



4. *Vanilla dressleri* Soto Arenas, *sp. nov.*

TYPE: PANAMA. COLON: End of Pipeline road on Río Agua Salud, 9-10 mi N of Gamboa. Tropical wet forest. Elev. 20-50 m. Vine. Flowers greenish-yellow, lower lip white. Column yellow. Sweet smelling, 15 April 1982, *S. Knapp 4621 & J. Mallet* (holo. MO 3032052!).

Species *Vanillae hostmanii* similis sed floribus longioribus, labello longiore subintegro anguste obtuso differt.

Hemiepiphytic vine, leafy. **Stems** flexuose, apparently terete, grooved, 3-4 mm thick (in dried specimens); internodes 7.5-11.5 cm long. Aerial, free **roots** terete, 2 mm thick; attaching, aerial roots strongly flattened, up to 4 mm wide. **Leaves** petiolate, the petiole canaliculate, 11-18 mm long, ca. 5 mm wide; the blade oblanceolate, obovate to narrowly elliptic, much larger than the internodes, sometimes slightly oblique, basally rounded to attenuate, apex acuminate-cuspidate, fleshy, chartaceous (in dried specimens), mesophytic, conspicuously pendant in living condition, 10.5-21.5 x 3.0-6.5 cm. **Inflorescence** a 3-10 flowered raceme, rather lax, contiguous bracts distant up to 11 mm; peduncle 15-35 mm long, rachis 15-43 mm long, at least 4 mm thick. **Floral bracts** patent, spreading, concave, widely ovate to elliptic, obtuse, up to 14 x 8 mm. **Flowers** successive, 1 open at a time, big and showy, tepals white to greenish-yellow, lip orange-yellow in the inner surface, fading to white, with brownish veins, column yellow; fragrance clove-like. **Ovary** subterete, straight, thickened towards the apex, bisulcate, the grooves twisted, very inconspicuously and minutely papillose, 42 mm long, 4-5 mm thick; sometimes slightly calyculate. **Dorsal sepal** linear to narrowly elliptic, apex obtuse, rounded, subcalyprate, thickened, with 2-3 warts at the apex of the outer

surface; base narrowed, canaliculate; conspicuously keeled on the outer surface, blade apparently somewhat concave, ca. 13-veined, stiff, fleshy, 72 x 11.5 mm. **Lateral sepals** obliquely linear to narrowly elliptic, apex obtuse, rounded, calyprate, thickened, inconspicuously warty at the apex on the outer surface, base narrowed, concave, blade ca. 11-veined; obscurely keeled on the outer surface, stiff, fleshy, 67 x 12 mm. **Petals** linear to narrowly elliptic, slightly oblique, apex widely rounded, base narrowed, basally concave, with an elevated, axial, flat keel on the outer surface, the keel ending in an acuminate, laterally compressed process, ca. 2 mm long, apex strongly grooved, ca. 10 veined; 68 x 13.5 mm. **Lip** attached to the column along the margins of the basal half (ca. 28 mm), tubular, apparently concave, axially grooved on the abaxial surface; when spread out 65 x 39 mm; unguiculate, the claw canaliculate, lanuginose becoming pubescent towards the blade, 15 mm long, 5 mm wide near the blade; blade subrhombic, margin undulate, pleated, apex obtuse-rounded, very slightly notched, ca. 24-veined; the ca. 11 veins of the apical part thickened and rather warty, with the warts flattened, the central ones rather elevated; the region corresponding to the lateral lobes ca. 36 x 15 mm; the wanting midlobe 10 x 15 mm; **penicillate callus** at 28 mm from the lip base, made up by ca. 12, obtriangular, basally long attenuate, fimbriate scales, 5 x 2.5 mm. **Column** elongate, rather straight, ca. 34 mm long, 3 mm wide; densely pilose on apical 2/3 of the ventral surface, below the stigma; apex dilated, vertical wings oblong, lower apex acute, ca. 1.5 x 3 mm. **Stigma** trilobed, the lobes emergent, rostellum strongly convex, lateral ones apparently very narrow. Fig. 5, 16B.

DISTRIBUTION: Known from Costa Rica, Panama and Colombia.

ECOLOGY: In lowland to submontane (20-1000 m), wet forest. Flowering from March to early June. The species seem to be fairly common, at least in the Río Savagre area of W Costa Rica. The clove-scented flowers suggest a male euglossine bee as pollinator.

ETYMOLOGY: Dedicated to Dr. Robert L. Dressler, authority in orchid evolutionary biology and in orchid floristics of Central America.

This large-flowered species is a member of the *V. hostmanii* group, characterized by its large flowers with

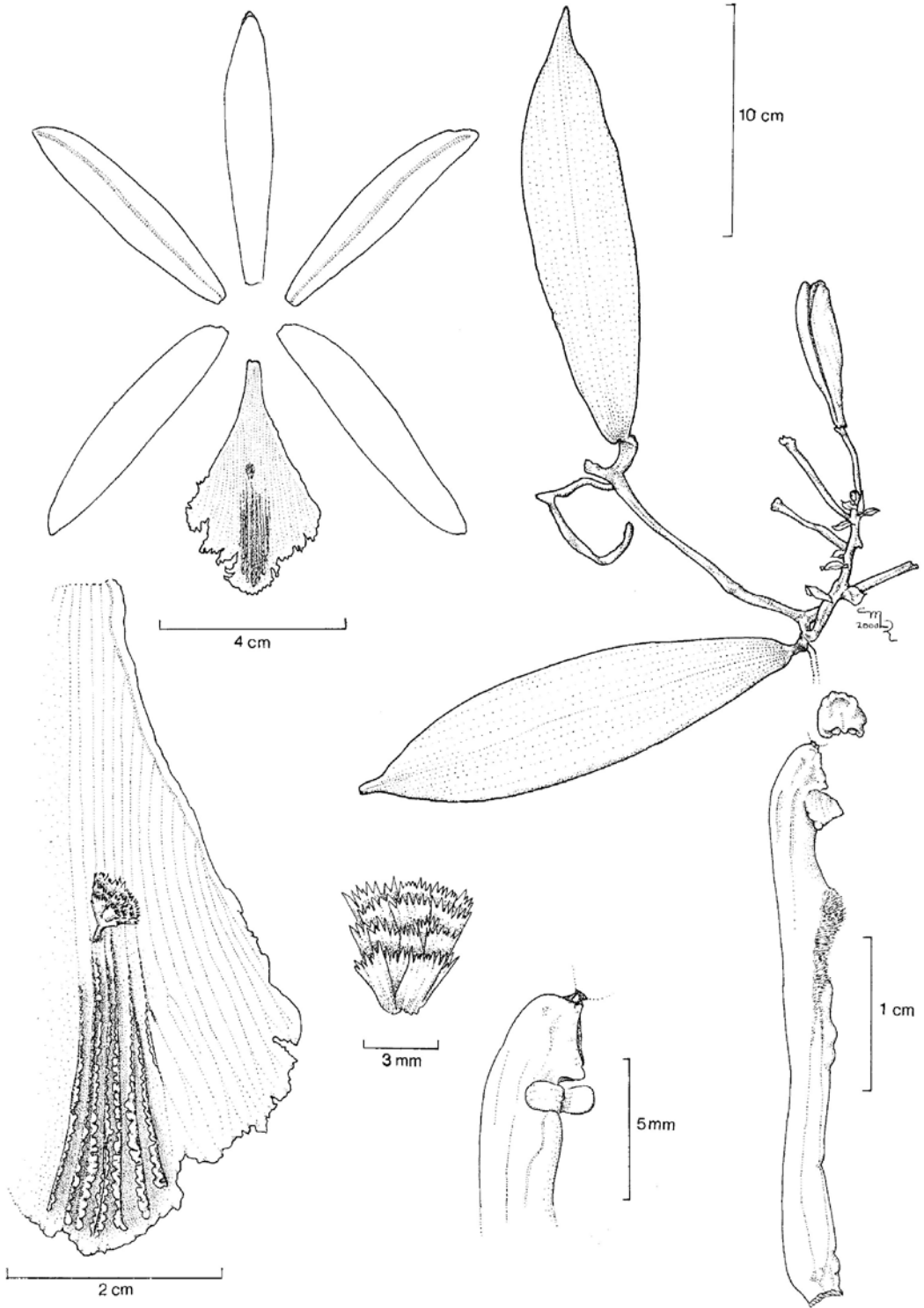


FIGURE 5. *Vanilla dressleri* Soto Arenas. Based on *G. McPherson* 9196. Drawing by M. López.

scarcely trilobed lips, granulose ovaries and sepals, and the distal veins of the disc thickened. Among the group, it is distinguished by the rather lax inflorescence, with the flowers distant (ca. 1 cm), patent bracts, subtire lip, with the blade subrhombic in outline, and very scarcely papillose sepals; the other members of the group, *V. cribbiana*, *V. hostmanii* and *V. ruiziana* have conspicuously granulose sepals. From *V. cribbiana* it is additionally distinguished by the narrower, thinner leaves which are more long acuminate-cuspidate, more lax inflorescence, less defined apical lobe, veins of the disc more conspicuously thickened, and flowering time mostly in March-May, not in July-August. *Vanilla hostmanii* from Amazonia has very long inflorescences that bear many more flowers (e.g. 40-50) and the leaves are larger, thicker, but not as strongly acuminate-cuspidate. *Vanilla ruiziana*, from Peru and Bolivia has larger, broader, less acuminate-cuspidate, and thicker leaves, but is similar to *V. dressleri* in having rather elevated axial keels of the lip. *Vanilla gardneri* from Brazil has a subacute lip apex and oblong leaves, not cuspidate.

Central American specimens of *V. dressleri* have been previously identified as *V. planifolia* and *V. insignis*, distantly related species, easily separated by the distinctly trilobed lips with well developed retrorse warts.

**OTHER RECORDS:** **PANAMA:** Flowers yellow green; lip yellow with green patch at apex. Collector, N.H. Williams, Rio Iguanita, fl in cult, 14 April 1978, SEL 56-76-11[accession num.], \*A. Pridgeon s.n. SEL(019244; the leaves; flowers may belong to *V. phaeantha*)! **COLON:** Santa Rita Ridge, southeast of Colón, c. 9°20'N, 79°45'W. Along ridge road, 10-12 miles from Transisthmian Highway, c. 550 m. Vine; perianth white, the lip orange-yellow within basally; flower clove-scented. 21 May 1986. *G. McPherson 9196*, holo. MO(3432756)! **COCLE:** Huge plant purchased in the El Valle market. Flowers pale yellow-green. 6 March 1976. *R.L. Dressler, C. Luer, J. Luer & P. Taylor 768* \*SEL(009187)! **COSTA RICA:** **ALAJUELA:** Reserva Biológica Monteverde, Río Peñas Blancas, 10°19'N, 84°43'W, 900 m. Epífita. Flores blancas con amarillo. 7 June 1988. *W. Haber 8471 & E. Cruz* CR INB! MO(3714711)! Reserva Monteverde, Río Peñas Blancas, 10°20'N 84°43'W, 820 m. Bejuco. Flores blancas. 10 June 1987. *W. Haber 7423 & E. Cruz* INB! Upala, San José, Villa Nueva, 11 km al noreste de San José. 10°59'N, 85°07'W, 40 m. Terrestre, trepadora, escandente. Flores en botón verde amarillento. 18 April 1988, \**G. Herrera 1840* CR MO(3864177)! **CARTAGO:** 12 km S of Turrialba by air, 4

km SE of Pejibaye along Río Gato. Disturbed primary forest along river. Vine. 700 m alt. 9°48'N, 83°42'W. Vine. 16-17 April 1983, \**R. Liesner 14435* MO(3102177)! **SAN JOSE:** Sepals and petals greenish yellow. Lip cream-colored with greenish-brown raised lines. Callus in middle of lip raised and with rows of attached hairs or brushes. Vine. Parque Nacional Braulio Carrillo; Carrillo station, 300-600 m, 31 May-5 June 1980, \**C. Todzia 1291* LL! **HEREDIA:** Sep & pet interiorly creamy, faintly greenish, lip embraces column loosely, interior of lip and base yellow, apical 3rd fading to white, leaves succulent, stems single, not branched. Sarapiquí: (April) .... The lip has been apressed ..., do not reveal the actual appearance of the flowers at complete anthesis, and they have no perceptible odour at 10:30 a.m. Flowers in axillary, stubby branches of from 5 to 8 flowers. Leaves drooping apparently from a rather slender stem, April 1959, \**C.H. Lankester 1746* SEL (011365)!. **LIMON:** Reserva Biológica Hitoy Cerere, Valle de la Estrella. Bosque primario, bosque secundario. 700 m Epífita, flores amarillas con blanco, 4 December 1990, *G. Carballo 325* INB! **PUNTARENAS:** Cantón de Golfito. P.N. Corcovado. Valle de Coto Colorado. Estación Esquinas: Sección Esquinas. 08°46'00''N 83°15'00''W, 100 m. Bejuco, frutos verdes. 17 July 1993, *M. Segura 121, F. Quesada & R. Aguilar* INB! **COLOMBIA:** **VALLE:** Río Calima (región del Chocó); La Trojita, 5-50 m alt., Bejuco trepador; flores amarillo blanquecinas, 19 febr.-10 mar. 1944, \**J. Cuatrecasas 16550* AMES(71363)! Cordillera Occidental; vertiente occidental: Hoya del río Anchicayá, lado derecho, bajando a La planta, bosques, 200-350 m alt.. Bejuco herbáceo, crasiúsculo; tépalos ocráceo blanquecinos; labelo amarillo claro. 27 sept. 1943, \**J. Cuatrecasas 15220* AMES(71364,71365)! **CHOCO:** Parque Nacional de Utría: Colecciones realizadas en la serranía ubicada al este de la ensenada de Utría, en un recorrido oeste-este, entrando por la casa de la Señora Ana Elida (Mesica) siguiendo la trocha que conduce al acueducto cruzando por la quebrada Aguada. 6°20'N, 77°20'W, 0-100 m. Epífita; flores amarillas, 30 Mayo 1990, \**F. García C. & E.D. Aguilimpia 325* MO(3878341)! **CHOCO(not seen).** **WITHOUT LOCALITY:** No collection data: Climbing vine; sepals and petals pale yellowish-green; petals with flat ridge along center; lip white with crenulate, entire margins, inner throat with yellow and brown lines; column yellow; sweet, spicy fragrance. 6 May 1992, \**S.W. Ingram 1421* SEL(066924)! same data \**S.W. Ingram 1422* SEL(066925)!