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New localities of the interesting saproxylic beetles (Coleoptera) in some promotional forest complexes in Poland

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ABSTRACT: As a result of the faunistic studies conducted in 2014-2015 in eight promotional forest complexes in Poland, 14 species of saproxylic beetles were recorded, representing 10 families. The presence of new localities for saproxylic beetles, i.e. *Evodinellus borealis* (Gyll.) (Cerambycidae), *Pediacus dermestoides* (F.) (Cucujidae), *Triplax scutellaris* Charp. (Erotylidae), *Benibotarus taygetanus* (Pic) (Lycidae) and *Hallomenus axillaris* (Ill.) (Tetratomidae), was also recorded.

KEY WORDS: Coleoptera, saproxylic beetles, barrier trap, new records, faunistic, Poland.

Introduction

Saproxylic beetles are a group of invertebrates, which is related at least during a certain period of its development with the wood of decaying or dead trees, as well as with arboreal fungi or with other organisms living in the wood (SPEIGHT 1989). In recent years in Poland and Europe alike, saproxylic beetles have become the object of numerous scientific research studies, dealing, among others, with the relation between the occurrence of specific species or groups of species and the amount and quality of dead wood (GIBB & all. 2006, HILSZCZAŃSKI & all. 2011).

Considering the fact that the promotional forest complexes (PFC) in Poland were founded on the environmentally rich forest areas that had not been hitherto the object of in-depth research as for saproxylic beetles, it was decided to commence a research on this group of animals within these very areas. The general aim of the project is to compare the groupings of saproxylic beetles that appear in the areas of different PFCs in Poland. In

the following paper, however, we wish to present only a part of the research results gathered so far, concerning interesting species of saproxylic beetles which deserve a particular review in faunistic terms.

Material and methods

Saproxylic beetles were collected in years 2014–2015 with the use of barrier traps such as IBL-2, which were hung roughly 2 meters above the ground. The traps also contained bottles filled with 100 ml of the preservative—ethylene glycol.

All of the gathered beetles were identified by the first author. The preserved specimens were deposited to the comparative collection of the Forest Research Institute in Sękocin Stary.

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Results

During the conducted research, 14 interesting species of saproxylic beetles belonging to 10 families were discovered, with 6 species being reported from some zoogeographical lands for the first time. The names of the lands were adopted from “The Catalogue of Polish Fauna” (BURAKOWSKI & all. 1971–2000).

CERAMBYCIDAE

Evodinellus borealis (GYLLENHAL, 1827)

– Podlachia, PFC the Knyszyń Forest, FE41 Czarna Białostocka vic., 13 V – 7 VII 2015, 1 ex., leg. Z. BOROWSKI (ZB).

In Poland, the species was recorded only from the Augustów Primeval Forest, the Borecka Forest (the Masurian Lake District), and the Białowieża Forest (GUTOWSKI & KARAŚ 1991, GUTOWSKI 1995).

The following locality is a confirmation that *E. borealis* can occur locally in other forest complexes in Northeastern Poland. The discovery of new localities with this species within the area of the Biebrza National Park in the future is possible. The species is new for Podlachia.

Judolia sexmaculata (LINNAEUS, 1758)

- The Western Sudetes, PFC the Western Sudetes, the Szklarska Poręba Forest Inspectorate, WS43 Szklarska Poręba vic., 22 IV – 9 VII 2015, 1 ex., leg. ZB.

In Poland, the species is classified as belonging to the boreal-mountain fauna. It was recorded mainly from the northeastern and southern part of the country (BURAKOWSKI & all. 1990). In the Western Sudetes, it was recorded four times at the end of the 19th and at the beginning of the 20th century, and the last time back when “The Catalogue of Polish Fauna” was published (BURAKOWSKI & all. 1990).

Nivellia sanguinosa (GYLLENHAL, 1827)

- The Małopolska Upland, PFC the Świętokrzyski Forest, the Suchedniów Forest Inspectorate, DB75 Kopcie ad Suchedniów, 12 V – 8 VII 2015, 1 ex., leg. ZB.

In Poland, the species is characterised with its boreal-mountain type of distribution, and its range is disjunctive. The main areas where the species is present include the northeastern (the Białowieża Forest and the Borecka Forest) and the southern part of the country (BURAKOWSKI & all. 1990). By the end of 1990s, it was already recorded from the area of the Małopolska Upland, not far from the boundary of the Świętokrzyskie Mountains (BIDAS 2002). The discovery of new localities in the area of the Świętokrzyskie Mountains in the future is possible.

CUCUJIDAE*Pediacus dermestoides* (FABRICIUS, 1792)

- The Bieszczady Mountains, PFC the Bieszczady Forests, the Cisna Forest Inspectorate, FV05 Buk: 13 V – 1 VII 2015 (2 exx.), 2 VII – 22 IX 2015 (1 ex.), leg. ZB.

In Poland, the species was recorded only from a few lands, though in many of them, its occurrence has not been confirmed for a few decades (BURAKOWSKI i in. 1986a). The last mentions about the species come from the Białowieża Forest from the 1990s (BOROWIEC & all. 1992, KUBISZ 1995). The species is new for the Bieszczady Mountains.

ELATERIDAE*Stenagostus rhombeus* (OLIVIER, 1790)

– The Wielkopolsko-Kujawska Lowland, PFC Forests of the Barycz Valley, the Milicz Forest Inspectorate, XT51 Milicz vic.: 11 VI – 30 X 2014 (1 ex.), 2 VI – 9 IX 2015 (2 exx.), leg. ZB.

In Poland, the species was recorded from the Pomeranian Lakeland (BUCHHOLZ 1993, 2008), the Baltic Shoreland (the Wolin Island), and Upper Silesia (BURAKOWSKI & all. 1985). The newest data on the species concern only two lands, that is Lower Silesia and the Wielkopolsko-Kujawska Lowland (SMOLIS 2008).

EROTYLIDAE*Triplax scutellaris* CHARPENTIER, 1825

– Podlachia, PFC the Knyszyń Forest, the Czarna Białostocka Forest Inspectorate, FE41 Czarna Białostocka vic., 7 VII – 8 IX 2015, 2 exx., leg. ZB.

For many years, the species had been referred vaguely as coming from Silesia, the environs of Warsaw, Przemyśl, and the Kłodzko Valley (MAZUR 1983). In following years, the data on its localities were provided from the Białowieża Forest, the Świętokrzyskie Mountains and the Bieszczady Mountains (GUTOWSKI & KUBISZ 1995, BYK 2007, RUTA & all. 2011).

The species new for Podlachia.

EUCNEMIDAE*Isorhipis marmottanii* (BONVOULOIR, 1871)

– The Wielkopolsko-Kujawska Lowland, PFC Forests of the Barycz Valley, the Milicz Forest Inspectorate, XT51 Milicz vic.: 11 VI – 30 X 2014 (11 exx.), 2 VI – 9 IX 2015 (10 exx.), leg. ZB.

In Poland, the species was recorded from a few lands—from the Białowieża Forest, the Eastern Beskids, the Sandomierz Basin, the Świętokrzyskie Forest, the Małopolska Upland and the Wielkopolsko-Kujawska Lowland (HILSZCZAŃSKI & all. 2015).

Apart from Dąbrowa Krotoszyńska, the following locality is the second in the area of the Wielkopolsko-Kujawska Lowland.

LYCIDAE*Benibotarus taygetatus* (PIC, 1905)

– The Bieszczady Mountains, PFC the Bieszczady Forests, the Cisna Forest Inspectorate, FV05 Buk, 2 VII – 22 IX 2015, 1 ex., leg. ZB.

In Poland, the species has been recorded only from three lands—the Masurian Lake District, the Eastern and Western Beskids, yet all these data require confirmation with new material.

The species new for the Bieszczady Mountains.

MELANDRYIDAE*Dolotarsus lividus* (C.R. SAHLBERG, 1833)

– The Bieszczady Mountains, PFC the Bieszczady Forests, the Cisna Forest Inspectorate, FV05 Buk, 13 V – 1 VII 2015, 1 ex., leg. ZB.

The species is characterised with its boreal-mountain distribution. It was recorded from the Białowieża Forest, the Świętokrzyskie Mountains, and the Western and Eastern Beskids (KUBISZ & all. 2014). The last data from the Bieszczady Mountains on the species come from the second half of the 20th century (BURAKOWSKI & all. 1987, KUBISZ & all. 2014).

Melandrya barbata (FABRICIUS, 1787)

– The Masurian Lake District, PFC the Elbląsko-Żuławskie Forests, the Elbląg Forest Inspectorate, DF01 Pagórki ad Elbląg, 19 V – 7 VII 2015, 1 ex., leg. ZB;

– The Bieszczady Mountains, PFC the Bieszczady Forests, the Cisna Forest Inspectorate, FV05 Buk, 13 V – 1 VII 2015, 2 exx., leg. ZB.

For many decades, the species had not been recorded from Poland. Only in the last two decades, it was recorded from the Białowieża Forest, the Wielkopolsko-Kujawska Lowland, and the Masurian Lake District (KOMOSIŃSKI & all. 2012, KUBISZ & all. 2014). Its localities in the Bieszczady Mountains were referred to vaguely, without providing precise data (BURAKOWSKI & all. 1987).

The following locality is the confirmation of the occurrence of the species in the Bieszczady Mountains.

MYCETOPHAGIDAE*Triphyllus bicolor* (FABRICIUS, 1792)

– The Bieszczady Mountains, PFC the Bieszczady Forests, the Cisna Forest Inspectorate, FV05 Buk, 13 V – 1 VII 2015, 1 ex., leg. ZB.

In Poland, the species was recorded from many lands (BURAKOWSKI & all. 1986b; RUTA & all. 2012), although there is still no data on its presence in Northwestern Poland. In literature, it is said to be related to different species of arboreal fungi (BURAKOWSKI & all. op.cit.); in the light of recent studies, however, it was found that it evinces strong preferences for fruiting bodies of beefsteak fungus *Fistulina hepatica* (SCHAEFF.): FR. (PIĘTKA & BOROWSKI 2011).

The following locality is the second found in the area of the Bieszczady Mountains.

SCARABAEIDAE

Gnorimus variabilis (LINNAEUS, 1758)

- The Wielkopolsko-Kujawska Lowland, PFC the Noteć Forest, the Karwin Forest Inspectorate, WU55 Drezdenko vic., 10 VI – 31 X 2014, 1 ex., leg. ZB.

In Poland, the species was recorded from many lands, but it has not been confirmed with new material from the majority of them for many years (BURAKOWSKI & all. 1983). After many years, it was recorded recently from the Wielkopolsko-Kujawska Lowland on the basis of the specimens from the end of the 20th century (BUNALSKI & all. 2015).

TETRATOMIDAE

Hallomenus axillaris (ILLIGER, 1807)

- The Masurian Lake District, PFC the Masurian Forests, the Maskulińskie Forest Inspectorate, EE34 Wygryny ad Ruciane Nida, IV – 23 VI 2014, 1 ex.;
- The Bieszczady Mountains, the Cisna Forest Inspectorate, FV05 Buk, 2 VII – 22 IX 2015, 1 ex., leg. ZB.

In recent years in Poland, the species was recorded from the Wielkopolsko-Kujawska Lowland, the Białowieża Forest, Upper Silesia, and Roztocze (KUBISZ & all. 2014). The remaining data on the species from the areas of the country are outdated and come mainly from the end of the 19th century and the beginning of the 20th century (BURAKOWSKI & all. 1987).

The species is new for the Masurian Lake District and the Bieszczady Mountains.

Tetratoma ancora FABRICIUS, 1790

– The Masurian Lake District, PFC the Masurian Forests, the Maskulińskie Forest Inspectorate, EE34 Wygryny ad Ruciane Nida, IV – 23 VI 2014, 1 ex., leg. ZB; – The Bieszczady Mountains, PFC the Bieszczady Forests, the Cisna Forest Inspectorate, FV05 Buk: 13 V – 1 VII 2015 (1 ex.), 2 VII – 22 IX 2015 (10 exx.), leg. ZB.

In Poland, the species is not often encountered and was mainly recorded from the southern part of the country (KUBISZ & all. 2014). It was recorded from the Masurian Lake District only from one locality (BYK & BYK 2004), whereas in the Bieszczady Mountains it was found a few times in the last century (KUBISZ i in. 2014).

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SUMMARY

The paper presents the results of the faunistic studies conducted in 2014-2015 in eight promotional forest complexes in Poland. A total of 14 interesting saproxylic beetles were recorded. Among the species collected, 3 were recognized as new for the Bieszczady Mountains, 2 for the Podlasie region, and 1 species was new for the Masurian Lake District.

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