



Drimia edwardsii (Asparagaceae, Scilloideae), a new urgineoid species from the Mkhomazi River Valley of eastern South Africa

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Abstract

A new species endemic to South Africa, *Drimia edwardsii*, is described and illustrated, with data provided on its morphology, ecology and distribution. The species appears to be closely related to *Drimia delagoensis* and *Urginea lydenburgensis*, and whereas all are synanthous and produce small, pale-brownish campanulate flowers, several leaf and bulb features clearly distinguish the new species.

Key words: *Drimia*, Hyacinthaceae, *Sekanama*, South Africa, taxonomy, *Urginea*, Urgineoideae

Introduction

Hyacinthaceae sensu APG (2003) comprises ca. 700–1000 species of bulbous plants mostly occurring in Africa, Europe and Asia, with a single genus, *Oziroë* Rafinesque (1837: 53), present in South America (Speta 1998a, b, APG 2003, Martínez-Azorín *et al.* 2014). Four subfamilies are accepted in Hyacinthaceae (Hyacinthoideae, Ornithogaloideae, Oziroëoideae and Urgineoideae) corresponding to monophyletic clades (Speta 1998b, Pfosser & Speta 1999, Manning *et al.* 2004, Martínez-Azorín *et al.* 2011). Alternatively Hyacinthaceae is treated as Asparagaceae subfamily Scilloideae, and consequently the former subfamilies are reduced to the tribes Hyacintheae, Ornithogaleae, Oziroëeae and Urgineae (APG 2009, Chase *et al.* 2009). However, we favour Hyacinthaceae at family rank based on morphological grounds. Generic circumscriptions within the subfamily Urgineoideae have been especially controversial in recent decades. This subfamily is distributed in Africa, Europe, and western Asia, reaching India in the east. Although some studies accept only ca. 100 species in Urgineoideae (cf. Manning *et al.* 2004), we consider the true number to be considerably greater, given the imperfect knowledge of urgineoid elements across their wide distribution range, and the lack of detailed comprehensive taxonomic revisions. The paucity of good revisions has precluded improved generic circumscriptions, and so, widely differing taxonomies have been proposed. On the one hand, Manning *et al.* (2004) presented an extremely broad treatment, where only two genera were recognised for the whole subfamily: *Bowiea* Harvey ex Hooker (1867: t. 5619) with two species (Reid *et al.* 1990), and *Drimia* Jacquin (1797: 38) with about 100 species, based on preliminary phylogenetic studies. This expanded concept of *Drimia* accommodated enormous variation in floral and vegetative morphologies, and resulted in synonymisation of several traditionally accepted genera which are easily identified by distinct morphological syndromes. Synonymised genera include *Litanthus* Harvey (1844: 314), *Rhadamanthus* Salisbury (1866: 37), *Rhodocodon* Baker (1880: 280), *Schizobasis* Baker (1873: 105), *Tenicroa* Rafinesque (1837: 52), *Thuranthos* Wright (1916: 233), and *Urginea* Steinheil (1834: 321). On the other hand, Speta (1998a, b, 2001) and Pfosser & Speta (2001) favoured a more refined approach, in which about 20 different genera (excluding *Igidia* Speta (1998b: 70) of subfamily Ornithogaloideae; cf. Wetschnig *et al.* 2007), were accepted. Manning *et al.* (2014) included the aforementioned segregates plus the recently described genera *Sagittanthera* Mart.-Azorín, M.B.Crespo, A.P.Dold & van Jaarsv. in Martínez-Azorín *et al.* (2013: 46) and *Mucinaea* M.Pinter, Mart.-Azorín, U.Müll.-Doblies,

The transfer to *Sekanama* of *D. delagoensis* was anomalous, for Speta (2001) seemingly overlooked bulb tunic and deciduous differences with *S. sanguinea* (Fig. 4H). He concurred with Jessop (1977) that *D. delagoensis* “is closely related to *D. sanguinea*, with which it shares the property of being toxic”. However, *D. delagoensis* fide Baker (1897) is not poisonous to stock (Dyer 1942b), an observation corroborated by Koorbanally *et al.* (2005) who unexpectedly isolated a homoisoflavanone rather than bufadienolides (cardiac glycosides), a class normally yielded by urGINEOIDS (Mulholland *et al.* 2013). By contrast, *Urginea lydenburgensis* is toxic to stock (Dyer 1942a) and has yielded bufadienolides (Crouch *et al.* 2006), which disrupt heart function. Accordingly, the ‘toxicity’ of *D. delagoensis* has been conferred only through the subsuming of *U. lydenburgensis* by Jessop (1977) in an expanded species concept.

D. edwardsii and its closest allies (Table 1) all lack a prominent bulb tunic and share in common small, campanulate, pale-brownish flowers appearing together with the leaves. These characters readily set them apart from the proteranthous *S. sanguinea*, the tepal lobes of which are white, the anthers green, and the inflorescences dense and many-flowered (Fig. 4G).

Etymology:—The specific epithet honours Trevor J. Edwards, in recognition of his mentoring of Hyacinthaceae taxonomists in southern Africa.

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