

# Two New Distinctively Large-leaved Species of *Tovomita* (Clusiaceae) from the Venezuelan and Peruvian Amazonian Region

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**ABSTRACT.** Two new large-leaved species of *Tovomita* are described: *T. auriculata* from Venezuelan and Peruvian Amazon lowland forests, and *T. foldatsii* from Venezuelan Amazon lowland forests. The morphological relationships to related species are discussed.

**RESUMEN.** Se describen dos especies nuevas de *Tovomita*: *T. auriculata* de los bosques de tierras bajas de la Amazonía de Perú y Venezuela y *T. foldatsii* de los bosques de tierras bajas de la Amazonía venezolana. Se discuten sus relaciones morfológicas con especies afines.

*Tovomita* Aublet (Clusiaceae), with about 45 species, is known exclusively from the New World tropics. This genus, one of the most poorly known of the Clusiaceae, is represented in Venezuela by at least 30 species. The two undescribed species were detected during preparation of a treatment of the *Tovomita* for the *Flora of the Venezuelan Guayana*.

***Tovomita auriculata*** Cuello, sp. nov. TYPE: Venezuela. Amazonas: Dpto. Atures, bosque alto de tierra firme en el sector "La Culebra" a 26 km al SE de Pto. Ayacucho, por la carretera Pto. Ayacucho-El Gavilán, 5°31'N, 67°24'W, 80–150 m, ene. 1989 (pist. fl, fr), N. Cuello & Y. Fernández 480 (holotype, PORT; isotype, MO). Figure 1.

Haec species *T. speciosae* Ducke affinis sed foliis sessilibus, laminis attenuatis, auriculatis, obovatis, petiolis minus quam 5 mm longis, inflorescentia 3–6 mm longa, sepalis externis triangularibus, sepalis internis oblongis, petalis 5, ovario 5-carpellato, atque fructibus rotundatis differt.

Dioecious trees, 3 to 10 m tall. Branches terete, bark corky, ringed by leaf scars. Leaves opposite, decussate, short-petiolate or sessile, the petioles less than 5 mm long; the blades coriaceous, largely obovate, 9–16 × 30–45 cm, attenuate and auriculate at base, obtuse to rounded at apex, base 1–2 cm wide, lateral veins 12 to 20 pairs, well differentiated and spaced 1–2.2 cm apart, curving toward

the margin. Inflorescences cymose, terminal, lenticellate. Pistillate inflorescences 3-flowered, peduncle 1–1.2 cm long, pedicels of lateral flowers 3.4–3.6 cm, pedicel of terminal flower 3.5–4 cm long. Staminate inflorescences 13–39-flowered, 3–6 cm long, pedicels of lateral flowers 5–10 mm long; pedicel of terminal flower 13–16 mm long. Staminate buds 5–9 × 4–6 mm, external sepals 2, rugose and coriaceous, 6–7 × 8–9 mm, internal sepals smooth and membranaceous. Petals 5, oblong, 7–8 × 8–9 mm. Stamens numerous, ca. 60. Pistillate buds oblong-elliptic, 10–15 × 6–8 mm; pistillate flower 15–18 mm long at anthesis; external sepals 2, triangular, 13–15 mm long, 12–16 mm wide at base; internal sepals 2, oblong, 14–16 × 8–10 mm. Petals ovate, 15–18 × 3.5–4.5 mm. Staminodes 40–60, 8–10 mm long. Ovary 5-carpellate, 5 mm long, style 5 mm, stigmas capitate, 2.5–3 mm long. Ovules 1 per carpel, 4–4.3 mm long, axile. Fruits rounded, 3–3.5 cm diam., with persistent stigmas, 5–9 mm long.

**Distribution and ecology.** *Tovomita auriculata* is only known from the type and paratype collections, and is apparently a common tree at the lower and medium strata in wet lowland to foothill forests. In Venezuela, it is known by the common name of "palo de tinaja."

Due to its large leaves, *T. auriculata* appears to be most closely related to *T. speciosa* Ducke (Ducke, 1925, 1935) from Brazilian Amazon lowland forests in the states of Amapá and Pará. However, *T. auriculata* has sessile to subsessile leaves, the bases of the obovate blades are attenuate and auriculate (petiole less than 5 mm long), the inflorescences are 3–6 cm long, with triangular and oblong sepals, 5 ovate or oblong petals, ovary with 5 carpels, and rounded fruits, 5–9 mm long. In contrast, *T. speciosa* has the bases of oblong-obovate or elliptic-obovate blades cuneate-attenuate, the petioles are 3–4 cm long, the inflorescences are 2–2.5 cm long, with wide orbicular sepals, 6 obovate-elliptic petals, ovary with 6 carpels, and pyriform fruits, 2.5–3 cm long. In addition, *T. auriculata* is also similar to *T. excelsa* Andrade-Lima & Mariz





Figure 1. *Tovomita auriculata* Cuello (pist. fl and fr, N. Cuello & Y. Fernández 480, holotype, PORT).



Figure 2. *Tovomita auriculata* Cuello (stam. fl, Sanoja & Fernández 3265, paratype, PORT).

(Mariz, 1974) from wet forests of the state of Alagoas, Brazil. However, *T. auriculata* has coriaceous leaves, petioles less than 5 mm long, and oblong petals, 8–9 mm wide in staminate flowers. *Tovomita excelsa* differs in its membranaceous leaves, 2.5–3-cm-long petioles, and lanceolate petals, 3–5 mm wide in staminate flowers.

**Paratypes.** PERU. **Loreto:** Prov. Maynas, Quebrada Santa Cruz (tributario del Río Nanay), 03°50'S, 73°35'W, 130 m, Mar. 1982 (fr), R. Vásquez & J. Ruiz 2945 (MO). VENEZUELA. **Amazonas:** Dpto. Atures, Laguna El Sil-lón y Caño Mariguaca, 78 km NE Puerto Ayacucho, 05°49'N, 66°50'W, 400 m, Oct. 1989 (buds), Proyecto Inventario de los Recursos Naturales de la Guayana Venezolana-CVG-TECMIN, Fernández 6409 (MO, PORT); Ser-rania Batata, 2 km al NE de Salto Colorado, Caño Colorado sobre corazas lateríticas, 55 km al SE de Pto. Ayacucho, 5°33'N, 67°08'W, 550 m, Oct. 1989 (stam. fl), Sanoja 3240 (PORT unicate), 3265 [MO, PORT (Fig. 2)], 3276 (PORT unicate); Río Cataniapo, 56 km al SE de Pto. Ayacucho, 5°38'N, 67°12'W, 120 m, ago. 1981 (stam. fl), Guánchez 1425 (TFAV unicate).

***Tovomita foldatsii*** Cuello, sp. nov. TYPE: Vene-zuela. Amazonas: Dpto. Atures, bosque alto de tierra firme en el sector "Campamento Remo," alto Río Sipapo, 4°34'N, 67°18'W, 80–150 m, junio 1989 (fr), E. Foldats & J. Velázco 9577 (holotype, PORT; isotype, MO). Figure 3.

Haec species *T. fanshawei* Maguire similis sed petioli alis longioribus (6–9 mm vs. 4–5 mm), lamina foliari longiore (30–45 × 20–25 cm vs. 15–22 × 6–9 cm) atque stigmatibus in fructu linearibus (vs. subpeltatis) differt.

Dioecious tree, 4–5 m tall. Branches quadrangular, glabrous, with smooth bark. Leaves decusate, the petioles thick, semi-terete, striate, 1.5–2 cm long, 4–5 mm wide; axillary petiolar flaps conspicuously raised, 6–9 mm diam., the blades coriaceous, broadly oblong-elliptical, 30–45 × 20–25 cm, shortly attenuate at base, obtuse to rounded at apex, lateral nerves prominent, 17–21 pairs, 2–3.2 cm apart. Inflorescences and flowers unknown. Fruit a fleshy stipitate capsule, ellipsoidal to fusiform, 8–10 × 2.5–3 cm; with a style 1.2–2 cm long and 5 linear stigmas; stipe 1–2 cm long; staminodes usually persistent in fruit. Seeds reniform, 3.5–4 × 0.9–1.2 cm, 1 per locule, apparently with a fleshy aril-like covering.

**Distribution and ecology.** *Tovomita foldatsii* is found in lowland wet forests of the eastern Amazonas in Venezuela and is known only from the type collection.

*Tovomita foldatsii* is a distinctive species belonging to the large-leaved complex (*T. macrophylla* (Poeppig) Walpers, *T. fanshawei* Maguire, *T. morii*





Figure 3. *Tovomita foldatsii* Cuello (fr. E. Foldats & J. Velázco 9577, holotype, PORT).

Maguire, *T. speciosa* Ducke, *T. froessi* Maguire, and *T. auriculata* Cuello) from Panama, the Amazon Basin, and Guiana Shield. Among those, *T. foldatsii* is most closely related to *T. fanshawei* Maguire (Maguire, 1948) from Guyana, Colombia, Peru, Brazil, and Bolivia (Cuello, 1998), both having raised axillary petiolar flaps. However, in *T. foldatsii*, the blades ( $30\text{--}45 \times 20\text{--}25$  cm) and axillary petiolar flaps (6–9 mm) are much larger than in *T. fanshawei* ( $15\text{--}22 \times 6\text{--}9$  cm and 4–5 mm, respectively), and the stigmas in the fruits of *T. foldatsii* are linear and not subpeltate as are those in *T. fanshawei*. In addition, *T. foldatsii* is similar to *T. morii* Maguire

(Maguire, 1978), from Panama, having quadrangular branches in common. However, *T. foldatsii* is a tree, with petioles 1.5–2 cm long, a broadly oblong-elliptical lamina,  $30\text{--}45 \times 20\text{--}25$  cm, and stipitate fruit,  $8\text{--}10 \times 2.5\text{--}3$  cm. In contrast, *T. morii* is an epiphytic shrub, with petioles less than 0.5 cm long, broadly oblanceolate lamina,  $18\text{--}25 \times 10\text{--}14$  cm, and non-stipitate fruit,  $4\text{--}5 \times \text{ca. } 2$  cm.

This species is named in honor of Ernesto Foldats due to his significant contributions to our knowledge of the Venezuelan flora, and for collecting the type specimen.

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