

Recent record of *Leioderes kollari kollari* L. Redtenbacher, 1849 (Cerambycidae: Cerambycinae) in Bulgaria

DENIS GRADINAROV, OGNYAN SIVILOV

Faculty of Biology, Sofia University “St. Kliment Ohridski”, 8 Dragan Tzankov Blvd., 1164 Sofia, Bulgaria; e-mail: dgradinarov@abv.bg; osivilov@gmail.com

Abstract. The longhorn beetle species *Leioderes kollari kollari* L. Redtenbacher, 1849 (Cerambycidae: Cerambycinae) is reported in Bulgaria after nearly thirty years of lack of data. Beetles were collected with UV light traps in the Shumensko Plato Nature Park with preserved natural forest habitats. The habitat of the species in the studied area is a mixed deciduous forest with *Fagus sylvatica* L., *Carpinus betulus* L. and *Acer campestre* L.

Key words: *Leioderes kollari*, distribution, primeval forest

Introduction

The genus *Leioderes* L. Redtenbacher, 1845 (Cerambycidae: Cerambycinae) includes two species – *L. kollari* L. Redtenbacher, 1849 and *L. tuerki* (Ganglbauer, 1886), each with two subspecies (Danilevsky, 2024). The distributional range of the nominative subspecies of *L. kollari* includes almost the entire Europe territory (in the north to Norway, Sweden and the Central European territory of Russia), with extensions to Georgia and Lebanon (Danilevsky, 2024). The second subspecies of *L. kollari* – *L. kollari jacopoi* Rapuzzi & Sama, 2010, is endemic to Sicily (Danilevsky, 2024). The nominative subspecies of *L. tuerki* is distributed in Asian part of Türkiye, Syria and Lebanon, and *L. tuerki tokatense* Özdikmen, 2023 has been recently described from the Black Sea region of Asian Türkiye (Özdikmen, 2023; Danilevsky, 2024).

Despite its broad distribution, *L. kollari* is not a common species, occurring in scattered and isolated localities in the main part of its European range (Sama, 2002; Hoskovec *et al.*, 2024). According to Sama (2002), this species is apparently more widespread in the Balkans (including Bulgaria and Romania). In fact, only three old localities of the species in Bulgaria are available in the literature. Until now *L. kollari* have been reported from the vicinity of Gorna Breznitsa Vill. (Heyrovský, 1931: 81, as *Phymatodes Kollari*, locality “Breznitza”; Roubal, 1931: 454, as *Leiderus Kollari*, locality “Bresnica-Tal (Maleš planina)”), Petrich town (Heyrovský, 1931: 81, as *Phymatodes Kollari*, locality “Petrič”), and Balkanski Rozi Hut in Stara Planina Mts (Angelov, 1995: 169, as *Leioderus kollari*). Migliaccio *et al.* (2007) consider *L. kollari* as a rare species in Bulgaria, without reporting new data on its local distribution. In Serbia, the species is also considered rare (Ilić & Ćurčić, 2015), and from Romania it is known only from old records (Mannerkoski *et al.*, 2010).

In the present work, we report a new recent locality of *L. kollari* in Bulgaria after nearly thirty years of a lack of data on the distribution of this species in the country.

Materials and Methods

The material for the present study was collected from the vicinity of Osmar Vill., Shumen District (NE Bulgaria), within the boundaries of the Shumensko Plato Nature Park. The studied habitat was a mixed deciduous forest, with a predominance of European beech (*Fagus sylvatica* L.) and common hornbeam (*Carpinus betulus* L.), mixed with field maple (*Acer campestre* L.) and with more diverse tree species (e.g. *Fraxinus* sp., *Populus* sp., *Pyrus* sp.) in the roadside verges (Fig. 1 A).

Automatic UV LED traps with power of 15.5 W (A Air-Strike UV Traps) were used for collecting the material. Two sets of light traps spaced about 50 m apart were placed on trees (*A. campestre* and *C. betulus*) at a height of approximately 1.5 m from the ground (Fig. 1 B). The light traps were turned on at dusk and left overnight. The material was collected during three consecutive nights, from 5th to 7th of June 2020. The specimens are deposited in the Zoological Collection of Sofia University, Faculty of Biology (BFUS).

Results and Discussion

Leioderes kollari kollari L. Redtenbacher, 1849

Material examined: Bulgaria, 3.5 km NW of Osmar Vill., 43°15.161'N, 26°50.421'E, 307 m a.s.l., mixed deciduous forest, 06 – 07.vi.2020, 1 ♂, 1 ♀, at light, on *A. campestre*, O. Sivilov & H. Hristova leg. (Fig. 2); the same data, but 43°15.173'N, 26°50.454'E, 317 m a.s.l., on *C. betulus*, 1 ♀.



Fig. 1. Habitat of *Leioderes kollari kollari* in vicinity of Osmar Vill., Bulgaria. A – general view from the road; B – automatic light trap in working position on *Acer campestre* tree.

Sama (2002) considers that *L. kollari* is a species of a primeval forest, but in more recent research in Poland this species shows no clear habitat preferences, as it is found in natural forests and in semi-open areas and parks (Tatur-Dytkowski *et al.*, 2017). The studied forest site near Osmar Vill. is situated about two kilometers from the boundaries of the Bukaka Nature Reserve, established for the protection of natural beech forests, and has a similar tree species composition to that of the reserve (Zlatanov & Georgiev, 2006). The old reports of *L. kollari* from Bulgaria do not provide detailed information about the habitat, but natural or moderately affected forests are still present on Belasitsa Mts above Petrich, in Maleshevska Planina Mts, as well as in Stara Planina Mts. Therefore, the relationship of this species with the natural forests in Bulgaria is still to be clarified.

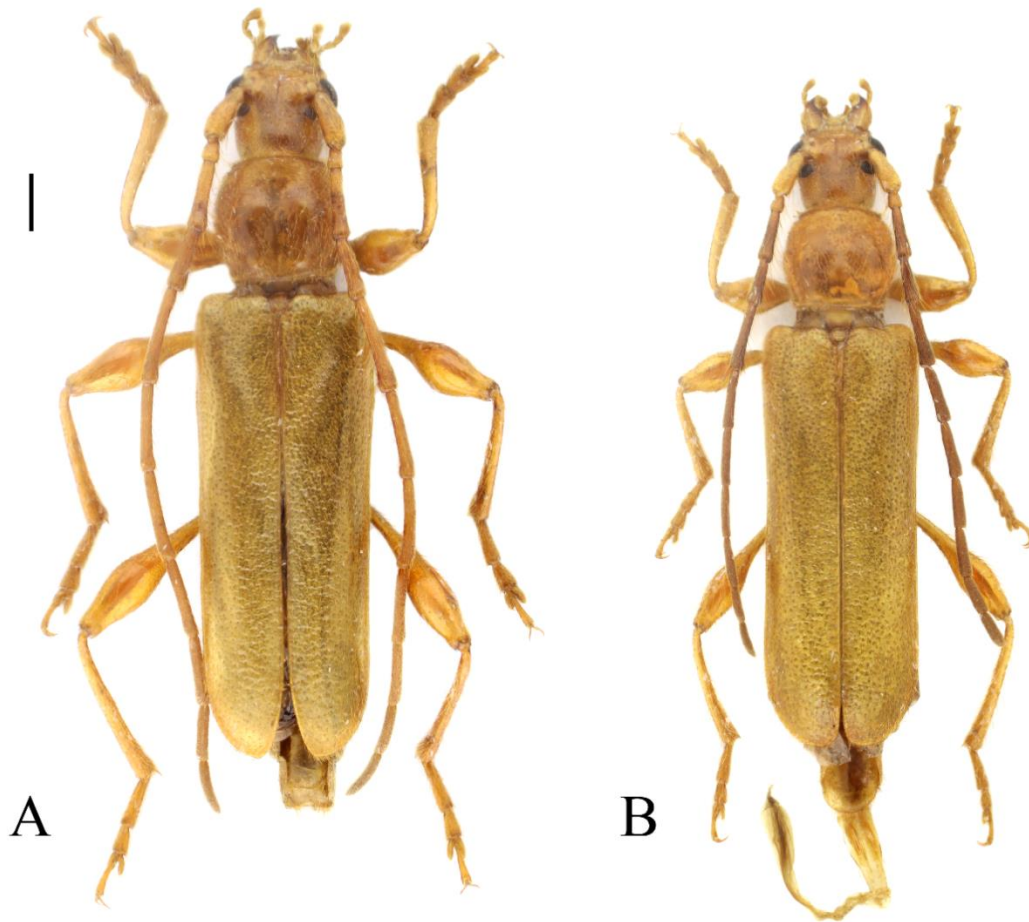


Fig. 2. *Leioderes kollari kollari*, Osmar locality, Bulgaria, 06 – 07.vi.2020. A – male; B – female. Scale bar: 1 mm.

Larvae of *L. kollari* feed on branches and trunks of deciduous trees, preferably on *Acer* spp. (e.g. *A. campestre*, *A. platanoides* L., *A. pseudoplatanus* L.), but also on *Carpinus betulus*, *Corylus avellana* L., *Ostrya carpinifolia* Scop., *Salix caprea* L., *Fraxinus excelsior* L., as well as species from genera *Ulmus* L. and *Quercus* L. (Sláma, 1998; Sama, 2002; Tatur-Dytkowski *et al.*, 2017). Both *A. campestre* and *C. betulus* are presented in the forest site near Osmar Vill., but further research is needed to document the development of the larvae of *L. kollari* on these tree species in the study habitat. In Bulgaria, the species has been previously reported on *Ulmus glabra* Huds. (as *U. montana*) from Gorna Breznitsa Vill. (Heyrovský, 1931: 81).

Rearing from larvae collected with branches of the host plants appears to be the most efficient method of the species detecting (Sláma, 1998; Tatur-Dytkowski *et al.*, 2017; Hoskovec *et al.*, 2024). The adults are nocturnal, but occasionally can be found on flowering shrubs (e.g. *Crataegus* spp. and *Rosa* spp.) during the day (Sláma, 1998; Ilić & Ćurčić, 2015; Hoskovec *et al.*, 2024). In Serbia, adults have been collected with wine traps (Ilić & Ćurčić, 2015). Our finding indicates that the use of UV light traps may as well be a suitable method for collecting adults of *L. kollari*.

Acknowledgements. The authors thank Hristina Hristova for the assistance during fieldwork.

References

- Angelov, P. A. (1995) Fauna Bulgarica. 24. Coleoptera, Cerambycidae. Part I (Prioninae, Lepturinae, Necydalinae, Aseminae, Cerambycinae). Prof Marin Drinov Academic publishing House Sofia, 206 pp. (In Bulgarian).
- Danilevsky, M. L. (2024) Catalog of Palaearctic Chrysomeloidea (Vesperidae, Disteniidae, Cerambycidae). Updated: 18.01.2024. Available at: <http://www.cerambycidae.net/catalog.pdf> (accessed on 04 February 2024).
- Ilić, N. & Ćurčić, S. (2015) A checklist of longhorn beetles (Coleoptera: Cerambycidae) of Serbia. *Zootaxa* 4026 (1): 1-97.
- Heyrovský, L. (1931) Beitrag zur Kenntnis der bulgarischen Cerambyciden. *Mitteilungen aus den Königlich-naturwissenschaftlichen Instituten in Sofia – Bulgarien* 4: 78-86.
- Hoskovec, M., Navrátil, D., Jelinek, P. & Rejzek, M. (2024) *Leioderes kollari* L. Redtenbacher, 1849 ssp. *kollari* L. Redtenbacher, 1849. In: *Cerambycidae. Longhorn beetles (Cerambycidae, Coleoptera) of the West Palaearctic region, neighboring territories and countries of the former Soviet Union*. Available at: http://www.cerambyx.uochb.cz/leioderes_kollari.php (accessed on 09 February 2024).
- Mannerkoski, I., Hyvärinen, E., Campanaro, A., Alexander, K., Büche, B., Dodelin, B., Mason, F., Pettersson, R., Mico, E. & Méndez, M. (2010) *Leioderes kollari* (Europe assessment). The IUCN Red List of Threatened Species 2010: e.T157655A5118038. Available at: <https://www.iucnredlist.org/species/157655/5118038> (Accessed on 07 February 2024).
- Migliaccio, E., Georgiev, G. & Gashtarov, V. (2007) An annotated list of Bulgarian Cerambycids with special view on the rarest species and endemics (Coleoptera: Cerambycidae). *Lambillionea* 107 (1), Supplément 1: 1-78.
- Özdikmen, H. (2023) Taxonomic status of *Leioderes kollari* L. Redtenbacher and *Leioderes tuerki* (Ganglbauer) with new subspecies, host plants and records from Turkey (Cerambycidae: Cerambycinae). *Munis Entomology & Zoology* 18 (1): 315-323.
- Roubal, J. (1931) Fragmente zur Koleopterfaunistik des balkanischen Festlands. *Entomologischer Anzeiger* 11: 437-438; 453-454.
- Sama, G. (2002) *Atlas of the Cerambycidae of Europe and the Mediterranean Area. Volume 1: Northern, Western, Central and Eastern Europe, British Isles and Continental Europe from France (excl. Corsica) to Scandinavia and Urals*. Nakladatelstvi Kabourek, Zlin, 173 pp.
- Sláma, M. E. F. (1998) *Tesaříkovití – Cerambycidae České republiky a Slovenské republiky (Brouci – Coleoptera)*. Milan Sláma private printing, Krhanice, 383 pp.
- Tatur-Dytkowski, J., Borowski, J., Gutowski, J. M., Hołowiński, M., Kruszelnicki, L., Miłkowski, M. & Olbrycht, T. (2017) Nowe dane o rozszedleniu *Leioderes kollari* Redtenbacher, 1849 (Coleoptera: Cerambycidae) w Polsce oraz uwagi o biologii gatunku. *Wiadomości Entomologiczne* 36 (3): 153-161.
- Zlatanov, T. & Georgiev, G. P. (2006) Conservation value of beech (*Fagus sylvatica* L.) dominated stands in “Bukaka” Nature reserve, “Shumensko plateau”. *Silva Balcanica* 7 (1): 17-23.