



## New data on the distribution of cockroaches (Blattodea) and earwigs (Dermaptera) in Poland

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**Abstract:** New information on six species of cockroaches (Blattodea: *Blatta orientalis* L., *Blattella germanica* L., *Ectobius lapponicus* L., *E. sylvestris* Poda, *Periplaneta americana* L. and *Phyllodromica maculata* Schreber) and five species of earwigs (Dermaptera: *Apterygida albipennis* Megerle von Mühlfeld, *Chelidurella acanthopygia* Géné, *Forficula auricularia* L., *Labia minor* L. and *Labidura riparia* Pallas) found in the period 1957–2021 in Poland are presented. In the case of four species, the first information about their presence in the particular geographical regions was provided, based on the Catalogue of Polish Fauna.

**Key words:** occurrence, first records, orthopteroid insects, regions, synanthropic

### INTRODUCTION

Cockroaches (Blattodea) are insects widespread in subtropical and equatorial areas; with about 4,700 species currently known (Beccaloni 2022). More than a dozen species have been reported in Poland, some of them being of foreign origin and maintained only in greenhouses, zoos, and palm houses. The domestic fauna includes at least 7 species (Bazyluk 1976a, Liana 2007a). The earwig order (Dermaptera) includes over 2,000 species, most of which occur in tropical areas (Hopkins et al. 2022). In Poland, only 6 species have been found (Bazyluk 1976b, Liana 2007b).

The distribution of cockroaches and earwigs in Poland is insufficiently explored; in some regions, certain species have not been reported or have been found only in single locations (Bazyluk 1976a,b). Over the last 45 years, few studies on these insects have been published (Bazyluk 1978, Grobelny 1983a, Bednarz 1988, Gębicki & Szwedo 1994, Liana 1997, 2001, Kočárek 2000, Grabowski 2009, Soszyńska-Maj et al. 2010, Jaskuła et al. 2011, Grobelny & Żurawlew 2012, Soszyńska-Maj & Jaskuła 2013, Żurawlew et al. 2019). The aim of the study is to supplement and update data on the current distribution of cockroaches and earwigs in Poland.

### MATERIAL AND METHODS

This report presents unpublished information collected by the authors and their collaborators in the years 1957–2021, based on little-known conference materials (Chłodny 1978, Tomków 1978, Grobelny 1983b, 1987) and on master's theses prepared at the University of Wrocław in the years 1977–1986. The supervisor of these theses was the late parasitologist and

orthopterologist Professor Stanisław Bednarz (1921–2004). In most cases, insects were determined on sight, less frequently they were collected by sweeping vegetation with an entomological net, also caught in various types of traps, and extracted by sieving litter. The collected insects were preserved in 75% alcohol. The specimens collected for the master's thesis have not been preserved, whereas the remaining ones are in the author's collection and in the Natural History Collection of the Faculty of Biology, Adam Mickiewicz University in Poznań. Some of the records are documented by photographs. The following data are presented in chronological order, with a division into regions according to the Catalogue of Polish Fauna (Bazyłuk 1976a,b), giving the locality, number of square in the Universal Transverse Mercator (UTM), and also: date, number of individuals (ind.), and habitat of the finding of particular species, if it is known. An asterisk (\*) marked the first record of the species for the given region.

## RESULTS AND DISCUSSION

A total six species of cockroaches (Blattodea: *Blatta orientalis*, *Blattella germanica*, *Ectobius lapponicus*, *E. sylvestris*, *Periplaneta americana* and *Phyllodromica maculata*) and 5 species of earwigs (Dermaptera: *Apterygida albipennis*, *Chelidurella acanthopygia*, *Forficula auricularia*, *Labia minor* and *Labidura riparia*) were found in 145 localities.

## BLATTODEA

### *Blatta orientalis* Linnaeus, 1758

Lower Silesia: Ostroszowice [UTM: XS11], 27 Jul 1976, 38♂♂, 39♀♀, in bakery (Andres 1977); Lubin [WS89], 10 Jun 1977, 3♂♂, 8♀♀, in bakery storage (Gnot 1980); Wołów [XS18], 14 Jun 1978, 5 ind., in basement next to the boiler room (Prewysz-Kwinto 1979); Chocianów [WS69], 20 Sep 1978, 5 ind., in canteen storage (Stasiewicz 1978); Wykroty [WS17], 6 Jul 1982, 1♀, in bakery (Szczepaniak 1983); Środa Śląska [XS16], 19 Sep 1986, 2♀♀, in bakery (Gacek 1986).

Masurian Lakeland: Żytkiejmy [FF02], 3 Jun 1976, 14 Apr 1977, 14♂♂, 25♀♀, 13 nymphs in grocery store and in animal feed store (Kraczaj 1977); Iława [DE03], 20 Aug 1979, 1♂, in grocery store (Graboń 1980).

Mazovian Lowland: Warszawa [EC08], Nowogrodzka Street, 25 Jun 1993, 1♀, on the wall (leg. S. Grobelny).

Podlasie Lowland: Węgrów [ED60], 1976–1977, 3 ind. in bakery (Bednarczyk 1977); Siedlce [EC88], Starowiejska Street, 2020, several ind. in apartment in a block (leg. P. Radzikowski).

Trzebnickie Hills: Trzebnica [XS48], 10 Oct 1976, 2♂♂, 4♀♀, in grocer's kiosk (Gringel 1977).

Upper Silesia: Jemielnica [CB10], 11 Jul 1983, 1♂, 1♀ (Dudek-Piontek 1985).

Western Sudety Mountains (Mts): Wałbrzych [WS92], 1980, 1981, 1♂, 2♀♀, in bakery (Naskręt 1981).

Wielkopolska-Kujawy Lowland: Zielona Góra [WT35], 1976, 1977, 20♂♂, 3♀♀, in confectionery and in grocery store storage (Gołaszewska 1977); Sobótka [XT93], 1979, numerous ind. (Grajek 1980); Pleszew [XT95], 20 Sep 2019, 1♀, in basement (leg. P. Żurawlew).

This species is considered cosmopolitan and synanthropic. It has been listed in the following lands: Baltic Coast, Białowieża Primeval Forest, Kraków-Wieluń Upland, Lower Silesia, Lublin Upland, Małopolska Upland, Masurian Lakeland, Mazovian Lowland, Nowotarska Valley, Pieniny Mts, Podlasie Lowland, Pomeranian Lakeland, Roztocze Upland, Sandomierska

Lowland, Tatra Mts, Upper Silesia, Western Beskid Mts, Western Sudety Mts, Wielkopolska-Kujawy Lowland (Grobelny 1975, Bazyluk 1976a, Bednarz 1976, 1978, Liana 2001, Grobelny & Żurawlew 2012, Żurawlew et al. 2019) and Trzebnickie Hills (Bednarz 1988).

***Blattella germanica* (Linnaeus, 1767)**

Lower Silesia: Bielawa [XS11], 1976, 2♂♂, 3♀♀, in school dining room, Pieszyce [XS11], 1976, 1977, in restaurant (Andres 1977); Lubin [WS89], 1977, 2♂♂, in food storage (Gnot 1980); Chocianów [WS69], 1978, 16 ind., in bakery storage (Stasiewicz 1978); Wołów [XS18], 23 Nov 1978, 18 ind., in grocery store warehouse (Prewysz-Kwinto 1979); Węglinic [WS18], 13 Aug 1982, 2♂♂, 3♀♀, at the train station (Szczepaniak 1983); Nowogrodziec [WS27], 20 Sep 1982, 7♂♂, 1♀, 2 nymphs in grocery store and in restaurant (Szczepaniak 1983); Środa Śląska [XS16], 27 Sep 1986, 2♀♀, in grocery store (Gacek 1986).

Lublin Upland: Puławy [EB69], Piaskowa Street, 2018, several ind. Were found in apartment in housing block during the whole year (leg. P. Radzikowski)

\*Masurian Lakeland: Żytkiejmy [FF02], 26 Feb 1977, 3♀♀, 2 nymphs, in basement of the building (Kraczaj 1977); Iława [DE03], 8 Aug 1979, 2♀♀, on campsite (Graboń 1980).

Mazovian Lowland: Warszawa [DC98], Osiedle Muranów Południowy, in the 1960s, about ten 10 ind., in delicatessen (leg. Z. Brodacka); Warszawa [DC98], Grójecka Street, 1980s, 1 ex., in diner (milk bar) (leg. Z. Brodacka); Warszawa [DC98], Korotyńskiego Street, 1982–1990, many ind., in housing block (leg. Z. Brodacka, M. Brodacki); Warszawa [DC98], Banacha Street, 1990, in hospital (leg. Z. Brodacka); Warszawa [EC08], Myśliwiecka Street, 1991, 1 ex., in school (leg. M. Brodacki).

Podlasie Lowland: Węgrów [ED60], 1976–1977, 15 ind., in housing area (Bednarczyk 1977).

Trzebnickie Hills: Będkowo [XS48], 15 Oct 1976, in infectious disease hospital, in total approximately 100 ind., Trzebnica [XS48], 28 Dec 1976, in sanatorium building (Gringel 1977).

Upper Silesia: Zawadzkie [CB20], 3 Aug 1984, 11♂♂, 8♀♀, in restaurant (Dudek-Piontek 1985).

\*Western Sudety Mts: Wałbrzych [WS92], 1980, 1981, 4♂♂, in hospital kitchen, hotel and school dining room (Naskręt 1981).

Wielkopolska-Kujawy Lowland: Zielona Góra [WT35], 1976, 1977, 11♂♂, 18♀♀, 12 nymphs, in grocery store, bakery and restaurants (Gołaszewska 1977); Świebodzin [WT38], 24 Sep 1983, 1♂, in restaurant (leg. S. Grobelny); Poznań [XU30], Osiedle Powstań Narodowych, 20 Dec 1997, 1 ind., in housing block (leg. Sz. Konwerski); Poznań [XU31], Osiedle Kosmonautów, Feb 2020, many ind. in housing block (leg. D. Solarczyk); Poznań [XU20], Kasztelańska Street, Mar 2022, numerous ind. in housing block (leg. D. Solarczyk); Konin [CC19], Przemysłowa Street, Mar 2020, numerous ind. in housing block (leg. D. Solarczyk).

The species is cosmopolitan and synanthropic. Reported from the following regions: Baltic Coast, Białowieża Primeval Forest, Kraków-Wieluń Upland, Lower Silesia, Lublin Upland, Mazovian Lowland, Nowotarska Valley, Pieniny Mts, Podlasie Lowland, Pomeranian Lakeland, Sandomierska Lowland, Upper Silesia, Western Beskid Mts, Wielkopolska-Kujawy Lowland (Kaczmarek & Knapik 1974, Grobelny 1975, Bazyluk 1976a, 1978, Bednarz 1976, Liana 2001, Grobelny & Żurawlew 2012, Żurawlew et al. 2019) and Trzebnickie Hills (Bednarz 1988).

***Ectobius lapponicus* (Linnaeus, 1758)**

Baltic Coast: Słowiński National Park [XA56], 21 Sep 1995, 1 ex., sand dunes (leg. Sz. Konwerski).

Lower Silesia: Wołów [XS18], 27 Aug 1970, 1♂, in edge of the forest (Prewysz-Kwinto 1979); Chrótnik [WS89], 15 Jul 1977, 1♂, 4 nymphs (Gnot 1980); Złoty Las [WS92],

3 Jul 1981, 2♂♂ (Naskręt 1981); Środa Śląska [XS16], 7 Sep 1986, 1♀, in deciduous forest (Gacek 1986); Ruszów [WS19], 2019, 1♂, 2♀♀, 1 nymph, on meadow (leg. T. Rutkowski).

Podlasie Lowland: Drażniew [FD10], 26 Jun 2019, 1♂ (leg. P. Kalinowski); Szczegłacin [FD00], 28 Jun 2020, 1♂ (leg. P. Kalinowski).

Pomeranian Lakeland: Bielinek nad Odrą nature reserve [VU46], 30 May 1984, 6♂♂, 1♀, in xerothermic grassland habitat on slope (leg. P. Stachowiak); Markocin [VU46], 30 May 1984, 1♀ nymph, in gorge (leg. P. Stachowiak); Moczele [WU68], 19 Jun 2014, 1♀ (leg. R. Orzechowski).

Roztocze Upland: Górecko Stare [FA49], 15–17 Aug 2020, 3♀♀, on sandy grassland (leg. T. Rutkowski).

Sandomierska Lowland: Damienice [DA53], May to Oct 1972–1975, found ind., in commercial forest (Tomków 1978).

Świętokrzyskie Mts: Święty Krzyż Mt, [EB03], 4 Aug 2020, 1♂, in mixed forest (leg. P. Żurawlew).

Trzebnickie Hills: Oborniki Śląskie [XS38], 27 Jul 1976, 7♂♂, 5♀♀, in mixed forest (Gringel 1977).

Upper Silesia: Panewnik [CA56], Świerklaniec [CA56], Alwernia [CA94], Trzebinia [CA95], May–Sep 1972, few ind. in commercial forest (Tomków 1978); Strzelce Opolskie [CA09], 30 Sep 1984, 1♂, in tree litter (Dudek-Piontek 1985).

Wielkopolska-Kujawy Lowland: Miroszka [XU81], Jul 1957, numerous ind. between berry shrubs *Vaccinium* Linnaeus, 1753, in forest (leg. S. Mielewczyk); Jakubowo nature reserve [WU81], Jun–Sep 1982 and 1983, 10♂♂, 26♀♀, in mixed hornbeam forest (leg. S. Grobelny); Poznań [XU31], Wilczy Młyn, 29 Sep 1984, 1♀, in forest (leg. S. Grobelny); Rogalinek [XT38], 4 Jul 1988, 1♂, in pine forest (leg. S. Grobelny); Poznań [XU30], 29 May 1990, 1♂, 1♀ nymph, in forest near river Michałówka (leg. S. Grobelny); Lusowo [XU11], 26 Sep 1995, 1 ex., on meadow (leg. Sz. Konwerski); Wielowieś [WU20], 18 May 2009, 1♂, 1♀ (leg. R. Orzechowski); Wysoka [WU30], 8 Jun 2009, 1♀ (leg. R. Orzechowski); Czarna Droga nature reserve [WT49], 17 Jul 2010, 1♂ (leg. R. Orzechowski); Siecieborzyce [WT32], 18 Jul 2011, 1♂ (leg. R. Orzechowski); Nowogród Bobrzański [WT13], 7 Jul 2012, 1♂ (leg. R. Orzechowski); Chyże [WT06], 7 Jun 2013, 1♂ (leg. R. Orzechowski); Drzonów [WT25], 20 May 2014, 1♂ (leg. R. Orzechowski); Zielona Góra [WT35], 18 Jul 2014, 1♀ (leg. R. Orzechowski); Nowy Świat [WT46], 18 May 2015, 1♂ (leg. R. Orzechowski); Przybrodzin [XU91], 6 Jul 2015, 1♂, 3♀♀, 30 Jun 2016, 3♀♀, 30 Jun 2021, 1♂ (leg. P. Żurawlew); Szczepanowo [XU95], 25 May 2017, 1♀ nymph, in pine forest (leg. S. Grobelny); Droszków [WT45], 24 Jun 2017, 1♀ (leg. R. Orzechowski); Bielawy [BD95], 28 Jul 2017, 1♂, at heap slope (leg. S. Grobelny); Kikowo [WU82], 27 Jun 2019, 1♂ (leg. J. Wendzonka); Łężyce [WU72], 4 Jul 2019, 2♀♀ (leg. J. Wendzonka); Żbiki [XT96], 8 Jun 2020, 1♂, 22 Jul 2021, 1♂, in road ditch (leg. P. Żurawlew); Gołuchów [YT04], 28 Jul 2021, 1♂, in the edge of a mixed forest (leg. P. Żurawlew).

A species classified as European and West Siberian, inhabiting forests, thickets, and orchards. In Poland it is found in all regions of the country (Kaczmarek & Knapik 1974, Grobelny 1975, 1983a, Wołyńska 1975, Bazyłuk 1976a, 1978, Bednarz 1976, 1988, Liana 1997, 2001, Grabowski 2009, Grobelny & Żurawlew 2012, Bloch-Orłowska et al. 2015, Żurawlew et al. 2019).

### *Ectobius sylvestris* (Poda, 1761)

Baltic Coast: Słowińskie Błota nature reserve [WA92], 4 May–10 Jul 2017, 1♀, in coniferous swamp (leg. T. Rutkowski, P. Sienkiewicz).

Lower Silesia: Gierałtów [WS27], 25 Jul 1982, 2♂♂, next to railroad tracks (Szczepaniak 1983).

Podlasie Lowland: Mężenin [FD10], 14 Jun 2019, 1♂ (leg. P. Kalinowski).

Pomeranian Lakeland: Tleń [CE14], 17 Sep 1986, 4 nymphs, in mixed forest (leg. S. Grobelny).

Sandomierska Lowland: Damienice [DA53], May–Oct 1972–1975, several ind., in commercial forest (Tomków 1978).

Trzebnickie Hills: Siemianice [CB07], 6 Jun 1980, 1♀ nymph (leg. P. Stachowiak).

Upper Silesia: Świerklaniec [CA59], Trzebinia [CA95], May–Oct 1972–1975, found ind., in commercial forest (Tomków 1978).

Wielkopolska-Kujawy Lowland: Osogóra [WT48], 29 May 2010, 1 nymph (leg. R. Orzechowski); Gryżyna Landscape Park [WT17], 15 Jun 2010, 1♂, 29 May 2012, 1 nymph (leg. R. Orzechowski); Łęknica [VT81], Mużakowski Park, 10 May 2012, 1♂ (leg. R. Orzechowski); Zielona Góra [WT35], 13 Jun 2013, 1 nymph (leg. R. Orzechowski); Marianowo [WU73], 27 Jun 2019, 1♀ (leg. J. Wendzonka).

A species with a European range, inhabiting forests. Listed in the following regions in Poland: Baltic Coast, Białowieża Primeval Forest, Bieszczady Mts, Kraków-Wieluń Upland, Lower Silesia, Lublin Upland, Małopolska Upland, Roztocze Upland, Mazovian Lowland, Pieniny Mts, Podlasie Lowland, Pomeranian Lakeland, Roztocze Upland, Sandomierska Lowland, Świętokrzyskie Mts, Western Beskid Mts, Western Sudety Mts, Tatra Mts, Upper Silesia, Wielkopolska-Kujawy Lowland (Grobelny 1975, 1983a, Bazyluk 1976a, 1978, Bednarz 1976, Kočárek 2000, Liana 1997, 2001, Grabowski 2009, Żurawlew et al. 2019) and Trzebnickie Hills (Bednarz 1988).

#### ***Periplaneta americana* (Linnaeus, 1758)**

Wielkopolska-Kujawy Lowland: Poznań [XU20], zoological garden – Stare Zoo, 10 Mar 1995, 2 ind., in reptile pavilion (leg. Sz. Konwerski).

The species is cosmopolitan in tropical and subtropical countries, and synanthropic in temperate countries. It is probably a permanent component of the Polish fauna. So far, it has been recorded in the following areas: Baltic Coast, Lower Silesia, Mazovian Lowland, Upper Silesia and Wielkopolska-Kujawy Lowland (Bazyluk 1976a, Grobelny & Żurawlew 2012).

#### ***Phyllodromica maculata* (Schreber, 1781)**

Kraków-Wieluń Upland: Ostrowy [CB64], May–Sep 1973–1975, few ind., in commercial forest (Chłodny 1978).

\*Sandomierska Lowland: Damienice [DA53], May–Oct 1972–1975, few ind. In commercial forest with the presence of *Alnus glutinosa* (L.) Gaertn. (Tomków 1978).

Trzebnickie Hills: Oborniki Śląskie [XS38], 27 Jul 1976, 1♂, 2♀♀, in mixed forest (Gringel 1977).

Upper Silesia: Panewnik [CA56], Alweria [CA94], Trzebinia [CA95], May–Oct 1972–1975, in commercial forest (Tomków 1978); Panewnik [CA56], Świerklaniec [CA59], Murcki [CA66], Alwernia [CA94], May–Sep 1973–1975, few ind., in deciduous forest (Chłodny 1978).

Wielkopolska-Kujawy Lowland: Miroszka [XU81], Jul 1957, numerous ind., in berry shrubs *Vaccinium*, in forest (leg. S. Mielewcyk); Łęknica [VT80], 25 Mar 2015, 1 nymph (leg. R. Orzechowski); Łęże [WU72], 4 Jul 2019, 2♀♀ (leg. J. Wendzonka); Orzeszkowo [WU72], 4 Jul 2019, 1♀ (leg. J. Wendzonka).

Central European species, associated with sunny forest areas. Reported from: Kraków-Wieluń Upland, Lublin Upland, Lower Silesia, Małopolska Upland, Mazovian Lowland, Pieniny Mts, Podlasie Lowland, Pomeranian Lakeland, Roztocze Upland, Trzebnickie Hills, Upper Silesia and Wielkopolska-Kujawy Lowland (Bazyluk 1976a, 1978, Bednarz 1976, 1988, Liana 1997).

## DERMAPTERA

***Apterygida albipennis* (Megerle von Mühlfeld, 1825)**

Baltic Coast: Gdynia [CF44], Arka Tennis Club, 7 Sep 2013, 2♂♂, 1♀, 3 nymphs, Aug 2020, 1♀ (leg. J. K. Kowalczyk).

\*Masurian Lakeland: Hława [DE03], 18 Aug 1979, 1♀, fresh meadow (Graboń 1980).

\*Podlasie Lowland: Mroczyki [EC86], 5 Jul 2020, 1♂, wall of the building (leg. P. Radzikowski).

Pomeranian Lakeland: Bielinek nad Odrą natural reserve [VU46], 30 May 1984, 4♀♀, trench next to the slope (leg. P. Stachowiak).

Trzebnickie Hills: Trzebnica [XS48], 17 Sep 1976, 1♀, under bark of *Acer* sp. (Gringel 1977).

Wielkopolska-Kujawy Lowland: Kobylin [XT53], 8 Sep 1994, 1♀, 15 Oct 1994, 1♂, 1♀ in garden, 11 Jun 1996, 3♀♀, under bushes of *Ribes nigrum* Linnaeus, 1753 (leg. S. Grobelny); Władimirów [CC09], 5 Aug 2011, 5♂♂, 2♀♀, lakeshore (leg. S. Grobelny); Skrzyżka [BD91], 16 Aug 2015, 1♂, wooded lakeshore (leg. P. Żurawlew); Bydgoszcz [YU08], Dąbrowski Park, 3 May 2016, 1♂, in litter (leg. T. Rutkowski); Stary Zagór [WT05], 5 Jun 2016, 1♀ (leg. R. Orzechowski); Pleszew [XT95], 30 Apr 2019, 2♀♀, sedge vegetation (leg. P. Żurawlew).

European species, inhabiting trees and shrubs. Listed so far in the following regions: Bieszczady Mts, Lower Silesia, Lublin Upland, Małopolska Upland, Mazovian Lowland, Pieniny Mts, Pomeranian Lakeland, Sandomierska Lowland, Świętokrzyskie Mts, Trzebnickie Hills, Upper Silesia, Western Beskid Mts, Western Sudety Mts (Bazyluk 1976b, 1978, Bednarz 1988, Gębicki & Szwedo 1994, Liana 1997, Soszyńska-Maj et al. 2010, Soszyńska-Maj & Jaskuła 2013), Wielkopolska-Kujawy Lowland (Wołyńska 1975, Żurawlew et al. 2019), Baltic Coast (Grobelny 1983a) and Białowieża Primeval Forest (Liana 2001).

Until recently, another name was used for this species, i.e., *Apterygida media* (Hagenbach, 1822), which is now considered a synonym of *A. albipennis* (Nishikawa & Kaçar 2018).

***Chelidurella acanthopygia* (Géné, 1832)**

Baltic Coast: Gdynia [CF44], Kępa Redłowska, Oct 2009, 1♂, 1♀ (leg. J. K. Kowalczyk); Gdynia [CF44], Arka Tennis Club, 7 Sep 2013, 1♂ (leg. J. K. Kowalczyk).

Lower Silesia: Środa Śląska [XS16], 8 Nov 1986, 7♀♀, in litter, mixed forest, (Gacek 1986); Wołów [XS18], 27 Aug 1970, 1♂, edge of forest (Prewysz-Kwinto 1979); Zgorzelec/Koźlice [VS96], 16 Apr 2016, 2♂♂, 3♀♀, mixed forest with prevalence of hornbeam, in the litter (leg. T. Rutkowski).

Małopolska Upland: Cisów nature reserve [DB92], 6 Oct 1982, 1♂, 1 nymph, mixed forest (leg. J. Kaczmarek); Dalejów nature reserve [DB85], 7 Oct 1982, 1♀, 2 nymphs, beech and larch mixed forest (leg. J. Kaczmarek); Świnia Góra nature reserve [DB75], 7 Oct 1982, 1♂, 3 nymphs, beech forest (leg. J. Kaczmarek).

Pomeranian Lakeland: Bagno Kusowo nature reserve [XV06], 5 May–11 Jul 2017, 2♂♂, swampy coniferous forest (leg. T. Rutkowski).

Świętokrzyskie Mts: Święty Krzyż nature reserve [EB03], 10 Nov 1981, 1♂, 4♀♀, 5 nymphs (leg. J. Kaczmarek); Łysica [DB93], 22 May 1982, 1 nymph, fir forest (leg. J. Kaczmarek); Czarny Las protected area [DB94], 4 Nov 1982, 1♀, forest *Tilio-Carpinetum* Scamoni et Pass. 1959 (leg. J. Kaczmarek); Góra Chełmowa nature reserve [EB03], 4 Nov 1982, 1♂, 3♀♀, 2 nymphs (leg. J. Kaczmarek); Wola Szczygiełkowa [DB93], 5 May 1982, 1♂, 1♀, 1 nymph, fir forest (leg. J. Kaczmarek).

Trzebnickie Hills: Trzebnica [XS48], 29 Sep 1976, 35♂♂, 40♀♀, under bark of tree (Gringel 1977).

Upper Silesia: Murcki [CA66], May-Sep 1973-1975, several ind. found, commercial forest (Chłodny 1978); Szymiszów [CA09], 21 Sep 1984, 4♀♀, Księży Las [CA09], 28 Sep 1984, 4♂♂, 6♀♀, Strzelce Opolskie [CA09], 30 Sep 1984, 6♂♂ (Dudek-Piontek 1985).

Wielkopolska-Kujawy Lowland: Zielona Góra [WT35], 1976, 1977, 13♂♂, 10♀♀, in litter (Gołaszewska 1977); Ruda Milicka/Stawno [XT61], 19 Aug 1979, 7 ind., in litter of broadleaf forest (Kwiatkowska 1980); Jakubowo nature reserve [WU81], 12 May 1981, 2♀♀, May–Oct 1981–1984, numerous ind., in hornbeam mixed forest (Grobelny 1987); Opalenica [WT99], 12 May 1981, 1♂, 1♀, May–Oct 1981–1984, numerous ind., hornbeam mixed forest (Grobelny 1987); Łągów [WT29], 25 Apr 1983, 1 ex., beech forest (Grobelny 1983b); Dębno nad Wartą nature reserve [XT67], 7 Feb 1994, 1♂, 1♀ (leg. K. Szybiak); Buczyzna Łagowska nature reserve [WU20], 13 Jun 2012, 1♂ (leg. R. Orzechowski); Uchorowo [XU33], 13 Mar 2016, 1♂ (leg. T. Rutkowski); Chalin [WU72], 8 Apr 2016, 3♂♂, 5♀♀ (leg. J. Wendzonka); Ludwina [XT94], 18 Feb 2019, 4♂♂, 3♀♀, in litter of mixed forest (leg. P. Żurawlew); Żegocin [XT96], 25 Feb 2019, 1♂, in litter of alder forest (leg. P. Żurawlew); Żbiki [XT96], 17 Mar 2019, 6♂♂, 3♀♀, in litter of alder forest (leg. P. Żurawlew); Marszew [XT95], 22 Mar 2019, 5♂♂, 3♀♀, in the litter, manor park (leg. P. Żurawlew); Taczanów [XT84], 30 Mar 2019, 1♀, 23 Mar 2020, 1♀, in the litter of the oak forest (leg. P. Żurawlew); Wiórek [XT29], 9 May 2021, 1♂, in mixed forest (leg. S. Grobelny).

European species, inhabiting trees, shrubs, and litter in forests. It has been recorded in the following regions: Baltic Coast, Białowieża Primeval Forest, Bieszczady Mts, Kraków-Wieluń Upland, Lower Silesia, Lublin Upland, Małopolska Upland, Masurian Lakeland, Mazovian Lowland, Pieniny Mts, Podlasie Lowland, Pomeranian Lakeland, Roztocze Upland, Sandomierska Lowland, Świętokrzyskie Mts, Tatra Mts, Upper Silesia, Western Beskid Mts, Western Sudety Mts, Wielkopolska-Kujawy Lowland (Kaczmarek & Knapik 1974, Wołyńska 1975, Bazyluk 1976b, 1978, Bednarz 1976, Grobelny 1983a, Liana 1997, 2001, Soszyńska-Maj et al. 2010, Jaskuła et al. 2011, Soszyńska-Maj & Jaskuła 2013, Żurawlew et al. 2019), and Trzebnickie Hills (Bednarz 1988).

Another species reported from Poland – *Chelidurella guentheri* Galvagni, 1994 (Jaskuła et al. 2011), has recently been synonymised with *Ch. acanthopygia* (Kirstová et al. 2021).

### ***Forficula auricularia* (Linnaeus, 1758)**

Baltic Coast: Dąbki [WA82], 25 Jul 2014, 2♂♂, 1♀, next to the buildings (leg. P. Żurawlew); Gdynia [CF44], Oct 2009, 2♀♀, 2 Jul 2020, 1♀, 24 Jul 2020, 1♂, Aug 2020, 1♀, 24 Aug 2020, 1♀, 30 Aug 2021, 1 nymph (leg. J. K. Kowalczyk).

Lower Silesia: Bielawa [XS11], 1976, 1977, numerous ind. (Anders 1977); Chocianów [WS69], 1978, 16 ind. (Stasiewicz 1978); Stary Wołów [XS19], 13 Sep 1979, Wołów [XS18], 2 Aug 1979, in total 59 ind. (Prewysz-Kwinto 1979); Lubin [WS89], Tymowa [WT90], Chrótnik [WS89], 30 Aug 1977, 28 Sep 1977, 22♂♂, 18♀♀ (Gnot 1980); Węgliniec [WS18], Gierałtów [WS27], Nowogrodziec [WS27], 1982, numerous ind. (Szczepaniak 1983); Środa Śląska [XS16], 1986, 6 ind. (Gacek 1986); Kamień Śląski [BB90], 10 Jul 2011, numerous ind., meadow/pasture (leg. M. Brodacki).

Lublin Upland: Osiny [EC70], 24 Apr 2014, 1 ex., 25 May 2014, 1 ex., 28 May 2014, 15 ind., 25 Jun 2014, 6 ind., 20 Aug 2014, 7 ind., 28 Apr 2015, 1 ex., 28 May 2015, 3 ind., 20 Jul 2015, 1 ex., 18 Aug 2015, 13 ind., 26 Apr 2016, 1 ex., 10 May 2016, 1 ex., 23 May 2016, 3 ind., 6 Jun 2016, 1 ex., 21 Jun 2016, 5 ind., 21 Jul 2016, 2 ind., 29 Jun 2018, 36 ind., 27 Jun 2019, 34 ind., energy crops: willow, polar, and miscanthus (leg. P. Radzikowski).

Małopolska Upland: Gródek [EB14], 1988, 1999, several ind., rural buildings (leg. M. Kutera).

Masurian Lakeland: Żytkiejmy [FF02], 3, 5 and 31 Jul 1977, 1–2 Aug 1977, 50♂♂, 51♀♀, 72 nymphs (Kraczaj 1977); Iława [DE03], 2, 12 and 17 Aug 1979, 6♂♂, 9♀♀, meadow and pasture (Graboń 1980); Pilchy [EE54], 16 Aug 2008, 1 ex., sandy grassland, 16 Aug 2008, 1♀, rural buildings (leg. M. Brodacki); Kopanica [FE48], 28 Jul 2014, 1♀ (leg. R. Orzechowski); Tobałowo [FE48], 27 Jul 2015, 1♀ (leg. R. Orzechowski).

Mazovian Lowland: Jagodne [EC45], 19 Apr 2020, 1♀, 10 nymphs, village backyard (leg. P. Radzikowski).

Podlasie Lowland: Węgrów [ED60], 1976–1977, 12 ind. (Bednarczyk 1977); Mroczi [EC86], 1 Aug 2000, 10 ind., in debris (leg. P. Radzikowski); Szczeglacin [FD00], 26 Jun 2019, 1♀ nymph, 23 Jul 2019, 1♂, 19 Oct 2019, 1♀ (leg. P. Kalinowski); Jagodne [EC45], 4 Oct 2020, several ind., rural buildings (leg. P. Radzikowski).

Pomeranian Lakeland: Głusko [WU67], 1977, 8 ind. (Kwiatkowska 1980); Markocin [VU46], 30 May 1984, 2♀♀, in gorge (leg. P. Stachowiak); Bielinek nad Odrą nature reserve [VU46], 2 Aug 1985, 2♂♂, 1♀, 3 nymphs (leg. P. Stachowiak); Tleń [CE14], 17 Sep 1986, 1♂, 2♀♀, in mixed forest (leg. S. Grobelny); Juchowo [WV94], 27 Jul 2021, 1 ex., in rural buildings (leg. P. Radzikowski); Sypniewo/Adamowo [XV51], 28 Aug 2021, 1♀ nymph, sandy grassland (leg. Brodacki).

Roztocze Upland: Górecko Stare [FA49], 15–17 Aug 2020, 2♀♀, sandy grassland (leg. T. Rutkowski).

Sandomierska Lowland: Mołodycz [FA35], 30 Jul 2021, 1♀, mid-forest meadow (leg. M. Brodacki).

Trzebnickie Hills: Trzebnica [XS48], 1976, 33♂♂, 23♀♀ (Gringel 1977).

Western Sudety Mts: Chojnik Mt. [WS43], 14 Aug 1979, 1♂ (leg. P. Stachowiak); Zagórze Śląskie [WS92], Rzeczka [XS01], Michałkowa [XS02], Przygórze [XS10], 1976, 1977, numerous ind. (Andres 1977); Wałbrzych [WS92], very numerous ind. (Naskręt 1981); Henryków Lubański [WS16], 1982, many ind. (Szczepaniak 1983).

Wielkopolska-Kujawy Lowland: Sieciejów [WT02], 4 Nov 1972, 1♀ (leg. P. Stachowiak); Zielona Góra [WT35], 1976, 1977, 32♂♂, 10♀♀, 3 nymphs (Gołaszewska 1977); Sobótka [XT93], 1979, numerous ind. (Grajek 1980); Ruda Milicka/Stawno [XT61], 1979, 8 ind., under bark, stones, and litter (Kwiatkowska 1980); Opalenica [WT99], 12 May 1981, 1♀, 6 nymphs under the stone, Jun-Sep 1981, 6♂♂, 5♀♀, 10 nymphs (leg. S. Grobelny); Kobylin [XT53], 15 Oct 1994, 1♂, 1♀, in the garden (leg. S. Grobelny); Wielowieś [WU20], 24 Sep 2010, 1♀ (leg. R. Orzechowski); Mierków [VT93], 29 May 2011, 1♀ (leg. J. Wendzonka); Grąblinek [CC19], 5 Oct 2011, 1♀, in a mid-forest glade (leg. S. Grobelny); Zawisze [WT27], 25 Sep 2012, 1♀, 11 Jul 2014, 1♂ (leg. R. Orzechowski); Zielona Góra [WT35], 21 Apr 2013, 1♂, 17 Aug 2013, 1♀, 12 Sep 2014, 1♀, 19 Oct 2014, 1♂ (leg. R. Orzechowski); Przybrodziej [XU91], 8 Jul 2013, 1♂, 6 Jul 2015, 1♀, 4♀♀ nymphs, 12 Jul 2017, 1♀, 2♀♀ nymphs (leg. P. Żurawlew); Grabin [WT17], 6 May 2015, 1♂ (leg. R. Orzechowski); Powidz [XU91], 6 Jul 2015, 1♂, 2 Jul 2020, 1♂, next to the buildings (leg. P. Żurawlew); Chalin [WU72], 8 Apr 2016, 2♂♂ (leg. J. Wendzonka); Wapienno [XU95], 11 Aug 2016, 1♀, on a heap slope (leg. S. Grobelny); Bydgoszcz [XU99], 19 Mar 2016, 1♂, meadow (leg. T. Rutkowski); Bydgoszcz [CD08], Wzgórze Wolności Park, 15–22 May 2016, 3♀♀, łąg (leg. T. Rutkowski); Piła [YT05], 12 Feb 2019, 1♂, in the litter of mixed forest (leg. E. Markiewicz); Pleszew [XT95], 9 May 2019, 2♀♀, sedge habitat (leg. P. Żurawlew); Łęczce [WU72], 4 Jul 2019, 6 nymphs (leg. J. Wendzonka); Ludwikowo [XU03], 6 Aug 2019, 1♂, apiary (leg. S. Grobelny); Gołuchów [YT04], 26 Jul 2019, 1♀, mixed forest (leg. P. Żurawlew); Żbiki [XT96], 5 Sep 2019, 3♀♀, 26 Apr 2020, 1♀, alder forest, 10 Sep 2020, 2♀♀, 23 Jul 2021,



4♂♂, 3♀♀, household garden (leg. P. Żurawlew); Sowina Błotna [XT94], 10 Sep 2020, 1♂, 1♀, next to the buildings (leg. P. Żurawlew).

A cosmopolitan species inhabiting a wide variety of habitats. Known from all regions of Poland (Kaczmarek & Knapik 1974, Grobelny 1975, 1983a, Wołyńska 1975, Bazyluk 1976b, 1978, Bednarz 1976, 1988, Liana 1997, 2001, Kočárek 2000, Grabowski 2009, Soszyńska-Maj et al. 2010, Soszyńska-Maj & Jaskuła 2013, Bloch-Orłowska et al. 2015, Żurawlew et al. 2019).

### ***Labia minor* (Linnaeus, 1758)**

Lower Silesia: Lubin [WS89], 15 Sep 1977, 3♀♀, in outbuilding (Gnot 1980).

\*Masurian Lakeland: Hawa [DE03], 18 Aug 1979, 1♀, in a farm (Graboń 1980).

Mazovian Lowland: Jagodne [EC45], 4 Sep 2020, 1♂, *ad lucem*, in a farm (leg. P. Radzikowski).

\*Podlasie Lowland: Mroczi [EC86], 1 Aug 2000, 1♀, 15 Aug 2000, 1 ex., 20 Jul 2004, 1 ex., in outbuilding (leg. P. Radzikowski).

Pomeranian Lakeland: Juchowo [WV94], 27 Jul 2021, 1 ex., rural buildings (leg. P. Radzikowski).

Trzebnickie Hills: Skoroszów [XS59], 25 Aug 1976, 4♂♂, 7♀♀, in outbuilding (Gringel 1977).

Upper Silesia: Strzelce Opolskie [CA09], 15 Jun 1984, 5♂♂, 29 Jun 1984, 9 nymphs, 1 Aug 1984, 5♂♂, 4♀♀, 20 Sep 1984, 2♀♀ (Dudek-Piontek 1985); Kolonowskie [CB11], 2 Nov 1984, 2♀♀ (Dudek-Piontek 1985).

Western Sudety Mts: Wałbrzych [WS92], 18 Aug 1981, 7♂♂, 3♀♀, in outbuilding (Naskręt 1981).

Wielkopolska-Kujawy Lowland: Brączewo [XU04], 26 Aug–1 Sep 1992, 2♂♂, 1♀, in a pasture (leg. M. Bunalski); Osowo Stare [XU13], 26 Aug–1 Sep 1992, 1♂, 1♀, in a meadow (leg. M. Bunalski); Kobylin [XT53], 23 Jul 1991, 1♀, rural buildings (leg. S. Grobelny); Tulce [XU40], 12 Sep 1993, 1♀, rural buildings (leg. S. Grobelny); Osowa Góra [XT29], 28 Jun 1994, 1♂, in light insect trap (leg. E. Baraniak); Benice [XT63], 6 Jun 1998, 1♂, cowshed (leg. S. Grobelny); Lusowo [XU11], 3 May 2006, 1 ex., rural buildings (leg. Sz. Konwerski); Żbiki [XT96], 14 Aug 2021, 2♀♀, 6 Sep 2021, 1♀, chicken house (leg. P. Żurawlew).

A cosmopolitan species found in pastures, meadows, barns, and stables. Known from: Baltic Coast, Kraków-Wieluń Upland, Lower Silesia, Lublin Upland, Małopolska Upland, Mazovian Lowland, Pieniny Mts, Pomeranian Lakeland, Roztocze Upland, Upper Silesia, Western Beskid Mts, Western Sudety Mts, Wielkopolska-Kujawy Lowland (Grobelny 1975, 1983a, Bazyluk 1976b, Bednarz 1976, 1978, Grabowski 2009, Soszyńska-Maj et al. 2010, Żurawlew et al. 2019), Trzebnickie Hills (Bednarz 1988) and Białowieża Primeval Forest (Liana 2001).

### ***Labidura riparia* (Pallas, 1773)**

Baltic Coast: Łazy [WA71], 1–14 Aug 2009, 1 ex., sea beach (leg. Sz. Konwerski).

Lublin Upland: Puławy [EB69], 2013, 2016, several ind., 18 Mar 2020, 1♀, beach on the river Vistula (leg. P. Radzikowski).

Małopolska Upland: Gołąb [EC50], 12 Aug 2013, 1♂, 1♀, beach on the river Vistula (leg. P. Radzikowski).

Masurian Lakeland: Chorzele [DE90], 22 Jun 2020, 2♂♂, 3♀♀, sandy grassland (leg. J. Wendzonka).

Mazovian Lowland: Tyrzyn [EC41], 13 Aug 2013, 5 ind., beach on the river Vistula (leg. P. Radzikowski); Kraski Dolne [EC32], 14 Aug 2013, 5 ind., beach on the river Vistula (leg. P. Radzikowski); Ostrówek [EC14], 15 Aug 2013, 3 ind., beach on the river Vistula (leg. P. Radzikowski).

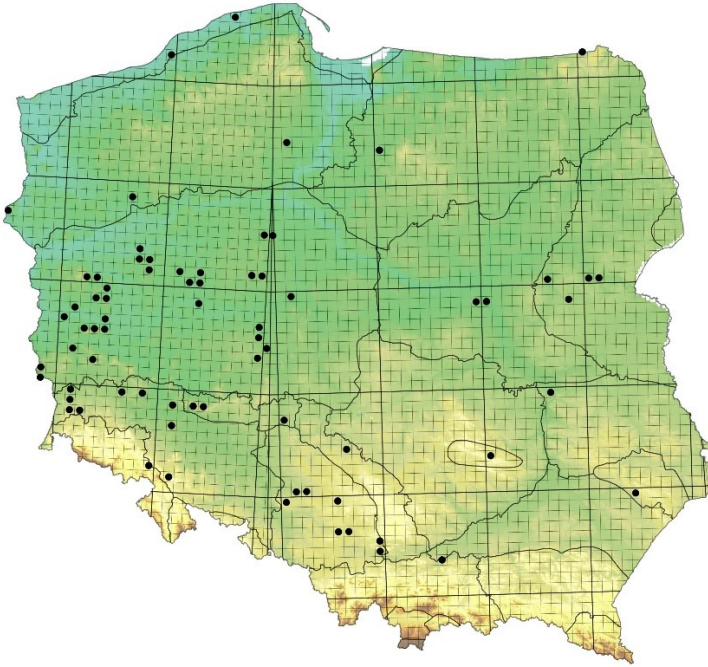


Fig. 1. Distribution of the records of Blattodea species in Poland from 1957–2021 presented in UTM system.

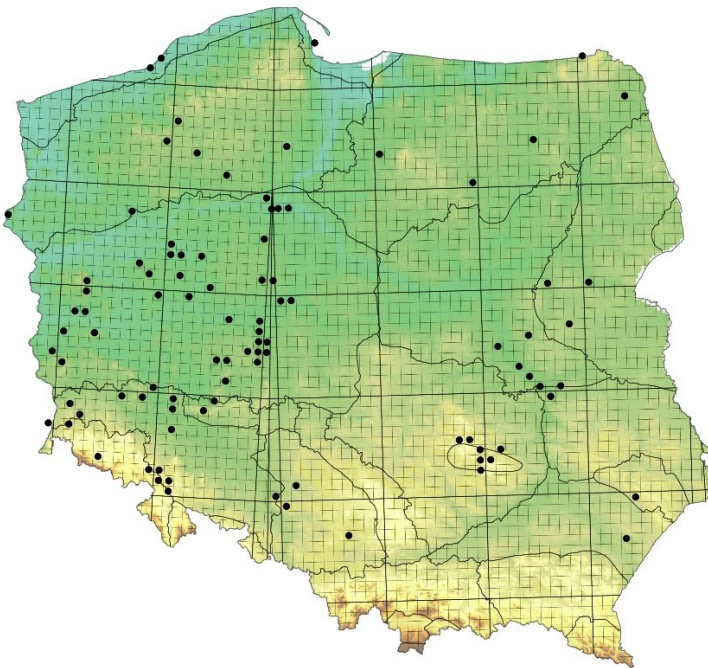


Fig. 2. Distribution of the records of Dermaptera species in Poland from 1957–2021 presented in UTM system.

Pomeranian Lakeland: Lędyczek [XV23], 25 Aug 2021, 1 ex., gravel pit (leg. T. Rutkowski).

Wielkopolska-Kujawy Lowland: Zielona Góra [WT35], Osiedle Leśne, 12 Sep 2014, 1 ♀, *ad lucem* (leg. R. Orzechowski); Puszczykowo [XT29], 28 Jul 2018, 1 ex., sand dune by the river Warta (leg. T. Rutkowski); Otorowo [CD18], Aug 2018, 1 ex. Biała Góra– sand dune (leg. T. Rutkowski); Żbiki [XT96], 19 Aug 2019, 1 ♂, *ad lucem* (leg. P. Żurawlew); Gizałki-Las [XT97], 27 Aug 2019, 1 ♂, 1 ♀, recultivated landfill (leg. P. Żurawlew); Sieniawa [WU20], 10 Jul 2021, 3 nymphs, midfield gravel pit (leg. R. Orzechowski).

A cosmopolitan species that inhabits sandy areas, dunes, and riverine alluvia. Reported from the following regions: Baltic Coast, Kraków-Wieluń Upland, Lublin Upland, Małopolska Upland, Masurian Lakeland, Mazovian Lowland, Pomeranian Lakeland, Sandomierska Lowland, Upper Silesia, Wielkopolska-Kujawy Lowland (Kaczmarek & Knapik 1974, Grobelny 1975, 1983a, Bazyluk 1976b, Bednarz 1976, Grabowski 2009, Bloch-Orłowska et al. 2015, Żurawlew et al. 2019, Orzechowski et al. 2020) and Białowieża Primeval Forest (Liana 2001). The species is placed on the "Red List of Threatened and Endangered Animals in Poland" in the LC category – the least concern (Liana 2002).

#### SUMMARY

Information on the species composition and distribution of native cockroaches and earwigs has been thoroughly summarized in the studies of the series "Catalogue of Polish Fauna" (Bazyluk 1976a,b) and "Fauna of Poland" (Bazyluk 1977). Cockroach species found naturally in Poland are also *Ectobius erythronotus* (Burr, 1899) and *E. pallidus* (Olivier, 1789), and among earwigs *Anechura bipunctata* (Fabricius, 1781) (whose occurrence is currently considered to be questionable) (Liana 2007a,b). The materials presented in this paper bring new data on the occurrence of 6 species of cockroaches and 5 species of earwigs (Fig. 1 & 2). In the case of 4 species, the first information on their occurrence in several regions according to the "Catalogue of Polish Fauna" is given: *Blattella germanica* (Masurian Lakeland, Western Beskid Mts), *Phyllodromica maculata* (Sandomierska Lowland), *Apterygida albipennis* (Masurian Lakeland, Podlasie Lowland) and *Labia minor* (Masurian Lakeland, Podlasie Lowland). Currently in "Red List of Threatened and Endangered Animals in Poland" there is one species of cockroach (*E. pallidus* – in the EX category – extinct) and one species of earwig (*L. riparia* – in the LC category – the least concern) (Liana 2002). The authors postulate the need for further studies on the distribution of these insects.

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#### STRESZCZENIE

#### [Nowe dane o karaczanach (Blattodea) i skorkach (Dermaptera) Polski]

W pracy przedstawiono głównie niepublikowane informacje z lat 1957–2021 o 6 gatunkach karaczanów (Blattodea) (*Blatta orientalis*, *Blattella germanica*, *Ectobius lapponicus*, *E. sylvestris*, *Periplaneta americana* i *Phyllodromica maculata*) oraz 5 gatunkach skorków (Dermaptera) (*Apterygida albipennis*, *Chelidurella acanthopygia*, *Forficula auricularia*, *Labia minor* i *Labidura riparia*) stwierdzonych w Polsce. Rozmieszczenie tych owadów nadal poznane jest niedostatecznie, a z niektórych krain wg „Katalogu Fauny Polski” część gatunków nie zostało w ogóle wykazanych, bądź stwierdzono je tylko na pojedynczych stanowiskach. Dla 4 gatunków podano pierwsze informacje o ich występowaniu w poszczególnych krainach według „Katalogu Fauny Polski”: *B. germanica* (Pojezierze Mazurskie, Sudety Zachodnie), *Ph. maculata* (Nizina Sandomierska), *A. albipennis* (Podlasie, Pojezierze Mazurskie) i *L. minor* (Podlasie, Pojezierze Mazurskie). Autorzy postulują potrzebę dalszych badań nad poznaniem rozmieszczenia tych owadów w Polsce.