



## Three new species of *Craterispermum* (Rubiaceae) from Madagascar<sup>#</sup>

PETRA DE BLOCK<sup>1</sup> & TIANJANAHARY RANDRIAMBOAVONJY<sup>2</sup>

<sup>1</sup>Botanic Garden Meise, Nieuwelaan 38, BE-1860 Meise, Belgium. E-mail: [petra.deblock@br.fgov.be](mailto:petra.deblock@br.fgov.be)

<sup>2</sup>Royal Botanic Gardens, Kew, Lot II J 131 B, Ambodivoanjo, Ivandry, 101 Antananarivo, Madagascar.  
E-mail: [trandria.rbgkew@moov.mg](mailto:trandria.rbgkew@moov.mg)

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### Abstract

The Afro-Madagascan genus *Craterispermum* (Craterispermeae, Rubiaceae) is taxonomically badly known. Hitherto, no species were described from Madagascar, although several taxa occur in the humid lowland forests in the eastern and northern regions of the island. In this contribution three new Madagascan *Craterispermum* species are described, *C. motleyanum*, *C. puffianum* and *C. cervicorne*. All are illustrated and their distribution is discussed. An identification key for the three new species is given.

### Introduction

The genus *Craterispermum* Benth. in Hooker (1849: 411) occurs in tropical Africa, Madagascar and the Seychelles. The genus is badly known taxonomically and no monograph exists. Recently, taxonomic studies on the continental African species were started. Hitherto, five species have been newly described (Taedoumg *et al.* 2011; Taedoumg & Hamon 2013). In tandem, a study of the Madagascan material of *Craterispermum* was launched, the first results of which are reported here.

*Craterispermum* is easily recognized at genus level by the combination of the following characters: glabrous plants with raphides; leaves subcoriaceous or coriaceous and breaking easily when fresh, drying pale green or yellowish/golden, higher order venation often prominent; inflorescences axillary or supra-axillary and paired at the nodes, pedunculate, and often compact; flowers heterostylous; aestivation valvate; ovary 2-locular with a single pendulous ovule per locule; small, drupaceous, often somewhat assymmetrical fruits containing a single bowl-shaped seed (Robbrecht 1988; Igersheim 1992).

*Craterispermum* has several interesting characters that set it apart from most other Rubiaceae. The placentas are inserted very high up in the ovary, making the latter  $\pm$  semi-superior (Igersheim 1992). Also, the exotesta is discontinuous, consisting of irregular, isolated cells with ring-like thickenings around the entire circumference of the cells (Igersheim 1992). Furthermore, *Craterispermum* species are known as aluminium accumulators (Jansen *et al.* 2000); the pale or yellowish colour of the dried leaves is typical for aluminium accumulating plants. The genus was traditionally associated with the tribe Vanguerieae (Bentham 1849, Robbrecht 1988) which belongs to subfamily Ixoroideae, but currently *Craterispermum* is placed in a tribe of its own, Craterispermeae, in the Psychotrieae alliance in subfamily Rubioideae (Robbrecht & Manen 2006; Razafimandimbison *et al.* 2008; Bremer & Eriksson 2009).

In continental Africa, nineteen *Craterispermum* species are currently known (Taedoumg & Hamon 2013). While new species are still being discovered in hotspot areas, the genus is generally well-collected and numerous herbarium specimens are available. For Madagascar, a survey of existing herbarium material resulted in less than 160 specimens, representing more than ten undescribed species. This low specimen number indicates that the genus is only present at low densities in Madagascar, a fact that was corroborated during our fieldwork. Low densities were also recorded for *C. microdon* Baker (1877: 145), the only species known from the Seychelles (Ismail *et al.* 2011). The low number of collected specimens can in part also be explained by the fact that *Craterispermum* species usually have a restricted distribution in Madagascar. Furthermore, most of them occur in lowland humid forest, a vegetation type strongly under human pressure and considerably reduced in area during the last fifty years (Du Puy & Moat 1996; World Wildlife Fund 2006).