a subquadrate lip with a small, obtuse apiculum at the truncate apex.

Plant large, epiphytic, densely caespitose; roots slender, numerous. Ramicaul erect, slender, 7–14 cm long, produced in tight clusters, with a close, tubular sheath from near the middle and another 1–2 sheaths below and about the base. *Leaf* erect, coriaceous, elliptical, acute, 6–10 cm long including a petiole ca. 1 cm long, the blade 1.2–1.6 cm wide in the dry state, cuneate below into the petiole. *Inflorescence* 1–2; 7–15 cm long, the racemes erect, strict, distichous, densely and simultaneously many-flowered with many flowers open simultaneously; floral bracts oblique, obtuse, 2 mm long; pedicels 1.5 mm long; ovary 1 mm long; the peduncle 2–3 cm long, subtended by a slender spathe ca. 1 cm long, from a node below the apex of the ramicaul; flowers purple; *sepals* shortly pubescent, ovate, subacute, 3-veined, connate below the middle, the dorsal sepal 2 mm long, 2 mm wide, the lateral sepals 1.75 mm long, 2 mm wide; *petals* transversely elliptical, 0.75 mm long, 1 mm wide, 3-veined, concave, obtuse with the margin thickened, without an obvious transverse callus; *lip* subquadrate, 1 mm long, 0.8 mm wide, 0.5 mm deep, concave below a shallowly sulcate bar with a glenion, the apex subtruncate, with a short, obtuse, triangular apiculum, the dorsum slightly convex, minutely pubescent; the base truncate, hinged to the base of the column; *column* ca. 1 mm broad and long, the anther and stigmatic lobes apical.

Etymology: From the Latin *stipitatus*, "crowded together," referring to fasciculate ramicauls.

This tall, slender species is densely caespitose, the slender ramicauls growing in a tight cluster. The acute, elliptical leaves are exceeded by one or two densely many-flowered racemes with small flowers. The sepals are shortly pubescent, the petals are three-veined, and the lip is type A with a small, obtuse apiculum and with the dorsum minutely pubescent.

Stelis straminea Luer & R.Escobar, *sp. nov.* TYPE: COLOMBIA. Cauca: Páramo de Las Delicias, 3380 m, 17 November 1982, C. Luer & R. Escobar 8477 (Holotype: SEL). Fig. 44.

This species is characterized by proliferating, stoloniferous ramicauls; elliptical leaves exceeded by a multi-flowered raceme; ovate, obtuse sepals; single-veined petals; and an obtuse, ovoid lip concave below a retuse, fleshy bar.

Plant large, epiphytic, densely caespitose, producing stolons, roots slender. Ramicauls erect, slender, 15–20 cm below to 0–5 cm long above, with 1–2 close, tubular sheaths below and at the base. *Leaf* erect, coriaceous, acute, narrowly elliptical, 6–7 cm long including a petiole, 1.5 cm long, the

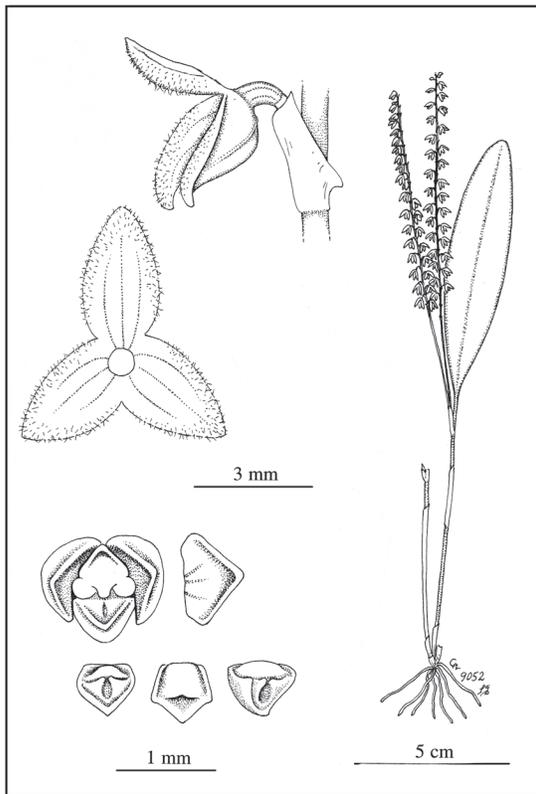


FIGURE 41. *Stelis rectangularis* Luer & R. Escobar

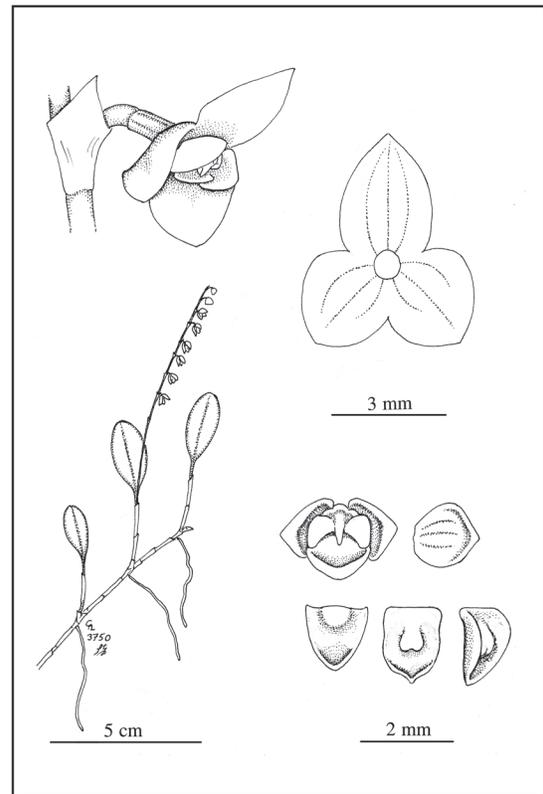


FIGURE 42. *Stelis silvestris* Luer & R. Escobar

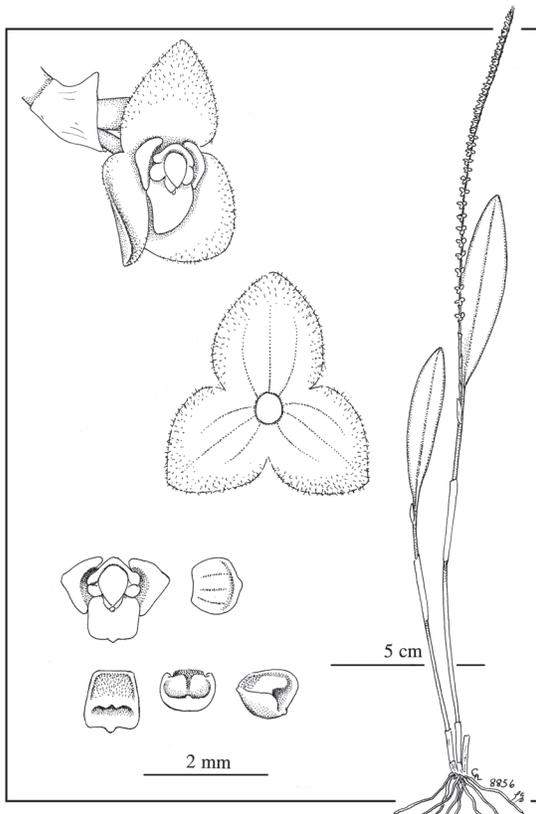


FIGURE 43. *Stelis stipitata* Luer & R. Escobar

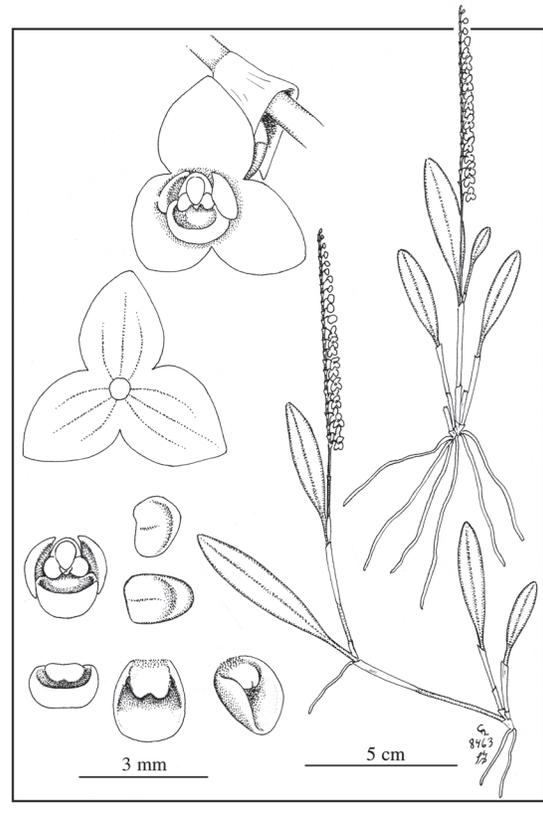


FIGURE 44. *Stelis straminea* Luer & R. Escobar

blade 1–1.3 cm wide in the dry state, cuneate below into the petiole. *Inflorescence* single; 8–12 cm long, the raceme erect, congested, distichous, many-flowered with many flowers open simultaneously; floral bracts oblique, acute 3 mm long; pedicels 2 mm long; ovary 1.5 mm long; the peduncle 3–4 cm long, subtended by a spathe 5–7 cm long, from a node below the apex of the ramicaul; *sepals* yellow, brown toward the base, glabrous, ovate, obtuse, 3-veined, connate below the middle, 3-veined, the dorsal sepal 2.75 mm long, 2.75 mm wide, the lateral sepals 2.5 mm long, 2.3 mm wide; *petals* yellow, subcircular, thin, concave, 1 mm long, 1.1 mm wide, 1-veined, without a transverse carina; *lip* yellow, ovoid, obtuse, concave below a thick, shallowly cleft bar, the dorsum slightly convex, the base truncate, connate to the base of the column; *column* stout, ca. 1 mm long and wide, the anther and the stigmatic lobes apical.

Etymology: From the Latin *stramineus*, “like straw,” referring to the bundles of proliferating ramicauls.

Paratypes: COLOMBIA. Cauca: Páramo de Las Delicias, 3380 m, 17 November 1982, *C. Luer & R. Escobar 8463, 8479* (SEL).

This species has densely caespitose components as well as stolons, but mostly propagating ramicauls that sometimes accumulate into elongated clusters, like a bundle of straw. A raceme exceeds the leaf about twice the length; the sepals are ovate, obtuse and three-veined; and the petals are rounded and single-veined. The lip is ovoid and concave below a thick, retuse bar.

Stelis sublesta Luer & R. Escobar, *sp. nov.* TYPE: COLOMBIA. Putumayo: between La Cocha and Sibundoy, ca. 2700 m, 30 July 1978, *C. Luer, J. Luer, R. Escobar et al 3085* (Holotype: SEL). Fig. 45.

This little species is characterized by an elongated, many-flowered raceme with a peduncle exceeding an elliptical leaf; ovate, obtuse, three-veined sepals; proportionally large, single-veined petals; and an obtuse, ovoid lip concave below a thick, sulcate bar.

Plant small, epiphytic, densely caespitose; roots slender. Ramicauls erect, slender, 1–2.5 cm long, with a tubular sheath from below the middle and another sheath at the base. *Leaf* erect, coriaceous, elliptical, obtuse to narrowly rounded at the apex, 2–3 cm long including a petiole, 4–5 mm long, the blade 0.7–1 cm wide in the dry state, cuneate below into the petiole. *Inflorescence* single; 12–15 cm long, the raceme erect, congested, distichous, many-flowered with many flowers open simultaneously; floral bracts oblique, acute 3 mm long; pedicels 2 mm long; ovary 1.5 mm long; the peduncle 4–6 cm long, subtended by a spathe 5 mm long, from a node below the apex of the ramicaul; flowers tan; *sepals* glabrous, ovate, obtuse, 3-veined, connate below the middle, the dorsal sepal 2.5 mm long, 2 mm wide, the lateral sepals 2 mm long, 1.5 mm wide; *petals* transversely elliptical, 0.6 mm long, 0.9 mm wide, 1-veined, thin, concave, the apex rounded with a narrowly thickened margin, without a transverse carina; *lip* ovoid, 0.6 mm long, 0.6 mm wide, 0.4 mm deep, concave below a thick, sulcate bar, the apex subtruncate with a slightly acuminate tip, the dorsum convex, shallowly channeled, the base truncate,

connate to the base of the column; *column* stout, ca. 0.7 mm long and wide, the anther and the stigmatic lobes apical.

Etymology: From the Latin *sublestus*, “slight, trivial,” referring to the small habit similar to many others.

This small, caespitose species is distinguished by an elongated, many-flowered raceme with the peduncle longer than the elliptical leaf. Except for being about twice larger, the obtuse, three-veined sepals and the single-veined petals are similar to those of *Stelis pusilla* Kunth. The lip is also a type A with a thick, sulcate bar.

Stelis tauroculus Luer & R. Escobar, *sp. nov.* TYPE: COLOMBIA. Putumayo: E of the pass E of San Francisco toward Mocoa, 2350 m, 27 Jan. 1987, *C. Luer, J. Luer, R. Escobar et al. 12541* (Holotype: MO). Fig. 46.

This small species is distinguished by a crowded raceme of medium-sized flowers that are dull gray within, but with bright purple petals and lip like the bullseye of a target; an elliptical leaf about as long as the inflorescence; obtuse, three-veined sepals; three-veined petals; and an ovoid lip with a bigibbous bar.

Plant small, epiphytic, densely caespitose; roots slender. Ramicauls erect, slender, 4–7 cm long, with a close, tubular sheath from below the middle and another 1–2 sheaths below and at the base. *Leaf* erect, coriaceous, elliptical, acute, 7–8 cm long including a petiole 1.5 mm long, the blade 1–1.3 cm wide in the dry state, cuneate below into the petiole. *Inflorescence* single; 7–8 cm long, the raceme erect, congested, many-flowered in two rows, with many flowers open simultaneously; floral bracts oblique, inflated, obtuse, 3 mm long, 2 mm wide; pedicels 2 mm long; ovary 1 mm long; the peduncle ca. 2 cm long, subtended by a spathe 5–7 mm long, from a node below the apex of the ramicaul; *sepals* glabrous, purple externally, dull gray within, broadly ovate, obtuse, 3-veined, connate to near the middle, the dorsal sepal 3.5 mm long, 3.3 mm wide, the lateral sepals 2.5 mm long, 2.2 mm wide; *petals* bright purple, transversely elliptical, 0.8 mm long, 1.4 mm wide, 3-veined, thin, concave, the apex broadly rounded with a narrowly thickened margin, without a transverse carina; *lip* ovoid, 0.6 mm long, 0.8 mm wide, 0.5 mm deep, concave below a thick, bigibbous bar, the apex rounded, the base truncate, connate to the base of the column; *column* stout, ca. 0.8 mm long and wide, the anther and the stigmatic lobes apical.

Etymology: From the Latin *tauroculus*, “a bull’s eye,” referring to the bright color of the central apparatus, probably the target of a pollinator.

This small, caespitose species is distinguished by the bright purple central apparatus in the center of a dull gray flower. The flowers are produced in two crowded, opposite-facing rows in a raceme that equals an elliptical leaf; the sepals are broadly obtuse; the petals are three-veined; and the bar of the lip is bigibbous without a glenion.

Stelis titanica Luer & R. Escobar, *sp. nov.* TYPE: COLOMBIA. Antioquia: Yarumal, road to El Cedro, 1850 m, 15 March 1989, *C. Luer, J. Luer, S. Dalström & W. Teague 14172* (Holotype: MO). Fig. 47.

This immense, caespitose species is similar to the Ecuadorian *Stelis maxima* Lindl., but with leaves about twice as long; ramicauls not prolific; and thick, five-veined petals.

Plant very large, epiphytic, densely caespitose, roots slender. Ramicauls erect, stout, 10–28 cm long, with a tubular sheath from below the middle and 1–2 sheaths below and at the base. *Leaf* erect, coriaceous, elliptical, subacute, petiolate, 15–17 cm long including a petiole 3 cm long, the blade 2.5–3.5 cm wide in dry state, cuneate below into the petiole. *Inflorescence* single; 25–30 cm long, the raceme erect, strict, lax, distichous, many-flowered; floral bracts oblique, acute, more or less undulating, 10 mm long to 5 mm long toward the tip; pedicels 4–5 mm long; ovary 4 mm long; the peduncle ca. 10 cm long, from a node below the apex of the ramicaul with a spathe 1.5 cm long; *sepals* light purple, glabrous, the dorsal sepal ovate-triangular, acute, 11-veined, connate basally, 11 mm long, 9 mm wide, the lateral sepals connate to the tip into an ovoid, concave synsepal, 9 mm long, 10 mm wide unexpanded, 12-veined; *petals* purple, transversely elliptical, the apical margin thick, the apex broadly rounded, concave below a transverse carina, 1.5 mm long, 2.5 mm wide, 5-veined; *lip* purple, subquadrate, 1 mm long, 1.5 mm wide, 1 mm deep, concave below the bar with a narrow glenion, the apex rounded with thickened margin, the dorsum convex, the base truncate, hinged to the base of the column; *column* clavate, 1.5 mm wide and long, the anther and the bilobed stigma apical.

Eponymy: From the Greek *titanicos*, “belonging to the Titans,” referring to the huge size.

This robust species, one of the largest in the genus, is distinguished by long, stout, nonprolific ramicauls and a large, elliptical, petiolate leaf, often accompanied by fragments of older ramicauls. The long, more or less undulating floral bracts are similar to those of *Stelis purpurea* (Ruiz & Pav.) Willd. Except for the petals, the flowers are similar to those of *Stelis maxima* Lindl. The veins of the dorsal sepal of *S. maxima* originate at the base, while those of *S. titanica* originate by branching. Instead of three veins in the petals, five, strong veins are present.

Stelis torulosa Luer & R. Escobar, *sp. nov.* TYPE: COLOMBIA. Antioquia: Yarumal, near Yarumalito, NE of Santa Rosa, 2350 m, 15 May 1985, C. Luer, R. Escobar & E. Valencia 11390 (Holotype: MO). Fig. 48.

This medium-sized, caespitose species is characterized one or two racemes slightly shorter than an acute, narrowly elliptical leaf; broadly ovate, three-veined, minutely pubescent sepals; three-veined petals; and an ovoid, projecting callus on the dorsum of the lip.

Plant medium-sized, epiphytic densely caespitose, roots slender. Ramicauls erect, slender, 4–6.5 cm long, with a close, tubular sheath from below the middle and 1–2 sheaths below and at the base. *Leaf* erect, coriaceous, narrowly elliptical, acute, petiolate, 7–10 cm long including a petiole 1–2 cm long, the blade 0.6–1.1 cm wide in dry state, cuneate below into the petiole. *Inflorescence* 1–2; 5–7 cm tall, the raceme erect, strict, congested, distichous, many-flowered; floral bracts oblique, acute, 1.5 mm long; pedicels 1 mm

long; ovary 1.5 mm long; the peduncle ca. 1 cm long, from a node from near the apex of the ramicaul; flowers purple; *sepals* expanded, minutely pubescent, broadly ovate, obtuse, 3-veined, connate below the middle, the dorsal sepal 2.5 mm long, 3 mm wide, the lateral sepals 2 mm long, 2.5 mm wide; *petals* transversely ovate, round at the apex with the inferior angle acuminate, concave, thickened on the margin, with a transverse carina, 1 mm long, 2.25 mm wide, 3-veined; *lip* subquadrate, 0.75 mm long, 1 mm wide, 0.75 mm deep, concave below a thick bar, the apex obtuse, thickened, the dorsum with a thick, ovoid callus that extends from the base to projecting over the bar, the base truncate, hinged to the base of the column; *column* clavate, ca. 1 mm wide and long, the anther and the bilobed stigma apical.

Etymology: From the Latin *torulus*, “a little, projecting knob,” referring to the callus on the dorsum of the lip.

This caespitose species is characterized by very slender ramicauls with acute, narrow, petiolate leaves and one or two racemes nearly as long. The sepals and petals are three-veined. The lip is a modified type A with an ovoid callus that extends from the base to projecting over the bar.

Stelis trifoliacea Luer & R. Escobar, *sp. nov.* TYPE: COLOMBIA. Chocó: Alto de Baudo, 400 m, fl. in cult. by A. de Wilde above Pereira, 15 May 1993, A. de Wilde 3877 (Holotype: MO), C. Luer illustr. 16853. Fig. 49.

This small, caespitose species bears a congested raceme of flowers with three subcircular, three-veined sepals resembling a clover; three-veined petals; and a lip with a rounded callus curving from the base to the apex.

Plant small, epiphytic, densely caespitose; roots slender. Ramicauls erect, slender, 2.5 cm long, with a tubular sheath from below the middle third, and another sheath below and at the base. *Leaf* erect, coriaceous, elliptical, acute, 6.5 cm long including a petiole ca. 1 cm long, the blade 1.2 cm wide in dry state, cuneate below into the petiole. *Inflorescence* single; 9 cm long, the raceme erect, distichous, congested, mostly simultaneously many-flowered; floral bracts oblique, acute, 1.5 mm long; pedicels 1.5 mm long; ovary 1 mm long; the peduncle ca. 3 cm long, from a node below the abscission layer; *sepals* light yellow, minutely short-pubescent, expanded, transversely ovate, or subcircular, broadly obtuse, 3-veined, connate in basal third, the dorsal sepal 2.5 mm long, 3.5 mm wide, the lateral sepals 2.25 mm long, 3 mm wide; *petals* yellow, transversely ovate, concave, the broadly obtuse apex thickened, 1.2 mm long, 1.8 mm wide, 3-veined; *lip* yellow with purple margin, type C, subquadrate, with apex rounded, 0.8 mm wide, 0.6 mm long, 0.6 mm deep, shallowly concave within the margins surrounding an elevated, rounded callus that begins at the base, then curves forward and downward to within the apex, the base hinged to the base of the column; *column* clavate, ca. 0.8 mm wide and long, the anther and stigmatic lobes apical.

Etymology: From the Latin *trifoliaceus*, “like a clover, or a trifolium,” referring to the three, subcircular sepals.

This small, densely caespitose species occurs at a low altitude in western, coastal Colombia. It is characterized by an acute, elliptical leaf surpassed by a congested, many-

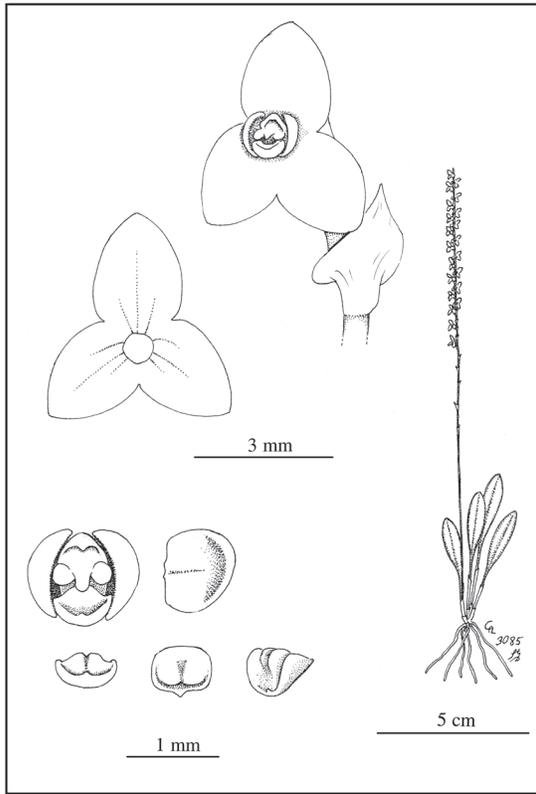


FIGURE 45. *Stelis sublesta* Luer & R. Escobar

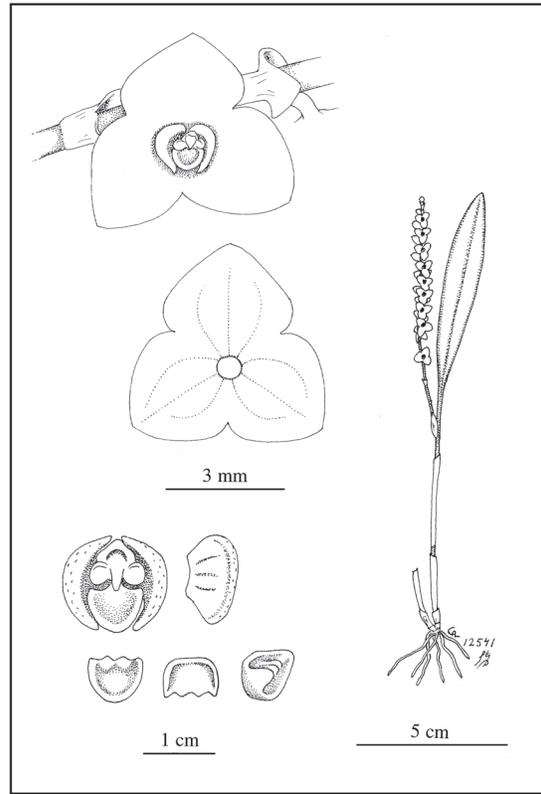


FIGURE 46. *Stelis tauroculosa* Luer & R. Escobar

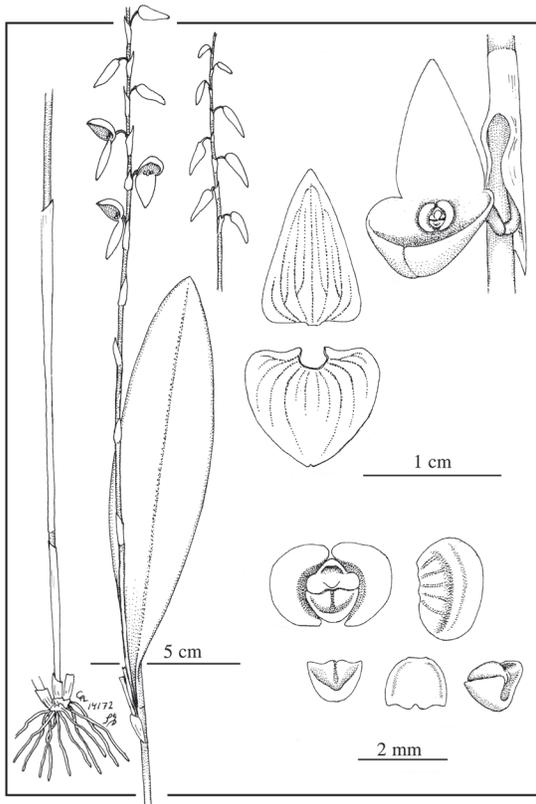


FIGURE 47. *Stelis titanica* Luer & R. Escobar

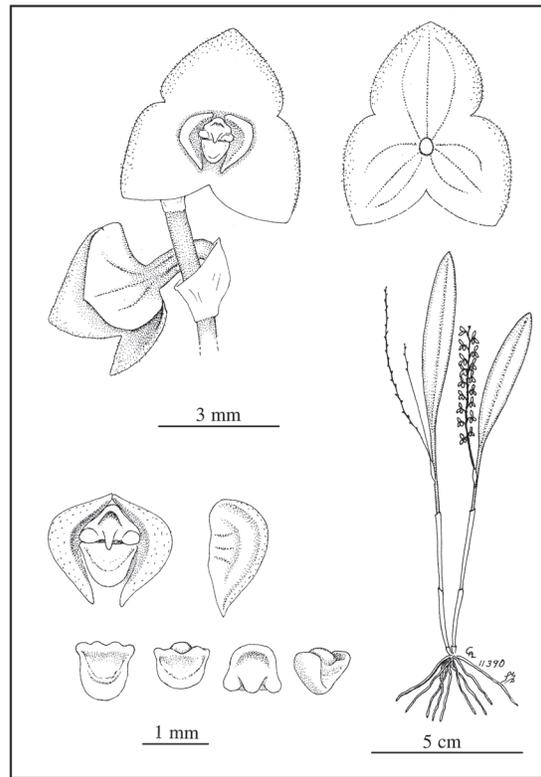


FIGURE 48. *Stelis torulosa* Luer & R. Escobar

flowered raceme of flowers with rounded sepals, reminiscent of the three leaves of clover. The lip is most distinctive with a rounded, elevated callus (a modified bar) that extends from the base and curving forward and downward to the apex, a type C similar to that of *Stelis argentata* Lindl., but without an apiculum.

Stelis trochophora Luer & R. Escobar, *sp. nov.* TYPE: COLOMBIA. Santander: Bucaramanga, between Bucaramanga and Berlin, 2800 m, 27 April 1982, *C. Luer, J. Luer & R. Escobar 7583* (Holotype: SEL). Fig. 50.

This densely caespitose species with ovate, minutely pubescent sepals is distinguished by a hemispherical callus on the anterior surface of the lip.

Plant medium to large, epiphytic, densely ascending-caespitose, roots slender. Ramicauls erect, slender, 6–12 cm long, with a tubular sheath on the middle third, and another sheath below and at the base. *Leaf* erect, coriaceous, elliptical, acute, 8–11 cm long including a petiole 1.5 cm long, the blade 1.5–2.5 cm wide in the dry state, cuneate below into the petiole. *Inflorescence* 10–12 cm long, the raceme erect or arching, secund, mostly simultaneously many-flowered, the peduncle ca. 3 cm long, from a node below the abscission layer; floral bracts dilated, obtuse, 2 mm long, 2 mm wide; pedicels 1 mm long; ovary 1 mm long; *sepals* light green, suffused with purple along the veins, minutely short-pubescent, expanded, ovate, slightly convex, 3-veined, connate below the middle, 4 mm long, 4 mm wide, the dorsal sepal acute with the tip rounded, the lateral sepals obtuse; *petals* green, transversely ovate, concave, the broadly obtuse apex thickened, 1 mm long, 1.5 mm wide, 3-veined; *lip* green, subquadrate, 1 mm wide, 0.75 mm long, 0.5 mm deep, concave within the rounded apex, the bar elevated, shallowly channeled, with a spherical callus on the anterior surface, the dorsum descending, featureless, hinged to the base of the column; *column* clavate, ca. 1 mm wide and long, the anther and stigmatic lobes apical.

Etymology: From the Greek *trochophorus*, “ball bearing,” referring to the callus of the lip.

This densely caespitose-ascending species is characterized by a many-flowered, secund raceme that barely surpasses an acute, elliptical leaf borne by a slender ramicaul. The sepals are ovate and minutely pubescent; the petals are three-veined; and on the anterior surface of the minute, subquadrate lip is a central, orbicular callus.

Stelis tsubotae Luer & R. Escobar, *sp. nov.* TYPE: COLOMBIA. Risaralda: without locality, possibly collected near Pereira, fl. in cult. by Tsubota, 15 May 1993, *C. Luer 16859* (Holotype: MO). Fig. 51.

This large species is characterized by stout ramicauls; obtuse, elliptical leaves surpassed by a many-flowered raceme; an acute, three-veined dorsal sepal; obtuse lateral sepals; three-veined petals; and a thick, obtuse lip with a cleft bar and glenion.

Plant large, epiphytic, densely caespitose. Ramicauls erect, stout, 6–7 cm long, with a loose tubular sheath from below the middle, another two sheaths below and at the base. *Leaf* erect, coriaceous, elliptical, obtuse to rounded at

the tip, 9–12 cm long including a petiole 2.5–3 cm long, the blade 2.5–3.5 cm wide in the dry state, cuneate below to the petiole. *Inflorescence* single; 15–20 cm tall, the raceme erect, subax, distichous, many-flowered; floral bracts oblique, acute, 3–4 mm long; pedicels 2 mm long; ovary 1–1.5 mm long; the peduncle ca. 6 cm long, subtended by a spathe 2.5 cm long, from a node below the apex of the ramicaul; *sepals* dark purple, glabrous, the dorsal sepal ovate, acute, 4 mm long, 3 mm wide, 3-veined, the lateral sepals broadly ovate, oblique, obtuse, 2.75 mm long, 3.5 mm wide, 3-veined; *petals* purple, transversely ovate, 1.3 mm long, 1.8 mm wide, 3-veined, concave below a thick, rounded apex, with a transverse carina; *lip* greenish purple, subquadrate, 1.3 mm long, 1.3 mm wide, 1.3 mm deep, concave below a thick, elevated, callus-like bar, with a shallow cleft and glenion, the apex rounded, the dorsum filled with a thick callus that extends from a minutely pubescent base to include the bar, to within the space above the apex, the base truncate, hinged to the base of the column; *column* stout, ca. 1.5 mm long and wide, the anther and the stigmatic lobes apical.

Eponymy: Named for Shigenobu Tsubota, proprietor of Ran Orchids, Pereira, who cultivated this species.

This caespitose species is characterized by a subax raceme that exceeds a petiolate leaf. The acute dorsal sepal is longer than the obtuse lateral sepals. The petals are three-veined. The lip is type A with a bar shallowly cleft through the dorsum to a pubescent base.

Stelis uberis Luer & R. Escobar, *sp. nov.* TYPE: COLOMBIA. Santander: Bucaramanga, between Bucaramanga and Berlin, 2800 m, 27 April 1982, *C. Luer, J. Luer & R. Escobar 7582* (Holotype: SEL). Fig. 52.

This tall, caespitose species is distinguished by a long, secund, successively flowering raceme of flowers that commonly bear capsules; pubescent, three-veined sepals; single-veined petals; and an obtuse lip with a cleft bar.

Plant medium to large, epiphytic, densely caespitose; roots slender. Ramicauls erect, slender, 4–10 cm long, with a tubular sheath from below the middle, and 1–2 other sheaths below and at the base. *Leaf* erect, coriaceous, narrowly elliptical, acute, 5–7 cm long, including a petiole 1.5–2 cm long, the blade 0.8–1.3 cm wide in the dry state, narrowly cuneate below into the petiole. *Inflorescence* single; 9–20 cm long, the raceme erect, strict, secund, nearly simultaneously many-flowered, with most ovaries swollen or bearing capsules; floral bracts oblique, erect, acute, 4 mm long; pedicels 2 mm long; ovary 1–3 mm long; peduncle 5–9 cm long, from a node below the abscission layer; flowers light yellow-green; *sepals* usually not expanded, pubescent, broadly ovate to subcircular, broadly obtuse to rounded at the apex, 3-veined, connate below the middle, the dorsal sepal 1.75 mm long, 1.5 mm wide, the lateral sepals 1.5 mm long, 1.5 mm wide; *petals* thin, transversely oblong, concave, slightly thickened on the margin of a rounded apex, 0.75 mm long, 1 mm wide, 1-veined; *lip* subquadrate, type A, 0.8 mm long, 1 mm wide, 0.7 mm deep, shallowly concave below a thick, cleft bar, the apex rounded with a narrow margin, the dorsum slightly convex, minutely pubescent, the base truncate, hinged to the base of

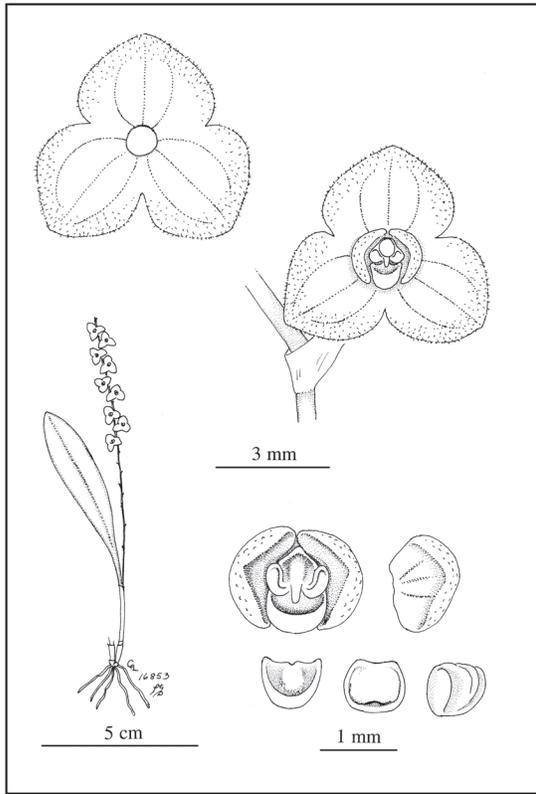


FIGURE 49. *Stelis trifoliacea* Luer & R. Escobar

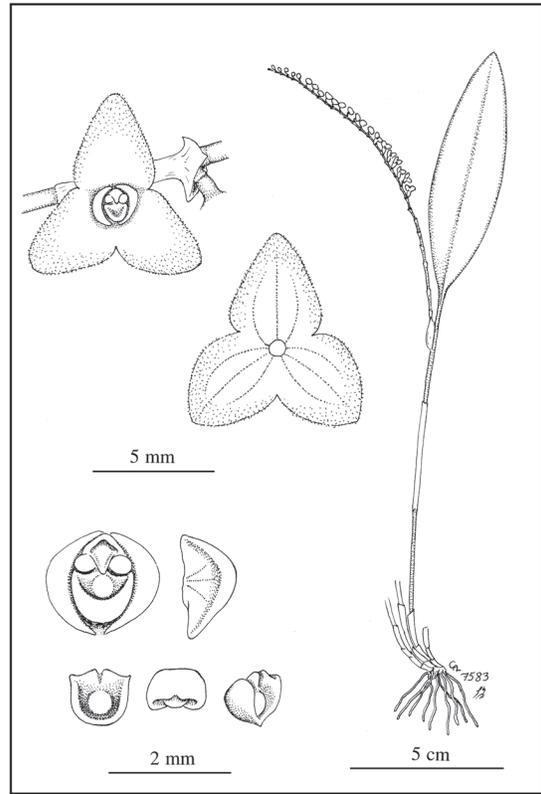


FIGURE 50. *Stelis trochophora* Luer & R. Escobar

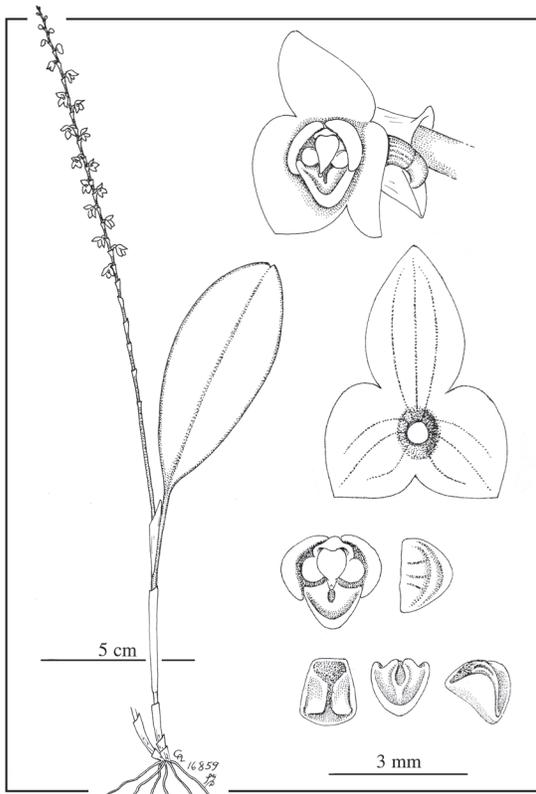


FIGURE 51. *Stelis tsubotae* Luer & R. Escobar

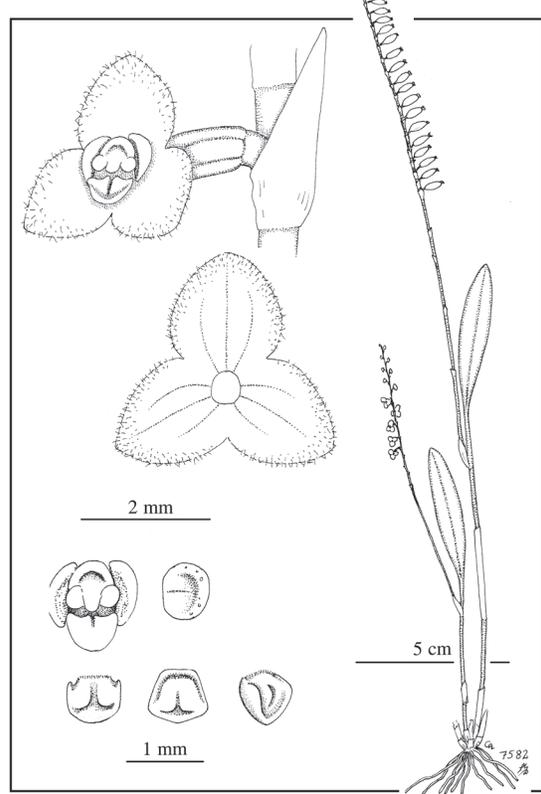


FIGURE 52. *Stelis uberis* Luer & R. Escobar

the column; *column* clavate, ca. 0.6 mm wide and long, the anther and the bilobed stigma apical.

Etymology: From the Latin *uberis*, “fertile,” referring to the abundant production of capsules.

Additional specimen examined: COLOMBIA. Santander: Bucaramanga, terrestrial on the road embankment E of Bucaramanga, 2370 m, 3 November 1981, C. Luer & R. Escobar 6553 (Holotype: SEL).

This tall, slender, caespitose species is characterized by a long, secund, successively many-flowered raceme with most flowers developing capsules. Very few flowers remain open between buds and closed flowers with swollen ovaries. The sepals are pubescent and three-veined; the petals are single-veined; and the lip is type A with a round apex, a cleft bar, and a minutely pubescent dorsum.

LITERATURE CITED

LUER, C. A. 2016. *Icones Stelidarum (Orchidaceae) Colombiae*. Harvard Papers in Botany 21, No. 1: 59–92.