

## Hemiptera (Auchenorrhyncha, Heteroptera) of the „Góry Opawskie” Landscape Park (south-western Poland)

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**Summary:** The collecting results of hemipteran insects (Auchenorrhyncha, Heteroptera) are presented which was carried out during the 23th Central European Auchenorrhyncha meeting in 2016 and on further surveys during the growing seasons of 2016 and 2017 at 22 collecting sites within the area of the “Góry Opawskie” Landscape Park. The list contains altogether 143 species of Hemiptera including 116 species of Auchenorrhyncha (17 of planthoppers, 99 of leafhoppers), and 27 species of true bugs. Three species of planthoppers and 54 species of leafhoppers were recorded as new for the region of Eastern Sudetes.

**Keywords:** true bugs, planthoppers, leafhoppers, biodiversity, faunistics, Eastern Sudety Mountains

### 1. Introduction and Study Area

The “Góry Opawskie” Landscape Park was established in 1988 to protect the unique landscape and wildlife of south-western Poland including the Polish part of Góry Opawskie mountain massif (Czech part known as Zlatohorská vrchovina). The area of the park is 4.903 ha with a buffer zone of 5.033 ha (Dubel 1993).

According to the physico-geographical regionalization of Poland (Kondracki 2000), most of the park lies within mezoregion Góry Opawskie, which belongs to the macroregion of Sudety Wschodnie and to the Sudety-Przedgórze Sudeckie subprovince. It is the southern part of the Opolskie province administrative unit. Most of the landscape park belongs to the “Natura 2000” site “Góry Opawskie” (No. PLH160007).

With regard to geology, Paleozoic formations predominate in the study area. These are mainly metamorphic slates and greywackes, excavated in numerous quarries, covered with Tertiary and Quaternary sedimentary rocks (sands, gravels and clays). The orography of the area is characterised by three isolated complexes of gentle hills (Góra Parkowa, Biskupia Kopa and Srebrna Kopa, Długota and Kobylica) separated by picturesque valleys of Biała Głuchowska, Złoty Potok and Bystry Potok rivers and streams (Walczak et al. 2001).

The vascular plant flora of the area includes more than 500 species, with 33 taxa listed as protected by law and 40 species noted as rare. Its richness reflects the high differentiation of ecosystems, including woodlands which cover 75 % of the area with the most important well preserved fragments of beech, oak-hornbeam and riparian forests.

Given the diversity of the habitats, insects seem to be a species-rich group of invertebrates in the “Góry Opawskie” Landscape Park; however, the existing data base is small. The well-researched groups are coleopterans – weevils (Kuśka 1998, Mazur 2008), lepidopterans (Blaik 2007a, 2010a), and neuropterans (Blaik 2007b, Blaik 2008, Blaik & Korek 2008). Referring to Hemiptera, only the Heteropteran fauna is quite well known thanks to the research carried out by Lis & Lis (2002), Hebda & Lis (2007) and Hebda & Mazur (2010) in the area of Góry

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Opawskie Mountains. In the first work they recorded 142 species of terrestrial true bugs, the second work adds further 31 species and the third one discovers additional 3 species new for the region. Until 2016 there were no data on the planthoppers and leafhoppers of the landscape park area, however, Nast (1976) lists 22 species and Gębicki et al. (2013) gives 126 species for the Eastern Sudetes region.

The most pristine areas of the landscape park are protected in the following nature reserves (Rąkowski et al. 2007):

**“Cicha Dolina” Nature Reserve** – a woodland of 57.94 ha covering 2 km fragment of the valley of Bystry Potok stream, together with western slope of Srebrna Kopa Hill and north-western slope of Góra Zamkowa Hill; established to protect a complex of beech forests: *Luzulo nemorosae-Fagetum* and *Dentario enneaphyllidis-Fagetum*.

**“Olszak” Nature Reserve** – a woodland of 24.06 ha covering southern slope of Olszak Hill near Pokrzywna village; established to protect well-developed deciduous forests: *Luzulo-Quercetum petrae* and *Tilio plathyphyllis-Acerion pseudoplatani*, together with localities of rare lepidopterans *Alabonia staintoniella* (Zeller, 1850) (Oecophoridae) and *Zanclognatha zelleralis* (M.F. Wocke, 1850) (Noctuidae) (Blaik 2010b).

**“Nad Białką” Nature Reserve** – an area of 8.96 ha located on the outskirts of the town of Głucholązy; established to protect the unique geological forms and landscape features, including Biała Głucholaska river gorge, steeply descending north-western slope of Góra Zamkowa Hill with escarpment revealing interesting geological profiles and traces of gold exploitation dating back to 12<sup>th</sup>-13<sup>th</sup> century; the area is covered with beech forest representing a transformed form of *Luzulo nemorosae-Fagetum*.

**“Las Bukowy” Nature Reserve** – a woodland of 21.12 ha located in the south-western part of Głucholązy town, covering northern slope of Góra Parkowa Hill, steeply descending towards the valley of Biała Głucholaska river; established to protect 100-150 years old beech forest classified as *Luzulo nemorosae-Fagetum*.

## 2. Methods

Field studies were carried out during the growing season of 2016, from June to September, and in August of 2017, by sweep-netting which is a standard method for sampling hoppers in the field layer and arboricolous hoppers (Stewart 2002, Nickel 2008). Some of the material was collected by the participants of 23<sup>rd</sup> Central European Auchenorrhyncha Meeting held from September 2-4 of 2016 in Pokrzywna during two field excursions (collecting sites number 6, 10, 17, 18) some of whom are also the contributors of this paper (Witsack & Świerczewski 2017, see below).

The material in the nature reserves “Cicha Dolina”, “Olszak”, “Nad Białką” and “Las Bukowy” was collected under the consent nr WPN.6205.14.2016.KK given by the Regional Nature Conservator Office in Opole to Dariusz Świerczewski and Jakub Błaszczuk.

The specimens collected by Dariusz Świerczewski and Jakub Błaszczuk are deposited in the entomological collection of Faculty of Science and Technology, Jan Długosz University of

Częstochowa. The specimens collected by the other authors are deposited in their private collections.

According to the zoogeographical division of Poland presented in the Catalogue of Polish Fauna (Nast 1976), all the sites belong to the Eastern Sudetes division and are situated within “Góry Opawskie” Landscape Park.

The survey covered 22 collecting sites which are briefly described below. The nomenclature of the vegetation units follows that of Matuszkiewicz (2001).

- [1] – south of Prudnik town [50.2991543, 17.5657225/287 m a.s.l /UTM XR87] – [1a] pondside vegetation [1b] meadow of *Arrhenatheretum elatioris*; [1c] roadside ruderal vegetation of *Artemisietea vulgaris*
- [2] – Dębowiec village [50.2882973, 17.538321/372 m a.s.l /UTM XR87] – [2a] segetal communities of *Centauretalia cyanii*; [2b] deciduous forest margin
- [3] – Wieszczyzna village [50.2848697, 17.5249958/395 m a.s.l /UTM XR77] – [3a] oak-lime-hornbeam forest *Galio-Carpinetum* [3b] clearcut logging vegetation
- [4] – south-west of Wieszczyzna village [50.2789701, 17.4879169/331 m a.s.l /UTM XR77] – meadow of *Arrhenatheretum elatioris*
- [5] – foothill of “Wzgórze Gołębie” Hill, western slope [50.2855654, 17.4510634/354 m a.s.l /UTM XR77] – meadow of *Arrhenatheretum elatioris*
- [6] – alongside the blue route from Pokrzywna village to “Gwarkowa Perć” Rock [50.2847839, 17.4495935/375 m a.s.l /UTM XR77] – [6a] small pond; [6b] mix of meadows alongside riparian forest, streamside vegetation; [6c] – forest margin path, ruderal vegetation
- [7] – western slope of “Góra Zamkowa” and “Szyndzielowa Kopa” Hills, valley of Bystry Potok stream, “Cicha Dolina” Forest Nature Reserve [50.2722368, 17.4524903/447 m a.s.l /UTM XR77] – complex of beech forests *Luzulo nemorosae-Fagetum* and *Dentario enneaphylidis-Fagetum*, streamside vegetation
- [8] – Jarnottówek village, near the border with the Czech Republic [50.2767623, 17.4053907/379 m a.s.l /UTM XR77] – managed meadows, segetal communities
- [9] – “Olszak” Forest Nature Reserve, southern slope of “Olszak” Hill [50.2888328, 17.4538772/392 m a.s.l /UTM XR77] – acidic submontane oak forest *Luzulo-Quercetum petrae*
- [10] – alongside the blue route from “Dębowe Wzgórze” Hotel to the top of “Olszak” Hill [50.2908937, 17.468168/359 m a.s.l /UTM XR77] – deciduous forest, segetal communities of *Centauretalia cyanii*

- [11] – west of Podlesie village, near the border with the Czech Republic and Oleśnice river [50.2797294, 17.3438157/365 m a.s.l /UTM XR67] – [11a] community of *Urtico-Aegopodietum podagrariae* [11b] community of *Petasitetum albi*
- [12] – Podlesie village [50.2789066, 17.3525919/456 m a.s.l /UTM XR67] – community of *Urtico-Aegopodietum podagrariae*
- [13] – east of Podlesie village [50.2794688, 17.3624946/456 m a.s.l /UTM XR67] – segetal communities of *Centauretalia cyanii*
- [14] – near the road from Podlesie to Głucholązy [50.2831436, 17.3759485/415 m a.s.l /UTM XR67] – meadow of *Arrhenatheretum elatioris*
- [15] – “Nad Białką” Nature Reserve [50.3096799, 17.3649216/328 m a.s.l /UTM XR67] – beech forest *Luzulo nemorosae-Fagetum*
- [16] – south of Głucholązy town, north-eastern slope of “Góra Parkowa” Hill, “Las Bukowy” Nature Reserve [50.3053767, 17.37535/360 m a.s.l /UTM XR67] – beech forest *Luzulo nemorosae-Fagetum*
- [17] – south of Podlesie village and Hotel Aspen, near the border with the Czech Republic [50.266576, 17.3510893/440 m a.s.l /UTM XR67] – meadows, deciduous forest, abandoned fields
- [18] – alongside the red route from Pokrzywna village to “Szyndzielowa Kopa” Hill [50.2823418, 17.4616374/453 m a.s.l /UTM XR77] – spruce forest *Calamagrostio villosae-Piceetum*
- [19] – “Biskupia Kopa” Hill [50.2564747, 17.429644/885 m a.s.l /UTM XR77] – forest path in spruce forest *Calamagrostio villosae-Piceetum*
- [20] – Pokrzywna village [50.2871831, 17.4581935/339 m a.s.l /UTM XR77] – ruderal vegetation of *Artemisietea vulgaris* class
- [21] – south-west of Wierzbiec village [50.3089068, 17.4681438/328 m a.s.l /UTM XR77] – forest path in oak-lime-hornbeam forest *Galio-Carpinetum*
- [22] – south-west of Trzebina village [50.2803942, 17.5627292/324 m a.s.l /UTM XR87] – oak-lime-hornbeam forest *Galio-Carpinetum* (“Las Prudnicki”); ecotone between the forest and the abandoned field

### 3. Results and discussion

As a result of investigations, 17 species of planthoppers (303 individuals), 99 species of leafhoppers (1615 individuals) and 27 species of true bugs (146 individuals) were collected, which are listed in systematic order below. Fifty-four species of Auchenorrhyncha were recorded for the zoogeographical region of Eastern Sudetes for the first time (marked with asterisk). Collectors in the species list are abbreviated as follow: AR – Alex Ramsey, AS – Adam Stroiński, CP – Ping-Ping Chen, DS – Dariusz Świerczewski, JB – Jakub Błaszczuk, MW – Marcin Walczak, NN – Nico Nieser, WW – Werner Witsack, VH – Victor Hartung. Chorological and ecological analyses were performed only for Auchenorrhyncha (Fulgoromorpha and Cicadomorpha); particular chorological and ecological elements adopted after Nickel & Remane (2002).

#### FULGOROMORPHA EVANS, 1946

##### Cixiidae Spinola, 1839

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

[17]: 1 ♂ – 4.09.2016 (WW)

##### Delphacidae Leach, 1815

###### \**Kelisia guttulifera* (Kirschbaum, 1868)

[6c]: 2 ♀♀ – 3.09.2016 (DS, JB)

[18]: 17 ♂♂, 1 ♀ – 3.09.2016 (WW, AS)

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

[6b]: 1 ♂, 1 ♀ – 3.09.2016 (DS, JB)

[17]: 7 ♂♂, 6 ♀♀ – 4.09.2016 (DS, JB, AS)

[18]: 2 ♂♂, 1 ♀ – 3.09.2016 (WW, AS)

[21]: 2 ♂♂, 3 ♀♀ – 30.08.2017 (DS, JB)

[22]: 2 ♂♂, 3 ♀♀ – 30.08.2017 (DS, JB)

###### *Stenocranus minutus* (Fabricius, 1787)

[17]: 3 ♀♀ – 4.09.2016 (WW)

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

[6b]: 1 ♀ – 22.07.2016; 2 ♀♀ – 3.09.2016 (DS, JB)

[7]: 1 ♂ – 22.07.2016 (DS, JB)

[12]: 1 ♀ – 4.08.2016 (DS, JB)

[14]: 1 ♀ – 4.08.2016 (DS, JB)

[16]: 1 ♀ – 4.08.2016 (DS, JB)

[17]: 1 ♂ – 4.09.2016 (DS, JB)

[18]: 15 ♂♂, 9 ♀♀ – 3.09.2016 (WW, AS)

[19]: 3 ♀♀ – 16.09.2016 (DS, JB)

[21]: 1 ♂, 2 ♀♀ – 30.08.2017 (DS, JB)

###### *Eurybregma nigrolineata* Scott, 1875

[1b]: 1 ♀ – 10.06.2016 (DS, JB)

###### *Stiroma affinis* Fieber, 1866

[12]: 1 ♀ – 4.08.2016 (DS, JB)

###### *Laodelphax striatella* (Fallén, 1826)

[5]: 1 ♂ – 3.09.2016 (DS, JB)

[7]: 1 ♂, 1 ♀ – 22.07.2016 (DS, JB)

[11a]: 1 ♂ – 4.08.2016 (DS, JB)

[14]: 1 ♂, 1 ♀ – 4.08.2016 (DS, JB)

[17]: 2 ♂♂, 4 ♀♀ – 4.09.2016 (WW)

[18]: 4 ♂♂, 2 ♀♀ – 3.09.2016 (WW)

[21]: 1 ♀ – 30.08.2017 (DS, JB)

###### *Hyledelphax elegantula* (Boheman, 1847)

[9]: 1 ♂ – 22.07.2016 (DS, JB)

###### \**Delphacodes venosus* (Germar, 1830)

[17]: 5 ♂, 1 ♀ – 4.09.2016 (WW, DS, JB)

[18]: 3 ♂, 3 ♀♀ – 3.09.2016 (AS)

[19]: 1 ♂ – 16.09.2016 (DS, JB)

[20]: 1 ♂, 2 ♀♀ – 16.09.2016 (DS, JB)

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

[6a]: 1 ♂, 4 ♀♀ – 3.09.2016 (DS, JB)

###### \**Muellerianella fairmairei* (Perris, 1857)

[4]: 1 ♂, 2 ♀♀ – 26.08.2016 (DS, JB)

[6b]: 6 ♂♂, 37 ♀♀ – 3.09.2016 (DS, JB)

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

[4]: 5 ♀♀ – 26.08.2016 (DS, JB)

[11b]: 2 ♀♀ – 4.08.2016 (DS, JB)

[12]: 1 ♀ – 4.08.2016 (DS, JB)

[17]: 4 ♂♂, 8 ♀♀ – 4.09.2016 (WW, DS., JB, AS)

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

[4]: 1 ♂ – 10.06.2016 (DS, JB)

[15]: 2 ♂♂ – 4.08.2016 (DS, JB)

[16]: 1 ♂, 1 ♀ – 4.08.2016 (DS, JB)

[17]: 4 ♂♂, 2 ♀♀ – 4.09.2016 (WW)

[18]: 1 ♂, 1 ♀ – 3.09.2016 (WW)

***Javesella forcipata* (Boheman, 1847)**

[17]: 1 ♂, 3 ♀♀ – 4.09.2016 (AS)

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

[6b]: 9 ♂♂, 7 ♀♀ – 22.07.2016; 1 ♂ – 3.09.2016 (DS, JB)

[7]: 2 ♂♂, 9 ♀♀ – 22.07.2016 (DS, JB)

[8]: 3 ♀♀ – 22.07.2016 (DS, JB)

[9]: 2 ♂♂, 2 ♀♀ – 22.07.2016 (DS, JB)

[10]: 8 ♂♂, 4 ♀♀ – 22.07.2016 (DS, JB)

[12]: 2 ♂♂, 4 ♀♀ – 4.08.2016 (DS, JB)

[13]: 2 ♂♂, 5 ♀♀ – 4.08.2016 (DS, JB)

[14]: 7 ♂♂, 13 ♀♀ – 4.08.2016 (DS, JB)

[17]: 2 ♂♂, 1 ♀ – 4.09.2016 (WW)

[18]: 1 ♀ – 3.09.2016 (WW)

[21]: 1 ♂, 1 ♀ – 30.08.2017 (DS, JB)

[22]: 1 ♂ – 30.08.2017 (DS, JB)

***Ribautodelphax albostrata* (Fieber, 1866)**

[12]: 1 ♂ – 4.08.2016 (DS, JB)

**CICADOMORPHA EVANS, 1946****Aphrophoridae Amyot et Serville, 1843*****Cercopis vulnerata* Rossi, 1807**

[4]: 1 ♀ – 10.06.2016 (DS, JB)

**\**Lepyronia coleoprata* (Linnaeus, 1758)**

[12]: 1 ♀ – 4.08.2016 (DS, JB)

***Neophilaenus lineatus* (Linnaeus, 1758)**

[18]: 1 ♀ – 3.09.2016 (WW)

[19]: 1 ♂ – 16.09.2016 (DS, JB)

***Aphrophora alni* (Fallén, 1805)**

[6b]: 1 ♀ – 3.09.2016 (DS, JB)

[7]: 2 ♀♀ – 22.07.2016 (DS, JB)

[8]: 1 ♀ – 22.07.2016 (DS, JB)

[10]: 1 ♀ – 22.07.2016 (DS, JB)

[12]: 1 ♀ – 4.08.2016 (DS, JB)

[13]: 1 ♂ – 4.08.2016 (DS, JB)

[15]: 1 ♀ – 4.08.2016 (DS, JB)

[17]: 4 ♀♀ – 4.09.2016 (AS)

[18]: 4 ♀♀ – 3.09.2016 (WW, AS)

[21]: 1 ♀ – 30.08.2017 (DS, JB)

***Philaenus spumarius* (Linnaeus, 1758)**

[1a]: 1 ♂, 1 ♀ – 10.06.2016 (DS, JB)

[1c]: 1 ♂ – 10.06.2016 (DS, JB)

[7]: 1 ♂ – 22.07.2016 (DS, JB)

[8]: 1 ♂ – 22.07.2016 (DS, JB)

[14]: 1 ♂ – 4.08.2016 (DS, JB)

[17]: 1 ♂ – 4.09.2016 (AS)

[18]: 1 ♂, 2 ♀♀ – 3.09.2016 (WW)

**Membracidae Rafinesque, 1815****\**Gargara genistae* (Fabricius, 1775)**

[22]: 2 ♀♀ – 30.08.2017 (DS, JB)

***Stictocephala bisonia* Kopp et Yonke, 1977**[21]: 1 ♂, 2 ♀♀, *Populus tremula* – 30.08.2017 (MW)

Remark: published as new species to Eastern Sudetes Mts. by Walczak et al. (2018)

**Cicadellidae Latreille, 1825*****Oncopsis alni* (Schrank, 1801)**[17]: 1 ♀, *Alnus glutinosa* – 4.09.2016 (MW)***Pediopsis tiliae* (Germar, 1831)**[17]: 1 ♂, *Corylus avellana* – 4.09.2016 (MW)[22]: 2 ♀♀, *Tilia* – 30.08.2017 (MW)**\**Macropsis fuscata* (Zetterstedt, 1828)**

[4]: 1 ♀ – 10.06.2016 (DS, JB)

[16]: 1 ♂, 1 ♀ – 4.08.2016 (DS, JB)

[18]: 1 ♂, 1 ♀ – 3.09.2016 (AS)

***Megophthalmus scanicus* (Fallen, 1806)**

[5]: 1 ♀ – 22.07.2016; 6 ♀♀ – 3.09.2016 (DS, JB)

[7]: 4 ♂♂, 5 ♀♀ – 22.07.2016 (DS, JB)

**\**Agallia consobrina* Curtis, 1833**

[21]: 1 ♀ – 30.08.2017 (MW)

***Anaceratagallia ribauti* (Ossiannilsson, 1938)**

[21]: 1 ♂ – 30.08.2017 (DS, JB)

***Populicerus populi* (Linnaeus, 1761)**[21]: 2 ♀♀, *Populus tremula* – 30.08.2017 (MW)***Iassus lanio* (Linnaeus, 1761)**[21]: 3 ♀♀, *Quercus robur* – 30.08.2017 (MW)***Aphrodes bicincta* (Schrank, 1776)**

[5]: 1 ♂, 3 ♀♀ – 22.07.2016 (DS, JB)

[14]: 1 ♀ – 4.08.2016 (DS, JB)

**\**Aphrodes diminuta* Ribaut, 1952**

[11b]: 1 ♀ – 4.08.2016 (DS, JB)

[22]: 2 ♀♀ – 30.08.2017 (DS, JB)

***Aphrodes makarovi* Zachvatkin, 1948**

- [4]: 1 ♀ – 26.08.2016 (DS, JB)  
 [7]: 4 ♂♂, 2 – 22.07.2016 (DS, JB)  
 [8]: 4 ♀♀ – 22.07.2016 (DS, JB)  
 [10]: 2 ♀♀ – 22.07.2016 (DS, JB)  
 [15]: 1 ♀ – 4.08.2016 (DS, JB)  
 [17]: 4 ♀ – 4.09.2016 (DS, JB, AS)  
 [19]: 1 ♀ – 16.09.2016 (DS, JB)

***Anoscopus flavostriatus* (Donovan, 1799)**

- [5]: 1 ♂, 1 ♀ – 3.09.2016 (DS, JB)  
 [17]: 1 ♀ – 4.09.2016 (DS, JB)

**\**Anoscopus serratulae* (Fabricius, 1775)**

- [11b]: 4 ♀♀ – 4.08.2016 (DS, JB)

***Evacanthus interruptus* (Linnaeus, 1758)**

- [12]: 1 ♀ – 4.08.2016 (DS, JB)

***Cicadella viridis* (Linnaeus, 1758)**

- [1a]: 1 ♀ – 10.06.2016 (DS, JB)  
 [6b]: 3 ♂♂ – 22.07.2016; 2 ♂♂, 3 ♀♀ – 3.09.2016 (DS, JB)  
 [7]: 1 ♂ – 22.07.2016 (DS, JB)  
 [11b]: 1 ♂, 1 ♀ – 4.08.2016 (DS, JB)  
 [14]: 1 ♀ – 4.08.2016 (DS, JB)  
 [17]: 8 ♂♂, 4 ♀♀ – 4.09.2016 (WW, DS, JB, AS)  
 [18]: 2 ♂♂, 1 ♀ – 3.09.2016 (WW, AS)  
 [21]: 1 ♀ – 30.08.2017 (DS, JB)  
 [22]: 1 ♂ – 30.08.2017 (DS, JB)

**\**Alebra albostriella* (Fallén, 1826)**

- [17]: 1 ♀, *Alnus glutinosa*, 5 ♀♀, *Quercus robur* (MW); 1 ♀ (WW) – 4.09.2016

**\**Alebra coryli* Le Quesne, 1976**

- [6c]: 4 ♀♀, *Corylus avellana* – 3.09.2016 (MW)

**\**Alebra neglecta* Wagner, 1940**

- [2b]: 1 ♂ – 10.06.2016 (DS, JB)

**\**Alebra wahlbergi* (Boheman, 1845)**

- [21]: 1 ♀, *Tilia* – 30.08.2017 (MW)

***Forcipata citrinella* (Zetterstedt, 1828)**

- [17]: 2 ♂♂, 4 ♀♀ – 4.09.2016 (MW)  
 [18]: 15 ♂♂, 30 ♀♀ – 3.09.2016 (AS)  
 [21]: 1 ♂, 1 ♀ – 30.08.2017 (DS, JB)

***Forcipata forcipata* (Flor, 1861)**

- [4]: 1 ♂ – 26.08.2016 (DS, JB)

- [6b]: 5 ♂♂, 6 ♀♀ – 3.09.2016 (DS, JB)

- [17]: 1 ♀ – 4.09.2016 (WW)

- [18]: 3 ♂♂, 4 ♀♀ – 3.09.2016 (WW)

- [19]: 1 ♂ – 16.09.2016 (DS, JB)

- [21]: 2 ♂♂ – 30.08.2017 (MW)

**\**Kybos lindbergi* (Linnavuori, 1951)**

- [22]: 1 ♂, 1 ♀, *Betula* – 30.08.2017 (MW)

**\**Kybos virgator* (Ribaut, 1933)**

- [19]: 1 ♂ – 16.09.2016 (DS, JB)

- [20]: 2 ♂♂ – 16.09.2016 (DS, JB)

***Empoasca vitis* (Göthe, 1875)**

- [6c]: 11 ♂♂, 14 ♀♀, *Corylus avellana*, 1 ♂, *Fagus sylvatica*, 2 ♂♂, *Alnus glutinosa*, 2 ♂♂, 2 ♀♀, *Acer pseudoplatanus*, 5 ♂♂, 4 ♀♀, *Salix* sp. – 3.09.2016 (MW); [9]: 3 ♂♂, 2 ♀♀ – 16.09.2016 (DS, JB)

- [16]: 10 ♂♂, 9 ♀♀ – 16.09.2016 (DS, JB)

- [17]: 1 ♂, 1 ♀, *Quercus robur* – 4.09.2016 (MW)

- [19]: 1 ♂ – 16.09.2016 (DS, JB)

- [20]: 2 ♂♂, 2 ♀♀ – 16.09.2016 (DS, JB)

- [21]: 1 ♂ – 30.08.2017 (MW)

- [22]: 1 ♂, 1 ♀, *Carpinus betulus*, 1, *Quercus robur* – 30.08.2017 (MW)

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

- [17]: 8 ♂♂, 12 ♀♀ – 4.09.2016 (DS, JB)

- [20]: 2 ♀♀ – 16.09.2016 (DS, JB)

***Fagocyba cruenta* (Herrich-Schäffer, 1838)**

- [6c]: 1 ♀ red morph, *Fagus sylvatica* – 3.09.2016 (MW)

- [17]: 1 ♂, *Tilia cordata* – 4.09.2016 (MW)

- [18]: 6 ♂♂, 6 ♀♀ – 3.09.2016 (WW)

- [19]: 3 ♂♂, 4 ♀♀ – 16.09.2016 (DS, JB)

**\**Edwardsiana ampliata* (Wagner, 1947)**

- [6c]: 1 ♂, 2 ♀♀, *Corylus avellana*; 1 ♂, *Acer pseudoplatanus* – 3.09.2016 (MW)

**\**Edwardsiana flavescens* (Fabricius, 1794)**

- [17]: 1 ♂, *Salix* sp. – 4.09.2016 (MW)

- [22]: 1 ♂, 1 ♀, *Carpinus betulus* – 30.08.2017 (MW)

**\**Edwardsiana geometrica* (Shrank, 1801)**

- [6c]: 1 ♀, *Alnus glutinosa* – 3.09.2016 (MW)

**\**Edwardsiana gratiosa* (Boheman, 1852)**

- [17]: 1 ♀, *Alnus glutinosa* – 4.09.2016 (MW)

**\*Edwardsiana lethierryi (Edwards, 1881)**[17]: 1 ♂, *Tilia cordata* – 4.09.2016 (MW)[21]: 1 ♂, 6 ♀♀, *Tilia* – 30.08.2017 (MW)[22]: 1 ♂, 1 ♀, *Tilia* – 30.08.2017 (MW)**\*Edwardsiana ulmiphagus Wilson et Claridge, 1999**

[17]: 1 ♂, 1 ♀ – 4.09.2016 (AS)

**\*Edwardsiana rosae (Linnaeus, 1758)**[17]: 1 ♂, 3 ♀♀, *Rosa sp.* – 4.09.2016 (MW)**\*Edwardsiana spinigera (Edwards, 1924)**[6c]: 2 ♂♂, 5 ♀♀, *Alnus glutinosa* – 3.09.2016 (MW)**\*Eupterycyba jucunda (Herrich-Schäffer, 1837)**[17]: 5 ♀♀, *Alnus glutinosa* – 4.09.2016 (MW)**\*Linnavuoriana sexmaculata (Hardy, 1850)**[17]: 1 ♀, *Salix sp.* – 4 IX 2016 (MW)**\*Ribautiana tenerrima (Herrich-Schäffer, 1834)**

[16]: 1 ♀ – 16.09.2016 (DS, JB)

**\*Zonocyba bifasciata (Boheman, 1851)**

[18]: 1 ♂ – 3.09.2016 (WW)

[22]: 2 ♀♀, *Carpinus betulus* – 30.08.2017 (MW)**\*Eurhadina concinna (Germar, 1831)**[17]: 1 ♂, 1 ♀, *Quercus robur* – 4.09.2016 (MW)**\*Eurhadina pulchella (Fallén, 1806)**

[16]: 1 ♀ – 4.08.2016 (DS, JB)

[17]: 5 ♀♀, *Quercus robur* – 4.09.2016 (MW)[21]: 2 ♀♀, *Quercus robur* – 30.08.2017 (MW)[22]: 1 ♀, *Quercus robur* – 30.08.2017 (MW)**Eupteryx aurata (Linnaeus, 1758)**

[5]: 5 ♀♀ – 3.09.2016 (DS, JB)

[6c]: 3 ♂♂, 3 ♀♀, *Urtica dioica* – 3.09.2016 (MW)

[17]: 2 ♂♂ – 4.09.2016 (WW)

**\*Eupteryx calcarata Ossiannilsson, 1936**

[20]: 4 ♂♂, 3 ♀♀ – 16.09.2016 (DS, JB)

[22]: 1 ♂ – 30.08.2017 (DS, JB)

**Eupteryx cyclops Matsumura, 1906**

[19]: 1 ♂ – 16.09.2016 (DS, JB)

**\*Eupteryx urticae (Fabricius, 1803)**[6c]: 4 ♂♂, 1 ♀, *Urtica dioica* – 3.09.2016 (MW)

[16]: 2 ♂♂ – 16.09.2016 (DS, JB)

[17]: 1 ♀ – 4.09.2016 (WW)

[20]: 1 ♀ – 16.09.2016 (DS, JB)

**\*Eupteryx stachydearum (Hardy, 1850)**

[16]: 2 ♂♂, 1 ♀ – 16.09.2016 (DS, JB)

**\*Eupteryx florida Ribaut, 1936**

[5]: 1 ♀ – 3.09.2016 (DS, JB)

**Eupteryx vittata (Linnaeus, 1758)**

[6c]: 2 ♂♂, 1 ♀ – 3.09.2016 (DS, JB)

[20]: 1 ♂ – 16.09.2016 (DS, JB)

**\*Zyginella pulchra Löw, 1885**[6c]: 1 ♀, *Corylus avellana*, 3 ♂♂, 2 ♀♀, *Acer pseudoplatanus* – 3.09.2016 (MW)[17]: 3 ♂♂, 3 ♀♀, *Quercus robur* – 4.09.2016 (MW)**\*Zyginidia pullula (Boheman, 1845)**

[4]: 1 ♂ – 10.06.2016 (DS, JB)

[14]: 2 ♂♂ – 4.08.2016 (DS, JB)

[17]: 2 ♂♂, 1 ♀ – 4.09.2016 (WW)

**\*Zygina angusta Lethierry, 1874**[22]: 1 ♀, *Carpinus betulus* – 30.08.2017 (MW)**\*Zygina flammigera (Geoffroy, 1785)**[6c]: 1 ♀, *Fagus sylvatica* – 3.09.2016 (MW)**\*Zygina hyperici (Herrich-Schäffer, 1836)**

[18]: 1 ♀ – 3.09.2016 (WW)

[21]: 1 ♂ – 30.08.2017 (MW)

**\*Fieberiella septentrionalis W. Wagner, 1963**

[22]: 1 ♂ – 30.08.2017 (DS, JB)

**Balclutha calamagrostis Ossiannilsson, 1961**

[2b]: 2 ♂♂ – 10.06.2016 (DS, JB)

[5]: 2 ♀♀ – 22.07.2016; 3 ♀♀ – 3.09.2016 (DS, JB)

[9]: 1 ♀ – 22.07.2016; 1 ♀ – 16.09.2016 (DS, JB)

[12]: 2 ♂♂, 2 ♀♀ – 4.08.2016 (DS, JB)

[14]: 2 ♀♀ – 4.08.2016 (DS, JB)

[17]: 1 ♂ – 4.09.2016 (DS, JB)

**Balclutha punctata (Fabricius, 1775) sensu Wagner (1939)**

[2a]: 1 ♂, 2 ♀♀ – 10.06.2016 (DS, JB)

[4]: 1 ♂, 21 ♀♀ – 10.06.2016 (DS, JB)

[5]: 12 ♂♂, 5 ♀♀ – 3.09.2016 (DS, JB)

[7]: 2 ♂♂, 4 ♀♀ – 22.07.2016 (DS, JB)



[12]: 1 ♂, 2 ♀♀ – 4.08.2016 (DS, JB)  
 [15]: 4 ♂♂, 4 ♀♀ – 4.08.2016 (DS, JB)  
 [16]: 3 ♂♂, 1 ♀ – 4.08.2016; 1 ♂, 1 ♀ –  
 16.09.2016 (DS, JB)  
 [17]: 5 ♂♂, 2 ♀♀ – 4.09.2016 (WW, AS)  
 [18]: 20 ♂♂, 19 ♀♀ – 3.09.2016 (WW, AS)

***Balclutha rhenana* Wagner, 1939**

[6c]: 5 ♂♂, 2 ♀♀ – 3.09.2016 (DS, JB)  
 [19]: 6 ♂♂, 2 ♀♀ – 16.09.2016 (DS, JB)

**\**Macrosteles cristatus* (Ribaut, 1927)**

[4]: 4 ♂♂, 6 ♀♀ – 26.08.2016 (DS, JB)  
 [6c]: 2 ♂♂, 3 ♀♀ – 3.09.2016 (DS, JB)  
 [11a]: 5 ♂♂ – 4.08.2016 (DS, JB)  
 [13]: 6 ♂♂, 5 ♀♀ – 4.08.2016 (DS, JB)  
 [17]: 4 ♂♂, 2 ♀♀ – 4.09.2016 (DS, JB, AS)

***Macrosteles laevis* (Ribaut, 1927)**

[4]: 1 ♂, 2 ♀♀ – 10.06.2016, 3 ♂♂, 5 ♀♀ –  
 26.08.2016 (DS, JB)  
 [7]: 1 ♀ – 22.07.2016 (DS, JB)  
 [11a]: 5 ♂♂ – 4.08.2016 (DS, JB)  
 [12]: 1 ♂ – 4.08.2016 (DS, JB)  
 [13]: 1 ♂, 2 ♀♀ – 4.08.2016 (DS, JB)  
 [14]: 15 ♂♂, 4 ♀♀ – 4.08.2016 (DS, JB)  
 [17]: 15 ♂♂, 14 ♀♀ – 4.09.2016 (WW, MW)  
 [18]: 3 ♂♂, 9 ♀♀ – 3.09.2016 (WW)

**\**Macrosteles maculosus* (Then, 1897)**

[17]: 2 ♂♂, 4 ♀♀ – 4.09.2016 (DS, JB)

***Macrosteles ossiannilssoni* Lindberg, 1954**

[17]: 3 ♂♂ – 4.09.2016 (DS, JB)

**\**Macrosteles sexnotatus* (Fallén, 1806)**

[11a]: 1 ♂, 8 ♀♀ – 4.08.2016 (DS, JB)  
 [18]: 3 ♂♂, 7 ♀♀ – 3.09.2016 (WW)

***Deltocephalus pulicaris* (Fallén, 1806)**

[4]: 14 ♂♂, 4 ♀♀ – 10.06.2016, 43 ♂♂, 15 ♀♀ –  
 26.08.2016 (DS, JB)  
 [5]: 6 ♂♂, 3 ♀♀ – 3.09.2016 (DS, JB)  
 [12]: 1 ♂ – 4.08.2016 (DS, JB)  
 [17]: 2 ♀♀, 2 ♂♂, 2 ♀♀ – 4.09.2016 (MW, WW)  
 [18]: 2 ♂♂, 2 ♀♀ – 3.09.2016 (WW)  
 [20]: 1 ♂ – 16.09.2016 (DS, JB)  
 [21]: 1 ♂ – 30.08.2017 (DS, JB)  
 [22]: 3 ♂♂, 1 ♀ – 30.08.2017 (DS, JB)

**\**Recilia coronifer* (Marshall, 1866)**

[17]: 1 ♀ – 4.09.2016 (WW)

***Doratura stylata* (Boheman, 1847)**

[12]: 1 ♂ – 4.08.2016 (DS, JB)  
 [22]: 1 ♀ – 30.08.2017 (DS, JB)

**\**Lamprotettix nitidulus* (Fabricius, 1787)**

[7]: 1 ♀ – 22.07.2016 (DS, JB)

***Allygus mixtus* (Fabricius, 1794)**

[9]: 1 ♂, 1 ♀ – 22.07.2016 (DS, JB)  
 [10]: 1 ♀ – 22.07.2016 (DS, JB)  
 [16]: 1 ♀ – 4.08.2016 (DS, JB)  
 [17]: 1 ♀, *Quercus robur* – 4.09.2016 (MW)

**\**Allygus modestus* Scott, 1876**

[17]: 1 ♂, *Alnus glutinosa* – 4.09.2016 (MW)

***Graphocraerus ventralis* (Fallén, 1806)**

[1b]: 1 ♂ – 10.06.2016 (DS, JB)  
 [4]: 12 ♂♂, 1 ♀ – 10.06.2016 (DS, JB)  
 [7]: 1 ♀ – 22.07.2016 (DS, JB)  
 [14]: 2 ♀♀ – 4.08.2016 (DS, JB)

***Elymana sulphurella* (Zetterstedt, 1828)**

[8]: 1 ♂ – 22.07.2016 (DS, JB)  
 [10]: 1 ♂ – 22.07.2016 (DS, JB)  
 [11b]: 1 ♂ – 4.08.2016 (DS, JB)  
 [12]: 2 ♀♀ – 4.08.2016 (DS, JB)  
 [21]: 1 ♀ – 30.08.2017 (DS, JB)  
 [22]: 3 ♀♀ – 30.08.2017 (DS, JB)

***Cicadula persimilis* (Edwards, 1920)**

[13]: 1 ♂ – 4.08.2016 (DS, JB)  
 [17]: 18 ♂♂, 4 ♀♀ – 4.09.2016 (WW, DS, JB, AS)  
 [18]: 1 ♀ – 3.09.2016 (WW)

**\**Cicadula saturata* (Edwards, 1915)**

[16]: 2 ♂♂, 2 ♀♀ – 4.08.2016 (DS, JB)

***Cicadula quadrinotata* (Fabricius, 1794)**

[1a]: 1 ♂ – 10.06.2016 (DS, JB)  
 [5]: 1 ♀ – 3.09.2016 (DS, JB)  
 [11b]: 1 ♀ – 4.08.2016 (DS, JB)

**\**Mocydiopsis parvicauda* Ribaut, 1939**

[17]: 1 ♂ – 4.09.2016 (DS, JB)

***Speudotettix subfuscus* (Fallén, 1806)**

[2b]: 1 ♀ – 10.06.2016 (DS, JB)

[3a]: 1 ♀ – 10.06.2016 (DS, JB)

[4]: 1 ♀ – 10.06.2016 (DS, JB)

[7]: 1 ♀ – 22.07.2016 (DS, JB)

[16]: 1 ♀ – 4.08.2016 (DS, JB)

***Hesium domino* (Reuter, 1880)**

[10]: 2 ♂♂, 1 ♀ – 22.07.2016 (DS, JB)

[17]: 1 ♀ – 4.09.2016 (AS)

**\**Thamnotettix diluitor* (Kirschbaum, 1868)**

[9]: 2 ♀♀ – 22.07.2016 (DS, JB)

***Athysanus argentarius* Metcalf, 1955**

[10]: 2 ♀♀ – 22.07.2016 (DS, JB)

[12]: 2 ♀♀ – 4.08.2016 (DS, JB)

[14]: 1 ♀ – 4.08.2016 (DS, JB)

[17]: 2 ♀♀ – 4.09.2016 (AS)

**\**Conosanus obsoletus* (Kirschbaum, 1858)**

[1b]: 1 ♀ – 10.06.2016 (DS, JB)

**\**Euscelis incisus* (Kirschbaum, 1858)**

[5]: 1 ♂ – 22.07.2016; 4 ♂♂ – 3.09.2016 (DS, JB)

[12]: 5 ♀♀ – 4.08.2016 (DS, JB)

[13]: 1 ♂ – 4.08.2016 (DS, JB)

[14]: 16 ♂♂, 8 ♀♀ – 4.08.2016 (DS, JB)

[17]: 1 ♂ – 4.09.2016 (WW)

**\**Euscelis venosus* (Kirschbaum, 1868)**

[4]: 1 ♂ – 26.08.2016 (DS, JB)

***Streptanus aemulans* (Kirschbaum, 1868)**

[17]: 2 ♂♂ – 4.09.2016 (WW)

***Streptanus sordidus* (Zetterstedt, 1828)**

[4]: 1 ♂ – 10.06.2016 (DS, JB)

[5]: 1 ♂, 1 ♀ – 22.07.2016;

3 ♂♂, 3 ♀♀ – 3.09.2016 (DS, JB)

[11b]: 1 ♀ – 4.08.2016 (DS, JB)

[17]: 2 ♀♀ – 4.09.2016 (AS)

[18]: 2 ♂♂, 6 ♀♀ – 3.09.2016 (AS)

[22]: 1 ♂ – 30.08.2017 (DS, JB)

***Arocephalus longiceps* (Kirschbaum, 1868)**

[3a]: 1 ♂, 1 ♀ – 10.06.2016 (DS, JB)

[3b]: 7 ♂♂, 1 ♀ – 10.06.2016 (DS, JB)

[4]: 6 ♂♂, 1 ♀ – 10.06.2016, 9 ♂♂, 3 ♀♀ – 26.08.2016 (DS, JB)

[5]: 1 ♀ – 22.07.2016; 3 ♂♂, 1 ♀ – 3.09.2016 (DS, JB)

[12]: 1 ♂, 1 ♀ – 4.08.2016 (DS, JB)

[14]: 2 ♂♂, 1 ♀ – 4.08.2016 (DS, JB)

[17]: 16 ♂♂, 15 ♀♀ – 4.09.2016 (WW, MW, DS, JB, AS)

[18]: 11 ♂♂, 6 ♀♀ – 3.09.2016 (WW)

***Psamnotettix alienus* (Dahlbom, 1850)**

[4]: 1 ♂, 2 ♀♀ – 10.06.2016 (DS, JB)

[7]: 2 ♂♂, 1 ♀ – 22.07.2016 (DS, JB)

[13]: 5 ♂♂, 2 ♀♀ – 4.08.2016 (DS, JB)

[14]: 2 ♀♀ – 4.08.2016 (DS, JB)

[17]: 12 ♂♂, 4 ♀♀ – 4.09.2016 (WW)

[18]: 2 ♂♂, 2 ♀♀ – 3.09.2016 (WW, AS)

[20]: 1 ♂ – 16.09.2016 (DS, JB)

***Psamnotettix confinis* (Dahlbom, 1850)**

[1a]: 6 ♂♂, 6 ♀♀ – 10.06.2016 (DS, JB)

[1c]: 6 ♂♂, 6 ♀♀ – 10.06.2016 (DS, JB)

[4]: 4 ♂♂, 5 ♀♀ – 10.06.2016 (DS, JB)

[5]: 1 ♂, 2 ♀♀ – 3.09.2016 (DS, JB)

[17]: 2 ♂♂ – 4.09.2016 (WW)

[18]: 1 ♂, 1 ♀ – 3.09.2016 (WW)

**\**Psamnotettix nodosus* (Ribaut, 1925)**

[18]: 1 ♂ – 3.09.2016 (WW)

***Errastunus ocellaris* (Fallén, 1806)**

[1b]: 2 ♂♂, 4 ♀♀ – 10.06.2016 (DS, JB)

[3b]: 2 ♂♂ – 10.06.2016 (DS, JB)

[4]: 2 ♂♂ – 10.06.2016, 3 ♂♂, 4 ♀♀ – 26.08.2016 (DS, JB)

[10]: 1 ♀ – 22.07.2016 (DS, JB)

[11b]: 1 ♂ – 4.08.2016 (DS, JB)

[13]: 1 ♀ – 4.08.2016 (DS, JB)

[14]: 3 ♂♂, 2 ♀♀ – 4.08.2016 (DS, JB)

[17]: 58 ♂♂, 39 ♀♀ – 4.09.2016 (WW, MW, DS, JB, AS)

[18]: 4 ♂♂, 4 ♀♀ – 3.09.2016 (AS)

[20]: 2 ♀♀ – 16.09.2016 (DS, JB)

***Jassargus pseudocellaris* (Flor, 1861)**

[4]: 8 ♂♂, 7 ♀♀ – 10.06.2016; 2 ♂♂, 6 ♀♀, – 26.08.2016 (DS, JB)

[5]: 4 ♂♂, 3 ♀♀ – 3.09.2016 (DS, JB)

[17]: 2 ♂♂, 1 ♀ – 4.09.2016 (WW, DS, JB)

[19]: 5 ♂♂ – 16.09.2016 (DS, JB)

***Jassargus flori* (Fieber, 1869)**

[3b]: 1 ♀ – 10.06.2016 (DS, JB)

[4]: 6 ♂♂, 4 ♀♀ – 10.06.2016 (DS, JB)

[18]: 3 ♂♂, 1 ♀ – 3.09.2016 (WW)

**\**Jassargus allobrogicus* (Ribaut, 1936)**

[18]: 3 ♂♂, 1 ♀ – 3.09.2016 (WW, AS)

**\**Arthaldeus arenarius* Remane, 1960**

[1a]: 3 ♂♂, 1 ♀ – 10.06.2016 (DS, JB)

[1c]: 3 ♂♂ – 10.06.2016 (DS, JB)

[10]: 1 ♀ – 22.07.2016 (DS, JB)

[17]: 7 ♂♂, 6 ♀♀ – 4.09.2016 (DS, JB, AS)

***Arthaldeus pascuellus* (Fallén, 1826)**

[1a]: 2 ♂♂, 2 ♀♀ – 10.06.2016 (DS, JB)

[1b]: 1 ♂, 2 ♀♀ – 10.06.2016 (DS, JB)

[4]: 3 ♂♂, 2 ♀♀ – 10.06.2016 (DS, JB)

[5]: 28 ♂♂, 14 ♀♀ – 3.09.2016 (DS, JB)

[9]: 1 ♂ – 16.09.2016 (DS, JB)

[10]: 1 ♀ – 22.07.2016 (DS, JB)

[11a]: 1 ♀ – 4.08.2016 (DS, JB)

[12]: 1 ♀ – 4.08.2016 (DS, JB)

[17]: 74 ♂♂, 53 ♀♀ – 4.09.2016 (WW, MW, DS, JB, AS)

[18]: 17 ♂♂, 13 ♀♀ – 3.09.2016 (WW, AS)

[19]: 1 ♂, 3 ♀♀ – 16.09.2016 (DS, JB)

[20]: 8 ♂♂, 7 ♀♀ – 16.09.2016 (DS, JB)

[21]: 2 ♂♂, 1 ♀ – 30.08.2017 (DS, JB)

[22]: 9 ♂♂, 8 ♀♀ – 30.08.2017 (DS, JB)

**HETEROPTERA LATREILLE, 1810****Notonectidae Latreille, 1802*****Notonecta glauca* (Linnaeus, 1758)**

[6b]: 3 ♂♂, 1 ♀ – 3.09.2016 (PC)

**Gerridae Leach, 1815*****Gerris lacustris* (Linnaeus, 1758)**

[6b]: 1 ind. – 3.09.2016 (PC)

**Nabidae A. Costa, 1853*****Himacerus mirnicoides* (Costa O., 1834)**

[6c]: 2 ♂♂, 3 ♀♀ – 03.09.2016 (NN)

[10]: 1 ♂, 3 ♀♀ – 02.09.2016 (NN)

[17]: 3 ♂♂, 1 ♀ – 04.09.2016 (NN, VH)

***Himacerus apterus* (Fabricius, 1798)**

[10]: 1 ♂, 1 ♀ – 02.09.2016 (NN)

***Nabis limbatus* (Dahlbom, 1851)**

[17]: 1 ♀ – 04.09.2016 (VH)

***Nabis pseudoferus pseudoferus* Remane, 1949**

[17]: 4 ♂♂, 2 ♀♀ – 04.09.2016 (VH, NN)

***Nabis rugosus* (Linnaeus, 1758)**

[6c]: 3 ♂♂, 4 ♀♀ – 03.09.2016 (NN)

[10]: 5 ♂♂, 1 ♀ – 02.09.2016 (NN)

[17]: 3 ♂♂ – 04.09.2016 (VH, NN)

**Miridae*****Stenodema laevigata* (Linnaeus, 1758)**

[10]: 1 ♂, 1 ♀ – 02.09.2016 (NN)

**Lygaeidae S. Schilling, 1829*****Kleidocerys resedae* (Panzer, 1797)**

[6c]: 1 ♂ – 03.09.2016 (NN)

[17]: 3 ♂♂, 4 ♀♀ – 04.09.2016 (VH, NN)

**Cymidae Baerensprung, 1860*****Cymus melanocephalus* (Fieber, 1861)**

[17]: 1 ind – 04.09.2016 (VH)

**Coreidae Leach, 1815*****Coreus marginatus* (Linnaeus, 1758)**

[6b]: 3 ♂♂ – 03.09.2016 (AR, VH, PC)

[6c]: 3 ♀♀ – 03.09.2016 (NN)

***Gonocerus acuteangulatus* (Goeze, 1778)**

[6b]: 1 ♀ – 03.09.2016 (AR)

[10]: 1 ♂ – 02.09.2016 (AR)

**Pyrrhocoridae Amyot et J.G. Audinet-Serville, 1843*****Pyrrhocoris apterus* (Linnaeus, 1758)**

[6c]: 1 ♀ – 03.09.2016 (NN)

[10]: 1 ♀ – 02.09.2016 (AR);

[17]: 1 ♂ (*Tilia* sp.) – 04.09.2016 (VH); 2 ♂♂, 1 ♀ – 04.09.2016 (NN)**Acanthosomatidae Signoret, 1864*****Elasmucha grisea* (Linnaeus, 1758)**

[17]: 1 ♀ (carrying 2 Phasiinae eggs) – 04.09.2016 (VH)

**Pentatomidae Leach, 1815*****Aelia acuminata* (Linnaeus, 1758)**

[6b]: 3 ♂♂, 3 ♀♀ – 03.09.2016 (AR)

[10]: 2 ♂♂, 2 ♀♀ – 02.09.2016 (AR, NN)

[17]: 2 ♀♀ – 04.09.2016 (AR, NN)

***Carpocoris fuscispinus* (Boheman, 1850)**

[6b]: 3 ♂♂ – 03.09.2016 (AR, VH)

[10]: 2 ♀♀ – 02.09.2016 (AR, NN)

[17]: 1 ♀ – 04.09.2016 (AR)

***Carpocoris purpureipennis* (De Geer, 1773)**

[6b]: 1 ♂ – 03.09.2016 (VH)

[17]: 1 ♂ – 04.09.2016 (AR)

***Dolycoris baccarum* (Linnaeus, 1758)**

[6b]: 1 ♂, 1 ♀ – 03.09.2016 (AR)

[17]: 1 ♀ – 04.09.2016 (AR)

***Eurydema oleracea* (Linnaeus, 1758)**

[17]: 1 ♀ – 04.09.2016 (VH)

***Eysarcoris aeneus* (Scopoli, 1763)**

[6b]: 5 ♂♂, 6 ♀♀ – 03.09.2016 (AR, PC)

[10]: 1 ♀ – 02.09.2016 (NN)

[17]: 1 ♀ – 04.09.2016 (AR)

***Graphosoma italicum* (O.F. Müller, 1766)**

[6b]: 1 nymph V – 03.09.2016 (PC)

[17]: 2 ♀♀ – 04.09.2016 (VH)

***Palomena prasina* (Linnaeus, 1761)**

[6b]: 1 ♂, 3 ♀♀, 1 nymph III, 2 nymphs V – 03.09.2016 (AR, VH, PC)

[10]: 1 ♂, 1 nymph – 02.09.2016 (AR, NN)

[17]: 4 ♀♀ – 04.09.2016 (AR, NN)

***Peribalus strictus* (Fabricius, 1803)**

[6b]: 1 ♂, 1 ♀ – 03.09.2016 (VH, PC)

***Pentatoma rufipes* (Linnaeus, 1758)**

[6b]: 1 ♂ – 03.09.2016 (AR)

***Picromerus bidens* (Linnaeus, 1758)**

[17]: 1 ♂ – 04.09.2016 (AR)

***Stagonomus venustissimus* (Schrank, 1776)**

[6b]: 1 ♂, 1 ♀ – 03.09.2016 (AR)

**Scutelleridae Leach, 1815*****Eurygaster testudinaria* (Geoffroy, 1785)**

[6b]: 6 ♂♂, 6 ♀♀ – 03.09.2016 (AR, VH)

[17]: 4 ♂♂, 2 ♀♀ – 04.09.2016 (AR, VH, NN)

The present paper provides the first information on planthoppers and leafhoppers (Auchenorrhyncha) of the “Góry Opawskie” Landscape Park as well as some additional information on true bugs. The number of 116 recorded species of Auchenorrhyncha is comparable with the results of the short-term investigations carried out in diversified vegetation of other landscape and national parks such as: Ojców National Park (154 species collected by Szwedo 1992), Stawki Landscape Park (72 species collected by Świerczewski & Błaszczuk 2010), Przedborski Landscape Park (101 species collected by Świerczewski & Stroiński 2011) and Załęczański Landscape Park (112 species collected by Świerczewski & Błaszczuk 2013).

The number of Auchenorrhyncha species discovered within the area of “Góry Opawskie” Landscape Park constitutes one fifth of the overall number of 552 species known from Poland (Musik et al. 2018), but undoubtedly multi-season studies would reveal a much higher number of taxa. Moreover, additional methods of collecting such as pitfall traps and water traps should be also employed.

Taking into account the recorded species, *Euscelis venosus* is worth of mentioning, which is a rare relict species of former traditional cattle pasturing and has been recently disappearing rapidly all over its range (Nickel 2019).

Chorological analysis indicates that the wide-ranging elements form the major groups: European (32,8 %), Euro-Siberian (19,0 %) and Trans-Palaeartic (18,1%). The proportions of species with a limited distribution are smaller: Siberian (5,2 %), Mediterranean (4,3 %), North European (2,6 %), South European (1,7 %) and West European (0,9 %).

Regarding hostplant specificity, it can be seen that oligophagous (1<sup>st</sup> and 2<sup>nd</sup> degree) and monophagous (1<sup>st</sup> and 2<sup>nd</sup> degree) species share the highest percentage (43,1 and 33,6 %, respectively), with a smaller proportion of polyphagous species (23,3 %).

Considering the number of annual generations, monovoltine species (62,1 %) prevail over the bivoltine species (37,9 %). Taking into account the overwintering stage, forms hibernating as eggs dominate (75,9 %) over nymphs (11,2 %) and adults (12,9 %).

#### 4. Zusammenfassung

Es werden die Ergebnisse von faunistischen Untersuchungen der beiden Hemipteren-Gruppen der Wanzen (Heteroptera) und Zikaden (Auchenorrhyncha) präsentiert, die während des 23. Auchenorrhyncha-Tagung 2016 und an weiteren Terminen der Vegetationsperioden 2016 und 2017 an 22 Standorten im Landschaftspark „Góry Opawskie” (Zuckmanteler Bergland, Südwest Polen) durchgeführt wurden. Dabei wurden insgesamt 143 Hemipteren-Arten nachgewiesen, davon 116 Zikadenarten (17 Arten der Fulgoromorpha, 99 Arten der Cicadomorpha) und 27 Wanzenarten. 3 Fulgoromorpha-Arten und 54 Cicadomorpha-Arten sind Neunachweise für die Region der Östlichen Sudeten.

#### 5. References

- Blaik T. (2007a): Materiały do znajomości Microlepidoptera (Gelechioidea: Ethmiidae, Depressariidae, Chimabachidae, Oecophoridae) Polski południowo-zachodniej – nowe dane z województwa opolskiego. – Nature Journal (Opole) 40: 35-48.
- Blaik T. (2007b): Nowe stanowiska *Nothochrysa fulviceps* (Stephens, 1836) i *Myrmeleon bore* (Tjeder, 1941) (Neuroptera: Chrysopidae, Myrmeleontidae) w południowej Polsce. – Acta entomologica silesiana 14-15 (2006-2007): 83.
- Blaik T. (2008): New data and remarks on the occurrence of *Micromus lanosus* (Zelený, 1962) (Neuroptera: Hemerobiidae) in Poland. – Nature Journal (Opole) 41: 49-52.
- Blaik T. (2010a): *Zanclognatha zelleralis* (Wocke, 1850) i *Conisania luteago* (Denis et Schiffermüller, 1775) (Lepidoptera, Noctuidae) w Sudetach na tle rozszedlenia i zmian zasięgu w Europie Środkowej. – Przyroda Sudetów 13: 117-124.
- Blaik T. (2010b): Projektowany rezerwat przyrody „Olszak w Górach” Opawskich – ważna ostoja entomofauny (Lepidoptera, Neuroptera). – Wiadomości entomologiczne 29 (Suppl.): 111-14.
- Blaik T., Korek A. (2008): Trzecie stwierdzenie *Hypochrysa elegans* (Burmeister, 1839) (Neuroptera: Chrysopidae) w Polsce. – Acta entomologica silesiana 16: 90.
- Dubel K. (1993): Monografia Parku Krajobrazowego „Góry Opawskie”. Wyższa Szkoła Pedagogiczna im. Powstańców Śląskich w Opolu. Studia i Monografie nr 209, 174 pp.
- Gębicki C., Świerczewski D., Szewo J. (2013): Planthoppers and Leafhoppers of Poland (Hemiptera: Fulgoromorpha et Cicadomorpha). Systematics – Check-list – Bionomy. The Monograph. – Annals of the Upper Silesian Museum in Bytom. Entomology 20-21: 1-259.
- Hebda G., Lis B. (2007): Nowe stanowiska pluskwiaków różnoskrzydłych (Hemiptera: Heteroptera) w Górach Opawskich (Sudety Wschodnie). – In: Lis, J.A. & Mazur, M.A. (eds.): Przyrodnicze wartości polsko-czeskiego pogranicza jako wspólne dziedzictwo Unii Europejskiej. Centrum Studiów nad Bioróżnorodnością, Katedra Biosystematyki Uniwersytetu Opolskiego, Opole, p. 189-206.
- Hebda G., Mazur M. (2010): Nowe stanowiska rzadko spotykanych gatunków pluskwiaków różnoskrzydłych (Insecta: Heteroptera) na Śląsku i w Sudetach Wschodnich. – Wiadomości entomologiczne 29(2): 69-74.
- Kondracki J. (2000): Geografia regionalna Polski. Wydawnictwo Naukowe PWN, Warszawa, 440 pp.
- Kuśka A. (1998): Ryjkowce (Anthribidae, Attelabidae, Apionidae, Curculionidae) Parku Krajobrazowego Góry Opawskie. – Rocznik Muzeum Górnośląskiego w Bytomiu. Przyroda 15: 136-153.

- Lis B., Lis J. A. (2002): Pluskwiaki różnoskrzydłe (Hemiptera: Heteroptera) Gór Opawskich (Sudety Wschodnie). – *Wiadomości entomologiczne* 21(2): 87-95.
- Matuszkiewicz W. (2001): Przewodnik do oznaczania zbiorowisk roślinnych Polski. Wydawnictwo Naukowe PWN, Warszawa, 537 pp.
- Mazur M. A. (2008): Uzupełnienie do wykazu ryjkowców (Coleoptera: Curculionoidea: Apionidae, Curculionidae, Rhynchitidae) Parku Krajobrazowego Gór Opawskich. – *Parki Narodowe i Rezerwy Przyrody* 27(4): 127-130.
- Musik K., Walczak M., Kalandyk-Kołodziejczyk M., Wojciechowski W. (2018): Planthopper and leafhopper communities (Hemiptera: Fulgoromorpha et Cicadomorpha) of selected plant associations of Garb Tarnogórski. – *Monographs of the Upper Silesian Museum* 7: 1-244.
- Nast J. (1976): Piewiki – Auchenorrhyncha (Cicadodea). *Katalog Fauny Polski. Część XXI, zeszyt 1.*, nr. 25. Państwowe Wydawnictwo Naukowe, Warszawa, 256 pp.
- Nickel H. (2008): Tracking the elusive: leafhoppers and planthoppers (Insecta: Hemiptera) in tree canopies of European deciduous forests. – In: A. Floren & J. Schmidl (eds): *Canopy arthropod research in Europe. Bioform Entomology*, Nuremberg, p. 175-214.
- Nickel H. (2019): Zikaden. In: Bunzel-Drüke M., Böhm C., Buse J., Dalbeck L., Ellwanger G., Finck P., Freese J., Grell H., Hauswirth L., Herrmann A., Idel A., Jedicke E., Joest R., Kämmer G., Kapfer A., Köhler M., Kolligs D., Krawczynski R., Lorenz A., Luick R., Mann S., Nickel H., Raths U., Reisinger E., Riecken U., Röder N., Rößling H., Rupp M., Schoof N., Schulze-Hagen K., Sollmann R., Ssymank A., Thomsen K., Tillmann J., Tischew S., Vierhaus H., Vogel C., Wagner H.-G., Zimball O.: *Naturnahe Beweidung und NATURA 2000 – Ganzjahresbeweidung im Management von Lebensraumtypen und Arten im europäischen Schutzgebietssystem NATURA 2000. 2. überarbeitete und erweiterte Auflage.* – ABU, Bad Sassendorf. pp. 267-277.
- Nickel H., Remane R. (2002): Artenliste der Zikaden Deutschlands, mit Angabe von Nährpflanzen, Nahrungsbreite, Lebenszyklus, Areal und Gefährdung (Hemiptera, Fulgoromorpha et Cicadomorpha). – *Beiträge zur Zikadenkunde* 5: 27-64.
- Rąkowski G., Walczak M., Smogorzewska M. (2007): *Rezerwy przyrody w Polsce Południowej.* Wydawnictwo Instytutu Ochrony Środowiska, Warszawa, 440 pp.
- Stewart A.J.A. (2002): Techniques for sampling Auchenorrhyncha in grasslands. – *Denisia* 4 (N.F.): 491-512.
- Szwedo J. (1992): Piewiki (Auchenorrhyncha, Homoptera) wybranych zbiorowisk roślinnych Ojcowskiego Parku Narodowego. – *Prądnik. Prace i Materiały Muzeum im. Prof. Władysława Szafera* 5: 223-233.
- Świerczewski D., Błaszczak J. (2010): Fauna piewików (Hemiptera: Fulgoromorpha et Cicadomorpha) Parku Krajobrazowego „Stawki”. – *Acta entomologica silesiana* 18: 9-23.
- Świerczewski D., Błaszczak J. (2013): Materiały do poznania fauny piewików (Hemiptera: Fulgoromorpha et Cicadomorpha) Załęczańskiego Parku Krajobrazowego. – *Acta entomologica silesiana* 21: 9-24.
- Świerczewski D., Stroiński A. (2011): Planthoppers and leafhoppers of the Przedborski Landscape Park (Hemiptera: Fulgoromorpha et Cicadomorpha). – *Polish Journal of Entomology* 80(2): 277-290.
- Walczak M., Radziejowski J., Smogorzewska M., Sienkiewicz J., Gacka-Grzesikiewicz E., Pisarski Z. (2001): *Obszary chronione w Polsce.* Wydawnictwo Instytutu Ochrony Środowiska, Warszawa, 311 pp.
- Walczak M., Brożek J., Junkiert Ł., Kalandyk-Kołodziejczyk M., Musik K., Kaszyca N., Łazuka A., Gierlasiński G. (2018): *Stictocephala bisonia* Kopp et Yonke, 1977 (Hemiptera: Cicadomorpha, Membracidae) in Poland. – *Annals of the Upper Silesian Museum in Bytom. Entomology* 27: 1-13.

Witsack W., Świerczewski D. (2017): Bericht über die 23. Tagung des Arbeitskreises „Zikaden Mitteleuropas e. V.“ vom 2. bis 4. September 2016 in Jarnołtówek im Góry Opawskie (Zuckmanteler Bergland), Republik Polen. – DGaaE-Nachrichten 31(1): 19-29.

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