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Lasius (Austrolasius) carniolicus MAYR, 1861, species new to the
Polish fauna
(Hymenoptera: Formicidae)

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ABSTRACT. *Lasius (Austrolasius) carniolicus* MAYR, 1861 was collected in south-west Poland, Dolny Śląsk (Lower Silesia) region, Ślezański Park Krajobrazowy, Chwałków. The ants were caught in the sandy spoil heap located around a flooded quarry. It is the first record of this subgenus and species from Poland, bringing the total count of native ant species to 98.

Key words: entomology, zoogeography, Formicidae, *Lasius carniolicus*, Poland.

INTRODUCTION

Lasius (Austrolasius) carniolicus MAYR, 1861 is a temporary social parasite of *Lasius (Cautolasius) flavus* (FABRICIUS, 1782), *Lasius* (s. str.) *piliferus* SEIFERT, 1992 and probably also other species of *Lasius alienus* group (BUSCHINGER & SEIFERT 1997, SEIFERT 2007). Together with *Lasius reginae* FABER, 1967 it forms the subgenus *Austrolasius* FABER, 1967. Although these ants are superficially similar to other *Lasius* parasites in the subgenus *Chthonolasius*, the most recent phylogeny data shows that they are most closely related to the Nearctic subgenus *Acanthomyops* (MARUYAMA & al. 2008). *Austrolasius* species have characteristically small gynes, not or only slightly larger than workers, and physogastric queens (FABER 1967).

Lasius carniolicus is widespread, recorded from most of Europe (Austria; Bulgaria; Croatia; Estonia; France: mainland; Germany; Greece; Hungary; Italy: mainland, Sardinia; Macedonia; Netherlands; Norway; Russia; Serbia; Slovenia; Spain: mainland; Sweden; Switzerland; Ukraine), Central Asia and eastern China (FABER 1967, L. BOROWIEC in prep.). It was reported from Poland by WILSON (1955) but according to PISARSKI

(1975) the record was based on misinterpretation of label locality “Mosor” placed, in fact, in Croatia (it is not the same locality as “Mostar” in Bosnia and Hercegovina as was suggested by PISARSKI; Mosor is a small mountain massif close to a well known tourist town Split). Despite to the broad distribution range, *L. carniolicus* usually has been regarded a rare species. SEIFERT (2007) recorded it as the most rarely collected *Lasius* species in Germany.



1, 2. *Lasius carniolicus* MAYR, 1861: 1 – body in lateral view, 2 – body in dorsal view



3, 4. *Lasius carnolicus* MAYR, 1861: 3 – lateral view focusing on petiole, 4 – head in full-face view

Little is known about the biology of *L. carniolicus*. SEIFERT (2007) noted that in Central Europe the species prefers limestone and sandy habitats with dry coniferous forests and meadows with sparse and short grasses. Gynes and males overwinter in nests as imagines and fly in May. In four nests collected in August in southern France,



5. Collecting site of *Lasius carniolicus* MAYR, 1861 in Chwałków

the number of individuals varied from 48 to 265 gynes, 1 to 21 males, and 105 to 358 workers (BUSCHINGER & SEIFERT 1997).

RESULTS

Poland, Dolny Śląsk (Lower Silesia), Masyw Ślęży, Chwałków, 50°53' N/16°41' E, 3 VIII 2011, 10 workers, leg. S. Salata (preserved in the collection of the Department of Biodiversity and Evolutionary Taxonomy, University of Wrocław; two specimens in the collection of the Museum and Institute of Zoology, Polish Academy of Sciences, Warsaw). The ants were caught in a sandy spoil-heap surrounding a flooded quarry (Fig. 5).

The site is located in the Ślężański Park Krajobrazowy (Landscape Nature Park), in its north-western part. The landscape park was created to protect a mountain massif surrounded by a typically lowland landscape, with the highest peaks Ślęża (718 m a.s.l.) and Radunia (573 m a.s.l.). In this area artificial coniferous forests with partially mixed and oak forests predominate, with small areas of humid meadows and sandy places. The landscape park has several old quarries of various types of rock: granite, quartzite, feldspar, serpentine marble and nephrite, harboring interesting ant faunas (SALATA in prep.).

Lasius carniolicus distinctly differs from all Polish yellow *Lasius* species of the subgenera *Chthonolasius* RUZSKY, 1912 and *Cautolasius* WILSON, 1955 in shape of the petiole, which is low and stout in profile, rounded on top, without sharp surrounding carina (Fig. 3), while in members of the other subgenera the petiole is higher, narrowing from base to the top and thus in profile appearing acute and surrounded by a more or less developed carina. Head in full-face view in *L. carniolicus* is more rounded than in both *Chthonolasius* and *Cautolasius* with well marked bulging genae (Fig. 4), while in members of the two other subgenera the head below eyes is not or only very slightly bulging and distinctly narrowed to clypeal part. *Lasius reginae* FABER, 1967, the second member of the subgenus *Austrolasius* FABER, recorded from Austria, Czech Rep., Germany, Serbia, Slovakia, Slovenia, Switzerland, and Turkey is very similar to *L. carniolicus* but differs in sparser chaetotaxy with 7-11 long setae on the top of head (12-34 in *L. carniolicus*), completely adherent vestiture on scapus (semierect in *L. carniolicus*) and femora without erect setae (with few to several erect setae in *L. carniolicus*).

DISCUSSION

The presence of *Lasius carniolicus* in Poland in the light of the known distribution range is not surprising, as it has been recorded from neighbouring countries: Germany and Ukraine, and from countries north of the Polish borders: Estonia, Norway and Sweden. Also the habitat where the species was found in Poland, open sandy places, conforms to the existing data of habitat preferences. From the species recorded or listed as potential hosts of *Lasius carniolicus*, only *Lasius flavus* and *Lasius paralienus* SEIFERT, 1992 were collected in this locality. The former species is very common in Poland, the latter appears to be rare (CZECHOWSKI & al. 2002).

With this paper the total number of ant species recorded from Poland is raised to 98 native species (105 including invasive and tramp species). Although the myrmecofauna of Poland is relatively well studied (CZECHOWSKI & al. 2002), new species were reported from its territory recently (RADCHENKO & al. 2003, 2004, 2005, M.L. BOROWIEC 2007, 2011). Furthermore, as compared to neighbouring countries e.g. Germany or Czech Republic, there are still many gaps in our knowledge of most species' distributions within the country (CZECHOWSKI & al. 2002, SEIFERT 2007, WERNER & WIEZIK 2007). Judging from the distribution of many species in Central Europe (SEIFERT 2007) it is very likely that additional species may be present in the country. Further collecting efforts are needed to improve the knowledge of ant faunistics in Poland.

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