

## Updated check-list of the Ephemeroptera from Belgium

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### Abstract

The updating of the sixty years old list of the Ephemeroptera from Belgium brings from 46 to 65 the number of species recorded in the country, by gathering scattered pieces of information and adding original data.

**Keywords :** check-list, Ephemeroptera, Belgium

### Résumé

Actualisation de la liste des Ephéméroptères de Belgique. L'actualisation de l'ancien inventaire des Ephéméroptères de Belgique, vieux de soixante ans, porte de 46 à 65 le nombre d'espèces signalées dans le pays, en rassemblant des informations dispersées dans la littérature et en y ajoutant des données originales.

**Mots-clés :** liste, inventaire, Ephéméroptères, Belgique.

### Introduction

The previous list of Ephemeroptera from Belgium goes back to sixty years (LESTAGE, 1928) : it mentioned 47 species as Belgian . Since then, only a very few isolated new records were published (LESTAGE, 1929; DEMOULIN, 1954 ; GIJSELS , 1969; DUMONT & GIJSELS, 1971; MOL, 1987), whereas the sole real revision of a group, the genus *Baetis* (MÜLLER-LIEBENAU, 1980) , added 6 species to the 6 already known to occur in Belgium ! Moreover, the taxonomy and systematics of some groups of Ephemeroptera, e.g . amongst the Baetidae, the Caenidae and the Heptageniidae, have been notably modified during the last decades. All this makes necessary a real updating of the faunistic data of the Belgian Ephemeroptera. The current check-list is a first step to a more comprehensive work : it aims at actualizing the nomenclature and completing the previous list with more recent data. We still want to stress on the point that not all the material was checked by the authors and that some old pieces of information require confirmation given the meantime taxonomic modifications.

### Check-list and comments

The list of the Ephemeroptera species recorded in Belgium is presented in Table 1. Additions to the previous list (LESTAGE, 1928) are indicated by the reference of the published record, should such be the case, or by a commenting note, if original. The names used in LESTAGE (1928) or later papers are also mentioned. Species whose status in Belgium needs confirmation are pointed out with a question-mark. *Siphonurus armatus* EATON, 1870, cited as Belgian by GIJSELS (1969) , was not included in the list because the concerned specimen (1 larva, Elzenborn, river Rur, 9.VI.1965, H. GIJSELS leg.) appeared to belong to *S. aestivalis* (A. MOL det.) and that there is no further evidence of the presence of *S. armatus* in Belgium.

#### Comments on new records :

22. *Procloeon bifidum* : Lichtaart (river Kleine Nete), 20.VII.1964, 1 larva (H. GIJSELS leg.); Jupille (river Ourthe), 11.VI.1988, 9 larvae (A. MOL leg.).
28. *Ecdyonurus torrentis* : Anthée, Serville, Weillen and Falaën (river Flavion, 11 sites), IV. 1981, numerous larvae (B. SCHILTZ leg., G. DEMOULIN det.) (coll. UNECED).
35. *Rhithrogena ferruginea* : Stoumont (river Lienne), 22.VI.1978, numerous ♂ (H. GIJSELS leg.).
36. *Rhithrogena iridina* : Corenne (Flavion, near the springs), VII.1981, 1 larva (B. SCHILTZ leg., G. DEMOULIN det.) (coll. UNECED).
47. *Caenis pseudorivulorum* : Pulderbos (Pulderbeek), 12.VII.1965, 7 larvae (A. MOL leg.); Kasterlee (river Kleine Nete), 14.VII.1965, 5 larvae (H. GIJSELS leg.); Achelse Kluis (Warmbeek-Tongelreep), 11.VII.1977, 2 larvae (A. MOL leg.).
48. *Caenis rivulorum* : Comblain-au-Pont (river Amblève), 1.V.1980, 8 larvae (A. MOL leg.), 5.V.1980, 20 larvae (N. NIESER leg.), and 8.V.1980, 10 ♂ and ♀, ca 40 larvae (A. MOL leg.); Jupille (river Ourthe), 11.VI.1988, 5 ♂ and ♀, 8 larvae (A. MOL leg.).
50. *Brachycercus harrisella* : Achelse Kluis, 1.VII.1976 (Warmbeek-Tongelreep) (A. MOL leg.); Achel (Warmbeek), VI.1978, 1 larva (R. KAISER leg.).

Table 1 : Check-list of the Ephemeroptera recorded in Belgium.

SIPHONURIDAE			
1. <i>Siphonurus aestivalis</i> (EATON, 1903)			
2. <i>Siphonurus alternatus</i> (SAY, 1824)	( <i>Siphurella linnaeana</i> EATON)		
3. <i>Siphonurus lacustris</i> EATON, 1870			
4. <i>Metreletus balcanicus</i> (ULMER, 1920)	( <i>Metretopus</i> , <i>M. goetghebuerei</i> LESTAGE)		
BAETIDAE			
5. <i>Acentrella sinaica</i> (BOGOESCU, 1931)	MÜLLER-LIEBENAU (1980) (as <i>Baetis sinaicus</i> )		( <i>Torleya belgica</i> LESTAGE, <i>E. belgica</i> LESTAGE)
6. <i>Baetis alpinus</i> (PICTET, 1843)	MÜLLER-LIEBENAU (1980)		
7. <i>Baetis buceratus</i> EATON, 1870	MÜLLER-LIEBENAU (1980)		
8. <i>Baetis fuscatus</i> (L., 1761)	( <i>B. bioculatus</i> L.)		
9. <i>Baetis lutheri</i> MÜLLER-LIEBENAU, 1967	MÜLLER-LIEBENAU (1980)		
10. <i>Baetis melanonyx</i> (PICTET, 1843)	MÜLLER-LIEBENAU (1980)		
11. <i>Baetis muticus</i> (L., 1758)			
12. <i>Baetis niger</i> (L., 1761)			
13. <i>Baetis rhodani</i> (PICTET, 1843)			
14. <i>Baetis scambus</i> EATON, 1870			
15. <i>Baetis vardarensis</i> IKONOMOV, 1962	MÜLLER-LIEBENAU (1980)		
16. <i>Baetis vernus</i> CURTIS, 1834			
17. <i>Raptobaetopus tenellus</i> (ALBARDA, 1878)	( <i>Centropitulum tenellum</i> ALBARDA)		
18. <i>Centropitulum luteolum</i> (MÜLLER, 1776)			
19. <i>Centropitulum pennulatum</i> EATON, 1870			
20. <i>Cloeon dipterum</i> (L., 1761), s.l.	incl. <i>C. rufulum</i> MÜLLER, <i>C. obscurum</i> RAMBUR, <i>C. inscriptum</i> BENGTTSSON (in DEMOULIN, 1953)		
21. <i>Cloeon simile</i> EATON, 1870, s.l.	incl. <i>C. praetextum</i> BENGTTSSON (in LESTAGE, 1936)		
22. <i>Procloeon bifidum</i> (BENGTTSSON, 1912)	<b>Belg. f. n. sp.</b> , see comments		
OLIGONEURIIDAE			
23. <i>Oligoneuriella rhenana</i> (IMHOFF, 1852)			
ISONYCHIIDAE			
24. <i>Isonychia ignota</i> (WALKER, 1852)	LITT (1989)		
HEPTAGENIIDAE			
(ECDYONURIDAE)			
25. <i>Ecdyonurus dispar</i> (CURTIS, 1834)	( <i>E. fluminum</i> PICTET)		
26. <i>Ecdyonurus helveticus</i> EATON, 1887	? ÜLMER (1927, 1929)		
27. <i>Ecdyonurus insignis</i> (EATON, 1870)			
28. <i>Ecdyonurus torrentis</i> KIMMINS, 1942	SCHILTZ (1981) (see comments)		
29. <i>Ecdyonurus venosus</i> (FABRICIUS, 1775)			
30. <i>Electrogena lateralis</i> (CURTIS, 1834)	? ( <i>Heptagenia</i> , <i>Ecdyonurus</i> )		
31. <i>Epeorus sylvicola</i> (PICTET, 1865)	( <i>E. assimilis</i> EATON)		
32. <i>Heptagenia flava</i> ROSTOCK, 1877	DEMOULIN (1954)		
33. <i>Heptagenia longicauda</i> (STEPHENS, 1836)	( <i>H. flavipennis</i> DUFOUR)		
34. <i>Heptagenia sulphurea</i> (MÜLLER, 1776)			
35. <i>Rhithrogena ferruginea</i> NAVAS, 1905			<b>Belg. f. n. sp.</b> , see comments
36. <i>Rhithrogena iridina</i> (KOLENATI, 1859)			SCHILTZ (1981)(as <i>Rh. picteti</i> SOWA) (see comments)
37. <i>Rhithrogena savoienensis</i> ALBA & SOWA, 1987			? ( <i>Rh. aurantiaca</i> BURMEISTER, <i>Rh. diaphana</i> NAVAS)
38. <i>Rhithrogena semicolorata</i> (CURTIS, 1834)			
EPHEMERELLIDAE			
39. <i>Ephemerella ignita</i> (PODA, 1761)			
40. <i>Ephemerella major</i> (KLAPALEK, 1905)			( <i>Torleya belgica</i> LESTAGE, <i>E. belgica</i> LESTAGE)
41. <i>Ephemerella mucronata</i> (BENGTTSSON, 1908)			( <i>Chitonophora krieghoffi</i> ÜLMER)
42. <i>Ephemerella notata</i> (EATON, 1887)			
CAENIDAE			
43. <i>Caenis beskidensis</i> SOWA, 1973			MOL (1987)
44. <i>Caenis horaria</i> (L., 1758)			( <i>Ordella</i> )
45. <i>Caenis luctuosa</i> (BURMEISTER, 1839)			MOL (1987)
46. <i>Caenis macrura</i> STEPHENS, 1835			( <i>Ordella</i> )
47. <i>Caenis pseudorivulorum</i> KEFFER-MÜLLER, 1960			<b>Belg. f. n. sp.</b> , see comments
48. <i>Caenis rivulorum</i> EATON, 1884			<b>Belg. f. n. sp.</b> , see comments
49. <i>Caenis robusta</i> EATON, 1884			DUMONT & GJSELS (1971)
50. <i>Brachycercus harrisella</i> CURTIS, 1834			<b>Belg. f. n. sp.</b> , see comments
LEPTOPHLEBIIDAE			
51. <i>Leptophlebia marginata</i> (L., 1767)			
52. <i>Leptophlebia vespertina</i> (L., 1758)			
53. <i>Habroleptoides confusa</i> SARTORI & JACOB, 1986			LESTAGE (1929) (as <i>H. modesta</i> HAGEN)
54. <i>Habrophlebia fusca</i> (CURTIS, 1834)			
55. <i>Habrophlebia lauta</i> EATON, 1884			
56. <i>Paraleptophlebia cincta</i> (RETZIUS, 1783)			
57. <i>Paraleptophlebia submarginata</i> (STEPHENS, 1835)			
58. <i>Paraleptophlebia werneri</i> ÜLMER, 1920			
59. <i>Choroterpes picteti</i> (EATON, 1871)			
POLYMITARCIDAE			
60. <i>Ephoron virgo</i> (OLIVIER, 1791)			( <i>Polymitarcis</i> )
PALINGENIIDAE			
61. <i>Palingenia longicauda</i> (OLIVIER, 1791)			? cf LESTAGE (1937)
EPHEMERIDAE			
62. <i>Ephemerella danica</i> MÜLLER, 1764			
63. <i>Ephemerella lineata</i> EATON, 1870			
64. <i>Ephemerella vulgata</i> L., 1758			
POTAMANTHIDAE			
65. <i>Potamanthus luteus</i> (L., 1767)			

## Conclusions

Our list brings the number of Ephemeroptera species found in Belgium from 46 (*Cloeon dipterum* and *C. rufulum* of LESTAGE (1928) being considered here as synonymous) to 65, by gathering a scattered information and adding original data, mainly based on collections by the second author and others. A few data (i.e. *Ecdyonurus helveticus* and *Rhithrogena savoienensis*) still need confirmation. On the other hand, a comparison with the list recently produced in the Netherlands (MOL, 1985 a,b) suggests that at least 10 additional

species should be expected in Belgium.

A complete revision of the material preserved in the Belgian collection of the I.R.S.N.B., together with the study of recent catches of hydrobiologists, is certainly necessary in order to refine the present list and to draw distribution maps of the various species in the country, as done for *Baetis* (MÜLLER-LIEBENAU, 1980). Such a work would enable us to compare the Ephemeroptera to more studied groups as Odonata and Trichoptera, and in this way to get a more comprehensive knowledge of the distribution patterns of aquatic insects in Belgium.

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