

JAN KRZYSZTOF KOWALCZYK¹ & KATARZYNA SZCZEPKO²

¹ Natural Science History Museum, University of Łódź, 101 Kilińskiego Str., 90-011 Łódź, Poland

² Department of Didactics in Biology and Biodiversity Studies, University of Łódź, 1/3 Banacha Str., 90-237 Łódź, Poland, e-mail: kawa@biol.uni.lodz.pl

CONTRIBUTION TO THE KNOWLEDGE OF ACULEATA (HYMENOPTERA) OF ŁÓDZKIE VOIVODESHIP

Abstract: The paper presents new distribution records of 135 species of nine families of *Aculeata* (*Chrysididae*, *Scoliidae*, *Tiphidae*, *Mutillidae*, *Sapygidae*, *Eumenidae*, *Vespidae*, *Sphecidae*) in łódzkie voivodeship.

Key words: *Aculeata*, list of species, new records, łódzkie voivodeship

1. INTRODUCTION

The first list of *Aculeata* of the area of łódzkie voivodeship in the present administrative borders referring to Łowicz and adjacent area was published by DROGOSZEWSKI (1932, 1934). The following studies were focused mainly on the city of Łódź and its surroundings (e.g. PARRÉ 1950, KOWALCZYK 1988a, b, 1991).

The main task of this paper is to present the new records of *Aculeata* from łódzkie voivodeship.

2. MATERIALS AND METHODS

The nomenclature of *Aculeata* is based on the RAZOWSKI (1997). Categories of threats are accepted after GŁOWACIŃSKI (2002), GŁOWACIŃSKI and NOWACKI (2004). The division of Poland into faunistic regions is of „The catalogue of the Polish fauna”. The list of localities with the UTM co-ordinates and the name of regions are located below. The localities are arranged alphabetically within the regions.

Mazovian Lowland: Bełchów (DC36), Głowno (DC15), Łowicz (DC27), at Okręt Lake (DC26), Nowy Kozłów (DC48), Płyćwia (DC35), Babsk Reserve (DC54), Bażantarnia Reserve (DC35), Źródła Borówki Reserve (DC25), Uroczysko Rawski Las (DC43), Zwierzyniec Królewski (DC35).

Małopolska Upland: Bronisławów (DC20) (Sulejowski Landscape Park), Brzeziny (DC13), Budziszewice (DC22), Ciosny-Sady (CC95), Dobieszków (DC04) (PKWŁ), Gałków (DC13), Grocholice (CB88), Grotniki (CC85), Hulanka (DC03), Jasień (CC72), Justynów (DC03), Kraszew (DC02), Łódź: Arturówek (CC94), Łódź: Ewangelicki Cmentary (CC93), Łódź: Łagiewniki (CC94), Łódź: at Bzura river (CC94), Łódź: Park 3-Maja (CC93), Łódź: Park Mickiewicza (CC93), Łódź: Park Poniatowskiego (CC93) Łódź: Park Sienkiewicza (CC93), Łódź: Park Zaruskiego (=Krasickiego) (CC93), Łódź: Park Źródlika (CC93), Łódź: Ruda Pabianicka (CC92), Łódź: Okólna st. (CC94), Mikołajów (DC23), Mogilno (CC71), Nagórzyce (DC20) (Sulejowski Landscape Park), Pytowice (CB97), Rąbień (CC84), Reserve Dąbrowa Grotnicka (CC85), Lubiaszów Reserve (DC20) (Sulejowski Landscape Park), Łaznów Reserve (=Rokiciny) (DC12), Niebieskie Źródła Reserve (DC30) (Sulejowski Landscape Park), Popień Reserve (DC23), Wiączyń Reserve (DC03), Ręczno (DB17) (Sulejowski Landscape Park), Rochna (DC13), Rogów (DC24), Rokitnica (CC71), Rzgów (CC92), Słotwiny (DC23), Smardzew (CC94), Sulejów (DB18) (Sulejowski Landscape Park), Sulejów-Podklasztorze (DB29) (Sulejowski Landscape Park), Szarbsko (DB28) (Sulejowski Landscape Park), Szykielów (CB49) (Landscape Park of Warta and Widawka Rivers), Woźniki (CB86), Wykno (DC22), Wymysłów (CC72), Zalesiczki (CB86), Żelów (CC70), Zielona Góra (DC03).

Wielkopolska-Kujawy Lowland: Burzenin (Charława) (CC50) (Landscape Park of Warta and Widawka Rivers), Byszew (CC88), Daszyna (CC78), Łęczycza-Tum (CC76), Łęczycza (CC76), Małków (CC32), Młogoszyn (CC33), Jeziorsko Reserve (CC33), Winnica Reserve (CC40) (Landscape Park of Warta and Widawka Rivers), Siemienice (CC97), Uniejów (CC45).

Kraków-Wieluń Upland: Działoszyn (CB56).

The information on particular species is given in the following way: site, data, number of specimens, sex and the name of collectors. If not marked differently, the specimens were collected by Jan K. Kowalczyk, first names and surnames of other collectors were abbreviated to the first letters: (AZ) – Anna Zborowska, (BS) – Bogusław Soszyński, (CW) – Cezary Watała, (EA) – Ewa Ambrozik, (ES) – Elżbieta Szczepańska, (JK) – Jacek Kurzawa, (JKk) – Jacek Krawczyk, (JS) – Janusz Sawoniewicz, (MM) – Maciej Mastalerz, (MMm) – Marek Michalski, (MK) – Maciej Krzeptowski, (MKk) – Michał Kowalczyk, (MW) – Marek Wanat, (RS) – Romuald Szmaja, (TK) – Tadeusz Kurzac, (ZM) – Zdzisława Myślicka.

We would like to thank all colleagues mentioned above for rendering materials accessible. All specimens are housed in collection of Jan K. Kowalczyk.

3. RESULTS

* The UTM co-ordinates of localities and the name of regions are located in Materials and methods.

Chrysididae

Cleptes pallipes (Lepeletier, 1806)

Małków (at Warta river), 10 VI 1984, 1ex, (MW)*.

First printed record from łódzkie voivodeship: PARRÉ (1950).

Hedychridium ardens (Coquebert, 1801)

Justynów (grassland), 28 VI 1990, 1ex; Mikołajów (rail station), 29 VII 1992, 1ex, (EA); Szyndkielów (sand dune), 14 VII 1992, 1ex, 22 VII 1992, 3exx; Płyćwia (cart-road), 8 VI 1993, 1ex.

First printed record from łódzkie voivodeship: PARRÉ (1950).

Hedychridium coriaceum (Dahlbom, 1854)

Justynów (grassland), 28 VI 1990, 1ex; Smardzew (cart-road), 13 VIII 1990, 3exx; Mikołajów (rail station), 13 VII 1992, 4exx, (EA); Winnica Res., 14 VII 1992, 1ex.

First printed record from łódzkie voivodeship: PARRÉ (1950).

Hedychrum gerstaeckeri (Chevrier, 1869)

Justynów (grassland), 27 VI 1990, 2♂♂; 28 VI 1990, ♀; Smardzew (cart-road), 13 VIII 1990, 2♀♀; Budziszewice, 18 VI 1996, ♂, (MM); Mikołajów (rail station), 30 VII 1992, ♀; Szyndkielów (sand dune), 14 VII 1992, 2♂♂; Płyćwia (cart-road), 8 VI 1993, ♀ and 2♂♂; Brzeziny (sand-pit), 30 VII 1987, ♀.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

Hedychrum nobile (Scopoli, 1763)

Justynów (grassland), 27 VI 1990, 3♀♀ and 4♂♂; 28 VI 1990, 4♀♀ and 4♂♂; Zalesiczki, 6 VII 1989, ♀ (AZ); Mikołajów (rail station), 29 VII 1992, 1ex, (EA); Szyndkielów (sand dune), 14 VII 1992, 3♀♀; Płyćwia (cart-road), 8 VI 1993, ♀ and 2♂♂.

First printed record from łódzkie voivodeship: PARRÉ (1950).

Hedychrum rutilans (Dahlbom, 1854)

Mikołajów (rail station), 30 VII 1992, ♀; Grotniki (railway area), 30 VII 1993, ♂; Nowy Kozłów (at Bzura river), 4 VII 1994, ♀

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

Holopyga amoenula (Dahlbom, 1854)

Ciosny-Sady (source), 12 VI 1996, 3exx; Budziszewice, 18 VI 1996, 1ex, (MM); Budziszewice, 6 VI 1993, 1ex, (MM), 25 VII 2004, 1ex, (MM), 18 VII 1993, 2exx, (MM); Mikołajów (rail station), 10 VII 1992, 1ex, (EA); Winnica Res., 22 VII 1992, 1ex; Płyćwia (cart-road), 8 VI 1993, 1ex.

First printed record from łódzkie voivodeship: SKIBIŃSKA (1982).

Holopyga chrysonota (Förster, 1853)

Ciosny-Sady (source), 12 VI 1996, 5exx.

First printed record from łódzkie voivodeship: KOWALCZYK (1988c).

Omalus aeneus (Fabricius, 1787)

Rogów (arboretum), 29 VIII 1989, 1ex.

First printed record from łódzkie voivodeship: KOWALCZYK (1988b).

Pseudomalus auratus (Linnaeus, 1758)

Słotwiny (rail station), 27 VII 1992, 1ex, (EA).

First printed record from łódzkie voivodeship: KOWALCZYK (1988b).

Pseudomalus pusillus (Fabricius, 1804)

Małków (at Warta river), 10 VI 1984, 3ex, (MW).

First printed record from łódzkie voivodeship: SKIBIŃSKA (1982).

Trichrisis cyanea (Linnaeus, 1758)

Smardzew (alder forest), 2 VI 1990, 1ex; Uniejów (park), 25 VIII 2003, 1ex; Zalesiczki, 24 VII 1988, 1ex, (AZ); Woźniki (at trunk), 23 VII 1988, (AZ); Mikołajów (rail station), 23 V 1992, 1ex, 30 VII, ♀; Winnica Res., 24 V 1992, ♀, 29 V 1992, ♀, 14 VII 1992, 1ex; Szynkielów (sand dune), 2 VI 1992, 1♀; Słotwiny (rail station), 23 V 1992, ♂, 30 VII 1992, ♀; Dąbrowa Grotnicka Res., 26 VII 1993, ♀; Wykno (rail station), 23 V 1992, ♀; Popień Res., 7 VI 1994, 1ex.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Chrysis bicolor (Lepeletier, 1806)

Ciosny-Sady (source), 12 VI 1996, 3exx.

First printed record from łódzkie voivodeship: KOWALCZYK (1995).

Chrysis fulgida (Linnaeus, 1761)

Smardzew (alder forest), 2 VI 1990, 2♂♂; Budziszewice, 24 VI 1996, ♀, (MM); Byszew (linden-oak-hornbeam forest), 1 VII 1988, 1ex, (RS); Zalesiczki, 24 VII 1988, 1ex, (AZ); Ur. Rawski Las, 15 VII 1988, ♀, (ES), Mikołajów (rail station), 13 VII 1992, ♂, (EA), 29 VII 1992, ♂, (EA); at Okręt Lake, 4 VII 1994, ♀.

First printed record from łódzkie voivodeship: KOWALCZYK (1988b).

Chrysis ignita (Linnaeus, 1758)

Smardzew (alder forest), 2 VI 1990, 12exx; (alder forest), 13 VIII 1990, 2exx; Kraszew (on wooden fence), 14 VI 1990, 1ex; Bażantarnia Res., 29 V 1996, ♀; Budziszewice, 18 VI 1996, ♀, (MM); Byszew (linden-oak-hornbeam forest), 1 VII 1988, 1ex, (RS); Zalesiczki, 22 VII 1988, 5exx, (AZ); Ur. Rawski Las, 8 VII 1988, 1ex, (ES); Babsk Res., 4 VII 1987, (ES); at Okręt Lake, 4 VII 1994, 4♀♀.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Chrysis longula (Abeille, 1879)

Źródła Borówki Res., 29 V 1996, ♀; Popień Res., 7 VI 1994, 1ex.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Pseudospinolia neglecta (Shuckard, 1836)

Słotwiny (rail station), 3 VI 1992, 2exx, (EA).

First printed record from łódzkie voivodeship: SKIBIŃSKA (1982).

*Scoliidae**Scolia quadripunctata* (Fabricius, 1775)

Sulejów (quarry), 21 VII 1976, ♀, (BS).

First printed record from łódzkie voivodeship: KOWALCZYK, KURZAC (2002).

*Tiphidae**Tiphia femorata* (Fabricius, 1775)

Zalesiczki, 26 VII 1989, ♀, (AZ); Słotwiny (rail station), 29 VI 1992, ♂, (EA).

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Tiphia ruficornis (Klug, 1810)

Byszew (edge of forest), 1 VIII 1988, (RS); Słotwiny (rail station), 10 VII 1992, 2♀♀, (EA).

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

*Mutillidae**Myrmosa atra* (Panzer, 1801)

Babsk Res., 11 VII 1987, ♂; Dąbrowa Grotnicka Res., 26 VII 1993, ♂; Rogów, 20 VII 1988, ♀, (JS).

First printed record from łódzkie voivodeship: KOWALCZYK (1988b).

Mutilla marginata (Baer, 1848)

Rokiciny Res. (fir-tree forest), 31 V 1991, ♀, (JS); Gałków (forest-road), 20 VI 1990, ♂; Justynów (grassland), 27 VI 1990, ♂; Budziszewice, 22 VII 1994, ♀, 23 VII 1994, ♀, 20 VII 1994, ♀, 10 VII 1995, 3♀♀, 6 VIII 1995, ♂, (MM); Słotwiny (rail station), 22 VI 1992, ♀, (EA).

First printed record from łódzkie voivodeship: KOWALCZYK (1988b).

Smicromyrme rufipes (Fabricius, 1787)

Szynkielów (sand dune), 4 VII 1987, ♂; Justynów (grassland), 28 VI 1990, ♂; Zalesiczki, 28 VI 1989, ♂, (AZ); Słotwiny (rail station), 10 VI 1992, ♂, (EA).

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

*Sapygidae**Sapyga quinquepunctata* (Fabricius, 1781)

Zalesiczki (wooden building), 4 VII 1989, ♀, (AZ); Słotwiny (rail station), 26 VI 1992, ♀, (EA).

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Sapyga similis (Fabricius, 1781)

Popień Res., 7 VI 1994, ♀.

First printed record from łódzkie voivodeship: PUŁAWSKI (1963).

Monosapyga clavicornis (Linnaeus, 1758)

Brzeziny (wooden building), 7 VI 1994, ♂; Zalesiczki (wooden building), 26 VI 1989, ♂, (AZ).

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Sapygina decemguttata (Jurine, 1807)

Mikołajów (rail station), 22 VI 1992, ♂, (EA); at Okręt Lake (wooden building), 4 VII 1994, ♀ and ♂; Zalesiczki (wooden building), 7 VII 1989, 2♀♀, (AZ).

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

*Eumenidae**Discoelius dufourii* (Lepelletier, 1809)

Ciosny-Sady (source), 12 VI 1996, ♀.

First printed record from łódzkie voivodeship: KOWALCZYK (1988b).

Discoelius zonalis (Panzer, 1801)

Rochna, 23 VII 1996, ♀.

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

Gymnomerus laevipes (Shuckard, 1837)

Rogów (arboretum), 19 VII 1995, ♂, (JS); Szyneków (sand dune), 2 VI 1992, ♂; Bażantarnia Res., 29 V 1996, ♀.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

Pterocheilus phaleratus (Panzer, 1797)

Szyneków (grassland), 22 VII 1992, 2♀♀; Szyneków (sand dune), 14 VII 1992, ♂.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Stenodynerus chevrieranus (Saussure, 1856)

Zalesiczki, 9 VII 1989, ♀, (AZ).

First printed record from łódzkie voivodeship: KOWALCZYK (1991).

Ancistrocerus nigricornis (Curtis, 1826)

Justynów, 13 V 1993, ♀; Mikołajów (rail station), 23 V 1992, ♀; Głowno (at Mrożyca river), 10 V 1994, ♀; Zielona Góra (alder forest), 6 VIII 1990, 2♂♂; Budziszewice, 15 V 1994, ♀, (MM), 10 IX 1995, 3♀♀ and ♂, (MM), 12 VI 1996, 2♀♀, (MM); Źródła Borówki Res. (clearing), 29 V 1996, ♀; Zalesiczki, 1 VIII 1988, ♀, (AZ).

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

Ancistrocerus oviventris (Wesmael, 1836)

Justynów, 13 V 1993, ♀; Rzgów (cemetery), 14 VI 1994, ♂; Łowicz (suburbs), 17 V 1990, ♂; Słotwiny (rail station), 26 V 1992, ♂.

First printed record from łódzkie voivodeship: KOWALCZYK (1988b).

Ancistrocerus parietum (Linnaeus, 1758)

Woźniki, 22 VIII 1989, ♀, (AZ); Sulejów, 21 VII 1976, (BS); Działoszyn, 20 VIII 1976, ♀, (BS).

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Ancistrocerus parietinus (Linnaeus, 1761)

Mikołajów (rail station), 7 VI 1992, ♀, (EA); Rzgów (cemetery), 14 VI 1994, ♂; Budziszewice, 18 VI 1996, ♀, (MM); Zalesiczki, 6 VII 1989, ♀, (AZ); Uniejów (park), 22 VI 1988, ♂.

First printed record from łódzkie voivodeship: Drogoszewski (1932).

Ancistrocerus trifasciatus (Müller, 1776)

Mikołajów (railway area), 30 VII 1992, ♀; Budziszewice, 4 VII 1993, ♀; Rzgów (cemetery), 14 VI 1994, ♂♂, (MK); Popień Res., 7 VI 1994, ♂; Łowicz (suburbs), 17 V 1990, ♂; Zalesiczki, 4 VII 1989, ♀, (AZ); Byszew (edge of forest), 1 VII 1988, (RS); Małków (at Warta river), 10 VI 1984, ♂, (MW); Uniejów (park), 22 VI 1988, ♀ and ♂.

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

Symmorphus bifasciatus (Linnaeus, 1761) (= *mutinensis* (Baldini, 1894))

Babsk Res., 11 VII 1987, ♀; Gałków Res., 21 VI 1990, 2♀♀; Smardzew (alder forest), 13 VIII 1990, 2♀♀; Brzeziny, 23 VI 1989, ♀; Hulanka (meadow), 16 VIII 1990, 6♀♀; Słotwiny (rail station), 29 VI 1992, ♀, (EA); Płyćwia (cart-road), 8 VI 1993, ♂♂; Łowicz (suburbs), 17 V 1990, ♂; Byszew (edge of forest), 13 VII 1988, ♀, (RS); Uniejów (park), 22 VI 1988, ♂.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Symmorphus crassicornis (Panzer, 1798)

Zwierzyniec Królewski, 5 VI 1993, ♀; Bażantarnia Res. (forest-road), 8 VI 1993, ♂; Budziszewice, 17 VI 1996, ♀, (MM); Zalesiczki, 15 VIII 1989, 1ex, (AZ); Byszew (edge of forest), 18 VII 1988, ♀, (RS); Daszyna (park), 1 VIII 1988, ♂, (RS).

First printed record from łódzkie voivodeship: KOWALCZYK (1988b).

Symmorphus debilitatus (Saussure, 1855)

Słotwiny (rail station), 29 VI 1992, ♀, (EA); Zalesiczki, 9 VIII 1988, 3♀♀, (AZ).

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

Symmorphus gracilis (Brullé, 1832)

Słotwiny (rail station), 29 VI 1992, ♀, (EA); Gałków Res. (forest-road), 20 VI 1990, 2♀♀ and ♂; Ręczno (quarry), 28 VI 1985, ♀; Lubiaszów Res., 20 VII 1976, ♀, (BS).

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

Symmorphus murarius (Linnaeus, 1758)

Lubiaszów Res., 4 VI 1988, ♀, (BS).

First printed record from łódzkie voivodeship: KOWALCZYK (1988b).

Eumenes coarctatus (Linnaeus, 1758)

Bełchów 21 VIII 1983, 3♀♀, (BS); Ręczno (quarry), 28 VI 1985, ♂.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Eumenes coronatus (Panzer, 1799)

Uniejów (park), 25 VIII 2003, ♀ and ♂.

First printed record from łódzkie voivodeship: KOWALCZYK, KURZAC (2002).

Eumenes pedunculatus (Panzer, 1799)

Grotniki (railway area), 30 VII 1993, ♀; Szyndkielów (sand dune), 14 VII 1992, ♀; Szyndkielów, 2 VI 1992, 3♂♂, 22 VII 1992, ♂; Rzgów (cemetery), 14 VI 1994, ♂, (MK); Mikołajów (rail station), 13 VI 1992, ♂, (EA); Uniejów (park), 25 VIII 2003, ♀.

First printed record from łódzkie voivodeship: KOWALCZYK (1998a).

*Vespidae**Vespa crabro* (Linnaeus, 1758)

Budziszewice, 7 VIII 1982, 3♀♀, (CW); Grotniki, 1 VI 1989, ♀, (CW).

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Dolichovespula media (Retzius, 1783)

Hulanka (meadow), 16 VIII 1990, ♂; Rochna, 23 VII 1996; Budziszewice, 15 VIII 1994, 23 VII 1994, (MM); Uniejów (park), 25 VIII 2003, ♀.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Dolichovespula saxonica (Fabricius, 1793)

Babsk Res., 11 VII 1987; Daszyna (park), 1 VII 1988, 1 worker, (RS); Zalesiczki, 26 VI 1989, 4♀♀, (AZ); Lubiaszów Res., 20 VII 1976, 2 workers, (BS); Gałków (railway area), 7 VII 1987, ♀; Szyndkielów (peat bog), 4 VII 1987, 1 work.; Mikołajów (rail station), 23 VII 1992, (EA).

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

Dolichovespula sylvestris (Scopoli, 1763)

Daszyna (park), 13 VII 1988, ♀, (RS); Byszew (edge of forest), 18 VII 1988, ♂, (RS); Mikołajów (rail station), 23 VII 1992, ♂, (EA).

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

Vespula germanica (Fabricius, 1793)

Zalesiczki, 22 VII 1988, 1 work., (AZ); Woźniki, 16 VIII 1988, 6 work., (AZ); Budziszewice, 15 VI 1980, 1 work., (CW); Łęczyca (at Bzura river), 9 VI 1990, 1 work.; Budziszewice, 10 IX 1995, 2 work., (MM); Słotwiny (rail station), 20 VII 1992, 1 work., (EA).

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Vespula rufa (Linnaeus, 1758)

Burzenin, 4 IX 1977, 1 work., (BS); Byszew (edge of forest), 27 VII 1988, 1 work., (RS); Zalesiczki, 29 VII 1988, 1 work., (AZ); Smardzew (alder forest),

13 VIII 1990, 1 work.; Zielona Góra (meadow, edge of alder forest), 16 VIII 1990, ♂, 1 work.; Hulanka (meadow), 16 VIII 1990, 1 work.; Rokiciny Res., 4 VIII 1995, 1 work.; Budziszewice, 18 VII 1993, 1 work., (MM), 22 VII 1994, 1 work., 8 VII 1994, ♂, (MM); Słotwiny (rail station), 7 VIII 1992, 1 work., (EA).

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

Vespula vulgaris (Linnaeus, 1758)

Daszyna (park) 13 VII 1988, (RS); Byszew (edge of forest), 18 VII 1988, 1 work., (RS); Zalesiczki, 22 VIII 1989, 4 work., (AZ); Rokiciny Res., 4 VIII 1995, 1 work.; Mikołajów (rail station), 23 VII 1992, 1 work., (EA).

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Polistes gallicus (Linnaeus, 1767)

Budziszewice, 10 VI 1996, 3 work., 24 VI 1996, 1 work., (MM); Jeziorsko Res., 10 IX 2000, ♂, (MKk); Uniejów (meadow, at Warta river), 25 VIII 2003, ♀ and ♂.

First printed record from łódzkie voivodeship: KOWALCZYK (1988b).

Polistes nimpha (Christ, 1791)

Wykno (rail station), 18 VII 2002, 2 work. and ♂, (MM); Uniejów (meadow, at Warta river), 25 VIII 2003, ♀ and ♂.

First printed record from łódzkie voivodeship: SOSZYŃSKI et al. (1998).

Sphecidae

Podalonia affinis (Kirby, 1798)

Justynów (grassland), 27 VI 1990, ♀; Winnica Res., 22 VII 1992, ♂; Szynkielów (sand dune), 14 VII 1992, ♀; Uniejów (meadow), 25 VIII 2003, ♀; Wymysłów, 12 VIII 1984, (CW).

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

Podalonia hirsuta (Scopoli, 1763)

Płyćwia (cart-road), 8 VI 1993, ♂; Szynkielów (sand dune), 14 VII 1992, ♀.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Ammophila pubescens (Curtis, 1836)

Justynów (grassland), 27 VI 1990, ♀; Szynkielów (sand dune), 14 VII 1992, ♂.

First printed record from łódzkie voivodeship: KOWALCZYK (1988b).

Ammophila sabulosa (Linnaeus, 1758)

Szynkielów (sand dune), 14 VII 1992, ♀.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Mimesa bicolor (Jurine, 1807)

Smardzew (alder forest), 13 VIII 1990, ♀.

First printed record from łódzkie voivodeship: KOWALCZYK (1988b).

Mimesa lutaria (Fabricius, 1787)

Justynów (grassland), 28 VI 1990, ♀.

First printed record from łódzkie voivodeship: KOWALCZYK (1991).

Mimumesa atratina (F. Morawitz, 1891)

Szynkielów (sand dune), 4 VII 1987, ♀.

First printed record from łódzkie voivodeship: KOWALCZYK (1998b).

Mimumesa unicolor (Van der Linden, 1829)

Smardzew (alder forest), 13 VIII 1990, 2♀♀; Rogów (arboretum), 19 VII 1995, ♀, (JS).

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

Psenulus concolor (Dahlbom, 1843)

Daszyna (park), 26 V 1988, 3♀♀.

First printed record from łódzkie voivodeship: KOWALCZYK (1988b).

Psenulus fuscipennis (Dahlbom, 1843)

Zwierzyniec Królewski, 5 VI 1993, 2♀♀; Rokitnica (old wooden building), 24 V 1986, ♀, (MK).

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

Psenulus laevigatus (Schenck, 1857)

Uniejów (park), 22 VI 1988, ♀.

First printed record from łódzkie voivodeship: KOWALCZYK (1991).

Psenulus pallipes (Panzer, 1797)

Zielona Góra, 16 VIII 1990, ♀.

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

Diodontus minutus (Fabricius, 1793)

Nagórzyce Groty, 27 V 1983, ♀.

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

Diodontus tristis (Van der Linden, 1829)

Winnica Res., 14 VII 1992, ♀.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Pemphredon lethifer (Shuckard, 1837)

Smardzew (alder forest), 13 VIII 1990, ♀.

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

Pemphredon inornatus (Say, 1824)

Smardzew (alder forest), 13 VIII 1990, 3♀♀.

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

Passaloecus corniger (Shuckard, 1837)

Ur. Rawski Las, 11 VII 1987, ♂.

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

Passaloecus eremita (Kohl, 1893)

Ur. Rawski Las, 11 VII 1987, ♀.

First printed record from łódzkie voivodeship: KOWALCZYK, WATAŁA (1987).

Passaloecus singularis (Dahlbom, 1844)

Byszew (linden-oak-hornbeam forest), 26 V 1988, ♂.

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

Astata boops (Schrank, 1781)

Dąbrowa Grotnicka Res., 26 VII 1993, ♀.

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

Dryudella stigma (Panzer, 1806)

Burzenin, 4 IX 1977, 2♀♀ and ♂, (BS); Justynów (grassland), 28 VI 1990, ♂; Mogilno (slope), 1 VII 1990, ♀ and ♂; Winnica Res., 14 VII 1992, ♀; Szykielów (sand dune), 14 VII 1992, ♀ and ♂.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

Dinetus pictus (Fabricius, 1793)

Justynów (grassland), 28 VI 1990, ♀.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

Tachysphex helveticus (Kohl, 1885)

Burzenin, 4 IX 1977, ♀, (BS); Justynów (grassland), 27 VI 1990, 2♀♀ and ♂.

First printed record from łódzkie voivodeship: KOWALCZYK (1988b).

Tachysphex nitidus (Spinola, 1805)

Szykielów (sand dune), 14 VII 1992, ♀; Głowno (railway area), 8 V 1993, ♀.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

Tachysphex obscuripennis (Schenck, 1857)

Szynkielów (sand dune), 14 VII 1992, ♂; Płyćwia (cart-road), 8 VI 1993, ♀.
First printed record from łódzkie voivodeship: KOWALCZYK (1991).

Tachysphex pompiliformis (Panzer, 1805)

Ciosny-Sady (source), 12 VI 1996, ♀.
First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Tachysphex psammobius (Kohl, 1880)

Głowno (railway area), 8 V 1993, 2♀♀.
First printed record from łódzkie voivodeship: KOWALCZYK (1988b).

Miscophus ater (Lepeletier, 1845)

Burzenin, 4 IX 1977, 3♀♀, (BS); Szynkielów (sand dune), 14 VII 1992, ♀.
First printed record from łódzkie voivodeship: KOWALCZYK (1988b).

Trypoxylon clavicerum (Lepeletier et Serville, 1825)

Uniejów (park), 25 VIII 2003, ♀; Ur. Rawski Las, 11 VII 1987, ♀; Lubiaszów Res., 20 VII 1976, ♀, (BS).
First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

Trypoxylon figulus (Linnaeus, 1758)

Winnica Res., 14 VII 1990, ♀.
First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

Trypoxylon minus (Beaumont, 1945)

Łódź: Arturówek, 11 VIII 1989, ♂; 1 IX 1987, ♀; Arturówek (railway area), 1 IX 1987, ♀; Arturówek (at trunk), 30 VI 1986, ♂; Łagiewniki (forest-road), 7 VII 1989, ♀; Łagiewniki (clearing), 5 VII 1989, ♀; Łagiewniki (oak wood), 18 V 1989, ♂, 27 VIII 1989, ♀; Łagiewniki, 21 VII 1989, ♀, 7 VIII 1989, ♂, 12 IX 1989, ♂; Łagiewniki (wooden forester's lodge), 31 V 1988, ♂, 1 VIII 1988, 2♀♀, 16 V 1989, ♂, 20 V 1989, ♀; Łagiewniki-Parcele (meadow), 6 IX 1989, ♀; Wycieczkowa st., 9 VIII 1989, ♂; Ewangelicki Cemetery, 26 VIII 1987, ♀; Park Źródlińska, Didactic Garden, 8 VI 1987, ♀; Park Krasickiego, 30 VI 1987, ♀, 28 VII 1987, ♂; Park Mickiewicza (at trunk), 10 IX 1987, ♀; at Bzura river, 20 VIII 1988, ♀; Ruda Pabianicka, 2 IX 1987, ♀; Okólna st., 6 VIII 1989, 4♀♀ and 2♂♂; ZOO, 18 VII 1986, ♂; Park 3 Maja (railway area), 25 V 1987, ♂; Park Sienkiewicza, 4 VI 1986, ♂; Park Poniatowskiego (at trunk), 2 VIII 1988, ♂; Gałków (railway area), 3 V 1990, ♂; 13 VI 1990, ♀; Dobieszów (pine-tree forest), 26 VIII 1986, ♀.
First printed record from łódzkie voivodeship: KOWALCZYK, KURZAC (2002).

Oxybelus argentatus Curtis, 1833

Grotniki (railway area), 30 VII 1993, ♀.

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

Oxybelus bipunctatus Olivier, 1811

Justynów (grassland), 27 VI 1990, ♀; Dąbrowa Grotnicka Res., 26 VII 1993, ♀.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

Oxybelus mandibularis Dahlbom, 1854

Ciosny-Sady (source), 12 VI 1996, ♂.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

Oxybelus quatuordecimnotatus Jurine, 1807

Sulejów-Podklasztorze, 21 VII 1976, ♀ and ♂, (BS); Winnica Res., 5 VII 2001, ♀.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Oxybelus trispinosus (Fabricius, 1787)

Brzeziny (sand-pit), 30 VII 1987, ♀.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

Oxybelus uniglumis (Linnaeus, 1758)

Burzenin, 4 IX 1977, 5♀♀, (BS); Justynów (grassland), 27 VI 1990, ♀ and ♂; Smardzew (alder forest), 13 VIII 1990, ♂; Zielona Góra, 16 VIII 1990, ♀ and ♂; Hulanka (meadow), 16 VIII 1990, ♂; Lubiaszów Res., 20 VII 1976, 2♀♀, (BS).

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

Lindenius albilabris (Fabricius, 1793)

Burzenin, 4 IX 1977, 2♀♀, (BS); Młogoszyn, 12 VI 1985, ♂, (CW); Justynów (grassland), 27 VI 1990, ♂; Sulejów-Podklasztorze, 21, VII 1976, ♀, (BS).

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

Lindenius panzeri (Van der Linden, 1829)

Hulanka (meadow), 16 VIII 1990, ♂.

First printed record from łódzkie voivodeship: KOWALCZYK (1991).

Rhopalum coarctatum (Scopoli, 1763)

Uniejów (park), 25 VIII 2003, 3♀♀.

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

Crossocerus binotatus (Lepeletier et Brullé, 1834)

Uniejów (park), 25 VIII 2003, ♀.

First printed record from Łódzkie voivodeship: KOWALCZYK (1991).

Crossocerus cetratus (Shuckard, 1837)

Smardzew (alder forest), 2 VI 1990, ♀; Gałków (forest-road and reserve), 20 VI 1990, ♀; Gałków (reserve, at trunk), 21 VI 1990, 2♀♀; Dąbrowa Grotnicka Res., 26 VII 1993, ♂.

First printed record from Łódzkie voivodeship: KOWALCZYK (1988b).

Crossocerus cinxius (Dahlbom, 1838)

Rokitnica, 28 V 1995, ♀, (MK).

First printed record from Łódzkie voivodeship: KOWALCZYK (1988b).

Crossocerus dimidiatus (Fabricius, 1781)

Gałków (reserve, at trunk), 21 VI 1990, 3♀♀.

First printed record from Łódzkie voivodeship: KOWALCZYK (1988a).

Crossocerus elongatulus (Van der Linden, 1829)

Działoszyn, 20 VIII 1976, ♀, (BS); Łęczyca-Tum, 9 VI 1990, ♂.

First printed record from Łódzkie voivodeship: DROGOSZEWSKI (1932).

Crossocerus megacephalus (Rossi, 1790)

Szynkielów (sand dune), 29 V 1992, ♀; Żelów, 20 V 1990, ♂, (JKk).

First printed record from Łódzkie voivodeship: KOWALCZYK (1988b).

Crossocerus ovalis (Lepeletier et Brullé, 1834)

Gałków (reserve, at trunk), 21 VI 1990, ♀.

First printed record from Łódzkie voivodeship: KOWALCZYK (1988a).

Crossocerus palmipes (Linnaeus, 1767)

Dąbrowa Grotnicka Res., 26 VII 1993, ♀.

First printed record from Łódzkie voivodeship: KOWALCZYK (1988a).

Crossocerus quadrimaculatus (Fabricius, 1793)

Mogilno (slope), 1 VII 1990, ♂; Szynkielów (sand dune), 14 VII 1992, ♂; Płyćwia, 8 VI 1993, ♂; Dąbrowa Grotnicka Res., 26 VII 1993, 2♂♂; Uniejów (park), 25 VIII 2003, ♂; Ręczno (quarry), 28 VI 1985, ♀ and ♂.

First printed record from Łódzkie voivodeship: DROGOSZEWSKI (1932).

Crossocerus vagabundus (Panzer, 1798)

Łęczyca (at Bzura river, at trunk), 9 VI 1990, ♀.

First printed record from Łódzkie voivodeship: DROGOSZEWSKI (1932).

Crossocerus wesmaeli (Van der Linden, 1829)

Zielona Góra, 16 VIII 1990, ♀; Niebieskie Źródła Res., 27 V 1983, ♀; Na-górze Grotty, 27 V 1983, 3♀♀ and ♂.

First printed record from łódzkie voivodeship: KOWALCZYK (1988b).

Crabro cribrarius (Linnaeus, 1758)

Smardzew (alder forest), 13 VII 1990, ♀; Hulanka (meadow), 16 VIII 1990, ♂; Bażantarnia Res., 8 VI 1993, ♂; Ciosny-Sady (source), 12 VI 1996, ♂; Py-towice, 19 VIII 1983, ♂, (ZM); Jasień, 8 VIII 1984, ♂, (CW); Bronisławów, 9 VIII 1984, ♂, (JK).

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Crabro peltarius (Schreber, 1784)

Burzenin, 4 IX 1977, ♀, (BS), Płyćwia (cart-road), 8 VI 1993, ♀; Grocholice, 14 VII 1983, ♀, (ZM); Rokitnica (edge of pine-oak forest), 17 VI 1984, ♂, (MK).

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Crabro scutellatus (Scheven, 1781)

Gańków (railway area), 5 VII 1987, ♂; Szykielów (sand dune), 14 VII 1992, ♀.

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

Ectemnius cavifrons (Thomson, 1870)

Smardzew (alder forest), 2 VI 1990, ♂; Zwierzyniec Królewski, 5 VI 1993, ♀; Uniejów (park), 25 VIII 2003, ♀; Wiączyń Res., 6 VII 2002, ♀, (MM).

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

Ectemnius continuus (Fabricius, 1804)

Siemienice, 8 IV 1981, ♂, (MW); Smardzew (alder forest), 2 VI 1990, ♂; Smardzew (alder forest), 13 VIII 1990, ♀; Łęczyca (at Bzura river, at trunk), 9 VI 1990, ♀; Zielona Góra (meadow), 16 VIII 1990; Hulanka (meadow), 16 VIII 1990, ♀; Szykielów (peat bog), 4 VII 1987, ♂; Szykielów (sand dune), 12 VI 1992, ♂; Dąbrowa Grotnicka Res., 26 VII 1993, ♂; Zwierzyniec Królewski, 5 VI 1993, ♀; Burzenin, 4 VII 1987, 2♂♂; Ur. Rawski Las, 11 VII 1987, ♂.

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

Ectemnius cephalotes (Olivier, 1791)

Gańków Res. (at trunk), 21 VI 1990, 2♀♀; Budziszewice, 12 VI 1996, ♀, (MM); Uniejów (park), 25 VIII 2003, ♀.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

Ectemnius lapidarius (Panzer, 1804)

Smardzew (alder forest), 2 VI 1990, ♀; Smardzew (alder forest), 13 VIII 1990, ♀ and ♂; Galków (forest-road and reserve), 20 VI 1990, ♀; Zielona Góra, 16 VIII 1990, 2♂♂; Hulanka (meadow), 16 VIII 1990, 2♀♀; Dąbrowa Grotnicka Res., 26 VII 1993, 3♀♀; Ciosny-Sady (source), 12 VI 1996, 2♂♂.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

Ectemnius rubicola (Dufour et Perris, 1840)

Szynkielów (peat bog), 4 VII 1987, ♀ and ♂.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Ectemnius ruficornis (Zetterstedt, 1838)

Smardzew (alder forest), 13 VIII 1990, ♀ and ♂; Hulanka (meadow), 16 VIII 1990, 2♀♀.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Ectemnius sexcinctus (Fabricius, 1775)

Hulanka (meadow), 16 VIII 1990, ♀.

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

Lestica alata (Panzer, 1797)

Justynów (grassland), 27 VI, 2♀♀ and ♂, 28 VI 1990, ♂; Ciosny-Sady (source), 12 VI 1996, ♂.

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

Lestica clypeata (Schreber, 1759)

Zwierzyniec Królewski, 5 VI 1993, ♂; Uniejów (meadow), 25 VIII 2003, 2♀♀.

First printed record from łódzkie voivodeship: KOWALCZYK, KURZAC (2002).

Mellinus arvensis (Linnaeus, 1758)

Burzenin, 4 IX 1977, ♀ and ♂, (BS); Hulanka (meadow), 16 VIII 1990, ♂.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Mellinus crabroneus (Thunberg, 1791)

Lubiaszów Res., 20 VII 1976, ♂, (BS); Winnica Res., 14 VII 1992, 2♀♀ and ♂.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

Alyson spinosus (Panzer, 1801)

Szynkielów (sand dune), 14 VII 1992, 2♀♀ and ♂.

First printed record from łódzkie voivodeship: KOWALCZYK (1988b).

Nysson spinosus (Foerster, 1771)

Bażantarnia Res. (forest-road), 8 VI 1993, ♀; Daszyna (park), 26 V 1988, ♂.
First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

Argogorytes mystaceus (Linnaeus, 1761)

Smardzew (alder forest), 2 VI 1990, ♀ and ♂; Gałków (forest-road and reserve), 20 VI 1990, ♀; Gałków (reserve, at trunk), ♀; Winnica Res., 29 V 1992, ♂; Popień Res., 7 VI 1993, ♀; Rogów (at Mroga river), VI 1993, ♀; 29 V 1996, ♀.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

Harpactus lunatus (Dahlbom, 1832)

Justynów (grassland), 27 VI 1990, ♂, 28 VI 1990, 2♂♂.

First printed record from łódzkie voivodeship: KOWALCZYK (1991).

Harpactus tumidus (Panzer, 1801)

Rogów (arboretum), 19 VII 1995, ♀, (JS).

First printed record from łódzkie voivodeship: KOWALCZYK (1988b).

Gorytes fallax (Handlirsch, 1888)

Smardzew (alder forest), 2 VI 1990, ♂; Rąbień, 16 VIII 1980, ♀, (JK).

First printed record from łódzkie voivodeship: KOWALCZYK (1988b).

Gorytes laticinctus (Lepelletier, 1832)

Smardzew (alder forest), 13 VIII 1990, 2♀♀; Hulanka (meadow), 16 VIII 1990, 3♀♀.

First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

Gorytes quadrifasciatus (Fabricius, 1804)

Lubiaszów Res., 20 VII 1976, ♂, (BS); Smardzew (alder forest), 13 VIII 1990, ♂; Hulanka (meadow), 16 VIII 1990, ♂; Winnica Res., 14 VII 1992, 2♂♂; 5 VII 2001, ♂; Ciosny-Sady (source), 12 VI 1996, ♂.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

Gorytes quinquecinctus (Fabricius, 1793)

Smardzew (alder forest), 13 VIII 1990, ♀; Zielona Góra (meadow), 16 VIII 1990, 2♀♀; Rąbień, 16 VIII 1980, (JK); Winnica Res., 14 VII 1992, ♀ and 3♂♂; Ciosny-Sady (source), 12 VI 1996, ♀ and ♂; Budziszewice, 12 VI 1996, ♂, leg. (MM); Szarbsko, 18 VIII 2004, ♀, (TK).

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

Bembecinus tridens (Fabricius, 1781)

Burzenin, 4 IX 1977, ♀, (BS).

First printed record from łódzkie voivodeship: KOWALCZYK (1991).

Bembix rostrata (Linnaeus, 1758)

Burzenin, 4 IX 1977, ♀, (BS); Działoszyn, 20 VIII 1976, ♂, (BS).

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Philanthus triangulum (Fabricius, 1775)

Burzenin, 4 IX 1977, 2♀♀, (BS).

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

Cerceris arenaria (Linnaeus, 1758)

Burzenin, 4 IX 1977, 5♀♀, (BS); Justynów (grassland), 28 VI 1990, ♀; Smardzew (alder forest), 13 VIII 1990, ♀; Płyćwia (cart-road), 8 VI 1993, ♀ and ♂; Ciosny-Sady (source), 12 VI 1996, 2♂♂; Ręczno (quarry), 28 VI 1985, ♂. First printed record from łódzkie voivodeship: KOWALCZYK (1988a).

Cerceris rybyensis (Linnaeus, 1771)

Burzenin, 4 IX 1977, ♀, (BS); Winnica Res., 22 VII 1992, ♀; Zwierzyniec Królewski, 5 VI 1993, ♀; Płyćwia (cart-road), 8 VI 1993, ♀; Szykielów (sand dune), 4 VII 1987, ♀; Ręczno (quarry), 28 VI 1985, ♀.

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1932).

Cerceris quadrifasciata (Panzer, 1799)

Zwierzyniec Królewski, 5 VI 1993, ♀.

First printed record from łódzkie voivodeship: KOWALCZYK (1988b).

Cerceris quinquefasciata (Rossi, 1792)

Działoszyn, 20 VIII 1976, ♀, (BS); Justynów (grassland), 28 VI 1990, ♀; Budziszewice, 12 VI 1996, ♂, (MM).

First printed record from łódzkie voivodeship: DROGOSZEWSKI (1934).

4. DISCUSSION

The paper listed 135 species from nine families of stinging wasps (*Aculeata*): *Chrysididae*, *Scoliidae*, *Tiphidae*, *Mutillidae*, *Sapygidae*, *Eumenidae*, *Vespidae* and *Sphecidae*. Eighteen species are located in the red list of threatened and endangered animals (GŁOWACIŃSKI 2002). In the group of lower risk there are: *Pseudomalus pusillus*, *Chrysis bicolor*, *Pseudospinolia neglecta*, *Miscophus ater*,

Ammophila pubescens, *Crossocerus cinxius*, *Harpactus tumidus*, *Gorytes fallax* and 10 endangered species: *Symmorphus crassicornis*, *S. debilitatus*, *S. murarius*, *Tachysphex psammobius*, *Holopyga chrysonota*, *Oxybelus argentatus*, *Lestica alata*, *Bembecinus tridens*, *Bembix rostrata* and *Polistes gallicus*. The latter species is critically endangered (GŁOWACIŃSKI, NOWACKI 2004).

5. REFERENCES

- BANASZAK, J. 1980. Żłotolitki – *Chrisidae*. Katalog Fauny Polski, 26 (3). PWN, Warszawa.
- DROGOSZEWSKI, K. 1932. Wykaz Żądłówek zebranych w Polsce środkowej. Pol. Pismo Ent., Lwów 11: 113–118.
- DROGOSZEWSKI, K. 1934. Nowe dla Polski środkowej Żądłówki. Pol. Pismo Ent., Lwów 13: 125–131.
- GŁOWACIŃSKI, Z. 2002. Czerwona lista zwierząt ginących i zagrożonych w Polsce. PAN, Instytut Ochrony Przyrody, Kraków.
- GŁOWACIŃSKI, Z., NOWACKI J. 2004. Polska czerwona księga zwierząt. Bezkręgowce. PAN, Instytut Ochrony Przyrody, Kraków.
- KOWALCZYK, J. K. 1988a. Żądłówki (*Hymenoptera, Aculeata*) Wyżyny Łódzkiej, część I – okolice Rogowa. Acta Univ. Lodz., Folia Zool. et Anthr. 6: 39–55.
- KOWALCZYK, J. K. 1988b. Żądłówki (*Hymenoptera, Aculeata*) Wyżyny Łódzkiej, część II – okolice Łodzi. Acta Univ. Lodz., Folia Zool. et Anthr. 6: 57–71.
- KOWALCZYK, J. K. 1988c. Nowe stanowiska w Polsce interesujących gatunków żądłówek *Hymenoptera – Aculeata*. Przegl. Zool. 32: 221–223.
- KOWALCZYK, J. K. 1991. Materiały do znajomości żądłówek (*Hymenoptera, Aculeata*) Łodzi. Acta Univ. Lodz., Folia Zool. et Anthr. 7: 67–114.
- KOWALCZYK, J. K. 1995. Nowe oraz interesujące gatunki *Chrysididae* (*Hymenoptera*). Wiad. Entomol. 14 (3): 159–164.
- KOWALCZYK, J. K., KURZAC, T. 2002. Wstępna lista wybranych rodzin błonkówek *Hymenoptera* i muchówek *Diptera* Załęczańskiego Parku Krajobrazowego. In: J. K. KUROWSKI, P. WITOSŁAWSKI (eds.), Funkcjonowanie Parków Krajobrazowych. Wyd. UE, Łódź, pp. 147–151.
- KOWALCZYK, J. K., WATAŁA, C. 1987. Interesujące gatunki żądłówek (*Hymenoptera, Aculeata*) na Wyżynie Łódzkiej. Przegl. Zool. 31: 59–62.
- NOSKIEWICZ, J., PUŁAWSKI, W. 1958. Żłotolitki – *Chrysididae, Cleptidae*. Klucze do oznaczania owadów Polski. XXIV (55–56). PWN, Warszawa.
- PARRÉ, F. 1950. Hymenopteren aus der Umgebung von Łódź und eine für Stassfurt neue Apidenart. Mitt. Mus. Naturk. (Kultur), Magdeburg 2: 175–178.
- PUŁAWSKI, W. 1963. *Sapygidae, Scoliidae, Tiphiidae, Methocidae, Myrmosidae, Mutillidae*. Klucze do oznaczania owadów Polski. XXIV (57–62). PWN, Warszawa.
- RAZOWSKI, J. 1997. Wykaz zwierząt Polski. V, *Hymenoptera*. PAN, Kraków.
- SKIBIŃSKA, E. 1982. *Chrysididae* (*Hymenoptera*) of Warsaw and Mazovia. Memorabilia Zool. 36: 61–72.
- SOSZYŃSKI, B., ŚLIWIŃSKI, Z., KURZAWA, J. 1998. Fauna. Bezkręgowce. In: J. K. KUROWSKI (ed.), Sulejowski Park Krajobrazowy – środowisko przyrodniczo-ogrodnicze. Zespół Nadpilicznych Parków Krajobrazowych, Moszczenica: pp. 83–90.