



Sylvia strigari

Pleurothallis crescentilabia

Text by Franco Pupulin and Jaime Aguilar V./Watercolor by Sylvia Strigari

Tribe EPIDENDREAE
Subtribe PLEUROTHALLIDINAE
Genus PLEUROTHALLIS R.Br.

Pleurothallis crescentilabia Ames, *Sched. Orch.* 4: 20. 1923. Type: Costa Rica. Without exact locality, C.H. Lankester 359 (holotype, K).

Epiphytic, caespitose, erect herb up to 35 cm tall. *Roots* flexuous, to 1.5 mm in diameter. *Ramicauls* erect, stout, up to 20 cm long, 5–6 mm wide, provided with three to four elongate, tubular, tightly clasping sheaths to 6 cm long. *Leaves* bright green, erect to suberect, coriaceous, ovate, gradually tapering from below the middle to the pointed, acute tip, 14–18 cm long, 7–11 cm wide, the base subcordate, deeply conduplicate, contracted into a short petiole to 2 cm long, many-veined, the veins quite conspicuous. *Inflorescences* produced from a dry-papyraceous, brown spatheaceous bract ca. 5 × 5 mm, exerted laterally at the apex of the ramicaul, two to four simultaneous racemes of one or two flowers; peduncles horizontal, 1.0–1.2 cm long, with a glumaceous, tubular bract at the base, drying with age and forming a dense cluster of scarious bracts. *Floral bract* triangular, 4 mm long. *Pedice*l 3–5 mm long. *Ovary* rounded, ca. 5 mm long. *Flowers* crowded, nonresupinate, with pale yellow, hyaline sepals, striped with rose-purple along the veins, the petals port-wine-purple to bright red, the lip yellow, tinged with rose, the column pale yellow. *Sepals* glabrous, provided on the outside with several carinate or thickened veins. *Dorsal sepal* narrowly ovate-lanceolate, 11–13 mm long, 4–5 mm wide, slightly conduplicate at the base, three-nerved, the median nerve prominent. *Lateral sepals* united throughout their length, forming a lanceolate, acute lamina, distinctly broader than the dorsal sepal, strongly concave-cochleate and reclined to form a hood over the lip and column, 12–15 mm long, 6–7 mm wide, slightly conduplicate at the base, provided on the outside with several carinate or thickened veins. *Petals* narrowly linear, obliquely porrect, semiterete, rounded on the outer side, subacuminate, 10–11 mm long, 0.15–0.20 mm wide, three-veined. *Lip* crescentiform (moon-shaped) semicircular, horseshoe-shaped seen

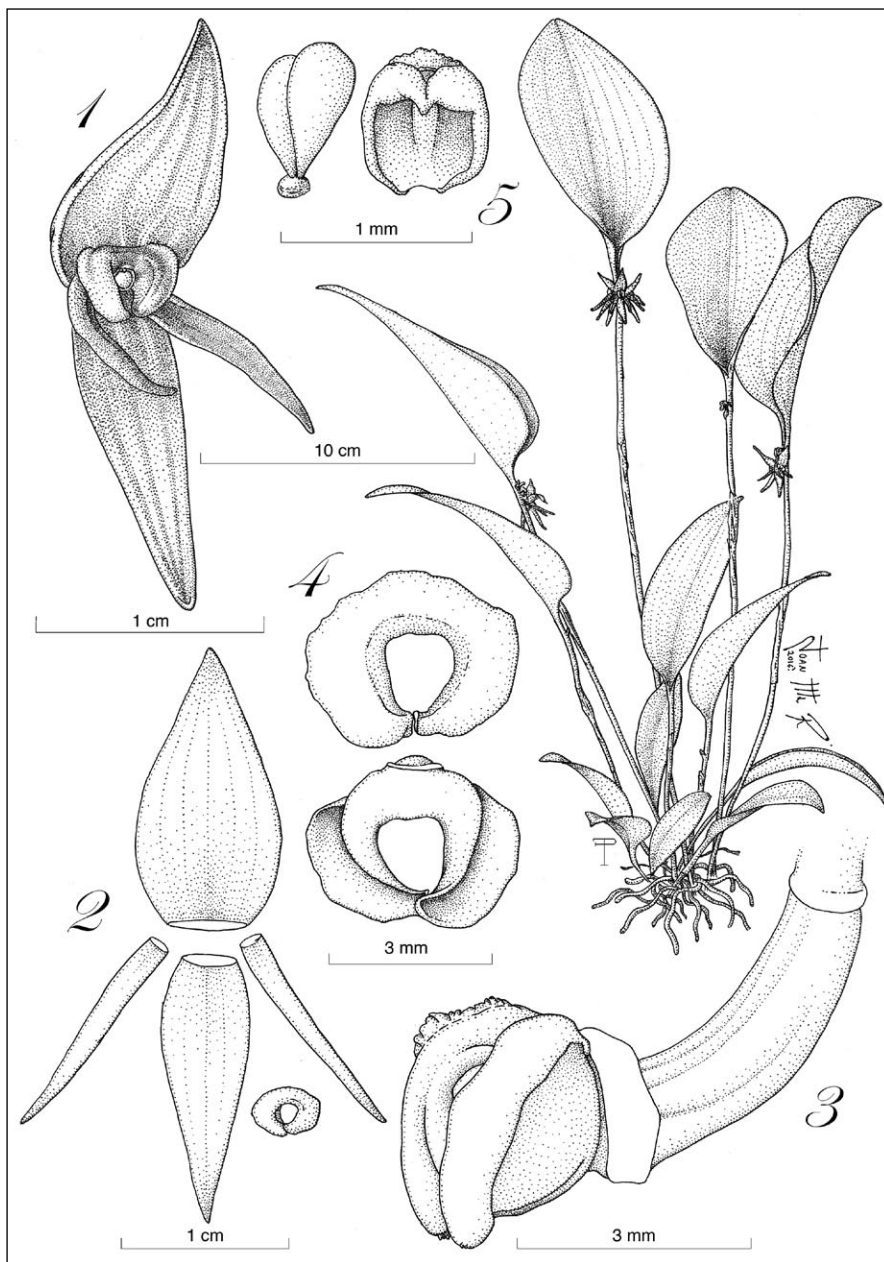
from above, fleshy, the horns of the crescent overlapping behind the column, acutely deflexed over the base, with the basal half erect and the apical half sharply bent downward, 3–4 mm long, 3–4 mm wide. *Column* semiterete, very short, ca. 2 mm long, 2.5 mm wide, with a bilobed stigma. *Pollinia* two, ovoid, on a rounded viscidium. *Anther cap* cucullate, subcircular.

Species of the genus *Pleurothallis* have never been prominently featured in botanical paintings. The frequently small to very small size of the flowers, the repetitive and quite uniform scheme of the vegetative habit and not the least, the usually unfavorable ratio between the size of the plant and that of the flowers, relegate species of *Pleurothallis* to the realm of “botanical interest,” which simply means of no interest for the general public and the illustrators alike. If we look at the venerable *Botanical Magazine*, originally edited by William Curtis (1746–1799) starting in 1787, and then by his friend John Sims (1749–1831), followed by William Hooker (1785–1865) and his son Joseph Dalton Hooker (1817–1911), and Martyn Rix (1943–) at the present time, we can count on the fingers of a few hands the species of *Pleurothallis* presented to plant amateurs in the longest running illustrated botanical magazine. Of these, probably just a couple of paintings feature true species of the genus *Pleurothallis* as understood today, the others belonging instead to the genera *Acianthera*, *Specklinia*, *Talpinaria* and *Zootrophion*, among others. These true *Pleurothallis*, *Pleurothallis scapha* Rchb.f. (= *Pleurothallis sirene* Rchb.f.?) and *Pleurothallis insignis* Rolfe (= *Pleurothallis glossopogon* Rchb.f.) are by no means “regular” species, but rock stars of the genus, with large and colorful flowers that set them well apart from the crowd. The species featured here, *Pths. crescentilabia*, surely belongs to the group of the pre-eminent and distinguished.

Maybe you would like to ask, however, is it a true *Pleurothallis*? The botanical debate about a “natural” classification of the large assemblage of plants grouped into the subtribe Pleurothallidinae is quite old, the earliest attempt to understand them in a phylogenetic framework going back to the work of John Lindley (1859).

The dispute received new fuel in the last two decades, thanks to the advent of analysis techniques based on the study of DNA sequences, paired with the traditional morphological approach (and its sometimes subjective weightings). As a result of this new wave of studies (including Pridgeon et al. 2001; Pridgeon and Chase 2001, 2003; Chiron et al. 2012; Karremans et al. 2013; Karremans 2016), the old concept of *Pleurothallis* has been unanimously recognized as polyphyletic (i.e., its members do not descend from a common ancestor) and consequently dismembered in smaller, monophyletic units (including their most recent common ancestor as well as all of its descendents), recognizing old forgotten genera and creating new genera for some of the misfits. How many of these segregates are correct to recognize and how they should be circumscribed (i.e., which set of features define them) is still amply debated (varying from 17 to 50 according to different authors). Today, the concept of *Pleurothallis* is treated according to contrasting circumscriptions. Our *Pleurothallis*, however, sits in the pure core of the genus.

Created by the Scottish botanist Robert Brown (1773–1858), the genus *Pleurothallis* is typified by *Pleurothallis ruscifolia*, originally described in 1760 by Nikolaus Joseph von Jacquin (1727–1817) as *Epidendrum ruscifolium*. *Pleurothallis ruscifolia* is a quite small, elegant and common plant, provided with a slender ramicaul carrying a lanceolate leaf and a number of fasciculate flowers produced from a small, dry bract at the apex of the stem. The bilabiate flowers are small and translucent. *Pleurothallis crescentilabia* is a “supernova” version of *Pths. ruscifolia*. It has the same long ramicauls, but they are stout and erect, and the large, solid, broadly lanceolate leaves elegantly fold at the base to sit almost vertically on the stem, giving to the plant a real “kingly” deportment. The flowers themselves, borne in groups of four to 12 or more on short, one- to two-flowered racemes, are like the larger and graceful sister of *Pths. ruscifolia*. Taller than 2 cm and almost 3 cm wide when spread, they have sepals of a pale yellow-orange or rose-yellow color, elegantly striped with red. The synsepal, concave and forming a sort of



Pleurothallis crescentilabia. The plant.

1. Flower.
2. Dissected perianth.
3. Column and lip, lateral view.
4. Lip, adaxial and abaxial views.
5. Pollinarium and anther cap.

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“roof” over the column, is broader than the dorsal sepal. The long and narrow petals, of a striking red color, are flat at the base and almost cylindrical at their apices, and brought downwards. The lip, with its characteristic inverted horseshoe shape, is almost unique among the Pleurothallidinae.

Oakes Ames described *Pths. crescentilabia* in 1923 on the basis of a collection without locality by Charles H. Lankester. This was part of a series of shipments that Lankester made to Robert Allen Rolfe at the Royal Botanic Gardens, Kew, with whom he had established a proficuous relationship from at least 1915, before he began his scientific cooperation with the great North American orchidologist at Harvard

University (Pupulin and Fernández 2013). Even though the original plant that served as the type bears no locality data, it was almost surely collected around Cachí in central Costa Rica, where Lankester owned and administrated a coffee plantation, and where the species may still be found today.

Pleurothallis crescentilabia is not a common species in the wild, and the records at the Lankester Botanical Garden only account for a few specimens over the last 20 years or so of field collections. It is endemic to the Caribbean side of the continental divide in Costa Rica, where it has been recorded at elevations between 2,300–5,200 feet (700–1,600 m) on the northern Cordillera de Tilarán, and from the Cordillera de Talamanca, down into western Panama.

Due to their large size, plants of *Pths. crescentilabia* are best grown in quite large pots, filled with a fine to moderately coarse medium that retains humidity around the tiny roots. At the Lankester Botanical Garden we use plastic pots with added drainage holes. The plants thrive in the intermediate greenhouse, but they are also tolerant of warmer conditions and can be adapted to the coolest areas of a warm greenhouse.

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