

## Ants (Hymenoptera, Formicidae) new for Eastern Beskidy Mountains

ARTUR TASZAKOWSKI<sup>1</sup>, NATALIA KASZYCA<sup>2</sup>, ANGELINA KUBUSIAK<sup>3</sup>, ŁUKASZ DEPA<sup>4</sup>

<sup>1,2,3,4</sup>Department of Zoology, Faculty of Biology and Environmental Protection

University of Silesia, Bankowa 9, 40-007 Katowice, Poland

<sup>2,3</sup>Students' Scientific Association of Zoologists 'Faunaticy'

e-mail: <sup>1</sup> atszakowski@us.edu.pl, <sup>2</sup> nkaszyca@us.edu.pl, <sup>3</sup> akubusiak@us.edu.pl, <sup>4</sup> lukasz.depa@us.edu.pl

### ABSTRACT. Ants (Hymenoptera, Formicidae) new for Eastern Beskidy Mountains.

The paper presents collection data of 5 ant species: *T. corticalis* (SCHENCK), *L. acervorum* (FABR.), *L. brunneus* (LATR.), *L. platythorax* SEIFERT, and *L. sabularum* (BONDROIT) which are recorded in the Eastern Beskidy Mountains for the first time. The site of *L. sabularum* is the second record of this species in Poland.

KEY WORDS: ants, faunistics, Eastern Beskidy Mountains, new records.

### INTRODUCTION

There are 103 species of ants recorded in Poland, 97 occurring outdoors and 6 occurring indoors (CZECHOWSKI et al. 2012). The state of knowledge of ant fauna of Poland is heterogeneous, and among the zoogeographical regions of Poland, Eastern Beskidy Mountains are one of the least studied. In the Eastern Beskidy Mountains there are only 34 ant species recorded, all of them occurring outdoors. The aim of this study was to implement our knowledge on the species composition of ants (Hymenoptera, Formicidae) in this region.

### STUDY AREA AND METHODS

The area of the research was Eastern Beskidy Mountains (the division of Poland into geographical regions has been adopted, with some simplifications, after CZECHOWSKI et al. 2012). It is a large zoogeographical region in South Eastern Poland. To the west it borders with Western Beskidy Mountains, to north with Sandomierska Lowland, eastern edge is limited by Polish-Ukrainian border, and on south it borders with Bieszczady Mountains and Slovakia. The material has been collected in 7 (10 x 10 km) squares of UTM grid: EV17, EV19, EV29, EV39, EA10, EA20, EA30. The studied UTM grids border with each other constituting single area and are located in three mesoregions (after KONDRACKI, 2013): Lower Beskidy Mountains, Jasło Upland and Gorlice Lowland.

Geographical region of the Eastern Beskidy Mountains is a very interesting territory of Poland due to its relatively low altitude and many mountain passes enabling migration of species from the Pannonian Basin (MAZUR 2001, TASZAKOWSKI 2012). And yet, it is one of the most poorly studied regions of Poland. The study was carried out during the 2013 growing season, in various habitats, comprising: deciduous forests with beech and hornbeam, xerothermic grasslands, meadows and pastures. The research was carried out

with application of entomological net and by detailed searching of studied habitats. Both singleton workers as well as series from whole nests were collected.

The specimen of *T. corticalis* and part of the material of *L. sabularum* and *L. acervorum* are deposited in the collection of Museum and Institute of Zoology, Polish Academy of Sciences. Other specimens are deposited in the collection of Zoology Department of the University of Silesia.

## REVIEW OF SPECIES NEW TO THE REGION

The following species, recorded during the research, are new for the territory of Eastern Beskidy Mountains:

### *Temnothorax corticalis* (SCHENCK, 1852)

An Euro-Caucasian species present in southern and central Europe, the central part of East Europe, southern Sweden, the Caucasus and Algeria; everywhere rare. In Poland rare, found only in xerothermic (or nearly xerothermic) sites; known mainly from southern regions, locally common in urban habitats of Lower Silesia (BOROWIEC 2009). Biology: a little known and rare arboreal species; it seems to be a thermophilic and quite xerophilic stenotope of dry deciduous forests; met also in mixed wood (CZECHOWSKI et al. 2012).

EV39: Dobrynia, xerothermic shrubs, 16 V 2013 – 1 ex. A single worker was caught with the entomological net.

### *Leptothorax acervorum* (FABRICIUS, 1793)

A Boreo-montane species occurring in the boreal zone of the Palaearctic from the Atlantic Ocean to Japan, and in the mountains of southern Europe, the Caucasus, the Tien-Shan and Pamir. Occurs also in North America. In Poland common throughout the country. Eastern Beskidy Mountains was the last region where it has not been recorded yet (CZECHOWSKI et al. 2012).

EV29: Bartne, xerothermic pasture, 09 VII 2013 – 6 exx. A colony was found on the top of a sun exposed hill, on pasture with low, xerothermic vegetation, in soil, under a small stone.

### *Lasius brunneus* (LATREILLE, 1798)

An Euro-Caucasian species present in Europe (in the north it reaches southern England, Sweden and Norway, and in the eastern part its distribution extends north to the southern border of the taiga zone), the Caucasus, Asia Minor, north-west Iran and Israel. In Poland probably throughout the country (so far not recorded in Eastern Sudety Mountains and Tatra mountains) (CZECHOWSKI et al. 2012).

EV19: Rozdziele, 01 V 2013 – 2 exx, EV17: Wysowa, 17 V 2013 – 1 ex, 24 VII 2013 – 8 exx, EA10: Libusza, 23 X 2013 – 7 exx, EV29: Bartne, 10 VII 2013 – 3 exx. Bednarka, 20 X 2013 – 4 exx. A common species found throughout the study area, having its nests at tree bases and under the bark, where it was usually located, attending aphids of the genus *Stomaphis*, which is typical for this species (DEPA 2012, 2013).

### *Lasius platythorax* SEIFERT, 1991

A north Palaearctic species; after being distinguished from the *Lasius niger* the actual ranges of these two species, especially in the eastern parts of the Palaearctic, still remain to be specified. The easternmost confirmed site of *L. platythorax* is in the Transbaikal region (East Siberia). Records of *L. platythorax* in Poland, owing to its relatively recent separation from *L. niger*, are

mostly based on museum specimens (CZECZOWSKI et al. 2012).

EV29: Bartne, 09 VII 2013 – 1 ex; EV17: Blechnarka, 11 VIII 2013 – 1 ex; EA10: Libusza, 30 IV 2013 – 1 ex; EV19: Rozdziele, 01 V 2013 – 2 exx; EV39: Dobrynia, 16 V 2013 – 1 ex; EA30: Wola Dębowiecka, 18 V 2013 – 1 ex; EV39: vicinity of Nowy Żmigród, 19 V 2013 – 1 ex; EA20: Lipinki, 14 VII 2013 – 7 exx. Colonies of this species were usually located in decaying wood and branches.

### *Lasius sabularum* (BONDROIT, 1918)

A West-European species known from northern, central and southern Europe. In Poland so far known only from single site localised in Lower Silesia (BOROWIEC, 2011), although recently found also in Stołowe Mountains (Sebastian Salata, pers. comm.). An oligotope of wooded deciduous habitats. Nests in the soil, under stones and in suburban habitats. Temporal social parasite of *Lasius* (*Lasius*) species, predominately *L. niger* (CZECZOWSKI et al. 2012).

EV29: Bartne, 09 VII 2013 – 7 exx. A colony was located under the stone, at the edge of the mountain meadow and mixed forest, on the slope exposed to the north-east at an altitude of 600 m a.s.l. The distribution of this species in Poland is presented in Figure 1.



Fig. 1. The distribution map of *L. sabularum* in Poland (filled circle – first record (BOROWIEC, 2011), blank circle – a new record).

Ryc. 1. Mapa rozmieszczenia *L. sabularum* w Polsce (koło z wypełnieniem – pierwsze stwierdzenie (BOROWIEC, 2011), koło bez wypełnienia – nowe stwierdzenie).

## ACKNOWLEDGEMENTS

We would like to express our gratitude to Prof. A. Radchenko, Prof. W. Czechowski and M.Sc. H. Babik for help in identification of collected specimens.

The research was partly funded by the subsidy for students' scientific research granted by the URSS of University of Silesia (decision no. 2013/1).

## REFERENCES

- BOROWIEC M. L. 2009. Nowe dane o rozmieszczeniu mrówek (Hymenoptera: Formicidae) z plemienia Formicoxenini w Polsce. *Wiadomości Entomologiczne* 28(4): 237–246.
- BOROWIEC M. L. 2011. First records of *Lasius sabularum* (BONDROIT, 1918) in Poland (Hymenoptera: Formicidae). *Myrmecological News* 14: 137–140.
- CZECHOWSKI W., RADCHENKO A., CZECHOWSKA W., VEPSÄLÄINEN K. 2012. The ants of Poland with reference to the myrmecofauna of Europe. *Fauna Poloniae* Vol. 4: 496 pp.
- DEPA Ł. 2012. Abundance of *Stomaphis graffii* CHOŁOD. (Hemiptera) on maple trees in Poland. *Central European Journal of Biology* 7: 284–287.
- DEPA Ł. 2013. Life cycle of maple-tree aphid *Stomaphis graffii* CHOŁODKOVSKY, 1894 (Hemiptera, Aphididae). *Animal Biology* 63: 313–320.
- KONDRACKI J. 2013. Geografia regionalna Polski. PWN. Warszawa: 441 pp.
- MAZUR S. 2001. Ryjkowce kserotermiczne Polski: (Coleoptera: Nemonichidae, Attelabidae, Apionidae, Curculionidae). Studium zoogeograficzne. *Monografie Fauny Polski* 22: 1–378.
- TASZAKOWSKI A. 2012. Łądowe pluskwiaki różnoskrzydłe (Hemiptera: Heteroptera) doliny górnej Ropy. *Acta entomologica silesiana* 20: 37–54.

## STRESZCZENIE

**Mrówki (Hymenoptera, Formicidae) nowe dla Beskidu Wschodniego**

Praca przedstawia dane o rozmieszczeniu pięciu gatunków mrówek nowych dla Beskidu Wschodniego. Po raz pierwszy w tym regionie odnotowano obecność: *Temnothorax corticalis* (SCHENCK, 1852), *Leptothonax acervorum* (FABRICIUS, 1793), *Lasius brunneus* (LATREILLE, 1798), *Lasius platythorax* SEIFERT, 1991 i *Lasius sabularum* (BONDROIT, 1918). W przypadku ostatniego gatunku jest to drugie stanowisko w Polsce.