

and *T. viridulum*, by the campanulate shape of the flowers, whose segments do not spread out completely, the obcordate lamina of the lip, and the presence of four keels on the disk, a unique character for this group of species.

Paratype. ECUADOR. **Zamora-Chinchipe:** near Zamora, C. H. Dodson 17828 (RPSC).

***Trichocentrum viridulum* Pupulin, sp. nov.**

TYPE: Colombia. Santander: Charalá, Virolín (1900 m), Mar. 1990, collected by E. Valencia, flowered in cultivation at Colomborquídeas, El Retiro, 24 Aug. 1996, *F. Pupulin* 388 (holotype, SEL; isotype, MO). Figure 2.

Species *Trichocentro pulchro* Poeppig & Endlicher similis, sed floribus minoribus omnino inodoribus, concoloribus viridulis, carinis in basi glabris vel obscure puberulis differt.

Plant epiphytic, caespitose, pendent, with a short rhizome. Roots flexuous, filiform. Pseudobulbs small, linear-elliptic, 4.5 mm long, about 3 mm wide, covered at the base by 3 papyraceous sheaths, monophyllous. Leaf fleshy, green, elliptic-ovate to oblong, sessile, 4.8–9.1 cm long, 1.3–2.4 cm wide, obtuse to minutely retuse. Inflorescence a raceme shorter than leaves, bearing a single flower, rarely 2-flowered; peduncle terete, to 2.5 cm long, concealed with a papyraceous, acute bract 9–11 mm long, 5 mm wide. Floral bracts ovate, acute, 9 mm long, 4 mm wide. Ovary linear-clavate, triquetrous, 3 cm long including the pedicel. Flowers spreading; sepals and petals greenish white, lip greenish white with a yellow blotch on the disk toward the entrance of the spur. Dorsal sepal elliptic-ovate, concave, dorsally carinate, obtuse, minutely apiculate, 1.8 cm long, 0.9 cm wide. Lateral sepals obliquely elliptic-oblong, concave, dorsally carinate, acute, 1.9–2 cm long, 0.8 cm wide. Petals obovate-elliptic, acute, 1.6 cm long, 1 cm wide. Lip adnate to the base of the column, widely obovate, emarginate at apex, with slightly undulate margins, 2 cm long, 1.4 cm wide, produced at the base into a slender, flexuous spur, 3.7–4 cm long; callus formed by 2 parallel, flattened, glabrous to obscurely puberulent keels, slightly diverging at apex. Column short, stout, 6 mm long, with a pair of short, dolabriform-subquadrate, erose wings. Anther cap hemiglobose-oblong, carinate, densely papillose-hirsute. Pollinia 2, pyriform, complanate, on a triangular stipe; viscidium peltate, brown.

Etymology. From the Latin *viridulus*, “greenish,” alluding to the color of the flower.

Distribution. Endemic to Colombia.

Ecology. *Trichocentrum viridulum* inhabits subandine mesothermic forests along the flanks of the Cordillera Oriental in Colombia. Average temperatures vary from 23° to 16°C, and rainfall may reach 5000 mm a year (Pinto-Escobar, 1993). Flowering occurs in August and September.

Paratypes. COLOMBIA. **Santander:** Charalá, Virolín (1900 m), Mar. 1990, collected by E. Valencia, flowered at Colomborquídeas, El Retiro, 24 Aug. 1996, *F. Pupulin* 389 (JAUM) *F. Pupulin* 390 (Herb. Pupulin); near Virolín, without further collection data, flowered at Orquifollajes, Medellín, 29 Aug. 1996, *F. Pupulin* 392 (photo, Herb. Pupulin).

Trichocentrum viridulum may be distinguished from *T. pulchrum* by the absence of any scent, the smaller size of the flowers, the uniform greenish color of the tepals, and the glabrous keels on the lip. In August 1996 several specimens of this species flowered at Colomborquídeas and Orquifollajes, near Medellín, on which exsiccatae were prepared, and photographs and diagnostic drawings were done. They were later compared with type material of *T. longicalcaratum* at Kew, a species described by R. A. Rolfe in 1896 with a very synthetic protologue. This comparison gave the author the opportunity to revise his concept of *T. longicalcaratum* Rolfe.

In the original description, Rolfe (1896) referred to a specimen flowering in the collection of Sir Trevor Lawrence, and reported the new species as recently named at Kew. At Kew a single flower from “Lehmann, through Mr. J.B. Brien” is annotated by Rolfe himself as “*Trichocentrum longicalcaratum*, n. sp.” Besides the very constricted base of the lip, the flower has an unusually small brownish blotch on the disk. Though the type label does not provide a collection locality, another specimen by Lehmann referable to the same taxon (n. 8379, AMES) was collected in Colombia at Los Robles, near Anserma Nueva. A second flower annotated by Rolfe as “*Trichocentrum longicalcaratum*” is kept at Kew. It pertains to the same plant Rolfe had seen in 1896 in the collection of Sir Trevor Lawrence, but it must be undoubtedly referred to the species later described by Kraenzlin as *T. brandtia*.

Garay (1965) reduced *Trichocentrum brandtia* Kraenzlin to a synonym of *T. pulchrum*, but later (Garay, 1970) recognized this taxon as a distinct and valid species. This interpretation was followed by Ortiz V. (1991, 1995) and Pupulin (1995). However, Kraenzlin’s description was published in 1897, and thus his *T. brandtia* must be relegated to synonymy of *T. longicalcaratum*. The following taxonomy for the taxon is therefore proposed:

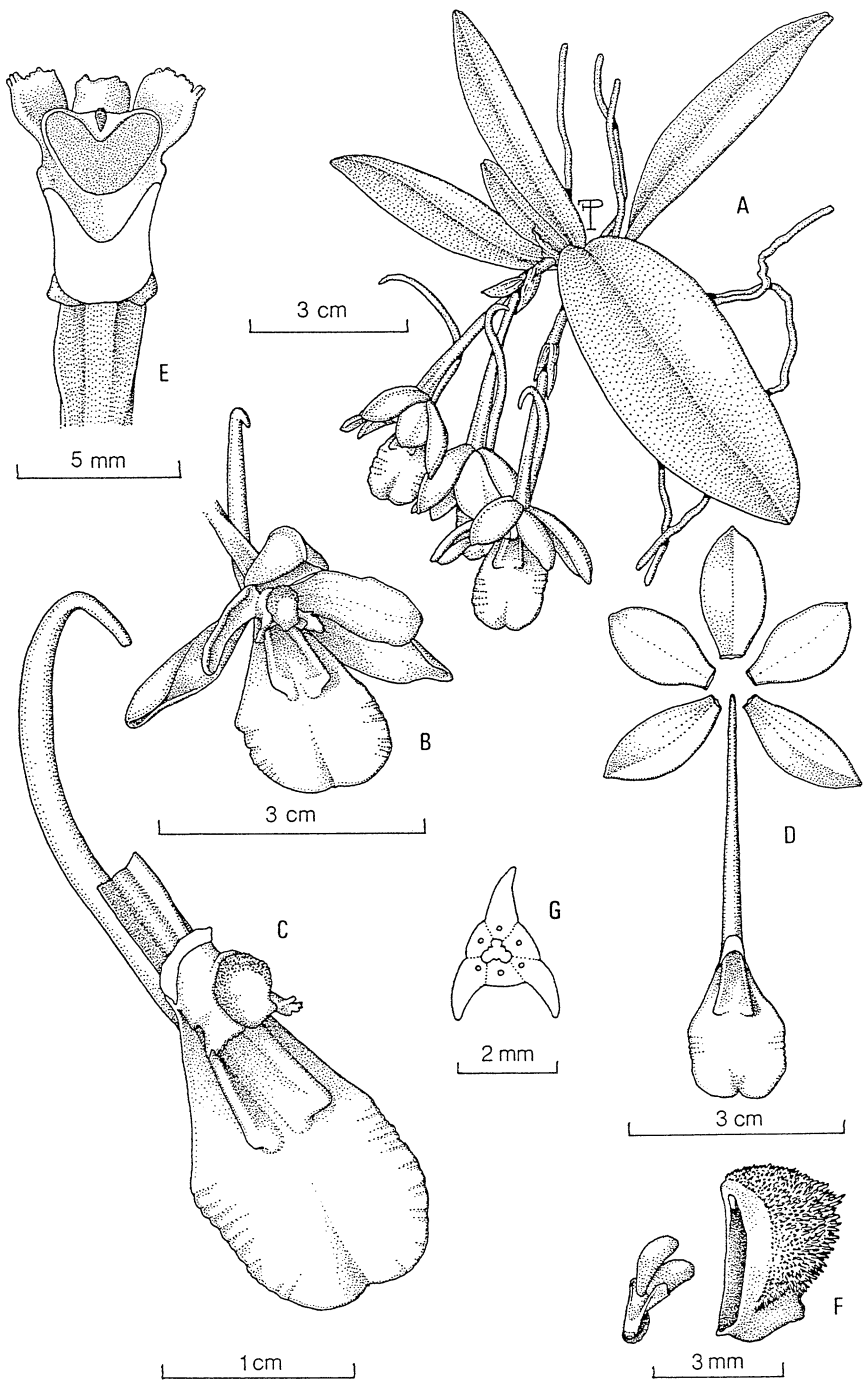


Figure 2. *Trichocentrum viridulum* Pupulin (F. Pupulin 388). —A. Habit. —B. Flower. —C. Column and lip, with ovary partially removed. —D. Perianth, flattened. —E. Column, ventral view. —F. Pollinarium and operculum. —G. Ovary, transverse section.