



Desertia*, a new genus in Massonieae (Asparagaceae, Scilloideae), including the description of *Desertia luteovirens* and the taxonomic revisions of *Whiteheadia* and *Namophila

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Abstract

Desertia gen. nov., which belongs to tribe Massonieae, is described from south western Namibia and north western South Africa. *Desertia* is at first sight related to *Whiteheadia* and *Massonia*, but it can be clearly differentiated by the papillose bracts, subcampanulate flowers with straight, suberect or slightly spreading free portion of tepals and the rugose seeds. This genus is based on *Whiteheadia etesionamibensis*, for which the combination in *Desertia* is presented. Furthermore, a second species in the genus, *D. luteovirens*, is here described based on distinct morphological and molecular characters. Furthermore, taxonomic revisions are presented for *Namophila* and *Whiteheadia*, including identification keys for the three genera and data on morphology, ecology, and distribution for all accepted species.

Key words: Flora of Southern Africa, Hyacinthaceae, Massonieae, *Massonia*, taxonomy

Introduction

Subfamily Scilloideae tribe Hyacintheae is alternatively treated as Hyacinthaceae subfam. Hyacinthoideae, a treatment that we favour here (Speta 1998a, 1998b, Wetschnig *et al.* 2002, Pfosser *et al.* 2003, Manning *et al.* 2004). Within subfamily Hyacinthoideae, the tribe Massonieae has shown important changes regarding generic circumscription in the last decades. Two new genera—*Namophila* Müller-Doblies & Müller-Doblies (1997: 77) and *Spetaea* Wetschnig & Pfosser (2003: 87)—were recently described whereas some others were included in broader generic concepts, such as *Brachyscypha* Baker (1870: 393), *Polyxena* Kunth (1843: 294), and *Periboea* Kunth (1843: 292) into *Lachenalia* J.Jacquin ex Murray (1784: 314) (Manning *et al.* 2004); *Drimiopsis* Lindley & Paxton (1851–1852: 73, fig.172) and *Resnova* Van der Merwe (1946: 46) into *Ledebouria* Roth (1821: 194) (Manning *et al.* 2004); *Androsiphon* Schlechter (1924: 147), *Amphisiphon* Barker (1936: 19) and *Neobakeria* Schlechter (1924: 149) into *Daubenyia* Lindley (1835: t. 1813) (Manning & Van der Merwe 2002); and *Whiteheadia* Harvey (1868: 396) into *Massonia* Houttuyn (1780: 424) (Manning *et al.* 2004, 2011).

The cited lumping of genera by Manning *et al.* (2004) was based on a preliminary phylogenetic study, including two plastidial regions (sequences not yet deposited in the Genbank) and an incomplete sampling of taxa in most of the groups studied. On this matter, Lebatha (2004) commented that “Manning *et al.* (2004) prematurely, without support of morphological data, sunk *Drimiopsis* and *Resnova* into *Ledebouria sensu lato*”. Furthermore, Lebatha (2004) added that her results “directly oppose Manning *et al.*’s (2004) decision to lump *Resnova* and *Drimiopsis* in *Ledebouria* based solely on a polytomy produced by a strict consensus tree of *trnL-F* and *rbcL* data. In addition, the characters professed by them to support their lumping prove to be either homoplasious, symplesiomorphous or confined to the terminal clade in *Ledebouria*”. Similar conclusions were reached by Lebatha *et al.* (2006) and by Martínez-Azorín *et al.* (2011) for Ornithogaloideae. Therefore it appears necessary to evaluate those proposals on the basis of extended phylogenies with additional regions and covering most of the species involved in each genus, and everything combined with a detailed analysis of morphological characters (M. Martínez-Azorín and collaborators, in preparation).

Harvey (1868) described the genus *Whiteheadia* to include a single species, *W. latifolia* Harvey (1868: 396), based