

Ephemeroptera and Odonata larvae from the River Ipoly (Hungary)

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ABSTRACT: (Ephemeroptera and Odonata larvae from the River Ipoly (Hungary).) This paper provides data on 24 Ephemeroptera and 7 Odonata species from the Hungarian section of the River Ipoly. The species most remarkable from faunistical point of view are *Centroptilum nanum*, *Ecdyonurus insignis*, *Heptagenia coeruleans*, *Ephoron virgo*, *Ephemerella mesoleuca*, *Brachycercus europaeus* and *B. harrisella*. Data of some other aquatic insects (Coleoptera: Elmidae, Heteroptera: Aphelocheiridae) are also given.

Introduction

The first data on Ephemeroptera larvae from the River Ipoly were published by ERDELICS (1968), who mentioned the following species: *Baetis* sp., *Centroptilum luteolum*, *Cloeon dipterum*, *Ecdyonurus insignis*, *Heptagenia coeruleans*, *Heptagenia flava*, *Heptagenia fuscogrisea* (this is the only record of this species from Hungary, but the voucher specimen is missing – personal communication of Barnabás Erdelics) and *Potamanthus luteus*. A few additional species were provided by KOVÁCS *et al.* (1999a): *Baetis rhodani*, *Heptagenia flava*, *Ephemera lineata*.

Results of faunistical research on Odonata were published by AMBRUS *et al.* (1996, 1998). The following species were recorded from the river: *Calopteryx splendens*, *Platynemis pennipes*, *Stylurus flavipes*, *Gomphus vulgatissimus*, *Ophiogomphus cecilia*, *Onychogomphus forcipatus*.

As for the aquatic beetles, KOVÁCS *et al.* (1999b) reported the occurrence of *Macronychus quadrituberculatus* (family Elmidae) from this river.

The Ephemeroptera material on which the present study is based has been preserved in 70% ethanol and is housed in the Mátra Museum (Gyöngyös, Hungary).

Abbreviations: AA = Ambrus András, CsB = Csányi Béla, JP = Juhász Péter, sKT = senior Kovács Tibor, KT = Kovács Tibor, KV = Kavrán Viktória; e = larval exuvium, i = imago. (Data of larvae and adults of *Aphelocheirus aestivalis* are not separated.)

Results and discussion

Twenty-four Ephemeroptera and 7 Odonata species have been recorded from 10 sites sampled between 28th March 1999 and 7th August 2001 from the Hungarian section of the River Ipoly. Apart from the species mentioned in the introduction, all are new to the fauna of the river. *Potamophilus acuminatus* and *Aphelocheirus aestivalis* were unknown from this place so far – see KOVÁCS *et al.* (1999b) and AMBRUS *et al.* (1995). The following species are remarkable from faunistical and nature conservation point of view: *Centroptilum nanum*, *Ecdyonurus insignis*, *Heptagenia coeruleans*, *Ephoron virgo*, *Ephemerella mesoleuca*, *Bra-*

chycercus europaeus, *B. harrisella*; *Stylurus flavipes*, *Ophiogomphus cecilia*, *Onychogomphus forcipatus*; *Potamophilus acuminatus*, *Macronychus quadrituberculatus*. Of them *Brachycercus harrisella* is the rarest. One specimen each of its larva was previously found in River Rába and River Lapincs only (KOVÁCS and AMBRUS 2001). The species was collected in the River Ipoly at Vámosmikola, Ipolytölgyes and Ipolydamásd; the latter locality produced many specimens. *Ephoron virgo* deserves special mention as well, because its larvae have been found on several points from Ipolyszög to Ipolydamásd.

KRNO (1997) mentions the Slovakian section of the River Ipoly as a last refugium of the endangered and vulnerable Plecoptera species of the potamal fauna. On the basis of our results the River Ipoly plays a similar role in Hungary, so it should be important to make increased efforts on the protection of the river by both the Slovakian and Hungarian authorities.

List of sampling sites

1. Ipolytarnóc: Káposztás, Ipoly; 2. Nógrádszakál: canyon of Párizs-patak, Ipoly; 3. Szécsény: Pösténypuszta, Ipoly; 4. Ipolyszög: Ipoly; 5. Ipolyvece: Ipoly; 6. Hont: mouth of Csitár-patak, Ipoly; 7. Perőcsény: Bagóles, Ipoly; 8. Vámosmikola: Ipolyon innen dűlő, Ipoly; 9. Ipolytölgyes: Malom-szög, Ipoly; 10. Ipolydamásd: ex border station, Ipoly.

List of data

EPHEMEROPTERA

Siphonuridae

Siphonurus aestivalis (Eaton, 1903) – 2. 1999.03.28., 1, iKT-KT.

Baetidae

Baetis fuscatus Linnaeus, 1761 – 1. 2000.10.13., 8, sKT-KT – 2. 2000.10.13., 5, sKT-KT – 3. 2000.10.13., 1, sKT-KT – 8. 2001.05.29., 1, JP-KT; 2001.06.28., 1, JP-KT-KV – 8. 2001.08.07., 1, AA-JP-KT-KV – 9. 1999.08.05., 1, KT – 10. 1999.08.05., 1, KT; 1999.09.30., 2, CsB-JP; 2000.09.29., 1, AA-KT-KV.

Baetis tricolor Tshernova, 1928 – 10. 2001.05.29., 1, JP-KT.

Baetis vardarensis Ikononov, 1962 – 8. 2001.05.29., 1, JP-KT.

Centroptilum nanum Bogoescu, 1951 – 10. 1999.08.05., 2, KT.

Centroptilum pennulatum Eaton, 1870 – 8. 2001.05.29., 2, JP-KT.

Cloeon dipterum (Linnaeus, 1761) – 1. 2000.10.13., 8, sKT-KT – 5. 1999.08.05., 2, KT – 6. 1999.08.05., 3, KT – 7. 1999.08.05., 1, KT – 10. 2001.06.28., 1, JP-KT-KV.

Procloeon bifidum (Bengtsson, 1912) – 1. 2000.10.13., 1, sKT-KT – 3. 2000.10.13., 3, sKT-KT – 6. 1999.08.05., 2, KT – 7. 1999.08.05., 6, KT – 8. 1999.08.05., 5, KT; 2001.05.29., 3, JP-KT; 2001.06.28., 1, JP-KT-KV; 2001.08.07., 1, AA-JP-KT-KV – 9. 2000.09.29., 1, AA-KT-KV; 2001.05.29., 8, JP-KT; 2001.06.28., 3, JP-KT-KV; 2001.08.07., 1, AA-JP-KT-KV – 10. 1999.08.05., 2, KT; 1999.09.30., 3, CsB-JP; 2000.09.29., 7, AA-KT-KV; 2001.05.29., 7, JP-KT; 2001.06.28., 1, JP-KT-KV; 2001.08.07., 4, AA-JP-KT-KV.

Heptageniidae

Ecdyonurus aurantiacus (Burmeister, 1839) – 10. 1999.08.05., 1, KT.

Ecdyonurus insignis (Eaton, 1870) – 8. 1999.08.05., 1, KT.

Electrogena fasciocolata (Sowa, 1974) – 8. 1999.08.05., 2, KT.

Heptagenia coerulans Rostock, 1877 – **8**. 2001.05.29., 1, JP-KT – **9**. 1999.08.05., 1, KT.

Heptagenia flava Rostock, 1877 – **1**. 2000.10.13., 1, sKT-KT – **2**. 1999.03.28., 2, sKT-KT; **2**. 2000.10.13., 3, sKT-KT – **3**. 2000.10.13., 1, sKT-KT – **4**. 1999.08.05., 1, KT – **5**. 1999.08.05., 1, KT – **6**. 1999.08.05., 1, KT – **7**. 1999.08.05., 1, KT – **8**. 1999.08.05., 3, KT; 2000.09.29., 1, AA-KT-KV; 2001.05.29., 2, JP-KT; 2001.06.28., 1, JP-KT-KV; 2001.08.07., 1, AA-JP-KT-KV – **9**. 1999.08.05., 3, KT; 2000.09.29., 1, AA-KT-KV; 2001.05.29., 1, JP-KT; 2001.06.28., 2, JP-KT-KV – **10**. 1999.08.05., 2, KT; 1999.09.30., 5, CsB-JP; 2000.09.29., 1, AA-KT-KV; 2001.05.29., 2, JP-KT; 2001.06.28., 1, JP-KT-KV; 2001.08.07., 2, AA-JP-KT-KV.

Heptagenia sulphurea (O. F. Müller, 1776) – **8**. 2000.09.29., 1, AA-KT-KV; 2000.09.29., 1, AA-KT-KV; 2001.06.28., 2, JP-KT-KV; 2001.08.07., 2, AA-JP-KT-KV – **9**. 1999.08.05., 3, KT – **10**. 1999.08.05., 1, KT; 1999.09.30., 3, CsB-JP; 2001.05.29., 2, JP-KT.

Leptophlebiidae

Paraleptophlebia submarginata (Stephens, 1835) – **2**. 1999.03.28., 1, sKT-KT.

Ephemeridae

Ephemera danica O. F. Müller, 1764 – **2**. 1999.03.28., 1, sKT-KT.

Ephemera lineata Eaton, 1870 – **3**. 2000.10.13., 1, sKT-KT – **8**. 1999.08.05., 1, KT; 2000.09.29., 1, AA-KT-KV; 2001.05.29., 1, JP-KT; 2001.06.28., 1, JP-KT-KV – 2001.08.07., 1, AA-JP-KT-KV – **9**. 2000.09.29., 1, AA-KT-KV; 2001.05.29., 1, JP-KT; 2001.08.07., 1, AA-JP-KT-KV – **10**. 1999.08.05., 1, KT; 1999.09.30., 3, CsB-JP; 2000.09.29., 1, AA-KT-KV; 2001.05.29., 2, JP-KT; 2001.08.07., 1, AA-JP-KT-KV.

Potamanthidae

Potamanthus luteus (Linnaeus, 1767) – **2**. 2000.10.13., 1, sKT-KT – **3**. 2000.10.13., 1, sKT-KT – **4**. 1999.08.05., 1, KT – **5**. 1999.08.05., 1, KT – **8**. 2000.09.29., 1, AA-KT-KV; 2001.05.29., 1, JP-KT; 2001.06.28., 1, JP-KT-KV; **8**. 2001.08.07., 1, AA-JP-KT-KV – **9**. 1999.08.05., 2, KT; 2000.09.29., 1, AA-KT-KV; 2001.05.29., 1, JP-KT; 2001.06.28., 1, JP-KT-KV; 2001.08.07., 1, AA-JP-KT-KV – **10**. 1999.08.05., 1, KT; 1999.09.30., 7, CsB-JP; 2000.09.29., 1, AA-KT-KV; 2001.05.29., 1, JP-KT; 2001.08.07., 1, AA-JP-KT-KV.

Polymitarcyidae

Ephoron virgo (Olivier, 1791) – **4**. 1999.08.05., 6, KT – **7**. 1999.08.05., 2, KT – **8**. 1999.08.05., 3, KT; 2001.05.29., 1, JP-KT; 2001.06.28., 2, JP-KT-KV – **9**. 1999.08.05., 2, KT; 2001.05.29., 1, JP-KT; 2001.06.28., 1, JP-KT-KV – **10**. 1999.08.05., 5, KT; 2001.05.29., 2, JP-KT; 2001.06.28., 1, JP-KT-KV.

Ephemerellidae

Ephemerella ignita (Poda, 1761) – **8**. 2001.05.29., 2, JP-KT; 2001.06.28., 1, JP-KT-KV – **9**. 2001.05.29., 1, JP-KT; 2001.06.28., 1, JP-KT-KV – **10**. 2001.05.29., 2, JP-KT.

Ephemerella mesoleuca (Brauer, 1857) – **8**. 2001.05.29., 4, JP-KT – **9**. 2001.05.29., 2, JP-KT – **10**. 2001.05.29., 1, JP-KT.

Caenidae

Brachycercus europaeus Kluge, 1991 – **7**. 1999.08.05., 2, KT – **8**. 2000.09.29., 3, AA-KT-KV; 2001.06.28., 1, JP-KT-KV – **9**. 1999.08.05., 12, KT; 2000.09.29., 11, AA-KT-KV; 2001.05.29., 1, JP-KT – **10**. 1999.08.05., 43, KT; 1999.09.30., 5, CsB-JP; 2000.09.29., 4, AA-KT-KV; 2001.06.28., 2, JP-KT-KV.

Brachycercus harrisella Curtis, 1834 – **8**. 2001.06.28., 1, JP-KT-KV – **9**. 1999.08.05., 1, KT – **10**. 2001.05.29., 8, JP-KT; 2001.06.28., 17, JP-KT-KV.

Caenis pseudorivulorum Keffermüller, 1960 – **3**. 2000.10.13., 1, sKT-KT – **4**. 1999.08.05., 1, KT – **6**. 1999.08.05., 1, KT – **7**. 1999.08.05., KT – **8**. 1999.08.05., 2, KT; 2000.09.29., 2, AA-KT-KV; 2001.06.28., 1, JP-KT-KV – **9**. 1999.08.05., 2, KT; **9**. 2000.09.29., 1, AA-KT-KV – **10**. 1999.08.05., 1, KT; 1999.09.30., 1, CsB-JP; 2000.09.29., 1, AA-KT-KV.

ODONATA

Calopterygidae

Calopteryx splendens (Harris, 1782) – 1. 2000.03.01., 3, sKT-KT; 2000.10.13., 27, sKT-KT – 2. 1999.03.28., 23, sKT-KT; 2000.10.13., 5, sKT-KT – 3. 2000.10.13., 15, sKT-KT – 4. 1999.08.05., 7, KT – 6. 1999.08.05., 3, KT – 7. 1999.08.05., 8, KT – 8. 1999.08.05., 4, KT; 2000.09.29., 8, AA-KT-KV; 2001.05.29., 5, JP-KT; 2001.06.28., 3, JP-KT-KV – 9. 2000.09.29., 13, AA-KT-KV; 2001.05.29., 2, JP-KT – 10. 1999.08.05., 3, KT; 2000.09.29., 27, AA-KT-KV; 2001.05.29., 3, JP-KT; 2001.06.28., 1, JP-KT-KV; 2001.08.07., 3, AA-JP-KT-KV.

Platycnemididae

Platycnemis pennipes (Pallas, 1771) – 1. 2000.03.01., 3, sKT-KT; 2000.10.13., 18, sKT-KT – 2. 1999.03.28., 12, sKT-KT; 2000.03.01., 1, sKT-KT; 2000.10.13., 7, sKT-KT – 4. 1999.08.05., 5, KT – 5. 1999.08.05., 2, KT – 6. 1999.08.05., 5, KT – 7. 1999.08.05., 15, KT – 8. 1999.08.05., 1, KT; 2000.09.29., 7, AA-KT-KV; 2001.05.29., 5, JP-KT; 2001.06.28., 2, JP-KT-KV; 2001.08.07., 4, AA-JP-KT-KV – 9. 2000.09.29., 17, AA-KT-KV; 2001.05.29., 3, JP-KT; 2001.06.28., 3, JP-KT-KV; 2001.08.07., 3, AA-JP-KT-KV – 10. 2000.09.29., 25, AA-KT-KV; 2001.05.29., 2, JP-KT; 2001.06.28., 5, JP-KT-KV; 2001.08.07., 1, AA-JP-KT-KV.

Coenagrionidae

Ischnura elegans pontica Schmidt, 1938 – 1. 2000.10.13., 1, sKT-KT – 5. 1999.08.05., 19, KT – 9. 2001.05.29., 1, JP-KT – 10. 2001.05.29., 1, JP-KT.

Gomphidae

Stylurus flavipes (Charpentier, 1825) – 7. 1999.08.05., 1, KT – 8. 2001.06.28., 1, JP-KT-KV; 2001.08.07., 1, AA-JP-KT-KV – 9. 1999.08.05., 1, KT – 10. 2000.09.29., 27, AA-KT-KV; 2001.05.29., 2, JP-KT; 2001.06.28., 10, JP-KT-KV; 2001.08.07., 1, AA-JP-KT-KV.

Gomphus vulgatissimus (Linnaeus, 1758) – 1. 2000.10.13., 7, sKT-KT – 2. 1999.03.28., 7, sKT-KT; 2000.03.01., 2, sKT-KT – 3. 2000.10.13., 8, sKT-KT – 7. 1999.08.05., 7, KT – 8. 1999.08.05., 2, KT; 2000.09.29., 2, AA-KT-KV; 2001.05.29., 4, JP-KT; 2001.06.28., 27, JP-KT-KV; 2001.08.07., 5, AA-JP-KT-KV – 9. 1999.08.05., 2, KT; 2000.09.29., 18, AA-KT-KV; 2001.05.29., 4, JP-KT; 2001.06.28., 8, JP-KT-KV; 2001.08.07., 30, AA-JP-KT-KV – 10. 1999.08.05., 7, KT; 2000.09.29., 33, AA-KT-KV; 2001.05.29., 5, JP-KT; 2001.06.28., 47, JP-KT-KV; 2001.08.07., 30, AA-JP-KT-KV.

Ophiogomphus cecilia (Fourcroy, 1785) – 3. 2000.10.13., 2, sKT-KT – 8. 2001.05.29., 1e, JP-KT – 10. 1999.08.05., 1, KT.

Onychogomphus forcipatus (Linnaeus, 1758) – 2. 2000.10.13., 1, sKT-KT – 8. 2000.09.29., 4, AA-KT-KV; 8. 2001.05.29., 2, 1e, JP-KT – 9. 2000.09.29., 6, AA-KT-KV; 000.09.29., 6, AA-KT-KV – 10. 2000.09.29., 5, AA-KT-KV.

COLEOPTERA

Elmidae

Potamophilus acuminatus (Fabricius, 1792) – 3. 2000.10.13., 1, sKT-KT – 7. 1999.08.05., 1, KT – 8. 2000.09.29., 1, AA-KT-KV; 2001.05.29., 1, 1i, JP-KT; 2001.06.28., 5, 8i, JP-KT-KV; 2001.08.07., 2, 1i, AA-JP-KT-KV – 9. 1999.08.05., 2, KT; 2000.09.29., 1, AA-KT-KV; 2001.05.29., 2, JP-KT; 2001.08.07., 8, AA-JP-KT-KV – 10. 1999.08.05., 2, 1i, KT; 2000.09.29., 1, AA-KT-KV; 2001.05.29., 2, JP-KT; 2001.06.28., 3, JP-KT-KV; 2001.08.07., 23, AA-JP-KT-KV.

Macronychus quadrituberculatus P. W. J. Müller, 1806 – 3. 2000.10.13., 1, sKT-KT – 4. 1999.08.05., 1i, KT – 6. 1999.08.05., 2, 1i, KT – 7. 1999.08.05., 1i, KT – 8. 1999.08.05., 1i, KT; 2000.09.29., 1, 1i, AA-KT-KV; 2001.05.29., 1i, JP-KT; 2001.06.28., 11i, JP-KT-KV – 9. 1999.08.05., 2i, KT; 2001.05.29., 1, 2i, JP-KT – 10. 1999.08.05., 1, 1i, KT; 2000.09.29., 2, 1i, AA-KT-KV; 2001.05.29., 1, 1i, JP-KT; 2001.06.28., 1, JP-KT-KV; 2001.08.07., 3, 8i, AA-JP-KT-KV.

HETEROPTERA

Aphelocheiridae

Aphelocheirus aestivalis (Fabricius, 1794) – 2. 2000.10.13., 1, sKT-KT – 4. 1999.08.05., 1, KT – 7. 1999.08.05., 1, KT – 8. 1999.08.05., 1, KT; 2000.09.29., 1, AA-KT-KV; 2001.05.29., 2, JP-KT; 2001.06.28., 13, JP-KT-KV; 2001.08.07., 5, AA-JP-KT-KV – 9. 1999.08.05., 1, KT; 2000.09.29., 1, AA-KT-KV; 2001.06.28., 3, JP-KT-KV; 2001.08.07., 4, AA-JP-KT-KV – 10. 1999.08.05., 1, KT; 2001.06.28., 5, JP-KT-KV; 2001.08.07., 3, AA-JP-KT-KV.

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