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NEW HABITATS OF SOME SPECIES OF ORCHIDS ON THE TERRITORY OF THE EUROPEAN ECOLOGICAL NETWORK NATURA 2000 (BULGARIA)

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Abstract. We present new data on the distribution of five orchid species in the Batova Valley Protected Area BG 0000102, part of the European ecological network Natura 2000. Although these orchid species are not new to the floristic region of Northeastern Bulgaria, we report new habitats in Batova River Valley Protected Area. Three of the species are reported for the first time, for the other two species, this is the second report in the study area. All described orchid species are subject to protection by various national and international documents.

Key words: orchids, Batova Valley Protected Area, new chorological data

INTRODUCTION

This study provides new chorological data for five orchid species distributed in the Batova Valley Protected Area (PA) BG 0000102. It is part of the European ecological network Natura 2000 under Directive 92/43 / EEC on the protection of natural habitats (MEW). So far, no targeted studies on the species diversity of orchids have been conducted on the territory of PA BG 0000102. During the field work on "Mapping and determining the conservation status of higher plants, mosses

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and natural habitats" in 2011-2012 (MEW) on the territory of PA "Batova Valley" habitats were found only *Orchis purpurea* Huds.

MATERIALS AND METHODS

Field research was conducted during the growing seasons of 2021 and 2022. For determination of the medicinal plants Handbook for Plants in Bulgaria (DELIPAVLOV ET AL. 2011) and Key to the native and foreign vascular plants in Bulgaria (STOYANOV ET AL. 2021) were used. The identification of the native or alien type of the plants according to their origin was based on the Conspectus of the Bulgarian Vascular Flora (ASSYOV ET AL. 2012). The Latin names of the species were adopted according to the INTERNATIONAL PLANT NAMES INDEX.

The conservation status is presented using the following documents: Annexes II and V to Directive 92/43 / EEC of the Council of the European Community on the conservation of natural habitats and of wild fauna and flora, Annex II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), Red Data Book of Bulgaria, Vol. 1. Plants and mushrooms (PEEV ET AL. 2015), IUCN Red list for Bulgaria (PETROVA & VLADIMIROV 2009), Annexes III and IV to the Biodiversity Act.

The boundaries of the protected area are according to the maps of the National Ecological Network Natura 2000 (MEW). Voucher herbarium specimens were prepared from the target species, which are stored in the herbarium of Sofia University "St. Kliment Ohridski "(SO).

RESULTS

During the field research we found that five species of orchids belonging to five genera of the family Orchidaceae are distributed on the territory of the Batova River Valley Protected Area. Although these species of orchids are not new to the floristic region of Northeastern Bulgaria (ASSYOV ET AL. 2012), we report new habitats for PA BG0000102. We report the localities in this floristic region, as the data on the distribution of representatives of the family Orchidaceae so far are only for *Orchis purpurea* Huds. (MEW) and *Himantoglossum calcaratum* ssp. *rumelicum* (H. Baumann & R. Lorenz) Niketic & Djordjevic (TOMOVIĆ ET AL. 2021).

New records:

***Cephalanthera rubra* Rich.** - We found a habitat with three specimens of this species. The locality is registered in the land of the village of Sokolnik, district Dobrich, 43.415483N; 27.896596E in deciduous forest from *Acer campestre* L. and *Carpinus orientalis* Mill., 21.05.2022; P. Boycheva (SO 108169).

Cephalanthera rubra is not new for floristics in the region of Northeastern Bulgaria (ASSYOV ET AL. 2012). It is a new locality in NATURA 2000 network of

Batova River Valley (BG0000102).

The species has been included on the lists of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Epipactis helleborine (L.) Crantz (**Fig. 1**) - We registered a habitat with three specimens in the flowering phase in the land of the village of Sokolnik, district Dobrich, 43.418686N; 27.881305E in a meadow near deciduous forest; 02.07.2021; P. Boycheva & D. Ivanov (SO 108158).

The species is not new to the floristic region of Northeastern Bulgaria (ASSYOV ET AL. 2012), but for the first time a habitat was reported in the Batova River Valley Protected Area. The species has been included on the lists of the CITES.

Himantoglossum calcaratum* ssp. *rumelicum, (H. Baumann & R. Lorenz) Niketic & Djordjevic - We found a new habitat with five specimens in the land of the village of Novakovo, district Varna, 43.344406N; 27.833131E in a meadow near a deciduous forest; 15.06.2021; P. Boycheva & D. Ivanov (SO 108160).

The authors report a second locality of the species in the protected area. Habitat of *Himantoglossum calcaratum* ssp. *rumelicum*, in the



Fig. 1. *Epipactis helleborine* (Photo P. Boycheva)

Batova River Valley Protected Area was first reported by TOMOVIĆ ET AL. (2021). The species is of high conservation importance, included in CITES, and is a subject to protection under the Biodiversity Act, included in Annex III and Annex IV of the Directive 92/43/EEC. The plant is listed in the Red Data Book of the Republic of Bulgaria (PEEV ET AL. 2015) in the 'vulnerable' category, and included in Red list for Bulgaria (PETROVA & VLADIMIROV 2009) as well.

Neotinea tridentata (Scop.) R. M. Bateman, Pridgeon & M. W. Chase - We registered a new habitat with three specimens in the region of Novakovo village, district Varna, 43.416325N; 27.902556E in a meadow near a deciduous forest; 21.05.2022; P. Boycheva & D. Ivanov (SO 108168).

This is the second report on the habitat of the species in the PA. *Neotinea tridentata* habitat in the Batova Valley Protected Area was first reported by

SABOVJEVIĆ ET AL. (2022). The species has a conservation status, included in Annex IV of the Biodiversity Act, subject to protection by CITES.

Orchis simia Lam. – We recorded one habitat with over 20 specimens in the region of the Stozher village, region Dobrich, 43.425630N; 27.889730E in a meadow near a deciduous forest; 23.05.2022; P. Boycheva & D. Ivanov (SO 108167). Although widespread throughout the country, the species is new to the area. The species has a conservation status, included in Annex IV of the Biodiversity Act, and is a subject to protection by CITES.

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