

Flora of the Venezuelan Guayana

VOLUME 9

RUTACEAE-ZYGOPHYLLACEAE

VOLUME EDITORS

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VASCULAR ZYGOPHYLLACEAE

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TEPUIANTHACEAE

by Paul E. Berry and Zachary S. Rogers

Trees or shrubs, with bitter bark that can be peeled off in strips. Leaves alternate or opposite, simple, entire, pinnately veined, exstipulate. Inflorescences cymose, terminal or subterminal. Flowers actinomorphic, staminate or bisexual (plants androdioecious). Sepals 5, free, imbricate; petals 5, free, imbricate, yellow, clawed at the base. Nectary disk extrastaminal, with 5–10 discrete, contiguous glands; glands glabrous externally, usually pubescent internally. Stamens 5–16(–22), in 1–3 cycles, alternate with the petals when unicyclic; anthers sagittate, versatile and dorsifixed, bithecate, introrse, longitudinally dehiscent; connective sometimes modified; pollen 3-colporate, exine reticulate. Receptacle densely hirsute; ovary superior, compound, carpels and locules 3; styles 3, bifid; ovules 1 per locule, anatropous, pendulous, raphe ventral. Fruit a loculicidal capsule, densely sericeous. Seeds glabrous; endosperm abundant; embryo small.

Southeastern Colombia (Vaupés), southern Venezuela, northern Amazonian Brazil (restricted to the Guayana Shield); 1 genus and 6 species, 4 species in Venezuela, all in the flora area.

Wurdack & Horn (BSA abstract, 2001) performed a parsimony analysis of sequence data from 18S rDNA, *atpB*, and *rbcL*, which placed *Tepuianthus* within the Malvales, sister to, or at the base of, Thymelaeaceae *sensu lato* (i.e., including Octolepidoideae). *Tepuianthus* is, in fact, extremely similar to the New Caledonian *Solmsia* (Thymelaeaceae, Octolepidoideae; 1 or 2 species), down to the emarginate, tough leaves with a venose and glossy upper leaf surface and a sericeous indumentum on the lower surface. However, the flowers of *Tepuianthus*, unlike those of Thymelaeaceae, possess a true corolla, which is composed of 5 clawed, yellow petals (J.W. Horn. Bot. J. Linn. Soc. 144: 1–40. 2004). Close phylogenetic relationships of other Guayana Shield-centered genera with Malesian and Australasian groups are shown by *Archytaea* (with *Ploiarium*), *Pentamerista* (with *Tetramerista*), and *Pakaraimaea* and *Pseudomonotes* (with Old World Dipterocarpaceae).

1. TEPUIANTHUS Maguire & Steyerl., Mem. New York Bot. Gard. 32: 9. 1981.

Characters and distribution as in family; 6 species, 4 species in Venezuela, all in the flora area.

Tepuianthus colombianus Maguire & Steyerl., from Cerro Isibukuri in Departamento Vaupés, Colombia, may be conspecific with *T. savannensis*. The sixth species, *T. aracensis* Steyerl. & Maguire, is endemic to Serra Aracá, in northern Estado Amazonas, Brazil.

Key to the Species of *Tepuianthus*

1. Inflorescence erect, congested; peduncles to 4 mm long; pedicels 1–2 mm long; midrib on lower surface of leaf with spreading to loosely ascending trichomes; secondary and tertiary venation on lower surface of leaf generally evident 2
1. Inflorescence pendent, laxly flowered; peduncles 7–15 mm long; pedicels 2–8 mm long; midrib on lower surface of leaf with finely appressed, minute trichomes; secondary and tertiary venation on lower surface of leaf mostly concealed by a fine tomentum 3

- 2(1). Stamens 5; sepals acute to acuminate at apex; secondary leaf veins 12–15 per side, 3–4 mm apart in lower half; leaf blade mucronate; shrubs 0.5–3 m tall *T. auyantepuiensis*
2. Stamens 12–16; sepals obtuse to rounded at apex; secondary leaf veins 16–23 per side, 1–2 mm apart in lower half; leaf blade scarcely or not mucronate; trees 3–10 m tall *T. yapacanensis*
- 3(1). Anther connective entire at apex; petals 3.5–5 mm long; pedicels 2–4 mm long *T. sarisariñamensis*
3. Anther connective multifimbriate or erose at apex; petals 5.5–6 mm long; pedicels 4–7 mm long *T. savannensis*

Tepuianthus auyantepuiensis Maguire & Steyerl., Mem. New York Bot. Gard. 32: 10, figs. 1, 2. 1981.

Shrub 0.5–2.5(–3) m tall; leaves obovate, 1.6–5 × 1–2.1 cm, petioles 3–7 mm long; flowers 2.5–4.5 × 2.5–3 mm, sepals 2–4.5 × 1.2–2 mm; fruits 6–10 × 5–8 mm. Locally abundant in dense colonies in tepui scrub savannas, 1600–2200 m; Bolívar (Auyántepeui). Endemic.

Tepuianthus sarisariñamensis Maguire & Steyerl., Mem. New York Bot. Gard. 32: 16. 1981.

Branched tree or shrub 3–7 m tall; leaves obovate or oblanceolate, 1.2–5.8 × 0.7–1.6 cm, petioles (4–)6–10 mm long; flowers ca. 3.5 × 3.5 mm, sepals ca. 3.2–4 × 2–2.8 mm; fruits ca. 7 × 6 mm. Dwarf forests on tepui summits, (700–)1100–1500 m. Venezuela; 2 subspecies, both in the flora area.

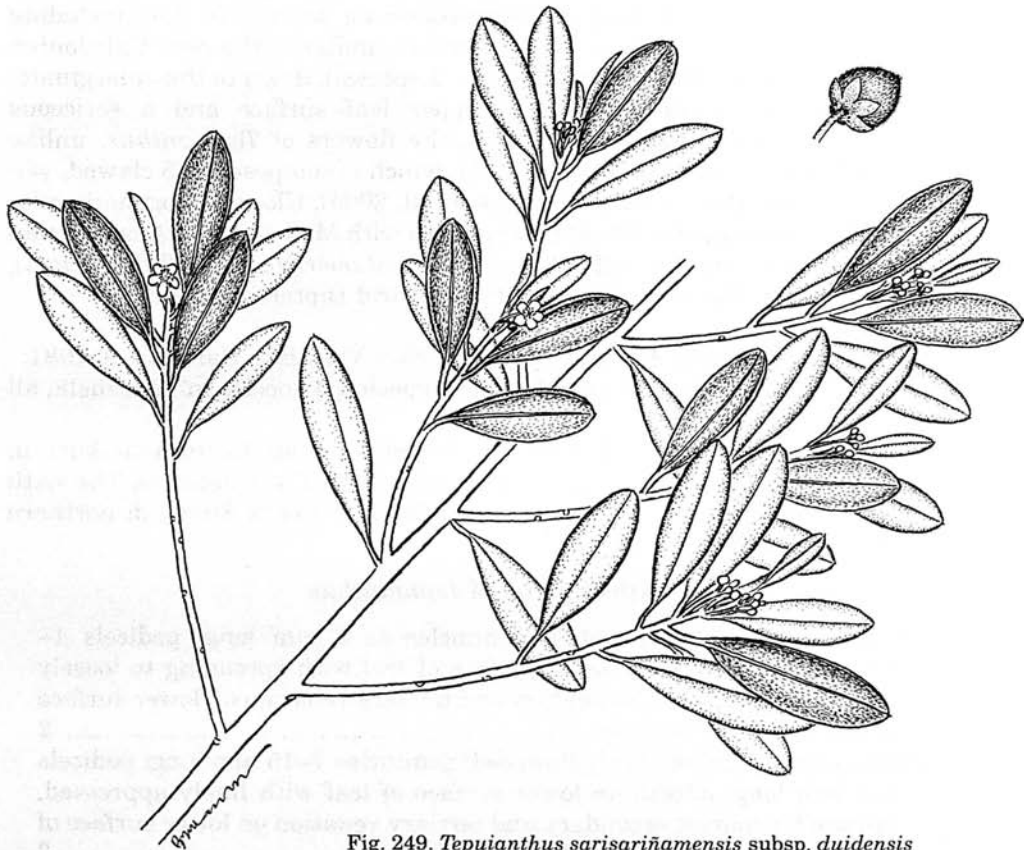
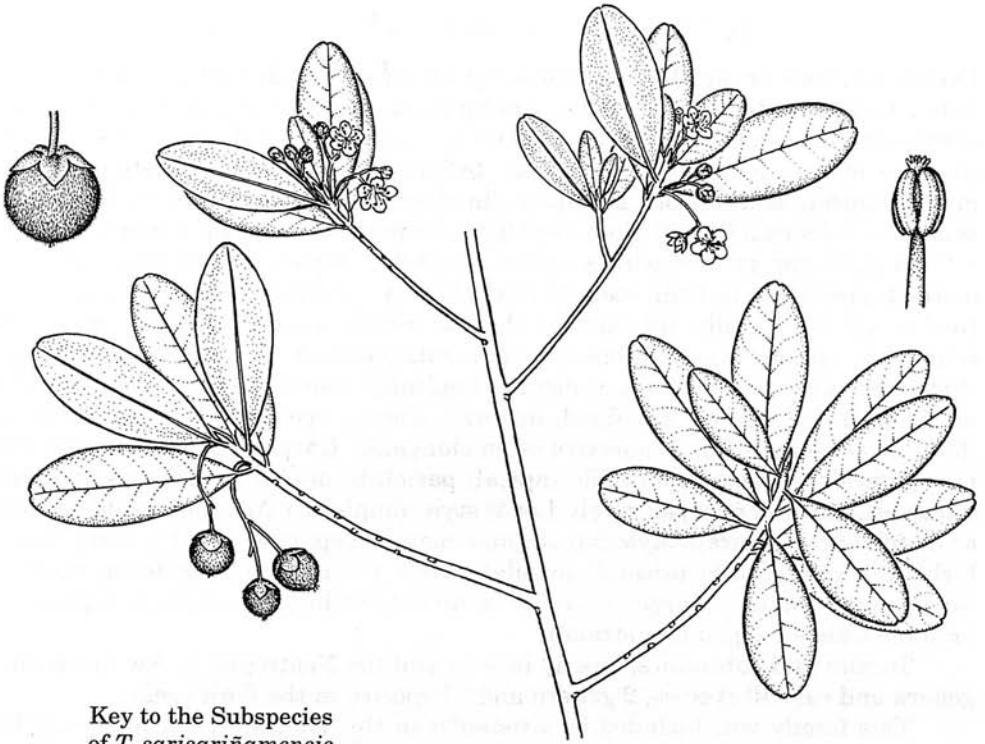


Fig. 249. *Tepuianthus sarisariñamensis* subsp. *duidensis*

Fig. 250. *Tepuianthus savannensis*

Key to the Subspecies
of *T. sarisariñamensis*

1. Pubescence of lower surface of leaf, petioles, and stem apex minutely and closely appressed, not loosely ascending at tip; reticulation of upper surface of leaf with small, regular areoles subsp. *duidensis*

1. Pubescence of lower surface of leaf, petioles, and stem apex densely silky with slightly ascending tips; reticulation of upper surface of leaf with larger, irregular areoles ... subsp. *sarisariñamensis*

T. sarisariñamensis subsp. *duidensis*
Maguire & Steyerl., Mem. New York Bot. Gard. 32: 18. 1981.

Open savannas and forest patches, (700–) 1100–1500 m; Amazonas (Cerro Duida, Cerro Parú). Endemic. ♦Fig. 249.

T. sarisariñamensis subsp. *sarisariñamensis*

Dwarf forests on tepui summits, 1300–1400 m; Bolívar (Cerro Sarisariñama). Endemic.

Tepuianthus savannensis Maguire & Steyerl., Mem. New York Bot. Gard. 32: 14. 1981.

Small tree 2–8 m tall; leaves obovate, oblanceolate, or rarely elliptic, 1.5–5.3 × 1–2.1 cm, petioles 2–5 mm long; flowers 3–4.5 × 4–5 mm, sepals 3–4.5 × 2.5–3.5 mm; fruits 7–10 × 7–10 mm. In and along edges of white-sand savannas, 100–600(–800) m; Amazonas (Caño Yagua, Cerro Vinilla, Río Autana, Río Guayapo, lower Río Ventuari). Colombia (Vaupés). ♦Fig. 250.

Tepuianthus yapacanensis Maguire & Steyerl., Mem. New York Bot. Gard. 32: 12, fig. 3. 1981.

Branched tree 8–10 m tall; leaves obovate or oblanceolate, 3–4.5 × 1–1.8 cm, petioles 3–5 mm long; flowers ca. 4.5 × 5 mm, sepals 2.1–4 × 1.5–2.5 mm; fruits ca. 6 × 5 mm. Dominant in tepui summit dwarf forests, 1000–1200 m; Amazonas (Cerro Yapacana). Endemic.