



## Taxonomy and evolution of the *Convolvulus sabatius* complex (Convolvulaceae)

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### Abstract

A revision of the *Convolvulus sabatius* complex is presented and five taxa are now recognised. *Convolvulus valentinus* is re-circumscribed to comprise only blue-flowered individuals. Yellow-flowered plants previously referred to this species are transferred to *C. supinus* where they are recognised as a distinct variety: *C. supinus* var. *melliflorus*, comb. nov. Variation in intensity of flower colour, pubescence and leaf shape among blue-flowered *C. valentinus* is highly variable within populations and in contrast to earlier treatments, no infraspecific taxa based on these traits are recognised. Despite suggestions to the contrary, the delimitation of the cultivated ornamental *C. sabatius* and its two subspecies is unproblematic. Molecular data from the chloroplast *trnH-psbA* region support the recircumscription of *C. supinus* and *C. valentinus* and highlight the genetic distinctiveness of a disjunct Iberian population of the latter that merits further investigation.

**Key words:** Western Mediterranean, Maghreb, nomenclature, revision, species delimitation, *trnH-psbA*

### Introduction

The genus *Convolvulus* Linnaeus (1753; Convolvulaceae) has a cosmopolitan, though largely temperate distribution and comprises approximately 200 species worldwide. More than half of the species occur in the Mediterranean region, Macaronesia and Western Asia with 118 species enumerated in the most recent revision covering this region (Sa'ad 1967). Taxon delimitation in *Convolvulus*, as with other genera of Convolvulaceae, has proven to be problematic and whilst Sa'ad's (1967) treatment addressed a number of taxon delimitation problems, many uncertainties remain (e.g. Stace 1971, Mendoza-Heuer 1983, Greuter *et al.* 1986).

One particularly problematic group in the western Mediterranean comprises the cultivated ornamental species *C. sabatius* Viviani (1823) together with *C. valentinus* Cavanilles (1793; including *C. suffruticosus* Cavanilles (1793)) and *C. supinus* Cosson & Kralik (1857). This complex has a largely North African distribution with disjunct populations in Italy and Spain. Morphologically it comprises perennial plants that are woody at the base, with trailing or scrambling unarmed stems, petiolate leaves that are truncate or rounded at the base, flowers borne in axillary cymes, conspicuous peduncles that are generally shorter than the subtending bracts, and corollas that are blue, yellow or rarely white. The monophyly of the group is supported by molecular data and it appears to be closely related to a clade comprising the blue-flowered annual species *C. gharbensis* and *C. siculus* (Carine *et al.* 2004).

Taxon delimitation within the *C. sabatius* complex has focussed on three main characters, namely flower colour, leaf shape and pubescence, and an excess of thirty names, although not all validly published, have been proposed to account for the variation encountered in these traits. As currently circumscribed, *C. sabatius* is distinguished by a combination of blue flowers and leaves that are broadly ovate, rounded at the apex and never more than twice as long as broad. It is distributed in Italy and north Africa and has a peculiarly