



Taxonomy and chorology of *Corbichonia* (Lophiocarpaceae s.l.) with further description of a new species from Southern Africa

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Abstract

A re-examination of the herbarium material has allowed to describe a new species, *Corbichonia exellii*, occurring in Southern Africa (Angola, Namibia and South Africa). *C. exellii* represents the third species in the genus. Morphological differences between all three *Corbichonia* species (*C. decumbens*, *C. rubriviolacea*, and *C. exellii*) are provided. The description of the genus is defined using the newly discovered characters (reproductive features). The taxonomy of all *Corbichonia* species (synonyms included) is provided, as well as maps for all species. The lectotypes of *Orygia decumbens* (basonym of *Corbichonia decumbens*) and *O. mucronata* (synonym of *C. decumbens*) are designated on specimens preserved, respectively, at BM and K. The genus *Corbichonia*, recently placed in *Lophiocarpaceae*, is markedly different from the core genus *Lophiocarpus* on the basis of embryological, morphological and carpological characters, and deserves further investigation concerning its taxonomic status.

Key words: Africa, *Corbichonia*, distribution, Lophiocarpaceae, new species

Introduction

The genus *Corbichonia* Scopoli (1777: 264) belongs to the order Caryophyllales Juss. ex Bercht. & J. Presl, but its systematic position was unstable for a long time. Previously, *Corbichonia* was included within Aizoaceae Martinov [e.g., Pax 1889, Pax & Hoffmann 1934 (sub *Orygia* Forsskål (1775: 103)), Hauman 1951, Adamson 1958, Jeffrey 1960, Nazir 1973] or Molluginaceae Bartl. (Fenzl 1836, Harvey & Sonder 1860, Endress & Bittrich 1993, Hofmann 1973, 1994, Sivarajan 1988, Pullaiah 2003) having some morphological similarities in the reproductive characters with both families. Recently, the separate position of *Corbichonia* from Aizoaceae or Molluginaceae was discovered on the basis of molecular data, and it was placed in the so-called ‘Globular Inclusion’ clade as a sister group to *Lophiocarpus* Turczaninow (1843: 55) (Cuénoud *et al.* 2002). The latter genus forms its own family Lophiocarpaceae Doweld & Reveal (2008: 416), which now consists of two genera: core genus *Lophiocarpus* and *Corbichonia* automatically included in this family (Schäferhoff *et al.* 2009, Brockington *et al.* 2013).

Corbichonia unites glaucous, almost glabrous annual or perennial herbs, sometimes with a basally lignified stem; with alternate, shortly-petiolate leaves with broad (obovate, ovoid or oblong) blades terminating in a short tip; bracteose inflorescences; 5 green sepals and numerous petals of staminodial origin; 10–20 normally developed stamens; 5 episepalous carpels bearing a dehiscent loculicidal capsule with many seeds. Only two *Corbichonia* species are known so far. The annual or short-leaved perennial *Corbichonia decumbens* (Forsskål 1775: 103) Exell (1935: 80) has an extended distribution pattern in the tropical (mostly arid) regions of Africa, Arabia and Indian subcontinent (Nazir 1973, Ghazanfar & Fisher 1998). The second species [*C. rubriviolacea* (Friedrich in Suessenguth *et al.* 1953: 340) C. Jeffrey (1960: 235)] is a perennial herb that is clearly distinguished by smaller leaves (up to 2.5 cm) and flowers, with records in southwest Africa (sub *Orygia rubriviolacea* Friedrich in Suessenguth *et al.* 1953: 340). Specimens of *Corbichonia decumbens* that have been examined are different in some characters (especially leaf shape and seed-coat ornamentation) and require further investigation.

The main goals of the present study are (1) to examine the taxonomy and chorology of *Corbichonia*, with the