

NEW SPECIES OF *GIBSONIOTHAMNUS*
(SCROPHULARIACEAE/BIGNONIACEAE) AND
TOURNEFORTIA (BORAGINACEAE) FROM
EASTERN PANAMA AND THE CHOCÓ¹

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ABSTRACT

Three new species are described from wet forest regions of eastern Panama and the Chocó of Colombia—*Gibsoniothamnus alatus* A. Gentry, *Gibsoniothamnus mirificus* A. Gentry, and *Tournefortia tacarcunensis* A. Gentry & Nowicke.

***Gibsoniothamnus alatus* A. Gentry, sp. nov.**

Frutex epiphyticus. Ramuli irregulariter teretes. Folia elliptica, acuta vel acuminata, cuneata, glabra praeter domatia ciliata. Flores singulares, pedicellis glabris. Calyx late alatus, ad instar stellae, alis ultra 1 cm longis. Corolla (non vidi) alba.

Epiphytic shrub. Branchlets irregularly terete to subangulate, very sparsely pilose. Leaves elliptic, acute to acuminate, cuneate at the base, chartaceous to subcoriaceous, glabrous above and below except for ciliate domatia in the axils of the lower secondary nerves, gland dotted below, the margin entire, very slightly or not at all revolute, drying dark olive above, light olive below, the secondary veins plane or slightly impressed above, prominulous to prominent below. Inflorescence a single flower; pedicel glabrous, 1.5–2 cm long. Calyx very broadly winged, glabrous except a few trichomes near the ends of the wings, almost star shaped, ca. 6–7 mm long and wide without the wings, the wings each over 1 cm long, tapering to an acute point. Corolla (not seen) white. Pistil 23 mm long, the ovary globose, the style slender, 18 mm long. Fruit white, covered by the calyx.

TYPE: PANAMA. DARIÉN: N slopes of Cerro Pirre, lower montane rain forest (cloud forest), 700–950 m, 6 Apr. 1975, *Mori & Kallunki 5449* (MO, holotype; isotypes to be distributed).

Additional collection examined: PANAMA. DARIÉN: Cerro Campamento, S of Cerro Pirre, elfin forest, 20–22 Mar. 1968, *Duke 15657* (MO).

This species is utterly distinct in the genus because of its laterally winged, star-shaped calyx. Its closest relative is *G. pterocalyx* A. Gentry but that species has much narrower longitudinally oriented teeth.

***Gibsoniothamnus mirificus* A. Gentry, sp. nov.**

Frutex epiphyticus. Ramuli irregulariter subangulati, pilosi. Folia obovato-elliptica, obtusa, cuneata, conspicue pilosa. Flores singulares, pedicellis pilosis. Calyx cupulatus, pilosus, valde 5-dentatus, dentibus linearibus, 2–2.5 cm longis. Corolla tubulosa, rubra.

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Epiphytic shrub. Branchlets pilose, irregularly subangulate. Leaves obovate-elliptic, obtuse to acutish at the apex, cuneate at the base, chartaceous to subcoriaceous, 3–9 cm long, 1.5–4 cm wide, conspicuously pilose with 1–2-mm-long trichomes above and below, the margin entire, very slightly or not at all revolute, drying brownish olive above, tannish yellow below, the secondary veins plane above, prominent below; petiole densely pilose, ca. 5 mm long. Inflorescence a single flower; pedicel conspicuously pilose, 0.7–1 cm long. Calyx cupular, pilose, strikingly 5-toothed, 5–7 mm long and 4–6 mm wide without the teeth, the 5 linear teeth exceeding the calyx by 2–2.5 cm, pilose, extended along the calyx as lateral ridges. Corolla red, tubular, glabrous, 3.5–4.3 cm long and 0.5–0.6 cm wide, lobes 3 mm long, with ciliate margins. Fruits not seen.

TYPE: PANAMA. COLÓN: Santa Rita Ridge Road along trail from end of road (10.6 km from Transisthmian Highway, 3 km beyond hydrographic station) to Río Indio, 380 m, 13 Apr. 1976, *Croat 34298* (MO, holotype; PMA, isotype).

Additional collection examined: PANAMA. COLÓN: Plant collected by H. Wiehler on Santa Rita Ridge, cultivated at Marie Selby Botanical Gardens, Sarasota, Florida, *Dressler s.n.* (MO).

The striking calyx teeth of this species are by far the longest in the genus. It is otherwise similar to Costa Rican *G. epiphyticus* (Standl.) L. Wms. which is also more or less pilose throughout but has very much shorter calyx teeth, a fasciculate several-flowered inflorescence, and more coriaceous leaves.

***Tournefortia tacarcunensis* A. Gentry & Nowicke, sp. nov.**

Herba erecta. Folia anguste elliptica, acuta, cuneata, subsessilia, glabrescentia. Inflorescentia scorpioidea, floribus sepalis lanceolatis, ca. 4 mm longis, corollae tubo 8–9 mm longo, lobis ca. 1.5 mm longis.

Herb 0.2–0.5 m; stems glabrescent. Leaves alternate, narrowly elliptic, acute, cuneate at the base, entire, with 4–7 pairs of strongly ascending secondary nerves, 8–28 cm long, 2–6.5 cm wide, glabrous above, glabrescent below, rather succulent when fresh, membranous when dry, drying dark brown above, tannish gray below; petiole essentially lacking. Inflorescence scorpioid, contracted, 3–4 cm long, terminal; pedicels mostly 1–2 mm long. Calyx of 5(6) free sepals, lanceolate, ca. 4 mm long, sparsely puberulous; corolla orangish to greenish cream, sparsely puberulous outside, the tube 8–9 mm long, the lobes ca. 1.5 mm long; stamens 5(6), borne near the apex of the corolla tube, sessile, the anthers ca. 1.2 mm long; ovary ovoid, the style ca. 6 mm long, the stigma conical, 1 mm long. Fruit not seen.

TYPE: PANAMA. DARIÉN: Cerro Tacarcuna, W ridge, trail from summit camp to waterfall E of camp, 1,550–1,700 m, lower montane wet forest life zone, herb 0.5 m, flowers greenish cream, turning tannish, inflorescence scorpioid, stamens equalling petal number, ovary 2-locular with axile placentation, 2 Feb. 1975, *Gentry & Mori 14114* (MO, holotype).

Additional collection examined: COLOMBIA. CHOCÓ: Slopes of Serranía del Darién, E of Unguía, premontane wet forest, ca. 1,300 m, herb 0.2 m, flowers orangish, 19 July 1976, *Gentry, León & Forero 16772* (COL, MO).

This species seems remarkably distinct from all other members of the genus. It is apparently the only clearly herbaceous species of *Tournefortia* (a completely unrelated species, *T. sibirica* L. is a wiry herb but often segregated as *Messerschmidia*). Another unusual feature is a tendency to 6-parted flowers.

The pollen of *T. tacarcunensis* is of the type described as "Type II," 3-colporate, subprolate with expanded poles, psilate at the poles and verrucate at the equator by Nowicke & Skvarla (1974).

The closest relative of *T. tacarcunensis* may be *T. ramonensis* Standl. of upland Costa Rica and Chiriquí Province—though omitted from the *Flora of Panama* treatment of the family (Nowicke, 1969). That species has generally similar flowers which differ in the corolla being densely and rather strigosely pubescent outside. The inflorescence of *T. ramonensis* is also much more elongate and the flowers are essentially sessile. Vegetatively *T. tacarcunensis* differs conspicuously in its glabrescent, narrowly elliptic leaves which are narrowly cuneate, essentially sessile, and have only about 6 pairs of secondary nerves. Another Costa Rican relative is *T. brenesii* Standl., which agrees in pedicellate flowers and an only sparsely puberulous corolla but has much longer (4 mm) corolla lobes and a long-petioled leaf with 15 secondary nerves on each side.

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