

Ephemeroptera, Odonata and Plecoptera larvae from the rivers of Rába and Lapincs (Hungary)

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ABSTRACT: (Ephemeroptera, Odonata and Plecoptera larvae from the rivers of Rába and Lapincs (Hungary).) This paper provides data on 44 Ephemeroptera, 9 Odonata and 10 Plecoptera species from the Hungarian section of the Rába River and 23 Ephemeroptera, 4 Odonata and 7 Plecoptera species from the Hungarian section of the Lapincs River. *Besdolus ventralis* is new to the fauna of Hungary. *Oligoneuriella keffermuelleriae*, *Neoephemera maxima*, *Besdolus ventralis* are known to occur in the Carpathian Basin in the Rába only. *Isonychia ignota* is known to occur in Hungary in the Rába only. The Rába represents the westernmost point of the range of *Palingenia longicauda* in Europe. The UTM codes of the species are given in a table. Data of some other aquatic insects (Coleoptera, Heteroptera) are also given.

Introduction

Faunistic results of the survey on Ephemeroptera and Plecoptera inhabiting the Rába River (KOVÁCS *et al.* 1998, 1999a, 2001, KOVÁCS and AMBRUS 2001) encouraged us to investigate the whole Hungarian section of the Lapincs River, the largest tributary of the Rába. Twenty-six sites in 16 UTM grids along the Rába, and one site of one UTM grid in the Lapincs were sampled in the period from 7 May 1997 to 15 November 2000.

Determination of some taxa (Ephemeroptera: *Baetis*, *Rhithrogena*, *Ecdyonurus*, *Caenis*; Plecoptera: *Isoperla*, *Chloroperlidae*, *Brachyptera*, *Amphinemura*, *Nemoura*, *Leuctra*) is still in progress. Methods of collecting see in KOVÁCS *et al.* (1998).

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

Abbreviations: AA = András Ambrus, BK = Károly Bánkuti, JP = Péter Juhász, KBZs = Zsuzsanna Benkó Kovácsné, KD = Dóra Kovács, KT = Tibor Kovács, KV = Viktória Kavrán, PS = Pertti Sevola, SzÁ = Ágnes Szász, TI = István Turcsányi, VR = Richárd Varnyu; e = larval exuvium, i = imago, p = pupa; km = river kilometre.

Results and discussion

A total of 44 Ephemeroptera, 9 Odonata and 10 Plecoptera species were recorded from the Rába, and 23 Ephemeroptera, 4 Odonata and 7 Plecoptera species from the Lapincs. Taking into consideration the publications containing more important Hungarian data on larvae Ephemeroptera, Odonata and Plecoptera the following statements could be given. In the Carpathian Basin *Oligoneuriella keffermuelleriae*, *Neoephemera maxima* and *Besdolus ventralis* are known to occur in the Rába only, and the last mentioned species is new to the fauna of Hungary. In Hungary *Isonychia ignota* is known to occur in the Rába only, although an earlier datum from Budapest is given by MOCSÁRY (1899). *Agnatina elegantula* is known to occur in Hungary in the Rába and the Lapincs only. Furthermore, fieldwork pro-

vided evidence of existing populations of a number of rare mayfly, dragonfly and stonefly species in Hungary: *Siphonurus lacustris*, *Ametropus fragilis*, *Baetis niger*, *Oligoneuriella pallida*, *O. rhenana*, *Ecdyonurus insignis*, *Heptagenia coerulans*, *Rhithrogena beskidensis*, *Paraleptophlebia cincta*, *Ephoron virgo*, *Palingenia longicauda*, *Ephemerella mesoleuca*, *E. mucronata*, *E. notata*, *Brachycercus europaeus*, *B. harrisella*, *Cercobrachys minutus*, *Stylurus flavipes*, *Ophiogomphus cecilia*, *Onychogomphus forcipatus*, *Isogenus nubecula*, *Marthamea vitripennis*, *Taeniopteryx nebulosa*. Several of them are extinct in a number of countries of Europe, or have given threatened or vulnerable status (see KRNO 1996, REUSCH and WEINZIERL 1998, RUSSEV 1992, SOLDÁN *et al.* 1998, VAN TOL and VERDONK 1988).

Table 1 presents the localities of the species as well as the river sections in which they were found. The range of some species seem to fluctuate year-to-year. Diversity of the microhabitats has resulted in a very rich fauna in the following UTM grids: Lapincs – WN90: 34 species; Rába – WN90: 36 species, XN00: 37 species, XN20: 38 species, XN43: 38 species, XN87: 34 species.

The stages of the continuous change of the fauna are demonstrated by the following rare species and species assemblages.

In the Lapincs and the Rába between 202 and 189 km: *Ecdyonurus insignis*, *Rhithrogena beskidensis*, *Ephemerella mucronata*, *Brachycercus harrisella* (*Epeorus sylvicola*, *Brachyptera risi*, *B. seticornis* which are characteristic for mountain streams also occur here). In the Lapincs and the Rába between 202 and 89 km: *Oligoneuriella rhenana*, *Isogenus nubecula*, *Agnatina elegantula*. In the Lapincs and the Rába from 202 km all the way along nearly the whole lower section (to 0 or 14 km): *Ametropus fragilis*, *Heptagenia coerulans*, *Ephemerella mesoleuca*, *E. notata*, *Ophiogomphus cecilia*, *Taeniopteryx nebulosa*. In the Rába from 202 km along nearly the whole lower section (to 0 or 14 km): *Neophemera maxima*, *Onychogomphus forcipatus*. In the Rába from 196 km: *Oligoneuriella keffermuelleriae*, *Isonychia ignota*, *Ephoron virgo*, *Besdolus ventralis*; from 169 km: *Cercobrachys minutus*; from 155 km: *Siphonurus lacustris*, *Oligoneuriella pallida*, *Brachycercus europaeus*, *Stylurus flavipes*, *Marthamea vitripennis*. In the latter three groups the lower border of the section is different: complete – *Isonychia ignota*, *Oligoneuriella pallida*; to 14 km – *Oligoneuriella keffermuelleriae*, *Ephoron virgo*, *Cercobrachys minutus*, *Siphonurus lacustris*, *Stylurus flavipes*, *Marthamea vitripennis*; to 29 km – *Besdolus ventralis*; to 41 km – *Brachycercus europaeus*. In the Rába between 99 and 41 km: *Palingenia longicauda*. In the Rába at 155 km: *Baetis niger*, *Paraleptophlebia cincta*.

Kovács and Ambrus (2001) mentioned that quality of water was poor in the section of the Rába above the mouth of the Lafnitz River (between 211 and 202 km). The data of Ephemeroptera and Plecoptera support this statement, because the number of species is the lowest there: 12 Ephemeroptera (all of the rare species of the Rába and the Lapincs are absent) and no Plecoptera. However, the Lapincs, including its Austrian reaches (see BAUERNFEIND and WEICHSELBAUMER 1991, 1994, GRAF 1997) and the whole section of the Rába from the mouth of the Lapincs downstream can be considered a continuous unit. This unit deserves strict protection, because it is a refugium of valuable species assemblages of Ephemeroptera, Odonata and Plecoptera which are unique in Central Europe. This is confirmed by rare species belonging to other animal groups, i. e. Gastropoda: *Theodoxus transversalis* – Molnászezsőd, Rábahídvég, Rum, Sárvár: Rába; Hirudinea: *Cystobranthus respirans* – Sárvár: Rába (JUHÁSZ *et al.* 2001), *Trocheta cylindrica* – Sárvár: Rába

(JUHÁSZ *et al.* 2001); Decapoda: *Astacus astacus* - Szentgotthárd: Lapincs, Rába; Cyclostomata: *Eudontomyzon mariae* - Szentgotthárd, Csákánydoroszló: Rába; Pisces: *Zingel streber* - Szentgotthárd: Lapincs, Magyarlak: Rába.

Notes on selected taxa

Palingenia longicauda – MOCSÁRY (1899) and PONGRÁCZ (1914) mentions its occurrence in the Rába at Győr, VUSKITS (1902) at Körmend and Molnaszecsőd. Later on UNGER (1927) and UJHELYI (1959) reported it from the Rába, without exact locality. A larva and two fragmentary exuvia found during the survey suggest that the species still exists in the Rába, which is the westernmost waterbody of its range in Europe.

Besdolus ventralis – The record is based on a male adult collected at Rábahídvég on 20 April 2000 and on a larva collected on 21 April 2000 which hatched to imago on the same day. Determination was made with the use of the paper of ZWICK and WEINZIERL (1995). It should be emphasized that the identification must be confirmed by comparing the single female from the Rába and her eggs with the holotype.

Dinocras and *Perla* – Larvae of *Dinocras* and *Perla* species are quite difficult to identify. Therefore in the list of data the names *Dinocras cephalotes-megacephala* complex and *Perla marginata-pallida* complex are applied.

Acknowledgements

We thank Prof. Dr. Peter Zwick for his advice and kind help in identification of *Besdolus ventralis*. We are grateful to Zoltán Csabai, Armin Weinzierl and Dr. Ignac Sivec for their help. Thanks are due to Dr. Ottó Merkl for linguistic correction.

List of sampling sites with river kilometres and UTM codes

1. Szentgotthárd: Lapincs	0,3 fkm	WN90
2. Alsószölnök: barrage, Rába	210,3 fkm	WM99
3. Szakonyfalu: Rába	207,0 fkm	WM99
4. Szentgotthárd: road to Rábafüzes, Rába	201,7 fkm	WN90
5. Máriaújfalu: Wágnertanya, Rába	196,0 fkm	XN00
6. Máriaújfalu: Malom-szeg, Rába	195,3 fkm	XN00
7. Jakabháza: Rába	195,0 fkm	XN00
8. Magyarlak: lido, Rába	191,0 fkm	XN00
9. Csörötnek: road to Rönök, Rába	189,9 fkm	XN00
10. Csákánydoroszló: road to Ivánc, Rába	169,0 fkm	XN10
11. Körmend: road number 86, Rába	154,6 fkm	XN20
12. Molnaszecsőd: road to Döröske, Rába	142,2 fkm	XN21
13. Rábahídvég: road number 8, Rába	132,1 fkm	XN31
14. Rum: road number 87, Rába	112,6 fkm	XN42
15. Ikervár: road to Sótöny, Rába	97,7 fkm	XN43
16. Sárvár: road number 84, Rába	89,4 fkm	XN43
17. Ostffyasszonyfa: road to Uraiújfalu, Rába	73,4 fkm	XN54
18. Rábakecöl: road to Kenyeri, Rába	62,6 fkm	XN55

19. Vág: road to Kemenesszentpéter, Rába	51,2 fkm	XN65
20. Várkesző: road to Szany, Rába	41,2 fkm	XN75
21. Árpás: road to Mórchida, Rába	29,0 fkm	XN86
22. Bodonhely: road to Kisbabót, Rába	23,5 fkm	XN87
23. Mérges: minor road to Rábaszentmihály, Rába	18,2 fkm	XN87
24. Rábapatoná: road to Koroncó, Rába	14,0 fkm	XN87
25. Győr: road number M1, Rába	4,7 fkm	XN98
26. Győr: road number 10, Rába	1,6 fkm	XN98
27. Győr: Regatta pavilon, Rába	0,4 fkm	XN98

List of data

References are cited in the list of the data. When a paper includes data from the period of the present study the serial number of those localities are given.

EPHEMEROPTERA

Siphonuridae

Siphonurus lacustris (Eaton, 1870) - **11.** 06.05.1999, 2, AA, KT - **16.** 07.05.1997, 1, AA, BK, KT; 07.05.1999, 1, AA, KT - **24.** 05.05.1999, 4, KT; 30.04.2000, 4, KBZs, KD, KT, SzÁ.

Ametropodidae

Ametropus fragilis Albarda, 1878 - **1.** 11.04.2000, 1, AA, KT; 14.11.2000, 1, AA, KT - **4.** 14.11.2000, 1, AA, KT - **8.** 16.03.2000, 1, AA, KT - **9.** 11.04.2000, 3, AA, KT - **10.** 14.11.2000, 2, AA, KT - **11.** 16.03.2000, 5, AA, KT; 14.11.2000, 1, AA, KT - **12.** 21.04.2000, 1, KBZs, KT - **13.** 21.04.2000, 1, KBZs, KT; 30.04.2000, 1, KBZs, KD, KT, SzÁ - **16.** 12.05.1998, 5, AA, BK, KT; 25.11.1999, 1, AA, JP, KT, VR; 05.05.2000, 1, AA, JP, KT, KV - **24.** 07.09.2000, 1, AA, KT.

Baetidae

Baetis fuscatus Linnaeus, 1761 - **1.** 01.07.1999, 3, AA, KBZs, KT; 15.07.1999, 1, AA, KT; 14.11.2000, 2, AA, KT - **3.** 19.06.1997, 1, AA, BK, KT; 06.06.2000, 1, AA, KT - **4.** 27.05.1998, 5, AA; 01.07.1999, 3, AA, KBZs, KT; 09.08.1999, 2, KT; 14.11.2000, 1, AA, KT - **5.** 27.05.1998, 2, AA - **6.** 28.05.1998, 6, AA - **8.** 19.06.1997, 2, AA, BK, KT; 24.06.1998, 1, AA, BK, KT; 30.06.1999, 2, AA, KBZs, KT; 15.07.1999, 1, AA, KT - **9.** 28.05.1998, 4, AA; 09.08.1999, 1, KT - **10.** 09.08.1999, 1, KT; 29.08.2000, 6, AA; 14.11.2000, 2, AA, KT - **11.** 09.10.1997, 1, AA; 06.05.1999, 1, AA, KT - **12.** 21.07.2000, 2, AA, KD, KT - **14.** 18.08.1998, 1, AA, KT; 03.07.2000, 5, AA - **15.** 18.08.1998, 3, AA, KT - **16.** 12.05.1998, 2, AA, BK, KT; 23.06.1998, 1, AA, BK, KT; 07.05.1999, 1, AA, KT; 12.08.1999, 2, AA; 06.09.2000, 7, AA, KT - **17.** 07.05.1999, 1, AA, KT - **18.** 30.06.1999, 1, AA, KBZs, KT; 07.06.2000, 1, AA, KT; 15.11.2000, 6, AA, KT - **19.** 07.06.2000, 3, AA, KT - **20.** 10.08.1999, 1, KT; 21.07.2000, 1, AA, KD, KT - **21.** 21.07.2000, 1, AA, KD, KT - **22.** 30.04.2000, 1, KBZs, KD, KT, SzÁ - **23.** 30.04.2000, 1, KBZs, KD, KT, SzÁ - **24.**

05.05.1999, 1, KT; 07.09.2000, 1, AA, KT - **26**. 26.08.1999, 1, AA, JP, KT - **27**. 12.09.1997, 1, BK, KT.

Baetis niger (Linnaeus, 1761) - **11**. 12.04.2000, 1, AA, KT.

Baetis rhodani (Pictet, 1843) - **1**. 01.07.1999, 1, AA, KBZs, KT; 15.07.1999, 1, AA, KT; 11.04.2000, 3, AA, KT - **3**. 08.04.1998, 5, AA, JP, KT, PS, TI - **4**. 01.07.1999, 1, AA, KBZs, KT; 11.04.2000, 2, AA, KT - **6**. 28.05.1998, 1, AA - **8**. 30.06.1999, 2, AA, KBZs, KT; 16.03.2000, 1, AA, KT; 11.04.2000, 1, AA, KT - **9**. 11.04.2000, 1, AA, KT - **12**. 21.04.2000, 1, KBZs, KT - **13**. 21.04.2000, 1, KBZs, KT - **16**. 07.05.1997, 3, AA, BK, KT; 16.03.2000, 1, AA, KT.

Baetis scambus Eaton, 1870 - **4**. 01.07.1999, 1, AA, KBZs, KT - **22**. 21.07.2000, 1, AA, KD, KT.

Baetis tricolor Tshernova, 1928 - KOVÁCS *et al.* (2001): **12, 13**. - **1**. 01.07.1999, 1, AA, KBZs, KT - **11**. 01.07.1999, 5, AA, KBZs, KT - **12**. 21.07.2000, 4, AA, KD, KT - **13**. 09.08.1999, 2, KT - **19**. 10.08.1999, 1, KT - **20**. 10.08.1999, 1, KT - **24**. 30.06.1999, 1, AA, KBZs, KT; 07.09.2000, 2, AA, KT - **26**. 26.08.1999, 6, AA, JP, KT.

Baetis vardarensis Ikononov, 1962 - KOVÁCS *et al.* (1998): **10**. - **1**. 01.07.1999, 4, AA, KBZs, KT; 15.07.1999, 2, AA, KT; 11.04.2000, 5, AA, KT; 20.07.2000, 1, AA, KD, KT; 14.11.2000, 1, AA, KT - **4**. 11.04.2000, 3, AA, KT; 20.07.2000, 1, AA, KD, KT - **8**. 30.06.1999, 4, AA, KBZs, KT; 15.07.1999, 1, AA, KT; 16.03.2000, 5, AA, KT; 11.04.2000, 2, AA, KT; 20.04.2000, 1, KBZs, KT; 06.06.2000, 1, AA, KT; 20.07.2000, 1, AA, KD, KT - **10**. 29.08.2000, 6, AA - **11**. 06.05.1999, 1, AA, KT.

Raptobaetopus tenellus (Albarda, 1878) - **12**. 15.08.2000, 3, AA, JP, KT, PS - **13**. 09.08.1999, 1, KT - **16**. 13.10.1997, 1, AA; 12.08.1999, 1, AA; 06.09.2000, 1, AA, KT - **22**. 10.08.1999, 1, KT.

Centroptilum luteolum (O. F. Müller, 1776) - **3**. 08.04.1998, 1, AA, JP, KT, PS, TI - **16**. 07.05.1997, 1, AA, BK, KT.

Centroptilum pulchrum Eaton, 1885 - KOVÁCS *et al.* (1998): **11**. - **10**. 14.11.2000, 1, AA, KT - **11**. 18.08.1998, 2, AA, KT - **12**. 15.08.2000, 1, AA, JP, KT, PS - **13**. 15.08.2000, 1, AA, JP, KT, PS.

Cleon dipterum (Linnaeus, 1761) - **3**. 19.06.1997, 1, AA, BK, KT - **16**. 06.09.2000, 1, AA, KT - **22**. 21.07.2000, 1, AA, KD, KT; 15.11.2000, 3, AA, KT.

Procleon bifidum (Bengtsson, 1912) - **8**. 30.06.1999, 1, AA, KBZs, KT - **11**. 01.07.1999, 2, AA, KBZs, KT - **24**. 21.07.2000, 2, AA, KD, KT; 07.09.2000, 2, AA, KT - **25**. 09.06.2000, 1, AA.

Oligoneuriidae

Oligoneuriella keffermuelleriae Sowa, 1973 - KOVÁCS *et al.* (1999a): **11, 12, 13, 14, 16**. - **8**. 30.06.1999, 1, AA, KBZs, KT - **10**. 06.06.2000, 4, AA, KT - **11**. 01.07.1999, 1, AA, KBZs, KT - **12**. 21.07.2000, 1, AA, KD, KT - **16**. 30.06.1999, 14, AA, KBZs, KT; 07.06.2000, 1, AA, KT - **18**. 30.06.1999, 3, AA, KBZs, KT; 07.06.2000, 1, AA, KT - **19**. 30.06.1999, 5, AA, KBZs, KT; 07.06.2000, 4, AA, KT - **20**. 30.06.1999, 6, AA, KBZs, KT - **21**. 30.06.1999, 11, AA, KBZs, KT - **24**. 30.06.1999, 9, AA, KBZs, KT.

Oligoneuriella pallida (Hagen, 1855) - KOVÁCS *et al.* (1999a): **11, 12, 13, 14, 16**. - **12**. 21.07.2000, 2, AA, KD, KT - **13**. 09.08.1999, 6, KT - **14**. 03.07.2000, 5, AA - **16**. 30.06.1999, 5, AA, KBZs, KT; 12.08.1999, 1, AA; 07.06.2000, 1, AA, KT; 06.09.2000, 1, AA, KT - **18**.

30.06.1999, 1, AA, KBZs, KT - **19**. 30.06.1999, 6, AA, KBZs, KT; 07.06.2000, 2, AA, KT - **20**. 30.06.1999, 4, AA, KBZs, KT - **21**. 30.06.1999, 3, AA, KBZs, KT - **22**. 10.08.1999, 1, KT - **24**. 30.06.1999, 5, AA, KBZs, KT - **26**. 26.08.1999, 1, AA, JP, KT.

Oligoneuriella rhenana (Imhoff, 1852) - KOVÁCS *et al.* (1999a): **6, 8, 9**. - **1**. 01.07.1999, 1, AA, KBZs, KT - **4**. 01.07.1999, 1, AA, KBZs, KT - **8**. 30.06.1999, 27, AA, KBZs, KT; 06.06.2000, 3, AA, KT - **11**. 22.06.2000, 1e, AA - **16**. 30.06.1999, 1, AA, KBZs, KT.

Isonychiidae

Isonychia ignota (Walker, 1853) - **8**. 24.06.1998, 1, AA, BK, KT - **10**. 06.06.2000, 1, AA, KT; 29.08.2000, 1, AA - **11**. 19.06.1997, 4, AA, BK, KT; 09.10.1997, 1, AA; 24.06.1998, 5, AA, BK, KT; 18.08.1998, 5, AA, KT; 01.07.1999, 1, AA, KBZs, KT; 22.06.2000, 1, 1e, AA - **12**. 18.08.1998, 5, AA, KT; 21.07.2000, 1, AA, KD, KT; 15.08.2000, 1, AA, JP, KT, PS - **13**. 18.08.1998, 1, AA, KT; 09.08.1999, 6, KT; 15.08.2000, 1, AA, JP, KT, PS - **14**. 18.08.1998, 1, AA, KT; 03.07.2000, 3, AA - **15**. 18.08.1998, 3, AA, KT - **16**. 23.06.1998, 3, AA, BK, KT; 07.06.2000, 1, AA, KT - **21**. 30.06.1999, 5, AA, KBZs, KT; 21.07.2000, 1, AA, KD, KT - **24**. 30.06.1999, 6, AA, KBZs, KT - **26**. 26.08.1999, 2, AA, JP, KT.

Heptageniidae

Ecdyonurus insignis (Eaton, 1885) - **1**. 01.07.1999, 4, AA, KBZs, KT; 15.07.1999, 2, AA, KT - **4**. 01.07.1999, 2, AA, KBZs, KT; 09.08.1999, 4, KT - **5**. 27.05.1998, 2, AA - **6**. 28.05.1998, 1, AA - **8**. 24.06.1998, 4, AA, BK, KT.

Electrogena fascioculata (Sowa, 1974) - KOVÁCS *et al.* (1998): **11**. - **1**. 15.07.1999, 1, AA, KT - **4**. 01.07.1999, 1, AA, KBZs, KT; 09.08.1999., 1, KT - **10**. 06.06.2000, 1, AA, KT - **11**. 01.07.1999, 2, AA, KBZs, KT - **13**. 18.08.1998, 2, AA, KT; 09.08.1999, 2, KT - **18**. 07.06.2000, 1, AA, KT - **19**. 30.06.1999, 4, AA, KBZs, KT; 10.08.1999, 2, KT - **20**. 30.06.1999, 3, AA, KBZs, KT; 10.08.1999, 1, KT - **21**. 30.06.1999, 3, AA, KBZs, KT - **22**. 10.08.1999, 2, KT - **24**. 30.06.1999, 2, AA, KBZs, KT.

Epeorus sylvicola (Pictet, 1865) - **1**. 11.04.2000, 1, AA, KT - **4**. 11.04.2000, 1, AA, KT - **6**. 28.05.1998, 1, AA - **8**. 11.04.2000, 1, AA, KT; 06.06.2000, 1, AA, KT.

Heptagenia coeruleans Rostock, 1877 - **1**. 01.07.1999, 2, AA, KBZs, KT; 15.07.1999, 2, AA, KT; 20.07.2000, 1, AA, KD, KT - **4**. 01.07.1999, 3, AA, KBZs, KT; 09.08.1999, 2, KT; 20.07.2000, 1, AA, KD, KT - **8**. 19.06.1997, 3, AA, BK, KT; 24.06.1998, 6, AA, BK, KT; 30.06.1999, 3, AA, KBZs, KT; 15.07.1999, 1, AA, KT; 09.08.1999, 1, KT; 06.06.2000, 4, AA, KT; 20.07.2000, 1, AA, KD, KT - **9**. 09.08.1999, 1, KT - **10**. 09.08.1999, 1, KT; 06.06.2000, 1, AA, KT - **11**. 19.06.1997, 1, AA, BK, KT; 24.06.1998, 1, AA, BK, KT; 18.08.1998., 1, AA, KT; 01.07.1999, 1, AA, KBZs, KT; 02.06.2000, 2, AA - **12**. 18.08.1998, 1, AA, KT; 21.07.2000, 1, AA, KD, KT - **13**. 18.08.1998, 2, AA, KT; 09.08.1999, 2, KT; 15.08.2000, 1, AA, JP, KT, PS - **14**. 18.08.1998, 3, AA, KT; 03.07.2000, 1, AA - **16**. 23.06.1998, 6, AA, BK, KT; 30.06.1999, 1, AA, KBZs, KT; 07.06.2000, 1, AA, KT - **18**. 30.06.1999, 1, AA, KBZs, KT; 07.06.2000, 1, AA, KT - **19**. 30.06.1999, 4, AA, KBZs, KT; 07.06.2000, 1, AA, KT - **20**. 30.06.1999, 6, AA, KBZs, KT; 10.08.1999, 1, KT - **21**. 30.06.1999, 4, AA, KBZs, KT - **22**. 10.08.1999, 1, KT - **24**. 30.06.1999, 1, AA, KBZs, KT.

Heptagenia flava Rostock, 1877 - **1**. 01.07.1999, 4, AA, KBZs, KT; 15.07.1999, 1, AA, KT - **2**. 01.07.1999, 1, AA, KBZs, KT - **3**. 19.06.1997, 1, AA, BK, KT; 08.04.1998, 2, AA,

JP, KT, PS, TI - **4.** 27.05.1998, 1, AA; 01.07.1999, 1, AA, KBZs, KT; 20.07.2000, 1, AA, KD, KT - **6.** 28.05.1998, 1, AA - **8.** 19.06.1997, 2, AA, BK, KT; 24.06.1998, 2, AA, BK, KT; 15.07.1999, 1, AA, KT; 06.06.2000, 1, AA, KT - **9.** 28.05.1998, 1, AA; 09.08.1999, 2, KT; 11.04.2000, 1, AA, KT - **10.** 09.08.1999, 1, KT - **11.** 19.06.1997, 4, AA, BK, KT; 18.08.1998, 1, AA, KT; 06.05.1999, 1, AA, KT; 02.06.2000, 1, AA - **12.** 18.08.1998, 1, AA, KT; 21.07.2000, 1, AA, KD, KT; 15.08.2000, 1, AA, JP, KT, PS - **14.** 18.08.1998, 1, AA, KT; 03.07.2000, 1, AA - **15.** 18.08.1998, 1, AA, KT - **16.** 07.05.1997, 3, AA, BK, KT; 13.10.1997, 2, AA; 12.05.1998, 1, AA, BK, KT; 23.06.1998, 2, AA, BK, KT; 07.05.1999, 1, AA, KT; 30.06.1999, 1, AA, KBZs, KT; 06.09.2000, 1, AA, KT - **18.** 30.06.1999, 2, AA, KBZs, KT; 07.06.2000, 1, AA, KT - **19.** 30.06.1999, 5, AA, KBZs, KT; 10.08.1999, 1, KT - **20.** 30.06.1999, 4, AA, KBZs, KT; 10.08.1999, 1, KT - **21.** 30.06.1999, 2, AA, KBZs, KT; 21.07.2000, 1, AA, KD, KT - **22.** 10.08.1999, 2, KT - **23.** 05.05.1999, 1, KT - **24.** 30.06.1999, 3, AA, KBZs, KT; 21.07.2000, 1, AA, KD, KT - **26.** 26.08.1999, 3, AA, JP, KT - **27.** 12.09.1997, 1, BK, KT; 25.06.1998, 1, AA, BK, KT.

Heptagenia longicauda (Stephens, 1836) - **1.** 20.07.2000, 1, AA, KD, KT; 14.11.2000, 2, AA, KT - **3.** 08.04.1998, 1, AA, JP, KT, PS, TI - **6.** 28.05.1998, 1, AA - **9.** 28.05.1998, 1, AA - **10.** 17.05.1997, 7, AA; 09.08.1999, 1, KT - **11.** 09.10.1997, 1, AA; 24.06.1998, 1, AA, BK, KT; 18.08.1998, 2, AA, KT; 06.05.1999, 2, AA, KT; 01.07.1999, 1, AA, KBZs, KT; 16.03.2000, 1, AA, KT; 02.06.2000, 8, AA; 14.11.2000, 1, AA, KT - **12.** 21.07.2000, 1, AA, KD, KT; 15.08.2000, 1, AA, JP, KT, PS - **13.** 18.08.1998, 3, AA, KT; 09.08.1999, 1, KT; 05.05.2000, 1, AA, JP, KT, KV - **14.** 03.07.2000, 1, AA - **16.** 07.05.1997, 3, AA, BK, KT; 13.10.1997, 4, AA; 12.05.1998, 3, AA, BK, KT; 07.05.1999, 2, AA, KT; 25.11.1999, 2, AA, JP, KT, VR - **17.** 07.05.1999, 1, AA, KT - **18.** 15.11.2000, 1, AA, KT - **20.** 30.06.1999, 3, AA, KBZs, KT; 10.08.1999, 1, KT - **21.** 30.06.1999, 1, AA, KBZs, KT - **23.** 05.05.1999, 2, KT; 30.04.2000, 2, KBZs, KD, KT, SzÁ - **24.** 05.05.1999, 1, KT; 30.06.1999, 2, AA, KBZs, KT; 30.04.2000, 3, KBZs, KD, KT, SzÁ - **26.** 26.08.1999, 1, AA, JP, KT - **27.** 12.09.1997, 1, BK, KT.

Heptagenia sulphurea (O. F. Müller, 1776) - **1.** 14.11.2000, 1, AA, KT - **3.** 19.06.1997, 1, AA, BK, KT - **4.** 01.07.1999, 1, AA, KBZs, KT - **8.** 19.06.1997, 1, AA, BK, KT - **9.** 28.05.1998, 2, AA; 09.08.1999, 1, KT - **10.** 17.05.1997, 2, AA; 09.08.1999, 3, KT; 14.11.2000, 1, AA, KT - **11.** 09.10.1997, 4, AA; 01.07.1999, 1, AA, KBZs, KT - **12.** 18.08.1998, 1, AA, KT; 21.07.2000, 1, AA, KD, KT - **13.** 09.08.1999, 1, KT - **16.** 07.05.1997, 10, AA, BK, KT; 13.10.1997, 3, AA; 12.05.1998, 3, AA, BK, KT; 23.06.1998, 1, AA, BK, KT; 07.05.1999, 3, AA, KT; 12.08.1999, 2, AA; 25.11.1999, 1, AA, JP, KT, VR - **19.** 10.08.1999, 1, KT - **20.** 30.01.1998, 2, AA; 30.06.1999, 2, AA, KBZs, KT; 10.08.1999, 1, KT - **21.** 30.06.1999, 1, AA, KBZs, KT - **23.** 05.05.1999, 1, KT - **24.** 05.05.1999, 1, KT; 30.04.2000, 1, KBZs, KD, KT, SzÁ - **27.** 12.09.1997, 1, BK, KT; 25.06.1998, 1, AA, BK, KT.

Rhithrogena beskidensis Alba-Tercedor et Sowa, 1987 - KOVÁCS *et al.* (1998): 8. - **1.** 01.07.1999, 6, AA, KBZs, KT; 15.07.1999, 5, AA, KT; 20.07.2000, 5, AA, KD, KT - **4.** 27.05.1998, 6, AA; 01.07.1999, 6, AA, KBZs, KT; 09.08.1999, 2, KT; 20.07.2000, 1, AA, KD, KT - **5.** 27.05.1998, 1, AA - **6.** 28.05.1998, 4, AA - **8.** 24.06.1998, 6, AA, BK, KT; 30.06.1999, 1, AA, KBZs, KT; 15.07.1999, 2, AA, KT.

Leptophlebiidae

Habrophlebia fusca (Curtis, 1834) - **1.** 01.07.1999, 1, AA, KBZs, KT - **16.** 12.05.1998, 1, AA, BK, KT.

Habrophlebia lauta Eaton, 1884 - **16.** 12.05.1998, 1, AA, BK, KT.

Paraleptophlebia cincta (Retzius, 1783) - **11.** 02.06.2000, 1, AA.

Paraleptophlebia submarginata (Stephens, 1835) - **1.** 11.04.2000, 2, AA, KT; 14.11.2000, 3, AA, KT - **3.** 08.04.1998, 3, AA, JP, KT, PS, TI - **4.** 11.04.2000, 1, AA, KT; 14.11.2000, 1, AA, KT - **8.** 11.04.2000, 1, AA, KT; 06.06.2000, 1, AA, KT - **9.** 11.04.2000, 1, AA, KT - **10.** 17.05.1997, 1, AA - **11.** 06.05.1999, 4, AA, KT; 01.07.1999, 1, AA, KBZs, KT; 16.03.2000, 1, AA, KT; 14.11.2000, 1, AA, KT - **12.** 21.04.2000, 1, KBZs, KT - **13.** 21.04.2000, 1, KBZs, KT - **16.** 07.05.1997, 5, AA, BK, KT; 12.05.1998, 1, AA, BK, KT - **23.** 30.04.2000, 1, KBZs, KD, KT, SzÁ - **24.** 30.04.2000, 1, KBZs, KD, KT, SzÁ.

Ephemeridae

Ephemera danica O. F. Müller, 1764 - **3.** 19.06.1997, 1, AA, BK, KT - **4.** 09.08.1999, 1, KT.

Ephemera vulgata Linnaeus, 1758 - **27.** 12.09.1997, 1, BK, KT.

Potamanthidae

Potamanthus luteus (Linnaeus, 1767) - KOVÁCS *et al.* (1999b). - **1.** 15.07.1999, 1, AA, KT; 20.07.2000, 1, AA, KD, KT - **3.** 19.06.1997, 1, AA, BK, KT - **4.** 27.05.1998, 1, AA - **7.** 27.05.1998, 1, AA - **8.** 19.06.1997, 2, AA, BK, KT; 24.06.1998, 1, AA, BK, KT - **10.** 06.06.2000, 1, AA, KT - **11.** 19.06.1997, 2, AA, BK, KT; 24.06.1998, 2, AA, BK, KT; 06.05.1999, 1, AA, KT; 01.07.1999, 1, AA, KBZs, KT; 14.11.2000, 1, AA, KT - **12.** 21.07.2000, 1, AA, KD, KT - **14.** 03.07.2000, 1, AA - **15.** 18.08.1998, 1, AA, KT - **16.** 07.05.1997, 7, AA, BK, KT; 12.05.1998, 1, AA, BK, KT; 23.06.1998, 1, AA, BK, KT; 07.05.1999, 1, AA, KT; 30.06.1999, 1, AA, KBZs, KT; 12.08.1999, 1, AA; 07.06.2000, 1, AA, KT - **17.** 07.05.1999, 1, AA, KT - **18.** 30.06.1999, 1, AA, KBZs, KT; 07.06.2000, 1, AA, KT; 15.11.2000, 1, AA, KT - **19.** 30.06.1999, 1, AA, KBZs, KT; 07.06.2000, 1, AA, KT; 15.11.2000, 1, AA, KT - **20.** 30.01.1998, 5, AA; 30.06.1999, 1, AA, KBZs, KT; 10.08.1999, 1, KT; 15.11.2000, 1, AA, KT - **21.** 30.06.1999, 1, AA, KBZs, KT - **22.** 10.08.1999, 1, KT; 21.07.2000, 1, AA, KD, KT; 15.11.2000, 2, AA, KT - **23.** 05.05.1999, 1, KT; 30.04.2000, 1, KBZs, KD, KT, SzÁ - **24.** 05.05.1999, 1, KT; 30.06.1999, 2, AA, KBZs, KT; 30.04.2000, 1, KBZs, KD, KT, SzÁ; 07.09.2000, 1, AA, KT; 15.11.2000, 1, AA, KT - **25.** 09.06.2000, 1, AA - **27.** 25.06.1998, 1, AA, BK, KT.

Polymitarciidae

Ephoron virgo (Olivier, 1791) - **8.** 19.06.1997, 4, AA, BK, KT; 24.06.1998, 4, AA, BK, KT - **10.** 09.08.1999, 2, KT; 06.06.2000, 1, AA, KT - **11.** 19.06.1997, 3, AA, BK, KT; 24.06.1998, 1, AA, BK, KT; 01.07.1999, 2, AA, KBZs, KT; 02.06.2000, 1, AA - **12.** 18.08.1998, 2, AA, KT; 21.07.2000, 1, AA, KD, KT - **13.** 09.08.1999, 1, KT - **16.** 23.06.1998, 4, AA, BK, KT; 30.06.1999, 2, AA, KBZs, KT; 07.06.2000, 1, AA, KT - **18.**

30.06.1999, 1, AA, KBZs, KT; 07.06.2000, 1, AA, KT - **19**. 30.06.1999, 3, AA, KBZs, KT; 07.06.2000, 3, AA, KT - **20**. 30.06.1999, 2, AA, KBZs, KT; 10.08.1999, 1, KT - **21**. 30.06.1999, 2, AA, KBZs, KT - **22**. 10.08.1999, 3, KT - **24**. 30.06.1999, 3, AA, KBZs, KT.

Palingeniidae

Palingenia longicauda (Olivier, 1791) - **16**. 05.05.2000, 1, 1 mandibula e, AA, JP, KT, KV - **20**. 30.06.1999, 1 fore tibia e, AA, KBZs, KT.

Ephemerellidae

Ephemerella ignita (Poda, 1761) - **1**. 01.07.1999, 1, AA, KBZs, KT; 15.07.1999, 1, AA, KT; 20.07.2000, 1, AA, KD, KT; 14.11.2000, 1, AA, KT - **2**. 01.07.1999, 1, AA, KBZs, KT - **3**. 19.06.1997, 1, AA, BK, KT; 06.06.2000, 1, AA, KT - **4**. 27.05.1998, 10, AA; 01.07.1999, 1, AA, KBZs, KT; 09.08.1999, 1, KT; 20.07.2000, 1, AA, KD, KT - **5**. 27.05.1998, 5, AA - **6**. 28.05.1998, 9, AA - **7**. 27.05.1998, 9, AA - **8**. 19.06.1997, 4, AA, BK, KT; 24.06.1998, 1, AA, BK, KT; 30.06.1999, 4, AA, KBZs, KT; 15.07.1999, 1, AA, KT; 09.08.1999, 1, KT; 06.06.2000, 1, AA, KT; 20.07.2000, 1, AA, KD, KT - **9**. 28.05.1998, 3, AA; 09.08.1999, 1, KT - **10**. 09.08.1999, 2, KT; 06.06.2000, 1, AA, KT - **11**. 19.06.1997, 5, AA, BK, KT; 24.06.1998, 1, AA, BK, KT; 18.08.1998, 1, AA, KT; 06.05.1999, 1, AA, KT; 01.07.1999, 2, AA, KBZs, KT; 02.06.2000, 10, AA - **12**. 18.08.1998, 1, AA, KT - **13**. 18.08.1998, 1, AA, KT; 09.08.1999, 2, KT - **14**. 03.07.2000, 1, AA - **16**. 12.05.1998, 2, AA, BK, KT; 23.06.1998, 3, AA, BK, KT; 30.06.1999, 1, AA, KBZs, KT; 07.06.2000, 1, AA, KT - **17**. 07.05.1999, 1, AA, KT - **18**. 30.06.1999, 1, AA, KBZs, KT - **19**. 30.06.1999, 2, AA, KBZs, KT; 10.08.1999, 1, KT - **20**. 30.06.1999, 2, AA, KBZs, KT - **21**. 30.06.1999, 1, AA, KBZs, KT - **22**. 10.08.1999, 1, KT - **23**. 05.05.1999, 1, KT - **24**. 05.05.1999, 1, KT; 30.06.1999, 1, AA, KBZs, KT - **25**. 09.06.2000, 1, AA.

Ephemerella mesoleuca (Brauer, 1857) - KOVÁCS *et al.* (1998): **8**, **11**. - **1**. 01.07.1999, 1, AA, KBZs, KT - **8**. 06.06.2000, 3, AA, KT - **10**. 06.06.2000, 4, AA, KT - **11**. 24.06.1998, 1, AA, BK, KT; 02.06.2000, 2, AA - **13**. 18.08.1998, 1, AA, KT; 09.08.1999, 2, KT - **16**. 23.06.1998, 5, AA, BK, KT; 30.06.1999, 8, AA, KBZs, KT; 07.06.2000, 1, AA, KT - **18**. 30.06.1999, 2, AA, KBZs, KT; 07.06.2000, 1, AA, KT - **19**. 30.06.1999, 3, AA, KBZs, KT - **20**. 30.06.1999, 4, AA, KBZs, KT - **21**. 30.06.1999, 2, AA, KBZs, KT - **22**. 10.08.1999, 2, KT - **24**. 30.06.1999, 1, AA, KBZs, KT.

Ephemerella mucronata (Bengtsson, 1909) - **1**. 11.04.2000, 3, AA, KT - **4**. 11.04.2000, 3, AA, KT - **8**. 11.04.2000, 1, AA, KT - **9**. 11.04.2000, 1, AA, KT.

Ephemerella notata Eaton, 1887 - **1**. 11.04.2000, 2, AA, KT - **4**. 11.04.2000, 1, AA, KT - **8**. 11.04.2000, 1, AA, KT - **9**. 11.04.2000, 1, AA, KT - **10**. 17.05.1997, 1, AA - **11**. 06.05.1999, 9, AA, KT - **12**. 21.04.2000, 1, KBZs, KT - **13**. 21.04.2000, 1, KBZs, KT; 05.05.2000, 1, AA, JP, KT, KV - **16**. 07.05.1997, 3, AA, BK, KT; 12.05.1998, 4, AA, BK, KT; 07.05.1999, 5, AA, KT - **17**. 07.05.1999, 1, AA, KT - **22**. 30.04.2000, 2, KBZs, KD, KT, SzÁ - **23**. 05.05.1999, 5, KT; 30.04.2000, 1, KBZs, KD, KT, SzÁ - **24**. 05.05.1999, 6, KT; 30.04.2000, 1, KBZs, KD, KT, SzÁ.

Neophemeridae

Neophemera maxima (Joly, 1870) - KOVÁCS *et al.* (1998): 16. - **4.** 14.11.2000, 1, AA, KT - **8.** 16.03.2000, 1, AA, KT; 06.06.2000, 2, AA, KT - **9.** 11.04.2000, 2, AA, KT - **10.** 14.11.2000, 2, AA, KT - **11.** 16.03.2000, 1, AA, KT; 12.04.2000, 1, AA, KT; 14.11.2000, 1, AA, KT - **12.** 21.04.2000, 9, KBZs, KT; 15.08.2000, 1, AA, JP, KT, PS - **13.** 21.04.2000, 6, KBZs, KT - **13.** 30.04.2000, 2, KBZs, KD, KT, SzÁ; 05.05.2000, 4, AA, JP, KT, KV - **14.** 16.03.2000, 1, AA, KT - **16.** 23.06.1998, 1, AA, BK, KT; 07.05.1999, 5, AA, KT; 25.11.1999, 2, AA, JP, KT, VR; 16.03.2000, 2, AA, KT; 05.05.2000, 3, AA, JP, KT, KV; 06.09.2000, 1, AA, KT - **22.** 30.04.2000, 4, KBZs, KD, KT, SzÁ - **23.** 30.04.2000, 2, KBZs, KD, KT, SzÁ - **24.** 30.04.2000, 3, KBZs, KD, KT, SzÁ.

Caenidae

Brachycercus europaeus Kluge, 1991 - KOVÁCS *et al.* (2001): **11, 12, 13, 14.** - **11.** 21.08.2000, 3, AA - **13.** 09.08.1999, 5, KT; 15.08.2000, 1, AA, JP, KT, PS - **19.** 10.08.1999, 1, KT - **20.** 30.06.1999, AA, KBZs, KT.

Brachycercus harrisella Curtis, 1834 - **1.** 01.07.1999, 1, AA, KBZs, KT; 4. 09.08.1999, 1, KT.

Cercobrachys minutus (Tshernova, 1952) - **10.** 09.08.1999, 4, KT; 06.06.2000, 2, AA, KT - **12.** 18.08.1998, 6, AA, KT - **13.** 18.08.1998, 4, AA, KT; 09.08.1999, 2, KT - **14.** 18.08.1998, 1, AA, KT - **16.** 30.06.1999, 4, AA, KBZs, KT - **19.** 30.06.1999, 7, AA, KBZs, KT - **20.** 30.06.1999, 5, AA, KBZs, KT - **24.** 30.06.1999, 6, AA, KBZs, KT; 07.09.2000, 1, AA, KT.

Caenis pseudorivulorum Keffermüller, 1960 - **1.** 15.07.1999, 1, AA, KT; 20.07.2000, 1, AA, KD, KT - **3.** 06.06.2000, 1, AA, KT - **4.** 09.08.1999, 1, KT - **8.** 24.06.1998, 2, AA, BK, KT; 15.07.1999, 3, AA, KT; 09.08.1999, 1, KT - **9.** 09.08.1999, 1, KT - **10.** 29.08.2000, 1, AA - **11.** 19.06.1997, 1, AA, BK, KT; 24.06.1998, 1, AA, BK, KT; 21.08.2000, 1, AA - **12.** 21.07.2000, 1, AA, KD, KT; 15.08.2000, 1, AA, JP, KT, PS - **13.** 18.08.1998, 1, AA, KT - **15.** 18.08.1998, 1, AA, KT - **16.** 23.06.1998, 1, AA, BK, KT; 30.06.1999, 1, AA, KBZs, KT; 12.08.1999, 2, AA - **19.** 30.06.1999, AA, KBZs, KT; 10.08.1999, 1, KT; 07.06.2000, 1, AA, KT - **20.** 30.06.1999, 1, AA, KBZs, KT; 10.08.1999, 1, KT; 21.07.2000, 1, AA, KD, KT - **21.** 30.06.1999, 1, AA, KBZs, KT; 21.07.2000, 1, AA, KD, KT - **22.** 21.07.2000, 1, AA, KD, KT - **24.** 30.06.1999, 2, AA, KBZs, KT - **26.** 26.08.1999, 1, AA, JP, KT - **27.** 25.06.1998, 1, AA, BK, KT.

Caenis robusta Eaton, 1884 - **7.** 27.05.1998, 2, AA.

ODONATA

Calopterygidae

Calopteryx splendens (Harris, 1782) - AMBRUS *et al.* (1992, 1996a, 1996b, 1998a: **11, 16,** 1998c: **4, 13**) - **1.** 01.07.1999, 12, AA, KBZs, KT - **3.** 06.06.2000, 1E, AA, KT - **4.** 01.07.1999, 5, AA, KBZs, KT; 09.08.1999, 2, KT - **8.** 06.06.2000, 1, AA, KT - **10.** 06.06.2000, 4, AA, KT; 14.11.2000, 8, AA, KT - **11.** 06.05.1999, 5, AA, KT; 01.07.1999, 13, AA, KBZs, KT; 16.03.2000, 1, AA, KT; 12.04.2000, 3, AA, KT; 14.11.2000, 2, AA, KT

- **12.** 21.04.2000, 12, KBZs, KT; 21.07.2000, 2 e, AA, KD, KT; 15.08.2000, 2, AA, JP, KT, PS - **13.** 09.08.1999, 1, KT; 21.04.2000, 5, KBZs, KT; 30.04.2000, 5, KBZs, KD, KT, SzÁ; 07.06.2000, 3 e, AA, KT; 15.08.2000, 5, AA, JP, KT, PS - **16.** 07.05.1999, 2, AA, KT; 07.06.2000, 1E, AA, KT; 06.09.2000, 5, AA, KT - **19.** 30.06.1999, 10, AA, KBZs, KT; 10.08.1999, 2, KT - **20.** 30.06.1999, 9, AA, KBZs, KT - **21.** 30.06.1999, 12, AA, KBZs, KT; 21.07.2000, 3 e, AA, KD, KT - **22.** 30.04.2000, 4, KBZs, KD, KT, SzÁ; 15.11.2000, 2, AA, KT - **23.** 05.05.1999, 3, KT; 30.04.2000, 13, KBZs, KD, KT, SzÁ - **24.** 05.05.1999, 8, KT; 30.06.1999, 10, AA, KBZs, KT; 30.04.2000, 2, 1 e, KBZs, KD, KT, SzÁ; 21.07.2000, 3, 3 e, AA, KD, KT; 07.09.2000, 4, AA, KT; 15.11.2000, 13, AA, KT - **26.** 26.08.1999, 5, AA, JP, KT.

Calopteryx virgo (Linnaeus, 1758) - AMBRUS *et al.* (1996a) - **3.** 06.06.2000, 2, AA, KT.

Platycnemididae

Platycnemis pennipes (Pallas, 1771) - AMBRUS *et al.* (1996a, 1996b, 1998a: **8, 16, 1998b: 27, 1998c**) - **1.** 01.07.1999, 3, AA, KBZs, KT - **4.** 01.07.1999, 3, AA, KBZs, KT - **10.** 06.06.2000, 2, AA, KT - **11.** 01.07.1999, 2, 3 e, AA, KBZs, KT - **12.** 21.07.2000, 1 e, AA, KD, KT - **14.** 16.03.2000, 2, AA, KT - **18.** 15.11.2000, 5, AA, KT - **19.** 30.06.1999, 1 e, AA, KBZs, KT - **21.** 30.06.1999, 1, AA, KBZs, KT - **22.** 15.11.2000, 7, AA, KT - **24.** 15.11.2000, 5, AA, KT - **26.** 26.08.1999, 7, AA, JP, KT.

Coenagrionidae

Ischnura elegans pontica Schmidt, 1938 - AMBRUS *et al.* (1992) - **18.** 15.11.2000, 1, AA, KT - **22.** 15.11.2000, 3, AA, KT.

Gomphidae

Stylurus flavipes (Charpentier, 1825) - AMBRUS *et al.* (1992, 1996a, 1996b, 1998a: **11, 16, 1998b: 27, 1998c: 21**) - **11.** 01.07.1999, 3, 2 e, AA, KBZs, KT - **12.** 21.04.2000, 4, KBZs, KT; 21.07.2000, 10, AA, KD, KT - **13.** 09.08.1999, 13, KT; 30.04.2000, 3, KBZs, KD, KT, SzÁ; 07.06.2000, 3 e, AA, KT; 15.08.2000, 12, AA, JP, KT, PS - **16.** 30.06.1999, 5, 4 e, AA, KBZs, KT; 07.06.2000, 5 e, AA, KT - **18.** 30.06.1999, 2, AA, KBZs, KT; 07.06.2000, 6 e, AA, KT; 15.11.2000, 1, AA, KT - **19.** 30.06.1999, 11, 1 e, AA, KBZs, KT; 10.08.1999, 8, KT; 07.06.2000, 5 e, AA, KT - **20.** 30.06.1999, 6, 5 e, AA, KBZs, KT; 10.08.1999, 8, KT - **21.** 30.06.1999, 3, 5 e, AA, KBZs, KT; 21.07.2000, 2 e, AA, KD, KT - **22.** 10.08.1999, 3, KT; 30.04.2000, 2, KBZs, KD, KT, SzÁ - **23.** 05.05.1999, 2, KT; 30.04.2000, 8, KBZs, KD, KT, SzÁ - **24.** 05.05.1999, 9, KT; 30.06.1999, 12, 8 e, AA, KBZs, KT; 30.04.2000, 9, KBZs, KD, KT, SzÁ; 21.07.2000, 8, 2 e, AA, KD, KT; 2000.09.07., 15, AA, KT; 15.11.2000, 1, AA, KT - **26.** 26.08.1999, 28, AA, JP, KT.

Gomphus vulgatissimus (Linnaeus, 1758) - AMBRUS *et al.* (1992, 1996a, 1996b, 1998a: **3, 8, 10, 11, 16, 1998b: 27, 1998c: 4, 13, 21**) - **1.** 01.07.1999, 12, AA, KBZs, KT; 15.07.1999, 1, AA, KT; 20.07.2000, 5, AA, KD, KT; 14.11.2000, 3, AA, KT - **3.** 06.06.2000, 1 e, AA, KT - **4.** 01.07.1999, 5, AA, KBZs, KT; 09.08.1999, 3, KT; 14.11.2000, 4, AA, KT - **8.** 15.07.1999, 1, AA, KT; 09.08.1999, 1, KT; 06.06.2000, 5 e, AA, KT; 20.07.2000, 3, AA, KD, KT - **9.** 09.08.1999, 3, KT - **10.** 06.06.2000, 12, 11 e, AA, KT;

14.11.2000, 4, AA, KT - **11.** 06.05.1999, 4, 15 e, AA, KT; 01.07.1999, 24, AA, KBZs, KT; 12.04.2000, 2, AA, KT; 14.11.2000, 3, AA, KT - **12.** 21.04.2000, 14, KBZs, KT; 21.07.2000, 17, 11 e, AA, KD, KT; 15.08.2000, 7, AA, JP, KT, PS - **13.** 15.11.2000, 2, AA, KT; 09.08.1999, 2, KT; 21.04.2000, 6, KBZs, KT; 30.04.2000, 12, 17 e, KBZs, KD, KT, SzÁ; 07.06.2000, 10 e, AA, KT; 15.08.2000, 7, AA, JP, KT, PS - **14.** 16.03.2000, 3, AA, KT - **16.** 07.05.1999, 5, 24 e, AA, KT; 30.06.1999, 2, AA, KBZs, KT; 07.06.2000, 3 e, AA, KT; 06.09.2000, 8, AA, KT - **17.** 07.05.1999, 1 e, AA, KT - **18.** 30.06.1999, 1, AA, KBZs, KT; 07.06.2000, 1 e, AA, KT; 15.11.2000, 3, AA, KT - **19.** 30.06.1999, 5, 1 e, AA, KBZs, KT; 10.08.1999, 4, KT - **20.** 10.08.1999, 4, KT; 21.07.2000, 3 e, AA, KD, KT - **21.** 30.06.1999, 4, AA, KBZs, KT; 21.07.2000, 3, AA, KD, KT - **22.** 10.08.1999, 4, KT; 30.04.2000, 5, KBZs, KD, KT, SzÁ; 21.07.2000, 3, AA, KD, KT; 15.11.2000, 5, AA, KT - **23.** 05.05.1999, 2, 3 e, KT; 30.04.2000, 14, 6 e, KBZs, KD, KT, SzÁ - **24.** 05.05.1999, 6, 5 e, KT; 30.06.1999, 20, AA, KBZs, KT; 30.04.2000, 10, 5 e, KBZs, KD, KT, SzÁ; 07.09.2000, 7, AA, KT; 15.11.2000, 1, AA, KT - **26.** 26.08.1999, 2, AA, JP, KT.

Ophiogomphus cecilia (Fourcroy, 1785) - AMBRUS *et al.* (1992, 1996a, 1996b, 1998a: **6, 8, 11, 16**, 1998b: **27**, 1998c: **13, 21**) - **1.** 01.07.1999, 10, 6 e, AA, KBZs, KT; 15.07.1999, 13, AA, KT; 20.07.2000, 12, AA, KD, KT; 14.11.2000, 15, AA, KT - **3.** 06.06.2000, 3, AA, KT - **4.** 01.07.1999, 7, AA, KBZs, KT; 09.08.1999, 5, KT; 11.04.2000, 2, AA, KT; 20.07.2000, 5, AA, KD, KT; 14.11.2000, 7, AA, KT - **8.** 30.06.1999, 1, AA, KBZs, KT; 15.07.1999, 2, AA, KT; 09.08.1999, 3, KT; 11.04.2000, 1, AA, KT; 06.06.2000, 2, 16 e, AA, KT; 20.07.2000, 4, AA, KD, KT - **9.** 09.08.1999, 6, KT; 11.04.2000, 1, AA, KT - **10.** 09.08.1999, 2, KT; 06.06.2000, 5, 23 e, AA, KT; 14.11.2000, 5, AA, KT - **11.** 01.07.1999, 15, 10 e, AA, KBZs, KT; 16.03.2000, 2, AA, KT; 12.04.2000, 2, AA, KT; 14.11.2000, 4, AA, KT - **12.** 21.04.2000, 8, KBZs, KT; 21.07.2000, 23, 12 e, AA, KD, KT; 15.08.2000, 3, AA, JP, KT, PS - **13.** 09.08.1999, 2, KT; 21.04.2000, 7, KBZs, KT; 30.04.2000, 5, KBZs, KD, KT, SzÁ; 07.06.2000, 29 e, AA, KT; 15.08.2000, 3, 3 e, AA, JP, KT, PS - **16.** 30.06.1999, 2, 1 e, AA, KBZs, KT; 16.03.2000, 1, AA, KT; 07.06.2000, 6 e, AA, KT; 06.09.2000, 12, AA, KT - **18.** 30.06.1999, 1, AA, KBZs, KT; 07.06.2000, 8 e, AA, KT - **19.** 30.06.1999, 4, AA, KBZs, KT; 10.08.1999, 2, KT; 07.06.2000, 7 e, AA, KT - **20.** 30.06.1999, 3, AA, KBZs, KT; 21.07.2000, 29 e, AA, KD, KT - **21.** 30.06.1999, 2, 1 e, AA, KBZs, KT; 21.07.2000, 2, 15 e, AA, KD, KT - **22.** 10.08.1999, 3, KT; 30.04.2000, 8, KBZs, KD, KT, SzÁ; 21.07.2000, 3, 5 e, AA, KD, KT - **23.** 05.05.1999, 1, KT - **24.** 05.05.1999, 1, KT; 30.06.1999, 3, AA, KBZs, KT; 30.04.2000, 3, KBZs, KD, KT, SzÁ; 21.07.2000, 3, 6 e, AA, KD, KT; 07.09.2000, 11, AA, KT - **26.** 26.08.1999, 10, AA, JP, KT.

Onychogomphus forcipatus (Linnaeus, 1758) - AMBRUS *et al.* (1992, 1996a, 1998a: **8, 11, 16**, 1998c: **4**) - **11.** 01.07.1999, 1, 1 e, AA, KBZs, KT; 12.04.2000, 1, AA, KT - **23.** 05.05.1999, 1, KT - **24.** 30.06.1999, 2, AA, KBZs, KT.

Libellulidae

Libellula depressa Linnaeus, 1758 - **4.** 14.11.2000, 1, AA, KT.

PLECOPTERA

Perlodidae

Besdolus ventralis (Pictet, 1841) - **8.** 16.03.2000, 4, AA, KT; 11.04.2000, 2, AA, KT - **9.** 11.04.2000, 1, AA, KT - **10.** 06.06.2000, 1 e, AA, KT - **11.** 12.04.2000, 3, AA, KT - **13.** 21.04.2000, 3, 5 e, KBZs, KT; 30.04.2000, 1, 15 e, KBZs, KD, KT, SzÁ; 07.06.2000, 2 e, AA, KT; 15.08.2000, 1 e, AA, JP, KT, PS - **14.** 16.03.2000, 1, AA, KT - **16.** 07.05.1997, 1, AA, BK, KT; 16.03.2000, 3, AA, KT; 05.05.2000, 3 e, AA, JP, KT, KV - **18.** 07.06.2000, 2 e, AA, KT - **21.** 21.07.2000, 2 e, AA, KD, KT.

Isogenus nubecula Newman, 1833 - **1.** 14.11.2000, 3, AA, KT - **4.** 14.11.2000, 3, AA, KT - **8.** 16.03.2000, 4, AA, KT - **9.** 11.04.2000, 1, AA, KT - **10.** 14.11.2000, 3, AA, KT - **11.** 16.03.2000, 2, AA, KT; 12.04.2000, 1, AA, KT; 22.06.2000, 2 e, AA; 14.11.2000, 3, AA, KT - **13.** 21.04.2000, 1 e, KBZs, KT; 07.06.2000, 1 e, AA, KT - **14.** 16.03.2000, 2, AA, KT - **16.** 16.03.2000, 1, AA, KT.

Perlodes dispar (Rambur, 1842) - **1.** 11.04.2000, 1, AA, KT; 14.11.2000, 1, AA, KT - **4.** 14.11.2000, 2, AA, KT - **8.** 16.03.2000, 5, AA, KT; 11.04.2000, 1, AA, KT - **9.** 11.04.2000, 1, AA, KT - **14.** 16.03.2000, 3, AA, KT - **20.** 30.01.1998, 1, AA.

Perlidae

Dinocras cephalotes-megacephala complex - **1.** 01.07.1999, 2, AA, KBZs, KT; 11.04.2000, 1, AA, KT - **4.** 27.05.1998, 1, AA; 11.04.2000, 2, AA, KT - **6.** 28.05.1998, 1 e, AA - **8.** 24.06.1998, 1, AA, BK, KT; 30.06.1999, 4, AA, KBZs, KT; 16.03.2000, 1, AA, KT; 06.06.2000, 1 e, AA, KT - **9.** 11.04.2000, 1, AA, KT - **13.** 30.04.2000, 1, KBZs, KD, KT, SzÁ.

Agnentina elegantula (Klapálek, 1905) - KOVÁCS and AMBRUS (2001): **8, 11, 13, 16.** - **1.** 01.07.1999, 4, AA, KBZs, KT - **4.** 01.07.1999, 1, AA, KBZs, KT; 11.04.2000, 1, AA, KT - **8.** 16.03.2000, 1, AA, KT; 06.06.2000, 6, AA, KT - **9.** 09.08.1999, 1, KT; 11.04.2000, 1, AA, KT - **10.** 06.06.2000, 5 e, AA, KT - **11.** 16.03.2000, 1, AA, KT; 02.06.2000, 2, 2 e, AA; 22.06.2000, 2 e, AA; 14.11.2000, 1, AA, KT - **12.** 21.04.2000, 1, KBZs, KT; 15.08.2000, 1, AA, JP, KT, PS - **13.** 30.04.2000, 1, KBZs, KD, KT, SzÁ; 07.06.2000, 4 e, AA, KT - **14.** 16.03.2000, 1, AA, KT - **16.** 06.09.2000, 1, AA, KT.

Marthamea vitripennis (Burmeister, 1839) - KOVÁCS and AMBRUS (2001): **24.** - **11.** 14.11.2000, 1, AA, KT - **12.** 21.04.2000, 2, KBZs, KT; 21.07.2000, 1 e, AA, KD, KT - **13.** 21.04.2000, 2, KBZs, KT; 30.04.2000, 2, KBZs, KD, KT, SzÁ; 07.06.2000, 6 e, AA, KT - **16.** 05.05.2000, 1, AA, JP, KT, KV - **19.** 07.06.2000, 3 e, AA, KT - **22.** 30.04.2000, 1, KBZs, KD, KT, SzÁ - **23.** 30.04.2000, 1, KBZs, KD, KT, SzÁ - **24.** 30.04.2000, 1, KBZs, KD, KT, SzÁ.

Perla marginata-pallida complex - **4.** 09.08.1999, 1, KT; 11.04.2000, 2, AA, KT; 14.11.2000, 1, AA, KT - **8.** 24.06.1998, 4, AA, BK, KT; 11.04.2000, 1, AA, KT; 06.06.2000, 3 e, AA, KT - **10.** 06.06.2000, 2 e, AA, KT.

Taeniopterygidae

Taeniopteryx nebulosa (Linnaeus, 1758) - **1.** 14.11.2000, 1, AA, KT - **4.** 14.11.2000, 1, AA, KT - **10.** 14.11.2000, 7, AA, KT - **11.** 14.11.2000, 5, AA, KT - **13.** 15.11.2000, 2, AA, KT - **16.** 25.11.1999, 11, AA, JP, KT, VR - **18.** 15.11.2000, 3, AA, KT - **19.** 15.11.2000, 1, AA, KT - **20.** 15.11.2000, 1, AA, KT - **22.** 15.11.2000, 1, AA, KT.

Brachyptera risi (Morton, 1896) - **1.** 11.04.2000, 6, AA, KT - **4.** 11.04.2000, 3, AA, KT - **8.** 16.03.2000, 5, AA, KT.

Brachyptera seticornis (Klapálek, 1902) - **1.** 11.04.2000, 3, AA, KT - **4.** 11.04.2000, 2, AA, KT.

COLEOPTERA

Haliplus obliquus (Fabricius, 1787) (*Haliplidae*) - **24.** 21.07.2000, 1 i, AA, KD, KT.

Platambus maculatus (Linnaeus, 1758) (*Dytiscidae*) - **12.** 21.07.2000, 1 i, AA, KD, KT.

Gyrinus paykulli Ochs, 1927 (*Gyrinidae*) - **18.** 15.11.2000, 6 i, AA, KT.

Orectochilus villosus (O. F. Müller, 1776) (*Gyrinidae*) - KOVÁCS *et al.* (2000: **4, 8, 10, 11, 12, 13, 16, 20, 21, 22, 24**) - **1.** 14.11.2000, 1, AA, KT - **4.** 14.11.2000, 1, AA, KT - **11.** 14.11.2000, 1, AA, KT - **13.** 15.08.2000, 1 i, AA, JP, KT, PS - **18.** 15.11.2000, 1, AA, KT - **22.** 15.11.2000, 1, AA, KT - **24.** 07.09.2000, 2, 1 i, AA, KT; 15.11.2000, 1, AA, KT.

Potamophilus acuminatus (Fabricius, 1792) (*Elmidae*) - KOVÁCS *et al.* (1999c: **11, 12, 13, 14, 15, 16, 23, 24, 27**) - **8.** 20.07.2000, 1 i, AA, KD, KT - **10.** 06.06.2000, 1, 1 e, 1 p, AA, KT - **11.** 02.06.2000, 1, AA - **12.** 21.07.2000, 1, AA, KD, KT - **13.** 09.08.1999, 1, KT; 07.06.2000, 1 e, 2 p, AA, KT - **18.** 15.11.2000, 1, AA, KT - **20.** 21.07.2000, 1 i, AA, KD, KT - **21.** 21.07.2000, 1, AA, KD, KT - **22.** 10.08.1999, 1, KT; 21.07.2000, 1, AA, KD, KT; 15.11.2000, 1, AA, KT - **24.** 21.07.2000, 1, 1 i, AA, KD, KT; 15.11.2000, 2, AA, KT.

Macronychus quadrituberculatus P. W. J. Müller, 1806 (*Elmidae*) - KOVÁCS *et al.* (1999c: **3, 11, 12, 13, 14, 15, 16, 17, 23, 27**) - **1.** 15.07.1999, 1 i, AA, KT; 11.04.2000, 1, AA, KT - **3.** 06.06.2000, 2 i, AA, KT - **8.** 15.07.1999, 2 i, AA, KT; 09.08.1999, 1 i, KT - **9.** 09.08.1999, 1 i, KT - **10.** 06.06.2000, 4 i, AA, KT - **11.** 02.06.2000, 2i, AA; 22.06.2000, 1i, AA; 14.11.2000, 1, 5 i, AA, KT - **12.** 21.07.2000, 3, 1 i, AA, KD, KT; 15.08.2000, 1, AA, JP, KT, PS - **13.** 09.08.1999, 1, 1 i, KT; 15.08.2000, 1 i, AA, JP, KT, PS - **14.** 03.07.2000, 1i, AA - **16.** 25.11.1999, 1, AA, JP, KT, VR - **18.** 15.11.2000, 1 i, AA, KT - **20.** 10.08.1999, 1 i, KT - **22.** 10.08.1999, 1, 1 i, KT; 15.11.2000, 1, AA, KT - **24.** 21.07.2000, 2 i, AA, KD, KT - **26.** 26.08.1999, 1 i, AA, JP, KT.

Pomatinus substriatus (Ph. Müller, 1806) (*Dryopidae*) - **4.** 09.08.1999, 1 i, KT - **8.** 06.06.2000, 1 i, AA, KT - **12.** 04.21.2000, 2 i, KBZs, KT; 15.08.2000, 3 i, AA, JP, KT, PS - **13.** 09.08.1999, 1 i, KT - **15.** 18.08.1998, 1 i, AA, KT - **16.** 07.05.1997, 1 i, AA, BK, KT; 06.09.2000, 1 i, AA, KT - **18.** 07.06.2000, 2 i, AA, KT - **19.** 30.06.1999, 2 i, AA, KBZs, KT - **22.** 21.07.2000, 1 i, AA, KD, KT - **24.** 30.06.1999, 1 i, AA, KBZs, KT.

HETEROPTERA

Aphelocheirus aestivalis (Fabricius, 1794) (*Aphelocheiridae*) - AMBRUS *et al.* (1995); KOVÁCS *et al.* (1999c: **3, 11, 12, 13, 14, 15, 16, 17, 23, 27**) - **1.** 01.07.1999, 1, AA, KBZs, KT; 15.07.1999, 1, AA, KT; 14.11.2000, 1, AA, KT - **4.** 14.11.2000, 1, AA, KT - **9.**

09.08.1999, 1, KT - **10**. 09.08.1999, 1, KT; 14.11.2000, 1, AA, KT - **11**. 01.07.1999, 1, AA, KBZs, KT; 14.11.2000, 1, AA, KT - **13**. 09.08.1999, 1, KT - **14**. 03.07.2000, 1, AA - **16**. 07.05.1999, 1, AA, KT; 30.06.1999, 3, AA, KBZs, KT - **18**. 30.06.1999, 1, AA, KBZs, KT; 15.11.2000, 1, AA, KT - **19**. 30.06.1999, 3, AA, KBZs, KT; 15.11.2000, 1, AA, KT - **20**. 30.06.1999, 1, AA, KBZs, KT - **21**. 30.06.1999, 1, AA, KBZs, KT - **22**. 10.08.1999, 1, KT; 15.11.2000, 1, AA, KT - **23**. 30.04.2000, 1, KBZs, KD, KT, SzÁ - **24**. 30.06.1999, 1, AA, KBZs, KT - **25**. 09.06.2000, 1, AA - 26. 26.08.1999, 1, AA, JP, KT.

Table 1. Occurrence of the species according to the UTM grids. Locality data falling into the same UTM grid have been united. Asterisk (*) indicates localities which have already been published and no further specimens were collected there.

	1	2-3	4	5-9	10	11	12	13	14	15-16	17	18	19	20	21	22-24	25-27
<i>Siphonurus lacustris</i>						+				+							+
<i>Ametropus fragilis</i>	+		+	+	+	+	+	+		+							+
<i>Baetis fuscatus</i>	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+
<i>Baetis niger</i>						+											
<i>Baetis rhodani</i>	+	+	+	+			+	+		+							
<i>Baetis scambus</i>			+														+
<i>Baetis tricolor</i>	+					+	+	+					+	+		+	+
<i>Baetis vardarensis</i>	+		+	+	+	+											
<i>Raptobaetopus tenellus</i>							+	+		+							+
<i>Centroptilum luteolum</i>		+								+							
<i>Centroptilum pulchrum</i>					+	+	+	+									
<i>Cloeon dipterum</i>		+								+							+
<i>Procloeon bifidum</i>				+		+											+
<i>Oligoneuriella keffermuellerae</i>				+	+	+	+	*	*	+		+	+	+	+	+	+
<i>Oligoneuriella pallida</i>						*	+	+	+	+		+	+	+	+	+	+
<i>Oligoneuriella rhenana</i>	+		+	+		+				+							
<i>Isonychia ignota</i>				+	+	+	+	+	+	+						+	+
<i>Ecdyonurus insignis</i>	+		+	+													
<i>Electrogena fascioclata</i>	+		+		+	+		+				+	+	+	+	+	+
<i>Epeorus sylvicola</i>	+		+	+													
<i>Heptagenia coerulans</i>	+		+	+	+	+	+	+	+	+		+	+	+	+	+	+
<i>Heptagenia flava</i>	+	+	+	+	+	+	+		+	+		+	+	+	+	+	+
<i>Heptagenia longicauda</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<i>Heptagenia sulphurea</i>	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+
<i>Rhithrogena beskidensis</i>	+		+	+													
<i>Habrophlebia fusca</i>	+									+							
<i>Habrophlebia lauta</i>										+							
<i>Paraleptophlebia cincta</i>						+											
<i>Paraleptophlebia submarginata</i>	+	+	+	+	+	+	+	+		+							+
<i>Ephemera danica</i>		+	+														
<i>Ephemera vulgata</i>																	+
<i>Potamanthus luteus</i>	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+	+
<i>Ephoron virgo</i>				+	+	+	+	+		+		+	+	+	+	+	+
<i>Palingenia longicauda</i>										+					+		
<i>Ephemerella ignita</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<i>Ephemerella mesoleuca</i>	+			+	+	+		+		+		+	+	+	+	+	+
<i>Ephemerella mucronata</i>	+		+	+													
<i>Ephemerella notata</i>	+		+	+	+	+	+	+		+	+						+
<i>Neophemere maxima</i>		+	+	+	+	+	+	+	+								+
<i>Brachycercus europaeus</i>						+	*	+	*				+	+			
<i>Brachycercus harrisella</i>	+		+														
<i>Cercobrachys minutus</i>					+		+	+	+	+			+	+			+
<i>Caenis pseudovulvorum</i>	+	+	+	+	+	+	+	+		+			+	+	+	+	+
<i>Caenis robusta</i>				+													
EPHEMEROPTERA total	23	12	22	25	20	27	22	21	12	27	5	11	15	17	14	25	12

	1	2-3	4	5-9	10	11	12	13	14	15-16	17	18	19	20	21	22-24	25-27
<i>Calopteryx splendens</i>	+	+	+	+	+	+	+	+		+			+	+	+	+	+
<i>Calopteryx virgo</i>		+															
<i>Platycnemis pennipes</i>	+		+	*	+	+	+		+	*		+	+		+	+	+
<i>Ischnura elegans pontica</i>												+				+	
<i>Stylurus flavipes</i>						+	+	+		+		+	+	+	+	+	+
<i>Gomphus vulgatissimus</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<i>Ophiogomphus cecilia</i>	+	+	+	+	+	+	+	+		+		+	+	+	+	+	+
<i>Onychogomphus forcipatus</i>			*	*		+				*							+
<i>Libellula depressa</i>		+															
ODONATA total	4	4	6	5	4	6	5	4	2	6	1	5	5	4	5	7	5
<i>Besdolus ventralis</i>				+	+	+		+	+	+		+			+		
<i>Isogenus nubecula</i>	+		+	+	+	+		+	+	+							
<i>Perlodes dispar</i>	+		+	+					+					+			
<i>Dinocroas cephalotes-megacephala</i>	+		+	+				+									
<i>Agnetina elegantula</i>	+		+	+	+	+	+	+	+	+							
<i>Marthamea vitripennis</i>						+	+	+	+	+			+				+
<i>Perla marginata-pallida</i>			+	+	+												
<i>Taeniopteryx nebulosa</i>	+		+		+	+		+		+		+	+	+		+	
<i>Brachxptera risi</i>	+		+	+													
<i>Brachyptera seticornis</i>	+		+														
PLECOPTERA total	7	0	8	7	5	5	2	6	4	5	0	2	2	2	1	2	0
CLEOPATRA																	
<i>Halipus obliquus</i>																	+
<i>Platambus maculatus</i>								+									
<i>Gyrinus paykulli</i>												+					
<i>Orectochilus villosus</i>	+		+	*	*	+	*	+		*		+		*	*	+	
<i>Potamophilus acuminatus</i>				+	+	+	+	+	*	*		+		+	+	+	*
<i>Macronychus quadrituberculatus</i>	+	+		+	+	+	+	+	+	+	*	+		+		+	+
<i>Helicus substriatus</i>			+	+			+	+		+		+	+			+	
HETEROPTERA																	
<i>Aphelocheirus aestivalis</i>	+	*	+	+	+	+	*	+	+	+	*	+	+	+	+	+	+

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