

# CHECKLIST OF EPHEMEROPTERA OF INDIA

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The last accounting of the Ephemeroptera (mayflies) species of the Indian subregion of the Oriental region was done in the catalogue by Hubbard and Peters (1978). The Indian subregion is defined therein; include the areas contained within the republic of India, Sri Lanka, Pakistan, Nepal, Bhutan, Bangladesh and Myanmar (Burma). Lack of a recent general account of the Ephemeroptera of India and its updated classification has made research on this biogeographically interesting fauna difficult. The current checklist provides a comprehensive list of valid species reported from India.

The checklist below is a consecutively numbered accounting of all recognized species of mayflies so far recorded from India. The list is formatted alphabetically by genus and species name under families and subfamilies that are arranged phylogenetically following McCafferty (1991a), with modifications from McCafferty and Wang (2000).

Globally, about 3000 species in 400 genera and 42 families are currently known. Of this, 390 species in 84 genera and 20 families occur in the Oriental region. About 49 percent of the genera (41 genera) of this region are endemic. The Western Ghats-Sri Lanka biodiversity hotspot shows a high degree of endemism (Barber-James *et.al*, 2008). The Ephemeroptera fauna of the India is represented by four suborders, twelve families, forty six genera and 124 species.

# HIGHER TAXA OF THE EPHEMEROPTERA RECORDED FROM INDIA

## ORDER EPHEMEROPTERA

**Suborder** : Carapacea

Superfamily: Prosopistomatoidea

**Family**: PROSOPISTOMATIDAE

**Suborder**: Rectracheata

Superfamily: Leptophlebioidea

**Family**: LEPTOPHLEBIIDAE

Subfamily: Leptophlebiinae

Subfamily: Atalophlebiinae

Superfamily: Ephemeroidea

**Family**: EPHEMERIDAE

Subfamily: Ephemerinae

Subfamily: Hexageniinae

Subfamily: Palingeniinae

Subfamily: Ichthybotinae

**Family**: POLYMITARCYIDAE

Subfamily: Euthyplocynae

Subfamily: Asthenopodinae

Subfamily: Polymitarcyinae

**Family**: POTAMANTHIDAE

Superfamily: Caenoidea

**Family**: CAENIDAE

Subfamily: Caeninae

**Family**: NEOEPHEMERIDAE

Superfamily: Ephemerelloidea

**Family**: EPHEMERELLIDAE

Subfamily: Ephemerellinae

**Family**: TELOGANODIDAE

**Suborder:** Setisura

**Family:** HEPTAGENIIDAE

Subfamily Heptageniinae

**Suborder:** Pisciforma

**Family:** AMELETIDAE

**Family:** BAETIDAE

Subfamily: Baetinae

Subfamily: Cloeoninae

### **CHECKLIST OF SPECIES**

**Suborder:** Carapacea

**Superfamily:** Prosopistomatoidea

**Family:** Prosopistomatidae

**Genus:** *Prosopistoma* Laterille, 1833

1. *Prosopistoma indicum* Peters, 1967

**Suborder:** Rectracheata

**Superfamily:** Leptophlebioidea

**Family:** Leptophlebiidae

**Subfamily:** Leptophlebiinae

**Genus:** *Gilliesia* Peters & Edmunds, 1970

2. *Gilliesia hindustanica* (Gillies, 1951) Peters & Edmunds, 1970

**Subfamily:** Atalophlebiinae

**Genus:** *Atalophlebia* Eaton, 1881

3. *Atalophlebia chialhnia* Dubey, 1971

**Genus:** *Choroterpes* Eaton, 1881

4. *Choroterpes (Euthraulius) alagarensis* Dinakaran, Balachandran & Anbalagan, 2009
5. *Choroterpes (Euthraulius) parvula* (Gillies, 1951) Peters & Edmunds, 1964

**Genus:** *Edmundsula* Sivaramakrishnan, 1985

6. *Edmundsula lotica* Sivaramakrishnan, 1985

**Genus:** *Indialis* Peters & Edmunds, 1970

7. *Indialis badia* Peters & Edmunds, 1970

8. *Indialis rossi* Peters, 1975

**Genus:** *Isca* Gillies, 1951

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

**Genus:** *Nathanella* Demoulin, 1955

10. *Nathanella indica* Demoulin, 1955

11. *Nathanella saraswathiae* Sivaramakrishnan, Venkataraman & Balasubramanian, 1996

**Genus:** *Notophlebia* Peters & Edmunds, 1970

12. *Notophlebia hyalina* Peters & Edmunds, 1970

13. *Notophlebia jobi* Sivaramakrishnan & Peters, 1984

**Genus:** *Petersula* Sivaramakrishnan, 1984

14. *Petersula courtallensis* Sivaramakrishnan, 1984

15. *Petersula nathani* Sivaramakrishnan & Hubbard, 1984

**Genus:** *Thraulodes* Ulmer, 1920

16. *Thraulodes marhhieus* Dubey 1970 <sup>A</sup>

**Genus:** *Thraululus* Eaton, 1881

17. *Thraululus gopalani* Grant & Sivaramakrishnan, 1985

18. *Thraululus mudumalaiensis* Arumuga Soman, 1991. India (Tamil Nadu)

19. *Thraululus semicastaneus* (Gillies, 1951) Peters & Edmunds, 1970

**Superfamily:** Ephemeroidea  
**Family:** Ephemeridae  
**Subfamily:** Ephemerinae

**Genus:** *Ephemera* Linnaeus, 1758

20. *Ephemera (Ephemera) annandalei* Chopra, in Hafiz, 1937
21. *Ephemera (Ephemera) consors* Eaton, 1892
22. *Ephemera (Ephemera) diffusa* Chopra, in Hafiz, 1937
23. *Ephemera (Ephemera) distincta* Hubbard, 1982
24. *Ephemera (Ephemera) expectans* (Walker, 1860) Ulmer, 1920
25. *Ephemera (Ephemera) fulvata* Navás, 1935
26. *Ephemera (Ephemera) immaculata* Eaton, 1871
27. *Ephemera (Aethephemera) nadinae* McCafferty & Edmunds, 1973
28. *Ephemera nathani* Hubbard, 1982
29. *Ephemera (Ephemera) pulcherrima* Eaton, 1892
30. *Ephemera (Ephemera) remensa* Eaton, 1892
31. *Ephemera (Ephemera) soanica* Ali, 1967
32. *Ephemera (Ephemera) supposita* Eaton, 1883-88

**Subfamily:** Hexageniinae

**Genus:** *Eatonigenia* Ulmer, 1939-40

33. *Eatonigenia indica* (Chopra, 1924) McCafferty, 1973
34. *Eatonigenia trirama* McCafferty, 1973

**Subfamily:** Palingeniinae

**Genus:** *Anagenesia* Eaton, 1883

35. *Anagenesia lata* (Walker, 1853) Lestage, 1923
36. *Anagenesia minor* (Eaton, 1892) Ulmer, 1920
37. *Anagenesia robusta* (Eaton, 1892) Lestage, 1923

**Subfamily:** Ichthybotinae

**Genus:** *Ichthybotus* Eaton, 1889

38. *Ichthybotus dodecus* Dubey, 1971 <sup>B</sup>

**Family:** Polymitarcyidae

**Subfamily:** Euthyplocyinae

**Genus:** *Euthyplosia* Eaton, 1871

39. *Euthyplosia punensis* Dubey, 1970

**Subfamily:** Asthenopodinae

**Genus:** *Povilla* Navás, 1912

40. *Povilla (Povilla) andamanensis* Hubbard, 1984

41. *Povilla (Languidipes) corporaali* (Lestage, 1922) Ulmer, 1924 <sup>C</sup>

**Subfamily:** Polymitarcyinae

**Genus:** *Ephoron* Williamson, 1802

42. *Ephoron annandalei* (Chopra, 1927) Spieth, 1940

43. *Ephoron indicus* (Pictet, 1843) Gillies 1951

**Family:** Potamanthidae

**Genus:** *Potamanthus* Pictet, 1843

44. *Potamanthus subcostalis* Navás 1932

**Genus:** *Rhoenanthus* Eaton, 1881

45. *Rhoenanthus distafurcatus* Bae & McCafferty, 1991

**Superfamily:** Caenoidea

**Family:** Neoephemeridae

**Genus:** *Potamanthellus* Lestage, 1931

46. *Potamanthellus ganges* Bae & McCafferty, 1998

**Family:** Caenidae  
**Subfamily:** Caeninae

**Genus:** *Caenis* Stephens, 1835

- 47. *Caenis nigrostriata* Navás, 1931
- 48. *Caenis perpusilla* Walker, 1853
- 49. *Caenis picea* Kimmins, 1947
- 50. *Caenis piscina* Kimmins, 1947
- 51. *Caenis srinagari* Traver, 1939

**Genus:** *Clypeocaenis* Soldan, 1978

- 52. *Clypeocaenis bisetosa* Soldan, 1978
- 53. *Clypeocaenis multisetosa* Soldan, 1978

**Superfamily:** Ephemerelloidea  
**Family:** Ephemerellidae  
**Subfamily:** Ephemerellinae

**Genus:** *Drunella* Needham, 1905

- 54. *Drunella traverae* Allen & Edmunds, 1963

**Genus:** *Ephemerella* Walsh, 1863

- 55. *Ephemerella indica* Kapur & Kripalani, 1963

**Genus:** *Torleya* Lestage, 1917

- 56. *Torleya nepalica* Allen & Edmunds, 1963

**Family:** Teloganodidae

**Genus:** *Teloganodes* Eaton, 1882.

- 57. *Teloganodes dentatus* Navás, 1931
- 58. *Teloganodes kodai* Sartori, 2008

**Suborder:** Setisura  
**Family:** Heptageniidae  
**Subfamily:** Heptageniinae

**Genus:** *Afronurus* Lestage, 1924

- 59. *Afronurus curtus* Dubey, 1971
- 60. *Afronurus kumbakkariensis* Venkataraman & Sivaramakrishnan, 1989

**Genus:** *Ecdyonurus* Eaton, 1868

- 61. *Ecdyonurus assamensis* (Kimmins, 1937) Tshernova et al., 1986
- 62. *Ecdyonurus annulifer* (Walker, 1860) Navás, 1931
- 63. *Ecdyonurus apicatus* Braasch, 1984
- 64. *Ecdyonurus bengalensis* Ulmer, 1920
- 65. *Ecdyonurus bilineatus* Braasch, 1984
- 66. *Ecdyonurus eatoni* Kimmins 1937
- 67. *Ecdyonurus indicus* Hubbard, 1974<sup>D</sup>
- 68. *Ecdyonurus keralensis* Braasch & Soldan, 1987

**Genus:** *Epeiron* Demoulin, 1964

- 69. *Epeiron kashmirensis* Braasch & Soldan, 1982

**Genus:** *Epeorus* Eaton, 1881.

- 70. *Epeorus gilliesi* Braasch, 1981
- 71. *Epeorus lahaulensis* Kapur & Kripalani, 1963
- 72. *Epeorus psi* Eaton, 1885

**Genus:** *Heptagenia* Walsh, 1863

- 73. *Heptagenia nubila* Kimmins, 1937
- 74. *Heptagenia solangensis* Dubey, 1971
- 75. *Heptagenia traversae* Braasch, 1986

**Genus:** *Iron* Eaton, 1883

76. *Iron kapurkripalanorum* Braasch, 1983

77. *Iron papillatus* Braasch, 2006

78. *Iron paraguttatus* 1983

79. *Iron suspicatus* Braasch, 2006

**Genus:** *Notacanthurus* Tshernova, 1974

80. *Notacanthurus ladakhensis* Braasch, 1986

**Genus:** *Ororotsia* Traver, 1939

81. *Ororotsia hutchinsoni* Traver, 1939

**Genus:** *Rhithrogena* Eaton, 1881

82. *Rhithrogena nepalensis* Braasch, 1984

83. *Rhithrogena rougemonti* Braasch & Soldan, 1987

**Genus:** *Thalerosphyrus* Eaton, 1881

84. *Thalerosphyrus flowersi* Venkataraman & Sivaramakrishnan, 1987

**Suborder:** Pisciforma

**Infraorder:** Imprimata

**Family:** Ameletidae

**Genus:** *Ameletus* Eaton, 1888

85. *Ameletus primitivus* Traver, 1939

**Family:** Baetidae

**Subfamily:** Baetinae

**Genus:** *Baetiella* Ueno, 1931

86. *Baetiella ladakae* Traver, 1939

**Genus:** *Baetis* Leach, 1815

87. *Baetis acuticostalis* Dubey, 1971

- 88. *Baetis bifurcatus* Kapur & Kripalani, 1963
- 89. *Baetis chandra* Kapur & Kripalani, 1963
- 90. *Baetis dipsicus* Gillies, 1949
- 91. *Baetis festivus* Kapur & Kripalani, 1963
- 92. *Baetis fluitans* Gillies, 1949
- 93. *Baetis himalayana* Kapur & Kripalani, 1963
- 94. *Baetis lahaulensis* Kaul & Dubey, 1970
- 95. *Baetis longistylus* Kaul & Dubey, 1970
- 96. *Baetis punjabensis* Kapur & Kripalani, 1963
- 97. *Baetis septemmenes* Dubey, 1971
- 98. *Baetis seragrui* Dubey, 1970
- 99. *Baetis simplex* Kapur & Kripalani, 1963
- 100. *Baetis solangensis* Dubey, 1971
- 101. *Baetis solitarius* Gillies, 1949
- 102. *Baetis thurbonis* Gillies, 1949
- 103. *Baetis tigroides* Gillies, 1949

**Genus:** *Chopralla* Waltz & McCafferty, 1987

- 104. *Chopralla ceylonensis* (Muller-Liebenau 1983) Waltz & McCafferty, 1987

**Genus:** *Labiobaetis* McCafferty & Waltz, 1995<sup>E</sup>

- 105. *Labiobaetis geminatus* Muller-Liebenau & Hubbard, 1985
- 106. *Labiobaetis inopinum* Gillies, 1949
- 107. *Labiobaetis ordinatum* (Muller-Liebenau & Hubbard 1985)
- 108. *Labiobaetis palmyrae* Gillies, 1949
- 109. *Labiobaetis rubellum* Navás, 1931

**Subfamily:** Cloeoninae

**Genus:** *Centroptilum* Eaton, 1869

- 110. *Centroptilum campestre* Gillies, 1949

**Genus:** *Cloeon* Leach, 1815

- 111. *Cloeon bengalense* Kimmins, 1947
- 112. *Cloeon bicolor* Kimmins, 1947
- 113. *Cloeon inscriptum* Bengtsson, 1914
- 114. *Cloeon julia* Gillies, 1949
- 115. *Cloeon kashmiri* Traver, 1939
- 116. *Cloeon kimminsi* Hubbard, 1978
- 117. *Cloeon marginale* (Hagen, 1858) Ulmer, 1912
- 118. *Cloeon pulchellum* Banks, 1913
- 119. *Cloeon siccum* Gillies, 1949
- 120. *Cloeon taeniatum* Navás, 1931
- 121. *Cloeon variegatum* Chopra, 1924

**Genus:** *Procloeon* Bengtsson, 1914

- 122. *Procloeon bimaculatum* (Eaton, 1885) Kimmins, 1947
- 123. *Procloeon debilis* (Walker, 1860) Kimmins, 1960
- 124. *Procloeon harveyi* Kimmins, 1947

**Notes and comments:**

- A. *Thraulodes marhhius* Dubey, 1970: *Thraulodes* is a genus known otherwise only from the New World and this species is probably misplaced at the generic level (Hubbard & Peters, 1978).
- B. According to McCafferty (1973) this species does not belong to *Icthybotus* and correct placement is yet to be determined.
- C. According to Hubbard (1984), Chopra's report (1927) of the specimen may represent an undescribed species.
- D. *Ecdyonurus indicus* Hubbard, 1974: *E. subfuscus* Kimmins, 1937, name preoccupied by Stephens, 1835.
- E. The placement of species to *Labiobaetis* or *Pseudocloeon* is debatable and according to Gattoliat (2001) it will be premature to assign species to either *Pseudocloeon* or *Labiobaetis* without a global revision. Following a precautionary approach after Waltz &

McCafferty (1985 and 1987) and (Gattoliat, 2001), we prefer to provisionally assign the species earlier assigned to *Labiobaetis* or *Pseudocloeon* to *Labiobaetis*.

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