ISSN 0013-8738, Entomological Review, 2020, Vol. 100, No. 6, pp. 768–770. © Pleiades Publishing, Inc., 2020.

# *Xerasia meschniggi* (Reitter, 1905) (Coleoptera, Byturidae), a New Addition to the Russian Fauna

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Received November 13, 2020; revised November 14, 2020; accepted December 11, 2020

**Abstract**—*Xerasia meschniggi* (Reitter, 1905) (Byturidae), previously considered endemic to the south of Central Europe, was discovered among material of the beetles collected by the late K.V. Arnoldi in the early 20th century in the territory of present-day Krasnodar City, Northwestern Caucasus.

**Keywords:** Northsetern Caucasus, distribution, faunistics, fruitworm beetles, new record

**DOI:** 10.1134/S0013873820060056

The Byturidae is a small family of beetles with two subfamilies comprising only seven genera and about 20 species in the world fauna (Springer, Goodrich, 1994; Goodrich, Springer, 1995; Löbl, 2007). The Palaearctic Byturidae are represented by three genera (*Byturus* Latreille, 1797, *Haematoides* Fairmaire, 1878, and *Xerasia* Lewis, 1895) with eleven species, and only four species of *Byturus* were recorded for the Russian fauna (Löbl, 2007). Several specimens of *Xerasia meschniggi* were found in the collection of the Zoological Institute of the Russian Academy of Sciences (ZIN) in the material collected by K.V. Arnoldi in the 1920s in the city and environs of Yekaterinodar (now Krasnodar).

## MATERIALS AND METHODS

The photographs of the habitus were taken with a Canon EOS 40D digital camera with Canon MP-E 65 mm objective. The photographs of aedeagus were made with a Canon EOS 40D camera connected to a LOMO Biolam S11 microscope via an NDPL-2(2X) microscope camera adapter. The images were produced using Zerene Stacker 1.04 and Adobe Photoshop software.

The specimens discussed herein are deposited in the Zoological Institute of the Russian Academy of Sciences, Saint Petersburg, Russia (ZIN).

## SYSTEMATICS

Family **BYTURIDAE** Jacquelin du Val, 1858

Subfamily **Byturinae** Jacquelin du Val, 1858

Genus ***XERASIA*** Lewis, 1895
(type species: *Xerasia variegata* Lewis, 1895, by monotypy)

[= *Byturellus* Barber, 1942 (type species: *Byturus grisescens* Jayne, 1882, by original designation); = *Sátoristyea* Csiki, 1905 (unjustified emendation of *Satorystia* Reitter, 1905); = *Satorystia* Reitter, 1905 (type species: *Satorystia meschniggi* Reitter, 1905, by monotypy)].

The genus *Xerasia* comprises four species: *Xerasia grisescens* (Jayne, 1882) widely distributed in western North America, *X. meschniggi* (Reitter, 1905) from Europe, *X. punica* Goodrich et Springer, 1988 from the Near East, and *X. variegata* Lewis, 1895 from Japan. Little is known about the life history of the species of *Xerasia*, and their immature stages are unknown. The scanty information on the *Xerasia* biology implies association with oaks (*Quercus* spp.) (Springer and Goodrich, 1983, 1986, 1990). The collection labels of some specimens of *X. grisescens* indicate that adults were reared from “oak galls” (Springer, Goodrich, 1983), and pollen grains, recognized as belonging to

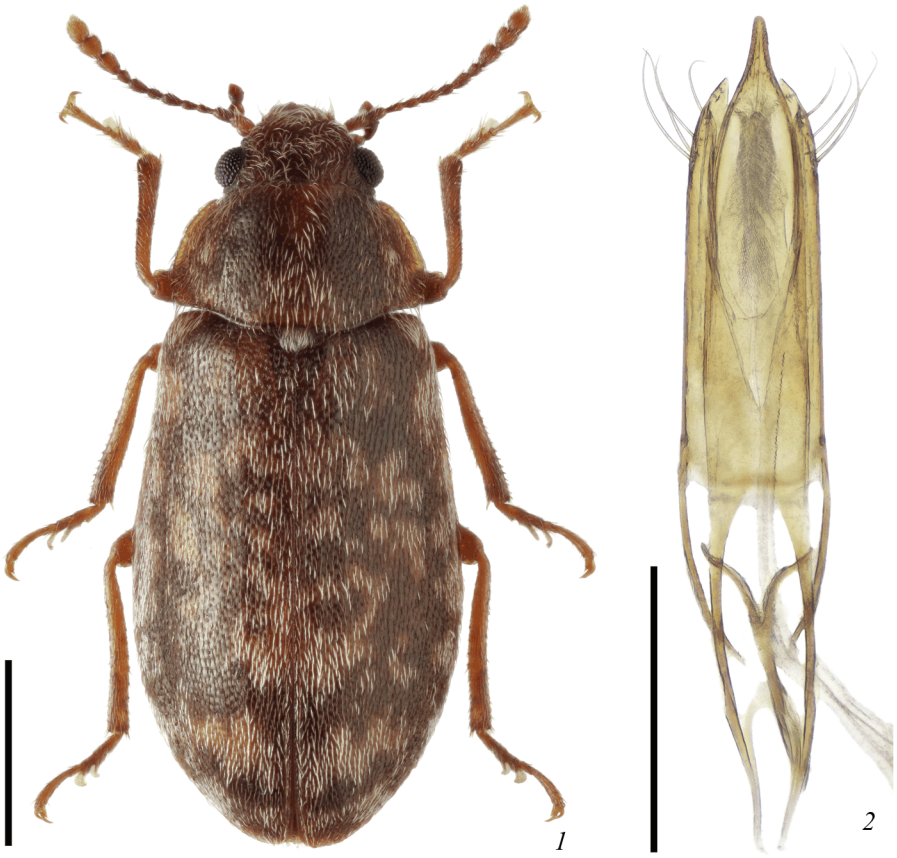


**Fig. 1.** *Xerasia meschniggi* (Reitter, 1905), male: (*1*) dorsal habitus; (*2*) aedeagus, dorsal view. Scale bar: *1*, 1.0 mm; *2*, 0.5 mm.

Pinaceae and *Quercus* spp., were found in the digestive tract of *X. variegata* (Springer and Goodrich, 1990).

***Xerasia meschniggi*** (Reitter, 1905) (Fig. 1)

= *Satorystia meschniggi* Reitter, 1905.

**Material. Russia.** *Krasnodar Terr*. Yekaterinodar (now Krasnodar): Kruglik Forest, collecting under bark of stumps and oaks, in leaf litter and in upper soil layer, 18.III.1921, 3 ♂, 2 ♀; Polytechnic Institute farm, collecting in leaf litter and around bases of stumps, 22.III.1921, 1 ♀; Staraya Kuban (old bed of Kuban River), collecting on slopes to Kuban River, 28.III.1921, 1 ♀ (all K.V. Arnoldi).

## DISCUSSION

This species was described from a single specimen found in the neighborhood of Sátoristye (now Sátorhely, Baranya County) ("Satorystie" in Reitter's work) and was known until now from only a few localities in south-central Hungary (Simontornya, Mecsek Mts, Sátorhely) and southwestern Slovakia (Belianské kopce (= Hegyfarok) near Štúrovo) (Merkl, 1993; Hornig, 2004). Very little is known about the biology of *X. meschniggi*; this species, like its congeners, could be also associated with oak trees. Most of the known specimens (apparently including the specimens from Yekaterinodar, as Arnoldi indicated: "snow has almost melted, but stumps are yet frozen" as the collection circumstances in the Kruglik Forest) were collected during the cold months in hibernation sites, e. g. in moss on the deciduous trees, mostly oaks, in Simontornya (Pillich, 1914, cited after Hornig, 2004). The specimen in Slovakia was taken in June on a fallen elm with remnants of tree fungi (Picka, 1980).

All the K.V. Arnoldi's collecting sites are currently situated in the eastern part of Krasnodar. The Kruglik Forest was a mature natural oak forest at the eastern outskirts of Yekaterinodar, a still preserved fragment of the formerly vast pristine oak forest that had been located

along both banks of the Kuban River and, according to the historical data, had been cut down during World War II. The Polytechnic Institute Farm was in the 1920s at the eastern outskirts of Yekaterinodar near the Kruglik Forest. “Staraya Kuban” is an area around the old bed of the Kuban River that was also at the eastern outskirts of Yekaterinodar at that time. No additional specimens of *X. meschniggi* have been collected in Krasnodar since that time, and this species could have disappeared from this territory due to deforestation and loss of habitats. However, a targeted search in old oak forests in the south of European Russia (and probably of Ukraine) could provide new data on the distribution and ecology of this species for preservation of this rare insect.

## ACKNOWLEDGMENTS

I am sincerely grateful to O. Merkl (Hungarian Natural History Museum, Budapest) for verifying the identification of the beetle and correction of the text, A.I. Miroshnikov (Krasnodar, Russia) for detailed information on K.V. Arnoldi’s collecting localities in Yekaterinodar and A.G. Kirejtshuk (Zoological Institute, Russian Academy of Sciences, St. Petersburg) for his comments and assistance in preparation of the manuscript.

## FUNDING

The current study was supported by the grants of the Russian Foundation for Basic Research No 18-04-00243-a and 19-04-00465-a and performed within the frame of the state research project AAAA-A19-119020690101-6.

## COMPLIANCE WITH ETHICAL STANDARDS

All applicable international, national, and institutional guidelines for the care and use of animals were followed. All procedures performed in studies involving animals were in accordance with the ethical standards of the institution or practice at which the studies were conducted.

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