



1 cm

Sylvia Strigari

Pleurothallis pfavi 2011

Specklinia pfavii

Text by Melissa Díaz-Morales and Franco Pupulin/Watercolor by Sylvia Strigari

Tribe Epidendreae
 Sutribe Pleurothallidinae
 Genus *Specklinia* Lindley

Specklinia pfavii (Rchb.f.) Pupulin and Karremans, *Phytotaxa* 63: 8. 2012. Basionym: *Pleurothallis pfavii* Reichenbach (1886:555). TYPE: [Costa Rica or Panama]. Chiriquí, *R. Pfau*. s.n. (holotype, W).

Synonyms: *Masdevallia platyrachis* Rolfe, *Gard. Chron.* 4(86):178–179. 1888. *Pleurothallis platyrachis* (Rolfe) Rolfe *J. Bot.* 28:136. 1890, *comb. inval.* *Pleurothallis platyrachis* (Rolfe) Rolfe ex Hooker f. *Curtis's Bot. Mag.* 116: sub pl. 7129. 1890. *Kraenzlinella platyrachis* (Rolfe) Rolfe *Orchid Rev.* 23:326. 1915. TYPE: Costa Rica: "The plant was imported from Costa Rica by Mr. Shuttleworth, and sent to Kew in 1884, in which year a scape was produced. It has now become fully established and is bearing several scapes, the first flower having recently expanded", *E. Shuttleworth* s.n. (holotype, K).

Epiphytic, caespitose, erect *herb* to 17 cm tall. *Roots* flexuous, glabrous, to 1.5 cm in diameter. *Stem* abbreviated, terete, slender, to 1.5 cm long, monophyllous, covered by two glumaceous, imbricating, slightly loose, ancipitous, acute sheaths to 1.8 cm long, becoming dry-papyraceous with age. *Leaf* elliptic, obtuse, minutely retuse, 10.7–14.2 × 2.4–3.0 cm, the midvein protruding abaxially into a small apicule, gradually tapering toward the base into a deeply conduplicate-rounded petiole with ancipitous margins, subcoriaceous. *Inflorescence* produced laterally from the apex of the stem, without an annulus, an erect-subarched, congested, successively flowered, distichous raceme to 35 cm long; the rachis strongly fractiflex, producing up to 30 flowers; peduncle flattened, ancipitous, to 28 cm long, with 3–4 distant, tubular-amplexent, apically subuncinate, acute bracts, 6–7 mm long. *Floral bracts* infundibuliform, subuncinate laterally, ovate, abaxially ancipitous, subacuminate, 7×6 mm. *Pedicel* cylindrical, glabrous, to 12 mm long, persistent. *Ovary* subclavate, subtrigonous, to 5 mm long, green. *Flowers* with bright yellow sepals and lip, lip with longitudinal orange stripes, petals dark

red, column yellow. *Sepals* fleshy, densely papillose on the inner surface except on the basal third where they are hyaline, margins revolute, strongly keeled abaxially along the veins; *dorsal sepal* lanceolate, triveined, acute, the base hyaline, flushed with yellow along the veins, the distal two-thirds densely papillose, 24 × 8 mm; *lateral sepals* narrowly elliptic-subfalcate, triveined, 23.0 × 3.5 mm, connate at the base for about 3 mm into a deeply concave mentum, membranaceous-hyaline at the base, then densely papillose, margins slightly revolute. *Petals* small, ligulate-subfalcate, rounded, porrect, univeined, 12 × 3 mm, with a rounded keel abaxially along the vein, the apex thickened, minutely papillose inside, the labellar margin provided with low papillae in the basal half. *Lip* small, strongly arched-convex in natural position, lanceolate, articulate with the apex of the column foot by a hyaline claw, triveined, subtrullate when expanded, obtuse to subacute, with a small, rounded apicule, the distal half provided with two thin, high keels converging toward the apex but not reaching it, the clawed base thickened, subquadrate; entire lip 18 × 8 mm. *Column* arched, semiterete, provided with a foot, 6–7 mm long without the foot, with two broad, thin, membranaceous, rounded wings in the middle portion, the apex rounded, deeply cucullate, the clinandrium shallow, entire; column foot forward-projecting, stout, fleshy, 4 mm long. *Anther cap* deeply cucullate, ovate, strongly keeled in the middle, bilocular. *Pollinia* two, obovate-complanate, hooked at the attenuate base, lacking caudicles. *Fruit* not seen.

In 1886 Reichenbach described this species as *Pleurothallis pfavii* based on a living plant he received from the Swiss Rudolf Richard Pfau (1856–1897), who collected it in Chiriquí (Reichenbach 1886). The exact locality of the original collection remains unknown, and the region of Chiriquí (currently in Panama) was at the time shared by Panama and Costa Rica. Pfau mostly collected in Costa Rica, where he eventually owned a nursery in San José (Pupulin et al. 2012).

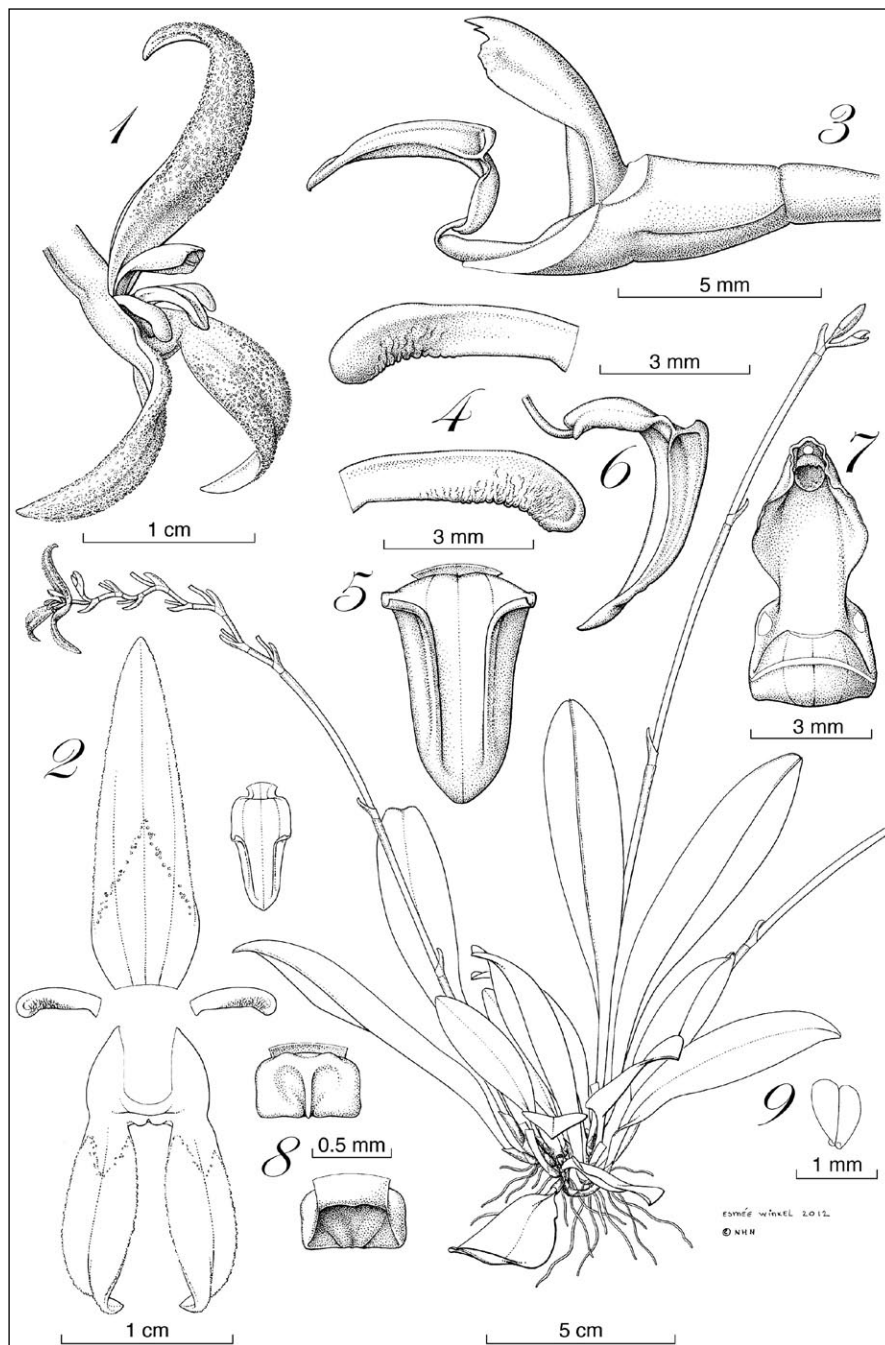
As stated by Rudolf Jenny (2014), there is little information available about the life

of Richard Pfau. Matthäus Pfau (1820–1877) was a merchant, officer, banker and politician. He was one of the founders of the precursor of the bank that became 150 years later the largest bank in Switzerland. Richard was the youngest of the three sons of Matthäus Pfau, born in 1856. The elder brothers were Jakob Pfau (born in 1846) who became an architect and later, professor in Switzerland, and Eduard (born in 1851) who became a merchant in Italy (Jenny 2014).

The date, when Richard Pfau left Europe for Costa Rica the first time is unknown, but it probably was around the year 1880 (Jenny 2014). Some of his articles published in the *Gardeners' Chronicle* between 1883 and 1884 provide insights or evidence that he already had been temporarily in Costa Rica, but at that time he also cultivated orchids and lived in Chiswick, England. While living in England, Richard Pfau made several trips to Costa Rica, and sometime around 1885 he settled in San José, the Costa Rican capital (Jenny 2014). Richard Pfau founded the first commercial orchid nursery in Costa Rica in San José and published a catalogue of orchids he had for sale and export (Pupulin et al. 2013a, Jenny 2014). He sent plants to Europe and sold them like other collectors through Eduard Ortgies from the Botanical Garden in Zurich. Although Richard Pfau mainly collected in Costa Rica, it is probable that he also collected in Colombia, Panama and Mexico. Richard Pfau died at the age of 41 on March 14, 1897 (Jenny 2014).

A few orchids have been named after him; all those species written as "pfavii" and not as "pfauii." The reason for this is most probably because in the Latin alphabet the letter U is written as V (Jenny 2014). *Trichocentrum pfavii* was described by Reichenbach in the *Gardeners' Chronicle* in 1881 based on material collected in 1880 by Pfau in Chiriquí; probably in Costa Rica at the time. *Telipogon pfavii* was described by Schlechter in *Repertorium Specierum Novarum Regni Vegetabilis* in 1921 — almost 25 years after Pfau's death — based on material also collected by Pfau in Costa Rica.

Specklinia pfavii is endemic to the lowlands of southern Costa Rica and



Reichenbach, H. G. 1886. Orchideae describuntur. *Flora* 69: 47–562.

Specklinia pfavii. The plant.

1. Flower.
2. Dissected perianth.
3. Column and lip, lateral view.
4. Petals.
5. Lip, ventral view.
6. Lip, lateral view.
7. Column, ventral view.
8. Anther cap (dorsal and ventral views).
9. Pollinia.

Drawn from Karremans 4825 (L-spirit) by Esmée Winkel.

western Panama, on the Pacific slope of the Talamanca-Chiriqui range at around 500 m elevation (Pupulin et al. 2012). According to the protologue, *Pleurothallis pfavii* has a combination of features that makes it unmistakable: falcate, obtuse petals provided with a thickened external margin and acute lip (Reichenbach 1886). The combination of bright yellow flowers with red petals, the acute yellow lip with a central red line, and the rounded, not apiculate petals, distinguish *Spe. pfavii* from other members of the *Specklinia endotrachys* complex.

The *Specklinia endotrachys* complex comprises six species, mostly found from

Costa Rica and Panama, but ranging north to southern Mexico and to Colombia and Venezuela in South America. Two of these species were described by Reichenbach, *Spe. pfavii* and *Spe. endotrachys*. A third species, *Specklinia spectabilis* was described by Ames and Schweinfurt. More recently, Archila (2012) added *Empusella judii* from Guatemala [= *Specklinia judii* (Archila) Pupulin and Karremans], while Pupulin and Karremans proposed *Specklinia remotiflora* from Costa Rica, and Karremans and colleagues described *Specklinia dunstervillei* from Central and South America in 2015a. Although the six species that Pupulin and Karremans referred to as “empusellous” *Specklinia* are quite similar among them, they are relatively easily recognized. We already discussed the morphological characters distinguishing *Spe. pfavii*, which is also the only species in the group with yellow flowers, instead of orange-red. *Specklinia remotiflora* has a distinct repent habit, very large leaves and lax inflorescence; the flowers do not spread widely and remain subcorrect. *Specklinia endotrachys* has floral bracts as long as the pedicel with straight lateral sepals, while *Spe. spectabilis* has shorter floral bracts with the lateral sepals prominently twisted toward the apex (Pupulin et al. 2013b). *Specklinia judii* has patent flowers with acute, simple petals and an oblong-triangular lip, while *Spe. dunstervillei* is distinguished by its small habit with short leaves and small flowers, provided with obtuse petals that are shortly apiculate. The species of this complex are pollinated by fruit flies that are deceptively attracted by aggregation pheromones released from the sepals (Karremans et al. 2015b).

Specklinia pfavii is known in Costa Rica and Panama from a few, scattered populations composed of several adult individuals. Unfortunately, some of these populations are restricted to small remnant patches of woods along streams, and their survival is severely threatened by the expansion of neighboring villages.

This strikingly beautiful species can be grown potted in a mix of thin chips of coconut fiber, charcoal and sphagnum moss, with high humidity levels but well drained, as well as on large slabs of wood, where the plants have to be watered frequently. Warm temperatures and ample air circulation are important to keep specimens healthy.

References

- Archila, F. 2012. Nuevas Especies Guatemaltecas Honrando a Grandes Botánicos. *Revista Guatemalensis* 15(1):97–114.
 Jenny, R. 2014. What is in an Orchid Name: a Tribute

- to the Early Naturalists in Costa Rica. *Lankesteriana* 13(3):291–317.
- Karremans, A. P., F. Pupulin and B. Gravendeel. 2015a. *Specklinia dunstervillei*, a New Species Long Confused with *Specklinia endotrachys* (Orchidaceae: Pleurothallidinae). *PLoS ONE* 10(7):1–16 (e0131971).
- Karremans, A. P., F. Pupulin, D. Grimaldi, D., Beentjes, K. K., Butôt, R., Fazii, G. E., Kaspers, K., Kruizinga, J., Roessingh, P., Smets, E. F. and Gravendeel, B. 2015b. Pollination of *Specklinia* by Nectar Feeding *Drosophila*: the First Reported Case of a Deceptive Syndrome Employing Aggregation Pheromones in Orchidaceae. *Annals of Botany* 116:437–455.
- Pupulin, F., A.P. Karremans, and B. Gravendeel, B. 2012. Reconsideration of the Empusellous Species of *Specklinia* (Orchidaceae: Pleurothallidinae) in Costa Rica. *Phytotaxa* 63:1–20.
- Pupulin, F., A.P. Karremans, S. Strigar., 2013a. Taxonomy in Watercolor: the *Specklinia endotrachys* Group, Part 1. *Die Orchidee* 64(5):392–399.
- Pupulin, F., A.P. Karremans, and S. Strigari, 2013b. Taxonomy in Watercolor: the *Specklinia endotrachys* Group, {art 2. *Die Orchidee* 64(6):475–485.

