

**A CATALOG OF THE MAYFLIES
(EPHEMEROPTERA)
OF HONG KONG**

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This paper is a catalog of the Ephemeroptera known from the British Crown Colony of Hong Kong. It includes all known references for each species, along with an indication of the type localities and depositions of type specimens. For each reference the stage (male, female, or nymph) is indicated if relevant. Keys which include the species also are indicated. The recorded distribution for each species is listed. For each genus are given the reference to the original description, information on the type species, and any synonyms.

Abbreviations of places of type deposition are as follows: (BMNH), British Museum (Natural History), London; (Cornell), Cornell University, Ithaca, New York; (DEI), Deutsches Entomologisches Institut, Eberswalde; (Hamburg), Zoologisches Staatsinstitut und Zoologisches Museum, Hamburg; (Hsu), personal collection of Y.-C. Hsu [the late Prof. Hsu indicated (personal communication) that because of events in China over the past few decades these specimens should be considered destroyed or lost]; (Utah), University of Utah, Salt Lake City.

Although the taxonomic knowledge of the Hong Kong mayflies is still somewhat sketchy, there are substantial ecological studies ongoing at this time. Therefore, in order to facilitate future studies and comparisons of data, I have included in this catalog the "morphospecies" of Dudgeon (1982a, b, 1983, 1984a, b). The reader should be aware that many of the taxonomic assignments of these morphospecies are preliminary and actual placement will have to await future taxonomic studies.

This paper is one in a continuing series of catalogs of the Ephemeroptera (cf. Hubbard & Peters 1978, Hubbard & Pescador 1978, Hubbard & Savage 1981, Hubbard 1982a,b).

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Order Ephemeroptera

Family **Baetidae** Leach, 1815

Subfamily **Baetinae** Leach, 1815

Genus **Baetis** Leach, 1815

Baetis Leach, 1815:137.

Type species: **Ephemera fuscata** Linnaeus. Subsequent designation by Intern. Comm. Zool. Nomencl., 1966:209.

Brachyphlebia Westwood, 1840:25.

Type species: **Ephemera fuscata** Linnaeus (misidentified as **Ephemera bioculata**) [c.f. Intern. Comm. Zool. Nomencl., 1966:209]. Monotypic.

Acentrella Bengtsson, 1912:110.

Type species: **Acentrella laponica** Bengtsson. Monotypic.

Heterocloeon McDunnough, 1925:175.

Type species: **Centroptilum curiosum** McDunnough. Original designation.

Baetis sp. T₁

Baetis T₁ Dudgeon, 1982:14.

Baetis T₁ Dudgeon, 1982:225.

Baetis T₁ Dudgeon, 1983:441.

Baetis T₁ Dudgeon, 1984:73.

Baetis T₁ Dudgeon, 1984:210.

Distribution: Hong Kong.

Baetis sp. T₂

Baetis T₂ Dudgeon, 1982:14.

Baetis T₂ Dudgeon, 1982:225.

Baetis T₂ Dudgeon, 1983:441.

Baetis T₂ Dudgeon, 1984:73.

Baetis T₂ Dudgeon, 1984:210.

Distribution: Hong Kong.

Baetis sp. T₃

Baetis T₃ Dudgeon, 1982:14.

Baetis T₃ Dudgeon, 1982:225.

Baetis T₃ Dudgeon, 1983:441.

Baetis T₃ Dudgeon, 1984:73.

Baetis T₃ Dudgeon, 1984:210.

Distribution: Hong Kong.

Baetis sp. T₄

Baetis T₄ Dudgeon, 1982:225.

Baetis T₄ Dudgeon, 1983:441.

Baetis T₄ Dudgeon, 1984:73.

Baetis T₄ Dudgeon, 1984:210.
Distribution: Hong Kong.

Baetis sp. T₅
Baetis T₅ Dudgeon, 1984:73.

Baetis T₅ Dudgeon, 1984:210.
Distribution: Hong Kong.

Baetis sp. L₅
Baetis L₅ Dudgeon, 1984:73.
Baetis L₅ Dudgeon, 1984:210.
Distribution: Hong Kong.

Baetis sp. L₆
Baetis L₆ Dudgeon, 1984:73.
Baetis L₆ Dudgeon, 1984:210.
Distribution: Hong Kong.

Baetis sp. L₇
Baetis L₇ Dudgeon, 1984:73.
Baetis L₇ Dudgeon, 1984:210.
Distribution: Hong Kong.

Baetis sp. L₈
Baetis L₈ Dudgeon, 1984:73.
Baetis L₈ Dudgeon, 1984:210.
Distribution: Hong Kong.

Baetis sp. cf. T₃
Baetis cf. T₃ Dudgeon, 1984:73.
Baetis cf. T₃ Dudgeon, 1984:210.
Distribution: Hong Kong.

Subfamily **Cloeoninae** Newman, 1853

Genus **Centroptilum** Eaton, 1869
Centroptilum Eaton, 1869:132.
Type species: **Ephemera luteola** Müller.
Original designation.

Centroptilum sp. L₁
Centroptilum L₁ Dudgeon, 1984:73.
Centroptilum L₁ Dudgeon, 1984:210.
Distribution: Hong Kong.

Genus **Cloeon** Leach, 1815
Cloeon Leach, 1815:137.
Type species: **Ephemera diptera** Linnaeus as
Cloeon pallidus Leach. Monotypy.
Cloe Burmeister, 1839:797. [unjustified eme-
ndation of **Cloeon** Leach].
Type species: **Ephemera diptera** Linnaeus,
objective synonymy.

Cloeopsis Eaton, 1866:146.
Type species: **Ephemera diptera** Linnaeus.
Monotypy.

Austrocloeon Barnard, 1932:217. [nomen nud-
um].

Neocloeon Traver, 1932:365.
Type species: **Neocloeon alamance** Traver.
Original designation.

Austrocloeon Barnard, 1940:616.
Type species: **Cloeon africanum** Esben-
Petersen. Original designation.

Cloeon harveyi Kimmins
Procloeon harveyi Kimmins, 1947:94, fig. 2,
6, 10. (male, female). Type: female, Cal-
cutta, Bengal (BMNH).

Procloeon harveyi - Gillies, 1949:176.
Procloeon harveyi - Kimmins, 1971:314.
Procloeon harveyi - Hubbard & Peters,
1978:11.

Procloeon harveyi - Hubbard & Srivastava,
1984:3.

Cloeon harveyi - Müller-Liebenau & Hubbard,
1986:538.

Distribution: Hong Kong, Malaysia, India.

Genus **Pseudocloeon** Klapálek, 1905
Pseudocloeon Klapálek, 1905:105.
Type species: **Pseudocloeon kraepelini** Kla-
pálek. Monotypic.

Baetiella Uéno, 1931:220.
Type species: **Acentrella japonica** Imani-
shi. Original designation.

Pseudocloeon sp. T₁
Pseudocloeon T₁ Dudgeon, 1982:14.
Pseudocloeon T₁ Dudgeon, 1982:225.
Pseudocloeon T₁ Dudgeon, 1983:441.
Pseudocloeon T₁ Dudgeon, 1984:73.
Pseudocloeon T₁ Dudgeon, 1984:210.
Distribution: Hong Kong.

Pseudocloeon sp. T₂
Pseudocloeon T₂ Dudgeon, 1982:14.
Pseudocloeon T₂ Dudgeon, 1982:225.
Pseudocloeon T₂ Dudgeon, 1983:441.
Pseudocloeon T₂ Dudgeon, 1984:73.
Pseudocloeon T₂ Dudgeon, 1984:210.
Distribution: Hong Kong.

Pseudocloeon sp. L₃
Pseudocloeon L₃ Dudgeon, 1984:73.
Pseudocloeon L₃ Dudgeon, 1984:210.
Distribution: Hong Kong.

Pseudocloeon sp.
Baetella [sic] T₁ Dudgeon, 1983:441.
Distribution: Hong Kong.

Family **Caenidae** Newman, 1853

Genus **Caenis** Stephens, 1835
Caenis Stephens, 1835:60.
Type species: **Caenis macrura** Stephens.
Subsequent designation by Westwood,
1840:47.

Oxycypha Burmeister, 1839:796.
Type species: **Oxycypha luctuosa** Burmeis-
ter. Subsequent designation by Jacob,

1974:96.

Ordella Champion, 1923:518.Type species: **Caenis macrura** Stephens.
Original designation.**Caenis** sp. T₁**Caenis** T₁ Dudgeon, 1982:14.**Caenis** T₁ Dudgeon, 1982:225.**Caenis** T₁ Dudgeon, 1984:73.**Caenis** T₁ Dudgeon, 1984:210.

Distribution: Hong Kong.

Caenis sp. T₂**Caenis** T₂ Dudgeon, 1983:441.**Caenis** T₂ Dudgeon, 1984:73.**Caenis** T₂ Dudgeon, 1984:210.

Distribution: Hong Kong.

Caenis sp. L₂**Caenis** L₂ Dudgeon, 1984:73.**Caenis** L₂ Dudgeon, 1984:210.

Distribution: Hong Kong.

Caenis sp. L₃**Caenis** L₃ Dudgeon, 1984:73.**Caenis** L₃ Dudgeon, 1984:210.

Distribution: Hong Kong.

Family **Ephemeridae** Latreille, 1810Genus **Ephemera** Linnaeus, 1758**Ephemera** Linnaeus, 1758:546.Type species: **Ephemera vulgata** Linnaeus.
Subsequent designation by Westwood,
1836:439.**Nirvius** Navás, 1922:56.Type species: **Nirvius punctatus** Navás.
Original designation.Subgenus **Ephemera** Linnaeus, 1758**Ephemera (Ephemera) pulcherrima** Eaton**Ephemera pulcherrima** Eaton, 1892:185. (fe-
male). Type: female, Tenasserim Valley,
Burma (BMNH).**Ephemera pulcherrima** - Ulmer, 1926:86, fig.
80-81. (male, key).**Ephemera pulcherrima** - Lestage, 1927:99.
(key).**Ephemera pulcherrima** - Wu, 1935:248.**Ephemera pulcherrima** - Hsu, 1936:233, fig.
1. (female).**Ephemera pulcherrima** - Ulmer, 1936:204.**Ephemera pulcherrima** - Hafiz, 1937:368.**Ephemera pulcherrima** - Hsu, 1937:433, fig.
25-26. (male, female, key).**Ephemera pulcherrima** - Kimmins, 1960:308.**Ephemera pulcherrima** - Kimmins, 1971:319.**Ephemera pulcherrima** - Hubbard & Peters,
1978:17.Distribution: Hong Kong, China, Burma, In-
dia.**Ephemera (Ephemera) serica** Eaton**Ephemera serica** Eaton, 1871:75, pl. 4 fig.
12-12a. (male, female). Type: N. China
(BMNH).**Ephemera serica** - McLachlan, 1875:169.**Ephemera serica** - Eaton, 1883:73. (male,
female).**Ephemera serica** - Ulmer, 1926:89, fig. 82-
83. (male, female, key).**Ephemera serica** - Lestage, 1927:99. (key).**Ephemera serica** - Navás, 1930:15.**Ephemera serica** - Navás, 1930:138.**Ephemera serica** - Wu, 1935:248.**Ephemera serica** - Ulmer, 1936:206.**Ephemera serica** - Hsu, 1937:438. (male,
female, key).**Ephemera serica** - Kimmins, 1960:309, fig.
53. (male). [designation of lectotype].**Ephemera serica** - Kimmins, 1971:320.

Distribution: Hong Kong, China, Vietnam.

Ephemera (subgenus incertus)**Ephemera** sp. T₁**Ephemera** T₁ Dudgeon, 1982:225.

Distribution: Hong Kong.

Ephemera sp. T₂**Ephemera** T₂ Dudgeon, 1983:441.

Distribution: Hong Kong.

Ephemera sp.**Ephemera** sp. Dudgeon, 1984:73.**Ephemera** sp. Dudgeon, 1984:210.

Distribution: Hong Kong.

Family **Ephemerellidae** Klapálek, 1909Subfamily **Ephemerellinae** Klapálek, 1909Genus **Ephemerella** Walsh, 1863**Ephemerella** Walsh, 1863:377.Type species: **Ephemerella excrucians**
Walsh. Subsequent designation by Eaton,
1868:87.**Ephemerella** sp. T₁**Ephemerella** T₁ Dudgeon, 1982:14.**Ephemerella** T₁ Dudgeon, 1982:225.**Ephemerella** T₁ Dudgeon, 1983:441.**Ephemerella** T₁ Dudgeon, 1984:73.**Ephemerella** T₁ Dudgeon, 1984:210.

Distribution: Hong Kong.

Ephemerella sp. T₂**Ephemerella** T₂ Dudgeon, 1982:14.**Ephemerella** T₂ Dudgeon, 1982:225.**Ephemerella** T₂ Dudgeon, 1984:73.**Ephemerella** T₂ Dudgeon, 1984:210.

Distribution: Hong Kong.

Ephemerella sp. L3*Ephemerella* L3 Dudgeon, 1984:73.*Ephemerella* L3 Dudgeon, 1984:210.

Distribution: Hong Kong.

Family **Heptageniidae** Needham
in Needham & Betten, 1901Subfamily **Heptageniidae** Needham
in Needham & Betten, 1901Genus **Componeuria** Eaton, 1881**Componeuria** Eaton, 1881:23.Type species: **Componeuria spectabilis**
Eaton. Original designation.**Cosmetogenia** Eaton, 1883:18, pl. 23.Type species: **Componeuria spectabilis**
Eaton. Monotypy.**Componeuria** sp. T1**Ecdyonurus** T1 Dudgeon, 1982:14.**Ecdyonurus** T1 Dudgeon, 1982:225.**Ecdyonurus** T1 Dudgeon, 1983:441.**Ecdyonurus** T1 Dudgeon, 1984:73.**Componeuria** T1 Dudgeon, 1984:210.

Distribution: Hong Kong.

Componeuria sp. T2**Ecdyonurus** T2 Dudgeon, 1982:225.**Ecdyonurus** T2 Dudgeon, 1984:73.**Componeuria** T2 Dudgeon, 1984:210.

Distribution: Hong Kong.

Genus **Ecdyonurus** Eaton, 1868**Ecdyonurus** Eaton, 1868:142.Type species: **Ephemera venosa** Fabricius.
Original designation.**Ecdyurus** Eaton, 1868:90.Type species: **Ephemera venosa** Fabricius.
Objective synonymy. [unjustified emendation
of **Ecdyonurus**].**Paracinygmula** Bajkova, 1975:54.Type species: **Paracinygmula zhilzovae** Baj-
kova. Original designation.**Ecdyonurus herklotsi** Hsu, 1936**Ecdyonurus herklotsi** Hsu:233, fig. 2-4.
(male). Type: male, Pokfulum [Pokfulam],
Hong Kong (Hsu).

Distribution: Hong Kong.

Genus **Epeorus** Eaton, 1881**Epeorus** Eaton, 1881:26.Type species: **Epeorus torrentium** Eaton.
Original designation.Subgenus **Iron** Eaton, 1883**Iron** Eaton, 1883: pl. 24.Type species: **Epeorus longimanus** Eaton.
Monotypy.**Epeorus** (Iron) sp.**Iron** sp. Dudgeon, 1984:73.**Iron** sp. Dudgeon, 1984:210.

Distribution: Hong Kong.

Epeorus (subgenus incertus)**Epeorus** sp. T1**Epeorus** T1 Dudgeon, 1982:14**Epeorus** T1 Dudgeon, 1982:225.**Epeorus** T1 Dudgeon, 1983:441.**Epeorus** T1 Dudgeon, 1984:73.**Epeorus** T1 Dudgeon, 1984:210.

Distribution: Hong Kong.

Epeorus sp. T2**Epeorus** T2 Dudgeon, 1984:73.**Epeorus** T2 Dudgeon, 1984:210.

Distribution: Hong Kong.

Genus **Heptagenia** Walsh, 1863**Heptagenia** Walsh, 1863:197.Type species: **Palingenia flavescens** Walsh.
Subsequent designation by Eaton, 1868,
Entomol. Mon. Mag. 5:90.**Kageronia** Matsumura, 1931:1479.Type species: **Kageronia suzukiella** Matsu-
mura. Monotypic.**Heptagenia** *ngi* Hsu, 1936**Heptagenia** *ngi* Hsu, 1936:235, fig. 5-7.
(male). Type: male, Shaukiwan, Hong Kong
(Hsu).

Distribution: Hong Kong.

Genus **Paegniodes** Eaton, 1881**Paegniodes** Eaton, 1881:23.Type species: **Heptagenia cupulata** Eaton.
Original designation.**Paegniodes cupulatus** (Eaton, 1871)**Heptagenia cupulata** Eaton, 1871:138, pl. 6
fig. 14-14a. (male, female). Type: Nor-
thern China (BMNH).**Paegniodes cupulatus** - Eaton, 1881:23.**Heptagenia cupulata** - Palmén, 1884:74.**Paegniodes cupulatus** - Eaton, 1885:261, pl.
23 fig. 4, pl. 24 fig. 4. (male, female).**Paegniodes cupulatus** - Ulmer, 1926:107,
figs. 98-102. (male, female).**Paegniodes cupulatus** - Hsu, 1932:39.**Paegniodes fukienensis** - Hsu, 1932:39, fig.
1-3. (male). Type: male, Ling Sioh, Fukien
Prov. China (Cornell).**Paegniodes cupulatus** - Wu, 1935:252.**Paegniodes fukienensis** - Wu, 1935:252.**Paegniodes cupulata** - Hsu, 1936:236, fig. 8-
13. (male, female).**Paegniodes cupulatus** - Ulmer, 1936:211.
(male).

Paegniodes cupulatus - Kimmins, 1960:283.
[designation of lectotype].

Paegniodes cupulatus - Uéno, 1969:228, fig. 26-36. (male).

Heptagenia cupulata - Kimmins, 1971:312.

Paegniodes cupulatus - Tshernova, 1976:343, fig. 41. (nymph).

Paegniodes fukiensis [sic] - Tshernova, 1976:343.

Distribution: Hong Kong, China, Tibet.

Genus **Thalerosphyrus** Eaton, 1881

Thalerosphyrus Eaton, 1881:22.

Type species: **Baetis determinatus** Walker.
Original designation.

Thalerosphyrus sp. T₁

Thalerosphyrus T₁ Dudgeon, 1982:14.

Thalerosphyrus T₁ Dudgeon, 1983:441.

Thalerosphyrus T₁ Dudgeon, 1984:73.

Thalerosphyrus T₁ Dudgeon, 1984:210.

Distribution: Hong Kong.

Family **Leptophlebiidae** Banks, 1900

Subfamily **Atalophlebiinae** Peters, 1980

Genus **Choroterpes** Eaton, 1881

Choroterpes Eaton, 1881:194.

Type species: **Choroterpes lusitanica** Eaton. Original designation.

Subgenus **Euthraululus** Barnard, 1932

Euthraululus Barnard, 1932:249.

Type species: **Euthraululus elegans** Barnard.
Monotypy.

Thraululus Ulmer, 1939:499.

Type species: **Thraululus marginatus** Ulmer.
Original designation.

Choroterpes (**Euthraululus**) sp.

Choroterpes (**Euthraululus**) sp. Dudgeon, 1984:73.

Choroterpes (**Euthraululus**) sp. Dudgeon, 1984:210.

Distribution: Hong Kong.

Choroterpes (subgenus incertus)

Choroterpes sp. T₁

Choroterpes T₁ Dudgeon, 1982:14.

Choroterpes T₁ Dudgeon, 1983:441.

Distribution: Hong Kong.

Genus **Cryptopenella** Gillies, 1951

Cryptopenella Gillies, 1951:125.

Type species: **Cryptopenella facialis** Gillies. Original designation.

Cryptopenella facialis Gillies, 1951

Cryptopenella facialis Gillies, 1951:127, fig. 11-12, 14. (male, female, nymph).

Type: River Shing Man [Shing Mun River], near Kowloon, Hong Kong (BMNH).

Cryptopenella facialis - Peters & Edmunds, 1970:202, fig. 46-47, 93-94, 122, 145, 336-345. (male, female, nymph).

Cryptopenella facialis - Kimmins, 1971:313.

Distribution: Hong Kong.

Genus **Habrophlebiodes** Ulmer, 1920

Habrophlebiodes Ulmer, 1920:39.

Type species: **Habrophlebia americana** Banks. Original designation.

Habrophlebiodes gilliesi Peters, 1963

Habrophlebiodes gilliesi Peters, 1963:41, fig. 1-11. (male, female). Type: male, Fan Ling near Kowloon, Hong Kong (Utah).

Habrophlebiodes gilliesi - Peters & Edmunds, 1970:187, fig. 19-21, 77, 112, 135, 323. (male, female).

Habrophlebiodes gilliesi - Tsui & Peters, 1970:89, fig. 1-13. (nymph).

Habrophlebiodes gilliesi - Dudgeon, 1982:225.

Distribution: Hong Kong.

Genus **Isca** Gillies, 1951

Isca Gillies, 1951:127.

Type species: **Isca purpurea** Gillies. Original designation.

Subgenus **Isca** Gillies, 1951

Isca (**Isca**) **purpurea** Gillies, 1951

Isca purpurea Gillies, 1951:128, fig. 15-22. (male, female). Types: male, female, Hong Kong, 15-20 mi inland from Kowloon (BMNH).

Isca (**Isca**) **purpurea** - Peters & Edmunds, 1970:215, fig. 71, 106, 330, 350-357. (male, nymph).

Isca purpurea - Kimmins, 1971:319.

Isca (**Isca**) **purpurea** - Hubbard & Peters, 1978:24.

Distribution: Hong Kong, India.

Isca (subgenus incertus)

Isca sp. T₁

Isca T₁ Dudgeon, 1982:225.

Isca T₁ Dudgeon, 1983:441.

Distribution: Hong Kong.

Isca sp.

Isca sp. Dudgeon, 1984:73.

Isca sp. Dudgeon, 1984:210.

Distribution: Hong Kong.

Genus **Thraululus** Eaton, 1881

Thraululus Eaton, 1881:195.

Type species: **Thraululus bellus** Eaton. Original designation.

Masharikella Peters, Gillies & Edmunds, 1964:118.

Type species: **Hagenulus fasciatus** Kimmins. Original designation.

Thraululus sp. T₁

Thraululus T₁ Dudgeon, 1982:225.

Thraululus T₁ Dudgeon, 1983:441.

Distribution: Hong Kong.

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