

## New record of the steppe longhorn beetle species *Phytoecia (Musaria) argus* (G. F. Frölich, 1793) (Cerambycidae: Lamiinae) in Bulgaria

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**Abstract.** New data on the distribution of *Phytoecia argus* (G. F. Frölich, 1793) (Cerambycidae: Lamiinae) in Bulgaria are presented. Six specimens were collected by net sweeping and by hand collection around the host plant *Trinia glauca* (L.) Dumort. in steppe grasslands in Chepan Mts. The species is probably more widespread in suitable habitats in Western Bulgaria.

**Key words:** *Phytoecia argus*, steppe habitats, Bulgaria

### Introduction

*Phytoecia (Musaria) argus* (G. F. Frölich, 1793) (Cerambycidae: Lamiinae) is distributed from Central to Eastern Europe: Austria, Czech Republic, Slovakia, Slovenia, Hungary, Croatia, Bosnia and Herzegovina, Bulgaria, Romania, Moldova, Ukraine and Russia (Central and South European territories) (Danilevsky 2019). The species is also reported in NE Italy (Sama & Rapuzzi 2011) and NW Greece (Pesarini & Sabbadini 2007). In Bulgaria, *Ph. argus* is known only by a single record from Skakavitza railway station in Zemen Gorge (Ganev 1984) and is considered to be extremely rare (Bringmann 1998, Migliaccio *et al.* 2007). New data on the distribution and host plant association of the species in Bulgaria are presented here.

### Material and Methods

The material for this study was collected in May 2019 by net sweeping and by direct hand collection from dry calcareous grasslands in Chepan Mountains. The studied habitat (Fig. 1A) belongs to the mountain petrophytic steppes (Tzonev *et al.* 2011) and it is located within NATURA 2000 ecological network (site “Dragoman”, site code BG0000322). The specimens examined are deposited in the Zoological Collection at Faculty of Biology (BFUS) of Sofia University “St. Kliment Ohridski”.

### Results and Discussion

***Phytoecia argus* (G. F. Frölich, 1793)** (Fig. 1C, Fig. 2A, B)

Material examined: Bulgaria: W Stara Planina range, Chepun Mts., 2,5 km NW Golemo Malovo Vill., 42°57'17.9"N 22°59'06.6"E, 1065 m., dry calcareous grassland, 11.05.2019, 1 ♂, net sweeping, I. Gjonov leg. (BFUS); the same data, but 42°57'17.5"N 22°59'12.6"E, 1078 m., 17.05.2019, 3 ♂♂, 2 ♀♀, hand collection, D. Gradinarov & I. Gjonov leg. (BFUS). All

specimens collected by hand collection were found individually around the stems of *Trinia glauca* (L.) Dumort. (Apiaceae), on the ground (Fig. 1B, C).

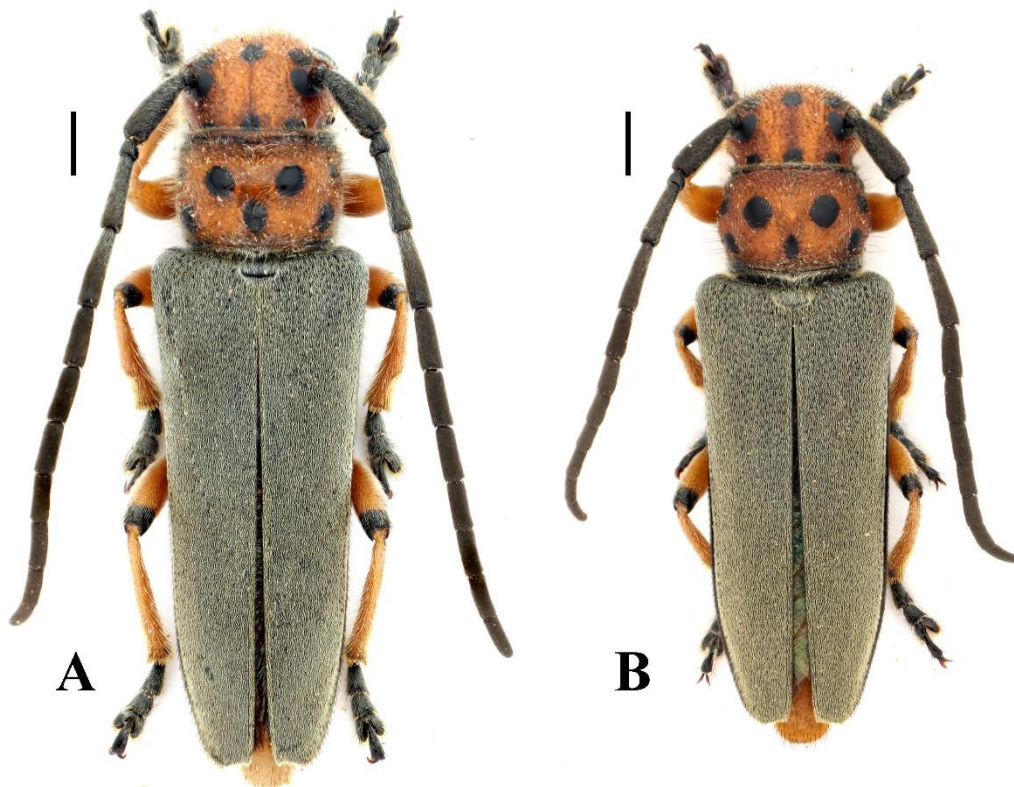


**Fig. 1.** Habitat of *Phytoecia argus* in Chepan Mts. A: General view of the habitat; B: *Trinia glauca*; C: Female among grasses on the ground.

Species of the genus *Seseli* L. (Apiaceae) are most commonly cited as host plants of *Ph. argus* (Bense 1995, Rejzek *et al.* 2001, Sama 2002, Migliaccio *et al.* 2007, Hoskovec *et al.* 2019). Known host plants of *Seseli* genus are summarized by Rejzek *et al.* (2001), including the following species – *S. pallasii* Besser (syn. *S. varium* Trev.), *S. annuum* L., *S. montanum* subsp. *tommasinii* (Rchb. f.) (syn. *S. tommasinii* Rchb.f.) and *S. devenyense* Simonk. Along with this more accepted view, Zettel (2006) and Merkl & Szél (2012) reported a relationship of *Ph. argus* also with *T. glauca* from the same plant family for Austria and Hungary, respectively. According to Merkl & Szél (2012), beetles can be found as early as April at the base of both *Trinia* Hoffm. and *Seseli* host plants. Adult beetles are active from April to June and the larval development is at the roots of both *T. glauca* and *Seseli* spp. (Merkl & Szél 2012). Our record seems to confirm the ability of *Ph. argus* to use *T. glauca* as a host plant as well.

The distribution of *Ph. argus* seems to be restricted to the remnants of natural steppe habitats in the Western Palaearctic (Schoppmann 1990, Pokorný 2005, Zettel 2006, Merkl 2008, Shapovalov 2012, Dedyukhin 2016). We conclude that the species may be useful as an indicator species for the assessment of the conservation status of natural steppe habitats in Europe.





**Fig. 2.** *Phytoecia argus* (G. F. Frölich, 1793), Chepun Mts., 17.05.2019. A: male; B: female. Scale bar: 1 mm.

The mountain petrophytic steppes are widespread in the low mountain regions of Western Bulgaria at an altitude of 500 to 1500 m (Tzonev *et al.* 2011). The first report of *Ph. argus* from Bulgaria (Ganev 1984) lacks information on the habitat type and host plant, but petrophytic steppes are also present in the area of the Zemen Gorge. The species is likely to be more widespread in suitable habitats in Western Bulgaria. In faunistic studies, host plants of both *Seseli* and *Trinia* genera must be checked for the presence of beetles.

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