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**MARCIN WALCZAK, CEZARY GĘBICKI, WACŁAW WOJCIECHOWSKI,  
DARIUSZ ŚWIERCZEWSKI**

**The fauna of planthoppers and leafhoppers (Hemiptera:  
Fulgoromorpha et Cicadomorpha) in the city of Częstochowa  
(southern Poland)**

The Monograph



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**Manuscript submission:**

Department of Natural History, Upper Silesian Museum in Bytom  
Plac Jana III Sobieskiego 2, 41-902 Bytom, Poland  
tel./fax +48 32 281 34 01 #125  
e-mail: [dobosz@muzeum.bytom.pl](mailto:dobosz@muzeum.bytom.pl)

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MARCIN WALCZAK<sup>1</sup>, CEZARY GĘBICKI<sup>2</sup>, WACŁAW WOJCIECHOWSKI<sup>1</sup>,  
DARIUSZ ŚWIERCZEWSKI<sup>2</sup>

## The fauna of planthoppers and leafhoppers (Hemiptera: Fulgoromorpha et Cicadomorpha) in the city of Częstochowa (southern Poland) The Monograph

<sup>1</sup>Department of Zoology, University of Silesia, Bankowa 9, PL 40-007 Katowice

<sup>2</sup>Department of Biology and Nature Conservation, Jan Długosz University of Częstochowa, Armii  
Krajowej 13/15, PL 42-201 Częstochowa

**Abstract:** This work contains detailed faunistic information on the occurrence of planthoppers and leafhoppers (Hemiptera: Fulgoromorpha et Cicadomorpha) in certain habitats and ecosystems located within the administrative borders of the city of Częstochowa as well as its surroundings. It is based on quantitative and qualitative research carried out in the years 2005–2016 in seminatural plant communities such as woodlands (pine, oak-hornbeam and riparian forests) and non-woodlands (meadows and xerothermic grasslands), together with typical anthropogenic habitats (urbicoenoses) under different degrees of anthropopressure (all together 20 syntaxa). The research sites, in number of 35, were located at different distances from the city centre, with several in the suburbs. As a result of the research, 283 species were recorded, which constitutes 51.3% of the fauna of planthoppers and leafhoppers of Poland. Of this number, 46 species belong to the family Delphacidae (50% of its Polish representatives) and 216 species represent the family Cicadellidae (53.3%). Moreover, 11 species were reported previously from this area as new to the fauna of Poland: *Acericerus ribauti* NICKEL et REMANE, 2002, *Eupteryx lelievrei* (LETHIERRY, 1874), *Zyginidia pullula* (BOHEMAN, 1845), *Zygina griseombra* REMANE, 1994, *Zygina schneideri* (GÜNTHART, 1974), *Macrosteles sardus* RIBAUT, 1948, *Balclutha saltuella* (KIRSCHBAUM, 1868), *Orientalis ishidae* (MATSUMURA, 1902), *Endria nebulosa* (BALL, 1900), *Metalimnus steini* (FIEBER, 1869) and *Calamotettix taeniatus* (HORVÁTH, 1911) and one species – *Chloriona unicolor* (HERRICH-SCHÄFFER, 1835) – reported here as new to the fauna of Poland, 25 new (or recorded recently) to region Krakowsko-Wieluńska Upland and 36 species were recognised as rare. All the species were characterised in terms of chorology, distribution in Poland and bionomy (voltinism, overwintering, moisture, insolation, substrate, trophic relations, habitat preferences, association with urban environments). The information on the species composition and the abundance dynamics of planthopper and leafhopper communities associated with the particular plant assemblages within the area of the city of Częstochowa can be found in the monograph by WALCZAK et al. (2014).

**Key words:** Hemiptera, Fulgoromorpha, Cicadomorpha, faunistics, zoogeography, ecology, urbicoenoses, Poland

# 1. INTRODUCTION

Planthoppers (Fulgoromorpha Evans) and leafhoppers (Cicadomorpha Evans) are suborders of Hemiptera, which in older systematics are classified together as suborder Auchenorrhyncha within Homoptera. The term 'Auchenorrhyncha' is still used from an ecological point of view to assemble a group of plant-sucking insects. A total of 552 species of planthoppers (including *Chloriona unicolor* (HERRICH-SCHÄFFER, 1835)) and leafhoppers have been recorded on Polish territory so far (WALCZAK et al. 2016) which constitutes about 30% of European leafhopper fauna (HOCH 2013).

Being phytophagous consumers, planthoppers and leafhoppers are an important component of food chains in almost all terrestrial ecosystems, where they form characteristic communities, with specific species composition and seasonal abundance changes. With increasing pressure from natural or anthropogenic factors, they can also be regarded as bioindicators of environmental changes and useful in research on the fauna of urban ecosystems (CHUDZICKA 1979, 1981; SKIBIŃSKA & CHUDZICKA 2000; NICKEL & HILDEBRANDT 2003). A complete literature review on this subject can be found in the work by WALCZAK et al. 2014.

Urbicoenoses are defined as urban habitats associated with human activity, with diverse spatial structure and unstable homeostatic balance, under secondary succession, rich in urbicophilous and synanthropic species and playing an important recreational and esthetic role for citizens. We can include here city parks, residential area greenery, road verge greenery, allotments, fruit orchards and vegetation associated with municipal and public buildings. However, areas with a lack of greenery are excluded from urbicoenoses, although they play an important role in urban ecology. These are accommodation spaces, house basements, industrial buildings, and warehouses, among others.

The urban environment has changed over a period of two hundred years from compact built-up areas without greenery into a model of scattered suburban residential areas with differentiated vegetation. At present, urbanized areas are characterized by a quick rate of transformation of natural geocological systems, via semi-natural with visible human management impact into completely anthropogenic ones (SZPONAR 2003). Increasing urbanization pressure, which changes most physico-chemical parameters, causes an increase in secondary habitats areas, which are rich in urbicophilous flora and fauna.

The most transformed urban habitats are terrestrial ecosystems and the least changed, even in the centres of cities, are reservoirs and water courses with waterside vegetation. The ratio of segetal and ruderal habitats in a city depends on its historical development and the direction of recent anthropopressure. Secondary succession is a common phenomenon occurring in urban habitats and the main force stimulating their evolution. Moreover, the lack of a homeostatic mechanism supports the introduction of alien species, including those originating from different climatic zones.

From a local and a regional point of view, urbicoenoses of particular cities and settlements connect themselves with a net of ecological corridors, favoring the migration of native and alien species. An important role is played here by stripes of woodlands, which also serve as refugia for many rare and relict species. Undoubtedly, the natural environment of Częstochowa is particularly rich in different types of urbicoenoses, compared to other big cities of the Upper Silesia region.

The first published data on planthoppers and leafhoppers associated with urban greenery in Poland was very fragmentary, not referring to the communities but only to the occurrence of particular species (SMRECZYŃSKI 1954, 1955). It is, however, worth mentioning the pioneering research on Auchenorrhyncha of Warsaw carried out by Karol de Perthées, a cartographer to King Stanisław August Poniatowski, in the years 1764-1795. As his insect collection was destroyed, his manuscript, illustrated with numerous and detailed drawings, is the only depiction of the fauna of Warsaw of that time.

The first comprehensive zoocenological studies on the urban greenery of Poland were those concerning the species composition and dominance structure of planthoppers and leafhoppers of lime tree canopies in Warsaw (CHUDZICKA 1979) together with one referring to plant assemblages in the housing estate of Białoleka Dworska (CHUDZICKA 1981). However, the breakthrough was the comprehensive work by CHUDZICKA (1986) on the Auchenorrhyncha communities of urban greenery of Warsaw, which together with the above mentioned studies enabled comparative studies in this subject to start. In this work, ecologically different groups of urbicoenoses such as ecosystems located in the city centre, wildlife corridors along roads and rivers as well as natural and seminatural vegetation of the suburbs were investigated. Additionally, zoocenological and faunological studies were carried out in selected urbicoenoses of such cities of southern Poland as Sosnowiec (WALCZAK 2005), Katowice (GAJ & PILARCZYK 2003), Oświęcim, Wodzisław Śląski, Pszczyna, Tarnowskie Góry, Zabrze, Zawiercie, Bytom, Chrzanów and Chorzów (unpublished data). These researches covered mainly grassland, ruderal and post-industrial habitats. Finally, a taxonomic review of planthoppers and leafhoppers from the collection of the Upper Silesian Museum in Bytom (BOKŁAK et al. 2003) provided insight into the historical changes in that group of insects in the area of the Upper Silesian Industrial Region. Interestingly, two important invasive species *Graphocephala fennahi* (YOUNG, 1977) (MUSIK 2011) and *Japananus hyalinus* (OSBORN, 1900) (WALCZAK et al. 2012) were first recorded in urban habitats, which suggests that newly introduced species reveal a preference for anthropogenic environments as a replacement for their native habitats. This may result from a lack of effective mechanisms (interspecific competition and natural enemies such as predators and parasitoids) responsible for the maintenance of the ecological balance in such ecosystems.

The area of the city of Częstochowa together with its surroundings is of special scientific interest as it is located on the border of three geographical regions: the Częstochowa Upland, the Wieluń Upland and the Upper Warta River Depression. In light of this, in the years 2009-2010, complex taxonomic and ecological studies of the city urbicoenoses were carried out with the financial support of the local government. The results of these studies are included in an unpublished monographic outline (CABAŁA et al. 2010). However, it should be noted that planthoppers and leafhoppers are treated here rather marginally. Moreover, some information on common species is also given in several MSc theses completed at Jan Długosz University in Częstochowa, which themed the biodiversity of such high nature-value sites as Gąszczyk, Kokocówka, Łąki Błeszeńskie and Warta River Gorge near Mirów. The first attempt to analyze the communities of planthoppers and leafhoppers in Częstochowa was in the work by WALCZAK (2008a). Additionally, some faunistic data on rare Auchenorrhyncha recorded within the city can be found in the paper by ŚWIERCZEWSKI & WALCZAK (2011).

The aim of the studies, whose results were published in a monograph authored by WALCZAK et al. (2014), was to describe planthopper and leafhopper communities associated with selected plant assemblages within the area of Częstochowa city in terms of their

structure and seasonal abundance changes. This part continues the project, including the characteristics of all species reported from the investigated area, with emphasis on rare and endangered taxa, together with the qualitative and quantitative analyses of antropophilous elements. Another goal was to determine the degree of synantropization of Auchenorrhyncha fauna inhabiting the city as well as to distinguish the elements characteristic for the urban insects communities.

## 2. THE PHYSIOGRAPHY OF THE CITY OF CZĘSTOCHOWA

The study plots were located within the administrative borders of the city of Częstochowa, the twelfth largest city in Poland, covering an area of 159.7 km<sup>2</sup>. Częstochowa lies in southern Poland, on the River Warta, in the northern part of the Province of Silesia, between the latitudes 50°53'46"N–50°53'23"N and longitudes 19°0'39"E–19°14'5"E. According to historians and ethnographers, the city belongs to the north-western part of the Małopolska Region. Geographers distinguish three physiographic units (mesoregions) within the area of the city: the Wieluńska Upland in the north, the Częstochowska Upland in the east and the Upper Warta River Depression covering the centre and the south-west. With regard to the zoogeographical division of Poland, the territory of the city is located in the central part of the Krakowsko-Wieluńska Upland (NAST 1976a, TYKARSKI 2011).

In respect of geology, the area of Częstochowa belongs to the Silesian-Cracow monocline, which borders the Upper Silesian Depression to the west, the Sub-Carpathian Depression to the south and the Miechów basin to the east. It is possible to distinguish three main structural horizons in the geological structure of this area: folded deposits of Palaeozoic substratum, a plate of sedimentary Mesozoic rocks and a covering of Cainozoic deposits (KLECZKOWSKI 1972).

The Palaeozoic element is represented by the Małopolski block, which came into the Silesian-Cracow Upland from the area of the present-day Black Sea. It is built of folded formations of the Silurian, Devonian, Carboniferous and Permian Periods of the Variscan Orogeny (HEREŹNIAK 2000). The Mesozoic formation known as the Krakowsko-Częstochowska Upland or Upper Jurassic ridge is represented by different types of limestone, formed at the bottom of warm Upper Jurassic and Cretaceous seas. Moreover, karst phenomena occurring during the warm and humid climate of the Tertiary resulted in damage to the higher horizon of the upland and only more resistant fragments of limestone remained in the form outcrops located in the districts of Grabówka, Błeszno and Raków as well as those of Jasna Góra. The Cenozoic-Quaternary deposits of the Oder Glaciation covers most of the city. They are made of sand and gravel, which have undergone multiple re-depositions and reach their greatest thickness in the Warta River valley and its tributaries. In the surroundings, as well as within the city boundaries, quarries of limestone rock, sand and gravel as well as iron ore mines were common and until 1960's formed an important branch of local industry.

The present terrain relief of the city as well as its landscape character have been primarily the result of a variable denudation, which comprised Oder and Baltic glaciations of the Pleistocene and accumulation and erosion processes held in the Holocene (CABAŁA et al. 2007). Furthermore, in XIX and XX century they were the subject of anthropogenic transformations connected with settlement and mining.



The altitude ranges from 236.0 to 316.7 m a.s.l., with the highest points being two limestone monadnocks located within the Upper Jurassic ridge: Góra Ossona (316.7 m) and Góra Kokocówka (301 m). In the northern part, postglacial moraine hills and sandy-gravel dunes have also been recorded (RÓŻYCKI 1972, LEWANDOWSKI 1996). Moreover, the Warta River gorge stretching almost from the city center up to the village of Mstów is an important element of the local landscape (CABAŁA et al. 2007). However, its original relief has been significantly transformed by the process of urbanization (KONIECZNY et al. 2004).

The type of rocky substratum and terrain relief clearly determine the variety of soils and consequently habitat conditions in Częstochowa. The predominant types of soil occurring within the city centre are those of anthropogenic origin, without distinguished horizons or with simply-developed structure, with the presence of rubble and constant water deficiency. In the outskirts, podzols originating from sands, clays and loess are found, together with different subtypes of carbonate pararendzinas formed on the limestone substratum (KONIECZNY et al. 2004). The valleys of such rivers as the Warta, Stradomka and Konopka are covered with alluvial soils, with patches of chernozem, extending from the city centre to the vicinity of Żłoty Potok (HEREŹNIAK et al. 1970, MICHALIK 1974). In constantly moist areas, half-bog-gley soils can be also recorded (SŁOWICKI 1978).

According to the division of Poland into climatic regions by ROMER (1949), the city of Częstochowa lies within the climatic zone of the Central Uplands within the borders of the Silesian-Cracow Region. When considering the agricultural-climatic provinces distinguished by GUMIŃSKI (1948), the area described belongs to the Częstochowa-Kielce Province. According to the latest climatic regionalization by Woś (1999), Częstochowa city belongs to the Central Poland climatic zone and borders on the Western Małopolska zone.

On the basis of data supplied by the Institute of Meteorology and Water Management (IMGW), the long-term average annual air temperature of Częstochowa in the second half of XX century was about 8.0°C. Winter in the area lasts about 100-110 days and snow cover duration ranges from 60 to 80 days (SŁOWICKI 1974). The period of time with temperatures above 0°C covers 260-270 days and the length of the vegetation period (with average 24-hour temperatures above 5°C) is from 190 to 210 days. The mean January temperature is – 2 to – 3°C, whereas the average temperature for July is + 17 to + 18°C. Total annual precipitation is about 680 mm. The highest precipitation is recorded in July with an annual average of 104 mm.

In the area of Częstochowa, winds from a western and south-western direction prevail with the average annual wind velocity at a level of 2.4 m/s. The greatest number of cloudy days in the Częstochowa region occur in December (18 days) whereas the fewest is in May (8 days) (SŁOWICKI 1978). Interestingly, during windless weather in the Warta River valley near Częstochowa, the phenomenon of thermal inversion is often recorded (MICHALIK 1974, SŁOWICKI 1978, NIEDŹWIEDŹ & OBRĘBSKA-STALKŁOWA 1991). Additionally, the densely built-up areas of Mirów, Północ and Błeszno, districts bordering on forest, experience local breeze.

According to the hydrogeological subdivision of Poland adopted after the Hydrogeological Map of Poland on a scale 1: 200 000 (1986), the study area lies within the XVIIth region (Wieluń-Kraków), belonging to the catchment of the River Oder and is drained by the River Warta together with its tributaries (SŁOWICKI 1978). The hydrographic net is under the influence of the geological structure as well as terrain relief (KLECZKOWSKI 1972).

The main river of Częstochowa is the Warta – the third longest river in Poland. Within the city its length is about 15 km and this part of its course is completely regulated and strengthened with anti-flood embankments (KLECZKOWSKI 1972). The river net of the right-bank side is sparse as it is characterised by the predominance of water infiltration over surface flow, which is associated with the permeability of the limestone bedrock. The left-bank side is supplied by waters from the Stradomka and Konopka (SŁOWICKI 1974, 1978; GOSPODAREK 2010). The groundwater fills karst fissures and chambers, forming two reservoirs, at a depth of more than 50 m. The first reservoir is of the the mid-Jurassic level, the second one is of upper-Jurassic origin and constitutes the source of drinking water for the local community. Additionally, there are 8 larger anthropogenic water reservoirs with a total area of 18.3 ha. These have resulted mainly from mine landslides (CABAŁA et al. 2009a) and now are surrounded by ecosystems of wet and moist meadows, which are rare in Europe.

The vegetation of Częstochowa belongs to two geobotanical sub-regions: Silesian Upland and Wieluńska Upland, both of the Central Uplands region. The flora is represented by Holarctic elements, with the prevalence of Euro-Siberian and Central European ones (CZYŻEWSKA 1997). To date, only the flora of the Warta River gorge in Mirów has been thoroughly studied, while the other areas of the city have been treated only fragmentary (HEREŹNIAK et al. 1970, 1973, HEREŹNIAK & SKALSKI 1974). In total, more than 1000 species of vascular plants were recorded in this area, including 35 species under protection (CABAŁA et al. 2009b-f).

The plant assemblages of the city of Częstochowa are of natural and semi natural character and comprise moist meadows and bogs, xerothermic and psammophilous grasslands and eight types of woodlands (HEREŹNIAK 2000, KONIECZNY et al. 2004). The total forest cover, resulting from tree planting, is 568 ha and consists of all main forest tree species typical for Central Europe (CZYŻEWSKA 1997).

The man-made urban greenery (314.75 ha) includes 11 urban parks and 25 green squares, together with numerous allotments, fruit orchards and vegetation associated with municipal and public buildings, river bank boulevards, transport routes and cemeteries. Most of them represent typical urbicoenoses existing as a result of regular management (GĘBICKI & ZYGMUNT 2009). Additionally, in the suburbs there are about 7200 ha of farmland, comprising meadows, pastures and arable land (KONIECZNY et al. 2004).

The faunistic research carried out within the city was dedicated mainly to invertebrates. Several mammals were recorded, including bats, which are temporary residents coming from the surrounding limestone upland areas (HEREŹNIAK & SKALSKI 1974, CABAŁA et al. 2009c). About 125 birds, 4 reptails, 9 amphibians and at least 14 fish species native and alien also add to the inventory (CZYŻ 2008, CABAŁA et al. 2009b-e, KONIECZNY et al. 2004).

In respect of invertebrates, molluscs and butterflies are the most studied groups (SZCZUKOCKA 1992, NOWAK 2008). Moreover, there are also data on terrestrial isopods, centipedes, dragonflies and macrofauna of anthropogenic water reservoirs (HEREŹNIAK & SKALSKI 1974, JATULEWICZ 2007). In contrast, information on planthoppers and leafhoppers is scarce and refers only to several species (GĘBICKI 2003, ŚWIERCZEWSKI & GĘBICKI 2004).

The natural landscape of the area presently occupied by the city of Częstochowa was characterised by the domination of deciduous woodlands. However, starting in XIX century, the development of a settlement, communication routes, industry and farming led to significant deforestation, the formation of unstable ecosystems, secondary vegetation and man-made greenery. Moreover, the regulation of the Warta River started in 1960s, resulted in drainage and consequently the depletion of the natural wet habitats of the valley, especially of riparian

forests, with only small patches remaining in Gąszczyk, Bugaj and Rodzik (HEREŻNIAK et al. 1970, CABALA et al. 2007, 2009a). On the other hand, the remaining oxbow lakes located in Bugaj and Mirów districts are surrounded by rich waterside vegetation.

Despite this deep environmental transformation, the wildlife of Częstochowa is still characterised by high biodiversity manifesting itself in species richness, the number of ecological elements and diverse habitats. All the mentioned above result from the following factors:

- i) location of the city at the intersection of three different physiographic and two different zoogeographical units resulting in the occurrence of montane (Carpathian), upland (Małopolska Upland) and lowland species;
- ii) location of the city on the border of faunistic and floristic Holocene refugia and at the crossing of migration routes (Alpine-Sudetes and Pannonian versus Carpathian and Pontic-Caspian); this explains the occurrence of relict species as well as species, which reach their limits here;
- iii) occurrence of diverse geomorphological forms and soils within a relatively small area of the city resulting in a habitat mosaic and a range of species with different ecological preferences;
- iv) long-term anthropogenic pressure which has led to the formation of new ecological niches and favors the introduction of alien species.

The environment of the city is influenced by large woodlands, especially those of 'Orle Gniazda' Landscape Park and 'Lasy nad Górną Liswartą' Landscape Park. The buffer zone of the former covers the eastern part of the city together with the Warta River gorge in Mirów (HEREŻNIAK 2000), the latter borders the western outskirts (HEREŻNIAK 2005).

At present, there are four proposed nature reserves within the Częstochowa, under the names: 'Błęszno', 'Trzęślicowa łąka pod Walaszczykami', 'Gąszczyk' and 'Góra Kokocówka' (HEREŻNIAK 1992, 2000), and as early as 1930's a proposal to establish a geological reserve on Jasna Góra hill was made (RÓŻYCKI 1938, HERMAŃSKI 2001).

### 3. CHARACTERISTICS OF THE STUDY PLOTS

It is possible to distinguish four elementary classes of urbicoenoses within cities, forming so called urban greenery. These are city parks, residential area greenery, road verge greenery, special and relict greenery.

**City parks** are represented by urbicoenoses of two different origins. The first are anthropogenic parks, which are established from scratch, located in the city centers and isolated from other green spaces. They consist of artificially introduced trees, shrubs and perennials, are characterized by a specific microclimate and depend on human management. Apart from this, some cafe and sport facilities can be found there. In Częstochowa, examples of such greenery are: 'Stanisław Staszic' City Park, '3<sup>rd</sup> of May' City Park, 'Czesław Niemen' Promenade and 'Gabriel Narutowicz' City Park.

The second type is represented by wildlife parks formed from the remnants of woodlands, enriched by new plantings and under sporadic management. They are usually located in

the suburbs and have a semi-natural character, performing the above mentioned role of refugia. An example here can be ‘Las Aniołowski’ Recreational Park – the largest one in Częstochowa, presenting in many parts the characteristics of woodland. Additionally, ‘Lisinieć’ Recreational Park is under advanced regeneration in secondary succession towards a semi-natural ecosystem.

**Residential area greenery** is represented by artificial woodland-grassland vegetation with a high ratio of alien plant species. It presents as ecologically diverse habitats, surrounding multi-storey buildings or detached houses, connected via ecological corridors to other types of urbicoenoses. The vegetation is characterized by variable and random species composition, with a high ratio of kenophytes. The vegetation of wastelands and fallows which border newly established housing estates can also be added here, for example in ‘Pólnoc’ district.

**Road verge greenery** is a specific type of urban vegetation. The upper layer is formed by trees and shrubs and the lower one is represented mainly by grasses. The tree canopy is inhabited by monophagous species, whereas the grassy undergrowth supports oligophagous forms. This type of vegetation is exclusively of anthropogenic origin and occupies limited space, playing the role of a migration route between neighboring green spaces, which is important in species exchange. As microclimatic conditions are very labile here, the fauna species composition and its general biodiversity is rather low and unstable. An example of such a type of vegetation in Częstochowa can be the greenery along Jan Paweł II Avenue.

**Special greenery** covers allotments, fruit orchards and vegetation associated with municipal and public buildings, sport facilities and cemeteries. It occupies relatively small spaces and consists of randomly planted native and exotic plants. The vegetation of brownfields, limestone quarries and railway embankments can also be added to this class.

**Relict greenery** is the most important class, in terms of its biodiversity and wildlife value, which consists of natural and semi-natural ecosystems and under moderate human impact. The most valuable habitats such as riparian forests, oak-lime-hornbeam forests, peat-bogs, meadows and xerothermic grasslands are protected as nature reserves or sites of ecological importance. They play the role of important wildlife refugia hiding valuable species of flora and fauna, including many rare species of planthoppers and leafhoppers.

The quantitative research on Auchenorrhyncha fauna of the Częstochowa city was carried out on 35 plots located within the following administrative districts: Grabówka, Tysiąclecie, Wyczerpy-Aniołów, Mirów, Zawodzie, Błeszno, Dźbów, Stradom, Lisinieć and Śródmieście (Fig. 1). Regarding the geographical mesoregions, 18 plots were established within the Upper Warta River Depression (UWRD), 9 plots within Częstochowska Upland (CZU) and 8 within Wieluńska Upland (WU). They represented vegetation belonging to six phytosociological classes: *Artemisietea vulgaris*, *Phragmitetea*, *Koelerio glaucae-Corynephoretea canescentis*, *Molinio-Arrhenatheretea*, *Festuco-Brometea* and *Quercu-Fagetea* (Fig. 1).

Each plot covered area of 5.000 m<sup>2</sup>, with average measurements 100 m x 50 m. In case of woodlands and scrubs, the insects were collected not only from the undergrowth but also by beating the branches of trees and shrubs of such genera as *Quercus*, *Tilia*, *Alnus*, *Prunus*, *Populus*, *Salix*, *Acer*, *Pinus*, *Picea*, *Crataegus*, *Rosa*, *Rubus* and *Berberis*.

Particular phytosociological units were identified on the basis of characteristic combination of plant taxa as well as plant species abundance (WYSOCKI & SIKORSKI 2002). Botanical nomenclature has been adopted from MIREK et al. (2002), while geobotanical nomenclature follows that of MATUSZKIEWICZ (2008).

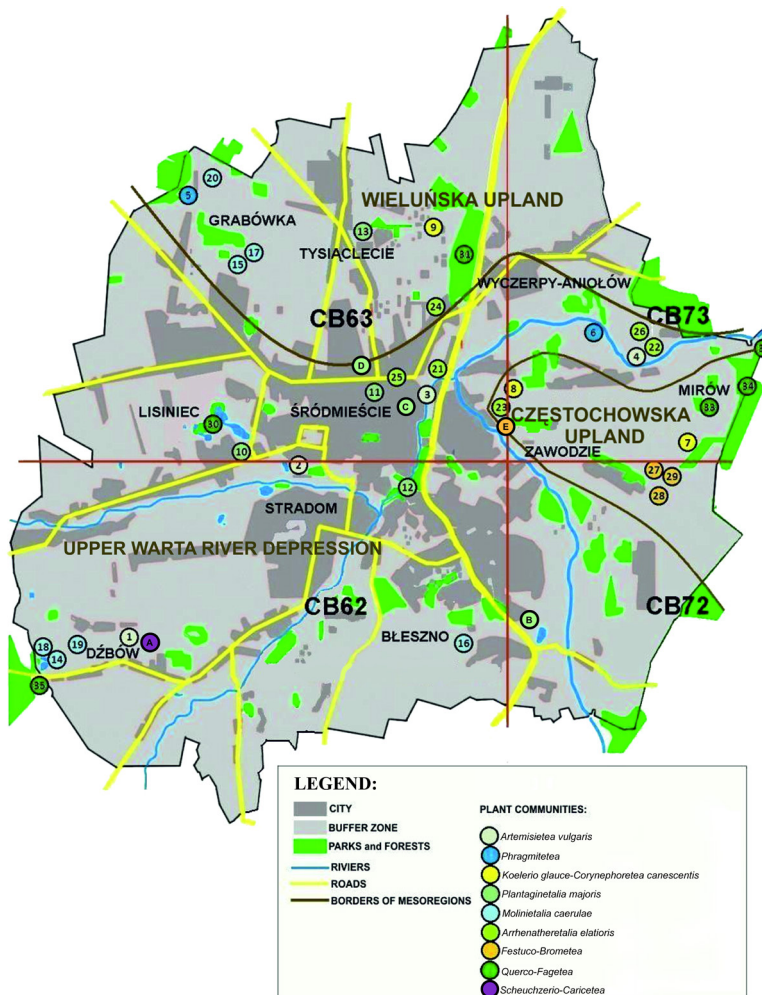


Fig. 1. Distribution of the study plots (1–35) within the borders of the city of Częstochowa. Locations of sites of qualitative research are marked as A–E

### Synanthropic communities of *Artemisietea vulgaris* LOHM., PREISING & R. Tx. in R. Tx. 1950 class

**PLOT (1)** *Echio-Melilotetum* R. Tx. 1947 – variant with *Calamagrostis epigejos*

Location: UWRD, N50°46'11"E19°04'00", [UTM CB62]; south-western part of the city, Dźbów district, an unreclaimed slag heap of the 'Barbara' iron-ore mine. The research was carried out in the dry and extremely insolated top part, covered with unmanaged vegetation dominated by *Calamagrostis epigejos* and *Solidago canadensis*, with quite frequent *Melilotus albus*, *Artemisia vulgaris* and *Tanacetum vulgare*. Additionally, the stands of *Salix* spp. bordered the plot.

**PLOT (2)** *Echio-Melilotetum* R. Tx. 1947 – variant with *Calamagrostis epigejos*

Location: UWRD: N50°47'58", E19°05'25"; [UTM CB62]; about 3 km south-west of the city centre, Stradom district, Podkolejowa Street. The plot was established on a dry and extremely insolated railway embankment covered with unmanaged vegetation with domination of *Calamagrostis epigejos*, *Erigeron annuus*, *Solidago canadensis*, *Cichorium intybus*, *Tanacetum vulgare* and *Artemisia vulgaris*.

**PLOT (3)** *Urtico-Aegopodietum podagrariae* (Tx. 1963 N. N.) em. DIERSCHKE 1974

Location: UWRD: N50°49'01", E19°08'14"; [UTM CB63]; city centre, Zawodzie district, north of G. Narutowicz Urban Park. The plot was established on the right bank of the River Warta, in periodically flooded and mown annually in the summer vegetation with a large contribution of *Aegopodium podagraria*, *Urtica dioica*, *Lamium album*, *Glyceria maxima* and *Lolium perenne*.

**PLOT (4)** *Urtico-Aegopodietum podagrariae* (TX. 1963 N. N.) em. DIERSCHKE 1974

Location: UWRD: N50°49'11", E19°12'04"; [UTM CB73]; north-eastern part of the city, Wyczerpy-Aniołów district, in the vicinity of Zawodzianańska Street. The plot was established on the left bank of the River Warta, in periodically flooded, unmanaged vegetation with such dominants as *Aegopodium podagraria*, *Urtica dioica*, *Lamium album* and *Calystegia sepium*.

#### **Sedge-reed vegetation of the *Phragmitetea* R.Tx. et PRSG. 1942 class**

**PLOT (5)** *Sparganio-Glycerietum fluitantis* BR.-BL. 1925 n.n.

Location: WU: N50°51'25", E19°03'50"; [UTM CB63]; north-western part of the city, Grabówka-Żabiniec district, in the vicinity of Ikara Street. The plot was established in the vegetation on the bank of the River Bialka (Kocinka), regularly flooded in spring and mown annually in the summer. Its dominant plant species included *Glyceria notata* and *G. maxima*, with a large contribution of *Berula erecta* and *Bidens frandosa*. Additionally, the stands of *Alnus glutinosa* and *Quercus robur* bordered the plot.

**PLOT (6)** *Phalaridetum arundinaceae* (KOCH 1926 n.n.) LIBB. 1931

Location: UWRD: N50°49'42", E19°10'40"; [UTM CB73]; eastern part of the city, Zawodzie district, on the River Warta, bordering Filtrowa Street. The plot, temporarily flooded and unmanaged, was established in the surroundings of oxbow lakes, named Popławski Dół, lying alongside the River Warta, and was covered mainly with *Phalaris arundinacea*.

#### **Psammophilous grasslands of the *Koelerio glaucae-Coryneporetea canescentis* KLIKA in KLIKA & NOVÁK 1941 class**

**PLOT (7)** *Spergulo vernalis-Coryneporetum* (R. Tx. 1928) LIBB. 1933

Location: UWR: N50°48'00", E19°12'50"; [UTM CB73]; eastern part of the city, Mirów district, about 1 km east of Góra Ossona, in the vicinity of Bursztynowa Street. The plot

was established in a dry and well insulated sandy area covered with unmanaged vegetation dominated by *Corynephorus canescens*, *Anthoxanthum odoratum*, *Carex hirta*, *Sedum acre* and *Hieracium pilosella*.

**PLOT (8) *Spergulo vernalis-Corynephorum* (R. Tx. 1928) LIBB. 1933**

Location: CZU: N50°49'17", E19°09'30"; [UTM CB73]; eastern border of Zawodzie district, alongside Srebrna Street. The study plot was located in a dry and well insulated sandy area covered with unmanaged vegetation mainly consisting of *Corynephorus canescens*, *Anthoxanthum odoratum*, *Carex hirta*, *Sedum acre*, *Hieracium pilosella* and *Armeria maritima*. Additionally, the stands of *Populus nigra* bordered the plot.

**PLOT (9) *Diantho-Armerietum elongatae* KRAUSCH 1959**

Location: WU: N50°50'54", E19°08'12"; [UTM CB63]; northern part of the city, Tysiąclecie district. The plot was located alongside the shoulder of Sosabowskiego Street, in a dry and sunny, unmanaged site, with prominent growth of *Agrostis capillaris*, *Cerastium arvense*, *Dianthus deltoides*, *Thymus serpyllum*, *Festuca pratensis*, *Luzula campestris* and *Hypericum perforatum*.

**Anthropogenic and semi-natural meadows of *Molinio-Arrhenatheretea* R. Tx. 1937 class**

**PLOT (10) *Lolio-Polygonetum arenastris* BR.-BL. 1930 em. LOHM. 1975**

Location: UWRD: N50°48'26", E19°04'50"; [UTM CB63]; western part of the city, near 'Lisinieć' Recreational Park, at the junction of Kordeckiego and Świętej Jadwigi Streets. The study plot is a well insulated, intensively mown lawn, composed predominantly of *Lolium perenne*, *Plantago major*, *Trifolium pratense* and *T. repens*, with a contribution of *Dactylis glomerata*, *Holcus lanatus* and *Festuca pratensis*. Additionally, the stands of *Populus alba*, *Salix alba*, *Berberis* sp. and *Tilia* sp. bordered the plot.

**PLOT (11) *Lolio-Polygonetum arenastris* BR.-BL. 1930 em. LOHM. 1975**

Location: UWRD: N50°49'00", E19°07'08"; [UTM CB63]; city centre, Śródmieście district, at the junction of Jana Pawła II and Tadeusza Kościuszki Avenues. The study plot represented an insulated, intensively mown lawn, planted mainly with *Lolium perenne*, *Polygonum aviculare* and *Trifolium repens*.

**PLOT (12) *Lolio-Polygonetum arenastris* BR.-BL. 1930 em. LOHM. 1975**

Location: UWRD: N50°48'43", E19°08'04"; [UTM: CB62]; city centre, Zawodzie district, G. Narutowicz Urban Park. The plot was established in a well insulated area of mown lawn, with a dominance of *Plantago lanceolata*, *Trifolium pratense*, *Arrhenatherum elatius* and *Bromus hordeaceus*.

**PLOT (13) *Lolio-Polygonetum arenastris* BR.-BL. 1930 em. LOHM. 1975**

Location: WU: N50°50'02", E19°07'09"; [UTM: CB63]; northern part of the city, Tysiąclecie

district, a park lawn alongside Czesław Niemen Promenade. The plot was established within an insolated, intensively mown lawn, formed mainly of *Poa annua* and *P. pratensis*, and with significant amounts of *Plantago lanceolata*, *Capsella bursa-pastoris*, *Trifolium pratense*, *Lolium perenne*, *Deschampsia caespitosa* and *Lolium multiflorum*. Additionally, flower-bed and stands of the following trees bordered the plot: *Carpinus betulus*, *Tilia cordata*, *Tilia* sp., *Quercus robur*, *Acer pseudoplatanus*.

**PLOT (14) *Valeriano-Filipenduletum* Siss. in WESTH. et al. 1946**

Location: UWRD: N50°45'45", E19°01'12"; [UTM: CB62]; south-western part of the city, Dźbów district, Leśna Street. The plot was established in the buffer-zone of the 'Walaszczyki w Częstochowie' Natura 2000 site in unmanaged vegetation with a predominance of *Valeriana officinalis*, *Lysimachia vulgaris*, *Stachys palustris*, *Betonica officinalis*, *Serratula tinctoria* and *Filipendula ulmaria*. Additionally, the stands of *Betula pendula* bordered the plot.

**PLOT (15) *Cirsietum rivularis* NOWIŃSKI 1927**

Location: WU: N50°49'59", E19°04'01"; [UTM CB63]; north-western part of the city, Grabówka district, between Krzemienna and Luba Streets. The plot was established in a moist area covered with unmanaged vegetation of natural character, growing on peat soil, with a significant abundance of *Cirsium rivulare*, *Galium uliginosum*, *Epilobium hirsutum*, *Lotus uliginosus*, *Caltha palustris* and *Dactylorhiza majalis*. Additionally, the stands of *Salix alba* and *Corylus avellana* bordered the plot.

**PLOT (16) *Cirsietum rivularis* NOWIŃSKI 1927**

Location: UWRD: N50°46'06", E19°09'27"; [UTM CB62]; southern part of the city, Błęszno district; at Długa Street. The plot was located within the boundaries of the proposed 'Młaka w Błęsznie' Ecological Site, representing a complex of recently drained moist meadows. Two forbs *Cirsium rivulare* and *Dactylorhiza majalis* were very frequent here but an abundance of *Calamagrostis epigejos*, *Briza media* and *Solidago canadensis* indicates the progressive degradation of this habitat (CABAŁA et al. 2009e).

**PLOT (17) *Scirpetum sylvatici* RALSKI 1931**

Location: WU: N50°49'57", E19°04'07"; [UTM CB63]; north-western part of the city, Grabówka district, between Krzemienna and Luba Streets. The plot was established in a moist, sometimes partly flooded area covered with unmanaged vegetation with a prominence of *Scirpus sylvaticus* and other less abundant *Lysimachia vulgaris*, *Polygonum persicaria* and *Carex* spp.

**PLOT (18) *Scirpetum sylvatici* RALSKI 1931**

Location: UWRD: N50°45'49", E19°01'19"; [UTM CB62]; south-western part of the city, district Dźbów, in the vicinity of Leśna Street. The plot was established in the buffer-zone of the 'Walaszczyki w Częstochowie' Natura 2000 site, a short distance from a small reservoir, in unmanaged vegetation with a dominance of *Scirpus sylvaticus* and less frequent *Lythrum salicaria*, *Juncus effusus* and *Carex vulpine*. The area had never been managed.



**PLOT (19)** *Alopecuretum pratensis* (REGEL 1925) STEFFEN 1931

Location: UWRD: N50°45'56", E19°01'37"; [UTM CB62]; south-western part of the city, Dźbów district, in the vicinity of Leśna Street. The study plot was located in the buffer zone of the 'Walaszczyki w Częstochowie' Natura 2000 site, in moist habitat, covered with vegetation dominated by *Alopecurus pratensis*, *Festuca pratensis*, *Holcus lanatus*, *Deschampsia caespitosa*, *Dactylis glomerata* and *Phleum pratense*. The vegetation was mown during the summer.

**PLOT (20)** *Alopecuretum pratensis* (REGEL 1925) STEFFEN 1931

Location: WU: N50°51'20", E19°03'52"; [UTM CB63]; north-western part of the city, Grabówka-Żabiniec district, on Ikara Street. The plot was established within a moist, intensively mown meadow, with an abundance of grasses such as *Holcus lanatus*, *Alopecurus pratensis*, *Poa pratensis* and *Deschampsia caespitosa*. Additionally, the stands of *Alnus glutinosa* bordered the plot.

**PLOT (21)** *Arrhenatheretum elatioris* (BR.-BL.) ex SCHERR. 1925

Location: UWRD: N50°49'01", E19°08'11"; [UTM CB63]; city centre, Zawodzie district, in the vicinity of Jana Pawła II Avenue, several dozen metres from the left bank of the River Warta, in a fertile, temporarily flooded river valley. The vegetation was mown during the summer and was formed mainly of two grasses *Arrhenatherum elatius* and *Dactylis glomerata*, and with a contribution of *Holcus lanatus* and *Festuca* sp.

**PLOT (22)** *Arrhenatheretum elatioris* (BR.-BL.) ex SCHERR. 1925

Location: UWRD: N50°49'11", E19°12'00"; [UTM CB73]; north-eastern part of the city, Wyczerpy-Aniołów district, in the vicinity of Zawodziańska Street. The research was carried out in the intensively mown meadow, located in a fertile river valley, not far from the left bank of the River Warta. The vegetation there was composed mainly of such grasses as *Arrhenatherum elatius*, *Dactylis glomerata* and *Phleum pratense*, with less frequent *Carex hirta* and *Juncus tenuis*.

**PLOT (23)** *Arrhenatheretum elatioris* (BR.-BL.) ex SCHERR. 1925

Location: CZU: N50°49'02", E19°09'07"; [UTM CB63]; eastern part of the city, Zawodzie district, in the vicinity of the 'Saturn' old lime kiln and Jurajska Street. The plot was established in a well insulated, mown meadow, with a dominant growth of *Arrhenatherum elatius*, *Dactylis glomerata* and *Galium mollugo* and undersown with such fodder crops as *Trifolium pratense*, *Medicago falcata*, *M. lupulina* and *M. × varia*. Additionally, the stand of *Acer platanoides* and the quarry with pioneering vegetation bordered the plot.

**PLOT (24)** *Arrhenatheretum elatioris* (BR.-BL.) ex SCHERR. 1925

Location: WU: N50°49'56", E19°08'11"; [UTM CB63]; city centre, Tysiąclecie district, in the vicinity of Kule cemetery, on Fieldorfa-Nila Street. The plot represented urban wasteland, covered with mown, anthropogenic vegetation consisting mainly of *Arrhenatherum elatius*, *Dactylis glomerata*, *Galium aparine*, *Galium mollugo*, *Equisetum arvense* and *Rumex*

*thyrsiflorus*, with a contribution of *Hypericum perforatum* and *Daucus carota*. Additionally, the stands of *Populus tremula* and *Prunus domestica* bordered the plot.

**PLOT (25)** Phytocoenosis with *Achillea millefolium* and *Taraxacum officinale*

Location: UWRD: N50°49'01", E19°07'36"; [UTM CB63]; city centre; Śródmieście district, Jan Paweł II Avenue. The plot was established in the central reservation of a strip separating dual carriage-ways. The area was well insolated and intensively managed, covered with anthropogenic vegetation composed of such plants as *Lolium perenne*, *Berteroa incana*, *Achillea millefolium* and *Taraxacum officinale*, and with the occurrence of halophilous *Puccinella distans*. Additionally, the stand of *Populus alba* bordered the plot.

**PLOT (26)** Phytocoenosis with *Dactylis glomerata*

Location: UWRD: N50°49'21", E19°12'02"; [UTM CB73]; the north-eastern part of the city, Wyczerpy-Aniołów district, the vicinity of Zawodziańska Street, outside of the Warta River flood bank. The plot represented an unmanaged, post-arable field covered with the vegetation dominated by *Dactylis glomerata*, *Achillea millefolium*, *Artemisia vulgaris*, *Hypericum perforatum* and *Urtica dioica*.

**Xerothermic grasslands of *Festuco-Brometea* BR.-BL. et R. Tx. 1943 class**

**PLOT (27)** *Festucetum pallentis* (KOZŁ. 1928) KORNAŚ 1950

Location: CZU: N50°47'59", E19°12'14"; [UTM CB72]; eastern part of the city, Mirów district. The plot was established on the plateau of Góra Ossona, the highest point of the city (316.7 m a.s.l.) (HEREŹNIAK et al. 1970, 1973; CABALA et al. 2009c). The vegetation of the area was composed predominantly of *Festuca pratensis*, *Bromus secalinus*, *Anthoxanthum odoratum*, *Agrostis capillaris*, *Phleum phleoides* and *Allium* sp. Additionally, the stands of *Prunus spinosa* and *Betula pendula* as well as the bed of *Vincetoxicum hirundinaria* bordered the plot.

**PLOT (28)** *Sileno-Phleetum* GŁOWACKI 1972

Location: CZU: N50°47'26", E19°11'59"; [UTM CB72]; eastern part of the city, Zawodzie district. The plot was established on the southern, well insolated slope of Góra Prędziszów Hill (298.2 m a.s.l.) (HEREŹNIAK et al. 1970, 1973, CABALA et al. 2009c) covered with unmanaged vegetation consisting mainly of *Phleum phleoides*, and with a significant abundance of *Poa compressa*, *Thymus pulegioides*, *Galium mollugo*, *Fragaria viridis*, *Trifolium arvense*, *Euphorbia cyparissias*, *Centaurea scabiosa*, *Scabiosa ochroleuca* and *Anemone sylvestris*. Additionally, the stands of *Crataegus* spp., *Rosa canina* and *Quercus robur* bordered the plot.

**PLOT (29)** *Adonido-Brachypodietum pinnati* (LIBB. 1933) KRAUSCH 1960

Location: CZU: N50°47'54", E19°12'22"; [UTM CB72]; eastern part of the city, Mirów district. The plot was established on the southern, strongly insolated slope of Góra Ossona, in unmanaged vegetation with the dominance of *Brachypodium pinnatum* and *Anthericum liliago*. Other less frequent plants were *Vincetoxicum hirundinaria*, *Anthericum ramosum*,

*Dianthus carthusianorum*, *Centaurea scabiosa*, *Scabiosa ochroleuca*, *Thymus pulegioides*, *Anthoxanthum odoratum*, *Phleum phleoides* and *Festuca pratensis*.

### Forest communities of *Quercus-Fagetea* BR.-BL. et VLIEG. 1937 class

#### **PLOT (30)** Phytocoenosis of *Alno-Ulmion* BR.-BL. et R. TX. 1943 alliance

Location: UWRD: N50°48'36", E19°04'34"; [UTM CB63]; western part of the city, Lisinieć district, 'Lisiniec' Recreational Park, in the vicinity of Inowrocławska Street. The park consists of planted poplar hybrids and other self-sown tree species (CABAŁA et al. 2009f). The plot was established in the southern part of the park, in a shaded, moist and unmanaged area. The groundcover was characterised by the dominance of *Lysimachia vulgaris*, *Deschampsia caespitosa*, *Dactylis glomerata* and *Carex flacca*; the understory comprised *Prunus serotina*, *Populus tremula* and *Betula pendula*; the tree canopy was composed of *Fraxinus excelsior*, *Alnus glutinosa* and planted trees of *Populus* spp. and *Salix alba*. Additionally, the stands of *Tilia* sp., *Salix* spp., *Picea excelsa* and *Phragmites australis* bordered the plot.

#### **PLOT (31)** *Tilio cordatae-Carpinetum betuli* TRACZ. 1962

Location: WU: N50°50'37", E19°08'43"; [UTM CB63]; northern part of the city, Wyczerpy-Aniołów district, 'Las Aniołowski' Recreational Park. The park represents a forest community similar to a continental hornbeam-oak forest (CABAŁA et al. 2009a). The plot was established in its western part in a shaded and semi-moist area. The groundcover was characterised by the dominant growth of *Hedera helix*, *Ranunculus acris*, *Plantago major* and *Dactylis glomerata*; the understory comprised *Sambucus nigra* and *Frangula alnus*; the tree canopy was composed of *Carpinus betulus*, *Tilia cordata*, *Acer pseudoplatanus* and *Betula pendula*, with the addition of such non-native species as *Quercus rubra* and *Robinia pseudoacacia*. The groundcover in the park was mown during the summer. Additionally, the stands of the following trees bordered the plot: *Acer platanoides*, *Populus tremula*, *Ulmus laevis*, *Ulmus* sp., *Acer campestre*, *Salix* spp., *Malus domestica*, *Prunus serotina*, *Crataegus* spp., *Amelanchier spicata*, *Syringa vulgaris* and *Caragana arborescens*.

#### **PLOT (32)** *Tilio cordatae-Carpinetum betuli* TRACZ. 1962

Location: CZU: N50°49'20", E19°13'43"; [UTM CB73]; eastern part of the city, Mirów district, in the vicinity of Wodociągowa Street. The plot was established in unmanaged vegetation covering the northern slope of a limestone hill located within the proposed 'Gąszczek' forest nature reserve (HEREŹNIAK 2000). The full-shade groundcover was characterised by a dominance of such monocots as *Melica nutans*, *Deschampsia flexuosa*, *Alopecurus pratensis*, *Deschampsia caespitosa*, *Luzula pilosa*; the understory comprised *Frangula alnus*, *Lonicera xylosteum*, *Corylus avellana*, *Sorbus aucuparia*, *Crataegus monogyna* and saplings of *Carpinus betulus*; the tree canopy was composed of *Carpinus betulus*, *Tilia cordata*, *Quercus robur*, *Acer platanoides*, *Betula pendula* and *Populus tremula*. Additionally, the stands of *Quercus robur*, *Tilia cordata*, *Tilia* sp., *Acer platanoides* and *Corylus avellana* bordered the plot.

**PLOT (33)** *Tilio cordatae-Carpinetum betuli* TRACZ. 1962

Location: CZU: N50°48'28", E19°13'14"; [UTM CB73]; eastern part of the city, Mirów district, in the vicinity of Bursztynowa Street. The plot was located on the slope of a limestone hill (301 m a.s.l.) within the proposed 'Góra Kokocówka' forest nature reserve, overgrown with unmanaged forest vegetation similar to the initial stage of a continental hornbeam-oak forest (HEREŹNIAK 2000, CABALA et al. 2009a, 2009c). The full-shade groundcover was characterised by such dominant species as *Aegopodium podagraria*, *Melittis melissophyllum*, *Campanula persicifolia*, *Convallaria majalis*, *Melica nutans* and *Brachypodium sylvaticum*; the understory comprised *Frangula alnus*, edging shrubs of *Euonymus verrucosa*, *Cornus sanguinea*, *Crataegus monogyna* and saplings of *Malus domestica*; the tree layer was composed of *Betula pendula* and *Populus tremula*. Additionally, the stands of the following trees bordered the plot: *Betula pendula*, *Prunus spinosa*, *Quercus robur*, *Carpinus betulus* and *Malus domestica*.

**PLOT (34)** Phytocoenosis with *Quercus robur* and *Pinus sylvestris*

Location: CZU: N50°48'08", E19°13'17"; [UTM: CB73]; on the eastern city border, Mirów district, in the vicinity of Bursztynowa Street. The plot was established in a semi-shade area. The groundcover was composed mainly of *Pteridium aquilinum* and *Vaccinium myrtillus*; the understory comprised *Frangula alnus* and saplings of *Quercus robur*; the tree canopy was composed of *Pinus sylvestris* and *Quercus robur*. Additionally, the stands of *Tilia* sp. and *Quercus robur* bordered the plot.

**PLOT (35)** Phytocoenosis with *Quercus robur* and *Pinus sylvestris*

Location: UWRD: N50°45'49", E19°00'55"; [UTM CB62]; on the western border of the city, between Dźbów district and Walaszczyki village. The plot was established in a semi-shade area with unmanaged vegetation. The groundcover was characterised by a dominance of such grasses as *Deschampsia* sp., *Molinia caerulea* and *Calamagrostis canescens*, accompanied by *Pteridium aquilinum*, *Vaccinium myrtillus* and *Rubus* spp; the understory mainly comprised *Frangula alnus* and saplings of *Quercus robur*; the tree layer was composed of *Pinus sylvestris* with a small addition of *Quercus robur*. Additionally, the stands of *Quercus robur* bordered the plot.

The qualitative research was carried out in the following locations:

- (A) – Częstochowa-Liszka Dolna, vicinity of Sokola Street, N50°46'21", E19°03'04", UTM CB62, peat-bog;
- (B) – Częstochowa-Raków, vicinity of football pitch, N50°46'34", E19°09'29", UTM CB72, roadside greenery;
- (C) – Częstochowa-Stare Miasto, near Old Market, N50°49'2", E19°07'46", UTM CB63, urban greenery;
- (D) – Częstochowa-Śródmieście, campus of Jan Długosz University at Armii Krajowej Avenue, N50°49'06", E19°07'02", UTM CB63
- (E) – Częstochowa-Zawodzie, N50°48'49", E19°09'06", UTM CB63, vegetation in the limestone quarry.

## 4. MATERIAL AND METHODS

The quantitative studies were conducted on the 35 study plots described above, which comprised 29 with grassy-herbaceous cover and 6 with forest groundcover. Insects were collected over the period 2005-2010, at regular intervals from May till October, on dry, sunny days with slight or no wind by use of a standard circular sweep-net (35 cm in diameter). Four samples were taken from each plot during a single visit, where a single sample was based on 25 hits with the sweep-net. In total, during the research, ca. 132 samples were collected from each plot.

Together with the quantitative research, material was also collected using qualitative methods in the years 2005-2016 from the whole territory of Częstochowa. To do that, sweep-netting and direct collecting were applied to the trees and shrubs bordering the plots as well to the vegetation outside the plots. In some cases Moericke traps and light traps were also employed.

Qualitative research covered 15 native tree species: *Picea abies*, *Acer platanoides*, *Acer pseudoplatanus*, *Carpinus betulus*, *Alnus glutinosa*, *Betula pendula*, *Malus domestica*, *Populus alba*, *Populus nigra*, *Populus tremula*, *Prunus domestica*, *Quercus robur*, *Salix alba*, *Tilia cordata*, *Ulmus laevis* as well as alien and ornamental forms belonging to such genera as *Acer*, *Tilia* and *Ulmus*. In addition, 11 shrub species: *Berberis vulgaris*, *Corylus avellana*, *Salix* spp. (including *Salix cinerea* and *S. viminalis*) *Crataegus* sp., *Prunus spinosa*, *P. serotina*, *Rosa canina*, *Amelanchier spicata*, *Syringa vulgaris* and *Caragana arborescens* were also investigated. The vegetation outside the plots included meadows, woodlands, hedgerows and flower gardens, with standings of *Carex* spp., *Phragmites australis*, *Polygonum aviculare* and *Vincetoxicum hirsutinaria*.

The insects were collected alive using an aspirator connected to a glass tube and then transferred to a container with a cotton pad moistened with small amounts of killing liquid (ethyl acetate). The specimens were stored in glass tubes labelled with the date and study plot number/locality data before being arranged into a drawer collection, which is now housed in the Department of Zoology at the University of Silesia in Katowice.

It can be difficult to carry out quantitative research in the less accessible habitats located within the city like the greenery of cemeteries, squares, narrow road verges, allotments, municipal and public buildings. In such places, the only applicable method is direct collecting of insects from perennials, shrubs or trees.

In order to identify Auchenorrhyncha species it was necessary to remove the genital segment, which was then macerated in 10% KOH in line with the procedure described by KNIGHT (1965). The genital capsule was opened to facilitate viewing of the genital structures and particular parts were examined in a drop of glycerin on a microscope slide. It was also necessary to detach the male song apparatus for some difficult genera (e.g. *Macrosteles*).

Adult Auchenorrhyncha were identified at the species level using keys covering the fauna of the country or region published by DLABOLA (1954), LOGVINENKO (1975), OSSIANNILSSON (1978, 1981, 1983), HOLZINGER et al. (2003), BIEDERMANN & NIEDRINGHAUS (2004) and particular papers referring to such genera as *Alebra* FIEB. (GILLHAM 1991); *Aphrodes* CURT. (TISHECHKIN 1998); *Arboridia* ZACHV. (DWORAKOWSKA 1970c); *Arthaldeus* RIB. (REMANE 1960); *Balclutha* KIRK. (KNIGHT 1987); *Doratura* J. SHLB. (DWORAKOWSKA

1968b); *Elymana* DELONG (DWORAKOWSKA 1968a); *Eupteryx* CURT. (LE QUESNE 1974); *Fieberiella* SIGN. (DLABOLA 1965); *Forcipata* DEL. et CALD. (GNEZDILOV 2000); *Kybos* FIEB. (DWORAKOWSKA 1976, MÜHLETHALER et al. 2009); *Macrostoteles* FIEB. (GAJEWSKI 1961); *Muellerianella* WAGN. (BOOIJ 1981); *Rhopalopyx* RIB. (DMITRIEV 1999); *Ribautodelphax* WAGN. (BIEMAN DEN 1987); *Utecha* EMELJ. (GĘBICKI 2003); *Zygina* FIEB. (DWORAKOWSKA 1970b) and *Zyginidia* HPT. (DWORAKOWSKA 1970d). The systematics and nomenclature of particular planthopper and leadhopper species follows the publication 'Planthoppers and Leafhoppers of Poland (Hemiptera: Fulgoromorpha et Cicadomorpha): Systematics – Checklist – Bionomy. A Monograph.' by GĘBICKI et al. (2013).

Each species was characterised in terms of chorology, distribution in Poland and bionomy (moisture, insolation, substrate, trophic relations, habitat preferences, overwintering, voltinism, association with urban environments).

## CHOROLOGY

### General range

The following chorological elements were adopted from NICKEL & REMANE (2002):

**Cosmopolitan (=Geopolitic)** – covers species spread beyond Holarctic, with a range covering at least two zoogeographical regions; often introduced and usually invasive, with wide ecological valence

**Holarctic** – covers species occurring in the Palaearctic and Nearctic Regions, in the south reaching Sonoria (Nearctic), Sahara Desert, Yemen, The Indus River valley, Kashmir, the Himalayas, southern China and Tajwan (Palaearctic); the range has been formed in Pleistocene or as a result of intercontinental introduction in the historical period

**Trans-Palaearctic (=Palaearctic)** – covers species inhabiting most of the Palaearctic (woodlands and grasslands of different climatic zones), also including Amphipalaearctic species occurring on the opposite edges of the Palaearctic (deciduous forest zone of Europe and the Manchurian Plain)

**Western Palaearctic** – covers species widely distributed in Europe, in the south reaching North Africa, in the east stretching to Western Siberia and Kazakhstan

**Siberian** – covers species inhabiting mainly the taiga biome of Siberia; in Europe these are rare and relict species of the cold period of the Holocen

**Euro-Siberian (=Northern Euro-Siberian)** – covers species inhabiting forests of Europe and Palaearctic Asia, including many evolutionarily old autochthonous forms

**European** – covers species widely distributed throughout Europe or slightly crossing its borders (North Africa, the Caucasus Mountains, the Near East), also including those confined to the ecosystems of the high mountains of Central Europe (the Alps, the Sudetes, the Carpathians), which represent a relict element from the Pleistocene or the cold period of the Holocen

**Western European (=Atlantic)** – covers species distributed mainly along the coasts of Western Europe up to the Wisła River delta, under mild Atlantic climate and associated with deciduous forests; these species reach their eastern limit on the territory of Poland

**Northern European (=Boreal)** – covers species inhabiting northern and central parts of Europe and associated with the biomes of Scandinavian and Eastern European tundra and

taiga, lowland and montane high peat-bogs and swamps; species belonging here reach their southern or western limit on the territory of Poland

**Southern European (=Pontic)** – covers species inhabiting the southern part of Europe (Iberian, Apennine and Balkan Peninsulas) and associated either with deciduous forests or with forest-steppe vegetation (xerothermic shrubs); species belonging here reach their northern limit on the territory of Poland

**Mediterranean (=Sub-Mediterranean)** – covers species inhabiting areas adjacent to the Mediterranean Sea (European and African part), confined to scrubland vegetation (macchia) and grasslands; in Poland these species represent relict forms originating from the Holocene Climate Optimum and are found as isolated populations

**Kazakh (=Southern Euro-Siberian)** – covers species associated with the steppes and xerothermic grasslands of Southern Europe, North Africa, the Near East and south-western Palaearctic (reaching the Kazakh Upland and Mongolia); species representing this element reach their northern or north-western limit in Poland and relict forms belonging here can be found as isolated populations

### **Distribution in Poland**

The pattern of distribution of particular species in Poland was adopted from GĘBICKI et al. (2013)

**Very rare** – known only from one zoogeographical region of Poland or not recorded for 40 years (after NAST 1976a), close to extinction; temporarily the species recorded from Poland for the first time were also included here

**Rare** – known from two or three regions of Poland or associated with unique habitats; endangered

**Local** – with a distribution, and sometimes also with high abundance, limited to particular regions of Poland, or with localities dispersed throughout the whole of Poland

**Widespread** – known in most regions of Poland, quite frequently recorded during research and usually with high abundance; eurybiontic and ubiquistic species, with wide range (Palaearctic, Holarctic, Cosmopolitan) are also classified here.

### **BIONOMY**

The following ecological elements were distinguished on the basis of data included in works by DLABOLA (1954), OSSIANNILSSON (1978, 1981, 1983), NICKEL & REMANE (2002), NICKEL (2003), SÖDERMAN (2007), KUNZ et al. (2011) and STÖCKMANN et al. (2013) as well as faunistic papers concerning the area of Poland:

#### **Moisture**

**Xerophilous** – associated with vegetation formed on dry and quickly warmed substrate; also usually represents thermophilous element (xerothermophilous); the species classified here occur predominantly in xerothermophilous and rocky grasslands formed on places with southern or western exposure as well as in anthropogenic habitats under primary succession

**Mesophilous** – occur in different types of habitats with respect to the ground water

level; species belonging here are able to adapt to a wide range of environmental conditions, including eurytopic element, which is quite rare among planthoppers and leafhoppers

**Higrophilous** – linked to moist or wet habitats, such as moist meadows, shady deciduous forests, boggy pine forests etc.

### **Temperature**

**Thermophilous** – require higher temperature for full development; the species classified here are associated with open habitats (xerothermic grasslands, pastures, meadows, forest clearings, anthropogenic ecosystems) and characterized by a narrower range (Southern European, Mediterranean, Kazakh)

### **Insolation**

**Heliophilous** – species inhabiting highly insolated, open areas with different levels of moisture, such as grasslands or xerothermic shrubs; usually covers thermophilous and xerophilous element of xerothermic, psammophilous or rocky grasslands

**Skiophilous** – species preferring shady habitats, with higher moisture and lower temperature; the species classified here are associated mainly with woodland undergrowth, and more rarely with tree canopy

### **Substrate**

**Psammophilous** – linked to different types of sandy habitats under early primary succession, especially inland and coastal dunes; those associated with coastal dunes also represent halophilous element; most species belonging here are also heliophilous and xerothermophilous

**Calciphilous** – species living in vegetation on limestone or gypsum substrates, with different moisture levels; regarding the process of deforestation, especially in southern Poland, most species belonging here are also heliophilous and xerothermophilous

**Halophilous** – associated with vegetation on saline soil, i.e. coastal and inland salt marshes, saline meadows and pastures; the species associated with road verges, tolerating periodic salting are also classified here

### **Trophic relations**

The following trophic elements and food plants were distinguished on the basis of data included mainly in the work by NICKEL (2003), together with some additions from OSSIANNILSSON (1978, 1981, 1983) and NAST (1976a). The trophic criteria, showing feeding relationships between planthoppers and leafhoppers and flowering plants, should be treated as provisional for Poland and requiring further thorough research.

**1st degree monophagous (m1)** – species utilizing one plant species

**2nd degree monophagous (m2)** – species utilizing at least two plant species belonging to the same genus

**Oligophagous (olig.)** – species utilizing plant species belonging to no more than two families

**Polyphagous (pol.)** – species utilizing a wide range of plant species belonging to different families



**Myrmecophilous** – during their life cycle this species reveals facultative or obligatory associations with ants, usually of trophic character; this is usually related to behavioral changes of Auchenorrhyncha and their ability to occupy new ecological niches

**Rhizophagous** – species (their adults or nymphs) living in the soil and litter layer, feeding on the young roots of herbs, shrubs and trees; many planthoppers and leafhoppers periodically (for the night or winter) migrate to the root zone, but apparently without feeding

### **Habitat preferences**

**Woodlands** – species associated with deciduous and coniferous forests, often recorded in urban parks

**Scrublands** – species associated with xerothermic scrubs, often recorded in housing estate greenery and urban parks

**Meadows** – species associated with meadows of anthropogenic origin, often recorded in lawns and housing estate greenery

**Steppe-like grasslands** – species associated with xerothermic, steppe-like grasslands, often recorded in dry ruderal vegetation

**Mires-Swamps** – species associated with raised bogs and open or woody marshes, usually rare and with high degree of endemism; often recorded in similar habitats within the city

**Watersides** – species associated with waterside vegetation, occasionally on emerged parts of aquatic macrophytes; often recorded in shoreline vegetation of rivers and post-mining water reservoirs

### **Overwintering**

All developmental stages can survive the winter season, including:

**Egg** – usually inserted into the host plant tissue

**Nymph** (3rd, 4th, 5th instar) – hibernating on or nearby the host plant

**Adult** – hibernating in mature form (usually as females fertilized in autumn), in aggregations on one plant, usually not the host plant, or in the litter layer; there are some cases of hibernation in people's homes

### **Voltinism**

Under urban conditions it is partly dependent on average temperatures occurring in the centre and suburbs; regarding the number of generations during the growing season, the following forms can be distinguished:

**Univoltine species** (1 generation; 1 gen.) – full life cycle (egg–larvae–nymphs–adults) within one year

**Bivoltine species** (2 generations; 2 gen.) – giving two generations (sexually mature) within one year; it is rare in Poland but under favorable climatic conditions there may be an additional third generation

**Semivoltine species** (1/2 generations; 1/2 gen.) – full life cycle covers two years (growing seasons); in extreme cases, for example in Cicadidae, development can take several

years (about 3 years in Poland); species belonging here hibernate as nymphs (last instars), then mature and reproduce within the next growing season

### **Association with urban environment**

**Urbicenobiotic** – species firmly connected with urban ecosystems, not occurring outside them; they can be also treated as synanthropic species; however, not all synanthropes are urbicenobiotic

**Urbicenophilous** – species connected with urban ecosystems of different intensity of anthropopressure, with increasing population abundance; pioneer and migratory species belong here

**Urbiceneutral** – species, whose abundance of is not influenced by anthropopressure; species connected with analogous habitats such as woodland–urban parks belong here

**Urbiceno xenic** – species avoiding urban habitats, often found in the suburbs, in ecosystems similar to natural ones

Classes of dominance follow that in the monograph on planthopper and leafhopper communities associated with the plant assemblages within the area of Częstochowa city (WALCZAK et al. 2014): Superdominant ( $\geq 40.01\%$ ), Eudominant (30.01–40.00%), Dominant (20.01–30.00%), Subdominant (7.51–20.00%) and Accessory species ( $\leq 7.50$ ) species (Table 1).

## **5. RESULTS**

### **5.1. Check-list of planthoppers and leafhoppers recorded in Częstochowa**

The list covers 283 species recorded in the ecosystems located within the administrative borders of the city of Częstochowa, based on research carried out in the years 2005–2016. The species are arranged in the systematic order proposed by GĘBICKI et al. (2013) and supplemented with the following data:

- i) short characteristics concerning chorology and bionomy, which are based on previous monographic works (GĘBICKI et al. 2013, WALCZAK et al. 2014). Additionally, a first attempt to determine the ecological relations of planthoppers and leafhoppers versus urbicoenoses was made, distinguishing urbicenophilous, urbiceneutral and urbiceno xenic species, but without revealing the urbicenobiotic and synanthropic forms;

the format of the characteristic of each species is as given: general range – distribution in Poland – moisture, temperature, insolation, substrate; trophic relations, host plants; habitat preferences; overwintering; voltinism – association with urban environment

- ii) data of quantitative and qualitative research: the collection date and number of males and females collected on particular plots (given in bold and parentheses and numbered as in the ‘Characteristic of the study plots’ chapter), separated with commas; in case of data received as a result of qualitative research carried out by sweep-netting of

trees and shrubs bordering the plots, they are separated from the quantitative one with a slash mark [/]; if the species were recorded outside the study plots, the full locality data are provided. Additionally, for some representatives of Delphacide and Cicadellidae (Athysanini, Paralimnini and Doraturini tribes) the occurrence of two distinct winged forms – brachypterous ('brach') and macropterous ('macr') is also registered;

iii) distribution data in Poland for newly recorded or rare species depicted on the maps (symbols as follow: ▲ – unpublished record from Częstochowa, ● – published record from Częstochowa and Poland, ■ – unpublished record from Poland, ? – record without precise location)

## Ordo HEMIPTERA, LINNAEUS, 1758

### Subordo FULGOROMORPHA EVANS, 1946

#### Familia Cixiidae SPINOLA, 1839

##### *Cixius nervosus* (LINNAEUS, 1758)

Euro-Siberian – widespread – hygrophilous; pol.; woodlands; nymph; 1 gen. – urbiceneutral

(5) – 28 VI 2008, 1♀; (17) – 12 VII 2009, 1♂; (30) – 17 VI 2007, 1♀; (31) – 30 VI 2005, 1♂♂.

##### *Cixius simplex* (HERRICH-SCHÄFFER, 1835)

European? – local – mesophilous; pol.; scrublands; nymph; 1 gen. – urbiceneutral

(14) – 23 IX 2010, 1♂.

Recorded in Poland in several localities in Pomeranian Lake District (HAUPT 1934, ENGEL 1938), Mazovian Lowland (CHUDZICKA 1982), Upper Silesia (BOKŁAK et al. 2003), Krakowsko-Wieluńska Upland (STOBIECKI 1915, SMRECZYŃSKI 1954), Małopolska Upland (GĘBICKI et al. 2013), Lubelska Upland (NAST 1979), Western Beskidy Mountains (STOBIECKI 1915, SMRECZYŃSKI 1954), Nowotarska Dale (SMRECZYŃSKI 1954), Eastern Beskidy Mts (STOBIECKI 1915, SMRECZYŃSKI 1954, PILARCZYK & SZWEDO 2005) and Pieniny Mts (NAST 1976b).

##### *Tachycixius pilosus* (OLIVIER, 1791)

Trans-Palaearctic (introduced into North America) – widespread – xerophilous; pol.; woodlands, scrublands, meadows; nymph; 1 gen. – urbiceneutral

(30) – 17 VI 2007, 1♀.

***Kelisia confusa* LINNAVUORI, 1957**

Southern European – rare – hygrophilous, tyrophilous; m2, *Carex*, mainly *C. elata*; mireswamps; egg(?); 1 gen. – urbicenoxenic (Fig. 34a)

(14) – 26 VII 2008, 1♂, 1♀, det. Igor Malenovský; (16) – 25 IX 2006, 1♂; (17) – 25 VII 2008, 1♂; (19) – 6 VIII 2007, 1♂; (20) – 22 VIII 2007, 1♂; (A) – 31 VIII 2012, 1♂, 1♀, 15 IX 2012, 1♂, 1♀, on *Carex* spp. det. Igor Malenovský.

The species reported here as new to KFP region – Krakowsko-Wieluńska Upland. According to NICKEL (2003), *Kelisia nervosa* VILBASTE, 1972 described from Lithuania is conspecific with *K. confusa* LINN., thus the records of *Kelisia nervosa* VILB. from Białowieża Forest (NAST 1976a) and Sandomierska Lowland – Janów Lubelski (BEDNARCZYK & GĘBICKI 1998) refer to this species (Fig. 2).

It appeared to be an essentially Southern European species, however, there are recent records from central and northern parts of Europe: Austria, Germany (NICKEL 2003), Sweden, Finland, Latvia (SÖDERMAN et al. 2009), Czech Republic (MALENOVSKÝ & LAUTERER 2010).

***Kelisia monoceros* RIBAUT, 1934**

European – local – mesophilous, heliophilous; m2, *Carex*; meadows; egg; 1 gen. – urbicenoxenic?

(12) – 21 VII 2006, 1♂, 2♀♀, 26 IX 2006, 1♀; 21 VI 2007, 1♂, 2♀♀, 10 X 2007, 1♀.

In Poland, reported only in a few localities: Mazovian Lowland – vicinity of Sochaczew (SMRECZYŃSKI 1954), Białowieża Forest (NAST 1976a), Upper Silesia – Sosnowiec (WALCZAK 2005), Krakowsko-Wieluńska Upland – Częstochowa (WALCZAK 2008a), Roztocze Upland – Lubycza Królewska (NAST 1979) and Tatra Mts (SMRECZYŃSKI 1954).

***Kelisia pallidula* (BOHEMAN, 1847)**

Euro-Siberian? – widespread – hygrophilous, tyrophilous; m1, – *Carex panicea*; meadows; egg; 1 gen. – urbicenoxenic

(16) – 12 X 2006, 1♂.

***Kelisia praecox* HAUPT, 1935**

Euro-Siberian – rare – hygrophilous; m2, *Carex*; woodlands, meadows; adult; 1 gen. – urbicenoxenic

(14) – 26 VII 2008, 1♂, 26 VIII 2008, 1♂, 8 V 2009, 1♀; (16) – 10 IX 2006, 1♀, 12 X 2006, 1♀; (17) – 28 IX 2008, 1♂, 11 X 2008, 1♂, 1♀, 11 X 2009, 2♀♀, 23 VIII 2010, 1♀; (18) – 26 VII 2008, 1♂, 26 VIII 2008, 2♂♂, 10 IX 2008, 1♂, 26 IX 2008, 7♂♂, 5♀♀, 10 X 2008, 3♂♂, 6♀♀, 10 VIII 2009, 2♂♂, 9 IX 2009, 2♂♂, 1♀, 22 IX 2009, 4♂♂, 3♀♀, 10 X 2009,

10♀♀, 22 V 2010, 3♀♀, 23 VIII 2010, 1♀, 11 IX 2010, 1♂, 23 IX 2010, 14♂♂, 9♀♀, 13 X 2010, 4♂♂, 3♀♀.

The species is rarely collected in Poland, so far known from: Upper Silesia – surroundings of ‘Katowice’ ironworks (GĘBICKI 1979), Kalety (ŚWIERCZEWSKI & BŁASZCZYK 2011), Katowice (MUSIK & TASZAKOWSKI 2013), Krakowsko-Wieluńska Upland – Kraków (SMRECZYŃSKI 1954), Mstów (ŚWIERCZEWSKI & GĘBICKI 2004, ŚWIERCZEWSKI & WOJCIECHOWSKI 2009), Lubelska Upland (NAST 1979), Sandomierska Lowland – Janów Lubelski (BEDNARCZYK & GĘBICKI 1998) and Western Beskidy Mts – Myślenice (SMRECZYŃSKI 1954, PILARCZYK & SZWEDO 2005).

### ***Kelisia punctulum* (KIRSCHBAUM, 1868)**

European – rare – higrophilous, tyrphophilous; m2, *Carex*; meadows; egg; 1 gen. – urbiceno Xenic

(15) – 8 VIII 2009, 4♂♂, 30 VII 2010, 1♂; (17) – 25 VII 2008, 3♂♂, 4♀♀, 30 VII 2010, 1♂, 11 VIII 2010, 1♀; (18) – 26 VII 2008, 1♂, 1♀; (30) – 28 VII 2008, 1♂, 1♀.

The species is rarely collected in Poland, so far known only from six localities: Białowieża Forest (NAST 1976a), Upper Silesia – Dąbrowa Górnicza, Wodzisław Śląski, Katowice (ŚWIERCZEWSKI & GRUCA 2010), Krakowsko-Wieluńska Upland – vicinity of Kraków (SZWEDO 2001) and Małopolska Upland – ‘Stawki’ Landscape Park (ŚWIERCZEWSKI & BŁASZCZYK 2010).

### ***Kelisia vittipennis* (J. SAHLBERG, 1868)**

Euro-Siberian – local – higrophilous, tyrphophilous; m2, *Eriophorum*; mires-swamps; egg; 1 gen. – urbiceno Xenic

(A) – 17 VIII 2012, 11♂♂, 10♀♀, on *Carex* spp.

### ***Anakelisia perspicillata* (BOHEMAN, 1845)**

Euro-Siberian – local – mesophilous, heliophilous; m2, *Carex*; steppe-like grasslands, meadows; egg; 1 gen. – urbiceno Xenic

(27) – 26 IX 2008, 1♀; (29) – 7 VIII 2007, 1♀.

The species is rarely found in Poland, so far known from Mazovian Lowland (NAST 1976a), Małopolska Upland (GĘBICKI 1987) and Pieniny Mts (SMRECZYŃSKI 1954). Recently, it was also recorded in Krakowsko-Wieluńska Upland – Pilica (SZWEDO 2001), Mstów, Olsztyn (ŚWIERCZEWSKI 2004, ŚWIERCZEWSKI & GĘBICKI 2004, ŚWIERCZEWSKI & WOJCIECHOWSKI 2009), Upper Silesia – Bukowno (WALCZAK & MUSIK 2012) and Eastern Sudetes Mts – Góry Stołowe National Park (GAJ et al. 2009).

### *Stenocranus fuscovittatus* (STÅL, 1858)

Euro-Siberian – widespread – higrophilous, heliophilous, tyrphophilous; m2, *Carex*; mires-swamps, watersides; adult; 1 gen. – urbicenoxyenic

(14) – 10 V 2008, 5♀♀, 26 V 2008, 4♀♀, 10 VI 2008, 1♀, 26 VIII 2008, 1♂, 1♀, 10 IX 2008, 3♂♂, 1♀, 26 IX 2008, 3♂♂, 3♀♀, 10 X 2008, 2♂♂, 1♀, 8 V 2009, 11♀♀, 26 V 2009, 2♀♀, 9 IX 2009, 1♂, 1♀, 22 IX 2009, 2♂♂, 1♀, 10 X 2009, 2♂♂, 1♀, 9 V 2010, 5♀♀, 11 IX 2010, 1♂, 2♀♀; (15) – 28 IX 2008, 2♂♂, 11 X 2008, 4♂♂, 4♀♀, 23 IX 2010, 1♂; (17) – 10 V 2008, 3♀♀, 27 V 2008, 1♀, 11 VIII 2008, 2♂♂, 26 VIII 2008, 1♂, 1♀, 28 IX 2008, 6♂♂, 5♀♀, 11 X 2008, 4♂♂, 4♀♀, 8 V 2009, 3♀♀, 25.V2008, 1♀, 28 IX 2009, 4♂♂, 7♀♀, 11 X 2009, 6♂♂, 2♀♀, 8 V 2010, 1♀, 7 X 2010, 2♀♀; (18) – 10 V 2008, 10♀♀, 26 V 2008, 4♀♀, 10 VI 2008, 5♀♀, 11 VIII 2008, 1♂, 10 IX 2008, 5♂♂, 6♀♀, 26 IX 2008, 17♂♂, 22♀♀, 10 X 2008, 25♂♂, 12♀♀, 8 V 2009, 3♀♀, 26 V 2009, 2♀♀, 11 VI 2009, 4♀♀, 12 VII 2009, 1♀, 10 VIII 2009, 1♂, 9 IX 2009, 2♂♂, 2♀♀, 22 IX 2009, 24♂♂, 26♀♀, 10 X 2009, 20♂♂, 15♀♀, 9 V 2010, 3♀♀, 22 V 2010, 5♀♀, 12 VI 2010, 4♀♀, 23 VIII 2010, 1♂, 11 IX 2010, 1♂, 2♀♀, 23 IX 2010, 15♂♂, 7♀♀, 13 X 2010, 2♂♂, 1♀; (19) – 10 IX 2006, 1♂, 25 IX 2006, 1♂, 12 X 2006, 4♀♀.

The species was erroneously reported as new to KFP region – Krakowsko-Wieluńska Upland by WALCZAK et al. (2014). In fact, the first record of the species is provided by GĘBICKI et al. (2013). The species is widely distributed in northern Poland and known there from: Baltic Coast, Pomeranian Lake District, Masurian Lake District, Podlasie Lowland and Białowieża Forest (NAST 1976a). In southern Poland, so far known from Lower Silesia – the vicinity of Lubin (NAST 1976a), Roztocze Upland – Krasnobród (NAST 1979) and recently also recorded from Sandomierska Lowland – Janów Lubelski (BEDNARCZYK & GĘBICKI 1998), Małopolska Upland – ‘Stawki’ Landscape Park (ŚWIERCZEWSKI & BŁASZCZYK 2010) and Upper Silesia – Herby, Woźniki (ŚWIERCZEWSKI & BŁASZCZYK 2011), Zabrze, Piekary Śląskie (WALCZAK & MUSIK 2012).

### *Stenocranus major* (KIRSCHBAUM, 1868)

Western Palaearctic? – widespread – higrophilous; m1, *Phalaris arundinacea*; watersides; adult; 1 gen. – urbicenoxyenic

(2) – 20 VIII 2007, 6♀♀, 13 IX 2007, 3♂♂, 1♀, 26 IX 2007, 17♂♂, 14♀♀, 9 XI 2007, 1♂, 4♀♀, 10 V 2008, 2♀♀, 11 IX 2008, 1♂, 29 IX 2008, 4♂♂, 1♀, 11 X 2008, 6♂♂, 4♀♀, 7 V 2009, 1♀, 22 VIII 2009, 3♂♂, 8 IX 2009, 1♂, 1♀, 23 IX 2009, 1♂, 2♀♀, 8 X 2009, 1♀; (3) – 10 V 2006, 1♀, 11 IX 2006, 2♂♂, 1♀, 24 IX 2006, 1♂, 9 X 2006, 1♂, 8 V 2008, 1♀, 10 VIII 2008, 1♂, 26 IX 2008, 1♀; (4) – 11 V 2006, 4♀♀, 26 V 2006, 9♀♀, 19 VI 2006, 3♀♀, 19 VIII 2006, 4♂♂, 2♀♀, 10 IX 2006, 2♂♂, 3♀♀, 21 IX 2006, 21♂♂, 19♀♀, 5 X 2006, 6♂♂, 10♀♀, 11 V 2007, 1♂, 3♀♀, 26 V 2007, 1♀, 6 VIII 2007, 1♂, 21 VIII 2007, 1♂, 1♀, 21 IX 2007, 1♂, 3♀♀, 8 V 2008, 2♀♀, 25 V 2008, 4♀♀, 8 VIII 2008, 7♂♂, 26 VIII 2008, 11♂♂, 2♀♀, 9 IX 2008, 6♂♂, 3♀♀, 26 IX 2008, 1♂, 7♀♀, 9 X 2008, 1♂, 1♀; (5) – 4 IX 2005, 5♂♂, 2♀♀, 24 IX 2005, 11♂♂, 10♀♀, 6 X 2005, 2♀♀, 21 VIII 2007, 6♂♂, 2♀♀, 7 IX 2007, 3♂♂, 4♀♀, 20 IX 2007, 4♂♂, 2♀♀, 11 X 2007, 10♂♂, 14♀♀, 11 VIII 2008, 1♂, 2♀♀, 26 VIII 2008, 25♂♂, 21♀♀, 11 IX 2008, 12♂♂, 14♀♀, 27 IX 2008, 30♂♂, 14♀♀, 11 X 2008, 12♂♂, 15♀♀; (6) – 10 V 2005, 2♂♂, 4♀♀, 26 V 2005, 7♂♂, 10♀♀, 19 VI 2005,

1♀, 7 VIII 2005, 17♂♂, 2♀♀, 19 VIII 2005, 103♂♂, 123♀♀, 9 IX 2005, 19♂♂, 11♀♀, 21 IX 2005, 25♂♂, 16♀♀, 5 X 2005, 67♂♂, 78♀♀, 8 V 2006, 10♂♂, 18♀♀, 24 V 2006, 1♀, 8 VIII 2006, 1♂, 23 VIII 2006, 3♂, 10 IX 2006, 11♂♂, 7♀♀, 25 IX 2006, 19♂♂, 21♀♀, 9 X 2006, 6♂♂, 11♀♀, 8 V 2008, 74♂♂, 84♀♀, 25 V 2008, 4♂♂, 52♀♀, 26 VI 2008, 1♀, 9 VII 2008, 1♀, 10 VIII 2008, 11♂♂, 12♀♀, 26 VIII 2008, 14♂♂, 22♀♀, 9 IX 2008, 75♂♂, 58♀♀, 26 IX 2008, 67♂♂, 66♀♀, 9 X 2008, 97♂♂, 105♀♀; **(7)** – 10 X 2006, 1♂, 1♀, 9 X 2008, 1♀; **(8)** – 22 VIII 2006, 1♂, 7 X 2006, 1♂, 2♀♀, 9 X 2007, 1♂, 1♀, 26 VIII 2006, 1♂, 9 IX 2006, 2♂♂, 26 IX 2006, 5♂♂, 10♀♀, 9 X 2006, 5♂♂, 8♀♀; **(9)** – 10 IX 2006, 2♂♂, 24 IX 2006, 2♂♂, 2♀♀, 10 X 2006, 1♀, 26 VIII 2007, 1♂, 6 X 2007, 2♀♀, 10 IX 2008, 2♀♀, 10 X 2008, 2♂♂; **(10)** – 24 IX 2006, 1♂, 10 X 2006, 1♀, 24 IX 2007, 1♀, 27 IX 2008, 1♂; **(11)** – 7 IX 2006, 1♀, 6 VIII 2007, 1♂; **(12)** – 19 IX 2006, 1♀, 9 X 2006, 1♀, 10 IX 2008, 1♂, 7 X 2008, 1♀; **(13)** – 24 VIII 2006, 1♂, 11 IX 2006, 1♂, 22 IX 2007, 1♀, 10 X 2007, 1♀, 10 IX 2008, 5♂♂, 1♀; **(14)** – 26 VIII 2008, 1♂, 10 X 2008, 1♂, 1♀, 9 IX 2009, 2♂♂, 22 IX 2009, 2♂♂, 10 X 2009, 2♀♀, 23 IX 2010, 1♂, 1♀; **(15)** – 26 VIII 2008, 1♀, 28 IX 2008, 1♂, 11 X 2008, 1♀, 7 X 2010, 2♀♀; **(16)** – 24 VIII 2006, 1♀, 10 IX 2006, 1♀, 25 IX 2006, 1♀, 10 X 2006, 1♂, 9 V 2007, 1♀, 25 VIII 2007, 1♂, 1♀, 23 IX 2007, 1♂, 2♀♀, 10 X 2007, 3♂♂, 2♀♀, 8 V 2008, 1♀, 10 IX 2008, 1♀, 10 X 2008, 1♂; **(18)** – 23 IX 2010, 1♀; **(19)** – 10 V 2005, 2♀♀, 28 V 2005, 1♂, 2♀♀, 7 IX 2005, 2♂♂, 26 IX 2005, 2♂♂, 1♀, 10 X 2005, 1♀, 10 IX 2006, 1♀, 7 V 2007, 1♀, 8 IX 2007, 2♀♀, 20 IX 2007, 1♂, 1♀, 8 X 2007, 1♀; **(20)** – 26 VIII 2006, 1♂, 10 IX 2006, 1♂, 2♀♀, 25 IX 2006, 4♂♂, 3♀♀, 9 X 2006, 1♀, 28 VIII 2007, 24♂♂, 16♀♀, 6 IX 2007, 1♀, 21 IX 2007, 1♂, 1♀, 11 X 2007, 3♂♂, 4♀♀, 23 VIII 2008, 8♂♂, 8♀♀, 7 IX 2008, 3♂♂, 2♀♀, 25 IX 2008, 5♂♂, 6♀♀, 8 X 2008, 1♂, 3♀♀; **(21)** – 24 IX 2006, 3♂♂, 1♀, 26 IX 2007, 1♀, 9 X 2007, 1♂, 8 V 2008, 1♀, 30 VIII 2008, 1♂, 1♀, 8 IX 2008, 2♂♂, 1♀, 26 IX 2008, 2♂♂, 10 X 2008, 2♂♂, 3♀♀; **(22)** – 12 V 2005, 2♂♂, 7♀♀, 22 VI 2005, 3♀♀, 20 VIII 2005, 4♂♂, 2♀♀, 8 IX 2005, 4♂♂, 3♀♀, 21 IX 2005, 4♂♂, 4♀♀, 5 X 2005, 1♂, 3♀♀, 21 VIII 2007, 7♂♂, 6♀♀, 6 IX 2007, 14♂♂, 9♀♀, 21 IX 2007, 1♂, 4♀♀, 5 X 2007, 15♂♂, 13♀♀, 8 V 2008, 5♂♂, 5♀♀, 25 V 2008, 2♀♀, 30 VIII 2008, 26♂♂, 23♀♀, 9 IX 2008, 37♂♂, 44♀♀, 26 IX 2008, 20♂♂, 32♀♀, 9 X 2008, 81♂♂, 115♀♀; **(23)** – 21 IX 2006, 1♀, 8 X 2006, 1♂; **(24)** – 24 IX 2006, 1♂, 1♀, 9 X 2006, 1♂, 9 X 2007, 1♀, 28 VIII 2008, 1♂, 9 IX 2008, 1♂, 1♀; **(25)** – 10 VIII 2007, 1♀; **(26)** – 26 VIII 2008, 8♂♂, 13♀♀, 8 IX 2008, 18♂♂, 23♀♀, 26 IX 2008, 22♂♂, 17♀♀, 9 X 2008, 70♂♂, 79♀♀, 7 IX 2006, 7♂♂, 10♀♀, 25 IX 2006, 7♂♂, 5♀♀, 9 X 2006 6♂♂, 7♀♀; **(27)** – 26 IX 2008, 1♀; **(28)** – 25 V 2005, 1♂, 8 V 2006, 1♀; **(30)** – 8 IX 2006, 1♂, 29 IX 2008, 1♂; **(32)** – 10 IX 2005, 1♂, 1♀, 22 IX 2005, 2♂♂, 1♀, 8 X 2005, 1♂, 7 IX 2007, 2♂♂, 22 IX 2007, 1♂, 5 X 2007, 1♀; **(35)** – 23 IX 2008, 1♂, 9 X 2008, 2♂♂, 2♀♀, 11 X 2010, 1♀.

***Stenocranus minutus* (FABRICIUS, 1787)**

Western Palearctic – local – hygrophilous; m2, *Dactylis*; woodlands, meadows; adult; 1 gen. – urbicenophilous?

**(1)** – 8 V 2008, 1♀, 23 V 2008, 1♀, 8 V 2010, 2♀♀, 23 V 2010, 1♀; **(3)** – 26 IX 2008, 1♂; **(9)** – 10 X 2008, 3♂♂, 1♀; **(10)** – 8 VIII 2007, 1♀, 22 IX 2007, 1♂; **(11)** – 29 IX 2008, 1♀, 11 X 2008, 1♂, 1♀; **(12)** – 11 V 2006, 1♂, 20 VIII 2007, 1♂, 22 IX 2007, 1♀, 9 X 2007, 1♂; **(13)** – 6 VIII 2007, 1♂, 8 IX 2007, 1♂, 22 IX 2007, 1♀; **(14)** – 26 IX 2008, 1♂, 1♀, 25 VIII 2009, 1♀, 22 IX 2009, 4♀♀, 23 IX 2010, 2♀♀, 10 X 2010, 3♀♀; **(15)** – 25 VIII 2009, 1♀, 23 IX 2010, 1♀; **(16)** – 10 X 2006, 1♀, 9 IX 2007, 1♂, 10 X 2007, 1♀, 25 IX 2008, 1♂,

1♀; **(17)** – 7 X 2010, 1♀; **(19)** – 20 VIII 2007, 1♂; **(21)** – 25 V 2007, 1♀, 26 IX 2007, 1♂, 9 X 2007, 3♂♂, 8 IX 2008, 1♀, 10 X 2007, 1♀; **(22)** – 21 IX 2005, 1♀, 5 X 2007, 1♂, 9 IX 2008, 1♂, 1♀; **(24)** – 10 V 2006, 1♀, 9 X 2006, 1♂, 8 IX 2007, 1♂, 22 IX 2007, 1♂, 1♀, 7 X 2007, 1♂, 1♀; **(25)** – 25 IX 2007, 1♂, 9 IX 2008, 1♂, 1♀, 8 X 2008, 1♂; **(27)** – 24 V 2006, 1♀, 26 IX 2006, 1♂, 3♀♀, 9 VI 2008, 1♀, 9 IX 2008, 1♂, 1♀; **(29)** – 10 V 2005, 1♀, 10 IX 2005, 1♂, 1♀, 21 IX 2005, 1♂, 9 V 2006, 2♀♀, 23 VIII 2006, 1♂, 24 IX 2006, 2♂♂, 1♀, 9 IX 2007, 1♂, 1♀; **(30)** – 23 VIII 2007, 2♂♂, 1♀, 8 IX 2007, 1♂, 1♀, 22 IX 2007, 1♀, 10 X 2007, 1♂, 1♀, 29 IX 2008, 2♂♂, 2♀♀, 11 X 2008, 1♂, 1♀; **(31)** – 31 VIII 2008, 1♀, 10 X 2008, 1♂; **(35)** – 23 IX 2010, 1♀, 11 X 2010, 1♀.

### *Jassidaeus lugubris* (SIGNORET, 1865)

Southern European – local – xerothermophilous, heliophilous; olig, *Thymus*, *Stipa capillata*; steppe-like grasslands; adult; 1 gen. . – urbicenophilous?

Published records from Częstochowa (WALCZAK 2011): **(8)** – 02.09.2007, 1♀macr, 17.09.2007, 1♂macr, 10.10.2007, 1♀macr; **(12)** – 27.09.2007, 1♂macr; **(23)** – 17.09.2007, 1♂macr. New records: **(9)** – 16 VIII 2007, 1♀; **(10)** – 27 IX 2008, 1♂; **(11)** – 9 IX 2008, 1♂; **(21)** – 31 VIII 2008, 1♀, **(22)** – 2 IX 2007, 1♀, 9 IX 2008, 1♀.

This rare species is known in Poland only from a few localities in Pomeranian Lake District, Wielkopolsko-Kujawska Lowland, Mazovian Lowland and Małopolska Lowland (NAST 1976a). Recently, it was also recorded in Upper Silesia – ‘Modrzewiowa Góra’ Nature Reserve near Kłobuck (ŚWIERCZEWSKI et al. 2012) and Krakowsko-Wieluńska Upland – Częstochowa (WALCZAK 2008a, 2011).

### *Megamelus notula* (GERMAR, 1830)

Euro-Siberian? – widespread – higrophilous; m2, *Carex*; meadows, mires-swamps; egg; 1 gen. – urbicenoxenic

**(5)** – 20 VI 2007, 1♂brach; **(6)** – 26 IX 2008, 1♀brach; **(13)** – 7 VI 2007, 1♂brach; **(15)** – 25 VII 2008, 1♂brach, 1♀macr; **(18)** – 26 IX 2008, 1♂brach; 26 VII 2010, 1♂brach; **(19)** – 26 IX 2005, 1♂brach; **(20)** – 10 IX 2006, 1♀macr, 25 IX 2006, 1♂brach, 7 IX 2008, 1♀macr; **(32)** – 7 VII 2007, 1♂macr.

### *Conomelus anceps* (GERMAR, 1821)

Western European – widespread and common – higrophilous; m2, *Juncus*; meadows, mires-swamps; egg; 1 gen. – urbicenoneutral

Published records from Częstochowa (WALCZAK 2011): **(5)** – 13.07.2005, 2♂♂brach, 1♀macr, 7♀♀brach. New records: **(1)** – 26 VII 2010, 1♀macr; **(2)** – 28 VII 2008, 1♀macr; **(3)** – 10 VIII 2008, 1♀macr; **(5)** – 7 VIII 2007, 1♂brach, 11 VIII 2008, 1♀brach, 1♀macr; **(10)** – 26 VII 2006, 1♂brach, 23 VIII 2006, 1♀brach, 3♀♀macr, 24 IX 2006, 1♀macr, 27 VII 2008, 2♀♀macr; **(14)** – 26 VII 2008, 2♀♀macr; 11 VIII 2008, 1♀macr, 23 VII 2009, 3♀♀brach,



9 IX 2009, 4♀♀brach, 22 IX 2009, 1♀brach, 26 VII 2010, 1♀brach, 1♀macr; **(15)** – 25 VII 2008, 1♀macr, 25 VII 2010, 1♂brach, 1♀brach; **(18)** – 26 VII 2008, 1♀brach, 26 VIII 2008, 1♀macr, 10 IX 2008, 1♀brach, 26 IX 2008, 1♀brach, 23 VII 2009, 1♀brach, 10 VIII 2009, 1♀brach, 1♀macr, 26 VII 2010, 5♂♂brach, 10♀♀brach, 4♀♀macr, 23 IX 2010, 1♀macr, 9 X 2010, 1♂brach; **(19)** – 10 X 2005, 1♂brach, 1♀brach, 6 VIII 2007, 1♂brach; **(20)** – 7 VII 2006, 1♂macr, 26 VII 2006, 1♂brach, 1♂macr, 2♀♀brach, 10♀♀macr, 10 IX 2006, 1♀macr, 9 VII 2008, 1♂brach, 2♀♀macr, 23 VIII 2008, 1♂brach, 7 IX 2008, 1♀brach, 1♀macr; **(24)** – 25 VII 2007, 1♀macr, 23 VII 2008, 1♀brach; **(27)** – 26 VII 2008, 1♀macr; **(30)** – 10 VII 2006, 1♀brach, 2♀♀macr, 8 VIII 2006, 1♂brach, 1♀brach, 1♀macr, 10 X 2006, 1♀macr, 23 VII 2007, 1♂brach, 8 VIII 2007, 1♂brach, 23 VIII 2007, 4♂♂brach, 1♀brach, 9 X 2007, 2♀♀brach, 28 VII 2008, 1♀macr, 29 VIII 2008, 1♀macr, 29 IX 2008, 3♂♂brach, 2♀♀brach; **(35)** – 26 VII 2008, 1♀macr, 23 VII 2009, 1♀brach, 10 VIII 2009, 1♀brach, 26 VII 2010, 1♀macr.

### *Eurysula lurida* (FIEBER, 1866)

Siberian – widespread – xerophilous? (locally higrophilous); m2 – *Calamagrostis epigeios*, *C. canescens* (locally); woodlands, anthropogenic-ruderal vegetation; nymph; 2 gen. – urbicenophilous

Published records from Częstochowa (WALCZAK 2008a): **(3)** – 7 VI 2007, 2♀♀macr, wrongly determined as *Metropis inermis* WAGNER 1939; see WALCZAK (2011). New records: **(2)** – 24 V 2007, 1♂brach, 1♀macr; **(4)** – 11 V 2007, 1♀brach; **(5)** – 6 VI 2007, 1♀brach, 26 V 2008, 1♀macr, 10 VI 2008, 1♂macr; **(9)** – 26 V 2008, 1♀brach; **(10)** – 9 VI 2008, 1♀macr; **(12)** – 22 VI 2006, 1♂macr; **(13)** – 10 VI 2008, 1♂macr, 2♀♀macr; **(19)** – 23 VI 2006, 2♀♀macr; **(24)** – 10 VI 2006, 1♀macr.

### *Eurybregma nigrolineata* SCOTT, 1875

Euro-Siberian? – local – xerophilous?, heliophilous; olig, *Poaceae*; steppe-like grasslands, meadows; nymph; 1 gen. – urbicenophilous?

**(9)** – 11 V 2006, 2♂♂brach, 3♀♀brach, 1♀macr, 20 V 2006, 6♂♂brach, 6♀♀brach, 10 V 2007, 1♀brach, 1♀macr, 25 V 2007, 2♂♂brach, 4♀♀brach, 10 V 2008, 1♂brach, 1♂macr; **(16)** – 10 VII 2006, 1♀brach, 9 V 2007, 1♂brach, 9 VI 2007, 1♀brach; **(19)** – 23 V 2006, 2♂♂brach; **(20)** – 21 V 2007, 1♂brach; **(22)** – 11 V 2007, 1♂brach, 2♀♀macr, 8 VI 2007, 4♀♀brach, 25 V 2008, 4♀♀macr; **(24)** – 10 V 2006, 1♂brach, 25 V 2006, 1♀macr, 8 V 2007, 1♀macr, 7 VI 2007, 1♀brach; **(26)** – 10 V 2006, 1♀macr, 9 V 2007, 1♀macr, 25 V 2008, 1♀macr, 7 VI 2008, 1♂macr, 1♀macr; **(28)** – 25 V 2005, 7♂♂brach, 9♀♀brach, 9 VI 2005, 12♂♂brach, 17♀♀brach, 8 V 2006, 3♂♂brach, 25 V 2006, 5♂♂brach, 7♀♀brach, 10 VI 2006, 4♂♂brach, 8♀♀brach, 10 V 2007, 10♂♂brach, 19♀♀brach, 1♀macr, 24 V 2007, 5♂♂brach, 8♀♀brach, 8 VI 2007, 12♂♂brach, 16♀♀brach, 2♀♀macr, 23 VI 2007, 3♀♀brach.

### *Stiroma affinis* FIEBER, 1866

Euro-Siberian – widespread – mesophilous; olig, *Poaceae*; woodlands, steppe-like grasslands, meadows; nymph; 1 gen. – urbicenophilous?

(19) – 11 VI 2007, 1♂brach; (30) – 10 VII 2006, 1♀brach, 23 VII 2007, 1♀brach, 28 VI 2008, 1♂brach, 3♀♀brach; (35) – 26 VI 2009, 5♂♂brach, 6♀♀brach.

***Stiroma bicarinata* (HERRICH-SCHÄFFER, 1835)**

Euro-Siberian – widespread – higrophilous; olig, Poaceae; meadows; nymph; 1 gen. – urbiceneutral?

(1) – 26 VI 2010, 1♂macr.

***Euconomelus lepidus* (BOHEMAN, 1847)**

Euro-Siberian – widespread and common – higrophilous; m2 – *Eleocharis*; meadows, mireswamps; egg; 1 gen. – urbiceno xenic

(20) – 7 VII 2006, 4♂♂brach, 1♀brach, 1♀macr, 10 IX 2006, 1♂brach, 25 IX 2006, 1♂brach, 2♀♀brach, 9 VII 2007, 1♂brach, 1♀macr.

***Delphax pulchella* (CURTIS, 1833)**

European – rare – mesophilous, skiophilous?, halophilous?; m1, *Phragmites australis*; mireswamps, watersides; egg; 1 gen. – urbiceno xenic, in managed meadows (NICKEL 2003) (Fig. 34b)

Published records from Częstochowa; reported as new to KFP region – Krakowsko-Wieluńska Upland (WALCZAK 2014): (14) – 11 VII 2008, 1♂macr, 2♀♀macr.

In Poland this species was recorded only in few localities so far (Fig. 3): Baltic Coast – vicinity of Słupsk (WAGNER 1941), Świnoujście, Pruszcz Gdański (SMRECZYŃSKI 1954) and Małopolska Upland – vicinity of Busko (NAST 1976a) (Fig. 3).

***Chloriona glaucescens* FIEBER, 1866**

Western Palaearctic – rare – higrophilous, halophilous; m1, *Phragmites australis*; watersides, coastal vegetation (NICKEL 2003); nymph; 2 gen. – urbiceno xenic

Published records from Częstochowa; reported as new to KFP region – Krakowsko-Wieluńska Upland (WALCZAK 2014): (14) – 11 VIII 2010, 1♂, 1♀.

In Poland, the species was recorded only in a few localities located predominantly in the northern and central part of the country – Baltic Coast, Wielkopolsko-Kujawska Lowland, Mazovian Lowland, Małopolska Upland (NAST 1976a), Upper Silesia (MUSIK 2016) and Roztocze Upland (NAST 1979).

***Chloriona smaragdula* (STÅL, 1853)**

Western Palaearctic – widespread – higrophilous; m1, *Phragmites australis*; watersides; nymph; 1-2 gen. – urbiceno xenic

(6) – 19 VI 2005, 1♂macr; (17) – 19 VI 2009, 1♀macr; (18) – 10 VI 2008, 1♀macr; (30) – 3 VI 2007, 1♂macr, 3♀♀macr, on *Phragmites australis*.

***Chloriona unicolor* (HERRICH-SCHÄFFER, 1835)**

Western Palaearctic – rare – higrophilous; m1, *Phragmites australis*; watersides; nymph; 2? gen. – urbicenoxyenic (Fig. 38a-d)

(18) – 11 VIII 2010, 1♂.

The species reported here as new to the fauna of Poland and KFP region – Krakowsko-Wieluńska Upland. Species very rarely collected in Poland, recently it was also recorded in Upper Silesia – Bukowno (MUSIK 2016), Dąbrowa Górnicza ‘Bagna w Antoniowie’ (POTOCKI in prep.) and Krakowsko-Wieluńska Upland – Kraków-Dębnyki (WALCZAK et al. in press b) (Fig. 4).

In Europe species is known from: Austria, The British Isles (NAST 1987), Czech Republic (MALENOVSKÝ & LAUTERER 2010), France, Germany, Greece, Hungary, Italy (also Sardinia), Moldavia, Portugal, Russia, Slovakia, Spain, Ukraine (NAST 1972, 1987), Croatia, Slovenia, Switzerland (HOLZINGER et al. 2003, HOCH 2013) in Asia known from: Georgia, Iran, Kirghizia, Kazahstan and Uzbekistan and Africa from: Tunisia and Algeria (NAST 1972, 1987).

***Megadelphax sordidula* (STÅL, 1853)**

Euro-Siberian – local – mesophilous; m1, *Arrhenatherum elatius*; meadows, fallows (NICKEL 2003); nymph; 2 gen. – urbicenoxyenic,

(2) – 10 V 2008, 1♀macr, 26 V 2008, 1♀macr, 12 VII 2008, 1♂brach, 2♀♀brach, 28 VII 2008, 1♂brach, 1♂macr, 1♀brach, 1♀macr, 12 VIII 2008, 1♂macr; (6) – 25 V 2008, 1♂macr, 9 VI 2008, 1♂brach; (8) – 25 V 2008, 1♀brach; (9) – 26 V 2008, 1♀macr; (11) – 11 VII 2008, 1♂brach, 2♀♀brach; (13) – 9 VII 2007, 1♀brach; (20) – 23 VII 2007, 2♀♀brach; (21) – 25 V 2007, 1♀macr; (22) – 7 VI 2008, 1♂brach, 1♀macr; (23) – 7 V 2006, 23 V 2006, 8 VI 2006, 24 VII 2006, 8 VIII 2006, 23 VIII 2006, 7 IX 2006, 21 IX 2006, 9 V 2007, 24 V 2007, 8 VI 2007, 22 VII 2007, 6 VIII 2007, 22 VIII 2007, 7 IX 2007, 21 IX 2007, 9 V 2008, 26 V 2008, 7 VI 2008, 7 VII 2008, 25 VII 2008, 9 VIII 2008, 25 VIII 2008, 8 IX 2008, 10 X 2008; (24) – 8 V 2007, 1♀macr, 25 V 2008, 1♂brach; (26) – 9 X 2008, 1♀brach.

***Laodelphax striatella* (FALLÉN, 1826)**

Trans-Palaearctic – widespread and common – mesophilous; pol.; meadows, anthropogenic vegetation; nymph; 2 gen. – urbicenoxyenic

(1) – 23 VIII 2008, 1♀macr, 11 VIII 2010, 1♀macr, 23 VIII 2010, 1♀macr; (2) – 7 VII 2007, 1♀macr, 23 VII 2007, 1♀macr, 28 VII 2008, 2♂♂macr, 4♀♀macr; (3) – 21 VI 2007, 1♂macr, 7 VII 2007, 1♂macr, 6 VIII 2007, 1♂brach, 1♂macr, 25 VIII 2007, 2♀♀macr, 6 IX 2007, 1♀macr, 8 V 2008, 1♂macr, 1♀macr, 26 VII 2008, 2♂♂macr; (4) – 26 V 2006, 1♀macr, 21 VI 2007, 1♂macr; (5) – 21 VIII 2007, 2♂♂macr, 1♀macr, 26 VII 2008, 1♂macr; (6) – 7 VIII 2005, 1♂macr, 23 VII 2006, 1♀macr, 8 VIII 2006, 1♀macr; (7) – 26 VII 2008, 2♂♂macr, 10

VIII 2008, 1♀macr; **(8)** – 24 VII 2006, 1♂macr, 7 IX 2007, 1♂macr, 21 IX 2007, 1♀macr, 9 IX 2008, 1♂macr; **(9)** – 21 VI 2006, 1♂macr, 26 VII 2006, 2♀♀macr, 8 VII 2007, 1♀macr, 25 VII 2007, 1♂macr, 10 VIII 2007, 1♂macr, 26 VIII 2007, 1♂macr, 10 IX 2007, 1♂macr, 6 X 2007, 1♂macr, 29 VI 2008, 1♂macr; **(10)** – 21 VI 2006, 1♂macr, 10 VII 2006, 1♀macr, 24 V 2007, 2♀♀macr, 22 VI 2007, 1♂macr, 7 VII 2007, 13♂♂macr, 12♀♀macr, 23 VII 2007, 1♂brach, 2♂♂macr, 4♀♀macr, 8 VIII 2007, 11♂♂macr, 6♀♀macr, 23 VIII 2007, 14♂♂macr, 1♀brach, 9♀♀macr, 8 IX 2007, 19♂♂macr, 12♀♀macr, 22 IX 2007, 1♂macr, 4♀♀macr, 9 VII 2008, 1♂macr, 27 VII 2008, 19♂♂macr, 4♀♀macr, 12 VIII 2008, 1♂brach, 28 VIII 2008, 1♀brach, 1♀macr; **(11)** – 23 V 2006, 1♂macr, 8 VII 2006, 3♂♂macr, 3♀♀macr, 23 VII 2006, 2♂♂macr, 1♀macr, 9 VIII 2006, 3♂♂macr, 2♀♀macr, 25 VIII 2006, 1♂macr, 9 VII 2007, 1♂macr, 1♀macr, 25 VII 2007, 3♂♂macr, 2♀♀brach, 6 VIII 2007, 14♂♂macr, 10♀♀macr, 23 VIII 2007, 2♂♂macr, 1♀macr, 26 V 2008, 1♂macr, 11 VII 2008, 1♂macr, 6♀♀macr, 26 VII 2008, 5♂♂macr, 2♀♀macr, 11 VIII 2008, 1♂macr; **(12)** – 12 VII 2006, 1♂macr, 1♀macr, 21 VI 2007, 2♂♂macr, 2♀♀macr, 23 VII 2007, 1♂macr, 1♀macr, 6 VIII 2007, 1♂macr, 1♀macr, 20 VIII 2007, 2♂♂macr, 8 IX 2007, 3♂♂macr, 3♀♀macr, 22 IX 2007, 1♀macr, 9 IX 2007, 1♀macr, 24 VI 2008, 1♂macr, 22 VII 2008, 1♂macr, 1♀macr; **(13)** – 9 VII 2006, 1♂macr, 20 VII 2006, 1♂macr, 22 VI 2007, 2♂♂macr, 3♀♀macr, 9 VII 2007, 3♂♂macr, 2♀♀macr, 6 VIII 2007, 7♂♂macr, 6♀♀macr, 23 VIII 2007, 2♂♂macr, 1♀macr, 8 IX 2007, 2♂♂macr, 2♀♀macr, 22 IX 2007, 1♀macr, 10 V 2008, 1♂macr, 11 VII 2008, 8♂♂macr, 5♀♀macr, 29 VII 2008, 25♂♂macr, 19♀♀macr, 11 VIII 2008, 4♂♂macr, 4♀♀macr, 31 VIII 2008, 1♂brach, 6♂♂macr, 5♀♀brach, 10 IX 2008, 1♂brach, 2♂♂macr, 10 X 2008, 1♂brach; **(15)** – 26 VI 2009, 1♂macr, 9 IX 2009, 1♀macr; **(16)** – 10 VII 2006, 1♂macr, 10 VII 2007, 1♂macr, 25 VI 2008, 1♂macr, 8 VIII 2008, 1♀macr; **(17)** – 26 VI 2009, 1♀macr; **(18)** – 26 VII 2008, 1♀macr, 23 VII 2009, 1♀macr; **(19)** – 10 VIII 2005, 1♂macr, 10 VII 2006, 8♂♂macr, 3♀♀macr, 25 VII 2006, 1♂macr, 23 VIII 2006, 1♂macr, 7 V 2007, 4♂♂macr, 1♀macr, 23 VI 2007, 1♂macr, 7 VII 2007, 1♂macr, 22 VII 2007, 1♂macr, 6 VIII 2007, 1♀macr, 20 VIII 2007, 2♂♂macr, 1♀macr, 8 IX 2007, 3♂♂macr, 3♀♀macr, 20 IX 2007, 1♂macr, 1♀macr; **(20)** – 26 VII 2006, 1♂macr, 1♀macr, 22 VI 2007, 6♂♂macr, 4♀♀macr, 9 VII 2007, 8♂♂macr, 2♀♀macr, 23 VII 2007, 8♂♂macr, 3♀♀macr, 22 VIII 2007, 17♂♂macr, 4♀♀macr, 6 IX 2007, 2♂♂macr, 3♀♀macr, 21 IX 2007, 1♂macr, 2♀♀macr, 9 VII 2008, 1♂macr, 7 VIII 2008, 1♂macr; **(21)** – 21 VIII 2006, 1♂macr, 11 VI 2007, 1♂macr, 21 VI 2007, 1♂macr, 1♀macr, 22 VII 2007, 2♂♂macr, 7 VIII 2007, 2♂♂macr, 2♀♀macr, 25 VIII 2007, 11♂♂macr, 6♀♀macr, 7 IX 2007, 2♂♂macr, 2♀♀macr, 26 IX 2007, 1♂macr, 1♀macr, 8 V 2008, 1♀macr, 25 V 2008, 1♀brach, 29 VII 2008, 2♂♂macr, 2♀♀macr, 8 VIII 2008, 1♂macr, 30 VIII 2008, 1♂macr, 8 IX 2008, 1♂macr; **(22)** – 25 V 2005, 1♂macr, 8 VI 2005, 1♂macr, 7 VII 2005, 1♀macr, 8 IX 2005, 1♀macr, 20 VI 2007, 1♀macr, 21 VII 2007, 8♂♂macr, 1♀macr, 6 VIII 2007, 10♂♂macr, 4♀♀macr, 21 VIII 2007, 3♂♂macr, 1♀macr, 8 V 2008, 2♀♀macr, 8 VII 2008, 1♂macr, 28 VII 2008, 2♂♂macr, 1♀macr; **(23)** – 23 V 2006, 1♂macr, 6 VII 2006, 1♂macr, 1♀macr, 24 VII 2006, 2♀♀macr, 8 VIII 2006, 1♂macr, 6 VII 2007, 1♂macr, 1♀macr, 22 VII 2007, 4♂♂macr, 5♀♀macr, 6 VIII 2007, 5♂♂macr, 2♀♀macr, 22 VIII 2007, 6♂♂macr, 3♀♀macr, 7 IX 2007, 4♂♂macr, 2♀♀macr, 23 VI 2008, 1♂macr, 1♀macr; **(24)** – 12 VII 2006, 1♀macr, 20 VII 2006, 2♂♂macr, 8 VII 2007, 1♂macr, 9 VIII 2007, 2♂♂macr, 25 VIII 2007, 2♂♂macr, 4♀♀macr, 8 IX 2007, 1♂macr, 1♀macr, 22 IX 2007, 1♂macr, 1♀macr, 8 VII 2008, 1♀macr; **(25)** – 10 VIII 2006, 1♀macr, 23 VI 2007, 1♀macr, 26 VII 2007, 1♂macr, 10 VIII 2007, 2♂♂macr, 5♀♀macr, 25 VIII 2007, 1♂macr, 24 VI 2008, 1♂macr, 10 VIII 2008, 1♂macr, 2♀♀macr, 24 VIII 2008, 1♂macr, 1♀macr; **(26)** – 6 VIII 2007, 1♂macr, 23 VIII 2007, 2♂♂macr, 25 VII 2008, 5♂♂macr, 1♀macr, 10 VIII

2008, 1♂macr; **(27)** – 24 VII 2006, 1♂macr, 1♀macr, 22 VII 2007, 1♂macr, 6 VIII 2007, 2♂♂macr, 2♀♀macr, 22 VIII 2007, 2♂♂macr, 1♀macr, 26 VI 2008, 1♂macr, 9 VII 2008, 1♂macr, 26 VII 2008, 1♂macr, 26 VIII 2008, 1♂macr; **(28)** – 8 VIII 2005, 1♂macr, 7 VIII 2007, 1♂macr; **(30)** – 10 VII 2006, 1♀macr, 8 VIII 2006, 1♂macr, 7 VII 2007, 2♀♀macr, 8 VIII 2007, 1♀macr, 8 IX 2007, 2♂♂macr, 1♀macr, 22 IX 2007, 1♀macr; **(31)** – 24 V 2006, 1♂macr, 2♀♀macr, 8 VII 2007, 1♀macr, 25 VII 2007, 1♂macr, 10 VIII 2007, 1♂macr, 10 V 2008, 1♀macr; **(33)** – 24 V 2007, 1♂macr; **(34)** – 23 VII 2006, 1♂macr.

### ***Paraliburnia adela* (FLOR, 1861)**

Euro-Siberian? – rare (Mazowiecka Lowland) – higrophilous; m1, *Phalaris arundinacea*; meadows; nymph; 2 gen. – urbicenoxyenic (Fig. 34c)

Published records from Częstochowa; reported as new to KFP region – Krakowsko-Wieluńska Upland (WALCZAK 2014): **(20)** – 5 VI 2007, 1♂.

The species is very rare in Poland, so far known only from Pomeranian Lake District (GĘBICKI et al. 2013), Mazovian Lowland – Szymanów (SMRECYŃSKI 1954) and Upper Silesia – Mysłowice (PNIOK 2015) (Fig. 5).

Generally, it is rarely collected within its range, although known from the whole Europe, excluding its southern edge, as well as from Kazakhstan (NAST 1972, 1987).

### ***Hyledephax elegantula* (BOHEMAN, 1847)**

Euro-Siberian – widespread and common – mesophilous, heliophilous; olig, Poaceae; woodlands, meadows; nymph; 2 gen. – urbicenoxyphilous

**(30)** – 24 V 2007, 1♂brach, 8 VIII 2007, 1♀brach; **(31)** – 29 VII 2008, 1♂brach; **(32)** – 23 V 2007, 1♀brach, 8 VI 2007, 1♀brach; **(35)** – 29 V 2008, 1♂brach, 9 VI 2008, 1♂brach, 1♀brach, 11 VI 2009, 1♂brach, 26 VI 2009, 2♂♂brach, 2♀♀brach, 12 VII 2009, 1♀brach, 23 VII 2009, 1♂brach, 1♀brach, 23 V 2010, 1♀brach, 1♀macr; 12 VI 2010, 1♂brach, 3♀♀brach, 26 VI 2010, 1♀brach, 10 VII 2010, 1♂brach, 1♀brach, 11 VIII 2010, 1♂brach, 2♀♀brach.

### ***Mirabella albifrons* (FIEBER, 1879)**

Euro-Siberian? – rare – mesophilous?; m2, *Calamagrostis epigejos*, *C. canescens*; meadows, anthropogenic-ruderal vegetation; nymph; 2 gen. – urbicenoxyphilous

Reported as new to KFP region – Krakowsko-Wieluńska Upland by WALCZAK (2008a); published records from Częstochowa (WALCZAK 2011): **(2)** – 3 VII 2007, 2♀♀macr, 20 VII 2007, 1♂brach, 1♀brach, 7♀♀macr; **(10)** – 7 VII 2007, 1♀macr, 23 VII 2007, 1♀macr; **(30)** – 23 VII 2007, 1♂brach. New records: **(1)** – 20 V 2006, 1♂brach, 2♀♀brach, 10 VII 2008, 2♂♂brach, 2♀♀brach, 10 VII 2010, 3♂♂brach, 3♀♀brach, 1♀macr; **(2)** – 28 VI 2008, 1♀brach, 12 VII 2008, 1♀brach, 1♀macr, 28 VII 2008, 1♀macr, 23 VI 2009, 1♀brach, 1♀macr, 8 VII 2009, 1♂brach, 25 VII 2009, 1♂brach; **(11)** – 26 VI 2008, 1♀brach; **(14)** – 26 VII 2008, 1♀macr, 12 VII 2009, 1♀macr; **(15)** – 12 VII 2009, 1♀macr; **(16)** – 10 VII 2006,

1♀*macr*, 23 VII 2008, 1♂*brach*; **(18)** – 12 VII 2009, 1♀*brach*, 1♀*macr*; **(19)** – 23 V 2006, 2♀♀*brach*, 7 VII 2007, 1♀*brach*; **(22)** – 8 VII 2008, 1♀*macr*.

This is a widely distributed species, but usually rarely reported. The old records in Poland come from: Wielkopolsko-Kujawska Lowland – Poznań (NAST 1976a), Małopolska Upland – Michałów ad Pińczów (NAST 1955), Lubelska Upland – Białka, Krasnystaw, Okszków (NAST 1979), Roztocze Upland – Krasnobród, Narol, Susiec (NAST 1979), Sandomierska Lowland – Zarzecze near Jarosław (KRASUCKI 1919), Western Beskidy Mts – Stary Sącz, Słotwina near Brzesko (SMRECZYŃSKI 1954). Recently, it has also been found in Upper Silesia – Kalety (ŚWIERCZEWSKI & BŁASZCZYK 2011).

### ***Delphacodes venosus* (GERMAR, 1830)**

European? – widespread – higrophilous; olig, Cyperaceae, Poaceae; meadows; adult; 1 gen. – urbicenophilous?

**(10)** – 22 IX 2007, 1♂*macr*, 1♀*macr*, 27 IX 2008, 1♀*macr*, 11 X 2008, 1♀*macr*; **(13)** – 26 IX 2006, 1♀*macr*, 8 X 2006, 1♀*macr*, 8 IX 2007, 2♀♀*macr*, 22 IX 2007, 1♀*macr*, 10 V 2008, 1♀*macr*, 10 X 2008, 1♂*macr*, 1♀*macr*; **(14)** – 26 IX 2008, 1♂*brach*, 23 IX 2010, 1♂*macr*, 2♀♀*macr*, 10 X 2010, 1♀*brach*; **(18)** – 9 IX 2009, 1♀*macr*, 22 IX 2009, 2♀♀*macr*, 11 IX 2010, 1♀*macr*, 23 IX 2010, 1♀*macr*; **(19)** – 11 X 2006, 1♀*macr*; **(20)** – 23 VII 2007, 1♀*macr*, 10 X 2008, 1♀*macr*; **(24)** – 24 VII 2007, 1♀*macr*; **(35)** – 23 IX 2010, 1♀*macr*.

Quite rare species, known from Baltic Coast, Masurian Lake District, Krakowsko-Wieluńska Upland, Western Beskidy Mts (NAST 1976a), Mazovian Lowland, Podlasie Lowland (ANDRZEJEWSKA 1971) and Roztocze Upland (NAST 1979). Recently, it has also been recorded in Upper Silesia – Ruda Śląska (SIMON & SZWEDO 2005), Piekary Śląskie (WALCZAK & MUSIK 2012).

### ***Muellerianella brevipennis* (BOHEMAN, 1847)**

Euro-Siberian? – widespread and common – higrophilous; m1, *Deschampsia caespitosa*; meadows; egg; 1-2 gen. – urbiceneutral

**(5)** – 20 VI 2007, 1♀*brach*, 9 VII 2007, 1♀*brach*, 11 VII 2008, 4♀♀*macr*, 26 VII 2008, 1♀*macr*, 11 VIII 2008, 1♀*brach*, 26 VIII 2008, 1♀*brach*, 1♀*macr*, 11 XI 2008, 2♀♀*brach*, 27 XI 2008, 1♀*macr*; **(8)** – 21 IX 2007, 1♀*brach*; **(10)** – 27 VI 2008, 1♂*macr*, 1♀*macr*, 11 IX 2008, 1♀*brach*, 11 X 2008, 1♀*macr*; **(12)** – 9 VII 2007, 1♀*macr*; **(13)** – 9 VII 2006, 1♀*macr*, 23 VIII 2007, 2♀♀*macr*, 11 VII 2008, 3♀♀*macr*, 29 VII 2008, 1♀*macr*, 10 IX 2008, 1♀*brach*; **(14)** – 11 VII 2008, 1♂*macr*, 2♀♀*macr*, 26 IX 2008, 1♀*brach*; **(15)** – 25 VI 2008, 1♀*macr*, 11 VII 2008, 1♀*macr*, 25 VII 2008, 1♀*macr*, 28 IX 2008, 1♀*brach*, 11 X 2008, 3♀♀*macr*, 26 VI 2009, 1♀*brach*, 12 VII 2009, 1♀*brach*, 7 X 2010, 1♀*brach*; **(17)** – 26 VI 2009, 1♀*macr*; **(18)** – 10 VII 2010, 1♂*macr*; **(19)** – 10 X 2005, 1♀*macr*, 8 IX 2006, 1♀*brach*, 8 IX 2007, 2♀♀*brach*; **(20)** – 10 VI 2006, 3♂♂*brach*, 3♀♀*brach*, 2♀♀*macr*, 26 VI 2006, 1♂*brach*, 1♀*brach*, 7 VII 2006, 2♀♀*brach*, 1♀*macr*, 10 IX 2006, 1♂*brach*, 1♀*macr*, 22 VI 2007, 2♂♂*brach*, 2♂♂*macr*, 9 VII 2007, 1♂*brach*, 8 VIII 2007, 1♀*brach*, 6 IX 2007, 1♂*brach*, 1♂*macr*, 2♀♀*brach*, 1♀*macr*, 21 IX 2007, 1♀*macr*, 8 VI 2008, 1♂*brach*, 1♀*brach*, 25 VI 2008, 1♀*brach*, 9 VII 2008, 1♀*macr*, 7 VIII 2008, 1♂*brach*, 1♀*brach*, 1♀*macr*, 7 XI 2008,

1♂brach, 1♂macr, 1♀brach, 2♀♀macr, 25 XI 2008, 1♀brach, 1♀macr; **(21)** – 7 VII 2007, 1♀macr, 12 VII 2008, 1♀macr; **(25)** – 11 IX 2007, 1♂macr; **(30)** – 23 VI 2006, 4♀♀macr, 10 VII 2006, 2♀♀macr, 24 VIII 2006, 1♀macr, 8 IX 2006, 4♀♀brach, 24 IX 2006, 1♂brach, 2♀♀brach, 1♀macr, 10 X 2006, 1♂brach, 4♀♀brach, 1♀macr, 22 VI 2007, 4♀♀macr, 7 VII 2007, 4♀♀macr, 8 VIII 2007, 1♀brach, 23 VIII 2007, 1♀brach, 8 IX 2007, 2♂♂brach, 8♀♀brach, 3♀♀macr, 22 IX 2007, 7♀♀brach, 9 IX 2007, 4♀♀brach, 28 VI 2008, 2♀♀brach, 1♀macr, 11 VII 2008, 9♂♂macr, 4♀♀macr, 29 IX 2008, 1♂brach, 6♀♀brach, 1♀macr, 11 X 2008, 1♂brach, 5♀♀brach; **(31)** – 10 IX 2006, 1♀brach, 26 IX 2006, 6♀♀brach, 8 X 2006, 1♀brach, 10 IX 2007, 2♂♂brach, 4♀♀brach, 26 IX 2007, 6♀♀brach, 6 X 2007, 1♀brach, 29 VI 2008, 1♀brach, 11 VII 2008, 2♂♂macr, 1♀brach, 5♀♀macr, 29 VII 2008, 2♀♀macr, 10 IX 2008, 2♀♀brach, 11 X 2008, 1♀brach; **(32)** – 8 VII 2005, 1♂macr, 1♀macr, 23 VII 2005, 1♀macr, 22 IX 2005, 1♀brach, 1♀macr, 7 VII 2007, 1♂macr, 1♀macr, 22 VII 2007, 1♀macr, 22 IX 2007, 3♀♀macr; **(33)** – 27 IX 2007, 2♀♀brach; **(34)** – 25 VI 2006, 1♀macr; **(35)** – 9 IX 2008, 1♀brach, 9 IX 2009, 1♀brach, 10 VII 2010, 1♀macr.

### *Muellerianella fairmairei* (PERRIS, 1857)

Western Palaearctic – widespread – higrophilous; m2, *Holcus lanatus*, *H. mollis*; woodlands, meadows, watersides; egg; 2 gen. – urbiceneutral (Fig. 38e)

**(5)** – 24 IX 2005, 1♀brach, 26 VI 2008, 1♀brach, 26 VII 2008, 1♀macr, 26 VIII 2008, 2♀♀brach, 1♀macr, 11 IX 2008, 1♂macr, 27 IX 2008, 5♀♀brach; **(10)** – 23 VII 2007, 1♀macr, 23 VIII 2007, 1♀macr, 8 IX 2007, 2♀♀macr, 22 IX 2007, 1♂brach, 2♀♀macr, 27 IX 2008, 1♂brach, 1♀macr; **(13)** – 11 VII 2008, 2♀♀macr, 10 IX 2008, 3♀♀brach, 28 IX 2008, 3♀♀brach, 10 X 2008, 1♀brach; **(14)** – 26 VI 2008, 1♀macr, 26 IX 2008, 1♂brach, 1♀brach, 10 X 2008, 1♂brach, 22 IX 2009, 1♀brach, 10 X 2009, 1♀brach, 26 VII 2010, 1♀brach, 13 X 2010, 2♀♀brach; **(15)** – 25 VII 2010, 2♀♀brach, 23 IX 2010, 2♀♀brach; **(17)** – 11 VII 2008, 1♀macr; **(18)** – 26 VI 2008, 1♀macr; **(19)** – 22 VI 2007, 1♀brach, 3♀♀macr, 8 IX 2007, 1♀brach, 1♀macr; **(20)** – 10 VI 2006, 2♂♂brach, 1♂macr, 1♀brach, 2♀♀macr, 7 VII 2006, 1♀macr, 22 VI 2007, 1♂brach, 3♀♀brach, 9♀♀macr, 9 VII 2007, 1♂brach, 2♂♂macr, 5♀♀macr, 8 VIII 2007, 1♀macr, 6 IX 2007, 3♂♂brach, 5♀♀macr, 21 IX 2007, 1♀macr, 11 X 2007, 1♂brach, 1♀macr, 25 VI 2008, 1♂brach, 1♀brach, 2♀♀macr, 9 VII 2008, 1♂brach, 5♀♀macr, 7 VIII 2008, 2♀♀macr, 7 IX 2008, 1♂brach, 25 IX 2008, 2♀♀macr, 13 X 2008, 4♀♀brach; **(26)** – 9 X 2008, 1♂brach; **(30)** – 28 VII 2008, 1♀brach, 29 IX 2008, 1♀brach; **(31)** – 24 VII 2006, 3♀♀macr, 8 VIII 2006, 1♀brach, 11 VII 2008, 3♀♀macr, 8 IX 2008, 1♀brach; **(35)** – 10 VII 2010, 1♀macr.

### *Muirodelphax aubei* (Perris, 1857)

Western Palaearctic – widespread – xerophilous, heliophilous; m2, *Poa*; steppe-like grasslands; nymph; 2 gen. – urbiceneophilous?

**(7)** – 26 VII 2008, 2♂♂brach, 1♀macr, 10 VIII 2008, 1♂brach, 23 VII 2009, 1♀brach, 1♀macr; **(8)** – 9 VII 2008, 1♀brach, 26 VII 2008, 4♂♂macr, 5♀♀macr, 10 VIII 2008, 1♂macr, 4♀♀macr; **(9)** – 10 VII 2006, 1♂macr, 1♀macr, 8 VII 2007, 1♀macr, 11 VII 2008, 1♀brach; **(11)** – 26 VII 2008, 1♂macr; **(22)** – 6 VII 2007, 1♂brach, 2♂♂macr, 2♀♀macr, 21 VII 2007, 1♀macr, 8 VII 2008, 1♀brach, 28 VII 2008, 1♀brach; **(26)** – 20 VII 2006, 1♂brach; **(27)** – 9 VII 2006, 1♂macr, 6 VII 2007, 1♀macr, 22 VII 2007, 1♀brach, 2♀♀macr.

### *Acanthodelphax denticauda* (BOHEMAN, 1847)

European – local – mesophilous, heliophilous; m1, *Deschampsia caespitosa*; meadows; nymph; 2 gen. – urbiceneutral?

(6) – 8 V 2008, 3♂♂brach; (11) – 26 VII 2008, 1♂macr, 1♀macr; (19) – 7 V 2007, 1♂brach; (20) – 9 VII 2007, 1♂macr, 2♀♀macr, 23 VII 2007, 1♂macr; (22) – 8 VII 2008, 1♂macr; (28) – 22 VII 2007, 1♂brach, 1♂macr, 1♀macr.

### *Acanthodelphax spinosa* (FIEBER, 1866)

European – widespread – xerophilous, heliophilous; m2, *Festuca rubra*, *F. ovina*; steppe-like grasslands, meadows; nymph; 2 gen. – urbiceneutral

(2) – 12 VII 2008, 1♀macr, 8 VII 2009, 1♀macr; (5) – 23 VII 2007, 1♂macr, 10 V 2008, 1♂brach, 10 VI 2008, 1♀macr, 11 VII 2008, 1♀macr, 26 VII 2008, 1♂brach, 11 VIII 2008, 1♀macr; (9) – 11 VII 2008, 3♂♂brach, 3♀♀brach, 1♀macr, 29 VII 2008, 7♂♂brach, 1♂macr, 2♀♀macr, 11 VIII 2008, 1♂macr, 1♀macr; (10) – 11 V 2006, 2♂♂brach, 20 V 2006, 1♂brach, 7 VII 2007, 1♂brach, 23 VII 2007, 1♀macr, 10 V 2008, 1♂brach, 27 VII 2008, 1♀macr; (11) – 8 VII 2006, 1♂macr, 1♀macr, 11 VII 2008, 1♂macr, 11 VIII 2008, 1♀macr; (12) – 12 VII 2006, 1♂macr, 21 VII 2006, 3♀♀macr; (13) – 9 VII 2006, 1♀macr, 20 VII 2006, 1♂macr, 3♀♀macr, 22 VI 2007, 1♂brach, 9 VII 2007, 1♂brach, 1♂macr, 4♀♀macr, 11 VII 2008, 1♂macr, 29 VII 2008, 2♂♂macr, 2♀♀macr; (14) – 26 VII 2010, 1♂brach, 1♀brach; (15) – 10 V 2008, 1♂brach, 8 V 2009, 1♀macr, 12 VII 2009, 1♂brach, 1♀macr, 23 VII 2007, 1♂macr, 8 V 2010, 4♂♂brach, 1♀macr, 23 V 2010, 2♂♂brach, 10 VI 2010, 1♂brach, 25 VII 2010, 2♂♂brach, 2♀♀brach; (17) – 23 V 2010, 1♂brach; (18) – 8 V 2009, 3♂♂brach, 12 VII 2009, 1♀macr; (19) – 7 V 2007, 1♂brach; (20) – 21 V 2007, 3♂♂brach, 23 VII 2007, 2♂♂macr, 22 VIII 2007, 1♀macr, 22 V 2008, 3♂♂brach, 24 VII 2008, 1♂macr, 2♀♀macr, 23 VIII 2008, 1♀macr; (21) – 22 VII 2007, 2♀♀macr, 12 VII 2008, 1♂brach, 1♀brach, 27 VII 2008, 1♀macr; (22) – 28 VII 2008, 1♂macr, 1♀macr, 10 VIII 2008, 1♀macr; (24) – 12 VII 2006, 2♂♂brach, 20 VII 2006, 1♂brach, 1♀macr, 8 V 2007, 1♂brach, 9 VIII 2007, 1♂brach, 8 VII 2008, 1♂macr, 23 VII 2008, 1♀macr; (27) – 24 VII 2006, 1♀macr, 6 VIII 2007, 2♀♀macr, 26 VII 2008, 1♂macr, 1♀macr; (30) – 28 VII 2008, 1♂brach, 1♀macr; (31) – 11 VIII 2008, 3♀♀brach; (33) – 7 VII 2007, 1♂brach; (34) – 23 VII 2006, 1♂brach, 3♀♀brach; (35) – 26 VII 2008, 1♂brach, 23 VII 2009, 1♂macr.

### *Dicranotropis hamata* (BOHEMAN, 1847)

Trans-Palaearctic? – widespread and common – mesophilous; olig, Poaceae; woodlands, meadows; nymph; 2 gen. – urbiceneutral

(3) – 11 V 2007, 1♀brach, 11 VI 2007, 1♂brach, 6 VIII 2007, 2♀♀brach, 7 VI 2008, 1♂brach, 1♀brach, 25 VI 2008, 1♀brach, 26 VII 2008, 1♀brach, 1♀macr, 10 VIII 2008, 1♀brach, 10 IX 2008, 1♂brach; (4) – 11 V 2006, 1♀brach, 26 V 2006, 1♀brach, 19 VIII 2006, 1♂brach, 4♀♀brach, 11 V 2007, 1♀brach, 21 VII 2007, 1♀brach, 7 VI 2008, 1♀brach, 1♀macr, 27 VI 2008, 1♀brach, 9 IX 2008, 1♀brach; (5) – 26 V 2008, 2♀♀macr, 10 VI 2008, 1♀macr, 11 VII 2008, 1♀brach, 1♀macr, 26 VII 2008, 1♀macr, 11 X 2008, 1♀macr; (6) – 26 V 2005, 1♂brach, 9 VI 2008, 1♂macr; (9) – 10 VIII 2007, 1♀brach, 26 V 2008, 1♀brach, 10 VI 2008,



1♀brach, 1♀macr, 11 VIII 2008, 1♀macr; **(10)** – 9 VI 2006, 1♂brach, 21 VI 2006, 1♂macr, 10 VII 2006, 1♀brach, 23 VIII 2006, 1♀brach, 9 VI 2007, 1♂brach, 1♀brach, 23 VIII 2007, 1♂brach, 27 V 2008, 1♀brach, 9 VI 2008, 2♂♂macr, 27 VII 2008, 1♀brach, 12 VIII 2008, 1♂brach, 11 X 2008, 1♀brach; **(11)** – 23 V 2006, 1♀brach, 9 VI 2006, 1♂brach, 1♀macr, 7 VI 2007, 1♂brach, 25 VII 2007, 1♀macr, 26 V 2008, 1♂macr, 7 VI 2008, 2♀♀macr, 26 VI 2008, 1♂brach, 11 VIII 2008, 1♂brach, 2♀♀brach; **(12)** – 10 VI 2006, 1♂macr, 4♀♀macr, 21 VII 2006, 12♂♂brach, 2♀♀macr, 12 VIII 2006, 2♂♂brach, 8 V 2007, 2♀♀brach, 23 VII 2007, 1♀brach, 6 VIII 2007, 1♀brach, 20 VIII 2007, 2♂♂brach, 1♀brach, 1♀macr, 8 XI 2007, 1♀brach, 23 V 2008, 1♀brach, 9 VIII 2008, 1♂macr, 1♀brach, 10 XI 2008, 2♀♀brach; **(13)** – 20 V 2006, 1♀macr, 10 VI 2006, 4♂♂macr, 2♀♀macr, 22 VI 2006, 1♂macr, 1♀macr, 11 XI 2006, 1♀macr, 7 VI 2007, 1♂macr, 1♀macr, 10 VI 2008, 1♀brach, 1♀macr; **(14)** – 26 V 2008, 1♀macr, 26 V 2009, 1♀macr, 25 VIII 2009, 1♀brach, 22 XI 2009, 1♂brach; **(15)** – 25 VI 2008, 1♀brach, 8 V 2009, 2♂♂brach, 10 VI 2009, 1♀macr; **(16)** – 9 VI 2006, 1♀brach, 25 VI 2006, 1♀brach, 8 V 2008, 1♀brach, 25 VI 2008, 1♂brach, 3♀♀brach, 1♀macr; **(19)** – 10 VI 2006, 1♀macr, 19 V 2007, 1♀macr, 20 VIII 2007, 1♀brach; **(20)** – 23 VII 2007, 1♂brach; **(21)** – 10 V 2006, 3♀♀brach, 10 VI 2006, 4♂♂brach, 2♂♂macr, 2♀♀macr, 10 VIII 2006, 1♂brach, 2♀♀brach, 10 V 2007, 4♂♂brach, 4♀♀brach, 25 V 2007, 9♂♂brach, 2♂♂macr, 11♀♀brach, 3♀♀macr, 11 VI 2007, 2♀♀brach, 21 VI 2007, 1♂brach, 3♀♀brach, 22 VII 2007, 10♂♂brach, 8♀♀brach, 7 VIII 2007, 1♂brach, 1♂macr, 1♀brach, 25 VIII 2007, 4♀♀brach, 26 XI 2007, 1♀brach, 25 V 2008, 1♂brach, 1♂macr, 2♀♀brach, 7 VI 2008, 1♂brach, 3♀♀brach, 2♀♀macr, 28 VI 2008, 1♂brach, 2♀♀brach, 12 VII 2008, 1♂brach, 5♀♀brach, 1♀macr, 29 VII 2008, 1♀macr, 8 VIII 2008, 3♂♂brach; **(22)** – 25 V 2005, 1♂brach, 20 VIII 2005, 1♂brach, 3♀♀brach, 8 XI 2005, 1♀brach, 26 V 2007, 1♂brach, 8 VI 2007, 1♀macr, 6 VIII 2007, 1♂brach, 6 XI 2007, 1♀brach, 25 V 2008, 1♂brach, 7 VI 2008, 2♂♂brach, 1♂macr, 26 VI 2008, 1♀macr, 28 VII 2008, 1♂brach, 2♀♀brach, 1♀macr; **(24)** – 25 V 2006, 1♂brach, 1♀brach, 10 VI 2006, 2♀♀macr, 25 V 2007, 1♀brach, 23 V 2008, 1♀brach, 9 VI 2008, 1♂brach, 2♀♀macr; **(26)** – 20 VII 2007, 1♂brach, 1♀brach, 6 VIII 2007, 2♀♀brach, 25 VII 2008, 2♂♂macr, 4♀♀brach, 1♀macr, 10 VIII 2008, 1♂brach, 1♀brach; **(27)** – 8 VIII 2006, 1♂brach, 1♀brach, 24 VIII 2006, 1♀brach, 10 VIII 2008, 1♀brach, 26 VIII 2008, 1♀brach; **(28)** – 10 VI 2006, 1♂brach; **(30)** – 9 V 2006, 1♀brach, 22 V 2006, 1♂macr, 1♀brach, 8 V 2007, 1♀brach, 24 V 2007, 1♀brach, 9 VI 2007, 1♂macr, 23 VII 2007, 1♀brach, 8 VIII 2007, 1♂brach, 27 V 2008, 1♂brach, 3♀♀brach, 1♀macr, 9 VI 2008, 1♀brach, 1♀macr; **(31)** – 24 VII 2006, 1♂macr, 10 V 2007, 1♂brach, 1♀brach, 29 VII 2008, 1♂brach, 1♂macr, 1♀macr, 11 VIII 2008, 1♂brach, 1♀brach, 1♀macr; **(34)** – 10 VI 2006, 1♂brach, 25 VI 2006, 1♂brach, 23 VII 2006, 1♀brach.

### *Florodelphax leptosoma* (FLOR, 1861)

European? – widespread – higrophilous; m2 – *Juncus*; meadows, mires-swamps; nymph; 2 gen. – urbicenoenic

**(5)** – 11 VIII 2008, 1♂.

### *Kosswigianella exigua* (BOHEMAN, 1847)

European – widespread – xerophilous, heliophilous; m1, *Festuca ovina*; steppe-like grasslands; nymph; 2 gen. – urbicenoophilous?

(7) – 26 VII 2008, 2♂♂brach, 1♀macr; (8) – 7 V 2006, 1♂brach, 25 V 2006, 5♂♂brach, 9 VI 2006, 1♂brach, 1♀brach, 9 VII 2006, 2♂♂brach, 1♀macr, 24 VII 2006, 1♂brach, 11 VIII 2006, 2♀♀brach, 9 V 2007, 8♂♂brach, 5♀♀brach, 24 V 2007, 1♀brach, 23 VI 2007, 1♂brach, 2♀♀brach, 6 VII 2007, 7♂♂brach, 6♀♀brach, 22 VII 2007, 4♂♂brach, 2♀♀brach, 6 VIII 2007, 2♂♂brach, 1♀brach, 8 V 2008, 5♂♂brach, 1♀brach, 9 VII 2008, 1♀brach, 26 VII 2008, 4♂♂brach, 1♀brach, 10 VIII 2008, 1♀brach; (9) – 11 V 2006, 1♂brach, 10 V 2007, 1♂brach, 25 VII 2007, 1♂brach, 26 VIII 2007, 2♂♂brach; (11) – 26 VII 2008, 1♂macr; (28) – 22 VII 2007, 2♀♀brach.

### *Struebingianella lugubrina* (BOHEMAN, 1847)

European – widespread – higrophilous; m2, *Glyceria maxima*, *G. fluitans*; meadows, watersides; nymph; 2 gen. – urbicenoneutral?

(4) – 8 V 2008, 2♂♂brach; (5) – 6 V 2005, 1♂brach, 1♀brach, 27 V 2005, 3♂♂brach, 4♀♀brach, 1♀macr 8 VI 2005, 1♂brach, 1♀brach, 17 VI 2005, 3♂♂brach, 2♀♀brach, 13 VII 2005, 3♂♂brach, 4♀♀brach, 1♀macr, 19 V 2007, 1♂brach, 3♀♀brach, 3♀♀macr, 20 VI 2007, 1♀brach, 1♀macr, 9 VII 2007, 5♂♂brach, 8♀♀brach, 1♀macr, 23 VII 2007, 8♂♂brach, 4♀♀brach, 20♀♀macr, 21 VIII 2007, 1♀macr, 10 V 2008, 23♂♂brach, 22♀♀brach, 9♀♀macr, 26 V 2008, 1♂brach, 2♀♀brach, 10 VI 2008, 1♂brach, 2♀♀brach, 11 VII 2008, 1♂brach, 26 VII 2008, 1♂brach, 2♀♀brach, 11 VIII 2008, 1♀brach, 1♀macr; (15) – 27 V 2008, 1♀macr; (17) – 27 V 2008, 1♀macr; (20) – 10 V 2006, 2♂♂brach, 23 V 2006, 2♂♂brach, 10 VI 2006, 2♀♀brach, 2♀♀macr; (22) – 8 V 2008, 1♂brach.

### *Xanthodelphax flaveola* (FLOR, 1861)

Siberian? – widespread and common – mesophilous; m1, *Poa pratensis*; meadows; nymph; 1(?) gen. – urbicenophilous?

Published records from Częstochowa (WALCZAK 2011): (10) – 19 V 2007, 1♀macr, 20 VII 2007, 1♂brach. New records: (9) – 10 VI 2008, 2♂♂macr, 1♀macr, 11 VII 2008, 1♂macr, 2♀♀macr; (13) – 22 VI 2006, 1♂macr, 1♀macr, 10 VI 2008, 2♂♂macr, 29 VI 2008, 3♂♂macr, 2♀♀macr; (24) – 12 VII 2006, 1♂macr; (30) – 8 VI 2006, 1♂macr.

The species is known across the whole country but apparently local, recently reported from: Upper Silesia (SZWEDO et al. 1998), Krakowsko-Wieluńska Upland (WALCZAK 2011), Lubelska Upland (NAST 1979), Roztocze Upland (NAST 1979), Eastern Sudetes (SZWEDO et al. 1998), Bieszczady Mts (PIARCZYK & SZWEDO 2005) and Pieniny Mts (NAST 1976b).

### *Xanthodelphax straminea* (STÅL, 1858)

Siberian? – widespread – higrophilous; m2, *Agrostis*; nymph; meadows; 2 gen. – urbicenophilous?

Published records from Częstochowa (WALCZAK 2011): (2) – 19 V 2007, 1♀brach; (6) – 19 V 2007, 1♂ macr; (24) – 25 V 2007, 1♂brach, 1♂macr, 1♀brach. New records: (2) – 7 V 2009, 1♀brach; (10) – 20 V 2006, 1♂macr, 24 V 2007, 1♂macr; (13) – 22 VI 2006, 1♂macr, 20 VII 2006, 1♀macr, 25 V 2007, 1♂macr, 10 V 2008, 1♂macr, 26 V 2008, 2♂♂macr, 10 VI 2008,

4♂♂macr, 4♀♀macr; **(23)** – 24 V 2007, 1♀brach, 7 VI 2008, 1♀brach; **(24)** – 22 VI 2006, 1♂brach, 2♀♀brach, 1♀macr, 20 VII 2006, 1♀brach, 10 VIII 2006, 1♂brach, 25 V 2007, 1♂brach, 1♂macr, 1♀brach, 22 VI 2008, 1♂brach, 1♀brach; **(26)** – 7 VI 2008, 1♂brach.

### *Criomorphus albomarginatus* CURTIS, 1833

European – widespread and common – mesophilous; olig, Poaceae; meadows; nymph; 1 gen. – urbiceneutral?

**(4)** – 26 V 2006, 1♀macr; **(13)** – 25 V 2007, 1♀macr, 26 V 2008, 1♀macr; **(19)** – 19 V 2007, 2♂♂macr; **(20)** – 10 VI 2006, 1♀brach; **(22)** – 11 V 2007, 1♀brach; **(28)** – 10 V 2007, 1♂brach, 8 VI 2007, 1♂macr, 1♀brach, 1♀macr; **(29)** – 25 V 2005, 1♂macr, 1♀brach; **(30)** – 8 VI 2006, 1♀brach, 10 VI 2008, 1♀brach; **(34)** – 10 VI 2006, 5♂♂brach, 1♀macr, 25 VI 2006, 5♂♂brachypterycznch, 1♀brach, 1♀macr, 6 VII 2006, 2♂♂brach.

### *Javesella dubia* (KIRSCHBAUM, 1868)

Trans-Palaearctic – widespread – higrophilous; olig, Poaceae; meadows; nymph; 2 gen. – urbiceneutral

**(12)** – 10 VI 2006, 1♀brach, 20 VIII 2007, 1♀macr; **(13)** – 12 VIII 2006, 1♂brach, 1♀brach; **(20)** – 23 V 2006, 1♂brach, 1♀brach; **(31)** – 9 V 2006, 1♂brach, 2♀♀macr, 24 V 2006, 1♂brach, 10 V 2007, 6♂♂brach, 8 VII 2007, 1♀macr, 10 V 2008, 1♂brach, 2♀♀macr, 26 V 2008, 1♀macr, 10 VI 2008, 1♂brach, 1♀brach, 29 VI 2008, 1♂brach, 29 VII 2008, 1♀macr, 11 VIII 2008, 1♂brach.

### *Javesella obscurella* (BOHEMAN, 1847)

Trans-Palaearctic – widespread – higrophilous; olig, Poaceae, Cyperaceae?; meadows; nymph; 2 gen. – urbiceneutral

**(3)** – 6 VIII 2007, 1♂macr; **(5)** – 13 VII 2005, 1♂brach, 13 V 2008, 1♀brach, 26 V 2008, 1♂macr, 3 VI 2008, 1♂macr, 10 VI 2008, 1♀macr, 11 VII 2008, 1♂macr; **(20)** – 4 IX 2005, 1♂brach, 7 VII 2006, 1♂brach, 1♀brach, 21 V 2007, 1♂macr, 1♀brach, 22 V 2008, 1♂macr, 1♀macr.

### *Javesella pellucida* (Fabricius, 1794)

Trans-Palaearctic – widespread and common – mesophilous; olig, Poaceae, Cyperaceae; woodlands, meadows, watersides; nymph; 2 gen. – urbiceneutral

**(2)** – 10 V 2008, 1♂macr, 12 VII 2008, 1♀macr, 28 VII 2008, 3♂♂macr, 2♀♀macr, 12 VIII 2008, 2♂♂macr, 2♀♀macr, 29 VIII 2008, 1♀macr; **(3)** – 10 V 2006, 3♂♂macr, 1♀macr, 25 V 2006, 1♀macr, 22 VI 2006, 1♂macr, 1♀macr, 8 V 2008, 1♂macr, 10 VII 2008, 1♂macr, 26 VII 2008, 1♂macr, 3♀♀macr, 10 VIII 2008, 1♂macr; **(4)** – 19 VIII 2006, 1♂macr, 1♀macr, 8 V 2008, 1♂macr, 1♀macr; **(5)** – 13 VII 2005, 10, 24 VII 2005, 4, 7 VIII 2005, 8, 22 VIII 2005, 1, 9 VII 2007, 1♀macr, 10 V 2008, 1♂brach, 1♂macr, 10♂♂macr, 11 VII 2008,

1♂<sup>macr</sup>, 1♀<sup>macr</sup>, 26 VII 2008, 5♂♂<sup>macr</sup>, 12♀♀<sup>macr</sup>, 11 VIII 2008, 2♂♂<sup>macr</sup>, 5♀♀<sup>macr</sup>;  
**(6)** – 6 VII 2005, 1♀<sup>macr</sup>, 8 V 2006, 2♂♂<sup>macr</sup>, 3♀♀<sup>macr</sup>, 7 VII 2006, 1♂<sup>macr</sup>, 1♀<sup>macr</sup>,  
 23 VII 2006, 1♂<sup>macr</sup>, 2♀♀<sup>macr</sup>, 8 V 2008, 2♂♂<sup>macr</sup>, 26 VII 2008, 3♂♂<sup>macr</sup>; **(7)** – 23 VII  
 2006, 1♀<sup>macr</sup>; **(9)** – 26 VII 2006, 3♂♂<sup>macr</sup>, 5♀♀<sup>macr</sup>, 9 VIII 2006, 1♀<sup>macr</sup>, 8 VII 2007,  
 1♂<sup>macr</sup>, 10 V 2008, 2♀♀<sup>macr</sup>, 29 VII 2008, 7♂♂<sup>macr</sup>, 20♀♀<sup>macr</sup>; **(10)** – 20 V 2006,  
 14♂♂<sup>macr</sup>, 8♀♀<sup>macr</sup>, 9 VI 2006, 1♂<sup>macr</sup>, 1♀<sup>macr</sup>, 10 VII 2006, 2♂♂<sup>macr</sup>, 1♀<sup>macr</sup>, 26  
 VII 2006, 1♂<sup>macr</sup>, 1♀<sup>macr</sup>, 9 VIII 2006, 7♂♂<sup>macr</sup>, 5♀♀<sup>macr</sup>, 23 VIII 2006, 1♀<sup>macr</sup>; 24  
 V 2007, 2♂♂<sup>macr</sup>, 22 VI 2007, 1♂<sup>macr</sup>, 7 VII 2007, 13♂♂<sup>macr</sup>, 10♀♀<sup>macr</sup>, 23 VII 2007,  
 1♂<sup>brach</sup>, 8♂♂<sup>macr</sup>, 6♀♀<sup>macr</sup>, 8 VIII 2007, 9♂♂<sup>macr</sup>, 3♀♀<sup>macr</sup>, 23 VIII 2007, 1♂<sup>macr</sup>,  
 1♀<sup>macr</sup>, 8 IX 2007, 1♂<sup>macr</sup>, 1♀<sup>macr</sup>, 10 V 2008, 1♂<sup>brach</sup>, 2♂♂<sup>macr</sup>, 4♀♀<sup>macr</sup>, 27 V  
 2008, 1♀<sup>macr</sup>, 9 VII 2008, 3♂♂<sup>macr</sup>, 1♀<sup>macr</sup>, 27 VII 2008, 23♂♂<sup>macr</sup>, 42♀♀<sup>macr</sup>, 12  
 VIII 2008, 5♂♂<sup>macr</sup>, 2♀♀<sup>macr</sup>, 28 VIII 2008, 2♂♂<sup>brach</sup>, 2♀♀<sup>macr</sup>; **(11)** – 10 V 2006,  
 3♂♂<sup>macr</sup>, 23 VII 2006, 1♂<sup>macr</sup>, 9 VIII 2006, 2♂♂<sup>macr</sup>, 1♀<sup>macr</sup>, 25 VII 2007, 1♀<sup>macr</sup>,  
 8 IX 2007, 1♀<sup>macr</sup>, 12 V 2008, 3♂♂<sup>macr</sup>, 26 V 2008, 1♂<sup>macr</sup>, 26 VII 2008, 9♂♂<sup>macr</sup>,  
 6♀♀<sup>macr</sup>, 11 VIII 2008, 4♂♂<sup>macr</sup>, 1♀<sup>macr</sup>, 31 VIII 2008, 1♀<sup>macr</sup>, 10 IX 2008, 1♀<sup>macr</sup>;  
**(12)** – 12 VII 2006, 1♀<sup>macr</sup>, 21 VII 2006, 7♀♀<sup>macr</sup>, 21 VIII 2006, 1♀<sup>macr</sup>, 6 VIII 2007,  
 1♀<sup>macr</sup>, 22 VII 2008, 1♂<sup>macr</sup>, 1♀<sup>macr</sup>, 9 VIII 2008, 2♂♂<sup>macr</sup>, 2♀♀<sup>macr</sup>; **(13)** – 10 V  
 2006, 5♂♂<sup>macr</sup>, 2♀♀<sup>macr</sup>, 20 V 2006, 4♂♂<sup>macr</sup>, 2♀♀<sup>macr</sup>, 22 VI 2006, 1♀<sup>macr</sup>, 9 VII  
 2006, 4♂♂<sup>macr</sup>, 4♀♀<sup>brach</sup>, 3♀♀<sup>macr</sup>, 20 VII 2006, 1♂<sup>macr</sup>, 3♀♀<sup>brach</sup>, 3♀♀<sup>macr</sup>, 12  
 VIII 2006, 1♂<sup>macr</sup>, 8 V 2007, 4♂♂<sup>macr</sup>, 2♀♀<sup>macr</sup>, 22 VI 2007, 2♂♂<sup>macr</sup>, 1♀<sup>macr</sup>, 9  
 VII 2007, 5♂♂<sup>macr</sup>, 4♀♀<sup>macr</sup>, 25 VII 2007, 1♀<sup>macr</sup>, 10 V 2008, 23♂♂<sup>macr</sup>, 10♀♀<sup>macr</sup>,  
 26 V 2008, 5♂♂<sup>macr</sup>, 2♀♀<sup>macr</sup>, 10 VI 2008, 4♀♀<sup>macr</sup>, 29 VI 2008, 1♂<sup>brach</sup>, 2♂♂<sup>macr</sup>,  
 2♀♀<sup>brach</sup>, 11 VII 2008, 4♂♂<sup>brach</sup>, 12♂♂<sup>macr</sup>, 5♀♀<sup>macr</sup>, 29 VII 2008, 45♂♂<sup>macr</sup>,  
 42♀♀<sup>macr</sup>, 11 VIII 2008, 9♂♂<sup>macr</sup>, 9♀♀<sup>macr</sup>, 31 VIII 2008, 1♂<sup>macr</sup>, 1♀<sup>macr</sup>; **(14)** – 11  
 VII 2008, 1♀<sup>macr</sup>, 26 VII 2008, 2♂♂<sup>macr</sup>, 8 V 2009, 1♂<sup>macr</sup>, 25 VI 2009, 2♀♀<sup>macr</sup>, 12  
 VII 2009, 1♀<sup>macr</sup>, 23 VII 2009, 2♂♂<sup>macr</sup>, 10 VIII 2009, 1♀<sup>macr</sup>, 10 VII 2010, 1♂<sup>macr</sup>,  
 5♀♀<sup>macr</sup>, 26 VII 2010, 1♀<sup>macr</sup>; **(15)** – 10 V 2008, 1♂<sup>macr</sup>, 11 VII 2008, 1♂<sup>macr</sup>, 1♀<sup>macr</sup>,  
 25 VII 2008, 4♂♂<sup>macr</sup>, 13♀♀<sup>macr</sup>, 11 VIII 2008, 1♀<sup>macr</sup>, 8 V 2009, 5♂♂<sup>macr</sup>, 4♀♀<sup>macr</sup>,  
 23 V 2009, 1♂<sup>macr</sup>, 1♀<sup>macr</sup>, 10 VI 2009, 3♀♀<sup>macr</sup>, 26 VI 2009, 1♀<sup>macr</sup>, 12 VII 2009,  
 2♂♂<sup>macr</sup>, 1♀<sup>macr</sup>, 23 VII 2009, 2♀♀<sup>macr</sup>, 25 VIII 2009, 1♀<sup>macr</sup>, 8 V 2010, 6♂♂<sup>macr</sup>,  
 7♀♀<sup>macr</sup>, 23 V 2010, 3♂♂<sup>macr</sup>, 3♀♀<sup>macr</sup>, 12 VII 2010, 9♂♂<sup>macr</sup>, 15♀♀<sup>macr</sup>, 25 VII  
 2010, 6♂♂<sup>macr</sup>, 12♀♀<sup>macr</sup>; **(17)** – 11 VII 2008, 1♂<sup>macr</sup>, 25 VII 2008, 1♂<sup>macr</sup>, 2♀♀<sup>macr</sup>,  
 8 V 2009, 2♀♀<sup>macr</sup>, 12 VII 2009, 1♀<sup>macr</sup>, 8 VIII 2009, 1♂<sup>macr</sup>, 8 V 2010, 1♀<sup>macr</sup>, 23 V  
 2010, 2♀♀<sup>macr</sup>, 10 VII 2010, 4♂♂<sup>macr</sup>, 8♀♀<sup>macr</sup>, 25 VII 2010, 1♂<sup>macr</sup>, 3♀♀<sup>macr</sup>, 11  
 VIII 2010, 1♀<sup>macr</sup>; **(18)** – 11 VII 2008, 1♀<sup>macr</sup>, 26 VII 2008, 1♂<sup>macr</sup>, 8 V 2009, 1♀<sup>macr</sup>,  
 12 VII 2009, 1♂<sup>macr</sup>, 1♀<sup>macr</sup>, 22 V 2010, 1♂<sup>macr</sup>, 10 VII 2010, 2♂♂<sup>macr</sup>, 8♀♀<sup>macr</sup>, 26  
 VII 2010, 1♀<sup>macr</sup>; **(19)** – 10 V 2005, 1♀<sup>macr</sup>, 28 V 2005, 1♀<sup>macr</sup>, 19 VI 2005, 1♂<sup>macr</sup>,  
 10 VII 2005, 1♀<sup>macr</sup>, 10 V 2006, 1♂<sup>macr</sup>, 23 V 2006, 2♂♂<sup>macr</sup>, 10 VII 2006, 4♂♂<sup>macr</sup>,  
 20 VII 2006, 2♂♂<sup>macr</sup>, 2♀♀<sup>macr</sup>, 7 V 2007, 18♂♂<sup>macr</sup>, 34♀♀<sup>macr</sup>, 19 V 2007, 1♂<sup>brach</sup>,  
 1♂<sup>macr</sup>, 1♀<sup>macr</sup>, 22 VI 2007, 1♂<sup>macr</sup>, 20 VIII 2007, 1♂<sup>macr</sup>; **(20)** – 10 V 2006, 5♂♂<sup>macr</sup>,  
 4♀♀<sup>macr</sup>, 23 V 2006, 5♂♂<sup>macr</sup>, 3♀♀<sup>macr</sup>, 7 VII 2006, 1♂<sup>macr</sup>, 5♀♀<sup>macr</sup>, 26 VII 2006,  
 19♂♂<sup>macr</sup>, 9♀♀<sup>macr</sup>, 10 VIII 2006, 1♂<sup>macr</sup>, 9 V 2007, 3♂♂<sup>macr</sup>, 2♀♀<sup>macr</sup>, 21 V 2007,  
 4♂♂<sup>macr</sup>, 3♀♀<sup>macr</sup>, 5 VI 2007, 1♀<sup>macr</sup>, 9 VII 2007, 69♂♂<sup>macr</sup>, 1♀<sup>brach</sup>, 31♀♀<sup>macr</sup>, 23  
 VII 2007, 22♂♂<sup>macr</sup>, 24♀♀<sup>macr</sup>, 8 VIII 2007, 8♂♂<sup>macr</sup>, 7♀♀<sup>macr</sup>, 22 VIII 2007, 1♂<sup>macr</sup>,  
 1♂<sup>brach</sup>, 1♀<sup>macr</sup>, 21 IX 2007, 1♀<sup>macr</sup>, 9 V 2008, 4♂♂<sup>macr</sup>, 4♀♀<sup>macr</sup>, 22 V 2008,  
 6♂♂<sup>macr</sup>, 3♀♀<sup>macr</sup>, 25 VI 2008, 1♀<sup>macr</sup>, 24 VII 2008, 22♂♂<sup>macr</sup>, 12♀♀<sup>macr</sup>, 7 VIII  
 2008, 5♂♂<sup>macr</sup>, 4♀♀<sup>macr</sup>, 7 IX 2008, 1♂<sup>macr</sup>, 1♀<sup>macr</sup>, 25 IX 2008, 1♀<sup>macr</sup>; **(21)** – 22 VI

2006, 1♂macr, 10 V 2007, 2♀♀macr, 7 VIII 2007, 1♂macr, 1♀macr, 8 V 2008, 2♂♂macr, 2♀♀macr, 12 VII 2007, 2♂♂macr, 2♀♀macr, 29 VII 2007, 16♂♂macr, 12♀♀macr, 8 VIII 2008, 1♂macr, 1♀macr; **(22)** – 7 VIII 2005, 1♂macr, 1♀macr, 20 VIII 2005, 1♀macr, 8 IX 2005, 1♂macr, 21 VII 2007, 2♂♂macr, 6 VIII 2007, 7♂♂macr, 6 IX 2007, 1♂macr, 8 V 2008, 1♂macr, 2♀♀macr, 7 VI 2008, 1♀macr, 8 VII 2008, 7♂♂macr, 1♀macr, 28 VII 2008, 16♂♂macr, 21♀♀macr, 10 VIII 2008, 10♂♂macr, 14♀♀macr, 30 VIII 2008, 1♀macr; **(23)** – 22 VII 2007, 1♂macr, 2♀♀macr, 6 VIII 2007, 1♂macr, 1♀macr, 7 IX 2007, 1♂macr, 9 V 2008, 2♂♂macr, 25 VII 2008, 1♀macr, 9 VIII 2008, 5♂♂macr, 3♀♀macr; **(24)** – 10 V 2006, 1♂macr, 8 VII 2007, 2♂♂macr, 1♀macr, 25 VII 2007, 1♂macr, 9 VIII 2007, 1♂macr, 1♀macr; **(25)** – 26 VII 2007, 1♂macr; **(26)** – 6 VIII 2007, 4♂♂macr, 3♀♀macr, 25 VII 2008, 36♂♂macr, 43♀♀macr, 10 VIII 2008, 2♂♂macr, 4♀♀macr, 26 VIII 2008, 1♀macr; **(27)** – 6 VII 2007, 1♂macr, 26 VII 2008, 1♂macr, 1♀macr; **(28)** – 26 VI 2005, 1♀macr, 21 IX 2005, 1♀macr, 5 X 2005, 1♀macr, 6 VII 2007, 2♂♂macr, 1♀macr, 7 VIII 2007, 1♀macr; **(29)** – 6 VII 2007, 1♂macr, 2♀♀macr, 24 VIII 2007, 1♀macr; **(30)** – 10 VII 2006, 2♀♀macr, 24 VII 2006, 1♂macr, 7 VII 2007, 3♀♀macr, 23 VII 2007, 1♂macr, 1♀macr, 28 VII 2008, 1♂macr, 1♀brach; **(31)** – 25 VI 2006, 1♂macr, 1♀macr, 24 VII 2006, 1♂macr, 2♀♀macr, 8 VIII 2006, 2♂♂macr, 4♀♀macr, 8 VII 2007, 1♀macr, 26 V 2008, 2♂♂macr, 29 VII 2008, 3♂♂macr, 5♀♀macr, 11 VIII 2008, 2♂♂macr, 2♀♀macr; **(34)** – 10 V 2006, 2♂♂macr, 25 VI 2006, 1♂brach, 6 VII 2006, 1♀macr, 23 VII 2006, 1♀macr, 26 VIII 2006, 2♂♂macr, 2♀♀macr, 9 V 2007, 2♂♂macr, 8 VI 2007, 1♀macr, 10 VII 2007, 1♂macr, 10 VII 2009, 1♀macr; **(35)** – 10 VIII 2008, 2♂♂macr, 1♀macr, 25 VIII 2008, 3♂♂macr, 2♀♀macr, 23 VII 2009, 1♀macr, 10 VIII 2009, 1♀macr, 22 V 2010, 3♀♀macr, 10 VII 2010, 1♂macr, 1♀macr, 26 VII 2010, 5♀♀macr.

### ***Ribautodelphax albostrata* (FIEBER, 1866)**

Western Palaearctic – widespread – mesophilous, heliophilous; m1, *Poa pratensis*; steppe-like grasslands, meadows; nymph; 2 gen. – urbicenophilous

**(2)** – 7 VII 2007, 1♂brach, 23 VII 2007, 2♂♂macr, 8 VII 2009, 1♂brach, 25 VII 2009, 1♂brach, 1♀macr; **(4)** – 8 VIII 2006, 1♂macr, 19 VIII 2006, 1♀macr, 21 VII 2007, 1♂macr; **(5)** – 11 VII 2008, 1♂brach; **(9)** – 26 VII 2006, 1♂brach, 2♂♂macr, 1♀brach, 2♀♀macr, 9 VIII 2006, 1♀macr, 8 VII 2007, 1♂macr, 25 VII 2007, 1♂macr, 26 VIII 2007, 1♂macr, 10 V 2008, 1♂brach, 10 VI 2008, 1♂brach, 11 VII 2008, 3♂♂brach, 3♂♂macr, 4♀♀macr, 29 VII 2008, 2♂♂brach, 4♂♂macr, 2♀♀macr, 11 VIII 2008, 1♂brach; **(10)** – 20 V 2006, 1♂brach, 9 VI 2006, 1♀macr, 7 VII 2007, 2♂♂macr, 1♀macr, 23 VII 2007, 1♂brach, 1♀macr, 8 IX 2007, 1♂brach, 9 VI 2008, 1♂brach, 27 VII 2008, 1♀macr, 12 VIII 2008, 1♂brach, 28 VIII 2008, 2♂♂brach, 11 IX 2008, 1♀brach; **(11)** – 23 VII 2006, 1♀macr, 9 VIII 2006, 1♂brach, 25 V 2007, 1♂brach, 6 VIII 2007, 2♂♂macr, 11 VIII 2008, 1♂macr; **(12)** – 12 VII 2006, 1♀macr, 21 VII 2006, 4♂♂brach, 2♂♂macr, 4♀♀brach, 1♀macr, 23 VII 2007, 1♂macr, 1♀macr, 6 VIII 2007, 1♀macr, 8 VII 2008, 1♂brach, 1♀macr, 22 VII 2008, 2♂♂brach, 1♂macr, 2♀♀macr; **(13)** – 10 VI 2006, 1♀macr, 8 V 2007, 1♂brach, 1♀macr, 11 VII 2008, 1♂brach, 1♂macr, 29 VII 2008, 1♂macr; **(14)** – 26 VII 2010, 1♀macr; **(15)** – 10 VI 2008, 1♂brach; **(20)** – 9 VII 2007, 1♂macr, 1♀macr; **(21)** – 12 VII 2008, 1♂brach; **(22)** – 20 VIII 2005, 1♂brach, 26 V 2007, 1♂brach, 21 VII 2007, 1♂macr, 1♀brach, 2♀♀macr, 6 IX 2007, 1♂brach, 8 V 2008, 5♂♂brach, 1♀brach, 2♀♀macr, 7 VI 2008, 3♂♂brach, 2♀♀brach, 8 VII 2008, 1♂brach, 1♂macr, 1♀brach, 1♀macr, 28 VII 2008, 4♂♂brach, 6♂♂macr, 2♀♀brach,

6♀♀macr, 10 VIII 2008, 3♂♂brach, 1♂macr, 1♀macr; **(23)** – 7 V 2006, 1♀macr, 7 IX 2006, 1♂macr, 21 IX 2006, 1♀macr, 9 V 2007, 1♀macr, 6 VII 2007, 1♂brach, 1♀macr, 22 VII 2007, 1♂brach, 7 IX 2007, 1♂brach, 21 IX 2007, 1♀macr, 23 VI 2008, 1♀macr, 25 VII 2008, 2♂♂brach, 1♀macr, 9 VIII 2008, 1♂macr, 1♀brach; **(24)** – 10 VI 2006, 1♂brach, 12 VII 2006, 15♂♂brach, 5♀♀brach, 1♀macr, 20 VII 2006, 7♂♂brach, 6♀♀brach, 2♀♀macr, 10 VIII 2006, 3♂♂brach, 8 V 2007, 1♂brach, 1♀macr, 25 V 2007, 2♀♀macr, 7 VI 2007, 1♀brach, 8 VII 2007, 1♂brach, 25 VII 2007, 2♂♂brach, 2♂♂macr, 9 VIII 2007, 1♂brach, 25 VIII 2007, 1♀brach, 9 VI 2008, 1♀macr 8 VII 2008, 1♂brach, 1♂macr, 23 VII 2008, 1♀macr; **(25)** – 10 V 2006, 2♀♀brach, 25 V 2007, 1♀macr, 26 VII 2007, 1♂macr, 10 VIII 2007, 1♂brach, 1♀macr, 25 VIII 2007, 1♂brach, 1♂macr, 1♀brach, 8 V 2008, 1♀macr; **(26)** – 9 V 2007, 1♀brach, 20 VII 2007, 2♂♂brach, 3♀♀brach, 1♀macr, 8 V 2008, 1♀macr, 25 VII 2008, 4♂♂macr, 1♀macr, 10 VIII 2008, 2♂♂macr; **(28)** – 21 VII 2006, 1♂macr, 10 V 2007, 2♀♀macr, 22 VII 2007, 1♂macr, 1♀macr; **(31)** – 10 V 2008, 1♀macr, 11 VIII 2008, 1♂brach.

### ***Ribautodelphax angulosa* (RIBAUT, 1953)**

European? – rare – xerophilous, heliophilous; m1, *Anthoxanthum odoratum*; steppe-like grasslands, meadows; nymph; 2 gen. – urbiceneutral

**(7)** – 26 VII 2008, 1♂brach, 1♂macr, 10 VIII 2008, 1♂brach; **(8)** – 22 VII 2007, 1♂brach; **(19)** – 11 VI 2007, 1♂brach; **(24)** – 12 VII 2006, 3♂♂brach, 20 VII 2006, 5♂♂brach, 3♀♀brach.

### ***Ribautodelphax collina* (BOHEMAN, 1847)**

European? – widespread – mesophilous, heliophilous; m1, *Agrostis capillaris*; steppe-like grasslands, meadows; nymph; 2 gen. – urbiceneutral?

**(7)** – 8 VII 2006, 1♂macr, 8 VIII 2006, 2♂♂macr, 1♀macr, 26 VII 2008, 3♂♂macr, 6♀♀macr, 25 VIII 2008, 1♀brach, 10 VII 2009, 2♂♂macr, 2♀♀macr, 23 VII 2009, 1♀macr, 8 VIII 2009, 1♀macr; **(8)** – 9 VII 2006, 1♂macr, 1♀macr, 11 VIII 2006, 2♂♂macr, 2♀♀macr, 26 VII 2008, 5♂♂macr, 3♀♀macr, 10 VIII 2008, 2♀♀macr; **(9)** – 11 V 2006, 1♂brach, 1♂macr, 1♀brach, 20 V 2006, 1♀brach, 9 VI 2006, 1♂macr, 1♀brach, 3♀♀macr, 21 VI 2006, 1♂macr, 10 VII 2006, 10♂♂brach, 6♂♂macr, 3♀♀brach, 7♀♀macr, 26 VII 2006, 4♂♂brach, 2♂♂macr, 1♀brach, 3♀♀macr, 9 VIII 2006, 2♂♂brach, 1♂macr, 3♀♀macr, 10 V 2007, 1♀macr, 25 V 2007, 1♂brach, 1♀brach, 1♀macr, 8 VII 2007, 3♀♀brach, 25 VII 2007, 1♂macr, 10 VIII 2007, 1♀macr, 10 V 2008, 2♀♀macr, 10 VI 2008, 7♂♂brach, 1♂macr, 2♀♀brach, 1♀macr, 29 VI 2008, 1♂brach, 11 VII 2008, 83♂♂brach, 59♂♂macr, 39♀♀brach, 56♀♀macr, 29 VII 2008, 61♂♂brach, 51♂♂macr, 10♀♀brach, 42♀♀macr, 11 VIII 2008, 5♂♂brach, 2♂♂macr, 7♀♀macr, 31 VIII 2008, 1♂macr; **(10)** – 23 VII 2007, 1♂macr, 9 VI 2008, 1♂macr, 9 VII 2008, 1♂macr, 1♀brach, 3♀♀macr, 27 VII 2008, 1♂brach, 2♂♂macr, 1♀macr; **(11)** – 11 VII 2008, 1♂brach, 26 VII 2008, 2♀♀macr; **(12)** – 11 V 2006, 1♀macr, 23 V 2006, 1♀brach, 10 VI 2006, 1♀brach, 23 V 2008, 1♀macr, 10 VI 2008, 1♀brach; **(13)** – 20 VII 2006, 4♂♂brach, 3♀♀brach, 2♀♀macr, 12 VIII 2006, 1♀brach; 10 V 2008, 1♀macr, 26 V 2008, 1♀macr, 10 VI 2008, 1♀macr, 11 VII 2008, 13♂♂brach, 15♂♂macr, 17♀♀macr, 29 VII 2008, 4♂♂brach, 2♀♀macr, 11 VIII 2008, 1♂macr, 1♀macr; **(16)** – 9 VI 2006, 1♀macr, 23 VII 2006, 1♂brach, 1♀macr, 9 VI 2007, 1♂macr, 24 VII

2007, 1♂brach, 1♂macr, 1♀macr, 9 VI 2008, 1♂macr, 10 VII 2008, 1♂macr, 23 VII 2008, 1♂brach; **(21)** – 12 VII 2008, 1♂brach, 1♀macr; **(22)** – 25 V 2005, 1♂brach, 8 VII 2008, 1♂macr, 28 VII 2008, 1♀brach; **(23)** – 6 VII 2006, 1♂brach, 6 VII 2007, 1♂brach; **(24)** – 10 V 2006, 1♂brach, 3♀♀macr, 25 V 2006, 1♀macr, 10 VI 2006, 1♀brach, 1♀macr, 22 VI 2006, 1♂brach, 2♀♀brach, 12 VII 2006, 25♂♂brach, 1♂macr, 14♀♀brach, 8♀♀macr, 20 VII 2006, 19♂♂brach, 24♀♀brach, 7♀♀macr; 8 V 2007, 5♂♂brach, 3♀♀macr, 25 V 2007, 7♂♂brach, 1♂macr, 4♀♀brach, 7 VI 2007, 1♂brach, 3♀♀brach, 22 VI 2007, 6♂♂brach, 6♀♀brach, 8 VII 2007, 1♂brach, 3♀♀brach, 2♀♀macr, 25 VII 2007, 5♂♂brach, 3♂♂macr, 2♀♀brach, 2♀♀macr, 25 VIII 2007, 2♂♂brach, 8 IX 2007, 1♀macr, 10 V 2008, 2♂♂brach, 8♀♀macr, 23 V 2008, 5♂♂brach, 1♂macr, 4♀♀brach, 9 VI 2008, 1♂brach, 2♀♀brach, 2♀♀macr, 22 VI 2008, 6♂♂brach, 5♀♀brach, 3♀♀macr, 8 VII 2008, 1♂brach, 2♀♀brach, 1♀macr, 23 VII 2008, 3♂♂brach, 3♀♀brach, 1♀macr, 25 VIII 2008, 1♀macr; **(26)** – 24 VI 2007, 1♂brach, 1♀macr, 8 V 2008, 1♀macr, 25 VII 2008, 1♂brach, 5♂♂macr, 2♀♀brach, 1♀macr, 10 VIII 2008, 1♂macr; **(27)** – 8 V 2008, 1♀macr, 26 VII 2008, 1♂brach, 4♂♂macr, 6♀♀macr, 10 VIII 2008, 2♂♂macr; **(29)** – 23 VII 2005, 2♂♂macr, 2♀♀brach, 3♀♀macr, 7 VIII 2005, 1♂brach, 1♂macr, 2♀♀macr, 10 IX 2005, 1♂macr, 22 VII 2006, 2♂♂macr, 2♀♀brach, 1♀macr, 7 VIII 2006, 2♂♂brach, 2♂♂macr, 3♀♀macr; 21 VII 2007, 1♂brach, 3♂♂macr, 4♀♀makropt, 7 VIII 2007, 2♂♂macr, 3♀♀macr; **(31)** – 29 VII 2008, 2♂♂brach, 2♂♂macr, 1♀macr, 5 VIII 2008, 1♂brach, 2♀♀brach.

#### Familia **Tettigometridae** GERMAR, 1821

##### ***Tettigometra impressopunctata* DUFOUR, 1846**

Mediterranean – widespread – xerothermophilous?, heliophilous; pol., .Myrmecophilous; xerothermic scrublands, steppe-like grasslands; adult; 1 gen. – urbiceneutral?

Published records from Częstochowa (WALCZAK 2011): **(27)** – 01 X 2007, 1♂. New records: **(9)** – 11 VIII 2008, 1♂.

This is a rare species in Poland with most records before 1976 (NAST 1976a). Recently, it was also recorded in Krakowsko-Wieluńska Upland – Olsztyn near Częstochowa (ŚWIERCZEWSKI & WOJCIECHOWSKI 2009) and Małopolska Upland – vicinity of Dobromierz (ŚWIERCZEWSKI & STROIŃSKI 2011b).

#### Infraordo **CICADOMORPHA** EVANS, 1946

#### Familia **Cercopidae** LEACH, 1815

##### ***Cercopis sanguinolenta* (SCOPOLI, 1763)**

Mediterranean – widespread, northern edge of the range – xerothermophilous, heliophilous; pol., rhizophagous; steppe-like grasslands; nymph; 1 gen. – urbiceneutral

**(2)** – 24 V 2007, 2♂♂, 2♀♀, 9 VI 2007, 1♀, 10 V 2008, 1♂, 1♀, 26 V 2008, 1♂, 9 VI 2008, 2♀♀, 7 V 2009, 1♂, 2♀♀, 9 VI 2009, 1♀; **(4)** – 11 V 2007, 1♂, 1♀, 7 VI 2008, 1♂; **(6)** – 26

VI 2008, 1♀; **(9)** – 25 V 2007, 1♂; **(14)** – 25 VI 2009, 2♂♂; **(16)** – 8 V 2006, 1♂, 25 V 2006, 1♂, 9 VI 2006, 1♀, 9 V 2007, 1♂, 23 V 2007, ♂, 1♀, 8 V 2008, ♂, 1♀, 9 VI 2008, ♂, 1♀; **(19)** – 19 VI 2005, 1♂, 22 VI 2007, 1♂; **(22)** – 26 V 2007, 1♂; **(23)** – 23 V 2006, 1♂, 9 V 2007, 1♂, 24 V 2007, 1♀, 7 VI 2008, 1♀; **(24)** – 8 V 2007, 1♂, 25 V 2007, 1♀; **(28)** – 24 V 2007, 1♀; **(29)** – 25 V 2005, 1♂, 24 V 2006, 1♀.

### *Cercopis vulnerata* Rossi, 1807

European – widespread – mesophilous; pol., rhizophagous; meadows; nymph; 1 gen. – urbiceneutral

**(6)** – 8 VI 2006, 2♀♀; **(14)** – 10 VI 2008, 2♂♂, 1♀, 26 VI 2008, 1♂, 2♀♀, 26 V 2009, 1♀, 11 VI 2009, 4♂♂, 8♀♀, 25 VI 2009, 8♀♀, 12 VI 2010, 3♂♂, 10♀♀, 26 VI 2010, 1♂, 5♀♀, 10 VII 2010, 1♀; **(18)** – 11 VI 2009, 1♂, 12 VII 2009, 1♀; **(19)** – 28 V 2005, 1♀, 9 VI 2005, 1♂, 1♀, 19 VI 2005, 4♀♀, 23 V 2006, 1♂, 10 VI 2006, 1♂, 3♀♀, 23 VI 2006, 1♀.

## Familia Aphrophoridae AMYOT et SERVILLE, 1843

### *Aphrophoraalni* (FALLÉN, 1805)

Trans-Palaearctic – widespread and common – mesophilous; pol.; woodlands; egg; 1 gen. – urbiceneutral

**(3)** – 10 VIII 2006, 1♂, 1♀, 11 IX 2006, 1♀; **(9)** – 9 VIII 2006, 1♂, 10 IX 2006, 1♀, 26 VIII 2007, 1♀, 29 VII 2008, 1♂; **(10)** – 23 VIII 2006, 1; **(12)** – 12 IX 2006, 1♀, 9 X 2006, 1♀, 21 IX 2008, 1♂, 7 X 2008, 1♀; **(14)** – 11 VII 2008, ♂, 11 VIII 2008, 1♀, 20 VI 2009, 1♂, 9 VII 2009, 3♀♀, 24 VII 2009, 1♀, 11 VIII 2009, 1♂, 1♀, 25 VIII 2009, 1♀, 10 VII 2010, 1♂, 3♀♀, 26 VII 2010, 1♂, 2♀♀, 11 VIII 2010, 1♀; **(15)** – 25 VII 2010, 1♀; **(16)** – 9 VI 2006, 3♂♂, 4♀♀, 25 VI 2006, 1♀, 24 VII 2007, 1♂, 11 VIII 2007, 1♀, 10 VII 2008, 1♀, 8 VIII 2008, 2♀♀; **(19)** – 10 VI 2006, 1♂, 28 VIII 2006, 1♀; **(22)** – 26 IX 2008, 1♀; **(26)** – 24 VI 2007, 2♀♀; **(29)** – 18 VI 2005, 2♂♂, 4♀♀; **(30)** – 8 VIII 2006, 2♀♀, 8 IX 2006, 1♂, 1♀, 29 VIII 2008, 1♂; **(31)** – 24 VIII 2006, 1♀, 26 VIII 2007, 1♀, 11 VIII 2008, 1♀, 10 X 2008, 1♀; **(32)** – 24 VI 2005, 1♂, 1♀, 8 VII 2005, 2♀♀, 10 IX 2005, 1♀, 23 VII 2006, 1♂, 21 VI 2007, 2♀♀, 7 IX 2007, 1♀ / 15 VIII 2006, 1♀, 7 X 2006, 1♀, all on *Quercus robur*, 15 VIII 2006, 1♂, 1♀, all on *Tilia* sp.; **(33)** – 19 VI 2005, 1♀, 6 VII 2005, 1♂, 7 VIII 2005, 1♀, 25 VI 2006, 1♀, 10 VIII 2006, 1♂, 7 VIII 2007, 1♂; **(34)** – 23 VI 2008, 3♀♀, 24 VII 2008, 1♀, 27 VI 2009, 3♀♀, 10 VII 2009, 1♀, 23 VII 2009, 1♂, 1♀, 8 VIII 2009, 1♀, 25 VIII 2009, 2♀♀; **(35)** – 9 VI 2008, 1♂, 9 VII 2008, 1♀, 26 VI 2009, 1♀, 23 VII 2009, 2♀♀, 9 IX 2009, 1♀, 26 VI 2010, 1♀, 26 VII 2010, 3♀♀, 11 VIII 2010, 1♂, 23 VIII 2010, 1♂, 11 IX 2010, 1♂, 2♀♀.

### *Aphrophora pectoralis* MATSUMURA, 1903

Euro-Siberian – widespread and common – higrophilous; m2, *Salix*, mainly *S. cinerea*, *S. pentandra*, *S. purpurea*; woodlands (riparian); egg; 1 gen. – urbiceneutral?

**(A)** – 25 V 2012, 20 nymphs, 23 VI 2012, 2♂♂, 5♀♀, 23 VII 2012, 4♂♂, 2♀♀, all on *Salix cinerea*.



***Aphrophora salicina* (GOEZE, 1778)**

Euro-Siberian – widespread – mesophilous?; m2, *Salix*; woodlands (riparian); egg; 1 gen. – urbicenoxenic

(14) – 26 VII 2010, 1♀.

***Philaenus spumarius* (LINNAEUS, 1758)**

Trans-Palaeartic – widespread and common – ubiquestic; pol.; most terrestrial ecosystems; egg; 1 gen. – urbicenophilous

(1) – 23 VI 2006, 1♂, 26 VI 2008, 1♂, 1♀; (2) – 7 VII 2007, 3♂♂, 2♀♀, 9 VI 2008, 1♂, 28 VI 2008, 1♀, 12 VII 2008, 2♂♂, 12 VIII 2008, 1♂, 29 VIII 2008, 1♀, 11 IX 2008, 1♂, 29 IX 2008, 2♀♀, 23 VI 2009, 1♂; (3) – 12 VII 2008, 1♀; (4) – 19 VI 2006, 2♂♂, 8 VII 2006, 1♂, 19 VIII 2006, 2♂♂, 4♀♀, 21 IX 2006, 1♀, 21 VI 2007, 2♂♂, 6 VII 2007, 2♂♂, 1♀, 21 VIII 2007, 1♀, 27 VI 2008, 1♂, 28 VII 2008, 1♀, 8 VIII 2008, 1♀, 26 IX 2008, 1♀; (5) – 24 VII 2005, 3♂♂, 2♀♀, 7 VIII 2005, 1♂, 1♀, 24 IX 2005, 1♀, 5 VI 2007, 1♀, 17 VI 2007, 5♂♂, 2♀♀, 9 VII 2007, 1♀, 23 VII 2007, 3♂♂, 2♀♀, 17 VIII 2007, 1♂, 3♀♀, 11 X 2007, 1♀, 26 VI 2008, 3♂♂, 1♀, 11 VII 2008, 8♂♂, 6♀♀, 26 VII 2008, 6♂♂, 3♀♀, 11 VIII 2008, 3♂♂, 1♀, 26 VIII 2008, 2♂♂, 3♀♀, 11 IX 2008, 3♀♀, 27 IX 2008, 4♀♀, 11 X 2008, 2♀♀; (6) – 19 VIII 2005, 1♀, 10 VIII 2008, 1♂; (7) – 23 VII 2006, 1♂, 1♀, 24 VIII 2006, 1♂, 26 VII 2008, 1♀, 9 IX 2008, 1♀; (8) – 9 IX 2006, 1♂, 1♀, 7 X 2006, 2♀♀, 26 IX 2008, 2♀♀; (9) – 28 IX 2008, 5♂♂, 5♀♀; (10) – 10 VII 2006, 1♀, 26 VII 2006, 1♂, 3♀♀, 18 VIII 2006, 1♂, 3♀♀, 12 X 2006, 1♀, 9 VII 2008, 1♂; (11) – 7 IX 2006, 1, 29 IX 2008, 2♂♂, 4♀♀; (14) – 26 VI 2008, 1♂, 11 VII 2008, 2♂♂, 1♀, 11 VIII 2008, 4♀♀, 26 VIII 2008, 2♂♂, 1♀, 26 IX 2008, 1♀, 30 VI 2009, 1♂, 1♀, 12 VII 2009, 4♀♀, 23 VII 2009, 3♂♂, 1♀, 10 VIII 2009, 3♂♂, 1♀, 25 VIII 2009, 2♀♀, 9 IX 2009, 1♀, 12 VI 2010, 1♂, 26 VI 2010, 2♂♂, 1♀, 26 VII 2010, 1♂, 7♀♀, 11 VIII 2010, 1♀, 23 VIII 2010, 1♂, 1♀, 23 IX 2010, 1♂, 1♀; (15) – 25 VI 2008, 1♂, 1♀, 11 VII 2008, 3♀♀, 25 VII 2008, 2♀♀, 11 VIII 2008, 1♂, 1♀, 26 VIII 2008, 2♀♀, 11 X 2008, 2♀♀, 26 VI 2009, 1♀, 12 VII 2008, 1♀, 8 VIII 2008, 1♂, 2♀♀, 25 VIII 2008, 1♂, 2♀♀, 9 IX 2008, 4♀♀, 26 VI 2010, 2♂♂, 10 VII 2010, 3♂♂, 4♀♀, 30 VII 2010, 2♀♀, 11 VIII 2010, 1♀, 23 VIII 2010, 1♀, 11 IX 2010, 2♂♂, 1♀, 23 IX 2010, 2♀♀, 7 X 2010, 1♂, 1♀; (16) – 25 VI 2006, 2♂♂, 9 VI 2007, 2♂♂, 9 VI 2008, 1♂, 25 VI 2008, 1♀, 10 VII 2008, 2♀♀, 8 VIII 2008, 1♂; (17) – 26 VI 2009, 2♂♂, 1♀, 23 VII 2009, 1♂, 26 VI 2010, 1♀, 11 VIII 2010, 1♂, 23 VIII 2010, 1♀; (18) – 26 VI 2008, 1♂, 11 VIII 2008, 1♀, 30 VI 2009, 1♀, 10 VIII 2008, 1♂, 11 VIII 2010, 1♂, 23 VIII 2010, 1♀; (19) – 19 VI 2005, 1♂, 10 VII 2005, 1♀, 24 VII 2005, 1♀, 10 VIII 2005, 1♂, 1♀, 7 X 2005, 1♂, 1♀, 23 VI 2006, 1♀, 17 VII 2006, 1♂, 1♀, 18 VIII 2006, 1♀, 10 IX 2006, 1♀, 12 X 2006, 1♀, 22 VI 2007, 3♂♂, 1♀, 22 VII 2007, 1♂, 3♀♀, 20 VIII 2007, 1♂, 1♀; (20) – 7 VII 2006, 1♂, 4♀♀, 26 VII 2006, 4♂♂, 2♀♀, 10 VIII 2006, 2♂♂, 25 IX 2006, 1♀, 22 VI 2007, 2♂♂, 2♀♀, 9 VII 2007, 1♂, 3♀♀, 6 IX 2007, 2♂♂, 2♀♀, 25 VI 2008, 1♀; (21) – 12 VIII 2006, 1♀, 21 VIII 2006, 1♀, 21 VI 2007, 1♂, 2♀♀, 22 VII 2007, 1♂, 1♀; (22) – 26 VI 2005, 1♂, 1♀, 25 VII 2005, 1♂, 20 VIII 2005, 2♂♂, 4♀♀, 19 VI 2007, 1♂, 9 X 2008, 1♀; (25) – 25 V 2007, 1♀, 21 V 2008, 1♀; (26) – 24 VI 2007, 1♂, 1♀, 20 VII 2007, 1♂, 26 IX 2008, 1♀; (27) – 9 VII 2008, 1♀; (28) – 9 VIII 2005, 1♀; (30) – 23 VI 2006, 1♀, 24 VII 2006, 1♀, 8 VIII 2006, 1♂, 1♀, 8 VIII 2007, 1♂, 1♀, 8 IX 2007, 1♀, 28 VI 2008, 1♂, 1♀, 11 VII 2008, 1♂, 28 VII 2008, 1♂, 12 VIII 2008, 2♂♂, 29 VIII 2008, 1♀; (32) – 8 VII 2005, 1♂, 1♀, 1 VII 2007, 1♂; (33) – 22

VII 2007, 1♀; **(34)** – 23 VI 2008, 1♂, 24 VIII 2008, 1♀, 12 VII 2009, 1♂; **(35)** – 10 VIII 2008, 1♂, 10 VIII 2009, 1♀.

### *Neophilaenus campestris* (FALLÉN, 1805)

Mediterranean? – widespread and common – xerophilous, thermophilous, heliophilous; olig, Poaceae; steppe-like grasslands, meadows, anthropogenic vegetation; egg; 1 gen. – urbicenoxyenic?

**(7)** – 7 VI 2008, 1♀; **(28)** – 6 VII 2005, 1♂; **(34)** – 15 VIII 2006, 2♀♀.

### *Neophilaenus exclamationis* (THUNBERG, 1784)

European – widespread and common – mesophilous; olig, *Festuca ovina* and other Poaceae; woodlands; egg; 1 gen. – urbicenoxyenic

**(7)** – 26 VII 2008, 1♀; **(29)** – 14 IX 2015, 1♀.

### *Neophilaenus lineatus* (LINNAEUS, 1758)

Trans-Palaeartic – widespread and common – mesophilous; woodlands, meadows; pol.; egg; 1 gen. – urbicenoxyenic

**(1)** – 21 VIII 2006, 1♂, 2♀♀, 10 IX 2006, 1♂; **(2)** – 9 VI 2007, 1♀, 7 VII 2007, 1♂, 29 IX 2008, 1♂, 10 X 2008, 2♂♂, 1♀, 9 VI 2009, 1♂, 8 VII 2009, 1♀; **(7)** – 8 VIII 2006, 1♂, 24 VIII 2006, 1♂, 10 VIII 2008, 5♂♂, 1♀; **(8)** – 9 VII 2006, 1♂, 28 VI 2008, 3♂♂, 3♀♀, 26 IX 2008, 2♂♂, 1♀; **(14)** – 11 VIII 2008, 2♂♂, 3♀♀, 26 IX 2008, 1♂, 22 IX 2009, 1♂, 11 VIII 2010, 1♀; **(16)** – 10 VII 2006, 1♀, 10 IX 2006, 1♂, 10 VII 2007, 1♀, 25 VI 2008, 1♀, 23 VII 2008, 1♀, 24 VIII 2008, 1♂, 25 IX 2008, 1♂; **(18)** – 10 IX 2008, 1♀, 12 VII 2009, 1♂; **(19)** – 6 VIII 2007, 1♀, 20 VIII 2007, 1♂, 2♀♀; **(28)** – 21 VII 2006, 1♂; **(30)** – 29 IX 2008, 1♀.

### *Neophilaenus minor* (KIRSCHBAUM, 1868)

Western Palaeartic – widespread – xerophilous, heliophilous, psammophilous; olig., *Festuca ovina*, *Corynephorus canescens* and other Poaceae; steppe-like grasslands; egg; 1 gen. – urbicenoxyenic

**(7)** – 8 VI 2006, 1♂, 1♀, 26 VI 2006, 4♂♂, 3♀♀, 8 VII 2006, 6♂♂, 3♀♀, 23 VII 2006, 2♂♂, 8 VIII 2006, 2♂♂, 1♀, 24 VIII 2006, 3♂♂, 3♀♀, 9 IX 2006, 8♂♂, 3♀♀, 24 IX 2006, 3♂♂, 2♀♀, 10 X 2006, 2♂♂, 7 VI 2008, 1♀, 25 VI 2008, 5♂♂, 3♀♀, 9 VII 2008, 11♂♂, 2♀♀, 26 VII 2008, 3♂♂, 3♀♀, 10 VIII 2008, 3♂♂, 3♀♀, 25 VIII 2008, 7♂♂, 8♀♀, 9 IX 2008, 6♂♂, 26 IX 2008, 2♂♂, 1♀, 9 X 2008, 6♂♂, 2♀♀, 9 VI 2009, 2♂♂, 1♀, 25 VI 2009, 4♂♂, 4♀♀, 10 VII 2009, 1♂, 1♀, 23 VII 2009, 6♂♂, 1♀, 8 VIII 2009, 6♂♂, 2♀♀, 25 VIII 2009, 2♂♂, 1♀, 9 IX 2009, 3♂♂, 4♀♀, 22 IX 2009, 4♂♂, 1♀; **(8)** – 9 VI 2006, 1♂, 1♀, 25 VI 2006, 2♂♂, 3♀♀, 9 VII 2006, 2♂♂, 24 VII 2006, 3♂♂, 2♀♀, 11 VIII 2006, 5♂♂, 2♀♀, 22 VIII 2006, 3♂♂, 3♀♀, 9 IX 2006, 1♂, 1♀, 8 VI 2007, 2♂♂, 2♀♀, 23 VI 2007, 3♂♂, 4♀♀, 6 VII 2007, 4♂♂, 2♀♀, 22 VII 2007, 4♂♂, 2♀♀, 6 VIII 2007, 6♂♂, 3♀♀, 22 VIII 2007,

3♂♂, 3♀♀, 7 IX 2007, 1♂, 1♀, 21 IX 2007, 3♂♂, 1♀, 9 X 2007, 1♂, 28 VI 2008, 3♀♀, 9 VII 2008.

***Lepyronia coleoptrata* (LINNAEUS, 1758)**

Palaeartic – widespread and common – mesophilous; meadows; pol.; egg; 1 gen. – urbiceneutral?

(28) – 19 VI 2016, 5♂♂, 6♀♀, 24 VII 2016, 2♂♂, 3♀♀.

Familia **Membracidae** RAFINESQUE, 1815

***Gargara genistae* (FABRICIUS, 1775)**

Trans-Palaeartic – widespread – xerophilous, thermophilous, heliophilous; olig., preferably on *Sarothamnus scoparius*, *Ononis spinosa* and *Genista tinctoria*, myrmecophilous; woodlands, scrublands; egg; 1 gen. – urbiceneutral

(1) – 18 VIII 2006, 1♂, 10 VII 2008, 1♂, 26 VII 2008, 2♀♀, 26 VII 2010, 1♂, 1♀.

***Centrotus cornutus* (LINNAEUS, 1758)**

Euro-Siberian – widespread – mesophilous; pol.; woodlands, scrublands, steppe-like grasslands, meadows; nymph (usually 3<sup>rd</sup> and 5<sup>th</sup> instar); 1/2 gen. – urbiceneutral

(32) – 9 VI 2005, 1♀, 23 VI 2005, 2♀♀, 8 VI 2007, 1♀, 21 VI 2007, 1; (33) – 8 VI 2005, 2, 19 VI 2005, 3, 6 VII 2005, 1, 25 VI 2006, 2♀♀, 6 VII 2006, 1♀, 23 VII 2006, 1♀, 8 VI 2007, 2♀♀; (34) – 22 V 2008, 1♀, 8 VI 2008, 1♀, 24 V 2009, 1♀, 9 VI 2009, 1♀; (35) – 26 VI 2009, 1♀.

***Stictocephala bisonia* KOPP et YONKE, 1977**

Nearctic (introduced into Europe) – local – mesophilous?; pol, Fabaceae, Rosaceae; scrublands, meadows; egg.; 1 gen. – urbiceneutral?

(10) – 20 VIII 2016, 1♂, on *Populus* sp., (14) – 10 IX 2016, 5♂♂, 5♀♀, on *Betula pendula*.

The species is reported here as new to KFP region – Krakowsko-Wieluńska Upland. It was recorded in Poland for the first time in 2006 and is so far known from the Baltic Coast – Gdańsk-Oliwa, Wielkopolsko-Kujawska Lowland – ‘Łęgi koło Słubic’ Nature Reserve (BRYSZ & SZWEDO 2015), Mazovian Lowland – Warszawa (ŚWIERCZEWSKI & STROIŃSKI 2011a), Upper Silesia – Wodzisław Śląski (KOLAK & TASZAKOWSKI 2013), Rudziniec Gliwicki (DOBOSZ & SZWEDO 2015), Chorzów, Świętochłowice, Mysłowice, Piekary, Rogoźnik, Bukowno, Rudy Kozielskie, Pilchowice, Katowice, Siemianowice, Sosnowiec, Gliwice (WALCZAK et al. in press a), Krakowsko-Wieluńska Upland – Kraków (WALCZAK et al. in press b), Małopolska Upland – Łódź (BRYSZ & SZWEDO 2015), Sandomierska Lowland – Rzeszów and Zagorzyce (ŚWIERCZEWSKI & STROIŃSKI 2011a) and Eastern Beskidy Mountains – Libusza, Dobrynia, Lisów, Ożenna and Zdynia (MUSIK & TASZAKOWSKI 2013, TASZAKOWSKI et al. 2015).

This invasive species originated in North America and was introduced into Hawaii, Europe, North Africa, Transcaucasia and Central Asia (ŚWIERCZEWSKI & STROIŃSKI 2011a). It was first recorded in Europe in Hungary at the beginning of 20th century (HORVÁTH 1912) and is currently known from Albania, Austria, Belgium, Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, France, Germany, Greece, Hungary, Italy, Macedonia, Moldavia, Portugal, Romania, Slovakia, Slovenia, Spain, Switzerland and Ukraine (ARZONE et al. 1986, JANSKÝ et al. 1988, HOCH 2013).

Familia **Ulopidae** LE PELETIER et SERVILLE, 1843

***Ulopa reticulata* (FABRICIUS, 1794)**

European – widespread and common – mesophilous; m1, *Calluna vulgaris*; mires-swamps; nymph and adult; 1/2 gen.

(35) – 11 VIII 2010, 1 nymph.

***Utecha lugens* (GERMAR, 1821)**

Mediterranean – unknown – xerophilous, thermophilous, heliophilous, calciphilous; olig.?; steppe-like grasslands; adult (♀♀); 1 gen. – unknown

Published records from Częstochowa (WALCZAK 2011): (12) – 21 VI 2007, 1♀; New records: (9) – 13 VII 2007, 3♀♀, 31 VII 2007, 1♀, 16 VIII 2007, 2♀♀; (11) – 8 VII 2006, 1♀, 12 VII 2008, 1♂; (12) – 12 VII 2006, 1♂; (27) – 1 VII 2007, 1♀, 7 VIII 2007, 1♀.

***Utecha trivialis* (GERMAR, 1821)**

Mediterranean – widespread – xerophilous, thermophilous, heliophilous, calciphilous; olig.?; steppe-like grasslands; adult (♀♀); 1 gen. – urbicenophilous

(9) – 26 VII 2006, 2 31 VII 2007, 1♀, 16 VIII 2007, 3♀♀, 29 VII 2008, 5♀♀, 11 VIII 2008, 1♀; (10) – 8 VIII 2007, 1♀; (12) – 12 VII 2006, 1♂, 21 VII 2006, 8♂♂, 10♀♀, 6 VIII 2007, 1♀, 24 VI 2008, 1♀; (13) – 20 VII 2006, 1♂, 1♀; (24) – 20 VII 2006, 1♂, 1♀, 16 VIII 2007, 1♀, 23 VII 2008, 1♂, 9 VIII 2008, 1♀; (25) – 9 VII 2006, 1♂, 20 VII 2006, 8♂♂, 4♀♀, 25 V 2007, 1♀, 23 VII 2008, 1♂, 1♀; (33) – 27 IX 2007, 2♀♀.

Familia **Cicadellidae** LATREILLE, 1825

Subfamilia **Ledrinae** KIRSCHBAUM, 1868

***Ledra aurita* (LINNAEUS, 1758)**

European – widespread – mesophilous, skiophilous?; pol., mainly on *Quercus* and *Fagus*; woodlands-city parks; nymph; 1/2 gen. – urbicenoneutral?

(32) – 7 VIII 2007, 1 nymph;

This is quite a rarely recorded species, usually collected in low numbers. In Poland, it is known from about twenty localities, distributed across the whole country. The old records are listed by NAST (1976a). The most recent findings come from: Baltic Coast (DOBOSZ & KOWALCZYK 2014), Mazovian Lowland (MARCZAK 2011), Podlasie Lowland (DOBOSZ 2015), Lower Silesia (DANIELCZOK-DEMSKA & SZWEDO 2001), Upper Silesia (DOBOSZ 1993, BOKŁAK et al. 2003), Krakowsko-Wieluńska Upland (SZWEDO 1992, SZOŁTYS & DOBOSZ 1994, ŚWIERCZEWSKI & BŁASZCZYK 2013), Małopolska Upland (BOKŁAK et al. 2003), Roztocze Upland (BOKŁAK et al. 2003), Eastern Sudetes (ZAJĄC 2016), Western Beskidy Mts (DANIELCZOK-DEMSKA & SZWEDO 2001, PILARCZYK & SZWEDO 2005), Eastern Beskidy Mts (DOBOSZ 2015) and Bieszczady Mts (BOKŁAK et al. 2003).

Subfamilia Macropsinae EVANS, 1935

***Oncopsis alni* (SCHRANK, 1801)**

European – widespread – hygrophilous; m2, *Alnus glutinosa*, *A. incana*; woodlands (riparian); egg; 1 gen. – urbicenoxenic

(5) – 10 VI 2008, 1♂ / 28 VI 2008, 1♂, 1♀, 30 VII 2008, 1♀, all on *Alnus glutinosa*.

***Oncopsis appendiculata* WAGNER, 1944**

European – widespread – mesophilous, heliophilous?; m2, *Betula*; woodlands-city parks; egg; 1 gen. – urbicenoneutral (Fig. 38f)

(14) – 23 VI 2006, 1♂, on *Betula pendula*.

***Oncopsis carpini* (J. SAHLBERG, 1871)**

European – widespread – mesophilous; m1, *Carpinus betulus*; scrublands; egg; 1 gen. – urbicenophilous (according to NICKEL (2003), in Germany also in hedges in urban areas)

(13) – 10 VI 2007, 1♂, on *Carpinus betulus*.

***Oncopsis flavicollis* (LINNAEUS, 1761)**

Trans-Palaeartic – widespread and common – mesophilous; m2, *Betula pendula*, *B. pubescens*; scrublands; egg; 1 gen. – urbicenoneutral

(6) – 9 VII 2006, 2♀♀; (13) – 22 VI 2006, 1♀; (16) – 26 V 2006, 1♂; (19) – 28 V 2005, 1♂, 22 V 2006, 1♂; (28) – 19 V 2007, 1♂; (31) – 24 V 2006, 1♂, 1♀, 10 V 2007, 2♂♂, 3♀♀; (32) – 24 VI 2005, 2♀♀, 10 VI 2006, 2♀♀; (33) – 25 V 2005, 1♀, 14 V 2006, 1♂, 25 V 2006, 1♂ / 14 V 2006, 2♂♂, all on *Betula pendula*.

***Oncopsis tristis* (ZETTERSTEDT, 1840)**

Euro-Siberian – widespread – mesophilous, heliophilous?; m2, *Betula pendula*, *B. pubescens*; scrublands; egg; 1 gen. – urbiceno xenic

(14) – 23 VI 2006, 1♂, 1♀, all on *Betula pendula*; (33) – 18 VI 2005, 1♂, on *Betula pendula*.

***Pediopsis tiliae* (GERMAR, 1831)**

European – widespread – mesophilous; m2, *Tilia cordata*, *T. platyphyllos*; woodlands-city parks; egg; 1 gen. – urbiceno neutral

(13) – 22 VI 2006, 1♀, on *Tilia* sp.; (B) – 17 VII 2006, 1♂, on *Tilia* sp.

***Macropsis fuscula* (ZETTERSTEDT, 1828)**

Western-Palaeartic – widespread – mesophilous; m2, *Rubus*; woodlands, scrublands; egg; 1 gen. – urbiceno neutral

(35) – 10 VIII 2009, 1♂, 1♀, 24 VII 2010, 1♀.

***Macropsis infuscata* (J. SAHLBERG, 1871)**

Western-Palaeartic – widespread – mesophilous; m1, *Salix caprea*; woodlands (riparian); egg; 1 gen. – urbiceno xenic

(30) – 10 VIII 2009, 1♂, 2♀♀, on *Salix* sp.

***Macropsis prasina* (BOHEMAN, 1852)**

Palaeartic – widespread – higrophilous; m2, *Salix*, preferably *S. cinerea*, *S. viminalis*, *S. aurita* and *S. caprea*; scrublands; egg; 1 gen. – urbiceno xenic

(15) – 29 VI 2008, 8♂♂, 9♀♀, on *Salix cinerea*, det. Igor Malenovský (based on TISCHECHKIN 2002).

The first record of the species for Krakowsko-Wieluńska Upland is given by ŚWIERCZEWSKI & BŁASZCZYK (2013) from Załęczański Landscape Park. The species is widely distributed in Poland and seen as pest on cultivated willows (GĘBICKI et al. 2013).

***Macropsis vicina* (HORVÁTH, 1897)**

Western Palaeartic – rare – mesophilous, heliophilous; m1, *Populus alba*; woodlands, scrublands; egg; 1 gen. – urbiceno philous

(10) – 11 VII 2008, 1♂, 1♀, all on *Populus alba*; (25) – 4 VIII 2012, 1♀, on *Populus alba*.

***Hephathus nanus* (HERRICH-SCHÄFFER, 1835)**

Mediterranean – rare – xerophilous, thermophilous, heliophilous; m1, *Cirsium acaule*; steppe-like grasslands; egg; 1 gen. – urbicenophilous?

(7) – 26 VII 2008, 1♂, 10 VII 2009, 1♂; (9) – 26 VII 2006, 1♂, 3 VII 2007, 1♂, 13 VII 2007, 1♀, 29 VI 2008, 1♀, 11 VII 2008, 1♀; (22) – 8 VII 2008, 1♂; (25) – 9 VII 2007, 1♀.

Subfamilia Megophthalminae KIRKALDY, 1906

***Megophthalmus scanicus* (FALLÉN, 1806)**

Mediterranean – widespread and common – mesophilous, heliophilous; olig., Fabaceae; steppe-like grasslands, meadows; egg; 1 gen. – urbicenophilous?

(3) – 11 IX 2006, 1♂, 7 VII 2007, 1♂; (4) – 21 VI 2007, 2♂♂, 6 VII 2007, 3♂♂, 1♀, 8 VII 2008, 7♂♂, 3♀♀; (6) – 26 VI 2008, 1♂, 9 VII 2008, 3♂♂; (8) – 9 IX 2008, 1♀; (12) – 21 VI 2007, 1♂, 1♀, 24 VI 2008, 1; (14) – 26 VII 2008, 1♂; (18) – 26 VII 2010, 1♀; (19) – 22 VI 2007, 1♂, 20 VIII 2007, 1♀; (22) – 20 VI 2007, 1♂, 21 VII 2007, 1♀, 21 IX 2007, 1♀; (23) – 23 VI 2007, 1♂; (25) – 7 VI 2007, 1♀; (26) – 19 VI 2006, 5♂♂, 1♀, 24 VI 2007, 1♂, 1♀, 8 VII 2007, 1♂, 8 VII 2008, 3♂♂, 3♀♀; (28) – 30 VI 2005, 1♂.

***Agallia brachyptera* (BOHEMAN, 1847)**

Western Palaearctic – widespread and common – mesophilous; olig., mainly Asteraceae and Fabaceae; woodlands, anthropogenic vegetation; eggs overwinter in secondary parapaese terminated by cold; 1 gen. – urbicenophilous

(5) – 11 X 2008, 1♀; (14) – 26 VII 2008, 1♀, 26 IX 2008, 1♀, 9 IX 2009, 1♀, 22 IX 2009, 1♀; (20) – 9 X 2006, 1♀, 8 X 2008, 1♀; (30) – 24 IX 2006, 1, 23 VII 2007, 1♂, 8 X 2008, 1♀; (34) – 17 VII 2006, 1♀, 15 VIII 2006, 1♀.

***Agallia consobrina* CURTIS, 1833**

Mediterranean – rare – mesophilous, thermophilous; olig., Lamiaceae (and occasionally *Urtica dioica*); woodlands, scrublands; adult (♀♀); 1 gen. – urbicenophilous

Published records from Częstochowa (WALCZAK 2011): (12) – 6 VIII 2007, 1♂; (13) – 09 VII 2007, 1♂; (30) – 20.07.2007, 1♂; New records: (3) – 20 VII 2006, 1♀, 12 VII 2008, 2♂♂; (15) – 11 VIII 2008, 1♂, 28 IX 2008, 1♀, 23 VII 2009, 1♀; (25) – 9 VII 2007, 1♀; (31) – 24 VII 2006, 1♀, 8 VIII 2006, 1♂, 25 VI 2007, 1♀, 13 VII 2007, 1♀, 26 IX 2007, 2♀♀, 29 VII 2008, 2♂♂, 2♀♀, 11 VIII 2008, 1♀; (32) – 8 VIII 2005, 1♀, 9 VIII 2006, 1♀, 7 VIII 2007, 1♀, 11 IX 2007, 1♀; (34) – 17 VII 2006, 1♂, 10 VIII 2006, 1♀.

***Anaceratagallia ribauti* (OSSIANNILSSON, 1938)**

Western Palaearctic – widespread – mesophilous, heliophilous; olig. – *Plantago*, Fabaceae; meadows; adult; 1 gen. – urbicenophilous

(2) – 7 VII 2007, 5♂♂, 3♀♀, 8 IX 2007, 2♂♂, 1♀, 28 VI 2008, 1♀, 11 IX 2008, 1♂, 8 X 2008, 3♀♀, 8 VII 2009, 1♂, 1♀, 8 IX 2009, 1♀; (4) – 19 VIII 2006, 1♂, 1♀, 6 VIII 2007, 1♀; (5) – 4 IX 2005, 2♂♂, 24 IX 2005, 6♂♂, 3♀♀, 11 VII 2008, 1♀; (7) – 24 VIII 2006, 1♂, 9 IX 2009, 1♂; (9) – 10 X 2006, 2♀♀, 2 X 2007, 1♂, 10 IX 2008, 1♀; (10) – 24 IX 2006, 1♀, 11 X 2008, 1♂; (11) – 8 VII 2006, 1♂, 7 IX 2006, 1♀, 10 X 2006, 1♂, 22 VI 2007, 1♀, 9 VII 2007, 2♂♂, 1♀, 11 VII 2008, 2♂♂, 1♀, 9 X 2008, 1♀; (12) – 22 VI 2006, 1♂, 1♀, 12 VII 2006, 1♂, 1♀, 21 VII 2006, 1♂, 2♀♀, 21 VIII 2006, 1♀, 12 IX 2006, 4♂♂, 1♀, 26 IX 2006, 4♂♂, 1♀, 9 X 2006, 6♂♂, 3♀♀, 21 VI 2007, 6♂♂, 4♀♀, 9 VII 2007, 1♂, 23 VII 2007, 1♂, 2♀♀, 6 VIII 2007, 1♀, 20 VIII 2007, 1♂, 1♀, 8 IX 2007, 1♀, 9 X 2007, 1♀, 24 VI 2008, 1♂, 8 VII 2008, 2♂♂, 22 VII 2008, 2♀♀, 10 IX 2008, 1♂, 2♀♀, 7 X 2008, 1♂, 3♀♀; (13) – 13 IX 2007, 1♂, 29 VI 2008, 1♂, 11 VII 2008, 1♂; (20) – 10 IX 2006, 1♂, 25 IX 2006, 1♂, 1♀, 22 VI 2007, 1♀, 9 VII 2007, 1♂, 1♀, 6 IX 2007, 1♂, 1♀, 21 IX 2007, 1♂, 11 X 2007, 1♀, 25 IX 2008, 1♂, 1♀; (21) – 8 IX 2006, 1♀, 26 IX 2007, 1♂, 9 X 2007, 1♀, 28 VI 2008, 1♀, 10 X 2008, 1♀; (22) – 20 VIII 2005, 1♀, 8 IX 2005, 1♂, 6 VII 2007, 2♀♀, 21 VII 2007, 1♀, 21 IX 2007, 1♂, 7 VI 2008, 1♀, 28 VII 2008, 2♀♀, 26 IX 2008, 1♂, 1♀; (23) – 6 VII 2006, 1♂, 1♀, 21 IX 2006, 4♂♂, 2♀♀, 6 VII 2007, 1♂, 1♀, 21 IX 2007, 3♂♂, 3♀♀, 23 VI 2008, 1♀, 8 IX 2008, 2♂♂, 10 X 2008, 3♂♂, 2♀♀; (24) – 7 X 2007, 1♀, 24 IX 2008, 1♂, 9 X 2008, 1♀; (25) – 22 VI 2006, 1♀, 20 VII 2006, 2♀♀, 9 X 2006, 2♂♂, 1♀, 23 VI 2007, 2♂♂, 1♀, 9 VII 2007, 1♂, 1♀, 11 IX 2007, 1♂, 2♀♀, 2 X 2007, 3♂♂, 2♀♀, 9 VII 2008, 1♂, 1♀, 23 VII 2008, 1♀, 9 IX 2008, 1♂, 1♀, 23 IX 2008, 3♂♂, 2♀♀, 8 X 2008, 3♂♂, 1♀; (26) – 6 VII 2006, 1♀, 26 IX 2006, 1♂, 1♀, 9 X 2007, 2♂♂, 2♀♀, 25 VI 2008, 1♀, 8 VII 2008, 1♀, 26 IX 2008, 1♂, 3♀♀, 9 X 2008, 5♂♂; (27) – 8 VIII 2006, 1♀, 24 VIII 2006, 2♀♀, 26 IX 2006, 2♂♂, 23 VI 2007, 1♂, 9 X 2007, 4♂♂, 1♀, 26 VIII 2008, 1♀, 9 X 2008, 1♂, 1♀; (30) – 23 VII 2007, 1♀, 8 IX 2007, 1♀.

### *Anaceratagallia venosa* (GEOFFROY, 1785)

Euro-Siberian – widespread and common – xerophilous, heliophilous; olig., mainly *Lotus corniculatus*; steppe-like grasslands; eggs overwinter in secondary diapause terminated by cold; 1 gen. – urbicenoxyenic?

(7) – 10 VII 2009, 1♀, 8 VIII 2009, 1♀, 25 VIII 2009, 1♂, 1♀; (8) – 8 VI 2007, 3♂♂, 2♀♀, 23 VI 2007, 1♂, 22 VII 2007, 2♂♂, 1♀, 22 VIII 2007, 1♂, 1♀, 7 IX 2007, 1♀, 21 IX 2007, 1♀, 28 VI 2008, 1♀.

### Subfamilia Idiocerinae BAKER, 1915

### *Rhytidodus decimusquartus* (SCHRANK, 1776)

Western Palaearctic – widespread – mesophilous; m1, *Populus nigra*; scrublands; egg; 1 gen. – urbicenoxyenic (overwintering often in human settlements)

(D) – 25 X 2011, 1♀, wall of the building.

### *Idiocerus herrichii* KIRSCHBAUM, 1868

Western Palaearctic – widespread – hygrophilous; m2, *Salix alba*, *S. fragilis*; woodlands (riparian); adult; 1 gen. – urbicenoxyenic



(10) – 13 VII 2012, 1♂, 1♀, 23 VII 2008, 1♂, on *Salix alba*.

***Idiocerus lituratus* (FALLÉN, 1806)**

Western Palaearctic – widespread – higrophilous; m2, *Salix cinerea*, *S. aurita*, *S. caprea*, *S. repens*; woodlands (riparian); egg; 1 gen. – urbiceno xenic

(15) – 22 VIII 2012, 1♂, 1♀, all on *Salix*; (A) – 23 VII 2012, 5♂♂, 9♀♀, on *Salix cinerea* rev. Igor Malenovský – erroneously determined and published as *Idiocerus vicinus* MELICHAR, 1898, det. M. Walczak (WALCZAK et al. 2014).

***Idiocerus stigmatalis* LEWIS, 1834**

European – widespread and common – higrophilous; m2, *Salix*; woodlands (riparian); egg; 1 gen. – urbiceno philous?

(4) – 8 VII 2008, 1♀, 9 IX 2008, 1♀; (12) – 21 VI 2007, 1♂; (26) – 8 VII 2008, 1♂; (30) – 10 VI 2006, 1♀, 3 VII 2007, 1♀.

***Viridicercus ustulatus* (MULSANT et REY, 1855)**

Western Palaearctic – widespread – mesophilous; m1, *Populus alba*; scrublands; adult; 1 gen. – urbiceno philous? (according to NICKEL 2003, in Germany also in urban greenery)

(10) – 11 VII 2008, 1♂, 2♀♀, all on *Populus alba*; (25) – 4 VIII 2012, 2♂♂, 1♀, all on *Populus alba*.

***Tremulicercus distinguendus* (KIRSCHBAUM, 1868)**

European – widespread – mesophilous; m1, *Populus alba*; scrublands; egg; 1 gen. – urbiceno philous? (according to NICKEL (2003), in Germany also in urban greenery)

(10) – 11 VII 2008, 4♂♂, 6♀♀, 15 IX 2012, 2♀♀, all on *Populus alba*; (25) – 4 VIII 2012, 1♂, all on *Populus alba*.

***Tremulicercus tremulae* (ESTLUND, 1796)**

Euro-Siberian – rare – mesophilous; m1, *Populus tremula*; woodlands; egg(?); 1 gen. – urbiceno xenic

(24) – 23 IX 2012, 1♂, on *Populus tremula*; (31) – 28 VI 2008, 2♀♀, all on *Populus tremula*.

***Populicercus albicans* (KIRSCHBAUM, 1868)**

Western Palaearctic – widespread – mesophilous, heliophilous; m1, *Populus alba*; scrublands; egg; 1 gen. – urbiceno philous? (according to NICKEL (2003), in Germany also in urban greenery)

(10) – 11 VII 2008, 1♂, 7♀♀, 15 IX 2012, 2♀♀, all on *Populus alba*; (25) – 4 VIII 2012, 2♀♀, all on *Populus alba*.

***Populicerus confusus* (FLOR, 1861)**

Trans-Palaeartic – widespread – higrophilous; m2, *Salix*; scrublands; egg; 1 gen. – urbicenoxyenic

(33) – 30 VI 2005, 1♀.

***Populicerus populi* (LINNAEUS, 1761)**

Trans-Palaeartic – widespread and common – mesophilous; m1, *Populus tremula*; woodlands, scrublands; egg; 1 gen. – urbicenoxyenic

(32) – 24 VI 2005, 1♂, 26 VI 2006, 2♀♀.

***Acericerus heydenii* (KIRSCHBAUM, 1868)**

European – rare – mesophilous; m2, *Acer*, mainly *A. pseudoplatanus*; scrublands; adult (overwintering in human settlements); 1 gen. – urbicenoxyenophilous (Fig. 34d)

(D) – 19 XI 2014, 1♀, inside the building.

The species reported here as new to KFP region – Krakowsko-Wieluńska Upland. In Poland, the species is also reported from other two locations: Western Beskidy Mountains – Maków Podhalański (NAST 1976a, GĘBICKI et al. 2013) and Upper Silesia – Repty Śląskie (MUSIK 2016) (Fig. 6).

***Acericerus ribauti* NICKEL et REMANE, 2002**

European – local? – mesophilous; m2, *Acer*; woodlands, scrublands; adult; 1 gen. – urbicenoxyenophilous? (Fig. 34e)

Published records from Częstochowa; reported as new species to the fauna of Poland and KFP region – Krakowsko-Wieluńska Upland (WALCZAK et al. 2013): (23) – 16 VIII 2012, 1♀, 31 VIII 2012, 7♂♂, 2♀♀, 1 nymph, all on *Acer platanoides*; (32) – 30 IX 2011, 1♀, on *Acer platanoides*.

The species was also recorded in Upper Silesia – Radzionków, Piekary Śląskie and Świerkłaniec (WALCZAK et al. 2013, MUSIK 2016) (Fig. 7). The species has recently been described by NICKEL & REMANE (2002) from Lower Saxony in Germany. Further records are from Latvia, Sweden (SÖDERMAN et al. 2009) and Czech Republic (MALENOVSKÝ & LAUTERER 2012).

***Balcanocerus larvatus* (HERRICH-SCHÄFFER, 1835)**

Southern European – local – xerophilous, thermophilous, heliophilous; m1, *Prunus spinosa*; woodlands (margins), scrublands; egg; 1 gen. – urbicenoxyenoneutral (Fig. 34f)

(27) – 6 VII 2006, 2♂♂, 1♀, 20 VIII 2012, 1♀, all on *Prunus spinosa*; (33) – 1 VII 2007, 1♂, 1♀, all on *Prunus spinosa*.

This species was reported as new to KFP region – Krakowsko-wieluńska Upland by WALCZAK et al. (2014). In Poland, it is known only from Małopolska Upland – Góry Pieprzowe near Sandomierz (NAST 1955), Przedborski Landscape Park (ŚWIERCZEWSKI & STROIŃSKI 2011b) and Lubelska Upland (GĘBICKI et al. 2013) (Fig. 8).

Subfamilia Iassinae AMYOT et SERVILLE, 1843

***Iassus lanio* (LINNAEUS, 1761)**

Euro-Siberian – widespread – mesophilous; m2, *Quercus robur*, *Q. petraea*; woodlands-city parks; egg; 1 gen. – urbiceneutral

(32) – 6 VII 2006, 2♀♀, 17 VII 2006, 1♀, 15 VIII 2006, 2♀♀, 12 IX 2006, 1♀; 19 VI 2007, 1♀, 15 VII 2007, 1♀, all on *Quercus robur*; (33) – 7 VII 2007, 1♀ / 17 VII 2006, 3♀♀, all on *Quercus robur*.

Subfamilia Cicadellinae LATREILLE, 1825

***Cicadella lasiocarpae* OSSIANNILSSON, 1981**

Siberian – rare – higrophilous; m2, *Carex*, preferably *C. nigra* and *C. lasiocarpa*; mires-swamps egg; 1 gen. – urbicenoxygenic (Fig. 35a)

(A) – 17 VIII 2012, 1♀.

The species in Poland so far known from Upper Silesia – ‘Łęczczok’ Nature Reserve (SZWEDO et al. 1998), Brynek (BOKŁAK et al. 2003), Bukowno, Dąbrowa Górnicza and Piekary Śląskie (MUSIK 2016), Krakowsko-Wieluńska Upland – Pilica (SZWEDO et al. 1998) and Częstochowa-Żabinię (ŚWIERCZEWSKI & GĘBICKI 2003) and Bieszczady Mts – ‘Wołosate’ Nature Reserve (Szwedo et al. 1998) (Fig. 9).

The species initially known from Sweden, Finland and Denmark (OSSIANNILSSON 1981). Besides Scandinavia, it is also recorded from Great Britain (LE QUESNE 1987), Germany (REMANE & FRÖHLICH 1991), Bielarus and Russia (DMITRIEV 1998, SÖDERMAN et al. 2009).

***Cicadella viridis* (LINNAEUS, 1758)**

Trans-Palaearctic – widespread and common – higrophilous; pol., mainly *Juncus*, *Carex*; meadows, mires-swamps; hibernation takes place in the embryonic stage; 1 gen. – urbiceneophilous

(2) – 23 VII 2007, 1♂, 13 IX 2007, 2♀♀, 12 VII 2008, 1♀, 28 VII 2008, 1♀, 12 VIII 2008, 1♀, 11 IX 2008, 1♀, 11 X 2008, 2♀♀, 28 VII 2009, 1♀, 8 IX 2009, 1♂, 1♀; (3) – 10 VIII 2008, 1♀; (5) – 24 VII 2005, 2♂♂, 2♀♀, 22 VIII 2005, 1♀, 4 IX 2005, 1♀, 24 IX 2005, 1♂, 3♀♀, 9 VII 2007, 1♀, 17 VIII 2007, 1♂, 3 IX 2007, 1♂, 2♀♀, 11 X 2007, 1♀, 26 VI

2008, 2♂♂, 11 VII 2008, 1♂, 2♀♀, 26 VII 2008, 1♂, 5♀♀, 11 VIII 2008, 5♀♀, 11 IX 2008, 2♀♀, 27 IX 2008, 1♂, 11 X 2008, 2♀♀; **(9)** – 3 VII 2007, 1♂; **(10)** – 9 VIII 2006, 1♂, 1♀, 23 VIII 2006, 1♂, 4♀♀, 24 IX 2006, 1♂, 2♀♀, 10 X 2006, 3♀♀, 23 VII 2007, 1♂, 1♀, 9 X 2007, 1♀, 12 VIII 2008, 1♀; **(11)** – 9 VII 2007, 1♂; **(12)** – 17 VII 2007, 1♀; **(14)** – 26 VI 2008, 1♂, 11 VII 2008, 16♂♂, 21♀♀, 26 VII 2008, 4♂♂, 10♀♀, 11 VIII 2008, 5♀♀, 26 VIII 2008, 11♀♀, 10 IX 2008, 3♀♀, 30 VI 2009, 12♂♂, 9♀♀, 12 VII 2009, 83♂♂, 81♀♀, 23 VII 2009, 13♂♂, 30♀♀, 10 VIII 2009, 12♀♀, 25 VIII 2009, 8♀♀, 9 IX 2009, 9♀♀, 22 IX 2009, 1♂, 3♀♀, 10 VII 2010, 1♀, 26 VII 2010, 6♂♂, 14♀♀, 11 VIII 2010, 1♀, 23 VIII 2010, 1♂, 1♀, 23 IX 2010, 1♀; **(15)** – 11 VII 2008, 1♀, 25 VII 2008, 3♀♀, 12 VII 2009, 1♀, 23 VII 2009, 2♀♀, 8 VIII 2009, 1♀, 25 VIII 2009, 1♀, 25 VII 2010, 1♀, 11 IX 2010, 1♀, 23 IX 2010, 1♀; **(16)** – 26 VI 2006, 1 larva, 8 VIII 2006, 1♀, 24 VIII 2006, 1♀, 10 X 2006, 1♀, 26 VI 2007, 1♂, 24 VII 2007, 1♂, 1♀, 9 VIII 2007, 1♂, 2♀♀, 25 VIII 2007, 1♀, 25 VI 2008, 1♂, 1♀, 23 VII 2008, 1♂, 1♀, 8 VIII 2008, 1♂, 2♀♀, 10 IX 2008, 1♀; **(17)** – 23 VII 2009, 1♀, 30 VII 2010, 1♀, 11 VIII 2010, 1♀; **(18)** – 26 VI 2008, 1♂, 11 VII 2008, 10♂♂, 14♀♀, 26 VII 2008, 3♂♂, 6♀♀, 11 VIII 2008, 3♀♀, 10 IX 2008, 1♂, 1♀, 30 VI 2009, 1♂, 12 VII 2009, 27♂♂, 28♀♀, 23 VII 2009, 1♂, 9♀♀, 10 VIII 2009, 4♀♀, 25 VIII 2009, 2♀♀, 26 VII 2010, 1♂, 3♀♀, 11 VIII 2010, 1♂, 2♀♀, 23 VIII 2010, 1♀; **(19)** – 10 VII 2005, 1♂, 1♀, 7 IX 2005, 2♀♀, 10 VII 2006, 2♀♀, 25 VII 2006, 1♂, 1♀, 9 VIII 2006, 1♂, 1♀, 22 VI 2007, 1♂, 7 VII 2007, 6♂♂, 9♀♀, 22 VII 2007, 4♂♂, 6♀♀, 6 VIII 2007, 1♂, 5♀♀, 20 VIII 2007, 3♀♀; **(20)** – 25 VI 2006, 1♀, 7 VII 2006, 1♂, 3♀♀, 26 VII 2006, 4♂♂, 4♀♀, 10 IX 2006, 1♂, 9 VII 2007, 2♂♂, 1♀, 23 VII 2007, 1♂, 3♀♀, 22 VIII 2007, 1♂, 21 IX 2007, 1♂, 1♀, 9 VII 2008, 1♂, 1♀, 24 VII 2008, 1♂, 2♀♀, 7 VIII 2008, 1♀; **(21)** – 7 IX 2007, 1♀; **(22)** – 30 VIII 2008, 1♂, 1♀, 9 IX 2008, 1♀; **(23)** – 7 IX 2006, 1♀; **(30)** – 10 VII 2006, 1♀, 9 VI 2007, 1 larva, 22 VI 2007, 1♂, 7 VII 2007, 2♂♂, 2♀♀, 23 VII 2007, 2♂♂, 5♀♀, 8 VIII 2007, 1♂, 2♀♀, 23 VIII 2007, 2♀♀, 8 IX 2007, 1♂, 22 IX 2007, 2♀♀, 11 VII 2008, 4♂♂, 2♀♀, 12 VIII 2008, 4♀♀; **(33)** – 22 VII 2007, 1♀; **(35)** – 12 VII 2009, 2♂♂, 2♀♀, 23 VII 2009, 1♂.

#### Subfamilia Evacanthinae CRUMB, 1911

##### *Evacanthus interruptus* (LINNAEUS, 1758)

Trans-Palaearctic – widespread – mesophilous, pol., mainly on Asteraceae; woodlands, meadows; egg; 1 gen. – urbiceneutral

**(3)** – 20 VII 2006, 1♀; **(14)** – 26 VII 2008, 1♀.

#### Subfamilia Typhlocybinae KIRSCHBAUM, 1868

##### Tribus ALEBRINI Mc ATEE, 1926

##### *Alebra albostriella* (FALLÉN, 1826)

European – widespread and common – mesophilous; olig., *Quercus robur*, *Alnus*, *Betula*; woodlands-city parks, scrublands; egg; 1 gen. – urbiceneutral

**(13)** – 22 VI 2006, 2♂♂, 12 VII 2006, 2♂♂, 20 VII 2006, 3♀♀, 12 VIII 2006, 4♀♀, 21 VI 2007, 3♂♂, 2♀♀, 6 VII 2007, 4♂♂, 5♀♀, 31 VII 2007, 3♀♀, 12 VIII 2007, 1♂, 4♀♀, 25

VIII 2007, 2♀♀, all on *Quercus robur*; (32) – 6 VII 2006, 1♂, 1 VII 2007, 1♀ / 28 VI 2006, 1♂, 1♀, 6 VII 2006, 2♂♂, 4♀♀, 17 VII 2006, 3♀♀, 17 VII 2006, 3♂♂, 3♀♀, 12 IX 2006, 2♀♀, 1 VII 2007, 1♂, all on *Quercus robur*; (33) – 25 VI 2006, 1♀, 17 VII 2006, 1♀, 19 VI 2007, 2♂♂, 3♀♀, 1 VII 2007, 1♂, 3♀♀, 7 VIII 2007, 1♀ / 17 VII 2006, 1♂, 3♀♀, 15 VIII 2006, 2♀♀, all on *Quercus robur*.

### ***Alebra neglecta* WAGNER, 1940**

Euro-Siberian? – rare – mesophilous; pol.?; woodlands (margins), grassy vegetation; egg; 1 gen. – urbiceneutral

(13) – 22 VI 2006, 1♂, on *Quercus robur*, 22 VI 2006, 1♂, on *Tilia cordata*, 9 VI 2008, 1♂, 1♀, 22 VI 2008, 11♂♂, 15♀♀, all on *Carpinus betulus* (hedge).

### ***Alebra wahlbergi* (BOHEMAN, 1845)**

European – widespread – mesophilous; pol.; woodlands; egg; 1 gen. – urbiceneutral (eurytopic)

(5) – 9 VII 2007, 1♂, 23 VII 2007, 2♀♀ 30 VII 2008, 3♀♀, all on *Alnus glutinosa*; (13) – 22 VI 2006, 18♂♂, 16♀♀, 12 VII 2006, 3♀♀, 20 VII 2006, 2♂♂, 2♀♀, 12 VIII 2006, 1♀, all on *Tilia cordata*; (31) – 26 VI 2008, 1♂, on *Ulmus* sp.; (32) – 23 VI 2006, 1♂, 1♀, 6 VII 2006, 1♀, 1 VII 2007, 4♂♂, 7♀♀, all on *Tilia cordata*.

## Tribus DIKRANEURINI Mc ATTEE, 1926

### ***Erythria aureola* (FALLÉN, 1806)**

European – widespread and common – xerophilous, heliophilous; olig., preferably on *Calluna vulgaris* and *Thymus*; steppe-like grasslands, meadows; egg; 2(-3?) gen. – urbiceneutral

(7) – 8 VIII 2009, 1♂, 25 VIII 2009, 1♂; (27) – 24 V 2006, 3♂♂, 4♀♀, 7 VI 2006, 1♂, 3♀♀, 25 VI 2006, 2♀♀, 24 VIII 2006, 2♂♂, 10 IX 2006 1♂, 1♀, 29 V 2007, 5♂♂, 3♀♀, 8 VI 2007, 4♀♀, 23 VI 2007, 1♂, 3♀♀, 6 VIII 2007, 1♂, 7 IX 2007, 1♂, 2♀♀, 9 VI 2008, 3♀♀, 26 VI 2008, 3♀♀, 30 VIII 2008, 1♂, 1♀, 9 IX 2008, 1♂, 26 IX 2008, 2♂♂, 9 X 2008, 2♀♀; (28) – 6 VII 2005, 1♂.

### ***Emelyanoviana mollicula* (BOHEMAN, 1845)**

Western Palearctic – widespread – xerophilous, heliophilous; pol., mainly on Lamiaceae and *Verbascum*; steppe-like grasslands, meadows, anthropogenic vegetation; egg (occasionally adult); 2 gen. – urbiceneutral

(7) – 8 VIII 2006, 1♂, 1♀, 24 IX 2006, 1♂, 25 VIII 2008, 1♀, 22 IX 2009, 1♂, 2♀♀; (11) – 7 VI 2008, 1♂; (12) – 10 VI 2006, 1♂; (13) – 12 VIII 2006, 1♂; (21) – 10 X 2008, 1♂, 1♀; (22) – 25 V 2005, 1♂, 22 VII 2008, 1♀; (23) – 22 VII 2007, 1♂, 23 VI 2008, 1♂, 7 VII 2008, 1♀; (26) – 24 V 2006, 2♂♂, 1♀, 8 VI 2006, 1♀, 9 X 2006, 1♂, 1♀, 24 VI 2007, 1♂, 1♀, 20 VII

2007, 2♂♂, 25 V 2008, 1♂, 7 VI 2008, 2♂♂, 2♀♀, 28 VII 2008, 3♂♂, 10 VIII 2008, 2♂♂, 1♀, 26 VIII 2008, 1♂, 26 IX 2008, 4♂♂, 1♀, 9 X 2008, 1♂, 1♀; **(27)** – 9 V 2006, 1♂, 3♀♀, 24 V 2006, 1♂, 7 VI 2006, 1♂, 1♀, 24 VII 2006, 1♂, 3♀♀, 8 VIII 2006, 2♂♂, 1♀, 24 VIII 2006, 1♂, 10 IX 2006, 4♂♂, 2♀♀, 26 IX 2006, 2♀♀, 8 X 2006, 2♂♂, 1♀, 19 V 2007, 2♂♂, 3♀♀, 29 V 2007, 1♂, 1♀, 8 VI 2007, 1♂, 22 VII 2007, 2♂♂, 1♀, 6 VIII 2007, 1♂, 3♀♀, 7 IX 2007, 3♂♂, 2♀♀, 21 IX 2007, 3♂♂, 2♀♀, 25 V 2008, 1♂, 9 VI 2008, 2♂♂, 5♀♀, 10 VIII 2008, 1♂, 1♀, 26 VIII 2008, 1♀, 9 IX 2008, 5♂♂, 4♀♀, 26 IX 2008, 3♂♂, 3♀♀, 9 X 2008, 3♂♂, 1♀; **(28)** – 18 V 2005, 1♂, 19 VIII 2005, 1♂, 21 IX 2005, 1♀, 24 IX 2007, 1♂; **(29)** – 25 V 2005, 1♀, 21 IX 2005, 1♀, 5 X 2005, 1♂, 9 IX 2006, 1♂, 24 IX 2006, 1♂, 1♀, 6 X 2007, 1♀; **(34)** – 22 IX 2009, 1♂.

### ***Dikraneura variata* HARDY, 1850**

Holarctic? – widespread – mesophilous?; olig., Poaceae, preferably *Deschampsia flexuosa*; woodlands, steppe-like grasslands; egg; 2 gen. – urbiceneutral?

**(5)** – 11 X 2008, 1♀; **(6)** – 8 VI 2006, 1♀; **(7)** – 25 VI 2008, 1♀, 25 VIII 2008, 1♂; **(21)** – 26 IX 2008, 1♂; **(30)** – 9 V 2006, 1♂, 3 VII 2007, 1♂, 8 IX 2007, 1♂, 20 IX 2007, 1♀, 10 V 2008, 1♀, 28 VI 2008, 1♂; **(34)** – 10 V 2006, 1♂, 25 VI 2006, 3♀♀, 6 VII 2006, 1♂, 2♀♀, 17 VII 2006, 2♂♂, 5♀♀, 7 X 2006, 1♀, 10 X 2008, 1♀.

### ***Micantulina stigmatipennis* (MULSANT et REY, 1855)**

Western Palaearctic – rare – xerophilous, heliophilous; m1, *Verbascum lychnitis*; steppe-like grasslands; egg; 2 gen. – urbiceneutral (Fig. 35b)

Published records from Częstochowa (WALCZAK 2011): **(2)** – 05 VI 2007, 1♀. New records: **(7)** – 25 VIII 2008, 1♂, 26 IX 2008, 1♂; **(22)** – 2 IX 2007, 1♂, 26 IX 2007, 1♂, 07 VI 2008, 2♂♂, 8 IX 2008, 1♂, 26 IX 2008, 1♂; **(26)** – 26 IX 2008, 2♂♂; **(27)** – 24 V 2007, 1♂, 1♀, 7 VIII 2007, 2♂♂, 9 VI 2008, 1♂, 25 VIII 2008, 1♂, 26 IX 2008, 1♂.

Very rare species in Poland, so far known only from: Pomeranian Lake District – Bielinek (HAUPT 1931, 1934), Krakowsko-Wieluńska Upland – Olsztyn (ŚWIERCZEWSKI 2004, ŚWIERCZEWSKI & GĘBICKI 2004), Częstochowa (WALCZAK 2011) and Lubelska Upland (GĘBICKI et al. 2013) (Fig. 10).

## Tribus FORCIPATINI HAMILTON, 1998

### ***Forcipata citrinella* (ZETTERSTEDT, 1828)**

Siberian? – widespread – higrophilous; m2, *Carex*; meadows, mires-swamps; egg; 2 gen. – urbiceneutral

**(4)** – 21 IX 2007, 1♀; **(5)** – 6 X 2005, 1♀, 11 IX 2008, 1♂, 11 X 2008, 1♀; **(7)** – 9 VI 2009, 1♀; **(9)** – 28 IX 2007, 1♀; **(10)** – 8 IX 2007, 1♂, 20 IX 2007, 1♀, 27 V 2008, 1♂, 1♀, 28 VIII 2008, 1♂; **(11)** – 7 VI 2008, 1♀; **(12)** – 12 VII 2006, 1♀, 21 VIII 2006, 1♀, 9 X 2006, 1♀, 21 VI 2007, 1♀; **(14)** – 10 VI 2008, 4♂♂, 26 VI 2008, 1♂, 11 VII 2008, 1♀, 26 VIII 2008, 3♂♂,

3♀♀, 10 IX 2008, 4♂♂, 6♀♀, 26 IX 2008, 1♂, 1♀, 10 VIII 2009, 1♂, 25 VIII 2009, 5♂♂, 3♀♀, 9 IX 2009, 11♂♂, 14♀♀, 22 IX 2009, 4♂♂, 19♀♀, 26 VI 2010, 1♀, 11 VIII 2010, 2♂♂, 1♀, 23 VIII 2010, 1♂, 11 IX 2010, 3♂♂, 5♀♀, 23 IX 2010, 1♂, 1♀; **(15)** – 26 VIII 2008, 1♂, 1 X 2008, 1♀; **(16)** – 9 VI 2006, 1♀, 26 VI 2006, 1♂, 2♀♀, 10 IX 2006, 1♀, 25 IX 2006, 1♀, 12 X 2006, 1♀, 26 VI 2007, 1♂, 2♀♀, 24 VII 2007, 2♂♂, 1♀, 25 VIII 2007, 1♀, 9 IX 2007, 1♂, 1♀, 23 IX 2007, 1♀, 9 VI 2008, 2♂♂, 2♀♀, 25 VI 2008, 1♂, 23 VII 2008, 1♀, 10 IX 2008, 2♂♂, 1♀, 25 IX 2008, 1♂, 3♀♀, 10 X 2008, 1♂; **(17)** – 26 VIII 2008, 1♀; **(18)** – 26 VIII 2008, 2♂♂, 10 IX 2008, 3♂♂, 2♀♀, 9 IX 2009, 1♀, 22 IX 2009, 2♂♂, 12 VI 2010, 1♂, 23 VIII 2010, 1♂, 11 IX 2010, 1♂, 1♀, 23 IX 2010, 1♂; **(19)** – 7 IX 2005, 1♂, 26 IX 2005, 1♂, 1♀, 10 X 2005, 1♂, 4♀♀, 18 VIII 2006, 1♀, 10 IX 2006, 1♂, 2♀♀, 25 IX 2006, 1♀, 12 X 2006, 5♂♂, 1♀, 11 VI 2007, 1♂, 3♀♀, 6 VIII 2007, 1♀, 20 VIII 2007, 3♂♂, 8 IX 2007, 2♂♂, 20 IX 2007, 1♂, 1♀, 8 X 2007, 1♂; **(20)** – 10 VIII 2006, 1♂, 22 VIII 2007, 1♂, 7 VIII 2008, 1♂, 1♀; **(22)** – 30 VIII 2008, 1♀; **(30)** – 8 IX 2007, 1♂, 28 VI 2008, 1♂, 11 VII 2008, 1♀, 28 VII 2008, 1♀, 29 VIII 2008, 2♀♀.

### *Forcipata forcipata* (FLOR, 1861)

Siberian? – rare – higrophilous; pol., quite frequent on *Carex*; woodlands, meadows; egg; 2 gen. – urbiceneutral

**(30)** – 8 VI 2006, 1♂, 1♀, 24 VIII 2006, 2♂♂, 1♀, 8 IX 2006, 1♀, 24 IX 2006, 2♂♂, 2♀♀, 5 VI 2007, 2♂♂, 2♀♀, 22 VI 2007, 2♂♂, 6♀♀, 8 VIII 2007, 2♂♂, 23 VIII 2007, 7♂♂, 7♀♀, 8 IX 2007, 4♂♂, 7♀♀, 22 IX 2007, 1♂, 4♀♀, 9 VI 2008, 1♀, 10 IX 2008, 1♂, 2♀♀, 29 IX 2008, 1♂; **(31)** – 8 VIII 2006, 1♂, 2♀♀, 24 VIII 2006, 3♂♂, 3♀♀, 10 IX 2006, 2♀♀, 25 V 2007, 1♂, 16 IX 2007, 1♀, 10 VI 2008, 1♀, 11 VII 2008, 1♀, 29 VII 2008, 1♂, 1♀, 31 VIII 2008, 1♂, 4♀♀; **(32)** – 25 VIII 2005, 1♂, 1♀, 10 IX 2005, 1♀, 22 IX 2005, 1♀, 10 IX 2006, 2♀♀, 23 VIII 2007, 1, 2 IX 2007, 1♀, 17 IX 2007, 1♀, 1 X 2007, 1♀; **(33)** – 10 VI 2006, 1♂; **(34)** – 25 VI 2006, 6♀♀, 6 VII 2006, 4♀♀, 17 VII 2006, 1♀, 15 VIII 2006, 1♂, 10 IX 2006, 1♂, 23 VI 2008, 3♂♂, 2♀♀, 10 VII 2008, 2♀♀, 24 VII 2008, 1♀, 8 VIII 2008, 1♂, 1♀, 30 VI 2009, 2♀♀, 12 VII 2009, 1♀, 23 VII 2009, 1♀, 25 VIII 2009, 4♂♂, 1♀; **(35)** – 9 VI 2008, 1♂, 1♀, 9 VII 2008, 1♂, 2♀♀, 26 VII 2008, 2♂♂, 1♀, 25 VIII 2008, 4♂♂, 1♀, 11 VI 2009, 1♂, 26 VI 2009, 1♂, 3♀♀, 10 VIII 2009, 1♀, 25 VIII 2009, 2♂♂, 2♀♀, 9 IX 2009, 2♂♂, 1♀, 12 VI 2010, 1♂, 26 VI 2010, 1♂, 10 VII 2010, 1♀, 11 VIII 2010, 2♂♂, 23 VIII 2010, 3♂♂, 2♀♀, 11 IX 2010, 1♀, 23 IX 2010, 2♀♀.

### *Notus flavipennis* (ZETTERSTEDT, 1828)

Euro-Siberian – widespread – higrophilous, olig., quite frequent on *Carex*; meadows, mireswamps; egg; 2 gen. – urbiceneutral

**(5)** – 27 V 2005, 2♂♂, 1♀, 8 VI 2005, 1♀, 17 VI 2005, 2♀♀, 13 VII 2005, 1♀, 7 VIII 2005, 1♂, 22 VIII 2005, 2♂♂, 4 IX 2005, 2♂♂, 1♀, 24 IX 2005, 1♂, 1♀, 5 VI 2007, 9♂♂, 5♀♀, 23 VII 2007, 1♂, 1♀, 17 VIII 2007, 2♀♀, 3 IX 2007, 1♀, 26 V 2008, 2♂♂, 10 VI 2008, 2♀♀, 26 VI 2008, 1♀, 11 VIII 2008, 3♀♀; **(6)** – 23 VII 2005, 5♂♂, 8♀♀, 7 VIII 2005, 5♂♂, 4♀♀, 19 VIII 2005, 1♂, 3♀♀, 9 IX 2005, 4♂♂, 3♀♀, 21 IX 2005, 1♂, 2♀♀, 7 VII 2006, 1♂, 1♀, 23 VII 2006, 1♂, 2♀♀, 8 VIII 2006, 4♂♂, 5♀♀, 23 VIII 2006, 2♂♂, 5♀♀, 10 IX 2006, 5♂♂, 5♀♀, 25 IX 2006, 3♂♂, 5♀♀, 9 X 2006, 2♀♀, 25 V 2008, 2♂♂, 9 VI 2008,

9♂♂, 16♀♀, 26 VI 2008, 1♂, 14♀♀, 9 VII 2008, 2♂♂, 19♀♀, 26 VII 2008, 4♂♂, 9♀♀, 10 VIII 2008, 18♂♂, 19♀♀, 26 VIII 2008, 35♂♂, 50♀♀, 9 IX 2008, 35♂♂, 46♀♀, 26 IX 2008, 9♂♂, 17♀♀, 9 X 2008, 3♂♂, 9♀♀; **(10)** – 12 VIII 2008, 1♂; **(14)** – 10 VI 2008, 1♂, 1♀, 26 VI 2008, 1♀, 11 VIII 2008, 2♂♂, 1♀, 26 VIII 2008, 5♂♂, 6♀♀, 10 IX 2008, 1♀, 11 VI 2009, 1♀, 30 VI 2009, 1♀, 10 VIII 2009, 1♂, 25 VIII 2009, 3♀♀, 9 IX 2009, 2♂♂, 5♀♀, 11 VIII 2010, 1♂, 13 X 2010, 1♂, 1♀; **(15)** – 27 V 2008, 5♂♂, 6♀♀, 10 VI 2008, 3♂♂, 4♀♀, 26 VI 2008, 1♀, 11 VII 2008, 3♀♀, 25 VII 2008, 5♂♂, 6♀♀, 11 VIII 2008, 3♂♂, 4♀♀, 26 VIII 2008, 15♂♂, 36♀♀, 11 IX 2008, 4♂♂, 12♀♀, 28 IX 2008, 4♂♂, 1♀, 9 X 2008, 2♂♂, 10♀♀, 10 VI 2009, 1♂, 9♀♀, 26 VI 2009, 6♀♀, 12 VII 2009, 1♀, 23 VII 2009, 6♂♂, 14♀♀, 8 VIII 2009, 3♂♂, 7♀♀, 25 VIII 2009, 8♂♂, 17♀♀, 9 IX 2009, 1♂, 18♀♀, 23 IX 2009, 3♂♂, 5♀♀, 12 VI 2010, 2♂♂, 26 VI 2010, 1♀, 10 VII 2010, 2♀♀, 30 VII 2010, 3♂♂, 3♀♀, 11 VIII 2010, 13♂♂, 9♀♀, 23 VIII 2010, 4♂♂, 3♀♀, 23 IX 2010, 8♂♂, 6♀♀; **(16)** – 23 VII 2006, 1♀; **(17)** – 9 VI 2008, 6♂♂, 6♀♀, 26 VI 2008, 3♀♀, 11 VII 2008, 2♀♀, 25 VII 2008, 6♂♂, 7♀♀, 11 VIII 2008, 24♂♂, 24♀♀, 26 VIII 2008, 10♂♂, 20♀♀, 11 IX 2008, 2♂♂, 6♀♀, 28 IX 2008, 1♂, 2♀♀, 11 X 2008, 1♀, 25 V 2009, 2♂♂, 9 VI 2009, 3♂♂, 2♀♀, 26 VI 2009, 4♀♀, 12 VII 2009, 2♀♀, 23 VII 2009, 6♂♂, 7♀♀, 8 VIII 2009, 29♂♂, 31♀♀, 25 VIII 2009, 29, 9 IX 2009, 6♂♂, 17♀♀, 23 IX 2009, 4♂♂, 11♀♀, 12 VI 2010, 1♂, 1♀, 26 VI 2010, 6♀♀, 10 VII 2010, 1♂, 7♀♀, 25 VII 2010, 9♀♀, 11 VIII 2010, 5♂♂, 4♀♀, 23 VIII 2010, 9♂♂, 17♀♀, 11 IX 2010, 5♂♂, 2♀♀, 23 IX 2010, 7♀♀; **(18)** – 26 V 2008, 1♂, 1♀, 10 VI 2008, 1♂, 4♀♀, 26 VI 2008, 3♂♂, 2♀♀, 11 VII 2008, 1♂, 26 VII 2008, 1♂, 1♀, 11 VIII 2008, 17♂♂, 12♀♀, 26 VIII 2008, 26♂♂, 39♀♀, 10 IX 2008, 19♂♂, 20♀♀, 26 IX 2008, 7♂♂, 6♀♀, 10 X 2008, 1♀, 26 V 2009, 1♂, 11 VI 2009, 9♂♂, 7♀♀, 30 VI 2009, 2♂♂, 7♀♀, 12 VII 2009, 2♂♂, 23 VII 2009, 2♂♂, 2♀♀, 10 VIII 2009, 38♂♂, 24♀♀, 25 VIII 2009, 25♂♂, 26♀♀, 9 IX 2009, 22♂♂, 22♀♀, 22 IX 2009, 5♂♂, 4♀♀, 12 VI 2010, 1♂, 1♀, 26 VI 2010, 1♀, 10 VII 2010, 2♀♀, 26 VII 2010, 3♂♂, 2♀♀, 11 VIII 2010, 4♂♂, 10♀♀, 23 VIII 2010, 7♂♂, 16♀♀, 11 IX 2010, 9♂♂, 5♀♀, 23 IX 2010, 1♂, 5♀♀, 9 IX 2010, 1♂; **(19)** – 10 VIII 2005, 1♂, 25 VIII 2005, 1♀, 7 IX 2005, 1♂, 1♀, 11 X 2006, 1♂, 2♀♀, 20 VIII 2007, 1♀; **(20)** – 10 VI 2006, 1♀, 26 VI 2006, 1♂, 26 VII 2006, 5♂♂, 4♀♀, 10 VIII 2006, 1♂, 3♀♀, 10 IX 2006, 4♀♀, 25 IX 2006, 2♂♂, 2♀♀, 9 X 2006, 1♀, 21 V 2007, 2♀♀, 5 VI 2007, 3♂♂, 4♀♀, 23 VII 2007, 1♂, 2♀♀, 8 VIII 2007, 1♀, 22 VIII 2007, 2♂♂, 22 V 2008, 2♂♂, 8 VI 2008, 1♂, 2♀♀, 25 VI 2008, 1♀, 24 VII 2008, 4♂♂, 7♀♀, 7 VIII 2008, 4♂♂, 2♀♀, 23 VIII 2008, 3♂♂, 2♀♀, 7 IX 2008, 1♂, 1♀; **(22)** – 26 VI 2008, 1♂; **(34)** – 10 VI 2006, 1♀.

Tribus ERYTHRONEURINI YOUNG, 1952

*Alnetoidia alneti* (DAHLBOM, 1850)

Euro-Siberian – widespread and common – mesophilous; pol., deciduous trees and shrubs, quite frequent on *Alnus glutinosa* and *A. incana*; scrublands; egg; 2 gen. – urbiceneutral

**(5)** – 20 VI 2007, 1♂, 23 VII 2007, 1♂, 2♀♀, 7 VIII 2007, 1♀, 21 VIII 2007, 1♀, 28 XI 2007, 1♀, 28 VI 2008, 1♂, 1♀, 30 VII 2008, 1♂, 4♀♀, 15 VIII 2008, 1♀, 26 VIII 2008, 1♀, 28 XI 2008, 1♀, all on *Alnus glutinosa*; **(13)** – 22 VI 2006, 3♂♂, 11♀♀, 20 VII 2006, 4♂♂, 13♀♀, 12 VIII 2006, 3♀♀, 21 VIII 2006, 1♀, 14 XI 2006, 2♀♀, all on *Tilia cordata*, 9 VI 2007, 1♂, on *Carpinus betulus*, 29 VI 2007, 1♂, on *Acer pseudoplatanus*; **(31)** – 25 VI 2006, 1♂, 29 VI 2008, 1♂, 1♀; **(32)** – 15 VIII 2006, 1♂, 8 VI 2007, 1♀, all on *Tilia cordata*; **(34)** – 7 X 2006, 1♀, 24 IX 2008, 1♀; **(35)** – 11 VI 2009, 1♀.



### ***Zyginidia pullula* (BOHEMAN, 1845)**

Western Palaearctic – rare – xerophilous, heliophilous; olig., Poaceae; steppe-like grasslands; adult; 2(?) gen. – urbicenophilous (Fig. 35c)

Published records from Częstochowa; reported as new species to the fauna of Poland and KFP region – Krakowsko-Wieluńska Upland (ŚWIERCZEWSKI & WALCZAK 2011): **(16)** – 27 V 2005, 1♂; **(22)** – 5.10.2005, 1♂. New records: **(3)** – 25 VIII 2008, 1♀; **(4)** – 19 VIII 2006, 1♂; **(7)** – 25 VIII 2008, 1♀, 26 IX 2008, 1♀; **(8)** – 21 IX 2007, 1♂, 10 VIII 2008, 1♀; **(9)** – 7 VI 2007, 1♀, 10 IX 2008, 1♂; **(10)** – 8 VIII 2007, 3♀♀, 23 VIII 2007, 1♂, 2♀♀, 1 X 2007, 1♀; **(11)** – 17 VII 2007, 2♀♀, 31 VII 2007, 1♂; **(13)** – 10 IX 2008, 1♀; **(14)** – 22 IX 2009, 1♂, 11 VIII 2010, 1♀; **(16)** – 24 VIII 2006, 1♀, 8 VIII 2008 1♀; **(19)** – 10 IX 2006, 1♂, 11 X 2006, 2♀♀, 19 V 2007, 1♀; **(21)** – 21 VIII 2006, 1♀, 11 VI 2007, 1♀, 22 VII 2007, 2♂♂, 7 IX 2007, 1♀, 26 IX 2007, 1♂, 29 VII 2008, 2♂♂, 8 VIII 2008, 1♂, 8 IX 2008, 1♂, 10 X 2008, 1♂, **(22)** – 6 VIII 2007, 1♂, 2♀♀, 6 IX 2007, 3♂♂, 3♀♀, 21 IX 2007, 3♂♂, 3♀♀, 5 X 2007 3♀♀; **(23)** – 6 VIII 2007, 1♀, 22 VIII 2007, 1♀, 7 IX 2007, 2♂♂, 4♀♀, 9 X 2007, 1♂, 2♀♀; **(24)** – 25 V 2007, 1♀, 9 VIII 2007, 1♂, 22 IX 2007, 1♀, 7 X 2007, 4♂♂, 1♀; **(25)** – 11 IX 2006, 1♀, 26 VII 2007, 1♂, 10 VIII 2007, 1♀, 11 IX 2007, 2♂♂.

The species was also recorded in Upper Silesia – Zabrze, Oświęcim-Brzezinka (ŚWIERCZEWSKI & WALCZAK 2011), Turza, Kalety (ŚWIERCZEWSKI & BŁASZCZYK 2011), Góra Siewierska, Klucze, Świerklaniec, Piekary Śląskie, Bytom (MUSIK 2016), Racibórz and Tworóg Mały (JUNKIERT 2016) (Fig. 11). According to NAST (1976a), this species was erroneously recorded for the country (Pomeranian Lake District) by METCALF (1968), and this error was repeated by DWORAKOWSKA (1970d). Although reported from neighbouring countries, there has been no confirmed record for Poland until 2011.

### ***Zygina angusta* LETHIERRY, 1874**

Euro-Siberian? – widespread and common – mesophilous; olig., quite frequent on *Crataegus*; scrublands; adult, on Coniferae; 1 gen. – urbiceneutral

**(13)** – 12 VIII 2006, 1♀, 24 VIII 2006, 1♀, 14 IX 2006, 1♂, 2♀♀, 26 IX 2006, 1♀, 8 X 2006, 1♂, on *Quercus robur*; **(29)** – 21 IX 2005, 1♂, 1♀ (var. *moesta*), 7 VIII 2007, 1♀; **(33)** – 21 IX 2006, 1♂, 2♀♀, 1 X 2007, 1♀; **(34)** – 10 IX 2006, 1♀; **(35)** – 25 VIII 2010, 1♂, 1♀, 23 IX 2010, 1♂, 1♀.

### ***Zygina flammigera* (GEOFFROY, 1785)**

Euro-Siberian – widespread and common – mesophilous; olig., Rosaceae; scrublands; adult, on *Picea*; 1 gen. – urbicenophilous?

**(10)** – 3 VII 2007, 1♂; **(13)** – 20 VII 2006, 2♂♂, 12 VIII 2006, 2♂♂, 1♀, 24 VIII 2006, 1♂, 1♀, 14 IX 2006, 1♂, 8 X 2006, 2♂♂, 5♀♀, on *Quercus robur*; **(30)** – 29 IX 2008, 1♂, 2♀♀; **(31)** – 29 VIII 2007, 1♂; **(32)** – 9 VIII 2006, 1♀; **(33)** – 5 X 2005, 1♂ (var. *rubrinervis*), 10 VI 2006, 1♀, 15 VIII 2006, 1♀, on *Malus domestica*, 1 X 2007, 1♀; **(34)** – 10 VI 2006, 1♀, 10 IX 2006, 1♀, 25 VIII 2009, 1♂.

### ***Zygina griseombra* REMANE, 1994**

European? – rare – mesophilous; m1, *Carpinus betulus*; scrublands; adult, on Coniferae; 1 gen. – urbiceno xenic (Fig. 35d)

(31) – 30 IX 2011, 1 ♀, on *Crataegus* sp.

Reported as new to the fauna of Poland and KFP region – Krakowsko-Wieluńska Upland by WALCZAK et al. (2014); recently also recorded in Upper Silesia – Dąbrowa Górnicza (MUSIK 2016) (Fig. 12).

The species is distributed mainly in central Europe, with records from Austria, France, Czech Republic, Germany, Switzerland and northern Italy (NICKEL 2003).

### ***Zygina ordinaria* (RIBAUT, 1936)**

Euro-Siberian? – widespread – hygrophilous; m2, *Salix*, mainly narrow-leaved species; woodlands (riparian); adult; 1 gen. – urbiceno xenic

(15) – 10 VIII 2012, 1 ♀ det. Igor Malenovský, on *Salix alba*.

### ***Zygina schneideri* (GÜNTHARDT, 1974)**

European? – rare – xerothermophilous, heliophilous; olig., Rosaceae; scrublands; adult; 1(?) gen. – urbiceno xenic (Fig. 35e)

Published records from Częstochowa; reported as new species to the fauna of Poland and KFP region – Krakowsko-Wieluńska Upland (ŚWIERCZEWSKI & WALCZAK 2011): (28) – 8 X 2005, 3 ♂♂, 5 ♀♀, all on *Rosa canina*, det. Cezary Gębicki, rev. Igor Malenovský. New records: (13) – 6 IX 2016, 1 ♀, on *Rosa canina*; (27) – 23 IX 2011, 2 ♂♂, 8 ♀♀, all on *Prunus spinosa*.

The species is also known from Wielkopolsko-Kujawska Lowland – Kórnik (GĘBICKI et al. 2013: identified as *Z. flammigera* in the paper by SOIKA & ŁABANOWSKI 2004), Małopolska Upland – ‘Murawy Dobromierskie’ Nature Reserve near Dobromierz (ŚWIERCZEWSKI & STROIŃSKI 2011b) an Mazovian Lowland – Warszawa (GĘBICKI et al. 2013: identified as *Z. flammigera* in the paper by SOIKA & ŁABANOWSKI 2004) and recently Upper Silesia – Bukowno, Dąbrowa Górnicza, Piekary Śląskie and Radzionków (MUSIK 2016) (Fig. 13).

The species was discovered and described quite recently in Switzerland (GÜNTHART 1974); since that time it has also been reported from many European countries, which suggests that it is apparently widespread in Europe (NICKEL 2003).

### ***Zygina suavis* REY, 1891**

Euro-Siberian? – rare – mesophilous; m2, *Frangula alnus*, *Rhamnus cathartica*; scrublands; adult, on *Picea abies*; 1(?) gen. – urbiceno xenic

(5) – 26 VIII 2008, 1 ♂; (13) – 21 VI 2007, 1 ♂, on *Quercus robur*; (14) – 13 X 2010, 1 ♀; (32) – 21 IX 2005, 1 ♂, 1 ♀, 6 X 2007, 1 ♀, all on *Quercus robur*.

The species was reported as new to KFP region – Krakowsko-Wieluńska Upland by WALCZAK et al. (2014). The species is known from a few localities in Poland, so far reported from: Baltic Coast – Sopot (MATSUMURA 1906), Słupsk (WAGNER 1941), Pomeranian Lake District – Szczecin (WAGNER 1941), Bielinek (ENGEL 1938), Upper Silesia – vicinity of ‘Katowice’ ironworks (GĘBICKI et al. 1977, KLIMASZEWSKI et al. 1980a, 1980b), Sosnowiec (WALCZAK 2005), Blachownia near Częstochowa (ŚWIERCZEWSKI et al. 2012), Małopolska Upland – Włochy, Młodzawy near Pińczów (GĘBICKI 1983).

### ***Zygina tiliae* (FALLÉN, 1806)**

European – widespread – mesophilous; olig., *Alnus*, *Tilia*; scrublands; adult; 1(?) gen. – urbicenoxenic

(10) – 27 V 2008, 1♂, on *Tilia* sp.

### ***Zygina hyperici* (HERRICH-SCHÄFFER, 1836)**

Western Palaearctic – widespread and common – mesophilous, heliophilous; m1, *Hypericum perforatum*; meadows; egg; 2 gen. – urbicenophilous?

(1) – 26 VI 2010, 1♀; (7) – 24 IX 2006, 2♀♀, 9 IX 2009, 1♀, 22 IX 2009, 1♀; (9) – 29 VII 2008, 1♂, 1♀; (24) – 12 VIII 2006, 1♀; (26) – 7 IX 2007, 2♀♀, 28 VII 2008, 4♂♂, 26 IX 2008, 1♀; (27) – 9 VII 2006, 1♂, 1♀, 17 IX 2007, 1♂, 26 VI 2008, 1♀, 9 VII 2008, 1♀; (28) – 19 V 2007, 2♂♂; (33) – 12 IX 2006, 2♀♀; (34) – 7 X 2006, 1♂.

### ***Arboridia velata* (RIBAUT, 1952)**

Southern European – rare – mesophilous, thermophilous, heliophilous; m2?, *Quercus*; scrublands; adult; 1 gen. – urbicenoxenic

(13) – 12 VIII 2006, 1♂, 1♀, 24 VIII 2006, 1♂, 2♀♀, 14 IX 2006, 1♂, 2♀♀, 8 X 2006, 1♀, 31 VII 2007, 2♂♂, 1♀, all on *Quercus robur*; (30) – 11 X 2008, 1♂; (32) – 10 VI 2006, 1♀ / 15 VIII 2006, 1♀, on *Quercus robur*, 14 V 2006, 1♀, on *Tilia* sp.; (33) – 15 VIII 2006, 1♀, on *Quercus robur*; (34) – 8 VIII 2009, 1♂, 9 IX 2009, 1♂; (35) – 23 VIII 2010, 1♂, 1♀.

The species was reported as new to KFP region – Krakowsko-Wieluńska Upland by ŚWIERCZEWSKI & BŁASZCZYK (2013). In Poland, the species has been known so far from six localities: Wielkopolsko-Kujawska Lowland – vicinity of Poznań (DWORAKOWSKA 1970c), Mazovian Lowland – Piaseczno (NAST 1938), Białowieża Forest (GĘBICKI et al. 2013), Upper Silesia – Mysłówice (ŚWIERCZEWSKI & GĘBICKI 2003, WALCZAK 2005), ‘Dębowa Góra’ Nature Reserve near Kłobuck (ŚWIERCZEWSKI et al. 2012), Małopolska Upland – ‘Stawki’ Landscape Park (ŚWIERCZEWSKI & BŁASZCZYK 2010), ‘Czarna Rózga’ Nature Reserve near Dobromierz (ŚWIERCZEWSKI & STROIŃSKI 2011b) and Pieniny Mts (GĘBICKI et al. 2013).

***Kybos abstrusus* (LINNAVUORI, 1949)**

Trans-Palaeartic – rare – mesophilous; m1, *Populus nigra*; woodlands (riparian); egg; 2 gen. – urbicenoxyenic

(8) – 28 VI 2009, 1♂, 2♀♀, all on *Populus nigra*.

***Kybos butleri* (EDWARDS, 1908)**

Euro-Siberian – rare – higrophilous; m2, *Salix*; woodlands (riparian); egg; 2 gen. – urbicenoxyenic (Fig. 38g)

(15) – 8 VIII 2009, 1♂, on *Salix* sp.

***Kybos calyculus* (CERUTTI, 1939)**

European? – rare – higrophilous; m1, *Betula pubescens*; woodlands (riparian); egg; 2(?) gen. – urbicenoxyenic (Fig. 35f, Fig. 38h)

(31) – 11 VII 2008, 1♂, on *Betula pubescens*, det. Igor Malenovský.

The species was reported as new to KFP region – Krakowsko-Wieluńska Upland by WALCZAK et al. (2014). So far, the species has only been recorded in Mazovian Lowland – vicinity of Warsaw (GĘBICKI et al. 2013) and Wielkopolsko-Kujawska Lowland – Poznań (DWORAKOWSKA 1976) (Fig. 14).

One of the rarest European species in the genus *Kybos* FIEBER, 1866, also known from Czech Republic, Germany, Switzerland and Great Britain (MÜHLETHALER et al. 2009).

***Kybos lindbergi* (LINNAVUORI, 1951)**

Siberian? – widespread and common – mesophilous; m2, *Betula pendula*, *B. pubescens*, *B. nana*; scrublands; egg; 2 gen. – urbicenoxyenic?

(6) – 26 IX 2008, 1♂, 7♀♀, on *Betula pendula*; (14) – 10 IX 2016, 2♂♂, 7♀♀, on *Betula pendula*; (27) – 20 VIII 2012, 1♂ det. Igor Malenovský, on *Betula pendula*.

***Kybos populi* (EDWARDS, 1908)**

Euro-Siberian – widespread – mesophilous; m2, *Populus*; woodlands (riparian); egg; 2 gen. – urbicenoxyenic

(8) – 28 VI 2009 1♂, 2♀♀, on *Populus tremula*; (30) – 11 VII 2008, 1♂, on *Populus alba*; (31) – 25 VII 2007, 1♂, 7♀♀, 6 X 2007, 1♀, 30 IX 2011, 6♀♀, all on *Populus tremula*; (C) – 10 IX 2012, 5♀♀, on *Populus nigra*.

***Kybos smaragdula* (FALLÉN, 1806)**

Euro-Siberian – widespread and common – higrophilous, heliophilous?; m2, *Alnus glutinosa*, *A. incana*; woodlands (riparian); scrublands; egg; 2 gen. – urbiceneutral

(3) – 30 VI 2007 1♂; (5) – 10 VI 2008, 1♂ / 23 VII 2007, 1♀, 7 VIII 2007, 1♂, 30 VII 2008, 1♀, 11 VIII 2008, 1♀, all on *Alnus glutinosa*; (11) – 9 X 2007, 1♂; (12) – 10 IX 2008, 1♂; (15) – 9 IX 2009, 1♂; (21) – 7 VII 2007, 1♂; (30) – 17 VI 2007, 1♀; (31) – 10 VI 2008, 1♂ det. Igor Malenovský.

***Kybos virgator* (RIBAUT, 1933)**

Euro-Siberian? – widespread – higrophilous; m2, *Salix alba*, *S. fragilis*; woodlands (riparian); egg; 2 gen. – urbiceneutral

(10) – 12 VIII 2008 1♀, on *Salix alba* (erroneously determined and published as *K. smaragdula* – WALCZAK et al. 2014); (11) – 11 VIII 2012, 1♂, on *Salix alba*, det. I. Malenovský; (12) – 10 X 2007, 1♂ (erroneously determined and published as *K. smaragdula* – WALCZAK et al. 2014); (15) – 27 VIII 2012, 2♂♂, 5♀♀, and 3 larvae, det. Igor Malenovský, on *Salix alba*; (30) – 18 VIII 2006, 2♂♂, 7♀♀, 31 VIII 2006, 1♂, 19 IX 2006, 2♂♂, 5♀♀, all on *Salix* sp., 13 X 2006, 1♂, 5♀♀, all on *Tilia* sp.

***Empoasca affinis* NAST, 1937**

Siberian – widespread – mesophilous; pol.; scrublands, meadows; adult (♀♀?); 1(?) gen. – urbiceneutral

(2) – 29 IX 2008, 1♂, 23 IX 2009, 1♂; (9) – 31 VIII 2008, 1♂; (14) – 26 IX 2008, 1♂; (18) – 9 IX 2009, 1♂; (31) – 24 VIII 2016, 3♂♂, 3♀♀, on *Caragana arborescens*; (33) – 19 VI 2007, 1♂; (34) – 10 IX 2006, 1♂.

***Empoasca decipiens* PAOLI, 1930**

Western Palearctic – widespread – mesophilous; pol.; meadows; adult (including♂♂); 2(?) gen. – urbiceneutral (crop pest)

(5) – 17 VIII 2007, 1♂; (13) – 11 VII 2008, 1♀, 28 IX 2008, 1♂; (19) – 20 IX 2007, 1♂; (21) – 8 VIII 2008, 1♂; (31) – 13 VII 2007, 1♂, 2♀♀, 29 VIII 2007, 1♂, 1♀, 16 XI 2007, 1♀, 29 VI 2008, 1♂, 11 VII 2008, 1♂, 28 IX 2008, 1♂, 10 X 2008, 1♀ / 24 VIII 2016, 4♂♂, 4♀♀, on *Sambucus nigra*; (32) – 10 VI 2008, 1♂, 23 VII 2006, 1♂, 2 XI 2007, 2♂♂, 1♀, 17 XI 2007, 2♂♂, 2♀♀, 10 X 2007, 3♀♀ / 17 IX 2007, 1♂, on *Quercus robur*; (33) – 7 X 2006, 3♂♂, all on *Quercus robur*.

***Empoasca pteridis* (DAHLBOM, 1850)**

Western Palearctic – widespread and common – mesophilous; pol.; meadows and other grassy vegetation; egg (also adults?); 2(?) gen. – urbiceneutral (crop pest)

(2) – 19 V 2007, 1♀, 5 VI 2007, 2♀♀, 23 VII 2007, 1♂, 2♀♀, 20 VIII 2007, 1♂, 1♀, 22 IX 2007, 1♀, 28 VI 2008, 2♀♀, 12 VII 2008, 1♂, 28 VII 2008, 1♂, 1♀, 11 IX 2008, 2♂♂, 1♀, 29 IX 2008, 3♀♀, 11 X 2008, 2♀♀, 28 VI 2009, 1♂, 12 VII 2009, 1♂, 1♀, 11 X 2009, 1♀; (3) – 10 VIII 2006, 1♂, 1♀, 11 X 2006, 2♀♀, 11 VI 2007, 2♂♂, 21 VI 2007, 1♀, 7 VII 2007, 1♂, 22 VII 2007, 1♀, 6 VIII 2007, 1♂, 25 VIII 2008, 2♀♀, 26 IX 2008, 1♀; (4) – 19 VI 2006, 1♂, 15 V 2007, 1♂, 2♀♀, 29 V 2007, 1♂, 2♀♀, 8 VI 2007, 2♀♀, 6 VIII 2007, 2♂♂, 3♀♀, 21 VIII 2007, 1♂, 3♀♀, 9 IX 2008, 1♀; (5) – 17 VI 2005, 2♂♂, 2♀♀, 24 IX 2005, 1♂, 1♀, 19 V 2007, 1♂, 18 IX 2007, 1♀, 27 IX 2008, 1♀; (6) – 19 VI 2005, 2♂♂, 2♀♀, 10 IX 2006, 1♂; (9) – 9 VI 2006, 2♂♂, 1♀, 10 VII 2006, 1♂, 24 IX 2006, 1♀, 7 VI 2007, 2♂♂, 1♀, 25 VII 2007, 1♀, 2 X 2007, 1♀, 29 VII 2008, 2♀♀, 28 IX 2008, 1♀; (10) – 9 VIII 2006, 1♀, 23 VIII 2006, 1♀, 24 IX 2006, 1♂, 3♀♀, 10 X 2006, 1♀, 12 VIII 2008, 1♀; (11) – 9 VIII 2006, 1♂, 1♀, 7 VI 2007, 1♀, 22 IX 2007, 1♂, 11 VIII 2008, 1♀, 9 X 2008, 1♀; (12) – 12 VIII 2006, 1♀, 21 VIII 2006, 1♀, 26 IX 2006, 1♂, 2♀♀, 26 VI 2007, 1♂, 22 IX 2007, 1♀, 22 VII 2008, 1♀, 23 VIII 2008, 2♂♂, 2♀♀, 21 IX 2008, 1♂, 1♀; (13) – 10 VI 2006, 2♂♂, 26 IX 2006, 1♀, 31 VII 2007, 1♂ / 21 VIII 2006, 1♀, 26 IX 2006, 1♂, 1♀, all on *Tilia cordata*; (14) – 10 VI 2008, 1♂, 26 VI 2008, 1♂, 26 IX 2008, 1♀, 12 VII 2009, 1♀, 23 VII 2009, 2♀♀, 10 VIII 2009, 1♂, 1♀, 25 VIII 2009, 1♂, 2♀♀, 9 IX 2009, 2♀♀, 22 IX 2009, 11♂♂, 8♀♀, 12 VI 2010, 1♂, 10 VII 2010, 1♀, 26 VII 2010, 1♂, 11 VIII 2010, 1♂, 23 VIII 2010, 1♀, 11 IX 2010, 1♂; (15) – 10 VI 2008, 2♂♂, 2♀♀, 25 VII 2008, 1♀, 28 IX 2008, 1♀, 9 IX 2009, 1♂, 10 VII 2010, 1♀, 23 IX 2010, 1♂, 7 X 2010, 1♀; (17) – 10 VI 2008, 1♂; (18) – 26 VI 2008, 1♂, 10 IX 2008, 1♂, 23 VII 2009, 1♂, 3♀♀, 9 IX 2009, 2♂♂, 22 IX 2009, 7♂♂, 12 VI 2010, 2♂♂, 26 VII 2010, 1♀; (19) – 9 VI 2005, 1♂, 1♀, 7 IX 2005, 1♀, 26 IX 2005, 1♂, 1♀, 18 VIII 2006, 1♂, 12 X 2006, 1♂, 1♀, 11 VI 2007, 1♂, 6 VIII 2007, 4♂♂, 8♀♀, 20 VIII 2007, 1♂, 8 IX 2007, 2♀♀, 20 IX 2007, 4♂♂, 4♀♀, 8 X 2007, 1♀; (20) – 25 IX 2006, 1♀, 9 X 2006, 1♀, 5 VI 2007, 1♂, 2♀♀, 23 VII 2007, 1♂, 25 IX 2008, 1♀; (21) – 11 VI 2007, 1♂, 22 VII 2007, 1♂, 1♀; (22) – 22 VI 2005, 1♂, 8 VI 2007, 1♀, 19 VI 2007, 1♀, 1 VII 2007, 2♀♀, 15 VII 2007, 1♀, 17 IX 2007, 1♂, 1♀, 26 IX 2008, 1♂; (23) – 24 VII 2006, 1♂, 2♀♀, 8 VIII 2006, 2♂♂, 1♀, 7 IX 2006, 1♂, 22 VII 2007, 2♂♂, 1♀, 6 VIII 2007, 3♀♀, 7 IX 2007, 1♀, 25 VII 2008, 1♀; (24) – 8 X 2006, 1♂, 1♀, 7 VI 2007, 1♂, 1♀, 22 IX 2007, 1♂, 7♀♀, 7 X 2007, 2♀♀, 23 VII 2008, 1♀, 25 VIII 2008, 2♀♀; (25) – 31 VII 2007, 1♀, 10 VIII 2008, 1♀, 23 IX 2008, 1♂, 1♀; (26) – 10 V 2006, 1♂, 24 V 2006, 2♂♂, 8♀♀, 8 VI 2006, 2♂♂, 5♀♀, 19 VI 2006, 1♀, 20 VII 2006, 1♀, 6 VIII 2006, 1♂, 1♀, 21 VIII 2006, 2♀♀, 6 IX 2006, 1♂, 3♀♀, 8 VII 2007, 2♀♀, 6 VIII 2007, 1♂, 1♀, 7 IX 2007, 2♂♂, 8 VII 2008, 1♂, 10 VIII 2008, 2♀♀, 8 IX 2008, 1♂, 1♀; (27) – 24 V 2006, 1♂, 1♀, 24 VII 2006, 1♀, 8 VIII 2006, 2♀♀, 24 VIII 2006, 1♂, 2♀♀, 10 IX 2006, 1♂, 1♀, 8 X 2006, 1♀, 6 VII 2007, 1♀, 22 VII 2007, 1♂, 6 VIII 2007, 2♂♂, 4♀♀, 22 VIII 2007, 1♀, 7 IX 2007, 1♂, 21 IX 2007, 1♂, 1♀, 9 X 2007, 1♂, 1♀; 26 VI 2008, 2♂♂, 9 VII 2008, 2♂♂, 1♀; (28) – 18 VI 2005, 1♂, 19 VIII 2005, 1♀, 21 IX 2005, 1♂, 1♀, 5 X 2005, 1♂, 26 VI 2006, 1♀, 6 VII 2006, 1♀, 23 VIII 2006, 1♀, 8 VI 2007, 2♂♂, 15 VII 2007, 1♂, 17 IX 2007, 1♂; (29) – 5 X 2005, 1♀, 7 VIII 2006, 1♀, 21 VII 2007, 1♂, 3♀♀; (30) – 10 VII 2006, 1♂, 24 VII 2006, 1♀, 8 VIII 2006, 1♂, 2♀♀, 8 IX 2006, 2♂♂, 2♀♀, 3 VII 2007, 1♀, 20 VII 2007, 1♂, 3 VIII 2007, 1♂, 2♀♀, 20 VIII 2007, 2♂♂, 8 IX 2007, 2♀♀, 20 IX 2007, 1♂, 1♀, 11 VII 2008, 1♂, 2♀♀, 12 VIII 2008, 1♂, 2♀♀, 10 IX 2008, 1♂; (31) – 13 VII 2007, 1♀, 10 VIII 2007, 4♂♂, 4♀♀, 29 VIII 2007, 2♂♂, 3♀♀, 10 IX 2007, 1♀, 2 X 2007, 1♀, 26 V 2008, 1♀, 10 VI 2008, 1♀, 29 VII 2008, 3♀♀, 11 VIII 2008, 2♀♀, 28 IX 2008, 1♀; (32) – 8 VIII 2005, 2♂♂, 4♀♀, 25 VIII 2005, 1♂, 4♀♀, 10 IX 2005, 2♂♂, 2♀♀, 22 IX 2005, 1♂, 1♀, 8 X 2005, 1♀, 9 VIII 2006, 2♂♂, 1♀, 10 IX 2006, 2♂♂, 1♀, 7 VIII 2007, 8♂♂, 1♀, 2 IX 2007, 4♂♂, 3♀♀, 17 IX 2007, 1♂, 1♀, 1 X 2007, 1♀/

17 IX 2007, 1♂, on *Tilia cordata*; **(33)** – 23 VII 2005, 1♀, 7 VIII 2005, 1♀, 19 VIII 2005, 1♂, 1♀, 8 IX 2005, 1♂, 1♀, 21 IX 2005, 1♀, 5 X 2005, 1♀, 15 VIII 2006, 2♂♂, 2♀♀, 12 IX 2006, 1♂, 21 IX 2006, 2♀♀, 19 VI 2007, 1♂, 7 VIII 2007, 1♂, 1♀, 2 IX 2007, 1♂, 1♀, 1 X 2007, 1♂, 1♀; **(34)** – 25 VI 2006, 1♂, 10 IX 2006, 2♀♀, 7 X 2006, 1♂, 1♀, 23 VI 2008, 1♀, 8 VIII 2008, 1♀, 10 X 2008, 1♂, 1♀, 8 VIII 2009, 1♂, 1♀, 25 VIII 2009, 1♂, 22 IX 2009, 1♂, 2♀♀; **(35)** – 9 IX 2009, 1♂.

### ***Empoasca vitis* (GÖTTHE, 1875)**

Trans-Palaearctic – widespread and common – mesophilous; pol.; woodlands; adult (also ♂♂); 1 gen. – urbiceneutral (crop pest)

**(1)** – 18 VIII 2006, 1♀; **(3)** – 12 VII 2008, 1♀; **(10)** – 11 X 2008, 1♂; **(13)** – 12 VII 2006, 1♂, 1♀, 20 VII 2006, 2♀♀, 14 IX 2006, 2♀♀, 8 X 2006, 2♀♀, all on *Quercus robur*; **(15)** – 8 VIII 2009, 1♂, 2♀♀; **(17)** – 28 XI 2008, 1♀; **(19)** – 6 IX 2005, 1♂, 1♀; **(29)** – 18 VI 2005, 1♀; **(30)** – 22 V 2006, 1♂, 1♀, 24 VII 2006, 1♀, 8 IX 2006, 2♀♀, 23 VII 2007, 1♂, 8 IX 2007, 1♂, 1♀, 27 V 2008, 1♀, 29 VIII 2008, 1♂, 10 IX 2008, 1♀; **(31)** – 25 VI 2006, 1♀, 24 VII 2006, 1♂, 8 VIII 2006, 1♂, 1♀, 10 IX 2006, 1♂, 1♀, 10 V 2007, 1♀, 25 V 2007, 5♀♀, 7 VI 2007, 2♀♀, 16 VIII 2007, 1♂, 1♀, 29 VIII 2007, 1♀, 29 VI 2008, 1♂ / 30 IX 2011, 7♂♂, 13♀♀, on *Malus domestica*, 30 IX 2011, 1♂, 4♀♀, on *Prunus serotina*, 30 IX 2011, 1♀, on *Carpinus betulus*, 30 IX 2011, 1♀, on *Acer platanoides*, 1♀, on *Acer pseudoplatanus*, 30 IX 2011, 3♂♂, 2♀♀, on *Quercus robur*, 6 IX 2016, 4♂♂, 8♀♀, on *Syringa vulgaris*; **(32)** – 9 VIII 2006, 1♂, 10 IX 2006, 1♂; **(34)** – 24 VII 2008, 2, 8 VIII 2008, 5, 24 VIII 2008, 4, 8 IX 2008, 1, 23 VII 2009, 2♂♂, 6♀♀, 8 VIII 2009, 1♂, 1♀, 25 VIII 2009, 4♂♂, 3♀♀, 9 IX 2009, 1♂ / 15 VIII 2006, 2♂♂, 2♀♀, 19 IX 2006, 1♀, all on *Quercus robur*, 14 V 2006, 2♀♀, 15 VIII 2007, 1♀, all on *Tilia* sp.; **(35)** – 9 VII 2008, 1♂, 12 VII 2009, 1♀, 23 VII 2009, 3♂♂, 5♀♀, 10 VIII 2009, 1♂, 2♀♀, 25 VIII 2009, 2♂♂, 5♀♀, 9 IX 2009, 2♂♂, 3♀♀, 23 IX 2009, 1♀, 23 VIII 2010, 2♀♀, 9 X 2010, 1♀.

### ***Kyboasca bipunctata* (OSHANIN, 1871)**

Euro-Siberian – rare – mesophilous; m2, *Ulmus* spp.; woodlands; egg; 2 gen. – urbiceneutral

**(13)** – 2 VIII 2016, 1♀, on *Ulmus ×hollandica*.

The species reported here as new to KFP region – Krakowsko-Wieluńska Upland. The species is rare in Poland, so far known only from the Pomeranian Lake District – Bielinek (ENGEL 1938, HAUPT 1934), Białowieża Forest (DWORAKOWSKA 1973), Upper Silesia (GĘBICKI et al. 2013), Małopolska Upland – Góry Pieprzowe near Sandomierz and Krzyżanowice (NAST 1955, DWORAKOWSKA 1973).

### ***Chlorita paolii* (Ossiannilsson, 1939)**

Kazakh – widespread and common – xerophilous, heliophilous; olig., mainly on *Achillea millefolium* and *Artemisia campestris*; steppe-like grasslands, meadows; egg; at least 2 gen. – urbiceneophilous

**(7)** – 9 VI 2006, 1♂, 26 VI 2006, 1♂, 2♀♀, 23 VII 2006, 1♂, 1♀, 24 VIII 2006, 1♀, 9 IX

2006, 2♂♂, 1♀, 7 VI 2008, 1♂, 1♀, 26 VII 2008, 1♂, 4♀♀, 25 VIII 2008, 2♀♀, 9 IX 2008, 1♂, 1♀, 26 IX 2008, 1♀, 9 X 2008, 1♀, 9 VI 2009, 1♂, 10 VII 2009, 6♂♂, 2♀♀, 23 VII 2009, 1♂, 1♀, 25 VIII 2009, 1♀, 9 IX 2009, 2♂♂, 22 IX 2009, 3♂♂, 4♀♀; **(8)** – 25 V 2006, 1♂, 9 VI 2006, 5♂♂, 7♀♀, 25 VI 2006, 1♂, 2♀♀, 9 VII 2006, 1♂, 1♀, 24 VII 2006, 5♂♂, 2♀♀, 11 VIII 2006, 2♂♂, 1♀, 22 VIII 2006, 1♀, 9 IX 2006, 1♂, 26 IX 2006, 1♀, 8 VI 2007, 1♀, 23 VI 2007, 6♂♂, 8♀♀, 6 VII 2007, 4♂♂, 4♀♀, 22 VII 2007, 7♂♂, 8♀♀, 6 VIII 2007, 4♂♂, 3♀♀, 22 VIII 2007, 17♂♂, 12♀♀, 7 IX 2007, 5♂♂, 8♀♀, 21 IX 2007, 11♂♂, 13♀♀, 25 V 2008, 1♂, 2♀♀, 29 VII 2008, 1♀, 26 VIII 2008, 3♀♀, 9 IX 2008, 2♂♂, 4♀♀, 26 IX 2008, 1♀; **(9)** – 20 V 2006, 7♂♂, 5♀♀, 9 VI 2006, 3♂♂, 3♀♀, 21 VI 2006, 1♂, 1♀, 26 VII 2006, 2♂♂, 3♀♀, 23 VIII 2006, 2♂♂, 1♀, 10 X 2006, 1♀, 14 V 2007, 1♂, 2♀♀, 25 V 2007, 2♂♂, 11♀♀, 7 VI 2007, 1♂, 6♀♀, 17 VI 2007, 1♀, 8 VII 2007, 8♂♂, 2♀♀, 13 VII 2007, 1♂, 3♀♀, 31 VII 2007, 7♂♂, 6♀♀, 16 VIII 2007, 3♀♀, 29 VIII 2007, 6♂♂, 2♀♀, 16 IX 2007, 3♀♀, 6 X 2007, 1♀, 26 V 2008, 3♂♂, 1♀, 10 VI 2008, 1♂, 1♀, 29 VII 2008, 1♂, 31 VIII 2008, 1♂; **(10)** – 24 V 2007, 1♂, 22 VI 2007, 1♀, 7 VII 2007, 2♂♂, 2♀♀, 8 VIII 2007, 2♂♂, 23 VIII 2007, 3♂♂, 5♀♀, 22 IX 2007, 1♀, 27 V 2008, 1♀, 28 VIII 2008, 1♂, 3♀♀; **(11)** – 9 VI 2006, 1♂, 8 VII 2006, 1♂, 2♀♀, 23 VII 2006, 2♂♂, 4♀♀, 9 VIII 2006, 1♂, 25 VIII 2006, 1♂, 3♀♀, 24 IX 2006, 1♀, 25 V 2007, 1♂, 1♀, 7 VI 2007, 1♀, 22 VI 2007, 1♂, 1♀, 9 VII 2007, 7♂♂, 11♀♀, 25 VII 2007, 7♂♂, 8♀♀, 6 VIII 2007, 3♂♂, 23 VIII 2007, 2♂♂, 1♀, 8 IX 2007, 1♂, 3♀♀, 22 IX 2007, 1♀, 12 VII 2008, 3♂♂, 3♀♀, 29 VII 2008, 2♀♀, 11 VIII 2008, 1♂, 2♀♀, 31 VIII 2008, 2♂♂, 3♀♀, 11 X 2008, 2♂♂, 2♀♀; **(12)** – 10 VI 2006, 1♂, 1♀, 22 VI 2006, 2♀♀, 20 VII 2006, 1♂, 26 IX 2006, 7♂♂, 5♀♀, 9 X 2006, 4♂♂, 8 V 2007, 4♂♂, 3♀♀, 7 VI 2007, 1♂, 1♀, 21 VI 2007, 1♀, 9 VII 2007, 8♂♂, 6♀♀, 23 VII 2007, 6♂♂, 8♀♀, 6 VIII 2007, 12♂♂, 10♀♀, 20 VIII 2007, 9♂♂, 13♀♀, 22 IX 2007, 1♀, 9 V 2008, 1♂, 24 VI 2008, 3♀♀, 8 VII 2008, 2♂♂, 2♀♀, 22 VII 2008, 1♂, 2♀♀, 9 VIII 2008, 2♂♂, 5♀♀, 23 VIII 2008, 4♂♂, 1♀, 10 IX 2008, 2♀♀; **(13)** – 9 VII 2007, 1♂, 25 VII 2007, 1♀; **(16)** – 23 VII 2006, 1♂, 25 VI 2008, 1♀, 10 VII 2008, 1♂, 24 VIII 2008, 1♀; **(19)** – 28 V 2005, 2♂♂, 2♀♀, 22 VII 2007, 1♀, 6 VIII 2007, 3♂♂, 7♀♀, 20 VIII 2007, 4♂♂, 12♀♀, 8 IX 2007, 10♂♂, 16♀♀, 20 IX 2007, 4♂♂, 11♀♀; **(21)** – 25 V 2007, 1♀, 22 VII 2007, 1♀, 7 VIII 2007, 1♂, 28 VI 2008, 1♂, 30 VIII 2008, 1♀, 9 IX 2008, 3♂♂, 3♀♀, 10 X 2008, 1♂; **(22)** – 25 V 2005, 1♂, 2♀♀, 8 VI 2005, 1♂, 7 VII 2005, 1♀, 25 VII 2005, 1♀, 8 IX 2005, 2♂♂, 7 VI 2008, 1♂, 1♀, 26 VIII 2008, 1♀, 28 VII 2008, 1♂, 1♀; **(23)** – 23 V 2006, 1♂, 6 VII 2006, 1♀, 24 V 2007, 1♂, 1♀, 6 VII 2007, 1♂, 21 IX 2007, 1♂, 1♀, 26 V 2008, 1♂, 7 VI 2008, 1♂, 1♀, 25 VII 2008, 1♂, 24 VIII 2008, 2♂♂, 24 IX 2008, 2♀♀, 10 X 2008, 1♂; **(24)** – 20 VII 2006, 1♂, 22 IX 2007, 1♂, 8 VII 2008, 1♀, 23 VII 2008, 1♂, 1♀; **(25)** – 25 V 2006, 7♂♂, 4♀♀, 10 VI 2006, 2♂♂, 1♀, 22 VI 2006, 4♂♂, 4♀♀, 12 VII 2006, 3♂♂, 3♀♀, 20 VII 2006, 7♂♂, 2♀♀, 12 VIII 2006, 4♂♂, 2♀♀, 21 VIII 2006, 1♂, 14 IX 2006, 18♂♂, 10♀♀, 26 IX 2006, 10♂♂, 7♀♀, 8 X 2006, 9♂♂, 15♀♀, 25 V 2007, 1♂, 3♀♀, 7 VI 2007, 5♂♂, 1♀, 17 VI 2007, 1♂, 9 VII 2007, 3♂♂, 7♀♀, 31 VII 2007, 36♂♂, 39♀♀, 17 VIII 2007, 81♂♂, 59♀♀, 29 VIII 2007, 52♂♂, 45♀♀, 16 IX 2007, 13♂♂, 15♀♀, 2 X 2007, 110♂♂, 138♀♀, 21 V 2008, 4♂♂, 2♀♀, 11 VI 2008, 4♂♂, 1♀, 24 VI 2008, 1♂, 1♀, 9 VII 2008, 2♂♂, 23 VII 2008, 8♂♂, 5♀♀, 10 VIII 2008, 25♂♂, 13♀♀, 24 VIII 2008, 52♂♂, 46♀♀ 9 IX 2008, 9♂♂, 12♀♀, 23 IX 2008, 15♂♂, 20♀♀, 10 IX 2008, 10♂♂, 13♀♀; **(26)** – 24 V 2006, 2♂♂, 2♀♀, 8 VI 2006, 1♀, 6 VII 2006, 1♂, 20 VII 2006, 2♂♂, 1♀, 21 VIII 2006, 3♂♂, 3♀♀, 6 IX 2006, 3♂♂, 26 IX 2006, 1♂, 3♀♀, 6 X 2006, 1♂, 1♀, 23 V 2007, 1♂, 1♀, 9 VI 2007, 1♀, 8 VII 2007, 4♂♂, 6♀♀, 20 VII 2007, 3♂♂, 2♀♀, 6 VIII 2007, 11♂♂, 8♀♀, 23 VIII 2007, 10♂♂, 7♀♀, 7 IX 2007, 1♀, 25 IX 2007, 2♂♂, 3♀♀, 9 X 2007, 8♂♂, 11♀♀, 25 V 2008, 1♂, 7 VI 2008, 3♀♀, 8 VII 2008, 2♀♀, 25 VII 2008, 8♂♂, 9♀♀, 10 VIII 2008, 6♀♀, 26 VIII 2008,



2♀♀, 8 IX 2008, 10♂♂, 11♀♀, 26 IX 2008, 5♂♂, 5♀♀, 9 X 2008, 9♂♂, 15♀♀; **(27)** – 25 VI 2006, 1♀, 24 VIII 2006, 1♂, 2♀♀, 10 IX 2006, 3♂♂, 3♀♀, 8 VI 2007, 1♂, 23 VI 2007, 1♀, 22 VII 2007, 1♂, 2♀♀, 22 VIII 2007, 1♀, 7 IX 2007, 1♂, 26 VII 2008, 1♀, 9 X 2008, 1♀; **(28)** – 9 VI 2005, 2♂♂, 2♀♀, 9 IX 2005, 1♂, 1♀, 20 VII 2006, 1♂, 2♀♀, 21 VIII 2006, 2♂♂, 1♀, 6 IX 2006, 3♂♂, 26 IX 2006, 1♂, 3♀♀, 10 V 2007, 1♂, 1♀, 24 V 2007, 2♀♀, 8 VI 2007, 1♂, 3♀♀, 6 VII 2007, 2♂♂, 2♀♀, 22 VII 2007, 5♂♂, 5♀♀, 7 VIII 2007, 1♂, 24 VIII 2007, 1♂, 1♀, 7 IX 2007, 3♂♂, 4♀♀, 24 IX 2007, 2♂♂, 8 X 2007, 1♀; **(29)** – 10 IX 2005, 2♀♀, 21 IX 2005, 1♂, 9 IX 2006, 1♂.

Tribus ZYGINELLINI DWORAKOWSKA, 1977

### *Zyginella pulchra* Löw, 1885

Southern European – rare – mesophilous; m2, *Acer*, mainly *A. pseudoplatanus*; woodlands; adult; 1 gen. – urbiceneutral (Fig. 35g)

**(31)** – 24 VIII 2016, 1♂, on *Quercus robur*, 24 VIII 2016, 1♂, 3♀♀, on *Acer pseudoplatanus*.

The species is reported here as new to KFP region – Krakowsko-Wieluńska Upland. The species is rarely recorded in Poland, so far known only from Western Beskidy Mountains – Maków Podhalański (SMRECZYŃSKI 1906, DWORAKOWSKA 1970e) and Krakowsko-Wieluńska Upland – Kraków (WALCZAK et al. 2016) (Fig. 15).

Tribus TYPHLOCYBINI KIRSCHBAUM, 1868

### *Fagocyba carri* (EDWARDS, 1914)

European – rare – mesophilous; m2, *Quercus robur*, *Q. petraea*; woodlands; egg; 2 gen. – urbiceneutral (Fig. 38i)

**(13)** – 14 IX 2006, 3♂♂, 2♀♀, 26 IX 2006, 1♂, 3♀♀, 8 X 2006, 1♀, 14 IX 2010, 3♂♂, all on *Quercus robur*; **(32)** – 6 VII 2006, 1♂, on *Quercus robur*.

### *Fagocyba cruenta* (HERRICH-SCHÄFFER, 1838)

European – widespread – eurytopic; pol., mainly on *Fagus* and *Carpinus*; woodlands; egg; 2 gen. – urbiceneutral?

**(2)** – 9 VI 2007, 1♂, 26 IX 2007, 1♀, 9 VI 2009, 1♂, 23 IX 2009, 1♀; **(5)** – 11 VII 2007, 2♂♂, 1♀, 23 VII 2007, 1♂, 7 IX 2007, 1♀, 28 IX 2007, 2♀♀, 11 VII 2008, 1♂, 2♀♀, 30 VII 2008, 2♂♂, 1♀, 28 IX 2008, 2♀♀, all on *Alnus glutinosa*; **(13)** – 12 VII 2006, 1♂, 31 VII 2007, 1♂, all on *Quercus robur*, 28 VI 2008, 1♂, on *Acer pseudoplatanus*, 9 VI 2008, 10♂♂, 11♀♀, all on *Carpinus betulus*; **(28)** – 8 X 2007, 1♀; **(30)** – 24 VIII 2006, 1♀, 29 VIII 2008, 1♀; **(32)** – 24 VI 2005, 1♂, 1♀, 23 VII 2005, 1♂, 23 VI 2007, 1♂, 2♀♀, 22 VII 2007, 2♀♀ / 1 X 2007, 1♀, on *Quercus robur*, 12 IX 2006, 3♀♀, all on *Tilia cordata*; **(33)** – 21 IX 2005, 1♀, 23 VI 2007, 1♂ var. *inquinata* / 6 VII 2006, 1♀, 17 VII 2006, 1♀, all on *Carpinus betulus*.

***Ossiannilssonola callosa* (THEN, 1886)**

European – local – mesophilous; m1, *Acer pseudoplatanus*; woodlands; egg; 1(?) gen. – urbiceneutral

(13) – 10 X 2008, 1♀, on *Acer platanoides*.

***Edwardsiana ampliata* (WAGNER, 1947)**

European – rare – mesophilous; olig. – mainly *Acer*, *Corylus*, *Tilia*; woodlands, scrublands; egg; 2 gen. – urbiceneutral

(13) – 14 IX 2006, 1♂, 5♀♀, 26 IX 2006, 1♂, 1♀, 7 VI 2007, 3♂♂, 6♀♀, 22 VI 2007, 3♀♀, 3 VII 2007, 7♂♂, 9♀♀, 26 VII 2007, 3♀♀, 12 VIII 2007, 1♂, 9♀♀, 13 IX 2007, 2♂♂, 3♀♀, all on *Tilia cordata*; (32) – 9 VIII 2006, 1♂, 17 IX 2007, 1♂.

***Edwardsiana candidula* (KIRSCHBAUM, 1868)**

European – widespread – mesophilous; m1, *Populus alba*; woodlands; egg; 2 gen. – urbiceneutral

(10) – 1 IX 2016, 2♂♂, 6♀♀, (25) – 6 IX 2016, 1♂, 5♀♀ on *Populus alba*.

***Edwardsiana crataegi* (DOUGLAS, 1876)**

Euro-Siberian? – widespread – mesophilous, olig., Rosaceae, mainly on *Malus* and *Crataegus*; scrublands; egg; 2 gen. – urbiceneutral

(10) – 14 IX 2012, 4♂♂, 1♂ var. *frogatti*, 5♀♀, all on *Berberis* sp. (hedge); (24) – 23 IX 2012, 1♂ var. *frogatti*, on *Prunus domestica*; (28) – 25 VIII 2009, 1♂ var. *frogatti*, on *Crataegus* sp.; (31) – 24 VIII 2016, 1♂ var. *frogatti*, 1♀, all on *Amelanchier spicata*.

***Edwardsiana flavescens* (FABRICIUS, 1794)**

European – widespread – mesophilous; olig., preferably *Fagus silvatica* and *Carpinus betulus*; scrublands; egg; 2 gen. – urbiceneutral

(13) – 23 VI 2006, 2♂♂, 9 VI 2008, 1♂, on *Carpinus betulus* (hedge).

***Edwardsiana geometrica* (SCHRANK, 1801)**

European – widespread – higrophilous; m2, *Alnus*; woodlands; egg; 2 gen. – urbiceneutral

(A) – 1 IX 2012, 2♀♀, on *Alnus glutinosa*.

***Edwardsiana gratiosa* (BOHEMAN, 1852)**

European – widespread – higrophilous; m2, *Alnus*; woodlands (riparian); egg; 2 gen. –

urbicenoxenic

(5) – 28 VI 2008, 1♂, 30 VII 2008, 1♀, 15 VIII 2008, 1♂, all on *Alnus glutinosa*.

### ***Edwardsiana lethierryi* (EDWARDS, 1881)**

European – rare – mesophilous; olig.?, *Acer campestre*, *Tilia*; woodlands; egg; 2 gen – urbiceneutral

(12) – 12 VII 2006, 5♀♀, 12 VIII 2006, 2♂♂, 2♀♀, 14 IX 2006, 1♂, 4♀♀, 29 IX 2006, 2♂♂, 16♀♀, 9 X 2006, 11♀♀, all on *Tilia cordata*; (13) – 22 VI 2006, 2♂♂, 12 VII 2006, 1♂, 1♀, 12 VIII 2006, 2♀♀, 21 VIII 2006, 1♂, 1♀, 14 XI 2006, 1♂, 3♀♀, 26 IX 2006, 1♂, 3♀♀, 8 X 2006, 10♀♀, 7 VI 2007, 1♂, 26 VII 2007, 4♀♀, 25 VIII 2007, 1♀, 13 IX 2007, 1♂, 3♀♀, all on *Tilia cordata* (specimens collected on plot 13 were erroneously determined and published as *E. ulmiphagus*; see WALCZAK et al. 2014); (20) – 20 VI 2007, 1♂, 9 VII 2007, 1♀, 20 VIII 2007, 1♂, 1♀, 28 IX 2007, 1♂, 28 VI 2008, 1♂, 11 VII 2008, 1♀, 26 VIII 2008, 1♂, all on *Alnus glutinosa* (? – *E. plurispinosa* W. Wg. 1935); (31) – 24 VIII 2016, 2♂♂ on *Tilia cordata* (one male with abnormally formed genital structures), 6 IX 2016, 1♂ on *Acer platanoides* (male with abnormally formed genital structures); (32) – 6 VII 2006, 2♂♂, 2♀♀, 15 VIII 2006, 1♂, 1♀, 14 IX 2006, 1♂, 21 IX 2006, 4♀♀, 7 X 2006, 9♀♀, 7 VIII 2007, 1♀, 22 VIII 2007, 2♀♀, 2 IX 2007, 1♂, 4♀♀, 17 IX 2007, 2♂♂, all on *Tilia cordata* (specimens collected on plot 32 were erroneously determined and published as *E. ulmiphagus*; see WALCZAK et al. 2014).

### ***Edwardsiana plebeja* (EDWARDS, 1914)**

Western Palaearctic – widespread – mesophilous; m2, *Ulmus*; woodlands; egg; 2 gen. – urbicenoxenic

(31) – 28 VI 2008, 1♂, on *Ulmus* sp., 20 VIII 2016, 4♂♂, 3♀♀, on *Ulmus* sp.

### ***Edwardsiana prunicola* (EDWARDS, 1914)**

European – widespread – mesophilous; olig. – mainly on *Prunus* (*P. spinosa*, *P. domestica*) and *Salix* (*S. cinerea*, *S. aurita*, *S. viminalis*); woodlands (riparian); egg; 2 gen. – urbicenoxenic

(2) – 10 IX 2016, 1♂, on *Salix viminalis* (at the lake shore, 0.3 km S plot 2); (27) – 20 VIII 2012, 2♂♂, on *Prunus spinosa*.

### ***Edwardsiana rosae* (LINNAEUS, 1758)**

Trans-Palaearctic – widespread and common – mesophilous; m2, *Rosa* (collected also from *Prunus spinosa*); scrublands; egg; 2 gen. – urbiceneophilous? (pest on roses)

(5) – 27 IX 2008, 1♂; (10) – 14 IX 2012, 11♂♂, 15♀♀, all on *Berberis* sp. (hedge); (13) – 14 IX 2006, 1♂, 1♀, all on *Quercus robur*; (24) – 23 IX 2012, 2♂♂, all on *Prunus* sp.; (28) – 1 X 2007, 1♂, 5♀♀, all on *Rosa canina*; (32) – 6 VII 2006, 1♂, on *Tilia cordata*.

### ***Edwardsiana salicicola* (EDWARDS, 1885)**

Siberian – rare – higrophilous; m2, *Salix*; woodlands (riparian); egg; 2 gen. – urbiceno xenic

(14) – 10 IX 2016, 1♂, on *Salix* sp.; (A) – 31 VIII 2012, 1♂, on *Salix cinerea*, 10 IX 2016, 1♂, on *Betula* sp.

### ***Edwardsiana soror* (LINNAVUORI, 1950)**

Siberian – rare – higrophilous; m1, *Alnus incana*; woodlands (riparian); egg; 2 gen. – urbiceno xenic (Fig. 36a)

Published records from Częstochowa (WALCZAK 2011): (5) – 4 IX 2005, 1♂. New records: (A) – 1 IX 2012, 2♂♂, on *Alnus glutinosa*.

In Poland, the species is known only from five localities: Pomeranian Lake District – Kalisz Pomorski (GĘBICKI et al. 2013), Upper Silesia – Piekary Śląskie (MUSIK 2016), Krakowsko-Wieluńska Upland – Częstochowa (WALCZAK 2011), Western Beskidy Mts – Myślenice (DWORAKOWSKA 1971b) and Pieniny Mts (NAST 1976b) (Fig. 16).

### ***Edwardsiana spinigera* (EDWARDS, 1924)**

European – rare – mesophilous; m1, *Corylus avellana*; woodlands (including margins); egg; 2 gen. – urbiceno neutral (Fig. 38j)

(32) – 19 VI 2007, 1♂, on *Corylus avellana*.

In Poland, the species is known only from the following localities: Upper Silesia – ‘Łęczczok’ Nature Reserve near Racibórz (GĘBICKI et al. 2013), Krakowsko-Wieluńska Upland – Kraków (SMRECZYŃSKI 1954), Ojców (SZWEDO 1992), Częstochowa (WALCZAK et al. 2014), Western Beskidy Mts – Piwniczna, Myślenice (SMRECZYŃSKI 1954) and Pieniny Mts (NAST 1976b).

### ***Edwardsiana stehliki* LAUTERER, 1958**

European – rare – mesophilous; m1 – *Corylus avellana*; scrublands; egg; 2 gen. – urbiceno xenic (Fig. 36b)

(2) – 10 IX 2016, 1♂, 1♀, on *Corylus avellana* (at the lake shore, 0.3 km S plot 2); (15) – 23 IX 2012, 1♂, on *Corylus avellana*.

In Poland, the species has been known so far only from Mazovian Lowland, Upper Silesia – vicinity of Huta Katowice (GĘBICKI et al. 2013) and Krakowsko-Wieluńska Upland – Ojców, Kraków (LAUTERER 1958, DWORAKOWSKA 1971a) (Fig. 17).

In Europe, it is reported from Czech Republic, Germany (NAST 1987, BIEDERMANN & NIEDRINGHAUS 2004), Finland and Sweden (SÖDERMAN et al. 2009).

### ***Edwardsiana tersa* (EDWARDS, 1914)**

Euro-Siberian? – rare – higrophilous; m2, *Salix viminalis*, *S. triandra*; watersides; egg; 2

gen. – urbicenoxenic

(2) – 10 IX 2016, 7♂♂, 26♀♀, on *Salix viminalis* (at the lake shore, 0.3 km S plot 2)

***Edwardsiana ulmiphagus* WILSON et CLARIDGE, 1999**

European – rare – mesophilous?; m2, *Ulmus*; woodlands; egg; 2 gen. – urbicenoneutral (Fig. 36c, Fig. 38k)

(13) – 28 IX 2009, 1♂, 20 VIII 2016, 2♂♂, 6♀♀, 6 IX 2016, 2♂♂, all on *Ulmus ×hollandica*

The species was reported as new to Poland and KFP regions – Baltic Coast and Krakowsko-Wieluńska Upland by GĘBICKI et al. (2013); recently also recorded in Upper Silesia – Klucze, Twardowice (MUSIK 2016) (Fig. 18). Most old records listed by NAST (1976a) under the name *Edwardsiana hippocastani* (EDWARDS, 1888) are in need of revision and probably refer to this species, which explains why it seems to be widespread across the whole country.

It is also known from Germany (NICKEL 2003), Scandinavia and Latvia (SÖDERMAN et al. 2009).

***Eupterycya jucunda* (HERRICH-SCHÄFFER, 1837)**

European – widespread – higrophilous; m1, *Alnus glutinosa*; woodlands (riparian); egg; 1 gen. – urbicenoxenic

(5) – 20 VII 2007, 2♂♂, 6♀♀, 7 VIII 2007, 1♀, 30 VII 2008, 1♂, 9♀♀, 11 VIII 2008, 1♀, all on *Alnus glutinosa*.

***Linnavuoriana decempunctata* (FALLÉN, 1806)**

Palearctic – unknown, some older records may refer to *L. intercedens* – higrophilous; m2, *Betula pendula*, *B. pubescens*; woodlands; adult; 1 gen. – urbicenoxenic

(A) – 10 IX 2016, 1♂, on *Betula* sp.

***Linnavuoriana sexmaculata* (HARDY, 1850)**

Euro-Siberian – widespread – higrophilous?; m2, *Salix*; woodlands (riparian); mainly egg(?); 1 gen. – urbicenoxenic

(1) – 10 IX 2006, 11♂♂, 18♀♀, all on *Salix* sp.; (14) – 22 IX 2009, 1♀; (19) – 2 X 2005, 1♀; (30) – 8 IX 2007, 1♀, 29 IX 2008, 5♂♂, 6♀♀, all on *Salix* sp.

***Ribautiana ognevi* (ZACHVATKIN, 1948)**

Southern European – rare – mesophilous, thermophilous; m1, *Ulmus laevis*; woodlands; egg; 2 gen. – urbicenoxenic

(31) – 28 IX 2009, 1♂, on *Ulmus laevis*.

The species has been known so far from three localities in Poland: Pomeranian Lake district – Kalisz Pomorski (GĘBICKI et al. 2013), Mazovian Lowland – Ożarów (NAST 1976a) and Krakowsko-Wieluńska Upland – Częstochowa (ŚWIERCZEWSKI & GĘBICKI 2004).

***Ribautiana tenerrima* (HERRICH-SCHÄFFER, 1834)**

European – widespread – mesophilous; olig.?, mainly on *Rubus*, also on other woody plants; woodlands, scrublands; egg; 2 gen. – urbiceneutral

(31) – 28 VI 2008, 1♀; (32) – 1 X 2007, 1♀, on *Quercus robur*; (33) – 18 VI 2005, 1♀ 23 VII 2005, 1♀ / 7 X 2006, 1♀, on *Quercus robur*; (34) – 21 IX 2006, 1♂, 8♀♀, 7 X 2006, 3♀♀, 8 IX 2008, 1♀, 24 IX 2008, 1♀, 9 IX 2009, 1♂.

***Ribautiana ulmi* (LINNAEUS, 1758)**

European – widespread – mesophilous; m2, *Ulmus*; woodlands; egg; 2 gen. – urbiceneutral

(13) – 6 IX 2016, 3♂♂, 2♀♀, on *Ulmus ×hollandica*.

***Typhlocyba quercus* (FABRICIUS, 1777)**

Western Palaearctic – widespread and common – mesophilous; pol?, common on *Prunus* and *Quercus*; woodlands, anthropogenic vegetation; egg; 1(?) gen. – urbicenophilous?

(13) – 21 VI 2007, 1♂, 1♀, 6 VII 2007, 1♀, all on *Quercus robur*; (31) – 17 VII 2007, 1♀; (32) – 17 VII 2006, 1♂, 1♀, all on *Quercus robur*.

***Zonocyba bifasciata* (BOHEMAN, 1851)**

European – widespread – mesophilous; olig., *Carpinus betulus*, *Ulmus* and other deciduous trees; woodlands; egg; 1(?) gen. – urbiceneutral

(13) – 2 VIII 2016, 1♀, 6 IX 2016, 1♀, all on *Ulmus ×hollandica*; (32) – 19 VI 2007, 1♂.

***Eurhadina concinna* (GERMAR, 1831)**

European – widespread – mesophilous; olig, *Quercus* and other deciduous trees; woodlands; egg; 1 gen. – urbicenoxyenic

(13) – 26 IX 2006, 1♀, 8 X 2006, 2♀♀, all on *Quercus robur*; (28) – 30 VI 2005, 1♂, all on *Quercus robur*; (32) – 5 X 2005, 1♀, 19 VI 2007, 1♀, 2 IX 2007, 1♀ / 15 VIII 2006, 2♀♀, 12 IX 2006, 1♂, 6♀♀, 19 VI 2007, 4♀♀, 1 VII 2007, 2♂♂, 15 VII 2007, 1♂, 2 IX 2007, 2♀♀, 1 X 2007, 1♀, all on *Quercus robur*; (33) – 30 VI 2005, 1♀, 1 X 2007, 1♀ / 15 VIII 2006, 1♂, on *Quercus robur*.

***Eurhadina loewii* (THEN, 1886)**

European – rare – mesophilous; m1, *Acer pseudoplatanus*; woodlands; egg; 1 gen. –

urbiceneutral

(31) – 24 VIII 2016, 1♀, on *Acer pseudoplatanus*.

***Eurhadina pulchella* (FALLÉN, 1806)**

Trans-Palaeartic – widespread and common – mesophilous; m2, *Quercus robur*, *Q. petraea*; woodlands; egg; 1 gen. – urbiceneutral

(5) – 9 VII 2007, 1♀, 11 VII 2008, 1♀, all on *Quercus robur*; (13) – 12 VII 2006, 1♂, 1♀, 20 VII 2006, 2♀♀, 12 VIII 2006, 1♀, 24 VIII 2006, 1♀, 14 IX 2006, 1♀, 31 VII 2007, 1♀, 14 IX 2010, 1♀, all on *Quercus robur*; (32) – 30 VI 2005, 2♂♂, 1♀, 1 VII 2007, 1♂, all on *Quercus robur*; (33) – 30 VI 2005, 1♀, 17 VII 2006, 1♂, all on *Quercus robur*, (34) – 6 VII 2006, 1♂.

***Eurhadina saageri* WAGNER, 1937**

European – widespread – mesophilous; m2, *Quercus*, mainly on *Quercus robur*; woodlands; egg; 1 gen. – urbiceneutral

(5) – 11 VII 2008, 1♂, on *Quercus robur*.

***Eupteryx adpersa* (HERRICH-SCHÄFFER, 1838)**

Kazakh – local – xerophilous, heliophilous; m1, *Artemisia absinthium*; steppe-like grasslands; egg; 2 gen. – urbiceneutral

(2) – 28 VI 2007, 1♀, 12 VII 2007, 1♀, 28 VII 2007, 1♀, 23 VI 2008, 1♀, 08 X 2008, 2♂♂, 1♀; (4) – 19 VI 2006, 1♀; (22) – 22 VI 2006, 1♂; (32) – 29 IX 2007, 1♀.

The first record of the species for Krakowsko-Wieluńska Upland is given by ŚWIERCZEWSKI & BŁASZCZYK (2013) from Załęczański Landscape Park. Most localities of this species in Poland are known from the southern and eastern part of the country: Małopolska Upland (GĘBICKI et al. 2013), Lubelska Upland – Opoka duża near Kraśnik (DWORAKOWSKA 1970a), Roztocze Upland – Zwierzyniec, Narol, Lipowiec, Nowiny (DWORAKOWSKA 1970a), Sandomierska Lowland – Lubaczów (DWORAKOWSKA 1970a).

***Eupteryx atropunctata* (GOEZE, 1778)**

European – widespread and common – mesophilous; pol.; steppe-like grasslands, meadows; egg; at least 2 gen. – urbiceneutral (crop pest)

(2) – 28 VII 2008, 1♂, 11 IX 2008, 1♂, 3♀♀, 29 IX 2008, 2♂♂, 11 X 2008, 2♂♂, 1♀; (3) – 25 V 2006, 6♂♂, 10 VI 2006, 12♂♂, 6♀♀, 22 VI 2006, 2♂♂, 4♀♀, 12 VII 2006, 5♀♀, 20 VII 2006, 14♂♂, 23♀♀, 12 VIII 2006, 1♀, 21 VIII 2006, 1♀, 14 IX 2006, 2♂♂, 29 IX 2006, 6♂♂, 6♀♀, 9 X 2006, 1♂, 14 V 2007, 10♂♂, 5♀♀, 25 V 2007, 2♂♂, 2♀♀, 11 VI 2007, 3♂♂, 5♀♀, 21 VI 2007, 2♀♀, 7 VII 2007, 1♀, 22 VII 2007, 6♂♂, 9♀♀, 6 VIII 2007, 4♂♂, 3♀♀, 21 VIII 2007, 1♀, 6 IX 2007, 1♂, 1♀, 21 IX 2007, 8♂♂, 6♀♀, 7 X 2007, 3♂♂, 2♀♀,

25 V 2008, 7♂♂, 6♀♀, 7 VI 2008, 1♂, 4♀♀, 25 VI 2008, 2♂♂, 7♀♀, 12 VII 2008, 1♀, 26 VII 2008, 9♂♂, 11♀♀, 10 VIII 2008, 2♂♂, 1♀, 25 VIII 2008, 2♂♂, 1♀, 10 IX 2008, 18♂♂, 6♀♀, 26 IX 2008, 2♂♂, 2♀♀, 10 X 2008, 26♂♂, 19♀♀; **(4)** – 26 V 2006, 3♂♂, 2♀♀, 8 VI 2006, 1♂, 19 VI 2006, 1♂, 1♀, 8 VII 2006, 1♀, 22 VII 2006, 1♂, 2♀♀, 8 VIII 2006, 1♀, 19 VIII 2006, 1♀, 10 IX 2006, 2♂♂, 1♀, 21 IX 2006, 2♂♂, 2♀♀, 11 V 2007, 4♂♂, 26 V 2007, 7♂♂, 3♀♀, 8 VI 2007, 1♂, 21 VII 2007, 1♂, 2♀♀, 6 VIII 2007, 1♂, 1♀, 6 IX 2007, 2♂♂, 1♀, 21 IX 2007, 2♂♂, 3♀♀, 7 X 2007, 1♂, 1♀, 25 V 2008, 6♂♂, 2♀♀, 7 VI 2008, 2♀♀, 8 VII 2008, 1♀, 28 VII 2008, 2♂♂, 1♀, 26 VIII 2008, 2♂♂, 9 IX 2008, 1♂, 2♀♀, 9 X 2008, 5♂♂, 3♀♀; **(5)** – 11 IX 2008, 1♀; **(6)** – 5 X 2007, 1♂; **(14)** – 10 IX 2008, 1♀, 26 IX 2008, 1♂, 9 IX 2009, 1♀, 22 IX 2009 2♀♀; **(15)** – 8 VIII 2009, 1♀; **(17)** – 23 VIII 2010, 1♀; **(19)** – 6 IX 2005, 1♀, 11 VI 2007, 1♀, 22 VII 2007, 1♂; **(20)** – 3 IX 2007, 1♀; **(21)** – 12 VII 2006, 1♂, 26 V 2008, 1♂, 7 VI 2008, 1♀, 29 VII 2008, 2♀♀, 26 IX 2008, 1♀, 10 X 2008, 1♀; **(22)** – 9 IX 2008, 2♀♀; **(25)** – 31 VII 2007, 1♀; **(26)** – 7 VI 2008, 1♀, 26 IX 2008, 1♀, 9 X 2008, 2♂♂, 2♀♀; **(28)** – 17 IX 2007, 1♂; **(29)** – 21 IX 2005, 1♂; **(30)** – 19 V 2007, 1♀; **(33)** – 21 IX 2005, 1♂.

### *Eupteryx aurata* (LINNAEUS, 1758)

European – widespread – hygrophilous?, skiophilous; pol., mainly Lamiaceae and *Urtica*; woodlands, meadows; egg; 2 gen. – urbiceneutral (crop pest)

**(3)** – 6 IX 2007, 1♂, 21 IX 2007, 1♀; **(4)** – 26 V 2006, 3♂♂, 1♀, 26 V 2007, 1♂, 8 VI 2007, 1♀, 6 VIII 2007, 1♂, 17 IX 2007, 1♂, 1 X 2007, 1♀, 25 V 2008, 1♀, 7 VI 2008, 1♀, 8 VII 2008, 1♀, 28 VII 2008, 2♂♂, 8 VIII 2008, 2♂♂, 2♀♀, 9 IX 2008, 1♂, 26 IX 2008, 1♂, 2♀♀, 9 X 2008, 1♂, 3♀♀; **(5)** – 10 VI 2008, 1♂; **(9)** – 10 X 2008, 1♀; **(13)** – 10 X 2008, 1♀; **(17)** – 23 IX 2009, 1♀; **(20)** – 8 X 2008, 1♀; **(30)** – 11 X 2008, 1♀; **(31)** – 7 VI 2006, 1♂, 1♀, 10 IX 2006, 2♂♂, 2♀♀, 26 IX 2006, 1♀, 25 V 2007, 1♀, 29 VII 2008, 1♀, 28 IX 2008, 2♀♀, **(33)** – 19 VI 2005, 1♂.

### *Eupteryx calcarata* OSSIANILSSON, 1936

Western Palaearctic – widespread – xerophilous, heliophilous; m1, *Urtica dioica*; woodlands, meadows; egg; 2 gen. – urbiceneutral

**(3)** – 10 VI 2006, 2♀♀, 22 VI 2006, 7♀♀, 12 VIII 2006, 2♀♀, 29 IX 2006, 1♂, 25 V 2007, 1♀, 11 VI 2007, 9♀♀, 21 VI 2007, 1♂, 1♀, 30 VI 2007, 2♂♂, 1♀, 17 VII 2007, 1♂, 4♀♀, 31 VII 2007, 1♂, 3♀♀, 6 VIII 2007, 1♂, 3♀♀, 21 VIII 2007, 1♀, 21 IX 2007, 1♂, 1♀, 7 X 2007, 1♂, 2♀♀, 7 VI 2008, 1♀, 12 VII 2008, 3♀♀, 10 IX 2008, 1♀; **(4)** – 8 VI 2006, 3♂♂, 17♀♀, 19 VI 2006, 3♀♀, 8 VII 2006, 1♂, 10♀♀, 22 VII 2006, 1♂, 2♀♀, 8 VIII 2006, 1♂, 6♀♀, 10 IX 2006, 2♂♂, 2♀♀, 26 V 2007, 6♀♀, 8 VI 2007, 2♂♂, 25♀♀, 21 VI 2007, 1♀, 6 VII 2007, 4♂♂, 8♀♀, 21 VII 2007, 1♂, 2♀♀, 6 VIII 2007, 6♂♂, 9♀♀, 21 VIII 2007, 4♂♂, 3♀♀, 6 IX 2007, 2♀♀, 21 IX 2007, 1♂, 4♀♀, 7 X 2007, 1♂, 1♀, 27 VI 2008, 10♀♀, 8 VII 2008, 3♂♂, 21♀♀, 28 VII 2008, 3♀♀, 8 VIII 2008, 2♂♂, 3♀♀, 26 VIII 2008, 1♂, 9 IX 2008, 2♂♂, 4♀♀, 26 IX 2008, 2♀♀, 9 X 2008, 2♂♂, 2♀♀; **(5)** – 10 VI 2008, 1♂, 26 VI 2008, 2♀♀, 11 X 2008, 1♀; **(12)** – 6 VIII 2007, 3♀♀; **(13)** – 12 VII 2006, 3♀♀, 20 VII 2006, 2♀♀; **(17)** – 25 VI 2008, 1♀, 11 X 2008, 1♀, 10 X 2009, 1♀; **(20)** – 18.IX2007, 1♂, 29.IX2008, 1♂; **(22)** – 9.IX2008, 1♀; **(27)** – 29 V 2007, 1♂; **(31)** – 25 VI 2007, 2♀♀, 10



VIII 2007, 3 ♀♀, 10 IX 2007, 1 ♂, 2 X 2007, 2 ♀♀, 11 VIII 2008, 1 ♀, 10 IX 2008, 1 ♂, 2 ♀♀, 28 IX 2008, 1 ♂, 4 ♀♀; **(32)** – 6 VII 2006, 2 ♀♀, 23 VII 2006, 1 ♂, 2 ♀♀, 9 VIII 2006, 2 ♀♀, 26 VIII 2006, 1 ♂, 10 IX 2006, 1 ♀; **(33)** – 19 VIII 2005, 1 ♀, 17 VII 2006, 1 ♀; **(34)** – 10 IX 2006, 1 ♀, 21 IX 2006, 3 ♀♀, 23 VII 2009, 1 ♂.

### *Eupteryx curtisii* (FLOR, 1861)

European – widespread – mesophilous; olig., Lamiaceae; woodlands, meadows; egg; 2 gen. – urbiceno-xenic

**(13)** – 11 VIII 2012, 1 ♂.

### *Eupteryx cyclops* MATSUMURA 1906

Euro-Siberian – widespread and common – higrophilous?; m1, *Urtica dioica* (in Poland also collected from *Mentha*); woodlands, meadows; egg; 2 gen. – urbiceno-neutral

**(3)** – 10 VIII 2006, 4 ♀♀, 21 VIII 2006, 1 ♀, 11 IX 2006, 1 ♂, 9 ♀♀, 24 IX 2006, 1 ♀, 11 V 2007, 1 ♀, 25 V 2007, 1 ♂, 5 ♀♀, 21 VI 2007, 2 ♀♀, 6 VIII 2007, 1 ♀, 21 IX 2007, 1 ♂, 7 X 2007, 2 ♂♂, 2 ♀♀, 10 VII 2008, 2 ♀♀; **(4)** – 8 VI 2006, 4 ♂♂, 8 ♀♀, 19 VI 2006, 2 ♂♂, 6 ♀♀, 8 VII 2006, 5 ♂♂, 29 ♀♀, 22 VII 2006, 5 ♂♂, 6 ♀♀, 8 VIII 2006, 7 ♂♂, 16 ♀♀, 19 VIII 2006, 6 ♂♂, 16 ♀♀, 10 IX 2006, 5 ♂♂, 3 ♀♀, 21 IX 2006, 3 ♂♂, 8 ♀♀, 5 X 2006, 4 ♂♂, 6 ♀♀, 15 V 2007, 5 ♀♀, 29 V 2007, 2 ♂♂, 10 ♀♀, 8 VI 2007, 6 ♂♂, 45 ♀♀, 21 VI 2007, 1 ♂, 2 ♀♀, 6 VII 2007, 11 ♂♂, 20 ♀♀, 21 VII 2007, 5 ♂♂, 6 ♀♀, 6 VIII 2007, 11 ♂♂, 25 ♀♀, 21 VIII 2007, 5 ♂♂, 4 ♀♀, 6 IX 2007, 2 ♂♂, 3 ♀♀, 21 IX 2007, 3 ♂♂, 7 ♀♀, 7 X 2007, 9 ♂♂, 5 ♀♀, 7 VI 2008, 12 ♀♀, 27 VI 2008, 3 ♂♂, 23 ♀♀, 8 VII 2008, 2 ♂♂, 81 ♀♀, 28 VII 2008, 8 ♂♂, 19 ♀♀, 8 VIII 2008, 12 ♂♂, 26 ♀♀, 26 VIII 2008, 5 ♂♂, 9 ♀♀, 9 IX 2008, 9 ♂♂, 7 ♀♀, 26 IX 2008, 5 ♀♀, 9 X 2008, 19 ♂♂, 7 ♀♀; **(5)** – 17 VI 2005, 1 ♂, 3 ♀♀, 22 VIII 2005, 1 ♀, 10 VI 2008, 1 ♀, 26 VI 2008, 4 ♀♀, 11 X 2008, 2 ♀♀; **(6)** – 26 VIII 2008, 1 ♂, 1 ♀; **(9)** – 2 X 2007, 1 ♂; **(14)** – 9 IX 2009, 1 ♂, 22 IX 2009, 1 ♀; **(15)** – 26 VI 2009, 2 ♀♀, 8 VIII 2009, 1 ♀; **(17)** – 26 VIII 2008, 1 ♂, 11 X 2008, 1 ♀, 12 VII 2009, 2 ♀♀, 10 X 2009, 1 ♂, 26 VI 2010, 1 ♂, 23 IX 2010, 1 ♀, 7 X 2010, 1 ♂, 1 ♀; **(22)** – 26 VI 2008, 1 ♀; **(33)** – 23 VI 2007, 1 ♀; **(34)** – 6 VII 2006, 2 ♀♀.

### *Eupteryx florida* RIBAUT, 1936

Mediterranean? – rare – mesophilous, thermophilous; olig., Lamiaceae, preferably *Ballota*, *Stachys* and *Melissa*; woodlands, scrublands; egg, in low numbers also adult; at least 2 gen. – urbiceno-neutral (crop pest)

**(31)** – 9 VI 2006, 1 ♂, 1 ♀, 27 VII 2006, 1 ♀, 24 VIII 2006, 1 ♀, 13 VII 2007, 1 ♂, 1 ♀, 25 VII 2007, 1 ♀, 2 X 2007, 1 ♀; **(32)** – 8 VII 2005, 1 ♀, 23 VII 2005, 1 ♂, 1 ♀, 10 IX 2005, 1 ♀, 23 VII 2006, 1 ♂, 9 VIII 2006, 1 ♀, 26 VIII 2006, 1 ♀, 1 VII 2007, 1 ♀, 15 VII 2007, 2 ♀♀, 2 IX 2007, 1 ♀, 1 X 2007, 1 ♀; **(33)** – 1 VII 2007, 1 ♂, 1 ♀, 22 VII 2007, 1 ♂, 1 ♀; **(34)** – 30 VI 2009, 1 ♀.

### *Eupteryx lelievrei* (LETHIERRY, 1874)

European – rare – higrophilous; m1, *Betonica officinalis*; woodlands, scrublands; egg; 2 gen.

– urbiceneutral? (Fig. 36d)

Published records from Częstochowa; reported as new species to the fauna of Poland and KFP region – Krakowsko-Wieluńska Upland (ŚWIERCZEWSKI & WALCZAK 2011): **(14)** – 29 VI 2008, 1♂, 11 VII 2008, 1♂, 11 VIII 2008, 1♂, 26 VIII 2008, 1♂, 9 IX 2009, 1♀; **(19)** – 06 VIII 2007, 1♂, 20 VIII 2007, 1♂. New records: **(14)** – 10 VII 2010, 1♂, 23 VIII 2010, 1♂.

The paper by ŚWIERCZEWSKI & WALCZAK (2011) also provides the first records of this species for Upper Silesia – Oświęcim-Brzezinka (Fig. 19).

This is a European species known from France, Belgium, Germany, Switzerland, Austria, the Czech Republic, Slovakia, Bulgaria and Central Russia (NICKEL 2003, HOCH 2013).

### *Eupteryx notata* CURTIS, 1937

Kazakh – widespread – xerophilous, heliophilous; olig., Asteraceae, mainly *Hieracium pilosella* and *Hypochaeris radicata*; steppe-like grasslands, meadows; egg; 2 gen. – urbiceneophilous

**(5)** – 26 V 2008, 2♂♂; **(6)** – 9 IX 2008, 1♂; **(7)** – 23 VII 2006, 1♂, 25 VIII 2008, 2♂♂, 9 X 2008, 1♂, 10 VII 2009, 1♂; **(8)** – 25 V 2006, 1♂, 24 V 2007, 1♂, 8 VI 2007, 1♀; **(9)** – 20 V 2006, 1♂, 9 VIII 2006, 1♀, 25 V 2007, 1♀, 26 V 2008, 2♂♂, 11 VIII 2008, 1♀, 10 IX 2008, 1♂; **(10)** – 26 VII 2006, 1♀, 27 VII 2008, 1♀; **(11)** – 31 VII 2007, 1♀; **(12)** – 26 IX 2006, 1♂, 21 IX 2008, 1♂; **(13)** – 10 VI 2006, 1♀, 20 VII 2006, 1♀, 8 X 2006, 1♂, 25 V 2007, 1♂, 11 VIII 2008, 1♀; **(21)** – 20 VII 2006, 1♀; **(22)** – 25 V 2005, 1♂; **(23)** – 28 V 2007, 1♂, 26 V 2008, 1♂; **(24)** – 25 V 2007, 1♂, 1♀; **(26)** – 9 VII 2007, 1♀, 10 VIII 2008, 1♂, 8 IX 2008, 1♂; **(27)** – 7 VI 2006, 1♂, 1♀, 26 IX 2006, 1♀, 9 VI 2008, 1♂; **(33)** – 21 IX 2005, 1♂, 5 X 2005, 1♂.

### *Eupteryx tenella* (FALLÉN, 1806)

European – rare – xerothermophilous, heliophilous; m1, *Achillea millefolium*; woodlands, meadows; egg; 2 gen. – urbiceneoxenic

**(19)** – 20 VIII 2007, 1♀, **(34)** – 10 VI 2006, 1♂.

### *Eupteryx thoulessi* EDWARDS, 1926

Mediterranean – rare – higrophilous, thermophilous, halophilous (in coastal vegetation); olig., Lamiaceae, mainly *Mentha aquatica* and *Lycopus europaeus*; meadows; egg; 2 gen. – urbiceneoxenic

**(24)** – 25 V 2007, 1♀.

The species was reported as new to KFP region – Krakowsko-Wieluńska Upland by WALCZAK et al. (2014). The first record of this species for Poland is given by WAGNER and FRANZ (1961) who mentioned it from Lower Silesia. Recently, it has also been recorded in the central part of Upper Silesia – Rogoźnik, Klucze and Dąbrowa Górnicza (MUSIK 2016) (Fig. 20).

***Eupteryx urticae* (FABRICIUS, 1803)**

European – widespread – higrophilous?, skiophilous; m1, *Urtica dioica*; woodlands, scrublands; egg; 2 gen. – urbicenoxenic

(31) – 10 IX 2006, 1♂, 1♀, 26 IX 2006, 1♂, 10 IX 2008, 1♀, 28 IX 2008, 2♂♂, 2♀♀.

***Eupteryx vittata* (LINNAEUS, 1758)**

European – widespread and common – higrophilous; olig., *Ranunculus repens*, *Glechoma hederacea*, Asteraceae?; woodlands, meadows; egg; 2 gen. – urbicenoneutral

(5) – 27 IX 2008, 1♀; (31) – 10 VII 2006, 2♀♀, 18 VIII 2006, 1♂, 1♀, 24 VIII 2006, 1♂, 3♀♀, 10 IX 2006, 1♀, 16 IX 2007, 1♀, 11 VIII 2008, 1♂, 31 VIII 2008, 2♂♂, 3♀♀; (34) – 25 VI 2006, 1♀, 17 VII 2006, 3♀♀, 7 X 2006, 1♀.

***Wagneripteryx germari* (ZETTERSTEDT, 1840)**

Euro-Siberian – widespread – mesophilous; m2, *Pinus sylvestris*, *P. mugo*; woodlands, mires-swamps; egg; 1 gen. – urbicenoneutral

(13) – 10 X 2008, 1♂; (35) – 11 VI 2009, 1♂.

***Aguriahana stellulata* (BURMEISTER, 1841)**

Euro-Siberian? – widespread and common – mesophilous; pol., mainly on *Acer*, *Betula*, *Tilia*, *Prunus*, *Populus*; woodlands; egg; 1(?) gen. – urbicenoxenic

(13) – 12 VII 2006, 1♀, 12 VIII 2006, 2♂♂, 14 XI 2006, 1♀, all on *Tilia cordata*; (32) – 6 VII 2006, 1♀, on *Tilia* sp.

Subfamilia Aphrodinae HAUPT, 1927

***Aphrodes bicincta* (SCHRANK, 1776)**

Euro-Siberian – widespread and common – xerophilous?, heliophilous; olig.?, Fabaceae; woodlands, steppe-like grasslands, meadows; egg; 1(?) gen. – urbicenophilous

(2) – 29 IX 2008, 1♀, 23 IX 2009, 1♀; (9) – 25 VII 2007, 1♂, 11 VII 2008, 5♀♀; (12) – 21 VII 2006, 4♂♂, 12 IX 2006, 1♀, 21 VI 2007, 2♂♂, 1♀, 22 VII 2008, 1♀; (14) – 26 VII 2010, 2♂♂, 1♀, 11 VIII 2010, 1♀, 23 IX 2010, 1♂; (22) – 1 VII 2007, 1♂, 1♀, 9 X 2008, 1♀; (24) – 20 VII 2006, 2♀♀, 12 VIII 2006, 1♀, 8 VII 2008, 1♂; (26) – 20 VII 2007, 1♂, 28 VII 2008, 2♀♀, 10 VIII 2008, 2♀♀, 26 VIII 2008, 1♀; (28) – 6 VII 2005, 1♂, 1♀, 19 VIII 2005, 1♂; (30) – 23 VIII 2007, 1♂.

***Aphrodes makarovi* ZACHVATKIN, 1948**

European – widespread – higrophilous; pol.; woodlands, meadows, mires-swamps; egg; 1 gen. – urbiceneutral

(3) – 21 VI 2007, 1♂, 30 VI 2007, 1♀, 17 VII 2007, 1♀, 25 VI 2008, 2♂♂, 2♀♀, 12 VII 2008, 1♂, 1♀, 26 VII 2008, 1♀; (4) – 19 VIII 2006, 1♀, 21 VI 2007, 1♂, 8 VII 2008, 2♀♀, 26 VIII 2008, 1♀, 26 IX 2008, 1♀; (12) – 20 VIII 2007, 1♀; (13) – 20 VII 2006, 1♂; (14) – 10 IX 2008, 2♀♀, 10 X 2008, 1♀, 23 VII 2009, 1♂, 22 IX 2009, 1♀, 10 X 2009, 1♀; (15) – 11 VII 2008, 1♂, 23 VII 2008, 1♀, 12 VII 2009, 1♂, 23 VII 2009, 1♀, 10 VII 2010, 1♀, 30 VII 2010, 1♂, 11 VIII 2010, 1♀, 23 VIII 2010, 2♀♀, 23 IX 2010, 3♀♀, 7 X 2010, 1♀; (17) – 23 VII 2008, 1♀, 9 IX 2009, 1♀; (19) – 13 VII 2005, 1♂, 7 VII 2007, 1♀; (21) – 21 VI 2007, 4♂♂, 4♀♀, 7 VII 2007, 1♂, 1♀, 22 VII 2007, 1♀, 7 IX 2007, 1♀, 28 VI 2008, 1♂, 1♀, 12 VII 2008, 1♀, 30 VIII 2008, 1♀; (24) – 25 VII 2007, 1♀; (30) – 24 VII 2006, 2♀♀, 28 VII 2008, 1♂, 3♀♀, 12 VIII 2008, 1♂, 1♀, 29 VIII 2008, 1♂, 29 IX 2008, 1♀; (31) – 9 VI 2006, 1♂, 8 VIII 2006, 2♀♀, 24 VIII 2006, 2♀♀, 25 VI 2007, 2♀♀, 13 VII 2007, 1♂, 25 VII 2007, 1♀, 10 VIII 2006, 1♀, 29 VII 2008, 1♂, 1♀; (32) – 6 VII 2006, 1♀.

***Planaphrodes laeva* (REY, 1891)**

Western Palaearctic – widespread – mesophilous (xerophilous?), heliophilous; olig., Poaceae; steppe-like grasslands, meadows; egg; 1 gen. – urbicenoenic

(7) – 22 IX 2009, 1♀; (8) – 26 IX 2008, 1♀.

***Anoscopus albifrons* (LINNAEUS, 1758)**

European – widespread – mesophilous; olig., Poaceae; woodlands, meadows; egg; 1 gen. – urbicenoenic

(12) – 21 VII 2006, 1♀, 21 VI 2007, 6♀♀.

***Anoscopus flavostriatus* (DONOVAN, 1799)**

Euro-Siberian – widespread and common – higrophilous; olig., Poaceae; woodlands, meadows, mires-swamps, fallows; egg; 1 gen. – urbicenoenic?

(20) – 12 VII 2005, 1♂; (35) – 9 IX 2009, 1♀, 26 VII 2010, 1♂.

***Anoscopus serratulae* (FABRICIUS, 1775)**

European – widespread – higrophilous, heliophilous; olig., Poaceae; meadows, mires-swamps, fallows; egg; 1 gen. – urbiceneutral

(20) – 26 VII 2006, 1♂.

***Stroggylocephalus agrestis* (FALLÉN, 1806)**

Euro-Siberian – widespread – higrophilous, heliophilous; m2, *Carex*; meadows, mires-swamps; egg(?); 1 gen. – urbicenoxenic

(5) – 13 VII 2005, 1♂; (18) – 26 VII 2010, 1♀, 23 IX 2010, 1♀, (19) – 18 VIII 2006, 1♂.

Subfamilia Deltocephalinae FIEBER, 1869

Tribus FIEBERIELLINI WAGNER, 1951

***Fieberiella septentrionalis* WAGNER, 1963**

Western Palaearctic – widespread – xerophilous, heliophilous; pol., mainly Rosaceae, *Solidago*; scrublands; steppe-like grasslands; egg; 1 gen. – urbicenoneutral

(14) – 11 VIII 2010, 2♀♀; (17) – 11 VIII 2010, 1♀; (27) – 10 IX 2006, 1♀, 1 X 2007, 2♂♂, 9 IX 2008, 2♀♀, 26 IX 2008, 4♂♂, 9 X 2008, 3♂♂ / 14 IX 2015, 8♂♂, 5♀♀, 14 nymphs, all on *Vincetoxicum hirundinaria*, 4 IX 2016, 1♂, on *Crataegus* sp.; (28) – 6 VII 2005, 2 nymphs, 19 VIII 2005, 1♀; (29) – 30 VI 2005, 2 nymphs, 23 VI 2006, 1 nymph; (31) – 16 VIII 2007, 1♀, 11 VIII 2008, 1♀, 31 VIII 2008, 1♀, 28 IX 2008, 1♂; (33) – 5 X 2005, 1♂, 2 IX 2007, 1♀ / 15 VIII 2007, 3♀♀, 7 VIII 2007, 2♀♀, all on *Tilia cordata*.

Tribus PENTHIMIINI KIRSCHBAUM, 1868

***Penthimia nigra* (GOEZE, 1778)**

Southern European – local – mesophilous; pol, – quite frequent on *Quercus* and *Populus*; woodlands; nymph; 1 gen. – urbicenoneutral

(14) – 10 IX 2016, 3 larvae, on *Betula* sp.

Tribus OPSIINI EMELJANOV, 1962

***Japananus hyalinus* (OSBORN, 1900)**

Euro-Siberian – local – mesophilous; m2 – *Acer*, mainly *Acer campestre*; woodlands (margins), anthropogenic vegetation (urban parks); egg; 1 gen. – urbicenophilous? (Fig. 36e)

(31) – 30 IX 2011, 2♀♀, 24 VIII 2016, 5♂♂, 11♀♀, on *Acer platanoides*, 24 VIII 2016, 1♂, 6♀♀, on *Acer campestre*, 6 IX 2016, 5♂♂, 3♀♀, on *Acer platanoides*.

The species was reported as new to Poland and KFP region – Upper Silesia (Zabrze) by WALCZAK et al. (2012); another records from Upper Silesia – Piekary Śląskie (MUSIK 2016) and Rudy (JUNKIERT 2016). The species was reported as new to KFP region – Krakowsko-Wieluńska Upland (Częstochowa) by WALCZAK et al. (2014) (Fig. 21).

This species originates from Eastern Asia, from where (probably Japan), it was introduced to other continents. For the first time in Europe, this leafhopper was recorded in Austria and Romania (WAGNER & FRANZ 1961, NAST 1972), followed by former Czechoslovakia and Yugoslavia (NAST 1987), Germany (HELLER 1987), Bulgaria, Hungary (LAUTERER 1989), France, Spain, Northern Italy (REMANE & FRÖHLICH 1994, DELLA GIUSTINA & REMANE 2001, GĘBICKI & BEDNARCYK 2003), Slovenia (SELJAK 2002), Serbia, Southern Russia (NICHEL 2003) and recently Luxemburg (NIEDRINGHAUS et al. 2010a, b).

#### ***Neoliturus fenestratus* (HERRICH-SCHÄFFER, 1834)**

Trans-Palaearctic – widespread – xerophilous, heliophilous; olig. – Asteraceae, mainly on *Leontodon*; steppe-like grasslands; adult; 2 gen. – urbicenoxenic

(7) – 25 VI 2008, 1♂, 2♀♀, 9 VII 2008, 1♂, 3♀♀, 10 VIII 2008, 1♂, 25 VIII 2008, 5♂♂, 2♀♀, 9 IX 2008, 3♂♂, 24 IX 2008, 8♂♂, 1♀, 9 X 2008, 2♂♂, 1♀, 9 VI 2009, 1♀, 29 VI 2009, 2♀♀, 10 VII 2009, 1♀; (8) – 25 VI 2006, 1♂, 1♀, 24 VII 2006, 1♂, 1♀, 19 VI 2007, 1♀, 1 VII 2007, 2♂♂, 5♀♀, 2 IX 2007, 2♂♂, 17 IX 2007, 1♂, 29 VII 2008, 1♂, 26 IX 2008, 1♂; (27) – 6 VII 2007, 1♂, 1♀, 6 VIII 2007, 1♀, 21 IX 2007, 1♂.

#### ***Neoliturus guttulatus* (KIRSCHBAUM, 1868)**

Trans-Palaearctic – widespread? – unknown; steppe-like grasslands, meadows; – urbicenoxenic

Published records from Częstochowa (WALCZAK 2011): (8) – 22 VIII 2007, 1♂, 1♀, 2 IX 2007, 3♂♂, 3♀♀, 17 IX 2007, 3♀♀, 10 X 2007, 2♀♀; 29.05.2007, 1♀, 08.06.2007, 1♂. New records: (7) – 8 VIII 2006, 1♂, 25 VIII 2008, 1♂, 24 IX 2008, 1♂, 9 X 2008, 2♂♂, 2♀♀, 25 VIII 2009, 2♂♂, 9 IX 2009, 1♂, 22 IX 2009, 1♀; (8) – 26 IX 2006, 1♂, 26 VIII 2008, 1♂, 9 IX 2008, 3♂♂, 1♀, 26 IX 2008, 1♂, 9 X 2008, 1♀; (27) – 7 VI 2006, 1♀, 10 IX 2006, 1♂, 26 IX 2008, 1♂.

Tribus MACROSTELINI KIRKALDY, 1906

#### ***Balclutha calamagrostis* OSSIANNILSSON, 1961**

Northern European – unknown – xerophilous; m2, *Calamagrostis*; woodlands, steppe-like grasslands, meadows; adult; 1 gen. – urbicenophilous

Published records from Częstochowa (WALCZAK 2008b): (24) – 21 VIII 2007, 1♂, a specimen with pathological changes in the structure of copulatory organs. New records: (1) – 20 V 2006, 2♂♂, 18 VI 2006, 2♀♀, 23 VI 2006, 1♀, 18 VIII 2006, 8♂♂, 10♀♀, 15 IX 2006, 2♂♂, 4♀♀, 23 V 2008, 3♂♂, 1♀, 12 VI 2008, 2♂♂, 11♀♀, 26 VI 2008, 1♂, 15♀♀, 10 VII 2008, 2♀♀, 26 VII 2008, 14♂♂, 11♀♀, 11 VIII 2008, 13♂♂, 10♀♀, 23 VIII 2008, 4♂♂, 10♀♀, 11 IX 2008, 1♂, 1♀, 23 IX 2008, 2♂♂, 3♀♀, 8 X 2008, 1♂, 23 V 2010, 19♂♂, 5♀♀, 12 VI 2010, 3♂♂, 28♀♀, 26 VI 2010, 1♂, 13♀♀, 10 VII 2010, 4♀♀, 26 VII 2010, 42♂♂, 39♀♀, 11 VIII 2010, 38♂♂, 24♀♀, 23 VIII 2010, 14♂♂, 8♀♀, 11 IX 2010, 1♀; (2) – 24 V 2007, 6♂♂, 2♀♀, 9 VI 2007, 5♂♂, 10♀♀, 23 VII 2007, 13♂♂, 10♀♀, 8 VIII 2007, 32♂♂,

21♀♀, 8 IX 2007, 1♀, 22 IX 2007, 1♂, 10 V 2008, 3♂♂, 26 V 2008, 1♂, 16♀♀, 9 VI 2008, 1♂, 13♀♀, 28 VI 2008, 4♀♀, 12 VII 2008, 1♂, 1♀, 28 VII 2008, 31♂♂, 28♀♀, 12 VIII 2008, 4♂♂, 9♀♀, 29 VIII 2008, 2♂♂, 2♀♀, 11 X 2008, 1♂, 22 V 2009, 4♂♂, 9 VI 2009, 2♂♂, 5♀♀, 23 VI 2009, 3♀♀, 8 VII 2009, 1♀, 25 VII 2009, 10♂♂, 7♀♀, 8 VIII 2009, 17♂♂, 11♀♀, 22 VIII 2009, 1♂, 3♀♀, 8 IX 2009, 2♀♀, 23 IX 2009, 1♂; **(3)** – 10 VIII 2008, 1♀; **(5)** – 26 VIII 2008, 1♀, 27 IX 2008, 1♂; **(6)** – 6 VII 2005, 1♀, 19 VIII 2005, 1♂, 21 IX 2005, 2♀♀, 24 V 2006, 4♂♂, 8 VI 2006, 1♀, 7 VII 2006, 1♂, 2♀♀, 23 VII 2006, 3♂♂, 2♀♀, 8 VIII 2006, 2♂♂, 1♀, 10 IX 2006, 1♀, 25 IX 2006, 1♂, 8 V 2008, 2♂♂, 26 VII 2008, 1♀, 10 VIII 2008, 4♀♀; **(7)** – 8 VI 2006, 2♂♂, 2♀♀, 23 VII 2006, 1♂, 24 IX 2006, 1♀, 10 X 2006, 1♂, 1♀, 25 V 2008, 3♂♂, 26 IX 2008, 2♂♂, 1♀, 9 X 2008, 2♂♂, 1♀, 8 V 2009, 2♂♂, 24 V 2009, 4♂♂, 9 VI 2009, 7♂♂, 1♀, 23 VII 2009, 1♀, 9 IX 2009, 2♂♂, 2♀♀, 22 IX 2009, 2♀♀; **(8)** – 25 V 2006, 1♂, 1♀, 11 VIII 2006, 1♂, 22 VIII 2006, 2♂♂, 2♀♀, 24 V 2007, 1♂, 31 VII 2007, 1♀, 7 VI 2008, 2♀♀, 29 VII 2008, 1♂, 10 VIII 2008, 1♂, 2♀♀, 26 VIII 2008, 2♂♂; **(9)** – 9 VI 2006, 1♀, 23 VIII 2006, 3♂♂, 2♀♀, 10 IX 2006, 1♀, 24 IX 2006, 5♂♂, 3♀♀, 31 VII 2007, 1♂, 16 VIII 2007, 1♀, 10 VI 2008, 1♀, 10 IX 2008, 1♂, 28 IX 2008, 3♂♂, 1♀; **(10)** – 26 VII 2006, 2♂♂, 24 V 2007, 1♂, 23 VII 2007, 2♂♂, 1♀, 6 VIII 2007, 2♂♂, 1♀, 20 VIII 2007, 2♂♂, 4♀♀, 8 IX 2007, 2♂♂, 2♀♀, 27 VII 2008, 1♂, 12 VIII 2008, 1♂; **(11)** – 9 VI 2006, 1♂, 1♀, 23 VII 2006, 1♀, 25 VIII 2006, 1♂, 1♀, 22 V 2007, 1♂, 25 VII 2007, 2♂♂, 1♀, 8 IX 2007, 1♀, 11 VIII 2008, 2♂♂, 1♀, 29 IX 2008, 2♂♂, 1♀; **(12)** – 11 V 2006, 1♀, 21 VIII 2006, 1♀, 14 V 2007, 1♂, 17 VII 2007, 1♂, 13 IX 2007, 1♂, 23 V 2008, 2♂♂, 22 VII 2008, 1♂, 1♀, 10 IX 2008, 1♀; **(13)** – 12 VIII 2006, 1♀, 25 VII 2007, 2♂♂, 1♀, 8 IX 2007, 1♀, 26 IX 2007, 1♂, 11 VIII 2008, 1♂, 1♀, 31 VIII 2008, 1♂, 10 IX 2008, 1♂, 10 X 2008, 1♂; **(14)** – 26 V 2008, 1♂, 11 VIII 2008, 3♂♂, 26 IX 2008, 4♂♂, 2♀♀, 10 X 2008, 1♀, 26 V 2009, 1♂, 11 VI 2009, 1♀, 10 VIII 2009, 1♂, 1♀, 25 VIII 2009, 2♂♂, 3♀♀, 9 IX 2009, 1♂, 10 X 2009, 1♂, 22 V 2010, 1♀, 23 VIII 2010, 1♀, 23 IX 2010, 1♂, 1♀; **(15)** – 11 VIII 2008, 1♀, 8 VIII 2009, 2♂♂, 1♀; **(16)** – 25 V 2006, 1♂, 9 VI 2006, 2♀♀, 23 VII 2006, 1♀, 10 IX 2006, 1♂, 23 V 2007, 1♂, 9 VI 2007, 2♀♀, 24 VII 2007, 1♂, 9 VIII 2007, 2♂♂, 1♀, 25 VIII 2007, 2♂♂, 3♀♀, 23 IX 2007, 1♀, 8 V 2008, 2♂♂, 25 V 2008, 3♂♂, 1♀, 10 VII 2008, 2♀♀, 23 VII 2008, 1♂, 8 VIII 2008, 1♂; **(17)** – 8 VIII 2009, 1♀, 9 IX 2009, 1♂, 7 X 2010, 1♀; **(18)** – 25 VIII 2009, 1♀, 9 IX 2009, 1♂, 23 IX 2010, 2♀♀; **(19)** – 28 V 2005, 1♂, 19 VI 2005, 5♂♂, 10♀♀, 10 V 2006, 1♀, 22 V 2006, 1♂, 1♀, 23 VIII 2006, 2♂♂, 3♀♀, 10 IX 2005, 1♂, 2♀♀, 19 V 2007, 1♂, 22 VII 2007, 1, 6 VIII 2007, 3♂♂, 2♀♀, 20 VIII 2007, 7♂♂, 11♀♀, 8 IX 2007, 3♂♂, 1♀, 20 IX 2007, 4♂♂, 9♀♀, 8 X 2007, 1♀; **(20)** – 10 VIII 2006, 2♀♀, 5 VI 2007, 1♂, 23 VII 2007, 1♂, 17 VIII 2007, 1♂, 21 IX 2007, 1♂, 2♀♀; **(21)** – 25 V 2006, 2♂♂, 1♀, 21 VIII 2006, 1♂, 7 VIII 2007, 1♀, 25 VIII 2007, 2♂♂, 3♀♀, 7 IX 2007, 1♂, 1♀, 26 IX 2007, 1♂, 29 VII 2008, 2♂♂, 2♀♀, 8 VIII 2008, 2♂♂, 5♀♀, 30 VIII 2008, 1♂, 1♀; **(22)** – 29 V 2005, 1♂, 8 VI 2005, 1♀, 7 VIII 2005, 1♂, 15 V 2007, 2♂♂, 26 V 2007, 1♂, 6 VIII 2007, 3♂♂, 3♀♀, 8 V 2008, 1♂, 25 V 2008, 3♂♂, 1♀, 28 VII 2008, 1♀, 10 VIII 2008, 3♂♂, 5♀♀; **(23)** – 23 V 2006, 1♂, 24 VII 2006, 2♂♂, 2♀♀, 8 VIII 2006, 13♂♂, 9♀♀, 23 VIII 2006, 1♂, 3♀♀, 7 IX 2006, 2♂♂, 1♀, 9 V 2007, 6♂♂, 1♀, 6 VIII 2007, 18♂♂, 13♀♀, 22 VIII 2007, 2♂♂, 5♀♀, 7 IX 2007, 1♂, 2♀♀, 9 V 2008, 1♂, 26 V 2008, 1♂, 1♀, 24 IX 2008, 2♂♂, 1♀, 10 X 2008, 2♂♂, 1♀; **(24)** – 25 V 2006, 1♂, 2♀♀, 12 VIII 2006, 1♂, 14 IX 2006, 1♂, 9 VIII 2007, 1♂, 2♀♀, 21 VIII 2007, 2♀♀, 8 IX 2007, 1♀, 23 V 2008, 2♂♂, 23 VII 2008, 1♀; **(25)** – 14 IX 2006, 1♂, 31 VII 2007, 1♀, 24 VIII 2008, 1♀, 9 IX 2008, 1♂, 1♀, 23 IX 2008, 1♂; **(26)** – 10 V 2006, 2♂♂, 6 IX 2006, 1♀, 8 VII 2007, 1♂, 20 VII 2007, 2♂♂, 1♀, 6 VIII 2007, 1♂, 2♀♀, 7 VI 2008, 1♀, 8 VII 2008, 1♀, 10 VIII 2008, 2♀♀, 26 VIII 2008, 2♂♂, 8 IX 2008, 1♀; **(27)** – 25 VI 2006, 2♀♀, 24 VIII 2006, 2♀♀, 10

IX 2006, 2♂♂, 1♀, 26 IX 2006, 2♂♂, 2♀♀, 24 V 2007, 2♂♂, 1♀, 23 VI 2007, 1♀, 22 VIII 2007, 2♂♂, 4♀♀, 7 IX 2007, 1♀, 21 IX 2007, 1♂, 10 VIII 2008, 5♂♂, 4♀♀, 26 IX 2008, 1♀; **(28)** – 20 VI 2005, 3♂♂, 7♀♀, 22 VII 2005, 1♂, 19 VIII 2005, 1♂, 1♀, 21 IX 2005, 1♀, 10 VI 2006, 1♀, 6 VII 2006, 1♀, 10 IX 2006, 1♂, 7 VIII 2007, 1♂, 1♀, 24 VIII 2007, 2♂♂, 5♀♀, 7 IX 2007, 1♀; **(29)** – 18 VI 2005, 1♂, 6♀♀, 6 VII 2005, 2♀♀, 7 VIII 2005, 2♂♂, 1♀, 25 VIII 2005, 1♀, 5 X 2005, 1♂, 24 V 2006, 2♂♂, 22 VII 2006, 1♂, 2♀♀, 7 VIII 2006, 1♂, 1♀, 23 VIII 2006, 1♀, 9 IX 2006, 1♂, 24 IX 2006, 1♂, 1♀, 25 V 2007, 2♂♂, 1♀, 7 VIII 2007, 2♂♂, 1♀, 24 VIII 2007, 1♂, 1♀, 25 IX 2007, 4♂♂, 3♀♀; **(30)** – 24 VII 2006, 1♂, 28 VII 2008, 1♀, 12 VIII 2008, 2♂♂, 3♀♀, 10 IX 2008, 1♂; **(32)** – 10 IX 2005, 1♂, 2 IX 2007, 1♂, 1♀; **(33)** – 15 VIII 2006, 1♀; **(34)** – 10 IX 2006, 1♂, 2♀♀, 7 X 2006, 5♂♂, 8♀♀, 8 VIII 2009, 1♂, 9 IX 2009, 2♂♂, 22 IX 2009, 2♂♂, 1♀; **(35)** – 26 VII 2008, 2♀♀, 10 VIII 2008, 2♂♂, 1♀, 25 VIII 2008, 3♂♂, 4♀♀, 23 IX 2008, 1♂, 1♀, 9 X 2008, 1♂, 23 IX 2009, 2♂♂, 1♀, 26 VII 2010, 1♀, 11 VIII 2010, 5♂♂, 1♀, 23 VIII 2010, 2♂♂, 3♀♀, 11 IX 2010, 2♂♂, 2♀♀, 23 IX 2010, 10♂♂, 5♀♀, 11 X 2010, 5♂♂, 1♀.

***Balclutha punctata* (FABRICIUS, 1775) sensu WAGNER (1939)**

Holarctic – widespread and common – mesophilous; olig., Poaceae; woodlands, meadows; adult, on Coniferae; 1 gen. – urbiceneutral

**(2)** – 12 VII 2008, 1♀; **(5)** – 11 VII 2008, 1♀, 27 IX 2008, 1♂; **(6)** – 25 V 2008, 1♀; **(7)** – 25 V 2008, 1♀; **(9)** – 28 IX 2008, 1♀; **(13)** – 9 VII 2006, 1♂, 20 VII 2006, 1♂, 1♀, 8 X 2006, 1♂, 26 IX 2007, 1♀, 10 X 2007, 1♂; **(14)** – 11 IX 2010, 1♂, 23 IX 2010, 1♀; **(24)** – 8 VII 2007, 1♀, 9 VIII 2007, 1♂; **(30)** – 9 V 2006, 1♀, 8 VI 2006, 1♂, 23 VI 2006, 2♂♂, 2♀♀, 10 VII 2006, 2♂♂, 4♀♀, 24 VII 2006, 1♂, 8 VIII 2006, 2♂♂, 5♀♀, 24 VIII 2006, 2♂♂, 3♀♀, 8 IX 2006, 1♂, 1♀, 24 IX 2006, 1♂, 7 VII 2007, 2♂♂, 1♀, 23 VII 2007, 2♂♂, 3♀♀, 8 VIII 2007, 2♂♂, 4♀♀, 23 VIII 2007, 1♂, 2♀♀, 8 IX 2007, 1♂, 1♀, 22 IX 2007, 2♀♀, 10 V 2008, 1♀, 9 VI 2008, 1♀, 28 VI 2008, 1♀, 11 VII 2008, 1♂, 2♀♀, 28 VII 2008, 1♂, 12 VIII 2008, 1♂, 7♀♀, 29 VIII 2008, 2♂♂, 3♀♀, 10 IX 2008, 1♀, 29 IX 2008, 2♂♂, 4♀♀, 11 X 2008, 2♀♀; **(31)** – 9 V 2006, 1♀, 7 VI 2006, 1♂, 2♀♀, 9 VI 2006, 2♂♂, 2♀♀, 24 VII 2006, 2♀♀, 8 VIII 2006, 1♀, 26 IX 2006, 2♂♂, 2♀♀, 8 X 2006, 2♂♂, 8 VII 2007, 1♂, 10 IX 2007, 1♂, 10 V 2008, 2♀♀, 26 V 2008, 2♂♂, 2♀♀, 10 VI 2008, 1♀, 11 VII 2008, 1♂, 2♀♀, 29 VII 2008, 1♂, 1♀, 11 VIII 2008, 1♂, 1♀, 31 VIII 2008, 1♂, 26 IX 2008, 1♂; **(32)** – 23 V 2005, 1♂, 9 VI 2005, 1♀, 8 VII 2005, 2♂♂, 4♀♀, 23 VII 2005, 2♂♂, 1♀, 8 VIII 2005, 1♂, 1♀, 25 VIII 2005, 1♂, 10 IX 2005, 1♂, 2♀♀, 8 X 2005, 2♂♂; 10 VI 2006, 1♀, 26 VI 2006, 1♀, 9 VIII 2006, 2♂♂, 1♀, 26 VIII 2006, 1♂, 25 IX 2006, 1♀, 15 V 2007, 1♂, 7 VII 2007, 1♂, 1♀, 7 VIII 2007, 1♂, 1♀; **(33)** – 10 VI 2006, 1♀, 25 VI 2006, 1♀; **(34)** – 10 V 2006, 2♀♀, 25 V 2006, 1♀, 10 VI 2006, 1♀, 23 VII 2006, 2♀♀, 10 VIII 2006, 10♂♂, 8♀♀, 26 VIII 2006, 1♀, 10 IX 2006, 1♀, 22 V 2008, 1♀, 23 VI 2008, 1♀, 10 VII 2008, 1♂, 2♀♀, 24 VII 2008, 1♂, 8 VIII 2008, 2♂♂, 1♀, 24 VIII 2008, 4♂♂, 5♀♀, 8 IX 2008, 2♂♂, 3♀♀, 24 IX 2008, 1♀, 10 X 2008, 2♀♀, 8 VIII 2009, 3♂♂, 25 VIII 2009, 2♂♂, 2♀♀, 9 IX 2009, 1♂, 22 IX 2009, 2♂♂, 1♀, 7 X 2009, 1♀; **(35)** – 23 V 2008, 2♂♂, 1♀, 9 VI 2008, 4♂♂, 6♀♀, 23 VI 2008, 1♀, 26 VII 2008, 2♀♀, 10 VIII 2008, 3♂♂, 3♀♀, 25 VIII 2008, 8♂♂, 9♀♀, 9 IX 2008, 6♂♂, 5♀♀, 23 IX 2008, 8♂♂, 10♀♀, 9 X 2008, 2♀♀, 23 V 2009, 1♀, 11 VI 2009, 2♂♂, 5♀♀, 26 VI 2009, 1♀, 10 VIII 2009, 4♀♀, 9 IX 2009, 8♂♂, 6♀♀, 23 IX 2009, 2♂♂, 1♀, 23 V 2010, 6♂♂, 12 VI 2010, 1♀, 10 VII 2010, 1♀, 26 VII 2010, 1♀, 11 VIII 2010, 3♂♂, 6♀♀, 23 VIII 2010, 8♂♂, 9♀♀, 11 IX 2010, 2♂♂, 3♀♀, 23 IX 2010, 16♂♂, 7♀♀.



***Balclutha rhenana* WAGNER, 1939**

Euro-Siberian – widespread – higrophilous; m1, *Phalaris arundinacea*; woodlands, mireswamps; adult; 1 gen. – urbicenoxenic

(3) – 14 V 2007, 1♀, 17 VII 2007, 1♀; (4) – 26 V 2006, 1♂, 2♀♀, 15 V 2007, 3♂♂, 5♀♀, 26 V 2007, 3♂♂, 3♀♀, 25 V 2008, 2♂♂, 1♀, 28 VII 2008, 1♂.

***Balclutha saltuella* (KIRSCHBAUM, 1868)**

Cosmopolitic? – rare – mesophilous, heliophilous; olig., Poaceae; meadows; adult(?); 1(?) gen. – unknown (Fig. 36f, Fig. 38l)

Published records from Częstochowa; the species reported as new to Poland and KFP region – Krakowsko-Wieluńska Upland by WALCZAK (2008b): (10) – 16 VI 2007, 1♂ – erroneously determined as *B. calamagrostis*. New record: (19) – 20 IX 2007, 1♀.

A male collected from plot 10 was firstly identified by WALCZAK as *Balclutha calamagrostis* as the sample consisted mainly of individuals of this species with abnormally formed genital structures, resulting probably from parasitization. However, detailed examination revealed the the mentioned above specimen represents *B. saltuella*, in fact. Only two records in Poland (Fig. 22).

The species is widely distributed across Europe, apart from its northern part and *Iberian peninsula* (NAST 1987); also known from Egypt, Israel, China and Japan as well as Nearctic, Neotropical and Oriental Regions (NAST 1972, KNIGHT 1987).

***Macrosteles cristatus* (RIBAUT, 1927)**

Euro-Siberian – widespread – xerophilous; pol., mainly Poaceae; steppe-like grasslands, meadows; egg; 2 gen. – urbicenoneutral? (pioneer species in primary succession)

(10) – 3 VII 2007, 1♂; (11) – 22 V 2007, 1♂, 31 VII 2007, 2♂♂; (13) – 14 IX 2006, 2♂♂.

***Macrosteles frontalis* (SCOTT, 1875)**

Holarctic? – widespread – higrophilous; m2, *Equisetum*; meadows, ruderal vegetation; egg; 2 gen. – urbicenoneutral

(2) – 3 VI 2008, 1♂.

Although this is a rarely collected species, it is recorded in most zoogeographical regions in Poland (NAST 1976a, GĘBICKI et al. 2013). The recent record comes from Upper Silesia – ‘R. Stachóń’ urban park in Katowice (GAJ & PILARCZYK 2003).

***Macrosteles laevis* (RIBAUT, 1927)**

Holarctic – widespread and common – mesophilous, heliophilous; pol.; all types of grassy vegetation; egg; 2 gen. – urbicenophilous

(1) – 24 IX 2006, 1♀, 11 VIII 2008, 1♂, 1♀, 11 IX 2008, 1♂, 26 VII 2010, 1♀, 8 X 2010, 2♀♀; (2) – 9 VI 2007, 1♂, 3♀♀, 23 VII 2007, 1♂, 1♀, 8 VIII 2007, 1♂, 1♀, 23 VIII 2007, 2♀♀, 8 IX 2007, 1♂, 22 IX 2007, 1♂, 1♀, 28 VI 2008, 3♂♂, 2♀♀, 28 VII 2008, 1♂, 1♀, 29 VIII 2008, 2♂♂, 2♀♀, 11 IX 2008, 1♀, 29 IX 2008, 1♀, 23 VI 2009, 1♀, 25 VII 2009, 2♂♂, 22 VIII 2009, 3♂♂, 1♀, 8 IX 2009, 1♀, 23 IX 2009, 1♂; (3) – 10 VI 2006, 1♂, 1♀, 22 VI 2006, 1♂, 9 VII 2006, 1♀, 20 VII 2006, 8♂♂, 13♀♀, 10 VIII 2006, 10♂♂, 6♀♀, 21 VIII 2006, 2♂♂, 4♀♀, 11 IX 2006, 1♂, 24 IX 2006, 1♀, 25 V 2007, 1♀, 11 VI 2007, 30♂♂, 49♀♀, 21 VI 2007, 35♂♂, 42♀♀, 7 VII 2007, 17♂♂, 22♀♀, 22 VII 2007, 26♂♂, 21♀♀, 6 VIII 2007, 51♂♂, 71♀♀, 21 VIII 2007, 30♂♂, 24♀♀, 6 IX 2007, 60♂♂, 48♀♀, 21 IX 2007, 7♂♂, 10♀♀, 7 X 2007, 2♂♂, 4♀♀, 7 VI 2008, 4♂♂, 2♀♀, 25 VI 2008, 2♂♂, 10 VII 2008, 2♂♂, 26 VII 2008, 2♂♂, 3♀♀, 10 VIII 2008, 3♂♂, 6♀♀, 25 VIII 2008, 12♂♂, 10♀♀, 10 IX 2008, 2♀♀, 26 IX 2008, 2♂♂, 2♀♀, 10 X 2008, 1♀; (4) – 22 VII 2006, 1♂, 1♀, 8 VIII 2006, 4♂♂, 5♀♀, 19 VIII 2006, 1♀, 10 IX 2006, 7♂♂, 4♀♀, 26 V 2007, 3♂♂, 10♀♀, 8 VI 2007, 2♂♂, 5♀♀, 21 VI 2007, 2♂♂, 2♀♀, 21 VII 2007, 1♂, 6 VIII 2007, 7♂♂, 4♀♀, 21 VIII 2007, 6♂♂, 4♀♀, 6 IX 2007, 3♂♂, 5♀♀, 7 X 2007, 1♀, 27 VI 2008, 1♀, 8 VII 2008, 1♀, 8 VIII 2008, 1♂, 1♀, 26 VIII 2008, 1♂, 3♀♀, 9 IX 2008, 10♂♂, 12♀♀, 26 IX 2008, 1♀; (5) – 7 VIII 2005, 1♂, 22 VIII 2005, 1♀, 4 IX 2005, 5♂♂, 7♀♀, 24 IX 2005, 2♂♂, 1♀, 20 VI 2007, 1♂, 2♀♀, 23 VII 2007, 5♂♂, 3♀♀, 7 VIII 2007, 1♂, 1♀, 21 VIII 2007, 4♂♂, 5♀♀, 7 IX 2007, 12♂♂, 18♀♀, 20 IX 2007, 1♀, 11 X 2007, 3♀♀, 10 VI 2008, 2♂♂, 1♀, 26 VI 2008, 2♀♀, 11 VII 2008, 1♀, 26 VII 2008, 1♀, 11 IX 2008, 1♂, 7♀♀; (6) – 8 VI 2005, 2♀♀, 19 VI 2005, 1♂, 2♀♀, 6 VII 2005, 2♂♂, 23 VII 2005, 2♂♂, 3♀♀ 7 VIII 2005, 4♂♂, 1♀, 19 VIII 2005, 1♂, 1♀, 21 IX 2005, 1♂, 3♀♀, 22 VI 2006, 1♂, 7 VII 2006, 1♂, 23 VII 2006, 15♂♂, 11♀♀, 8 VIII 2006, 9♂♂, 10♀♀, 23 VIII 2006, 7♂♂, 6♀♀, 10 IX 2006, 1♀, 25 IX 2006, 2♀♀, 26 VII 2008, 1♂, 10 VIII 2008, 1♀; (7) – 8 VI 2006, 1♀, 8 VII 2006, 1♂, 4♀♀, 24 VIII 2006, 3♂♂, 1♀, 9 IX 2006, 2♂♂, 5♀♀, 10 X 2006, 1♂, 7 VI 2008, 1♀, 9 VII 2008, 2♀♀, 10 VIII 2008, 1♀, 25 VIII 2008, 1♂, 1♀, 9 X 2008, 2♀♀, 9 VI 2009, 1♀, 25 VI 2009, 1♀, 23 VII 2009, 1♂, 3♀♀, 25 VIII 2009, 2♂♂, 5♀♀, 9 IX 2009, 8♀♀, 22 IX 2009, 6♂♂, 4♀♀, 9 X 2009, 1♀; (8) – 25 VI 2006, 1♂, 24 VII 2006, 1♀, 22 VIII 2006, 2♂♂, 9 IX 2006, 2♀♀, 26 IX 2006, 3♂♂, 2♀♀, 7 X 2006, 2♀♀, 9 V 2007, 1♀, 24 V 2007, 2♀♀, 8 VI 2007, 1♂, 2♀♀, 23 VI 2007, 1♂, 1♀, 6 VII 2007, 1♂, 2♀♀, 22 VII 2007, 3♂♂, 3♀♀, 6 VIII 2007, 1♂, 7 IX 2007, 1♂, 21 IX 2007, 3♂♂, 3♀♀, 9 X 2007, 1♂, 2♀♀, 9 VII 2008, 1♀, 26 VIII 2008, 1♂, 1♀, 9 IX 2008, 4♂♂, 7♀♀, 26 IX 2008, 4♀♀, 9 X 2008, 1♀; (9) – 20 V 2006, 1♂, 5♀♀, 9 VI 2006, 4♂♂, 8♀♀, 21 VI 2006, 1♂, 26 VII 2006, 6♂♂, 5♀♀, 9 VIII 2006, 1♂, 1♀, 23 VIII 2006, 3♂♂, 4♀♀, 10 IX 2006, 5♂♂, 6♀♀ 24 IX 2006, 2♂♂, 2♀♀, 10 X 2006, 2♂♂, 6♀♀, 25 V 2007, 3♂♂, 5♀♀, 7 VI 2007, 2♂♂, 3♀♀, 25 VI 2007, 1♀, 25 VII 2007, 1♂, 2♀♀, 10 VIII 2007, 3♂♂, 3♀♀, 10 IX 2007, 2♂♂, 4♀♀, 26 IX 2007, 4♂♂, 11♀♀, 6 X 2007, 2♀♀, 10 VI 2008, 1♀, 31 VIII 2008, 3♂♂, 3♀♀, 10 IX 2008, 1♂, 2♀♀, 28 IX 2008, 1♂, 10 X 2008, 1♂, 1♀; (10) – 20 V 2006, 1♂, 5♀♀, 9 VI 2006, 11♂♂, 14♀♀, 21 VI 2006, 16♂♂, 20♀♀, 10 VII 2006, 10♂♂, 8♀♀, 26 VII 2006, 26♂♂, 38♀♀, 9 VIII 2006, 12♂♂, 24♀♀, 23 VIII 2006, 14♂♂, 26♀♀, 10 IX 2006, 6♂♂, 18♀♀, 24 IX 2006, 5♂♂, 15♀♀, 10 X 2006, 4♂♂, 3♀♀, 24 V 2007, 3♂♂, 6♀♀, 9 VI 2007, 41♂♂, 57♀♀, 22 VI 2007, 32♂♂, 22♀♀, 7 VII 2007, 13♂♂, 11♀♀, 23 VII 2007, 115exx., 8 VIII 2007, 189♂♂, 161♀♀, 23 VIII 2007, 169♂♂, 184♀♀, 8 IX 2007, 69♂♂, 67♀♀, 22 IX 2007, 49♂♂, 54♀♀, 9 X 2007, 29♂♂, 41♀♀, 27 V 2008, 5♂♂, 4♀♀, 9 VI 2008, 8♂♂, 10♀♀, 27 VI 2008, 7♂♂, 20♀♀, 9 VII 2008, 4♂♂, 9♀♀, 27 VII 2008, 2♂♂, 1♀, 12 VIII 2008, 21♂♂, 26♀♀, 28 VIII 2008, 40♂♂, 21♀♀, 11 IX 2008, 11♂♂, 8♀♀, 27 IX 2008, 33♂♂, 18♀♀, 11 X 2008, 19♂♂, 22♀♀; (11) – 23 V 2006, 2♂♂, 2♀♀, 9 VI 2006, 6♂♂, 12♀♀, 22 VI 2006, 8♂♂, 7♀♀, 8 VII 2006, 5♂♂,

2♀♀, 23 VII 2006, 13♂♂, 15 ♀♀, 9 VIII 2006, 18♂♂, 14♀♀, 25 VIII 2006, 9♂♂, 8♀♀, 7 IX 2006, 4♂♂, 6♀♀, 24 IX 2006, 10♂♂, 13♀♀, 10 X 2006, 4♂♂, 7♀♀, 25 V 2007, 13♂♂, 23♀♀, 7 VI 2007, 7♂♂, 10♀♀, 22 VI 2007, 15♂♂, 11♀♀, 9 VII 2007, 43♂♂, 36♀♀, 25 VII 2007, 119♂♂, 105♀♀, 6 VIII 2007, 12♂♂, 13♀♀, 23 VIII 2007, 53, 8 IX 2007, 18♂♂, 12♀♀, 22 IX 2007, 4♂♂, 4♀♀, 10 X 2007, 2♀♀, 7 VI 2008, 3♂♂, 2♀♀, 26 VI 2008, 6♂♂, 8♀♀, 11 VII 2008, 3♂♂, 3♀♀, 26 VII 2008, 3♂♂, 6♀♀, 11 VIII 2008, 5♂♂, 5♀♀, 31 VIII 2008, 2♂♂, 5♀♀, 10 IX 2008, 6♂♂, 6♀♀, 29 IX 2008, 3♂♂, 7♀♀; **(12)** – 22 VI 2006, 1♂, 1♀, 12 VII 2006, 2♀♀, 21 VII 2006, 3♀♀, 12 VIII 2006, 24♂♂, 34♀♀, 21 VIII 2006, 15♂♂, 38♀♀, 12 IX 2006, 15♂♂, 27♀♀, 26 IX 2006, 58♂♂, 58♀♀, 9 X 2006, 5♂♂, 5♀♀, 8 V 2007, 3 exx., 25 V 2007, 7 exx., 7 VI 2007, 176 exx., 21 VI 2007, 98 exx., 9 VII 2007, 19 exx., 23 VII 2007, 28 exx., 6 VIII 2007, 193 exx., 20 VIII 2007, 150 exx., 8 IX 2007, 289 exx., 22 VIII 2007, 11 exx., 9 X 2007, 10 exx., 23 V 2008, 3 exx., 10 VI 2008, 3 exx., 24 VI 2008, 31 exx., 8 VII 2008, 11 exx., 22 VII 2008, 7 exx., 9 VIII 2008, 37 exx., 23 VIII 2008, 56 exx., 10 IX 2008, 127 exx., 21 IX 2008, 33 exx., 7 X 2008, 18 exx.; **(13)** – 10 VI 2006, 1♂, 1♀, 22 VI 2006, 2♂♂, 7♀♀, 9 VII 2006, 1♂, 8♀♀, 20 VII 2006, 2♂♂, 3♀♀, 12 VIII 2006, 77♂♂, 88♀♀, 24 VIII 2006, 67♂♂, 77♀♀, 11 IX 2006, 5♂♂, 14♀♀, 26 IX 2006, 49♂♂, 35♀♀, 8 X 2006, 27♂♂, 22♀♀, 25 V 2007, 6♂♂, 9♀♀, 7 VI 2007, 88 exx., 22 VI 2007, 132 exx., 9 VII 2007, 46 exx., 25 VII 2007, 486 exx., 6 VIII 2007, 865 exx., 23 VIII 2007, 934 exx., 8 IX 2007, 210 exx., 22 IX 2007, 6♂♂, 5♀♀, 10 X 2007, 1♂, 26 V 2008, 1♀, 10 VI 2008, 2♂♂, 4♀♀, 29 VI 2008, 8♂♂, 13♀♀, 11 VII 2008, 14♂♂, 27♀♀, 29 VII 2008, 22♂♂, 14♀♀, 11 VIII 2008, 90♂♂, 57♀♀, 31 VIII 2008, 249♂♂, 180♀♀, 10 IX 2008, 172♂♂, 115♀♀, 28 IX 2008, 9♂♂, 7♀♀, 10 X 2008, 7♂♂, 25♀♀; **(14)** – 10 VI 2008, 2♂♂, 11 VII 2008, 1♀, 26 IX 2008, 1♂, 1♀, 10 X 2008, 1♀, 23 VII 2009, 1♀, 10 VIII 2009, 1♂, 2♀♀, 25 VIII 2009, 1♂, 6♀♀, 9 IX 2009, 6♂♂, 3♀♀, 22 IX 2009, 7♂♂, 3♀♀, 10 X 2009, 1♀; **(15)** – 10 VI 2008, 1♂, 5♀♀, 11 VII 2008, 2♀♀, 25 VII 2008, 1♀, 11 VIII 2008, 1♀, 26 VIII 2008, 1♂, 4♀♀, 11 IX 2008, 4♀♀, 10 VI 2009, 1♂, 4♀♀, 26 VI 2009, 1♀, 23 VII 2009, 2♂♂, 3♀♀, 8 VIII 2009, 2♂♂, 7♀♀, 25 VIII 2009, 4♂♂, 11♀♀, 9 IX 2009, 3♂♂, 5♀♀, 23 IX 2009, 3♂♂, 2♀♀, 10 VII 2010, 2♀♀, 11 VIII 2010, 3♀♀, 23 VIII 2010, 1♂, 2♀♀, 11 IX 2010, 1♂, 7 X 2010, 1♀; **(16)** – 9 VI 2006, 3♀♀, 10 IX 2006, 1♂, 23 V 2007, 1♀, 10 VII 2007, 1♂, 25 VIII 2007, 2♂♂, 9 IX 2007, 7♂♂, 4♀♀, 23 IX 2007, 2♂♂, 2♀♀, 10 X 2007, 1♀, 25 V 2008, 1♂, 2♀♀, 9 VI 2008, 1♀, 25 VI 2008, 1♀, 24 VIII 2008, 3♂♂, 10 X 2008, 1♀; **(17)** – 10 VI 2008, 1♂, 1♀, 11 VII 2008, 2♀♀, 11 VIII 2008, 2♀♀, 26 VIII 2008, 1♂, 2♀♀, 11 IX 2008, 1♀, 11 X 2008, 1♀, 9 VI 2009, 1♂, 2♀♀, 12 VII 2009, 3♂♂, 23 VII 2009, 2♂♂, 3♀♀, 8 VIII 2009, 3♂♂, 7♀♀, 25 VIII 2009, 3♂♂, 5♀♀, 9 IX 2009, 2♂♂, 1♀, 23 IX 2009, 1♀, 10 X 2009, 1♀, 26 VI 2010, 1♀, 25 VII 2010, 1♀, 11 VIII 2010, 2♀♀, 23 VIII 2010, 2♂♂, 4♀♀, 11 IX 2010, 3♂♂, 3♀♀; **(18)** – 26 IX 2008, 1♂, 2♀♀, 23 VII 2009, 2♂♂, 4♀♀, 10 VIII 2009, 2♀♀, 25 VIII 2009, 1♀, 22 IX 2009, 1♂, 3♀♀, 26 VI 2010, 2♀♀, 26 VII 2010, 1♀, 11 IX 2010, 1♂; **(19)** – 24 VII 2005, 12♂♂, 9♀♀, 10 VIII 2005, 11♂♂, 14♀♀, 25 VIII 2005, 21♂♂, 14♀♀, 7 IX 2005, 8♂♂, 6♀♀, 26 IX 2005, 6♂♂, 5♀♀, 10 X 2005, 1♂, 3♀♀, 10 VI 2006, 1♂, 1♀, 23 VI 2006, 11♂♂, 12♀♀, 10 VII 2006, 8♂♂, 7♀♀, 25 VII 2006, 9♂♂, 6♀♀, 9 VIII 2006, 15♂♂, 11♀♀, 23 VIII 2006, 72♂♂, 51♀♀, 10 IX 2006, 23♂♂, 54♀♀, 25 IX 2006, 25♂♂, 27♀♀, 11 X 2006, 30♂♂, 23♀♀, 11 VI 2007, 2♂♂, 8♀♀, 22 VI 2007, 1♂, 1♀, 7 VII 2007, 3♂♂, 2♀♀, 22 VII 2007, 5♂♂, 4♀♀, 6 VIII 2007, 44♂♂, 35♀♀, 20 VIII 2007, 45♂♂, 36♀♀, 8 IX 2007, 46♂♂, 29♀♀, 20 IX 2007, 23♂♂, 17♀♀, 8 X 2007, 8♂♂, 8♀♀; **(20)** – 10 VI 2006, 1♂, 1♀, 26 VI 2006, 14♂♂, 5♀♀, 7 VII 2006, 3♂♂, 15♀♀, 26 VII 2006, 382♂♂, 365♀♀, 10 VIII 2006, 187♂♂, 185♀♀, 26 VIII 2006, 177♂♂, 173♀♀, 10 IX 2006, 156♂♂, 82♀♀, 25 IX 2006, 172♂♂, 150♀♀, 9 X 2006, 37♂♂, 37♀♀, 21 V

2007, 9♂♂, 7♀♀, 5 VI 2007, 17♂♂, 14♀♀, 22 VI 2007, 15♂♂, 13♀♀, 9 VII 2007, 10♂♂, 11♀♀, 23 VII 2007, 58♂♂, 41♀♀, 8 VIII 2007, 30♂♂, 28♀♀, 22 VIII 2007, 108♂♂, 83♀♀, 6 IX 2007, 48♂♂, 36♀♀, 21 IX 2007, 34♂♂, 47♀♀, 11 X 2007, 13♂♂, 21♀♀, 22 V 2008, 2♀♀, 8 VI 2008, 6♂♂, 11♀♀, 25 VI 2008, 8♂♂, 7♀♀, 9 VII 2008, 6♂♂, 3♀♀, 24 VII 2008, 38♂♂, 29♀♀, 7 VIII 2008, 18♂♂, 15♀♀, 23 VIII 2008, 49♂♂, 41♀♀, 7 IX 2008, 41♂♂, 32♀♀, 25 IX 2008, 60♂♂, 49♀♀, 8 X 2008, 22♂♂, 17♀♀; **(21)** – 10 VI 2006, 12♂♂, 9♀♀, 22 VI 2006, 1♂, 2♀♀, 9 VII 2006, 2♂♂, 4♀♀, 20 VII 2006, 128♂♂, 113♀♀, 10 VIII 2006, 223♂♂, 113♀♀, 21 VIII 2006, 76♂♂, 31♀♀, 11 IX 2006, 10♂♂, 4♀♀, 24 IX 2006, 7♂♂, 8♀♀, 9 X 2006, 1♀, 25 V 2007, 2♂♂, 2♀♀, 11 VI 2007, 64♂♂, 40♀♀, 21 VI 2007, 27♂♂, 30♀♀, 7 VII 2007, 5♂♂, 13♀♀, 22 VII 2007, 63♂♂, 55♀♀, 7 VIII 2007, 65♂♂, 60♀♀, 25 VIII 2007, 39♂♂, 49♀♀, 7 IX 2007, 62♂♂, 49♀♀, 26 IX 2007, 12♂♂, 8♀♀, 9 X 2007, 4♂♂, 7♀♀, 7 VI 2008, 4♂♂, 2♀♀, 28 VI 2008, 7♂♂, 4♀♀, 12 VII 2008, 7♂♂, 3♀♀, 29 VII 2008, 9♂♂, 16♀♀, 8 VIII 2008, 7♂♂, 4♀♀, 30 VIII 2008, 19♂♂, 13♀♀, 8 IX 2008, 17♂♂, 17♀♀, 26 IX 2008, 5♂♂, 4♀♀, 10 X 2008, 6♀♀; **(22)** – 25 V 2005, 1♀, 8 VI 2005, 3♀♀, 22 VI 2005, 7♂♂, 5♀♀, 7 VII 2005, 5♂♂, 4♀♀, 25 VII 2005, 3♀♀, 7 VIII 2005, 13♂♂, 11♀♀, 20 VIII 2005, 7♂♂, 7♀♀, 8 IX 2005, 12♂♂, 13♀♀, 21 IX 2005, 8♂♂, 9♀♀, 5 X 2005, 2♂♂, 4♀♀, 11 V 2007, 1♀, 26 V 2007, 4♂♂, 7♀♀, 8 VI 2007, 1♂, 2♀♀, 6 VII 2007, 1♀, 21 VII 2007, 16♂♂, 11♀♀, 6 VIII 2007, 91♂♂, 56♀♀, 21 VIII 2007, 26♂♂, 24♀♀, 6 IX 2007, 43♂♂, 39♀♀, 21 IX 2007, 28♂♂, 23♀♀, 5 X 2007, 4♂♂, 5♀♀, 7 VI 2008, 1♂, 26 VI 2008, 13♂♂, 6♀♀, 8 VII 2008, 5♂♂, 8♀♀, 28 VII 2008, 2♂♂, 10 VIII 2008, 2♂♂, 6♀♀, 30 VIII 2008, 4♂♂, 4♀♀, 9 IX 2008, 7♂♂, 11♀♀, 26 IX 2008, 3♀♀; **(23)** – 23 V 2006, 3♂♂, 8♀♀, 8 VI 2006, 3♂♂, 4♀♀, 25 VI 2006, 1♀, 6 VII 2006, 1♂, 24 VII 2006, 14♂♂, 13♀♀, 8 VIII 2006, 16♂♂, 21♀♀, 23 VIII 2006, 20♂♂, 19♀♀, 7 IX 2006, 26♂♂, 30♀♀, 21 IX 2006, 15♂♂, 17♀♀, 8 X 2006, 5♂♂, 7♀♀, 9 V 2007, 1♀, 24 V 2007, 6♂♂, 12♀♀, 8 VI 2007, 3♂♂, 3♀♀, 23 VI 2007, 1♀, 6 VII 2007, 3♂♂, 6♀♀, 22 VII 2007, 21♂♂, 24♀♀, 6 VIII 2007, 26♂♂, 29♀♀, 22 VIII 2007, 17♂♂, 11♀♀, 7 IX 2007, 70♂♂, 59♀♀, 21 IX 2007, 31♂♂, 25♀♀, 9 X 2007, 9♂♂, 11♀♀, 26 V 2008, 4♂♂, 5♀♀, 7 VI 2008, 7♂♂, 11♀♀, 23 VI 2008, 1♂, 2♀♀, 7 VII 2008, 1♂, 1♀, 25 VII 2008, 10♂♂, 9♀♀, 9 VIII 2008, 27♂♂, 21♀♀, 25 VIII 2008, 24♂♂, 26♀♀, 8 IX 2008, 41♂♂, 32♀♀, 24 IX 2008, 37♂♂, 32♀♀, 10 X 2008, 10♂♂, 13♀♀; **(24)** – 22 VI 2006, 1♂, 20 VII 2006, 1♀, 10 VIII 2006, 11♂♂, 8♀♀, 21 VIII 2006, 53♂♂, 47♀♀, 11 IX 2006, 36♂♂, 46♀♀, 24 IX 2006, 4♂♂, 4♀♀, 9 X 2006, 14♂♂, 10♀♀, 25 V 2007, 4♀♀, 5♀♀, 7 VI 2007, 1♂, 3♀♀, 22 VI 2007, 2♂♂, 1♀, 8 VII 2007, 3♂♂, 4♀♀, 25 VII 2007, 3♂♂, 6♀♀, 9 VIII 2007, 4♂♂, 3♀♀, 25 VIII 2007, 3♂♂, 4♀♀, 8 IX 2007, 7♂♂, 10♀♀, 22 IX 2007, 130♂♂, 112♀♀, 7 X 2007, 11♂♂, 14♀♀, 23 V 2008, 2♂♂, 4♀♀, 9 VI 2008, 2♂♂, 3♀♀, 22 VI 2008, 6♂♂, 5♀♀, 8 VII 2008, 1♂, 2♀♀, 23 VII 2008, 4♂♂, 3♀♀, 9 VIII 2008, 15♂♂, 17♀♀, 25 VIII 2008, 11♂♂, 10♀♀, 9 IX 2008, 61♂♂, 56♀♀, 24 IX 2008, 46♂♂, 50♀♀, 9 X 2008, 5♂♂, 6♀♀; **(25)** – 25 V 2006, 1♂, 1♀, 10 VI 2006, 1♂, 2♀♀, 9 VII 2006, 1♂, 20 VII 2006, 2♂♂, 2♀♀, 10 VIII 2006, 72♂♂, 135♀♀, 21 VIII 2006, 26♂♂, 28♀♀, 11 IX 2006, 49♂♂, 48♀♀, 24 IX 2006, 223♂♂, 169♀♀, 9 X 2006, 144♂♂, 107♀♀, 25 V 2007, 14♂♂, 44♀♀, 7 VI 2007, 13♂♂, 10♀♀, 23 VI 2007, 6♂♂, 3♀♀, 9 VII 2007, 17♂♂, 11♀♀, 26 VII 2007, 35♂♂, 30♀♀, 10 VIII 2007, 11♂♂, 12♀♀, 25 VIII 2007, 21♂♂, 10♀♀, 9 IX 2007, 28♂♂, 15♀♀, 25 IX 2007, 16♂♂, 15♀♀, 10 X 2007, 11♂♂, 10♀♀, 21 V 2008, 7♂♂, 12♀♀, 11 VI 2008, 5♂♂, 9♀♀, 24 VI 2008, 3♂♂, 9 VII 2008, 6♂♂, 5♀♀, 23 VII 2008, 14♂♂, 10♀♀, 10 VIII 2008, 39♂♂, 35♀♀, 24 VIII 2008, 42♂♂, 37♀♀, 9 IX 2008, 57♂♂, 39♀♀, 23 IX 2008, 51♂♂, 40♀♀, 8 X 2008, 34♂♂, 31♀♀; **(26)** – 24 V 2006, 7♂♂, 3♀♀, 8 VI 2006, 4♂♂, 3♀♀, 20 VII 2006, 1♂, 1♀, 6 VIII 2006, 5♂♂, 4♀♀, 21 VIII 2006, 4♂♂, 4♀♀, 6 IX 2006, 3♂♂, 6♀♀, 26 IX

2006, 7♂♂, 4♀♀, 9 X 2006, 2♂♂, 3♀♀, 23 V 2007, 5♀♀, 9 VI 2007, 2♂♂, 8♀♀, 24 VI 2007, 2♂♂, 1♀, 8 VII 2007, 1♀, 20 VII 2007, 1♂, 1♀, 6 VIII 2007, 3♂♂, 2♀♀, 23 VIII 2007, 18♂♂, 13♀♀, 7 IX 2007, 15♂♂, 12♀♀, 25 IX 2007, 4♂♂, 7♀♀, 9 X 2007, 4♂♂, 4♀♀, 7 VI 2008, 1♀, 25 VI 2008, 1♀, 25 VII 2008, 4♂♂, 7♀♀, 10 VIII 2008, 13♂♂, 4♀♀, 26 VIII 2008, 4♂♂, 2♀♀, 8 IX 2008, 14♂♂, 12♀♀, 26 IX 2008, 3♂♂, 7♀♀, 9 X 2008, 4♂♂, 8♀♀; **(27)** – 7 VI 2006, 1♂, 25 VI 2006, 1♂, 1♀, 24 VII 2006, 1♂, 8 VIII 2006, 1♀, 24 VIII 2006, 2♂♂, 1♀, 10 IX 2006, 1♂, 1♀, 8 X 2006, 1♂, 24 V 2007, 1♂, 3♀♀, 8 VI 2007, 3♀♀, 23 VI 2007, 1♀, 22 VII 2007, 2♂♂, 1♀, 6 VIII 2007, 2♀♀, 22 VIII 2007, 1♂, 21 IX 2007, 2♂♂, 26 VI 2008, 2♀♀, 9 VII 2008, 1♀, 10 VIII 2008, 1♀, 26 VIII 2008, 1♂, 2♀♀, 26 IX 2008, 1♀; **(28)** – 10 IX 2006, 1♀, 8 VI 2007, 1♂, 7 IX 2007, 2♂♂, 1♀, 24 IX 2007, 1♂; **(30)** – 22 VI 2007, 2♂♂, 1♀, 22 IX 2007, 1♂, 1♀, 9 X 2007, 1♀, 10 IX 2008, 1♀, 29 IX 2008, 1♀, 23 VI 2006, 1♂, 1♀, 8 IX 2006, 1♂, 24 IX 2006, 1♂, 1♀; **(31)** – 7 VI 2006, 1♀, 24 VII 2006, 1♂, 24 VIII 2006, 1♀, 10 IX 2006, 1♂, 1♀, 26 IX 2006, 1♂, 7 VI 2007, 1♀, 25 VI 2007, 1♂, 1♀, 25 VII 2007, 1♂, 10 VIII 2007, 1♂, 2♀♀, 26 VIII 2007, 1♂, 1♀, 10 IX 2007, 1♂, 29 VI 2008, 1♀, 10 X 2008, 2♀♀; **(34)** – 10 VI 2006, 1♀; **(35)** – 11 IX 2010, 1♀.

### *Macrosteles maculosus* (THEN, 1897)

Southern European – widespread – xerophilous, thermophilous, heliophilous; m1?, *Polygonum aviculare* (collected also from *Picris hieracioides*); steppe-like grasslands; egg; 2 gen. – urbicenoxenic (pioneer species in primary succession)

**(23)** – 10 VIII 2012, 1♀; **(E)** – 4 VIII 2012, 1♂, on *Polygonum aviculare*.

The species is known from many localities in Poland, but is usually collected in low numbers (NAST 1976a, GĘBICKI et al. 2013). Recently it has been reported from Krakowsko-Wieluńska Upland (SZWEDO 2001) and Upper Silesia (GĘBICKI 1979, JASIŃSKA 1980, SIMON & SZWEDO 2005, SZWEDO et al. 1998).

### *Macrosteles ossiannilssoni* LINDBERG, 1954

Northern European – widespread – higrophilous; pol.; meadows, mires-swamps; egg; 1-2 gen. – urbicenoneutral

Published records from Częstochowa (WALCZAK 2011): **(20)** – 25 V 2005, 23♂♂, 22 VI 2005, 11♂♂. New records: **(5)** – 13 VII 2005, 1♂, 5 VI 2007, 3♂♂, 1♀, 20 VI 2007, 2♂♂, 6♀♀, 23 VII 2007, 1♂, 1♀, 7 IX 2007, 1♂, 2♀♀, 10 VI 2008, 8♂♂, 3♀♀; **(20)** – 26 VI 2006, 1♂, 2♀♀, 7 VII 2006, 1♂, 4♀♀, 26 VII 2006, 2♀♀, 21 V 2007, 12♂♂, 8♀♀, 5 VI 2007, 15♂♂, 11♀♀, 9 VII 2007, 1♂, 2♀♀, 8 VIII 2007, 3♀♀, 22 VIII 2007, 3♂♂, 4♀♀, 21 IX 2007, 1♂, 1♀, 22 V 2008, 8♂♂, 7♀♀, 8 VI 2008, 9♂♂, 12♀♀, 25 VI 2008, 2♂♂, 1♀, 9 VII 2008, 1♂, 1♀, 7 VIII 2008, 1♂, 3♀♀, 23 VIII 2008, 3♂♂, 4♀♀, 7 IX 2008, 1♂, 1♀; **(30)** – 23 VI 2006, 1♂, 22 VI 2007, 1♀.

The species was reported as new to KFP region – Krakowsko-Wieluńska Upland by WALCZAK (2011). Rather local species in Poland (NAST 1976a), recently recorded in Pomeranian Lake District, Upper Silesia, Western Sudetes Mts, Eastern Sudetes Mts, Bieszczady Mts and Tatra Mts (GĘBICKI et al. 2013).

### ***Macrosteles sardus* RIBAUT, 1948**

Western Palaearctic – rare – mesophilous; pol.; meadows; egg; 2 gen. – urbiceneutral (Fig. 36g)

Published records from Częstochowa (ŚWIERCZEWSKI & WALCZAK 2011): **(15)** – 10 VI 2008, 1♂, 26 VI 2010, 1♂; **(17)** – 10 VII 2010, 1♂. New records: **(15)** – 10 VII 2010, 1♂; **(17)** – 26 VI 2010, 1♀.

The species was reported as new to the fauna of Poland and KFP region – Krakowsko-Wieluńska Upland by ŚWIERCZEWSKI & WALCZAK (2011); recently also recorded in Upper Silesia – Bukowno, Bytom (MUSIK 2016), Pilchowice near Racibórz, Leszczyny (JUNKIERT 2016) and Mysłowice (PNIOK 2015) (Fig. 23).

The species was described from Northern Italy (RIBAUT 1948); since that time it has been recorded in Spain, France, Germany, the Czech Republic and Slovakia (HOCH 2013), and more recently in Austria (HOLZINGER 2009) and Luxemburg (NIEDRINGHAUS et al. 2010a, b). Outside Europe it occurs in Kazakhstan (MITJAEV 1971). In Germany, there are a few records from moist, moderately shady sites (all below 200 m above sea level) in river floodplains and along lake shores (NICKEL 2003).

### ***Macrosteles septemnotatus* (FALLÉN, 1806)**

Euro-Siberian – widespread – higrophilous, heliophilous; m1, *Filipendula ulmaria*; meadows, mires-swamps; egg; 2 gen. – urbicenoxenic

**(14)** – 12 VII 2009, 1♀.

### ***Macrosteles sexnotatus* (FALLÉN, 1806)**

Trans-Palaearctic – widespread and common – higrophilous, heliophilous; pol., Poaceae, Juncaceae, Cyperaceae; steppe-like grasslands, meadows, mires-swamps; egg; 2 gen. – urbiceneutral

**(3)** – 21 VIII 2006, 1♂, 31 VII 2007, 1♂; **(4)** – 29 V 2007, 1♂; **(5)** – 8 VI 2005, 1♂, 4 IX 2005, 1♂, 5 VI 2007, 6♂♂, 2♀♀, 20 VI 2007, 2♂♂, 6♀♀, 23 VII 2007, 3♂♂, 2♀♀, 7 VIII 2007, 1♂, 1♀, 21 VIII 2007, 5♂♂, 6♀♀, 7 IX 2007, 2♂♂, 4♀♀, 20 IX 2007, 4♂♂, 4♀♀, 11 X 2007, 2♀♀, 26 V 2008, 5♂♂, 2♀♀, 10 VI 2008, 23♂♂, 11♀♀, 26 VI 2008, 2♂♂, 26 VIII 2008, 3♂♂, 3♀♀, 11 IX 2008, 2♀♀, 27 IX 2008, 2♂♂; **(19)** – 23 VI 2006, 1♂, 12 X 2006, 1♂; **(20)** – 21 V 2007, 3♂♂, 2♀♀, 5 VI 2007, 3♂♂, 3♀♀, 22 VI 2007, 3♂♂, 4♀♀, 9 VII 2007, 1♂, 1♀, 23 VII 2007, 1♂, 2♀♀, 8 VIII 2007, 1♂, 1♀, 22 VIII 2007, 4♂♂, 6♀♀, 6 IX 2007, 3♂♂, 2♀♀, 21 IX 2007, 4♂♂, 3♀♀, 11 X 2007, 2♂♂, 3♀♀, 22 V 2008, 2♂♂, 2♀♀, 8 VI 2008, 3♂♂, 3♀♀, 25 VI 2008, 6♂♂, 5♀♀, 9 VII 2008, 1♂, 1♀, 24 VII 2008, 2♂♂, 3♀♀, 7 VIII 2008, 1♂, 2♀♀, 23 VIII 2008, 1♂, 1♀, 7 IX 2008, 1♀.

### ***Macrosteles variatus* (FALLÉN, 1806)**

Holarctic – widespread – higrophilous, skiophilous; m1, *Urtica dioica*; woodlands, meadows; egg; 2 gen. – urbiceneutral

(3) – 10 VIII 2006, 2♂♂, 14 IX 2006, 2♀♀, 25 V 2007, 83exx., 11 VI 2007, 2♂♂, 2♀♀, 7 VI 2008, 1♂, 1♀, 12 VII 2007, 2♀♀, 7 VI 2008, 2♀♀, 10 VII 2008, 2♀♀; (4) – 8 VII 2006, 1♂, 1♀, 19 VIII 2006, 1♀, 29 V 2007, 2♂♂, 2♀♀, 6 VIII 2007, 3♀♀, 21 VIII 2007, 2♂♂, 5♀♀, 6 IX 2007, 1♂, 21 IX 2007, 1♀, 7 VI 2008, 6♂♂, 10♀♀, 27 VI 2008, 3♀♀, 8 VII 2008, 1♂, 6♀♀, 28 VII 2008, 1♀, 9 IX 2008, 1♂, 26 IX 2008, 1♀, 9 X 2008, 1♀; (17) – 28 IX 2008, 1♀, 26 VI 2010, 1♀; (21) – 25 V 2007, 1♂; (24) – 25 VIII 2012, 1♂, 1 nymph; (31) – 8 VIII 2006, 1♀, 10 VIII 2007, 1♀.

***Macrosteles viridigriseus* (EDWARDS, 1922)**

European – widespread – mesophilous; olig., Poaceae, Cyperaceae?; woodlands, meadows, mires-swamps; egg; 2 gen. – urbiceneutral

(5) – 13 VII 2005, 1♂, 10 VI 2008, 1♂; (15) – 10 VI 2008, 1♀; (20) – 26 VI 2006, 2♂♂, 5 VI 2007, 3♂♂, 1♀, 17 VI 2007, 2♂♂, 1♀, 23 VII 2007, 1♂, 25 VI 2008, 2♂♂, 1♀, 9 VII 2008, 1♂, 1♀, 24 VII 2008, 1♀.

Tribus ATHYSANINI VAN DUZEE, 1892

***Platymetopius major* KIRSCHBAUM, 1868**

European – widespread – xerophilous, heliophilous; pol., *Betula*, *Quercus*, *Crataegus*; woodlands; egg; 1 gen. – urbicenoxyenic

(32) – 7 X 2006, 1♀, on *Tilia cordata*.

The species was reported as new to KFP region – Krakowsko-Wieluńska Upland by WALCZAK et al. (2014). The species was listed by NAST (1976a) from Baltic Coast, Pomeranian Lake District, Masurian Lake District, Wielkopolsko-Kujawska Lowland, Mazovian Lowland, Małopolska Upland and Świętokrzyskie Mts, also recorded in Upper Silesia (GĘBICKI 1979).

***Hardya tenuis* (GERMAR, 1821)**

European – widespread – xerophilous; olig., Poaceae; woodlands, steppe-like grasslands, meadows; adult(?); 1 gen. – urbiceneutral

(7) – 26 IX 2008, 1♀, 9 IX 2009, 1♂, 22 IX 2009, 1♂, 2♀♀; (8) – 26 IX 2008, 1♂, 1♀; (12) – 10 X 2007, 1♀; (27) – 26 IX 2006, 1♂, 26 IX 2008, 1♂; (29) – 6 VII 2007, 2♂♂; (34) – 24 VII 2008, 1♂, 23 VII 2009, 1♂, 25 VIII 2009, 1♂.

***Allygus communis* (FERRARI, 1882)**

European – rare – mesophilous, but with the preference to drier habitats; pol., Poaceae, *Quercus*; woodlands; egg; 1 gen. – urbicenoxyenic (Fig. 36h)

(32) – 1 VII 2007, 2♂♂, 15 VII 2007, 1♂, 7 VIII 2007, 1♀, all on *Quercus robur*; (35) – 12 VII 2009, 1♂, on *Quercus robur*.

Quite rare species in Poland, known so far only from: Wielkopolsko-Kujawska Lowland – Jeziory (NAST 1986), Upper Silesia – Repty Śląskie (MUSIK 2016), Krakowsko-Wieluńska Upland – Mstów, Olsztyn near Częstochowa (ŚWIERCZEWSKI & WOJCIECHOWSKI 2009) and Lubelska Upland – Janów Lubelski (GĘBICKI et al. 2013) (Fig. 24).

***Allygus mixtus* (FABRICIUS, 1794)**

European – widespread and common – mesophilous; pol., Poaceae, *Quercus*, *Alnus glutinosa*; woodlands, meadows; egg; 1 gen. – urbiceno xenic

(28) – 15 VIII 2009, 2♀♀; (31) – 25 VII 2007, 1♂; (32) – 15 VII 2007, 1♀.

***Allygus modestus* SCOTT, 1876**

European – rare – mesophilous; pol., Poaceae, *Quercus*, *Ulmus*, *Alnus*, *Betula*, *Acer*, *Prunus*; woodlands; egg; 1 gen. – urbiceno xenic (Fig. 37a)

(5) – 28 VI 2008, 1♀, 11 VII 2008, 1♀.

The species was reported as new to KFP region – Krakowsko-Wieluńska Upland by WALCZAK et al. (2014). The species is so far known only from the following regions in Poland: Pomeranian Lake District – Szczecin (WAGNER 1941), Wielkopolsko-Kujawska Lowland – Wielkopolski National Park (NAST 1955), Upper Silesia – Repty Śląskie (MUSIK 2016) and Mysłowice (PNIOK 2015), Małopolska Upland – Kowale (ŚWIERCZEWSKI & STROIŃSKI 2011b) and Lubelska Upland – Janów Lubelski (GĘBICKI et al. 2013) (Fig. 25).

***Allygidius commutatus* (FIEBER, 1872)**

Euro-Siberian – widespread – mesophilous; pol., Poaceae, *Quercus*, *Ulmus*, *Betula*; woodlands, meadows; egg; 1 gen. – urbiceno neutral

(30) – 5 VI 2007, 1♀, 17 VI 2007, 1♂, 3 VII 2007, 1♀, 28 VII 2008, 1♀; (32) – 24 VI 2005, 1♂, 26 VI 2006, 1♂; (33) – 25 VI 2006, 1♂, 17 VII 2006, 1♀, 7 VIII 2007, 1♀; (35) – 12 VII 2009, 1♂, 26 VII 2010, 1♀.

***Orientus ishidae* (MATSUMURA, 1902)**

Palaeartic? (introduced into Europe) – rare – mesophilous; pol – *Salix*, *Carpinus*, *Betula*, *Corylus*, *Acer*, *Malus*; anthropogenic vegetation (urban parks); egg; 1 gen. – urbiceno philous (Fig. 37b)

Published records from Częstochowa; the species reported as new to Poland and KFP region – Krakowsko-Wieluńska Upland by KLEJDYSZ et al. (in press): (31) – 20 VIII 2016, 1♂, 1♀, on *Ulmus* sp., 24 VIII 2016, 1♀, on *Quercus robur*, 24 VIII 2016, 3♂♂, 3♀♀, on *Amelanchier spicata*.

The species is rare in Poland, reported by KLEJDYSZ et al. (in press) from Wielkopolsko-Kujawska Lowland – Poznań, Mazovian Lowland – Warszawa, Krakowsko-Wieluńska



Upland – Kraków and Częstochowa, Western Sudetes Mountains – Lewin Kłodzki (Fig. 26). This invasive species originates in Eastern Asia, and was introduced into North America and Europe. The first record of this species in Europe is from Italy in 1998 (GUGLIELMINO 2005). Further records of the species in Europe are from Switzerland (GÜNTHART & MÜHLETHALER 2002), Germany (NICKEL & REMANE, 2003), Slovenia (SELJAK 2004), Austria (NICKEL 2010), Czech Republic (MALENOVSKÝ & LAUTERER 2010), France (MIFSUD et al. 2010) and Hungary (KOCZOR et al. 2013).

### ***Graphocraerus ventralis* (FALLÉN, 1806)**

Euro-Siberian – widespread – mesophilous, heliophilous; olig., Poaceae, mainly *Poa pratensis* and *Anthoxanthum odoratum*; steppe-like grasslands, meadows; egg; 1 gen. – urbicenophilous

(1) – 26 VI 2010, 1♀; (2) – 26 V 2008, 1♂; (6) – 9 VII 2008, 1♀; (7) – 26 VI 2006, 1♀, 25 VI 2009, 1♀; (8) – 8 VI 2007, 1♀; (9) – 25 V 2007, 3♂♂, 3♀♀, 13 VII 2007, 1♀; (10) – 27 V 2008, 1♀, 27 VI 2008, 1♀; (12) – 7 VI 2007, 1♀; (16) – 9 VI 2006, 1♀, 23 VII 2006, 1♀, 9 VI 2007, 1♂, 26 VI 2007, 1♀, 10 VII 2007, 1♀, 25 V 2008, 1♂, 9 VI 2008, 3♀♀; (19) – 19 VI 2005, 1♀; (21) – 7 VI 2008, 1♀, 28 VI 2008, 1♀, 12 VII 2008, 1♀; (22) – 29 V 2007, 2♂♂, 3♀♀, 8 VI 2007, 5♀♀, 19 VI 2007, 8♀♀, 1 VII 2007, 2♀♀, 7 VI 2008, 16♂♂, 6♀♀, 2 nymphs, 8 VII 2008, 1♀, 28 VII 2008, 2♀♀; (23) – 24 V 2007, 2♂♂, 19 VI 2007, 1♀, 26 V 2008, 1♀, 7 VI 2008, 3♂♂, 4♀♀, 7 VII 2008, 3♀♀; (24) – 10 VI 2006, 7♂♂, 2♀♀, 22 VI 2006, 3♂♂, 10♀♀, 12 VII 2006, 3♀♀, 20 VII 2006, 7♀♀, 25 V 2007, 12♂♂, 8♀♀, 7 VI 2007, 3♂♂, 3♀♀, 22 VI 2007, 1♂, 9♀♀, 8 VII 2007, 1♀, 25 VII 2007, 1♀, 23 V 2008, 4♂♂, 2♀♀, 9 VI 2008, 5♂♂, 6♀♀, 22 VI 2008, 1♂, 6♀♀, 8 VII 2008, 4♀♀; (25) – 7 VI 2007, 1♀, 21 V 2008, 1♂, 11 VI 2008, 1♂, 1♀; (26) – 24 V 2006, 5♂♂, 1♀, 23 V 2007, 3♂♂, 1♀, 9 VI 2007, 2♂♂, 5♀♀, 7 VI 2008, 2♂♂, 1♀, 8 VII 2008, 3♀♀; (28) – 9 VI 2005, 4♂♂, 2♀♀, 20 VI 2005, 1♀, 25 V 2006, 5♂♂, 2♀♀, 10 VI 2006, 7♂♂, 8♀♀, 26 VI 2006, 5♀♀, 6 VII 2006, 6♀♀, 21 VII 2006, 1♀, 10 V 2007, 1♂, 24 V 2007, 4♂♂, 4♀♀, 8 VI 2007, 4♂♂, 6♀♀, 23 VI 2007, 1♂, 9♀♀, 6 VII 2007, 4♀♀; (35) – 11 VI 2009, 1♀.

### ***Rhytistylus proceps* (KIRSCHBAUM, 1868)**

Western European – widespread, eastern edge of the range – xerophilous, heliophilous, psammophilous; m1, *Festuca ovina*; steppe-like grasslands (on sand); egg; 1 gen. – urbicenoxenic

Published records from Częstochowa (WALCZAK 2011): (8) – 1 VII 2007, 2♂♂. New records: (8) – 29 VII 2008, 2♀♀.

### ***Speudotettix subfuscus* (FALLÉN, 1806)**

Trans-Palaeartic – widespread and common – mesophilous; pol.; woodlands, meadows; nymph; 1 gen. – urbicenoneutral

(30) – 22 V 2006, 1♀, 19 V 2007, 1♀, 3 VII 2007, 2♀♀, 10 V 2008, 1♀, 9 VI 2008, 1♂, 11 VII 2008, 1♀; (31) – 9 V 2006, 1♀, 10 V 2008, 2♂♂, 1♀, 10 VI 2008, 1♀; (32) – 8 VII 2005,

1♀, 6 VII 2006, 1♀ / 13 VI 2006, 1♀, on *Quercus robur*; (33) – 19 VI 2005, 1♀; (34) – 17 VII 2006, 1♀, 8 VI 2008, 1♂, 1♀, 10 VII 2008, 1♀, 9 VI 2009, 1♀; (35) – 9 VI 2008, 1♂, 25 VIII 2008, 1♀, 11 VI 2009, 1♀, 23 VII 2009, 1♀, 23 V 2010, 1♂.

### *Hesium domino* (REUTER, 1880)

European – widespread – mesophilous; pol., Poaceae, also on *Betula*; woodlands, steppe-like grasslands; egg; 1 gen. – urbiceno-xenic

(28) – 25 VIII 2009, 3♀♀, 19 VI 2016, 1♂, all on *Betula pendula*.

### *Thamnotettix confinis* ZETTERSTEDT, 1828

Holarctic – widespread – mesophilous; pol.; woodlands; nymph; 1 gen. – urbiceno-neutral

(30) – 27 V 2008, 1♂, 12 VIII 2008, 1♀; (33) – 19 VI 2005, 2 nymphs, 6 VII 2005, 1♂; (35) – 26 VI 2009, 1♀, 12 VII 2009, 1♀, 26 VI 2010, 1♂.

### *Pithyotettix abietinus* (FALLÉN, 1806)

Euro-Siberian – widespread – mesophilous; m1, *Picea abies*; woodlands; nymph; 1 gen. – urbiceno-xenic

(30) – 11 VIII 2012, 1♂, on *Picea excelsa*.

The species is recorded across the whole of Poland, but usually collected in low numbers (NAST 1976a, GĘBICKI et al. 2013). From Krakowsko-Wieluńska Upland, it is known only from Sowiarki near Chrzanów (SMRECYŃSKI 1906), Regulice near Chrzanów and Kraków (SMRECYŃSKI 1954).

### *Macustus grisescens* (ZETTERSTEDT, 1828)

Euro-Siberian – widespread – higrophilous; olig., Poaceae, *Carex*; woodlands, meadows, mires-swamps; nymph; 1 gen. – urbiceno-philous?

(1) – 20 V 2006, 1♂; (3) – 29 IX 2006, 1♀; (14) – 8 V 2009, 1♀, 22 V 2010, 1♂; (15) – 10 V 2008, 1♀, 8 V 2010, 1♂; (18) – 22 V 2010, 2♂♂, 3♀♀; (19) – 28 V 2005, 1♂.

### *Doliotettix lunulatus* (ZETTERSTEDT, 1840)

Northern Euro-Siberian – local – higrophilous; m1, *Agrostis stolonifera*; woodlands, meadows; nymph; 1 gen. – urbiceno-neutral

(6) – 24 V 2006, 1♀, (14) – 26 V 2008, 1♂, 1♀, 8 V 2009, 2♂♂, 26 V 2009, 1♀, 22 V 2010, 5♂♂, 26 VI 2010, 5♀♀, (18) – 26 V 2008, 1♂, 5♀♀, 8 V 2009, 4♂♂, 26 V 2009, 1♂, 2♀♀, 22 V 2010, 1♂, (19) – 10 V 2006, 1♂, 22 V 2006, 1♂, 19 V 2007, 2♂♂, (30) – 24 V 2007, 1♀.

The old records of this species come from Pomeranian Lake District, Krakowsko-Wieluńska

Upland, Świętokrzyskie Mts and Nowotarska Dale (NAST 1976a). Recently, this species has also been reported from Podlasie Lowland (GĘBICKI et al. 1982), Upper Silesia (BOKŁAK et al. 2003, ŚWIERCZEWSKI & GĘBICKI 2003, WALCZAK 2005), Tatra Mts (PILARCZYK & SZWEDO 2005) and Eastern Sudety Mts (GAJ et al. 2009).

#### *Athysanus argentarius* METCALF, 1955

Euro-Siberian – widespread and common – mesophilous; olig., Poaceae; steppe-like grasslands, meadows, mires-swamps; egg; 1 gen. – urbicenophilous

(2) – 3 VII 2007, 1♂, 29 VIII 2008, 1♀, 25 VII 2009, 1♀; (3) – 22 VII 2007, 1♀; (4) – 19 VIII 2006, 1♀, 21 VI 2007, 1♂, 1 VII 2007, 1; (5) – 13 VII 2005, 1♀, 24 VII 2005, 1♂, 1♀; (6) – 23 VII 2006, 1♂, 26 VII 2008, 1♀, 10 VIII 2008, 2♀♀; (10) – 3 VII 2007, 1♂, 9 VII 2008, 1♀, 28 VIII 2008, 1♀; (11) – 8 VII 2006, 1♀, 29 VI 2008, 1♂, 12 VII 2008, 3♂♂, 1♀; (13) – 9 VII 2007, 1♀; (14) – 11 VII 2008, 4♂♂, 29♀♀, 26 VII 2008, 1♂, 5♀♀, 11 VIII 2008, 1♂, 2♀♀, 26 VIII 2008, 1♂, 9♀♀, 10 IX 2008, 3♀♀, 26 IX 2008, 2♀♀, 30 VI 2009, 2♀♀, 12 VII 2009, 2♂♂, 6♀♀, 23 VII 2009, 3♂♂, 1♀, 10 VIII 2009, 1♂, 1♀, 9 IX 2009, 1♀; (15) – 11 VII 2008, 2♂♂, 1♀, 25 VII 2008, 1♀, 26 VIII 2008, 1♀, 26 VI 2009, 1♂, 12 VII 2009, 2♂♂, 4♀♀, 8 VIII 2009, 1♀, 25 VIII 2009, 1♀, 9 IX 2009, 2♀♀, 10 VII 2010, 1♀; (16) – 23 VII 2006, 7♀♀, 10 IX 2006, 1♀, 9 VIII 2007, 1♀, 23 VII 2008, 1♂, 24 VIII 2008, 2♀♀; (17) – 11 VII 2008, 1♂, 26 VI 2009, 1♀; (18) – 11 VII 2008, 1♀, 26 VII 2008, 1♀, 11 VIII 2008, 1♀, 30 VI 2009, 3♂♂, 1♀, 12 VII 2009, 1♀, 10 VIII 2009, 1♀; (19) – 10 VII 2005, 1♂, 2♀♀, 18 VIII 2006, 1♀, 10 IX 2006, 2♀♀, 22 VI 2007, 1♂, 2♀♀, 7 VII 2007, 4♂♂, 5♀♀, 22 VII 2007, 1♂, 2♀♀, 20 VIII 2007, 2♀♀, 8 IX 2007, 1♂, 20 IX 2007, 1♂; (20) – 22 VI 2007, 1♂, 9 VII 2007, 1♀, 9 VII 2008, 1♀; (21) – 11 VI 2007, 1♂, 21 VI 2007, 3♂♂, 5♀♀, 22 VII 2007, 1♀, 25 VIII 2007, 1♀, 28 VI 2008, 1♂, 12 VII 2008, 1♂, 29 VII 2008, 1♂; (22) – 7 VIII 2005, 1♀, 20 VIII 2005, 2♀♀, 6 VII 2007, 1♀, 8 VII 2008, 1♂, 1♀, 28 VII 2008, 1♂, 1♀, 10 VIII 2008, 1♀, 30 VIII 2008, 1♂, 1♀; (23) – 8 VI 2006, 1♂, 24 VII 2006, 1♂, 1♀; (24) – 20 VII 2006, 2♂♂, 12 VIII 2006, 1♂, 21 VIII 2006, 1♀, 22 VI 2007, 1♂, 1♀, 8 VII 2007, 1♂, 3♀♀, 25 VII 2007, 2♂♂, 2♀♀, 8 VII 2008, 1♀; (25) – 9 VII 2007, 1♀; (26) – 8 VII 2007, 1♂, 1♀, 26 VIII 2008, 1♀; (28) – 8 VI 2007, 1♂, 22 VII 2007, 2♀♀; (29) – 6 VII 2005, 1♀, 22 VII 2006, 1♂.

#### *Athysanus quadrum* BOHEMAN, 1845

Siberian – widespread – higrophilous; olig.?.; steppe-like grasslands, meadows; egg; 1 gen. – urbicenoxenic

(17) – 10 VIII 2010, 1♀; (24) – 23 IX 2009, 1♀.

#### *Laburru impictifrons* (BOHEMAN, 1852)

Kazakh – widespread – xerophilous, heliophilous, psammophilous; m1, *Artemisia campestris*; steppe-like grasslands; egg; 1 gen. – urbicenoneutral

(7) – 23 VII 2006, 1♀, 9 VII 2008, 2♂♂, 26 VII 2008, 1♂, 2♀♀, 10 VIII 2008, 1♂, 2♀♀, 25 VIII 2008, 2♂♂, 4♀♀, 9 IX 2008, 1♀, 10 VII 2009, 5♂♂, 4♀♀, 23 VII 2009, 1♀, 25 VIII

2009, 2♂♂, 7♀♀, 9 IX 2009, 3♀♀, 22 IX 2009, 1♀; **(8)** – 25 VI 2006, 2♂♂, 1♀, 9 VII 2006, 1♂, 11 VIII 2006, 1♂, 15 VII 2007, 4♂♂, 6♀♀, 6 VIII 2007, 1♂, 1♀, 2 IX 2007, 2♀♀, 21 IX 2007, 2, 29 VII 2008, 2♂♂, 1♀, 10 VIII 2008, 2♀♀; **(23)** – 15 VII 2007, 1♂.

***Euscelidius schenckii* (KIRSCHBAUM, 1868)**

Western Palaearctic – widespread – mesophilous, heliophilous; pol.; steppe-like grasslands, meadows; egg; 1 gen. – urbicenophilous

**(2)** – 3 VII 2007, 1♂; **(12)** – 21 VI 2007, 1♀.

***Conosanus obsoletus* (KIRSCHBAUM, 1858)**

Mediterranean – widespread – higrophilous, thermophilous; olig., Poaceae, *Juncus*; meadows, mires-swamps; egg; 1 gen. – urbicenoneutral

**(14)** – 11 VIII 2008, 4♂♂, 2♀♀, 26 VIII 2008, 3♀♀, 23 VII 2009, 2♀♀, 10 VIII 2009, 1♀, 25 VIII 2009, 2♀♀, 9 IX 2009, 2♀♀, 22 IX 2009, 1♀, 26 VII 2010, 1♂, 1♀, 11 VIII 2010, 2♀♀, 23 VIII 2010, 1♂, 1♀, 23 IX 2010, 1♀; **(15)** – 11 VII 2008, 2♂♂, 1♀, 25 VII 2008, 2♂♂, 11 VIII 2008, 1♀, 11 IX 2008, 3♀♀, 11 X 2008, 1♀, 12 VII 2009, 1♂, 23 VII 2009, 2♂♂, 8 VIII 2009, 1♀, 25 VIII 2009, 1♂, 23 IX 2009, 1♀, 30 VII 2010, 1♀, 11 IX 2010, 1♀, 23 IX 2010, 1♀; **(16)** – 8 VIII 2006, 1♂, 25 VIII 2007, 1♀; **(17)** – 11 VII 2008, 1♂, 25 VII 2008, 1♂, 1♀, 11 VIII 2008, 2♀♀, 11 VIII 2010, 3♀♀; **(18)** – 11 VII 2008, 3♂♂, 1♀, 26 VII 2008, 2♂♂, 1♀, 11 VIII 2008, 4♂♂, 2♀♀, 26 VIII 2008, 1♂, 2♀♀, 10 IX 2008, 1♀, 26 IX 2008, 1♀, 12 VII 2009, 5♂♂, 23 VII 2009, 1♂, 2♀♀, 10 VIII 2009, 1♀, 25 VIII 2009, 2♀♀, 26 VII 2010, 1♀; **(19)** – 7 VII 2007, 1♂, 12 X 2006, 1♀, 10 X 2005, 1♂; **(20)** – 10 IX 2006, 1♀, 17 VIII 2007, 1♀, 23 VIII 2008, 1♂, 1♀, 25 IX 2008, 1♀; **(21)** – 12 VII 2008, 1♀.

***Euscelis distinguendus* (KIRSCHBAUM, 1858)**

Euro-Siberian – widespread – mesophilous, heliophilous; olig., Asteraceae; meadows, steppe-like grasslands; egg; 1 gen. – urbicenoxenic

**(7)** – 26 IX 2008, 1♂, 23 VII 2009, 2♂♂, 22 IX 2009, 1♂, 14 IX 2015, 1♂.

***Euscelis incisus* (KIRSCHBAUM, 1858)**

Trans-Palaearctic – widespread – mesophilous, heliophilous; olig., Fabaceae, Poaceae; steppe-like grasslands, meadows; nymph; 2 gen. – urbicenophilous

**(2)** – 3 VII 2007, 1♂, 8 VIII 2007, 1♂, 8 VII 2009, 1♀, 8 VIII 2009, 1♀; **(3)** – 11 V 2007, 1♀, 7 VII 2007, 1♂, 22 VII 2007, 1♂, 3♀♀, 6 VIII 2007, 1♂, 21 VIII 2007, 1♀, 8 V 2008, 1♂, 1♀; **(4)** – 19 VIII 2006, 1♀, 29 V 2007, 3♀♀, 8 V 2008, 1♂, 1♀; **(5)** – 13 VII 2005, 1♀, 4 IX 2005, 1♀, 19 V 2007, 1♀, 10 V 2008, 1♀, 11 VII 2008, 1♀; **(6)** – 7 VII 2006, 1♂, 8 V 2008, 1♂; **(8)** – 7 V 2006, 2♀♀, 9 VI 2006, 1♂, 6 VII 2007, 1♂, 1♀, 22 VII 2007, 1♀, 6 VIII 2007, 2♀♀, 22 VIII 2007, 1♀, 8 V 2008, 1♂; **(9)** – 26 VII 2006, 2♂♂, 1♀, 9 VIII 2006, 1♂, 1♀, 8 VII 2007, 3♂♂, 1♀, 25 VII 2007, 5♂♂, 4♀♀, 10 VIII 2007, 3♀♀, 16 VIII 2007, 2♂♂,

29 VIII 2007, 3♀♀, 26 V 2008, 1♀, 29 VI 2008, 1♂, 11 VII 2008, 2♂♂, 1♀, 29 VII 2008, 2♀♀, 11 VIII 2008, 2♀♀, 10 X 2008, 1♂; **(10)** – 9 VI 2006, 1♂, 1♀, 24 V 2007, 2♂♂, 1♀, 9 VI 2007, 1♀, 7 VII 2007, 24♂♂, 17♀♀, 23 VII 2007, 13♂♂, 16♀♀, 8 VIII 2007, 3♂♂, 2♀♀, 23 VIII 2007, 1♂, 4♀♀, 10 V 2008, 1♂, 5♀♀, 27 VI 2008, 2♂♂, 9 VII 2008, 22♂♂, 12♀♀, 27 VII 2008, 5♂♂, 6♀♀, 12 VIII 2008, 1♂, 4♀♀, 28 VIII 2008, 1♂, 1♀, 27 IX 2008, 2♂♂, 11 X 2008, 2♂♂, 1♀; **(11)** – 10 V 2006, 2♀♀, 22 VI 2006, 3♂♂, 2♀♀, 8 VII 2006, 7♂♂, 5♀♀, 23 VII 2006, 2♂♂, 3♀♀, 9 VIII 2006, 1♂, 4♀♀, 9 VII 2007, 10♂♂, 4♀♀, 25 VII 2007, 1♂, 2♀♀, 6 VIII 2007, 1♂, 1♀, 22 IX 2007, 1♀, 12 V 2008, 8♀♀, 26 V 2008, 2♀♀, 7 VI 2008, 1♀, 29 V 2008, 2♂♂, 1♀, 12 VII 2008, 12♂♂, 3♀♀, 29 VII 2008, 4♂♂, 11 VIII 2008, 3♂♂, 2♀♀, 31 VIII 2008, 1♂, 1♀, 11 X 2008, 1♀; **(12)** – 11 V 2006, 2♂♂, 22 VI 2006, 1♂, 12 VII 2006, 1♂, 1♀, 20 VII 2006, 4♂♂, 4♀♀, 12 VIII 2006, 1♀, 21 VIII 2006, 1♀, 21 VI 2007, 3♀♀, 9 VII 2007, 3♂♂, 3♀♀, 23 VII 2007, 4♂♂, 6♀♀, 6 VIII 2007, 5♂♂, 3♀♀, 20 VIII 2007, 2♂♂, 3♀♀, 23 V 2008, 1♂, 1♀, 10 VI 2008, 1♀, 8 VII 2008, 1♂, 1♀, 22 VII 2008, 6♂♂, 2♀♀, 9 VIII 2008, 2♀♀; **(13)** – 12 VII 2006, 3♂♂, 1♀, 20 VII 2006, 2♂♂, 2♀♀, 12 VIII 2006, 3♀♀, 8 V 2007, 1♂, 1♀, 22 VI 2007, 2♂♂, 9 VII 2007, 7♂♂, 5♀♀, 25 VII 2007, 1♂, 4♀♀, 23 VIII 2007, 1♂, 1♀, 8 IX 2007, 1♂, 22 IX 2007, 1♀, 26 V 2008, 2♀♀, 11 VII 2008, 6♂♂, 1♀, 29 VII 2008, 1♂, 1♀, 11 VIII 2008, 2♂♂, 2♀♀, 10 IX 2008, 1♂, 1♀; **(15)** – 10 V 2008, 1♀, 11 VII 2008, 1♂; **(16)** – 23 VII 2006, 2♂♂, 23 V 2007, 1♂, 1♀, 24 VII 2007, 1♀, 8 V 2008, 1♂, 23 VII 2008, 1♀; **(19)** – 2 V 2007, 2♀♀, 19 V 2007, 2♀♀, 7 VII 2007, 1♂, 2♀♀, 8 IX 2007, 1♀; **(20)** – 10 V 2006, 1♀, 23 V 2006, 1♀, 7 VII 2006, 1♂, 1♀, 9 X 2006, 2♀♀, 21 V 2007, 1♀, 5 VI 2007, 1♂, 1♀, 9 VII 2007, 6♂♂, 4♀♀, 23 VII 2007, 4♂♂, 4♀♀, 8 VIII 2007, 3♂♂, 5♀♀, 22 VIII 2007, 2♀♀, 6 IX 2007, 1♂, 11 X 2007, 1♂, 22 V 2008, 1♂, 9 VII 2008, 4♂♂, 3♀♀, 24 VII 2008, 2♂♂, 2♀♀, 7 VIII 2008, 2♀♀; **(21)** – 10 V 2007, 1♂, 7 VII 2007, 2♂♂, 2♀♀, 22 VII 2007, 4♂♂, 3♀♀, 7 VIII 2007, 2♂♂, 2♀♀, 25 VIII 2007, 1♂, 1♀, 7 IX 2007, 1♀, 8 V 2008, 1♀, 26 V 2008, 1♀, 28 VI 2008, 1♀, 12 VII 2008, 3♂♂, 29 VII 2008, 3♂♂, 8 VIII 2008, 1♂, 1♀, 8 IX 2008, 1♀; **(22)** – 25 V 2005, 1♂, 22 VI 2005, 2♀♀, 20 VIII 2005, 1♂, 11 V 2007, 1♂, 1 VII 2007, 1♂, 21 VIII 2007, 2♀♀, 8 V 2008, 1♂, 3♀♀, 28 VII 2008, 3♀♀, 10 VIII 2008, 1♂; **(23)** – 7 V 2006, 1♂, 1♀, 24 VII 2006, 5♂♂, 7♀♀, 8 VIII 2006, 2♂♂, 1♀, 23 VIII 2006, 2♂♂, 4♀♀, 7 IX 2006, 4♂♂, 5♀♀, 9 V 2007, 6♂♂, 2♀♀, 24 V 2007, 2♀♀, 8 VI 2007, 1♀, 6 VII 2007, 14♂♂, 8♀♀, 22 VII 2007, 6♂♂, 13♀♀, 6 VIII 2007, 5♂♂, 8♀♀, 22 VIII 2007, 1♂, 7 IX 2007, 1♂, 1♀, 21 IX 2007, 1♀, 26 V 2008, 1♀, 25 VII 2008, 2♂♂, 3♀♀, 9 VIII 2008, 5♂♂, 6♀♀; **(24)** – 10 V 2006, 5♂♂, 4♀♀, 12 VII 2006, 1♂, 20 VII 2006, 3♂♂, 12 VIII 2006, 2♂♂, 3♀♀, 21 VIII 2006, 1♀, 9 X 2006, 2♀♀, 25 V 2007, 2♂♂, 1♀, 8 VII 2007, 7♂♂, 4♀♀, 25 VII 2007, 6♂♂, 6♀♀, 9 VIII 2007, 2♂♂, 3♀♀, 25 VIII 2007, 1♂, 2♀♀, 10 V 2008, 2♂♂, 8 VII 2008, 2♂♂, 23 VII 2008, 2♂♂, 4♀♀, 9 VIII 2008, 1♀, 25 VIII 2008, 1♂, 2♀♀; **(25)** – 9 VII 2006, 1♀, 25 V 2007, 2♀♀, 9 VII 2007, 6♂♂, 2♀♀, 31 VII 2007, 3♂♂, 17 VIII 2007, 1♀, 11 IX 2007, 2♂♂, 1♀, 2 X 2007, 1♂, 4♀♀, 23 VII 2008, 1♂; **(26)** – 10 V 2006, 1♀, 6 VII 2006, 1♂, 2♀♀, 20 VII 2006, 2♂♂, 2♀♀, 9 V 2007, 3♂♂, 3♀♀, 9 VI 2007, 1♂, 4♀♀, 24 VI 2007, 1♂, 7♀♀, 8 VII 2007, 4♂♂, 2♀♀, 8 V 2008, 4♂♂, 6♀♀, 25 V 2008, 2♀♀, 7 VI 2008, 2♀♀, 27 VI 2008, 1♀, 28 VII 2008, 3♂♂, 6♀♀, 10 VIII 2008, 3♂♂, 4♀♀, 26 VIII 2008, 4♀♀, 8 IX 2008, 2♂♂, 3♀♀, 26 IX 2008, 4♀♀, 9 X 2008, 3♀♀; **(27)** – 25 VI 2006, 3♀♀, 24 VII 2006, 2♂♂, 8 VIII 2006, 1♀, 26 VI 2008, 1♂, 26 VII 2008, 2♀♀, 10 VIII 2008, 1♂, 2♀♀, 26 VIII 2008, 1♀; **(28)** – 22 VII 2005, 1♀, 15 VII 2007, 1♂; **(31)** – 13 VII 2007, 1♂; **(32)** – 15 VII 2007, 1♀.

***Streptanus aemulans* (KIRSCHBAUM, 1868)**

Holarctic – widespread – mesophilous; olig., Poaceae; woodlands, steppe-like grasslands, meadows, mires-swamps; egg; 2(?) gen. – urbiceneutral

(4) – 26 IX 2007, 1♂; (11) – 10 IX 2008, 1♂, 29 IX 2008, 1♂; (12) – 10 X 2007, 1♀; (19) – 7 VII 2007, 1♀; (21) – 17 VII 2007, 1♀, 16 IX 2007, 1♂, 8 VIII 2008, 1♀.

***Streptanus confinis* (REUTER, 1880)**

Siberian – rare – higrophilous; m1, *Deschampsia caespitosa*; woodlands, meadows; egg; 1 gen. – urbicenoenic

(10) – 27 IX 2008, 1♀.

The species reported here as new to KFP region – Krakowsko-Wieluńska Upland. The species is rarely collected in Poland, so far known from: Podlasie Lowland – Dolistowo (GĘBICKI et al. 1982), Upper Silesia – ‘Cisy nad Liswartą’ Nature Reserve (ŚWIERCZEWSKI & BŁASZCZYK 2010) [in the check-list (GĘBICKI et al. 2013) this site was erroneously placed and published in the region KFP – Krakowsko-Wieluńska Upland], Kuźnia Raciborska (JUNKIERT 2016), Bukowno, Klucze (MUSIK 2016) (Fig. 27).

***Streptanus sordidus* (ZETTERSTEDT, 1828)**

European – widespread and common – mesophilous; olig., Poaceae, mainly *Agrostis*; woodlands, meadows; egg; 2(?) gen. – urbiceneutral

(5) – 9 VII 2007, 1♀, 23 VII 2007, 2♀♀, 31 VIII 2008, 1♂; (6) – 9 IX 2008, 1♀; (13) – 8 X 2006, 1♂; (19) – 10 X 2005, 1♂; (20) – 10 VI 2006, 1♂, 1♀, 10 IX 2006, 1♀, 25 IX 2006, 1♂, 9 X 2006, 1♀, 5 VI 2007, 1♀, 17 VI 2007, 3♀♀, 3 IX 2007, 2♂♂, 8 VI 2008, 1♂; (31) – 10 IX 2006, 1♂, 16 IX 2007, 1♂, 11 VII 2008, 1♂.

***Limotettix striola* (FALLÉN, 1806)**

Trans-Palaearctic – widespread – higrophilous, halophilous; olig., Cyperaceae, mainly *Eleocharis* and *Schoenoplectus*; meadows, mires-swamps; egg; 2 gen. – urbicenoenic

(4) – 26 V 2007, 1♂; (20) – 5 VI 2007, 1♂, 1♀.

***Ophiola decumana* (KONTKANEN, 1949)**

Euro-Siberian – widespread – xerophilous, heliophilous; olig., *Polygonum aviculare*, *Rumex acetosella* and other dicotyledonous herbs?; steppe-like grasslands; egg; 2 gen. – urbicenoenic? (pioneer species in primary succession)

(2) – 28 VI 2008, 1♀.

***Cicadula flori* (J. SAHLBERG, 1871)**

Euro-Siberian – rare – higrophilous, thermophilous; m2, *Carex elata*, *C. acutiformis* and others; meadows, mires-swamps; egg; 2 gen. – urbicenoneutral

Published records from Częstochowa (WALCZAK 2011): **(5)** – 17 VI 2005, 10♂♂, 6♀♀; **(6)** – 31 VII 2006, 1♂, 1♀, 21 VIII 2006, 1♂, 12 IX 2006, 2♂♂, 2♀♀. New records: **(4)** – 19 VI 2006, 1♂; **(5)** – 5 VI 2007, 1♂, 10 VI 2008, 1♀; **(6)** – 19 VI 2005, 1, 9 VI 2008, 1♂, 3♀♀, 26 VI 2008, 4♂♂, 2♀♀, 9 VII 2008, 2♀♀, 26 VII 2008, 1♀, 10 VIII 2008, 2, 26 VIII 2008, 2♂♂, 9 IX 2008, 9♂♂, 4♀♀, 26 IX 2008, 13♂♂, 18♀♀, 9 X 2008, 3♂♂, 7♀♀; **(10)** – 11 X 2008, 1♂, 1♀; **(14)** – 10 VIII 2009, 1♀; **(15)** – 10 VI 2008, 1♂, 1♀, 11 VIII 2008, 1♀, 11 IX 2008, 1♀, 28 IX 2008, 1♂, 1♀, 11 X 2008, 1♂, 1♀, 23 IX 2010, 1♂, 1♀; **(17)** – 10 VI 2008, 1♂, 11 IX 2008, 1♂, 1♀, 28 IX 2008, 2♂♂, 3♀♀, 11 X 2008, 2♀♀, 26 VI 2009, 1♀, 9 IX 2009, 2♂♂, 23 IX 2009, 1♂, 10 X 2009, 2♀♀, 23 IX 2010, 3♀♀; **(18)** – 26 IX 2008, 1♀; **(20)** – 25 IX 2006, 1♂.

The first record of this species from the present territory of Poland comes from the first half of 20<sup>th</sup> century: Pomeranian Lake District – Szczecin (SCHMIDT 1912, WAGNER 1941). Further, much later records are from Mazovian Lowland – ‘Cyganka’ Nature Reserve (CHUDZICKA 1989), Krakowsko-Wieluńska Upland – Olsztyn near Częstochowa (ŚWIERCZEWSKI & WOJCIECHOWSKI 2009), Upper Silesia – Kalety (ŚWIERCZEWSKI & BŁASZCZYK 2011), Dąbrowa Górnicza, Piekary Śląskie (MUSIK 2016) and Małopolska Upland (GĘBICKI et al. 2013).

***Cicadula frontalis* (HERRICH-SCHÄFFER, 1835)**

Siberian? – rare – mesophilous; m2, *Carex*, mainly *C. acutiformis* and *C. riparia*; meadows; egg; 1(-2?) gen. – urbicenoxyenic

**(17)** – 11 IX 2008, 2♀♀, 25 VIII 2009, 1♀; **(18)** – 11 VIII 2008, 4♂♂, 10♀♀, 26 VIII 2008, 1♂, 1♀, 10 IX 2008, 1♂, 2♀♀, 26 IX 2008, 8♀♀, 10 X 2008, 9♀♀, 10 VIII 2009, 4♀♀, 22 IX 2009, 1♀, 10 X 2009, 2♀♀, 26 VII 2010, 1♂, 1♀, 23 VIII 2010, 1♀, 11 IX 2010, 1♂, 1♀.

The species was reported as new to Krakowsko-Wieluńska Upland by WALCZAK et al. (2014). The species was listed by NAST (1976a) in Baltic Coast, Pomeranian Lake District, Masurian Lake District and Wielkopolsko-Kujawska Lowland; also known from Małopolska Upland – Młodzawy near Pińczów (GĘBICKI 1983).

***Cicadula persimilis* (EDWARDS, 1920)**

Euro-Siberian – widespread and common – mesophilous; m1, *Dactylis glomerata*; steppe-like grasslands, meadows, mires-swamps; egg; 2 gen. – urbicenoneutral

**(3)** – 10 IX 2008, 4♂♂, 2♀♀, 26 IX 2008, 1♂; **(4)** – 8 VI 2007, 1♂; **(10)** – 21 VI 2006, 1♀, 10 VII 2006, 1♂, 1♀, 26 VII 2006, 2♂♂, 24 IX 2006, 1♀, 9 VI 2007, 1♂, 20 VII 2007, 1♂, 20 VIII 2007, 2♀♀, 8 IX 2007, 2♂♂, 22 IX 2007, 1♂, 1♀, 9 X 2007, 1♀, 27 V 2008, 1♀, 9

VI 2008, 4♂♂, 2♀♀, 27 VII 2008, 1♂, 1♀, 27 IX 2008, 2♂♂, 3♀♀; **(13)** – 10 VI 2008, 1♂, 1♀; **(14)** – 11 VI 2009, 1♂, 12 VI 2010, 1♂; **(21)** – 11 IX 2006, 1♀, 24 IX 2006, 1♀, 25 V 2007, 1♂, 11 VI 2007, 10♂♂, 8♀♀, 21 VI 2007, 8♂♂, 9♀♀, 07 VII 2007, 1♂, 4♀♀, 22 VII 2007, 1♂, 7 VIII 2007, 1♀, 07 IX 2007, 11♂♂, 7♀♀, 26 IX 2007, 8♂♂, 13♀♀, 9 X 2007, 2♂♂, 8♀♀, 7 VI 2008, 3♂♂, 2♀♀, 28 VI 2008, 2♂♂, 3♀♀, 12 VII 2008, 1♀, 30 VIII 2008, 4♂♂, 3♀♀, 8 IX 2008, 4♂♂, 4♀♀, 26 IX 2008, 6♂♂, 11♀♀, 10 X 2008, 6♀♀, **(23)** – 8 VI 2006, 1♂, 23 VIII 2006, 2♀♀, 7 IX 2006, 3♂♂, 1♀, 8 VI 2007, 1♂, 21 VIII 2007, 2♂♂, 7 IX 2007, 2♂♂, 2♀♀; **(24)** – 22 VI 2006, 1♂, 7 VI 2007, 2♂♂, 2♀♀, 17 VI 2007, 1♂, 1♀, 29 VIII 2007, 1♂, 1♀, 22 IX 2007, 1♀, 7 X 2007, 1♂, 22 VI 2008, 1♂, 23 VII 2008, 1♀; **(30)** – 20 VII 2007, 1♂.

### *Cicadula quadrinotata* (FABRICIUS, 1794)

Euro-Siberian – widespread and common – hygrophilous; m2, *Carex*; woodlands, steppe-like grasslands, meadows, mires-swamps; egg; 2 gen. – urbicophilous

**(2)** – 26 V 2008, 1♂, 9 VI 2008, 1♀, 29 VIII 2008, 2♂♂, 29 IX 2008, 1♂, 3♀♀, 11 X 2008, 1♂, 9 VI 2009, 1♂, 1♀, 8 VIII 2009, 1♂, 1♀, 8 X 2009, 1♀; **(3)** – 22 VI 2006, 1♂, 11 VI 2007, 1♂, 1♀, 7 VI 2008, 3♂♂, 3♀♀; **(5)** – 8 VI 2005, 1♂, 17 VI 2005, 6♂♂, 3♀♀, 24 VII 2005, 1♂, 1♀, 7 VIII 2005, 2♀♀, 22 VIII 2005, 1♂, 2♀♀, 4 IX 2005, 2♂♂, 3♀♀, 24 IX 2005, 8♂♂, 7♀♀, 6 X 2005, 1♂, 1♀, 17 VIII 2007, 1♂, 3 IX 2007, 1♂, 1♀, 18 IX 2007, 2♂♂, 26 V 2008, 5♂♂, 1♀, 10 VI 2008, 9♂♂, 14♀♀, 11 VII 2008, 1♂, 1♀, 26 VIII 2008, 3♂♂, 1♀, 11 IX 2008, 4♂♂; **(6)** – 19 VI 2005, 1♀, 6 VII 2005, 2♂♂, 3♀♀, 23 VII 2005, 2♂♂, 2♀♀, 7 VIII 2005, 4♂♂, 1♀, 9 IX 2005, 4♂♂, 5♀♀, 21 IX 2005, 1♂, 5 X 2005, 1♀, 31 VII 2006, 1♀, 10 IX 2006, 5♂♂, 4♀♀, 25 IX 2006, 2♂♂, 1♀, 9 VI 2008, 6♂♂, 2♀♀, 26 VI 2008, 3♀♀, 9 VII 2008, 1♂, 2♀♀, 26 VIII 2008, 3♂♂, 9 IX 2008, 11♂♂, 8♀♀, 26 IX 2008, 13♂♂, 16♀♀, 9 X 2008, 2♂♂, 2♀♀; **(7)** – 8 VI 2006, 1♂, 9 VI 2009, 1♀; **(8)** – 26 IX 2006, 1♀, 26 IX 2008, 2♀♀; **(9)** – 7 VI 2007, 1♀, 17 VI 2007, 1♀, 10 VI 2008, 1♀, 10 X 2008, 1♂; **(10)** – 10 IX 2006, 1♀, 24 IX 2006, 1♂, 1♀, 20 IX 2007, 2♂♂, 11 X 2008, 1♂, 1♀; **(11)** – 7 VI 2008, 1♂, 29 VI 2008, 2♀♀, 12 VII 2008, 1♂, 29 VII 2008, 1♀, 29 IX 2008, 1♀; **(12)** – 29 V 2007, 1♀, 11 VI 2007, 1♀, 27 IX 2007, 1♀; **(13)** – 22 VI 2006, 1♀, 7 VI 2007, 2♂♂, 10 VI 2008, 2♂♂, 4♀♀; **(14)** – 10 VI 2008, 4♂♂, 1♀, 26 VI 2008, 1♀, 11 VII 2008, 1♀, 26 VII 2008, 1♀, 11 VIII 2008, 1♂, 2♀♀, 26 VIII 2008, 7♂♂, 4♀♀, 10 IX 2008, 19♂♂, 4♀♀, 26 IX 2008, 17♂♂, 16♀♀, 10 X 2008, 2♂♂, 8♀♀, 11 VI 2009, 2♂♂, 3♀♀, 25 VI 2009, 1♀, 12 VII 2009, 1♀, 10 VIII 2009, 1♂, 25 VIII 2009, 1♂, 9 IX 2009, 38♂♂, 20♀♀, 22 IX 2009, 22♂♂, 26♀♀, 10 X 2009, 5♂♂, 5♀♀, 12 VI 2010, 4♂♂, 5♀♀, 26 VI 2010, 6♀♀, 10 VII 2010, 1♀, 11 VIII 2010, 1♀, 11 IX 2010, 1♂, 2♀♀, 23 IX 2010, 3♂♂, 11♀♀, 13 X 2010, 1♂, 4♀♀; **(15)** – 27 V 2008, 1♂, 10 VI 2008, 11♂♂, 9♀♀, 25 VI 2008, 4♂♂, 5♀♀, 11 VII 2008, 2♀♀, 11 VIII 2008, 1♂, 3♀♀, 26 VIII 2008, 8♂♂, 2♀♀, 11 IX 2008, 8♂♂, 12♀♀, 28 IX 2008, 40♂♂, 35♀♀, 11 X 2008, 25♂♂, 35♀♀, 10 VI 2009, 8♂♂, 5♀♀, 26 VI 2009, 2♂♂, 4♀♀, 25 VII 2009, 1♀, 26 VIII 2009, 5♀♀, 9 IX 2009, 12♂♂, 17♀♀, 23 IX 2009, 14♂♂, 12♀♀, 12 VI 2010, 15♂♂, 12♀♀, 26 VI 2010, 4♂♂, 11♀♀, 10 VII 2010, 1♀, 30 VII 2010, 1♂, 11 VIII 2010, 1♀, 11 IX 2010, 3♂♂, 1♀, 23 IX 2010, 18♂♂, 18♀♀, 7 X 2010, 2♂♂, 5♀♀; **(16)** – 9 VI 2006, 1♀, 9 VI 2007, 1♂, 25 VIII 2007, 1♂, 23 IX 2007, 2♂♂, 1♀, 10 X 2007, 1♂, 2♀♀, 9 VI 2008, 1♀, 24 VIII 2008, 1♂, 25 IX 2008, 2♀♀; **(17)** – 27 V 2008, 1♂, 10 VI 2008, 10♂♂, 8♀♀, 25 VI 2008, 4♂♂, 4♀♀, 11 VII 2008, 2♀♀, 25 VII 2008, 1♂, 11 VIII 2008, 2♂♂, 3♀♀, 26 VIII 2008, 13♂♂, 3♀♀, 11 IX 2008, 22♂♂, 20♀♀,



28 IX 2008, 21♂♂, 35♀♀, 11 X 2008, 6♂♂, 6♀♀, 25 V 2009, 2♂♂, 3♀♀, 9 VI 2009, 9♂♂, 2♀♀, 26 VI 2009, 5♀♀, 12 VII 2009, 2♀♀, 23 VII 2009, 1♀, 25 VIII 2009, 15♂♂, 2♀♀, 9 IX 2009, 43♂♂, 40♀♀, 23 IX 2009, 12♂♂, 13♀♀, 10 X 2009, 4♂♂, 6♀♀, 10 VI 2010, 3♂♂, 1♀, 26 VI 2010, 6♂♂, 15♀♀, 10 VII 2010, 1♂, 1♀, 11 VIII 2010, 1♀, 23 VIII 2010, 1♂, 11 IX 2010, 6♂♂, 3♀♀, 23 IX 2010, 11♂♂, 12♀♀, 7 X 2010, 6♂♂, 6♀♀; **(18)** – 10 VI 2008, 40♂♂, 5♀♀, 26 VI 2008, 3♂♂, 10♀♀, 11 VII 2008, 4♀♀, 26 VII 2008, 2♀♀, 11 VIII 2008, 1♂, 2♀♀, 26 VIII 2008, 12♂♂, 4♀♀, 10 IX 2008, 54♂♂, 22♀♀, 26 IX 2008, 72♂♂, 55♀♀, 10 X 2008, 26♂♂, 35♀♀, 11 VI 2009, 44♂♂, 45♀♀, 30 VI 2009, 6♂♂, 7♀♀, 12 VII 2009, 2♂♂, 3♀♀, 23 VII 2009, 2♂♂, 1♀, 10 VIII 2009, 2♂♂, 3♀♀, 25 VIII 2009, 21♂♂, 10♀♀, 9 IX 2009, 107♂♂, 78♀♀, 22 IX 2009, 113♂♂, 95♀♀, 10 X 2009, 36♂♂, 29♀♀, 12 VI 2010, 27♂♂, 29♀♀, 26 VI 2010, 13♂♂, 29♀♀, 10 VII 2010, 3♂♂, 11♀♀, 26 VII 2010, 4♂♂, 5♀♀, 11 VIII 2010, 2♂♂, 2♀♀, 23 VIII 2010, 1♂, 11 IX 2010, 5♂♂, 1♀, 23 IX 2010, 33♂♂, 42♀♀, 13 X 2010, 10♂♂, 8♀♀; **(19)** – 19 VI 2005, 1♂, 1♀, 7 IX 2005, 2♂♂, 2♀♀, 26 IX 2005, 7♂♂, 5♀♀, 10 X 2005, 2♂♂, 3♀♀, 23 VI 2006, 1♂, 1♀, 10 IX 2006, 1♂, 25 IX 2006, 1♂, 1♀, 11 X 2006, 1♂, 1♀, 11 VI 2007, 4♂♂, 5♀♀, 22 VI 2007, 1♀, 22 VII 2007, 1♂, 20 VIII 2007, 2♂♂, 2♀♀, 8 IX 2007, 3♀♀, 20 IX 2007, 4♂♂, 5♀♀, 8 X 2007, 1♂, 2♀♀; **(20)** – 10 VI 2006, 2♂♂, 25 VI 2006, 4♂♂, 6♀♀, 7 VII 2006, 3♀♀, 26 VII 2006, 1♂, 10 IX 2006, 8♂♂, 13♀♀, 25 IX 2006, 3♂♂, 5♀♀, 9 X 2006, 6♀♀, 5 VI 2007, 25♂♂, 20♀♀, 22 VI 2007, 3♂♂, 5♀♀, 8 VIII 2007, 1♂, 22 VIII 2007, 2♂♂, 6 IX 2007, 1♂, 2♀♀, 21 IX 2007, 1♂, 1♀, 11 X 2007, 1♀, 8 VI 2008, 4♂♂, 3♀♀, 25 VI 2008, 8♂♂, 4♀♀, 7 VIII 2008, 2♂♂, 23 VIII 2008, 5♂♂, 6♀♀, 7 IX 2008, 2♂♂, 3♀♀, 25 IX 2008, 1♂, 1♀; **(21)** – 7 VI 2007, 1♂, 1♀, 26 IX 2007, 3♂♂, 2♀♀, 7 VI 2008, 2♀♀, 26 IX 2008, 1♂; **(22)** – 8 IX 2005, 2♂♂, 2♀♀, 21 IX 2005, 1♂, 29 V 2007, 1♂, 2 IX 2007, 1♂, 1♀, 17 IX 2007, 2♂♂, 1♀, 1 X 2007, 1♀, 7 VI 2008, 3♂♂, 2♀♀, 26 VI 2008, 1♀, 8 VII 2008, 4♀♀, 10 VIII 2008, 1♀, 9 IX 2008, 1♂, 2♀♀, 26 IX 2008, 2♂♂, 1♀, 9 X 2008, 9♂♂, 7♀♀; **(23)** – 25 VIII 2008, 1♀, 24 IX 2008, 1♂, 2♀♀, 10 X 2008, 2♂♂, 1♀; **(24)** – 17 VI 2007, 1♂; **(25)** – 22 VI 2006, 1♀, 26 IX 2006, 1♂, 9 X 2006, 1♂, 2♀♀, 25 V 2007, 1♀, 7 VI 2007, 1♂, 17 VI 2007, 1♀, 16 IX 2007, 3♂♂, 1♀, 24 VI 2008, 2♂♂, 9 VII 2008, 1♀, 23 VII 2008, 1♀, 24 VIII 2008, 2♀♀; **(27)** – 26 IX 2006, 1♀, 8 X 2006, 2♂♂, 29 V 2007, 2♀♀, 9 X 2008, 1♂; **(28)** – 20 VI 2005, 1♀, 10 IX 2006, 1♀, 29 V 2007, 1♂, 1♀, 7 IX 2007, 1♂, 1♀, 8 X 2007, 1♂; **(30)** – 23 VI 2006, 1♀, 8 VIII 2006, 2♂♂, 8 IX 2006, 2♂♂, 1♀, 10 X 2006, 1♂, 1♀, 5 VI 2007, 5♂♂, 3♀♀, 3 VII 2007, 1♂, 3 VIII 2007, 1♂, 20 IX 2007, 1♂, 1♀, 8 X 2007, 2♂♂, 1♀, 28 VI 2008, 1♂, 1♀, 11 X 2008, 1♂; **(34)** – 25 VI 2006, 1♀, 17 VII 2006, 1♀, 10 X 2008, 1♀.

### *Cicadula saturata* (EDWARDS, 1915)

Siberian – rare – higrophilous, tyrophilous; m2, *Carex nigra*, *C. rostrata*; mires-swamps; egg; 1 gen. – urbiceneutral

Published records from Częstochowa (WALCZAK 2011): **(2)** – 13 IX 2007, 1♂; **(14)** – 26 VIII 2008, 2♂♂; **(15)** – 25 VII 2008, 1♂, 26 VIII 2008, 1♂, 11 IX 2008, 1♀, 25 VIII 2009, 1♂; **(17)** – 26 VIII 2008, 1♂, 1♀, 11 IX 2008, 1♂, 3♀♀, 28 IX 2008, 1♀, 8 VIII 2009, 2♂♂, 9 IX 2009, 1♂.

The species is rarely recorded in Poland. The old records come from: Baltic Coast – Święta near Goleniów, Słupsk (WAGNER 1941), Masurian Lake District – Bagna Kuwaskie near Grajewo (ANDRZEJEWSKA 1965), Mazovian Lowland (ANDRZEJEWSKA 1971), Białowieża Forest – Białowieński National Park (KARPIŃSKI 1958). Recent records are given from

Krakowsko-Wieluńska Upland (SZWEDO 1992, SZWEDO 2001), Sandomierska Lowland – Janów Lubelski (BEDNARCZYK & GĘBICKI 1998), Pieniny Mts (PILARCZYK & SZWEDO 2005) and Upper Silesia – Woźniki (ŚWIERCZEWSKI & BŁASZCZYK 2011).

### *Elymana kozhevnikovi* (ZACHVATKIN, 1938)

Siberian – rare – mesophilous; m2, *Calamagrostis*; woodlands; egg; 1 gen. – urbicenoxenic

(35) – 26 VII 2008, 2♂♂, 1♂, 23 VII 2009, 1♂, 10 VIII 2009, 3♂♂, 1♀, 9 IX 2009, 1♂, 8♀♀, 23 IX 2009, 2♂♂, 5♀♀, 26 VII 2010, 2♂♂, 2♀♀, 11 VIII 2010, 2♂♂, 23 VIII 2010, 1♂, 11 IX 2010, 2♂♂, 23 IX 2010, 2♀♀, 13 X 2010, 1♀, 14 IX 2015, 2♂♂, 14♀♀.

The species reported here as new to KFP region – Krakowsko-Wieluńska Upland. The species is rarely collected in Poland, so far known from: Masurian Lake District – Nidzica (WAGNER & FRANZ 1961), Białowieża Forest – Białowieża National Park (KARPIŃSKI 1958), Upper Silesia – Niegowonice (Gębicki 1979), Mikołów (SIMON & SZWEDO 2005), Dębowa Góra and Blachownia (ŚWIERCZEWSKI et al. 2013), Małopolska Upland – Pińczów (GĘBICKI 1983), Eastern Sudetes Mountains – Stołowe Mountains National Park (GAJ et al. 2009).

### *Elymana sulphurella* (ZETTERSTEDT, 1828)

Trans-Palaeartic – widespread and common – mesophilous; olig., Poaceae; woodlands, steppe-like grasslands, meadows, mires-swamps; egg; 1 gen. – urbicenophilous

(1) – 10 IX 2006, 1♀, 11 VIII 2008, 1♂, 23 VIII 2008, 1♀, 8 X 2008, 1♀, 10 VII 2010, 1♂, 26 VII 2010, 1♀, 11 VIII 2010, 1♂, 11 IX 2010, 1♀; (2) – 7 VII 2007, 1♂, 2♀♀, 8 IX 2007, 2♀♀, 28 VI 2008, 1♀, 12 VII 2008, 1♂, 1♀, 28 VII 2008, 2♂♂, 1♀, 29 VIII 2008, 2♀♀, 29 IX 2008, 4♀♀, 11 X 2008, 1♀, 23 VI 2009, 1♂, 25 VII 2009, 1♂, 8 VIII 2009, 1♀, 22 VIII 2009, 1♀, 8 X 2009, 1♀; (4) – 21 IX 2006, 1♀, 6 VII 2007, 1♂, 21 VIII 2007, 1♀; (5) – 24 IX 2005, 1♀, 11 VII 2008, 2♀♀, 26 VII 2008, 2♀♀; (7) – 26 VII 2008, 1♂, 1♀, 10 VIII 2008, 2♀♀, 25 VIII 2008, 1♂, 9 IX 2008, 1♀, 25 VI 2009, 1♂, 8 VIII 2009, 1♀; (8) – 25 VI 2006, 2♀♀, 9 VII 2008, 1♀; (9) – 11 VII 2008, 1♀, 29 VII 2008, 2♀♀, 11 VIII 2008, 2♀♀; (10) – 31 VII 2006, 1♂, 7♀♀, 18 VIII 2006, 5♀♀, 15 IX 2006, 4♀♀, 7 VII 2007, 4♂♂, 8♀♀, 23 VII 2007, 2♂♂, 3♀♀, 8 VIII 2007, 4♀♀, 23 VIII 2007, 1♀, 9 VII 2008, 4♀♀, 27 VII 2008, 3♂♂, 2♀♀, 12 VIII 2008, 1♀, 27 IX 2008, 1♀; (11) – 22 VI 2006, 1♂, 26 VI 2008, 3♂♂, 1♀; (12) – 20 VII 2006, 3♀♀, 23 VII 2007, 1♂, 8 VII 2008, 1♀, 22 VII 2008, 1♀; (13) – 20 VII 2006, 1♂, 12 VIII 2006, 1♂; (14) – 11 VII 2008, 3♂♂, 11 VIII 2008, 1♂, 26 VIII 2008, 2♀♀, 10 IX 2008, 4♀♀, 26 IX 2008, 7♀♀, 10 X 2008, 1♀, 25 VI 2009, 1♀, 12 VII 2009, 4♂♂, 7♀♀, 23 VII 2009, 3♂♂, 6♀♀, 25 VIII 2009, 2♀♀, 9 IX 2009, 4♀♀, 22 IX 2009, 1♀, 10 X 2009, 1♀, 10 VII 2010, 1♀, 26 VII 2010, 4♀♀, 11 VIII 2010, 2♀♀, 23 IX 2010, 4♀♀; (15) – 11 VII 2008, 1♂, 1♀, 25 VII 2008, 1♀, 11 IX 2008, 1♀, 12 VII 2009, 1♂, 23 VII 2009, 1♂, 9 IX 2009, 1♀; (16) – 26 VI 2006, 1♀, 10 VII 2006, 3♀♀, 23 VII 2006, 2♀♀, 8 VIII 2006, 1♀, 24 VIII 2006, 1♀, 10 X 2007, 2♀♀, 10 IX 2008, 1♀, 25 IX 2008, 1♀; (17) – 11 VIII 2010, 1♀; (18) – 10 X 2008, 1♀; (19) – 25 VIII 2005, 1♀, 17 VII 2006, 1♂, 2♀♀, 18 VIII 2006, 1♂, 3♀♀, 10 IX 2006, 2♀♀, 12 X 2006, 4♀♀, 22 VI 2007, 1♀, 22 VII 2007, 1♀, 6 VIII 2007, 4♂♂, 7♀♀, 20 VIII 2007, 3♂♂, 6♀♀, 8 IX 2007, 14♀♀, 20 IX 2007, 21♀♀, 8 X 2007, 3♀♀; (20) – 26 VII 2006, 2♀♀, 10 VIII 2006, 1♀, 23 VII 2007, 1♂, 2♀♀, 24 VII 2008, 1♂, 1♀, 7 VIII 2008, 1♂, 1♀; (21) – 14 IX 2006, 1♀, 29 IX 2006, 2♀♀, 21 VI 2007,

2♂♂, 12 VII 2007, 3♂♂, 2♀♀, 29 VII 2007, 1♂, 1♀, 7 VIII 2007, 1♀, 12 VII 2008, 3♂♂, 2♀♀, 29 VII 2008, 1♂, 2♀♀, 8 VIII 2008, 1♀, 8 IX 2008, 1♀; **(22)** – 7 VII 2005, 1♂, 1 VII 2007, 1♂, 21 VIII 2007, 1♀, 2 IX 2007, 2♀♀, 8 VII 2008, 2♂♂, 28 VII 2008, 2♂♂, 1♀, 10 VIII 2008, 1♂, 3♀♀, 30 VIII 2008, 1♀, 9 IX 2008, 1♀, 9 X 2008, 2♀♀; **(23)** – 7 IX 2006, 2♀♀, 8 X 2006, 1♀, 22 VIII 2007, 1♀, 21 IX 2007, 1♀; **(24)** – 20 VII 2006, 1♀, 8 VII 2007, 2♂♂, 1♀, 9 VIII 2007, 1♂, 28 VII 2008, 2♂♂, 9 VIII 2008, 2♀♀; **(26)** – 6 VII 2006, 1♀, 7 IX 2007, 3♀♀, 25 VII 2008, 3♂♂, 10 VIII 2008, 2♀♀, 8 IX 2008, 1♀, 9 X 2008, 3♀♀; **(27)** – 8 VIII 2006, 1♂, 2♀♀, 2 IX 2007, 1♀, 10 VIII 2008, 2♀♀; **(28)** – 15 VII 2007, 1♂, 7 VIII 2007, 1♂, 1♀; **(29)** – 25 VIII 2005, 1♀, 22 VII 2006, 1♂, 6 VII 2007, 2♂♂, 2♀♀, 21 VII 2007, 1♂, 2♀♀, 24 VIII 2007, 1♀; **(30)** – 10 VII 2006, 5♂♂, 24 VII 2006, 3♂♂, 2♀♀, 8 VIII 2006, 2♀♀, 24 VIII 2006, 1♂, 1♀, 8 IX 2006, 1♀, 10 X 2006, 2♀♀, 7 VII 2007, 3♂♂, 2♀♀, 23 VII 2007, 4♂♂, 7♀♀, 8 VIII 2007, 2♂♂, 2♀♀, 23 VIII 2007, 1♂, 4♀♀, 8 IX 2007, 1♀, 22 IX 2007, 1♀, 9 X 2007, 2♀♀, 11 VII 2008, 2♀♀, 28 VII 2008, 3♂♂, 5♀♀, 12 VIII 2008, 1♀, 29 VIII 2008, 1♀; **(31)** – 24 VII 2006, 2, 13 VII 2007, 1♂, 29 VII 2008, 1♂, 11 VIII 2008, 1♂, 28 IX 2008, 1♀; **(32)** – 23 VII 2005, 1♂, 23 VII 2006, 1♂, 1♀; **(33)** – 22 VIII 2007, 1♂; **(34)** – 23 VII 2006, 4♂♂, 1♀, 24 VII 2008, 1♀, 24 VIII 2008, 1♀; **(35)** – 10 VIII 2009, 1♂, 1♀.

### ***Paluda flaveola* (BOHEMAN, 1845)**

Siberian – widespread – mesophilous; olig., mainly *Calamagrostis*, *Phalaris arundinacea*, *Molinia caerulea*, *Deschampsia caespitosa*; meadows, mires-swamps; egg; 1 gen. – urbiceneutral

**(14)** – 11 VII 2008, 1♂, 11 VI 2009, 1♀, 30 VI 2009, 3♂♂, 7♀♀, 12 VII 2009, 1♀, 10 VIII 2009, 3♀♀, 26 VI 2010, 1♂, 26 VII 2010, 2♀♀, 11 VIII 2010, 1♀, 23 VIII 2010, 1♀; **(17)** – 26 VI 2010, 1♀; **(19)** – 22 VI 2007, 2♀♀, 7 VII 2007, 9♀♀, 22 VII 2007, 1♀; **(24)** – 17 VI 2007, 1♂.

The species is mainly known from northern Poland (NAST 1976a) and some regions in the southern part of the country: Upper Silesia (GĘBICKI 1979, SIMON & SZWEDO 2005), Krakowsko-Wieluńska Upland (WALCZAK 2008a), Western Sudety Mts (NAST 1976a), Eastern Sudety Mts (SZWEDO et al. 1998), Western Beskidy Mts and Tatra Mts (SMRECZYŃSKI 1954).

### ***Rhopalopyx adumbrata* (C. SAHLBERG, 1842)**

Euro-Siberian – widespread – mesophilous; m2, *Festuca rubra*, *F. ovina*; steppe-like grasslands, meadows; egg; 1 gen. – urbiceneutral

**(9)** – 26 VII 2006, 2♀♀, 13 VII 2007, 1♀, 29 VIII 2007, 1♂, 2 X 2007, 3♀♀, 29 VI 2008, 2♂♂, 31 VIII 2008, 1♀, 28 IX 2008, 1♀; **(14)** – 26 VIII 2008, 1♂; **(24)** – 20 VII 2006, 2♀♀, 12 VIII 2006, 2♀♀, 3 VII 2007, 1♂, 13 VII 2007, 1♂, 31 VII 2007, 1♂, 29 VIII 2007, 1♀.

### ***Rhopalopyx preysleri* (HERRICH-SCHÄFFER, 1838)**

Euro-Siberian – widespread – xerophilous, heliophilous; m1, *Poa pratensis*; steppe-like grasslands, meadows; egg; 1 gen. – urbiceneutral

(5) – 11 VII 2008, 1♀; (10) – 3 VII 2007, 1♀; (11) – 17 VII 2007, 1♀; (12) – 12 VII 2006, 1♀, 20 VIII 2007, 1♂, 8 VII 2008, 1♂; (13) – 29 VII 2008, 1♂; (19) – 20 VIII 2007, 1♂; (22) – 6 VIII 2007, 1♂; 10 VIII 2008, 1♀; (24) – 13 VII 2007, 1♂; (28) – 1 VII 2007, 1♂, 1♀, 7 VIII 2007, 1♂, 24 VIII 2007, 1♀; (29) – 5 X 2005, 1♀; 9 IX 2006, 1♀; 24 IX 2006, 1♀.

***Rhopalopyx vitripennis* (FLOR, 1861)**

Trans-Palaeartic – widespread – xerophilous, heliophilous, psammophilous; m2, *Festuca ovina*, *F. rubra*; steppe-like grasslands, meadows; egg; 2 gen. – urbicenophilous?

(7) – 24 IX 2006, 1♂, 26 IX 2008, 2♂♂; (8) – 9 VII 2006, 1♀, 22 VIII 2006, 2♂♂, 2♀♀, 9 IX 2006, 3♂♂, 2♀♀, 26 IX 2006, 1♂, 1♀, 24 V 2007, 21♂♂, 16♀♀, 8 VI 2007, 5♂♂, 8♀♀, 23 VI 2007, 1♀, 7 IX 2007, 2♀♀, 21 IX 2007, 2♂♂, 26 VIII 2008, 1♂, 9 IX 2008, 1♂, 3♀♀, 26 IX 2008, 1♂, 3♀♀, 9 X 2008, 2♂♂, 3♀♀; (9) – 9 VI 2006, 2♂♂, 10 IX 2006, 3♀♀, 24 IX 2006, 4♂♂, 3♀♀, 10 X 2006, 2♀♀, 25 V 2007, 2♂♂, 1♀, 25 VI 2007, 1♂, 1♀, 29 VIII 2007, 3♂♂, 2♀♀, 16 IX 2007, 1♂, 1♀, 6 X 2007, 2♀♀, 10 VI 2008, 1♂, 31 VIII 2008, 1♂, 10 IX 2008, 1♂; (10) – 23 VIII 2007, 1♂; (11) – 29 VIII 2007, 1♂; (22) – 22 VI 2005, 1♂, 21 IX 2005, 1♀, 8 VI 2007, 1♂, 9 IX 2008, 2♂♂, 26 IX 2008, 1♀; (23) – 6 VII 2006, 1♀, 24 V 2007, 2♂♂, 7 VI 2008, 1♀, 25 VII 2008, 1♀; (24) – 7 VI 2007, 4♂♂, 2♀♀, 22 VI 2007, 1♀, 8 VII 2007, 1♂, 8 IX 2007, 1♂, 1♀, 22 IX 2007, 1♂, 7 X 2007, 1♀; (25) – 9 VII 2007, 1♀; (27) – 25 VI 2006, 1♂, 17 IX 2006, 1♀, 24 V 2007, 2♂♂, 2♀♀, 23 VI 2007, 1♀, 21 IX 2007, 2♂♂, 26 VI 2008, 1♀, 26 IX 2008, 1♂.

***Mocydiopsis attenuata* (GERMAR, 1821)**

European – widespread – xerophilous; m2, *Festuca*; steppe-like grasslands, meadows; adult; 1 gen. – urbicenoxyenic

(22) – 9 X 2008, 1♂; (30) – 20 VIII 2007, 1♂, 1♀; 8 X 2007, 2♂♂, 1♀; 29 IX 2008, 2♀♀.

***Mocydiopsis parvicauda* RIBAUT, 1939**

European – widespread – mesophilous; m1, *Agrostis capillaris*; steppe-like grasslands, meadows; adult; 1 gen. – urbicenophilous

(2) – 12 VII 2008, 1♂; (4) – 9 X 2008, 1♂; (7) – 22 IX 2009, 1♀; (9) – 13 VII 2007, 1♂, 29 VIII 2007, 2♂♂, 2 X 2007, 1♀, 26 V 2008, 1♀, 10 VI 2008, 1♀, 11 VII 2008, 1♀, 11 VIII 2008, 1♂, 31 VIII 2008, 1♂, 10 IX 2008, 1♂, 2♀♀, 28 IX 2008, 1♂, 10 X 2008, 1♂, 3♀♀; (13) – 12 VIII 2006, 1♂, 1♀, 29 VII 2008, 1♀, 10 X 2008, 1♀; (22) – 9 X 2008, 1♀; (24) – 10 VIII 2006, 1♂, 25 V 2007, 1♀, 3 VII 2007, 1♂, 13 VII 2007, 1♀, 16 IX 2007, 1♂, 2 X 2007, 1♂, 2♀♀; (27) – 26 VIII 2008, 1♀; (35) – 14 IX 2015, 1♀.

Tribus KOEBELINI BAKER, 1897

***Grypotes puncticollis* (HERRICH-SCHÄFFER, 1834)**

European – widespread – mesophilous, heliophilous?; m1, *Pinus sylvestris*; woodlands; egg;

1 gen. – urbiceno xenic

(34) – 15 VIII 2006, 1♂; (35) – 23 VIII 2010, 1♀.

Tribus EUPELICINI J. SAHLBERG, 1871

***Eupelix cuspidata* (FABRICIUS, 1775)**

Trans-Palaeartic – widespread – xerophilous, heliophilous; m2, *Festuca*, preferably *F. ovina* and *F. rubra*; steppe-like grasslands, meadows; nymph, adult; 1/2 gen. – urbiceno neutral

(8) – 7 V 2006, 1♂, 9 V 2007, 1♂; (9) – 11 V 2006, 1♀, 14 V 2007, 3♂♂, 1♀, 26 V 2008, 1♂, 11 VII 2008, 1♂; (11) – 22 V 2007, 1♀; (13) – 9 VII 2007, 1♂; (16) – 26 V 2006, 1♂, 25 V 2008, 1♀; (22) – 29 V 2007, 1♂, 1 VII 2007, 1♀; (24) – 25 V 2006, 2♂♂, 12 VII 2006, 3♀♀, 20 VII 2006, 3♂♂, 2♀♀, 21 VIII 2006, 1♀, 8 V 2007, 1♂, 25 V 2007, 1♂, 1♀, 7 VI 2007, 1♂, 1♀, 22 VI 2007, 1♂, 1♀, 25 VII 2007, 1♀, 10 V 2008, 2♂♂; (27) – 9 V 2006, 1♂, 24 V 2006, 1♀, 9 V 2007, 2♂♂, 9 VI 2008, 1♂; (28) – 10 V 2007, 2♂♂, 1♀, 29 V 2007, 1♂, 1♀, 22 VII 2007, 1♀; (29) – 25 V 2005, 1♂, 9 VI 2005, 1♀, 9 VI 2006, 1♀; (34) – 10 VI 2006, 1♂, 2♀♀, 25 VI 2006, 1♂;

Tribus CHIASMINI DISTANT, 1908

***Doratura exilis* HORVÁTH, 1903**

Kazakh – widespread – xerophilous, heliophilous; m1, *Festuca ovina*; steppe-like grasslands, meadows; egg; 1 gen. – urbiceno xenic

(7) – 26 VII 2008, 1♂; 23 VII 2009, 1♀; (8) – 1 VII 2007, 1♀; 28 VI 2008, 2♂♂, 2♀♀; (25) – 25 V 2007, 1♀.

***Doratura homophyla* (FLOR, 1861)**

Trans-Palaeartic – widespread and common – xerophilous, heliophilous; olig., Poaceae; woodlands, steppe-like grasslands; egg; 2 gen. – urbiceno philous?

(8) – 8 VI 2007, 1♀<sub>macr</sub>; (10) – 23 VIII 2007, 1♂; (11) – 17 VII 2007, 1♂; (12) – 10 VI 2006, 1♂, 1♀, 22 VI 2006, 3♂♂, 6♀♀, 12 VII 2006, 1♂, 21 VII 2006, 1♂, 12 VIII 2006, 1♀, 21 VIII 2006, 1♂, 2♀♀, 20 VIII 2007, 1♂, 23 V 2008, 1ex., 24 VI 2008, 6exx., 8 VII 2008, 3exx., 22 VII 2008, 1ex., 9 VIII 2008, 2exx., 23 VIII 2008, 1ex.; (24) – 22 VI 2006, 1♀, 12 VII 2006, 1♂; (25) – 10 VI 2006, 2♂♂, 22 VI 2006, 10♂♂, 4♀♀, 9 VII 2006, 1♀, 20 VII 2006, 1♂, 12 VIII 2006, 6♂♂, 3♀♀, 21 VIII 2006, 1♂, 1♀, 14 IX 2006, 1♂, 1♀, 24 IX 2006, 1♂, 2♀♀, 9 X 2006, 2♀♀, 25 V 2007, 7♂♂, 3♀♀, 2 nymphs, 7 VI 2007, 31♂♂, 13♀♀, 17 VI 2007, 6♂♂, 4♀♀, 9 VII 2007, 1♀, 31 VII 2007, 8♂♂, 9♀♀, 10 VIII 2007, 2♂♂, 11 IX 2007, 1♂, 21 V 2008, 2♂♂, 11 VI 2008, 11♂♂, 7♀♀, 24 VI 2008, 2♂♂, 1♀, 9 VII 2008, 1♂, 1♀, 23 VII 2008, 5♂♂, 5♀♀.

### *Doratura impudica* HORVÁTH, 1897

Kazakh – widespread – xerophilous, heliophilous, psammophilous; olig., Poaceae, mainly *Calamagrostis epigeios* and *Elymus*; steppe-like grasslands; egg; 1 gen. – urbicenoxenic

(7) – 9 VII 2008, 2♂♂, 1♀, 12 VII 2009, 2♀♀; (27) – 9 VII 2008, 1♀.

### *Doratura stylata* (BOHEMAN, 1847)

Trans-Palaeartic – widespread and common – mesophilous, heliophilous; olig., Poaceae, mainly *Festuca rubra*, *Nardus stricta* and *Agrostis*; steppe-like grasslands, meadows; egg; 1 gen. – urbicenophilous

(4) – 19 VI 2006, 1♂; (7) – 23 VII 2006, 1♂, 1♀, 26 VII 2008, 1♂, 1♀, 10 VIII 2008, 1♂; (8) – 9 VI 2006, 1♂, 25 VI 2006, 1♀, 24 VII 2006, 1♂, 1♀, 19 VI 2007, 2♂♂, 1 VII 2007, 1♂, 2♀♀, 15 VII 2007, 2♂♂, 1♀, 28 VI 2008, 2♂♂, 9 VII 2008, 1♀, 29 VII 2008, 1♂, 1♀, 10 VIII 2008, 2♂♂, 9 IX 2008, 1♀; (9) – 21 VI 2006, 1♀, 10 VII 2006, 1♂, 26 VII 2006, 1♂, 1♀, 9 VIII 2006, 1♂, 2♀♀, 17 VI 2007, 4♂♂, 2♀♀, 3 VII 2007, 3♂♂, 5♀♀, 13 VII 2007, 2♂♂, 31 VII 2007, 1♀, 16 VIII 2007, 1♂, 11 VII 2008, 10♂♂, 3♀♀, 29 VII 2008, 4♂♂, 4♀♀, 11 VIII 2008, 4♂♂, 7♀♀; (10) – 26 VII 2006, 1♀, 7 VII 2007, 1♂, 1♀, 9 VII 2008, 5♂♂, 2♀♀, 27 VII 2008, 4♂♂, 2♀♀, 12 VIII 2008, 1♂; (11) – 9 VI 2006, 2♂♂, 22 VI 2006, 1♀, 8 VII 2006, 9♂♂, 5♀♀, 23 VII 2006, 4♂♂, 7♀♀, 9 VIII 2006, 1♂, 4♀♀, 25 VIII 2006, 2♂♂, 2♀♀, 22 VI 2007, 2♂♂, 1♀, 9 VII 2007, 1♂, 2♀♀, 25 VII 2007, 3♀♀, 6 VIII 2007, 1♂, 23 VIII 2007, 1♀, 29 VI 2008, 1♂, 12 VII 2008, 3♂♂, 17♀♀, 29 VII 2008, 3♀♀, 11 VIII 2008, 2♀♀, 31 VIII 2008, 1♀; (12) – 22 VI 2006, 1♂, 1♀, 12 VII 2006, 7♂♂, 3♀♀, 20 VII 2006, 1♂, 1♀, 12 VIII 2006, 1♂, 21 VI 2007, 1♂, 6 VIII 2007, 1♀, 20 VIII 2007, 2♂♂, 2♀♀, 8 VII 2008, 2♂♂, 1♀, 22 VII 2008, 1♀, 9 VIII 2008, 1♀; (13) – 20 VII 2006, 1♀, 25 VII 2007, 1, 29 VI 2008, 1♂, 1♀, 11 VII 2008, 2♂♂, 2♀♀, 11 VIII 2008, 2♀♀; (15) – 10 VII 2010, 1♀; (16) – 10 VII 2006, 1♂, 23 VII 2006, 2♂♂, 24 VII 2007, 2♂♂, 4♀♀, 9 VIII 2007, 2♂♂, 25 VIII 2007, 1♀, 10 VII 2008, 2♂♂, 1♀, 24 VIII 2008, 1♀, 25 IX 2008, 1♀; (19) – 22 VI 2007, 2♂♂, 1♀, 7 VII 2007, 3♀♀, 22 VII 2007, 1♂; (20) – 10 VI 2006, 1♂, 26 VII 2006, 1♂, 2♀♀, 9 VII 2007, 2♂♂, 2♀♀, 9 VII 2008, 1♂, 24 VII 2008, 2♀♀; (21) – 7 VII 2007, 3, 7 VIII 2007, 1, 28 VI 2008, 1♂, 12 VII 2008, 2♂♂, 6♀♀, 29 VII 2008, 1♀; (22) – 7 VII 2005, 2♂♂, 3♀♀, 25 VII 2005, 1♂, 7 VIII 2005, 1♂, 8 VI 2007, 3♂♂, 1♀, 19 VI 2007, 2♂♂, 15 VII 2007, 2♂♂, 4♀♀, 6 VIII 2007, 1♂, 2♀♀, 26 VI 2008, 1♂, 3♀♀, 8 VII 2008, 8♂♂, 4♀♀, 28 VII 2008, 9♂♂, 6♀♀, 10 VIII 2008, 11♂♂, 4♀♀, 30 VIII 2008, 4♂♂, 3♀♀, 9 IX 2008, 1♂; (23) – 25 VI 2006, 1♂, 23 VIII 2006, 1♀, 23 VI 2007, 3♂♂, 1♀, 6 VII 2007, 5♂♂, 4♀♀, 22 VIII 2007, 1♀, 7 VII 2008, 2♂♂, 9 VIII 2008, 1♂, 2♀♀, 24 IX 2008, 2♀♀; (24) – 22 VI 2006, 2♂♂, 12 VII 2006, 9♂♂, 8♀♀, 20 VII 2006, 32♂♂, 38♀♀, 10 VIII 2006, 6♂♂, 10♀♀, 21 VIII 2006, 1♀, 22 VI 2007, 3♂♂, 1♀, 8 VII 2007, 13♂♂, 10♀♀, 25 VII 2007, 7♂♂, 6♀♀, 9 VIII 2007, 6♂♂, 3♀♀, 25 VIII 2007, 1♂, 2♀♀, 8 IX 2007, 3♀♀, 22 VI 2008, 2♂♂, 8 VII 2008, 6♂♂, 3♀♀, 23 VII 2008, 6♂♂, 5♀♀, 9 VIII 2008, 5♂♂, 11♀♀, 9 IX 2008, 1♂, 2♀♀; (25) – 22 VI 2006, 1♂, 9 VII 2006, 2♂♂, 5♀♀, 20 VII 2006, 8♀♀, 23 VI 2007, 2♂♂, 1♀, 9 VII 2007, 4♀♀, 26 VII 2007, 1♀, 10 VIII 2007, 1♀, 9 VII 2008, 1♂, 23 VII 2008, 2♂♂, 2♀♀, 10 VIII 2008, 1♀, 9 IX 2008, 1♂, 1♀; (26) – 6 VII 2006, 1♂, 20 VII 2006, 1♂, 20 VII 2007, 2♂♂, 1♀, 25 VII 2008, 2♂♂, 1♀, 10 VIII 2008, 5♂♂, 26 VIII 2008, 1♀; (27) – 25 VI 2006, 2♂♂, 8 VIII 2006, 1♀, 24 VIII 2006, 2♂♂, 3♀♀, 23 VI 2007, 1♂, 6 VII 2007, 1♂, 22 VII 2007, 1♂, 1♀, 22 VIII 2007, 1♀, 26 VI 2008, 2♂♂, 10 VIII 2008, 2♀♀,

26 VIII 2008, 1♀; **(28)** – 6 VII 2005, 1♀, 22 VII 2005, 1♂, 19 VIII 2005, 1♂, 6 VII 2006, 6♂♂, 3♀♀, 21 VII 2006, 3♂♂, 2♀♀, 23 VIII 2006, 1♀, 10 X 2006, 1♀, 8 VI 2007, 2♂♂, 23 VI 2007, 4♂♂, 2♀♀, 6 VII 2007, 5♂♂, 4♀♀, 22 VII 2007, 7♂♂, 4♀♀, 7 VIII 2007, 1♀, 24 VIII 2007, 1♂; **(34)** – 6 VII 2006, 1♂, 1♀, 23 VII 2006, 6♂♂, 1♀.

Tribus DELTOCEPHALINI FIEBER, 1869

*Deltocephalus pulicaris* (FALLÉN, 1806)

Holarctic – widespread and common – mesophilous; olig., Poaceae; steppe-like grasslands, meadows, mires-swamps; egg; 2 gen. – urbicenophilous

**(2)** – 3 VII 2007, 1♂, 8 VII 2009, 1♀; **(5)** – 4 IX 2005, 1♀, 5 VI 2007, 1♂, 11 X 2007, 1♂, 1♀, 11 IX 2008, 1♀, 27 IX 2008, 2♀♀; **(10)** – 9 VI 2006, 2♂♂, 3♀♀, 21 VI 2006, 18♂♂, 13♀♀, 10 VII 2006, 8♂♂, 12♀♀, 26 VII 2006, 4♂♂, 2♀♀, 9 VIII 2006, 28♂♂, 14♀♀, 23 VIII 2006, 21♂♂, 10♀♀, 10 IX 2006, 15♂♂, 13♀♀, 24 IX 2006, 8♂♂, 11♀♀, 10 X 2006, 3♂♂, 6♀♀, 9 VI 2007, 5♂♂, 3♀♀, 22 VI 2007, 13♂♂, 10♀♀, 7 VII 2007, 12♂♂, 16♀♀, 23 VII 2007, 1♂, 1♀, 8 VIII 2007, 61exx., 23 VIII 2007, 476exx., 8 IX 2007, 77exx., 22 IX 2007, 33exx., 27 V 2008, 2♂♂, 9 VI 2008, 83♂♂, 10♀♀, 27 VI 2008, 3♂♂, 2♀♀, 9 VII 2008, 8♂♂, 11♀♀, 27 VII 2008, 5♂♂, 2♀♀, 12 VIII 2008, 27♂♂, 3♀♀, 28 VIII 2008, 29♂♂, 11 IX 2008, 6♂♂, 4♀♀, 27 IX 2008, 13♂♂, 19♀♀, 11 X 2008, 5♂♂, 6♀♀; **(11)** – 9 VI 2006, 1♂, 1♀, 8 VII 2006, 1♂, 9 VIII 2006, 1♂, 7 VI 2007, 4♂♂, 2♀♀, 22 VI 2007, 1♀, 6 VIII 2007, 2♂♂, 8 IX 2007, 2♂♂, 11 VIII 2008, 1♂, 29 IX 2008, 2♂♂; **(12)** – 12 VII 2006, 1♂, 20 VII 2006, 3♀♀, 21 VIII 2006, 3♂♂, 1♀, 26 IX 2006, 1♂, 9 X 2006, 1♂, 1♀, 7 VI 2007, 3♂♂, 1♀, 21 VI 2007, 3♂♂, 3♀♀, 6 VIII 2007, 3♂♂, 1♀, 20 VIII 2007, 2♂♂, 8 IX 2007, 2♂♂, 1♀, 22 IX 2007, 2♂♂, 2♀♀, 24 VI 2008, 1♀, 22 VII 2008, 1♀, 9 VIII 2008, 2♂♂, 10 IX 2008, 2♂♂, 7 X 2008, 1♀; **(13)** – 22 VI 2006, 9♂♂, 6♀♀, 12 VII 2006, 1♂, 20 VII 2006, 2♂♂, 2♀♀, 12 VIII 2006, 10♂♂, 2♀♀, 24 VIII 2006, 7♂♂, 2♀♀, 11 IX 2006, 9♂♂, 2♀♀, 26 IX 2006, 3♂♂, 1♀, 8 X 2006, 1♂, 3♀♀, 25 V 2007, 1♂, 7 VI 2007, 1♂, 1♀, 22 VI 2007, 1♀, 9 VII 2007, 1♀, 25 VII 2007, 2♂♂, 3♀♀, 6 VIII 2007, 5♂♂, 3♀♀, 23 VIII 2007, 4♂♂, 2♀♀, 8 IX 2007, 4♂♂, 3♀♀, 22 IX 2007, 1♀, 10 VI 2008, 18♂♂, 5♀♀, 29 VI 2008, 11♂♂, 8♀♀, 11 VII 2008, 1♂, 1♀, 29 VII 2008, 23♂♂, 9♀♀, 11 VIII 2008, 19♂♂, 4♀♀, 31 VIII 2008, 13♂♂, 2♀♀, 10 IX 2008, 44♂♂, 26♀♀, 28 IX 2008, 7♂♂, 8♀♀, 10 X 2008, 8♂♂, 4♀♀; **(19)** – 23 VI 2006, 2♀♀; **(20)** – 10 VI 2006, 42♂♂, 33♀♀, 25 VI 2006, 10♂♂, 8♀♀, 7 VII 2006, 5♂♂, 9♀♀, 26 VII 2006, 5♂♂, 10 VIII 2006, 3♂♂, 26 VIII 2006, 4♂♂, 2♀♀, 10 IX 2006, 7♂♂, 9♀♀, 25 IX 2006, 4♂♂, 9♀♀, 9 X 2006, 5♀♀, 5 VI 2007, 21♂♂, 9♀♀, 22 VI 2007, 14♂♂, 9♀♀, 9 VII 2007, 1♀, 23 VII 2007, 11♂♂, 9♀♀, 8 VIII 2007, 4♂♂, 1♀, 22 VIII 2007, 13♂♂, 11♀♀, 6 IX 2007, 8♂♂, 6♀♀, 21 IX 2007, 2♂♂, 2♀♀, 11 X 2007, 2♂♂, 3♀♀, 8 VI 2008, 14♂♂, 7♀♀, 25 VI 2008, 2♂♂, 2♀♀, 9 VII 2008, 1♀, 24 VII 2008, 2♂♂, 1♀, 7 VIII 2008, 4♂♂, 2♀♀, 23 VIII 2008, 14♂♂, 9♀♀, 7 IX 2008, 7♂♂, 5♀♀, 25 IX 2008, 4♂♂, 5♀♀, 8 X 2008, 2♀♀; **(23)** – 6 VIII 2007, 1♂, 25 VIII 2008, 1♀, 8 IX 2008, 1♂; **(24)** – 26 IX 2006, 1♀, 22 VI 2007, 1♂, 25 VIII 2007, 1♂, 9 VI 2008, 1♀, 9 IX 2008, 1♂, 1♀; **(25)** – 25 V 2007, 1♂, 7 VI 2007, 3♂♂, 1♀, 23 VI 2007, 6♂♂, 1♀, 26 VII 2007, 1♀, 17 VIII 2007, 7♂♂, 3♀♀, 29 VIII 2007, 1♂, 16 IX 2007, 2♂♂, 2 X 2007, 1♂, 1♀, 21 V 2008, 1♂, 11 VI 2008, 2♂♂, 2♀♀, 24 VI 2008, 1, 10 VIII 2008, 3♂♂, 1♀, 24 VIII 2008, 1♂, 9 IX 2008, 2♂♂; **(26)** – 20 VII 2007, 1♀, 9 X 2008, 1♂; **(30)** – 23 VIII 2007, 1♂; **(31)** – 11 VII 2008, 1♂; **(34)** – 25 VI 2006, 1♀, 6 VII 2006, 1♂.

### ***Endria nebulosa* (BALL, 1900)**

Siberian – local? – mesophilous; m2, *Calamagrostis*; meadows, mires-swamps; egg; 1 gen. – urbiceneutral? (Fig. 37c)

Published record from Częstochowa; reported as a new species to the fauna of Poland and KFP region – Krakowsko-Wieluńska Upland (WALCZAK et al. 2013): **(24)** – 12 VII 2006, 1♂.

There are two concepts regarding the distribution of this species in Europe. Most researchers claim that this is an autochthonic element, but because of its hidden lifestyle it has only been recorded quite recently. Some others suggest that this is an alien species, introduced from the Arctic region in the second half of 20<sup>th</sup> century (ARZONE et al. 1986).

It is also reported from Upper Silesia by WALCZAK et al. (2013) – Piekary Śląskie (Fig. 28). In the Palaearctic, the species is presently known from central and northern Europe (REMANE 1961, OSSIANNILSSON 1983, SÖDERMAN 2007) and the area of the former Soviet Union (EMELJANOV 1964). Apart from that, it also occurs in the USA and Canada (ARZONE et al. 1986).

### ***Recilia coronifer* (MARSHALL, 1866)**

Euro-Siberian? – rare – higrophilous; olig., *Holcus mollis*, *Molinia caerulea*; woodlands, meadows; egg; 1 gen. – urbiceneutral

**(19)** – 8 IX 2007, 1♀; **(30)** – 24 VII 2006, 1♂, 8 VI 2007, 1♀, 20 VII 2007, 2♂♂, 1♀; 2 VIII 2007, 1♂, 1♀; 8 IX 2007, 1♀, 28 VII 2008, 2♂♂; **(31)** – 11 VIII 2008, 1♂; **(32)** – 7 VIII 2007, 1♀; **(35)** – 10 VIII 2009, 1♂, 2♀♀; 9 IX 2009, 1♀.

Tribus PARALIMNINI DISTANT, 1908

### ***Paralimnus phragmitis* (BOHEMAN, 1847)**

Western-Palaearctic – rare – higrophilous, halophilous?; m1 – *Phragmites australis*; watersides; egg; 1 gen. – urbiceno xenic

**(30)** – 8 VII 2012, 1♀, 23 VII 2012, 1♀, all on *Phragmites australis*.

The species was reported as new to KFP region – Krakowsko-Wieluńska Upland by WALCZAK et al. (2014). Quite a rare species in Poland, so far known from Baltic Coast – Sopot, Elbląg (MATSUMURA 1906), Słupsk (KARL 1935, WAGNER 1941), Pomeranian Lake District (GĘBICKI et al. 2013), Masurian Lake district – Gardeja near Kwidzyń (MATSUMURA 1906), Małopolska Upland – Owczary near Busko-Zdrój (NAST 1976a). Recently, it has also been recorded in Upper Silesia – Zabrze (WALCZAK & MUSIK 2012).

### ***Metalimnus formosus* (BOHEMAN, 1845)**

Siberian – widespread – higrophilous, heliophilous; m2, *Carex*, mainly *C. elata* and *C. nigra*; meadows, watersides; egg; 1 gen. – urbiceneutral



(3) – 25 VI 2008, 1♀; (6) – 6 VII 2005, 1♀, 21 IX 2005, 1♂, 31 VII 2006, 1♀, 10 IX 2006, 2♀♀, 28 IX 2006, 1♂, 2♀♀, 26 VII 2008, 1♀, 9 IX 2008, 1♀; (15) – 9 IX 2009, 1♂; (21) – 11 VI 2007, 1♂.

***Metalimnus marmoratus* (FLOR, 1861)**

Siberian – local – hygrophilous, tyrophilous; m1?, *Carex limosa*; meadows; egg; 1 gen. – urbicenoxenic

(A) – 8 VII 2012, 1♀, 23 VII 2012, 1♀.

The species was reported as new for KFP region – Krakowsko-Wieluńska Upland by WALCZAK et al. (2014). In the northern part of Poland known only from Masurian Lake District, as most records are given for the southern part of the country: Western Beskidy Mts, Nowotarska Dale, Pieniny Mts and Tatra Mts (NAST 1976a, GĘBICKI et al. 2013).

***Metalimnus steini* (FIEBER, 1869)**

European? – rare – mesophilous, heliophilous; m1?, *Carex hirta*; steppe-like grasslands, meadows; egg; 2(?) gen. – urbiceneutral (Fig. 37d)

Published records from Częstochowa; reported as a new species to the fauna of Poland and KFP region – Krakowsko-Wieluńska Upland (ŚWIERCZEWSKI & WALCZAK 2011): (2) – 29 IX 2008, 1♂, 1♀; (28) – 24 VIII 2007, 1♂, 17 IX 2007, 1♂. New records: (2) – 11 X 2008, 1♀; (11) – 31 VII 2008, 1♀; (28) – 26 VI 2006, 1♂.

It is also reported from Upper Silesia – Jaworzno (ŚWIERCZEWSKI & WALCZAK 2011) and recently from Stanica near Racibórz (JUNKIERT 2016), Bukowno and Nowa Wieś (MUSIK 2016). The first record for Małopolska Upland – ‘Murawy Dobromierskie’ Nature Reserve near Dobromierz is given by ŚWIERCZEWSKI & STROIŃSKI (2011b). It has also been recorded in Białowieża and Piekary Śląskie (MUSIK & TASZAKOWSKI 2013) (Fig. 29).

According to NICKEL (2003), the taxonomic status of this species is uncertain as the type material is unknown, possibly comprising a complex of species, thus making its actual range difficult to establish. It has been recorded in Germany, Austria, Hungary, Ukraine, Kazakhstan and the Russian Far East (NAST 1987, ANUFRIEV & EMELJANOV 1988, HOLZINGER & REMANE 1994, NICKEL & REMANE 2002). Recently, it has also been recorded in Finland (SÖDERMAN 2007) and the Czech Republic on the basis of material collected within the period 1961-2009 (MALENOVSKÝ & LAUTERER 2010).

***Arocephalus languidus* (FLOR, 1861)**

Kazakh – widespread – xerophilous, heliophilous; olig., Poaceae, mainly *Stipa* and *Sesleria*; meadows; egg; 2 gen. – urbicenophilous

(2) – 28 VI 2008, 1♀, 23 VI 2009, 1♂, 1♀, 25 VII 2009, 2♂♂; (7) – 25 VI 2008, 2♂♂, 1♀, 26 IX 2008, 1♂, 1♀, 25 VI 2009, 3♂♂, 1♀, 23 VII 2009, 1♂, 8 VIII 2009, 1♂, 25 VIII 2009, 2♂♂; (10) – 9 VI 2006, 2♂♂, 10 IX 2006, 1♂, 22 VI 2007, 1♂, 7 VII 2007, 1♂, 1♀, 8 VIII 2007, 1♂, 1♀, 23 VIII 2007, 4♂♂, 3♀♀, 8 IX 2007, 1♀, 22 IX 2007, 3♂♂, 1♀, 9 VI 2008,

1♂, 1♀, 27 VI 2008, 1♂, 12 VIII 2008, 1♂, 11 IX 2008, 1♂, 27 IX 2008, 1♂, 1♀; **(11)** – 8 VII 2006, 1♂, 1♀, 23 VII 2006, 1♀, 25 V 2007, 1♂, 7 VI 2007, 1♂, 22 VI 2007, 1♀, 6 VIII 2007, 1♀, 8 IX 2007, 1♂, 22 IX 2007, 1♀, 29 VI 2008, 6♂♂, 1♀, 12 VII 2008, 1♀, 11 VIII 2008, 1♂; **(12)** – 9 VII 2007, 1♀, 6 VIII 2007, 1♂, 20 VIII 2007, 5♂♂, 3♀♀, 8 VII 2008, 1♂; **(21)** – 29 IX 2006, 1♂, 1♀, 25 VIII 2007, 10♂♂, 5♀♀, 7 IX 2007, 1♂, 26 IX 2007, 1♀, 28 VI 2008, 1♂, 1♀, 30 VIII 2008, 9♂♂, 5♀♀, 8 IX 2008, 17♂♂, 13♀♀, 10 X 2008, 1♂, 2♀♀; **(23)** – 24 VII 2006, 1♀, 23 VIII 2006, 7♂♂, 5♀♀, 7 IX 2006, 1♂, 21 IX 2006, 2♂♂, 2♀♀, 8 X 2006, 1♀, 24 V 2007, 2♂♂, 8 VI 2007, 3♂♂, 23 VI 2007, 2♂♂, 3♀♀, 6 VII 2007, 1♂, 22 VII 2007, 2♂♂, 3♀♀, 6 VIII 2007, 2♂♂, 1♀, 22 VIII 2007, 6♂♂, 4♀♀, 7 IX 2007, 2♀♀, 21 IX 2007, 4♂♂, 2♀♀, 9 X 2007, 1♂, 1♀, 7 VI 2008, 1♂, 23 VI 2008, 2♂♂, 1♀, 25 VII 2008, 1♂, 1♀, 25 VIII 2008, 2♂♂, 3♀♀, 8 IX 2008, 3♂♂, 2♀♀, 10 X 2008, 1♂, 1♀; **(24)** – 22 VI 2006, 1♂, 12 VII 2006, 2♂♂, 20 VII 2006, 3♀♀, 12 VIII 2006, 2♂♂, 21 VIII 2006, 2♂♂, 14 IX 2006, 6♂♂, 1♀, 26 IX 2006, 5♂♂, 6♀♀, 9 X 2006, 1♂, 1♀, 7 VI 2007, 2♂♂, 22 VI 2007, 2♂♂, 2♀♀, 8 VII 2007, 1♂, 1♀, 25 VII 2007, 1♂, 25 VIII 2007, 2♂♂, 3♀♀, 8 IX 2007, 7♂♂, 3♀♀, 22 IX 2007, 1♂, 1♀, 7 X 2007, 1♀, 22 VI 2008, 1♂, 8 VII 2008, 1♂, 2♀♀, 23 VII 2008, 1♂, 25 VIII 2008, 1♂, 9 X 2008, 1♂; **(25)** – 17 VIII 2007, 1♂, 9 IX 2008, 2♂♂, 1♀; **(27)** – 7 VI 2006, 2♂♂, 25 VI 2006, 2♂♂, 1♀, 8 VIII 2006, 1♂, 1♀, 24 VIII 2006, 3♂♂, 1♀, 10 IX 2006, 1♂, 26 IX 2006, 1♂, 2♀♀, 8 X 2006, 1♂, 19 V 2007, 1♂, 24 V 2007, 3♂♂, 8 VI 2007, 3♂♂, 1♀, 6 VII 2007, 1♂, 2♀♀, 22 VII 2007, 1♀, 6 VIII 2007, 2♂♂, 1♀, 22 VIII 2007, 4♂♂, 4♀♀, 7 IX 2007, 2♂♂, 1♀, 21 IX 2007, 4♀♀, 9 X 2007, 2♂♂, 9 VI 2008, 1♂, 26 VI 2008, 2♂♂, 1♀, 10 VIII 2008, 2♂♂, 26 VIII 2008, 6♂♂, 2♀♀, 9 IX 2008, 4♂♂, 1♀, 9 X 2008, 3♂♂; **(28)** – 10 VI 2006, 1♂, 21 VII 2006, 1♂, 1♀.

#### *Arocephalus longiceps* (KIRSCHBAUM, 1868)

European – rare – mesophilous, heliophilous; olig., Poaceae, mainly *Holcus* and *Bromus*; steppe-like grasslands, meadows; egg; 2 gen. – urbiceneutral

**(2)** – 26 IX 2007, 1♂; **(7)** – 9 VI 2009, 1♀, 25 VIII 2009, 1♂, 9 IX 2009, 3♀♀, 22 IX 2009, 1♀; **(10)** – 9 VI 2008, 1♂, 27 VI 2008, 1♀, 11 IX 2008, 1♀; **(22)** – 9 IX 2008, 1♀; **(29)** – 25 V 2007, 1♂; **(34)** – 6 VII 2006, 1♂.

#### *Psammotettix alienus* (DAHLBOM, 1850)

Holarctic – widespread and common – eurytopic; olig., Poaceae; woodlands, steppe-like grasslands, meadows, mires-swamps; egg; 2 gen. – urbiceneophilous

**(2)** – 7 VII 2007, 1♂, 23 VII 2007, 1♂, 8 VIII 2007, 2♂♂, 1♀, 23 VIII 2007, 1♂, 1♀, 8 IX 2007, 1♂, 2♀♀, 29 IX 2008, 2♀♀, 22 VIII 2009, 1♀, 8 IX 2009, 1♂, 23 IX 2009, 1♂, 2♂♂; **(3)** – 25 V 2007, 1♂, 11 VI 2007, 1♀, 22 VII 2007, 2♀♀, 6 VIII 2007, 1♂, 1♀, 6 IX 2007, 1♂, 26 VII 2008, 1♂; **(4)** – 26 VIII 2008, 1♂; **(5)** – 27 IX 2008, 2♂♂; **(6)** – 21 IX 2005, 1♂, 2♀♀, 5 X 2005, 1♂, 3♀♀, 31 VII 2006, 3♂♂, 7♀♀, 8 VIII 2006, 1♂, 23 VIII 2006, 1♀, 10 IX 2006, 1♂, 1♀, 26 VIII 2008, 1♀; **(7)** – 23 VII 2006, 2♂♂, 2♀♀, 26 VII 2008, 1♂, 10 VIII 2008, 1♀, 9 IX 2008, 1♀, 26 IX 2008, 2♂♂, 9 X 2008, 1♀, 23 VII 2009, 1♀, 8 VIII 2009, 2♀♀, 25 VIII 2009, 3♂♂, 1♀, 9 IX 2009, 4♂♂, 7♀♀, 22 IX 2009, 3♀♀, 9 X 2009, 1♀; **(8)** – 24 VII 2006, 1♂, 22 VIII 2006, 2♂♂, 1♀, 22 VIII 2007, 1♂, 1♀, 7 IX 2007, 2♀♀, 21 IX 2007, 1♂, 3♀♀, 26 VIII 2008, 1♂, 9 IX 2008, 1♂, 3♀♀, 26 IX 2008, 4♀♀; **(9)** – 10 IX

2006, 1♂, 2♀♀, 24 IX 2006, 2♂♂, 3♀♀, 10 X 2006, 1♀, 25 V 2007, 1♂, 1 VII 2007, 5♀♀, 31 VII 2007, 1♀, 16 VIII 2007, 1♀, 29 VIII 2007, 2♂♂, 1♀, 16 IX 2007, 1♂, 3♀♀, 10 IX 2008, 1♂, 1♀, 28 IX 2008, 1♀, 10 X 2008, 1♀; **(10)** – 20 VIII 2007, 1♂, 27 V 2008, 2♀♀, 12 VIII 2008, 1♀, 11 X 2008, 1♂, 2♀♀; **(11)** – 10 X 2006, 3♀♀, 22 VI 2007, 3♂♂, 1♀, 17 VII 2007, 2♂♂, 4♀♀, 25 VII 2007, 1♀, 6 VIII 2007, 4♂♂, 5♀♀, 23 VIII 2007, 3♂♂, 2♀♀, 16 IX 2007, 2♂♂, 1♀, 30 IX 2007, 1♀, 7 VI 2008, 1♀, 29 VI 2008, 1♀, 29 VII 2008, 1♀, 11 VIII 2008, 1♂, 11 X 2008, 2♀♀; **(12)** – 12 VIII 2006, 7♂♂, 5♀♀, 21 VIII 2006, 1♂, 3♀♀, 9 X 2006, 1♂, 6 VIII 2007, 1♂, 1♀, 9 X 2007, 1♀, 9 VIII 2008, 1♂, 10 IX 2008, 2♀♀, 7 X 2008, 2♀♀; **(13)** – 22 VI 2006, 1♂, 26 IX 2006, 1♀, 8 X 2006, 1♀, 22 VI 2007, 1♂, 23 VIII 2007, 1♂, 1♀, 28 IX 2008, 1♀, 10 X 2008, 2♂♂, 3♀♀; **(14)** – 23 VII 2009, 1♂, 10 VIII 2009, 2♂♂, 2♀♀, 25 VIII 2009, 1♂, 2♀♀, 9 IX 2009, 2♀♀, 22 IX 2009, 2♀♀; **(15)** – 11 X 2008, 1♀, 25 VIII 2009, 1♀, 9 IX 2009, 1♂, 30 VII 2010, 1♀; **(16)** – 9 VI 2006, 1♀, 23 VII 2006, 3♂♂, 8 VIII 2006, 1♀, 24 VIII 2006, 1♀, 10 IX 2006, 1♀, 25 VIII 2007, 2♂♂, 1♀, 23 IX 2007, 2♂♂, 1♀, 8 III 2008, 1♀, 10 IX 2008, 1♂, 2♀♀, 10 X 2008, 2♀♀; **(17)** – 23 VII 2009, 1♀; **(18)** – 10 X 2008, 1♀, 30 VI 2009, 1♂, 12 VII 2009, 2♀♀, 23 VII 2009, 1♀, 25 VIII 2009, 1♂, 9 IX 2009, 2♂♂, 22 IX 2009, 1♀, 10 X 2009, 1♀; **(19)** – 26 IX 2005, 1♀, 10 X 2005, 1♀, 23 VI 2006, 6♂♂, 5♀♀, 18 VIII 2006, 3♀♀, 10 IX 2006, 1♂, 7 VII 2007, 1♂, 22 VII 2007, 1♂, 20 VIII 2007, 1♂, 1♀, 8 IX 2007, 3♀♀, 20 IX 2007, 1♀; **(20)** – 26 VII 2006, 3♂♂, 1♀, 10 VIII 2006, 1♂, 25 IX 2006, 1♂, 9 VII 2007, 1♂, 23 VII 2007, 1♀, 17 VIII 2007, 1♂, 2♀♀, 18 IX 2007, 1♂; **(21)** – 10 VI 2006, 2♂♂, 20 VII 2006, 1♂, 2♀♀, 12 VIII 2006, 1♂, 9 X 2006, 1♀, 25 V 2007, 1♂, 1♀, 11 VI 2007, 1♀, 30 VI 2007, 1♂, 22 VII 2007, 1♂, 7 VIII 2007, 2♂♂, 25 VIII 2007, 1♂, 1♀, 26 IX 2007, 1♀, 8 VIII 2008, 1♀, 8 IX 2008, 1♀, 26 IX 2008, 2♂♂, 10 X 2008, 1♀; **(22)** – 8 IX 2005, 1♂, 19 VI 2007, 1♂, 21 VII 2007, 2♀♀, 6 VIII 2007, 1♂, 1♀, 2 IX 2007, 1♂, 1 X 2007, 1♀, 9 IX 2008, 2♂♂, 9 X 2008, 1♂, 2♀♀; **(23)** – 7 IX 2006, 1♂, 22 VIII 2007, 1♀, 7 IX 2007, 1♂, 2♀♀, 9 X 2007, 2♀♀, 24 IX 2008, 1♂, 1♀, 10 X 2008, 1♂, 2♀♀; **(24)** – 20 VII 2006, 1♂, 12 VIII 2006, 7♂♂, 6♀♀, 21 VIII 2006, 2♂♂, 2♀♀, 11 IX 2006, 2♂♂, 1♀, 26 IX 2006, 2♀♀, 9 X 2006, 1♂, 25 VIII 2007, 1♂, 22 IX 2007, 1♂, 3♀♀, 23 VII 2008, 1♀, 9 IX 2008, 1♂, 2♀♀, 9 X 2008, 1♀; **(25)** – 10 VI 2006, 1♀, 9 VII 2006, 1♂, 2♀♀, 20 VII 2006, 1♂, 12 VIII 2006, 3♂♂, 12♀♀, 21 VIII 2006, 1♂, 1♀, 11 IX 2006, 1♂, 2♀♀, 24 IX 2006, 10♂♂, 6♀♀, 9 X 2006, 7♂♂, 7♀♀, 23 VI 2007, 1♂, 9 VII 2007, 1♀, 31 VII 2007, 1♂, 10 VIII 2007, 1♂, 25 VIII 2007, 1♀, 2 X 2007, 2♀♀; **(26)** – 9 X 2007, 1♀, 25 VII 2008, 1♀, 8 IX 2008, 1♂, 1♀, 26 IX 2008, 1♂, 9 X 2008, 2♂♂; **(27)** – 26 IX 2006, 1♀, 9 IX 2008, 1♀, 9 X 2008, 1♀; **(28)** – 21 IX 2005, 1♂, 10 VIII 2006, 1♀, 1 X 2007, 1♂; **(31)** – 8 X 2006, 1♀, 10 IX 2007, 1♂, 2 X 2007, 1♀; **(32)** – 7 X 2006, 1♀; **(33)** – 21 IX 2005, 1♂, 5 X 2005, 1♂, 21 IX 2006, 1♀, 23 VI 2007, 1♂; **(34)** – 7 X 2006, 1♀; **(35)** – 9 IX 2009, 1♂.

***Psammotettix cephalotes* (HERRICH-SCHÄFFER, 1834)**

European – widespread – mesophilous, heliophilous; m1, *Briza media*; steppe-like grasslands, meadows; egg; 2 gen. – urbiceneutral

**(7)** – 23 VII 2009, 1♂, 25 VIII 2009, 3♂♂, 1♀; **(11)** – 31 VIII 2008, 1♂; **(16)** – 9 VI 2006, 15♂♂, 39♀♀, 26 VI 2006, 17♂♂, 13♀♀, 10 VII 2006, 2♀♀, 23 VII 2006, 4♂♂, 6♀♀, 8 VIII 2006, 34♂♂, 31♀♀, 24 VIII 2006, 31♂♂, 30♀♀, 10 IX 2006, 21♂♂, 36♀♀, 25 IX 2006, 15♂♂, 13♀♀, 10 X 2006, 11♂♂, 17♀♀, 9 VI 2007, 3♂♂, 7♀♀, 26 VI 2007, 22♂♂, 19♀♀, 10 VII 2007, 4♂♂, 2♀♀, 24 VII 2007, 2♀♀, 9 VIII 2007, 21♂♂, 16♀♀, 25 VIII 2007,

24♂♂, 18♀♀, 9 IX 2007, 8♂♂, 19♀♀, 23 IX 2007, 13♂♂, 8♀♀, 10 X 2007, 10♂♂, 14♀♀, 25 V 2008, 8♂♂, 6♀♀, 9 VI 2008, 12♂♂, 15♀♀, 25 VI 2008, 8♂♂, 11♀♀, 10 VII 2008, 1♂, 4♀♀, 23 VII 2008, 3♂♂, 8 VIII 2008, 16♂♂, 20♀♀, 24 VIII 2008, 23♂♂, 28♀♀, 10 IX 2008, 10♂♂, 7♀♀, 25 IX 2008, 2♂♂, 5♀♀, 10 X 2008, 7♂♂, 12♀♀; **(28)** – 19 VIII 2005, 1♂, 10 V 2007, 1♂, 8 VI 2007, 1♀, 24 IX 2007, 1♀.

***Psammotettix confinis* (DAHLBOM, 1850)**

Holarctic – widespread and common – mesophilous; olig. – Poaceae; woodlands, steppe-like grasslands, meadows, mires-swamps; egg; 2 gen. – urbicophilous

**(2)** – 28 VII 2008, 1♀; **(6)** – 19 VI 2005, 1♀; **(7)** – 8 VI 2006, 2♀♀, 7 VI 2008, 1♀, 25 VI 2008, 2♀♀, 26 VII 2008, 1♂, 10 VIII 2008, 2♂♂, 25 VIII 2008, 1♂, 9 IX 2008, 1♀, 9 VI 2009, 1♂, 4♀♀, 25 VI 2009, 1♂, 1♀, 10 VII 2009, 1♂, 8 VIII 2009, 2♂♂, 5♀♀, 25 VIII 2009, 4♂♂, 6♀♀, 9 IX 2009, 2♂♂, 1♀, 22 IX 2009, 1♂, 2♀♀, 9 X 2009, 1♀; **(8)** – 25 V 2006, 2♂♂, 2♀♀, 9 VI 2006, 1♂, 9 VII 2006, 2♀♀, 24 VII 2006, 1♂, 1♀, 11 VIII 2006, 3♂♂, 6♀♀, 22 VIII 2006, 4♂♂, 7♀♀, 9 IX 2006, 3♂♂, 5♀♀, 23 VI 2007, 1♂, 22 VII 2007, 1♀, 22 VIII 2007, 10♂♂, 17♀♀, 7 IX 2007, 5♂♂, 6♀♀, 21 IX 2007, 3♂♂, 7♀♀, 9 X 2007, 1♀, 25 V 2008, 1♂, 7 VI 2008, 1♂, 1♀, 28 VI 2008, 2♀♀, 26 VII 2008, 1♂, 10 VIII 2008, 1♂, 7♀♀, 26 VIII 2008, 10♂♂, 14♀♀, 9 IX 2008, 5♂♂, 19♀♀, 26 IX 2008, 1♂, 8♀♀, 9 X 2008, 2♀♀; **(9)** – 20 V 2006, 3♂♂, 1♀, 9 VI 2006, 2♂♂, 4♀♀, 21 VI 2006, 1♂, 1♀, 10 VII 2006, 2♂♂, 1♀, 26 VII 2006, 1♂, 9 VIII 2006, 2♀♀, 23 VIII 2006, 2♂♂, 24 IX 2006, 1♀, 10 V 2007, 3♂♂, 1♀, 25 V 2007, 17♂♂, 15♀♀, 7 VI 2007, 7♂♂, 8♀♀, 17 VI 2007, 1♀, 3 VII 2007, 2♀♀, 13 VII 2007, 1♂, 1♀, 31 VII 2007, 1♂, 1♀, 16 VIII 2007, 2♂♂, 1♀, 16 IX 2007, 3♂♂, 2♀♀, 10 VI 2008, 2♂♂, 1♀, 10 IX 2008, 1♀; **(10)** – 9 VI 2006, 2♂♂, 21 VI 2006, 1♂, 2♀♀, 26 VII 2006, 3♂♂, 2♀♀, 23 VIII 2006, 1♂, 2♀♀, 24 IX 2006, 1♀, 9 VI 2007, 6♂♂, 5♀♀, 22 VI 2007, 6♂♂, 7♀♀, 7 VII 2007, 4♂♂, 1♀, 23 VII 2007, 3♂♂, 6♀♀, 8 VIII 2007, 11♂♂, 17♀♀, 23 VIII 2007, 23♂♂, 28♀♀, 8 IX 2007, 3♂♂, 7♀♀, 22 IX 2007, 2♀♀, 9 X 2007, 1♀, 27 V 2008, 1♀, 9 VI 2008, 13♂♂, 7♀♀, 27 VI 2008, 3♀♀, 9 VII 2008, 2♂♂, 3♀♀, 27 VII 2008, 9♂♂, 5♀♀, 12 VIII 2008, 13♂♂, 10♀♀, 28 VIII 2008, 1♀, 11 IX 2008, 1♀, 27 IX 2008, 1♂, 1♀, 11 X 2008, 1♀; **(11)** – 23 V 2006, 3♂♂, 2♀♀, 9 VI 2006, 3♂♂, 1♀, 22 VI 2006, 1♀, 8 VII 2006, 2♀♀, 23 VII 2006, 4♂♂, 9 VIII 2006, 2♀♀, 25 VIII 2006, 1♂, 2♀♀, 25 V 2007, 6♂♂, 6♀♀, 7 VI 2007, 2♂♂, 1♀, 22 VI 2007, 1♂, 9 VII 2007, 1♂, 6 VIII 2007, 4♀♀, 23 VIII 2007, 1♂, 8 IX 2007, 1♂, 7 VI 2008, 5♂♂, 4♀♀, 29 VI 2008, 1♂, 4♀♀, 12 VII 2008, 1♂, 29 VII 2008, 1♂, 2♀♀, 11 VIII 2008, 1♂, 4♀♀, 31 VIII 2008, 1♂, 2♀♀; **(12)** – 10 VI 2006, 1♂, 22 VI 2006, 2♂♂, 5♀♀, 12 VII 2006, 1♂, 20 VII 2006, 1♂, 1♀, 12 VIII 2006, 1♂, 1♀, 21 VIII 2006, 1♀, 26 IX 2006, 1♂, 3♀♀, 8 V 2007, 1♂, 1♀, 25 V 2007, 1♂, 1♀, 21 VI 2007, 2♂♂, 9 VII 2007, 1♀, 23 VII 2007, 1♂, 6 VIII 2007, 1♂, 20 VIII 2007, 2♂♂, 3♀♀, 8 IX 2007, 2♀♀, 23 V 2008, 1♂, 1♀, 10 VI 2008, 1♂, 2♀♀, 8 VII 2008, 1♂, 1♀, 22 VII 2008, 1♂, 2♀♀, 9 VIII 2008, 1♂, 1♀; **(13)** – 10 VI 2006, 1♂, 1♀, 12 VII 2006, 3♂♂, 1♀, 20 VII 2006, 1♀, 12 VIII 2006, 1♂, 2♀♀, 8 X 2006, 4♀♀, 25 V 2007, 2♂♂, 1♀, 22 VI 2007, 5♂♂, 8♀♀, 9 VII 2007, 8♂♂, 6♀♀, 25 VII 2007, 3♂♂, 6♀♀, 6 VIII 2007, 8♂♂, 13♀♀, 23 VIII 2007, 2♀♀, 8 IX 2007, 4♂♂, 2♀♀, 10 VI 2008, 4♂♂, 3♀♀, 29 VI 2008, 3♂♂, 2♀♀, 11 VII 2008, 1♂, 2♀♀, 29 VII 2008, 8♂♂, 11♀♀, 11 VIII 2008, 14♂♂, 25♀♀, 31 VIII 2008, 11♂♂, 10♀♀, 10 IX 2008, 8♂♂, 23♀♀, 28 IX 2008, 5♂♂, 7♀♀, 10 X 2008, 4♀♀; **(14)** – 26 VIII 2008, 1♀; **(16)** – 23 V 2007, 2♂♂, 2♀♀, 26 VI 2007, 1♀, 10 VII 2007, 1♂, 1♀; **(19)** – 23 VIII 2006, 1♀, 19 V 2007, 1♀, 22 VII 2007, 1♂, 1♀, 6 VIII 2007, 1♂; **(20)**

– 10 VI 2006, 2♂♂, 1♀, 26 VI 2006, 1♂, 2♀♀, 7 VII 2006, 1♀, 26 VII 2006, 1♀, 10 VIII 2006, 1♀, 9 X 2006, 1♀, 22 VI 2007, 1♂, 1♀, 23 VII 2007, 1♀, 22 VIII 2007, 2♂♂, 1♀, 6 IX 2007, 1♂, 1♀, 21 IX 2007, 1♀, 11 X 2007, 1♀, 8 VI 2008, 1♂, 1♀; **(21)** – 25 V 2006, 2♂♂, 25 V 2007, 1♂, 7 IX 2007, 1♀, 8 IX 2008, 1♀; **(22)** – 25 V 2005, 2♂♂, 8 VI 2005, 1♀, 29 V 2007, 1♂, 8 VI 2007, 1♀, 19 VI 2007, 1♀, 1 VII 2007, 1♀, 21 VIII 2007, 1♂; **(23)** – 6 VII 2006, 1♂, 8 VIII 2006, 1♀, 23 VIII 2006, 2♂♂, 1♀, 21 IX 2006, 1♀, 6 VII 2007, 1♂, 6 VIII 2007, 1♀, 22 VIII 2007, 1♂, 2♀♀, 21 IX 2007, 1♀, 7 VI 2008, 3♂♂, 1♀, 9 VIII 2008, 1♂, 25 VIII 2008, 1♀; **(24)** – 10 VI 2006, 1♂, 22 VI 2006, 1♂, 1♀, 12 VII 2006, 1♂, 20 VII 2006, 1♂, 1♀, 21 VIII 2006, 6♂♂, 5♀♀, 14 IX 2006, 4♂♂, 7♀♀, 26 IX 2006, 2♀♀, 9 X 2006, 1♀, 8 V 2007, 1♂, 25 V 2007, 1♂, 2♀♀, 7 VI 2007, 4♂♂, 3♀♀, 9 VIII 2007, 1♂, 1♀, 25 VIII 2007, 1♂, 4♀♀, 8 IX 2007, 1♂, 3♀♀, 22 IX 2007, 1♂, 1♀, 7 X 2007, 2♀♀, 10 V 2008, 2♂♂, 1♀, 23 V 2008, 1♂, 1♀, 9 VI 2008, 2♂♂, 3♀♀, 8 VII 2008, 1♂, 25 VIII 2008, 3♂♂, 9 IX 2008, 3♂♂, 4♀♀; **(25)** – 25 V 2006, 1♂, 1♀, 10 VI 2006, 11♂♂, 12♀♀, 22 VI 2006, 9♂♂, 8♀♀, 9 VII 2006, 2♂♂, 20 VII 2006, 3♂♂, 2♀♀, 10 VIII 2006, 5♂♂, 3♀♀, 21 VIII 2006, 1♂, 1♀, 14 IX 2006, 2♂♂, 26 IX 2006, 8♂♂, 3♀♀, 9 X 2006, 4♂♂, 6♀♀, 25 V 2007, 14♂♂, 12♀♀, 7 VI 2007, 5♂♂, 3♀♀, 23 VI 2007, 4♂♂, 2♀♀, 9 VII 2007, 3♂♂, 5♀♀, 31 VII 2007, 4♂♂, 3♀♀, 17 VIII 2007, 14♂♂, 10♀♀, 29 VIII 2007, 15♂♂, 13♀♀, 16 IX 2007, 13♂♂, 4♀♀, 10 X 2007, 13♂♂, 16♀♀, 21 V 2008, 9♂♂, 6♀♀, 11 VI 2008, 6♂♂, 5♀♀, 24 VI 2008, 3♂♂, 4♀♀, 9 VII 2008, 2♂♂, 23 VII 2008, 2♀♀, 10 VIII 2008, 7♂♂, 9♀♀, 24 VIII 2008, 10♂♂, 13♀♀, 9 IX 2008, 3♂♂, 6♀♀, 23 IX 2008, 4♂♂, 7♀♀, 8 X 2008, 1♂, 1♀; **(26)** – 8 VI 2006, 1♀, 9 VI 2007, 1♀, 24 VI 2007, 1♂, 8 VII 2007, 1♂, 1♀, 20 VII 2007, 1♂, 1♀, 6 VIII 2007, 1♀, 7 IX 2007, 3♂♂, 2♀♀, 25 IX 2007, 2♂♂, 2♀♀, 9 X 2007, 1♂, 2♀♀, 10 VIII 2008, 3♂♂, 3♀♀, 26 VIII 2008, 3♀♀, 8 IX 2008, 3♂♂, 6♀♀, 9 X 2008, 1♂, 1♀; **(27)** – 24 V 2006, 1♂, 2♀♀, 7 VI 2006, 1♂, 25 VI 2006, 1♀, 24 VIII 2006, 1♂, 9 V 2007, 1♂, 24 V 2007, 2♀♀, 8 VI 2007, 1♂, 23 VI 2007, 1♀, 22 VII 2007, 1♂, 9 X 2007, 2♀♀, 9 VI 2008, 1♂, 26 VI 2008, 1♀, 10 VIII 2008, 1♂, 26 VIII 2008, 2♂♂, 6♀♀, 26 IX 2008, 1♀, 9 X 2008, 3♂♂, 2♀♀; **(28)** – 25 V 2006, 1♂, 24 V 2007, 1♀; **(30)** – 22 IX 2007, 1♀.

### ***Psammotettix excisus* (MATSUMURA 1906)**

Western European – rare – xerophilous, psammophilous; m1?, *Corynephorus canescens*; steppe-like grasslands (on sandy substrate); egg; 2 gen. – urbicenoenic

**(7)** – 8 VI 2006, 3♂♂, 1♀, 26 VI 2006, 7♂♂, 11♀♀, 8 VII 2006, 2♂♂, 6♀♀, 23 VII 2006, 4♂♂, 7♀♀, 8 VIII 2006, 14♂♂, 9♀♀, 24 VIII 2006, 17♂♂, 15♀♀, 9 IX 2006, 10♂♂, 18♀♀, 24 IX 2006, 1♂, 1♀, 10 X 2006, 4♂♂, 4♀♀, 7 VI 2008, 11♂♂, 4♀♀, 25 VI 2008, 8♂♂, 34♀♀, 9 VII 2008, 1♂, 6♀♀, 26 VII 2008, 3♂♂, 1♀, 10 VIII 2008, 7♂♂, 4♀♀, 25 VIII 2008, 6♂♂, 8♀♀, 9 IX 2008, 3♂♂, 6♀♀, 26 IX 2008, 2♂♂, 6♀♀, 9 X 2008, 6♂♂, 3♀♀, 9 VI 2009, 1♂, 25 VI 2009, 14♂♂, 10♀♀, 10 VII 2009, 2♂♂, 2♀♀, 23 VII 2009, 6♀♀, 8 VIII 2009, 49♂♂, 5♀♀, 25 VIII 2009, 31♂♂, 25♀♀, 9 IX 2009, 21♂♂, 37♀♀, 22 IX 2009, 5♂♂, 2♀♀, 9 X 2009, 1♀; **(8)** – 24 VII 2006, 1♂, 1♀, 11 VIII 2006, 1♂, 1♀, 21 IX 2007, 2♀♀, 7 VI 2008, 1♀, 28 VI 2008, 1♂, 2♀♀, 9 VII 2008, 1♀, 10 VIII 2008, 1♀, 9 IX 2008, 1♀.

### ***Psammotettix nodosus* (RIBAUT, 1925)**

European – widespread – xerophilous; olig., Poaceae, preferably *Festuca ovina*; steppe-like

grasslands, meadows; egg; 2 gen. – urbicenoenic

(7) – 10 VIII 2008, 1♂, 25 VIII 2008, 1♀, 26 IX 2008, 1♀, 25 VI 2009, 2♂♂, 1♀.

### ***Psammotettix poecilus* (FLOR, 1861)**

Euro-Siberian – rare – xerophilous; m2, *Calamagrostis epigejos*, *C. pseudophragmites*; steppe-like grasslands (on sandy substrate); egg; 2 gen. – urbicenoneutral

(28) – 19 VI 2016, 1♀.

The first record of the species for Krakowsko-Wieluńska Upland is given by ŚWIERCZEWSKI & BŁASZCZYK (2013) from Załęczański Landscape Park. Other reports of the species in Poland come from the Baltic Coast (WAGNER 1939, 1941), Pomeranian Lake District (SCHMIDT 1912, WAGNER 1939, 1941), Mazovian Lowland (NAST 1955), Upper Silesia (GĘBICKI et al. 2013, JUNKIERT 2016, MUSIK 2016) and Małopolska Upland (NAST 1955).

### ***Adarrus multinotatus* (BOHEMAN, 1847)**

Western Palaearctic – widespread – mesophilous; m1, *Brachypodium pinnatum*; woodlands, steppe-like grasslands, meadows; egg; 2 gen. – urbicenoneutral

(28) – 29 V 2007, 1♂; (29) – 9 VI 2005, 8♂♂, 6♀♀, 18 VI 2005, 8♂♂, 11♀♀, 6 VII 2005, 2♂♂, 2♀♀, 23 VII 2005, 1♂, 2♀♀, 7 VIII 2005, 2♂♂, 3♀♀, 25 VIII 2005, 1♀, 10 IX 2005, 1♂, 21 IX 2005, 7♂♂, 11♀♀, 9 VI 2006, 7♂♂, 5♀♀, 23 VI 2006, 4♂♂, 7♀♀, 8 VII 2006, 7♂♂, 10♀♀, 22 VII 2006, 3♀♀, 7 VIII 2006, 1♂, 23 VIII 2006, 2♂♂, 2♀♀, 9 IX 2006, 8♂♂, 6♀♀, 24 IX 2006, 8♂♂, 12♀♀, 8 X 2006, 2♂♂, 6♀♀, 25 V 2007, 12♂♂, 20♀♀, 8 VI 2007, 13, 19 VI 2007, 12♂♂, 21 VII 2007, 2♂♂, 1♀, 7 VIII 2007, 4♂♂, 4♀♀, 25 IX 2007, 5♂♂, 8♀♀; (33) – 8 VI 2005, 1♂, 6 VII 2005, 1♂, 23 VII 2005, 2♂♂, 4♀♀, 19 VIII 2005, 1♀, 8 IX 2005, 2♂♂, 21 IX 2005, 1♀, 25 VI 2006, 1♀, 6 VII 2006, 1♂, 17 VII 2006, 5♂♂, 3♀♀, 15 VIII 2006, 1♀, 8 VI 2007, 2♂♂, 2♀♀, 22 VII 2007, 2♂♂, 5♀♀, 7 IX 2007, 2♀♀, 27 IX 2007, 1♂.

### ***Errastunus ocellaris* (FALLÉN, 1806)**

Trans-Palaearctic – widespread and common – mesophilous; olig., Poaceae, preferably *Holcus*, *Calamagrostis*, *Elymus* and *Dactylis*; woodlands, steppe-like grasslands, meadows, mires-swamps; egg; 2 gen. – urbicenoophilous

(1) – 18 VI 2006, 2♂♂, 23 VI 2006, 1♂, 10 VII 2006, 2♀♀, 15 IX 2006, 1♀, 23 V 2008, 2♀♀, 26 VI 2008, 1♂, 10 VII 2008, 1♀, 11 VIII 2008, 2♂♂, 1♀, 23 VIII 2008, 2♀♀, 23 V 2010, 1♀, 26 VI 2010, 2♂♂, 1♀, 10 VII 2010, 6♀♀, 11 VIII 2010, 2♂♂, 1♀, 23 VIII 2010, 2♀♀, 23 IX 2010, 1♀, 8 X 2010, 2♀♀; (2) – 24 V 2007, 2♂♂, 2♀♀, 7 VII 2007, 3♀♀, 23 VII 2007, 4♂♂, 2♀♀, 8 VIII 2007, 4♂♂, 2♀♀, 23 VIII 2007, 2♂♂, 8 IX 2007, 3♂♂, 4♀♀, 22 IX 2007, 1♂, 4♀♀, 9 X 2007, 2♀♀, 26 V 2008, 5♀♀, 28 VI 2008, 2♂♂, 12 VII 2008, 1♀, 12 VIII 2008, 1♀, 29 VIII 2008, 3♂♂, 2♀♀, 11 IX 2008, 2♀♀, 11 X 2008, 8♀♀, 22 V 2009, 1♂, 1♀, 23 VI 2009, 1♂, 1♀, 8 VII 2009, 1♀, 25 VII 2009, 1♂, 3♀♀, 8 VIII 2009, 2♂♂, 1♀, 22 VIII 2009, 2♂♂, 8 IX 2009, 1♂, 3♀♀, 23 IX 2009, 1♂, 8 X 2009, 2♀♀; (3) – 9 VII 2006,

1♂, 11 V 2007, 1♂, 1♀, 25 V 2007, 1♀, 7 VII 2007, 1♂, 22 VII 2007, 1♀, 21 VIII 2007, 1♂, 21 IX 2007, 1♀, 7 VI 2008, 1♀, 12 VII 2008, 1♀, 10 VIII 2008, 1♂, 25 VIII 2008, 3♀♀, 10 IX 2008, 1♂, 2♀♀, 26 IX 2008, 1♀; **(4)** – 26 V 2006, 1♂, 19 VIII 2006, 4♂♂, 2♀♀, 21 IX 2006, 1♂, 2♀♀, 5 X 2006, 1♂, 4♀♀, 11 V 2007, 2♂♂, 21 VII 2007, 1♂, 9 IX 2008, 1♂, 26 IX 2008, 1♀; **(5)** – 4 IX 2005, 1♂, 24 IX 2005, 1♀; **(6)** – 26 V 2005, 6♂♂, 4♀♀, 8 VI 2005, 1♂, 19 VI 2005, 2♂♂, 2♀♀, 6 VII 2005, 1♂, 19 VIII 2005, 1♂, 21 IX 2005, 5♂♂, 11♀♀, 5 X 2005, 3♂♂, 11♀♀, 8 VI 2006, 1♂, 1♀, 7 VII 2006, 1♂, 1♀, 8 VIII 2006, 1♂, 23 VIII 2006, 2♀♀, 10 IX 2006, 2♂♂, 5♀♀, 9 IX 2008, 1♂, 26 IX 2008, 4♀♀; **(7)** – 8 VI 2006, 1♂, 23 VII 2006, 3♂♂, 2♀♀, 24 IX 2006, 1♀, 9 VI 2009, 1♀; **(8)** – 25 V 2008, 1♂; **(9)** – 11 V 2006, 2♂♂, 4♀♀, 20 V 2006, 1♂, 4♀♀, 9 VI 2006, 1♀, 10 VII 2006, 1♂, 23 VIII 2006, 1♂, 10 IX 2006, 1♂, 24 IX 2006, 2♂♂, 5♀♀, 10 X 2006, 1♂, 2♀♀, 14 V 2007, 1♂, 25 V 2007, 6♂♂, 2♀♀, 3 VII 2007, 1♀, 13 VII 2007, 2♂♂, 3♀♀, 31 VII 2007, 2♀♀, 29 VIII 2007, 2♂♂, 4♀♀, 10 IX 2007, 1♂, 3♀♀, 6 X 2007, 6♂♂, 16♀♀, 26 V 2008, 2♂♂, 10 VI 2008, 3♂♂, 29 VI 2008, 1♀, 11 VII 2008, 1♂, 31 VIII 2008, 1♂, 1♀, 10 IX 2008, 1♂, 10 X 2008, 3♀♀; **(10)** – 18 VI 2006, 5♀♀, 15 IX 2006, 2♂♂, 5♀♀, 12 X 2006, 1♀, 9 VI 2007, 1♂, 7 VII 2007, 1♀, 23 VIII 2007, 1♂, 1♀, 9 X 2007, 1♀; 9 VI 2008, 5♂♂, 1♀, 27 VI 2008, 1♂, 3♀♀, 27 VII 2008, 1♂, 2♀♀, 12 VIII 2008, 1♂, 2♀♀, 28 VIII 2008, 2♂♂, 1♀, 11 IX 2008, 3♂♂, 1♀, 27 IX 2008, 1♂, 11 X 2008, 2♀♀; **(11)** – 22 VI 2006, 2♀♀, 22 VI 2007, 1♀, 22 IX 2007, 1♂, 7 VI 2008, 1♂, 2♀♀, 29 VI 2008, 2♂♂, 1♀, 12 VII 2008, 1♀, 29 VII 2008, 1♀; **(12)** – 10 VI 2006, 2♂♂, 2♀♀, 22 VI 2006, 1♂, 2♀♀, 12 VII 2006, 6♂♂, 4♀♀, 12 VIII 2006, 3♂♂, 2♀♀, 21 VIII 2006, 2♂♂, 1♀, 12 IX 2006, 2♂♂, 1♀, 26 IX 2006, 2♂♂, 3♀♀, 9 X 2006, 1♂, 4♀♀, 8 V 2007, 2♂♂, 4♀♀, 7 VI 2007, 1♂, 2♀♀, 9 VII 2007, 2♀♀, 23 VII 2007, 5♂♂, 1♀, 6 VIII 2007, 2♂♂, 1♀, 20 VIII 2007, 6♂♂, 10♀♀, 8 IX 2007, 5♂♂, 5♀♀, 22 IX 2007, 2♂♂, 8♀♀, 9 X 2007, 1♂, 6♀♀, 23 V 2008, 2♂♂, 10 VI 2008, 1♀, 24 VI 2008, 2♂♂, 2♀♀, 8 VII 2008, 3♂♂, 3♀♀, 22 VII 2008, 2♂♂, 1♀, 9 VIII 2008, 1♂, 1♀, 23 VIII 2008, 2♂♂, 4♀♀, 10 IX 2008, 2♀♀, 21 IX 2008, 1♂, 4♀♀, 7 X 2008, 3♀♀; **(13)** – 12 VIII 2006, 1♂, 14 IX 2006, 1♀, 7 VI 2007, 1♀, 10 VI 2008, 1♀; **(14)** – 11 VII 2008, 1♀, 11 VIII 2008, 1♂, 26 VIII 2008, 2♀♀, 10 IX 2008, 2♂♂, 6♀♀, 26 IX 2008, 1♂, 5♀♀, 10 X 2008, 6♀♀, 11 VI 2009, 1♀, 30 VI 2009, 1♀, 23 VII 2009, 1♂, 10 VIII 2009, 4♂♂, 25 VIII 2009, 5♂♂, 3♀♀, 9 IX 2009, 1♀, 22 IX 2009, 1♂, 3♀♀, 10 X 2009, 1♂, 3♀♀, 11 VIII 2010, 1♂, 23 IX 2010, 2♀♀; **(15)** – 10 VI 2008, 1♀; **(16)** – 9 VI 2006, 2♂♂, 3♀♀, 25 VI 2006, 5♀♀, 10 VII 2006, 4♀♀, 10 IX 2006, 1♀, 9 VI 2007, 1♂, 1♀, 9 IX 2007, 1♂, 1♀, 23 IX 2007, 3♀♀, 10 X 2007, 3♀♀, 9 VI 2008, 2♂♂, 10 IX 2008, 1♀, 25 IX 2008, 2♂♂, 10 X 2008, 2♀♀; **(19)** – 28 V 2005, 4♂♂, 6♀♀, 19 VI 2005, 1♂, 1♀, 10 VII 2005, 1♂, 10 VIII 2005, 1♂, 1♀, 25 VIII 2005, 2♀♀, 7 IX 2005, 1♂, 2♀♀, 26 IX 2005, 3♂♂, 7♀♀, 10 X 2005, 3♂♂, 8♀♀, 23 VI 2006, 1♂, 7♀♀, 9 VIII 2006, 3♂♂, 1♀, 23 VIII 2006, 3♂♂, 2♀♀, 10 IX 2006, 4♂♂, 3♀♀, 11 X 2006, 5♀♀, 19 V 2007, 1♀, 11 VI 2007, 1♂, 4♀♀, 22 VI 2007, 1♂, 1♀, 7 VII 2007, 1♂, 3♀♀, 22 VII 2007, 1♂, 1♀, 6 VIII 2007, 3♂♂, 2♀♀, 20 VIII 2007, 9♂♂, 8 IX 2007, 14♂♂, 10♀♀, 20 IX 2007, 15♂♂, 16♀♀, 8 X 2007, 2♂♂, 9♀♀; **(20)** – 22 VIII 2007, 1♀, 25 IX 2008, 1♂, 2♀♀, 23 VII 2007, 2♂♂, 1♀; **(21)** – 10 VI 2006, 2♂♂, 1♀, 22 VI 2006, 2♀♀, 12 VII 2006, 2♀♀, 20 VII 2006, 2♀♀, 12 VIII 2006, 2♂♂, 7♀♀, 21 VIII 2006, 4♂♂, 1♀, 14 IX 2006, 3♂♂, 7♀♀, 29 IX 2006, 3♂♂, 4♀♀, 9 X 2006, 3♀♀, 25 V 2007, 3♀♀, 11 VI 2007, 3♂♂, 21 VI 2007, 1♀, 22 VII 2007, 1♂, 7 VIII 2007, 1♂, 25 VIII 2007, 3♀♀, 7 IX 2007, 3♂♂, 3♀♀, 26 IX 2007, 1♂, 3♀♀, 9 X 2007, 6♀♀, 7 VI 2008, 3♂♂, 4♀♀, 28 VI 2008, 4♀♀, 12 VII 2008, 1♂, 3♀♀, 29 VII 2008, 1♂, 3♀♀, 8 VIII 2008, 7♂♂, 30 VIII 2008, 3♂♂, 1♀, 8 IX 2008, 1♂, 6♀♀, 26 IX 2008, 3♂♂, 1♀; **(22)** – 25 V 2005, 1♀, 8 VI 2005, 2♂♂, 22 VI 2005, 1♀, 7 VII 2005, 2♀♀, 25 VII 2005, 3♂♂, 1♀, 7 VIII 2005, 1♀, 20

VIII 2005, 5♂♂, 7♀♀, 8 IX 2005, 6♂♂, 5♀♀, 21 IX 2005, 5♂♂, 7♀♀, 5 X 2005, 1♂, 3♀♀, 26 V 2007, 5♂♂, 5♀♀, 8 VI 2007, 3♂♂, 5♀♀, 19 VI 2007, 1♂, 4♀♀, 1 VII 2007, 1♀, 15 VII 2007, 7♂♂, 4♀♀, 6 VIII 2007, 3♂♂, 7♀♀, 21 VIII 2007, 9♂♂, 5♀♀, 2 IX 2007, 8♂♂, 4♀♀, 17 IX 2007, 17♂♂, 10♀♀, 5 X 2007, 2♂♂, 8♀♀, 7 VI 2008, 15♂♂, 10♀♀, 26 VI 2008, 3♂♂, 6♀♀, 8 VII 2008, 3♂♂, 3♀♀, 28 VII 2008, 3♂♂, 10 VIII 2008, 7♂♂, 3♀♀, 30 VIII 2008, 14♂♂, 13♀♀, 9 IX 2008, 18♂♂, 17♀♀, 26 IX 2008, 10♂♂, 17♀♀, 9 X 2008, 6♂♂, 7♀♀; **(23)** – 7 VI 2008, 1♀, 8 IX 2008, 2♂♂, 1♀, 10 X 2008, 1♂, 1♀; **(24)** – 25 V 2006, 1♂, 10 VI 2006, 4♀♀, 22 VI 2006, 2♂♂, 2♀♀, 12 VIII 2006, 1♂, 2♀♀, 25 V 2007, 5♂♂, 5♀♀, 7 VI 2007, 1♂, 25 VIII 2007, 1♂, 8 IX 2007, 2♂♂, 2♀♀, 23 V 2008, 1♂, 1♀, 22 VI 2008, 3♂♂, 2♀♀, 25 VIII 2008, 2♂♂, 9 IX 2008, 3♀♀; **(25)** – 10 VI 2006, 1♂, 2♀♀, 12 VII 2006, 2♀♀, 8 X 2006, 1♂, 1♀, 25 V 2007, 1♀, 7 VI 2007, 3♀♀, 17 VI 2007, 2♀♀, 9 VII 2007, 1♂, 17 VIII 2007, 1♀, 29 VIII 2007, 2♀♀, 2 X 2007, 1♂, 11 VI 2008, 1♂, 2♀♀, 24 VI 2008, 1♀, 23 VII 2008, 1♂, 1♀, 10 VIII 2008, 3♂♂, 1♀, 24 VIII 2008, 1♂, 9 IX 2008, 1♂, 2♀♀; **(26)** – 10 V 2006, 1♂, 24 V 2006, 1♀, 8 VI 2006, 1♀, 24 VI 2007, 1♂, 3♀♀, 8 VII 2007, 2♂♂, 1♀, 20 VII 2007, 3♂♂, 3♀♀, 6 VIII 2007, 1♂, 2♀♀, 23 VIII 2007, 2♀♀, 7 IX 2007, 2♂♂, 3♀♀, 25 IX 2007, 2♂♂, 3♀♀, 7 VI 2008, 4♀♀, 27 VI 2008, 1♂, 1♀, 8 VII 2008, 2♀♀, 28 VII 2008, 1♂, 2♀♀, 10 VIII 2008, 1♂, 7♀♀, 26 VIII 2008, 5♂♂, 11♀♀, 8 IX 2008, 3♂♂, 4♀♀, 26 IX 2008, 2♂♂, 4♀♀, 9 X 2008, 3♀♀; **(27)** – 24 V 2007, 1♀; **(28)** – 25 V 2005, 2♂♂, 1♀, 9 VI 2005, 8♂♂, 6♀♀, 20 VI 2005, 1♂, 2♀♀, 6 VII 2005, 4♂♂, 2♀♀, 22 VII 2005, 1♂, 8 VIII 2005, 4♂♂, 2♀♀, 19 VIII 2005, 1♀, 9 IX 2005, 6♂♂, 9♀♀, 21 IX 2005, 8♂♂, 20♀♀, 5 X 2005, 2♂♂, 6♀♀, 25 V 2006, 4♂♂, 4♀♀, 10 VI 2006, 6♂♂, 3♀♀, 26 VI 2006, 4♂♂, 6♀♀, 6 VII 2006, 4♂♂, 1♀, 10 VIII 2006, 1♂, 23 VIII 2006, 2♂♂, 7♀♀, 24 IX 2006, 4♂♂, 7♀♀, 10 X 2006, 2♀♀, 10 V 2007, 2♂♂, 2♀♀, 24 V 2007, 11♂♂, 8♀♀, 8 VI 2007, 8♂♂, 7♀♀, 23 VI 2007, 1♂, 2♀♀, 6 VII 2007, 2♀♀, 22 VII 2007, 2♂♂, 7 VIII 2007, 4♂♂, 2♀♀, 24 VIII 2007, 18♂♂, 15♀♀, 7 IX 2007, 7♂♂, 8♀♀, 24 IX 2007, 6♂♂, 11♀♀, 8 X 2007, 6♂♂, 12♀♀; **(30)** – 3 VII 2007, 1♀, 8 VIII 2007, 1♂; **(31)** – 13 VII 2007, 1♀; **(33)** – 25 V 2005, 2♀♀, 25 VI 2006, 1♀; **(34)** – 25 VI 2006, 1♀; **(35)** – 26 VI 2010, 1♀, 23 VI 2008, 1♂, 1♀.

### *Turrutus socialis* (FLOR, 1861)

Euro-Siberian – widespread – xerophilous, heliophilous; olig., Poaceae, preferably *Festuca rubra*, *Bromus erectus* and *Brachypodium pinnatum*; steppe-like grasslands, meadows; egg; 2 gen. – urbicophilous

**(7)** – 23 V 2006, 2♂♂, 24 VIII 2006, 1♂, 2♀♀, 9 IX 2006, 3♂♂, 1♀, 7 VI 2008, 1♀, 9 IX 2008, 1♂, 9 VI 2009, 1♀, 8 VIII 2009, 2♀♀, 25 VIII 2009, 4♂♂, 2♀♀, 9 IX 2009, 2♂♂, 1♀; **(8)** – 25 V 2006, 4♂♂, 2♀♀, 9 VI 2006, 7♂♂, 3♀♀, 25 VI 2006, 2♂♂, 6♀♀, 9 VII 2006, 1♂, 2♀♀, 11 VIII 2006, 1♂, 1♀, 22 VIII 2006, 2♂♂, 4♀♀, 9 IX 2006, 5♂♂, 2♀♀, 26 IX 2006, 2♀♀, 24 V 2007, 17♂♂, 6♀♀, 8 VI 2007, 14♂♂, 9♀♀, 23 VI 2007, 1♂, 4♀♀, 6 VII 2007, 1♂, 6 VIII 2007, 1♀, 22 VIII 2007, 2♀♀, 7 IX 2007, 2♂♂, 1♀, 7 VI 2008, 2♂♂, 2♀♀, 28 VI 2008, 1♂, 3♀♀, 9 VII 2008, 2♀♀, 10 VIII 2008, 1♂, 26 VIII 2008, 1♂, 2♀♀, 9 IX 2008, 1♂, 1♀, 9 X 2008, 1♀; **(9)** – 20 V 2006, 4♂♂, 2♀♀, 9 VI 2006, 8♂♂, 3♀♀, 21 VI 2006, 5♂♂, 8♀♀, 10 VII 2006, 1♀, 26 VII 2006, 3♂♂, 2♀♀, 9 VIII 2006, 6♂♂, 9♀♀, 23 VIII 2006, 2♂♂, 4♀♀, 10 IX 2006, 8♂♂, 7♀♀, 24 IX 2006, 3♂♂, 4♀♀, 10 X 2006, 1♂, 4♀♀, 25 V 2007, 18♂♂, 3♀♀, 7 VI 2007, 2♀♀, 17 VI 2007, 3♀♀, 16 VIII 2007, 1♀, 29 VIII 2007, 3♂♂, 3♀♀, 16 IX 2007, 5♂♂, 6♀♀, 26 IX 2007, 3♂♂, 6♀♀, 6 X 2007, 5♀♀,



10 VI 2008, 9♂♂, 3♀♀, 29 VI 2008, 2♂♂, 8♀♀, 11 VII 2008, 1♂, 1♀, 29 VII 2008, 1♀, 11 VIII 2008, 1♂, 1♀, 31 VIII 2008, 6♂♂, 8♀♀, 10 IX 2008, 3♂♂, 1♀, 28 IX 2008, 3♀♀, 10 X 2008, 1♀; **(10)** – 9 VIII 2006, 1♀, 28 VIII 2008, 1♂; **(11)** – 22 VI 2006, 1♀, 9 VIII 2006, 1♂, 22 VI 2007, 1♂, 26 VI 2008, 1♂, 1♀, 1♀*macr*, 11 VIII 2008, 3♂♂; **(12)** – 21 VI 2007, 1♀, 9 VII 2007, 1♂, 6 VIII 2007, 1♂, 1♀, 20 VIII 2007, 2♂♂, 2♀♀; **(22)** – 25 V 2005, 3♂♂, 3♀♀, 22 VI 2005, 1♂, 20 VIII 2005, 1♀, 21 IX 2005, 2♀♀, 8 VI 2007, 2♀♀, 21 VIII 2007, 1♀, 17 IX 2007, 1♂, 7 VI 2008, 1♂, 26 VI 2008, 1♀, 9 IX 2008, 1♂, 2♀♀, 26 IX 2008, 1♂, 9 X 2008, 1♂; **(23)** – 23 V 2006, 3♂♂ 1♀, 8 VI 2006, 3♂♂, 25 VI 2006, 4♂♂, 7♀♀, 8 VIII 2006, 1♂, 23 VIII 2006, 15♂♂, 19♀♀, 7 IX 2006, 7♂♂, 4♀♀, 21 IX 2006, 3♂♂, 7♀♀, 8 X 2006, 4♂♂, 6♀♀, 24 V 2007, 19♂♂, 9♀♀, 8 VI 2007, 21♂♂, 13♀♀, 23 VI 2007, 5♂♂, 3♀♀, 6 VII 2007, 1♂, 22 VII 2007, 3♂♂, 3♀♀, 6 VIII 2007, 3♂♂, 3♀♀, 22 VIII 2007, 2♂♂, 5♀♀, 7 IX 2007, 5♂♂, 9♀♀, 21 IX 2007, 2♀♀, 26 V 2008, 9♂♂, 5♀♀, 7 VI 2008, 5♂♂, 4♀♀, 23 VI 2008, 4♀♀, 7 VII 2008, 9♂♂, 10♀♀, 9 VIII 2008, 6♂♂, 9♀♀, 25 VIII 2008, 3♂♂, 4♀♀, 8 IX 2008, 10♂♂, 8♀♀, 24 IX 2008, 5♂♂, 8♀♀, 10 X 2008, 3♂♂, 8♀♀; **(24)** – 22 VI 2006, 2♀♀, 7 VI 2007, 1♂, 2♀♀, 22 VI 2007, 1♂, 8 IX 2007, 1♂, 1♀, 7 X 2007, 1, 23 VII 2008, 2♂♂, 25 VIII 2008, 2♀♀; **(25)** – 25 V 2006, 2♂♂, 10 VI 2006, 7♂♂, 5♀♀, 22 VI 2006, 6♂♂, 12♀♀, 11 VII 2006, 1♀, 21 VIII 2006, 2♂♂, 14 IX 2006, 2♂♂, 26 IX 2006, 2♀♀, 8 X 2006, 2♂♂, 25 V 2007, 13♂♂, 5♀♀, 7 VI 2007, 5♂♂, 4♀♀, 23 VI 2007, 2♂♂, 12♀♀, 9 VII 2007, 3♂♂, 1♀, 31 VII 2007, 1♂, 2♀♀, 17 VIII 2007, 21♂♂, 11♀♀, 25 VIII 2007, 7♂♂, 5♀♀, 16 IX 2007, 5♂♂, 1♀, 25 IX 2007, 11♂♂, 16♀♀, 10 X 2007, 1♀, 21 V 2008, 5♂♂, 2♀♀, 11 VI 2008, 5♂♂, 4♀♀, 24 VI 2008, 1♂, 9 VII 2008, 1♀, 23 VII 2008, 1♂, 10 VIII 2008, 2♂♂, 24 VIII 2008, 5♂♂, 6♀♀, 9 IX 2008, 7♂♂, 8♀♀, 23 IX 2008, 8♂♂, 13♀♀, 8 X 2008, 3♂♂, 6♀♀; **(26)** – 21 VIII 2006, 1♀, 24 VI 2007, 1♂, 3♀♀, 8 VII 2007, 2♂♂, 1♀, 20 VII 2007, 3♂♂, 2♀♀, 6 VIII 2007, 1♂, 2♀♀, 23 VIII 2007, 2♀♀, 7 IX 2007, 1♂, 3♀♀, 25 IX 2007, 2♂♂, 3♀♀, 26 VIII 2008, 1♀; **(27)** – 7 VI 2006, 7♂♂, 4♀♀, 25 VI 2006, 1♂, 3♀♀, 9 VII 2006, 3♂♂, 3♀♀, 24 VII 2006, 1♂, 3♀♀, 8 VIII 2006, 4♂♂, 3♀♀, 24 VIII 2006, 7♂♂, 11♀♀, 10 IX 2006, 7♂♂, 6♀♀, 26 IX 2006, 1♂, 3♀♀, 8 X 2006, 2♀♀, 9 V 2007, 4♂♂, 3♀♀, 24 V 2007, 8♂♂, 6♀♀, 8 VI 2007, 4♂♂, 2♀♀, 23 VI 2007, 2♂♂, 4♀♀, 6 VII 2007, 1♀, 22 VII 2007, 1♂, 4♀♀, 6 VIII 2007, 2♂♂, 4♀♀, 22 VIII 2007, 10♂♂, 14♀♀, 7 IX 2007, 5♂♂, 6♀♀, 21 IX 2007, 3♂♂, 5♀♀, 9 X 2007, 1♂, 4♀♀, 9 VI 2008, 3♂♂, 11♀♀, 26 VI 2008, 12♀♀, 9 VII 2008, 4♀♀, 10 VIII 2008, 4♂♂, 1♀, 26 VIII 2008, 5♂♂, 4♀♀, 9 IX 2008, 10♂♂, 14♀♀, 26 IX 2008, 3♂♂, 12♀♀, 9 X 2008, 3♂♂, 6♀♀; **(28)** – 20 VI 2005, 1♀, 6 VII 2005, 3♂♂, 1♀, 9 IX 2005, 3♂♂, 2♀♀, 21 IX 2005, 1♂, 1♀, 25 V 2006, 2♂♂, 10 VI 2006, 1♂, 1♀, 26 VI 2006, 1♀, 6 VII 2006, 4♂♂, 21 VII 2006, 2♀♀, 10 VIII 2006, 1♀, 23 VIII 2006, 4♂♂, 3♀♀, 24 IX 2006, 3♂♂, 5♀♀, 10 X 2006, 3♀♀, 24 V 2007, 6♂♂, 3♀♀, 8 VI 2007, 2♂♂, 1♀, 23 VI 2007, 3♂♂, 2♀♀, 7 VIII 2007, 1♂, 24 VIII 2007, 14♂♂, 20♀♀, 7 IX 2007, 7♂♂, 5♀♀, 24 IX 2007, 4♂♂, 7♀♀, 8 X 2007, 3♂♂, 7♀♀; **(29)** – 25 V 2005, 2♂♂, 18 VI 2005, 1♀, 10 IX 2005, 3♂♂, 3♀♀, 21 IX 2005, 1♂, 2♀♀, 9 VI 2006, 1♂, 1♀, 23 VI 2006, 1♂, 4♀♀, 8 VII 2006, 1♂, 1♀, 7 VIII 2006, 2♂♂, 1♀, 9 IX 2006, 2♂♂, 24 IX 2006, 3♂♂, 2♀♀, 8 X 2006, 1♀, 19 VI 2007, 4♂♂, 9 IX 2007, 3♂♂, 2♀♀, 25 IX 2007, 4♀♀, 6 X 2007, 1♀, **(33)** – 8 X 2007, 1♀.

***Jassargus pseudocellaris* (FLOR, 1861)**

Northern European? – widespread – mesophilous; olig., Poaceae, preferably *Agrostis capillaris* and *Festuca rubra*; woodlands, meadows; egg; 2 gen. – urbiceneutral

(7) – 24 IX 2006, 1♂, 25 VIII 2008, 2♂♂, 2♀♀; (9) – 9 VI 2006, 3♂♂, 2♀♀, 21 VI 2006, 1♂, 7♀♀, 23 VIII 2006, 6♂♂, 4♀♀, 10 IX 2006, 2♂♂, 5♀♀, 24 IX 2006, 1♂, 2♀♀, 10 X 2006, 1♂, 1♀, 25 V 2007, 16♂♂, 4♀♀, 7 VI 2007, 1♂, 7♀♀, 17 VI 2007, 1♂, 1♀, 16 VIII 2007, 10♂♂, 29 VIII 2007, 2♂♂, 2♀♀, 16 IX 2007, 5♂♂, 1♀, 6 X 2007, 2♂♂, 5♀♀, 26 V 2008, 1♂, 10 VI 2008, 10♂♂, 3♀♀, 29 VI 2008, 1♂, 11 VII 2008, 1♂, 2♀♀, 11 VIII 2008, 3♂♂, 3♀♀, 31 VIII 2008, 4♂♂, 1♀, 10 IX 2008, 2♂♂, 5♀♀, 28 IX 2008, 3♂♂, 3♀♀, 10 X 2008, 2♂♂, 1♀; (10) – 5 VI 2007, 1♂, 17 VI 2007, 1♂, 9 VI 2008, 2♀♀, 27 VI 2008, 1♂, 28 VIII 2008, 3♂♂; (11) – 29 VI 2008, 1♂; (13) – 22 VI 2006, 1♂, 14 IX 2006, 1♂, 26 IX 2006, 1♀, 25 V 2007, 1♂, 6 VIII 2007, 1♀, 23 VIII 2007, 1♂, 10 VI 2008, 2♂♂, 2♀♀, 29 VI 2008, 1♂, 3♀♀, 11 VII 2008, 1♀, 29 VII 2008, 1♂; (20) – 5 VI 2007, 1♂, 1♀, 22 VI 2007, 3♂♂, 1♀, 23 VII 2007, 1♀, 22 VIII 2007, 2♂♂, 1♀; (21) – 25 VIII 2007, 1♀; (22) – 26 VI 2008, 1♀; (23) – 23 VIII 2006, 1♂; (24) – 10 VI 2006, 1♂, 1♀, 22 VI 2006, 5♂♂, 14♀♀, 20 VII 2006, 2♂♂, 1♀, 12 VIII 2006, 12♂♂, 2♀♀, 21 VIII 2006, 2♂♂, 14 IX 2006, 2♂♂, 2♀♀, 26 IX 2006, 3♂♂, 4♀♀, 8 X 2006, 2♀♀, 25 V 2007, 12♂♂, 3♀♀, 7 VI 2007, 19♂♂, 10♀♀, 22 VI 2007, 7♂♂, 9♀♀, 8 VII 2007, 7♂♂, 4♀♀, 25 VII 2007, 1♂, 9 VIII 2007, 1♀, 25 VIII 2007, 6♂♂, 7♀♀, 8 IX 2007, 22♂♂, 20♀♀, 22 IX 2007, 9♂♂, 11♀♀, 7 X 2007, 5♂♂, 16♀♀, 9 VI 2008, 2♂♂, 1♀, 22 VI 2008, 8♂♂, 13♀♀, 8 VII 2008, 1♂, 3♀♀, 23 VII 2008, 1♂, 1♀, 9 VIII 2008, 3♂♂, 1♀, 25 VIII 2008, 3♂♂, 6♀♀, 9 IX 2008, 6♂♂, 5♀♀, 24 IX 2008, 1♂, 3♀♀, 9 X 2008, 1♂, 5♀♀; (25) – 20 VII 2006, 1♂, 2 X 2007, 1♀, 23 IX 2008, 1♂, 1♀; (26) – 8 IX 2008, 2♀♀; (28) – 7 VIII 2007, 1♀; (29) – 18 VI 2005, 1♀; (30) – 22 VI 2007, 1♂.

### *Jassargus flori* (FIEBER, 1869)

European? – widespread and common – mesophilous; olig., Poaceae, probably *Poa pratensis*, *Festuca* and *Deschampsia flexuosa*; woodlands, steppe-like grasslands, meadows; egg; 2 gen. – urbiceneutral

(7) – 25 VIII 2009, 2♀♀; (15) – 10 VI 2009, 1♀; (27) – 26 VI 2008, 2♂♂; (32) – 8 VI 2007, 1♀; (33) – 6 VII 2006, 1♂; (34) – 25 VI 2006, 1♂, 1♀; 6 VII 2006, 1♀; 17 VII 2006, 1♂, 3♀♀; 15 VIII 2006, 1♂, 1♀; (35) – 12 VII 2009, 1♀.

### *Verdanus abdominalis* (FABRICIUS, 1803)

Western Palearctic – widespread and common – mesophilous; olig., Poaceae, preferably *Holcus lanatus*; steppe-like grasslands, meadows, mires-swamps; egg; 1 gen. – urbiceneutral

(7) – 8 VII 2006, 1♂, 9 VI 2009, 1♀; (14) – 11 VII 2008, 2♂♂, 1♀, 11 VI 2009, 5♂♂, 25 VI 2009, 5♂♂, 3♀♀, 12 VII 2009, 2♂♂, 1♀, 23 VII 2009, 1♂, 1♀, 12 VI 2010, 2♂♂, 26 VI 2010, 4♂♂, 26 VII 2010, 1♀; (16) – 9 VI 2006, 1♂, 8 VIII 2006, 1♀, 9 VI 2007, 1♂, 26 VI 2007, 3♂♂, 2♀♀, 10 VII 2007, 1♀, 9 VI 2008, 1♂, 25 VI 2008, 1♂, 2♀♀, 10 VII 2008, 3♀♀; (19) – 9 VI 2005, 1♂, 19 VI 2005, 2♂♂, 2♀♀, 10 VI 2006, 1♂, 1♀, 23 VI 2006, 2♀♀, 11 VI 2007, 3♀♀, 22 VI 2007, 2♂♂, 7♀♀, 7 VII 2007, 3♂♂, 6♀♀, 20 VIII 2007, 1♀; (21) – 28 VI 2008, 1♀; (27) – 24 V 2006, 1♂, 24 V 2007, 1♂, 1♀, 8 VI 2007, 1♀, 9 VI 2008, 1♂; (28) – 25 V 2005, 1♀, 9 VI 2005, 8♂♂, 12♀♀, 20 VI 2005, 1♀, 22 VII 2005, 2♀♀, 25 V 2006, 4♂♂, 2♀♀, 10 VI 2006, 9♂♂, 7♀♀, 26 VI 2006, 2♂♂, 1♀, 6 VII 2006, 1♂, 2♀♀, 10 V 2007, 1♂, 24 V 2007, 6♂♂, 5♀♀, 8 VI 2007, 13♂♂, 15♀♀, 23 VI 2007, 1♂, 3♀♀, 6 VII

2007, 3♂♂, 5♀♀, 6 VII 2007, 2♂♂, 3♀♀, 22 VII 2007, 2♀♀; **(29)** – 25 V 2005, 2♂♂, 2♀♀, 9 VI 2005, 5♂♂, 6♀♀, 23 VII 2005, 1♀, 9 VI 2006, 5♂♂, 4♀♀, 23 VI 2006, 2♂♂, 2♀♀.

### *Arthaldeus arenarius* REMANE, 1960

Siberian – rare – mesophilous; m1, *Calamagrostis epigejos*; steppe-like grasslands; egg; 1 gen. – urbiceneutral (Fig. 38m)

Published records from Częstochowa (WALCZAK 2011): **(2)** – 03 VII 2007, 1♂, 20 VII 2007, 1♂; New records: **(1)** – 18 VI 2006, 1♂, 1♀, 23 VI 2006, 1♀, 10 VII 2006, 2♂♂, 10 IX 2006, 1♀; **(2)** – 12 VII 2008, 1♂, 29 VIII 2008, 1♀, 11 X 2008, 1♀, 23 VI 2009, 1♂, 22 VIII 2009, 1♀; **(16)** – 10 VII 2006, 1♂, 1♀.

The species is rarely collected in Poland, so far known from: Krakowsko-Wieluńska Upland – Częstochowa (WALCZAK 2008a, 2011), Upper Silesia – Bytom (ŚWIERCZEWSKI & GRUCA 2010), Mysłowice (PNIOK 2015), Małopolska Upland – Młodzawy, Pińczów (GĘBICKI 1983, 1987), Sandomierska Lowland – Dziewięcierz (NAST 1976a) (Fig. 30).

### *Arthaldeus pascuellus* (FALLÉN, 1826)

Euro-Siberian – widespread and common – mesophilous, heliophilous; olig., Poaceae; woodlands, steppe-like grasslands, meadows, mires-swamps; egg; 2 gen. – urbiceneophilous

**(2)** – 28 VI 2008, 1♀; **(3)** – 11 IX 2006, 1♂, 1♀, 11 VI 2007, 1♂, 7 VII 2007, 2♀♀, 10 VIII 2008, 1♂, 10 IX 2008, 2♂♂, 2♀♀, 26 IX 2008, 2♂♂, 2♀♀; **(4)** – 19 VI 2006, 1♂, 2♀♀, 21 IX 2006, 1♂, 5 X 2006, 1♀; **(5)** – 8 VI 2005, 1♂, 3♀♀, 17 VI 2005, 11♂♂, 12♀♀, 13 VII 2005, 4♂♂, 6♀♀, 24 VII 2005, 2♂♂, 4♀♀, 7 VIII 2005, 9♂♂, 5♀♀, 22 VIII 2005, 7♂♂, 4♀♀, 4 IX 2005, 12♂♂, 8♀♀, 24 IX 2005, 11♂♂, 17♀♀, 6 X 2005, 1♂, 2♀♀, 5 VI 2007, 1♂, 17 VI 2007, 1♂, 2♀♀, 9 VII 2007, 1♀, 23 VII 2007, 1♂, 17 VIII 2007, 9♂♂, 5♀♀, 18 IX 2007, 2♂♂, 1♀, 11 X 2007, 3♂♂, 1♀, 26 V 2008, 1♂, 10 VI 2008, 5♂♂, 4♀♀, 26 VI 2008, 4♂♂, 1♀, 11 VII 2008, 2♂♂, 6♀♀, 26 VII 2008, 7♀♀, 11 VIII 2008, 5♂♂, 3♀♀, 26 VIII 2008, 54♂♂, 21♀♀, 11 IX 2008, 78♂♂, 59♀♀, 27 IX 2008, 24♂♂, 37♀♀, 11 X 2008, 9♂♂, 40♀♀; **(6)** – 6 VII 2005, 1♂, 21 IX 2005, 1♂, 2♀♀, 5 X 2005, 1♂, 3♀♀, 23 VIII 2006, 1♀, 10 IX 2006, 1♂; **(9)** – 29 VIII 2007, 2♂♂, 10 VI 2008, 1♂, 31 VIII 2008, 2♂♂; **(10)** – 21 VI 2006, 1♂, 1♀, 10 VII 2006, 2♀♀, 10 IX 2006, 1♂, 24 IX 2006, 4♂♂, 10♀♀, 10 X 2006, 3♀♀, 22 VI 2007, 1♂, 23 VIII 2007, 4♂♂, 1♀, 8 IX 2007, 1♂, 1♀, 22 IX 2007, 1♀, 9 VI 2008, 8♂♂, 6♀♀, 27 VI 2008, 1♂, 2♀♀, 28 VIII 2008, 3♂♂, 27 IX 2008, 2♂♂, 11 X 2008, 1♂, 1♀; **(11)** – 25 VIII 2006, 1♂, 1♀, 11 VIII 2008, 1♀, 31 VIII 2008, 1♂, 1♀; **(12)** – 10 VI 2006, 1♂, 22 VI 2006, 1♂, 21 VIII 2006, 1♂, 2♀♀, 26 IX 2006, 1♂, 11 VI 2007, 1♂, 1♀, 8 IX 2007, 1♂, 10 VI 2008, 1♀, 23 VIII 2008, 2♂♂; **(13)** – 22 VI 2006, 4♂♂, 12 VII 2006, 1♂, 3♀♀, 12 VIII 2006, 1♀, 14 IX 2006, 2♂♂, 1♀, 26 IX 2006, 2♀♀, 8 X 2006, 1♀; 25 VII 2007, 2♀♀, 6 VIII 2007, 1♂, 23 VIII 2007, 2♂♂, 8 IX 2007, 1♂, 1♀, 10 VI 2008, 3♂♂, 1♀, 29 VI 2008, 1♂, 7♀♀, 11 VII 2008, 1♀, 29 VII 2008, 2♂♂, 11 VIII 2008, 5♂♂, 31 VIII 2008, 3♀♀, 10 IX 2008, 2♂♂, 1♀, 10 X 2008, 1♂; **(14)** – 10 VI 2008, 1♂, 26 VI 2008, 5♀♀, 11 VII 2008, 1♀, 26 VIII 2008, 9♂♂, 9♀♀, 10 IX 2008, 10♂♂, 7♀♀, 26 IX 2008, 6♂♂, 11♀♀, 10 X 2008, 4♀♀, 11 VI 2009, 2♀♀, 25 VI 2009, 2♂♂, 5♀♀, 12 VII 2009, 1♂, 10 VIII 2009, 1♂, 25 VIII 2009, 17♂♂, 5♀♀, 9 IX 2009, 24♂♂, 25♀♀, 22 IX 2009, 16♂♂, 11♀♀, 10 X 2009, 2♂♂, 2♀♀, 26 VI 2010, 2♂♂, 11♀♀, 10 VII 2010, 2♂♂, 1♀, 26 VII 2010, 1♀, 11 IX

2010, 2♂♂, 2♀♀, 23 IX 2010, 12♂♂, 7♀♀, 13 X 2010, 1♀; **(15)** – 10 VI 2008, 1♂, 11 VII 2008, 2♀♀, 11 VIII 2008, 1♂, 26 VIII 2008, 3♂♂, 28 IX 2008, 2♂♂, 5♀♀, 11 X 2008, 4♂♂, 8♀♀, 10 VI 2009, 5♂♂, 26 VI 2009, 1♀, 12 VII 2009, 1♀, 25 VIII 2009, 4♂♂, 9 IX 2009, 8♂♂, 4♀♀, 23 IX 2009, 8♂♂, 4♀♀, 10 VII 2010, 1♂, 23 VIII 2010, 2♂♂, 2♀♀, 11 IX 2010, 2♂♂, 23 IX 2010, 2♂♂, 11♀♀, 7 X 2010, 4♀♀; **(16)** – 9 VI 2006, 1♂, 10 X 2006, 1♂, 10 VII 2007, 3♀♀, 23 IX 2007, 1♂, 10 X 2007, 1♀, 10 VII 2008, 1♂, 25 IX 2008, 1♂, 1♀, 10 X 2008, 1♂, 3♀♀; **(17)** – 23 VII 2009, 1♂, 26 VI 2010, 1♂, 1♀, 30 VII 2010, 1♂; **(18)** – 22 IX 2009, 1♀; **(19)** – 9 VI 2005, 1♂, 1♀, 19 VI 2005, 6♂♂, 8♀♀, 24 VII 2005, 1♂, 1♀, 10 VIII 2005, 3♂♂, 1♀, 25 VIII 2005, 4♂♂, 2♀♀, 7 IX 2005, 3♂♂, 4♀♀, 26 IX 2005, 4♂♂, 8♀♀, 10 X 2005, 8♂♂, 11♀♀, 10 VI 2006, 1♂, 1♀, 23 VI 2006, 25♂♂, 18♀♀, 25 VII 2006, 1♀, 18 VIII 2006, 3♀♀, 10 IX 2006, 4♂♂, 2♀♀, 12 X 2006, 11♀♀, 11 VI 2007, 2♂♂, 16♀♀, 22 VI 2007, 2♂♂, 10♀♀, 22 VII 2007, 1♂, 4♀♀, 20 VIII 2007, 16♂♂, 1♀, 8 IX 2007, 11♂♂, 4♀♀, 20 IX 2007, 6♂♂, 10♀♀, 8 X 2007, 2♂♂, 5♀♀; **(20)** – 10 VI 2006, 165♂♂, 123♀♀, 26 VI 2006, 57♂♂, 47♀♀, 7 VII 2006, 19♂♂, 50♀♀, 26 VII 2006, 1♀, 10 VIII 2006, 3♂♂, 3♀♀, 26 VIII 2006, 9♂♂, 7♀♀, 10 IX 2006, 21♂♂, 24♀♀, 25 IX 2006, 4♂♂, 7♀♀, 9 X 2006, 12♀♀, 5 VI 2007, 25♂♂, 20♀♀, 22 VI 2007, 8♂♂, 15♀♀, 9 VII 2007, 1♂, 2♀♀, 23 VII 2007, 2♂♂, 5♀♀, 8 VIII 2007, 6♂♂, 7♀♀, 22 VIII 2007, 47♂♂, 38♀♀, 6 IX 2007, 16♂♂, 9♀♀, 21 IX 2007, 8♂♂, 13♀♀, 11 X 2007, 4♀♀, 8 VI 2008, 30♂♂, 22♀♀, 25 VI 2008, 11♂♂, 18♀♀, 9 VII 2008, 5♂♂, 6♀♀, 24 VII 2008, 1♂, 3♀♀, 7 VIII 2008, 6♂♂, 6♀♀, 23 VIII 2008, 42♂♂, 31♀♀, 7 IX 2008, 14♂♂, 10♀♀, 25 IX 2008, 6♂♂, 11♀♀, 8 X 2008, 2♀♀; **(21)** – 11 IX 2006, 3♂♂, 3♀♀, 24 IX 2006, 1♂, 3♀♀, 25 V 2007, 2♂♂, 11 VI 2007, 9♂♂, 6♀♀, 21 VI 2007, 5♂♂, 7♀♀, 7 VII 2007, 2♂♂, 3♀♀, 7 VIII 2007, 1♀, 25 VIII 2007, 20♂♂, 17♀♀, 7 IX 2007, 5♂♂, 3♀♀, 26 IX 2007, 3♂♂, 10♀♀, 9 X 2007, 2♀♀, 7 VI 2008, 3♂♂, 2♀♀, 12 VII 2008, 5♀♀, 29 VII 2008, 1♀, 8 VIII 2008, 3♂♂, 1♀, 30 VIII 2008, 8♂♂, 1♀, 8 IX 2008, 13♂♂, 11♀♀, 26 IX 2008, 8♂♂, 12♀♀, 10 X 2008, 1♀; **(22)** – 8 VI 2005, 1♂, 1♀, 5 X 2005, 1♀, 20 VI 2007, 1♀, 17 IX 2007, 1♂, 26 VI 2008, 1♀; **(24)** – 11 IX 2006, 2♂♂, 25 VII 2007, 1♀; **(25)** – 25 V 2007, 1♂, 10 VIII 2007, 1♂; **(30)** – 8 VI 2006, 1♂, 1♀, 23 VI 2006, 2♀♀, 10 VII 2006, 1♂, 8 IX 2006, 1♂, 1♀, 9 VI 2007, 1♂, 22 VI 2007, 1♀, 7 VII 2007, 2♂♂, 2♀♀, 23 VII 2007, 1♀, 23 VIII 2007, 1♀, 8 IX 2007, 2♂♂, 1♀, 22 IX 2007, 1♀, 9 X 2007, 1♀, 9 VI 2008, 1♂, 28 VI 2008, 1♂, 11 VII 2008, 1♂, 2♀♀, 28 VII 2008, 1♀; **(31)** – 29 VI 2008, 1♂; **(34)** – 25 VI 2006, 3♂♂, 4♀♀, 6 VII 2006, 5♂♂, 4♀♀, 23 VII 2006, 1♂, 2♀♀, 10 IX 2006, 1♂, 2♀♀, 23 VI 2008, 1♂, 24 VII 2008, 1♂, 1♀, 24 IX 2008, 1♂; **(35)** – 23 VI 2008, 1♀, 26 VI 2009, 1♂, 26 VI 2010, 1♀.

***Sorhoanus assimilis* (FALLÉN, 1806)**

Siberian? – widespread – higrophilous; m2, *Carex*; meadows, mires-swamps; egg; 1 gen. – urbiceneutral

**(4)** – 21 IX 2006, 1♀; **(5)** – 4 IX 2005, 1♀; **(9)** – 10 X 2008, 1♀; **(14)** – 11 VII 2008, 10♂♂, 5♀♀, 26 VII 2008, 1♂, 2♀♀, 11 VIII 2008, 2♀♀, 26 VIII 2008, 8♀♀, 10 IX 2008, 4♀♀, 26 IX 2008, 2♀♀, 12 VII 2009, 4♂♂, 23 VII 2009, 1♂, 3♀♀, 10 VIII 2009, 2♀♀, 25 VIII 2009, 6♀♀, 9 IX 2009, 3♀♀, 22 IX 2009, 1♀, 10 VII 2010, 1♂, 26 VII 2010, 1♀, 23 IX 2010, 1♀; **(15)** – 25 VI 2008, 3♂♂, 1♀, 11 VII 2008, 7♂♂, 5♀♀, 25 VII 2008, 3♂♂, 4♀♀, 11 VIII 2008, 3♀♀, 26 VIII 2008, 3♀♀, 28 IX 2008, 1♀, 12 VII 2009, 16♂♂, 6♀♀, 23 VII 2009, 4♂♂, 8♀♀, 8 VIII 2009, 1♀, 25 VIII 2009, 1♀, 9 IX 2009, 1♀, 10 VII 2010, 3♂♂, 1♀, 30 VII 2010, 1♂, 1♀, 11 VIII 2010, 3♀♀, 23 VIII 2010, 3♀♀; **(17)** – 25 VI 2008, 1♀, 11 VII

2008, 1♂, 26 VI 2009, 1♂, 26 VI 2010, 1♂, 11 VIII 2010, 1♂; **(18)** – 11 VII 2008, 1♀, 10 IX 2008, 1♀, 12 VII 2009, 1♂, 25 VIII 2009, 1♀, 26 VII 2010, 1♂; **(19)** – 13 VII 2005, 1♂, 1♀, 17 VII 2006, 1♂, 10 IX 2006, 1♀, 22 VI 2007, 1♂, 8 IX 2007, 1♀; **(20)** – 26 VII 2006, 1♀, 24 VII 2008, 1♀.

#### *Cosmotettix caudatus* (FLOR, 1861)

Siberian – local – higrophilous; m2, *Carex hirta*, *C. vesicaria*; meadows; egg; 1 gen. – urbiceneutral (Fig. 37e)

**(14)** – 10.VII 2010, 1♀; **(18)** – 30 VI 2009, 2♀♀; **(20)** – 7 VII 2006, 1♂.

The first record of this species for Poland was given by GĘBICKI et al. (2013) from Pomeranian Lake District – Kalisz Pomorski. The species was recorded as new to KFP region – Krakowsko-Wieluńska Upland by WALCZAK et al. (2014); recently also reported from Upper Silesia – Piekary Śląskie (MUSIK 2016) (Fig. 31).

The species is rarely recorded within its range, also usually collected in low numbers. It is known from central and north-eastern Europe (NAST 1987, SÖDERMAN et al. 2009), in Asia distributed from northern Russia to Kazakhstan (NAST 1972).

#### *Cosmotettix costalis* (FALLÉN, 1826)

Siberian – local – higrophilous, heliophilous, tyrophilous; m2, *Carex*; mires-swamps, watersides; egg; 1 gen. – urbiceneutral (Fig. 37f)

**(6)** – 10 VIII 2008, 1♀; **(14)** – 10.VI 2008, 1♂; **(15)** – 10 VI 2008, 1♂, 11 VIII 2008, 1♀.

The species reported firstly by NAST (1976a) from Białowieża Primeval Forest, erroneously omitted in the check-list by NAST & CHUDZICKA (1990). Other records are from Upper Silesia – ‘Łęczczok’ Nature Reserve (ŚWIERCZEWSKI & GĘBICKI 2003), Herby near Lubliniec (ŚWIERCZEWSKI & BŁASZCZYK 2011) and Piekary Śląskie (MUSIK 2016). It is also known from Krakowsko-Wieluńska Upland (GĘBICKI et al. 2013) (Fig. 32).

#### *Calamotettix taeniatus* (HORVÁTH, 1911)

Southern European – rare – higrophilous; m1, *Phragmites australis*; watersides; egg; 1 gen. – urbiceneutral? (Fig. 37g)

Published record from Częstochowa; reported as new to the fauna of Poland and KFP region – Krakowsko-Wieluńska Upland by WALCZAK & JEZIOROWSKA (2015): **(30)** – 23 VII 2012, 1♀, on *Phragmites australis*.

Additional records of the species are from Upper Silesia – Chwostek near Lubliniec and Bytom (WALCZAK & JEZIOROWSKA 2015) (Fig. 33).

The species has been recorded in France, Germany, Czech Republic, Slovenia, Bulgaria, Romania, Moldavia and Ukraine (HELLER 1987, NAST 1987, MALENOVSKÝ & LAUTERER 2010). During the last few years, there are also reports from Finland and western Russia (SÖDERMAN 2007, SÖDERMAN et al. 2009).

***Henschia collina* (BOHEMAN, 1850)**

Euro-Siberian – widespread – xerophilous, heliophilous; olig, Poaceae: *Elymus reprens*, *Festuca*, *Poa compressa*; meadows, steppe-like grasslands; egg; 2 gen. – urbiceneutral

(9) – 9 VI 2006, 1♀, 25 V 2007, 1♂; (11) – 9 VIII 2006, 1♀, 11 VIII 2008, 1♂; (12) – 22 VI 2006, 1♀, 12 VII 2006, 2♀♀, 26 IX 2006, 1♀, 9 X 2006, 1♂, 1♀, 23 VII 2007, 1♂, 2♀♀, 6 VIII 2007, 3♂♂, 3♀♀, 20 VIII 2007, 8♂♂, 7♀♀, 8 IX 2007, 1♀, 24 VI 2008, 2♂♂, 22 VII 2008, 1♂, 9 VIII 2008, 2♀♀, 23 VIII 2008, 1♂; (22) – 25 V 2005, 1♀, 8 VI 2005, 1♂, 22 VI 2005, 1♂, 7 VIII 2005, 1♂, 2♀♀, 5 X 2005, 2♀♀, 6 VIII 2007, 2♂♂, 2♀♀, 21 VIII 2007, 2♂♂, 6♀♀, 6 IX 2007, 1♂, 3♀♀, 21 IX 2007, 2♀♀; 26 VI 2008, 1♀, 8 VII 2008, 3♀♀, 10 VIII 2008, 4♂♂, 1♀, 30 VIII 2008, 13♂♂, 15♀♀, 9 IX 2008, 8♂♂, 14♀♀, 26 IX 2008, 2♂♂, 3♀♀, 9 X 2008, 3♂♂, 2♀♀; (23) – 23 V 2006, 1♂, 8 VI 2006, 1♂, 24 V 2007, 1♂, 8 VI 2007, 1♀, 7 VI 2008, 2♂♂, 3♀♀, 23 VI 2008, 2♂♂, 1♀; (25) – 25 V 2006, 2♂♂, 1♀, 10 VI 2006, 10♂♂, 4♀♀, 22 VI 2006, 6♂♂, 2♀♀, 9 VII 2006, 1♂, 1♀, 20 VII 2006, 1♂, 1♀, 10 VIII 2006, 1♂, 2♀♀, 21 VIII 2006, 1♂, 8 X 2006, 1♂, 4♀♀, 25 V 2007, 13♂♂, 4♀♀, 7 VI 2007, 5♂♂, 6♀♀, 9 VII 2007, 3♂♂, 1♀, 26 VII 2007, 2♂♂, 4♀♀, 10 VIII 2007, 3♂♂, 2♀♀, 25 VIII 2007, 3♂♂, 11 IX 2007, 4♂♂, 3♀♀, 25 IX 2007, 3♂♂, 6♀♀, 2 X 2007, 1♀; 21 V 2008, 5♂♂, 3♀♀, 11 VI 2008, 8♂♂, 3♀♀, 24 VI 2008, 1♀, 23 VII 2008, 6♂♂, 6♀♀, 10 VIII 2008, 3♂♂, 4♀♀; (26) – 19 VI 2006, 1♀, 20 VII 2006, 1♀, 12 IX 2007, 1♀, 25 VI 2008, 1♀, 25 VII 2008, 1♀, 10 VIII 2008, 1♂, 1♀, 26 VIII 2008, 2♂♂, 4♀♀, 8 IX 2008, 2♂♂, 2♀♀, 26 IX 2008, 1♂, 9 X 2008, 7♀♀; (27) – 26 VI 2008, 1♀; (28) – 9 VI 2005, 10♂♂, 7♀♀, 20 VI 2005, 1♂, 22 VII 2005, 1♂, 1♀, 9 IX 2005, 2♂♂, 4♀♀, 25 V 2006, 1♂, 2♀♀, 26 VI 2006, 1♂, 1♀, 6 VII 2006, 2♂♂, 1♀, 21 VII 2006, 1♂, 10 VIII 2006, 3♂♂, 6♀♀, 23 VIII 2006, 5♂♂, 7♀♀, 10 IX 2006, 1♂, 1♀, 24 IX 2006, 2♀♀, 10 V 2007, 1♂, 24 V 2007, 12♂♂, 4♀♀, 8 VI 2007, 10♂♂, 8♀♀, 23 VI 2007, 8♂♂, 7♀♀, 6 VII 2007, 7♂♂, 6♀♀, 22 VII 2007, 2♂♂, 2♀♀, 7 VIII 2007, 13♂♂, 13♀♀, 24 VIII 2007, 20♂♂, 24♀♀, 7 IX 2007, 8♂♂, 15♀♀, 24 IX 2007, 2♂♂, 8 X 2007, 2♂♂; (29) – 25 V 2005, 2♂♂, 9 VI 2005, 4♂♂, 3♀♀, 18 VI 2005, 7♂♂, 9♀♀, 6 VII 2005, 1♀, 23 VII 2005, 3♂♂, 5♀♀, 7 VIII 2005, 4♂♂, 3♀♀, 25 VIII 2005, 1♂, 3♀♀, 21 IX 2005, 1♂, 3♀♀, 9 VI 2006, 5♂♂, 2♀♀, 23 VI 2006, 3♂♂, 2♀♀, 8 VII 2006, 1♂, 7 VIII 2006, 4♂♂, 2♀♀, 23 VIII 2006, 1♂, 9 IX 2006, 1♂, 2♀♀, 24 IX 2006, 2♀♀, 8 VI 2007, 1♀, 19 VI 2007, 9♂♂, 6♀♀, 21 VII 2007, 2♀♀, 7 VIII 2007, 3♂♂, 3♀♀, 24 VIII 2007, 1♀.

***Erzaleus metrius* (FLOR, 1861)**

Northern Euro-Siberian – rare – higrophilous; m1, *Phalaris arundinacea*; meadows, watersides; egg; 2 gen. – urbiceneutral

(3) – 21 VI 2007, 1♂; (4) – 8 VII 2008, 1♀; (6) – 19 VI 2005, 1♂, 1♀, 6 VII 2005, 2♂♂, 4♀♀, 23 VII 2005, 1♀, 19 VIII 2005, 1♀, 9 IX 2005, 1♂, 21 IX 2005, 4♂♂, 9♀♀, 5 X 2005, 5♂♂, 23♀♀, 7 VII 2006, 2♂♂, 2♀♀, 23 VII 2006, 1♂, 2♀♀, 25 IX 2006, 3♀♀, 9 VI 2008, 1♂, 1♀, 26 VI 2008, 1♂, 4♀♀, 26 VII 2008, 1♂, 1♀, 26 VIII 2008, 2♀♀, 9 IX 2008, 7♂♂, 11♀♀, 26 IX 2008, 6♂♂, 25♀♀, 9 X 2008, 2♂♂, 11♀♀; (10) – 27 VI 2008, 1♂; (19) – 10 VII 2005, 1♂, 2♀♀; (30) – 23 VI 2006, 1♀, 22 VI 2007, 1♂; (31) – 7 VI 2006, 1♂, 7 VI 2007, 1♂; (33) – 16 VI 2005; 1♀.

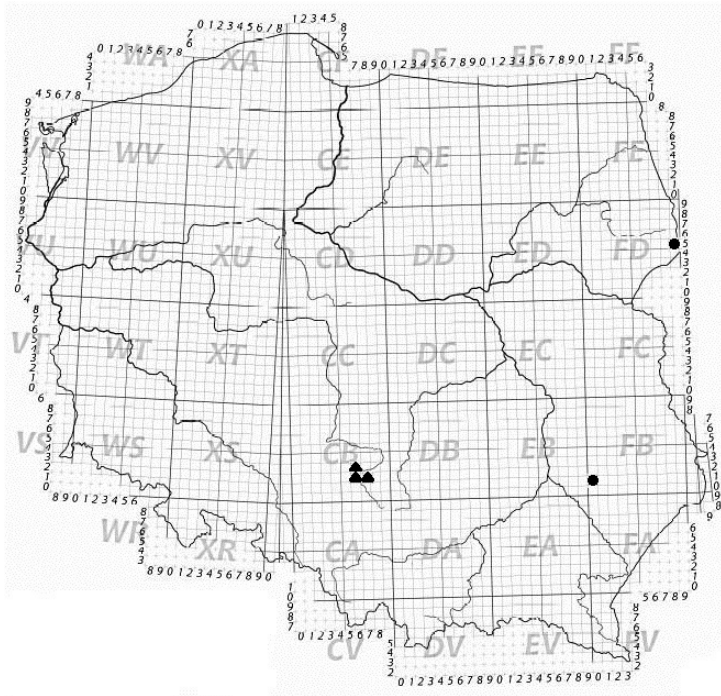


Fig. 2. Distribution of *Kelisia confusa* LNV. in Poland.

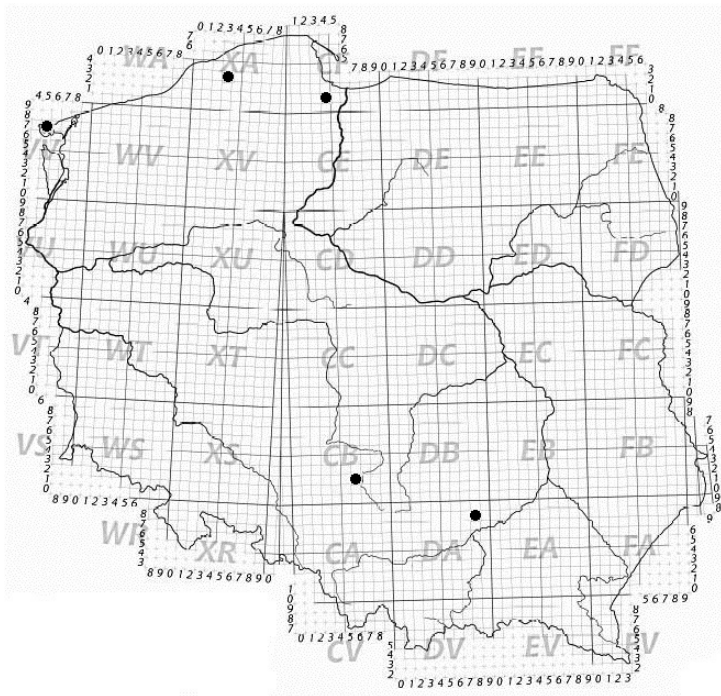


Fig. 3. Distribution of *Delphax pulchella* (CURT.) in Poland.

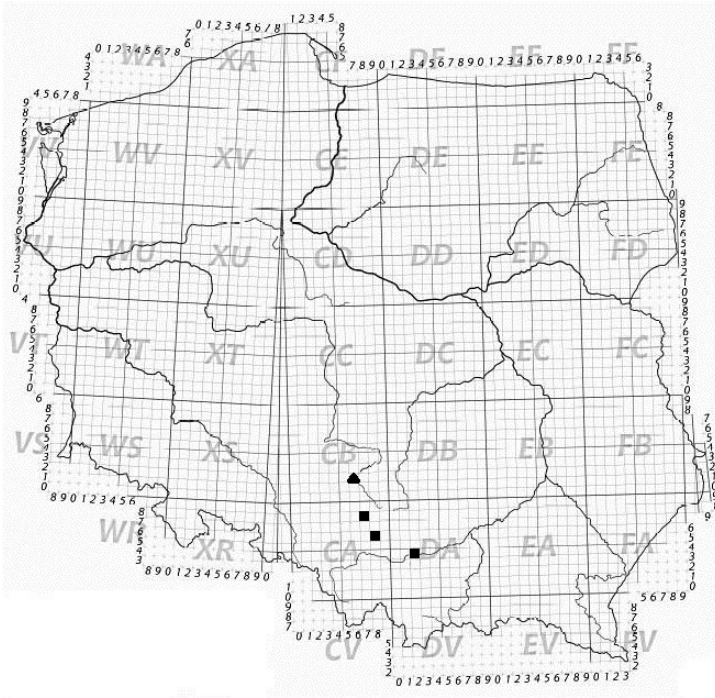


Fig. 4. Distribution of *Chloriona unicolor* (H.-S. 1835) in Poland.

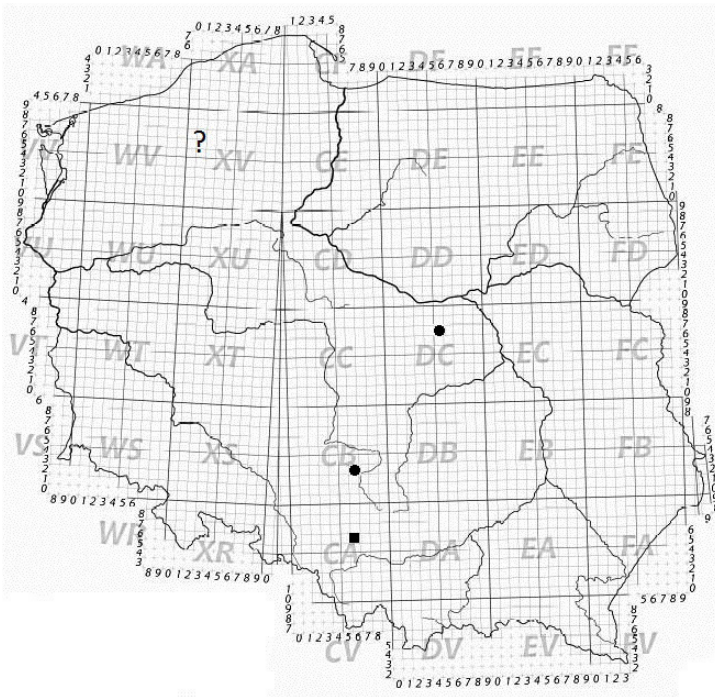


Fig. 5. Distribution of *Paraliburnia adela* (FL.) in Poland.



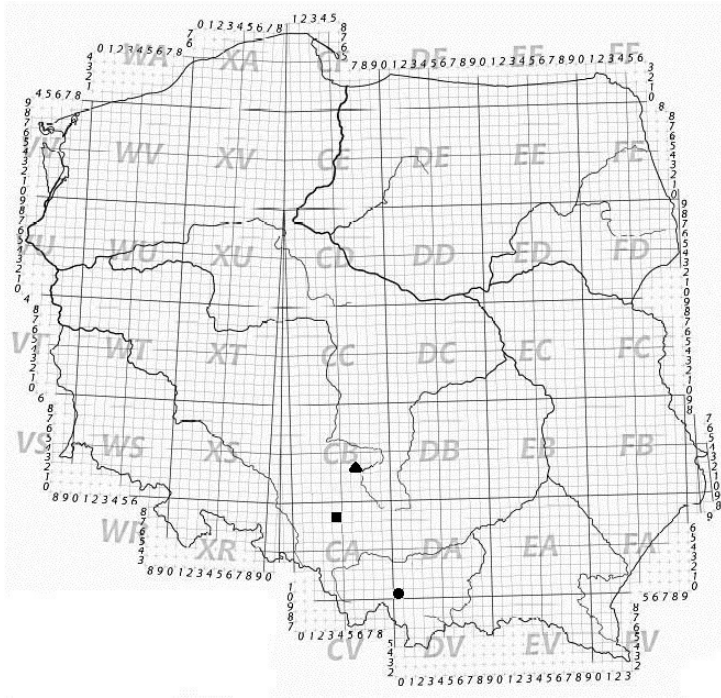


Fig. 6. Distribution of *Acericerus heydenii* (KBM., 1868) in Poland.

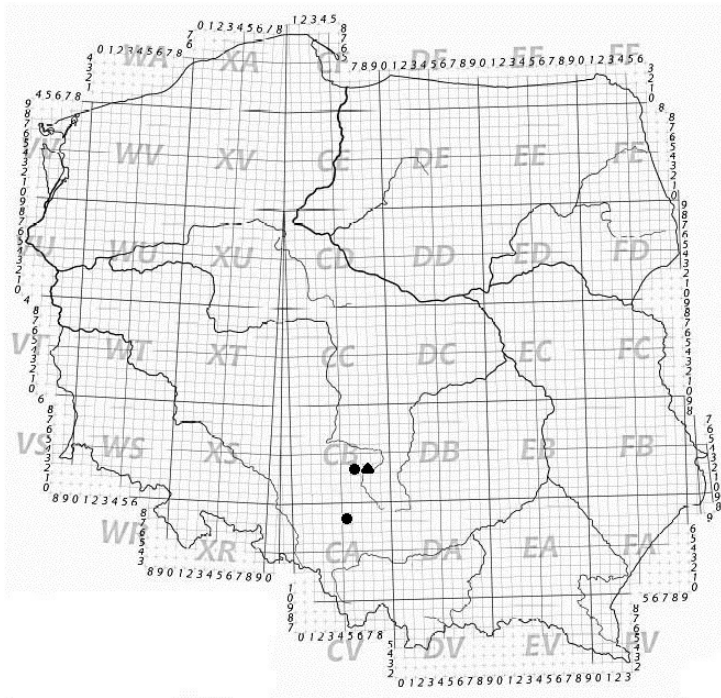


Fig. 7. Distribution of *Acericerus ribauti* NICK. et REM. in Poland.

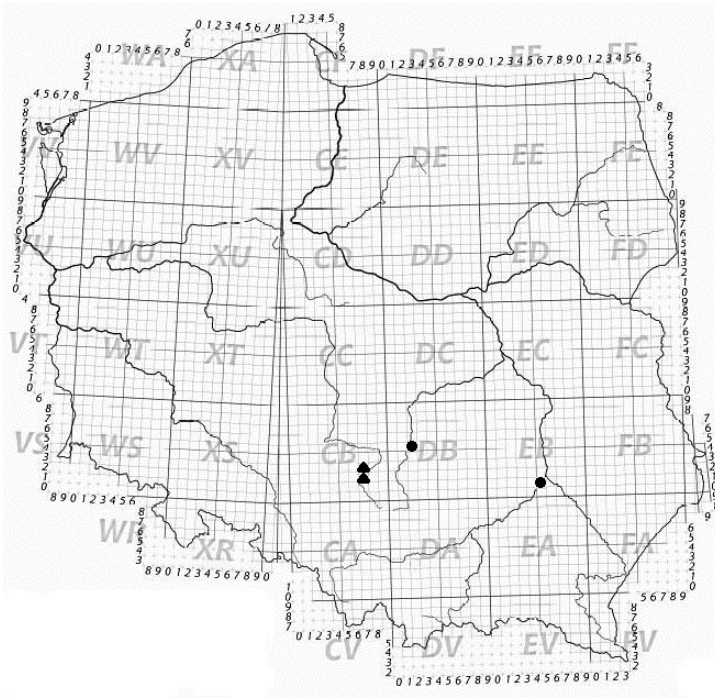


Fig. 8. Distribution of *Balcanocerus larvatus* (H.-S.) in Poland.

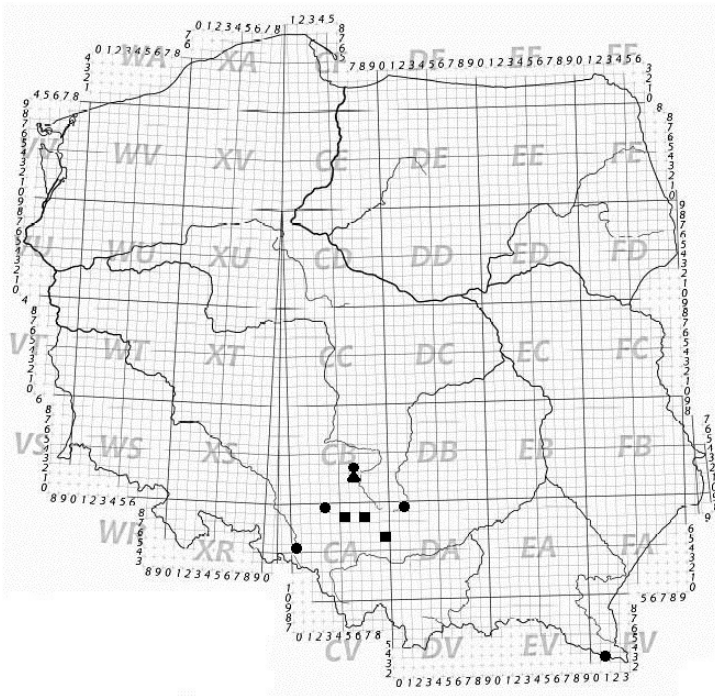


Fig. 9. Distribution of *Cicadella lasiocarpae* Oss. in Poland.

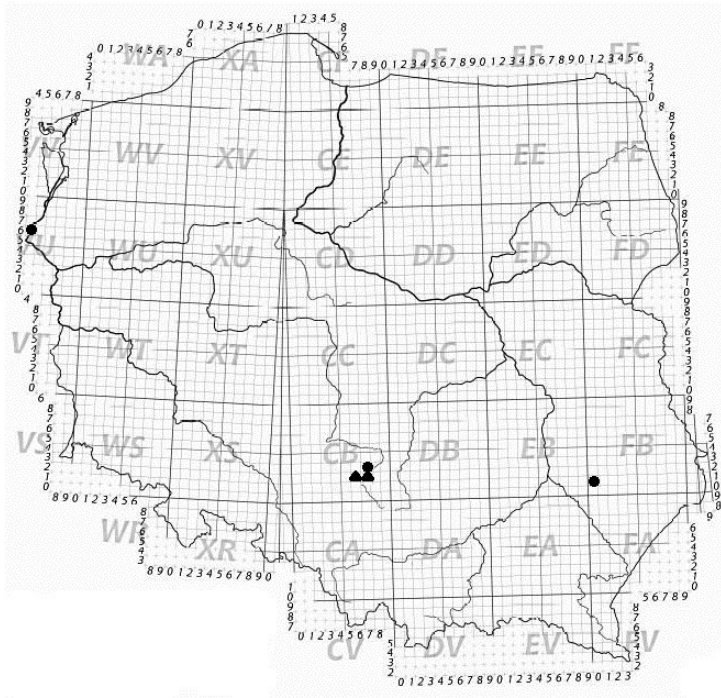


Fig. 10. Distribution of *Micantulina stigmatipennis* (M. et R.) in Poland.

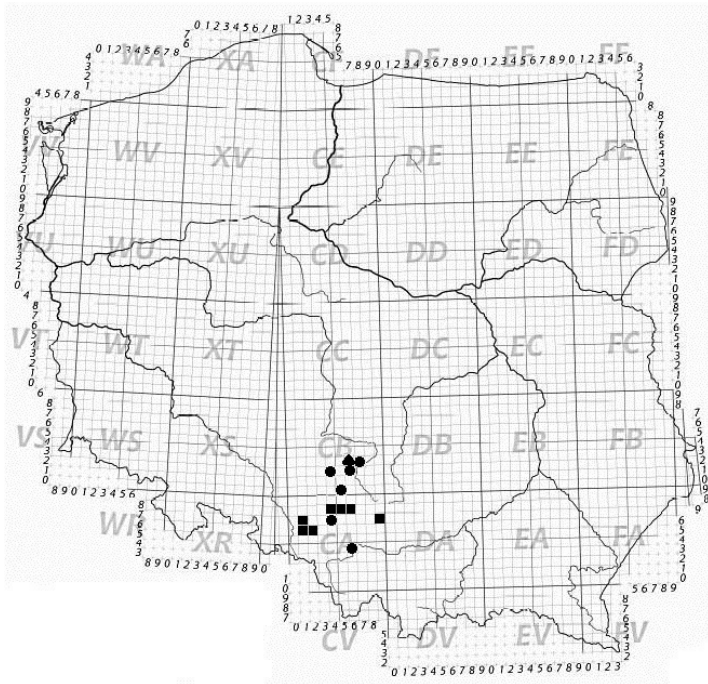


Fig. 11. Distribution of *Zyginidia pullula* BOH. in Poland.

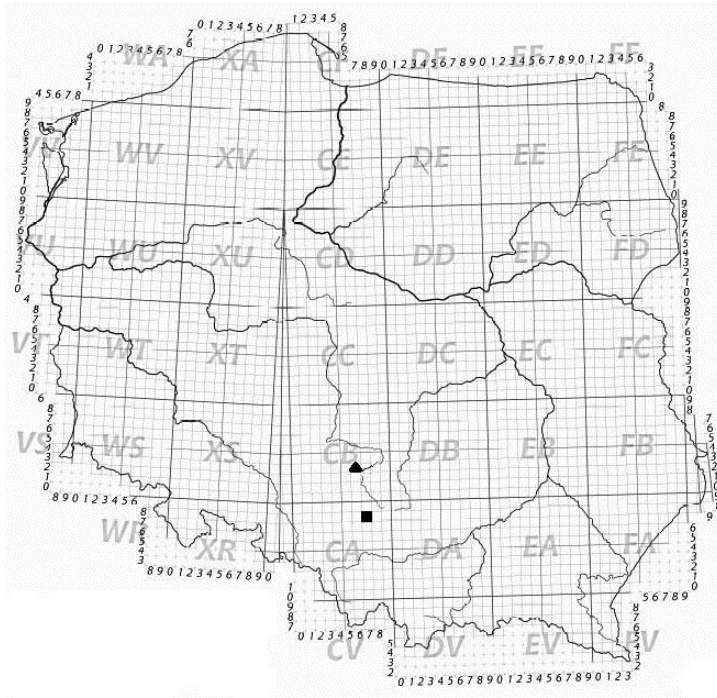


Fig. 12. Distribution of *Zygina griseombra* REM. in Poland.

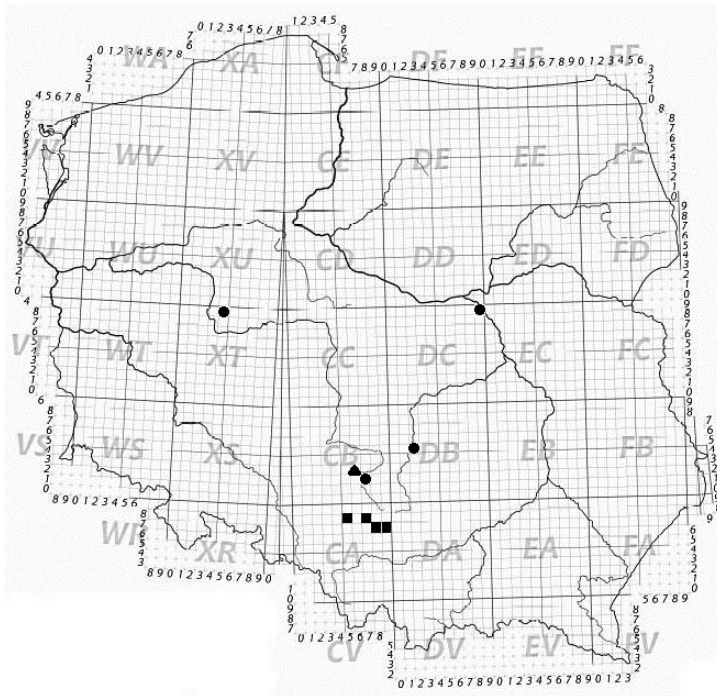


Fig. 13. Distribution of *Zygina schneideri* (GÜNTH.) in Poland.

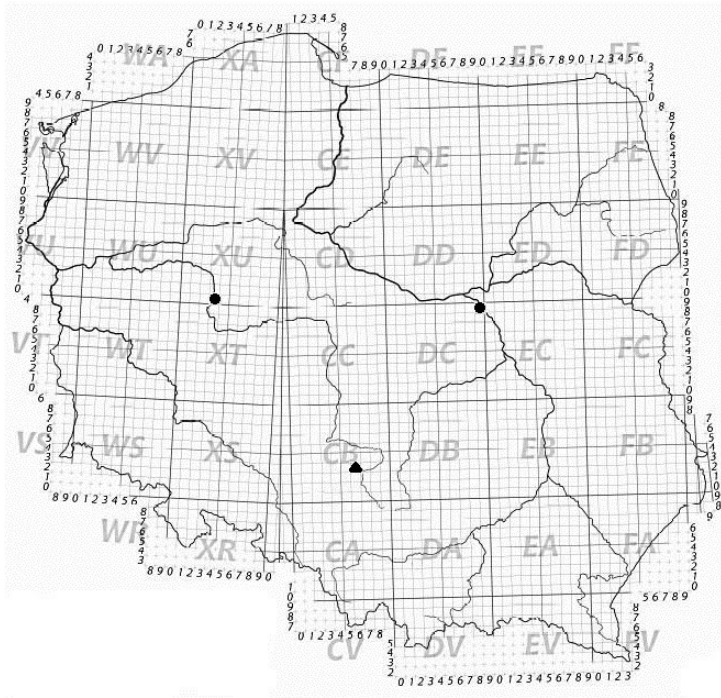


Fig. 14. Distribution of *Kybos calyculus* (CER.) in Poland.

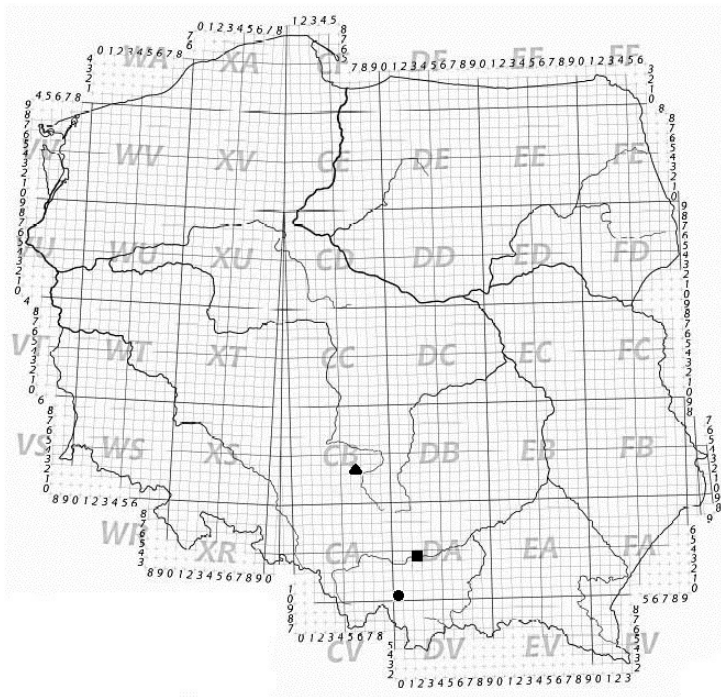


Fig. 15. Distribution of *Zygynella pulchra* P.Löw 1885 in Poland.

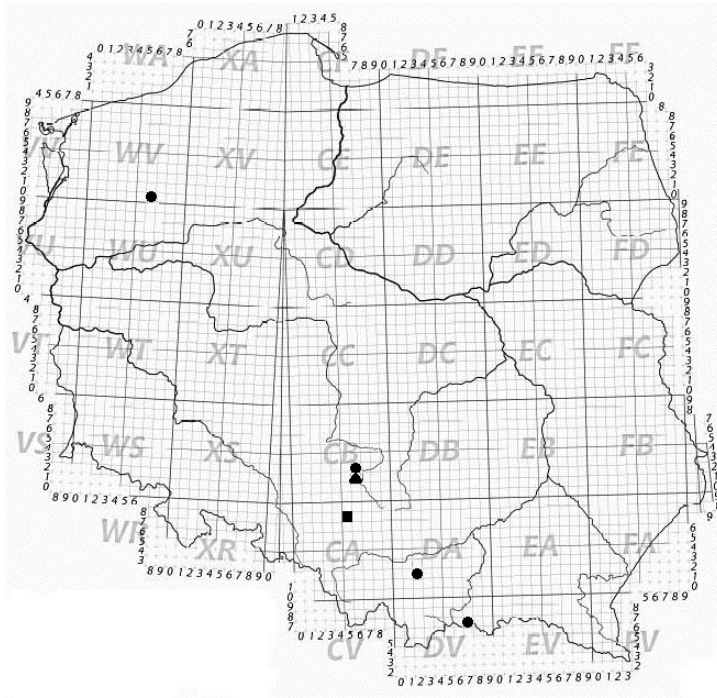


Fig. 16. Distribution of *Edwardsiana soror* (LNV.) in Poland.

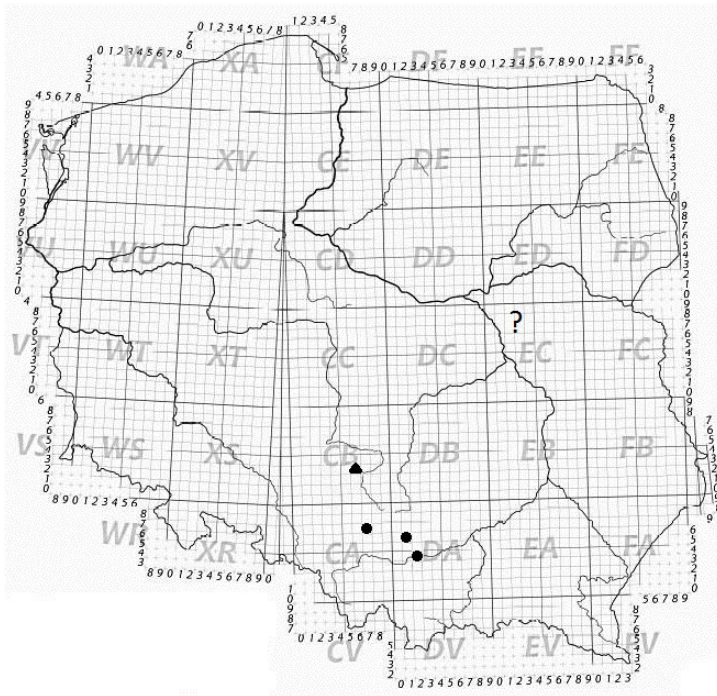


Fig. 17. Distribution of *Edwardsiana stehliki* LAUT. in Poland.

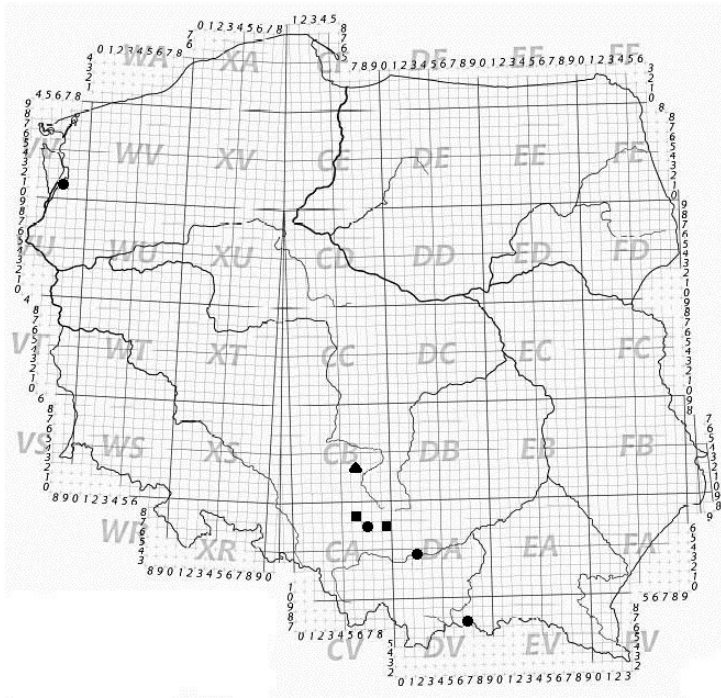


Fig. 18. Distribution of *Edwardsiana ulmiphagus* WLS. et CLDG. in Poland.

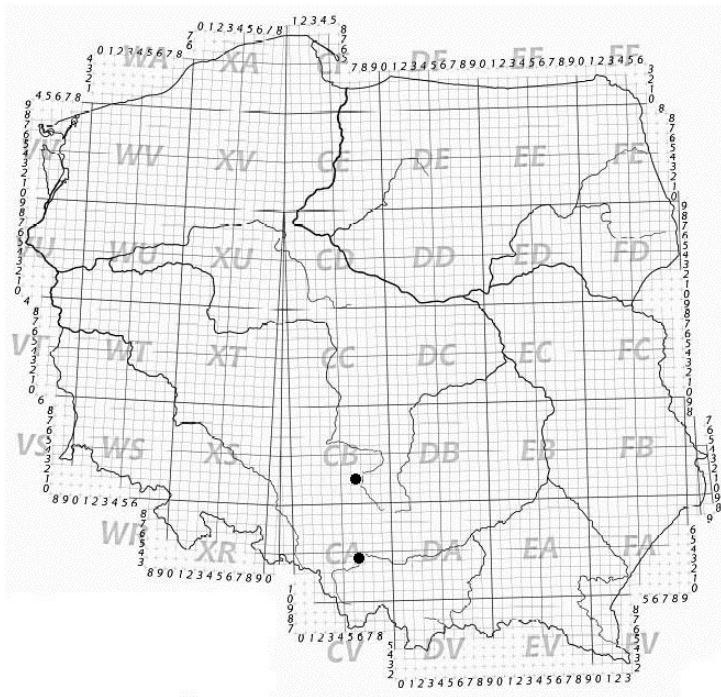


Fig. 19. Distribution of *Eupteryx lelievrei* (LETH.) in Poland.

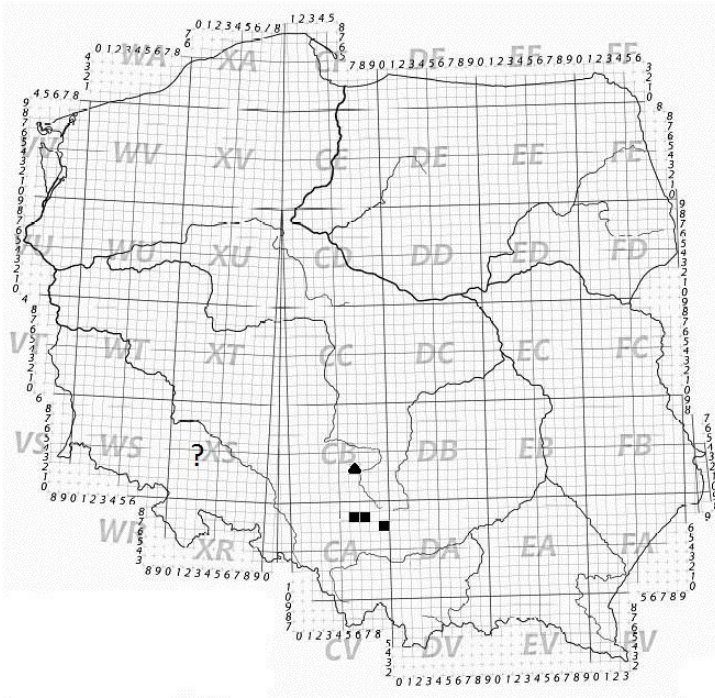


Fig. 20. Distribution of *Eupteryx thoulessi* EDW. in Poland.

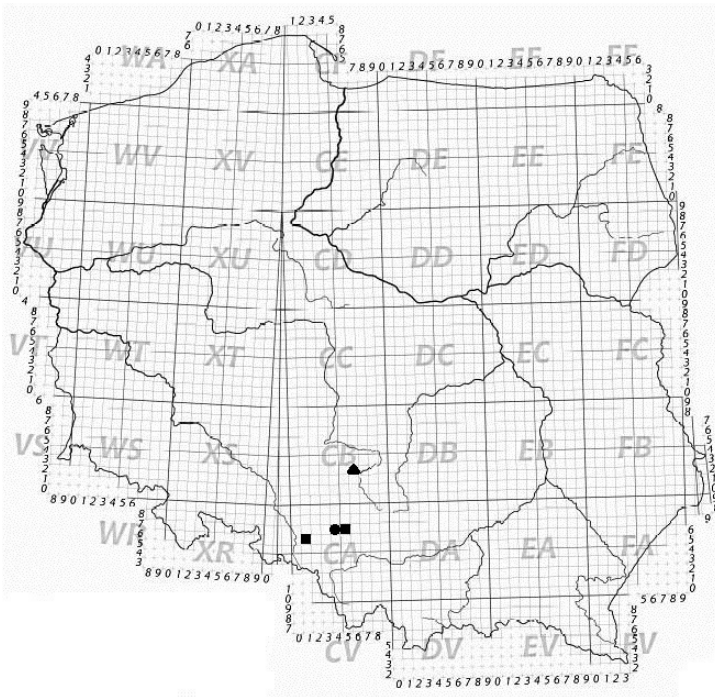


Fig. 21. Distribution of *Japananus hyalinus* (OSB.) in Poland.



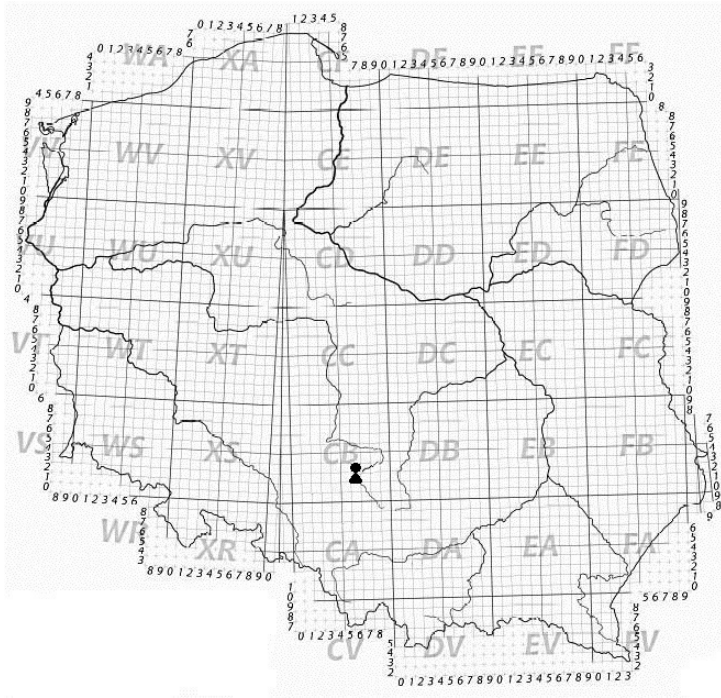


Fig. 22. Distribution of *Balclutha saltuella* (KBM) in Poland.

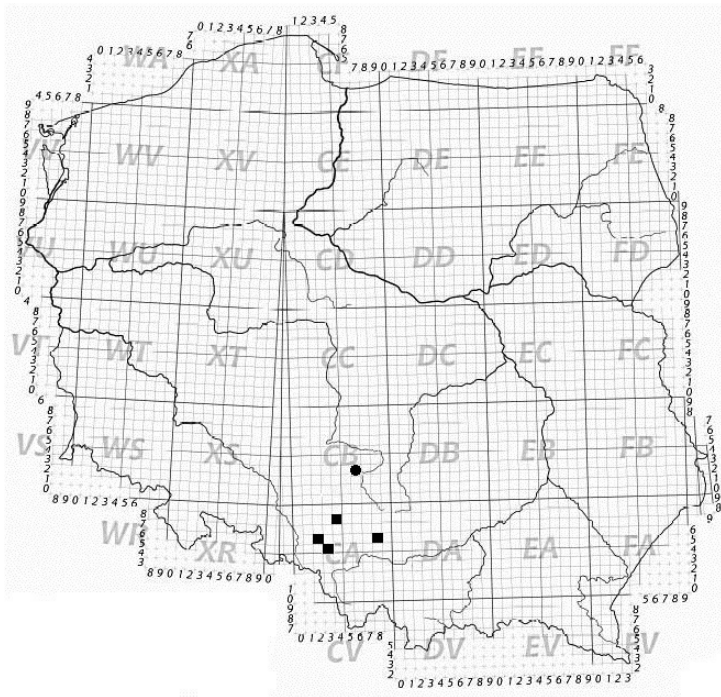


Fig. 23. Distribution of *Macrosteles sardus* RIB. in Poland.

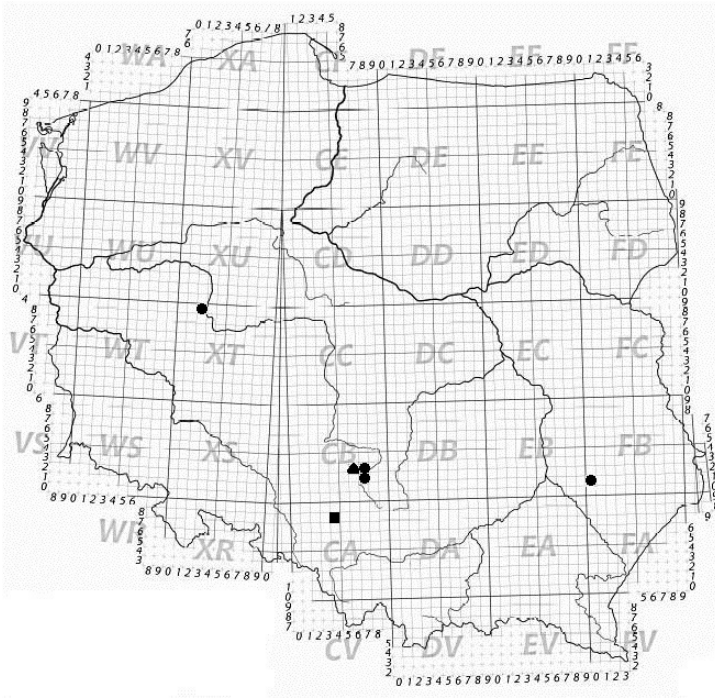


Fig. 24. Distribution of *Allygus communis* (FERR.) in Poland.

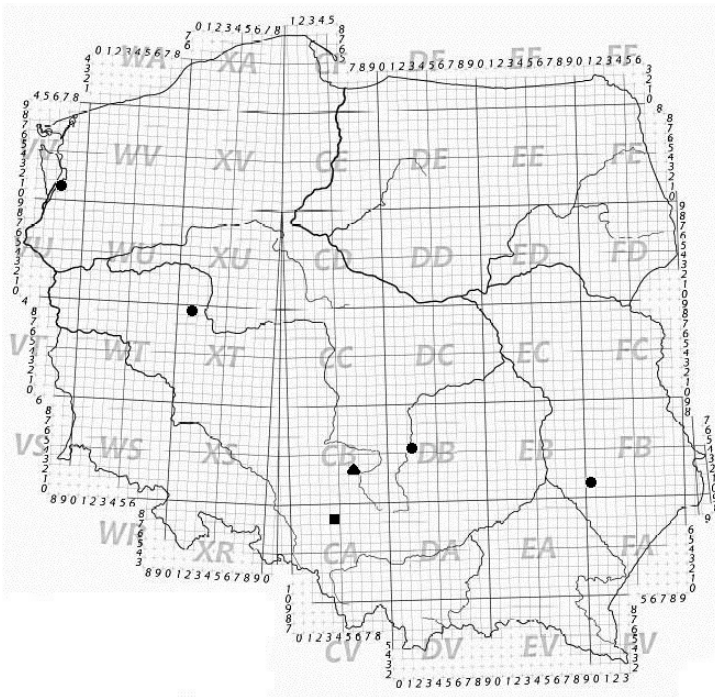


Fig. 25. Distribution of *Allygus modestus* SCOTT in Poland.

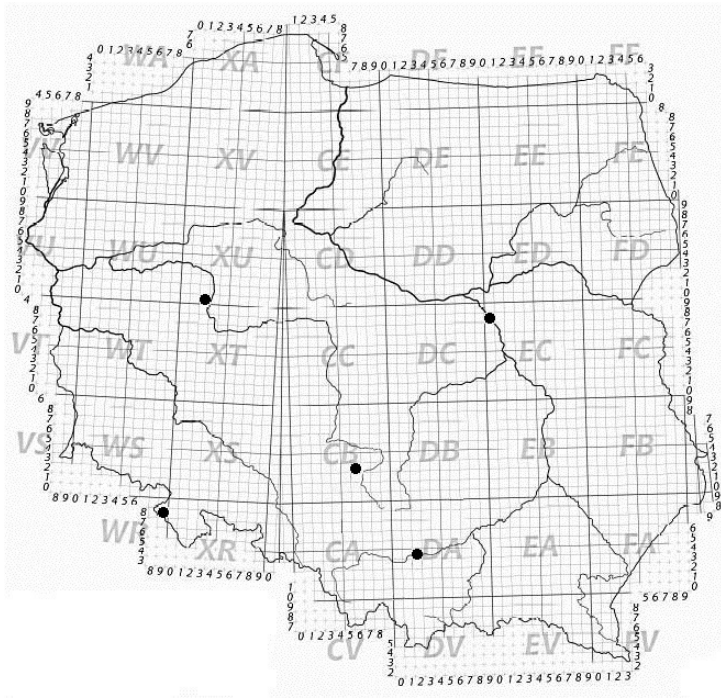


Fig. 26. Distribution of *Orientus ishidae* (Mats.) in Poland.

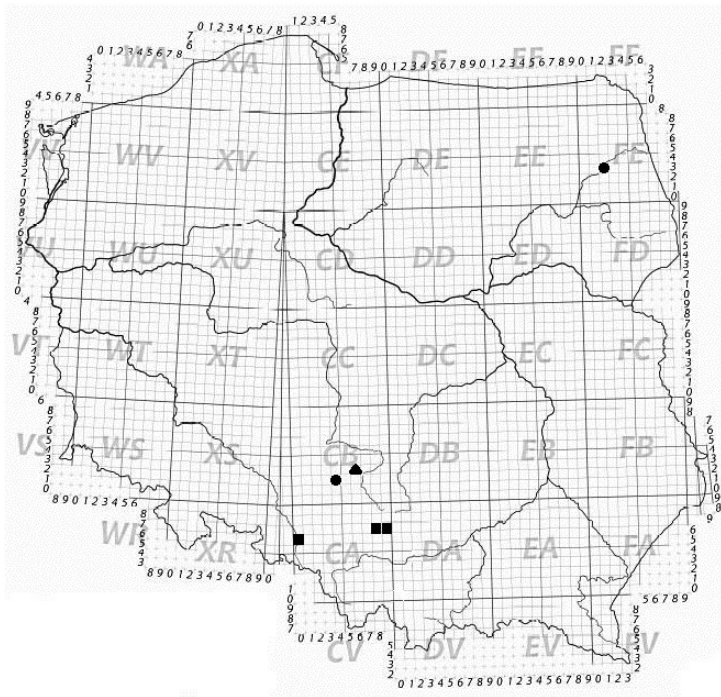


Fig. 27. Distribution of *Streptanus confinis* (Reut.) in Poland.

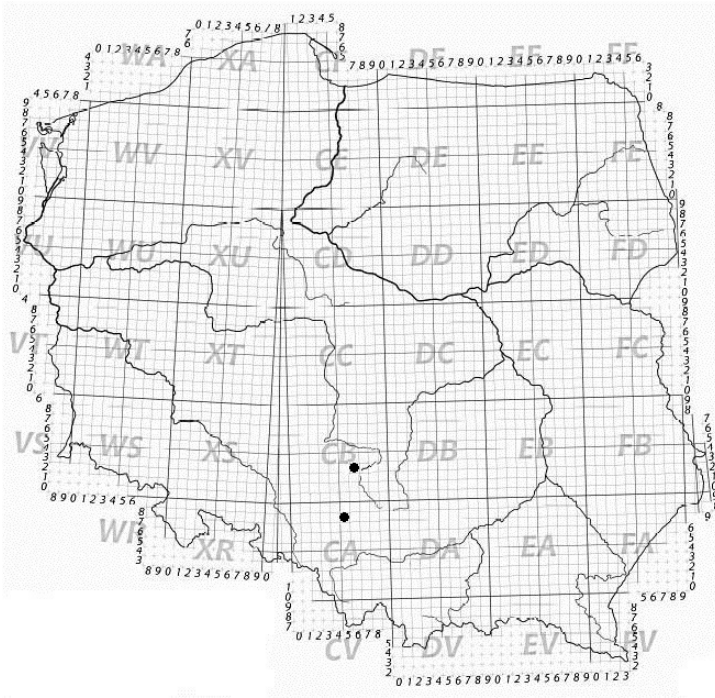


Fig. 28. Distribution of *Endria nebulosa* (BALL) in Poland.

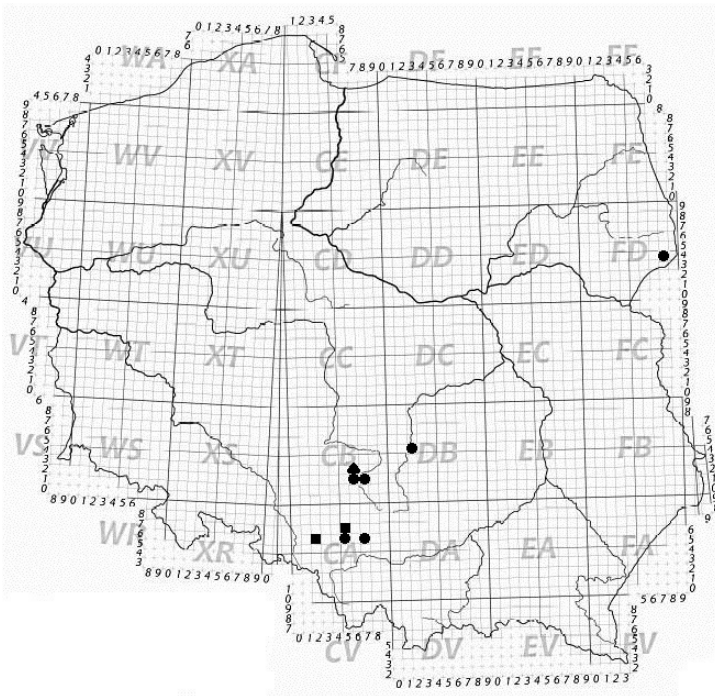


Fig. 29. Distribution of *Metalimnus steini* (FIEB.) in Poland.

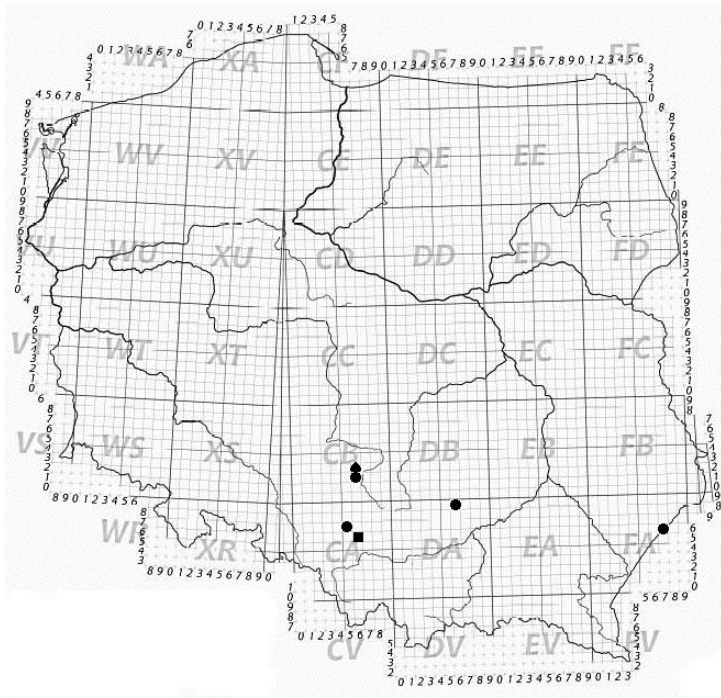


Fig. 30. Distribution of *Arthaldeus arenarius* REM. in Poland.

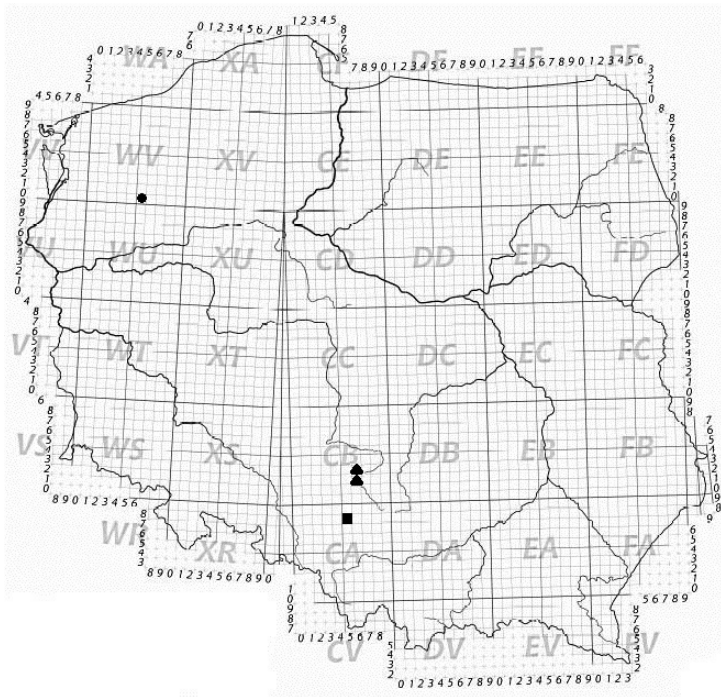


Fig. 31. Distribution of *Cosmotettix caudatus* (FL.) in Poland.

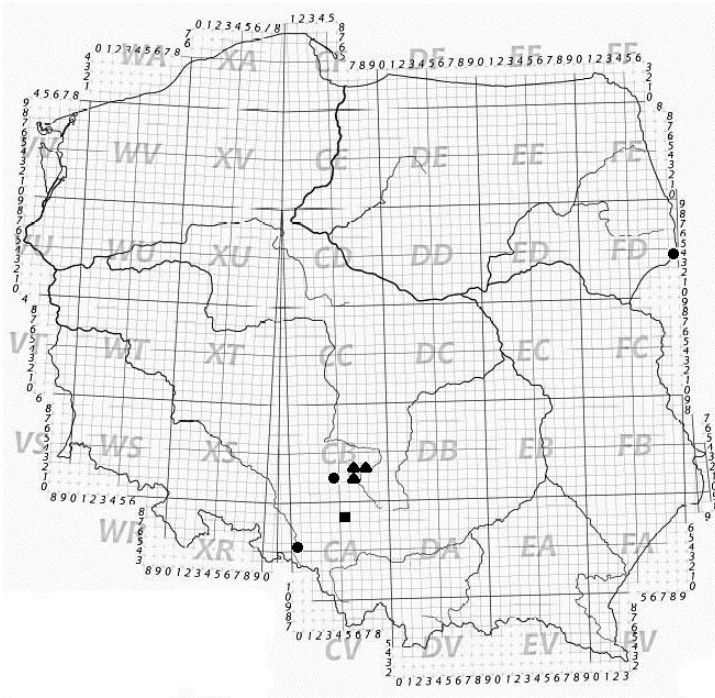


Fig. 32. Distribution of *Cosmotettix costalis* (FALL.) in Poland.

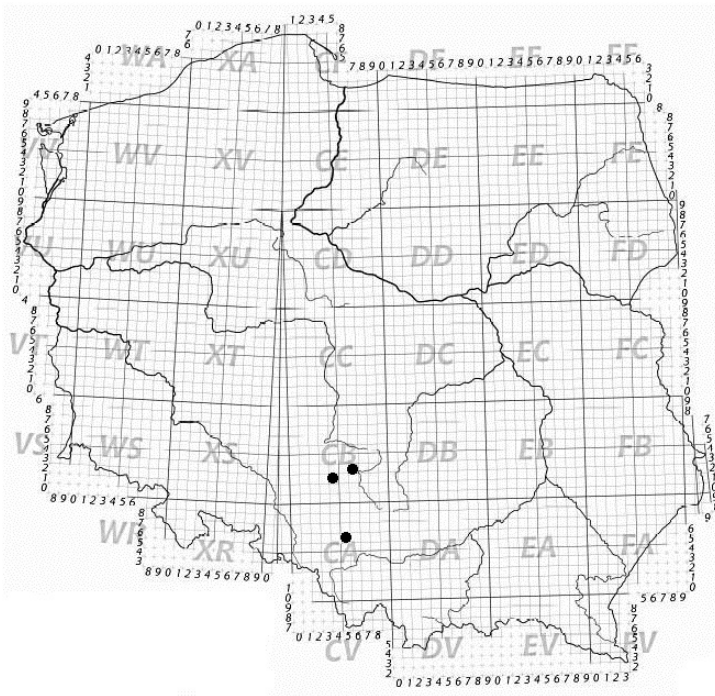


Fig. 33. Distribution of *Calamotettix taeniatus* (HORV.) in Poland.

## 5.2. The relative abundance of planthoppers and leafhoppers recorded in the quantitative research

The research showed the presence of a large group of eurybiontic species with high adaptive abilities and wide ecological valence recorded on many phytosociologically different plots. They were characterized by higher abundance and represented different levels in domination structure over the whole research period. Such fauna is typical for habitats with an unstable ecological balance and under secondary succession. In contrast, stenobiontic species are associated with a specific habitat, possess narrow ecological valence, though some of them have higher population abundance.

Quantitative research revealed a group of 52 species belonging to higher classes of dominance, which constitutes 18.4% of Auchenorrhyncha fauna known from Częstochowa (Table 1).

The group of superdominants was formed by *Stenocranus major* (plot 6 and 22), *Ribautodelphax collina* (plot 8), *Notus flavipennis* (plot 17), *Chlorita paolii* (plot 25), *Eupteryx atropunctata* (plot 3), *Eupteryx cyclops* (plot 4), *Balclutha calamagrostis* (plot 1 and 2), *Balclutha punctata* (plot 35), *Macrosteles laevis* (plots 3, 10, 11, 12, 13, 19, 20, 21, 22, 23, 24, 25), *Cicadula quadrinotata* (plot 18), *Psammotettix cephalotes* (plot 16), *Psammotettix excisus* (plot 7) and *Adarrus multinotatus* (plot 29). It is worth mentioning the mass occurrence of *M. laevis*, Holarctic and heliophilous species, with wide ecological valence, which is associated with different grassy ecosystems, especially those found in cities under intense, prolonged anthropopressure. The species reached a maximum abundance of 56.2% in anthropogenic vegetation related to *Lolio-Polygonetum arenastri*, and a lower level of abundance in vegetation of *Echio-Melilotetum* (up to 23.0%) and *Valeriano-Filipenduletum* (up to 25.1%). Another species, *Balclutha calamagrostis*, reached the highest abundance (57.6%) of all the recorded species in the plant community of *Echio-Melilotetum*, representing an initial succession stage on an unreclaimed slag heap. Additionally, *Ribautodelphax collina* and *Chlorita paolii* dominated in grassy urbicoenoses, whereas other species super-dominated in semi-natural ecosystems. These may indicate the instability of the ecological balance of most urban ecosystems, including natural ones and those located in suburban areas. On some plots, the same species reached the status of super-dominants, eudominants, dominants and subdominants.

The group of eudominants was formed by *Errastunus ocellaris* (plot 28) and *Turrutus socialis* (plot 27), associated with xerothermic grasslands of *Festuco-Brometea* class and *Arthaleus pascuellus* (plot 5) recorded in waterside vegetation of *Phragmitetea* class. The previously mentioned *Turrutus socialis* reached its highest abundance at 30.7%. Moreover, the eudominants were also *Stenocranus major* (plot 26), *Balclutha punctata* (plot 34), *Macrosteles laevis* (plot 26) and *Cicadula quadrinotata* (plot 15 and 17), which on the other plots reached the level of superdominants.

The group of dominants was formed by *Cicadella viridis* (plot 14) – recorded in moist meadow, *Empoasca pteridis* (plot 32 and 33) and *Empoasca vitis* (plot 34) – recorded in oak-hornbeam-lime forest and *Henschia collina* (plot 28 and 29) – found in xerothermic grasslands. Additionally, only two species *Deltocephalus pulicaris* (plot 10) and *Psammotettix confinis* (plot 8) are characterised by a higher abundance in typical anthropogenic habitats. Moreover, the dominants were also *Stenocranus major* (plot 4), *Notus flavipennis* (plots 6, 15 and 18), *Chlorita paolii* (plot 8), *Balclutha calamagrostis* (plot 35), *Balclutha punctata* (plot











SPECIES	STUDY PLOTS																																			OTHERS		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35			
<i>Javesella obscurella</i>		+		+																+																		
<i>Javesella pellicida</i>	+	+	+	+	+	+	+		+	+	s	+	+	s	+	+	+	+	+	s	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		
<i>Ribautodeiphax albostriata</i>	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
<i>Ribautodeiphax angulosa</i>							+											+							+													
<i>Ribautodeiphax collina</i>							+	S	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Tettigometridae																																						
<i>Tettigometra impressopunctata</i>								+																													+	
CICADOMORPHA																																						
Cercopidae																																						
<i>Cercopis sanguinolenta</i>	+		+			+		+					+						+						+												+	
<i>Cercopis vulnerata</i>				+									+					+																				
Aphrophoridae																																						
<i>Aphrophoraalni</i>			+						+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<i>Aphrophora pectoralis</i>																																						+

SPECIES	STUDY PLOTS																																			OTHERS					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35						
<i>Aphrophora salicina</i>														+																											
<i>Philaenus spumarius</i>	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+	+																+			
<i>Neophilaenus campestris</i>							+																																		
<i>Neophilaenus exclamatorius</i>							+																																		
<i>Neophilaenus lineatus</i>	+	+					+	+	+				+	+	+	+	+	+	+	+	+	+																			
<i>Neophilaenus minor</i>								s	s																																
<i>Lepyronia coleoprata</i>																																									
Membracidae																																									
<i>Gargara genistae</i>	+																																								
<i>Centrotus cornutus</i>																																								+	
<i>Stictocephala bisonia</i>																																									+
Ulopidae																																									
<i>Ulopa reticulata</i>																																									+

SPECIES	STUDY PLOTS																																			OTHERS			
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<i>Utecha lugens</i>								+		+	+																												
<i>Utecha trivita</i>								+	+		+	+													+											+			
Cicadellidae																																							
Ledrinae																																							
<i>Ledra aurita</i>																																						+	
Macropsinae																																							
<i>Oncopsis alni</i>					+																																		
<i>Oncopsis appendiculata</i>													+																										
<i>Oncopsis carpini</i>												+																											
<i>Oncopsis flavicollis</i>												+	+																										
<i>Oncopsis tristis</i>																																							
<i>Pediopsis tiliae</i>																																							
<i>Macropsis fuscula</i>																																							+















SPECIES	STUDY PLOTS																																			OTHERS								
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<i>Edwardsiana gratiosa</i>					+																																							
<i>Edwardsiana lethierryi</i>					+						+										?											+												
<i>Edwardsiana plebeja</i>																																												
<i>Edwardsiana prunicola</i>																																												
<i>Edwardsiana rosae</i>					+					+																																		
<i>Edwardsiana salicicola</i>																																												
<i>Edwardsiana soror</i>																																												
<i>Edwardsiana spinigera</i>																																												
<i>Edwardsiana stehliki</i>																																												
<i>Edwardsiana tersa</i>																																												
<i>Edwardsiana ulmiphagus</i>																																												
<i>Eupterycyba jucunda</i>																																												



SPECIES	STUDY PLOTS																																			OTHERS			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35				
<i>Eupteryx atropunctata</i>		+	\$	\$	+	+								+						+																			
<i>Eupteryx aurata</i>			+	+	+		+						+								+																		
<i>Eupteryx calcarata</i>			+	\$	+						+		+																						+				
<i>Eupteryx curtisii</i>												+																											
<i>Eupteryx cyclops</i>			\$	\$	+	+			+					+																					+				
<i>Eupteryx florida</i>																																				+			
<i>Eupteryx lelievrei</i>														+																									
<i>Eupteryx notata</i>					+	+			+		+	+	+															+											
<i>Eupteryx tenella</i>																																				+			
<i>Eupteryx thoullessi</i>																																							
<i>Eupteryx urticae</i>																																							
<i>Eupteryx vittata</i>						+																																	

SPECIES	STUDY PLOTS																																									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35							
<i>Wagneripteryx germari</i>												+																									+					
<i>Aguriahana stellulata</i>												+																											+			
Aphrodinae																																										
<i>Aphrodes bicincta</i>		+						+				+												+																		
<i>Aphrodes makarovi</i>			+								+	+	+												+															+		
<i>Planaphrodes laeva</i>								+																																		
<i>Anoscopus albifrons</i>												+																														
<i>Anoscopus flavostriatus</i>																																									+	
<i>Anoscopus serratulae</i>																																										
<i>Stroggylocephalus agrestis</i>																																										
Deltocephalinae																																										
<i>Fieberiella septentrionalis</i>																																										
<i>Penthimia nigra</i>																																										
OTHERS																																										



SPECIES	STUDY PLOTS																																			OTHERS									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35										
<i>Japananus hyalinus</i>																																													
<i>Neoliturus fenestratus</i>							s	+																																					
<i>Neoliturus guttulatus</i>							+																																						
<i>Balcutha calamagrostis</i>	S	S	+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	D						
<i>Balcutha punctata</i>		+		+	+	+	+	+	+																															D s	E S				
<i>Balcutha rhenana</i>			+																																										
<i>Balcutha saltuella</i>									+										+																										
<i>Macrosteles cristatus</i>									+	+																																			
<i>Macrosteles frontalis</i>		+																																											
<i>Macrosteles laevis</i>	+	+	S	s	s	s	+	+	s	S	S	S	S	+	+	+	+	+	S	S	S	S	S	S	S	S	S	S	E	+	+	+	+	+	+	+	+	+	+	+	+				
<i>Macrosteles maculosus</i>																																													
<i>Macrosteles osstamnilssoni</i>					+																																								

SPECIES	STUDY PLOTS																																			OTHERS												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35													
<i>Macrosteles sardus</i>															+																																	
<i>Macrosteles septemnotatus</i>														+																																		
<i>Macrosteles sexnotatus</i>				+	s																																											
<i>Macrosteles variatus</i>				+	s																					+																						
<i>Macrosteles viridigriseus</i>					+																																											
<i>Platymetopius major</i>																																																
<i>Hardya tenuis</i>																																																
<i>Alygus communis</i>																																																
<i>Alygus mixtus</i>																																																
<i>Alygus modestus</i>																																																
<i>Alygidius commutatus</i>																																																
<i>Orientus ishidae</i>																																																











SPECIES	STUDY PLOTS																																			OTHERS	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35		
<i>Arthaleus arenarius</i>	s	+														+																					
<i>Arthaleus pascuellus</i>		+	+	+	E	+								s	+	+	+	+	s	D	s	+			+							+		s			
<i>Sorhoanus assimilis</i>				+	+			+						+			+	+	+	+																	
<i>Cosmotetix caudatus</i>													+	+				+		+																	
<i>Cosmotetix costalis</i>						+						+	+																								
<i>Calamotetix taeniatus</i>																																					
<i>Henschia collina</i>									+	+	+																										
<i>Erzaleus metrius</i>			+	+		s																															



30 and 32), *Adarrus multinotatus* (plot 33) and *Arthaldeus pascuellus* (plot 20), which on the other plots reached the level of superdominants.

The numerous group of subdominants was formed by 25 species, with the following ones quite rarely recorded in Poland: *Kelisia praecox* (plot 18), *Stenocranus fuscovittatus* (plot 17 and 18), *Struebingianella lugubrina* (plot 5), *Arthaldeus arenarius* (plot 1) and *Erzaleus metrius* (plot 6). Moreover, the subdominants were the species with higher abundance in meadows, xerothermic grasslands and woodlands, such as the common across the whole of Poland *Javesella pellucida* (plots 11, 13, 15, 17, 20, 21, 22, 26 and 31) and *Forcipata forcipata* (plots 30, 31, 34 and 35), associated with oak-hornbeam-lime forests.

## 6. DISCUSSION AND CONCLUSIONS

The total number of 406 species of leafhoppers and planthoppers is currently known (including species reported in this monograph) from the region of Krakowsko-Wieluńska Upland (WALCZAK et al. in press b). Quantitative and qualitative research carried out between 2005–2016 on 35 plots established in the most representative ecosystems and habitats of the city of Częstochowa revealed the occurrence of 283 species of planthoppers and leafhoppers (Auchenorrhyncha), which constitutes 51.3% of the fauna of Poland (WALCZAK et al. 2016) and 69.7% of the fauna known from the Krakowsko-Wieluńska Upland (WALCZAK et al. in press b). As a result of this, Częstochowa has become the best researched Polish city, regarding the biodiversity, especially species diversity, of Auchenorrhyncha (CHUDZICKA 1986, WALCZAK 2005). The most numerous families were Delphacidae with 46 species (50% of its Polish representatives) and Cicadellidae with 216 species (53.3% of its Polish representatives). Referring to the latter, two subfamilies were the most species-rich – Typhlocybinae (59.6%) and Deltocephalinae (52.8%). A measure of the high biodiversity of the researched area is the occurrence of 25 species not recorded so far (or recorded recently - after GĘBICKI et al. 2013) from the Krakowsko-Wieluńska Upland (these are *Kelisia confusa*, *Delphax pulchellus*, *Chloriona glaucescens*, *Paraliburnia adela*, *Macropsis prasina*, *Acericerus heydenii*, *Balcanocerus larvatus*, *Arboridia velata*, *Kybos calyculus*, *Kyboasca bipunctata*, *Zyginella pulchra*, *Eupteryx adspersa*, *Eupteryx thoulessi*, *Zyginella suavis*, *Platymetopius major*, *Allygus modestus*, *Streptanus confinis*, *Cicadula frontalis*, *Elymana kozhevnikovi*, *Paralimnus phragmitis*, *Metalimnus marmoratus*, *Psammotettix poecilus* and *Cosmotettix caudatus*, including two invasive species in Europe *Stictocephala bisonia* and *Japananus hyalinus*) as well as 12 species new to the fauna of Poland (in the last 9 years), listed as follow: *Chloriona unicolor*, *Acericerus ribauti*, *Eupteryx lelievrei*, *Zyginella pullula*, *Zyginella griseombra*, *Zyginella schneideri*, *Macrosteles sardus*, *Balclutha saltuella*, *Orientus ishidae* (invasive species in Europe), *Endria nebulosa*, *Metalimnus steini* and *Calamotettix taeniatus*. Additionally, 37 species with interesting bionomy and rarely collected are also reported. These are *Kelisia praecox*, *Kelisia punctulum*, *Mirabella albifrons*, *Ribautodelphax angulosa*, *Macropsis vicina*, *Hephathus nanus*, *Agallia consobrina*, *Tremulicerus tremulae*, *Cicadella lasiocarpae*, *Alebra neglecta*, *Micantulina stigmatipennis*, *Forcipata forcipata*, *Arboridia velata*, *Kybos abstrusus*, *Kybos butleri*, *Fagocyba carri*, *Edwardsiana ampliata*, *Edwardsiana lethierryi*, *Edwardsiana salicicola*, *Edwardsiana soror*, *Edwardsiana spinigera*, *Edwardsiana stehliki*, *Edwardsiana tersa*, *Edwardsiana ulmiphagus*, *Ribautiana ognevi*, *Eurhadina loewii*, *Eupteryx florida*, *Eupteryx tenella*, *Allygus communis*, *Cicadula*

*flori*, *Cicadula saturata*, *Recilia coronifer*, *Arocephalus longiceps*, *Psammotettix excisus*, *Arthaldeus arenarius* and *Erzaleus metrius*. Data regarding the dynamics of abundance of particular species are given in a previous work published by WALCZAK et al. (2014).

Such a high species diversity results from the diversified geomorphology of three different geographical units i.e. the Wieluńska Upland, the Częstochowska Upland and the Upper Warta River Depression, which meet on the territory of the city. This brings together different microclimatic and soil conditions, level of groundwater, intensity of surface erosion and finally contrasting speeds of secondary succession. Another factor influencing the biodiversity of local fauna is the different use of urban areas over the past 200 years. The landscape of the city is composed of post-mining wastelands, abandoned limestone quarries, scattered farmlands, orchards and allotments. The quantitative and qualitative composition of the Auchenorrhyncha fauna is also influenced by the present city topology, and since the second half of the 20<sup>th</sup> century changes to it. The existence of 11 urban parks, numerous green squares, vegetation associated with transport routes and river bank boulevards, scattered allotments and fruit orchards supports the migration and exchange of species between particular parts of the city. At the same time, the least changed areas are of special importance for the formation of Auchenorrhyncha fauna as they play a role of wildlife refugia for numerous urbicenophilous and urbicenoneutral taxa. Seven areas are proposed as nature reserves (five of woodlands and two of meadows), thirteen areas, mainly terrestrial, designated as ecological sites and eight areas designated as landscape reserves (CABAŁA et al. 2010). Additionally, numerous reservoirs and rivers, including the upper course of the Warta river, also influence the Auchenorrhyncha biodiversity. The former create the local climate, the latter constitute migration routes for diverse entomofauna. The valley of the Warta river is the most important ecological corridor within the city, but in the case of planthoppers and leafhoppers, it serves mainly for those species associated with riparian forests, less so for those living in grasslands.

The mosaic of ecosystems and wildlife habitats, recognisable even in small areas in urban districts, is also responsible for high species biodiversity as well as the richness of different ecological forms (CHUDZICKA et al. 1990). The best example is again the valley of the Warta river, especially the gorge near Mirów, where the results of research revealed a distinct heterogeneity of the Auchenorrhyncha fauna, composed of forest and meadow species together with hygrophilous elements associated with watersides. Moreover, the effects of fragmentation and isolation, which influences the species composition of fauna inhabiting patchy habitats (JONES & LEATHER 2012), is also observed here.

Numerous urban parks and green squares as well as allotments bordering on wastelands are suitable places for the introduction of invasive species. In the case of Częstochowa, these are *Japananus hyalinus*, *Endria nebulosa* and *Calamotettix taeniatius*. First two species represent urbicenophilous forms associated with woodland-shrubs and ruderal phytocoenoses, while *Calamotettix taeniatius* is a urbicenoneutral species trophically associated with reed rushes of reservoirs and slow-flowing watercourses. Interestingly, their existing range in Europe and recent trends in migration may indicate the impact of gradual climate warming.

The specific urban microclimate supports the emergence and spread of termophilous species. During the study, such forms were represented by *Kelisia confusa*, *Jassidaeus lugubris*, *Tettigometra impressopunctata*, *Neophilaenus campestris*, *Utecha trivia*, *Utecha lugens*, *Balcanocerus larvatus*, *Agallia consobrina*, *Hephathus nanus*, *Arboridia velata*, *Eupteryx thoulessi*, *Eupteryx florida*, *Ribautiana ognevi*, *Macrosteles maculosus* and

*Conosamus obsoletus*. The species listed above were usually found in small populations and, in Poland, can be regarded as rare or very rare. They represent Southern European or Southern Euro-Siberian (Kazakh) zoogeographical elements, and in the area of the study were associated with grasslands, forest clearings and anthropogenic habitats.

The species preferring cooler continental conditions, represented by Northern European and Euro-Siberian zoogeographical elements, were *Eurysula lurida*, *Cicadella lasiocarpae*, *Edwardsiana salicicola*, *Edwardsiana soror*, *Paluda flaveola*, *Elymana kozhevnikovi*, *Cicadula frontalis*, *Cicadula saturata*, *Doliotettix lunulatus*, *Athysanus quadrum*, *Streptanus confinis*, *Metalimnus formosus*, *Metalimnus marmoratus*, *Cosmotettix caudatus*, *Cosmotettix costalis* and *Erzaleus metrius*. Most of them are linked to grasslands and are urbiceneutral, only *E. lurida* and *S. confinis* can be classified as urbicenophilous. All are rarely recorded in Poland.

The ratio of skiophilous to heliophilous species is decreasing to a greater extent than the ratio of higrophilous to xerophilous species, if the transect running from the suburbs to the city centre is taken into account. Examples of refugia for skiophilous species can be isolated woodlands and shrublands (for example 'Gąszczyk' Nature Reserve, 'Las Aniołowski' city park) as well belts of waterside vegetation (riparian forests and dense willow thickets alongside the Warta river). Additionally, the valley of the Warta river is the only movement corridor for these species within the city.

Xerophilous (frequently classified also as xerothermophilous) and heliophilous species occur more or less in the same number in the city centre and the suburbs. In both zones, they prefer ruderal habitats in early succession stages and under different levels of anthropogenic disturbance, such as isolated grassland patches, some of them used as pastures. A high ratio of heliophilous species (30.01%) was also recorded for Auchenorrhyncha fauna associated with a stretch of meadows running alongside the Warta river. These areas serve also as refugia for fauna associated with anthropogenic ecosystems of residential districts.

The research revealed 73 stenobiotic species, with a narrower ecological tolerance and trophically specialized, which constitutes 27.2% of Auchenorrhyncha fauna known in the city. Most of them represent the European zoogeographical element. At the same time, 102 species (38.1%) represent eurybiotic forms, with wide trophic spectra and more often found in urban habitats (urbicenophilous and urbiceneutral taxa). Zoogeographically, they represent Trans-Palaeartic, Euro-Siberian, Siberian and Holarctic element.

The relatively high share of the European element in some ecosystems of Częstochowa may indicate the role of autochthonic species in the formation of anthropogenic urban fauna (CHUDZICKA et al. 1990). These are mainly taxa associated with primary ecosystems and biomes of Europe, especially with oak-lime-hornbeam forests (*Tilio-Carpinetum*), scots pine forests (*Peucedano-Pinetum* and *Pino-Quercetum*), riparian forests (*Circeo-Alnetum*) and meadows (*Arrhenatherion*). In contrast, the high share of widely distributed species i.e. Euro-Siberian and Trans-Palaeartic may be a measure of the negative changes in ecosystems and suggests strong anthropoppression, as well as an ongoing process of evolution of semi-natural and anthropogenic floral communities.

The life strategies of planthoppers and leafhoppers inhabiting urbicoenoses of Częstochowa do not reveal a distinct differentiation and are uniformly represented across the whole area of the city. Only 21.8% of all species is eurytopic, whereas the remaining 78.2% represents the stenotopic element, and 28.2% of species belong to forms strictly adapted to particular habitats.

In respect to feeding preferences, monophagous species prevail, but with no differences in the species composition between the city centre and the suburbs, which may indicate the richness of food resources in the city. The dominating host plants clades cover two families Poaceae and Cyperaceae, indicating progressing habitat changes in the city.

Regarding 55 Auchenorrhyncha species, which belong to higher classes of abundance (WALCZAK et al. 2014), most of them represent eurybiontic and urbicophilous forms, with wide ranges and high ecological valences.

The study confirmed that there is a higher Auchenorrhyncha species diversity in woodlands, especially deciduous and mixed ones (*Quercus-Fagetum* class) than in other plant assemblages occurring within the city. This reflects the notion that city parks, especially those with a large area such as 'Las Aniołowski', constitute refugia for planthoppers and leafhoppers and street greenery serves as migration routes.

The research showed the existence of two main ecological groups of Auchenorrhyncha associated with different-origin ecosystems (WALCZAK et al. 2014). The first group covers skiophilous and hygrophilous species linked to woodlands, shrublands, meadows and peat-bogs located near larger watercourses, especially in the Warta River valley. They can be classified as rural fauna and are rarely found in the city centre. The second group includes species associated with dry (xerothermophilous) grasslands, which easily penetrate the city centre, inhabiting ruderal ecosystems as well as artificial, anthropogenic habitats such as grass roadside verges and lawns in residential areas. They are ranked as urbicophilous forms, on the one hand because of their association with the specialist habitats, and on the other by virtue of their increasing dominance along an urbanization gradient (WALCZAK et al. 2014).

The research showed that the Częstochowa urban fauna includes a large group of urbicophilous species, with a wide preference for most urban ecosystems together with their high dominance and constancy on particular plots. These were *Stenocranus major*, *Laodelphax striatella*, *Dicranotropis hamata*, *Javesella pellucida*, *Philaenus spumarius*, *Empoasca pteridis*, *Balclutha calamagrostis*, *Macrosteles laevis*, *Elymana sulphurella*, *Cicadula quadrinotata*, *Euscelis incisus*, *Psammotettix alienus*, *Errastunus ocellaris* and *Arthaldeus pascuellus*. The above mentioned taxa were recorded mainly in grassland phytocoenoses, with different stages of succession and under different anthropogenic pressure.

A group of species with less urban habitats affinities constitutes: *Stenocranus minutus*, *Conomelus anceps*, *Jassideus lugubris*, *Megamelus notula*, *Eurysula lurida*, *Eurybregma nigrolineata*, *Megadelphax sordidula*, *Mirabella albifrons*, *Delphacodes venosus*, *Muellerianella brevipennis*, *M. fairmairei*, *Acanthodelphax spinosa*, *Criomorpus albomarginatus*, *Ribautodelphax albostrigata*, *Ribautodelphax collina*, *Cercopis sanguinolenta*, *Neophilaenus lineatus*, *Aphrophora alni*, *Megophthalmus scanicus*, *Agallia consobrina*, *Anaceratagallia ribauti*, *Eupelix cuspidata*, *Aphrodes bicincta*, *A. makarovi*, *Cicadella viridis*, *Emelyanoviana mollicula*, *Forcipata citrinella*, *Notus flavipennis*, *Chlorita paolii*, *Eupteryx atropunctata*, *Eupteryx aurata*, *E. calcarata*, *E. cyclops*, *E. notata*, *Zyginidia pullula*, *Balclutha punctata*, *Deltocephalus pulicaris*, *Doratura stylata*, *Graphocraerus ventralis*, *Rhopalopyx preysleri*, *R. vitripennis*, *Athysanus argentarius*, *Conosanus obsoletus*, *Arocephalus languidus*, *Psammotettix confinis*, *Turrutus socialis*, *Jassargus pseudocellaris* and *Henschia collina*. The role of the above listed species in urban habitats was also highlighted during research carried out on brownfields of Berlin and Brema (STRAUSS &

BIEDERMAN 2006, 2007), ruderal sites of Brema (HILDEBRANDT 1986) and urban greenery of Warsaw (CHUDZICKA 1986). In contrast, the Auchenorrhyncha fauna in the city of Basel was characterised by a different species composition and the dominance of urbicophilous forms (MÜHLETHALER 2001).

Some eurybiontic species, with the rank of superdominant, dominant or subdominant, recorded on the research plots, can be regarded as bioindicators of anthropogenic changes in the environment. These were *Stenocranus major*, *Notus flavipennis*, *Chlorita paolii*, *Macrosteles laevis*, *Balclutha calamagrostis*, *B. punctata*, *Cicadula quadrinotata* and *Henschia collina*. Their emergence in high populations may indicate an ongoing process of succession and the lack of mechanisms responsible for the maintenance of environmental homeostasis. It is worth mentioning the relatively small populations of *Philaenus spumarius* in the researched areas – the species is considered to be a sensitive bioindicator of environmental changes, especially in industrialised areas (TÖRMALA & VANNINEN 1983). This may be partly explained by the reaction of this species to environmental pressure (CHUDZICKA & SKIBIŃSKA 1998).

The research covered the most valuable ecosystems of the city of Częstochowa, constituting refugia of flora and fauna, established as Natura 2000 sites or proposed for nature reserves. In the buffer zone of Natura 2000 site ‘Trzęslicowe łąki pod Walaszczycami’ 17 rare species were recorded including *Cixius simplex*, *Kelisia confusa*, *K. praecox*, *Empoasca affinis*, *Eupteryx lelievrei*, *Balclutha saltuella*, *Recilia coronifer*, *Paluda flaveola*, *Cicadula flori*, *C. frontalis*, *C. saturata*, *Cosmotettix caudatus* and *C. costalis*. In the buffer zone of the proposed ‘Młaka w Błesznie’ Nature Reserve some environmentally valuable and rare species were found, particularly *Kelisia confusa*, *K. praecox* and *Arthaldeus arenarius*. In the proposed ‘Gąszczyk’ Nature Reserve the research revealed 13 rare species, with such species worthy of mention as: *Ledra aurita*, *Acericerus ribauti*, *Dryocyba carri*, *Edwardsiana spinigera*, *Edwardsiana ulmiphagus*, *Zonocyba bifasciata*, *Eupteryx adspersa*, *E. florida*, *Arboridia velata*, *Recilia coronifer* and *Allygus communis*. In contrast, only 3 rare species *Balcanocerus larvatus*, *Empoasca affinis* and *Eupteryx florida* were reported from ‘Kokocówka’ Nature Reserve.

Anthropoppression is the sum of processes carried out by humans in urbanized areas. One of the most important factors decreasing the level of biological diversity in urbicoenoses is habitat transformations leading to unstable, secondary urban environments poor in species instead of primary and sustainable natural ecosystems (KĘDZIORA & KARG 2010). This is often accompanied by excessive exploitation and degradation of soils.

Another negative factor deepening the devastation of urban nature is water and air pollution, despite long term restrictions. Moreover, built-up areas as well as industrial buildings enhance the global greenhouse effect on a local scale. It causes changes in the species composition, favouring xerothermophilous forms as opposed to hygrophilous and boreal elements.

However, the most important factor endangering autochthonous flora and fauna are invasive species, which are supported by unstable urban conditions. They directly (competition, predation, parasitism) and indirectly (as vectors of pathogens) contribute to a decrease in species diversity (SIENKIEWICZ 2013). The source of invasive species is mass tourism and extensive trade, both of which are concentrated in the cities (KĘDZIORA & KARG 2010).

Urban ecosystems are the subject of nature conservation initiatives resulting from nature assessments and environmental monitoring programmes (CHUDZICKA 1981, SKIBIŃSKA &

CHUDZICKA 2000, WINIARSKA 2000). The primary objective of which is the protection of biological diversity, especially autochthonous species and ecosystems, occurring within city administrative borders. The complex nature assessment carried out in Częstochowa in the years 2006–2010 offers valuable insights on biological diversity in the city as well as allowing areas which should be under protection to be identified. Admittedly, this is difficult to be achieved sometimes – an example here being the Natura2000 site near Walaszczyki, endangered by the construction of the Częstochowa by-pass. Additionally, another important action is expanding ecological corridors, enabling free movement of organisms – an example here being the valleys of the Szarlejka and Warta rivers. When establishing new housing estates, it is important to preserve their primary vegetation and try to connect it with neighbouring ecosystems. Finally, excessive management, especially repeated mowing, should be drastically limited.

The results presented above follow on from those of previous contributions highlighting the unique scientific value of the researched ecosystems known as refugia of numerous rare species and provide further evidence of the urgent need for protection in the form of nature reserves. Although, the results do not cover all points concerning the Auchenorrhyncha biodiversity of Częstochowa urbicoenoses, they can serve as a basis for further research into urban planthoppers and leafhoppers fauna, especially in relation to the anthropogenic ecosystems of the city centre, vicarious habitats, urban green spaces as migration corridors and the general evolution of urban fauna. Finally, the results might also provide a useful framework for ecologically based monitoring of endangered ecosystems in Częstochowa as well as a basis for establishing long-term habitat conservation plans.

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## STRESZCZENIE (POLISH SUMMARY)

Badania oparte na metodach ilościowych prowadzono w latach 2005-2010 na 35 powierzchniach założonych w najbardziej reprezentatywnych ekosystemach miasta, przy użyciu standardowego sprzętu (czerpak entomologiczny). Badaniami prowadzonymi przy wykorzystaniu metod jakościowych (lata 2005-2016) objęto siedliska przyległe do założonych wcześniej powierzchni badawczych oraz inne obiekty przyrodnicze na pozostałym obszarze miasta. Szczegółowy opis metodyki badawczej oraz wyników badań zoocenologicznych (w tym charakterystyki zgrupowań piewików) zawiera opracowanie przedstawione przez Walczaka M., Wojciechowskiego W. i Depę Ł. pod tytułem „The communities of Planthoppers and Leafhoppers (Hemiptera: Fulgoromorpha et Cicadomorpha) inhabiting selected plant associations in Częstochowa city and its buffer zone. The Monograph” (2014, Annals of the Upper Silesian Museum. Entomology, Bytom, 23: 1–301). Prowadzone od maja 2005 aż do września 2016 roku badania wykazały obecność 283 gatunki piewików, co stanowi 51,3% krajowej cykadofauny i aż 69,7% gatunków z obszaru Wyżyny Krakowsko-Wieluńskiej (do 2016 roku z obszaru Wyżyny Krakowsko-Wieluńskiej wykazano 406 gatunków piewików). W ciągu ostatnich ośmiu lat aż 12 gatunków stwierdzonych w Częstochowie, okazało się nowymi dla fauny Polski, należą do nich: *Chloriona unicolor*, *Acericerus ribauti*, *Eupteryx lelievrei*, *Zyginidia pullula*, *Zygina griseombra*, *Zygina schneideri*, *Macrosteles sardus*, *Balclutha saltuella*, *Endria nebulosa*, *Metalimnus steini*, *Calamotettix taeniatus* oraz *Orientus ishidae*, gatunek inwazyjny, introdukowany do Europy. Podawany wcześniej z Częstochowy gatunek *Idiocerus vicinus*, usunięto z listy systematycznej ze względu na pomyłkę w oznaczeniu (wszystkie osobniki okazały się *I. lituratus* – det. Igor Malenovský). Miarą wysokiej różnorodności biologicznej badanego obszaru jest występowanie w Częstochowie aż 25 gatunków piewików nowych lub niedawno odnotowanych dla regionu Wyżyny Krakowsko-Wieluńskiej (po publikacji GĘBICKIEGO i in. 2013), należą tu: *Kelisia confusa*, *Delphax pulchellus*, *Chloriona glaucescens*, *Paraliburnia adela*, *Macropsis prasina*, *Acericerus heydenii*, *Balcanocerus larvatus*, *Arboridia velata*, *Kybos calyculus*, *Kyboasca bipunctata*, *Zyginella pulchra*, *Eupteryx adpersa*, *Eupteryx thoulessi*, *Zygina suavis*, *Platymetopius major*, *Allygus modestus*, *Streptanus confinis*, *Cicadula frontalis*, *Elymana kozhevnikovi*, *Paralimnus phragmitis*, *Metalimnus marmoratus*, *Psammotettix poecilus* i *Cosmotettix caudatus* oraz inwazyjne *Stictocephala bisonia* i *Japananus hyalinus*. Oprócz nich stwierdzono także 36 gatunków w Polsce rzadko lub bardzo rzadko występujących, takich jak: *Kelisia praecox*, *Kelisia punctulum*, *Mirabella albifrons*, *Ribautodelphax angulosa*, *Macropsis vicina*, *Hephathus nanus*, *Agallia consobrina*, *Tremulicerus tremulae*, *Cicadella lasiocarpae*, *Alebra neglecta*, *Micantulina stigmatipennis*, *Forcipata forcipata*, *Arboridia velata*, *Kybos abstrusus*, *Kybos butleri*, *Fagocyba carri*, *Edwardsiana ampliata*, *Edwardsiana lethierryi*, *Edwardsiana salicicola*, *Edwardsiana soror*, *Edwardsiana spinigera*, *Edwardsiana stehliki*, *Edwardsiana tersa*, *Edwardsiana ulmiphagus*, *Ribautiana ognevi*, *Eurhadina loewii*, *Eupteryx florida*, *Eupteryx tenella*, *Allygus communis*, *Cicadula flori*, *Cicadula saturata*, *Recilia coronifer*, *Arocephalus longiceps*, *Psammotettix excisus*, *Arthaldeus arenarius* i *Erzaleus metrius*.

Badania potwierdziły wyraźnie heterogeniczny i mozaikowy charakter cykadofauny miejskiej, przejawiający się licznym udziałem gatunków leśnych i łąkowych, którym towarzyszyły dominujące w wielu siedliskach elementy kserotermofilne, lokalnie

sąsiadujące z higrofilnymi gatunkami fauny nadwodnej. Zaznaczył się ponadto wpływ izolacji przestrzennej siedlisk miejskich i ich fragmentacji na skład gatunkowy i liczebność występującej w nich fauny piewików.

Swoisty mikroklimat miejski sprzyja pojawianiu się i rozprzestrzenianiu gatunków termofilnych, spośród których na uwagę zasługują rzadkie w Polsce gatunki: *Kelisia confusa*, *Jassidea lugubris*, *Tettigometra impressopunctata*, *Neophilaenus campestris*, *Utecha trivia*, *Utecha lugens*, *Balcanocerus larvatus*, *Agallia consobrina*, *Hephathus nanus*, *Arboridia velata*, *Eupteryx thoulessi*, *Eupteryx florida*, *Ribautiana ognevi*, *Macrosteles maculosus* oraz *Conosanus obsoletus*.

Do form preferujących bardziej kontynentalne warunki siedliskowe i reprezentujących północnoeuropejski i eurosyberyjski typ zasięgu zaliczono 16 gatunków, spośród których do szczególnie rzadkich należały: *Cicadella lasiocarpae*, *Elymana kozhevnikovi*, *Streptanus confinis*, *Metalimnus marmoratus*, *Cosmotettix caudatus*, *Cosmotettix costalis* oraz *Erzaleus metrius*. Nieliczne gatunki skiofilne (2,3% całości fauny) koncentrowały się zwłaszcza w izolowanych kompleksach leśnych i zaroślowych (np. rezerwatu Gąszczyk oraz parku Las Aniołowski), natomiast formy kserofilne (w większości kserotermofilne) i gatunki związane z obszarami o intensywnej insolacji występowały mniej więcej jednakowo licznie zarówno w centrum jak i w suburbium – wszędzie preferując siedliska ruderalne, pozostające na wczesnych etapach sukcesji oraz wyraźnie zaburzone. Szczególnie licznie reprezentowane były gatunki otwartych ekosystemów roślinności łąkowej i łąkowo-murawowej (łącznie 30,1%), zwłaszcza położone w dolinie Warty.

Znaczny udział zasięgowego elementu europejskiego może świadczyć o dużej roli gatunków autochtonicznych, związanych pierwotnie z potencjalnymi ekosystemami i biomami Europy, zwłaszcza lasami grądowymi (*Tilio-Carpinetum*), borami (*Peucedano-Pinetum* i *Pino-Quercetum*), łągami (*Circeo-Alnetum*) oraz łąkami świeżymi (*Arrhenatherion*) w formowaniu antropogenicznych faun miejskich. Natomiast udział gatunków o szerokim zasięgu występowania (zwłaszcza eurosyberyjskich i transpalearktycznych), może być miarą odkształcenia pierwotnych faun oraz świadczyć o intensywności wtórnych zasiedleń, wzmożonej antropopresji, a nawet współczesnej ewolucji zbiorowisk półnaturalnych i antropogenicznych.

Badania wykazały obecność licznej grupy gatunków urbicenofilnych, związanych z większością ekosystemów i siedlisk miejskich. Przeważnie wykazują one zwiększoną liczebność populacji oraz wysoką stałość występowania na danych powierzchniach. Gatunkami tymi były: *Stenocranus major*, *Laodelphax striatella*, *Dicranotropis hamata*, *Javesella pellucida*, *Philaenus spumarius*, *Empoasca pteridis*, *Balclutha calamagrostis*, *Macrosteles laevis*, *Elymana sulphurella*, *Cicadula quadrinotata*, *Euscelis incisus*, *Psammotettix alienus*, *Errastunus ocellaris* oraz *Arthaldeus pascuellus*. Gatunki te tworzyły swoiste tło faunistyczne, obserwowane głównie w zespołach roślinności trawiastej, reprezentującej różne etapy sukcesji i o różnym nasileniu antropopresji. Nieco mniejszy zasięg występowania w urbicenozach Częstochowy cechował pozostałe gatunki urbicenofilne, takie jak: *Stenocranus minutus*, *Conomelus anceps*, *Jassidea lugubris*, *Megamelus notula*, *Eurysula lurida*, *Eurybregma nigrolineata*, *Megadelphax sordidula*, *Mirabella albifrons* (gatunek dotychczas rzadko w Polsce zbierany), *Delphacodes venosus*, *Muellerianella brevipennis*, *M. fairmairei*, *Acanthodelphax spinosa*, *Criomorphus albomarginatus*, *Ribautodelphax albostrigata*, *Ribautodelphax collina*, *Cercopis sanguinolenta*, *Neophilaenus lineatus*, *Aphrophora alni*, *Megophthalmus scanicus*, *Agallia consobrina* (gatunek dotychczas rzadko

wykazywany), *Anaceratagallia ribauti*, *Eupelix cuspidata*, *Aphrodes bicincta*, *A. makarovi*, *Cicadella viridis*, *Emelyanoviana mollicula*, *Forcipata citrinella*, *Notus flavipennis*, *Chlorita paolii*, *Eupteryx atropunctata*, *Eupteryx aurata*, *E. calcarata*, *E. cyclops*, *E. notata*, *Zyginidia pullula* (gatunek w Polsce bardzo rzadki), *Balclutha punctata*, *Deltocephalus pulicaris*, *Doratura stylata*, *Graphocraerus ventralis*, *Rhopalopyx preysleri*, *R. vitripennis*, *Athysanus argentarius*, *Conosanus obsoletus* (tylko w siedliskach łąkowych), *Arocephalus languidus*, *Psammotettix confinis*, *Turrutus socialis*, *Jassargus pseudocellaris* oraz *Henschia collina*.

Spośród nich wyznaczono bioindykatory antropogenicznych przemian środowiska przyrodniczego. Były nimi gatunki eurybiontyczne, szczególnie licznie reprezentowane w cykadofaunie badanych powierzchni (w badaniach ilościowych w randze superdominantów, dominantów i subdominantów), jak: *Stenocranus major*, *Notus flavipennis*, *Chlorita paolii*, *Macrosteles laevis*, *Balclutha calamagrostis*, *B. punctata*, *Cicadula quadrinotata* i *Henschia collina*.

Badaniami objęto także najcenniejsze przyrodniczo ekosystemy Częstochowy, będące ostojami rzadkiej fauny i flory i proponowane do objęcia ochroną w formie rezerwatów przyrodniczych. Badano otulinę obszaru „Natura 2000”, w tym teren proponowanego rezerwatu „Trzęślicowe łąki pod Walaszczkami” (powierzchnie 14,18 i 19), otulinę proponowanego rezerwatu „Młaka w Błesznie” (powierzchnia 16), oraz proponowanych rezerwatów leśnych „Gąszczyk” (powierzchnia 32) i „Kokocówka” (powierzchnia 33).

Uzyskane wyniki badań nie wyczerpują naszej wiedzy o składzie gatunkowym Auchenorrhyncha urbicenozy Częstochowy, lecz są podstawą do dalszych badań, prowadzonych zwłaszcza nad cykadofauną śródmieścia, formowaniem zgrupowań piewików w siedliskach zastępczych, a także nad rolą korytarzy ekologicznych w migracji faun oraz nad kształtowaniem się i ewolucją zgrupowań piewików w mieście.

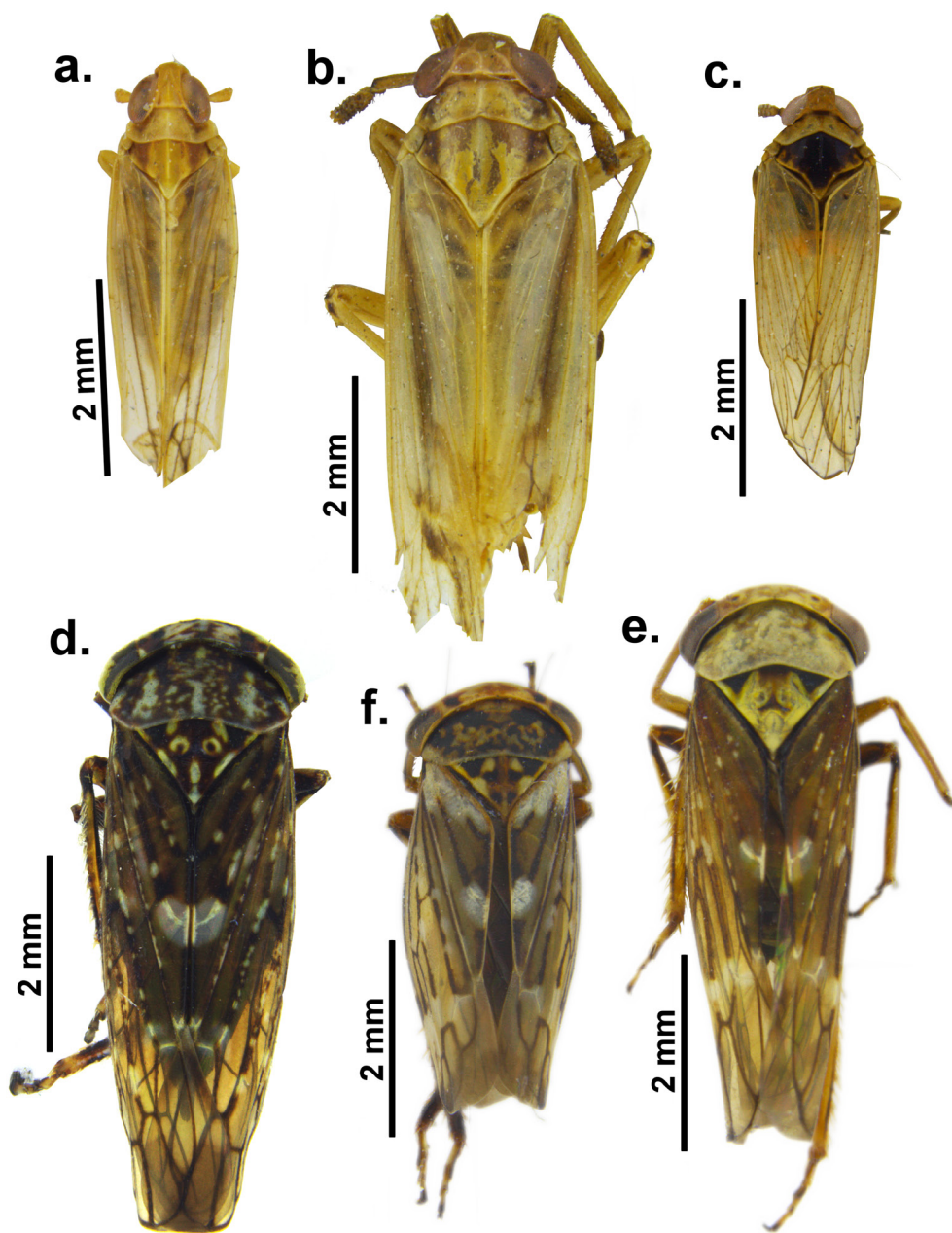


Fig. 34. **a:** *Kelisia confusa* LNV., 1957, plot 14, 2 VII 2008, ♀; **b:** *Delphax pulchella* (CURT., 1833), plot 14, 11 VII 2008, ♀; **c:** *Paraliburnia adela* (FL., 1861), plot 20, 5 VI 2007, ♂; **d:** *Acericerus heydenii* (KBM., 1868), plot D, 19 XI 2014, ♀; **e:** *A. ribauti* NICK. & REM., 2002, plot 23, 31 VIII 2012, ♀; **f:** *Balcanocerus larvatus* (H.-S., 1835), plot 27, 20 VIII 2012, ♀.

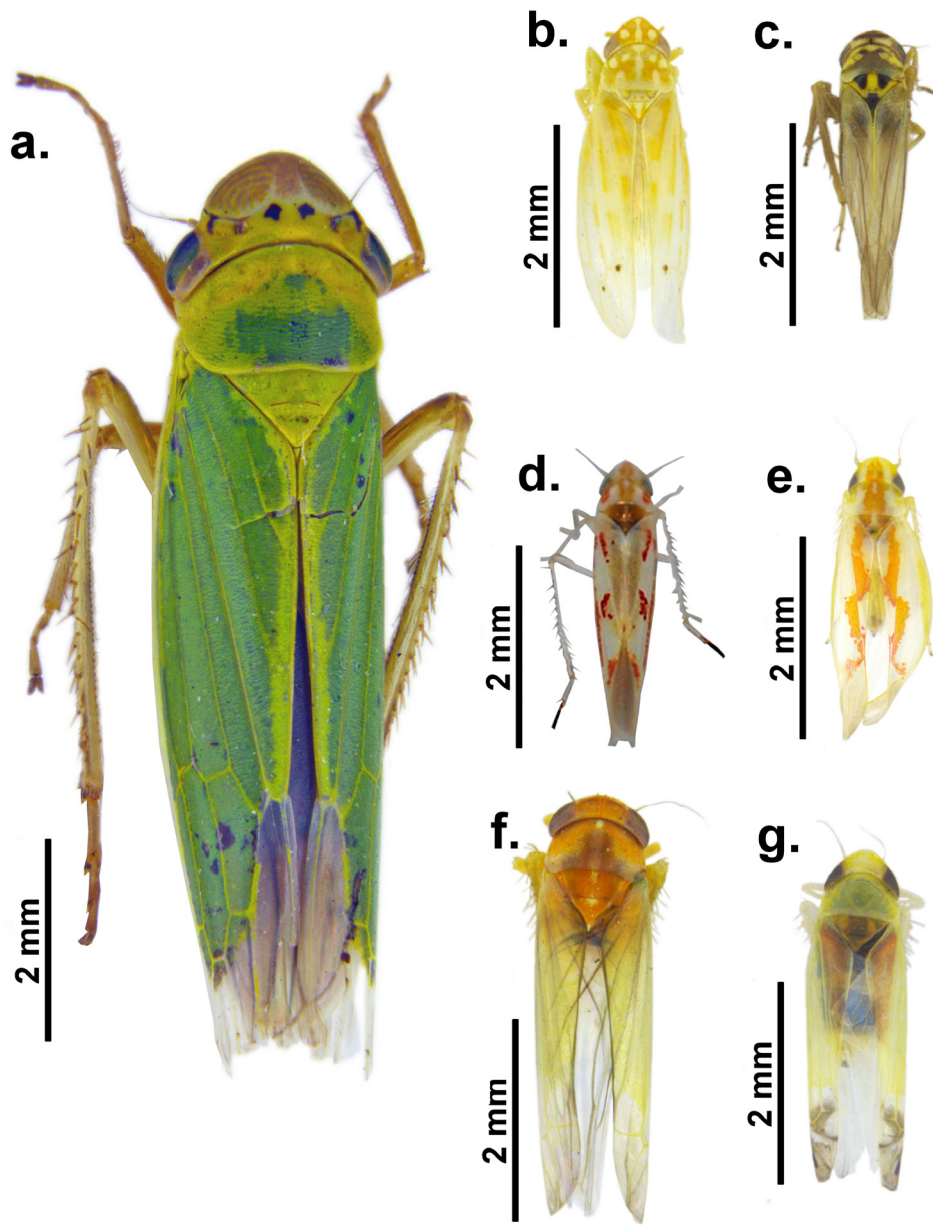


Fig. 35. **a:** *Cicadella lasiocarpae* Oss., 1981, plot A, 17 VIII 2012, ♀; **b:** *Micantulina stigmatipennis* (M. & R., 1855), plot 26, 26 IX 2007, ♂; **c:** *Zyginiadiapullula* (BOH., 1845), plot 21, 10 IX 2008, ♂; **d:** *Zygina griseombra* REM., 1994, plot 31, 30 IX 2011, ♀; **e:** *Z. schneideri* (GÜNTH., 1974), plot 13, 6 IX 2016, ♀; **f:** *Kybos calyculus* (CER., 1939), plot 31, 11 VII 2008, ♂; **g:** *Zyginiella pulchra* P.Löw 1885, plot 31, 24 VIII 2016, ♂.

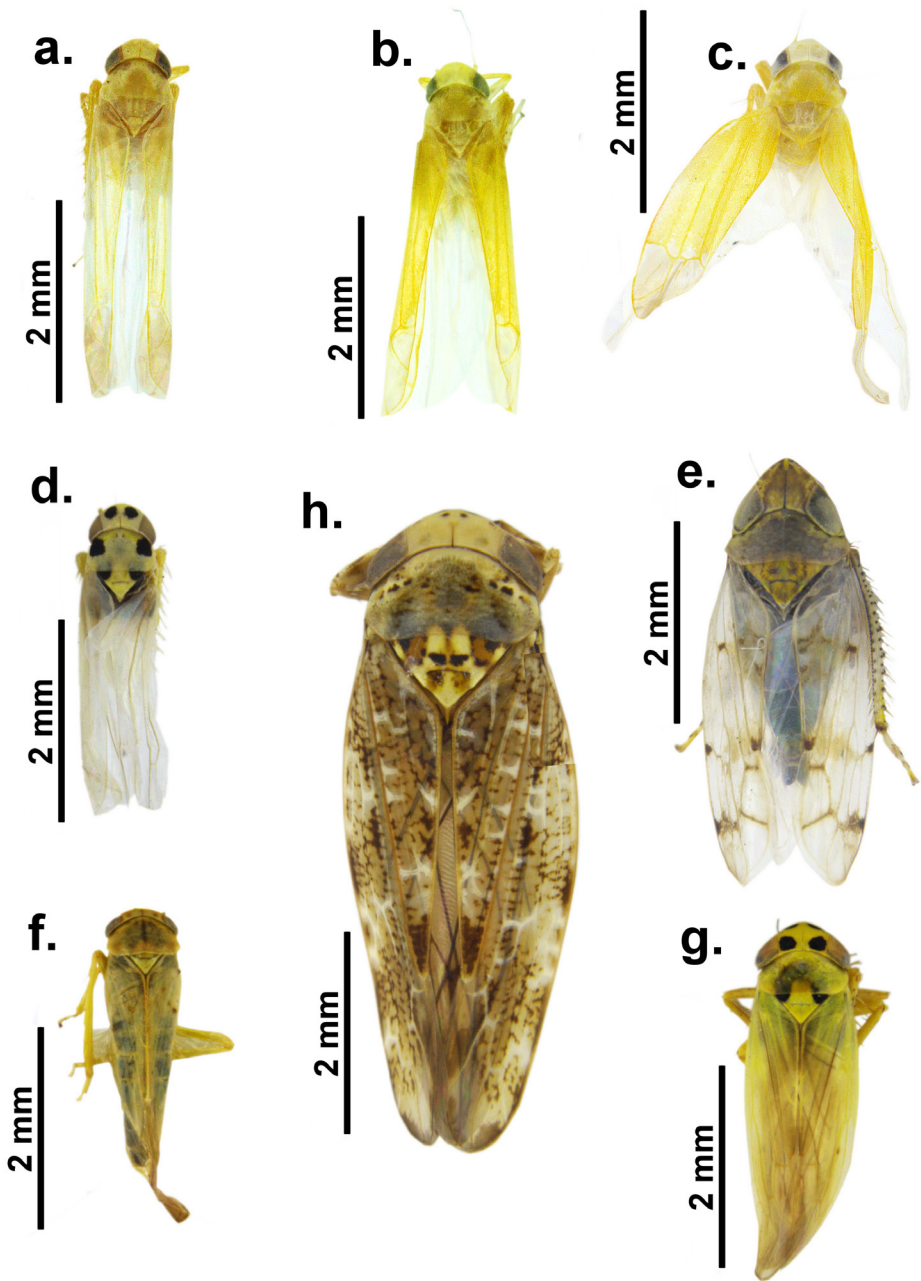


Fig. 36 **a:** *Edwardsiana soror* (LNV., 1950) plot A, 1 IX 2012, ♂; **b:** *E. stehliki* LAUT., 1958, plot 15, 23 IX 2012, ♂; **c:** *Edwardsiana ulmiphagus* WLS. & CLA., 1999, plot 13, 6 IX 2016, ♂; **d:** *Eupteryx lelievrei* (LETH., 1874), plot 14, 29 VI 2008, ♂; **e:** *Japananus hyalinus* (OSB., 1900), plot 31, 6 IX 2016, ♂; **f:** *Balclutha saltuella* (KBM., 1868), plot 19, 20 IX 2007, ♀; **g:** *Macrosteles sardus* RIB., 1948, plot 15, 10 VI 2008, ♂; **h:** *Allygus communis* (FERR., 1882) plot 32, 1 VII 2007, ♂.

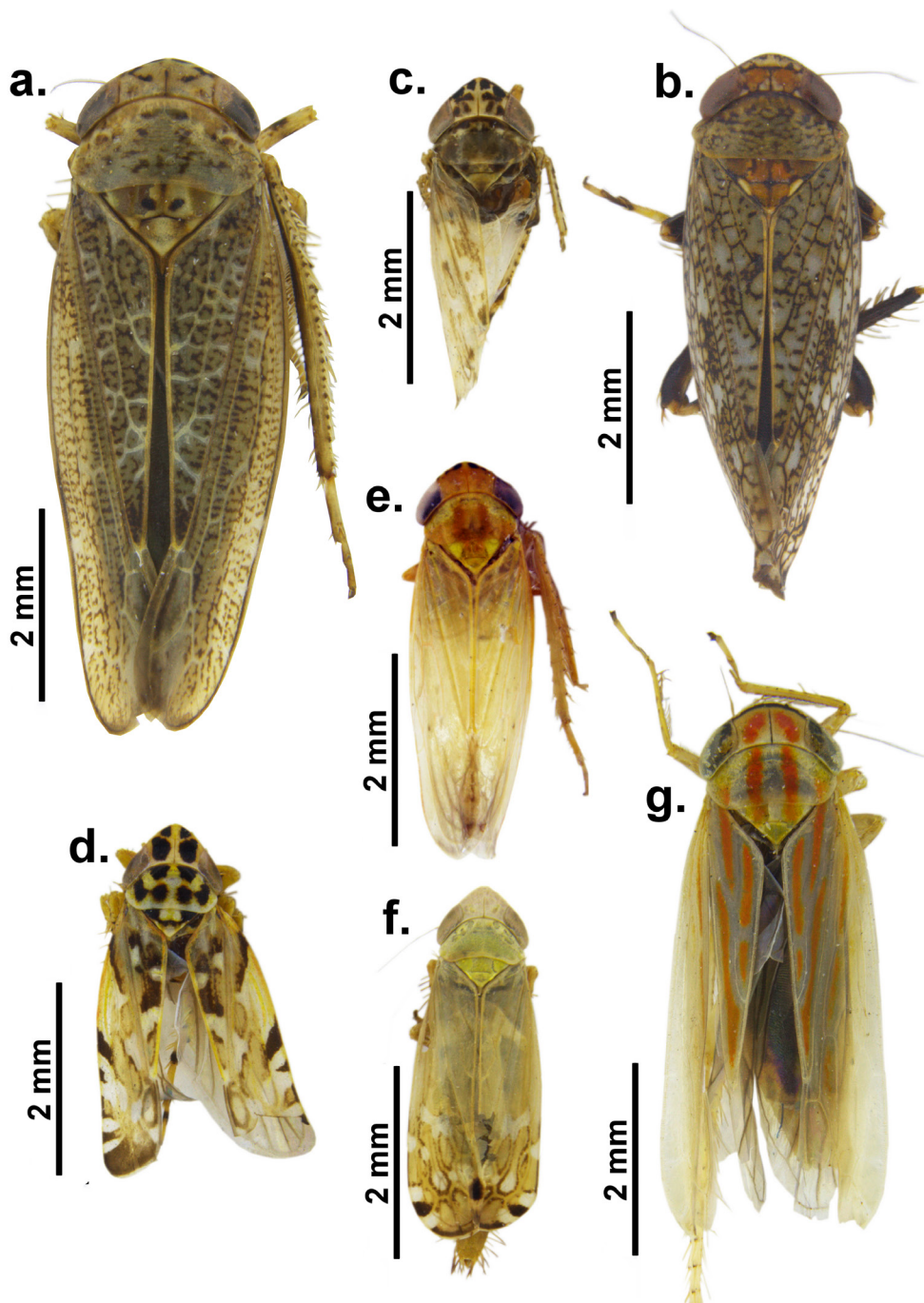


Fig. 37 **a:** *A. modestus* SCOTT, 1876, plot 5, 11 VII 2008, ♀; **b:** *Orientus ishidae* (MATS., 1902), plot 31, 24 VIII 2016, ♀; **c:** *Endria nebulosa* (BALL, 1900), plot 24, 12 VII 2006, ♂; **d:** *Metalimnus steini* (FIEB., 1869), plot 28, 24 VIII 2007, ♂; **e:** *Cosmotettix caudatus* (FL., 1861), plot 14, 10 VII 2010, ♂; **f:** *C. costalis* (FALL., 1826), plot 6, 10 VIII 2008, ♂; **g:** *Calamotettix taeniatus* (HORV., 1911), plot 30, 23 VII 2012, ♀.



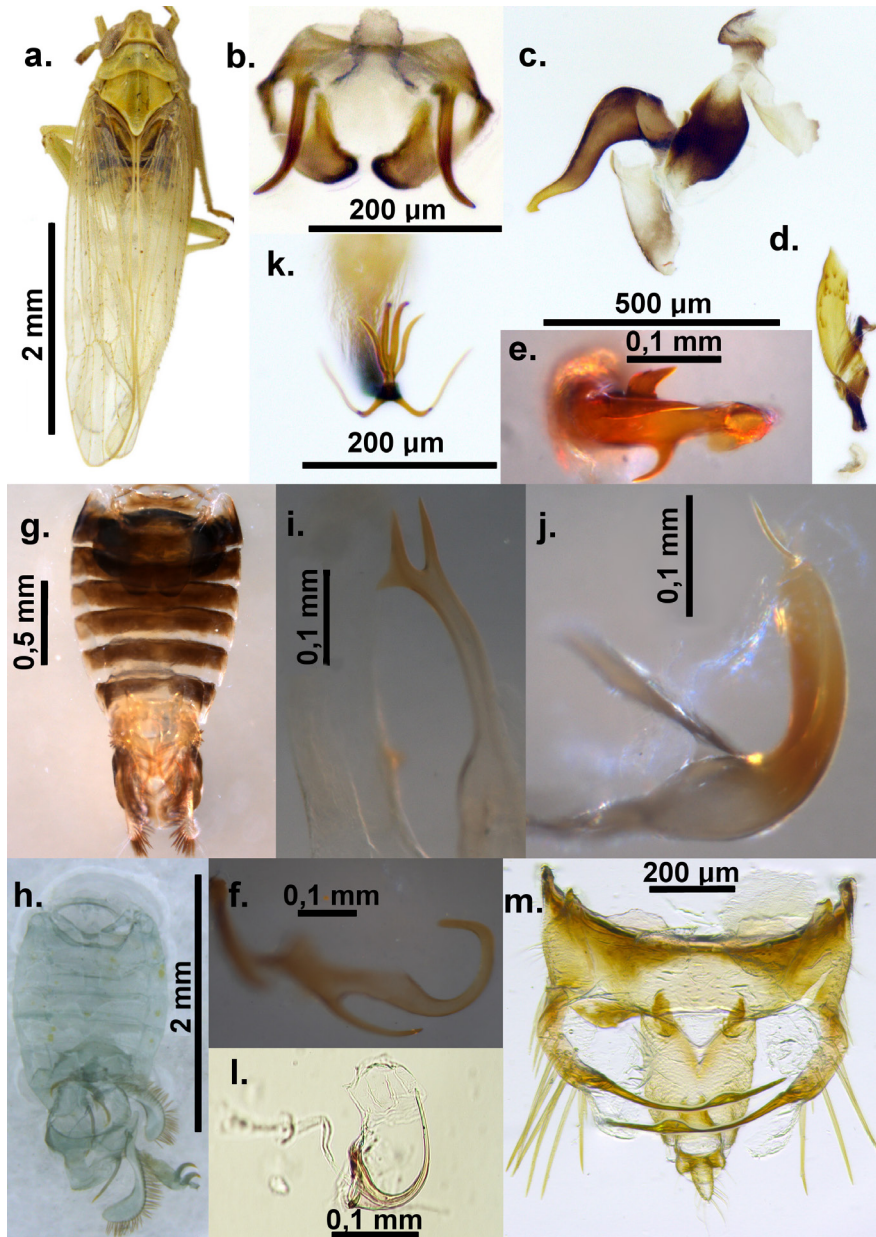


Fig. 38 **a-d.** *Chloriona unicolor* (H.-S., 1835), plot 18, 11 VIII 2010, ♂, **a:** habitus, **b:** male anal tube, **c:** genital style; **d:** aedeagus; **e.** *Muellerianella fairmairei* (PERR., 1857), plot 20, 10.VI.2006, ♂, aedeagus from below; **f.** *Oncopsis appendiculata* (W.WG., 1944), plot 14, 23.VI.2006, ♂, appendages of pygofer from left; **g.** *Kybos butleri* (EDW., 1908), plot 15, 8.VIII.2009, ♂, abdomen from below; **h.** *Kybos calyculus* (CER., 1939), plot 31, 11 VII 2008, ♂; abdomen from below; **i.** *Fagocyba carri* (EDW., 1914), plot 13, 14.IX.2006, ♂, left style from outside; **j.** *Edwardsiana spinigera* (EDW., 1924), plot 32, 19.VI.2007, ♂, aedeagus from left; **k.** *Edwardsiana ulmiphagus* WLS. & CLA., 1999, plot 13, 6 IX 2016, ♂, aedeagus from apically; **l.** *Balclutha saltuella* REM., 1960, plot 10, 16 VI 2007, ♂, aedeagus from left; **m.** *Arthaldeus arenarius* (KBM., 1868), plot 2, 12 VII 2008, ♂, pygofer from below.