

## Clarification of *Massonia echinata* and some other frequently misunderstood *Massonia* species (Asparagaceae, Scilloideae), with the description of *M. pseudoechinata* and *M. roggeveldensis*

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### Abstract

As part of a taxonomic revision of the genus *Massonia*, we here clarify concepts of *Massonia echinata*, *M. latebrosa* and *M. tenella*—all frequently misunderstood or reduced to synonymy. We discuss their history, biology, habitat preferences and distribution. Our study also shows that the current concept of *M. echinata*, including *M. angustifolia* and *M. lanceolata* as synonyms, includes two unpublished species which we here describe as *M. pseudoechinata* and *M. roggeveldensis*. A new combination in *Massonia* is proposed for *Haemanthus sessiliflorus*.

**Key words:** Southern Africa, Hyacinthaceae, Massonieae, Taxonomy, *Massonia angustifolia*, *M. lanceolata*, *M. latebrosa*, *M. sessiliflora*, *M. tenella*

### Introduction

Asparagaceae subfamily Scilloideae tribe Hyacintheae is alternatively regarded as Hyacinthaceae subfam. Hyacinthoideae, a treatment that we here favour. Further information on the subfamily Hyacinthoideae and generic circumscriptions can be found in Martínez-Azorín *et al.* (2013, 2014a, 2014b), Pinter *et al.* (2013) and Wetschnig *et al.* (2014).

The genus *Massonia* Houttuyn (1780: 424) belongs to subfamily Hyacinthoideae tribe Massonieae (Speta 1998a, 1998b, Wetschnig *et al.* 2002, Pfosser *et al.* 2003, Manning *et al.* 2004) and is confined to South Africa and southwestern Namibia. This genus was described to include a single species, *Massonia depressa* Houttuyn (1780: 424). With ongoing exploration of the southern African flora, the number of species in *Massonia* quickly increased, reaching 33 species accepted by Baker (1897). However, recent studies in *Massonia* reduced the number of accepted species to 6 (van der Merwe 2002, Manning & Goldblatt 2003, Summerfield 2004), 8 (Jessop 1976), 12 (Müller-Doblies & Müller-Doblies 1997) or 14 (Species-2000 2015).

Our studies in *Massonia* reveal that the taxonomy of the genus, as presented in recent revisions, is not satisfactory and several species concepts have been overlooked and misunderstood (Wetschnig *et al.* 2012, 2014, Martínez-Azorín *et al.* 2013, 2014a, 2014b, 2015, Pinter *et al.* 2013, 2015).

Within the framework of a taxonomic revision of *Massonia*, the study of herbarium vouchers, including the type specimens, as well as living plants from wild populations in South Africa and cultivated material, revealed that the concepts of *Massonia echinata* Linnaeus (1782: 193), *M. angustifolia* Linnaeus (1782: 193), *M. latebrosa* Masson ex Baker (1886: 336) and *M. tenella* Sol. ex Baker (1870: 389) as accepted in recent revisions (Jessop 1976, Müller-Doblies & Müller-Doblies 1997, van der Merwe 2002, Manning & Goldblatt 2003, 2013, Summerfield 2004) have been misunderstood and some of these names were reduced to synonymy, yet they indeed represent distinct species based on clear morphological characters and biogeography.

Our studies show that the concept of *Massonia echinata* as presented by Müller-Doblies & Müller-Doblies (1997)