

УДК 595.7

R.J. Godunko, M. Kłonowska-Olejnik

**STONEFLIES (INSECTA: PLECOPTERA) COLLECTIONS IN THE STATE MUSEUM OF NATURAL HISTORY OF NAS OF UKRAINE (L'VIV) AND INSTITUTE OF SYSTEMATICS AND EVOLUTION OF ANIMALS OF PAN (KRAKÓW)**

*Годунько Р. Й., Клоновска-Олейнік М. Колекції веснянок (Insecta: Plecoptera) Державного природознавчого музею НАН України (м. Львів) та Інституту систематики та еволюції тварин ПАН (м. Краків) // Наук. зап. Держ. природознавч. музею. – Львів. – 18 – С. 23-28.*

В праці викладено результати досліджень колекції веснянок (Insecta: Plecoptera) Державного природознавчого музею НАН України (м. Львів) та Інституту систематики та еволюції тварин ПАН (м. Краків) здійснені в 2002-2003 роках. У фондах згаданих установ зберігається 137 екземплярів Plecoptera, що належать до 22 видів (18 та 7, відповідно у Львові та Кракові). Колекції, очевидно, є найстарішими зборами веснянок в Україні та Польщі.

*Годунько Р.Й., Клоновска-Олейнік М. Коллекции веснянок (Insecta: Ephemeroptera) Государственного природоведческого музея НАН Украины (г. Львов) и Института систематики и эволюции животных ПАН (г. Краков) // Науч. зап. Гос. природоведч. музея. – Львов, 2003. – 18. – С. 23-28.*

В работе изложены результаты исследований коллекции веснянок Государственного природоведческого музея НАН Украины (г. Львов) и Института систематики и эволюции животных ПАН (г. Краков). В фондах упомянутых учреждений хранится 137 экземпляров Plecoptera, относящихся к 22 видам (18 и 7, соответственно во Львове и Кракове). Коллекции, по-видимому, являются самыми старыми сборами веснянок в Украине и Польше.

The formation of stonefly collections in SMNH NASU and in ISEA PAS has been stated since the second half of the 19-th century. With the efforts of Józef Dziędzielewicz some materials on Plecoptera from the Eastern and Western Carpathians, the Roztochchia Range and Polissia Range were accumulated in the Museum of Dzieduszycki. Other investigators collected some separate specimens from the Podillia Range, the Małopolska Range and the Sądecki Beskid Range. Until the World War I both collections made the whole and were preserved at the Museum of Dzieduszycki in L'viv. In 1915 J. Dziędzielewicz left for Myślienice village and took away some material from that collection. In 1918, after he had died, it was joined to the collection of Akademia Umiejętności in Kraków. At present all investigated specimens of Plecoptera in Kraków belong to the collection of the Natural Museum of the ISEA PAS.

The old collection of SMNH NASU contains 102 specimens, those are 99 imago males and females and 3 larval exuvia, which have been identified. The collection represents about 23,7% of the total number of stonefly species known in Ukraine. Till 2003 the above mentioned specimens were pinned up in entomological boxes. Such a method of conservation has proved to be unsatisfactory and resulted in extensive damage to the material. With a view to preserving better images and avoiding exuvia of stoneflies, they have been placed in to alcohol. The collection of stoneflies at ISEA PAS contains 35 specimens preserved in boxes. Besides J. Dziędzielewicz's material, there are some specimens collected by K. Jelski and P. Jabłoński at the end of the 19-th century and by J. Fudakowski in twenties of the 20-th century.

The investigated collections are of an absolute historical value, since they are probably the oldest in Ukraine and Poland. These collections have become a basis for the first faunistic study of the order Plecoptera from these countries [6].

The material presented in this paper was studied in 2002-2003. All specimens have been re-identified, the original labels cited without changes. The following abbreviations are used in the text:

Institutions: ISEA PAS – Institute of Systematics and Evolution of Animals, Polish Academy of Sciences; SMNH NASU – State Museum of Natural History, National Academy of Sciences of Ukraine.

Units of physical-geographical regions: CCA – Carpathians; CHOR – Chornohora Range; GOR – Gorgany Range; GP – Great Polissia; LP – Little Polissia; MAP – Małopolska Range; ROZ – Roztochchia Range; SAB – Sądecki Beskid; SG – Śląsk Górny; T – Tatry; BZ – Western Beskid; WPOD – Western Podillia; UC – Ukrainian Carpathians.

Collectors: CU – collector unknown; JD – J. Dziędziewic; PD – P. Dzeduszycki; JF – J. Fudakowski; PJ – P. Jabłoński; KJ – K. Jelski; VL – V. Lazorko; FS – F. Schille; JW – J. Werchranski.

Original labels: Ag – Anheliv village (L'vivs'ka Region); dol. – valley; Dz – J. Dziędziewic; Gub. – Gubernia; Kol – Kolomyia town (Ivano-Frankivs'ka Region); Krak – Kraków; Mł – Molodiatyn village (Ivano-Frankivs'ka Region); Ogr. bot. – botanical garden; okol – vicinity; p. or pot. – stream; Rebrow – Rebrovach Mt. (Ukrainian Carpathians); Wol – Volyn' Region.

We are very grateful to Prof. Dr. Adam Nadachowski for his great help during our work in the Institute of Systematics and Evolution of Animals, Polish Academy of Sciences. The work is financially supported by the Institute of Systematics and Evolution of Animals, Polish Academy of Sciences and the Jadwiga Queen Fund of Jagiellonian University (Kraków, Poland).

#### Perlodidae Klapálek, 1909

##### *Arcynopteryx* Klapálek, 1904

##### *Arcynopteryx compacta* (McLachlan, 1872)

SMNH NASU: 1 ♂: "Danzerz. 20. VII – 1906. źródła przy drodze.", CHOR (JD); 1 ♀: "Worochta. Okolice. p. pod. Rebrow. 25.-6.-1907.", CHOR (JD); 1 ♂: "Czarnohora. Kozły. 8.-7.-1907.", CHOR (JD); 1 ♀: "Worochta. Okolice. 30.-7.-1907.", CHOR (JD); 1 ♀: "Worochta. Okolice. pot. z Rebrow. 15.-6.-1908.", CHOR (JD); 1 ♂: "Chomiak [Błotek] 5.VI 1909", GOR (JD); 2 ♂♂: "Tatry. 1892. Dziędz.", "dovrensis Klapálek", T (JD).

The species is designated as *A. carpathica* Klapálek, 1906; *A. dovrensis* Morton, 1901 and *A. transylvanica* Klapálek, 1906 from Ukraine and Poland. In Ukrainian territory is known only from the Carpathians (Chornohora, Gorgany and Rivna Ranges), in Polish territory – from the Western Beskid Range, Bieszczady Ranges and Tatra [1, 2, 3, 6, 7].

##### *Diura* Billberg, 1820

##### *Diura bicaudata* (Linnaeus, 1758)

ISEA PAS: 1 ♂: "Babia Góra. Zawoja. 27..VII.1909" "154/24", T (JD); 2 ♂♂: "Chomiak. Pot. Barani. 26.-6.-1905. Dz.", "82/20", GOR (JD).

The species is designated as *Dictyopterygella recta* Kempny, 1900 and *D. septentrionis* Klapálek, 1904 only from the Tatra Mts [6], although in the collection of ISEA PAS 2 male specimens, collected by the latter author in the Gorgany Range (the Ukrainian Carpathians) are available.

*Isogenus* Newman, 1833

*Isogenus nubecula* Newman, 1833

SMNH NASU: 1 ♂: "Jaryszów. Gub. Podolska. 30.IV. zeb P. hr. Dzieduszycki" WPOD (PD); 1 ♂: "Wertelka pod Załoice. 26.V." (JF)

In the collection of SMNH NASU only 2 specimens from the Western Podillia Range (Khmel'nyts'ka region) mentioned by J. Dziędziewicz [6] are available.

*Perlodes* Banks, 1903

*Perlodes dispar* (Rambur, 1842)

SMNH NASU: 1 ♀: "Poturzyca przy Bugu", "Klapálek angusticeps", LP (JD).

A single specimen in the collection of SMNH NASU, mentioned by J. Dziędziewicz [6].

*Perlodes intricata* (Pictet, 1841)

ISEA PAS: 1 ♀: "Chomiak. Pot. Bogdan. 14.-7.-1905. Dz.", "80/", GOR (JD); 1 ♀: "Kołomyja", "127/10", CCA (JD); 1 ♀: "Rytro", "24/", SAB (FS).

*Perlodes microcephala* (Pictet, 1833)

SMNH NASU: 1 ♀: "Chomiak. pot. Bogdan. 11.-7.-1905. Dz.", "♀", GOR (JD); 1 ♀: "Chomiak. pot. Barani. 10.-6.-1907.", GOR (JD); 1 ♀: "Chomiak. Błotek. 1.VI.1909.", "Perlodes (*Dictyopteryx*) *microcephala* Pict.", GOR (JD); 1 ♀: "Kołomyja. 30.V.", CCA (JD); 1 ♂: "Kołomyja. Prut.", CCA (JD).

The species is cited by J. Dziędziewicz [4, 5], E. Majewski [8] and A. Wierzejski [9] as *Dictyopteryx microcephala* from the Ukrainian and Polish Carpathians. Later R. Despax [3] cited this species from the Chornohora Range.

*Isoperla* Banks, 1906

*Isoperla grammatica* (Poda, 1761)

SMNH NASU: 1 ♀: "Mikuliczyn. Polanica 5.VIII.1888", GOR (JD); 1 ♂: "Kołomyja 12.V.1899.", CCA (JD); 1 ♂: "Tatarów. (Błotek.) 10.-7.-1905. Dz", GOR (JD); 1 ♀: "Mikuliczyn (Żeniec) 23.VII", GOR (JD); 1 ♀: "Mikuliczyn (Żeniec).", GOR (JD); 3 ♀♀: "Kołomyja Prut.", CCA (JD); 1 ♂: "Kołomyja", CCA (JD); 1 ♂, 1 ♀: "Kołomyja. 30.V.", CCA (JD); 1 ♂: "Kołomyja. 5.VI.", CCA (JD); 1 ♂: "Tatry", T (JD).

ISEA PAS: 1 ♂: " Myślenice Oklejna. 19.VII.1909", "166/24", MAP (JD); 1 ♂: "Rytro", "26/", SAB (FS).

The species is designated as *Chloroperla grammatica*, *C. strandi* Kempny, 1900 and *C. virescens* (Pictet, 1833) from the Ukrainian and Polish Carpathians [5, 6, 8].

*Isoperla rivulorum* (Pictet, 1841)

SMNH NASU: 1 ♀: "Mikuliczyn. (Żyniec).", GOR (JD); 1 ♂: "Babia Góra. Zawoja. 23.VII.1909.", T (JD).

Perlidae Latreille, 1802

*Agnatina* Klapálek, 1907

*Agnatina elegantula* (Klapálek, 1905)

SMNH NASU: 1 ♀: "Kraków. Wisła. VIII.", MAP, (KJ).

A single specimen in the collection of SMNH NASU, collected probably by K. Jelski, identified by mistake as *Marthamea vitripennis* (Burmeister, 1839), mentioned by J. Dziędziewicz [6, 7].

*Dinocras* Klapálek, 1907*Dinocras cephalotes* (Curtis, 1827)

SMNH NASU: 1 ♂: "Tatry. w Lipcu", T (JD).

ISEA PAS: 1 ♂: "11/7 Dora." "37/7", CCA (JD); 1 ♂: "29/9 Młodziatyn (Kołomyjskie)" "38/7", CCA (JD); 2 ♂♂: "5/8. Mł." "105/5", CCA (JD); 1 ♂: "5/8. Mł." "109/5", CCA (JD); 1 ♂: "Ag" "19/3", CCA (JD); 2 ♂♂: "8/9 ldr." "141/4", CU; 1 ♂: "77/14", CU; 1 ♂: "142/4", CU.

J. Dziędziewicz [6] cited this species from the Eastern Carpathians only. The specimens available in the collection of ISEA PAS, collected at the foothills of the Ukrainian Carpathians, belong to *D. cephalotes*. L. A. Zhiltzova [1, 2] cited the species from the Ukrainian Carpathians. It is abundant in the Polish Carpathians [7].

*Perla* Geoffroy, 1762*Perla burmeisteriana* Claassen, 1936

SMNH NASU: 1 ♂: "17.-6.-1907 Worochta.", "K-628 III-945", "Perla abdominalis", CHOR (JD); 1 ♂: "Kołomyja. Pryt. 4.VI.", CCA (JD); 2 ♀♀: "Kołomyja. Prut. 30.-V.", CCA (JD); 1 ♀: "Kołomyja 16.V.1899.", CCA (JD); 1: "Kołomyja. 19.V.99.", CCA (JD); 1 ♂: "Kniaźdwór. 31.V.", CCA (JD).

The species is designated as *P. abdominalis* Burmeister, 1839 by J. Dziędziewicz [5, 6] and E. Majewski [8] from the Ukrainian and Polish Carpathians.

*Perla grandis* Rambur, 1842

SMNH NASU: 1 ♂: "Babia Góra Zawoja. 23.VII.1909.", T (JD).

A single male specimen in the collection of SMNH NASU, mentioned by J. Dziędziewicz [6] as "*P. alpicola* Klap." From the Polish Carpathians (Western Beskid Range) was cited by [7].

*Perla marginata* (Panzer, 1799)

SMNH NASU: 1 ♂: "Tatry. 1891", T (JD); 1 ♀: "Kołomyja 16.V.1899.", CCA (JD); 1 ♀: "Mikuliczyn 3.7. (Żyńiec) 1903", GOR (JD); 1 ♂: "Tartarów. 6.7 Chomiak 1903", GOR (JD); 1 ♂: "Tatarów. (Błotek.) 28.-6.-1905. Dz.", GOR (JD); 1 ♂: "Mikuliczyn. (Okolice) 11.-7.-1906.", GOR (JD); 1 ♀: "Kołomyja. Prut. 13.-VII.", "1", CCA (JD); 1 ♀: "Kołomyja. Prut. 15-20.-VII.", "6.", "Perla maxima, Scop.", "2", CCA (JD); 1 ♂: "Kołomyja. 6.VII.", "Perla maxima, Scop.", "3", CCA (JD); 1 ♂: "Kołomyja. 4.-VII.", CCA (JD); 1 ♂: "Lanczyn. Prut. 8.VI.", CCA (JD); 1 larval skin: "Prut", UC, (JD); 1 ♂: "Mikuliczyn Żyńiec. 20.VII.", GOR (JD); 1 ♂: "Mikuliczyn okolice. VIII", GOR (JD); 1 ♂: "Mikuliczyn okolice", GOR (JD); 1 ♂: "Mikuliczyn. VIII.", GOR (JD); 1 ♂: "Tatry. VII. VIII.", T (JD); 1 ♂: "Tatry", T (JD); 2 larval skins, 1 ♀: without labels.

ISEA PAS: 1 ♀: "Rytro", "25/", SAB (FS).

The species is also designated as *P. maxima* (Scopoli, 1763) by J. Dziędziewicz [5, 6] and E. Majewski [8].

*Perla pallida* Guérin-Méneville, 1838

SMNH NASU: 1 ♂: "Chomiak. Błotek. 19.-6.-1907.", GOR (JD); 1 ♂: "Worochta. Okolice. 1.-8.-1907", "Perla dacica, Klap.! Det. Klapalek.", CHOR (JD); 1 ♀: "Mikuliczyn (Prut) 6.VIII.1909.", GOR (JD).

One of the specimens in the collection of SMNH NASU is mentioned by J. Dziędziewicz [6]. In the Ukrainian and Polish Carpathians the species is rare [1, 2, 7].

*Perla* sp. 1

ISEA PAS: 1 ♀: "31/5 Słobódka leśna", "36/7", CCA (JD), very damaged specimen.

## Chloroperlidae Okamoto, 1912

*Siphonoperla* Zwick, 1967*Siphonoperla neglecta* (Rostock, 1881)

SMNH NASU: 2 ♂♂: "Chomiak. [Błotek] 14.VI 1909", GOR (JD); 1 ♂: "Chomiak. (Błotek.) 13.-7.-1905. Dz.", GOR (JD); 1 ♀: "9.VII.1904, Chomiak Mikuliczyn", GOR (JD); 1 ♂: "20.7. Żeniec. Mikuliczyn", GOR (JD); 1 ♂: "24.7. Mikuliczyn potok Żeniec", GOR (JD).

*Siphonoperla torrentium* (Pictet, 1841)

SMNH NASU: 1 ♀: "20.VII.1909. p. Bogdan ad Chomiak. Mikuliczyn 1909.", GOR (JD); 1 ♂: "Słobódka leśna 25.5", CCA (JD); 1 ♂: "Słobódka leśna 4.6.", CCA (JD).

*Xanthoperla* Zwich, 1967*Xanthoperla apicalis* (Newman, 1836)

SMNH NASU: 1 ♂: "Kołomyja 25.6.", CCA (JD); 1 ♂: "6. Kołomyja", CCA (JD); 1 ♂: "Kołomyja w Czerwcu", CCA (JD); 3 ♂♂: "6 Kł.", CCA (JD).

## Taeniopterygidae Klapálek, 1905

*Taeniopteryx* Pictet, 1841*Taeniopteryx nebulosa* (Linnaeus, 1758)

ISEA PAS: 1 ♂: "Kraków 10/IV 86 Ogr. bot", "K. Jelski", "K. Jelski", MAP (KJ); 1 ♂: "Oświęcim 5.III nad Sotą" (CU).

## Nemouridae Newman, 1853

*Nemoura* Latreille, 1796*Nemoura cinerea* (Retzius, 1783)

ISEA PAS: 1 ♀: "Tatarów. (Błotek.) 16.-7.-1905. Dz.", "91", GOR (JD); 1 ♂: "Podole okol. Rakutowej Kamieniecki", WPOD (? JD); 1 ♀: "Kraków 10/IV 86 Ogr. bot" "K. Jelski", MAP (KJ); 1 ♀: "Jordanów 7.8.1921", WB (JF); 1 ♀: "Jordanów 9.8.1921" (JF); 1 ♀: "Kobierzyn 26.V.1921" (JF).

The species is also designated as *N. variegata* Oliver, 1811 by J. Dziędziewicz [6] and R. Despax [3].

*Nemoura* sp.

ISEA PAS: 1 ♀: "22.6.1902 Białohorszczka", "153/17", ROZ (JD); 1 ♀: "1/4 Kł", "111/5", CCA (JD), very damaged specimen; 1 ? ♀: "Krak? Jabłoński", MAP (PJ), very damaged specimen; 1 ♀: "Kobierzyn 26.V.1921" MAP (JF); 1 ♂: "152/4", CU.

Capniidae Klapálek, 1905

*Capnia* Pictet, 1841

*Capnia atra* Morton, 1896

SMNH NASU: 1 ♀: "Chomiak. Błotek. 26.V.1909", GOR (JD).

*Capnia nigra* (Pictet, 1833)

SMNH NASU: 1 ♂: "Foreszczynka. 15.III.1909. Czarnohora.", CHOR (JD); 10 ♂♂, 2 ♀♀: "Czarnohora. Foreszczynka. 1.IV.1910.", CHOR (JD); 1 ♂: "Kołomyja 3.4 Prut", CCA (JD); 2 ♂♂: "Kołomyja 4. Prut.", CCA (JD).

*Capnia vidua* Klapálek, 1904

SMNH NASU: 1 ♂: "3/8 Woł.", "3б. Верхрац.", GP (JW); 1 ♂: "10.V.52.", "Брюховичи", ROZ (L); 1 ♂: "Підлюте Кузьминець 15.VI.08. coll. Лазорко", GR (VL).

### Deductions

The investigated collections are of an absolute historical value, since they are probably the oldest in Ukraine and Poland. These collections have become a basis for the first faunistic study of the order Plecoptera from these countries [5, 6].

1. Жильцова Л. А. Веснянки (Plecoptera) европейской части СССР (без Кавказа) // Энтомологический обзор. – 1966. – 45, №3. – С. 525-549.
2. Жильцова Л. А. Обзор веснянок (Plecoptera) Украинских Карпат. II. Семейства Leucteridae, Capniidae, Perlodidae, Perlidae, Chloroperlidae // Вестн. зоол. – 1968, №2. – С. 61-67.
3. Despax R. Plécoptères récoltés par le D<sup>r</sup> Fudakowski dans le Massif de la Czarnohora (Carpathes orientales polonaises) // Bull. Soc. Entomol. France. – 1933. – 38. – С. 77-80.
4. Dziędziewic J. Wykaz Prasiatnic i Sieciarek na porzeczach Prutu po Kołomyję i Bystrzycę nadworniańską // Pam. Tow. Tatr. – 1877. – 2. – S. 68-75.
5. Dziędziewic J. Przegląd fauny krajowej owadów siatkoskrzydłych (Neuroptera, Pseudoneuroptera) // Spraw. Kom. Fizjogr. – 1891. – 26. – S. 26-151.
6. Dziędziewic J. Owady siatkoskrzydłowe ziem Polski (Insecta, Neuropteroidea Poloniae terrarum). II // Rozprawy i Wiad. Muz. Dziedusz. – 1920. – 4. – S. 28-37.
7. Fiałkowski W., Kittel W. Widelnice Plecoptera // Katalog Fauny Polski. – 2002. – 16, №3 – S. 1-72.
8. Majewski E. Systematyczny wykaz owadów żyłkoskrzydłych polskich. Insecta Neuroptera Polonica. – Warszawa: Gebethner i Wolff, 1882. – S. 1-42.
9. Wierzejski A. Dodatek do fauny sieciówek (Neuroptera) // Spraw. Kom. Fizjogr. – 1883. – 17. – S. 253-255.

State Museum of Natural History of NAS of Ukraine, L'viv

Department of Hydrobiology, Institute of Environmental Sciences, Jagiellonian University, Kraków