

A New *Votomita* (Melastomataceae) from Panama

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ABSTRACT. A new species of *Votomita*, *V. cupuliformis*, has been found on the north side of western Panama, the first member of the genus known to occur in Central America. The new species is most similar to *V. roraimensis* Morley of central Roraima, Brazil. Distinguishing features are discussed, and a key to all nine species of the genus is provided.

Votomita cupuliformis Morley & Almeda, sp. nov. TYPE: Panama. Bocas del Toro: Laguna de Chiriqui, rincon Sur-Este Nuri, campamento cerca pequeña poblacion Guaymi, 15 km Oeste de Punta Cricamola, entrando Ensenada de Catavela, y subiendo Quebrada Nuri, 8°55'N, 81°49'W, unos 5 km al Sur del campamento, 10–25 m, 18 mar. 1993, Robin Foster, A. Herre, E. Kalko & C. Handley 14563 (holotype, CAS; isotypes, MO, PMA, SCZ, US). Figures 1, 2.

Arbor glabra usque 10 m alta; cryptae stomatophorae Typi II, parvae, simplices; epidermis supera folii stratiis 1 cellularum; limbus calycis cupuliformis lobis apiculatis; stamina monadelpha; ovarium 2-loculare ovuliis 16 axillaribus.

Glabrous tree 10 m high; young twigs rounded. Petioles 4–6 mm long; blades 6.5–11.9 cm long, 2.4–4.5 cm wide, elliptic to elliptic-ovate or seldom slightly obovate, abruptly acuminate at apex, acute to abruptly short-attenuate on the petiole at base; midrib grooved above, narrowly 2-winged below; lateral nerves obscurely visible to invisible above and below when dry. Midrib xylem tubular; stomatal crypts Type II or borderline I–II (see Morley, 1976); upper epidermis one cell thick, lacking mucilaginous walls; hypodermis none; foliar sclereids all terminal, variable in shape, mostly columnar with large branches at each end, sometimes slanting, sometimes with a horizontal central body at veinlet level bearing branches upward and downward. Peduncles terminal, axillary, and at the uppermost leafless nodes, 1 per side, of 1 internode 3–7 mm long, 1-flowered; bracts narrowly

triangular, acute, entire, 1.2–1.5 mm long, deciduous at anthesis. True pedicels 8–11 mm long; flowers known only from buds, the buds yellow; flowers 4-merous; calyx including inferior ovary 4.5–5 mm long, obconic to slightly campanulate, 1.8–2.2 mm long, the surface flecked with scurfy patches at least when moist; calyx limb abruptly expanded and shallowly cup-shaped, 2.5 mm long, ca. 3.8 mm diam.; calyx lobes 0.7 mm long, 2.5 mm wide, broadly rounded-triangular and prominently apiculate. Immature petals ovate, acute, sessile, adherent to each other in bud, 8 mm long, ca. 3.5 mm wide. Stamens monadelphous, 4.2–4.5 mm long, 0.9–1.0 mm wide, adherent on the back to the petals in bud, this condition at anthesis unknown; filaments ca. 0.4 mm long; anthers 3.7–4.2 mm long; thecae 2.4–2.7 mm long; gland adaxial at the apex, shallowly concave, 0.7 mm long, 0.4–0.5 mm wide. Ovary 2-locular with axile placentation, each locule with ca. 8 ovules crowded at different levels on the placenta, the ovules 16 in all. Calyx prominent on the immature fruit; ripe fruit and seed unknown.

Distribution. Known only from the type locality near the southeast corner of the Laguna de Chiriquí on the north side of western Panama. "Terra firme, bosque alto, humedo sobre filos y pendientes."

The new species is the first member of *Votomita* known to occur in Central America. Its leaves are overall the simplest in the genus in their average size and shape, lack of hairs, undivided upper epidermis, strictly terminal foliar stone cells with only a moderate columnar tendency, and small simple stomatal crypts. The flowers, however, are of an intermediate level of reduction from the presumed ancestral type: in the nine species of *Votomita* there is a general trend from large-flowered plants with 4-locular ovaries and numerous ovules to small-flowered ones with 1 locule and 5–10 ovules. *Votomita cupuliformis* has a 2-locular ovary with 16 ovules; in this feature the plant is most similar to *V. roraimensis* of central Roraima, Bra-

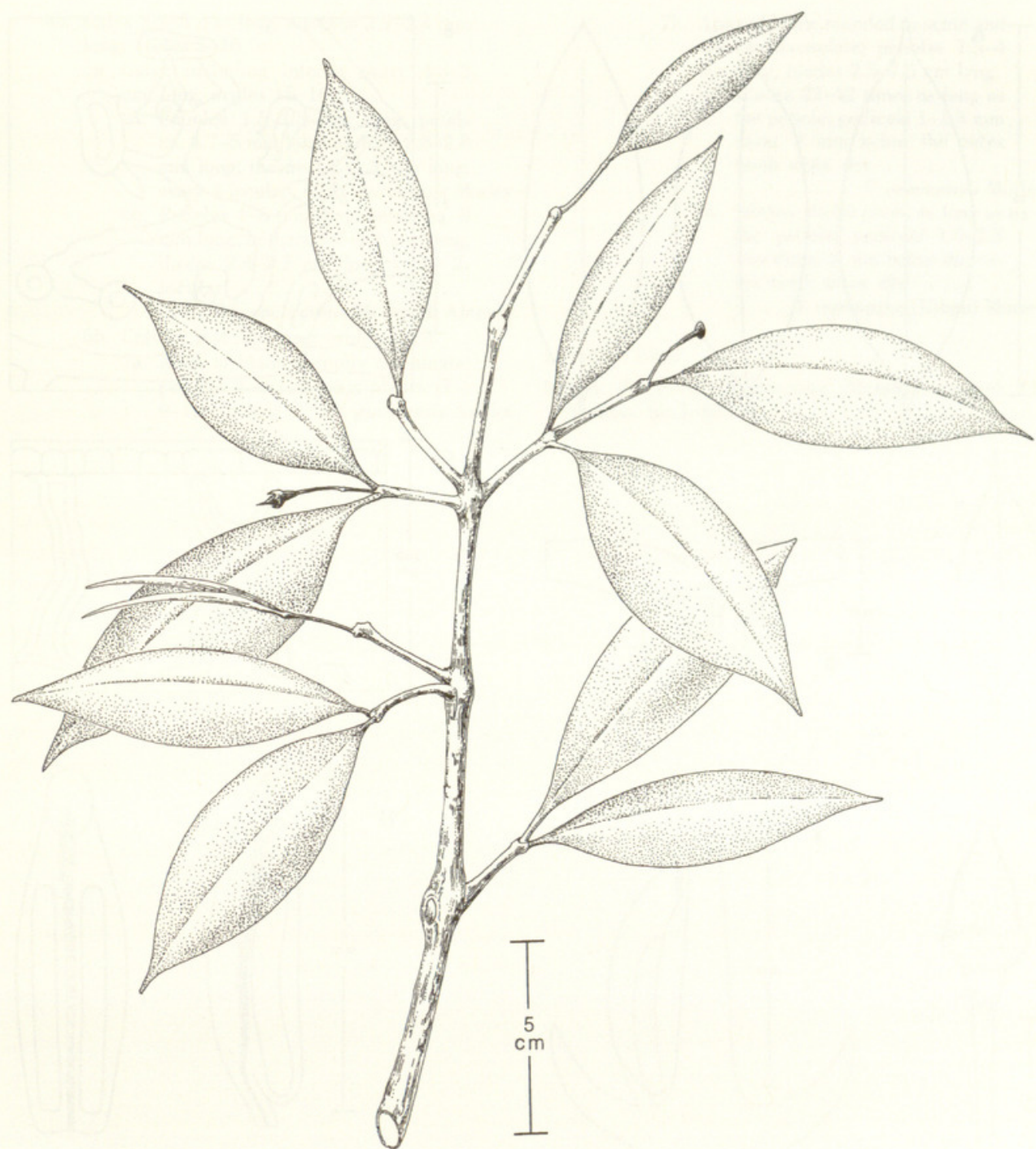


Figure 1. *Votomita cupuliformis* Morley & Almeda, habit drawing (by Ellen del Valle).

zil, which has 4 locules and 15–16 ovules. The new species is easily distinguished from *V. roraimensis*, however, by the former's longer petioles, simpler leaf anatomy, larger petals and stamens, and 2-locular ovary.

A key is provided to all nine species to illustrate how the three named since the latest monograph (*V. cupuliformis*, *V. pubescens*, *V. roraimensis*) compare to the six included in the monograph (Morley, 1976):

1a. Calyx including inferior ovary 7.5–10.5 mm long; ovules 20–48.

- 2a. Leaf blades pubescent beneath, 10.5–15.5 cm long *V. pubescens* Morley
- 2b. Leaf blades (excluding the midrib) glabrous beneath, 7–12 cm long.
- 3a. Petioles 3–5 mm long, placentation axile *V. plerocarpa* (Morley) Morley
- 3b. Petioles 7–12 mm long; placentation basal in each locule *V. monadelpha* (Ducke) Morley
- 1b. Calyx including inferior ovary 2.2–5.6 mm long; ovules 5–16 and 36.
- 4a. Calyx including inferior ovary 5–5.6 mm long; stamens 5.4–6.1 mm long; ovules ca. 36, in 4 whorls *V. orbinaxia* Morley

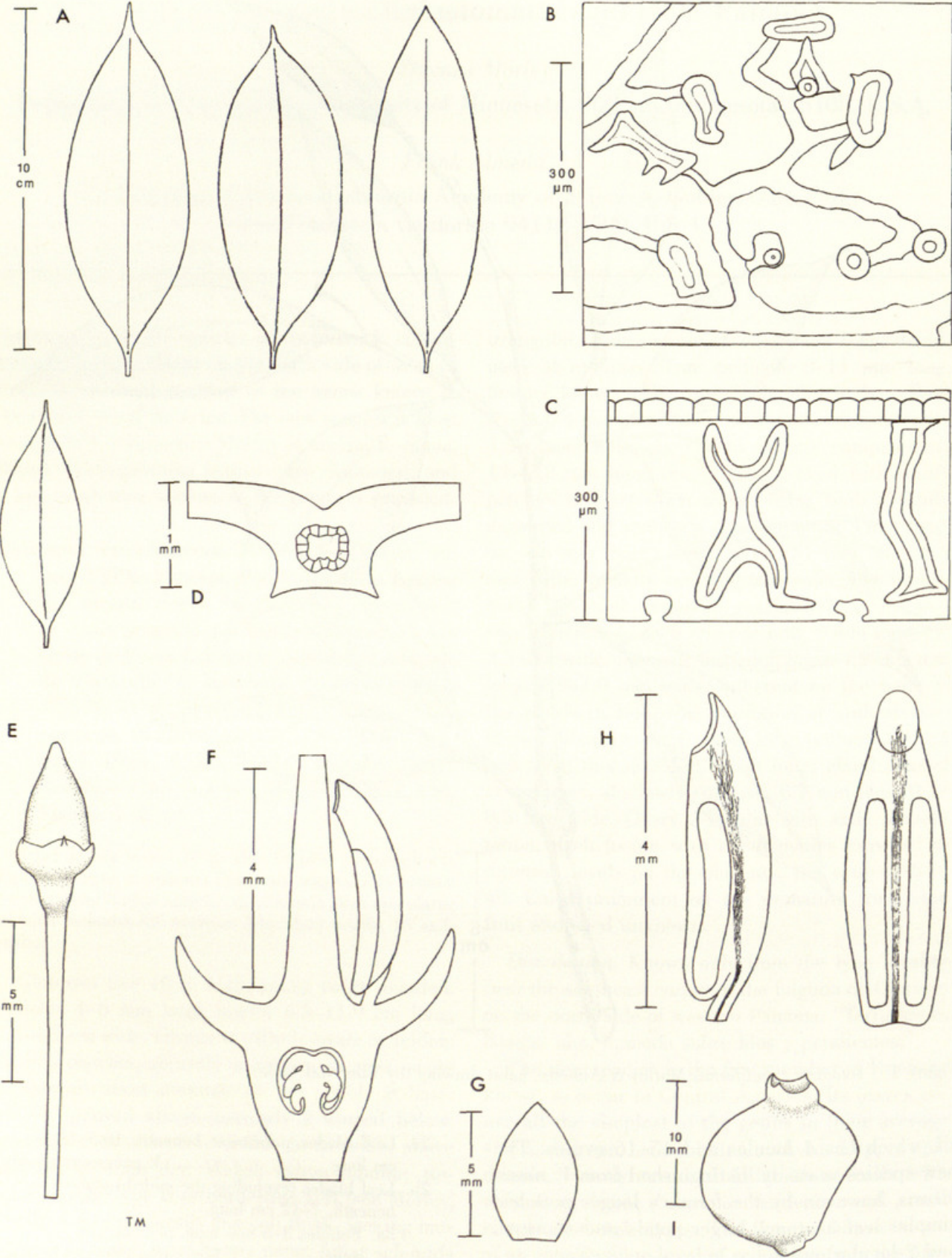


Figure 2. *Votomita cupuliformis*. —A. Leaf shapes (traced). B–I (camera lucida): —B. Cleared portion of leaf blade showing veins and terminal sclereids. —C. Cross section of leaf blade showing sclereids, stomatal crypts, and upper epidermis. —D. Cross section of leaf midrib. —E. Large flower bud. —F. Longisection of flower before anthesis. —G. Petal. —H. Anthers, face and side views. —I. Immature fruit. (All by TM.)

- 4b. Calyx 2.2–5 mm long; stamens 2.9–5.1 mm long; ovules 5–16.
- 5a. Calyx including inferior ovary 4.5–5 mm long; ovules 15–16.
- 6a. Petioles 1.5–2.5 mm long; petals ca. 4.7–5 mm long; anthers 2.6–2.8 mm long; thecae 1.2–1.3 mm long; ovary 4-locular . . . *V. roraimensis* Morley
- 6b. Petioles 4–6 mm long; petals ca. 8 mm long; anthers 3.7–4.2 mm long; thecae 2.4–2.7 mm long; ovary 2-locular
. . . *V. cupuliformis* Morley & Almada
- 5b. Calyx 2.2–4 mm long; ovules 5–10.
- 7a. Apex of blade abruptly acuminate; petioles 4–9 mm long; blades (7–) 9–12 cm long . . . *V. guianensis* Aublet

- 7b. Apex of blade rounded to acute and often mucronulate; petioles 1.5–4 mm long; blades 2.5–7.5 cm long.
- 8a. Blades 22–42 times as long as the petiole; pedicels 1–1.3 mm diam. 2 mm below the calyx teeth when dry
. *V. orinocensis* Morley
- 8b. Blades 10–20 times as long as the petiole; pedicels 1.5–2.3 mm diam. 2 mm below the calyx teeth when dry
. *V. monantha* (Urban) Morley

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