

***Magdalis (Odontomagdalis) caucasica* (Tournier, 1872) (Coleoptera: Curculionidae) – A first record in Poland and summary data on the occurrence in Europe**

Milosz A. Mazur, Tomasz Olbrycht, Anna Szewkienicz

Mazur M.A., Olbrycht T., Szewkienicz A. 2014. *Magdalis (Odontomagdalis) caucasica* (Tournier, 1872) (Coleoptera: Curculionidae) – A first record in Poland and summary data on the occurrence in Europe. *Baltic J. Coleopterol.*, 14(1): 53 - 58.

The paper provides information on the first record of the occurrence of *Magdalis (Odontomagdalis) caucasica* in Poland. The locality is situated in the south-eastern part of the country. So far this species has been known only from single localities in Europe. In this paper, the information on its occurrence in Europe, biology and possible habitat preferences as well as colour photography of dorsal habitus and characteristic feature are presented.

Key words: *Magdalis caucasica*, Curculionidae, new record, Low Beskides, SE Poland, biology, distribution.

Milosz A. Mazur. Center for Biodiversity Studies; Opole University, Oleska 22; 45-052 Opole, e-mail: milosz@uni.opole.pl

Tomasz Olbrycht. Department of Agroecology; University of Rzeszow, Mieczysławy Ćwiklińskiej 1a, 35-601, Rzeszów, e-mail: tkolbr@univ.rzeszow.pl

Anna Szewkienicz. Ożenna 1, 38-232 Krempna, e-mail: anna.szewkienicz@gmail.com

INTRODUCTION

Genus *Magdalis* Germar contains more than 100 described species (Morris 2002, Egorov et al. 1996). Most of them occur in the Palaearctic region, only little more than 20 are known from Nearctic (Barrios 1986). In Poland, 17 species have been known so far (Wanat & Mokrzycki 2005) and biology of most species are well known. Larvae, generally, feed inside branches and trunks of dead or declining trees, both coniferous (mainly *Pinus*) and deciduous (e.g. *Betula*, *Fagus*, *Quercus*, *Salix*). Single species feed on

trees and shrubs of *Rosaceae*. Some species are highly important in economic terms as pests of coniferous trees.

Magdalis caucasica (Tour.) has been described on the basis of specimens from Caucasus Mountains (Tournier 1872) and nowadays it is known from single, sparse localities in Europe and Asia. From Ukraine it is known from Transcarpathia (Mazur 2002), the vicinity of Kharkov (Terekhova 2008) and Kiev (Nazarenko 2010). In Germany, it was found in Saxony (Buse et al 2009), Brandenburg (Esser 2013), region of Magdeburg

(Behne 1981) and the nature reserve Leipziger Auenwald near Leipzig (Richter 2009). In Czech Republic has been recorded from Central Bohemian Region, additional from Slovak Karst and Muráň Plateau in Slovakia (Benedikt et al 2010). Furthermore, general information on occurrence of this species is known from Italy (Stoch 2003), Austria (Burakowski et al 1995), France, Greece and Turkey (Tempère & Péricart 1989). The species reach the north border of its range in Latvia (Balalaikins 2012).

Löbl and Smetana (2013) mentioned *M. caucasica* from Poland, but this information is incorrect and undoubtedly based on unreliable reports of Reitter (1916) (from Prussia) and Leśniak (1987) (generally from Poland). These records were also considered as unreliable by authors of the *Catalogus faunae Poloniae* (Burakowski et al 1995), because no evidence specimens are found in Polish collections.

In the main Polish entomological collection, the specimens of *M. caucasica* are very rare. Eight specimens have been found in the collection of the Institute of Systematics and Evolution of Animals of the Polish Academy of Sciences in Krakow – more specifically, in the collection of S. Smreczyński. All specimens are labelled: *leg. Heidenreich; 2 June 1935; Dessau S.Bg.* The name of locality (Dessau S.Bg) probably refers to Dessau, a town in the Saxony-Anhalt region in Germany. In other museums' collections (Wrocław University, Nature Museum in Bytom, Institute of Zoology of the Polish Academy of Science in Warsaw) no specimen of this species has been found.

Detailed biology of *M. caucasica* is unknown. Associated with a few species of elms (*Ulmus* spp.). In France the species was collected from *Ulmus scabra* (Tempère & Péricart 1989), in Ukraine reared from branches of *U. carpinifolia* (= *U. minor*) (Nazarenko 2010).

M. caucasica is a very characteristic weevil and easy to distinguish from other species of the same genus. The species is large (4.5–6.5 mm), and its body is entirely blackish. Rostrum elongate,

slightly curved. Pronotum with pair of characteristic, distinctive, semilunar keel, located near apical angle (fig. 1). Detailed description of morphology with key to Central European species can be found in the key of Smreczyński (1972).

M. caucasica has been collected for the first time in Poland in the course of the field research for longhorn beetle (Coleoptera: Cerambycidae) carried out by Anna Szewkiewicz in the vicinity of Krempna (SW Poland).

MATERIAL AND METHODS

In Ożenna, in the area of military cemetery No 3 (Fig. 3), is growing specimen of Scots elm (*Ulmus glabra*), circumference in height of 1.3 m is ca. 160 cm. The tree is in good condition, without hollows and side necrosis. For cultivation the branches with ca 40 cm long and 2 cm, diameter were collected. The wood of branch was hard, and bark adheres well to a white. After breaking into three pieces, the branch was deposited in plastic container kept at room temperature (ca 23°C). After 11 days, we observed first specimens of *M. caucasica*. At the same time, also other species from the genus (*M. armigera*) were reared, which may suggest that both species have a similar life cycle and related requirements for colonized wood material.

RESULTS AND DISCUSSION

Below, we present detailed information on discovery of this species in Poland in the area of Low Beskids (Fig. 1).

East Beskids: Low Beskids, Ożenna, military cemetery No 3, GPS: N: 49°25'37.33", E: 21°027'53.34", UTM: EV37; 01 V 2012, ex cult. *Ulmus glabra*, 11-12 V 2012, 7 exx; leg. A. Szewkiewicz, det. M.A. Mazur, coll. M.A. Mazur & T. Olbrycht.

A discovery of *M. caucasica* in Poland is not a surprise because the species has been found in neighbouring countries.. A small number of

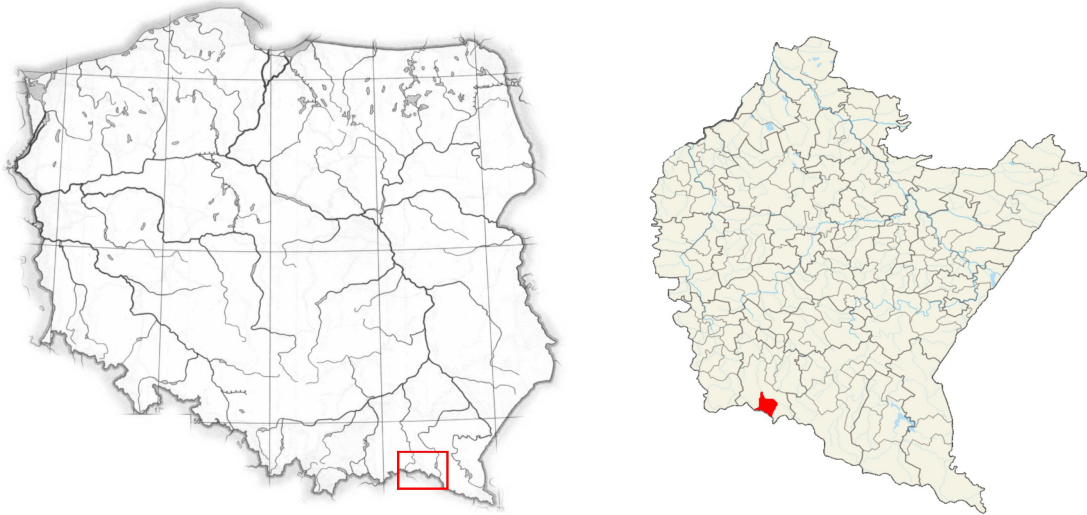


Fig. 1. Locality of *Magdalis caucasica* in Poland



Fig. 2 . *Magdalis caucasica* – general habitus and characteristic feature (red arrow) (fot. M.A. Mazur)



Fig. 3. Military cemetery No 3 in Ożenna; red arrow – place where grow branch with larvae of *Magdalis caucasica* (fot. A. Szewkienicz)

known localities of this species may be associated with its preference for the old elm specimens and feeding larvae in the branches located in the upper parts of the tree canopy. This type of life cycle could cause problems with collecting this species.

In Germany the species is known from towns and one nature reserve, where one may often find old and high specimens of elms. Reports from Kharkov in Ukraine come from species reared from dead branches taken from upper parts of the tree canopy (Terekhova 2008). Also known localities of the species in Slovakia come from semi natural forest (Benedikt et al 2010), and these authors treat *M. caucasica* as a relict species, typical of warm, and close to natural, forests.

Collecting weevils Not by using natural methods (e.g. using the net), but instead through, rearing specimens from wood material may lead to a discovery of more localities of this species, notably in the southern parts of Poland.

REFERENCES

Balalaikins M. 2012. Curculionidae (except Scolytinae and Platypodinae) in Latvian fauna, taxonomical structure, biogeogra-

phy and forecasted species. Acta Biol. Univ. Daugavp., 12 (4): 67–83.

Barrios E.E. 1986. A review of weevils of the genus *Magdalis* Germar (Coleoptera, Curculionidae) of the fauna of the European part of the USSR and the Caucasus. Entomologicheskoe Obozrenie 65(2): 382–402.

Behne L. 1981. Zur Verbreitung und Biologie bemerkenswerter Rüssel-käferarten im Bezirk Magdeburg. Entomologische Nachrichten. 7-8: 113–120. (in German).

Benedikt S., Borovec R., Fremuth J., Krátký J., Schön K., Skuhrovec J., Trýzna M. 2010. Annotated checklist of weevils (Coleoptera: Curculionoidea excepting Scolytinae and Platypodinae) of the Czech Republic and Slovakia. Part 1. Systematics, faunistics, history of research on weevils in the Czech Republic and Slovakia, structure outline, checklist. Comments on Anthribidae, Rhynchitidae, Attelabidae, Nanophyidae, Brachyceridae, Dryophthoridae, Erihrinidae and Curculionidae: Curculioninae, Bagoinae,

- Baridinae, Ceutorhynchinae, Conoderinae, Hyperinae. *Klapalekiana*, 46: 1–363.
- Burakowski B., Mroczkowski M., Stefańska J. 1995. *Kat. Fauny Pol. Część XXIII, Tom 20. Chrząszcze Coleoptera, Ryjkowce □ Curculionidae, cz. 2. MiZPAN, Warszawa, 310 pp. (in Polish)*
- Buse J., Gürlich S., Assmann T. 2009. Saproxylic beetles in the Gartow region of Lower Saxony, a hotspot of invertebrate diversity in north-western Germany. In: Buse J., Alexander K.N.A., Ranius T., Assmann T. (eds). *Saproxylic Beetles - their role and diversity in European woodland and tree habitats Proceedings of the 5th Symposium and Workshop on the Conservation of Saproxylic Beetles*, pp. 77–103.
- Egorov A.B., Zherikhin V.V., Korotyaev B.A. 1996. *Rod Magdalis Germ. Opredelitel nasekomykh Dalnego Vostoka Rossii. Tom 3. Zhestkokrylye, ili zhuki. 3: 440–442. (in Russian).*
- Esser J. 2013. *Dritter Nachtrag zum Verzeichnis der Käfer (Coleoptera) Brandenburgs und Berlins. Märkische Ent. Nachr. 15(1): 97–94. (in German).*
- Leśniak A. 1987. Zoogeographical analysis of the cambio- and xylophages of Poland. W: *IVth Symposium on the Protection of Forest Ecosystems. Rogów 25-26 November 1986. Warszawa, pp. 63–73.*
- Löbl I., Smetana A. 2013. *Catalogue of Palaearctic Coleoptera. Curculionoidea II. Vol. 8. 700 pp.*
- Mazur M. 2002. The distribution and ecology of weevils (Coleoptera: Nemonychidae, Attelabidae, Apionidae, Curculionidae) in western Ukraine. *Acta zoologica cracoviensia*, 45(3): 213–244.
- Morris M.G. 2002. *True weevils (Part I) Coleoptera: Curculionoidea (subfamilies Raymondionyminae to Smicronychinae). Royal Entomological Society of London. 5(17b): 1–147.*
- Nazarenko V.Y., 2010. Beetle – weevils from the genus *Magdalis* Germar (Coleoptera: Curculionidae) of planting trees in area of Kiev. Populations of species and communities in the anthropogenic transformation of landscapes: the state and methods of its diagnosis. *Proceedings of the XI International Scientific and Practical Conference. 20-25 September 2010 ã. Belgorod, Russia, pp. 173–174. (in Russian)*
- Reitter E. 1916. *Fauna Germanica. Die Käfer des Deutschen Reiches. V. Band. Schr. Dtsch. Lehrerver. Naturk., Stuttgart, 33. 307 pp. (in German).*
- Richter K. (ed.) 2009. *Wissenschaftliche Begleitung verschiedener forstlicher Bewirtschaftungsmaßnahmen im NSG „Burgau“ (im LSG „Leipziger Auwald“) zur Optimierung der forstlichen Planungen und Pflegemaßnahmen im Sinne der nachhaltigen Sicherung und Verbesserung der Biodiversität. Prof. Hellriegel-Institut e.V. an der HS Anhalt, Bernburg. 234 pp. (in German).*
- Smreczyński S. 1972. *Ryjkowce - Curculionidae. Podrodzina Curculioninae. Klucze do oznaczania owadów Polski, cz. XIX, z. 98d, Warszawa. 192 pp. (in Polish).*
- Stoch F. (ed.) 2003. *Checklist of the species of the Italian fauna. On-line version 2.0, Italian Ministry of Environment. <http://www.faunaitalia.it/checklist/> (access 25.02.2014).*
- Tempère G., Péricart J. 1989. *Coléoptères Curculionidae. Faune de France, 74: 1–537. (in French).*
- Terekhova V.V., 2008. *Xylobiont beetles (Coleoptera) which develop in the bark of elm, *Ulmus carpinifolia* Rupp. ex Suckow*

in the National Natural Park
'Gomolshansky Forests'. The Kharkov
Entomological Society Gazette, 16(1–2):
44–51. (in Russian).

Received: 03.06.2014.

Accepted: 22.06.2014.

Tournier H. 1872. Nouveaux coléoptères
d'Europe. Revue et Magasin de Zoologie
Pure et Appliquée (2), 23: 250–256. (in
French).

Wanat M., Mokrzycki T. 2005. A new checklist of
the weevils of Poland (Coleoptera:
Curculionoidea). Genus, 16(1): 69–117.