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On five rare vascular plant species reported from Crimea, Ukraine

Abstract

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New localities on the Crimean Peninsula of the rare species *Trifolium grandiflorum, Holosteum marginatum, Minuartia pseudohybrida* and *M. wiesneri* are reported. Their presence on Crimea is thus confirmed and their known distribution range extended. Maps of the Crimean distribution of these species are given. *Minuartia hybrida* subsp. *turcica* is excluded from the flora of Crimea.

Phytogeographically the Crimean Peninsula is of particular interest as an isolated area with affinities to three phytogeographical units, the Circumboral, the Mediterranean and the Irano-Turanian region. The following notes are the result of the revision of herbarium material collected on a botanical expedition to Crimea in June 2001. The specimens are deposited in the herbaria in Barcelona (BC), Kyiv (KW) and Kórnik (KOR). Nomenclature follows Mosyakin & Fedoronchuk (1999).

Trifolium grandiflorum Schreb. in Nova Acta Acad. Leop.-Carol. 3: 477. 1767.

According to Zohary (1979: 400) *Trifolium grandiflorum* is distributed from Turkey and Iraq to northern and western Iran. It is not given by him for Palestine (Zohary 1972, 1979) but from there reported by Townsend (1974: 196). An earlier report of the species by Bobrov (1971: 144) from the submontane vegetation of the Ayudag in the Crimea and from the Talysh Mts and southern Transcaucasia has been omitted by these authors as well as by Zohary & Heller (1984: 320) but the species has been listed for Crimea by Greuter & al (1989: 184). More recently, the Crimean occurrence has also been omitted by Mosyakin & Fedoronchuk (1999: 220-221), where the only reference is to an enigmatic *Trifolium grandiflorum* Willd., referred to as a synonym of *T. speciosum* Willd.

The presence of *Trifolium grandiflorum* on the Crimea is here confirmed by a second record, from near Alushta (Fig. 1), where the species was found in gaps with dry grassland in low woodland of *Quercus pubescence* and *Pistacia mutica*. In this locality it is found growing with *Bromus hordeaceus* L., *B. sterilis* L., *Hirschfeldia incana* (L.) Lagr.-Foss., *Myosotis micrantha* Pall. ex

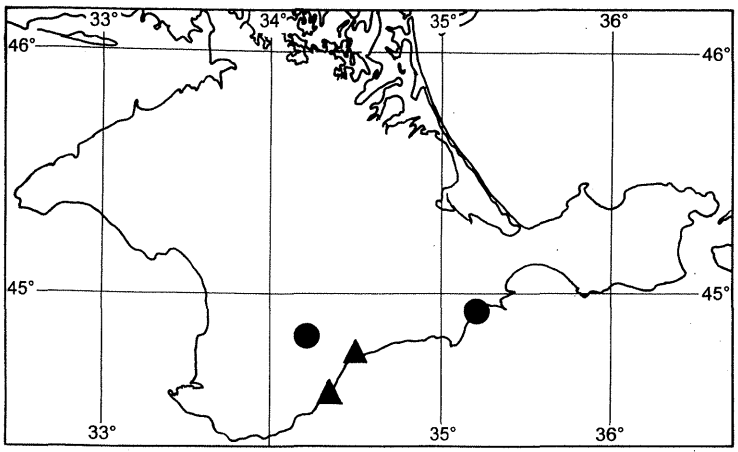

Fig. 1. Distribution on Crimea of *Trifolium grandiflorum* (▲) and *Holosteum marginatum* (●).

Lehm., *Trifolium arvense* L., *Valerianella dentata* (L.) Pollich, *Veronica arvensis* L., *Vulpia ciliata* Dumort., *Ziziphora taurica* M. Bieb., *Aegilops triuncialis* L., *Crucianella angustifolia* L. *Galium tenuissimum* M. Bieb., *Lathyrus sphaericus* Retz., *Lepidium campestre* (L.) R. Br., *Poterium sanguisorba* L., *Scleranthus annuus* L. subsp. *annuus*, *Trifolium leucanthum* M. Bieb., *Trifolium striatum* L., *Ventenata dubia* (Leers) Coss., *Vicia hirsuta* (L.) S. F. Gray and *Vicia sativa* L.

CRIMEA: Alushta, between Zvyrka and Alushta, 100-150 m, gaps of *Quercus pubescens* and *Pistacia mutica*, with dry grasslands, 29.5.2001, *Boratyñski, Didukh, Romaschenko, Romo 10046/1 & Susanna* (BC).

Holosteum marginatum Fisch. & C. A. Mey. in Bull. Soc. Imp. Naturalistes Moscou 11: 402. 1838.

Holosteum marginatum was reported for Turkey and the Caucasus by Coode (1967: 860), for the Caucasus and Iran by Murav'eva (1936: 361), and recently, it has been regarded as an Irano-Turanian floristic element by Heller & Heyn (1994: 67). The species was neither reported from Crimea by Greuter & al. (1984: 214) nor by Jalas & Suominen (1983: 85) and Produkin & al. (1987). Its first report from Crimea was published by Golubev (1995: 49), who found it on Chatyrdah, but the voucher supporting this record has not been located. The occurrence of the species was later confirmed by Fedoronchuk & Didukh (2002: 113). We add here a second record of the species from Karadag (Fig. 1). Our specimens have small glandular hairs on the always erect pedicels; the flowers open one by one, the petals have a ciliate claw and are 1-1.5 times longer than the sepals.

CRIMEA: Karadag Zapovidnyk, between Kurortne and Koktebel, 200-450 m, foothills, dry grasslands and cliffs, 5.6.2001, *Boratyñski, Didukh, Romaschenko, Romo 10307 & Susanna* (BC).

Minuartia pseudohybrida Klokov in Novosti Sist. Vysš. Nizš. Rast. (Kiev) 1974: 40. 1974.

The known distribution of this Crimean endemic, hitherto only known from western Crimea (Fedoronchuk & Didukh 2002), is extended towards the east by three new records (Fig. 2).

CRIMEA: Alushta, between Zvyrka and Alushta, 100-150 m, low woodlands of *Quercus pubescens* and *Pistacia mutica* with dry grasslands of Thero-Brachypodion, 29.5.2001, *Boratyñski, Didukh, Romaschenko, Romo 10020 & Susanna* (BC); Chatyrdah, below Hora Chatyrdah, 1000-1100 m, mesophilous grasslands on limestone rocks and *Juniperus sabina* and *Juniperus hemisphaerica* plant communities, 2.6.2001, *Boratyñski, Didukh, Romaschenko, Romo 10212 &*

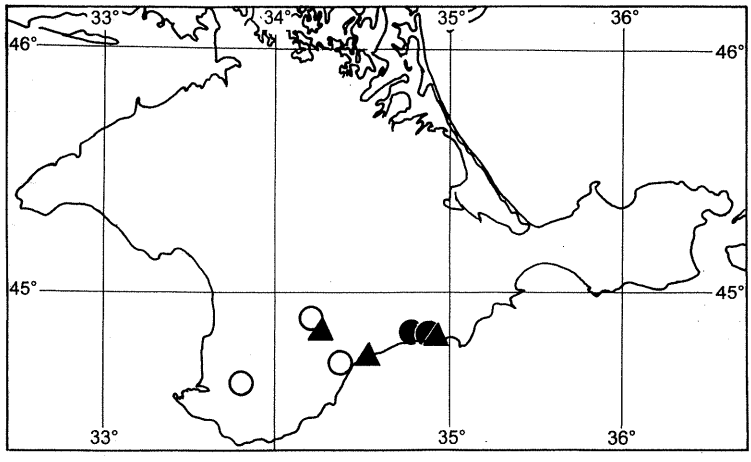

Fig. 2. Distribution on Crimea of *Minuartia pseudohybrida* (▲) and *M. wiesneri* (○ literature, ● herbarium).

Susanna (BC); Natural Reserve of Novyi Svit, above Mys Chekan (Chekan-Kaya), 160-250 m, dry grasslands, *Pinus pityusa* and *Juniperus excelsa* plant communities, 6.6.2001, *Boratyński, Didukh, Romaschenko, Romo 10332 & Susanna* (BC).

Minuartia wiesneri (Stapf) Schischk. in Komarov, Fl. SSSR 6: 490. 1936
≡ *Alsine wiesneri* Stapf in Denkschr. Akad. Wiss. Wien, Math.-Nat. Kl. 51: 20. 1886
≡ *Minuartia montana* subsp. *wiesneri* (Stapf) McNeill in Notes Roy. Bot. Gard. Edinburgh 24: 359. 1963.
= *Alsine montana* var. *caucasica* (Boiss.) Boiss., Fl. Orient. 1: 685. 1867.

The species was reported from Crimea by Šiškin (1936: 337) but not confirmed by McNeill (1963: 359, 1976: 54), who reported it from Georgia, Armenia, Azerbaijan, Turkey and Iran, where it grows on rocky slopes at 300-1500 m. Jalas & Suominen (1983: 44), Greuter & al (1984: 222) and Halliday (1993: 155) report it also from Crimea. Mosyakin & Fedoronchuk (1999: 220-221) reported it from the Ukraine, and Fedoronchuk & Didukh (2002: 138) cited it from four more Crimean localities, only one substantiated by a specimen, the others (Fig. 2) referring to literature reports. We confirm its presence and add another record.

CRIMEA: Nature Reserve of Novyi Svit, above Mys Chekan (Chekan-Kaya), 160-250 m, dry grasslands, *Pinus pityusa* and *Juniperus excelsa* plant communities, 6.6.2001, *Boratyński, Didukh, Romaschenko, Romo 10307 & Susanna* (BC).

Minuartia hybrida subsp. ***turcica*** McNeill in Notes Roy. Bot. Gard. Edinburgh 24: 395. 1963.

McNeill (1963: 396, 1976: 76) reported the species from Crimea, but its occurrence there was considered doubtful by Jalas & Suominen (1983: 42) and Halliday (1993: 154). Mosyakin & Fedoronchuk (1999: 220-221) do not give the species for Crimea and Ukraine, respectively. The species is well characterized in the Flora of Turkey, where it grows in fields and stony places between 600 m and 2000 m (McNeill 1963: 396). *Minuartia hybrida* subsp. *turcica* is distributed from Transcaucasia and Turkey to Syria and Iraq. Its presence in Greece is uncertain; Kamari (1997) refers the Greek plants of this name to *M. mesogitana* (Boiss.) Hand.-Mazz. and implies that this species probably occurs in the Ukraine, which we cannot confirm, however.

On account of a lack of any evidence for the presence of *M. hybrida* subsp. *turcica* we recommend excluding it from the Crimean flora.

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