Epiphytic shrub; stems strongly and coarsely ridged and grooved, glabrous or nearly so, brownish. Leaves coriaceous, elliptic, (5–)7–10(–12.5) cm long, (2.7–)3–4(–5.7) cm wide, basally rounded or broadly tapering, apically acuminate with the tip 1 cm or more long or acute, entire and slightly revolute, glabrous above or sparingly to moderately spreading short-pubescent or puberulent on the very base of the midvein, glabrate beneath with punctate depressions marking former trichome attachments or, especially in younger leaves, with minute, reddish brown appressed glandular trichomes 0.1–0.2 mm long, 5–7-plinerved, the secondary veins arising at or near the base with the midvein proximally prominently elevated and impressed distally while elevated beneath; petioles stout, rugose, 3–6 mm long, puberulous to glabrate. Inflorescence axillary, borne near the end of the branches, racemose, 4–7-flowered, the rachis, pedicels, bracts, calyces and corollas moderately provided with reddish brown appressed glandular trichomes 0.1–0.2 mm long; rachis striate or irregularly angled, 3–7 cm long, the lower 1.5–2 cm enveloped by ovate to oblong bracts 5–8 mm long; pedicels striate, 5–11 mm long, markedly broadened and articulate just beneath the hypanthium; floral bracts oblong to spatulate, 9–13 mm long, entire, apically rounded; bracteoles 2, borne just beneath the hypanthium, elliptic, acute, 13–16 mm long, ca. 5 mm wide. Flowers with the hypanthium basally strongly angulate or pentagonal from the prominently intersinal ridges in the lower half, 5–7 mm long, the calyx limb ca. 2 mm long, the 5 triangular deltoid calyx lobes 3.5–4 mm long, basally 3.2–4 mm wide, apically acute; corolla 12–14 mm long, the tube broadly cylindric, roseate, 10–12 mm long, 4.5–5.5 mm in diameter, the lobes triangular-deltoid, acute, 2–2.5 mm long, reportedly pale greenish; stamens 10, the filaments distinct, 3–3.5 mm long, spreading short-pubescent with slender trichomes 0.2–0.4 mm long, the anthers coarsely granular, ca. 3 mm long, each with two completely separate cylindrical tubules 5–6 mm long opening by an apical, introrse oval cleft; style glabrous, the stigma punctiform. Fruit unknown.

Type: Panama. Chiriquí: E de la presa en Fortuna, 22 Feb. 1976, Mendoza, Mendieta & Mayo 191 (DUKE, holotype; PMA, isotype, 2 isotypes to be distributed).

This is the third known species of Macleania found north of South America in which each anther sac terminates in a distinct tube. The bracteoles of the two previously known species, M. rupestris (H.B.K.) A. C. Smith [including M. glabra (Klotzsch) Hoerold] and M. talamancensis Wilbur & Luteyn, are less than 4 mm long while those of M. megabracteolata are longer than 12 mm.

Themistoclesia revoluta Wilbur & Luteyn, sp. nov.

Frutex epiphyticus. Lamina foliorum pinnatinervia, elliptica vel oblanceolata, 5–6.5(–7.5) cm longa, 9–14 mm lata, basi cuneata, apice obtusa vel rotundata, integra, revoluta, supra et subitus pubescentia; petioli 3–4 mm longi, puberuli. Racemi axillares, 5–10 cm longi; bracteae 2.5–4 mm longae; pedicelli 0.9–1.6 cm longi; bracteoli appressi, 2–3 mm longi. Hypanthium ad pedicellum non articulatum, 5-angulatum, pubescens; limbus calycis 1–1.2 mm longus, lobi ca. 1 mm longi. Corolla 5-angulata, 8–9 mm longa; tubus glabrus, 5–5.5 mm longus; lobi erecti, 2.5–3 mm longi, ciliati. Stamina 10, 6–8 mm longa; filamenta ciliata, 1.5–2 mm longa; antherae 2.5–3 mm longae; tubuli antherarum 2, distincti, 5–6 mm longi. Stylus 8–9 mm longus, glabrus.

Epiphytic shrubs; stems ridged and grooved but becoming terete, light brown to dun colored, minutely puberulent or short-pubescent. Leaves spirally ar-
ranged, narrowly elliptic to oblanceolate, 5–6.5(-7.5) cm long, 9–14 mm wide, basally cuneate, apically obtuse to rounded, entire, strongly revolute, moderately to densely short-pubescent on both the upper and lower surfaces, sparingly to moderately beset with glandular, reddish brown, appressed trichomes 0.1–0.2 mm long, the venation pinnate, the midvein prominently impressed above and elevated beneath, the secondary and tertiary veins when dry elevated above and moderately so beneath; petiole dorsally compressed and grooved, 3–4 mm long, inconspicuously puberulous to short-pubescent. Inflorescence borne at distal tip of the branches, axillary, racemose, 10–16-flowered; bracts 6–8, basal, appressed, lanceolate to narrowly triangular, acute, 3.5–5 mm long, finely short-pubescent abaxially; rachis ridged or striate, 5–10 cm long, densely short-pubescent with hyaline trichomes 0.2–0.5 mm long; floral bracts 2.5–4 mm long, narrowly triangular to narrowly lanceolate; pedicels 0.9–1.6 cm long, nonarticulate with the hypanthium, sharply striate, moderately to densely spreading short-pubescent with the slender, hyaline trichomes 0.2–0.3 mm long; bracteoles appressed, narrowly triangular, acute, spreading short-pubescent, keeled, 2–3 mm long, usually medial or submedial, alternate. Flowers with the hypanthium obovoidal, strongly 5-angulate or winged, the wings alternate with the lobes, moderately spreading short-pubescent throughout, ca. 5 mm long, ca. 5 mm in diameter at the apex, the calyx limb 1–1.2 mm long, the calyx lobes depressed-triangular, acute to apiculate, ca. 1 mm long; corolla pentagonal, narrowly 5-winged opposite the lobes, 8–9 mm long overall, the tube tapering from the base to the apex, glabrous, 5–5.5 mm long, the lobes erect, 2.5–3 mm long, sparingly ciliate along the midrib, strongly reflexed at anthesis exposing the stamens and style; stamens 10, 6–8 mm long, alternately slightly unequal, the filaments equal, 1.5–2 mm long, sparsely ciliate and glandular-fimbriate, the anther thecae 2.5–3 mm long, basally tapering into a short-setose appendix, closely coherent basally due to the interlocking of the antheridial grooves; tubules 2 per anther, separate, twice as long as the thecae or 5–6 mm long, tapering upward and opening by a slender introrse slit ca. 1.5 mm long; style 8–9 mm long, glabrous, the stigma punctiform. Fruit unknown.

**Type: Panamá. Chiriquí; Bajo-Fortuna, 19 Mar. 1976, Mendoza, Mendieta & Mayo 258 (DUKE, holotype; PMA, isotype).**


This species is unlike any other Central American species of *Themistoclesia* in its narrow, strongly revolute leaves and long-pedicelled flowers borne in elongate racemes. It is most closely related to *T. cutucuensis* A. C. Smith from eastern Ecuador and adjacent Peru, but differs in its densely scabrous inflorescences (including rachises, pedicels, bracts and calyces); its strongly revolute leaves with longer petioles, pinnate venation, and tapering (not subcordate) bases; and in its glandular anther connectives. A key to the Central American species of *Themistoclesia* follows.

**Key to the Central American Species of Themistoclesia**

1. Staminal tubules 1 per anther with a single introrse cleft; hypanthium distinctly 5-winged; leaves apically obtuse .......................................................... *T. pentandra* Sleumer
1'. Staminal tubules 2 per anther, the tubules either separate or united but with 2 introrse clefts; hypanthium bluntly 5-angled, not winged; leaves apically acute or acuminate.

2. Corolla 2.5–3.5 mm long; leaves less than 1.9 cm long, cuneate ———

2'. Corolla 5–9 mm long; leaves more than 2 cm long.

3. Corolla narrowly 5-winged, 8–9 mm long; leaves 5–7 cm long, strongly revolute; flowers in 10–16-flowered racemes ———

3'. Corolla not winged, 5–6 mm long; leaves 2–2.5 cm long, not at all revolute; flowers solitary.

4. Bracteoles ovate to hemispheric, completely concealing the glabrous pedicel; corolla cylindric, pilosulose throughout; stamens 5 mm long, the filaments pilosulose, the anther basally minutely appendiculate ———

4'. Bracteoles awl shaped, never concealing the pilosulose pedicel; corolla urceolate, pilosulose distally; stamens 2.5 mm long, the filaments glabrous, the anther without a basal appendage ———

_T. smithiana_ (Standley) Sleumer

_Vaccinium dissimile_ Blake

This peculiar creeping vine is easily overlooked and, at the time the account of the Ericaceae was prepared for the _Flora of Panama_, it was unknown from the Province of Colón.

Specimen Examined: _Panama. colón_: S approach of Cerro Bruja from Río Escandaloso, _Hammel 3123_ (MO).

_Vaccinium jefense_ Luteyn & Wilbur

When described, this species was thought to be a narrow endemic in the vicinity of Cerro Jefe, an approximately 1,000 meter elevation mountainous area just east of the Canal Zone. It is now known from several collections made along the Continental Divide in Cocle Province.

Speciments Examined: _Panama. coclé_: Summit of Alto Calvario, 900 m, _Folsom & Robinson 2402_ (MO); _Folsom 2685_ (MO). 7 km N of Llano Grande on road to Coclesito, 1700 ft, _Hammel 1942_ (MO). Near Sawmill above El Copé, 3000 ft, _Hammel 2363_ (MO).

_Literature Cited_


