



Sylvia Strigari

Teuscheria horichiana

Text by Franco Pupulin and Diego Bogarín/Watercolor by Sylvia Strigari

Tribe: CYMBIDIEAE
Subtribe: MAXILLARIINAE
Genus: TEUSCHERIA *Garay*

Teuscheria horichiana Jenny & Braem, *Orchid Digest* 51(4): 187. 1987. Type: Costa Rica. [Alajuela: San Ramón]. Rainforest, Cordillera Central near Río Silencio, below La Balsa, 850 m above sea level, col. Horich sine numero, ex cult. R. Jenny. Conservatoire du Jardin Botanique, Chambesey, Geneva deposited under Nr. JE-60, 10.10.86 (holotype, G).

Plant epiphytic, caespitose, to 50 cm tall. *Roots* filiform, glabrous, white. *Pseudobulbs* ovoid or pyriform, clustered, green when young and becoming brown with age, 3–4 × 2–2.5 cm, bearing several chartaceous, adpressed, spotted bracts fraying in the old pseudobulbs leaving fibers, up to 8.5 cm long. *Petiole* cylindrical, spotted, 6.5–7.5 cm long. *Leaf* plicate, elliptic-lanceolate, acute. *Inflorescence* basal, borne from the old pseudobulbs, pendent, one-flowered, 4–5 cm long, with 4–5 elliptic, tubular, acute, reddish-brown bracts, 1 × 4 mm. *Floral bract* membranaceous, elliptic, acute, 5 × 2 cm. *Pedicel* 3 mm long. *Ovary* cylindrical, smooth, to 1.5 cm long. *Flowers* showy, nonresupinate, spread during mornings and becoming closed in the evenings, lasting more than three days; sepals and petals bronze, the lip white with purple stripes on the midlobe and at base of the lateral lobes. *Dorsal sepal* oblong-elliptic, acute, 1.8 × 0.7 cm. *Lateral sepals* connate at the base forming a chin, clawed, oblong, acute, 2.4 × 0.9 cm. *Petals* obovate to elliptic, acute, 1.8 × 0.6 cm. *Lip* three-lobed, unguiculate, spurred, 2.4 × 1.5 cm, serrate, the margins clasping the column, the callus made up of three longitudinal farinose keels. *Column* cylindrical, arcuate, 1.7 mm long, footed. *Stigma* entire, ventral. *Anther cap* cucullate. *Pollinia* four, in pairs, ovoid, waxy, with a stipe and a small viscidium. *Capsule* fusiform, six-valved, 5.5 cm long.

In describing *Teuscheria dodsonii*, Dressler (1972) noted that the late

recognition of *Teuscheria* as a distinct genus might perhaps suggest they are rare plants. In spite of the fact that species of the genus are distributed from southern Mexico to Venezuela and Peru, and in some regions they may be locally abundant, the available records show that plants of *Teuscheria* are indeed quite scarce. If one sums all the documented specimens of the seven recognized species of *Teuscheria*, the final figure may not reach 30 plants, and most of the species are known only from one to three individuals. *Teuscheria pickiana* (Schltr.) Garay has been recorded from Mexico to Colombia and Ecuador, but despite its broad distributional range, it is still known in Costa Rica just from four collections. Even less frequent is the other species, *T. horichiana*, which represents the last addition to the genus over 20 years ago (Jenny and Braem 1987). Including the specimen illustrated here, *T. horichiana* is known from four collections in Costa Rica and one from Chiriquí, Panama. The genus is mainly South American, with a dispersion center in Ecuador and Colombia. Species diversity diminishes toward Mexico, with two species in Panama and Costa Rica, and only the widespread *T. pickiana* reaching Chiapas, Mexico.

Before Leslie A. Garay (1958, 1959) created *Teuscheria* for an uncommon orchid collected by H. Teuscher in Ecuador, two other species of the same genus had been described but in *Bifrenaria* Lindl.: *Bifrenaria wagneri* Rchb.f. from Venezuela, and *Bifrenaria pickiana* Schltr. from Colombia.

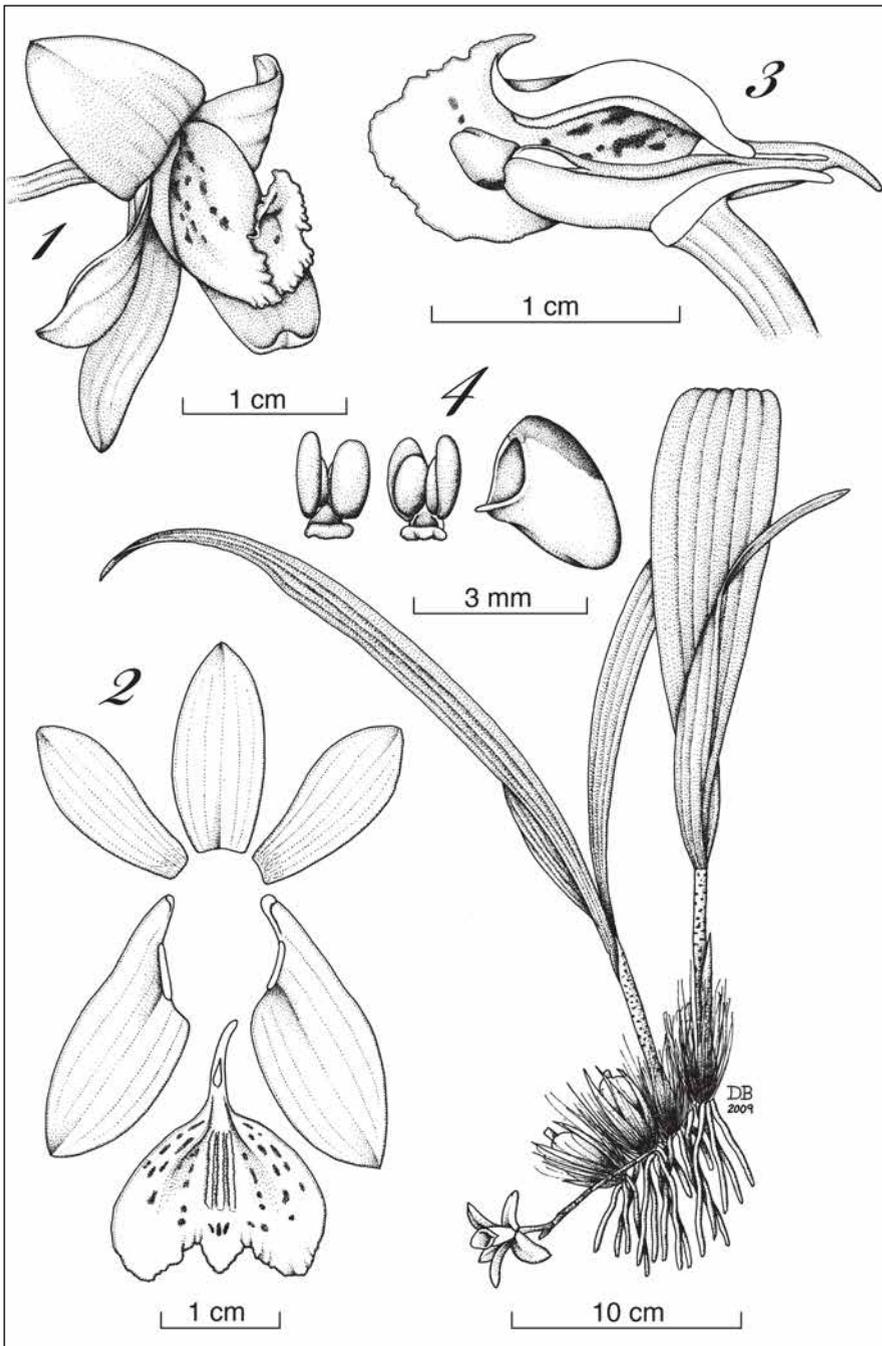
It is not strange that botanists took a long time to understand the uniqueness and affinities of *Teuscheria*. Flowers of *Teuscheria* have a column modified into an elongate foot, which is firmly adnate to the lip, and forms a prominent chin together with the base of the lateral sepals, a set of characters also found in *Bifrenaria* Lindl., *Stenocoryne* Lindl. and *Xylobium*. Garay (1958) compared them with the flowers of the Asian *Acanthephippium* Blume ex Endl., distinguishing *Teuscheria* by the single-flowered inflorescence, the nonresupinate flower and the presence of

four pollinia. Flowers of *Teuscheria* may actually be resupinate or nonresupinate. *Teuscheria* bear conical papillae and moniliform hairs on the lip. Although the pollinator has yet to be identified, it may be a Meliponini bee (Davies and Stpiczynska 2006).

Vegetatively, *Teuscheria* is quite distinctive and strange. Even though Garay (1958) originally assigned the genus to the subtribe Phajeae, noting its vegetative similarity with *Bletia* Ruiz & Pav., most of the species of *Teuscheria* have pseudobulbs spaced out on a long, wiry rhizome (rarely caespitose) and completely covered by imbricating sheaths that break down at an early stage into fibrous segments. The pseudobulbs are covered by two or three layers of scarious, thin and stiff, cardboard-like cataphylls, usually spotted with brown. The cataphylls expand together with the pseudobulbs, and maintain their form even when the pseudobulb shrivels. At withering, the outer layer breaks up into fibers, giving the pseudobulbs of *Teuscheria* an unmistakable, brush-like appearance. At their apex, the pseudobulbs of *Teuscheria* present a caulescent “beak” or “neck,” an organ for which Whitten et al., (2007) adopted the name “*phyllopodium*” (from the Greek *phyllon*, leaf, and *pous-podos*, foot), in analogy to the outgrowth of the rhizome to which the frond is joined in some ferns. Flowering in *Teuscheria* occurs from the base of the old pseudobulbs, a feature noted by Teuscher (in Garay 1958).

Dressler (1981) favored the inclusion of *Teuscheria* in the Bifrenariinae (Maxillarieae). Even though the Bifrenariinae and Maxillariinae are easily distinguished morphologically, molecular studies have supported the inclusion of the Bifrenariinae (including *Teuscheria*) within a broadly defined Maxillariinae (Chase 2005).

Rafael Lucas Rodríguez, the renowned Costa Rican biologist and artist who meticulously painted hundreds of fine watercolors of local orchid species, first illustrated *Teuscheria horichiana*, as an undetermined species, based on a collection by Hernán Arguedas S. in



Teuscheria horichiana. The plant.

1. The flower.
2. The dissected perianth.
3. The column and lip in lateral view (the lip sectioned).
4. Two views of the pollinarium and the anther cap.

All drawn from *D. Bogarín* 5004 (USJ) by Diego Bogarín.

Costa Rica (Rodríguez et al. 1986). In describing *T. horichiana* Jenny and Braem (1987) mentioned three additional specimens, one of them originally collected by Clarence H. Horich, for whom the species was dedicated. Clarence Horich (1930-1994) was a German gardener, a modern adventurer and a prolific author of both informative and colorful papers on orchids, who collected plants in Central America, especially in Costa Rica, during the second half of the twentieth century. He collected the plant that served as the holotype of the *Teuscheria* species that bears his name, today conserved at

the Conservatoire du Jardin Botanique, Chambesey, in Geneva, Switzerland.

Teuscheria horichiana is found on mossy trunks in premontane moist forest from 2,600 to 2,950 feet (800–900 m). Plants flower from June to September. It is only known from Costa Rica and Panama. In Costa Rica it has been found in the Tilarán range, Central Volcanic and Talamanca ranges, and in the Talamanca range in Bocas del Toro and Chiriquí provinces in western Panama. The only known specimen of *Teuscheria horichiana* in cultivation is growing at the Lankester Botanical Garden, where it grows on a slab of tree fern, mounted on a pot with sphagnum moss, allowing the thin roots to have constant humidity. The plants can also be grown on cork slabs with moss cover, and enjoy intermediate temperatures under moist and shaded conditions. Direct sunlight should be avoided, providing a humid environment with plenty of air circulation to prevent diseases. During the flowering season, plants need space to allow the inflorescences to hang down as they do in their natural habitat. It is advisable not to divide the plants too often.

References

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