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New locality of *Centaurea pichleri* (Asteraceae) in Bulgaria

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Abstract:

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Centaurea pichleri Boiss. belongs to subgenus *Cyanus* of Asteraceae and has a very complex taxonomy. It is distributed in Turkey (mainly in Central Anatolia), Greece, Bulgaria and Lebanon. In the Bulgarian flora the species has a conservation value being protected by the national Biodiversity Act and listed in the Red List of vascular plants in Bulgaria. During field investigations in the spring of 2016 a new locality of the species in Toundzha hilly country (SE Bulgaria) was found. The new population of *C. pichleri* is in a good state and numbers over then 1000 individuals. From the spatial location of individuals it can be assumed that the reproduction of the species in this locality combined vegetative and seed model. In the new locality, no threats to the species' population were registered.

Key words: Asteraceae, *Centaurea*, Bulgarian flora, rare plant species

Apstrakt:

Bancheva, S., Delcheva, M.: Novi lokalitet vrste *Centaurea pichleri* (Asteraceae) u Bugarskoj. *Biologica Nyssana*, 7 (2), Decembar 2016: 31-34.

Centaurea pichleri Boiss. pripada podrođu *Cyanus* porodice Asteraceae i ima veoma kompleksnu taksonomiju. Rasprostranjena je u Turskoj (uglavnom u Centralnoj Anatoliji), Grčkoj, Bugarskoj i Libanu. Ova vrsta ima konzervacionu vrednost u Bugarskoj flori, jer je zaštićena nacionalnim Zakonom o biodiverzitetu i nalazi se na Crvenoj listi vaskularnih biljaka Bugarske. Tokom terenskih istraživanja vršenih u proleće 2016. godine, nov lokalitet ove vrste je nađen u Tundža oblasti (Bugarska). Nova populacija *C. pichleri* je u dobrom stanju i broji preko 1000 jedinki. Iz prostornog rasporeda jedinki može se pretpostaviti da je reprodukcija vrste na ovom lokalitetu kombinacija vegetativnog i generativnog načina razmnožavanja. Na novom lokalitetu nisu uočene pretnje populaciji ove vrste.

Ključne reči: Asteraceae, *Centaurea*, flora Bugarske, retka biljna vrsta



Fig. 1. Habit of *C. pichleri*

Introduction

During field investigations in the spring of 2016 a new locality of *Centaurea pichleri* Boiss. in Toundzha hilly country (SE Bulgaria), was found. Previously, the species was known from only three floristic regions of the country up to 800 m alt. (Bancheva & Denchev, 2000). Assyov & Petrova (2012) erroneously indicate it also from Thracian Valley. *Centaurea pichleri* belongs to subgenus *Cyanus* of Asteraceae and has a very complex taxonomy. *Cyanus* was first mentioned by Miller (1754) as a genus. De Candolle (1838) was the first to consider it a section within the genus *Centaurea*. In light of the molecular evidence, the latest compilations of the Cardueae (Susanna & Garcia-Jacas 2007, 2009) suggest that *Cyanus* should be left within *Centaurea*.

According to Boršić et al. (2011) *C. pichleri* is a species of controversial delineation. The populations of this taxon appear to be diversely associated with other eastern relatives and collectively do not form a supported clade. Bulgarian populations

of the species seem to have less variability and they are more clearly identifiable.

The species is distributed in Turkey (mainly in Central Anatolia), Greece, Bulgaria and Lebanon (Wagenitz, 1975; Boršić et al., 2011). In Bulgaria the species is rare and has conservation value – it is protected by the national Biodiversity Act and included in the Red List of vascular plants in Bulgaria as “Vulnerable” (Bancheva, 2009).

Material and methods

This investigation was based on material collected by the authors in Toundzha hilly country floristic region (SE Bulgaria) and on specimens deposited in the following Herbaria: BGBM, ISTE, MA, P, PRM, SOM, W.

Results and discussion

New record

Centaurea pichleri Boiss.: Toundzha hilly country (SE Bulgaria), near to Kostur village, Svilengrad municipality, Haskovo district, on the periphery of dry, stony meadows in termophilous oak forest, N 41,977788, E 26,270822, 572 m alt., 29 April 2016, coll. S. Bancheva & M. Delcheva, SOM – 172833.

Distribution and ecology

The species is distributed in four (out of 20) floristic regions in Bulgaria – Strandzha Mt, Black Sea Coast, the Rhodopes (East) and Toundzha hilly country up to 800 m alt. The new population of *C. pichleri* inhabits the periphery of dry, stony meadows in termophilous oak forest and brushwood in the Natural landmark "Habitat of wild peony"



Fig. 2. *C. pichleri* in its natural habitat

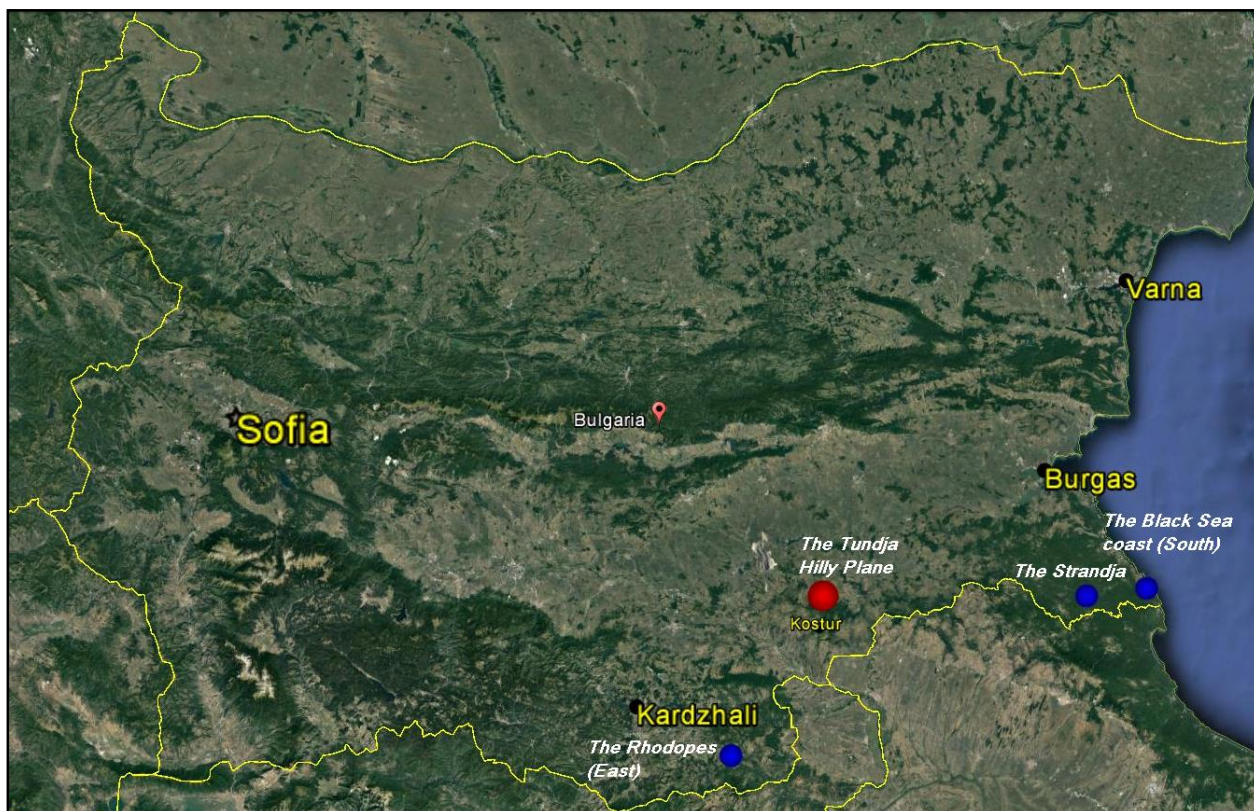


Fig. 3. Map of distribution of *C. pichleri*

proclaimed in 1976 (Figs 2, 3). The species grows together with: *Quercus frainetto* Ten., *Q. pubescens* Willd., *Fraxinus ornus* L., *Carpinus orientalis* Mill., *Acer monspessulanum* L., *Anthemis arvensis* L., *Linaria genistifolia* (L.) Mill., *Paeonia peregrina* Mill., *Muscari botryoides* (L.) Mill., *Saxifraga rotundifolia* L., *Veronica austriaca* L. subsp. *jacquinii* (Baumg.) Eb. Fisch., *Geranium sanguineum* L., *Verbascum phoeniceum* L., *Dactylis glomerata* L., *Ranunculus illyricus* L., *Lamium purpureum* L., *Cornus mas* L., *Potentilla neglecta* Baumg., *Centaurea thirkei* Sch. Bip., *Achillea millefolium* L., *Lychnis coronaria* (L.) Desr., *Plantago lanceolata* L., *Hypericum perforatum* L., *Ajuga laxmanii* (L.) Benth., *Lathyrus aphaca* L., *Ranunculus neapolitanus* Ten., *Silene conica* L. etc. This territory is a part of a Site of Community Importance BG0000212 "Sakar" from the Ecological Network NATURA 2000 in Bulgaria. This habitat type named "Pannonian-Balkan Turkey Oak – Sessile Oak Forests – 91M0" is included in Annex I of the "Habitat" Directive 92/43/EEC. Another specimen of *Centaurea pichleri* from Toundzha hilly country, south of the village of Igljka, Bolyarovo Municipality (SOM 162724), is stored in SOM, which was collected about 50 km east of the new population. This is also unpublished record of the species.

Population observations

The new population of *C. pichleri* is in a good state and numbers over then 1000 individuals. Although finding a new population that is in good condition we consider regrettable that the conservation status of the species should not be changed.

From the spatial location of individuals it can be assumed that the reproduction of the species in this locality combined vegetative and seed model. In the new locality no threats to the species' population were noticed.

Conclusion

Newly established population represents the northern boundary of the distribution of the species.

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Environment and Water, Haskovo for providing information about the newly established population.

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