

Contribution to the Plecoptera fauna of Serbia

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ABSTRACT: This paper provides 316 data of 60 taxa from 84 sampling sites collected between 17.06.1897 and 25.10.2023. *Brachyptera bulgarica*, *Rhabdiopteryx acuminata*, *Leuctra balcanica*, *L. dalmoni*, *L. mortoni mortoni*, *L. rosinae*, *Capnia* s.l. *vidua rilensis*, *Nemoura sciurus*, *Perla bureschi*, *Isoperla oxylepis balcanica*, *I. russevi*, *Chloroperla kosarovi* and *C. russevi* are new to Serbia. An updated and commented checklist of Serbian stoneflies is provided.

Introduction

Adult based and detailed locality data on Serbian stoneflies were published by KLAPÁLEK (1909), PONGRÁCZ (1923), KAĆANSKI (1972, 1975), KAĆANSKI & ZWICK (1970), ZWICK (1978) and MURÁNYI *et al.* (2014). SIVEC (1980) published a checklist of the former Yugoslavian states, based on published records and his own extensive adult collections, however, localities were not detailed for his new materials. PETROVIĆ *et al.* (2014) compiled data of former eco-faunistic records from Serbia (including Kosovo), and completed with their recent larval and adult collections; unfortunately, locality data were not detailed. The list below refers on the complete locality data of adults (KLAPÁLEK 1909, PONGRÁCZ 1923, KAĆANSKI 1972, 1975, KAĆANSKI & ZWICK 1970, ZWICK 1978, MURÁNYI *et al.* 2014), the two checklists (SIVEC 1980, PETROVIĆ *et al.* 2014), recent larval records not included in the above checklists (YOSHINARI 2008, SIMOVIĆ *et al.* 2023) and not detailed country data (SIVEC & STARK 2002).

In the present paper, we enumerate our own stonefly data collected in Serbia between 01.04.2001 and 25.10.2023, some additional specimens received from colleagues, and unpublished Serbian stonefly materials of the Hungarian Natural History Museum. The data are compiled in the updated checklist of Serbian Plecoptera.

Material and methods

For collecting methods of larvae see KOVÁCS *et al.* (1998). Exuviae were singled from stones, logs and riparian vegetation, adults were singled and/or beaten along waterflows.

The collected specimens have been preserved in 70% ethanol, and are deposited in the Department of Zoology, Eszterházy Károly Catholic University, Eger, Hungary (EKCU), the Collection of Smaller Insect Orders, Department of Zoology, Hungarian Natural History Museum, Budapest, Hungary (HNHM) and in the Mátra Museum of the Hungarian Natural History Museum, Gyöngyös, Hungary (MM).

The localities are shown on Fig. 1.

Abbreviations: Collectors – AD = Dorka Angyal, DL = László Dányi, DT = Tamás Deli, EZ = Zoltán Eröss, FZ = Zoltán Fehér, HA = András Hunyadi, HK = Krisztián Harnos, HS = Sándor Horvatovich, HT = Tamás Huszár, JP = Péter Juhász, KJ = Jenő Kontschán, KT = Tibor Kovács, MD = Dávid Murányi, MG = Gábor Magos, OCS = Csaba Oberczán, OP = Péter Olajos, PD = Dániel Pifkó, PG = Gellért Puskás, PJ = Jenő Papp, TE = Edina Török; life stages – L = larva, E = exuvium, ♂ = male imago, ♀ = female imago.



Fig. 1. Collecting sites in Serbia. ESRI Terrain Map

The list of data

TAENIOPTERYGIDAE Klapálek, 1905

Taeniopteryx araneoides Klapálek, 1902 – Klapálek 1909.

Taeniopteryx hubaulti Aubert, 1946 – Sivec 1980, Petrović *et al.* 2014, Simović *et al.* 2023.

Taeniopteryx nebulosa (Linnaeus, 1758) – Petrović *et al.* 2014.

Taeniopteryx schoenemundi (Mertens, 1923) – Petrović *et al.* 2014, Simović *et al.* 2023. – Braničevo district, Beljanica Mts, Krupaja, Krupaja Spring and its outlet river N of the village, 240 m, 44.184°N, 21.608°E, 16.03.2011, KT, MD, MG, 1 ♀ (MM). – Braničevo district, Homoljske planina, Izvarica, stream N of the village, 280 m, 44.234222°N, 21.692917°E, 16.03.2011, KT, MD, MG, 1 ♂ (MM).

Brachyptera braueri (Klapálek, 1900) – PETROVIĆ *et al.* 2014.

Brachyptera bulgarica Raušer, 1962 – Moravica district, Golija Mts, Dajići, Moravica Stream at Milošica, 1505 m, 43.3384°N, 20.2507°E, 06.05.2023, KLP, KT, MD, 1L, 1E, 3♂ (EKCU), 3♂ (MM). – Pčinja district, Besna Kobila Mts, forest brook along Ruski Put, 1460 m, 42.53206°N, 22.20277°E, 22.05.2017, JP, KT, OP, 5♂, 3♀ (MM). – Pčinja district, Besna Kobila Mts, Stance Stream along Ruski Put, 1525 m, 42.53742°N, 22.22102°E, 22.05.2017, JP, KT, OP, 4♀ (MM). – Pirot district, Stara Planina Mts, Dojkinačka Stream below Tri kladenca Waterfall, N of Dojkinci, 1700 m, 43.31944°N, 22.82193°E, 25.05.2017, JP, KT, OP, 8♂ (MM). – Pirot district, Stara Planina Mts, Topli Do, Stimoljski dol, 1085 m, 43.35474°N, 22.74466°E, 25.05.2017, JP, KT, OP, 1♂, 4♀ (MM). – Raška district, Golija Mts, Radaljica, spring brooks in forest edge, 1575 m, 43.2743°N, 20.3467°E, 06.05.2023, KLP, KT, MD, 1♀ (EKCU). – Zaječar district, Stara Planina Mts, Crni Vrh, stream 720 m NE of Košarište, 1115 m, 43.42210°N, 22.59878°E, 23.05.2017, JP, KT, OP, 1♀ (MM). – New to Serbia.

Brachyptera graeca Berthélemy, 1971 – PETROVIĆ *et al.* 2014.

Brachyptera helenica Aubert, 1956 – SIVEC 1980, PETROVIĆ *et al.* 2014.

Brachyptera monilicornis (Pictet, 1841) – SIVEC 1980. – Kolubara district, Maljen Mts, Bačevci, Gradac Stream at the village, 455 m, 44.144472°N, 19.925167°E, 17.03.2011, KT, MD, MG, 1E (MM).

Brachyptera risi (Morton, 1896) – KAČANSKI 1975, SIVEC 1980, PETROVIĆ *et al.* 2014. – Braničevo district, Homoljske planina, Izvarica, stream N of the village, 280 m, 44.234222°N, 21.692917°E, 16.03.2011, KT, MD, MG, 1L (HNHM), 9L (MM). – Braničevo district, Homoljske planina, Krepoljin, stream N of the village, 290 m, 44.277139°N, 21.60925°E, 16.03.2011, KT, MD, MG, 3L (MM). – Braničevo district, Homoljske planina, Osanica, stream S of the village, 280 m, 44.256417°N, 21.669083°E, 16.03.2011, KT, MD, MG, 5L (MM). – Kolubara district, Maljen Mts, Bačevci, Gradac Stream at the village, 455 m, 44.144472°N, 19.925167°E, 17.03.2011, KT, MD, MG, 6L (HNHM). – Mačva district, Vlasic, Druzetic, Ub Stream SE of the village, 145 m, 44.40713°N, 19.89321°E, 17.03.2011, KT, MD, MG, 6L (HNHM). – Zaječar district, Stara Planina Mts, Stanjinac, Bigar Stream below Bigar Waterfall, 460 m, 43.35489°N, 22.44341°E, 25.05.2017, JP, KT, OP, 1♀ (MM). – Zlatibor district, Kaludjerovići, Ljutina river, 645 m, 43.48153°N, 19.41624°E, 12.05.2016, JP, OP, 2L (MM). – Zlatibor district, Zlatibor Mts, Crni Rzvav Stream at the junction to Vodice, 1010 m, 43.661667°N, 19.709556°E, 17.03.2011, KT, MD, MG, 1L (MM). – Zlatibor district, Zlatibor Mts, Ljubis, open brook along the road No. 23, 1025 m, 43.680861°N, 19.704083°E, 17.03.2011, KT, MD, MG, 2L (HNHM), 7L (MM).

Brachyptera seticornis (Klapálek, 1902) – SIVEC 1980, PETROVIĆ *et al.* 2014. – Braničevo district, Homoljske planina, Izvarica, stream N of the village, 280 m, 44.234222°N, 21.692917°E, 16.03.2011, KT, MD, MG, 1L (MM). – Braničevo district, Homoljske planina, Osanica, stream S of the village, 280 m, 44.256417°N, 21.669083°E, 16.03.2011, KT, MD, MG, 3L (MM). – Moravica district, Golija Mts, Dajići, Moravica Stream at Milošica, 1505 m, 43.3384°N, 20.2507°E, 06.05.2023, KLP, KT, MD, 1L, 5E, 2♂, 2♀ (EKCU), 2E, 3♂, 1♀ (MM); 23.10.2023, KT, MD, PD, 3E (EKCU). – Pčinja district, Besna Kobila Mts, Crna Stream W of Musulj, 1210 m, 42.51688°N, 22.24835°E, 22.05.2017, JP, KT, OP, 1♂, 8♀ (MM). – Pčinja district, Besna Kobila Mts, forest brook along Ruski Put, 1460 m, 42.53206°N, 22.20277°E, 22.05.2017, JP, KT, OP, 1♀ (MM). – Pčinja district, Besna Kobila Mts, Gornja Ljubata, Debeli Rid, forest stream, 1165 m, 42.49202°N, 22.25406°E, 22.05.2017, JP, KT, OP, 1♀ (MM). – Pčinja district, Vlasina, Surdulica, Vrla River gorge, 600 m, 42.6937°N, 22.2109°E, 07.05.1971, HS, PJ, 1♀ (HNHM). – Pirot district, Stara Planina Mts, Dojkinačka Stream below Tri kladenca Waterfall, N of Dojkinci, 1700 m, 43.31944°N, 22.82193°E, 25.05.2017, JP, KT, OP, 2♂, 2♀ (MM). – Pirot district, Stara Planina Mts, Topli Do, Stimoljski dol, 1085 m, 43.35474°N, 22.74466°E, 25.05.2017, JP, KT, OP, 1♂, 7♀ (MM). – Raška district, Golija Mts, Tunovo, forest stream and sidebrook, 850 m, 43.28262°N, 20.44081°E, 07.05.2023, KLP, KT, MD, 2E, 1♂ (EKCU), 3♂, 1♀ (MM). – Zaječar district, Stara Planina Mts, Crni Vrh, Crnoviška Stream along road No. 222, 650 m, 43.41541°N, 22.55052°E, 23.05.2017, JP, KT, OP, 1♀ (MM). – Zaječar district, Stara Planina Mts, Crni Vrh, stream 570 m NE of Košarište, 1105 m, 43.42276°N, 22.59619°E, 23.05.2017, JP, KT, OP, 1♀ (MM). – Zaječar district, Stara Planina Mts, Ravnobučka Stream E of Ravno Bučje, 1010 m, 43.44871°N, 22.57043°E, 23.05.2017, JP, KT, OP, 2♀ (MM). – Zlatibor district, Zlatibor Mts, Ljubis, open brook along the road No. 23, 1025 m, 43.680861°N, 19.704083°E, 17.03.2011, KT, MD, MG, 3L (MM).

Brachyptera trifasciata (Pictet, 1832) – PETROVIĆ *et al.* 2014.

Brachyptera tristis (Klapálek, 1901) – SIVEC 1980.

Rhabdiopteryx acuminata Klapálek, 1905 – Zlatibor district, Maljen Mts, Brajkovići, stream N of the village, 445 m, 44.037528°N, 19.913833°E, 17.03.2011, KT, MD, MG, 1E (MM). – Zlatibor district, Zlatibor Mts, Crni Rzvav Stream at the junction to Vodice, 1010 m, 43.661667°N, 19.709556°E, 17.03.2011, KT, MD, MG, 11♂, 6♀ (HNHM), 5L, 4♂, 5♀ (MM). – New to Serbia.

Rhabdiopteryx navicula Theisinger, 1974 – SIVEC 1980.

- Leuctra albida* Kempny, 1899 – SIVEC 1980, PETROVIĆ *et al.* 2014.
- Leuctra aurita* Navás, 1919 – PETROVIĆ *et al.* 2014.
- Leuctra autumnalis* Aubert, 1948 – PETROVIĆ *et al.* 2014.
- Leuctra braueri* Kempny, 1898 – PETROVIĆ *et al.* 2014.
- Leuctra bronislawi* Sowa, 1970 – KAČANSKI & ZWICK 1970, KAČANSKI 1975, SIVEC 1980, PETROVIĆ *et al.* 2014.
- Leuctra balcanica* Raušer, 1965 – Moravica district, Golija Mts, Dajići, Moravica Stream at Milošica, 1505 m, 43.3384°N, 20.2507°E, 26.06.2018, JP, KT, MD, 6♂, 8♀ (HNHM), 3♀ (MM). – Pčinja district, Besna Kobila Mts, left tributary brook of the left tributary of Crna Stream W of Musulj, 1250 m, 42.52022°N, 22.24669°E, 22.05.2017, JP, KT, OP, 4♂, 5♀ (MM). – Pčinja district, Besna Kobila Mts, Stance Stream along Ruski Put, 1525 m, 42.53742°N, 22.22102°E, 22.05.2017, JP, KT, OP, 3♂, 4♀ (MM). – Raška district, Golija Mts, Radaljica, spring brooks in forest edge, 1575 m, 43.2743°N, 20.3467°E, 26.06.2018, JP, KT, MD, 2♀ (MM). – Raška district, Golija Mts, Tunovo, forest stream and sidebrook, 850 m, 43.28262°N, 20.44081°E, 07.05.2023, KLP, KT, MD, 1♀ (MM). – Zaječar district, Stara Planina Mts, Mt. Babin zub, Dojčino Vrelo-Debeštica Stream, 1560 m, 43.36670°N, 22.59922°E, 24.05.2017, JP, KT, OP, 1♂, 1♂ (MM). – New to Serbia.
- Leuctra cingulata* Kempny, 1899 – PETROVIĆ *et al.* 2014. – Moravica district, Golija Mts, Dajići, Moravica Stream at Milošica, 1505 m, 43.3384°N, 20.2507°E, 23.10.2023, KT, MD, PD, 8♂, 8♀ (EKCU), 3♀ (MM). – Pčinja district, Vlasina, Vucadelce, forest brooks above the village, 1055 m, 42.66258°N, 22.30522°E, 20.10.2006, DL, KJ, MD, 1♂ (HNHM). – Raška district, Golija Mts, Radaljica, spring brooks in forest edge, 1575 m, 43.2743°N, 20.3467°E, 23.10.2023, KT, MD, PD, 1♂ (EKCU), 1♂ (MM). – Raška district, Kopaonik Mts, forest brook above Jošanička Banja, 1295 m, 43.3491°N, 20.7672°E, 25.10.2023, KT, MD, PD, 1♂, 2♀ (MM).
- Leuctra dalmoni* Vinçon & Murányi, 2007 – Moravica district, Golija Mts, Dajići, Moravica Stream at Milošica, 1505 m, 43.3384°N, 20.2507°E, 06.05.2023, KLP, KT, MD, 2♀ (EKCU), 1♀ (MM). – Pčinja district, Besna Kobila Mts, forest brook along Ruski Put, 1460 m, 42.53206°N, 22.20277°E, 22.05.2017, JP, KT, OP, 1♂ (MM). – Pčinja district, Vlasina, Vucadelce, Vrla River beneath the village, 830m, 42.67871°N, 22.27330°E, 08.04.2006, EZ, FZ, HA, MD, 5♂, 1♀ (HNHM). – Raška district, Golija Mts, Radaljica, spring brooks in forest edge, 1575 m, 43.2743°N, 20.3467°E, 06.05.2023, KLP, KT, MD, 1♂ (EKCU), 1♂ (MM). – New to Serbia.
- Leuctra digitata* Kempny, 1899 – KAČANSKI 1975, SIVEC 1980, PETROVIĆ *et al.* 2014. – Pčinja district, Vlasina, Vlasina Stojkovicева, open brook above the Vlasina Lake, 1280 m, 42.68204°N, 22.36559°E, 20.10.2006, DL, KJ, MD, 1♂, 1♀ (HNHM). – Pirot district, Stara Planina Mts, forest brook N of Jelovica/Široke Luke, 1050 m, 43.25896°N, 22.84547°E, 24.09.2021, JP, KT, MD, 1♂, 3♀ (MM). – Zlatibor district, Negbina, Markovic Spring, 940 m, 43.55200°N, 19.77484°E, 19.10.2002, EZ, FZ, KJ, MD, 2♀ (HNHM). – Zlatibor district, Zlatibor Mts, Čigota Mt, spring area of Crni Rzav Stream, 1150 m, 43.631278°N, 19.771667°E, 03.11.2011, KT, MG, 10♂, 15♀ (MM); 20.11.2011, KT, OCS, 11♂, 12♀ (MM). – Zlatibor district, Zlatibor Mts, Crni Rzav Stream at the junction to Vodicе, 1010 m, 43.661667°N, 19.709556°E, 03.11.2011, KT, MG, 18♂, 34♀ (MM). – Zlatibor district, Zlatibor Mts, Ljubis N, open brook along the road No. 23, 1015 m, 43.68548°N, 19.69892°E, 20.11.2011, KT, OCS, 3♂, 4♀ (MM).
- Leuctra fusca fusca* (Linnaeus, 1758) – KAČANSKI 1975, SIVEC 1980, PETROVIĆ *et al.* 2014. – Jablanica district, Oraovica, Juzna Morava River N of the village, 260 m, 42.89793°N, 22.04780°E, 19.08.2006, FZ, HA, HT, MD, 6L (HNHM). – Kolubara district, Maljen Mts, Bačevci, Gradac Stream at the village, 455 m, 44.144472°N, 19.925167°E, 07.08.2004, MD, 1L (HNHM); 15.10.2008, DL, FZ, KJ, MD, 2♂, 3♀ (HNHM). – Pčinja district, Vlasina, Surdulica, Vrla River above the city, 730 m, 42.68818°N, 22.25202°E, 20.10.2006, DL, KJ, MD, 1♂, 3♀ (HNHM). – Raška district, Golija Mts, Radaljica, spring brooks in forest edge, 1575 m, 43.2743°N, 20.3467°E, 23.10.2023, KT, MD, PD, 1♂, 1♀ (EKCU). – Zaječar district, Gamzigrad, Crni Timok River above the village, 180 m, 43.92517°N, 22.12947°E, 14.10.2006, DL, KJ, MD, 3♂, 5♀ (HNHM). – Zlatibor district, Negbina, Markovic Spring, 940 m, 43.55200°N, 19.77484°E, 19.10.2002, EZ, FZ, KJ, MD, 4♀ (HNHM). – Zlatibor district, Ozren, Brodarevo, Lim River S of the village, 540 m, 43.21307°N, 19.76311°E, 03.10.2005, DT, EZ, FZ, MD, 1L, 1E, 1♂, 3♀ (HNHM); 27.08.2006, FZ, HA, HT, MD, 1L (HNHM). – Zlatibor district, Zlatar Mts, Bistrica, Lim River S of the Priboj junction, 455 m, 43.46711°N, 19.65128°E, 14.10.2004, FZ, KJ, MD, 1♂, 1♀ (HNHM). – Zlatibor district, Zlatibor Mts, Crni Rzav Stream at the junction to Vodicе, 1010 m, 43.661667°N, 19.709556°E, 14.10.2004, FZ, KJ, MD, 3♀ (HNHM); 03.11.2011, KT, MG, 1♂, 1♀ (MM).
- Leuctra hippopoides* Kačanski & Zwick, 1970 – KAČANSKI 1975, SIVEC 1980, PETROVIĆ *et al.* 2014.
- Leuctra hippopus* Kempny, 1899 – KAČANSKI 1975, SIVEC 1980, PETROVIĆ *et al.* 2014. – Braničevo district, Homoljske planina, Izvarica, stream N of the village, 280 m, 44.234222°N, 21.692917°E, 16.03.2011, KT, MD, MG, 3L, 1♂ (HNHM), 1♀ (MM). – Braničevo district, Homoljske planina, Osanica, stream S of the village, 280 m,

44.256417°N, 21.669083°E, 16.03.2011, KT, MD, MG, 1E, 2♂, 1♀ (HNHM), 1♂, 2♀ (MM). – Kolubara district, Maljen Mts, Bačevci, Gradac Stream at the village, 455 m, 44.144472°N, 19.925167°E, 17.03.2011, KT, MD, MG, 1L (HNHM). – Pčinja district, Besna Kobila Mts, Crna Stream W of Musulj, 1210 m, 42.51688°N, 22.24835°E, 22.05.2017, JP, KT, OP, 1♂ (MM). – Pčinja district, Besna Kobila Mts, forest brook along Ruski Put, 1460 m, 42.53206°N, 22.20277°E, 22.05.2017, JP, KT, OP, 1♂, 2♀ (MM). – Pčinja district, Besna Kobila Mts, Gornja Ljubata, Debeli Rid, forest stream, 1165 m, 42.49202°N, 22.25406°E, 22.05.2017, JP, KT, OP, 1♂, 5♀ (MM). – Pčinja district, Vlasina, Surdulica, Vrla River gorge, 600 m, 42.6937°N, 22.2109°E, 07.05.1971, HS, PJ, 2♀ (HNHM). – Pčinja district, Vlasina, Vucadelce, Vrla River beneath the village, 830m, 42.67871°N, 22.27330°E, 08.04.2006, EZ, FZ, HA, MD, 6♂, 3♀ (HNHM). – Raška district, Golija Mts, Radaljica, spring brooks in forest edge, 1575 m, 43.2743°N, 20.3467°E, 06.05.2023, KLP, KT, MD, 1♀ (EKCU). – Raška district, Golija Mts, Tunovo, forest stream and sidebrook, 850 m, 43.28262°N, 20.44081°E, 07.05.2023, KLP, KT, MD, 2♂, 4♀ (EKCU), 1♂, 5♀ (MM). – Srem district, Fruska Gora Mts, Vrdnik, stream NW of the village, 275 m, 45.14310°N, 19.77167°E, 15.03.2011, KT, MD, MG, 7L (HNHM). – Zaječar district, Stara Planina Mts, Crni Vrh, stream 720 m NE of Košarište, 1115 m, 43.42210°N, 22.59878°E, 23.05.2017, JP, KT, OP, 4♀ (MM). – Zaječar district, Stara Planina Mts, Ravnobučka Stream E of Ravno Bučje, 1010 m, 43.44871°N, 22.57043°E, 23.05.2017, JP, KT, OP, 2♂, 4♀ (MM). – Zlatibor district, Zlatibor Mts, Raduša, forest stream at Nesovici junction, 835 m, 43.83281°N, 19.63084°E, 03.05.2023, KLP, KT, MD, 1♂ (EKCU), 3♂, 1♀ (MM). – Zlatibor district, Zlatibor Mts, spring brook of Crni Rzv Stream beneath Mt. Cigota, 1160 m, 43.6322°N, 19.77175°E, 25.05.2013, JP, KT, MG, PG, 3♀ (MM).

Leuctra hirsuta Bogoescu & Tabacaru, 1960 – KAČANSKI 1975, SIVEC 1980, PETROVIĆ *et al.* 2014. – Moravica district, Golija Mts, Gledica, forest brook, 1190 m, 43.4407°N, 20.2659°E, 22.10.2023, KT, MD, PD, 1♀ (EKCU), 1♂, 6♀ (MM). – Nišava district, Veliki Jastrebac, Vukanja, forest brook S of the village, 505 m, 43.3702°N, 21.5742°E, 05.10.2013, KT, MD, 3♂, 2♀ (HNHM). – Pčinja district, Besna Kobila Mts, Crna Stream W of Musulj, 1210 m, 42.51688°N, 22.24835°E, 25.09.2021, JP, KT, MD, 19♂, 8♀ (EKCU), 26♂, 14♀ (MM). – Pčinja district, Besna Kobila Mts, forest spring along Ruski Put, 1320 m, 42.53086°N, 22.26580°E, 25.09.2021, JP, KT, MD, 11♂, 10♀ (EKCU), 9♂, 9♀ (MM). – Pčinja district, Besna Kobila Mts, open brook S of Planinarski dom, 1600 m, 42.52929°N, 22.19760°E, 25.09.2021, JP, KT, MD, 1♀ (EKCU), 1♀ (MM). – Pčinja district, Besna Kobila Mts, Stance Stream along Ruski Put, 1525 m, 42.53742°N, 22.22102°E, 25.09.2021, JP, KT, MD, 11♂, 10♀ (EKCU), 7♂, 13♀ (MM). – Pčinja district, Vlasina, Vucadelce, forest brook at the upper dam of Vrla River, 890 m, 42.67329°N, 22.28246°E, 20.10.2006, DL, KJ, MD, 1♂ (HNHM). – Pčinja district, Vlasina, Vucadelce, forest brooks above the village, 1055 m, 42.66258°N, 22.30522°E, 20.10.2006, DL, KJ, MD, 4♂, 4♀ (HNHM). – Pirot district, Stara Planina Mts, forest seeps N of Jelovica, 950 m, 43.23212°N, 22.84662°E, 24.09.2021, JP, KT, MD, 1♂ (EKCU), 2♂ (MM). – Pirot district, Stara Planina Mts, forest brook N of Jelovica/Široke Luke, 1050 m, 43.25896°N, 22.84547°E, 24.09.2021, JP, KT, MD, 9♂, 4♀ (EKCU), 6♂, 7♀ (MM). – Raška district, Golija Mts, Radaljica, spring brooks in forest edge, 1575 m, 43.2743°N, 20.3467°E, 23.10.2023, KT, MD, PD, 1♂, 6♀ (EKCU). – Zaječar district, Stara Planina Mts, forest brook headwater of Rekitska Stream, E of Mt. Babin zub, 1535 m, 43.38057°N, 22.63269°E, 23.09.2021, JP, KT, MD, 6♂, 1♀ (MM).

Leuctra inermis Kempny, 1899 – Petrović *et al.* 2014. – Pčinja district, Besna Kobila Mts, Crna Stream W of Musulj, 1210 m, 42.51688°N, 22.24835°E, 22.05.2017, JP, KT, OP, 1♀ (MM). – Pčinja district, Vlasina, Surdulica, Vrla River gorge, 600 m, 42.6937°N, 22.2109°E, 07.05.1971, HS, PJ, 1♂ (HNHM).

Leuctra major Brinck, 1949 – KAČANSKI 1975, SIVEC 1980, PETROVIĆ *et al.* 2014. – Raška district, Pazariste, Raska Stream W of the village, 585 m, 43.13157°N, 20.41663°E, 12.10.2005, DT, EZ, FZ, MD, 1♀ (HNHM).

Leuctra mortoni mortoni Kempny, 1899 – Pirot district, Stara Planina Mts, Dojkinačka Stream below Tri kladenca Waterfall, N of Dojkinci, 1700 m, 43.31944°N, 22.82193°E, 24.09.2021, JP, KT, MD, 42♂, 16♀ (EKCU), 50♂, 33♀ (MM). – Raška district, Kopaonik Mts, spring brooks of Karamanski Stream, 1755 m, 43.2899°N, 20.8187°E, 24.10.2023, KT, MD, PD, 22♂, 13♀ (EKCU), 18♂, 15♀ (MM). – New to Serbia.

Leuctra moselyi Morton, 1929 – PETROVIĆ *et al.* 2014.

Leuctra nigra (Olivier, 1811) – SIVEC 1980, PETROVIĆ *et al.* 2014. – Moravica district, Golija Mts, Dajići, Moravica Stream at Milošica, 1505 m, 43.3384°N, 20.2507°E, 26.06.2018, JP, KT, MD, 2♂, 4♀ (HNHM), 4♂, 6♀ (MM); 06.05.2023, KLP, KT, MD, 7♂, 3♀ (EKCU), 10♂, 2♀ (MM). – Pčinja district, Besna Kobila Mts, Crna Stream W of Musulj, 1210 m, 42.51688°N, 22.24835°E, 22.05.2017, JP, KT, OP, 9♂, 7♀ (MM). – Pčinja district, Besna Kobila Mts, forest brook along Ruski Put, 1460 m, 42.53206°N, 22.20277°E, 22.05.2017, JP, KT, OP, 29♂, 18♀ (MM). – Pčinja district, Besna Kobila Mts, left tributary brook of the left tributary of Crna Stream W of Musulj, 1250 m, 42.52022°N, 22.24669°E, 22.05.2017, JP, KT, OP, 18♂, 9♀ (MM). – Pčinja district, Besna Kobila Mts, Stance Stream along Ruski Put, 1525 m, 42.53742°N, 22.22102°E, 22.05.2017, JP, KT, OP, 24♂, 17♀ (MM). – Pirot district, Stara Planina Mts, Dojkinačka Stream below Tri kladenca Waterfall, N of Dojkinci, 1700 m, 43.31944°N, 22.82193°E, 25.05.2017, JP, KT, OP, 32♂, 16♀ (MM). – Raška district, Golija Mts, Radaljica, spring brooks in

forest edge, 1575 m, 43.2743°N, 20.3467°E, 26.06.2018, JP, KT, MD, 3♂, 4♀ (MM); 06.05.2023, KLP, KT, MD, 5♂, 3♀ (EKCU), 6♂, 5♀ (MM). – Raška district, Kopaonik Mts, between Kopaonik and Jošanička Banja, forest stream?, 1555 m, 43.30997°N, 20.765627°E, 22.06.2017, KLP, TE, 1♂ (HNHM). – Zaječar district, Stara Planina Mts, Crni Vrh, stream 570 m NE of Košarište, 1105 m, 43.42276°N, 22.59619°E, 23.05.2017, JP, KT, OP, 16♂, 6♀ (MM). – Zaječar district, Stara Planina Mts, Crni Vrh, stream 720 m NE of Košarište, 1115 m, 43.42210°N, 22.59878°E, 23.05.2017, JP, KT, OP, 31♂, 10♀ (MM). – Zaječar district, Stara Planina Mts, forest brook headwater of Rekitska Stream, E of Mt. Babin zub, 1535 m, 43.38057°N, 22.63269°E, 24.05.2017, JP, KT, OP, 21♂, 9♀ (MM). – Zaječar district, Stara Planina Mts, Mt. Babin zub, Dojčino Vrelo-Debeštička Stream, 1560 m, 43.36670°N, 22.59922°E, 24.05.2017, JP, KT, OP, 29♂, 16♀ (MM). – Zaječar district, Stara Planina Mts, Ravnobučka Stream E of Ravno Bučje, 1010 m, 43.44871°N, 22.57043°E, 23.05.2017, JP, KT, OP, 10♂, 5♀ (MM). – Zaječar district, Stara Planina Mts, Mt. Midžor, Tri kladenca, 1945 m, 43.40012°N, 22.66437°E, 24.05.2017, JP, KT, OP, 1♂, 1♀ (MM).

Leuctra olympia Aubert, 1956 – SIVEC 1980.

Leuctra prima Kempny, 1899 – PETROVIĆ *et al.* 2014. – Moravica district, Golija Mts, Dajići, Moravica Stream at Milošica, 1505 m, 43.3384°N, 20.2507°E, 06.05.2023, KLP, KT, MD, 2♀ (EKCU), 2♂ (MM). – Pčinja district, Vlasina, Vucadelce, Vrla River beneath the village, 830m, 42.67871°N, 22.27330°E, 08.04.2006, EZ, FZ, HA, MD, 1♀ (HNHM). – Raška district, Golija Mts, Radaljica, spring brooks in forest edge, 1575 m, 43.2743°N, 20.3467°E, 06.05.2023, KLP, KT, MD, 1♂ (EKCU).

Leuctra pseudohippopus Raušer, 1965 – PETROVIĆ *et al.* 2014. – Pčinja district, Besna Kobila Mts, Crna Stream W of Musulj, 1210 m, 42.51688°N, 22.24835°E, 22.05.2017, JP, KT, OP, 3♂, 1♀ (MM). – Pčinja district, Besna Kobila Mts, Stance Stream along Ruski Put, 1525 m, 42.53742°N, 22.22102°E, 22.05.2017, JP, KT, OP, 2♂, 5♀ (MM). – Pirot district, Stara Planina Mts, Dojkinačka Stream below Tri kladenca Waterfall, N of Dojkinci, 1700 m, 43.31944°N, 22.82193°E, 25.05.2017, JP, KT, OP, 14♂, 10♀ (MM). – Zaječar district, Stara Planina Mts, Crni Vrh, stream 720 m NE of Košarište, 1115 m, 43.42210°N, 22.59878°E, 23.05.2017, JP, KT, OP, 2♂, 2♀ (MM). – Zaječar district, Stara Planina Mts, forest brook headwater of Rekitska Stream, E of Mt. Babin zub, 1535 m, 43.38057°N, 22.63269°E, 24.05.2017, JP, KT, OP, 5♂ (MM). – Zaječar district, Stara Planina Mts, Mt. Midžor, Tri kladenca, 1945 m, 43.40012°N, 22.66437°E, 24.05.2017, JP, KT, OP, 5♂ (MM).

Leuctra pseudosignifera Aubert, 1954 – PETROVIĆ *et al.* 2014. – Pirot district, Stara Planina Mts, Dojkinačka Stream below Tri kladenca Waterfall, N of Dojkinci, 1700 m, 43.31944°N, 22.82193°E, 25.05.2017, JP, KT, OP, 4♂, 9♀ (MM). – Zaječar district, Stara Planina Mts, forest brook headwater of Rekitska Stream, E of Mt. Babin zub, 1535 m, 43.38057°N, 22.63269°E, 24.05.2017, JP, KT, OP, 1♂, 2♀ (MM). – Zaječar district, Stara Planina Mts, Mt. Babin zub, Dojčino Vrelo-Debeštička Stream, 1560 m, 43.36670°N, 22.59922°E, 24.05.2017, JP, KT, OP, 1♂, 3♀ (MM).

Leuctra quadrimaculata Kis, 1963 – KAČANSKI 1975, SIVEC 1980, PETROVIĆ *et al.* 2014. – Pčinja district, Besna Kobila Mts, Gornja Ljubata, Debeli Rid, forest stream, 1165 m, 42.49202°N, 22.25406°E, 22.05.2017, JP, KT, OP, 1♂, 2♀ (MM). – Raška district, Kopaonik Mts, Jošanička Banja, Paljestica River, 870 m, 43.36343°N, 20.74770°E, 22.06.2017, KLP, TE, 1♀ (HNHM). – Zaječar district, Stara Planina Mts, Ravnobučka Stream E of Ravno Bučje, 1010 m, 43.44871°N, 22.57043°E, 23.05.2017, JP, KT, OP, 1♂ (MM). – Zlatibor district, Zlatar Mts, Nova Varoš, forest brook E of the city, 775 m, 43.460233°N, 19.765783°E, 14.05.2014, KT, MD, 1♀ (HNHM), 1♂, 1♀ (MM). – Zlatibor district, Zlatibor Mts, spring brook of Crni Rzv Stream beneath Mt. Cigota, 1160 m, 43.6322°N, 19.77175°E, 25.05.2013, JP, KT, MG, PG, 1♀ (MM).

Leuctra rosinae Kempny, 1900 – Pirot district, Pirot, spring outlet under the castle hill, 360 m, 43.15920°N, 22.58227°E, 09.07.2008, DT, 1♀ (HNHM). – New to Serbia.

CAPNIIDAE Klapálek, 1905

Capnia s.l. *vidua* Klapálek, 1904 – SIVEC 1980, PETROVIĆ *et al.* 2014.

Capnia s.l. *vidua rilensis* Raušer, 1962 – Moravica district, Golija Mts, Dajići, Moravica Stream at Milošica, 1505 m, 43.3384°N, 20.2507°E, 06.05.2023, KLP, KT, MD, 2♂, 1♀ (EKCU), 2♀ (MM). – Zaječar district, Stara Planina Mts, Mt. Babin zub, Dojčino Vrelo-Debeštička Stream, 1560 m, 43.36670°N, 22.59922°E, 24.05.2017, JP, KT, OP, 1♀ (MM). – New to Serbia.

Zwicznia acuta Murányi & Orci, 2014 – MURÁNYI *et al.* 2014. – Zlatibor district, Zlatibor Mts, Crni Rzv Stream at the junction to Vodice, 1010 m, 43.661667°N, 19.709556°E, 17.03.2011, KT, MD, MG, 1L, 2♂ (MM). – Zlatibor district, Zlatibor Mts, Ljubis, open brook along the road No. 23, 1025 m, 43.680861°N, 19.704083°E, 17.03.2011, KT, MD, MG, 1E (HNHM).

Zwicknia bifrons (Newman, 1838) – MURÁNYI *et al.* 2014, PETROVIĆ *et al.* 2014. – Zlatibor district, Maljen Mts, Brajkovići, stream N of the village, 445 m, 44.037528°N, 19.913833°E, 17.03.2011, KT, MD, MG, 2E, 7♂ (MM).

NEMOURIDAE Newman, 1853

Amphinemura standfussi (Ris, 1902) – KAČANSKI 1975, SIVEC 1980, PETROVIĆ *et al.* 2014. – Raška district, Golija Mts, Radaljica, spring brooks in forest edge, 1575 m, 43.2743°N, 20.3467°E, 26.06.2018, JP, KT, MD, 1♂, 2♀ (HNHM), 2♂, 1♀ (MM).

Amphinemura sulcicollis (Stephens, 1836) – KAČANSKI 1975, SIVEC 1980, PETROVIĆ *et al.* 2014.

Amphinemura triangularis (Ris, 1902) – KAČANSKI 1975, SIVEC 1980, PETROVIĆ *et al.* 2014. – Pčinja district, Besna Kobila Mts, Crna Stream W of Musulj, 1210 m, 42.51688°N, 22.24835°E, 22.05.2017, JP, KT, OP, 1♂ (MM).

Protonemura aestiva Kis, 1965 – PETROVIĆ *et al.* 2014.

Protonemura auberti Illies, 1954 – KAČANSKI 1975, SIVEC 1980, PETROVIĆ *et al.* 2014.

Protonemura autumnalis Raušer, 1956 – KAČANSKI 1975, SIVEC 1980, PETROVIĆ *et al.* 2014. – Pčinja district, Besna Kobila Mts, Crna Stream W of Musulj, 1210 m, 42.51688°N, 22.24835°E, 25.09.2021, JP, KT, MD, 1♂, 1♀ (EKCU). – Pomoravlje district, Beljanica Mts, Strmosten, Lisine Izvor, 435 m, 44.10460°N, 21.64099°E, 22.09.2021, JP, KT, MD, 2♂, 2♀ (MM).

Protonemura beaumonti (Aubert, 1956) – KAČANSKI 1972, PETROVIĆ *et al.* 2014.

Protonemura brevistyla (Ris, 1902) – PETROVIĆ *et al.* 2014.

Protonemura hrabei Raušer, 1956 – KAČANSKI 1975, SIVEC 1980, PETROVIĆ *et al.* 2014. – Moravica district, Golija Mts, Dajići, Moravica Stream at Milošica, 1505 m, 43.3384°N, 20.2507°E, 23.10.2023, KT, MD, PD, 1♂, 5♀ (EKCU). – Pčinja district, Vlasina, Vlasina Stojkovicewa, open brook above the Vlasina Lake, 1280 m, 42.68204°N, 22.36559°E, 20.10.2006, DL, KJ, MD, 2♀ (HNHM). – Pirot district, Stara Planina Mts, Dojkinačka Stream below Tri kladenca Waterfall, N of Dojkinci, 1700 m, 43.31944°N, 22.82193°E, 24.09.2021, JP, KT, MD, 2♂ (MM). – Raška district, Golija Mts, Radaljica, spring brooks in forest edge, 1575 m, 43.2743°N, 20.3467°E, 23.10.2023, KT, MD, PD, 21♀, one female malformation (EKCU), 7♀ (MM). – Raška district, Kopaonik Mts, forest brook above Jošanička Banja, 1295 m, 43.3491°N, 20.7672°E, 25.10.2023, KT, MD, PD, 4♀ (EKCU), 2♀ (MM). – Raška district, Kopaonik Mts, Kopaonik, forest brook, 1615 m, 43.2822°N, 20.7961°E, 24.10.2023, KT, MD, PD, 1♀ (MM). – Raška district, Kopaonik Mts, Samokovska Stream, 1520 m, 43.3101°N, 20.7860°E, 24.10.2023, KT, MD, PD, 3♀ (EKCU), 1♀ (MM). – Raška district, Kopaonik Mts, spring brooks of Karamanski Stream, 1755 m, 43.2899°N, 20.8187°E, 24.10.2023, KT, MD, PD, 4♀ (EKCU), 1♀ (MM). – Zlatibor district, Negbina, Markovic Spring, 940 m, 43.55200°N, 19.77484°E, 19.10.2002, EZ, FZ, KJ, MD, 10♀ (HNHM).

Protonemura illiesi Kis, 1963 – PETROVIĆ *et al.* 2014.

Protonemura intricata intricata (Ris, 1902) – KAČANSKI 1975, SIVEC 1980, PETROVIĆ *et al.* 2014. – Moravica district, Golija Mts, Dajići, Moravica Stream at Milošica, 1505 m, 43.3384°N, 20.2507°E, 26.06.2018, JP, KT, MD, 1♂ (MM). – Pčinja district, Besna Kobila Mts, Gornja Ljubata, Debeli Rid, forest stream, 1165 m, 42.49202°N, 22.25406°E, 22.05.2017, JP, KT, OP, 1♂, 1♀ (MM). – Pčinja district, Besna Kobila Mts, left tributary brook of the left tributary of Crna Stream W of Musulj, 1250 m, 42.52022°N, 22.24669°E, 22.05.2017, JP, KT, OP, 1♂, 1♀ (MM). – Pčinja district, Vlasina, Vucadelce, Vrla River beneath the village, 830m, 42.67871°N, 22.27330°E, 08.04.2006, EZ, FZ, HA, MD, 1♂ (HNHM). – Pirot district, Stara Planina Mts, Topli Do, Stimoljski dol, 1085 m, 43.35474°N, 22.74466°E, 25.05.2017, JP, KT, OP, 1♂ (MM). – Raška district, Golija Mts, Tunovo, forest stream and sidebrook, 850 m, 43.28262°N, 20.44081°E, 07.05.2023, KLP, KT, MD, 2♂ (EKCU), 2♂, 2♀ (MM). – Zaječar district, Stara Planina Mts, Ravnobučka Stream E of Ravno Bučje, 1010 m, 43.44871°N, 22.57043°E, 23.05.2017, JP, KT, OP, 3♂, 3♀ (MM). – Zlatibor district, Negbina, Markovic Spring, 940 m, 43.55200°N, 19.77484°E, 23.06.2003, EZ, FZ, KJ, MD, 1♀ (HNHM); 29.05.2004, HK, MD, 1♀ (HNHM).

Protonemura lateralis (Pictet, 1836) – PETROVIĆ *et al.* 2014.

Protonemura meyeri (Pictet, 1841) – PETROVIĆ *et al.* 2014.

Protonemura montana Kimmins, 1941 – PETROVIĆ *et al.* 2014. – Pirot district, Stara Planina Mts, Dojkinačka Stream below Tri kladenca Waterfall, N of Dojkinci, 1700 m, 43.31944°N, 22.82193°E, 24.09.2021, JP, KT, MD, 2♀ (EKCU), 2♀ (MM). – Raška district, Kopaonik Mts, spring brooks of Karamanski Stream, 1755 m, 43.2899°N, 20.8187°E, 24.10.2023, KT, MD, PD, 1♂ (EKCU).

Protonemura nitida (Pictet, 1836) – PETROVIĆ *et al.* 2014. – Moravica district, Golija Mts, Dajići, Moravica Stream at Milošica, 1505 m, 43.3384°N, 20.2507°E, 23.10.2023, KT, MD, PD, 1♂ (EKCU).

Protonemura praecox praecox (Morton, 1894) – PETROVIĆ *et al.* 2014. – Braničevo district, Homoljske planina,

Krepoljin, stream N of the village, 290 m, 44.277139°N, 21.60925°E, 16.03.2011, KT, MD, MG, 2♀ (HNHM), 1♂ (MM). – Moravica district, Golija Mts, Dajići, Moravica Stream at Milošica, 1505 m, 43.3384°N, 20.2507°E, 06.05.2023, KLP, KT, MD, 1♀ (MM). – Pčinja district, Vlasina, Vucadelce, Vrla River above the upper dam, 910 m, 42.6689°N, 22.2912°E, 19.02.2014, AD, DL, KT, MD, 1L, 1♀ (HNHM).

Protonemura rauschi Theischinger, 1975 – SIVEC 1980.

Nemoura avicularis Morton, 1894 – PETROVIĆ *et al.* 2014. – Zlatibor district, Zlatibor Mts, spring brook of Crni Rzav Stream beneath Mt. Cigota, 1160 m, 43.6322°N, 19.77175°E, 25.05.2013, JP, KT, MG, PG, 1♂ (MM).

Nemoura braaschi Joost, 1970 – SIVEC 1980. – Pčinja district, Besna Kobila Mts, Crna Stream W of Musulj, 1210 m, 42.51688°N, 22.24835°E, 22.05.2017, JP, KT, OP, 1♂, 2♀ (MM). – Pčinja district, Besna Kobila Mts, forest brook along Ruski Put, 1460 m, 42.53206°N, 22.20277°E, 22.05.2017, JP, KT, OP, 2♀ (MM). – Pčinja district, Besna Kobila Mts, left tributary brook of the left tributary of Crna Stream W of Musulj, 1250 m, 42.52022°N, 22.24669°E, 22.05.2017, JP, KT, OP, 1♂, 1♀ (MM). – Pčinja district, Besna Kobila Mts, Stance Stream along Ruski Put, 1525 m, 42.53742°N, 22.22102°E, 22.05.2017, JP, KT, OP, 3♂, 2♀ (MM). – Pirot district, Stara Planina Mts, Topli Do, Stimoljski dol, 1085 m, 43.35474°N, 22.74466°E, 25.05.2017, JP, KT, OP, 1♀ (MM). – Zaječar district, Stara Planina Mts, Crni Vrh, stream 720 m NE of Košarište, 1115 m, 43.42210°N, 22.59878°E, 23.05.2017, JP, KT, OP, 1♂ (MM). – Zaječar district, Stara Planina Mts, forest brook headwater of Rekitska Stream, E of Mt. Babin zub, 1535 m, 43.38057°N, 22.63269°E, 24.05.2017, JP, KT, OP, 2♂, 3♀ (MM). – Zaječar district, Stara Planina Mts, Mt. Babin zub, Dojčino Vrelo-Debeštica Stream, 1560 m, 43.36670°N, 22.59922°E, 24.05.2017, JP, KT, OP, 8♂, 5♀ (MM). – Zaječar district, Stara Planina Mts, open brooks on Mt. Midžor, 1885 m, 43.39002°N, 22.67431°E, 23.09.2021, JP, KT, MD, 1E, 4♂, 1♀ (EKCU), 2♂ (MM). – Zaječar district, Stara Planina Mts, Ravnobučka Stream E of Ravno Bučje, 1010 m, 43.44871°N, 22.57043°E, 23.05.2017, JP, KT, OP, 2♀ (MM). – Zaječar district, Stara Planina Mts, Mt. Midžor, Tri kladenca, 1945 m, 43.40012°N, 22.66437°E, 24.05.2017, JP, KT, OP, 7L, 28♂, 29♀ (MM).

Nemoura cambrica Stephens, 1836 – PETROVIĆ *et al.* 2014.

Nemoura carpathica Illies, 1963 – PETROVIĆ *et al.* 2014.

Nemoura cinerea cinerea (Retzius, 1783) – KAČANSKI 1975, SIVEC 1980, PETROVIĆ *et al.* 2014. – Braničevo district, Homoljske planina, Izvarica, stream N of the village, 280 m, 44.234222°N, 21.692917°E, 16.03.2011, KT, MD, MG, 1L (HNHM). – Južna Bačka district, Fruska Gora Mts, Cerevic, stream in alder gallery towards Testera, 125 m, 45.196°N, 19.646°E, 19.04.2004, DL, KJ, MD, 1♂ (HNHM). – Mačva district, Vlasic, Druzetic, Ub Stream SE of the village, 145 m, 44.40713°N, 19.89321°E, 17.03.2011, KT, MD, MG, 1L (HNHM). – Moravica district, Golija Mts, Dajići, Moravica Stream at Milošica, 1505 m, 43.3384°N, 20.2507°E, 26.06.2018, JP, KT, MD, 2♂, 2♀ (HNHM). – Pirot district, Suva, Babusnica, 500 m, 43.065°N, 22.41°E, 04.05.1971, HS, PJ, 1♂, 4♀ (HNHM). – Raška district, Golija Mts, Radaljica, spring brooks in forest edge, 1575 m, 43.2743°N, 20.3467°E, 26.06.2018, JP, KT, MD, 1♂, 5♀ (MM). – Srem district, Fruska Gora Mts, Maradić, slow stream at the village, 140 m, 45.10450°N, 19.98749°E, 19.04.2004, DL, KJ, MD, 12L, 3E, 6♂, 4♀ (HNHM). – Srem district, Fruska Gora Mts, Vrdnik, brook N of the thermal spa, 235 m, 45.13932°N, 19.79373°E, 19.04.2004, DL, KJ, MD, 6L, 12♂, 8♀ (HNHM). – Srem district, Fruska Gora Mts, Vrdnik, stream NW of the village, 275 m, 45.14310°N, 19.77167°E, 15.03.2011, KT, MD, MG, 2L (HNHM). – Zaječar district, Stara Planina Mts, Crni Vrh, stream 570 m NE of Košarište, 1105 m, 43.42276°N, 22.59619°E, 23.05.2017, JP, KT, OP, 1♂ (MM). – Zlatibor district, Zlatar Mts, Nova Varoš, forest brook E of the city, 775 m, 43.460233°N, 19.765783°E, 14.05.2014, KT, MD, 1♂, 1♀ (HNHM), 2♂, 1♀ (MM). – Zlatibor district, Zlatibor Mts, Crni Rzav Stream at the junction to Vodice, 1010 m, 43.661667°N, 19.709556°E, 17.03.2011, KT, MD, MG, 1L (MM). – Zlatibor district, Zlatibor Mts, Ljubis N, open brook along the road No. 23, 1015 m, 43.68548°N, 19.69892°E, 29.05.2004, HK, MD, 5L, 4♂ (HNHM). – Zlatibor district, Zlatibor Mts, Ljubis, open brook along the road No. 23, 1025 m, 43.680861°N, 19.704083°E, 17.03.2011, KT, MD, MG, 1L (HNHM), 1L (MM). – Zlatibor district, Zlatibor Mts, Ljubis, S 1800 m, Crni Rzav Stream along the road No. 23, 1000 m, 43.669306°N, 19.703°E, 01.04.2001, JP, KT, Pertti Sevola, 1L (MM). – Zlatibor district, Zlatibor Mts, Negbina, Markovića Česma, Crni Rzav Stream along road No. 23, 940 m, 43.5520°N, 19.7748°E, 29.05.2004, HK, MD, 1♂, 2♀ (HNHM). – Zlatibor district, Zlatibor Mts, Raduša, forest stream at Nesovici junction, 835 m, 43.83281°N, 19.63084°E, 03.05.2023, KLP, KT, MD, 3♂ (EKCU), 2♂ (MM). – Zlatibor district, Zlatibor Mts, spring brook of Crni Rzav Stream beneath Mt. Cigota, 1160 m, 43.6322°N, 19.77175°E, 13.06.2012, FZ, KT, MD, 2L (HNHM), 1♀ (MM); 25.05.2013, JP, KT, MG, PG, 32♂, 27♀ (MM).

Nemoura flexuosa Aubert, 1949 – SIVEC 1980, PETROVIĆ *et al.* 2014. – Pirot district, Suva, Babusnica, 500 m, 43.065°N, 22.41°E, 04.05.1971, HS, PJ, 1♂ (HNHM).

Nemoura fusca Kis, 1963 – PETROVIĆ *et al.* 2014.

Nemoura longicauda Kis, 1964 – PETROVIĆ *et al.* 2014.

Nemoura marginata Pictet, 1836 – Južna Bačka district, Fruska Gora Mts, Rakovac, forest brook S of the village,

330 m, 45.1643°N, 19.7754°E, 19.04.2004, DL, KJ, MD, 1♂ (HNHM). – Moravica district, Golija Mts, Dajići, Moravica Stream at Milošica, 1505 m, 43.3384°N, 20.2507°E, 26.06.2018, JP, KT, MD, 1♂ (MM). – Raška district, Golija Mts, Tunovo, forest stream and sidebrook, 850 m, 43.28262°N, 20.44081°E, 07.05.2023, KLP, KT, MD, 1♂ (MM).

Nemoura minima Aubert, 1946 – KAČANSKI 1975, SIVEC 1980, PETROVIĆ *et al.* 2014.

Nemoura sciurus Aubert, 1949 – Srem district, Fruska Gora Mts, Vrdnik, brook N of the thermal spa, 235 m, 45.13932°N, 19.79373°E, 19.04.2004, DL, KJ, MD, 2L, 2♂, 6♀ (HNHM). – New to Serbia.

Nemoura subtilis Klapálek, 1896 – KAČANSKI 1972, SIVEC 1980, PETROVIĆ *et al.* 2014. – Pčinja district, Besna Kobila Mts, Crna Stream W of Musulj, 1210 m, 42.51688°N, 22.24835°E, 22.05.2017, JP, KT, OP, 1♂ (MM). – Pčinja district, Besna Kobila Mts, Gornja Ljubata, Debeli Rid, forest stream, 1165 m, 42.49202°N, 22.25406°E, 22.05.2017, JP, KT, OP, 5♂, 3♀ (MM). – Pčinja district, Besna Kobila Mts, left tributary brook of the left tributary of Crna Stream W of Musulj, 1250 m, 42.52022°N, 22.24669°E, 22.05.2017, JP, KT, OP, 3♂, 4♀ (MM). – Pčinja district, Besna Kobila Mts, Stance Stream along Ruski Put, 1525 m, 42.53742°N, 22.22102°E, 22.05.2017, JP, KT, OP, 2♂, 1♀ (MM). – Pčinja district, Vlasina, Vucadelce, Vrla River beneath the village, 830m, 42.67871°N, 22.27330°E, 08.04.2006, EZ, FZ, HA, MD, 2♂ (HNHM). – Pirot district, Stara Planina Mts, Topli Do, Stimoljski dol, 1085 m, 43.35474°N, 22.74466°E, 25.05.2017, JP, KT, OP, 3♂, 2♀ (MM). – Zaječar district, Stara Planina Mts, Crni Vrh, stream 570 m NE of Košarište, 1105 m, 43.42276°N, 22.59619°E, 23.05.2017, JP, KT, OP, 11♂, 10♀ (MM). – Zaječar district, Stara Planina Mts, Crni Vrh, stream 720 m NE of Košarište, 1115 m, 43.42210°N, 22.59878°E, 23.05.2017, JP, KT, OP, 5♂, 3♀ (MM). – Zaječar district, Stara Planina Mts, forest brook headwater of Rekitska Stream, E of Mt. Babin zub, 1535 m, 43.38057°N, 22.63269°E, 24.05.2017, JP, KT, OP, 2♂, 3♀ (MM). – Zaječar district, Stara Planina Mts, Mt. Babin zub, Dojčino Vrelo-Debeštica Stream, 1560 m, 43.36670°N, 22.59922°E, 24.05.2017, JP, KT, OP, 6♂, 2♀ (MM).

Nemoura uncinata Despax, 1934 – KAČANSKI 1975, SIVEC 1980, PETROVIĆ *et al.* 2014. – Moravica district, Golija Mts, Dajići, Moravica Stream at Milošica, 1505 m, 43.3384°N, 20.2507°E, 06.05.2023, KLP, KT, MD, 2♂, 1♀ (EKCU), 15♂, 4♀ (MM). – Pčinja district, Vlasina, Surdulica, Vrla River gorge, 600 m, 42.6937°N, 22.2109°E, 07.05.1971, HS, PJ, 1♂ (HNHM). – Pčinja district, Vlasina, Vucadelce, Vrla River beneath the village, 830m, 42.67871°N, 22.27330°E, 08.04.2006, EZ, FZ, HA, MD, 4♂ (HNHM).

Nemoura zwicki Sivec, 1980 – PETROVIĆ *et al.* 2014.

Nemurella pictetii (Klapálek, 1900) – KAČANSKI 1975, SIVEC 1980, PETROVIĆ *et al.* 2014. – Pčinja district, Besna Kobila Mts, forest brook along Ruski Put, 1460 m, 42.53206°N, 22.20277°E, 22.05.2017, JP, KT, OP, 1♂ (MM). – Pčinja district, Vlasina, Vucadelce, Vrla River beneath the village, 830m, 42.67871°N, 22.27330°E, 08.04.2006, EZ, FZ, HA, MD, 15L, 1♀ (HNHM). – Pirot district, Stara Planina Mts, Dojkinačka Stream below Tri kladenca Waterfall, N of Dojkinci, 1700 m, 43.31944°N, 22.82193°E, 25.05.2017, JP, KT, OP, 4♂, 2♀ (MM); 24.09.2021, JP, KT, MD, 1L, 1♀ (MM). – Raška district, Kopaonik Mts, between Kopaonik and Jošanička Banja, spring area, 1600 m, 43.29810°N, 20.787058°E, 22.06.2017, KLP, TE, 1♂ (HNHM). – Raška district, Pazariste, Raska Stream W of the village, 585 m, 43.13157°N, 20.41663°E, 12.10.2005, DT, EZ, FZ, MD, 3♀ (HNHM). – Zaječar district, Stara Planina Mts, Mt. Babin zub, Dojčino Vrelo-Debeštica Stream, 1560 m, 43.36670°N, 22.59922°E, 24.05.2017, JP, KT, OP, 1♂ (MM); 23.09.2021, JP, KT, MD, 1♂ (MM). – Zlatibor district, Zlatar Mts, Nova Varoš, forest brook E of the city, 775 m, 43.460233°N, 19.765783°E, 14.05.2014, KT, MD, 1♀ (HNHM), 1♀ (MM).

PERLIDAE Latreille, 1802

Dinocras cephalotes (Curtis, 1827) – YOSHINARI 2008.

Dinocras megacephala (Klapálek, 1907) – SIVEC 1980, PETROVIĆ *et al.* 2014. – Pčinja district, Vlasina, Vucadelce, Vrla River above the upper dam, 910 m, 42.6689°N, 22.2912°E, 19.02.2014, AD, DL, KT, MD, 1L (HNHM). – Raška district, Golija Mts, Tunovo, forest stream and sidebrook, 850 m, 43.28262°N, 20.44081°E, 07.05.2023, KLP, KT, MD, 4L (EKCU). – Raška district, Pazariste, Raska Stream W of the village, 585 m, 43.13157°N, 20.41663°E, 12.10.2005, DT, EZ, FZ, MD, 9L (HNHM). – Zlatibor district, Bučje, NNE 1500 m, Bučjevka River, 735 m, 43.46983°N, 19.42911°E, 12.05.2016, JP, OP, 1L (MM). – Zlatibor district, Kaludjerovići, Ljutina river, 645 m, 43.48153°N, 19.41624°E, 12.05.2016, JP, OP, 2L (MM).

Marthamea vitripennis (Burmeister, 1839) – PONGRÁČ 1923, KAČANSKI 1972, SIVEC 1980, PETROVIĆ *et al.* 2014.

Perla abdominalis Burmeister, 1839 – KAČANSKI 1975, SIVEC 1980, PETROVIĆ *et al.* 2014. – Kolubara district, Maljen Mts, Bačevci, Gradac Stream at the village, 455 m, 44.144472°N, 19.925167°E, 07.08.2004, MD, 3L (HNHM). – Pirot district, Vlasí, River Jerma canyon, 580 m, 42.9925°N, 22.632194°E, 02.05.2002, Vladimir Pešić, 6L (MM).

– Zlatibor district, Razana, stream along the main road in the village, 500 m, 44.0690°N, 19.9199°E, 28.05.2005, Krisztina Balogh, Zoltán Barina, MD, PD, 6♀ (EKCUC).

Perla bureschi Schönemund, 1926 – Pčinja district, Besna Kobila Mts, Crna Stream W of Musulj, 1210 m, 42.51688°N, 22.24835°E, 25.09.2021, JP, KT, MD, 1L, 1♂, 1♀ (EKCUC), 3L, 2♀ (MM). – Pčinja district, Besna Kobila Mts, forest brook along Ruski Put, 1460 m, 42.53206°N, 22.20277°E, 25.09.2021, JP, KT, MD, 1L (MM). – Pirot district, Stara Planina Mts, Dojkinačka Stream at the junction, N of Dojkinci, 1495 m, 43.32158°N, 22.80859°E, 24.08.2021, JP, KT, MD, 3E (MM). – Pirot district, Stara Planina Mts, forest brook N of Jelovica/Široke Luke, 1050 m, 43.25896°N, 22.84547°E, 24.09.2021, JP, KT, MD, 1L (EKCUC). – New to Serbia. Note: The species is currently regarded as a junior synonym of *Perla pallida* Guérin-Méneville, 1843. Its reinstatement will be published in MURÁNYI *et al.* (2025).

Perla pallida Guérin-Méneville, 1843 – KAČANSKI 1972, SIVEC 1980, PETROVIĆ *et al.* 2014.

Perla cf. pallida Guérin-Méneville, 1843 – Bor district, Miroc, Vratna, spring at Manastir Vratna, 170 m, 44.38245°N, 22.34167°E, 11.07.2008, DT, 1E (HNHM). – Braničevo district, Homoljske planina, Krepoljin, stream N of the village, 290 m, 44.277139°N, 21.60925°E, 16.03.2011, KT, MD, MG, 2L (HNHM). – Braničevo district, Homoljske planina, Osanica, stream S of the village, 280 m, 44.256417°N, 21.669083°E, 16.03.2011, KT, MD, MG, 1L (MM). – Kolubara district, Maljen Mts, Bačevci, Gradac Stream at the village, 455 m, 44.144472°N, 19.925167°E, 07.08.2004, MD, 2L (HNHM); 15.10.2008, DL, FZ, KJ, MD, 1L (HNHM); 17.03.2011, KT, MD, MG, 1L (HNHM). – Moravica district, Golija Mts, Dajići, Moravica Stream at Milošica, 1505 m, 43.3384°N, 20.2507°E, 06.05.2023, KLP, KT, MD, 1L (EKCUC); 23.10.2023, KT, MD, PD, 1L (EKCUC). – Moravica district, Preseka, NE 1850 m, Presečka Stream, 975 m, 43.53883°N, 19.98481°E, 11.05.2016, JP, OP, 2L (MM). – Moravica district, Preseka, small creek, 1105 m, 43.53211°N, 20.01954°E, 11.05.2016, JP, OP, 6L (MM). – Pčinja district, Buštranje, Rujan Stream, 550 m, 42.33522°N, 21.77044°E, 10.05.2016, JP, OP, 3L (MM). – Pčinja district, Vlasina, Vucadelce, forest brook at the upper dam of Vrla River, 890 m, 42.67329°N, 22.28246°E, 20.10.2006, DL, KJ, MD, 1L (HNHM). – Pčinja district, Vlasina, Vucadelce, Vrla River above the upper dam, 910 m, 42.6689°N, 22.2912°E, 19.02.2014, AD, DL, KT, MD, 1L (HNHM). – Raška district, Golija Mts, Radaljica, spring brooks in forest edge, 1575 m, 43.2743°N, 20.3467°E, 23.10.2023, KT, MD, PD, 1L (MM). – Zaječar district, Gamzigrad, Crni Timok River above the village, 180 m, 43.92517°N, 22.12947°E, 14.10.2006, DL, KJ, MD, 1E (HNHM). – Zaječar district, Stara Planina Mts, Crni Vrh, Crnoviška Stream along road No. 222, 650 m, 43.41541°N, 22.55052°E, 23.05.2017, JP, KT, OP, 2♀+eggs (MM). – Zlatibor district, Buče, Bučjevski Stream, 695 m, 43.46939°N, 19.42720°E, 12.05.2016, JP, OP, 7L (MM). – Zlatibor district, Buče, N 2000 m, Bučjevska River, 675 m, 43.47496°N, 19.42368°E, 12.05.2016, JP, OP, 1L (MM). – Zlatibor district, Buče, NNE 1500 m, Bučjevska River, 735 m, 43.46983°N, 19.42911°E, 12.05.2016, JP, OP, 1L (MM). – Zlatibor district, Zlatar Mts, Nova Varoš, forest brook N of the city, 920 m, 43.4761°N, 19.8321°E, 28.06.2014, JP, KT, MD, 1♂, 1♀ (HNHM), 1♂ (MM). – Zlatibor district, Zlatibor Mts, Čigota Mt, spring area of Crni Rzav Stream, 1150 m, 43.631278°N, 19.771667°E, 20.11.2011, KT, OCS, 3L (MM). – Zlatibor district, Zlatibor Mts, spring brook of Crni Rzav Stream beneath Mt. Cigota, 1160 m, 43.6322°N, 19.77175°E, 13.06.2012, FZ, KT, MD, 3L (HNHM), 1L (MM).

Perla grandis Rambur, 1842 – SIVEC 1980, SIVEC & STARK 2002, PETROVIĆ *et al.* 2014.

Perla illiesi Braasch & Joost, 1973 – KAČANSKI 1972, KAČANSKI 1975, SIVEC 1980, PETROVIĆ *et al.* 2014. – Zlatibor district, Zlatibor Mts, Crni Rzav Stream at the junction to Vodice, 1010 m, 43.661667°N, 19.709556°E, 13.06.2012, FZ, KT, MD, 1L, 6♂ (HNHM), 1L, 6♂, 1♀ (MM); 14.05.2014, KT, MD, 1♂ (HNHM); 06.06.2022, HA, KT, MD, OP, 3♂ (MM). – Zlatibor district, Zlatibor Mts, Ljubis, S 1800 m, Crni Rzav Stream along the road No. 23, 1000 m, 43.669306°N, 19.703°E, 24.05.2009, KT, MG, UL, 1E, 3♂, 5♀ (MM); 18.04.2010, KT, MG, UL, 6L (MM). – Zlatibor district, Zlatibor Mts, Negbina, Markovića česma, Crni Rzav Stream along road No. 23, 940 m, 43.5520°N, 19.7748°E, 29.05.2004, HK, MD, 7L, 14♂, 4♀ (HNHM). – Zlatibor district, Zlatibor Mts, Raduša, forest stream at Nesovici junction, 835 m, 43.83281°N, 19.63084°E, 03.05.2023, KLP, KT, MD, 2L, 1♂ (EKCUC). – Zlatibor district, Zlatibor Mts, spring brook of Crni Rzav Stream beneath Mt. Cigota, 1160 m, 43.6322°N, 19.77175°E, 25.05.2013, JP, KT, MG, PG, 2♂ (MM).

Perla marginata (Panzer, 1799) – KAČANSKI 1975, SIVEC 1980, YOSHINARI 2008, PETROVIĆ *et al.* 2014. – Pirot district, Suva, Babusnica, 500 m, 43.065°N, 22.41°E, 04.05.1971, HS, PJ, 2♀ (HNHM).

PERLODIDAE Klapálek, 1909

Arcynopteryx dichroa (McLachlan, 1872) – SIVEC 1980, PETROVIĆ *et al.* 2014. – Pirot district, Stara Planina Mts, Dojkinačka Stream below Tri kladenca Waterfall, N of Dojkinci, 1700 m, 43.31944°N, 22.82193°E, 25.05.2017,

JP, KT, OP, 3E, 3♂ (MM); 24.09.2021, JP, KT, MD, 1L (EKCU), 2L (MM). – Pomoravlje district, Beljanica Mts, Strmosten, Lisine Izvor, 435 m, 44.10460°N, 21.64099°E, 22.09.2021, JP, KT, MD, 3L (EKCU).

Isoegenus nubecula Newman, 1833 – SIVEC 1980, PETROVIĆ *et al.* 2014.

Perlodes dispar (Rambur, 1842) – PETROVIĆ *et al.* 2014.

Perlodes intricatus (Pictet, 1841) – PETROVIĆ *et al.* 2014.

Perlodes microcephalus (Pictet, 1833) – KAČANSKI 1975, PETROVIĆ *et al.* 2014.

Isoperlalbanica Aubert, 1964 – SIVEC 1980.

Isoperlalbelai Illies, 1963 – SIVEC 1980, PETROVIĆ *et al.* 2014.

Isoperlalbosnica Aubert, 1964 – PETROVIĆ *et al.* 2014.

Isoperlaldifformis (Klapálek, 1909) – PETROVIĆ *et al.* 2014.

Isoperlalgoertzi Illies, 1952 – PETROVIĆ *et al.* 2014.

Isoperlalgrammatica (Poda, 1761) – SIVEC 1980, PETROVIĆ *et al.* 2014. – Zlatibor district, Ozren, Brodarevo, Lim River S of the village, 540 m, 43.21307°N, 19.76311°E, 24.05.2010, FZ, MD, Zsolt Újvári, 2♂, 3♀ (HNHM). – Zlatibor district, Ozren, Gostun, Lim River at the border station, 550 m, 43.1834°N, 19.7617°E, 13.06.2012, FZ, KT, MD, 3♂, 10♀ (HNHM).

Isoperlalobscura (Zetterstedt, 1840) – PETROVIĆ *et al.* 2014. – Južni Banat district, Deliblat, 17.06.1897, Kálmán Kertész, 1♂ (HNHM, det.: V. Joost, 1975).

Isoperlaloxylepis oxylepis (Despax, 1936) – SIVEC 1980, PETROVIĆ *et al.* 2014.

Isoperlaloxylepis balcanica Raušer, 1962 – Zaječar district, Stara Planina Mts, Crni Vrh, Crnoviška Stream along road No. 222, 650 m, 43.41541°N, 22.55052°E, 23.05.2017, JP, KT, OP, 1♂ (MM). – New to Serbia.

Isoperlal pawlowskii Wojtas, 1961 – KAČANSKI 1972, SIVEC 1980, PETROVIĆ *et al.* 2014.

Isoperlalrivulorum (Pictet, 1841) – PETROVIĆ *et al.* 2014.

Isoperlalrussevi Sowa, 1970 – Zaječar district, Stara Planina Mts, open brooks on Mt. Midžor, 1885 m, 43.39002°N, 22.67431°E, 23.09.2021, JP, KT, MD, 2♂ (EKCU), 1♂, 4♀ (MM). – Zaječar district, Stara Planina Mts, Mt. Midžor, Tri kladenca, 1945 m, 43.40012°N, 22.66437°E, 24.05.2017, JP, KT, OP, 1L (MM). – New to Serbia.

Isoperlal cf. *russevi* Sowa, 1970 – Moravica district, Golija Mts, Dajići, Moravica Stream at Milošica, 1505 m, 43.3384°N, 20.2507°E, 26.06.2018, JP, KT, MD, 1♂, 2♀ (MM). – Pčinja district, Besna Kobila Mts, Crna Stream W of Musulj, 1210 m, 42.51688°N, 22.24835°E, 22.05.2017, JP, KT, OP, 2♂, 1♀ (MM). – Pčinja district, Besna Kobila Mts, forest brook along Ruski Put, 1460 m, 42.53206°N, 22.20277°E, 22.05.2017, JP, KT, OP, 1♂, 2♀ (MM). – Pčinja district, Besna Kobila Mts, left tributary brook of the left tributary of Crna Stream W of Musulj, 1250 m, 42.52022°N, 22.24669°E, 22.05.2017, JP, KT, OP, 1♀ (MM). – Pčinja district, Besna Kobila Mts, Stance Stream along Ruski Put, 1525 m, 42.53742°N, 22.22102°E, 22.05.2017, JP, KT, OP, 1L, 5♂, 4♀ (MM). – Raška district, Golija Mts, Radaljica, spring brooks in forest edge, 1575 m, 43.2743°N, 20.3467°E, 26.06.2018, JP, KT, MD, 5♂ (HNHM), 3♂, 2♀ (MM). – Zaječar district, Stara Planina Mts, forest brook headwater of Rekitska Stream, E of Mt. Babin zub, 1535 m, 43.38057°N, 22.63269°E, 24.05.2017, JP, KT, OP, 3♂, 1♀ (MM). – Zaječar district, Stara Planina Mts, Mt. Babin zub, Dojčino Vrelo-Debeštica Stream, 1560 m, 43.36670°N, 22.59922°E, 24.05.2017, JP, KT, OP, 3♂ (MM).

Isoperlal submontana Raušer, 1965 – PETROVIĆ *et al.* 2014.

Isoperlal sudetica (Kolenati, 1859) – PETROVIĆ *et al.* 2014.

Isoperlal tripartita Illies, 1954 – KAČANSKI 1975, ZWICK 1978, SIVEC 1980, PETROVIĆ *et al.* 2014.

Isoperlal cf. *tripartita* Illies, 1954 – Južna Bačka district, Fruska Gora Mts, Cerevic, stream in alder gallery towards Testera, 125 m, 45.196°N, 19.646°E, 19.04.2004, DL, KJ, MD, 6L (HNHM). – Južna Bačka district, Fruska Gora Mts, Sremska Kamenica, forest stream along road 21, 260 m, 45.16964°N, 19.82517°E, 19.04.2004, DL, KJ, MD, 1L (HNHM). – Pčinja district, Besna Kobila Mts, Crna Stream W of Musulj, 1210 m, 42.51688°N, 22.24835°E, 22.05.2017, JP, KT, OP, 4♂, 2♀ (MM). – Pčinja district, Besna Kobila Mts, Gornja Ljubata, Debeli Rid, forest stream, 1165 m, 42.49202°N, 22.25406°E, 22.05.2017, JP, KT, OP, 1♂ (MM). – Pčinja district, Besna Kobila Mts, Stance Stream along Ruski Put, 1525 m, 42.53742°N, 22.22102°E, 22.05.2017, JP, KT, OP, 2♀ (MM). – Pirot district, Stara Planina Mts, Topli Do, Stimoljski dol, 1085 m, 43.35474°N, 22.74466°E, 25.05.2017, JP, KT, OP, 1♂, 6♀ (MM). – Raška district, Golija Mts, Tunovo, forest stream and sidebrook, 850 m, 43.28262°N, 20.44081°E, 07.05.2023, KLP, KT, MD, 1♂ (EKCU). – Srem district, Fruska Gora Mts, Vrdnik, stream NW of the village, 275 m, 45.14310°N, 19.77167°E, 15.03.2011, KT, MD, MG, 1L (HNHM). – Zaječar district, Stara Planina Mts, Crni Vrh, stream 720 m NE of Košarište, 1115 m, 43.42210°N, 22.59878°E, 23.05.2017, JP, KT, OP, 1♂ (MM). – Zaječar district, Stara Planina Mts, Ravnobučka Stream E of Ravno Bučje, 1010 m, 43.44871°N, 22.57043°E, 23.05.2017, JP, KT, OP, 3♂ (MM).

Chloroperla kosarovi Braasch, 1969 – Zaječar district, Stara Planina Mts, forest brook headwater of Rekitska Stream, E of Mt. Babin zub, 1535 m, 43.38057°N, 22.63269°E, 24.05.2017, JP, KT, OP, 1♂ (MM). – Zaječar district, Stara Planina Mts, open brooks on Mt. Midžor, 1885 m, 43.39002°N, 22.67431°E, 23.09.2021, JP, KT, MD, 7♂, 3♀ (EKCU), 5E, 9♂, 12♀ (MM). – New to Serbia.

Chloroperla russevi Braasch, 1969 – Moravica district, Golija Mts, Dajići, Moravica Stream at Milošica, 1505 m, 43.3384°N, 20.2507°E, 26.06.2018, JP, KT, MD, 1♂ (HNHM), 5♂, 5♀ (MM). – Zaječar district, Stara Planina Mts, Mt. Babin zub, Dojčino Vrelo-Debeštica Stream, 1560 m, 43.36670°N, 22.59922°E, 24.05.2017, JP, KT, OP, 1♂, 1♀ (EKCU), 2♂, 1♀ (MM). – New to Serbia.

Chloroperla tripunctata (Scopoli, 1763) – KAČANSKI 1975, SIVEC 1980, PETROVIĆ *et al.* 2014.

Siphonoperla montana (Pictet, 1841) – SIVEC 1980.

Siphonoperla neglecta (Rostock, 1881) – KAČANSKI 1975, SIVEC 1980, PETROVIĆ *et al.* 2014. – Moravica district, Golija Mts, Dajići, Moravica Stream at Milošica, 1505 m, 43.3384°N, 20.2507°E, 26.06.2018, JP, KT, MD, 2♂, 1♀ (MM). – Pčinja district, Besna Kobila Mts, Crna Stream W of Musulj, 1210 m, 42.51688°N, 22.24835°E, 22.05.2017, JP, KT, OP, 1♂, 3♀ (MM). – Pčinja district, Besna Kobila Mts, forest brook along Ruski Put, 1460 m, 42.53206°N, 22.20277°E, 22.05.2017, JP, KT, OP, 3♂ (MM). – Pčinja district, Besna Kobila Mts, Gornja Ljubata, Debeli Rid, forest stream, 1165 m, 42.49202°N, 22.25406°E, 22.05.2017, JP, KT, OP, 2♂ (MM). – Pčinja district, Besna Kobila Mts, left tributary brook of the left tributary of Crna Stream W of Musulj, 1250 m, 42.52022°N, 22.24669°E, 22.05.2017, JP, KT, OP, 4♂, 4♀ (MM). – Pčinja district, Besna Kobila Mts, Stance Stream along Ruski Put, 1525 m, 42.53742°N, 22.22102°E, 22.05.2017, JP, KT, OP, 1♂, 1♀ (MM). – Pirot district, Stara Planina Mts, Topli Do, Stimoljski dol, 1085 m, 43.35474°N, 22.74466°E, 25.05.2017, JP, KT, OP, 1♀ (MM). – Zaječar district, Stara Planina Mts, Crni Vrh, stream 570 m NE of Košarište, 1105 m, 43.42276°N, 22.59619°E, 23.05.2017, JP, KT, OP, 1♂ (MM). – Zaječar district, Stara Planina Mts, Crni Vrh, stream 720 m NE of Košarište, 1115 m, 43.42210°N, 22.59878°E, 23.05.2017, JP, KT, OP, 2♀ (MM). – Zaječar district, Stara Planina Mts, forest brook headwater of Rekitska Stream, E of Mt. Babin zub, 1535 m, 43.38057°N, 22.63269°E, 24.05.2017, JP, KT, OP, 7♂, 9♀ (MM). – Zaječar district, Stara Planina Mts, Mt. Babin zub, Dojčino Vrelo-Debeštica Stream, 1560 m, 43.36670°N, 22.59922°E, 24.05.2017, JP, KT, OP, 2♀ (MM). – Zaječar district, Stara Planina Mts, Ravnobučka Stream E of Ravno Bučje, 1010 m, 43.44871°N, 22.57043°E, 23.05.2017, JP, KT, OP, 2♂, 3♀ (MM).

Siphonoperla torrentium (Pictet, 1841) – SIVEC 1980, PETROVIĆ *et al.* 2014. – Zlatibor district, Zlatibor Mts, spring brook of Crni Rzav Stream beneath Mt. Cigota, 1160 m, 43.6322°N, 19.77175°E, 13.06.2012, FZ, KT, MD, 1♀ (MM).

Siphonoperla transylvanica (Kis, 1963) – KAČANSKI 1975, PETROVIĆ *et al.* 2014. – Pčinja district, Besna Kobila Mts, Gornja Ljubata, Debeli Rid, forest stream, 1165 m, 42.49202°N, 22.25406°E, 22.05.2017, JP, KT, OP, 1♂, 5♀ (MM). – Pčinja district, Besna Kobila Mts, left tributary brook of the left tributary of Crna Stream W of Musulj, 1250 m, 42.52022°N, 22.24669°E, 22.05.2017, JP, KT, OP, 1♂, 1♀ (MM). – Pirot district, Stara Planina Mts, Topli Do, Stimoljski dol, 1085 m, 43.35474°N, 22.74466°E, 25.05.2017, JP, KT, OP, 2♀ (MM).

Discussion

This paper provides 316 data of 60 taxa from 84 sampling sites between 17.06.1897 and 25.10.2023. *Brachyptera bulgarica*, *Rhabdiopteryx acuminata*, *Leuctra balcanica*, *L. dalmoni*, *L. mortoni mortoni*, *L. rosinae*, *Capnia* s.l. *vidua rilensis*, *Nemoura sciurus*, *Perla bureschi*, *Isoperla oxylepis balcanica*, *I. russevi*, *Chloroperla kosarovi* and *C. russevi* are new to Serbia. A further, new species of *Leuctra* will be described in MURÁNYI & KOVÁCS (2024).

Occurrence of several species included in the list of PETROVIĆ *et al.* (2014) requires confirmation, especially those that were published based on larvae alone. The species *Brachyptera braueri*, *B. trifasciata*, *Leuctra braueri*, *Protonemura lateralis*, *Nemoura carpathica*, *N. fusca*, *Dinocras cephalotes*, *Isogenus nubecula*, *Isoperla difformis*, *I. sudetica*, *I. goertzi*, *I. rivulorum*, *Siphonoperla montana* are not known or unconfirmed in other areas of the Balkans, and their presence in Serbia is unlikely. Among these species, *Leuctra braueri*, *Protonemura lateralis*, *Isoperla goertzi*, *I. rivulorum* and *Siphonoperla montana* are missing

from the whole, or at least from the Romanian Carpathians as well. The species *Protonemura beaumonti* is an endemic of the Peloponnese TYUFEKCHIEVA *et al.* (2019), its Serbian record refers to *P. rauschi* in all probability.

Species rich habitats of special interest (species that are new for Serbia are in bold): Besna Kobilica Mts, forest brook along Ruski Put: ***Brachyptera bulgarica***, *B. seticornis*, ***Leuctra dalmoni***, *L. hippopus*, *L. nigra*, *Nemoura braaschi*, *Nemurella pictetii*, ***Perla bureschi***, *Isoperla* cf. *russevi*, *Siphonoperla neglecta*. – Golija Mts, Dajići, Moravica Stream at Milošica (Fig. 2): ***Brachyptera bulgarica***, *B. seticornis*, ***Leuctra balcanica***, *L. cingulata*, ***L. dalmoni***, *L. nigra*, *L. prima*, ***Capnia*** s.l. ***vidua rilensis***, *Nemoura cinerea cinerea*, *N. marginata*, *N. uncinata*, *Protonemura hrabei*, *P. intricata intricata*, *P. nitida*, *P. praecox praecox*, *Perla* cf. *pallida*, *Isoperla* cf. *russevi*, ***Chloroperla russevi***, *Siphonoperla neglecta*. – Golija Mts, Radaljica, spring brooks in forest edge (Fig. 3): ***Brachyptera bulgarica***, ***Leuctra balcanica***, *L. cingulata*, ***L. dalmoni***, *L. fusca fusca*, *L. hippopus*, *L. hirsuta*, *L. nigra*, *L. prima*, *Amphinemura standfussi*, *Nemoura cinerea cinerea*, *Protonemura hrabei*, *Perla* cf. *pallida*, *Isoperla* cf. *russevi*. – Stara Planina Mts, Dojkinačka Stream below Tri kladenca Waterfall, N of Dojkinci (Fig. 4): ***Brachyptera bulgarica***, *B. seticornis*, ***Leuctra mortoni mortoni***, *L. nigra*, *L. pseudohippopus*, *L. pseudosignifera*, *Nemurella pictetii*, *Protonemura hrabei*, *P. montana*, *Arcynopteryx dichroa*. – Stara Planina Mts, Mt. Babin zub, Dojčino Vrelo-Debeštička Stream (Fig. 5): ***Leuctra balcanica***, *L. nigra*, *L. pseudosignifera*, ***Capnia*** s.l. ***vidua rilensis***, *Nemoura braaschi*, *N. subtilis*, *Nemurella pictetii*, *Isoperla* cf. *russevi*, ***Chloroperla russevi***, *Siphonoperla neglecta*. – Stara Planina Mts, small watercourses on Mt. Midžor upper region: open brooks and Tri kladenca (Fig. 6): *Leuctra nigra*, *L. pseudohippopus*, *Nemoura braaschi*, ***Isoperla russevi***, ***Chloroperla kosarovi***. – Zlatibor Mts, Crni Rzav Stream at the junction to Vodice (Fig. 7): *Brachyptera risi*, ***Rhabdiopteryx acuminata***, *Leuctra digitata*, *L. fusca fusca*, *Zwicknia acuta*, *Nemoura cinerea cinerea*, *Perla illiesi*.

Acknowledgements: Thanks are due to Péter Olajos (BioAqua, Debrecen) for preparing the map. We are also indebted to the colleagues who took part in our collectings, they are listed in the Material and methods or in the list of data.



Fig. 2. Golija Mts, Dajići, Moravica Stream at Milošica, 23.10.2023; **Fig. 3.** Golija Mts, Radaljica, spring brooks in forest edge, 23.10.2023 (photos: T. Kovács)



Fig. 4. Stara Planina Mts, Dojkinačka Stream below Tri kladenca Waterfall, 24.09.2021; **Fig. 5.** Stara Planina Mts, Mt. Babin zub, Dojčino Vrelo-Debeštička Stream, 24.05.2017; **Fig. 6.** Stara Planina Mts, small watercourses on Mt. Midžor upper region: open brooks and Tri kladenca, 23.09.2021; **Fig. 7.** Zlatibor Mts, Crni Rzav Stream at the junction to Vodice, 06.06.2022 (photos: 4–6 – T. Kovács, 7 – P. Olajos)

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