

COLCHICUM CHIMONANTHUM (COLCHICACEAE): CONFIRMATION OF OLD REPORTS AND DISCOVERY OF NEW POPULATIONS

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Abstract

Three new localities for *Colchicum chimonanthum* (Colchicaceae), a rare plant endemic to N. Greece (E. Macedonia), are presented. The new populations extend the altitudinal range of the species to 100-725 m. The populations in Nomos Thessalonikis are confirmed after almost one century. The total known distribution of the species is presented on a map.

Keywords: floristics, endemic species, *Colchicum chimonanthum*, Macedonia, Greece.

Introduction

Colchicum chimonanthum K. M. Perss. (Colchicaceae) is a winter-flowering, synanthous species endemic to N. Greece (E. Macedonia; Alexiou, 2013). It was first collected in 1917 but recognized as a new entity several decades later (Persson, 1999), following its re-collection in 1976. It is included under the IUCN Vulnerable category in the Red Data Book of Rare and Threatened Plants of Greece (Persson, 2009). Its winter-flowering period, from December to February, is indicated by the specific name chosen when described: *chimonanthum*, from the Greek words χειμώνας, i.e. winter, and άνθος, i.e. flower. The species is morphologically distinct and among the Greek species it seems to be related only to *C. asteranthum* Vassil. & K. M. Perss., another winter-flowering *Colchicum* endemic to Mt. Lirkio of Peloponnisos, S. Greece (see Persson, 2009).

Until now, *C. chimonanthum* has only been reported from Nomos Serron, where it forms two small subpopulations close to the town of Nea Zichni, and Nomos Chalkidikis, c. 1 km NW of Nea Triglia village. The localities of two old collections, indicated as ‘Salonika’ and ‘near Salonika’ respectively (Persson 1999), are vaguely reported and cannot be attributed to a clear geographical position nowadays. According to Persson (2009), they may either refer to the population of Nomos Chalkidikis or to an unknown population near the city of Thessaloniki, Nomos Thessalonikis. The habitat of the species is summarized in Persson (2009): slopes, meadows with grasses or maquis, on deep gritty and clayey soil or rocky terra rossa, at an altitude of 100-200 m.

Results and discussion

New populations of *Colchicum chimonanthum* were found during fieldwork in winter 2015-2016 and three new localities of this rare species were recorded. Flowering individuals were counted in all populations. The new localities are provided below but without coordinates, in an effort to protect the species from unnecessary collection. Specimens of two populations have been submitted at the herbarium of National and Kapodistrian University of Athens (ATHU).

Colchicaceae

Colchicum chimonanthum K. Perss.

Greece, Macedonia, Nomos Thessalonikis, Eparchia Thessalonikis: municipality of Efkarpia, environmental park of Derveni, mowed lawn, 220 m, 29.12.2015, c. 50 flowering individuals, *Goula photo*; *ibid.* 11.02.2016, in leaf, *Goula s.n.* (ATHU). - Nomos Thessalonikis, Eparchia Lagada: village of Nimfopetra, mowed lawn, 70 m, 11.02.2016, *Goula obs.*, c. 90 individuals. - Nomos Serron, Eparchia Fillidos: Agriani village, rocky area with *Juniperus oxycedrus*, *Euphorbia myrsinites*, *Inula verbascifolia*, *Crocus chrysanthus* etc., 725 m, 04.01.2016, c. 25 individuals, *Konsoulas s.n.* (ATHU). The two populations of Nomos Thessalonikis were observed for the first time by Krystallenia Pougadaki, a photographer of nature, who indicated their localities to the first author. The population near Derveni is just outside the city of Thessaloniki, at an old landfill that has now been reformed



Fig.1. Distribution map of *Colchicum chimonanthum*. Red dots refer to the known localities based on published literature and black dots refer to the new localities, presented in this article.

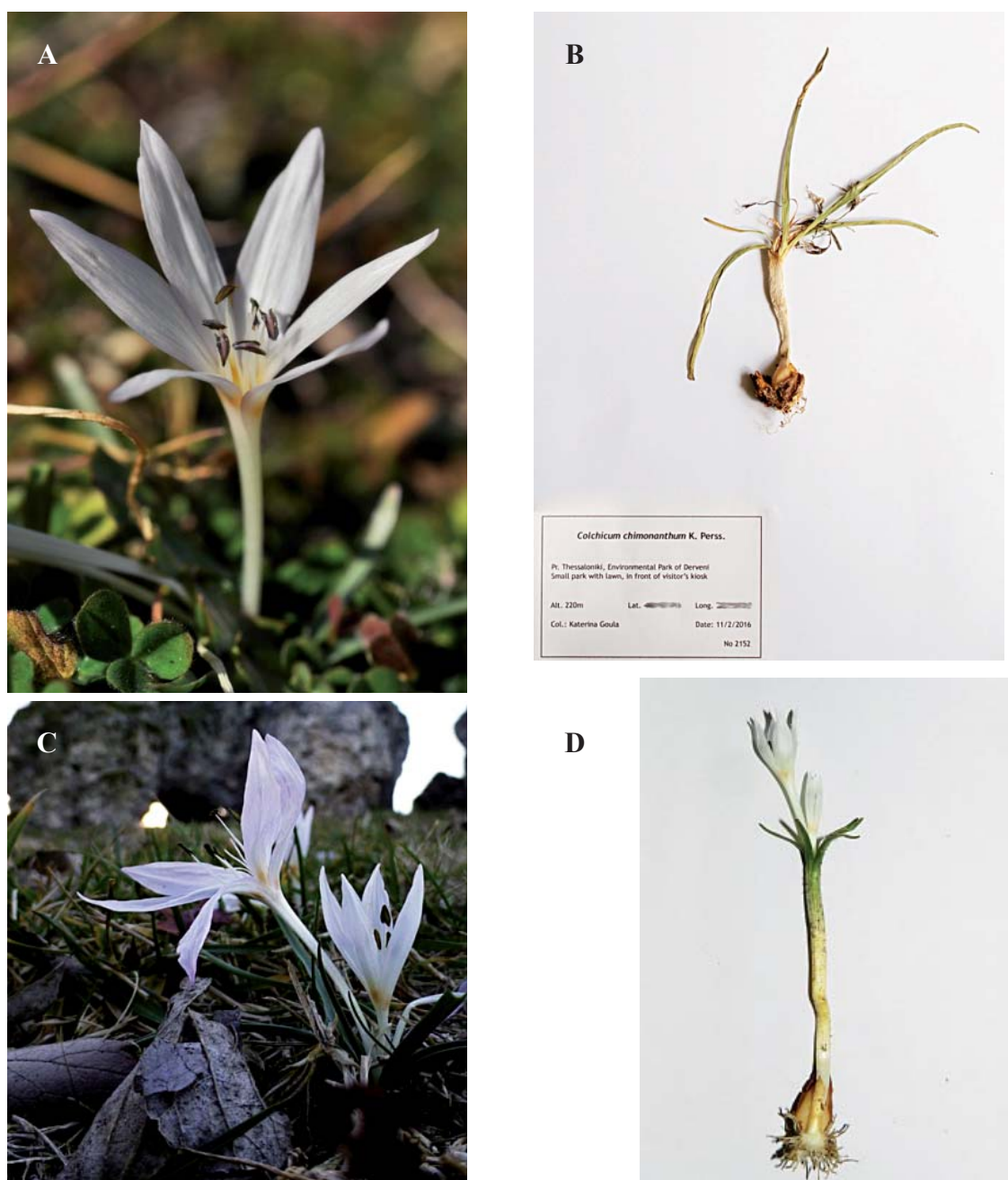


Fig.2. *Colchicum chimonanthum* - A: a flowering individual in its natural habitat, 29.12.2015, Efkarpiia (photo by K. Goula); B: a herbarium specimen from Efkarpiia (ATHU); C: a flowering plant near Nimfopetra, 09.01.2016, (photo by K. Pougadaki); D: a specimen from Agriani (photo by G. Konsoulas).

and turned into a small environmental park. The second population is just next to Volvi Lake. These two localities match well the two old gatherings from ‘Salonika’ and ‘near Salonika’ and confirm the presence of the species in Nomos Thessalonikis after almost one century.

The population near Agriani was discovered by the second author. It is the third locality of the species from Nomos Serron. This small population is about 7 km N-NW of Nea Zichni, i.e. not far away the *locus classicus* of *C. chimonanthum*. Its altitude at 725 m a.s.l. is notable, compared to the 100-200 m reported for the species earlier (Persson, 2009).

The populations of Nomos Thessalonikis were visited again by the first author, two months after their discovery, to assess their fruiting success. No fruiting individuals were found. The species has the

Old reports & new populations of *Colchicum chimonanthum*

ability to reproduce asexually when weather conditions do not allow effective pollination (Persson, 2009). Nevertheless, the weather conditions during fall and winter of 2015 were mild, with relatively high temperature and no snowfall. Thus, the absence of fruit may indicate some sort of reproductive failure. Small corms connected to the main corm were observed in the specimen collected for the herbarium voucher (Fig. 2B). The small corms may develop into independent ramets in the future, a sign for effective asexual reproduction. Still, the constant disturbance of the populations by lawn mowing poses a threat to the species and may seriously affect flower production and quality, pollination success and the number of individuals that survive at each locality.

The three new populations of *Colchicum chimonanthum* presented in this article extend considerably the altitudinal range of the species to 100-750 m and indicate that its total distribution range is larger than previously thought. The discovery of the Volvi Lake population bridges the two distant localities in Nomos Chalkidikis and Nomos Serron. However, all the populations observed are poor in number of individuals and none exceeded 90 mature plants. Still, flowering in *Colchicum* is not synchronous and those mature plants not in flower at any given time may be difficult to detect and take into account. Future fieldwork will undoubtedly locate new populations of the species, particularly if researchers investigate the area during the winter months.

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