



## Three new species of *Monochaetum* (Melastomataceae) from Colombia

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### Abstract

Three new species of *Monochaetum* (Melastomataceae: Melastomeae) are described from Colombia. *Monochaetum carbonoi*, known only from the Sierra Nevada de Santa Marta, is characterized by its overall pubescence of smooth and unbranched trichomes, prominent flap-like scars on the inflorescence nodes, calyx lobes that are deciduous after anthesis, glabrous hypanthia, dimorphic stamens, and sessile, oblong-ovate bracteoles. *Monochaetum longicaudatum*, known from only one population on the eastern flank of the Sierra Nevada de Santa Marta, and one population in the Central Cordillera of the Andes (Nevado del Ruíz and Santa Isabel area), is characterized by its dense and congested inflorescences, abaxial foliar surface with dense, long and divergent trichomes, ovate to ovate-elliptic petals with a broadly acute apex, deciduous calyx lobes, long filaments and appendages on the antesealous stamens, and its long setulose style. *Monochaetum perijensis*, known only from the Serranía de Perijá in the northern Cordillera Oriental of the Andes, is characterized by leaves that are basally nerved, glabrous hypanthia, ciliate petals, and persistent calyx lobes that are oblong and acute apically. Each species is illustrated, compared with presumed relatives, and provided with a conservation assessment using IUCN guidelines.

### Resumen

Se describen tres nuevas especies de *Monochaetum* (Melastomataceae: Melastomeae) de Colombia. *Monochaetum carbonoi*, conocida sólo de la Sierra Nevada de Santa Marta, se caracteriza por su pubescencia general de tricomas lisos no ramificados, cicatrices en forma de proyecciones prominentes en los nudos de la inflorescencia, lóbulos del cáliz deciduos después de la antesis, hipantio glabro, estambres dimórficos, y bractéolas sésiles, oblongo-ovadas. *Monochaetum longicaudatum*, conocida de una población en el flanco oriental de la Sierra Nevada de Santa Marta, y otra población en la Cordillera Central de los Andes (área del Nevado del Ruíz y Santa Isabel), se caracteriza por sus inflorescencias densas y congestionadas, superficie foliar abaxial con indumento denso de tricomas largos y divergentes, pétalos ovados a ovado-elípticos con el ápice ampliamente agudo, lóbulos del cáliz deciduos, estambres del verticilo antesepalar con filamentos y apéndices largos, y el estilo largo y setuloso. *Monochaetum perijensis*, conocida sólo de la Serranía de Perijá, en el Norte de la Cordillera Oriental de los Andes, se caracteriza por las hojas basalmente nervadas, hipantio glabro, pétalos ciliados, y lóbulos del cáliz persistentes, oblongos y con el ápice agudo. Para cada especie se incluye la ilustración, comparación con las presuntas especies cercanas, y una evaluación del estado de conservación con base en los criterios de la UICN.

### Introduction

*Monochaetum* (Candolle 1828: 138) Naudin (1845: 48–49), a neotropical genus of shrubs and subshrubs with about 52 species, is restricted to montane habitats from Mexico and Central America to the South American Andes of Colombia, Venezuela, Ecuador and Peru with one species reaching the Guayana Highlands of Venezuela and Guyana (Almeda 1978, 2009, Alvear & Almeda 2009, Alvear 2010). Based on the forthcoming tribal classification of Melastomataceae (Penneys *et al.* 2010, Penneys *et al.* unpublished data) as well as studies on the New World Melastomeae (Michelangeli *et al.* 2013) that employs multi-gene phylogenetic analyses it is clear that *Monochaetum* is monophyletic and it is placed within the new world Melastomeae (Tibouchineae). *Castratella*

diverging 5–8 mm above the base) and shorter and persistent calyx lobes, that are oblong and have an acute apex (vs. deciduous, lance-triangular and acuminate calyx lobes).

*Monochaetum humboldtianum* has long been known from the Cordillera de la Costa in Venezuela, where the three currently recognized varieties occur. We have not been able to verify the identity of collections that would extend its range to the Andean region (Mérida and Táchira states in Venezuela) bordering Colombia (Wurdack 1973, Michelangeli & Cotton 2008). The presence of this species along the Orinoco River, as cited in the protologue of the synonym *M. umbellatum* (Naudin 1845: 49), is certainly a mistake as noted by Wurdack (1971b, 1973). The presence of *M. humboldtianum* in Colombia is based on two historical collections by Karsten from an unspecified locality (“Columbien” is the only geographical reference on the labels). The first one is known only by a photo of a destroyed Berlin specimen (*Karsten s.n.*, photos at F!, MO!), which is apparently the type of *Grischovia hirta* (Karsten 1848: 16), the basionym of *M. humboldtianum* var. *hirtum* (Wurdack 1966: 68–69). The second one is *Karsten 13* (G!), which corresponds to *M. humboldtianum* var. *humboldtianum*. This latter taxon was also seen by Cogniaux, but he did not cite the collection number nor did he mention Colombia in his treatment of the species (Cogniaux 1891). Karsten (1848) did not mention Colombia in the description of *Grischovia*. Cogniaux and Triana (1871) cited a few *Karsten* specimens but always attributed them to Venezuela without a collection number. Karsten was a German botanist who collected extensively in Colombia and Venezuela (Stafleu & Cowan 1979, Tryon 1963). It is possible that these specimens were actually collected in Venezuela. For a discussion of the origin of some of Karsten’s collections see Alvear (2010) and Tryon (1963). All Colombian collections previously identified as *M. humboldtianum* are actually *M. perijensis*.

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