

Trichocentrum costaricense Mora-Retana & Pupulin, sp. nov. (FIGURE 5).

TYPE. Costa Rica: Prov. of Alajuela, epiphytic in forest near Ciudad Quesada (about 700 m), 1988, C. K. Horich s.n., flowered in cultivation 1989 (holotype, USJ!).

Species *T. caloceras* Endres & Rchb. f. affinis, sed labello elliptico, carinis geminis in disco obscuris, alis columnae subfalcatas et anthera papillosa differt.

Plant epiphytic, pendent, with short rhizome. *Roots* filiform, glabrous, with green apex. *Pseudobulbs* short, rounded, cespitose, unifoliate, about 3 mm long. *Leaf* green, fleshy, from a cuneate base obovate-elliptic to elliptic-lanceolate, acute, sessile, 4 cm long, 1.7 cm wide. *Inflorescences* lateral, basal, racemose, with a terete, green peduncle, 2–3 cm long; rachis abbreviated, producing 2–3 flowers consecutively. *Bracts* short, distichous, ovate, cucullate, acute, 2 mm long. *Ovaries* linear-clavate, 8–10 mm long including the pedicel. *Flowers* spreading, with sepals and petals greenish white and a white lip, with lilac spots. *Dorsal sepal* erect, obovate-oblong, acute to acuminate, subcarinate, to 14 mm long, 4 mm wide. *Lateral sepals* spreading, obliquely linear-lanceolate, acute, subcarinate, to 14 mm long, 2–2.5 mm wide. *Petals* obovate-oblong, obtuse to acute, 13 mm long, 4 mm wide. *Lip* elliptic, adnate to the column, concave, obtuse-retuse,

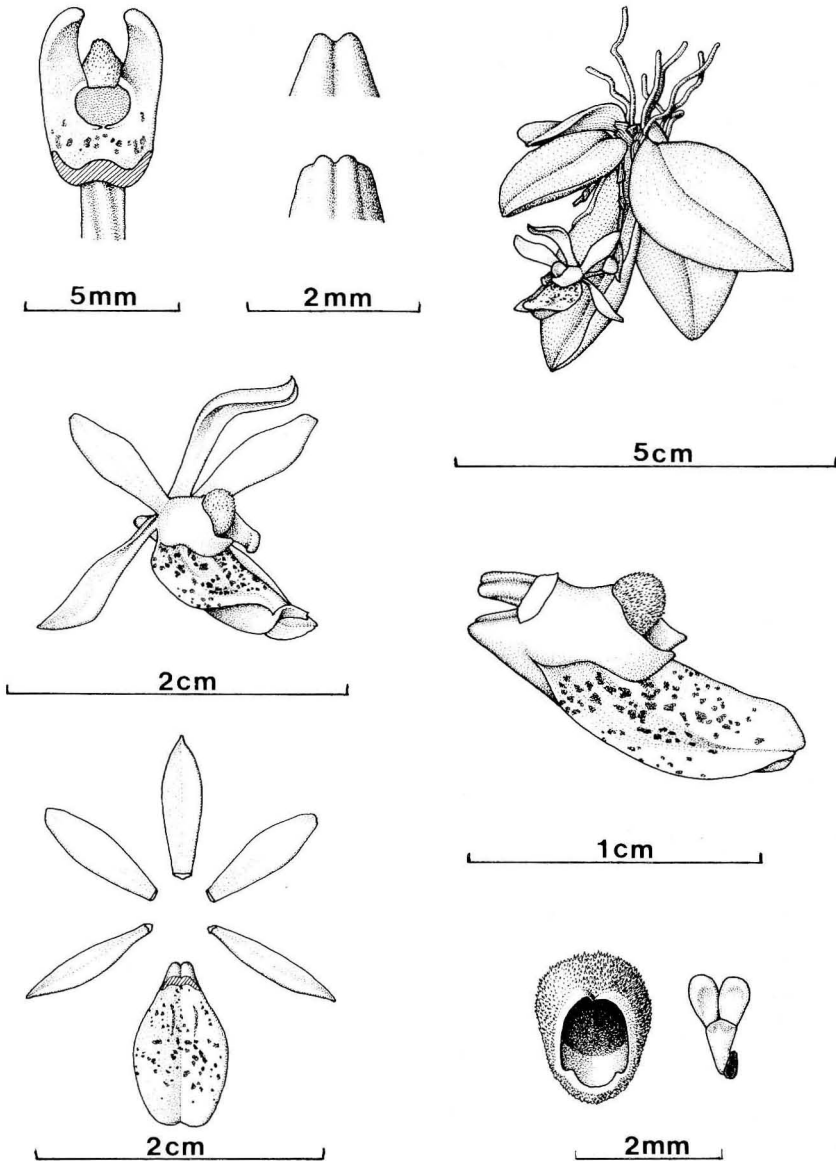


FIGURE 5. *Trichocentrum costaricense*. Illustration voucher: Costa Rica: Prov. of Alajuela: San Carlos, near Ciudad Quesada, C. K. Horich s.n. (USJ).

carinate at apex, 16 mm long, 10 mm wide, producing with the column base a short, flattened, truncate, obscurely 2- to 4-lobed spur; disc with a pair of obscure keels toward the base. *Column* short, stout, without a foot, about 5 mm long, with a pair of decurrent, fleshy, subfalcate, obtuse wings. *Anther* white, cucullate, papillose. *Pollinia* 2, pyriform, concave, on an elongate triangular stipe; viscidium peltate, brown.

ETYMOLOGY. Named for the country of origin, Costa Rica.

DISTRIBUTION. Known only from Costa Rica: Province of Alajuela.

COSTA RICA. Prov. of Alajuela: San Carlos, near Ciudad Quesada, C. K. Horich s.n. (USJ!); San Ramón, San Juan (1,170 m), 1989, F. Pupulin & M. Flores 17 (USJ).



FIGURE 6. Different shapes of spurs in *Trichocentrum costaricense*.

HABITAT. *Trichocentrum costaricense* is distributed in the upper and central drainage of the Rio Barranca of the Central Pacific watershed, and the Rio San Carlos drainage. This area, the junction of the Cordillera de Tilarán and the Cordillera Central, forms the upper portion of the valley drained by the San Carlos River, and constitutes a natural pass from the north toward the Meseta de Esparza and the Pacific coast. The constant, strong and moist winds strike the edge of the plateau, where moisture condenses and precipitates as a fine mist. Such precipitation, locally called "pelo de gato," falls year round also on the upper western slopes of the Cordillera. The minimum and maximum average temperatures are about 18–23°C in the Atlantic lowlands and 15–27°C on top of the plateau.

The premontane rain forest and wet forest near San Ramón and the tropical rain forest toward the plain of San Carlos constitute the habitats of this little species, which has been found on shady, constantly moist trunks and branches of *Myrcia splendens*. The plants are usually found facing south or southwest, growing within 2–3 meters of the ground. Other sympatric orchids include *Trichopilia marginata* and *T. suavis*, *Pleurothallis arietina*, *Oncidium cabagrae* and *Epidendrum porpax*. The thin roots of *T. costaricense* strongly adhere to the host tree, and are covered by mosses. This impedes the complete drying of the roots during the dry season of February and March. New growth emerges with the rainy season and is completed in August. The flower stem arises from the new pseudobulb in early September and numerous flowers appear from October to January.

OBSERVATIONS. A plant of this species was collected by Clarence K. Horich in 1988 near Ciudad Quesada, in the San Carlos plain. The plant was grown in the Lankester Botanical Garden and identified as *T. capistratum*. A photograph of the flower was deposited at University of Costa Rica, where it was catalogued under the name, *Trichocentrum* aff. *panamense*. However, when all the material in cultivation at Lankester Garden was revised for the present study, the plant collected by Horich proved to be different.

T. costaricense differs from *T. capistratum*, as

well as from its closely allied *T. caloceras*, in the diminutive size of the leaves, their rounded shape, the fine purple spotting of the lip and, more clearly, in the decurrent, obtuse, subfalcate wings of the column. *T. capistratum* invariably shows a white lip, with only two to four blotches at the conjunction of the lip with the column base. Further, its column wings are much shorter, porrect and acute to slightly apiculate. The only other Costa Rican species with purple lip color is *T. caloceras*, which has an obovate-subpandurate lip, revolute margins of the column wings and glabrous anther cap.

A natural hybrid origin for *T. costaricense* between *T. caloceras* and *T. capistratum* has been suggested (Chase pers. comm.) as it presents intermediate features such as a slightly hirsute operculum and minute pigmentation of the lip. However, its distribution is exclusively restricted to the northern San Carlos lowlands and the northeastern mountains of the Cordilleras, whereas both *T. caloceras* and *T. capistratum* are southern species and often sympatric without producing hybrids. Many cultivated specimens were studied, from the San Carlos area but without precise locality. They show a great variability in the shape of the spur, which may be 2- to 4-lobed, and in the last case the outer two lobes may be shorter or longer than median ones, or sometimes diverging as little horns (FIGURE 6).