Novelties in Sauvagesioideae (Ochnaceae) from Venezuela and Guyana

Claude Sastre

Laboratoire de Phanérogamie, Muséum National d'Histoire Naturelle,
16 rue Buffon, F-75005, Paris, France

ABSTRACT. Three new species of Sauvagesioideae (Ochnaceae) are described: *Adenarake macrocarpa* Sastre from Venezuela, *Adenanthe ciliata* Sastre from Guyana, and *Tyleria terrae-humilis* Sastre from Venezuela.

During preparation of the Ochnaceae treatment for the *Flora of the Venezuelan Guayana*, I found collections representative of three unknown species of Sauvagesioideae (Ochnaceae), which are here described.

Adenarake macrocarpa Sastre, sp. nov. TYPE: Venezuela. Amazonas: Dpto. Atures, 115 km al SE de Puerto Ayacucho, caño Piedra, 04°54′N, 66°54′W, lomas graniticas, 1500 m, sep. 1989 (fr), *A. Fernandez, E. Sanoja & M. Yanez 6048* (holotype, PORT; isotypes, MO, P). Figure 1.

Ab *Adenarake muriculata* Maguire & Wurdack, laminis majoribus (8–9 × 2–2.2 cm vs. 5–8 × 1.8–2.5 cm), margine non glanduloso-ciliato, sepalis non glanduloso-ciliatis, capsula elatiore (24–25 mm longa vs. 12–13 mm), differt.

Herbaceous plant woody at base, 1.3 m tall, stems glabrous, ramification sympodial. Leaves membranaceous, elliptic, 8–9 cm long, 2–2.2 cm wide; apex acute, mucronate; margin serrate with small teeth; base attenuate; principal vein salient below, secondary veins subperpendicular at the principal vein, subparallel, 2–5 thin between 2 larger, a few ascending; petiole 1.5 cm long; stipules caducous, linear, 1 cm long, ciliate, glandular at margin and at apex. Inflorescence terminal on a sympodium, 15–22 cm long with a peduncle 7–9 cm long. Flower not seen. Fruit: capsule 3-valved, united at base, 2.4–2.5 cm long, 0.7 cm broad near the base, free part of the valve 17–18 mm long, 3 mm broad; sepals persistent, 5, ovate, 4–4.5 × 2–2.5 mm, coriaceous, margin with very small teeth (ca. 0.1 mm long), veins parallel, vertically ascending; some staminodes persistent, ovate, 2 × 0.5 mm; stamens persistent, anthers 2 × 0.5 mm, apiculate, dehiscence longitudinal, filaments 0.5 mm long. Bracts paired, ovate, 0.8–1.1 × 0.4–0.6 mm, denticulate-glandular. Young seeds not winged, mature seeds not seen.

Due to the secondary veins unequal in the membranaceous leaves, the ovary tricarpellate, and the seeds not winged, the new species is included in the genus *Adenarake*.

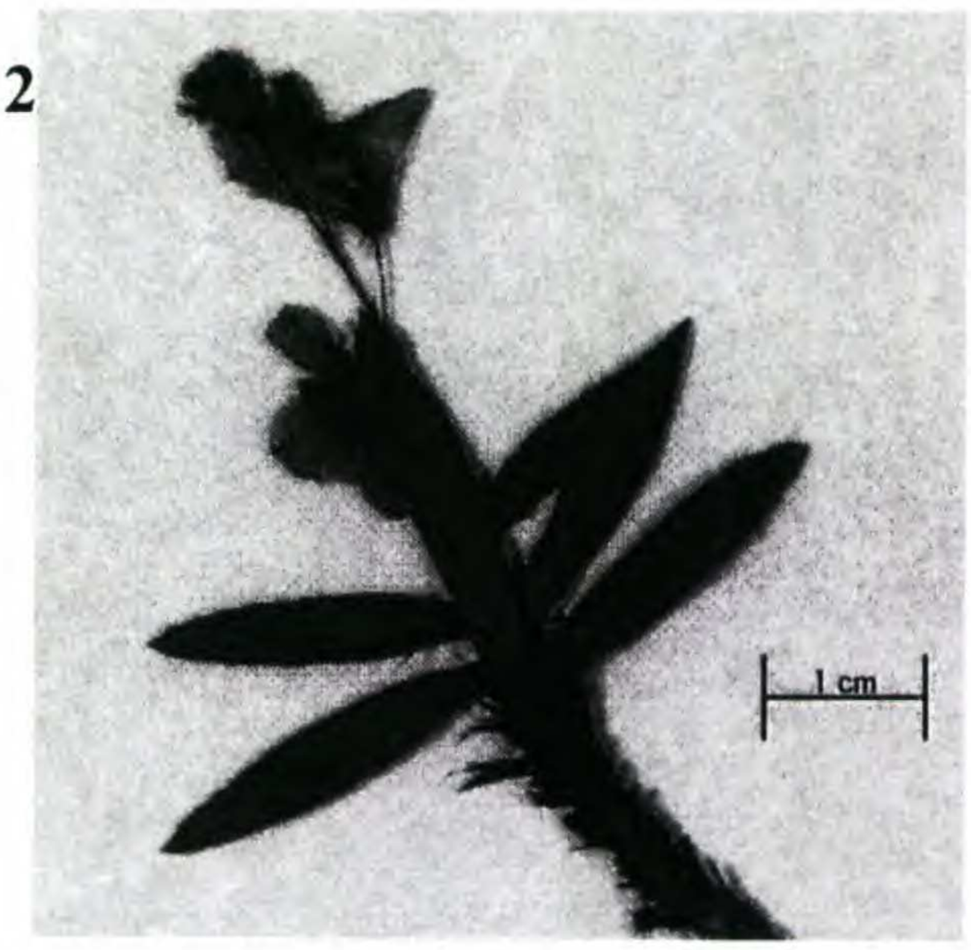
Until now, *Adenarake* was monospecific. *Adenarake macrocarpa* differs from *A. muriculata* Maguire & Wurdack by the longer leaves (8–9 cm vs. 5–8 cm), the margin not glandular-ciliate, the sepals not glandular-ciliate, and the capsule longer (24–25 mm vs. 12–13 mm).

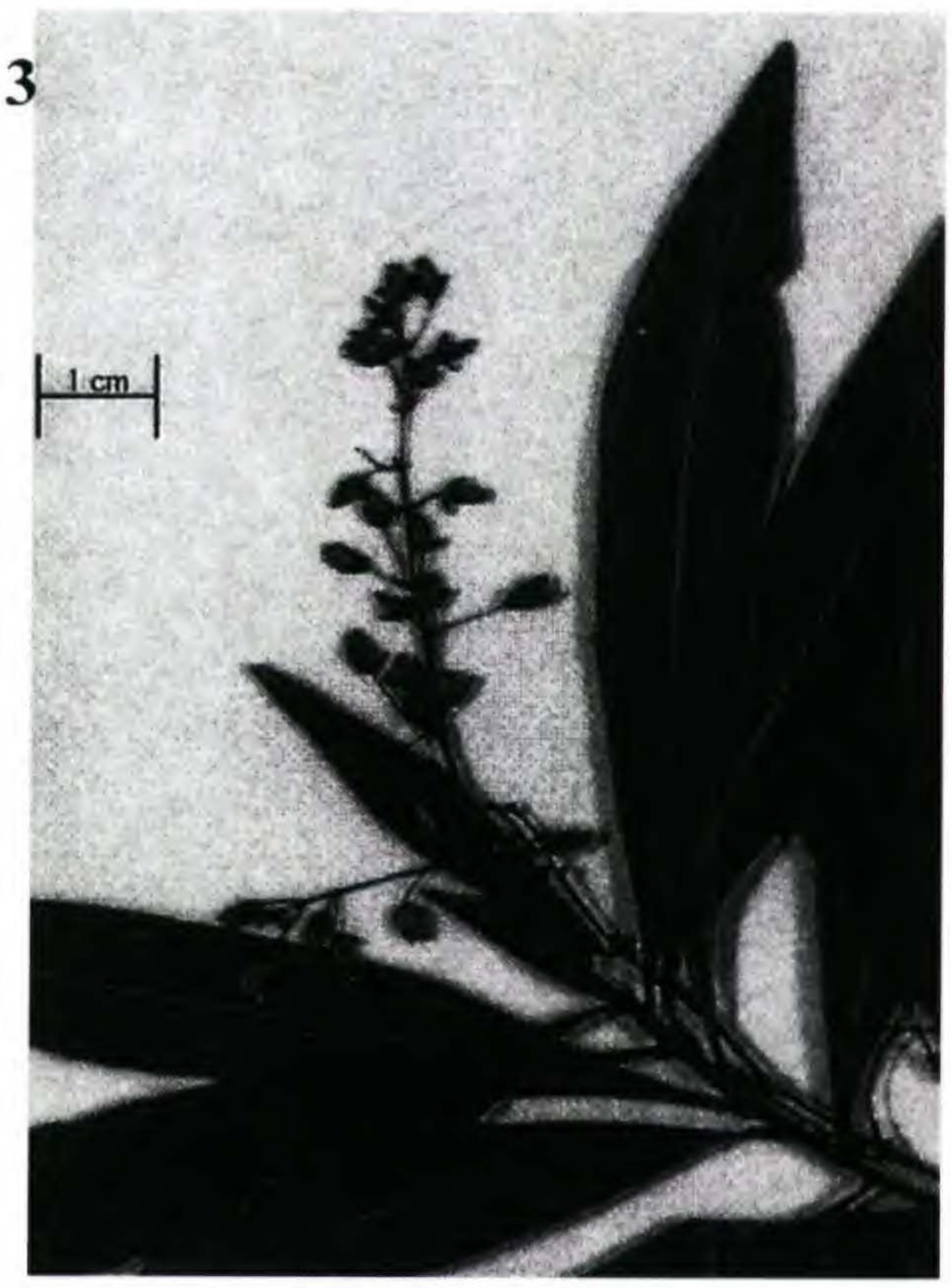
Distribution. Known only from the type locality. Both *Adenarake* species are in Amazonas, Venezuela, *A. macrocarpa* at 115 km south-southeast of Puerto Ayacucho, *A. muriculata* on Cerro Neblina (frontier Venezuela–Brazil) 400 km south of the locality of the new species. Both are in highlands, the first on a granitic outcrop, the second on quartzitic rocks.

Adenanthe ciliata Sastre, sp. nov. TYPE: Guyana. Region Cuyuni–Mazaruni, Pakaraima Mts., NE plateau of Mt. Ayanganna, open scrub, trees to 8 m, moist slopes and small plateaus, occasional exposed sandstone, 05°23′N, 59°58′W, 1500–1650 m, 1 Nov. 1992 (fl), *T. W. Henkel & B. Hoffman 85* (holotype, P; isotype, US not seen). Figure 2.

Ab *Adenanthe bicarpellata* Maguire, Steyermark et Wurdack, stipulis non confertim ciliatis, bracteis non glandulosis, folii margine ciliato, staminodiis cum appendicibus filiformibus, differt.

Shrub 5 m tall, stems glabrous, bark black. Leaves sessile; stipules coriaceous, triangular, 7 mm high, 2 mm at base, apex acute, margin sometimes laciniate, denticulate at the base, nerves fine and parallel; blade coriaceous, 25–30 × 5–6 mm, elliptic, apex acute with a small mucro between 2 teeth, margin denticulate-ciliate, cilia 1 mm long, glandular at apex, smaller to 0.1 mm at the base of the leaf, base acute, secondary veins thin, parallel





Figures 1–3. —1. *Adenarake macrocarpa* Sastre; *Fernandez et al. 6048* (holotype, PORT). —2. *Adenanthe ciliata* Sastre; *Henkel & Hoffman 85* (holotype, P). —3. *Tyleria terrae-humilis* Sastre; *Yanez 436* (holotype, P).

ascending. Panicle terminal, 3–4 cm long; bracts ovate-triangular, coriaceous, 1.5 × 0.5 mm, poorly toothed; peduncle 1 cm long; sepals 5, ovate, 6 × 12 mm, margin ciliate-glandular, cilia 2–2.5 mm long; petals 5, spathulate, ca. 10 × 9 mm; inner staminodes, 5, united at the base, petaloid, narrowly obovate, 5 × 1.5 mm, alternating with free outer staminodes in 2 opposed circles of five each, appendix filiform, 2 mm long; stamens 5, sessile, ovoid, 3.5 × 0.8 mm, dehiscence longitudinal; ovary bicarpellate, 7 mm long with the style. Fruit not seen.

With the secondary veins of the coriaceous leaf blade thin and parallel ascending, the ovary bicarpellate, and the staminodes present, the new species is a good *Adenanthe*.

Until now, the genus *Adenanthe* was monospecific (Maguire & Wurdack in Maguire, 1961). *Adenanthe ciliata* differs from *A. bicarpellata* Maguire, Steyermark & Wurdack by the stipules not densely ciliate, bracts not glandular, margin of the leaves denticulate-ciliate, and the staminodes with 2 appendices at the base.

Distribution. Known only from the type locality. *Adenanthe bicarpellata* also occurs in Guyana in the Cuyuni–Mazaruni Region on Mt. Ayanganna, but in elfin forest at 1350–1380 m. In Venezuela *A. bicarpellata* occurs in Bolívar on the Chimanta

Massif and some neighboring tepuis at 2000–2150 m.

Tyleria terrae-humilis Sastre, sp. nov. TYPE: Venezuela. Amazonas: Dpto. Atabapo, San Antonio-Atabapo (abandoned settlement), 03°27′N, 66°45′W, en sotobosque medio ralo intevenido, 140 m, abr. 1990 (fl), *M. Yanez 436* (holotype, P; isotype, PORT not seen). Figure 3.

A *Tyleria apiculata* Sastre, foliis margine plano et dentibus sparsis, floribus minoribus sepalis inaequalibus 2.5–4 mm longis (vs. 8–9 mm), staminodiis 2-cyclicis, differt.

Shrub, 2 m tall, stems glabrous, ramification sympodial. Leaf blade papery, elliptic, 7–11 cm long, 1.4–1.8 cm wide; apex acute; margin poorly denticulate; base narrowly attenuate; principal vein salient on both surfaces, lateral veins parallel, numerous, with 3–5 thin between 2 larger, marginal vein salient on both surfaces. Petiole very short, less than 1 mm long. Stipules triangular, very short, height 1 mm, base 0.5 mm. Inflorescence terminal on each sympodium, paniculate, 7–8 cm long; inflorescence bract coriaceous, ovate-elliptic, 24 × 7 mm, apex emarginate with a tuft of cilia on each side of the notch, margin entire or slightly undulate; veins numerous, parallel, equal, margin vein a few salient. Floral bracts coriaceous, ovate, 2–2.5 × 0.4–0.6 mm, aristate. Peduncle 6–7 mm long; sepals 5, unequal, ovate, the smaller 2.5 × 2 mm, the larger 4 × 2 mm, apex obtuse in the smaller, acute in the larger, margin with some small teeth; petals 5, membranous, elliptic, 4 × 2 mm, apex acute; staminodes free, petaloid, elliptic, the 5 outer ca. 3 × 1.5 mm, the 5 inner ca. 2 × 1 mm; stamen poricidal, 2 × 0.5 mm; style 3 mm long. Mature fruit not seen.

Tyleria has 13 species, 4 clearly petiolate, 9 (including the new species) sessile or shortly petiolate. In the last group, 3 (including the new species) are subsessile and have inflorescences branched, with 10 flowers or more. In the last group, only *T. spathulata* Gleason possesses some spathulate leaves, while *T. apiculata* Sastre and *T. terrae-humilis* have elliptic to oblong leaves. The new species differs from *T. apiculata* by the plane margin of the leaves and smaller flowers poorly denticulate (sepals 2.5–4 mm long vs. 8–9 mm) and the staminodes free in 2 circles (vs. united at base in 1 circle).

Distribution. Known only from the type locality. The genus *Tyleria* is endemic to the Guayana Shield; *T. silvana* Maguire occurs in Venezuela (Serra de la Neblina) and Brazil (Serra Pirapucú); the other species are only in Venezuela, 2 in Bolívar state, 8 in Amazonas state; *T. apiculata* is in Bolívar state (Macizo del Chimantá) and in Amazonas state (Cerro Marahuaca). Only *T. terrae-humilis* is in the Guayana lowland (140 m), the other species are in the Guayana highland (1200–2500 m).

Acknowledgments. I thank the anonymous reviewer for assistance with the manuscript and Monique Chalopin for the photographic illustrations.

Literature Cited

Maguire, B. 1961. Ochnaceae. *In:* The Botany of the Guayana Highland—part IV(2). Mem. New York Bot. Gard. 10(4): 6–21.