Three new Mesoamerican species of Topoea (Melastomataceae)

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Key words: Topoea, Melastomataceae, Costa Rica, Mesoamerica, Panama.

Topoea, a neotropical genus of more than 70 described species, is one of two closely related genera in the berry-fruited tribe Blakeeae (Almeda, 1990). The genus was last monographed by Cogniaux (1891) who recognized 24 species, five of which were reported from Mexico and/or Central America. Since that time, regional treatments of Topoea published for Mexico (Gleason, 1940; Standley, 1924), Guatemala (Standley & Williams, 1963), Costa Rica (Standley, 1938), and Panama (Gleason, 1958) have collectively attributed 17 species to the Mesoamerican region. Pau-city of collections and the limited geographic scope of past floristic accounts of Topoea have hampered an understanding of variation and species limits in this genus of predominantly epiphytic shrubs. My fieldwork throughout Mexico and Central America, together with that of colleagues associated with the Flora Mesoamericana project, have greatly enhanced the collection resource upon which to base a modern treatment. In the account of Topoea currently in preparation for Flora Mesoamericana, I will recognize about 30 species, more than half of which will have been proposed since 1980. Three of the most distinctive and unusual novelties are described here. These species all come from rich, local areas of endemism in Costa Rica and Panama.

Topoea intricata Almeda, sp. nov. (Fig. 1)

Type: COSTA RICA. Cartago: Hwy. 224 on property of ICE hydroelectric plant (now Tapanti National Park) ca. 20–24 km E of the church in Orosl, 1500–1800 m, 5 Jan 1974 (fl), F. Almeda et al. 2366 (HOLOTYPE: CAS; ISOTYPES: BM, CR, DUKE, INB, MEXU, MO, NY).

Frutex epiphyticus vel terrestrial. Ramuli sicut petiolii, folia inflorescentia hypanthiique pilis 0.5–3(–6) mm longis induti. Folia in quoque pari dimorpha papyracea subintegra vel obscure distanterque denticulata elliptica vel elliptico-ovata apice acuminate vel caudato-acuminata basi asymmetrice obtusa vel rotundata 3–5-plinervata. Folia maiora: lamina 7.5–17.2 × 3.5–7.5 cm. Folia minora: lamina 1.8–10 × 1.7–5.4 cm. Flores 6-meri in quoque nodo superiore singuli; bracteae om-nino liberae; bracteae exteriores 2.5–3.2 × 1.7–2.6 cm ovatae vel subcordatae; bracteae interiores elliptico-lanceolatae 1.9–2.5 × 0.7–1 cm. Calyces tubus 2 mm longus, lobis 6–7 × 1 mm. Petala 1.6–2.3 × 1.4–1.7 cm obovato-oblonga. Antherarum thecae 5–7.5 × 1 mm subulatae inter se non cohaerentes, dorsaliter bipo-rorae; connectivum ad basim per ca. 0.5 mm elevatum, calcari hebeti descendentis ca. 1 mm longo. Ovarium 6-loculare et 1/2 inferum, collo 1–1.5 mm longo hebeti-lobilato glabro.

Epiphytic or terrestrial shrub 1–2 m tall with spreading branches to 3 m long. Uppermost branchlets rounded. Cauline internodes, vegetative buds, leaf blades (both surfaces), peduncles, floral bracts, hypan-thia, and calyx lobes moderately to copiously hirsute with smooth ferruginous hairs.
Fig. 1. *Topoea intricata*. A. Habit. B. Representative leaves (abaxial surfaces) from one node. C. Floral peduncle, floral bracts, and young fruiting hypanthium. D. Outer floral bract. E. Inner floral bract. F. Petal. G. Representative stamens, profile view (left) and 3/4 dorsal view (right). H. Seeds. (From the holotype.)
mostly 0.5–3(–6) mm long. Mature leaves of a pair typically unequal in size; petioles 0.3–1.5 cm long; blades thin and papery when dry, the larger one at each node 7.5–17.2 × 3.5–7.5 cm, the smaller one 1.8–10 × 1.7–5.4 cm, elliptic to elliptic-ovate, apex acuminate to caudate-acuminate, base obliquely obtuse to rounded, margin denticulate to subentire (sometimes obscurely and remotely so), 3–5-plinerved with the innermost pair of primary veins diverging from the median vein 1–5 mm above the blade base, the transverse secondary veins spaced 2–6 mm apart at the widest portion of the blade. Flowers erect or horizontally spreading, solitary in the axils of uppermost branches; peduncles 3.5–5.2 cm long, terete. Floral bracts green and entire; outer bracts 2.5–3.2 × 1.7–2.6 cm, free, ovate to subcordate, apex acute to acuminate, trinerved; inner bracts 1.9–2.5 × 0.7–1 cm, the basal half closely appressed to but free from the hypanthonium, narrowly elliptic-lanceolate, apex acute to acuminate. Hypanthonium (at anthesis) suburceolate when dry, 6–6.5 mm long to the torus and 6 mm diam. Calyx tube 2 mm long and flaring horizontally at anthesis. Calyx lobes (at anthesis) linear oblong, 6–7 mm long and 1 mm wide at the ± deltoid base between sinuses. Petals 6, glabrous, 1.6–2.3 × 1.4–1.7 cm, white flushed with pink distally on the abaxial surface, thin and translucent when dry, obovate, apex rounded, base shortly clawed, entire. Stamens 12, isomorphic, filaments 5–6.5 × 1 mm, decline, complanate, glabrous; anthers free, 5–7.5 × 1 mm, yellow, oblong-subulate and incurved distally, each with 2 confluent dorsally inclined pores at the truncate apex; connective thickened dorso-basally into a blunt deflexed appendage 0.5–1 mm long. Ovary 1⁄2-inferior (at anthesis), 6-locular, glabrous at the summit, which is elevated into a lobulate collar 1–1.5 mm high surrounding the style base. Style glabrous, 0.9–1.4 cm long; stigma punctiform. Berry red at maturity, globose, 1–1.7 × 1.3–1.4 cm. Seeds mostly 1 mm long, beige, cuneate to narrowly pyriform, testa smooth.

**Distribution and phenology.**—Locally common in cloud forests of Tapanti National Park in central Costa Rica and the Fortuna region of western Panama at 1100–1800 m (Fig. 2). Collected in flower from December through June, in fruit from March through July.

Additional specimens examined: COSTA RICA.
Cartago: Ca. 15 km S of Tapanti along new rd. on E slope above the Río Grande de Orosí near concrete bridge, 09°42′N, 83°47′W, 12–17 Dec 1969 (fl), Burger & Liesner 6810 (CAS, CR, F); Cantón de Paraíso, P. N. Tapantí, Cordillera de Talamanca, Río Grande de Orosí, 09°41′50″N, 83°46′45″W, 22 Jul 1994 (fr), Morales et al. 3062 (INB); Cantón de Paraíso, P. N. Tapantí, Serrano Arboles Caidos, 09°44′53″N, 83°46′55″W, 1 Apr 1997 (fr), Rodríguez et al. 2083 (INB); Cantón de Paraíso, P. N. Tapantí, Valle de Reventazón, Serrano Arboles Caidos, 09°45′00″N, 83°47′00″W, 21 Jul 1994 (fr), Quesada 123 (INB).

PANAMA. Bocas del Toro: Fortuna Dam area, along Continental Divide trail bordering Chiriquí Province, 08°45′04″N, 82°15′04″W, 10 Mar 1988 (fl), Almeda et al. 6048 (BM, CAS, CR, MEXU, MO, NY, PMA); Edwin Fabrega Dam & Reserve in Fortuna, along Continental Divide trail, 08°45′04″N, 82°15′04″W, 16 Jan 1989 (fl), Almeda et al. 6238 (CAS); Edwin Fabrega Dam & Reserve along Continental Divide trail, 12.9 km N of Sito de Presa offices, 08°45′04″N, 82°15′04″W, 7 Feb 1996 (fl), Almeda et al. 7533 (CAS, INB, MO, PMA, TEX, US); 2 km W of Continental Divide along trail to elfin forest, 08°47′N, 82°13′W, 26 Mar 1985 (fl, fr), Hampshire & Whitefoord 981 (BM, CAS).

Chiriqui: Fortuna Dam area, trail to meteorological station of Río Hornito, 08°45′N, 82°18′W, 23 Jun 1994 (fl), Croat & Zhu 76310 (CAS, MO); Fortuna Dam area, rd. from Guadalca to Chiriquí Grande on Continental Divide trail W of rd., 08°45′W, 82°15′W, 18 Jan 1986 (fl), de Nevers & McPherson 6852 (CAS, MO); rd. from Fortuna Lake to Chiriquí Grande on trail W of Continental Divide, 08°47′N, 82°13′W, 22 Mar 1985 (fl), Hampshire & Whitefoord 850 (BM); Cordillera Central, 7 Dec 1996 (fl), Montenegro 1585 (CAS, SCZ); Distrito Boquete, Fortuna Dam site along trail following Continental Divide, 8 Feb 1985 (fl), van der Werff & van Hardeveld 6707 (CAS, MO).

Topoea intracita is readily recognized by its copious cover of ferruginous hairs, thin papery leaves, solitary floral peduncles, and ovate to subcordate outer floral bracts. Based on these and other characters, it does not closely resemble any other described member of the genus. Consequently, its relationships are uncertain. In habit, pubescence details, leaf morphology, and petal color, T. intracita could be confused with the superficially similar Blakea wilburiana Almeda of central Panama. In contrast, the latter has elliptic-lanceolate outer floral bracts, filiform to nearly accicular calyx lobes, and smaller anthers (4–5 × 1–2 mm) that are oblong and laterally compressed with ventrally inclined (vs. dorsally inclined) apical pores.

What may be a regional Costa Rican variant or a closely related taxon, represented by Herrera 6036 (CAS, INB) and Herrera 2832 (CAS), has been collected on the Caribbean slopes of the Cordillera de Talamanca in Limón Province above the Valle de Talamanca and Valle de la Estrella, respectively. This entity, which is known from five gatherings made in March and April, is similar to T. intracita in all details but has outer floral bracts that are uniformly elliptic and consistently smaller (1.3–1.5 × 0.8–1.5 cm). Because the several collections of T. intracita from geographically distant areas in Costa Rica and Panama exhibit morphological homogeneity, I am reluctant to include this distinctive population from southeastern Costa Rica in my circumscription of T. intracita until more complete material can be studied.

Etymology.—The specific epithet is derived from the Latin word intrico, meaning “entangled,” in reference to the sprawling branches that frequently become entangled in thickets when this species grows as a terrestrial shrub, or in branches of host trees when it grows as an epiphyte.

Topoea lentii Almeda, sp. nov. (Fig. 3)


Frutex epiphyticus. Ramuli prunagrulati denum teretes sicut folia novella pedunculi hypanthiaque modice pilis subamorpho-stellulatis denum deciduis obsiti; linea interpetiolaris pulpa elevata evoluta. Folia in quoeque pari in dimensionibus pulpa dispersi; lamina 4.2–9.1 × 1.9–4.3 cm elliptica vel ellipso-ovata apice acuminata basi acuta vel obtusa coriacea et integra, 5-plinervata, nervis primariis interioribus ad basim paulo pectinulo-coalescentibus et modice setosa. Flores 6-meri in quoque nodo superiore 2–5; bracteae omnino libere primum modice subamorpho-furfuracacrum denum glaratae; bracteae exteriores 3–3.5 × 2–2.5 mm elliptico-ovatae; bracteae interiorae 2–2.5 × 2–2.5 mm ellipticae vel elliptico-ovatae. Calyces tubus 1.5–2 mm longus, lobis 0.5–1.5 × 0.5–1.5 mm. Petala 6–6.5 × 2–3 mm obovato-rhomboidae. Antherarum theca 2.5 × 0.25 mm subulatae inter se non cohaerentes vel cohaerentes (pro parte) poro unico dorsiferal inclinato; connectivum ad basim dorsiferal dente oblongo 0.5 mm longo descendentia armatum. Ovarium 6-loculare et 1/2 inferum, colo 1 mm longo hebeti-lobulato glabro.

Epiphytic shrub. Uppermost branchlets bluntly quadrate with elevated internodal