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Crocus thracicus (Iridaceae), a new species from north-western Turkey

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Abstract

Crocus thracicus is described as a new species from Thrace, the European part of Turkey. The white form of this species was wrongly referred to an albino form of *C. chrysanthus* by Mathew in the Flora of Turkey. It grows in open stony places and in sparse *Quercus* sp. and *Paliurus spina-christi* clearings at elevations between 45–170 m. It is compared with the morphologically similar *C. alexandri* and *C. weldenii*. A description, detailed illustrations, photograps of metephase plate, karyotype and idiogram of new species are presented.

Key words: karyotype, taxonomy, Thrace , *Crocus chrysanthus*

Introduction

The most important monographic treatments of the genus *Crocus* Linnaeus (1753: 36) was published by Mathew (1982), "A revision of the genus *Crocus*" which identified 80 species. He divided the genus into two subgenera, two sections and 15 series. Since 1982 the genus *Crocus* was studied by many authors and many new species have been published recently (Randelović *et al.* 1990, Yüzbaşıoğlu & Varol 2004, Peruzzi & Carta 2011, Erol *et al.* 2012, 2014, Randelović *et al.* 2012, Kerndorrf *et al.* 2013a, 2013b, 2013c, Yıldırım & Erol 2013). Morphological, molecular and karyological investigations indicate that the number of species is probably closer to 160 occurring from western Europe and northwestern Africa to western China with the centre of species diversity in Asia Minor and on the Balkan Peninsula (Harpke *et al.* 2013, Harpke *et al.* 2014a, Harpke *et al.* 2014b, Rukšāns 2014). Turkey is an important distribution centre for the genus and is represented by 132 taxa, of which 108 are endemic to the country (Erol *et al.* 2012, 2014, Harpke *et al.* 2013, Yüzbaşıoğlu 2012, Candan & Özhatay 2013, Kerndorrf *et al.* 2013a, 2013b, 2013c, Rukšāns 2013, Rukšāns 2014, Yıldırım & Erol 2013, Yüzbaşıoğlu & Özhatay 2014, Schneider 2014).

During the revision of the genus *Galanthus* Linnaeus (1753: 288) in Turkey, field trips have been made every spring and also *Crocus* specimens have been collected from all around Turkey by the first author, since 2001. Many herbarium specimens have been examined from the following herbaria: AEF, ANK, GAZI, HUB, ISTE, ISTF, ISTO, K, NGBB. The first materials of the new species were collected by amateur botanist, İbrahim Sözen in 2007. A photo that was taken from Thrace by İ. Sözen was identified as a white form of *C. biflorus* Miller (1768: 4) subsp. *alexandri* (Nicic ex Velenovsky 1894: 26) Mathew (1982: 85) by Jānis Rukšāns (Rukšāns 2010). In the wild, subsp. *alexandri* grows in Bulgaria, Serbia and Greece, but there is no recent record from Turkey. For this reason, in February 2014 a comprehensive field study was made in Thrace. As a result of the fieldwork, herbarium studies and literature review, specimens from Thrace are described as a new species in this paper.

Material and methods

The measurements, colors and other details given in the description are based on both herbarium and living materials. Morphological data on *C. thracicus* were obtained from type and other three localities in Thrace, including a total of ca.

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The new species can be found admixted with *C. chrysanthus* (Herbert 1847: 285) Herbert (1843: 83) in many areas (Fig. 3) of European Turkey. However, we found also pure *C. thracicus* populations, which led us to the idea that we were dealing with a separate species. In the European Turkey, also pure *C. chrysanthus* populations were observed. As it was stated above, the new species was previously evaluated as an albino form of *C. chrysanthus* by Mathew (1982). According to the latter author, *C. chrysanthus* populations in European Turkey would contain many albinos contrarily to Anatolia, where albinism is rarely observed. This identification is based on a specimen in ISTE herbarium (ISTE 23814!). Field research in this location indicated that there are almost equal numbers of individuals of the white form of *C. thracicus* (Fig. 5a) and *C. chrysanthus*. In the same locality, a very limited number of speckled individuals (Fig. 5b) and also hybrid individuals between the white form of new species and *C. chrysanthus* (Fig. 5c) were found.

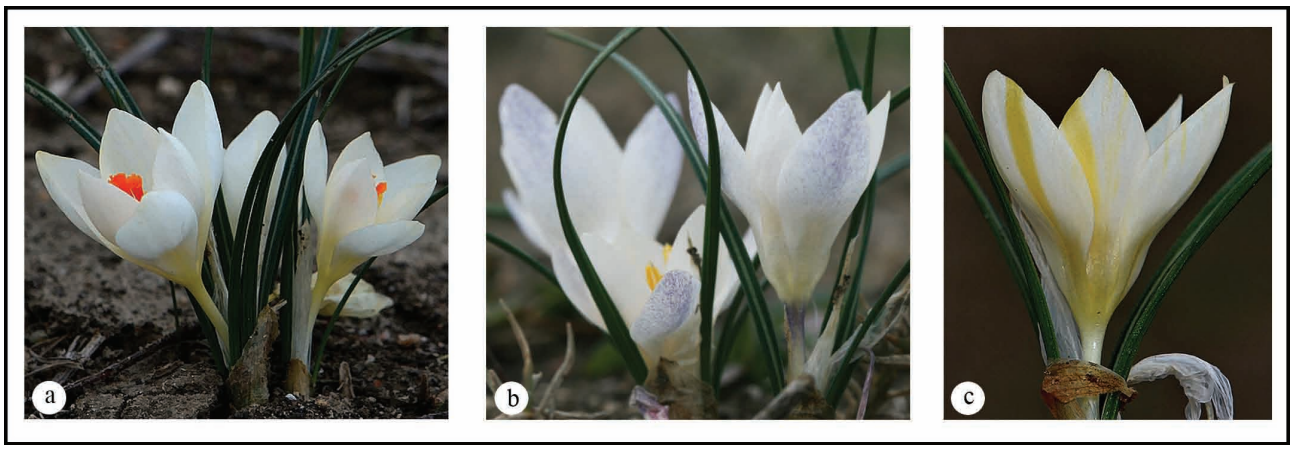

FIGURE 5. Enez location. (a) white form of *C. thracicus*, (b) speckled violet–blue form of *C. thracicus*, (c) hybrid form between white form of *C. thracicus* and *C. chrysanthus* (photos: F. Canız).

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