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A New *Miconia* (Melastomataceae) from Celaque National Park, Honduras

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ABSTRACT. *Miconia celaquensis,* from the montane cloud forests of Celaque National Park, Honduras, is described, illustrated, and compared with *Miconia ravenii* of Chiapas, Mexico, and *Miconia tuerckheimii* of southern Mexico and Guatemala. This new species appears to be the only *Miconia* restricted to Honduras and the second species of Melastomataceae endemic to the country.

Unlike other Central American countries with extensive highland areas, Honduras is surprisingly depauperate in endemic species of Melastomataceae. Of the 107 taxa of melastomes presently known from Honduras, only *Henriettella hondurensis* Wurdack previously has been thought to be endemic to the country. Of the 42 species of *Miconia* occurring in Honduras, *Miconia celaquensis,* the species described here, is the sole member of its genus and the only other melastome endemic to Honduras. Most Honduran Melastomataceae belong to that widespread element of the neotropical flora that extends from southern Mexico through Central America to tropical Andean South America and Brazil. Fifteen species of Melastomataceae that occur in Honduras are found elsewhere only in Guatemala and southern Mexico; 10 others extend beyond the Honduran border from Nicaragua to South America. The affinities of both endemic Honduran melastomes are with congeners that are restricted to montane areas of Guatemala and adjacent Mexico, a significant secondary center of radiation for the Melastomataceae of the Mesoamerican region.

Miconia celaquensis Almeda, sp. nov. TYPE: Honduras. Lempira: Campo Naranjo, 10 km SW of Gracias, Celaque National Park, 14°33'N, 88°40"W, elev. 2550 m, 16 May 1992, *Thomas & Mejía 329* (holotype, CAS; isotypes, EAP, HEH, MO, TEFH). Figure 1.

Ramuli sulcato-quadrangulati sicut petioli inflorescentiaque pilis laevibus sparse induti pilis laevibus glanduliferis sparse intermixtis et sicut foliorum venae primariae subtus hypanthiaque pilis stipitato-stellatis erectis modice armati. Lamina 7–15.3 × 4.3–10.6 cm cordata vel ovata, 5–7-plinervata, supra modice strigosa, pilis simplicibus 1–3 mm longis, subtus pilis laevibus et pilis laevibus glanduliferis et pilis stellulatis vel barbellatis sparsiuscule vel modice puberuli. Panicula 3.5–7.5 cm longa multiflora; flores plerumque 4-meri. Ovarium 4-loculare ⅔ inferum apice in collum circum stylum protracto collo modice glanduloso-setuloso, pilis 0.1 mm longis.

Shrub 0.5–2 m tall. The sulcate-quadrangulate uppermost branchlets, petioles, and inflorescences moderately covered with a mixture of simple flexuous hairs (1.5–2 mm long), spreading stipitate-stellate hairs (0.25 mm long), glandular hairs (0.5 mm long), and an inconspicuous basement scattering of minute glands. Leaves of a pair subequal to somewhat unequal in size; petioles 3–6.7 cm long; blades membranaceous and brittle when dry, 7–15.3 × 4.3–10.6 cm, cordate varying to ovate, apex acuminate, base cordate to broadly rounded but sometimes varying to slightly oblique on the larger cordate leaves, margin denticulate to crenulate; 5–7-plinerved with the innermost pair of primary nerves diverging from median nerve 3–5 mm above the blade base, moderately covered adaxially with appressed or antrorsely spreading smooth hairs (1–

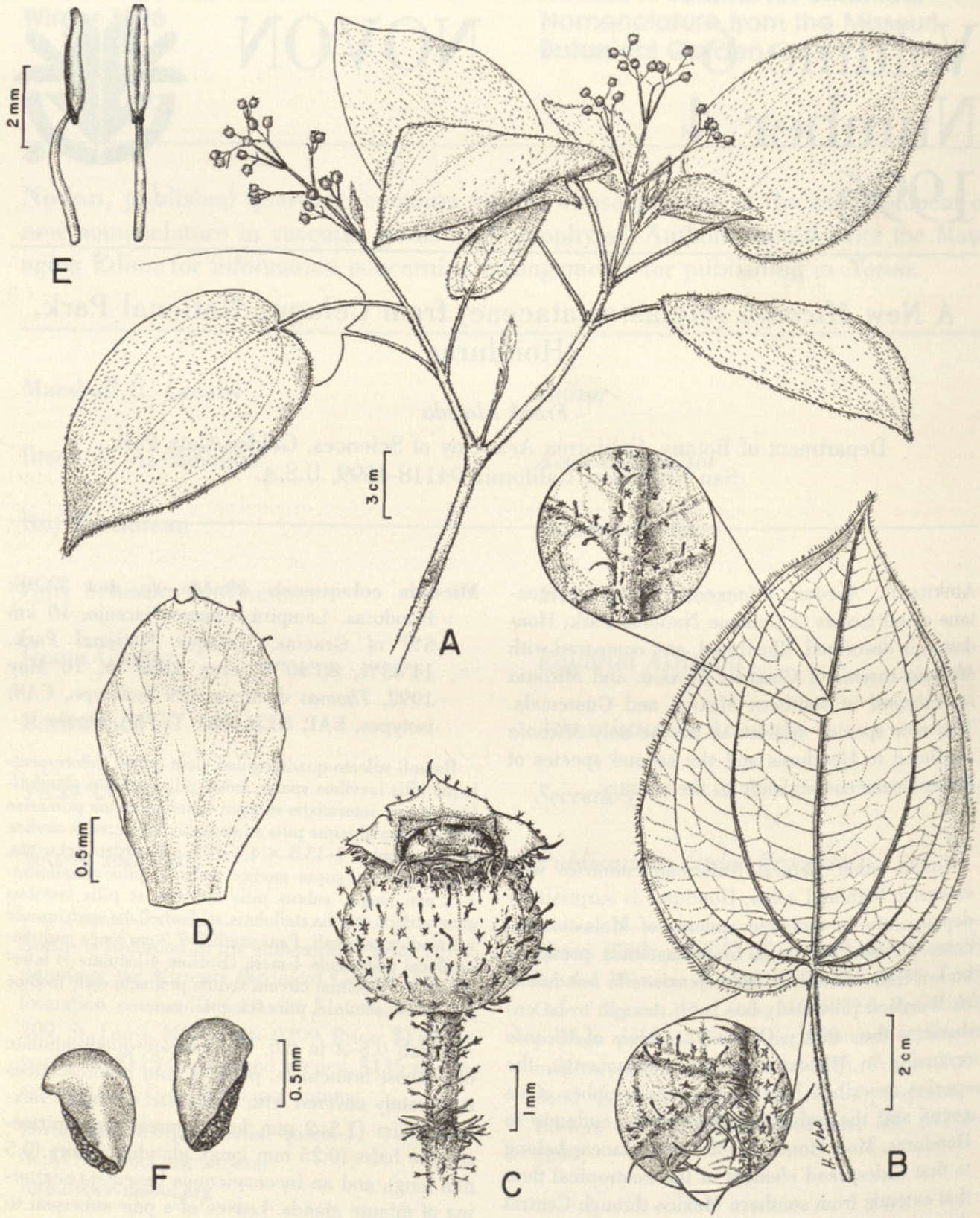

Figure 1. *Miconia celaquensis* Almeda. —A. Habit. —B. Representative leaf (abaxial surface) with enlargement of pubescence details. —C. Fruiting hypanthium. —D. Petal. —E. Stamens, lateral view (left) and ventral view (right). —F. Seeds. (A from the holotype; B from *D'Arcy 17925*; C & F from *Hazlett 2377*; D & E from *Davidse & Zúniga 34778*.)

3 mm long) and a scattering of subsessile or short-stalked glandular hairs, abaxially beset with a moderate to sparse mixture of smooth hairs (1–1.5 mm long), apically barbellate to stipitate-stellate hairs (0.25–0.5 mm long), gland-tipped hairs (0.25–0.5 mm long), and minute subsessile glands on the elevated primaries and prominulous network of higher order veins. Inflorescence terminal but sometimes appearing pseudolateral because of elongation of axillary shoots, 3.5–7.5 cm long, pan-

iculiform with ultimate branchlets terminating in simple cymes; bracts of rachis nodes paired, linear-oblong, 2–4 × 0.25 mm, glabrous adaxially and moderately covered with stipitate-stellate and minute glands abaxially; bracteoles linear to acicular, 1–2 mm long (including solitary apical hair) and less than 0.25 mm wide, sparsely beset abaxially with glandular and/or stipitate-stellate hairs. Pedicels 0.5–1 mm long at anthesis lengthening to 2–3.5 mm long in fruit. Hypanthia (at anthesis) campanulate 2.5–3 mm long to the torus (vascular ring), moderately covered with a mixture of spreading glandular and stipitate-stellate hairs and an inconspicuous scattering of minute glandular hairs. Calyx lobes (on fruiting hypanthia) prevailingly 4 but varying to 5, glabrous adaxially, with a sparse pubescence like that of the hypanthium abaxially, deltoid, 1 mm long and 1–1.5 mm wide basally; exterior calyx teeth subulate, 0.5–1 mm long, adnate to and exceeding the calyx lobes. Petals 4–5 in number, glabrous, white but sometimes tinged with pink, elliptic-obovate, obtuse to rounded or somewhat retuse at the apex, 4–5 × 2.5–3 mm, the margin entire and sometimes sparingly glandular-ciliolate. Stamens 8 or 10 in number, isomorphic; filaments glabrous, 2.5–3.5 mm long; anthers 2.5–3.5 mm long, yellow, linear-oblong, slightly notched apically with a somewhat dorsally inclined pore, connective thickened dorsally and prolonged basally into a caudiform lobe 0.25 mm long at the base of each anther sac. Ovary ⅔ inferior, 4-locular, essentially glabrous with an inconspicuous glandular-ciliolate (hairs 0.1 mm long) apical collar that surrounds the stylar scar. Style glabrous, 7–7.5 mm long, incurved apically; stigma truncate to punctiform. Berry red turning purple at maturity, globose, 3–4 mm long and 4–5 mm diam. Seeds numerous, ovoid to ellipsoid, 0.75–1 mm long, stramineous or tan, smooth and nitid varying to somewhat angulate on the lateral faces, the lateral raphe extending for much of the seed length.

Distribution. Locally common in mixed cloud forest of *Pinus*, *Quercus*, *Persea*, and *Weinmannia* at 2400–2600 m on Montaña de Celaque in Celaque National Park, a 44,000-acre parcel that protects the highest peak (9400 ft.) in Honduras. All available flowering specimens were collected in May, whereas fruiting collections have been made in November and January.

Miconia celaquensis is characterized by prevailingly 4-merous flowers, 4-locular ovary, comparatively short inflorescences (3.5–7.5 cm long), deltoid calyx lobes (1 × 1–1.5 mm), anther connectives that are prolonged basally into short caudiform lobes at the base of each anther sac (Fig. 1E), and varying mixtures of diagnostic hair types on the branchlets, petioles, inflorescences, hypanthia, and abaxial foliar surfaces.

In having elongate, linear-subulate anther thecae and a regularly lobed campanulate calyx, *Miconia celaquensis* is best placed in section *Octomeris* as defined by Cogniaux (1891). Within this section, the affinities of *Miconia celaquensis* are with *M. ravenii* Wurdack and *M. tuerckheimii* Cogniaux, both of which also have prevailingly 4-merous flowers, a 4-locular ovary, and a variety of similar but not identical combinations of hair types on hypanthia and vegetative organs. *Miconia ravenii*, which is endemic to the central plateau of Chiapas, Mexico, differs in having longer inflorescences (10–15 cm), oblate calyx lobes (0.5–0.7 mm long), somewhat ventrally inclined anther pores, and modally larger leaves that are 7–9-plinerved. The nature of the pubescence is the most diagnostic character that can be used to separate *M. ravenii* from *M. celaquensis*. In the former, the branchlets, petioles, inflorescence rachis, and hypanthia are covered with a mixture of spreading barbellate, apically bifid, and stipitate-stellate hairs that are underlain by an inconspicuous scattering of minute glands. In *M. celaquensis*, the same organs are covered with pubescence, but the abundance of each hair type appears to vary from one vegetative organ to another. For the most part, however, the stipitate-stellate hairs predominate with a sparser admixture of gland-tipped hairs and simple flexuous hairs. The same sparse scattering of minute glands is also evident in *M. celaquensis*. Diagnostic mixtures of hair types can also be found on the abaxial foliar surfaces of each species. In *M. ravenii* the lower leaf surface is moderately covered with stipitate-stellate hairs and a scattering of minute glands. In *M. celaquensis*, however, the hair cover is a moderate to sparse mixture of simple spreading hairs, apically bifid hairs, stipitate-stellate hairs, simple gland-tipped hairs, and the sparse inconspicuous sessile or subsessile glands.

Miconia tuerckheimii of southern Mexico (Oaxaca and Chiapas) and Guatemala also differs from *M. celaquensis* in having oblate calyx lobes (0.5 mm long) and longer inflorescences ((11–)15–28 cm). The most conspicuous differences, however, are in the combination of hair types on vegetative and floral organs. In *M. tuerckheimii* the pubescence of branchlets, petioles, and inflorescences consists of a dense to moderate mixture of stellate hairs, stipitate-stellate hairs (with short to long stipes), spreading glandular hairs that project well beyond all other hair types, and a ground layer scattering

of glands. In *M. celaquensis* the hair covering on these same organs is moderate to sparse, but the smooth simple hairs (which are completely lacking in *M. tuerckheimii*) are the only ones that commonly exceed the other hair types in length. Pubescence of the abaxial foliar surfaces of *M. tuerckheimii* also differs markedly from *M. celaquensis*. The lower leaf surfaces of the latter are beset with the five different kinds of hairs enumerated above. Only stipitate-stellate hairs and the minute glands are produced on the lower leaf surfaces of *M. tuerckheimii*.

Another consistent character that separates *M. ravenii* and *M. tuerckheimii* from *M. celaquensis* is the length of the simple hairs on adaxial foliar surfaces. In the first two species, the hairs are invariably 0.25–1 mm in length (vs. 1–3 mm in *M. celaquensis*).

Chromosome number, although still unknown for *M. celaquensis*, may prove to be another useful character to separate this new species and its close relatives. A count of $n = 17$ was reported for a Chiapas population of *M. tuerckheimii* (Almeda & Chuang, 1992), whereas the single available count for *M. ravenii* (also from Chiapas) is $n = 68$, an octoploid based on $x = 17$ (Almeda, in press).

Another more distant relative of *M. celaquensis* is *M. jitotolana* Wurdack, a Chiapas endemic that was compared with *M. ravenii* by Wurdack (1967: 270). It differs from all three species of *Miconia* discussed above in having prevailingly 5-merous flowers and 5-locular ovaries. It further differs from *M. celaquensis* by its oblate calyx lobes (ca. 0.25 mm long), ventrally inclined anther pores, anther connectives that are thickened dorsally but not prolonged below the thecae, and an eglandular lobulate ovary collar surrounding the stylar scar.

Paratypes. HONDURAS. **Lempira:** Celaque National Park, around Río Arcagual, 15 Nov. 1991 (fr), *Thomas et al. 79* (CAS, MO); Campo Naranjo, 10 km SW of Gracias, 14°32'N, 88°39'W, 13 May 1992 (fl), *D'Arcy 17925* (MO); Montaña de Celaque, SE portion of the massif, valley of Río Arcagual on the plateau, 14°33'26"N, 88°40'00"W, 26–27 May 1991 (fl), *Davidse & Zúniga 34778* (EAP, MO); Montaña de Celaque, 18–22 Nov. 1974 (fr), *Hazlett 2377* (MO); Montaña de Celaque, 15 km SO de Gracias, 20 Jan. 1991 (fr), *Rodriguez 109* (TEFH).

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