



## *Scilla vardaria* (Asparagaceae subfamily Scilloideae): a threatened new species of *Scilla* L. from Northeast Turkey with a floral corona

Hasan YILDIRIM<sup>1\*</sup>, Yusuf GEMİCİ<sup>1</sup> & Paul WILKIN<sup>2</sup>

<sup>1</sup>Ege University, Faculty of Science, Department of Biology, 35100, Bornova-Izmir, Turkey.

E-mail: [hasanyldrm@gmail.com](mailto:hasanyldrm@gmail.com)

<sup>2</sup>Royal Botanic Gardens, Kew, Richmond TW9 3AB, UK

### Abstract

*Scilla vardaria* Yıldırım & Gemici (Asparagaceae) is described as a new species. Diagnostic morphological characters, a full description and detailed illustrations are provided on the basis of the type specimen and observations of wild populations. The new species is characterized by the conical floral corona structure formed by fusion of its filaments, with anthers arising almost at the floral corona apex. Its seeds are borne in pyriform capsules and are oblong, straw to pale yellow with a cucullate, pale creamy yellow elaiosome which is adherent to the testa and the bulb is brown-pink. It is easily distinguished from all other *Scilla* species on the basis of these morphological characters.

**Key words:** Hyacinthaceae, taxonomy, Rize, Turkey, conservation status

### Introduction

The genus *Scilla* Linnaeus (1753: 338) contains 91 species distributed in Europe, Africa and Western Asia (Govaerts 2013). Both its generic and specific-level taxonomic limits have been the subject of considerable debate by systematists (e.g. Speta 1998a, 1998b, Stedje 1998, Pfosser & Speta 1999). In contrast with many previous treatments, *Scilla* L. s.l. was divided into many small genera by Speta (1998a), although this classification has not been widely taken up (see e.g. Govaerts 2013). According to Speta (1998b) only the *Scilla bifolia* Linnaeus (1753: 339) [the generic type of *Scilla* L.] group, which included *Chionodoxa* Boissier (1844: 61), formed the genus *Scilla* s.s. We have been studying taxa of *Scilla* and *Puschkinia* Adams (1805: 164) from Turkey based on morphological, molecular, ecological and reproductive system data since 2004 (see Gemici & Yıldırım 2010).

Our studies so far suggest support for Speta's conclusion that species placed in *Chionodoxa* by, for example, Mordak (1984) are most closely related to *S. bifolia* and its allies among the taxa that comprise *Scilla* s.l. However, among the scilloid taxa occurring in Turkey, *Puschkinia* is separable from *Scilla* s.l. (including *Chionodoxa*) based on differences in its floral corona and seed morphology. The species that were formerly placed in *Chionodoxa* have a distinct perigon tube and filaments that are well-developed, flattened and form a central cone at the top of perigon tube. These two characters were used to distinguish *Scilla* from *Chionodoxa* prior to the work of Speta (1971, 1976, 1998b) that placed *Chionodoxa* among the synonyms of *Scilla*, based on molecular (Pfosser & Speta, 1999) and cytotaxonomical studies, seed morphology and the ability to form hybrids with *S. bifolia* L. s.l. Thus in this study we regard *Chionodoxa* as a synonym of genus *Scilla* s.l. and this underlies our generic placement of the new species.

Mordak (1984) recognized 14 species of *Scilla* in her treatment in Flora of Turkey, with three species of *Chionodoxa* and a monotypic *Puschkinia*. Since then, *Scilla seisumsiana* Ruksans & Zetterlund in Ruksans (2007: 373) with a second species of *Puschkinia* (Rix & Mathew 2007). The World Checklist of Asparagaceae