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Miconia valentinensis (Melastomataceae), a new species from Espírito Santo, Brazil

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Abstract

During the preparation of the monograph on *Miconia* for the Flora of Espírito Santo, Brazil, a new species was recognized and is described in this paper. *Miconia valentinensis* was found in Serra do Valentim, in Iúna Municipality. It has leaves with a slightly cordate base, 5+2 nerves (the inner pair strongly suprabasal, plus a basal median pair and a faint additional marginal pair), branches with strong longitudinal ridges, calyx early caducous, with the petals basally adhering to it, anthers dehiscing through a broad longitudinal slit, and with the ovary glabrous at the apex.

Introduction

Miconia Ruiz & Pavón (1794: 60) is the largest genus of woody flowering plants restricted to tropical America (Goldenberg 2008), with 1057 species ranging from western Mexico and the Caribbean to Uruguay and northern Argentina (Goldenberg *et al*. 2013).

The last complete taxonomic revision of the genus (Cogniaux 1891) treated less than half of the species (Goldenberg *et al*. 2013). Until the beginning of this century, *Miconia* had been studied mostly through regional floras, like the ones for Mesoamerica (Almeda 2009), Venezuela (Wurdack 1973), Ecuador (Wurdack 1980), Guianas (Wurdack *et al*. 1993) and for the brazilian states of Minas Gerais (Rezende *et al*. 2014); Rio de Janeiro (Pereira 1964; Baumgratz 1980, 1982, 1984); São Paulo (Goldenberg 2009); Paraná (Goldenberg 2004); and Santa Catarina (Wurdack 1962). Only two of the twelve sections in the genus have been revised (Judd 2007; Goldenberg 2000), but these comprise less than 5% of the species in it. Recent studies using molecular tools (Goldenberg *et al*. 2008; Martin *et al*. 2008; Michelangeli *et al*. 2004, 2008; Reginato *et al.* 2010) showed that the traditional circumscription of the genera in tribe Miconieae does not agree with the trees shown by the phylogenetic analyses. *Miconia* is a polyphyletic genus, and its infrageneric classification also does not correspond to the trees (Goldenberg *et al.* 2008). Nevertheless, since there is not a modern alternative classification of *Miconia* based on these recent phylogenies, the discussion on the species limits and infrageneric classification will be based, in this article, on the sections proposed by Cogniaux (1891; see also Goldenberg *et al*. 2013).

The new species occurs in the "Mata Atlântica" (montane rain forest) of Espírito Santo, a region with a flora that is particularly rich in Melastomataceae species (Goldenberg & Reginato 2007), with several endemic species of *Miconia* (*M. capixaba* Goldenberg 1999: 514, *M. labiakiana* Goldenberg & Martin 2008: 13, *M. kollmannii* Goldenberg & Reginato 2007: 59, *M. ruschiana* Caddah & Goldenberg 2012: 974, and *M. michelangeliana* Goldenberg & Kollmann 2010: 55).

Miconia valentinensis was found during the preparation of a monograph on *Miconia* for the "Flora of Espírito Santo". It was collected for the first time in 2013, with fruits, and recollected with flowers thereafter. We describe here the new species, and also provide images from fresh and rehydrated materials and a discussion on the differences regarding morphologically similar species.

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tube, and they are easily pulled out from the latter. There is no evidence of any degree of fusion between sepals and petals, which is unknown, at least to us, in Melastomataceae, neither are there trichomes that could be joining the two structures, such as the ones found in some species of *Tibouchina* in the Andes (F.Michelangeli, pers. obs.). The second character is related to the strongly flattened-decussate branches with longitudinal ridges running from the base to the apex of each internode. Strongly flattened-decussate branches occur in *Miconia paradoxa* (De Candolle (1828: 202) Triana (1871: 121), *M. michelangeliana* Goldenberg & Kollmann (2010: 139) and *M. amoena* Triana (1871: 115), but none of them has the longitudinal ridges such as the ones in *M. valentinensis*.

TABLE 1: Comparative features among *Miconia valentinensis* and other species from *Miconia* sect. *Hypoxanthus*. Lng. ridg.: longitudinal ridges on the branches; N. veins: number of veins (+2 indicates an additional marginal faint pair); Dom.: domatia; Pet. lngt.: petiole length; Infl. pos.: inflorescences position, whether terminal (ter) or. lateral (lat); Calyx pers.: persistence of the calyx, whether caducous or persistent; Con. app.: Connective appendage; Slits rel. size: slits relative size, whether comprising the whole length of the thecae (tot.), or 1/2–1/3 of the thecae length; Ov. apex: ovary apex glabrous (glab) vs. papillose (pap) or pilose (pil).

	Lng. ridg.	Leaf base	N veins.	Dom.	Pet. Lngt. (mm)	Infl. pos.	Calyx pers.	Con. app.	Slits rel. size	Ov. apex
Miconia valentinensis	+	slightly cordate	5+2	+	2.5–4	ter	cad.	-	tot	glab
M. elaeodendron	-	attenuate / decurrent	3	+	ca.1	lat/ter	cad	-	1/2	pap
M. latecrenata	-	attenuate to rounded	3+2	-	5–15	lat/ter	cad	-	1/3	glab
M. kollmannii	-	acute	3+2	-	10–25	lat/ter	per	-	1/3	pil
M. picinguabensis	-	obtuse to acute	3+2	+	10–22	ter	cad	+	tot	pap
M. pusilliflora	-	attenuate to rounded	3+2	+/-	6–19	ter	cad	-	tot	glab/pil
M. rimalis	-	acute to rounded	3+2	+	4–13	ter	cad	-	tot	pap
M. sellowiana	-	attenuate / decurrent	3/3+2	+	5–15	ter	cad	-	½	glab
M. trianae	-	rounded to acute	3+2	+	3–9	ter	cad	-	tot	pap
M. urophylla	-	acute to obtuse	3+2	-	4–12	ter	cad	-	1/2	pap

There are a few species occurring in Espírito Santo that belong to *Miconia* section *Glossocentrum* (Crueger 1847: 111) Triana ex Hooker (1867: 764) and are morphologically similar to *M. valentinensis*: *M. brasiliensis* (Sprengel 1825: 297) Triana (1871: 118), *M. longicuspis* Cogniaux (1891: 851), *M. paniculata* (De Candolle 1828: 194) Naudin (1850: 245) and *M. tristis* Spring (1837: 76) share with *M. valentinensis* the glabrescent leaves and branches, inflorescences that are not scorpioid nor glomerulate, small flowers, and white stamens and petals. Nevertheless, these species have stamens dehiscing through apical pores, and none has the strongly suprabasal leaves with a slightly cordate base and strongly decussate-flattened branches, like the ones in *M. valentinensis*.

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