



New combinations and lectotype designations in Asparagaceae subfam. Scilloideae

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Abstract

Hyacinthaceae (Asparagaceae subfam. Scilloideae) are commonly hysteranthous or proteranthous plants, in which leaves and inflorescences usually are not present simultaneously. Consequently, to facilitate future identification, type “specimens” were sometimes prepared to combine fragments gathered at different times so as to include as many vegetative and reproductive structures as possible. However, this is not acceptable under the rules of nomenclature. We here lectotypify four species names of Hyacinthaceae for which the intended types do not conform to the ICN (Melbourne Code). Furthermore, seven new combinations are presented to transfer recently described units of Ornithogaloideae and Urgineoideae to their proper genera, characterized by distinct and consistent morphological syndromes.

Key words: *Coilonox*, *Eliokarmos*, *Fusifilum*, Hyacinthaceae, *Litanthus*, nomenclature, *Ornithogalum*, *Rhadamanthus*, *Schizobasis*, typification, *Urginea*

Introduction

Hyacinthaceae sensu APG (2003) include about a thousand species of bulbous plants, distributed mainly through Europe, Africa and Asia, with a single small genus, *Oziroë* Rafinesque (1837: 53), in South America. This family is alternatively treated as subfamily Scilloideae Burnett (1835: 428) within Asparagaceae (Chase *et al.* 2009), a name that has priority over subfam. Hyacinthoideae Speta (1998: 51), unless and until Hyacinthaceae is conserved in App. IIB of the International Code of Nomenclature of algae, fungi and plants, ICN, although we favour Hyacinthaceae based on morphology.

Some Hyacinthaceae are synanthous plants, in which leaves and flowers coexist during a short period of the year. However, several genera and many species are hysteranthous or proteranthous, thus leaves and inflorescences are not present simultaneously. Because of this, collectors of Hyacinthaceae often gather bulbs in the vegetative state in the wild, then cultivate them until they produce flowers and fruits, a process that in some cases may take years. Once flowers and fruits are produced, herbarium sheets are prepared to include all vegetative and reproductive structures facilitating identification. This practice, however, usually implies that herbarium sheets result from merging materials gathered at different times, since fresh leaves and inflorescences are not simultaneously present (cf. Martínez-Azorín & Crespo 2014). In some cases such collections later become type “specimens” of the names of new taxa.

According to the ICN (Melbourne Code; McNeill *et al.* 2012), “publication on or after 1 January 1958 of the name of a new taxon of the rank of genus or below is valid only when the type of the name is indicated” (Art. 40.1), a condition that can be met “by reference to an entire gathering, or a part thereof, even if it consists of two or more specimens” (Art. 40.2). A specimen is defined as “a gathering, or part of a gathering, of a single species or infraspecific taxon made at one time, disregarding admixtures” (Art. 8.2). Any holotype, lectotype, or neotype, as stated in Art. 8.1, is either a specimen or an illustration.

Our recent taxonomic work on several genera of Hyacinthaceae (cf. Manning *et al.* 2007, Martínez-Azorín *et al.* 2007, 2010a, 2010b, 2013) has required the revision of numerous type materials collected mostly in the last two centuries. In the course of the revision of some South African genera, Martínez-Azorín & Crespo (2014) found that several

Duthie 1603 (K, bar code 000257367!; NBG, bar code 0197707-0!; PRE, bar code 0049740-0!). The sheet at K shows bulbs with leaves and unconnected flowers, capsules and seeds, and bears the annotation “flowering Feb.–March”. The sheet at NBG bears numerous plants with leaves, flowers and fruits, which are separated into five groups by solid lines. Each group includes plants in the same stage of development, and those groups are dated in pencil “April 1925”, “March 27. 1925”, “March 30 1925”, “March 1925”. “April 29”, and “June 3 1926”. Finally, the sheet at PRE includes several leafy bulbs and four unconnected flowers, and the following dates are annotated in pencil: “1603a [...] Leafing plants June 3 1926” and “1603 [...] March 1927”. It is evident therefore that the original material, *A. Duthie 1603*, includes plants collected at different times. As in 1928 there was no need for a type designation, the name is validly published. Jessop (1977: 306) indicated the “type” of *U. pygmaea* as follows: “Type: Stellenbosch Flats, *Duthie s.n.* sub Ste 1603 (STE, holo., K!, PRE!)”, while considering it a synonym of *Drimia minor* (Duthie 1928: 11) Jessop (1977: 306). The herbarium STE was incorporated to NBG, where it is currently kept. As Jessop’s “type” designation referred to five or six different specimens, it has no standing, and the entire original material is available for the purpose of lectotype designation. We nevertheless designate here a portion of the NBG sheet, the eleven bulbs with leaves located at the base of that sheet, as the lectotype of *U. pygmaea*. The selection of sterile material as the lectotype is due to the fact that flower and inflorescence morphology in the group of species related to *U. pygmaea* is relatively constant, but they mainly differ by leaf morphology.

Acknowledgements

This work was partly supported by Fundación Ramón Areces (Spain), University of Alicante (Spain) and Karl-Franzens-University Graz (Austria). Rhodes University (Dept. of Botany) and the Selmar Schonland Herbarium (GRA) provided working facilities to the second author between 2009 and 2011. We acknowledge the help of all herbarium curators who kindly provided material and information. Particularly, Mats Hjertson (Uppsala University, Sweden) helped with Thunberg’s historical collection at UPS. Werner Greuter (Botanischer Garten und Botanisches Museum Berlin-Dahlem) and James L. Reveal (Cornell University, Ithaca, New York) made interesting suggestions that improved the text. Julian Slade (Mount Barker, Australia) is thanked for pointing out nomenclatural aspects on *Eliokarmos neomaculatus*.

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