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NEW LOCALITIES OF *OPHRYS INSECTIFERA* (*ORCHIDACEAE*) IN BULGARIA

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ABSTRACT. Two new localities of *Ophrys insectifera* (*Orchidaceae*) has been found in the Buynovo and Trigrad gorges in the Central Rhodope Mountains. The species had been previously known from a single locality in the Golo Bardo Mountain, where only one specimen had been detected recently. Therefore, the species was considered as an extremely rare in the Bulgarian flora and included in the Annex 3 (Protected species) to the national Biodiversity Act. A total of *ca.* 25 individuals has been found in the two new localities. Assessment of the species against the IUCN Red List Criteria at national level resulted in a national category "Critically endangered" (CR C2a(i)+D), based on the very small number of individuals in the populations, the limited area of occupancy and severely fragmented locations.

KEY WORDS: new chorological data, *Ophrys*, Orchidaceae, critically endangered species, Rhodope Mts

INTRODUCTION

Ophrys is among the taxonomically most intricate vascular plant genera in the European flora. Following the taxonomic concept of Delforge (1995) it is represented with 5 species in the Bulgarian flora - *O. apifera* Huds., *O. cornuta* Steven, *O. insectifera* L., *O. reinholdii* H. Fleischm. and *O. mammosa* Desf. (Assyov & al. 2002; Delipavlov & al. 2003; Bergman & al. 2004).

Ophrys insectifera was firstly reported for Bulgaria in 1978 by Krusheva & Parvanov (1978) who published a photograph of a specimen from Golo Bardo Mt. However, no herbarium material had been stored in any of the Bulgarian herbaria and consequently the species was omitted in the reviewing publications and keys to the Bulgarian flora (Kozhuharov & al. 1980; Andreev 1992; Delipavlov & al. 1992).

As a result of comprehensive, targeted exploration of Golo Bardo Mt., Znepole floristic region, in the period 1991-2000, only one specimen of the species was "re-discovered" in 2000 by A. Petrova and D. Venkova, thus confirming the occurrence of the species in Bulgaria (Petrova & al. 2002).
Consequently, the species has been included in the list of the vascular plants in the country (Assyov & al. 2002; Delipavlov & al. 2003) as well as in the Annex 3 (Protected species) to the national Biodiversity Act (Darzhaven vestnik 77/ 10.07.2002).

Distribution and habitats of *O. insectifera* in Bulgaria

Ophrys insectifera was found in two new localities in the Central Rhodope Mountains (Fig. 1):

- Buynovsko gorge; dry, semi-shady places in openings of *Picea abies* forest along the trail from Yagodina village to the Yagodinska cave; 41°37'56" N, 24°20'25" E; *ca.* 1100 m; photographed on 07.06.2003 by V. Vladimirov. The population consisted of *ca.* 20 flowering plants along the trail at a distance of a few hundred meters.
- Trigrad gorge; grassy place on the left flank of the gorge above the point of appearance of the Trigradska river from the Dyavolskoto garlo cave; slope with eastern exposure; *ca.* 1100 m alt.; coll. by T. Tsvetanov on 23.06.2004 (SOM). Only 2 flowering and 2 non-flowering plants were observed. A recent visit to the locality on 11.05.2005 showed there were leaf rosettes of 5 individuals.

So far the species has been known only from Golo Bardo Mt., Znepole floristic region.

General distribution

An European endemic, relatively widespread but rather rare, more common in the meridional zone and only local in the Scandinavia, European part of Russia and the Balkans (Buttler 1991; Delforge 1995).

National IUCN Red List Category

Assessment of the species against the IUCN Red List Criteria (IUCN 2001, 2003) at regional level resulted in a national category "Critically endangered" **CR C2a(i)+D**, based on the very small number of individuals in the populations. The species has a very limited area of occupancy and severely fragmented locations. It is very likely that further observation will reveal fluctuations in the population numbers and the species could meet the criterion B2ac(iv) as well.

Key to the *Ophrys* species in Bulgaria*

1 End of column rounded. Lip flat, middle lobe deeply 2-lobbed, without appendage in the angle./ *Lateral lobes narrow. Lateral petals green, filiform, 0.3-0.5 mm wide* ..…….…….....…… ***O. insectifera***

1* End of column tapering or extended into a beak, pointed. Lip convex, middle lobe rounded, with an appendage at the tip....……..2

2 Lip appendage 0-1.5 mm long, triangular./ *Petals green, sepals usually bicoloured, green and brown-purple on the lower half, lateral lobes of lip with small swellings, middle lobe with a shiny lilac or dark grey speculum, H-shaped or forming 2 longitudinal, parallel lines*…….....***O. mammosa***

2* Lip appendage 2-3 mm long (sometimes hidden under the lip), often 3-toothed...3

3 Middle lobe of the lip broadest in the lower part,/ *often bent backwards so that the appendage is turned under the lip. Column tip is like a goose neck* ….....***O. apifera***

3* Middle lobe of the lip broadest in the middle……...4

4 Lip ground colour very dark, blackish or blackish-purple. Speculum variable, with 2 elongated spots, white or with wide white border ……..…… ***O. reinholdii***

4* Lip ground colour lighter, red-brown. Speculum variable and complex without white spots or border./ *Lateral lobes of lip conical, very pointed, horn-shaped, 10-14 mm long*…….....***O. cornuta***

Note: Dimitrov & al. (2001) reported *O. argolica* H. Fleischm. as a new species for the Bulgarian flora. Further studies (Bergman & all. 2004) revealed the species was mis-identified since at the same locality *O. reincholdii* was found. Personal observations by the third author on 07.05.2004 confirmed that fact. *O. argolica* is considered an endemic species to Peloponnese (Tan 2001), whereas *O. reincholdii* has a Balkan-Anatolian distribution area.

* - characters given in *italic* after the slash are supplementary

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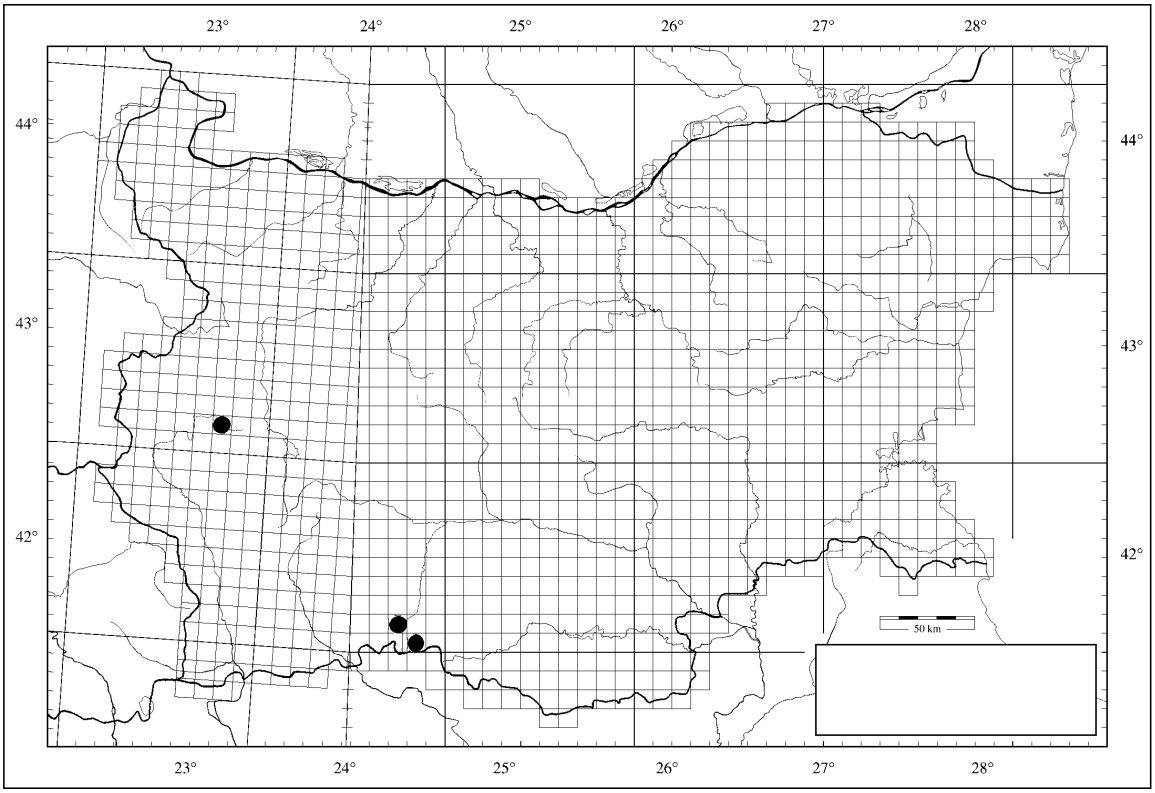

Fig. 1. UTM-distribution map of *Ophrys insectifera* in Bulgaria.