



New data on the occurrence of longhorn beetles (Coleoptera: Cerambycidae) in the Eastern Beskid Mountains (Poland)

Lech KARPIŃSKI, Artur TASZAKOWSKI and Wojciech T. SZCZEPAŃSKI

*Department of Zoology, Faculty of Biology and Environmental Protection,
University of Silesia, Bankowa 9, 40-007 Katowice, Poland;
e-mails: lkarpinski@us.edu.pl (corresponding author); ataszakowski@us.edu.pl; wszczepanski@us.edu.pl*

Abstract: New data on the occurrence of the 70 species of longhorn beetles from the area of the Eastern Beskid Mountains including the Low Beskids (56 species) are presented. The state of knowledge about Cerambycidae of the Eastern Beskid Mountains, Low Beskids, Western Beskid Mountains and Bieszczady Mountains is summarised. New localities of some rarely seen species as: *Pachyta quadrimaculata* (Linnaeus 1758), *Stenocorus meridianus* (Linnaeus, 1758), *Evodinus clathratus* (Fabricius, 1793), *Anoplodera rufipes* (Schaller, 1783), *A. sexguttata* (Fabricius, 1775), *Ropalopus macropus* (Germar, 1824), *Pogonocherus hispidus* (Linnaeus, 1758), *Phytoecia cylindrica* (Linnaeus 1758) and *Ph. nigricornis* (Fabricius 1782) are given. Four species, *P. quadrimaculata*, *Leptura annularis* Fabricius, 1801, *Pyrrhidium sanguineum* (Linnaeus, 1758) and *Pogonocherus fasciculatus* (DeGeer, 1775), are recorded for the first time from the area of the Low Beskids.

Key words: cerambycids, the Low Beskids, rare species, new localities, Carpathian fauna

INTRODUCTION

The longhorn beetle family (Cerambycidae) is one of the group of beetles (Coleoptera) that is richest in species with approximately 35 000 described species (Švácha & Lawrence 2014), and 192 of these species occur in Poland (Gutowski et al. 2012). Despite the numerous works that have been devoted to cerambycids, the knowledge on their distribution in Poland is still insufficient, and some regions of the country require further studies (Zieliński 2004, Gutowski et al. 2011). The occurrence of longhorn beetles in southeastern Poland is fairly well known thanks mainly to papers by Trella (1925) and Gutowski (1995) on the Eastern Beskid Mountains and thanks to the works by Kubisz & Hilszczański (1992) and Olbracht & Szewkiewicz (2013) on the Low Beskids. The present study provides some new data on many species of cerambycids in the part of the Eastern Beskid Mountains, where detailed research have not been conducted so far. The work aims to supplement the knowledge on the longhorn beetles diversity of the Eastern Beskid Mountains.

AREA AND METHODS

According to the division of Poland used in the Catalogue of Fauna of Poland (Burakowski et al. 1990) the research area is located in the Eastern Beskid Mountains (Beskid Wschodni). However, according to physico-geographical regionalisation of Poland proposed by Kondracki (2013), this area is located in two macroregions. The first is called the Foothills of the Central Beskids (Pogórze Środkowobeskidzkie) and it consists with eight mesoregions. Only two of them were sampled here, i.e. the Gorlice Depression (Obniżenie Gorlickie) and the Jasło Foothills (Pogórze Jasielskie). The second macroregion with our plots is the region of the Central Beskids (Beskidy Środkowe) which includes only one mesoregion – the Low Beskids (Beskid Niski). In this paper we keep the names of regions used in the Catalogue of Fauna of

Poland referring our data to Eastern Beskid Mountains, but additionally we distinguished in it the area of the Low Beskids. In this way we want to highlight the specificity of the fauna of the region with its relatively low altitude and many mountain passes. Those passes are not very significant for species migration (Mazur 2001), but according to Taszakowski (2012), they can be considered to be migration routes for many species from the Pannonian Basin.

According to Kondracki (2013) the Low Beskids is a mountain range which forms a transition zone between the Eastern and Western Beskids. The Low Beskids is characterized by the occurrence of the so-called trans-Carpathian passes, which is associated with the lack or limited presence of plant species characteristic for the Carpathians, such as spruce *Picea abies* (L.) Karst. Because the average height of these mountains does not exceed 700 m above sea level, there are no plant communities that are characteristic for the higher parts of the mountain here (Kubisz & Hilszczański 1992).

The research plots (in eight squares of the UTM grid) are in the following locations (in alphabetical order) (Fig. 1): EA20 – Bednarka, EV29 – Dobrynia, EA10 – Libusza, EA20 – Lipinki, EV39 – Nowy Żmigród, EV39 – Wola Dębowiecka and within the Low Beskids: EV28 – Bartne, EV29 – Bednarka, EV17 – Blechnarka, EV18 – Gładyszów, EV18 – Małastów 1, EV19 – Małastów 2, EV39 – Mrukowa, EV29 – Wapienne and EV17 – Wysowa-Zdrój.

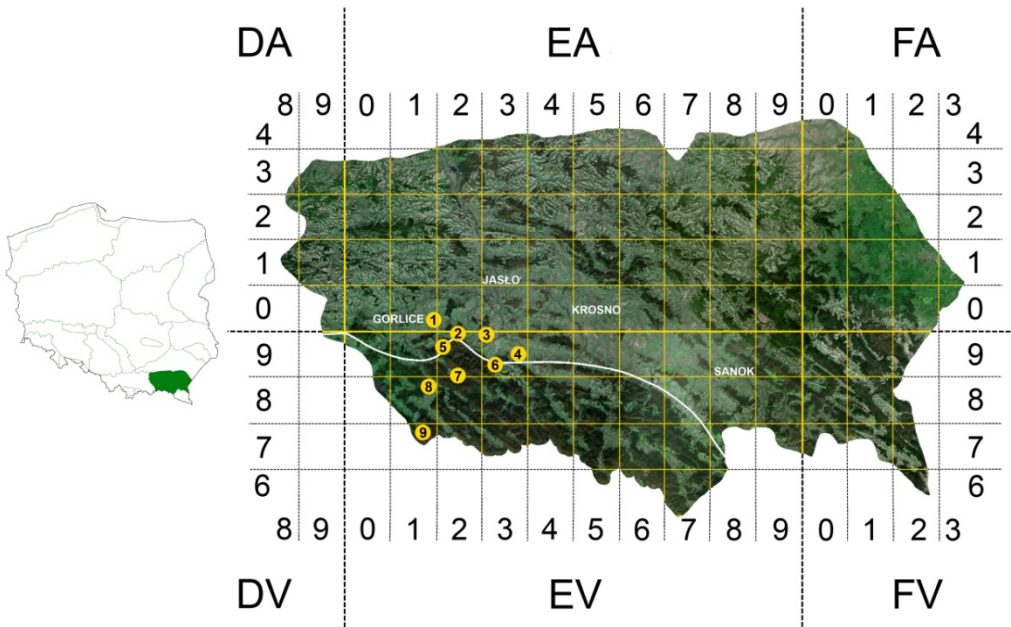


Fig. 1. The research plots within the Eastern Beskid Mountains: 1 – Libusza and Lipinki, 2 – Bednarka, 3 – Wola Dębowiecka and Dobrynia, 4 – Nowy Żmigród, 5 – Wapienne, 6 – Mrukowa, 7 – Bartne, 8 – Gładyszów and Małastów, 9 – Wysowa-Zdrój and Blechnarka; white line – border of the Low Beskids. The map of Poland was created based on gis.biomap.pl.

The studies were carried out between 2004–2014 using the methods of sighting of imagines and sweep-netting (grasslands and ecotone zones). Moreover, in the last three years, the research were conducted more intensely and uniformly using additional methods: shaking beetles down from flowering trees and shrubs into an entomological umbrella, and analyzing the feeding grounds in inhabited woods. Beetles were caught in different plant communities, e.g., the Carpathian beech forest and its bordering scrub (mainly in the Low Beskids), hornbeam forests (Bednarka), subxerothermic plant communities (Dobrynia) or from slowly overgrowing meadows and pastures.

The nomenclature was adopted from the Catalogue of Palearctic Coleoptera (Löbl & Smetana 2010). The specimens are preserved in the collections of the authors (mainly in A. Taszakowski's collection).

RESULTS

During the study, the presence of 70 species of Cerambycidae was recorded (Table 1). The species represent about 36% of the Polish fauna. In the Low Beskids 56 species were observed. Among them, four have been recorded in this region for the first time: *Pachyta quadrimaculata* (Linnaeus, 1758), *Leptura annularis* Fabricius, 1801, *Pyrrhidium sanguineum* (Linnaeus, 1758) and *Pogonocherus fasciculatus* (DeGeer, 1775).

Table 1. Longhorn beetles (Coleoptera: Cerambycidae) that were collected and/or observed during the study in the Eastern Beskid Mountains (with details of the Low Beskids). ! – species protected by law; * – species rarely observed in this part of the country; ¹ – species collected or observed during our research on the territory of the Low Beskids.

No.	Species	Locality	Date	Number of specimens
Prioninae Fairmaire, 1864				
1.	<i>Prionus coriarius</i> (Linnaeus, 1758) ¹	EA10: Libusza EV17: Wysowa-Zdrój	16 Jun 2005 7 Jul 2008	3 exx.
Lepturinae Latreille, 1802				
2.	<i>Oxymirus cursor</i> (Linnaeus, 1758) ¹	EA10: Libusza EV17: Wysowa-Zdrój	17 Jun 2006 17 May 2013	4 exx.
3.	<i>Rhagium inquisitor</i> (Linnaeus, 1758) ¹	EV17: Blechnarka EV17: Wysowa-Zdrój	8 Aug 2007 22 Jul 2005 2 May 2014	5 exx.
4.	<i>Rhagium mordax</i> (DeGeer, 1775) ¹	EV17: Wysowa-Zdrój	11 Jul 2006 2 Jul 2007 2 May 2014	3 exx.
5.	* <i>Stenocorus meridianus</i> (Linnaeus, 1758)	EV17: Libusza	27 Jun 2005 4 Jul 2006 20 May 2014	3 exx.
6.	* <i>Pachyta quadrimaculata</i> (Linnaeus, 1758) ¹	EV17: Blechnarka	18 Jul 2007	1 ex.
7.	* <i>Evodinus clathratus</i> (Fabricius, 1793) ¹	EV17: Blechnarka	8 Jul 2007	1 ex.
8.	<i>Gaurotes virginea</i> (Linnaeus, 1758) ¹	EV17: Blechnarka	22 Jul 2008 13 Jun 2011	2 exx.
9.	<i>Dinoptera collaris</i> (Linnaeus, 1758) ¹	EV17: Blechnarka EA10: Libusza EA20: Lipinki EV17: Wysowa-Zdrój	13 Jun 2011 27 Jun 2005 17 Jun 2007 12 Jun 2013 15 Jun 2013 21 May 2014	6 exx.

No	Species	Locality	Date	Number of specimens
10.	* <i>Nivellia sanguinosa</i> (Gyllenhal, 1827) ¹	EV17: Wysowa-Zdrój	16 May 2013 1 May 2014: pupae and imagines still inside wood of dead <i>Padus avium</i>	6 exx.
11.	<i>Pidonia lurida</i> (Fabricius, 1793) ¹	EV29: Bednarka EV17: Wysowa-Zdrój	14 Jun 2006 7–8 Jul 2010 13 Jun 2011	4 exx.
12.	<i>Grammoptera ruficornis</i> (Fabricius, 1781)	EA20: Bednarka EA10: Libusza	23 May 2014 17 Jun 2006 16 Jun 2013 20 May 2014	9 exx.
13.	<i>Alosterna tabacicolor</i> (DeGeer, 1775) ¹	EV39: Nowy Żmigród EA20: Lipinki EV17: Wysowa-Zdrój	19 May 2013 15 Jun 2013 23 Jul 2010	2 exx.
14.	* <i>Anoplodera rufipes</i> (Schaller, 1783)	EA20: Bednarka	23 May 2014	1 ex.
15.	* <i>Anoplodera sexguttata</i> (Fabricius, 1775)	EA10: Libusza	20 Jun 2008	1 ex.
16.	<i>Pseudovadonia livida</i> (Fabricius, 1777) ¹	EV18: Gładyszów EA10: Libusza	14 Jun 2013 4 Aug 2005 10 Jun 2013	9 exx.
17.	<i>Stictoleptura scutellata</i> (Fabricius, 1781) ¹	EV39: Mrukowa EV28: Bartne EV29: Bednarka	13 Jun 2013 9 Jul 2013 14 Jun 2006 23 Jul 2013	8 exx.
18.	<i>Stictoleptura maculicornis</i> (DeGeer, 1775) ¹	EV19: Małastów 2 EV17: Wysowa-Zdrój EV17: Blechnarka EV17: Wysowa-Zdrój	14 Jun 2013 12 Jul 2005 13 Jun 2011 8 Jul 2010 13 Jun 2011	6 exx.
19.	<i>Stictoleptura rubra</i> (Linnaeus, 1858) ¹	EV29: Bednarka EV17: Blechnarka EV17: Wysowa-Zdrój	4 Aug 2009 17 Jul 2007 20 Aug 2009 20 Aug 2010 3–11 Aug 2011	7 exx.
20.	<i>Stictoleptura tesserula</i> (Charpentier, 1825) ¹	EV28: Bartne EA20: Bednarka	9 Jul 2013 14 Jun 2006 4 Aug 2009	8 exx.
21.	<i>Anastrangalia dubia</i> (Scopoli, 1763) ¹	EV28: Bartne EV17: Blechnarka EV17: Wysowa-Zdrój	9 Jul 2013 13 Jun 2011 12 Aug 2006	4 exx.
22.	<i>Anastrangalia sanguinolenta</i> (Linnaeus, 1761) ¹	EA20: Bednarka EV17: Blechnarka EV17: Wysowa-Zdrój	14 Jun 2006 8 Jul 2010 8–23 Jul 2010	4 exx.
23.	<i>Pachytodes cerambyciformis</i> (Schrank, 1781) ¹	EA20: Bednarka EV17: Blechnarka EA10: Libusza EV17: Wysowa-Zdrój	9 Jul 2013 13 Jun 2011 4 Aug 2005 20 Aug 2010	5 exx.
24.	<i>Leptura annularis</i> Fabricius, 1801 ¹	EV17: Blechnarka EA10: Libusza	24 Jul 2013 17 Jun 2006	2 exx.

No.	Species	Locality	Date	Number of specimens
25.	<i>Leptura quadrifasciata</i> Linnaeus, 1758 ¹	EA10: Libusza EV17: Wysowa-Zdrój	26 Jun 2012 20 Aug 2006 19 Aug 2009 23 Jul 2010 20 Aug 2010	5 exx.
26.	<i>Rutpela maculata</i> (Poda, 1761) ¹	EV29: Bednarka EA10: Libusza EV17: Wysowa-Zdrój	4 Aug 2009 14 Jul 2005 3 Aug 2012 20 Aug 2010	6 exx.
27.	<i>Stenurella bifasciata</i> (Müller, 1776) ¹	EV17: Wysowa-Zdrój	12 Aug 2006	1 ex.
28.	<i>Stenurella melanura</i> (Linnaeus, 1758) ¹	EV29: Bednarka EV17: Wysowa-Zdrój	4 Aug 2009 7 Aug 2008 8 Jul 2010 3–11 Jul 2011	7 exx.
29.	<i>Stenurella nigra</i> (Linnaeus, 1758) ¹	EA20: Lipinki EV17: Wysowa-Zdrój	15 Jun 2013 21 May 2014 23 Jul 2010	4 exx.
Spondylidinae Audinet-Serville, 1832				
30.	<i>Spondylis buprestoides</i> (Linnaeus 1758) ¹	EV28: Bartne EV17: Wysowa-Zdrój	10 Jul 2013 11–22 Jul 2005	5 exx.
31.	<i>Asemum striatum</i> (Linnaeus, 1758) ¹	EV17: Wysowa-Zdrój	18 May 2013	1 ex.
32.	<i>Arhopalus rusticus</i> (Linnaeus, 1758) ¹	EV17: Blechnarka EV17: Wysowa-Zdrój	18 Jul 2007 20 Jul 2006	2 exx.
33.	<i>Tetropium castaneum</i> (Linnaeus, 1758) ¹	EV17: Blechnarka EV17: Wysowa-Zdrój	17 Jul 2007 7 Jul 2008 18 May 2013: under bark	4 exx.
34.	<i>Tetropium fuscum</i> (Fabricius, 1787) ¹	EV18: Małastów1 EV17: Wysowa-Zdrój	14 Jun 2013 18 May 2013: under bark	3 exx.
35.	* <i>Tetropium gabrieli</i> (Weise, 1905) ¹	EV17: Wysowa-Zdrój	3 May 2014: under bark	1 ex.
Cerambycinae Latreille, 1802				
36.	<i>Obrium brunneum</i> (Fabricius, 1793) ¹	EA20: Bednarka EV17: Wysowa-Zdrój	16 May 2013 23 May 2014 6 May 2014	3 exx.
37.	<i>Molorchus minor</i> (Linnaeus, 1758)	EA20: Bednarka EA10: Libusza	23 May 2014 14 Jul 2004 12 Jun 2011	6 exx.
38.	! <i>Rosalia alpina</i> (Linnaeus, 1758) ¹	EV17: Blechnarka EV17: Wysowa-Zdrój	8 Jul 2007 20 Aug 2009	observ. 2 exx.
39.	<i>Aromia moschata</i> (Linnaeus, 1758) ¹	EV17: Wysowa-Zdrój	12 Jul 2005 20 Aug 2010	3 exx.
40.	<i>Hylotrupes bajulus</i> (Linnaeus, 1758)	EV17: Blechnarka EA10: Libusza	24 Jul 2013 16 Jul 2005	2 exx.
41.	* <i>Ropalopus macropus</i> (Germar, 1824) ¹	EV17: Blechnarka	14 Jul 2008	2 exx.
42.	<i>Callidium violaceum</i> (Linnaeus, 1758) ¹	EA10: Libusza EV17: Wysowa-Zdrój	12 Jun 2011 20 Jun 2014 11 Jul 2005	6 exx.
43.	* <i>Pyrrhidium sanguineum</i> (Linnaeus, 1758) ¹	EA20: Lipinki EV17: Wysowa-Zdrój	13 Jul 2007 30 Apr 2014	2 exx.

No.	Species	Locality	Date	Number of specimens
44.	<i>Phymatodes testaceus</i> (Linnaeus, 1758) ¹	EV17: Blechnarka EA10: Libusza	20 Aug 2010 14 Jul 2004 16–21 Jul 2005 20 May 2014	8 exx.
45.	<i>Xylotrechus rusticus</i> (Linnaeus, 1758) ¹	EV17: Wysowa-Zdrój	7 Jul 2011	
46.	<i>Clytus arietis</i> (Linnaeus, 1758)	EV17: Blechnarka	8 Jul 2007	2 exx.
		EV17: Wysowa-Zdrój	12 Aug 2006	
47.	<i>Clytus lama</i> (Mulsant, 1847) ¹	EA10: Libusza	30 Apr 2013	1 ex.
48.	<i>Chlorophorus herbstii</i> (Brahm, 1790)	EV17: Wysowa-Zdrój	11 Jul 2005	
			17 Jul 2006	3 exx.
			12 May 2014	
49.	* <i>Anaglyptus mysticus</i> (Linnaeus, 1758) ¹	EA10: Libusza	24 Jul 2007	1 ex.
		EV17: Wysowa-Zdrój	14 Jun 2005	
			1 May 2014	2 exx.
Lamiinae Latreille, 1825				
50.	<i>Monochamus sartor</i> (Fabricius, 1787) ¹	EV17: Blechnarka	17 Jul 2007	
		EV17: Wysowa-Zdrój	3 Jul 2009	
			11–12 Jul 2005	7 exx.
			12 Aug 2006	
51.	<i>Monochamus sutor</i> (Linnaeus, 1758) ¹	EV17: Blechnarka	8 Jul 2007	
		EV17: Wysowa-Zdrój	3 Jul 2009	3 exx.
			12 Aug 2006	
52.	<i>Acanthocinus aedilis</i> (Linnaeus, 1758) ¹	EV29: Wapienne	6 Jul 2005	1 ex.
53.	<i>Leiopus nebulosus</i> (Linnaeus, 1758) ¹	EV29: Dobrynia	13 Jul 2013	
		EV17: Wysowa-Zdrój	7 Jul 2011	2 exx.
54.	* <i>Exocentrus lusitanus</i> (Linnaeus, 1767) ¹	EV28: Bartne	9 Jul 2013: larvae and active feeding grounds in twigs of <i>Tilia cordata</i>	-
55.	<i>Aegomorphus clavipes</i> (Schrank, 1781) ¹	EV17: Blechnarka	27 Aug 2009	
			20 Aug 2010	
		EV17: Wysowa-Zdrój	13 Jun 2011	4 exx.
			12 Jul 2005	
56.	<i>Pogonocherus fasciculatus</i> (DeGeer, 1775) ¹	EV17: Wysowa-Zdrój	1 May 2014	1 ex.
57.	* <i>Pogonocherus hispidus</i> (Linnaeus, 1758)	EA10: Libusza	19 Apr 2014	
		EA20: Lipinki	21–30 Apr 2014	5 exx.
58.	* <i>Anaesthetis testacea</i> (Fabricius, 1781) ¹	EA10: Libusza	10 Jun 2013	
		EV39: Mrukowa	18 May 2013	2 exx.
59.	<i>Saperda carcharias</i> (Linnaeus, 1758) ¹	EV17: Wysowa-Zdrój	1 May 2014: feeding ground on young <i>Populus tremula</i>	-
60.	<i>Saperda perforata</i> (Pallas, 1773) ¹	EV17: Wysowa-Zdrój	25 Jun 2006	1 ex.
61.	<i>Saperda scalaris</i> (Linnaeus, 1758) ¹	EV28: Bartne	10 Jul 2013	
		EV29: Bednarka	22 Jul 2006	3 exx.
62.	<i>Stenostola dubia</i> (Laicharting, 1784)	EA10: Libusza	10 Jul 2007	1 ex.
63.	<i>Tetrops praeustus</i> (Linnaeus, 1758)	EA20: Lipinki	15 Jun 2013	
		EV39: Wola Dębowiecka	19 May 2013	3 exx.
64.	<i>Oberea oculata</i> (Linnaeus, 1758) ¹	EV17: Blechnarka	25 Jul 2011	
		EA10: Libusza	9 Aug 2008	3 exx.

No.	Species	Locality	Date	Number of specimens		
65.	<i>Oberea erythrocephala</i> (Schrank, 1776)	EA10: Libusza	10–16 Jun 2013	5 exx.		
		EA20: Lipinki	15 Jun 2013 14 Jul 2013			
		EV39: Nowy Żmigród	19 May 2013			
66.	<i>Phytoecia affinis</i> (Harrer, 1784) ¹	EV28: Bartne	10 Jun 2013 11 Jul 2013	13 exx.		
		EA10: Libusza	4 Jul 2004 14 Jul 2005 23 Jun 2012 15 May 2013			
		EV17: Wysowa-Zdrój	13 Jun 2011 17 May 2013			
		67. * <i>Phytoecia cylindrica</i> (Linnaeus, 1758)	EA20: Bednarka		16 May 2013	2 exx.
		68. * <i>Phytoecia nigricornis</i> (Fabricius, 1781)	EV29: Dobrynia		13 Apr 2013 16 May 2013 21 May 2014	7 exx.
69.	* <i>Agapanthia intermedia</i> Ganglbauer, 1884 ¹	EV39: Mrukowa	18 May 2013	3 exx.		
		EV39: Nowy Żmigród	19 May 2013			
70.	<i>Agapanthia villosoviridescens</i> (DeGeer, 1775) ¹	EA20: Bednarka	16 May 2013	14 exx.		
		EV17: Blechnarka	13 Jun 2011			
		EV29: Dobrynia	13 Jun 2013			
		EA10: Libusza	12 Jun 2006 3 Jun 2010 20 Jun 2012			
		EV17: Wysowa-Zdrój	8 Jul 2010 23 May 2011			

DISCUSSION

According to summarised literature data, 136 species (70% of the Polish fauna) of Cerambycidae are currently known from the Eastern Beskid Mountains (Trella 1925, Burakowski et al. 1990, Kubisz et al. 1991, Kubisz & Hilszczański 1992, Gutowski 1995, Sláma & Gutowski 1997, Trzeciak 2005, Gutowski et al. 2010, Olbrycht & Szewkienicz 2013, Olbrycht 2014). However, the occurrence of two species in this region: *Stenurella septempunctata* (Fabricius 1792) and *Stictoleptura fulva* (DeGeer, 1775) seems unlikely (Ziarko 1993, Gutowski 1995). The presence of 83 representatives of longhorn beetles has been documented only from the Low Beskids (Kubisz et al. 1991, Kubisz & Hilszczański 1992, Sláma & Gutowski 1997, Olbrycht & Szewkienicz 2013). However the recognition of *Anoplodera sexguttata* (Fabricius, 1775) as occurring in the Low Beskids from environs of the Gorlice, that is based on the record of Sulma (1931) seems to be doubtful. *A. sexguttata* is mainly lowland species, associated especially with oaks, while Gorlice city is located a few kilometers north of the border of this region. Therefore, it is more likely that this record refers to a locality from remaining part of the Eastern Beskid Mountains. Including the results of our study the number of cerambycids that have been recorded from this area has increased to 87 species. Furthermore, the number of recorded species is comparable to that of the neighbouring mountain regions. A total of 135 species has been reported in the Western Beskid Mountains (Burakowski et al. 1990, Gutowski 1995, Kozak 2009, Gutowski et al. 2011, Pietraszko & Warchałowski 2013) and 101 in the Bieszczady Mountains (Nowicki 1858, Śliwiński & Lessaer 1970, Burakowski et al. 1990, Gutowski 1995, Sláma & Gutowski 1997, Pawłowski et al. 2000, Holly 2007, Kozak 2010, Kurzawa 2012, Kurzawa et al. 2012, Olbrycht & Szewkienicz 2013).

In the Low Beskids, apart from the four new species, the rarest (published the first time by Olbrycht & Szewkienicz (2013)) species are: *Ropalopus macropus*, *Acanthocinus aedilis*, *Exocentrus lusitanus* and *Agapanthia intermedia*. It is noteworthy, that the following species, i.e. *Stenocorus meridianus*, *Evodinus clathratus*, *Nivellia sanguinosa* (Fig. 2), *Anoplodera rufipes*, *A. sexguttata*, *Tetropium gabrieli*, *Pogonocherus hispidus*, *Phytoecia cylindrica* and *Ph. nigricornis* were recorded in the Eastern Beskid Mountains only from single observations or have only been confirmed in recent years.



Fig. 2. Pupa and larval feeding grounds of *Nivellia sanguinosa* (Gyllenhal, 1827) in a *Padus avium* (Mill.) trunk. Photo by W.T. Szczepeński.

Moreover, some records seem to be particularly interesting as, for example, synanthropic *Hylotrupes bajulus* (which larvae live mainly in wooden elements of building constructions) on a pile of spruce fire-wood next to the forest, at least a few kilometers from the nearest buildings. Similarly, *Ph. cylindrica*, which usually inhabits open areas, mid-forest clearings and forest edges, was caught in the middle of the hornbeam forest during the sweep-netting of the undergrowth. The presence of *P. sanguineum* in an area, where there are no oaks within a few kilometers, is also noteworthy, because this species prefers oaks as a host plants, and only occasionally chooses other deciduous trees.

At present, the cerambycids' species composition of the Eastern Beskid Mountains and its neighbouring regions appear to be well investigated. However, it is likely that the occurrence of a several next species will be proven still, especially within the Low Beskids. For example, *A. rufipes* (which was found on the border of the Low Beskids), *Chlorophorus herbstii*, *P. hispidus* or *Ph. nigricornis*. Two very rare species in Poland – *Macroleptura thoracica* Creutzer, 1799 and *Stenopterus rufus* (Linnaeus, 1767) – were recently reported from the area of the Low Beskids (Olbrycht & Szewkienicz 2013). In our view, the appearance of central and south European species *S. rufus* in this region may be associated with recent climate changes, that affect many insect species (Tryjanowski et al. 2010).

Because of the physiographic and geobotanical distinction of the Low Beskids compared to the rest part of the Eastern Beskid Mountains, the authors deem the idea of recognizing this area as a separate zoogeographical region, similar to the one proposed by Tykarski (2011) (the Central Beskid Mountains as a subunit of Beskid Mts. and Foothills), to be reasonable. These differences are emphasized by results of our research, during which 38 species were recorded from only the Low Beskid and 14 only from the remaining part of the Eastern Beskid Mountains. This is also confirmed to a certain extent *inter alia* taking as an example species of the genus *Phytoecia* Mulsant, 1839: *affinis*, *cylindrica* and *nigricornis*. The first one is a species that commonly occurs in the mountains (e.g., the Bieszczady Mts.) and one that has been recorded on the strictly montane research plots. The two other species, which are certainly not considered to be mountain elements, have not been found in any of the Low Beskids locations, despite the more intense investigation of the research plots and regular inspections of the local meadows and undergrowth using the sweep-netting method. Two other species that are associated with the beech *Fagus* L. that appear to confirm this thesis are *Rosalia alpina* and *Stictoleptura tesseraula*. In our research, all records of these species are located in the Low Beskids or at its border.

ACKNOWLEDGEMENTS

We are grateful to Professor Adam Ślipiński (CSIRO, Canberra) and another anonymous reviewer for valuable comments and constructive suggestions. We also thank Dr Jolanta Wytwer (MIZ, Warszawa) for her comments and the editorial corrections which significantly improved the original version of our manuscript.

REFERENCES

- BURAKOWSKI B., MROCZKOWSKI M. & STEFAŃSKA J. 1990. Chrząszcze – Coleoptera. Cerambycidae i Bruchidae. Katalog Fauny Polski, PWN, Warszawa, 23 (15): 312 pp.
- GUTOWSKI J. M. 1995. Kózkowate (Coleoptera: Cerambycidae) wschodniej części Polski. Prace Instytutu Badawczego Leśnictwa, Ser. A, 811: 190 pp.
- GUTOWSKI J. M., HILSZCZAŃSKI J., KUBISZ D., MILKOWSKI M., MOKRZYCKI T., PLEWA R., PRZEWOŹNY M. & WELNICKI M. 2010. Distribution and host plants of *Leiopus nebulosus* (L.) and *L. linnei* Wallin, Nylander et Kvamme (Coleoptera: Cerambycidae) in Poland and neighbouring countries. Polskie Pismo Entomologiczne 79(3): 271–282.
- GUTOWSKI J. M., PIOTROWSKI W. & ROZWĄŁKA R. 2012. Kózkowate (Coleoptera: Cerambycidae) Poleskiego Parku Narodowego. Parki narodowe i Rezerваты Przyrody 31 (3): 31–50.
- GUTOWSKI J. M., ZIELIŃSKI S. & BIWO T. 2011. Longhorn beetles (Coleoptera: Cerambycidae) of Romincka Forest. Nature Journal, Opole Scientific Society 44: 145–171.
- HOLLY M. 2007. Nowe stanowiska rzadkich gatunków chrząszczy na terenie Bieszczadzkiego Parku Narodowego oraz w Bieszczadach Zachodnich. Roczniki Bieszczadzkie 15: 243–251.
- KONDRACKI J. 2013. Geografia regionalna Polski. Wydawnictwo Naukowe PWN, Warszawa, 440 pp.
- KOZAK B. 2009. Nowe stanowisko *Cortodera femorata* (Fabricius, 1787) (Coleoptera: Cerambycidae) w południowej Polsce. Wiadomości Entomologiczne 28 (4): 279–280.
- KOZAK B. 2010. Nowe stanowisko *Leiopus linnei* Wallin, Nylander et Kvamme, 2009 (Coleoptera: Cerambycidae) w Bieszczadach. Wiadomości Entomologiczne 29 (4): 299.
- KUBISZ D. & HILSZCZAŃSKI J. 1992. Fauna kózkowatych (Coleoptera, Cerambycidae) Beskidu Niskiego. Wiadomości Entomologiczne 11 (2): 73–79.
- KUBISZ D., STOLZMANN P. & GRABOWSKI G. 1991. Owady kambio- i ksylofagiczne rezerwatu „Modrzyna” na Przełęczy Dukielskiej (Beskid Niski). Parki Narodowe i Rezerваты Przyrody 10: 93–101.
- KURZAWA J. 2012. Distribution of *Rhaphuma gracilipes* (Faldermann, 1835) (Coleoptera: Cerambycidae) in Europe. Acta Entomologica Silesiana 20: 65–70.
- KURZAWA J., SZCZEPAŃSKI W. & SZCZEPAŃSKI W.T. 2012. Kózkowate (Coleoptera: Cerambycidae) masywu Chryszczatej w Bieszczadach. Acta Entomologica Silesiana 20: 55–64.
- LÖBL I. & SMETANA A. 2010. Catalogue of Palaearctic Coleoptera. Vol. 6: Chrysomeloidea. Apollo Books, Stenstrup, 335 pp.
- MAZUR S. 2001. Ryjkowce kserotermiczne Polski: (Coleoptera: Nemonichidae, Attelabidae, Apionidae, Curculionidae). Studium zoogeograficzne. Monografie Fauny Polski 22: 1–378.
- OLBRYCHT T. 2014. Kózkowate (Coleoptera: Cerambycidae) obszaru Natura 2000 „Patria nad Odrzechową”. Roczniki Bieszczadzkie 22: 321–327.

- OLBRYCHT T. & SZEWKIENICZ A. 2013. Kózkowate Coleoptera, Cerambycidae nowe dla Bieszczadów i Beskidu Niskiego. *Roczniki Bieszczadzkie* 21: 375–380.
- PAWŁOWSKI J., PETRYSAK B., KUBISZ D. & SZWALKO P. 2000. Chrząszcze (Coleoptera) Bieszczadów Zachodnich. *Monografie Bieszczadzkie* 8: 9–143.
- PIETRASZKO M. & WARCHAŁOWSKI M. 2013. Pierwsze odkryte ślady żerowania larw *Cerambyx cerdo* (Linnaeus, 1753) (Coleoptera: Cerambycidae) w Beskidzie Żywieckim. *Wiadomości Entomologiczne* 32 (2): 153–154.
- NOWICKI M. 1858. Coleopterologisches über Ostgalizien. *Schulnachrichten Jahres-Bericht des Kaiserl. Künigl. Ober-Gymnasiums zu Sambor für das Schuljahr 1858*: 1–24.
- SLÁMA M. E. F. & GUTOWSKI J. M. 1997. *Xylotrechus capricornis* (Gebler, 1830) (Coleoptera: Cerambycidae) – gatunek nowy dla polskiej i czeskiej fauny. *Wiadomości Entomologiczne* 16 (2): 83–97.
- SULMA M. 1931. Notatki o Cerambycidach Polski. I. *Polskie Pismo Entomologiczne*, Lwów, 10: 141–143.
- ŠVÁCHA P. & LAWRENCE J. F. 2014. 2.4. Cerambycidae Latreille, 1802, pp. 77–177. [In:] LESCHEN R. A. B. & BEUTEL R. G. (eds.): *Handbook of Zoology, Arthropoda: Insecta; Coleoptera, Beetles, Volume 3: Morphology and systematics (Phytophaga)*. Walter de Gruyter, Berlin/Boston.
- ŚLIWIŃSKI Z. & LESSAER M. 1970. Materiały do poznania kózek Polski (Coleoptera, Cerambycidae) ze szczególnym uwzględnieniem Bieszczadów Zachodnich. *Roczniki Muzeum Górnoląskiego (Przyroda)*, Bytom 5: 77–127.
- TASZAKOWSKI A. 2012. Łądowe pluskwiaki różnoskrzydłe (Hemiptera: Heteroptera) doliny górnej Ropy. *Acta entomologica Silesiana* 20: 37–54.
- TRELLA T. 1925. Wykaz chrząszczy okolic Przemyśla. Elateridae – Sprzązki, Eucnemidae – Goleńczyki, Cerambycidae – Kózki. *Polskie Pismo Entomologiczne* 4: 92–96.
- TRYJANOWSKI P., PAWLIKOWSKI T., PAWLIKOWSKI K., BANASZAK-CIBICKA W. & SPARKS T. H. 2010. Does climate influence phenological trends in social wasps (Hymenoptera: Vespinae) in Poland? *European Journal of Entomology* 107: 203–208.
- TRZECIAK A. 2005. Nowe stanowisko *Axinopalpis gracilis* (Krynicky, 1832) (Coleoptera: Cerambycidae) w Polsce. *Wiadomości Entomologiczne* 24 (1): 53.
- TYKARSKI P. 2011. Towards redefining the regional division of Poland for faunistic studies. *Polish Journal of Entomology* 80: 155–183.
- ZIARKO S. 1993. Weryfikacja niektórych błędnych danych dotyczących Cerambycidae (Coleoptera), zawartych w „Katalogu Fauny Polski”. *Wiadomości Entomologiczne* 12 (1): 15–17.
- ZIELIŃSKI S. 2004. Kózkowate (Coleoptera: Cerambycidae) Lasów Mirachowskich na Pojezierzu Kaszubskim. *Roczniki Naukowe Polskiego Towarzystwa Ochrony Przyrody „Salamandra”* 8: 49–104.

STRESZCZENIE

[Nowe dane o występowaniu kózkowatych (Coleoptera: Cerambycidae) na terenie Beskidu Wschodniego (Polska)]

Niniejsza praca prezentuje wyniki badań nad różnorodnością kózkowatych (Coleoptera: Cerambycidae), przeprowadzonych w latach 2004–2014 na terenie Beskidu Wschodniego. Podsumowane zostały również dane literaturowe dotyczące występowania Cerambycidae w Beskidzie Wschodnim (z wyszczególnieniem Beskidu Niskiego), Beskidzie Zachodnim oraz w Bieszczadach. Przedstawiono nowe informacje o występowaniu 70 gatunków z omawianej rodziny chrząszczy, w tym 56 z obszaru Beskidu Niskiego, dla którego podano również 4 nowe gatunki: *Pachyta quadrimaculata*, *Leptura annularis*, *Pyrrhidium sanguineum* oraz *Pogonocherus fasciculatus*. Łącznie z nowymi danymi liczba stwierdzonych kózkowatych wynosi: w Beskidzie Wschodnim – 136 gatunków, w samym Beskidzie Niskim – 87 gatunków, w Beskidzie Zachodnim – 135 oraz w Bieszczadach – 101 gatunków. Potwierdzono również obecność kilku rzadko obserwowanych w tej części Polski gatunków: *Stenocorus meridianus*, *Evodinus clathratus*, *Nivellia sanguinosa*, *Anoplodera rufipes*, *A. sexguttata*, *Tetropium gabrieli*, *Acanthocinus aedilis*, *Exocentrus lusitanus*, *Pogonocherus hispidus*, *Phytoecia cylindrica*, *Ph. nigricornis* oraz *Agapanthia intermedia*. Odrębność Beskidu Niskiego jako jednostki zoogeograficznej sugerują liczne różnice w faunie kózkowatych tego obszaru i pozostałej części Beskidu Wschodniego.

Accepted: 29 September 2015