



## New faunistic records of Limoniidae and Pediciidae crane-flies (Diptera) from the Bieszczady Mountains in Poland

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**Abstract:** New data on the occurrence of 122 Limoniidae and 17 Pediciidae species in the Polish part of the Western Bieszczady Mountains is presented. Four species: *Idiocera (I.) punctata* (Edwards, 1938), *Rhabdomastix (Rh.) laetoidea* Starý, 2004, *Lipsothrix ecucullata* Edwards, 1938 (Limoniidae), and *Dicranota (Paradicranota) subflammatra* Starý, 1998 (Pediciidae), are reported from Poland for the first time. A general comparison of the species composition across the different protected areas of the Bieszczady Mts is also discussed.

**Key words:** Bieszczady National Park, East Carpathians Transboundary Biosphere Reserve, faunistics, protected areas

### INTRODUCTION

The Western Bieszczady Mountains are a European mountain chain running through the area of three countries: Poland, Slovakia, and Ukraine.

According to the most recent physico-geographical regionalisation of Poland (Solon et al. 2018), the Western Bieszczady Mountains in the south-east of the country form the mesoregion No. 522.12 – Bieszczady Mts (Pol. Bieszczady Zachodnie) within the Eastern Carpathians & Eastern Subcarpathians province. The remaining areas of the Western Bieszczady Mts lie in north-eastern Slovakia (Bukovské Hills, Slk. Bukovské vrchy) and south-western Ukraine (Ukr. Zakhidni Beshchady), up to the Uzhok Pass, where they border the Eastern Bieszczady Mts to the south.

In 1992, the East Carpathians Transboundary Biosphere Reserve (ECTBR) was designated by UNESCO, initially encompassing protected areas in the Bieszczady Mts along the Poland-Slovakia border. The reserve was extended in 1998 to include two more areas in Ukraine. At present, the following protected areas form the ECTBR: in Poland – the Bieszczady National Park, the Cisna-Wetlina Landscape Park, and the San Valley Landscape Park; in Slovakia – the Poloniny National Park, along with its buffer zone; in Ukraine – the Uzhansky National Park, and Nadsyansky Regional Landscape Park (Fig. 1).

The main goals of scientific institutions responsible for nature conservation are to: study the structure and functioning of protected ecosystems; maintain these ecosystems in their most natural form possible; and monitor the ongoing changes within them. The first of these goals has been partially achieved in the present study by presenting a list of Diptera species belonging to the families Limoniidae and Pediciidae known to occur in the Polish part of the Western Bieszczady Mts.

The fauna of the Western Bieszczady Mts has not been studied consistently across its various regions. The state of knowledge of the invertebrate fauna, with a particular focus on the Bieszczady National Park, is summarised in the articles contained in the VIIth and VIIIth volumes of the *Monografie Bieszczadzkie* (Pawłowski 2000a, 2000b). Klasa et al. (2000) covered the Diptera in the VIIIth volume of the series. Amongst over 1130 species listed from

the Polish Bieszczady Mts only 28 belong to the family Limoniidae, whilst Pediciidae are wholly absent. Klasa and co-authors' list of these two families is based on the earlier works of Zaćwilichowska (1970) and Krzemiński (1984, 1991). Since the list was published, only four more species have been recorded from the Polish Bieszczady Mts (Salmela & Piirainen 2003; Wiedeńska 2019a; Wiedeńska & Syratt 2021). It is also worth noting that amateur entomologists who showcase their observations on-line may be able to contribute in the making of checklists. Two records from the Bieszczady Mts, documented with photos and published on the website *insektarium.net*, have been included in the present study (Insektarium 2022).



Fig. 1. Location of the East Carpathians Transboundary Biosphere Reserve.

Having access to previously unexamined material from the Polish Bieszczady Mts, the authors of the present study found it appropriate to prepare a list of the Limoniidae and Pediciidae of the region in question. It should be mentioned that this list is undoubtedly incomplete, as no regular or methodologically correct research concerning these taxons has been carried out in the area.

#### MATERIAL AND METHODS

The material analysed in the present study consists of around 1390 adult specimens of the families Limoniidae and Pediciidae which translates to approximately 560 records. The majority of the identified specimens come from the collections of W. Krzemiński and J. Wiedeńska, who did not carry out regular research in the Bieszczady Mts. Therefore, most of the material presented in this study has been gifted to the authors by entomologists, who collected Limoniidae and Pediciidae as bycatch while conducting studies on their own respective groups. Subsequently, the specimens were collected in a multitude of manners (with insect nets of various diameters, sweep nets, and *ad lucem*) spread over several decades (1974 to 2001).

The studied material is stored in two large collections: deposited in the Department of Invertebrate Zoology and Hydrobiology of the University of Łódź are specimens identified by J. Wiedeńska; whilst those deposited in the Museum of the Institute of Systematics and Evolution of Animals of the Polish Academy of Sciences in Kraków have been identified by M. Syratt, unless otherwise indicated. The material is kept pinned (with the genitalia stored in microvials with glycerol if dissected) or in ~70% ethanol. A small part of the collections is also mounted on microscope slides fixed in glycerol gelatin or Canadian balsam.

Information concerning the general distribution of particular species, unless otherwise stated, is taken from the online Catalogue of the Craneflies of the World (Oosterbroek 2022) and the works of Savchenko (1982, 1985, 1986, 1989).

The following acronyms and abbreviations are used in the text: BdNP – Bieszczady National Park; ECTBR – East Carpathians Transboundary Biosphere Reserve; DIZH – Department of Invertebrate Zoology and Hydrobiology, University of Łódź; ISEA – Institute of Systematics and Evolution of Animals, Polish Academy of Sciences, Kraków; JB – Jarosław Buszko; MG – Maria Golańska; WK – Wiesław Krzemiński; IS – Iwona Słowińska; RS – Ryszard Szadziewski; BS – Bronisław Szczęsny; MSz – Marian Szewczyk; JW – Jolanta Wiedeńska; JWo – Jerzy Wojnarowicz. Species new to the territory of Poland are marked with an asterisk ‘\*’.

### Material collection sites

UTM grid coordinates are given for each site. Three collection sites are located outside the boundaries of the Polish Bieszczady Mts as defined in the regionalisation by Solon et al. (2018): Bóbrka (site 49); Ustrzyki Dolne (site 50); and Lesko (site 51). These three towns have been included in this study given the fact that they are situated within the area of the Bieszczady Mts traditionally understood as a tourist region. Furthermore, according to previous geographic regionalisations of Poland (Klimaszewski 1972; Gilewska 1999), they are located within the region of the Bieszczady Niskie Mts. In the old classifications, the Bieszczady Niskie Mts, along with the Karpaty Brzeźne Mts and Bieszczady Wysokie Mts form the macroregion Bieszczady.

1. Vegetation along the Roztoki stream, by the road between Tarnawa Niżna and Muczne, around 700 m a.s.l., UTM FV34.

2. Vegetation at mouth of the Muczne stream entering the San river, around 500 m a.s.l., UTM FV24.

3. Spring source area of the Terebowiec stream, north of Tarnica (1346 m a.s.l.), 1200 m a.s.l., UTM FV23, BdNP.

4. Szeroki Wierch (1268 m a.s.l.) massif, beech forest in its western area, near the blue trail, below polonynas (montane meadows), around 1000 m a.s.l., UTM FV23, BdNP.

5. Tarnica (1346 m a.s.l.) massif, beech forest by the blue trail between the peak and the village of Wołosate, around 1200 m a.s.l., UTM FV23, BdNP.

6. Vegetation along the Zwór stream, north of Wołosate village, around 800 m a.s.l., UTM FV23, BdNP.

7. Wołosate, vegetation along the Wołosatczyk stream, around 750 m a.s.l., UTM FV23, BdNP.

8. Vegetation along the Zakopaniec stream, about 1 km above its confluence with the Wołosatka stream, around 750 m a.s.l., UTM FV23, BdNP.

9. Ustrzyki Górne, vegetation along the Wołosatka stream, around 0.5 km above its confluence with the Terebowiec stream, around 650 m a.s.l., UTM FV24, BdNP.

10. Vegetation along the Terebowiec stream, between the red trail to Szeroki Wierch and quarries, 700–800 m a.s.l., UTM FV24, BdNP.

11. Ustrzyki Górne, vegetation along Terebowiec stream near its confluence with the Wołosatka stream, around 650 m a.s.l., UTM FV24, BdNP

12. Ustrzyki Górne, vegetation along the Rzeczyca stream, above its confluence with the Wołosaty stream, around 650 m a.s.l., UTM FV24, BdNP.

13. Vegetation along the Wołosaty stream, about 1 km northeast of Ustrzyki Górne, 620 m a.s.l., UTM FV24, BdNP.

14. Ustrzyki Górne – Terebowiec. Specimens collected *ad lucem* using electric lamps in living quarters, around 700 m a.s.l., UTM FV24, BdNP.

15. Ustrzyki Górne, no information on the exact location of the collection site, around 650 m a.s.l., UTM FV24, BdNP.

16. Beech forest on the western slopes of Kiczera (972 m a.s.l.), around 800 m a.s.l., UTM FV24, BdNP.

17. Widelki, vegetation along an unnamed right-bank tributary of the Wołosaty stream, the sources of which are north of Widelki (1016 m a.s.l.), around 750 m a.s.l., FV24.

18. Pszczeliny, vegetation along the Wołosaty stream, around 570 m a.s.l., UTM FV24.

19. Vegetation on the left bank of the San just below its confluence with the Wołosaty stream, around 500 m a.s.l., UTM FV25.

20. Lutowiska, no information on the exact location of the collection site, UTM FV25.

21. Dwernik, vegetation on the left bank of the San, above its confluence with the Dwernik stream, around 500 m a.s.l., UTM FV15.

22. Chmiel, no information on the exact location of the collection site, UTM FV15.

23. Vegetation along the Caryńczyk stream, 600–850 m a.s.l., UTM FV14, BdNP.

24. Vegetation along the Caryński stream, around 1 km above its confluence with the Nasiczniański stream, around 600 m a.s.l., UTM FV14.

25. Brzegi Górne, vegetation along the Prowcza river and in the vicinity of the road junction Ustrzyki Górne–Wetlina and Brzegi Górne–Dwernik, around 750 m a.s.l., UTM FV14, BdNP.

26. Brzegi Górne, the Wyżna Pass, 872 m a.s.l., UTM FV14, BdNP.

27. Połonina Wetlińska, vegetation on the edges of the spring section of the Pataraczakowski stream; around 1200 m a.s.l., UTM FV14, BdNP.

28. Dział, vegetation around the spring and the spring section of an unnamed left-bank tributary of the Wetlinka stream below an unnamed peak (930 m a.s.l.), around 880 m a.s.l., UTM FV04, BdNP.

29. Vegetation along the Górna Solinka stream, southeast of Moczarne, around 750 m a.s.l., UTM FV04, BdNP.

30. Vegetation along the Beskidnik stream, south of Moczarne, 700–800 m a.s.l., UTM FV04, BdNP.

31. Moczarne. Specimens collected *ad lucem* using light traps along the Górna Solinka stream, between the mouth of the Lutowy stream and the end of the narrow-gauge railway, 650–750 m a.s.l., UTM FV04, BdNP.

32. Vegetation at the bog spring source of an unnamed left-bank tributary of the Beskidnik stream below the summit of Czoło (1159 m a.s.l.), around 1080 m a.s.l., UTM FV03, BdNP.

33. Vegetation at the mouth of the Lutowy stream entering the Górna Solinka stream, around 680 m a.s.l., UTM FV04, BdNP.

34. Wetlina, vegetation at various sites along the Wetlina (vel Wetlinka) stream between the mouth of the Górna Solinka stream and the village of Smerek, around 600–650 m a.s.l., UTM FV04.

35. Połonina Wetlińska, vegetation at the headspring area of the Berdo stream, north of the M. Orłowicz Pass, around 1000 m a.s.l., UTM FV04, BdNP.

36. Suche Rzeki, vegetation along the Rzeka stream, below its confluence with the Berdo stream; around 620 m a.s.l., UTM FV15, BdNP.

37. Zatwarnica, vegetation along the Rzeka stream, above its confluence with the Hylaty stream, around 550 m a.s.l., UTM FV15.

38. Upper valley of the Tworylczyk stream (the area of the former nature reserve 'Puszcza Bieszczadzka nad Sanem'), primeval beech forest, around 600–950 m a.s.l., UTM FV05, BdNP.
39. Vegetation at the mouth of the Kobylski stream entering the Wetlina stream, around 550 m a.s.l., UTM FV05.
40. Sine Wiry Nature Reserve, vegetation along the Wetlina stream, 550–600 m a.s.l., UTM FV05.
41. Małe Jasło (1103 m a.s.l.), beech forest near the red trail, in the vicinity of the summit, UTM EV94.
42. Roztoki Górne, vegetation along the Roztoczka (vel Roztoki) stream, around 700 m a.s.l., UTM EV94.
43. Majdan, vegetation at the mouth of the Roztoczka (vel Roztoki) stream entering the Solinka stream, around 600 m a.s.l., UTM EV95.
44. Żubracze, vegetation along the Solinka stream, around 600 m a.s.l., UTM EV95.
45. Dołżyca, vegetation at the mouth of the Dołżycki stream entering the Solinka stream, around 500 m a.s.l., UTM EV95.
46. Polanki, vegetation along the Solinka stream, around 450 m a.s.l., UTM FV05.
47. Bukowiec, mouth of the Solinka stream entering Lake Solina, around 420 m a.s.l., UTM FV06.
48. Rajskie, vegetation at the mouth of the San river entering Lake Solina, around 400 m a.s.l., UTM FV06.
49. Bóbrka, a village on the eastern shore of Lake Myczkowce, no information on exact location of the collection site, UTM FV07.
50. Ustrzyki Dolne, no information on exact location of the collection site, UTM FV17.
51. Lesko, vegetation along the San river, near the local bridge, around 300 m a.s.l., UTM EV98.
52. Mików, vegetation along the Oślawa river, in the vicinity of the mouth of the Mikowy stream, 500 m a.s.l., UTM EV86.
53. Duszatyn, vegetation at the mouth of the Olchowaty stream entering the Oślawa river, around 470 m a.s.l., UTM EV86.
54. Zwieżło Nature Reserve, vegetation on the shore of the Duszatyńskie Lakes, around 700 m a.s.l., UTM EV86.

## RESULTS

### List of species

#### Limoniidae

##### *Dactylolabis (D.) transversa* (Meigen, 1804)

Material examined: DIZH – [30] 16 Jun 1985, 1♂ (leg. MG); [33] 16 Jun 1985, 1♀ (leg. MG). ISEA – [15] 4 Jun 1990, 2♂♂ (leg. WK).

Distribution and remarks: Widespread in Europe, apart from Northern Europe. Reported from the Bukovské Hills (Starý 1995a) and Nadsyansky RLP (Savchenko 1986). In Poland, only recorded from the Tatra Mts (Nowicki 1870; Loew 1871a; Bobek 1890) and Gorce Mts (Wiedeńska 2017).

##### *Paradelphomyia ecalcarata* (Edwards, 1938)

Material examined: DIZH – [34] 23 Jul 1984, 1♂ (leg. MG).

Distribution and remarks: Reported from several countries in Europe from France and Great Britain in the north-west, to the Ukrainian Carpathians in the east, and Bulgaria in the south. Reported from the Bukovské Hills (Starý 1995a). In Poland, recorded only from one site in the Beskid Wyspowy Mts (Krzemiński 1991).

***Paradelphomyia senilis* (Haliday, 1833)**

Material examined: DIZH – [53] 4 Aug 1996, 2♂♂ (*ad lucem* leg. BS).

Distribution and remarks: The western Palaearctic up to Kyrgyzstan in the east. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1986). Recorded from many localities in Poland.

***Austrolimnophila (Archilimnophila) unica* (Osten Sacken, 1869)**

Material examined: DIZH – [14] 10 Aug 1980, 1♀ (*ad lucem* leg. JW); [29] 16 Jun 1985, 1♂ (leg. MG); [30] 16 Jun 1985, 1♂ (leg. MG).

Distribution and remarks: A Holarctic, widespread species. Reported from the Bukovské Hills (Starý 1995a) and Nadsyansky RLP (Savchenko 1986). Recorded from many localities in Poland.

***Austrolimnophila (A.) ochracea* (Meigen, 1804)**

Material examined: DIZH – [4] 22 Jun 1986, 2♂♂ (leg. JW); [8] 26 Jun 1986, 1♀ (leg. JW); [10] 29 Jun 1986, 1♀ (leg. JW); [17] 26 Jun 1986, 1♂, 1♀ (leg. JW); [30] 16 Jun 1985, 1♂ (leg. MG); [31] 1 Aug 1995, 1♂ (*ad lucem* leg. BS); [36] 17 Jun 1985, 4♂♂ (leg. MG); [53] 4 Aug 1996, 1♀ (leg. BS). ISEA – [21] 8 Jul 1987, 13♂♂, 5♀♀; 3–9 Jul 1987, 3♂♂ (leg. WK); [34] 25 Jul 1978, 1♀ (leg. WK).

Distribution and remarks: The Western Palaearctic up to Iran in the east. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1986). A very common species in Poland.

***Epiphragma (Epiphragma) ocellare* (Linnaeus, 1760)**

Material examined: DIZH – [6] 15 May 1992, 1♀ (leg. BS); [10] 29 Jun 1986, 1♀ (leg. JW); [17] 28 Jun 1986, 1♀ (leg. JW); [30] 16 Jun 1985, 1♂ (leg. MG); [36] 17 Jun 1985, 1♂ (leg. MG); [37] 17 Jun 1985, 1♂ (leg. MG). ISEA – [15] 4 Jun 1990, 1♂ (leg. WK); [21] 5 Jul 1987, 3♂♂, 1♀; 8 Jul 1987, 6♂♂, 7♀♀; 3–9 Jul 1987, 2♂♂; 4 Jun 1990, 2♂♂ (leg. WK).

Distribution and remarks: A Holarctic species, widespread in the Palaearctic. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1986). A very common species in Poland.

***Eloeophila apicata* (Loew, 1871)**

Material examined: DIZH – [9] 26 Jun 1986, 2♂♂ (leg. JW); [10] 29 Jun 1986, 1♀ (leg. JW); [12] 29 Jun 1986, 1♂ (leg. JW); [31] 23 Jul 1994, 1♂, 30♀♀ (*ad lucem* leg. BS); 1 Aug 1995, 1♀ (*ad lucem* leg. BS); [46] 25 Jul 1984, 1♂ (leg. MG); [53] 4 Aug 1996, 1♂ (*ad lucem* leg. BS).

Distribution and remarks: The Western Palaearctic up to Turkmenistan in the east. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1986). In Poland, only recorded from the Tatra Mts (Nowicki 1870, 1873; Loew 1871a, 1871b) and Gorce Mts (Wiedeńska 2017).

***Eloeophila maculata* (Meigen, 1804)**

Material examined: DIZH – [31] 1 Aug 1995, 1♀ (*ad lucem* leg. BS); [53] 4 Aug 1996, 1♂ (*ad lucem* leg. BS). ISEA – [21] 5 Jul 1987, 1♂ (leg. WK).

Distribution and remarks: The Western Palaearctic up to Kazakhstan in the east. Reported from the Bukovské Hills (Starý 1995a), Nadsyansky RLP, and Uzshansky NP (Savchenko 1986). A very common species in Poland.

***Eloeophila miliaria* (Egger, 1863)**

Material examined: DIZH – [31] 23 Jul 1994, 3♂♂, 8♀♀ (*ad lucem* leg. BS); 1 Aug 1995, 2♂♂, 6♀♀ (*ad lucem* leg. BS); [53] 4 Aug 1996, 3♂♂, 1♀ (*ad lucem* leg. BS).

Distribution and remarks: Mainly Central and Southern Europe. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1986). In Poland, recorded from the Tatra Mts (Nowicki 1870, Bobek 1890), the Nowy Sącz region (Grzegorzec 1872), and the Gorce Mts (Wiedeńska 2017).

***Eloeophila mundata* (Loew, 1871)**

Material examined: DIZH – [10] 29 Jun 1986, 1♂, 1♀ (leg. JW); [11] 12 Jun 1984, 1♀ (leg. MG); [27] 24 Jul 1994, 1♀ (leg. IS); [31] 23 Jul 1994, 23♀♀ (*ad lucem* leg. BS); 1 Aug 1995, 13♀♀ (*ad lucem* leg. BS); [32] 16 Jun 1985, 3♂♂ (leg. MG). ISEA – [21] 5 Jul 1987, 1♂ (leg. WK).

Distribution and remarks: A European species. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1986). In Poland, only recorded from the Tatra Mts (Nowicki 1870, 1873; Loew 1871a, 1871b) and Gorce Mts (Wiedeńska 2017).

***Eloeophila submarmorata* (Verrall, 1887)**

Material examined: DIZH – [54] 3 Aug 1996, 1♀ (*ad lucem* leg. BS).

Distribution and remarks: The Western Palaearctic up to Georgia and Iran in the east. Reported from the Bukovské Hills (Starý 1995a) and Uzhansky NP (Savchenko 1986). Recorded from many localities in Poland.

***Eloeophila trimaculata* (Zetterstedt, 1838)**

Material examined: DIZH – [34] 7 Jun 1984, 2♂♂, (leg. MG).

Distribution and remarks: A European species. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1986). Recorded from many localities in Poland.

***Eloeophila verralli* (Bergroth, 1912)**

Material examined: DIZH – [18] 6 Jun 1984, 3♂♂ (leg. MG); [19] 13 Jun 1984, 1♂ (leg. MG); [21] 6 Jun 1984, 1♂ (leg. MG); [34] 7 Jun 1984, 1♂ (leg. MG).

Distribution and remarks: A European species. Reported from the Bukovské Hills (Starý 1995a). In Poland, recorded from the Świętokrzyskie Mts, Roztocze Upland, Sandomierz Basin and the Gorce Mts (Wiedeńska 1986, 1996, 2017).

***Limnophila* (*L.*) *schranksi* Oosterbroek, 1992**

Material examined: ISEA – [38] 31 May 1988, 1♂ (leg. WK).

Distribution and remarks: The Western Palaearctic up to Kazakhstan in the east. Reported from the Bukovské Hills (Starý 1995a) and Nadsyansky RLP (Savchenko 1986). A very common species in Poland.

***Euphylidorea* (*E.*) *phaeostigma* (Schummel, 1829)**

Material examined: DIZH – [28] 24 Jul 1984, 1♀ (leg. MG); [31] 23 Jul 1994, 3♂♂ (*ad lucem* leg. BS); [32] 16 Jun 1985, 1♂, 1♀ (leg. MG).

Distribution and remarks: The Western Palaearctic up to the Altai Mts in the east. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1986). Recorded from many localities in Poland.

***Dicranophragma (Brachylimnophila) nemorale (Meigen, 1818)***

Material examined: DIZH – [4] 6 Aug 1980, 1♀ (leg. JW); 22 Jun 1986, 1♂ (leg. JW); [8] 26 Jun 1986, 8♂♂, 3♀♀ (leg. JW); [9] 26 Jun 1986, 3♂♂, 4♀♀ (leg. JW); [10] 5 Aug 1980, 1♂ (leg. JW); 29 Jun 1986, 4♂♂, 4♀♀ (leg. JW); [12] 29 Jun 1986, 1♂ (leg. JW); [14] 10 Aug 1980, 1♂ (leg. JW); [17] 28 Jun 1986, 1♀ (leg. JW); [23] 21 Jul 1994, 1♂ (leg. IS); [25] 24 Jun 1986, 24♂♂, 1♀ (leg. JW); [28] 24 Jul 1984, 1♀ (leg. MG); [31] 23 Jul 1994, 3♀♀ (*ad lucem* leg. BS); [35] 17 Jun 1985, 1♀ (leg. MG); [46] 25 Jul 1984, 1♂ (leg. MG); [53] 4 Aug 1996, 5♀♀ (*ad lucem* leg. BS). ISEA – [21] 8 Jul 1987, 1♂ (leg. WK).

Distribution and remarks: A common, trans-Palaeartic species. Reported from the Bukovské Hills (Starý 1995a), Nadsyansky RLP, and Uzhansky NP (Savchenko 1986). A very common species in Poland.

***Dicranophragma (Brachylimnophila) separatum (Walker, 1848)***

Material examined: ISEA – [15] 24–30 Jul 1980, 1♂ (leg. RS); 4 Jun 1990, 1♂ (leg. WK); [21] 8 Jul 1987, 1♂ (leg. WK); [47] 21 Jul 1985, 1♂ (leg. WK).

Distribution and remarks: The Western Palaeartic up to Kazakhstan in the east. Reported from the Bukovské Hills (Starý & Reusch 2009). In Poland, only recorded from Lower Silesia (Kolcsár et al. 2021).

***Neolimnomyia batava (Edwards, 1938)***

Material examined: DIZH – [17] 28 Jun 1986, 1♂, 1♀ (leg. JW); [28] 24 Jul 1984, 3♂♂, 1♀ (leg. MG). ISEA – [21] 8 Jul 1987, 2♂♂ (leg. WK).

Distribution and remarks: A European species. Reported from the Bukovské Hills (Starý 1995a) and Nadsyansky RLP (Savchenko 1986). Recorded from many localities in Poland.

***Neolimnomyia filata (Walker, 1856)***

Material examined: DIZH – [5] 1 Aug 1984, 1♂ (leg. MG); [27] 24 Jun 1994, 1♂ (leg. IS); [35] 23 Jul 1986, 1♂ (leg. MG); [42] 22 Jul 1984, 1♂ (leg. MG).

Distribution and remarks: A European species. Reported from the Bukovské Hills (Starý 1995a) and Nadsyansky RLP (Savchenko 1986). In Poland, recorded only from the Roztocze Upland and Gorce Mts (Wiedeńska 1996, 2017).

***Phylidorea (Paraphylidorea) fulvonervosa (Schummel, 1829)***

Material examined: DIZH – [10] 29 Jun 1986, 3 (leg. JW); [31] 23 Jul 1994, 2♂♂ (*ad lucem* leg. BS); [36] 17 Jun 1985, 1♂ (leg. MG).

Distribution and remarks: A trans-Palaeartic species. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1986). Recorded from many localities in Poland.

***Pilaria discicollis (Meigen, 1818)***

Material examined: ISEA – [34] 25 Jul 1978, 1♂ (leg., det. WK).

Distribution and remarks: The Western Palaeartic up to Kazakhstan in the east. Reported from the Bukovské Hills (Starý 1995a) and Nadsyansky RLP (Savchenko 1986). A very common species in Poland.



***Pilaria fuscipennis* (Meigen, 1818)**

Material examined: ISEA – [21] 8 Jul 1987, 1♂ (leg. WK).

Distribution and remarks: The Western Palaearctic up to the Altai Mts in the east. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1986). Recorded from many localities in Poland.

***Prionolabis hospes* (Egger, 1863)**

Material examined: ISEA – [15] 4 Jun 1990, 1♀ (leg. WK); [38] 31 May 1988, 5♂♂ (leg. WK).

Distribution and remarks: Widespread in Europe. Reported from the Bukovské Hills (Starý 1995a) and Uzhansky NP (Savchenko 1986). Recorded from many localities in Poland.

***Pseudolimnophila (P.) lucorum* (Meigen, 1818)**

Material examined: DIZH – [13] 1 Aug 1984, 1♂, 1♀ (leg. MG); [44] 10 Jun 1984, 1♂ (leg. MG). ISEA – [21] 8 Jul 1987, 2♂♂ (leg. WK).

Distribution and remarks: A trans-Palaearctic species. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1986). Recorded from many localities in Poland.

***Hexatoma (Eriocera) grisea* (Riedel, 1914)**

Material examined: ISEA – [15] 5 Jul 1988, 2♀♀ (leg. WK); [21] 15 Jul 2001, 1♀ (leg. WK).

Distribution and remarks: A species so far known from the Balkan Peninsula, Bulgaria, Romania, the Ukrainian Carpathians, and Poland. Montane species (Savchenko 1986). In Poland, recorded only from the settlement of Polanki in the Bieszczady Mts (Wiedeńska 2019a).

***Crypteria (C.) limnophiloides* Bergroth, 1913**

Material examined: DIZH – [10] 29 Jun 1986, 1♀ (leg. JW); [14] 20 Aug 1979, 1♀ (*ad lucem* leg. JW); [24] 1 Oct 1994, 2♂♂ (leg. BS); [31] 23 Jul 1994, 2♀♀ (*ad lucem* leg. BS); 29 Sep 1994, 1♂ (*ad lucem* leg. BS). ISEA – [15] 24–30 Jul 1980, 7♂♂ (leg. RS); [25] 2 Oct 1993, 1♂ (leg. WK).

Distribution and remarks: The Western Palaearctic up to the South Caucasus in the east. Reported from the Bukovské Hills (Starý 1995a) and Nadsyansky RLP (Savchenko 1982). Recorded from many localities in Poland including from the village of Wetlina in the Bieszczady Mts (Krzemiński 1984).

***Neolimnophila carteri* (Tonnoir, 1921)**

Material examined: ISEA – [47] 17 Jul 1984, 1♂ (leg. WK).

Distribution and remarks: Widespread in Europe. Reported from the Bukovské Hills (Starý 1995a), Nadsyansky RLP, and Uzhansky NP (Savchenko 1982). Recorded from many localities in Poland including from the village of Wetlina in the Bieszczady Mts (Krzemiński 1984).

***Arctoconopa melampodia* (Loew, 1873)**

Material examined: DIZH – [19] 27 Jul 1984, 1♂ (leg. MG).

Distribution and remarks: A Palaearctic species, widespread in Europe. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1982). In Poland, recorded from the Nowy Sącz region (Grzegorzec 1873), Poznań (Loew 1873), and the Świętokrzyskie Mts (Wiedeńska 1986).

***Erioptera (E.) divisa* (Walker, 1848)**

Material examined: DIZH – [31] 23 Jul 1994, 1♂, 2♀♀ (*ad lucem* leg. BS). ISEA – [50] 10 Sep 1984, 1♂ (leg. WK).

Distribution and remarks: Widespread in Europe. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1982). Recorded from many localities in Poland.

***Erioptera (E.) flavata* (Westhoff, 1882)**

Material examined: DIZH – [25] 24 Jun 1986, 1♂ (leg. JW); [54] 3 Aug 1996, 2♂♂ (*ad lucem* leg. BS). ISEA – [21] 5 Jul 1987, 2♂♂; 8 Jul 1987, 3♂♂; 15 Jul 2001, 11♂♂, 1♀ (leg. WK).

Distribution and remarks: The Western Palaearctic up to Kazakhstan in the east. Reported from the Bukovské Hills (Starý 1995a) and Nadsyansky RLP (Savchenko 1982). Recorded from many localities in Poland.

***Erioptera (E.) griseipennis* Meigen, 1838**

Material examined: DIZH – [21] 23 Jun 1986, 2♂♂ (leg. JW); [34] 11 Jun 1984, 1♂ (leg. MG). ISEA – [21] 5 Jul 1987, 1♂; 8 Jul 1987, 1♂ (leg. WK).

Distribution and remarks: Widespread in Europe. Reported from the Bukovské Hills (Starý 1995a) and Nadsyansky RLP (Savchenko 1982). Recorded from many localities in Poland.

***Erioptera (E.) lutea lutea* Meigen, 1804**

Material examined: DIZH – [4] 22 Jun 1986, 2♂♂ (leg. JW); [10] 5 Aug 1980, 1♂ (leg. JW); [11] 16 Aug 1980, 4♂♂ (leg. JW); [14] 20 Aug 1979, 1♂ (*ad lucem* leg. JW); 10 Aug 1980, 12♂♂, 10♀♀ (*ad lucem* leg. JW); [19] 13 Jun 1984, 1♂ (leg. MG); [25] 24 Jun 1986, 8♂♂, 1♀ (leg. JW); [29] 16 Jun 1985, 1♂ (leg. MG); [32] 16 Jun 1985, 3♂♂ (leg. MG); [39] 20 Sep 1982, 1♂ (leg. JW); [53] 4 Aug 1996, 9♂♂, 3♀♀ (*ad lucem* leg. BS). ISEA – [15] 24–30 Jul 1980, 2♂♂ (leg. RS); [25] 2 Oct 1993, 1♂ (leg. WK); [38] 31 May 1988, 2♂♂ (leg. WK); [50] 10 Sep 1984, 25♂♂ (leg. WK).

Distribution and remarks: Widespread in the Western and Central Palaearctic, common. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1982). A very common species in Poland, previously recorded in the Bieszczady Mts from the village of Wetlina (Krzemiński 1984).

***Erioptera (E.) sordida* Zetterstedt, 1838**

Material examined: DIZH – [12] 29 Jun 1986, 1♂ (leg. JW).

Distribution and remarks: A trans-Palaearctic species. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1982). Recorded from many localities in Poland.

***Erioptera (E.) verralli* Edwards, 1921**

Material examined: DIZH – [4] 22 Jun 1986, 1♂ (leg. JW).

Distribution and remarks: A scarce species ranging from Great Britain and the French Jura Mts in the west to the Ukrainian and Romanian Carpathians in the east. Reported from the Bukovské Hills (Starý 1995a). In Poland, recorded from the Pieniny Mts (Krzemiński 1984), Gorce Mts (Wiedeńska 2017), and the Babia Góra massif (Oboňa et al. 2019).

***Gonempeda flava* (Schummel, 1829)**

Material examined: DIZH – [8] 26 Jun 1986, 1♂ (leg. JW); [10] 26 Jun 1986, 2♂♂, 4♀♀ (leg. JW); [12] 29 Jun 1986, 11♂♂ (leg. JW). ISEA – [21] 5 Jul 1987, 12♂♂ (leg. WK); [50] 10 Sep 1984, 1♂ (leg. WK).

Distribution and remarks: Widespread in Europe, common. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1982). Recorded from many localities in Poland.

***Scleroprocta pentagonalis* (Loew, 1873)**

Material examined: DIZH – [6] 12 Jun 1984, 1♂, 2♀♀ (leg. MG); [34] 11 Jun 1984, 4♂♂ (leg. MG). ISEA – [21] 8 Jul 1987, 1♂ (leg. WK).

Distribution and remarks: The Western Palearctic up to Kazakhstan in the east. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1982). In Poland, recorded from Poznań (Loew 1873) and the Gorce Mts (Wiedeńska 2017).

***Symplecta (Psiloconopa) stictica stictica* (Meigen, 1818)**

Material examined: ISEA – [15] 24–30 Jul 1980, 1♂ (leg. RS).

Distribution and remarks: Widespread in the Western and Central Palearctic. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1982). Recorded from many localities in Poland.

***Symplecta (S.) hybrida* (Meigen, 1804)**

Material examined: DIZH – [2] 22 Jul 1994, 1♂ (leg. IS); [31] 23 Jul 1994, 1♂ (*ad lucem* leg. BS). ISEA – [15] 24–30 Jul 1980, 1♂ (leg. RS).

Distribution and remarks: The Holarctic and Oriental realm, common. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1982). Recorded from many localities in Poland, previously recorded in the Bieszczady Mts from the upper section of the San river and its left-bank tributaries (Zaćwilichowska 1970).

***Cheilotrichia (Ch.) imbuta* (Meigen, 1818)**

Material examined: DIZH – [9] 26 Jun 1986, 4♂♂ (leg. JW); [10] 29 Jun 1986, 1♂ (leg. JW); [11] 16 Aug 1980, 3♂♂ (leg. JW); 20 Jun 1985, 1♂ (leg. MG); [12] 29 Jun 1986, 28♂♂ (leg. JW); [14] 10 Aug 1980, 1♂ (*ad lucem* leg. JW); [33] 25 Jul 1994, 1♂ (leg. IS); [42] 22 Jul 1984, 1♂, 1♀ (leg. MG); [43] 22 Jul 1984, 1♂ (leg. MG); [46] 25 Jul 1984, 4♂♂ (leg. MG). ISEA – [15] 24–30 Jul 1980, 6♂♂ (leg. RS); [21] 5 Jul 1987, 9♂♂, 1♀; 8 Jul 1987, 5♂♂ (leg. WK); [36] Jul 1974, 1♂, 5♀♀ (leg. JB); [47] 17 Jul 1984, 2♂♂ (leg. WK).

Distribution and remarks: A common, trans-Palearctic species. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1982). A very common species in Poland, previously recorded in the Bieszczady Mts from the village of Wetlina (Krzemiński 1984).

***Cheilotrichia (Empeda) affinis* (Lackschewitz, 1927)**

Material examined: ISEA – [25] 2 Oct 1993, 1♂ (leg. WK).

Distribution and remarks: A scarce species, known from Central and Eastern Europe, as well as Kazakhstan. Reported from the Ukrainian Carpathians (Savchenko 1982). In Poland, only recorded from the Świętokrzyskie Mts and Gorce Mts (Wiedeńska 1991, 2017).

***Cheilotrichia (Empeda) cinerascens (Meigen, 1904)***

Material examined: DIZH – [14] 10 Aug 1980, 1♂, 15♀♀ (leg. JW). ISEA – [50] 10 Sep 1984, 1♂ (leg. WK).

Distribution and remarks: The Western Palaearctic up to Morocco in the south and Kazakhstan in the east, common. Reported from the Bukovské Hills (Starý 1995a), Nadsyansky RLP, and Uzhansky NP (Savchenko 1982). A very common species in Poland, previously recorded in the Bieszczady Mts from the village of Wetlina (Krzemiński 1984).

***Cheilotrichia (Empeda) neglecta (Lackschewitz, 1927)***

Material examined: DIZH – [24] 1 Oct 1994, 8♂♂, 8♀♀ (leg. BS); [31] 29 Sep 1994, 3♂♂, 4♀♀ (*ad lucem* leg. BS). ISEA – [7] 7 Oct 1993, 1♂ (leg. WK); [25] 1 Oct 1993, 1♂ (leg. WK).

Distribution and remarks: A species known from a few countries in Europe, as well as from Kazakhstan. Reported from the Bukovské Hills (Starý 1995a). In Poland, only recorded from the Świętokrzyskie Mts, Roztocze Upland and the Sandomierz Basin (Wiedeńska 1986, 1996).

***Cheilotrichia (Empeda) staryi Mendl, 1973***

Material examined: ISEA – [15] 27 Sep 1991, 1♂ (leg. WK).

Distribution and remarks: A scarce, montane species, known from a few countries in Europe. In Poland, only recorded from the Gorce Mts (Wiedeńska 2017).

***Eriocnopa trivialis (Meigen, 1818)***

Material examined: DIZH – [25] 24 Jun 1986, 1♂ (leg. JW); [29] 11 Jun 1984, 1♂ (leg. MG).

Distribution and remarks: The Western Palaearctic up to Iran in the south-east. Reported from the Bukovské Hills (Starý 1995a) and Nadsyansky RLP (Savchenko 1982). Recorded from many localities in Poland.

***Hoplolabis (Parilisia) areolata (Siebke, 1872)***

Material examined: DIZH – [54] 3 Aug 1996, 1♂ (*ad lucem* leg. BS).

Distribution and remarks: Widespread in Europe. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1982). In Poland, recorded from the Vistula Lowland (Krzemiński 1984), Świętokrzyskie Mts, and the Lublin Upland (Wiedeńska 1986, 1996).

***Hoplolabis (Parilisia) vicina (Tonnoir, 1920)***

Material examined: DIZH – [48] 20 Jul 1994, 1♂ (leg. IS); [51] 5 Aug 1984, 1♂ (leg. MG). ISEA – [21] 5 Jul 1987, 1♂; 8 Jul 1987, 1♂ (leg. WK).

Distribution and remarks: The Western Palaearctic up to Turkmenistan in the east. Reported from the Bukovské Hills (Starý 1995a) and Uzhansky NP (Savchenko 1982). Recorded from many localities in Poland.

***Hoplolabis (Parilisia) yezoana (Alexander, 1924)***

Material examined: DIZH – [31] 23 Jul 1994, 1♂ (*ad lucem* leg. BS). ISEA – [15] 24–30 Jul 1980, 1♂ (leg. RS).

Distribution and remarks: A trans-Palaearctic species. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1982). In Poland, recorded only from Pstrokonie in the Southern Wielkopolska Lowland and the Gorce Mts (Wiedeńska 1993, 2017).

***Ilisia maculata* (Meigen, 1804)**

Material examined: DIZH – [10] 29 Jun 1986, 5♂♂ (leg. JW); [12] 29 Jun 1986, 1♂ (leg. JW). ISEA – [15] 24–30 Jul 1980, 1♂, 1♀ (leg. RS); [21] 3–9 Jul 1987, 1♀ (leg. WK); [22] 20 Jul 1985, 1♀ (leg. WK); [50] 10 Sep 1984, 2♂♂, 4♀♀ (leg. WK).

Distribution and remarks: The Western Palaearctic up to Morocco in the south and Iran in the east. Reported from the Bukovské Hills (Starý 1995a) and Nadsyansky RLP (Savchenko 1982). A common species in Poland, previously recorded in the Bieszczady Mts from the village of Wetlina (Krzemiński 1984).

***Molophilus (M.) appendiculatus* (Staeger, 1840)**

Material examined: DIZH – [4] 22 Jun 1986, 1♂ (leg. JW); [10] 5 Aug 1980, 1♂ (leg. JW); 3 Aug 1984, 1♂ (leg. MG); [17] 28 Jun 1986, ♂ (leg. JW); [25] 24 Jun 1986, 1♂ (leg. JW). ISEA – [15] 24–30 Jul 1980, 1♂ (leg. RS); [21] 8 Jul 1987, 8♂♂ (leg. WK).

Distribution and remarks: The Western Palaearctic up to the Altai Mts in the east. Reported from the Bukovské Hills (Starý 1995a) and Uzhansky NP (Savchenko 1982). Recorded from many localities in Poland including from the village of Wetlina in the Bieszczady Mts (Krzemiński 1984).

***Molophilus (M.) ater* (Meigen, 1804)**

Material examined: DIZH – [6] 15 May 1992, 2♂♂ (leg. BS). ISEA – [15] 24–30 Jul 1980, 1♂ (leg. RS).

Distribution and remarks: The Western Palaearctic up to Kazakhstan in the east. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1982). Recorded from many localities in Poland.

***Molophilus (M.) bifidus* Goetghebuer, 1920**

Material examined: DIZH – [25] 24 Jun 1986, 2♂♂ (leg. JW). ISEA – [15] 24–30 Jul 1980, 3♂♂ (leg. RS, det. M. Syratt & WK).

Distribution and remarks: The Western Palaearctic up to Iran in the east. Reported from the Bukovské Hills (Starý 1995a) and Nadsyansky RLP (Savchenko 1982). Recorded from many localities in Poland including from the village of Ustrzyki Górne in the Bieszczady Mts (Krzemiński 1984).

***Molophilus (M.) brevihamatus* Bangertter, 1947**

Material examined: DIZH – [1] 22 Jul 1994, 1♂ (leg. IS); [8] 26 Jun 1986, 1♂ (leg. JW); [12] 29 Jun 1986, 1♂ (leg. JW); [14] 10 Aug 1980, 2♂♂, 1♀ (*ad lucem* leg. JW); [30] 22 Jul 1986, 1♂ (leg. MG); [31] 23 Jul 1994, 5♂♂ (*ad lucem* leg. BS).

Distribution and remarks: A scarce, montane species of Central and Eastern Europe. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1982). In Poland, only recorded from the Gorce Mts (Wiedeńska 2017).

***Molophilus (M.) cinereifrons* de Meijere, 1920**

Material examined: DIZH – [10] 5 Aug 1980, 1♂ (leg. JW); [12] 29 Jun 1986, 2♂♂ (leg. JW); [17] 28 Jun 1986, 1♂ 2♂♂ (leg. JW); [53] 4 Aug 1996, 1♂ (*ad lucem* leg. BS). ISEA – [15] 24–30 Jul 1980, 1♂ (leg. RS); [21] 8 Jul 1987, 2♂♂; 3–9 Jul 1987, 6♂♂; 4 Jun 1990, 1♂ (leg. WK).

Distribution and remarks: The Western Palaearctic up to Kazakhstan in the east. Reported from the Bukovské Hills (Starý 1995a), Nadsyansky RLP and Uzhansky NP (Savchenko 1982). Recorded from many localities in Poland, previously recorded in the Bieszczady Mts from the village of Wetlina (Krzemiński 1984).

***Molophilus (M.) corniger* de Meijere, 1920**

Material examined: DIZH – [54] 3 Aug 1996, 1♂ (*ad lucem* leg. BS).

Distribution and remarks: A European species. Reported from the Bukovské Hills (Starý 1995a) and Uzhansky NP (Savchenko 1982). Recorded from many localities in Poland.

***Molophilus (M.) crassipygus* de Meijere, 1918**

Material examined: DIZH – [8] 26 Jun 1986, 1♂ (leg. JW); [10] 3 Aug 1984, 1♂ (leg. MG); [23] 21 Jul 1994, 1♂ (leg. IS); [31] 23 Jul 1994, 6♂♂ (*ad lucem* leg. BS); 1 Aug 1995, 3♂♂ (*ad lucem* leg. BS); [46] 25 Jul 1984, 1♂ (leg. MG). ISEA – [15] 24–30 Jul 1980, 1♂ (leg. RS); [21] 15 Jul 2001, 1♂ (leg. WK).

Distribution and remarks: A European species. Reported from the Bukovské Hills (Starý 1995a) and Uzhansky NP (Savchenko 1982). Recorded from many localities in Poland including from the village of Wetlina in the Bieszczady Mts (Krzemiński 1984).

***Molophilus (M.) curvatus* Tonnoir, 1920**

Material examined: DIZH – [8] 26 Jun 1986, 5♂♂ (leg. JW); [31] 1 Aug 1995, 1♂ (*ad lucem* leg. BS). ISEA – [15] 24–30 Jul 1980, 2♂♂ (leg. RS); [21] 5 Jul 1987, 1♂; 8 Jul 1987, 4♂♂; 3–9 Jul 1987, 3♂♂ (leg. WK).

Distribution and remarks: A European species. Reported from the Bukovské Hills (Starý 1995a), Nadsyansky RLP, and Uzhansky NP (Savchenko 1982). Recorded from many localities in Poland including from the village of Wetlina in the Bieszczady Mts (Krzemiński 1984).

***Molophilus (M.) flavus* Goetghebuer, 1920**

Material examined: DIZH – [10] 29 Jun 1986, 1♂ (leg. JW); [31] 1 Aug 1995, 1♂ (*ad lucem* leg. BS); [32] 16 Jun 1985, 2♂♂ (leg. MG); [54] 3 Aug 1996, 4♂♂ (*ad lucem* leg. BS).

Distribution and remarks: A European species. Reported from the Bukovské Hills (Starý 1995a) and Uzhansky NP (Savchenko 1982). Recorded from many localities in Poland.

***Molophilus (M.) medius* de Meijere, 1918**

Material examined: DIZH – [8] 26 Jun 1986, 6♂♂ (leg. JW); [10] 3 Aug 1984, 1♂ (leg. MG); [12] 29 Jun 1986, 5♂♂ (leg. JW); [25] 24 Jun 1986, 1♂ (leg. JW); [31] 23 Jul 1994, 2♂♂ (*ad lucem* leg. BS); [34] 7 Jun 1984, 1♂ (leg. MG); [54] 3 Aug 1996, 2♂♂ (*ad lucem* leg. BS).

Distribution and remarks: A European species. Reported from the Bukovské Hills (Starý 1995a) and Nadsyansky RLP (Savchenko 1982). Recorded from many localities in Poland including from the village of Ustrzyki Górne in the Bieszczady Mts (Krzemiński 1984).

***Molophilus (M.) ochraceus* (Meigen, 1818)**

Material examined: DIZH – [8] 26 Jun 1986, 1♂ (leg. JW); [9] 26 Jun 1986, 2♂♂ (leg. JW); [10] 29 Jun 1986, 5♂♂ (leg. JW); [12] 29 Jun 1986, 1♂ (leg. JW); [25] 24 Jun 1986, 8♂♂ (leg. JW). ISEA – [15] 24–30 Jul 1980, 2♂♂ (leg. RS); [21] 3–9 Jul 1987, 1♂ (leg. WK); [47] 17 Jul 1984, 2♂♂ (leg. WK); [50] 10 Sep 1984, 2♂♂ (leg. WK).

Distribution and remarks: The Western Palaearctic up to Kazakhstan in the east. Reported from the Bukovské Hills (Starý 1995a) and Uzhansky NP (Savchenko 1982). Recorded from many localities in Poland including from the village of Wetlina in the Bieszczady Mts (Krzemiński 1984).

***Molophilus (M.) propinquus* (Egger, 1863)**

Material examined: DIZH – [10] 29 Jun 1986, 1♂ (leg. JW); [31] 23 Jul 1994, 1♂ (*ad lucem* leg. BS); [34] 15 Jun 1985, 1♂ (leg. MG).

Distribution and remarks: A common, trans-Palaearctic species. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1982). Recorded from many localities in Poland including from the village of Wetlina in the Bieszczady Mts (Krzemiński 1984).

***Molophilus (M.) savtshenkoi* Starý, 1972**

Material examined: DIZH – [31] 27 Jul 1995, 1♂, 2♀♀ (*ad lucem* leg. BS).

Distribution and remarks: A scarce, montane species recorded from only six countries in Europe. Reported from the Ukrainian Carpathians (Savchenko 1982). In Poland, only recorded from the Gorce Mts (Wiedeńska 2017).

***Molophilus (M.) serpentiger* Edwards, 1938**

Material examined: DIZH – [34] 7 Jun 1984, 1♂ (leg. MG).

Distribution and remarks: A European species. Reported from the Bukovské Hills (Starý 1995a), Nadsyansky RLP, and Uzhansky NP (Savchenko 1982). In Poland, recorded from Kraków (Krzemiński 1984), the Roztocze Upland, Sandomierz Basin and the Łódź Hills (Wiedeńska 1996, 2010).

***Molophilus (M.) variispinus* Starý, 1971**

Material examined: ISEA – [15] 24–30 Jul 1980, 6♂♂ (leg. RS); [21] 3–9 Jul 1987, 3♂♂ (leg. WK).

Distribution and remarks: A scarce European species. Reported from the Bukovské Hills (Starý 1995a). In Poland, recorded from the Babia Góra massif, Beskid Wyspowy Mts, Pieniny Mts (Krzemiński 1984), and the Gorce Mts (Wiedeńska 2017).

***Ormosia (O.) albitibia* Edwards, 1921**

Material examined: DIZH – [4] 22 Jun 1986, 1♂ (leg. JW); [8] 26 Jun 1986, 1♂ (leg. JW); [14] 10 Aug 1980, 1♂ (*ad lucem* leg. JW). ISEA – [34] 25 Jul 1978, 1♂ (leg. WK); [40] 25 Aug 1988, 2♂♂ (leg. WK).

Distribution and remarks: A European species. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1982). Recorded from many localities in Poland including from the village of Wetlina in the Bieszczady Mts (Krzemiński 1984).

***Ormosia (O.) bifida* (Lackschewitz, 1940)**

Material examined: DIZH – [3] 1 Aug 1984, 1♂ (leg. MG).

Distribution and remarks: A montane European species, scarce. Reported from the Ukrainian Carpathians (Savchenko 1982). In Poland, so far known from the Tatra Mts, Karkonosze Mts (Krzemiński 1984), and the Gorce Mts (Wiedeńska 2017).

***Ormosia (O.) lineata* (Meigen, 1804)**

Material examined: DIZH – [8] 26 Jun 1986, 1♂ (leg. JW); [34] 11 Jun 1984, 3♂♂, 1♀ (leg. MG).

Distribution and remarks: The Western Palaearctic up to the Altai Mts in the east. Reported from the Bukovské Hills (Starý 1995a) and Uzhansky NP (Savchenko 1982). Recorded from many localities in Poland.

***Ormosia (O.) ruficauda* (Zetterstedt, 1838)**

Material examined: ISEA – [15] 24–30 Jul 1980, 1♂ (leg. RS).

Distribution and remarks: The Western Palaearctic up to Kazakhstan in the east. Reported from the Ukrainian Carpathians (Savchenko 1982). In Poland, recorded from Cassubia, Kraków, the Tatra Mts (Krzemiński 1984), and the Roztocze Upland (Wiedeńska 1996).

***Ormosia (O.) staegeriana* Alexander, 1953**

Material examined: DIZH – [3] 1 Aug 1984, 5♂♂, (leg. MG); [4] 6 Aug 1980, 6♂♂, 3♀♀ (leg. JW); [5] 1 Aug 1984, 8♂♂ (leg. MG); [8] 26 Jun 1986, 1♂ (leg. JW); [10] 7 Aug 1979, 1♂ 1♀ (leg. JW); 16 Aug 1980, 1♂ (leg. JW); [11] 16 Aug 1980, 1♂ (leg. JW); [16] 10 Aug 1980, 15♂♂, 15♀♀ (leg. JW); [23] 21 Jul 1994, 1♂ (leg. IS); [31] 1 Aug 1995, 1♂ (*ad lucem* leg. BS). ISEA – [15] 24–30 Jul 1980, 2♂♂, 1♀ (leg. RS); [21] 3 Aug 1978, 1♂ (leg. WK); [25] 2 Oct 1993, 1♂ (leg. WK); [34] 25 Jul 1978, 1♂ (leg. WK); [50] 10 Sep 1984, 1♂ (leg. WK).

Distribution and remarks: A European species. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1982). Recorded from many localities in Poland including from the village of Ustrzyki Górne in the Bieszczady Mts (Krzemiński 1984).

***Rhypholophus haemorrhoidalis* (Zetterstedt, 1838)**

Material examined: ISEA – [50] 10 Sep 1984, 7♂♂ (leg. WK).

Distribution and remarks: Widespread in Europe. Reported from the Bukovské Hills (Starý 1995a) and Uzhansky NP (Savchenko 1982). A common species in Poland.

***Rhypholophus lichtwardti* (Lackschewitz, 1935)**

Material examined: DIZH – [6] 15 May 1992, 3♂♂ (leg. BS); [31] 27 Jul 1995, 1♂ (*ad lucem* leg. BS).

Distribution and remarks: A scarce, montane European species. Reported from the Bukovské Hills (Starý 1995a) and Uzhansky NP (Savchenko 1982). In Poland, only recorded from the Gorce Mts (Wiedeńska 2017) and the Babia Góra massif (Oboňa et al. 2019).

***Tasiocera (Dasymolophilus) exigua* Savchenko, 1973**

Material examined: DIZH – [34] 7 Jun 1984, 3♂♂ (leg. MG).

Distribution and remarks: The Western Palaearctic up to Kazakhstan in the east, scarce. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1982). In Poland, only recorded from the Gorce Mts (Wiedeńska 2017).

***Tasiocera (Dasymolophilus) fuscescens* (Lackschewitz, 1940)**

Material examined: ISEA – [15] 24–30 Jul 1980, 2♂♂ (leg. RS); [34] 23 Jul 1978, 1♂ (leg., det. WK).



Distribution and remarks: The Western Palaearctic up to Azerbaijan in the south-east. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1982). In Poland, recorded from Kraków (Krzemiński 1984), the Roztocze Upland, and the Gorce Mts (Wiedeńska 1996, 2017), as well as previously from the Bieszczady Mts from the villages of Wetlina and Ustrzyki Górne (Krzemiński 1984).

***Tasiocera (Dasymolophilus) murina* (Meigen, 1818)**

Material examined: DIZH – [17] 28 Jun 1986, 3♂♂ (leg. JW). ISEA – [21] 4 Jun 1990, 2♂♂ (leg. WK).

Distribution and remarks: The Western Palaearctic up to Azerbaijan and Turkey in the south-east. Reported from the Bukovské Hills (Starý 1995a) and Uzhansky NP (Savchenko 1982). Recorded from many localities in Poland.

***Gonomyia (G.) abscondita* Lackschewitz, 1935**

Material examined: DIZH – [31] 23 Jul 1994, 1♂ (*ad lucem* leg. BS); [34] 7 Jun 1984, 1♂ (leg. MG). ISEA – [21] 5 Jul 1987, 1♂ (leg. WK); [40] 25 Aug 1988, 1♂ (leg. WK).

Distribution and remarks: The Western Palaearctic up to Morocco in the south and Kazakhstan in the east. Reported from the Bukovské Hills (Starý 2011) and Nadsyansky RLP (Savchenko 1982). In Poland, only recorded from the Gorce Mts (Wiedeńska 2017).

***Gonomyia (G.) dentata* de Meijere, 1920**

Material examined: DIZH – [31] 27 Jul 1995, 3♂♂, 2♀♀ (*ad lucem* leg. BS).

Distribution and remarks: An amphipalaeartic species, recorded throughout most of Europe, as well as from Kamchatka. In Poland, recorded from the Central Sudety Mts (Riedel 1930), Karkonosze Mts, Beskid Niski Mts (Krzemiński 1984), and the Świętokrzyskie Mts (Wiedeńska 1991).

***Gonomyia (G.) lucidula* de Meijere, 1920**

Material examined: DIZH – [31] 23 Jul 1994, 2♂♂ (*ad lucem* leg. BS).

Distribution and remarks: The Western Palaearctic up to Turkey and Armenia in the south-east. Reported from the Bukovské Hills (Starý 1995a) and Nadsyansky RLP (Savchenko 1982). Recorded from many localities in Poland including from the village of Wetlina in the Bieszczady Mts (Krzemiński 1984).

***Gonomyia (G.) simplex* Tonnoir, 1920**

Material examined: DIZH – [31] 23 Jul 1994, 2♂♂, 1♀ (*ad lucem* leg. BS). ISEA – [21] 8 Jul 1987, 1♂ (leg. WK).

Distribution and remarks: Widespread in Europe. Reported from the Bukovské Hills (Starý 1995a) and Nadsyansky RLP (Savchenko 1982). Recorded from many localities in Poland.

***Gonomyia (Prolipophleps) abbreviata* Loew, 1873**

Material examined: DIZH – [53] 4 Aug 1996, 1♂ (*ad lucem* leg. BS).

Distribution and remarks: The Western Palaearctic up to Iran in the east. Reported from the Bukovské Hills (Starý 1995a). In Poland, only recorded from the Ciężkowice Foothills (Krzemiński 1984).

***Idiocera (Euptilostena) jucunda* (Loew, 1873)**

Material examined: DIZH – [31] 23 Jul 1996, 13♂♂, 22♀♀ (*ad lucem* leg. BS); 1 Aug 1995, 5♀♀ (*ad lucem* leg. BS); [52] 2 Aug 1996, 3♂♂, 1♀ (*ad lucem* leg. BS). ISEA – [21] 15 Jul 2001, 1♀ (leg. WK).

Distribution and remarks: A species recorded from several Central European countries and from Morocco. Reported from the Bukovské Hills (Starý 1995a). Described by Loew (1873) from Galicia *sine loco*. When redescribing the species Starý & Ujvárosi (2005) located the collection site of the verified material as being in the vicinity of Nowy Sącz. As such, the Bieszczady Mts are the second region in Poland where the species has been confirmed to occur. It should be noted that *I. (Euptilostena) jucunda* is included in the Red List of Threatened Animals in Poland (Palaczyk et al. 2002) as Data Deficient.

***Idiocera (I.) punctata* (Edwards, 1938)\***

Material examined: DIZH – [52] 2 Aug 1996, 19♂♂ (*ad lucem* leg. BS); [53] 4 Aug 1996, 1♂ (*ad lucem* leg. BS).

Distribution and remarks: Recorded from several countries in Europe and from Azerbaijan. Reported from the Bukovské Hills (Starý 1995a). First record for Poland.

***Rhabdomastix (Rh.) laeta* (Loew, 1873)**

Material examined: DIZH – [12] 29 Jun 1986, 1♂ (leg. JW); [19] 27 Jul 1984, 3♂♂ (leg. MG); [25] 24 Jun 1986, 1♂ (leg. JW); [33] 19 Jul 1994, 1♂ (leg. IS); [34] 11 Jun 1984, 1♂ (leg. MG); [45] 10 Jun 1984, 4♂♂ (leg. MG).

Distribution and remarks: An amphipalaearctic species, widespread in Europe and recorded from Mongolia. Reported from the Ukrainian Carpathians (Savchenko 1982). In Poland, recorded from areas along the Oder river near Słubice (Riedel 1919), the Beskid Niski Mts, Roztocze Upland (Krzemiński 1984), and the Świętokrzyskie Mts (Wiedeńska 1986, 1991).

***Rhabdomastix (Rh.) laetoidea* Starý, 2004\*  
(Fig. 2)**

Material examined: ISEA – [21] 5 Jul 1987, 4♂♂; 8 Jul 1987, 3♂♂ (leg. WK).

Distribution and remarks: A recently described, European species, so far recorded from Bulgaria, the Czech Republic, Norway, Romania, Slovakia, Ukraine (Oosterbroek 2022), and France (Alps) (Quindroit 2023, in press). Reported from the Bukovské Hills and the Ukrainian Carpathians (Starý 2004). However, Savchenko (1982) had earlier noted the occurrence of this species in the Ukrainian Carpathians under the name *Rhabdomastix (Sacandaga)* sp. (cf. *laeta*) (Starý 2004). First record for Poland.

***Rhabdomastix (Rh.) subparva* Starý, 1971**

Material examined: DIZH – [6] 12 Jun 1984, 2♂♂ (leg. MG); [12] 29 Jun 1986, 1♂ (leg. JW).

Distribution and remarks: A European species. Reported from the Bukovské Hills (Starý 1995a) and Uzhangsky NP (Savchenko 1982). In Poland, only recorded from the Świętokrzyskie Mts and Gorce Mts (Wiedeńska 1991, 2017).

***Dicranoptycha livescens* Loew, 1871**

Material examined: ISEA – [15] 25 Aug 1988, 1♀ (leg. WK).

Distribution and remarks: The Western Palaearctic up to Armenia in the south-east. Reported from the Ukrainian Carpathians (Savchenko 1982). Recorded from many localities in Poland.

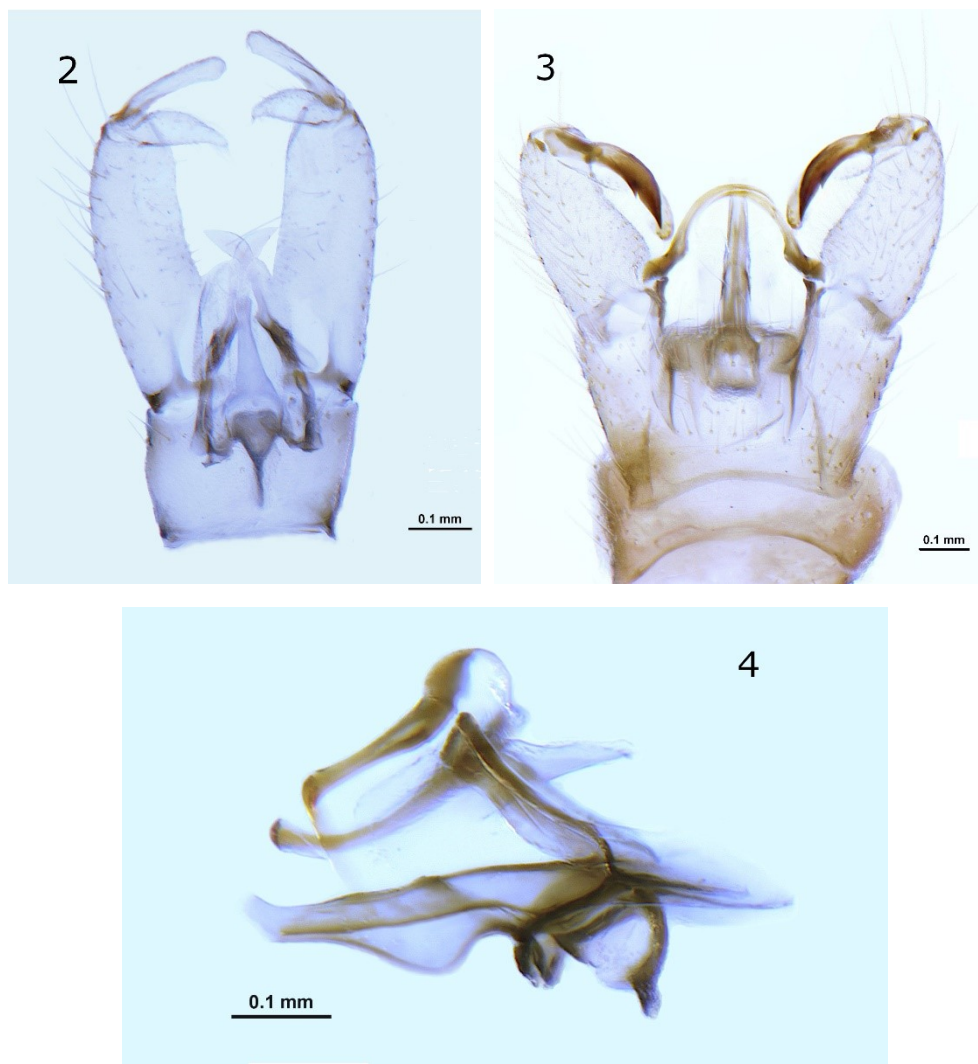


Fig. 2. *Rhabdomastix (Rh.) laetoidea* Starý, 2004: male terminalia (dorsal view). Phot. M. Syratt.

Figs 3–4. *Lipsiothrix ecucullata* Edwards, 1938: 3 –male terminalia (dorsal view); 4 – aedeagus (lateral view). Phot. M. Syratt.

***Lipsiothrix ecucullata* Edwards, 1938\***

(Figs 3 & 4)

Material examined: DIZH – [10] 29 Jun 1986, 1♂ (leg. JW); [17] 28 Jun 1986, 1♂ (leg. JW); [23] 21 Jul 1994, 1♂ (leg. IS). ISEA – [21] 8 Jul 1987, 1♂ (leg. WK).

Distribution and remarks: Widespread throughout Europe. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1982). First record for Poland.

***Lipsothrix errans* (Walker, 1848)**

Material examined: DIZH – [8] 26 Jun 1986, 1♂ (leg. JW); [19] 13 Jun 1984, 1♂ (leg. MG); [34] 15 Jun 1985, 1♂ (leg. MG). ISEA – [15] 4 Jun 1990, 1♂ (leg. WK); [21] 4 Jun 1990, 1♂ (leg. WK).

Distribution and remarks: Widespread throughout Europe. Reported from the Bukovské Hills (Starý 1995a), Nadsyansky RLP, and Uzhansky NP (Savchenko 1982). Recorded from many localities in Poland including from the village of Wetlina in the Bieszczady Mts (Krzemiński 1984).

***Lipsothrix remota* (Walker, 1848)**

Material examined: DIZH – [13] 1 Aug 1984, 1♂ (leg. MG); [17] 28 Jun 1986, 1♂, 1♀ (leg. JW); [21] 6 Jun 1984, 1♂ (leg. MG); [23] 21 Jul 1994, 1♂ (leg. IS); [29] 19 Jul 1994, 1♂ (leg. IS); [30] 22 Jul 1986, 1♂ (leg. MG); [40] 23 Jul 1994, 1♂ (leg. IS). ISEA – [21] 8 Jul 1987, 1♂ (leg. WK); [38] 31 May 1988, 1♂ (leg. WK).

Distribution and remarks: Widespread in Europe. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1982). Recorded from many localities in Poland.

***Elephantomyia (E.) krivosheinae* Savchenko, 1976**

Material examined: ISEA – [21] 3–9 Jul 1987, 1♀ (leg. WK).

Distribution and remarks: A trans-Palaeartic species. Reported from the Bukovské Hills (Starý 1995a). In Poland, only recorded from the Gorce Mts (Wiedeńska 2017).

***Helius (H.) longirostris longirostris* (Meigen, 1818)**

Material examined: DIZH – [9] 22 Jun 1985, 1♂ (leg. MG); [18] 6 Jun 1984, 1♂ (leg. MG); [53] 4 Aug 1996, 1♂ (*ad lucem* leg. BS); [54] 3 Aug 1996, 1♂ (leg. MG).

Distribution and remarks: The Western Palaeartic up to the Altai Mts in the east. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1986). Recorded from many localities in Poland.

***Antocha (A.) vitripennis* (Meigen, 1830)**

Material examined: DIZH – [8] 26 Jun 1986, 1♂ (leg. JW); [12] 29 Jun 1986, 1♂ (leg. JW); [14] 10 Aug 1980, 1♂ (*ad lucem* leg. JW); 3 Aug 1984, 5♂♂, 3♀♀ (*ad lucem* leg. MG); [19] 13 Jun 1984, 1♂, 2♀♀ (leg. MG); 27 Jul 1984, 1♂ (leg. MG); [24] 1 Oct 1994, 2♂♂, 1♀ (leg. BS); [31] 23 Jul 1994, 1♂, 2♀♀ (*ad lucem* leg. BS); 1 Aug 1995, 2♂♂, 1♀ (*ad lucem* leg. BS); [51] 5 Aug 1984, 6♂♂, 5♀♀ (leg. MG); [52] 2 Aug 1996, 1♂ (*ad lucem* leg. BS); [53] 4 Aug 1996, 112♂♂, 37♀♀ (*ad lucem* leg. BS). ISEA – [15] 4 Jun 1990, 1♂ (leg. WK); [21] 8 Jul 1987, 3♂♂; 3–9 Jul 1987, 1♂ (leg. WK); [38] 31 May 1988, 1♂ (leg. WK).

Distribution and remarks: The Western Palaeartic up to Afghanistan in the south-east, common. Reported from the Bukovské Hills (Starý 1995a) and Nadsyansky RLP (Savchenko 1985). A common species throughout Poland, abundant in certain areas.

***Elliptera omissa* Schiner, 1863**

Material examined: DIZH – [10] 24 Jul 1986, 1♂, 1♀ (leg. MG); [23] 21 Jul 1994, 4♂♂, 1♀ (leg. IS).

Distribution and remarks: Widespread in Europe. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1985). In Poland, recorded from the Tatra Mts (Nowicki 1870, 1873; Loew 1871a), the vicinities of Kraków (Nowicki 1873), the Beskid Sądecki Mts (Szczęsny 1974), and the Gorce Mts (Wiedeńska 2017).

***Achrolimonia decemmaculata* (Loew, 1873)**

Material examined: DIZH – [29] 21 Jul 1984, 1♂ (leg. MG). ISEA – [15] 24–30 Jul 1980, 1♂ (leg. RS); [21] 8 Jul 1987, 1♂ (leg. WK); [50] 10 Sep 1984, 1♂ (leg. WK).

Distribution and remarks: The Western Palaearctic up to Kazakhstan in the east. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1985). Recorded from many localities in Poland.

***Neolimonia dumetorum* (Meigen, 1804)**

Material examined: ISEA – [49] 22 Aug 1988, 1♂ (leg. WK).

Distribution and remarks: The Western Palaearctic up to Kazakhstan in the east. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1985). Recorded from many localities in Poland.

***Dicranomyia (D.) autumnalis* (Staeger, 1840)**

Material examined: ISEA – [15] 27 Sep 1991, 1♂ (leg. WK).

Distribution and remarks: The Western Palaearctic up to Kazakhstan in the east, as well as the Oriental realm (India). Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1985). In Poland, recorded from areas along the Oder river near Słubice (Riedel 1919), the Świętokrzyskie Mts, Roztocze Upland, and the Sandomierz Basin (Wiedeńska 1991, 1996, 2019b).

***Dicranomyia (D.) chorea* (Meigen, 1818)**

Material examined: DIZH – [14] 20 Aug 1979, 1♂ (*ad lucem* leg. JW); [44] 10 Jun 1984, 1♂ (leg. MG). ISEA – [50] 10 Sep 1984, 2♂♂ (leg. WK).

Distribution and remarks: A Holarctic species, common in the Palaearctic. Reported from the Bukovské Hills (Starý 1995a) and Nadsyansky RLP (Savchenko 1985). A common species in Poland.

***Dicranomyia (D.) didyma* (Meigen, 1804)**

Material examined: DIZH – [6] 1 Aug 1984, 1♀ (leg. MG); [12] 29 Jun 1986, 1♂ (leg. JW); [31] 23 Aug 1994, 2♂♂, 2♀♀ (*ad lucem* leg. BS); 1 Aug 1985, 2♂♂ (*ad lucem* leg. BS); [34] 20 Jul 1984, 1♂ (leg. MG); [53] 4 Aug 1996, 3♂♂ (*ad lucem* leg. BS).

Distribution and remarks: A trans-Palaearctic species. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1985). Recorded from many localities in Poland.

***Dicranomyia (D.) mitis* (Meigen, 1830)**

Material examined: DIZH – [10] 5 Aug 1980, 1♂ (leg. JW); [11] 12 Jun 1984, 1♂ (leg. MG); [14] 10 Aug 1980, 1♂ (leg. JW); [31] 27 Jul 1995, 1♂ (*ad lucem* leg. BS). ISEA – [15] 4 Jun 1990, 2♂♂ (leg. WK, det. WK & M. Syrratt).

Distribution and remarks: The Western Palaearctic up to Turkmenistan in the east. Common in Europe. Reported from the Bukovské Hills (Starý 1995a), Uzhsyansky NP, and Nadsyansky RLP (Savchenko 1985). Recorded from many localities in Poland.

***Dicranomyia (D.) modesta (Meigen, 1818)***

Material examined: DIZH – [3] 11 Aug 1980, 1♂ (leg. JW); [8] 26 Jun 1986, 2♂♂, 3♀♀ (leg. JW); [9] 22 Jun 1985, 1♂ (leg. MG); [10] 29 Jun 1986, 1♂, 1♀ (leg. JW); [12] 29 Jun 1986, 2♂♂, 1♀ (leg. JW); [14] 20 Aug 1979, 2♂♂ (leg. JW); 10 Aug 1980, 1♂ (*ad lucem* leg. JW); [17] 28 Jun 1986, 1♀ (leg. JW); [30] 16 Jun 1985, 1♂ (leg. MG); [31] 23 Jul 1994, 1♀ (*ad lucem* leg. BS); [32] 16 Jun 1985, 2♂♂ (leg. MG); [53] 4 Aug 1996, 1♂, 2♀♀ (*ad lucem* leg. BS); [54] 3 Aug 1996, 2♂♂ (*ad lucem* leg. BS). ISEA – [21] 5 Jul 1987, 1♂; 8 Jul 1987, 3♂♂ (leg. WK); [50] 10 Sep 1984, 2♂♂ (leg. WK).

Distribution and remarks: A common Holarctic species. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1985). A very common species in Poland.

***Dicranomyia (D.) omissinervis de Meijere, 1918***

Material examined: DIZH – [53] 4 Aug 1996, 1♂, 1♀ (*ad lucem* leg. BS).

Distribution and remarks: A trans-Palaeartic species. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1985). In Poland, only recorded from the Świętokrzyskie Mts (Wiedeńska 1986).

***Dicranomyia (D.) ornata (Meigen, 1818)***

Material examined: DIZH – [10] 3 Aug 1984, 1♀ (leg. MG); [34] 11 Jun 1984, 1♂ (leg. MG); [45] 10 Jun 1984, 1♂ (leg. MG). ISEA – [21] 8 Jul 1987, 2♂♂; 4 Jun 1990, 2♂♂ (leg. WK).

Distribution and remarks: The Western Palaeartic up to Georgia and Turkey in the south-east. Reported from the Bukovské Hills (Starý 1995a) and Nadsyansky RLP (Savchenko 1985). In Poland, only recorded from Skarszyn in Lower Silesia (Schummel 1829) and the village of Berezki in the Bieszczady Mts (observed and photographed by Rafał Kaźmierczak; Insektarium, 2022).

***Dicranomyia (Glochina) tristis (Schummel, 1829)***

Material examined: DIZH – [4] 22 Jun 1986, 1♂ (leg. JW); [8] 26 Jun 1986, 1♂ (leg. JW); [9] 26 Jun 1986, 1♂ (leg. JW); [10] 29 Jun 1986, 1♂ (leg. JW).

Distribution and remarks: A trans-Palaeartic species also recorded from the Oriental realm (China). Reported from the Bukovské Hills (Starý 1995a) and Nadsyansky RLP (Savchenko 1985). Recorded from many localities in Poland.

***Dicranomyia (Melanolimonia) caledonica Edwards, 1926***

Material examined: DIZH – [10] 20 Jun 1985, 1♂ (leg. MG).

Distribution and remarks: A trans-Palaeartic species. Reported from the Bukovské Hills (Starý 1995a), Nadsyansky RLP, and Uzhansky NP (Savchenko 1985). In Poland, only recorded from the Świętokrzyskie Mts (Wiedeńska 1986).

***Dicranomyia (Melanolimonia) morio (Fabricius, 1787)***

Material examined: DIZH – [44] 10 Jun 1984, 1♂ (leg. MG).

Distribution and remarks: A trans-Palaeartic species. Reported from the Bukovské Hills (Starý 1995a) and Uzhansky NP (Savchenko 1985). Recorded from many localities in Poland.

***Dicranomyia (Melanolimonia) occidua* Edwards, 1926**

Material examined: DIZH – [12] 29 Jun 1986, 1♂ (leg. JW); [18] 6 Jun 1984, 5♂♂ (leg. MG); [19] 21 Jun 1985, 1♂ (leg. MG).

Distribution and remarks: A trans-Palaeartic species. Reported from the Bukovské Hills (Starý 1995a) and Nadsyansky RLP (Savchenko 1985). In Poland, only recorded from the village of Smolnik in the Bieszczady Mts (Wiedeńska 2019a).

***Dicranomyia (Numantia) fusca* (Meigen, 1804)**

Material examined: DIZH – [39] 29 Sep 1982, 1♂ (leg. JW).

Distribution and remarks: A common Holarctic species. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1985). Recorded from many localities in Poland.

***Discobola annulata* (Linnaeus, 1758)**

Material examined: DIZH – [4] 6 Aug 1980, 1♀ (leg. JW); [14] 10 Aug 1980, 1♂, 1♀ (leg. JW); [16] 10 Aug 1980, 1♀ (leg. JW); [53] 4 Aug 1994, 1♀ (*ad lucem* leg. BS). ISEA – [34] 25 Jul 1978, 1♂ (leg. WK).

Distribution and remarks: Widespread in the Holarctic, common. Also recorded from the Oriental realm and New Guinea. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1985). In Poland, recorded from the Nowy Sącz region (Grzegorzek 1873), the Beskid Niski Mts (Krzemiński 1991), Roztocze Upland, and the Gorce Mts (Wiedeńska 1996, 2017).

***Discobola caesarea* (Osten Sacken, 1854)**

Material examined: DIZH – [31] 29 Sep 1994, 1♂ (*ad lucem* leg. BS).

Distribution and remarks: A scarce trans-Palaeartic species. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1985). In Poland, recorded from the Łódź Hills (Sakwa 1962), Roztocze Upland, and the Gorce Mts (Wiedeńska 1996, 2017).

***Libnotes (Afrolimonia) ladogensis* (Lackschewitz, 1940)**

Material examined: ISEA – [41] 13 May 1966, 1♀ (leg. JW).

Distribution and remarks: A trans-Palaeartic species. In Europe, restricted to the Central and Eastern European countries. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1985). In Poland, only recorded from the Roztocze Upland (Wiedeńska 1996).

***Limonia flavipes* (Fabricius, 1787)**

Material examined: DIZH – [4] 22 Jun 1986, 2♂♂ (leg. JW); [6] 12 Jun 1984, 1♂ (leg. MG); [8] 26 Jun 1986, 3♂♂, 1♀ (leg. JW); [9] 26 Jun 1986, 1♂ (leg. JW); [10] 20 Jun 1985, 2♂♂ (leg. MG); 29 Jun 1986, 5♂♂, 1♀ (leg. JW); [12] 29 Jun 1986, 1♀ (leg. JW); [17] 28 Jun 1986, 1♀ (leg. JW); [25] 24 Jun 1986, 1♀ (leg. JW); [29] 11 Jun 1984, 1♂ (leg. MG); [34] 11 Jun 1984, 1♂ (leg. MG); 15 Jun 1985, 3♀♀ (leg. MG); [45] 10 Jun 1984, 3♂♂, 2♀♀ (leg. MG). ISEA – [15] 4 Jun 1990, 1♂, 2♀♀ (leg. WK); [21] 8 Jul. 1987, 3♂♂, 2♀♀; 3–9 Jul 1987, 2♂♂ (leg. WK); [38] 31 May 1988, 1♂, 1♀ (leg. WK).

Distribution and remarks: The Western Palaeartic up to Azerbaijan in the south-east, common. Reported from the Bukovské Hills (Starý 1995a) and Nadsyansky RLP (Savchenko 1985). A very common species in Poland.

***Limonia macrostigma* (Schummel, 1829)**

Material examined: DIZH – [8] 26 Jun 1986, 1♂ (leg. JW); [10] 20 Jun 1985, 1♀ (leg. MG); 29 Jun 1986, 3♂♂, 1♀ (leg. JW); [11] 12 Jun 1984, 2♂♂ (leg. MG); [12] 29 Jun 1986, 2♂♂, 2♀♀ (leg. JW); [24] 1 Oct 1994, 1♂ (leg. BS); [32] 16 Jun 1985, 2♂♂ (leg. MG); [34] 15 Jun 1985, 1♂ (leg. MG); [37] 17 Jun 1985, 2♂♂, 1♀ (leg. MG); [42] 22 Jul 1984, 1♀ (leg. MG); [45] 10 Jun 1984, 2♂♂ (leg. MG). ISEA – [15] 4 Jun 1990, 6♂♂; 27 Sep 1991, 2♂♂ (leg. WK); [21] 8 Jul 1987, 1♂, 1♀; 3–9 Jul 1987, 1♂ (leg. WK); [38] 31 May 1988, 1♀ (leg. WK).

Distribution and remarks: A common trans-Palaeartic species. Also recorded from the Oriental realm. Reported from the Bukovské Hills (Starý 1995a) and Uzhansky NP (Savchenko 1985). A very common species in Poland.

***Limonia nigropunctata nigropunctata* (Schummel, 1829)**

Material examined: ISEA – [21] 3–9 Jul 1987, 1♀ (leg. WK); [38] 31 May 1988, 2♂♂, 2♀♀ (leg. WK).

Distribution and remarks: Widespread in Europe. Reported from the Bukovské Hills (Starý 1995a) and Nadsyansky RLP (Savchenko 1985). Recorded from many localities in Poland.

***Limonia nubeculosa* Meigen, 1804**

Material examined: ISEA – [50] 10 Sep 1984, 4♂♂ (leg. WK).

Distribution and remarks: Widespread in the Holarctic, common. Reported from the Bukovské Hills (Starý 1995a) and Uzhansky NP (Savchenko 1985). A very common species in Poland.

***Limonia phragmitidis* (Schrank, 1781)**

Material examined: DIZH – [8] 26 Jun 1986, 1♂, 1♀ (leg. JW); [10] 5 Aug 1980, 2♂♂, 1♀ (leg. JW); [12] 29 Jun 1986, 7♂♂, 5♀♀ (leg. JW); [17] 28 Jun 1986, 2♀♀ (leg. JW); [30] 16 Jun 1985, 1♂ (leg. MG); [42] 22 Jul 1984, 1♀ (leg. MG). ISEA – [21] 8 Jul 1987, 4♀♀ (leg. WK); [47] 17 Jul 1984, 1 of undetermined sex (leg. WK).

Distribution and remarks: A trans-Palaeartic species. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1985). A very common species in Poland.

***Limonia stigma* (Meigen, 1818)**

Material examined: ISEA – [40] 25 Aug 1988, 2♂♂, 1♀ (leg. WK); [47] 17 Jul 1984, 1♂ (leg. WK).

Distribution and remarks: A trans-Palaeartic species. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1985). Recorded from many localities in Poland.

***Limonia sylvicola* (Schummel, 1829)**

Material examined: DIZH – [3] 1 Aug 1984, 1♂ (leg. MG); [34] 23 Jul 1984, 4♂♂ (leg. MG); [42] 22 Jul 1984, 1♂ (leg. MG).

Distribution and remarks: A trans-Palaeartic species. Reported from the Ukrainian Carpathians (Savchenko 1985). Recorded from many localities in Poland.



***Limonia taurica* (Strobl, 1895)**

Material examined: DIZH – [32] 16 Jun 1985, 1♂ (leg. MG).

Distribution and remarks: A montane amphipalaearctic species recorded from many regions in Europe, as well as north-western China. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1985). In Poland, only recorded from the Central Sudety Mts (Riedel 1930) and Ojców National Park (Tomek 1988).

***Limonia trivittata* (Schummel, 1829)**

Material examined: DIZH – [4] 6 Aug 1980, 1♂ (leg. JW); [10] 29 Jun 1986, 1♂ (leg. JW); [11] 16 Aug 1980, 3♂♂ (leg. JW); [12] 29 Jun 1986, 2♂♂ (leg. JW); [14] 20 Aug 1979, 1♂ (*ad lucem* leg. JW); 10 Aug 1980, 2♂♂ (*ad lucem* leg. JW); 3 Aug 1984, 1♂, 1♀ (*ad lucem* leg. MG); [16] 10 Aug 1980, 1♂ 1♀ (leg. JW); [17] 28 Jun 1986, 1♀ (leg. JW); [27] 24 Jul 1994, 1♂ (leg. IS); [31] 23 Jul 1994, 1♀ (*ad lucem* leg. BS); [33] 25 Jul 1994, 2♀♀ (leg. IS); [40] 23 Jul 1994, 1♀ (leg. IS); [53] 4 Aug 1996, 1♀ (*ad lucem* leg. BS). ISEA – [21] 5 Jul 1987, 5♀♀; 8 Jul 1987, 5♀♀ (leg. WK).

Distribution and remarks: The Western Palaearctic up to the Altai Mts in the east, common. Reported from the Ukrainian Carpathians (Savchenko 1985). Recorded from many localities in Poland.

***Metalimnobia (M.) quadrinotata* (Meigen, 1818)**

Material examined: DIZH – [31] 1 Aug 1995, 1♀ (*ad lucem* leg. BS); [53] 4 Aug 1996, 3♂♂ (*ad lucem* leg. BS). ISEA – [40] 25 Aug 1988, 1♂ (leg. WK).

Distribution and remarks: A trans-Palaearctic species. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1985). Recorded from many localities in Poland.

***Metalimnobia (M.) tenua* Savchenko, 1976**

Material examined: ISEA – [21] 8 Jul 1987, 1♂ (leg. WK).

Distribution and remarks: Widespread in the Palaearctic, scarce. Reported from the Bukovské Hills (Starý 2006a). In Poland, only recorded from the Beskid Wyspowy Mts (Wiedeńska & Syratt 2021).

***Metalimnobia (M.) zetterstedti* (Tjeder, 1968)**

Material examined: ISEA – [38] 31 May 1988, 1♂ (leg. WK).

Distribution and remarks: Widespread in the Palaearctic. In Poland, recorded from several mountain ranges: the Tatra Mts (Tjeder 1958), Karkonosze Mts, and the Beskid Wyspowy Mts, as well as previously from the Bieszczady Mts near the village of Duszatyn (Wiedeńska & Syratt 2021).

***Rhipidia (Rh.) maculata* Meigen, 1818**

Material examined: DIZH – [14] 10 Aug 1980, 1♀ (leg. JW); 3 Aug 1984, 1♀ (*ad lucem* leg. MG); [17] 28 Jun 1986, 1♂ (leg. JW); [31] 23 Jul 1994, 2♀♀ (*ad lucem* leg. BS); [39] 20 Sep 1982, 5♂♂, 1♀ (leg. JW); [53] 4 Aug 1996, 13♀♀ (*ad lucem* leg. BS). ISEA – [15] 27 Sep 1991, 2♂♂, 1♀ (leg. WK); [21] 5 Jul, 2♂♂, 1♀; 8 Jul 1987, 2♀♀ (leg. WK); [26] 27 Sep 1991, 1♂ (leg. WK).

Distribution and remarks: Widespread in the Holarctic, common. Also recorded from the Oriental realm. Reported from the Bukovské Hills (Starý 1995a) and the Ukrainian Carpathians (Savchenko 1985). A common species in Poland.

***Rhipidia (Rh.) uniseriata* Schiner, 1864**

Material examined: DIZH – [10] 29 Jun 1986, 1♀ (leg. JW); [35] 17 Jun 1985, 1♀ (leg. MG).

Distribution and remarks: A trans-Palaeartic species. Reported from the Bukovské Hills (Starý 1995a). Recorded from many localities in Poland.

**Pediciidae*****Ula (U.) bolitophila* Loew, 1869**

Material examined: ISEA – [26] 27 Sep 1991, 1♂ (leg. WK); [34] 23 Jul 1978, 1♂ (leg., det. WK).

Distribution and remarks: A trans-Palaeartic species. Reported from the Bukovské Hills (Starý 1995b) and Uzhansky NP (Savchenko 1986). Described by Loew (1869) from Silesia *sine loco*. Otherwise, in Poland, recorded from the Roztocze Upland, Łódź Hills, and the Gorce Mts (Wiedeńska 1996, 2010, 2017).

***Ula (U.) mixta* Starý, 1983**

Material examined: ISEA – [15] 4 Jun 1990, 1♂ (leg. WK).

Distribution and remarks: Widespread in Europe. In Poland, only recorded from the Babia Góra massif (Oboňa et al. 2019).

***Ula (U.) mollissima* Haliday, 1833**

Material examined: DIZH – [32] 16 Jun 1985, 1♂ (leg. MG).

Distribution and remarks: The Western Palaeartic up to the Altai Mts in the east, common. Reported from the Bukovské Hills (Starý 1995b), Nadsyansky RLP, and Uzhansky NP (Savchenko 1986). Recorded from many localities in Poland.

***Ula (U.) sylvatica* (Meigen, 1818)**

Material examined: DIZH – [1] 22 Jul 1994, 1♀ (leg. IS); [34] 23 Jul 1984, 1♂ (leg. MG). ISEA – [21] 5 Jul 1987, 1♂; 8 Jul 1987, 1♀; 3–9 Jul 1987, 1♀ (leg. WK); [34] 25 Jul 1978, 1♂, 1♀ (leg., det. WK).

Distribution and remarks: A common Holarctic species. Reported from the Bukovské Hills (Starý 1995b) and Uzhansky NP (Savchenko 1986). Recorded from many localities in Poland including from the Bieszczady NP (Salmela & Piirainen 2003).

***Dicranota (D.) bimaculata* (Schummel, 1829)**

Material examined: DIZH – [34] 11 Jun 1984, 1♂ (leg. MG).

Distribution and remarks: The Western Palaeartic up to Morocco in the south and Kazakhstan in the east. Reported from the Bukovské Hills (Starý 1995b) and the Ukrainian Carpathians (Savchenko 1986). A common species in Poland.

***Dicranota (Paradicranota) brevicornis* Bergroth, 1891**

Material examined: DIZH – [10] 3 Aug 1984, 2♂♂ (leg. MG); [11] 16 Aug 1980, 2♂♂ (leg. JW); [31] 1 Aug 1995, 1♂ (*ad lucem* leg. BS).

Distribution and remarks: A scarce, montane European species. Reported from the Ukrainian Carpathians (Savchenko 1986). In Poland, only recorded from the Śnieżnik Massif (Riedel 1930), Świętokrzyskie Mts, and the Gorce Mts (Wiedeńska 1991, 2017).

***Dicranota (Paradicranota) candelisequa* Starý, 1981**

Material examined: DIZH – [14] 20 Aug 1979, 1♂ (leg. JW).

Distribution and remarks: The Western Palaearctic up to Morocco in the south and Georgia in the south-east. A scarce, montane species. Reported from the Ukrainian Carpathians (Savchenko 1986). In Poland, only recorded from the Gorce Mts (Wiedeńska 2017).

***Dicranota (Paradicranota) flammatra* Starý, 1981**

Material examined: DIZH – [31] 27 Jul 1995, 5♂♂, 2♀♀ (*ad lucem* leg. BS).

Distribution and remarks: A European species, also recorded from Asiatic Turkey; perhaps a montane species. In Poland, only recorded from the Babia Góra massif (Krzemiński 1991) and the Gorce Mts (Wiedeńska 2017).

***Dicranota (Paradicranota) gracilipes* Wahlgren, 1905**

Material examined: DIZH – [24] 1 Oct 1994, 2♂♂, 2♀♀ (*ad lucem* leg. BS).

Distribution and remarks: The Western Palaearctic up to Kazakhstan in the east. Reported from the Bukovské Hills (Starý 1995b) and Uzhansky NP (Savchenko 1986). In Poland, only recorded from the Świętokrzyskie Mts (Wiedeńska 1986) and the Grabia river valley (Wiedeńska & Łacheta 1999).

***Dicranota (Paradicranota) pavida* (Haliday, 1833)**

Material examined: DIZH – [2] 22 Jul 1994, 1♂ (leg. IS); [23] 21 Jul 1994, 3♂♂ (leg. IS); [40] 23 Jul 1994, 1♂ (leg. IS). ISEA – [21] 8 Jul 1987, 1♂ (leg. WK).

Distribution and remarks: A European species. Reported from the Bukovské Hills (Starý 1995b) and the Ukrainian Carpathians (Savchenko 1986). In Poland, recorded from the Sub-Tatra Depression, Świętokrzyskie Mts, Łódź Hills, and the Gorce Mts (Wiedeńska 1993, 2010, 2017).

***Dicranota (Paradicranota) simulans* Lackschewitz, 1940**

Material examined: DIZH – [31] 23 Jul 1994, 1♂ (*ad lucem* leg. BS).

Distribution and remarks: The Western Palaearctic up to Georgia and Lebanon in the south-east. Reported from the Bukovské Hills (Starý 1995b) and the Ukrainian Carpathians (Savchenko 1986). In Poland, recorded from the Magura Spiska Mts (Pawlikowski Wierch Mt) (Krzemiński 1991), Łódź Hills, and the Gorce Mts (Wiedeńska 2010, 2017).

***Dicranota (Paradicranota) subflammatra* Starý, 1998\***

(Figs 5 & 6)

Material examined: ISEA – [15] 4 Jun 1990, 1♂ (leg. WK).

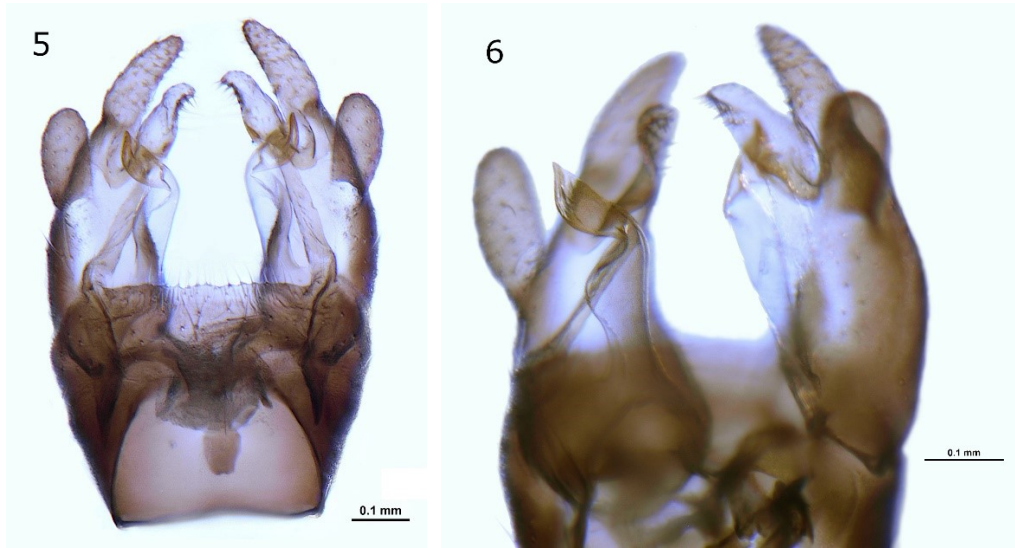
Distribution and remarks: A species so far known only from the Czech Republic, Slovakia, and Romania. Reported from the Bukovské Hills (Starý 1998). First record for Poland.

***Dicranota (Ludicia) lucidipennis* (Edwards, 1921)**

Material examined: DIZH – [3] 12 Jun 1984, 1♂ (leg. MG).

Distribution and remarks: A montane European species, also recorded from Asiatic Turkey. Reported from the Bukovské Hills (Starý 1995b) and the Ukrainian Carpathians (Savchenko 1986). In Poland, known from the Gorce Mts (Wiedeńska 2017) and the Babia Góra massif

(Oboňa et al. 2019). The first mention comes from Starý (1980) who, when reviewing Vimmer's material labelled Galicia *sine loco*, identified the specimens to be collected from the territory of Poland. However, considering the history of Galicia, there is no certainty that these specimens come from the area of Galicia that is part of present-day Poland.



Figs 5–6. *Dicranota (Paradicranota) subflammatra* Starý, 1998: 5 – male terminalia, general view of the dorsal side; 6 – male terminalia, view of the interbase. Phot. M. Syratt.

### *Pedicia (Crunobia) nielseni* (Slípka, 1955)

Material examined: DIZH – [6] 15 May 1992, 1♂ (leg. BS).

Distribution and remarks: A scarce, montane, Eastern European species. Reported from the Bukovské Hills (Starý 1995b) and the Ukrainian Carpathians (Savchenko 1986). In Poland, only recorded from the Gorce Mts (Wiedeńska 2017).

### *Pedicia (Crunobia) straminea* (Meigen, 1838)

Material examined: DIZH – [3] 1 Aug 1984, 4♂♂ (leg. MG); [10] 3 Aug 1984, 1♂ (leg. MG); [17] 28 Jun 1986, 1♂ (leg. JW); [23] 21 Jul 1994, 1♂ (leg. IS); [25] 24 Jun 1986, 3♂♂, 2♀♀ (leg. JW); [28] 24 Jul 1984, 2♂♂, 1♀ (leg. MG); [29] 19 Jul 1994, 1♀ (leg. IS); [30] 22 Jul 1986, 1♂ (leg. MG); [35] 17 Jun 1985, 2♂♂ (leg. MG); 23 Jul 1986, 3♂♂, 1♀ (leg. MG). ISEA – [34] 25 Jul 1978, 1♂ (leg. WK).

Distribution and remarks: Widespread in Europe. Reported from the Bukovské Hills (Starý 1995b) and Uzhansky NP (Savchenko 1986). Recorded from many localities in Poland, but most common and abundant in the mountains.

### *Tricyphona (T.) contraria* Bergroth, 1888

Material examined: DIZH – [3] 12 Jun 1984, 1♂ (leg. MG).

Distribution and remarks: Scarcely found throughout Europe. Reported from the Ukrainian Carpathians (Oboňa et al. 2017). It should be noted, that Starý (1994) considers a part of Savchenko's (1986) material from the Ukrainian Carpathians originally identified as *Tricyphona*

(*T. livida* Madarassy, 1881, to in fact be *T. (T.) contraria*. In Poland, only recorded from the Gorce Mts (Wiedeńska 2017) and the Sudety Mts (Riedel 1914, 1930), although Riedel similarly misidentified part of the specimens as *T. (T.) livida* (Starý 1994).

### *Tricyphona (T.) immaculata* (Meigen, 1804)

Material examined: DIZH – [6] 12 Jun 1984, 1♂, 1♀ (leg. MG); 15 May 1992, 3♂♂, 2♀♀ (leg. BS); [8] 26 Jun 1986, 2♂♂, 1♀ (leg. JW); [10] 20 Jun 1985, 1♂ (leg. MG); [34] 19 Jun 1985, 1♂ (leg. MG); [35] 17 Jun 1985, 1♂, 1♀ (leg. MG); [36] 17 Jun 1985, 1♂, 1♀ (leg. MG). ISEA – [25] 2 Oct 1993, 1♂ (leg. WK); [34] 25 Jul 1978, 1♂ (leg., det. WK); [38] 31 May 1988, 1♂ (leg. WK).

Distribution and remarks: The Western Palaearctic up to the Altai Mts in the east. Reported from the Bukovské Hills (Starý 1995b) and Nadsyansky RLP (Savchenko 1986). A common species in Poland.

### DISCUSSION

The above presented list of Diptera species found to occur in the Polish Bieszczady Mts encompasses 122 species of Limoniidae and 17 species of Pediciidae. Zaćwilichowska (1970) and Krzemiński (1984, 1991) previously recorded a further 8 Limoniidae species, subsequently mentioned by Klasa et al. (2000), which are not included in the list. These are as follows:

*Ormosia (Ormosia) depilata* Edwards, 1938,  
*Ormosia (Ormosia) aciculata* Edwards, 1921,  
*Molophilus (Molophilus) obscurus* (Meigen, 1818),  
*Molophilus (Molophilus) lackschewitzianus* Alexander, 1953,  
*Molophilus (Molophilus) undulatus* Tonnoir, 1920,  
*Gonomyia (Gonomyia) tenella* (Meigen, 1818),  
*Trimicra pilipes* (Fabricius, 1787),  
*Achyrolimonia coeiana* (Nielsen, 1959).

Additionally, a further species which is absent in the material analysed for the present study should be added: *Pedicia (Pedicia) rivosa* (Linnaeus, 1758) (Pediciidae), due to its presence in the Polish Bieszczady Mts being documented on the website insektarium.net by Rafał Kaźmierczak, with a photo observation from the village of Zatwarnica, UTM FV15 (Insektarium, 2022).

Four species are recorded as new to Poland: *Idiocera (I.) punctata*, *Rhabdomastix (Rh.) laetoidea*, and *Lipsothrix ecucullata* (Limoniidae), and *Dicranota (Paradicranota) subflammatra* (Pediciidae).

The first reports on the occurrence of the species: *Ula (U.) sylvatica*, *Hexatoma (Eriocera) grisea*, *Dicranomyia (Melanolimonia) occidua*, and *Metalimnobia (M.) zetterstedti* in the Polish Bieszczady Mts (Salmela & Piirainen 2003; Wiedeńska 2019a; Wiedeńska & Syratt 2021) are confirmed in this study with further records.

However, some of the data published by Zaćwilichowska (1970) requires further comments. In her study on the aquatic Diptera larvae of the San river basin she reports the occurrence of Limoniidae and Pediciidae larvae, most of which were identified to the genus level. The description of methods does not mention the rearing of larvae, although this may have been carried out, nevertheless, some specimens were identified to species. These are: *Symplecta (S.) hybrida* and *Molophilus (M.) obscurus*. It is highly likely that the species of larvae of the genus *Symplecta* Meigen, 1830 was identified correctly. However, in the case of preimaginal stages, the identification of species within the genus *Molophilus* Curtis, 1833 was impossible in the 1960s without rearing the specimens up to the emergence of adults. The presence of *S. hybrida*

in the fauna of the studied region has been verified, whilst the occurrence of *M. obscurus* in the Polish Bieszczady Mts requires confirmation. Despite these doubts, both species have been included in the numbers and comparisons presented further in this study.

Therefore, to date, 130 Limoniidae species and 18 Pediciidae species have been identified from the Polish Bieszczady Mts. This includes 96 Limoniidae and 14 Pediciidae species recorded from the area of the Bieszczady National Park.

In the Material and Methods section, it was pointed out that no regularly conducted studies have yet been carried out in the Polish Bieszczady Mts. Therefore, from a methodological point of view, the material analysed in the present study cannot be considered as representative for the area. Nevertheless, even at this early stage of research, certain comparisons between the species composition of the Polish Bieszczady Mts and that of adjacent areas can be made.

In the present study, mainly areas encompassed by the East Carpathians Transboundary Biosphere Reserve were taken into account. However, considering the similarities of the environmental conditions in the areas adjacent to the protected sites, as well as the artificial nature of administrative boundaries in relation to mobile fauna, data from sites located outside the ECTBR was included in the comparisons.

The Limoniidae and Pediciidae of the Bukovské Hills have been inventoried by Starý (1995a, 1995b). The extensive list contains 184 Limoniidae species and 24 Pediciidae species. After the publication of later works (Starý 1997, 1998, 1999, 2003, 2004, 2006a, 2006b, 2009a, 2009b, 2011; Starý & Reusch 2009; Starý & Stubbs 2015; Starý & Oboňa 2018) the number of Limoniidae species recorded from the region has increased to 200, whilst the number of Pediciidae species has remained the same at 26 species (Table 1).

Table 1. Number of Limoniidae and Pediciidae species recorded in the Polish, Slovakian and Ukrainian parts of the East Carpathians Transboundary Biosphere Reserve.

		Polish Bieszczady Mts <sup>3</sup>		
		Limoniidae: 130 Pediciidae: 18		
		only in Slovakia	shared	only in Poland
Slovakian Bukovské Hills <sup>1</sup>	Limoniidae: 200	Limoniidae: 84	Limoniidae: 116	Limoniidae: 14
	Pediciidae: 26	Pediciidae: 12	Pediciidae: 14	Pediciidae: 4
		only in Ukraine	shared	only in Poland
Ukrainian Nadsyansky RLP & Uzhansky NP <sup>2</sup>	Limoniidae: 63	Limoniidae: 11	Limoniidae: 52	Limoniidae: 78
	Pediciidae: 8	Pediciidae: 2	Pediciidae: 6	Pediciidae: 12

Sources:

<sup>1</sup>Starý 1995a, 1995b, 1997, 1998, 1999, 2003, 2004, 2006a, 2006b, 2009a, 2009b, 2011; Starý & Reusch 2009; Starý & Stubbs 2015; Starý & Oboňa 2018;

<sup>2</sup>Savchenko 1982, 1985, 1986, 1989;

<sup>3</sup>Zaćwilichowska 1970; Krzemiński 1984, 1991; Insektarium 2022; new data.

The Ukrainian part of the ECTBR is made up of two protected areas partially situated in the Western Bieszczady Mts and partially in the Eastern Bieszczady Mts. No similar inventory studies have ever been conducted in this region of the ECTBR. In order to compare species composition, the authors of the present study have examined records from four comprehensive works by Savchenko (1982, 1985, 1986, 1989), where 202 Limoniidae species and 26 Pediciidae species are mentioned from throughout the Ukrainian Carpathians. Based on subsequent articles (Starý 2004; Oboňa et al. 2017; Wiedeńska & Syratt 2021), an additional 5 more Limoniidae species and one Pediciidae species can be added to Savchenko's list. Only two sites mentioned in the studies referenced above lie within the ECTBR: the Uzhok Pass in the Nadsyansky Regional Landscape Park; and the village of Stavne in the Uzhansky National Park. As with the Polish parts of the ECTBR, localities situated near, or immediately adjacent to the ECTBR

borders have also been included in the comparisons. In the case of Ukraine there are only four such sites: the city of Turka; the village of Mel'nychne; the settlement of Velykyi Bereznyi; and the Yavirnyk polonyna.

Savchenko (1982, 1985, 1986) recorded 40 Limoniidae species and 3 Pediciidae species from the Nadsyansky RLP and its immediate vicinity, as well as 35 Limoniidae and 7 Pediciidae species from the Uzhansky NP and its surrounding area. Treating both of these administrative units as one entity provides the result of 63 Limoniidae species and 8 Pediciidae species (Table 1).

Table 1 also shows the numbers of shared species between the Polish & Slovakian and Polish & Ukrainian areas of the ECTBR as well as the numbers of species found in each of the three administrative units of the reserve (Fig. 1). It should be emphasised, that this collection of data does not reflect the actual differences in the species composition of the particular regions and, above all, does not indicate that the differences are determined by environmental factors. The numerical data presented in Table 1 serves as a general indication as to the state of knowledge of the Limoniidae and Pediciidae fauna, since it is based on unrepresentative material.

The need for more structured studies on the Limoniidae and Pediciidae of the Polish Bieszczady Mts is also evidenced by the compilation of various data on the distribution of individual species, which does not clearly identify the Bieszczady Limoniidae and Pediciidae fauna as being particularly characteristic.

Amongst the 148 species of Limoniidae and Pediciidae recorded so far from the Polish Bieszczady Mts the vast majority, about 83%, are common species or species recorded from many regions within their range; only about 17% are rare species. A significant number, 65 species (44%), are European species (Fig. 7). In this group there are 17 species that have also been found near the geographical borders of Europe including: Morocco; the Asiatic part of Turkey; and/or the South Caucasus. Amongst these European species 12 are montane.

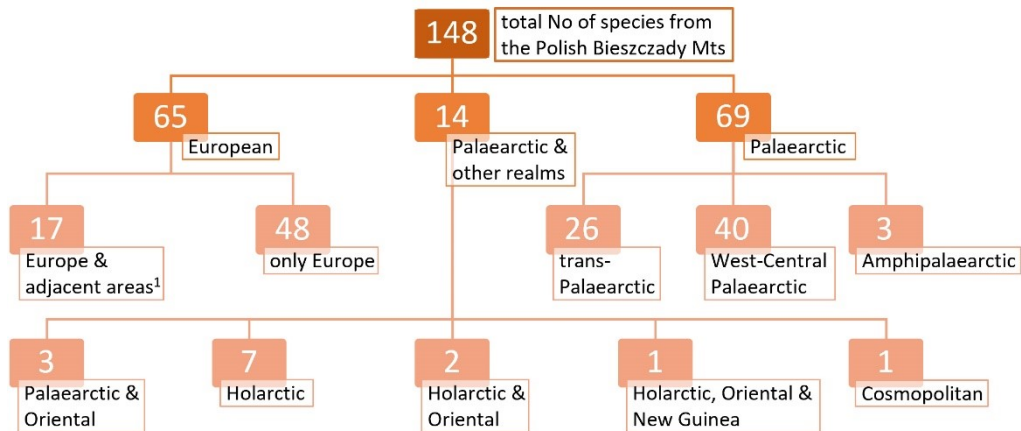


Fig. 7. Zoogeographical elements in the Limoniidae and Pediciidae fauna of the Polish Bieszczady Mts; <sup>1</sup> – Morocco, the Asiatic part of Turkey and/or the South Caucasus.

A further 69 species (46%) have a broader, heterogeneous distribution. This group is formed of: 26 species (18%) with the largest, trans-Palaearctic distribution; 40 species (27%) with a Western-Central-Palaearctic range; and 3 amphipalaearctic species (2%), including one montane species.

Another 14 species (9%) listed from the Polish Bieszczady Mts have also been reported from outside the Palaearctic. One of them – *Austrolimnophila* (*Archilimnophila*) *unica* – according to Savchenko (1986, 1989) has a boreal-montane range in the Palaearctic.

In summary: the majority of the data and comparisons presented herein does not provide the appropriate grounds for assessing the degree of individuality of the Limoniidae and Pediciidae assemblages of the Bieszczady Mts. However, these preliminary results support the conclusion that the Polish part of the East Carpathians Transboundary Biosphere Reserve requires further research including faunistic and inventory studies, as well as further studies that would enable characterising the assemblage of these dipterans and assess their role in the mountain ecosystem of the Bieszczady Mts. The continuation of research on the Limoniidae and Pediciidae in the Bieszczady Mts is also important as the Carpathian Mts are considered one of the most significant biodiversity hotspots and centres of endemism in Europe (Głowaciński 2009, Bálint et al. 2011). The faunistic data provided herein will hopefully provide the groundwork for such future investigations.

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## STRESZCZENIE

**[Nowe dane faunistyczne o Limoniidae i Pediciidae (Diptera) w polskich Bieszczadach]**

Fauna muchówek z rodzin sygaczowatych (Limoniidae) i kreślowatych (Pediciidae) w polskiej części Bieszczadów nie była do tej pory przedmiotem badań. Z dotychczas udokumentowanych danych znanych jest zaledwie 31 gatunków Limoniidae (Zaćwilichowska 1970; Krzemiński 1984, 1991; Klasa et al. 2000; Wiedeńska 2019a; Wiedeńska & Syrratt 2021) oraz dwa gatunki Pediciidae (Salmela & Piirainen 2003; Insektarium, 2022).

Materiał zaprezentowany w niniejszym doniesieniu, przechowywany w zasobach muzealnych Instytutu Systematyki i Ewolucji Zwierząt Polskiej Akademii Nauk w Krakowie oraz Katedry Zoologii Bezkręgowców i Hydrobiologii Uniwersytetu Łódzkiego, obejmuje około 1390 osobników dorosłych oraz dane z około 560 rekordów. Materiał ten pod względem metodycznym jest bardzo niejednorodny. Większość prób pochodzi ze zbiorów prof. dra hab. W. Krzemińskiego i dr J. Wiedeńskiej, jednak znaczna część muchówek została przekazana autorom przez innych entomologów, dla których Limoniidae i Pediciidae stanowiły w ich badaniach element przypadkowy. Owady były odławiane różnymi metodami i na przestrzeni kilkudziesięciu lat (od 1974 do 2001 r.).

Polska część Bieszczadów Zachodnich według regionalizacji fizyczno-geograficznej Polski (Solon et al. 2018) stanowi mezoregion 522.12 – Bieszczady Zachodnie w obrębie prowincji Karpaty Wschodnie z Wschodnim Podkarpaciem. Pozostała część Bieszczadów Zachodnich leży na terenie Słowacji, gdzie nosi nazwę Bukovské vrchy, oraz na terenie Ukrainy, gdzie od Przełęczy Użockiej Bieszczady Zachodnie przechodzą w Bieszczady Wschodnie.

U zbiegu granic tych trzech państw powstał w 1992 r., powołany przez UNESCO, Międzynarodowy Rezerwat Biosfery "Karpaty Wschodnie", powiększony od 1998 r. o obszary zachodniej Ukrainy (Fig. 1). Obecnie w skład MRB "KW" wchodzi następujące jednostki: po stronie polskiej – Bieszczadzki Park Narodowy, Ciśniańsko-Wetliński Park Krajobrazowy i Park Krajobrazowy Doliny Sanu; po stronie słowackiej – Park Narodowy "Połoniny" wraz z otuliną; po stronie ukraińskiej – Użański Park Narodowy i Nadsański Regionalny Park Krajobrazowy.

Autorzy niniejszego opracowania zidentyfikowali 122 gatunki muchówek z rodziny Limoniidae i 17 gatunków z rodziny Pediciidae, dokumentując ich występowanie w 54 stanowiskach, usytuowanych w polskiej części Bieszczadów.

Cztery gatunki zostały odnotowane w faunie Polski po raz pierwszy: *Idiocera (I.) punctata* (Edwards, 1938), *Rhabdomastix (Rh.) laetoidea* Starý, 2004 (Fig. 2), *Lipsothrix ecucullata* Edwards, 1938 (Figs 3, 4) (Limoniidae) oraz *Dicranota (Paradicranota) subflammatra* Starý, 1998 (Figs 5, 6) (Pediciidae).

Łącznie z danymi pochodzącymi z wcześniejszych publikacji (Zaćwilichowska 1970; Krzemiński 1984, 1991; Insektarium 2022), lecz nie powtórzonymi w niniejszym materiale, w polskiej części Bieszczadów stwierdzono występowanie 130 gatunków z rodziny Limoniidae i 18 gatunków z rodziny Pediciidae. W tej liczbie jest 96 gatunków Limoniidae i 14 gatunków Pediciidae, których obecność zanotowano na terenie Bieszczadzkiego Parku Narodowego.

Powyższe dane, w przeważającej liczbie pochodzące z polskiej części obszaru MRB "KW", porównane zostały z danymi literaturowymi dotyczącymi obszarów słowackiej i ukraińskiej części Rezerwatu i terenów położonych w pobliżu jego granicy (Tab. 1). Najdokładniej poznana jest fauna Bukowskich Wierchów, gdzie badania prowadzone były przez Starý'ego (1995a, 1995b) i uzupełniane później doniesieniami (wykaz pozostałych publikacji w opisie Tabeli 1). Materiał części ukraińskiej przeanalizowany został przez autorów w oparciu o publikacje Savchenki (1982, 1985, 1986, 1989). W Tabeli 1 podano liczby gatunków wspólnych w polskiej i słowackiej oraz w polskiej i ukraińskiej częściach MRB "KW", a także liczby gatunków stwierdzonych tylko w jednej z trzech jednostek administracyjnych (nie

ekologicznych) Rezerwatu. Podkreślić należy, że zestawienie tych danych nie odzwierciedla rzeczywistych, istniejących w przyrodzie różnic i podobieństw, a przede wszystkim nie świadczy o różnicach uwarunkowanych czynnikami środowiskowymi. Przedstawione porównania służą jedynie ogólnej orientacji co do stopnia poznania fauny Limoniidae i Pediciidae w poszczególnych rejonach MRB "KW".

Na podstawie znanych do tej pory zasięgów Limoniidae i Pediciidae (Oosterbroek 2022) oceniony został także udział poszczególnych elementów zoogeograficznych w materiale pochodzącym z polskiej części Bieszczadów (Fig. 7). Znaczny udział gatunków palearktycznych znanych tylko z Europy lub też z jej przygranicznych rejonów (Maroko, Turcja, Zakaukazie) (65 gatunków = 44%) oraz niewielka liczba gatunków o rozmieszczeniu górskim (13 gatunków) i borealno-górskim (jeden gatunek), a przede wszystkim dominujący udział (około 83%) gatunków o szerokim lub bardzo szerokim rozmieszczeniu i zaledwie około 17% gatunków rzadkich – mogłyby świadczyć o niewielkim stopniu odrębności bieszczadzkiego zespołu sygaczowatych i kreślowatych. Wiedza o rozmieszczeniu tych muchówek na świecie zmienia się jednak tak dynamicznie, że przedstawione powyżej wyniki podsumowań elementów zoogeograficznych z pewnością ulegną zmianie. Ponadto należy wziąć pod uwagę, że przedstawiony tu materiał jest zaledwie wstępnym rozpoznaniem fauny Limoniidae i Pediciidae tego rejonu Polski. Różny stopień reprezentatywności każdej z trzech kolekcji omawianych muchówek (polskiej, słowackiej i ukraińskiej) także nie daje podstaw do formułowania obiektywnych wniosków. Jednakże zaprezentowane powyżej wyniki sygnalizują konieczność przeprowadzenia dalszych badań Limoniidae i Pediciidae, w pierwszej kolejności – faunistycznych, inwentaryzacyjnych, a w następnej – badań umożliwiających określenie roli zespołu tych muchówek w górskim, chronionym ekosystemie Bieszczadów.