

First invasion of *Ambrostoma superbum* (Thunberg, 1787) (Coleoptera, Chrysomelidae) in Western Siberia

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Abstract

The first invasion of *Ambrostoma superbum* (Thunberg, 1787) (Chrysomelidae: Chrysomelinae, Doryphorini) from Novosibirsk (Novosibirskaya Oblast) is recorded. The distribution map, illustrations and redescription of this species are presented. This species causes significant damage to *Ulmus pumila* L.

Keywords

Chrysomeloidea, Chrysomelinae, Doryphorini, leaf beetle, invasion, new record, Siberia

Introduction

The genus *Ambrostoma* Motschulsky, 1860 belongs to the tribe Doryphorini and includes ten species distributed Eastern and South-Eastern Asia: Russia, Mongolia, China, Korea, Vietnam, Myanmar and Laos (Ge et al. 2012; Cho and Borowiec 2013). One species, *Ambrostoma superbum* (Thunberg, 1787), was known

from Asian part of Russia (Irkutskaya Oblast, Republic of Buryatia, Zabaikalsky Krai (=Chitinskaya Oblast), Amurskaya Oblast, Primorsky Krai) (Medvedev and Dubeshko 1992; Medvedev 1992). Populations of this species on *Ulmus pumila* L. and *U. laevis* Pall. were found in Novosibirsk. We observed the mass reproduction of this beetles and the drying up of elms.

It is the first record of this species from Novosibirskaya Oblast and the westernmost finding of *Ambrostoma superbum*.

Material and methods

Studied specimens are kept in the ISEA – Institute of Systematics and Ecology of Animals (Russia: Novosibirsk) and CSRN – the private collection of S.V. Reshetnikov (Novosibirsk).

Descriptions and body measuring were performed using a Zeiss Stemi 2000-C dissecting stereomicroscope. The photographs were taken with a camera Fujifilm X-T10.

The location of species is shown on map (Fig. 1) which given on original data from collection of the Institute of Systematics and Ecology of Animals, and also sensu references (Zaitzev and Medvedev 1974; Medvedev and Voronova 1976; Ge et al. 2012; <https://www.inaturalist.org/observations/126202552>; etc.).

The terminology of beetle body is according to Lawrence et al. (2010). The systematics of studied taxa are based on Löbl and Smetana (2010) and Ge et al. (2012).

Results

Superfamily **Chrysomeloidea** Latreille, 1802

Family **Chrysomelidae** Latreille, 1802

Subfamily **Chrysomelinae** Latreille, 1802

Tribe **Doryphorini** Motshulsky, 1860

Subtribe **Chrysolinina** S.-H. Chen, 1936

Genus **Ambrostoma** Motschulsky, 1860

Ambrostoma superbum (Thunberg, 1787)

= *quadriimpressum* Motschulsky, 1845

Figure 2

Material. RUSSIA, Novosibirskaya Oblast, Novosibirsk, Lesosechnaya str., on *Ulmus pumila*, 54.89072° N, 83.08573° E, 10.VII.2022, A.A. Legalov, S.V. Reshetnikov; Zarechnaya str., on *U. pumila* and *U. laevis*, 54.97908° N, 83.04343° E, 10.VII.2022, A.A. Legalov, S.V. Reshetnikov.

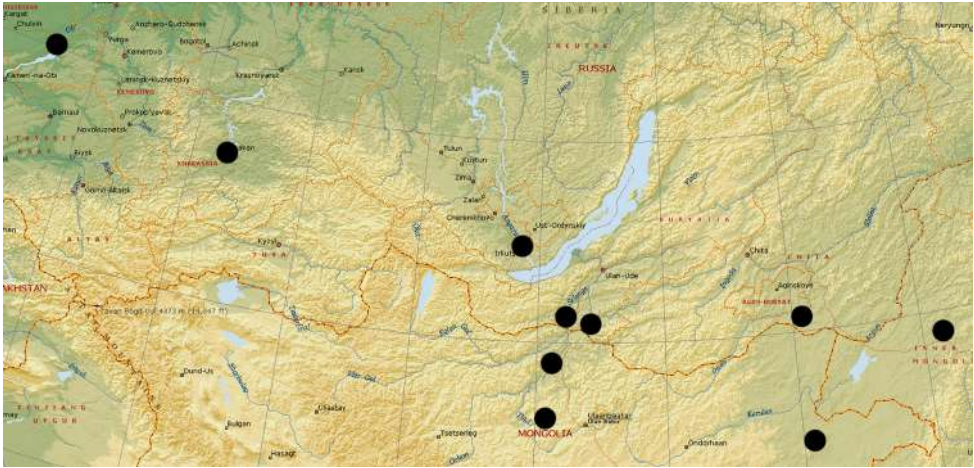


Figure 1. Distribution of *Ambrostoma superbum* in Siberia.

Description. Body copper-red, with longitudinal green stripes, glabrous, with metallic luster. Bottom greenish. Legs purple. Head capsule hypognathous, short, not constricted behind eyes. Mandibles large, curved. Outer surface of mandibles with dense punctures and pubescence. Labrum free, transverse. Anteclypeus present. Clypeus short, transverse. Eyes quite small, transverse-oval, finely faceted, weakly convex. Forehead wide, about 2.5 times as wide as head width before eyes, flattened, finely punctate, with middle groove. Temples very short. Antennae inserted before eyes, filiform and long, extends over humeri. Pronotum slightly dilated in front of middle region, with lateral depression and with weakly arcuate sides, about 0.6 times as long as wide at apex, about 0.5 times as long as wide in middle and at base, finely punctate. Basal edge of pronotum immarginate. Distances between punctures much larger than their diameters. Disc of pronotum moderately convex. Base about 0.8 times as narrow as elytral base. Scutellum distinct, semi-oval, about 0.8 times as long as wide. Elytra subparallel-sided, with transverse depression and with weak humeri, double striate, about 1.3 times as long as wide at base, about 1.1 times as long as wide in middle and at apical fourth, about 3.2 times as long as pronotum, without well-defined post-median violaceous patch surrounded by green. Greatest width behind middle. Interspaces between elytral striae finely and densely punctate. Epipleuron distinct, with setae. Procoxal part of prosternum about 0.7 times as long as procoxal cavity length. Procoxal cavities transverse, distinctly separated, open behind. Apex of prosternal process emarginated. Metaventricle slightly shorter than metacoxal length, flattened. Metanepisterna narrow, about 8 times as long as wide in middle. Wings developed. Abdomen convex, with free ventrites. Ventrite 1 equal in length to metacoxal length. Ventrite 2 about 0.7 times as long as ventrite 1. Ventrites 3 and 4 equal in length. Ventrite about 0.7 times as long as ventrite 2. Ventrite 5 two times as long as ventrite 4, with paired deep sinuation in males and almost rounded at apex in females. Legs long. Femora thickened. Tibiae quite

almost straight, without spurs and mucro. Tarsomere 1 wide-conical. Tarsomere 2 conical. Tarsomere 3 wide-bilobed. Tarsomeres 1-3 with pulvilli on lower surface. Tarsomere 5 long. Trasal claws free, without teeth. Body length: 7.7-8.1 mm.

Remarks. *Ambrostoma superbum* is associated with species of the genus *Ulmus* (Medvedev and Voronova 1976). In Novosibirsk, this species develops on *U. pumila* (Fig. 3), while the damage to *U. laevis* growing next to it is insignificant. Beetles (Fig. 4) and larvae (Fig. 5) were found on trees near houses and in the floodplain of Inya River. Trees shrivel from damage (Fig. 3), but beetles congregate and feed on the bark (Fig. 6).

Distribution. Southeast of Western Siberia (Fig. 1), South of Eastern Siberia and the Russian Far East, Mongolia, China (including Taiwan), and Korea.



Figure 2. *Ambrostoma superbum* from Novosibirsk, male, dorsal view.



Figure 3. Trees (*Ulmus pumila*) damaged by *Ambrostoma superbum* from Lesosechnaya str.



Figure 4. *Ambrostoma superbum* on a leaf of *Ulmus pumila*.



Figure 5. Larva of *Ambrostoma superbum* on a leaf of *Ulmus pumila*.



Figure 6. *Ambrostoma superbum* on *Ulmus pumila*.

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