



## *Stellarioides exigua* (Asparagaceae, Scilloideae), a new species from South Africa

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### Abstract

Within the framework of a taxonomic revision of the genus *Stellarioides* we here describe a new species from South Africa, *Stellarioides exigua*. This taxon is, at first sight, related to *S. arida* and *S. tenuifolia* s.l., but it can be clearly differentiated by the small general size; the filiform, free leaves; the small narrowly lanceolate capsules and the small seeds. A complete description of the species is presented, and data on morphology, ecology, and distribution are reported. Affinities and divergences with other taxonomically closely related taxa are also discussed.

**Key words:** distribution, ecology, Hyacinthaceae, Ornithogaloideae, taxonomy

### Introduction

Subfamily Scilloideae tribe Ornithogaleae is alternatively regarded as Hyacinthaceae subfam. Ornithogaloideae, a treatment that we favour here (see Martínez-Azorín *et al.* 2014a). Generic circumscription within Ornithogaloideae has been a matter of controversy in the last decades. After diverse and contrasting taxonomic treatments in the group proposed in recent years (Speta 1998, Pfosser & Speta 1999, Manning *et al.* 2004, 2009), the latest comprehensive study in Ornithogaloideae (Martínez-Azorín *et al.* 2011) demonstrates the existence of 19 monophyletic genera that are characterized by a clear syndrome of morphological characters, making genus concepts intuitive, homogeneous in floral and fruit morphology, and therefore easy to define and to work with.

The genus *Stellarioides* Medikus (1790: 369) has been overlooked for a long time, but restored by Speta (1998) and corroborated by Martínez-Azorín *et al.* (2011). This genus is endemic to Africa, and it is mainly distributed in southern and eastern Africa, with some disjunct species found in Angola (cf. Van Jaarsveld 2010), Cameroon (cf. Speta 2001), Morocco and Algeria (see Desfontaines 1798, Martínez-Azorín *et al.* 2011, Martínez-Azorín & Crespo 2013). However, the highest concentration of species diversity within the genus is found in eastern South Africa.

From a phylogenetic point of view, *Stellarioides* form a monophyletic group that is sister to the clade comprising *Albuca* Linnaeus (1762: 438) and *Coilonox* Rafinesque (1837: 28) (Martínez-Azorín *et al.* 2011). Manning *et al.* (2009) opted to widely circumscribe *Albuca* including *Stellarioides*, *Coilonox*, *Trimelopter* Rafinesque (1837: 24) and *Battandiera* Maire (1926: 125). This proposal leaves *Albuca* heterogeneous in flower and fruit morphology and makes it very difficult to characterize within Hyacinthaceae. Most notably, species of *Stellarioides* do not present the clear diagnostic apomorphies of *Albuca* (e.g. inner tepals permanently connivent, enclosing the stamens and gynoecium, hooded or hinged at the apex; ovary with paraseptal crests and style thickened or prismatic), and accordingly, the proposal of Manning *et al.* (2009) is not accepted here.

*Stellarioides* is characterized by usually long, narrow and dense, racemose-spiciform inflorescences (rarely subcorymbose or subglobose); relatively small and numerous flowers; tepals with a longitudinal green band visible on both sides that becomes rusty-reddish when withered; capsule ovoid, subglobose or obovoid; seeds flattened or irregularly compressed, with sharpened edges, obliquely arranged in two rows per locule and puzzle-like testa (Martínez-Azorín *et al.* 2011, 2013, Martínez-Azorín & Crespo 2013, Crouch *et al.* 2014).

**Uncertain collections:**—Obermeyer (1978) commented on *O. tenuifolium* subsp. *aridum*: “The following collections from the Transvaal Highveld are very close to subspecies *aridum* but are much smaller in size and do not produce a distinct neck. They appear to be paedogenic forms not yet deeply embedded in the soil”. The study of some herbarium collections from the North West and Gauteng Provinces of South Africa (see below) revealed that they approach in general the morphology *Stellarioides exigua*. However, we were not able to study mature capsule and seed morphology, and therefore we prefer not to include them in the new species until those characters are studied. SOUTH AFRICA: North West Province. Zeerust (2526): Panfontein Reserve (–DD), on edge of “pan” in grassveld, rare, 8 January 1953, *W.J. Louw 2075* (PCU! Goosens herbarium 5028); Potchefstroom (2627): Potchefstroom, Haaskraal (–CC), 8 December 1949, *W.J. Louw 1776* (PCU! Goosens herbarium 5024); Bloemhof (2725): Boskuil, Wolmaranstad (–BD), elevation 4200 ft., April 1929, *J.D. Sutton 703* (PCU! Goosens Herbarium 5057). Gauteng. Johannesburg (2628): Gauteng, Heidelberg District, Heidelberg, 47 km SSE of Heidelberg, Kalkspruit (–CB), elevation 1520 m, 15 November 1959, *J.P.H. Acocks 20827* (J091824!).

## Acknowledgements

This work was partly supported by the Fundación Ramón Areces (Spain) and Universidad de Alicante (Spain). Rhodes University provided working facilities to the first author from October 2009 to November 2011. We thank the curators of the herbaria for providing access to specimens. Eastern Cape Department of Economic Development, Environmental Affairs and Tourism granted collecting permits. Almudena Martínez-Soler kindly helped with field work in South Africa.

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