

SYSTEMATIC STUDIES ON ODONATA (INSECTA) OF SOUTHERN WESTERN GHATS

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INTRODUCTION

Odonata are one of the ancient orders of Insects that appeared during the Permian period, about 250 million years ago. There are fossil records of dragonflies much before the advent of dinosaurs. Some of the fossil Dragonflies have wingspans of 60 cm. Modern odonates are smaller, but have changed structurally very little since ancient times. They are among the most beautiful and amazing insects flying today.

The Odonates are distributed in all geographical realms, but their greatest numbers and diversity occur in the tropics. About 5740 species of Odonata are reported from the world over (Schorr *et al.*, 2009). Dragonflies and damselflies are attached to their aquatic habitats. Some of the odonates are very specific on their habitat, especially the montane species. They are occupying diverse freshwater habitats including streams, rivers, lakes, ponds, swamps, bogs etc. Since the distribution of odonate larvae depend on many ecological factors such as the pH and temperature of water, type of the water body, as well as the quantity and type of aquatic vegetation, they qualify as good bioindicators of a healthy riverine system (Subramanian, 2005)

Order Odonata comprising dragonflies (Suborder: Anisoptera) and damselflies (Suborder: Zygoptera) are well-established groups. The third suborder, Anisozygoptera superficially resembles the Anisoptera, but several characters are intermediate between the Zygoptera and Anisoptera. Anisozygoptera is represented only

by one species (*Epiophlebia laidlawi* Tillyard) in India, which is near threatened category. Our knowledge on the Indian odonata is mainly based upon the works of Fraser (1933, 1934 and 1936) who provided taxonomic descriptions of all the 536 species and subspecies known till then from "British India including Burma and Ceylon". Incorporating recent studies, Subramanian (2009) published a checklist of Odonata, which comprised of 470 species and subspecies in 139 genera and 19 families of odonata known from India. A perusal of literature (Fraser, 1931 and 1933-1936; Peters, 1981; Rao and Lahiri, 1982; Mathavan and Miller, 1989; Radhakrishnan, 1997; Emiliyamma and Radhakrishnan, 2000 and 2002; Asiathambi and Manickavasagam, 2002; Emiliyamma *et al.*, 2005; Emiliyamma, 2005, Jafer *et al.*, 2002; Jafer and Soniya, 2004, Jafer *et al.*, 2005; Mitra, 2002, 2003 and 2006; Kandibane *et al.*, (2005; Prasad and Kulkarni 2000; Subramanian and Sivaramakrishnan. 2002, Subramanian 2007 and 2009) revealed that 470 taxa of odonates occur in India, of which 169 species and subspecies under 82 genera and 14 families are known from southern Western Ghats.

There are different opinions in considering the areas under southern Western Ghats. In one document it is considered that the areas from Kanyakumari to Coorg (Subramanian, 2002) and in another one, it is considered as from Goa to Kanyakumari (Santhoshkumar, online publication). In the present document, the odonata fauna known from Kanyakumari to Coorg areas are included (Map-1)

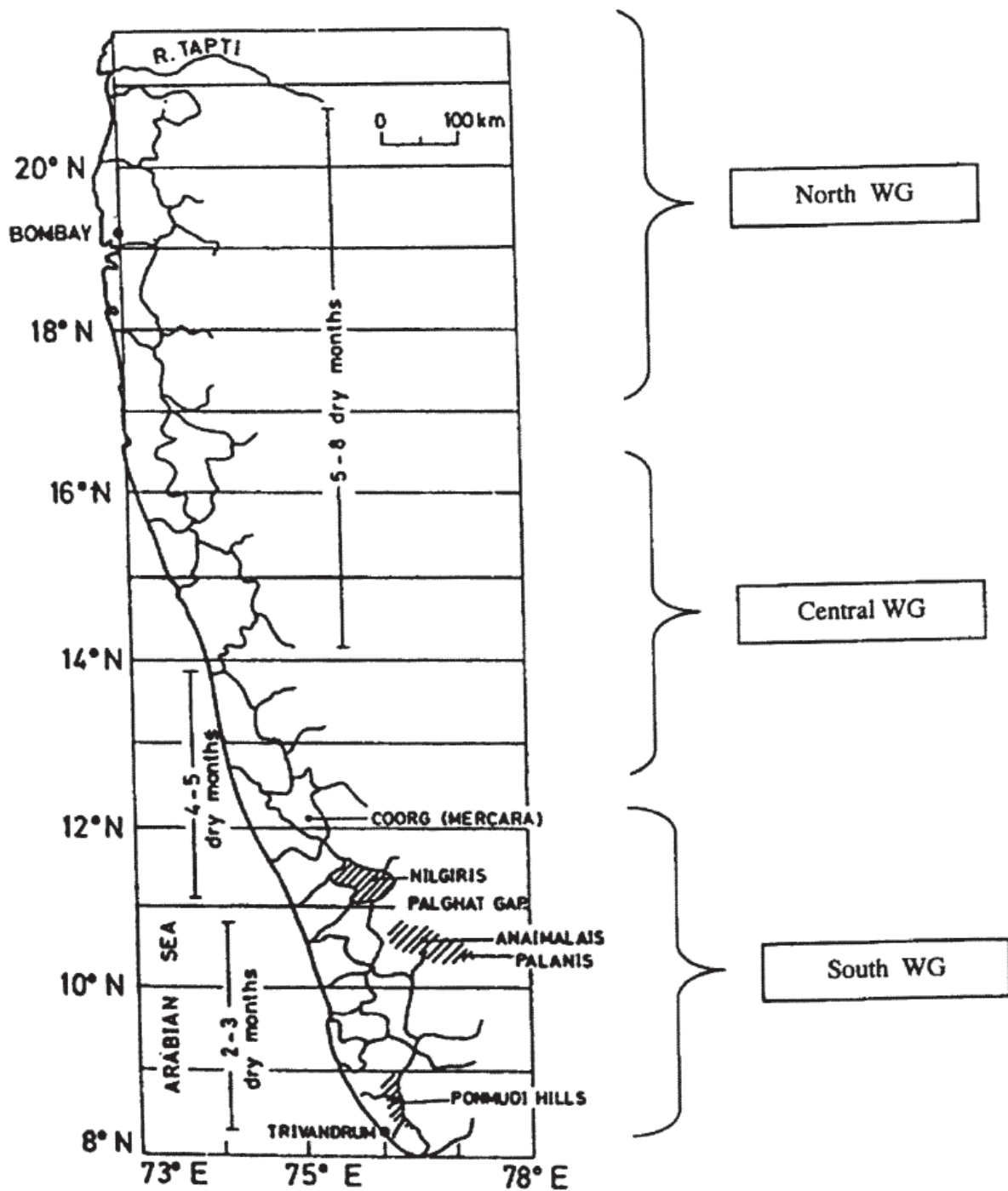


Fig. 1. Map showing northern, central and southern of Western Ghats (after Daniels, 1992)

The physiography of the Western Ghats is characterized by the mountainous high ranges and isolated small hills with lush green vegetation, valleys and meadows interspersed with varied inland water bodies such as rivers, reservoirs, lakes, tanks, pools, ditches etc. (Radhakrishnan and

Emiliyamma, 2004) offer diverse aquatic habitats for odonates. There are 178 species of Odonata with 68 endemics are known from Western Ghats (Subramanian, 2006). The present study involved 169 species of Odonata from southern Western Ghats with 66 endemic species. Previous studies

revealed that species richness and endemism are highest in southern Western Ghats (Subramanian, op.cit.) than Central and North parts. The present study also proved the earlier reports.

Checklist of Odonata (Insecta) of southern Western Ghats

Order ODONATA

Suborder ANISOPTERA

Family AESHNIDAE

1. *Anaciaeschna donaldi* Fraser, 1922
2. *Anaciaeschna jaspidea* (Burmeister, 1839)
3. *Anax guttatus* (Burmeister, 1839)
4. *Anax immaculifrons* Rambur, 1842
5. *Anax indicus* Lieftinck, 1942
6. *Anax parthenope* (Selys, 1839)
7. *Gynacantha bayadera* Selys, 1891
8. *Gynacantha dravida* Lieftinck, 1960
9. *Hemianax ephippiger* (Burmeister, 1839)

Family CHLOROGOMPHIDAE

10. *Chlorogomphus campioni* (Fraser, 1924)
11. *Chlorogomphus xanthoptera* (Fraser, 1919)

Family CORDULIIDAE

12. *Hemicordulia asiatica* Selys, 1878
13. *Idionyx corona* Fraser, 1921
14. *Idionyx corona burliyarensis* Fraser, 1928
15. *Idionyx galeata* Fraser, 1924
16. *Idionyx minima* Fraser, 1931
17. *Idionyx nadganiensis* Fraser, 1924
18. *Idionyx nilgiriensis* (Fraser, 1918)
19. *Idionyx periyashola* Fraser, 1939
20. *Idionyx rhinoceroideus* Fraser, 1934
21. *Idionyx saffronata* Fraser, 1924
22. *Idionyx travancorensis* Fraser, 1931
23. *Macromidia donaldi* (Fraser, 1924)

Family GOMPHIDAE

24. *Acrogomphus fraseri* Laidlaw, 1925
25. *Asiagomphus nilgircus* (Laidlaw, 1922)
26. *Burmagomphus cauvericus* Fraser, 1926

27. *Burmagomphus laidlawi* Fraser, 1924
28. *Burmagomphus pyramidalis* Laidlaw, 1922
29. *Cyclogomphus heterostylus* Selys, 1854
30. *Davidioides martini* Fraser, 1924
31. *Gomphidia fletcheri* Fraser, 1923
32. *Gomphidia kodaguensis* Fraser, 1923
33. *Heliogomphus kalarensis* Fraser, 1934
34. *Heliogomphus promelas* (Selys, 1873)
35. *Ictinogomphus rapax* (Rambur, 1842)
36. *Macrogomphus wynaadicus* Fraser, 1924
37. *Megalogomphus hanningtoni* (Fraser, 1923)
38. *Megalogomphus superbus* Fraser, 1931
39. *Merogomphus longistigma* (Fraser, 1922)
40. *Merogomphus longistigma tamaracherriensis* Fraser, 1931
41. *Microgomphus souteri* Fraser, 1924
42. *Onychogomphus acinaces* (Laidlaw, 1922)
43. *Onychogomphus malabarensis* (Fraser, 1924)
44. *Onychogomphus nilgiriensis* (Fraser, 1922)
45. *Onychogomphus nilgiriensis annaimallaicus* Fraser, 1934
46. *Onychogomphus striatus* Fraser, 1924
47. *Paragomphus lineatus* (Selys, 1850)

Family LIBELLULIDAE

48. *Acisoma panorpoides* Rambur, 1842
49. *Aethriamanta brevipennis* (Rambur, 1842)
50. *Brachydiplax chalybea* Brauer, 1868
51. *Brachydiplax sobrina* (Rambur, 1842)
52. *Brachythemis contaminata* (Fabricius, 1793)
53. *Bradinyopyga geminata* (Rambur, 1842)
54. *Cratilla lineata* Foerster, 1903
55. *Crocothemis servilia* (Drury, 1770)
56. *Diplacodes lefebveri* (Rambur, 1842)
57. *Diplacodes nebulosa* (Fabricius, 1793)
58. *Diplacodes trivialis* (Rambur, 1842)

59. *Epithemis mariae* (Laidlaw, 1915)
60. *Hydrobasileus croceus* (Brauer, 1867)
61. *Hylaeothemis indica* Fraser, 1946
62. *Indothemis carnatica* (Fabricius, 1798)
63. *Lathrecista asiatica* (Fabricius, 1798)
64. *Lyriothemis acigastra* (Selys, 1878)
65. *Neurothemis fulvia* (Drury, 1773)
66. *Neurothemis intermedia* (Rambur, 1842)
67. *Neurothemis intermedia atlanta* Ris, 1919
68. *Neurothemis tullia* (Drury, 1773)
69. *Onychothemis testacea ceylanica* Ris, 1912
70. *Orthetrum chrysis* Selys, 1891
71. *Orthetrum glaucum* (Brauer, 1865)
72. *Orthetrum luzonicum* (Brauer, 1868)
73. *Orthetrum pruinosum neglectum* (Rambur, 1842)
74. *Orthetrum sabina* (Drury, 1770)
75. *Orthetrum taeniolatum* (Schneider, 1845)
76. *Orthetrum triangulare* (Selys, 1878)
77. *Palpopleura sexmaculata* (Fabricius, 1787)
78. *Pantala flavescens* (Fabricius, 1798)
79. *Potamarcha congener* (Rambur, 1842)
80. *Rhodothemis rufa* (Rambur, 1842)
81. *Rhyothemis triangularis* Kirby, 1889
82. *Rhyothemis variegata* (Linnaeus, 1763)
83. *Sympetrum fonscolombi* (Selys, 1840)
84. *Tetrathemis platyptera* Selys, 1878
85. *Tholymis tillarga* (Fabricius, 1798)
86. *Tramea basilaris burmeisteri* Kirby, 1889
87. *Tramea limbata similata* (Rambur, 1842)
88. *Trithemis aurora* (Burmeister, 1839)
89. *Trithemis festiva* (Rambur, 1842)
90. *Trithemis kirbyi* Selys, 1891
91. *Trithemis pallidinervis* Kirby, 1889
92. *Urothemis signata* (Rambur, 1842)
93. *Zygonyx iris malabarica* Fraser, 1926
94. *Zygonyx torrida* (Kirby, 1889)
95. *Zyxomma petiolatum* Rambur, 1842
- Family MACROMIIDAE
96. *Epophthalmia frontalis binocellata* (Fraser, 1924)
97. *Epophthalmia vittata* Burmeister, 1839
98. *Macromia annaimallaiensis* Fraser, 1931
99. *Macromia bellicosa* Fraser, 1924
100. *Macromia cingulata* Rambur, 1842
101. *Macromia ellisoni* Fraser, 1924
102. *Macromia flavocolorata* Fraser, 1922
103. *Macromia ida* Fraser, 1924
104. *Macromia indica* Fraser, 1924
105. *Macromia irata* Fraser, 1924
- Suborder ZYGOPTERA
- Family CALOPTERYGIDAE
106. *Neurobasis chinensis* (Linnaeus, 1758)
107. *Vestalis apicalis* Selys, 1873
108. *Vestalis gracilis* (Rambur, 1842)
109. *Vestalis submontana* (Fraser, 1934)
- Family CHLOROCYPHIDAE
110. *Calocypha laidlawi* (Fraser, 1924)
111. *Libellago lineata indica* (Fraser, 1928)
112. *Rhinocypha bisignata* Hagen in Selys, 1853
- Family COENAGRIONIDAE
113. *Aciagrion hisopa* (Selys, 1876)
114. *Aciagrion occidentale* Laidlaw, 1919
115. *Agriocnemis keralensis* Peters, 1981
116. *Agriocnemis pieris* Laidlaw, 1919
117. *Agriocnemis pygmaea* (Rambur, 1842)
118. *Agriocnemis splendidissima* Laidlaw, 1919
119. *Archibasis oscillans* (Selys, 1877)
120. *Ceriagrion cerinorubellum* (Brauer, 1865)
121. *Ceriagrion coromandelianum* (Fabricius, 1798)
122. *Ceriagrion olivaceum* Laidlaw, 1914
123. *Ceriagrion rubiae* Laidlaw, 1916
124. *Ischnura aurora* (Brauer, 1865)
125. *Ischnura senegalensis* (Rambur, 1842)

126. *Mortonagrion varralli* Fraser, 1920
 127. *Onychargia atrocyana* Selys, 1865
 128. *Paracercion calamorum* (Ris, 1916)
 129. *Pseudagrion decorum* (Rambur, 1842)
 130. *Pseudagrion indicum* Fraser, 1924
 131. *Pseudagrion malabaricum* Fraser, 1924
 132. *Pseudagrion microcephalum* (Rambur, 1842)
 133. *Pseudagrion rubriceps* Selys, 1876

Family EUPHAEIDAE

134. *Dysphaea ethela* Fraser, 1924
 135. *Euphaea cardinalis* (Fraser, 1924)
 136. *Euphaea dispar* (Rambur, 1842)
 137. *Euphaea fraseri* (Laidlaw, 1920)

Family LESTIDAE

138. *Indolestes gracilis birmanus* (Selys, 1891)
 139. *Indolestes pulcherrimus* Fraser, 1924
 140. *Lestes dorothea* Fraser, 1924
 141. *Lestes elatus* Hagen in Selys, 1862
 142. *Lestes malabarica* Fraser, 1929
 143. *Lestes patricia* Fraser, 1924
 144. *Lestes praemorsus* Hagen in Selys, 1862
 145. *Lestes viridulus* Rambur, 1842

Family PLATYCNEMIDIDAE

146. *Copera marginipes* (Rambur, 1842)
 147. *Copera vittata deccanensis* Laidlaw, 1917

Family PLATYSTICTIDAE

148. *Platysticta deccanensis* Laidlaw, 1915
 149. *Protosticta antelopoides* Fraser, 1931
 150. *Protosticta davenporti* Fraser, 1931
 151. *Protosticta gravelyi* Laidlaw, 1915
 152. *Protosticta hearseyi* Fraser, 1922
 153. *Protosticta mortoni* Fraser, 1924
 154. *Protosticta rufostigma* Kimmins, 1958
 155. *Protosticta sanguinostigma* Fraser, 1922

Family PROTONEURIDAE

156. *Caconeura gomphoides* (Rambur, 1842)
 157. *Caconeura ramburi* (Fraser, 1922)
 158. *Caconeura risi* (Fraser, 1931)

159. *Caconeura t-coerulea* (Fraser, 1933)
 160. *Disparoneura apicalis* (Fraser, 1924)
 161. *Disparoneura quadrimaculata* (Rambur, 1842)
 162. *Elattoneura souteri* (Fraser, 1924)
 163. *Elattoneura tetrica* (Laidlaw, 1917)
 164. *Esme cyaneovittata* Fraser, 1922
 165. *Esme longistyla* Fraser, 1931
 166. *Esme mudiensis* Fraser, 1931
 167. *Melanoneura bilineata* Fraser, 1922
 168. *Phylloneura westermanni* (Selys, 1860)
 169. *Prodasineura verticalis annandalei* (Fraser, 1921)

SYSTEMATIC ACCOUNT

Anaciaeschna donaldi Fraser, 1922

1897. *Aeschna martin* Selys, *Ann. Soc. Ent. Belg.*, Vol. 16, pp. 88, 89; Fraser, 1936, *Fauna Brit. India Odon.*, 3: 152-154.

1926. *Anaciaeschna donaldi* (female) Fraser, *J. Bombay nat. Hist. Soc.* Vol. 1, no. 2, p. 81.

Anaciaeschna jaspidea (Burmeister, 1839)

1839. *Aeschna jaspidea* Burmeister, *Handb. Ent.*, 2: 840.
 1890. *Anaciaeschna jaspidea* Kirby, *Cat. Odon.* p. 86; Martin, 1908, *Cat. Coll. Selys (Aeschnines)*, fasc., 17: 30-31; Fraser, 1936, *Fauna Brit. India Odon.*, 3: 152-154.

Anax guttatus (Burmeister, 1839)

1839. *Aeshna guttata* Burmeister, *Handb. Ent.*, 2: 840.
 1842. *Anax magnus* Rambur, *Ins. Nevrop.* p. 188; Brauer, 1866, *Reise d. Novara, Neur.*, p. 62.
 1867. *Anax guttatus* Hagen, *Verh. zool.- bot. Ges. Eien*, 16: 39; Kirby, 1890, *Cat. Odon.* p. 84; Martin, 1908, *Cat. Coll. Selys, fasc.*, 18: 23; Fraser, 1936, *Fauna Brit. India Odon.*, 3: 140-142.

Anax immaculifrons Rambur, 1842

1842. *Anax immaculifrons* Rambur, *Ins. Nevrop.* p. 189; Kirby, 1890, *Cat. Odon.*, P. 84; Fraser, 1933, *J. Bombay Nat. Hist. Soc.* Vol. 36, p. 465; Fraser, 1936, *Fauna Brit. India Odon.*, 3: 145-146.

Anax indicus Lieftinck, 1942

1942. *Anax indicus*, Lieftinck, *Treubia*, 18(3): 441-607.

Anax parthenope (Selys, 1839)

1839. *Aeshna (Anax)parthenope* Selys, *Bull. Acad. Belg.* (2), vol. **6**, p. 389
1840. *Anax parthenope* Selys, *Mon. Lib. Eur.*, P. 119.
1921. *Anax parthenope parthenope* Fraser, *J. Bombay nat. Hist. Soc. Vol.*, **28**, p. 110, 119-121.
1936. *Anax parthenope*, Fraser, *Fauna Brit. India Odon.*, **3**: 140-142.

Gynacantha bayadera Selys, 1891

1891. *Gynacantha bayadera* Selys, *Ann. Mus. Civ. Genova*, vol., **30**, p. 47; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 103-104.

Material examined: 1 male, 2-iii-2009, Lalbaghathri (Bhadra WLS, Karnataka), Coll. K. G. Emiliyamma.

Gynacantha dravida Lieftinck, 1960

1882. *Gynacantha hyalina* Selys, *An. Soc. Espan. Hist. Nat.*, **11**: 19; Karsch, 1891, *Ent. Nachr.*, **17**: 228; Kruger, 1898, *Stett. Ent. Zeit.*, **59**: 275; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 97-100.
1960. *Gynacantha dravida* Lieftinck, *Mem. Soc. ent. ital.*, **38**: 252-253.

Material examined: 1 male, 29-i-2003, Ponnani (Malappuram Dt.), 2 males, 3-xi-2001, Kadalundi (Kozhikode Dt.); 2 males, 3 females, 25-iv-1999, Kadalundi (Kozhikode Dt.), Coll. K. G. Emiliyamma; 1 male, 1 female, 7-xii-1998, Chevayur (Kozhikode Dt.); 2 males, 1 female, 19-ii-2002, Chevayur (Kozhikode Dt.), Coll. C. Radhakrishnan.

Hemianax ephippiger (Burmeister, 1839)

1839. *Aeschna ephippiger* Burmeister, *Handb. Ent. Band*, **2**: 840; Calvert, 1898, *Trans. Amer. Ent. Soc.*, **25**: 55.
1867. *Anax ephippiger* Hagen, *Verh. zool.- bot. Ges. Wien*, **17**: 31.
1890. *Hemianax ephippiger* Kirby, *Cat. Odon.*, p. 85; Karsch, 1891, *Ent. Nachr.*, **17**: 278; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 147-149.
1921. *Anax (Hemianax) ephippiger* Laidlaw, *Rec. Indian Mus.*, **22**: 87.

Family CHLOROGOMPHIDAE

Chlorogomphus campioni (Fraser, 1924)

1924. *Orogomphus campioni* Fraser, *Rec. Indian Mus.*, **26**: 427, 467-469.
1931. *Chlorogomphus campioni* Fraser, *Rec. Indian Mus.* **33**: 447, 457; Fraser, 1936, *Fauna Brit. India Odon.* **3**: 9-13.

Material examined: 1 male, 21-iii-1995, Pakshipadalam (Wayanad), Coll. P.M. Sureshan.

Chlorogomphus xanthoptera (Fraser, 1919)

1919. *Orogomphus xanthoptera* Fraser, *J. Bombay nat. Hist. Soc.*, **26**: 874-875.
1924. *Chlorogomphus xanthoptera* Fraser, *Rec. Indian Mus.* **26**: 427, 469; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 8-9.

Family CORDULIIDAE

Hemicordulia asiatica Selys, 1878

1878. *Hemicordulia asiatica* Selys, *Bull. Acad. Belg.*, (2) **45**: 186; Kirby, 1890, *Cat. Odon.*, p. 47; Martin, 1906, *Cat. Coll. Selys (Cordulinos)*, fasc., **17**: 13; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 213-215.

Idionyx corona Fraser, 1921

1921. *Idionyx corona* Fraser, *J. Bombay nat. Hist. Soc. Vol.*, **28**, pp. 690-691;
1936. *Idionyx corona* Fraser, *Fauna Brit. India Odon.*, **3**: 229-230.

Idionyx corona burliyarensis Fraser, 1928

1922. *Idionyx corona* race *nilgiriensis* Fraser, *Mem. Dept. Agric. India, Ent.*, **7**(7): 65-66.
1924. *Idionyx corona burliyarensis* Fraser, *Rec. Indian Mus.*, **26**: 461-462.
1936. *Idionyx burliyarensis* Fraser, *Fauna Brit. India Odon.*, **3**: 227-229.

Material examined: 1 female, 4-vi-2003, Thusharagiri (Kozhikode), Coll. Md. Jafer Palot.

Idionyx galeata Fraser, 1924

1924. *Idionyx galeata* Fraser, *Rec. Indian Mus.*, **26**: 517, 519.
1936. *Idionyx galeata* Fraser, *Fauna Brit. India Odon.*, **3**: 226-227.

***Idionyx minima* Fraser, 1931**

1931. *Idionyx minima* Fraser, *Rec. Indian Mus.*, **33**: 447, 453-455; id., 1934, *J. Bombay nat. Hist. Soc.*, **37**: 558, 562.
1936. *Idionyx minima* Fraser, *Fauna Brit. India Odon.*, **3**: 225-226.

***Idionyx nadganiensis* Fraser, 1924**

1924. *Idionyx nadganiensis* Fraser, *Rec. Indian Mus.*, **26**: pp. 427, 460; *J. Bombay nat. Hist. Soc.*, **37**: 559, 570 (1934)
1936. *Idionyx nadganiensis* Fraser, *Fauna Brit. India Odon.*, **3**: 238-239

***Idionyx nilgiriensis* (Fraser, 1918)**

1924. *Idionyx nilgiriensis* Fraser, *Rec. Indian Mus.*, **26**: pp. 460-461.

***Idionyx periyashola* Fraser, 1939**

1939. *Idionyx periyashola* Fraser, *Proc. R. ent. Soc. London (B)*: **8**: 93-94.

***Idionyx rhinoceroideis* Fraser, 1934**

1934. *Idionyx rhinoceroideis* Fraser, *J. Bombay nat. Hist. Soc.*, **37**: 559, 565.
1936. *Idionyx rhinoceroideis* Fraser, *Fauna Brit. India Odon.*, **3**: 230-231.

***Idionyx saffronata* Fraser, 1924**

1924. *Idionyx saffronata* Fraser, *Rec. Indian Mus.*, **26**: 427, 458-460.
1936. *Idionyx saffronata* Fraser, *Fauna Brit. India Odon.*, **3**: 222-223.

Material examined: 1 female, 27-v-2003, Thusharagiri (Kozhikode Dt.), Coll. C. Radhakrishnan; 1 male, 10-v-2005, Vannathimala (Wayanad Dt.), Coll. K. G. Emiliyamma.

***Idionyx travancorensis* Fraser, 1931**

1931. *Idionyx travancorensis* Fraser, *Rec. Indian Mus.*, **33**: 447, 455-456.
1936. *Idionyx travancorensis* Fraser, *Fauna Brit. India Odon.*, **3**: 223-225.

Material examined: 2 males, 4-vi-2003, Thusharagiri (Kozhikode Dt.), Coll. Md. Jafer Palot.

***Macromidia donaldi* (Fraser, 1924)**

1924. *Indomacromia donaldi* Fraser, *Rec. Indian Mus.*, **26**: 515-516.

1931. *Macromidia donaldi* Fraser, *Rec. Indian Mus.*, **33**: 447, 456; Needham, 1932, *Rec. Indian Mus.*, **34**: 210; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 206-208.

Family GOMPHIDAE

***Acrogomphus fraseri* Laidlaw, 1925**

1925. *Acrogomphus fraseri* Laidlaw, *Proc. Zool. Soc. Lond.* pp. 441-443; Fraser, 1926, *J. Bombay nat. Hist. Soc.*, **31**: 740-741; Needham, 1932, *Rec. Indian Mus.*, **34**: 217-218; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 337-339.

***Asiagomphus nilgircus* (Laidlaw, 1922)**

1922. *Gomphus nilgircus* Laidlaw, *Rec. Ind. Mus. Vol.*, **24**, pp. 371, 397-398, fig. 16; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 202-204.

***Burmagomphus cauvericus* Fraser, 1926**

1926. *Burmagomphus cauvericus* Fraser, *J. Bombay nat. Hist. Soc.*, Vol. **31**, p. 413, pl.1, fig.6; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 222-223.

***Burmagomphus laidlawi* Fraser, 1924**

1922. *Gomphus* sp. Fraser, *Rec. Ind. Mus. Vol.*, **24**, pp. 419.
1924. *Burmagomphus laidlawi* Fraser, *Rec. Ind. Mus. Vol.* **26**, pp. 427, 475-476; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 220-222.

***Burmagomphus pyramidalis* Laidlaw, 1922**

1922. *Burmagomphus pyramidalis* Laidlaw, *Rec. Indian Mus.*, **24**: 371, 399-401; Fraser, 1923, *J. Bombay nat. Hist. Soc.*, **29**: 62, 33; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 213-215.
1991. *Burmagomphus pyramidalis pyramidalis* Tsuda, *A distributional list of world Odonata 1991*, p. 92.

***Cyclogomphus heterostylus* Selys, 1854**

1854. *Cyclogomphus heterostylus* Selys, *Bull. Acad. Belg. Vol.*, **21**, pl. 2, p. 62.
1857. *Cyclogomphus heterostylus* Selys, *Mon. Gomph. P.* 106; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 182-183.

Material examined: 1 male, 5-iv-1998, Thenmalai urukunnu (Thiruvananthapuram Dt.), Coll. P. T. Cherian; 1 male, 9-v-2008, Neyyar Wildlife Sanctuary (Thiruvananthapuram Dt.), Coll. Md. Jafer Palot.

***Davidioides martini* Fraser, 1924**

1924. *Davidioides martini* Fraser, *Rec. Ind. Mus. Vol.*, **26**, pp. 427, 472-473, fig. 2; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 227-228

***Gomphidia fletcheri* Fraser, 1923**

1923. *Gomphidia fletcheri* Fraser, *J. Bombay nat. Hist. Soc.*, vol. **24**. pp. 669-670, pl. 2, fig. 2; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 386-387

***Gomphidia kodaguensis* Fraser, 1923**

1923. *Gomphidia kodaguensis* Fraser, *J. Bombay nat. Hist. Soc.*, **29**: 671-672; id., 1924, *Rec. Indian Mus.*, **26**: 427, 470; Laidlaw, 1930, *Trans. Ent. Soc. Lond.*, **78**: 179; Fraser, 1931, *Rec. Indian Mus.*, **33**: 447; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 389-391.

***Heliogomphus kalarensis* Fraser, 1934**

1933. *Heliogomphus kalarensis* Fraser (nom.nud.), *Ceylon J. Sci. B*, vol. **18**, p. 29, fig. 4; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 329-330.

***Heliogomphus promelas* (Selys, 1873)**

1923. *Gomphus promelas* Selys, 1873, *Bull. Acad. Belg.*, **36**: 498; Fraser, *J. Bombay nat. Hist. Soc.*, **29**: 62, 330.
1925. *Heliogomphus promelas* Fraser, *J. Bombay nat. Hist. Soc.*, **30**: 848-849; Laidlaw, 1930, *Trans. Ent. Soc. Lond.*, **78**: 182; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 327-329.

***Ictinogomphus rapax* (Rambur, 1842)**

1842. *Diastatomma rapax* Rambur, *Ins. Nevrop.* p. 169.
1854. *Ictinus rapax* Selys, *Bull. Acad. Belg.*, **21**(2): 90; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 373-376; Kirby, 1890, *Cat. Odon.*, p. 77; Martin, 1904, *Mision Pavie Indo- China*, p. 217.
1983. *Ictinogomphus rapax*, Mitra, *En. Mon. Mag.*, **119**: 30.

Material examined: 1 male, 25-x-2002, Kadalundi (Kozhikode Dt.), Coll. K. G. Emiliyamma; 3 males, 27-x-2000, Kanjirappally (Kottayam Dt.), Coll. P.M. Sureshan; 1 male, 1-ix-2001, Madayipara (Kannur Dt.); 1 male, 22-x-2001, Kannavam R. F., (Kannur Dt.), Coll. Md. Jaffer Palot; 1 male, 12-ix-2001, Malampuzha (Palakkad Dt.), Coll. Dinesan Cheruvat; 1 male, 8-x-1995, Asurankundu (Thrissur Dt.), Coll. K. C. Gopi; 1 female, 11-v-2002, Vallamkulam (Pathanamthitta Dt.), Coll. Ashok Kumar.

***Macrogomphus wynaadicus* Fraser, 1924**

1924. *Macrogomphus wynaadicus* Fraser, *Rec. Ind. Mus.*, **26**: 471-472; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 344-345.

***Megalogomphus hanningtoni* (Fraser, 1923)**

1923. *Heterogomphus hanningtoni* Fraser, *J. Bombay nat. Hist. Soc.*, **29**: 674-676.
1924. *Megalogomphus hanningtoni* Fraser, *Rec. Indian Mus.*, **26**: 428, 478-479; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 296-298.

***Megalogomphus superbus* Fraser, 1931**

1931. *Megalogomphus superbus* Fraser, *Rec. Indian Mus.*, **33**: 448, 460-463, figs. 3 & 4; Needham, 1932, *Rec. Indian Mus.*, **34**: 222; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 300-302.

***Merogomphus longistigma* (Fraser, 1922)**

1922. *Indogomphus longistigma* Fraser, *Rec. Indian Mus.*, **24**: 422 & 424; *Merogomphus longistigma* Laidlaw, 1930, *Trans. Ent. Soc. Lond.*, **78**: 185; Fraser, 1931, *Rec. Indian Mus.*, **33**: 448 & 460.
1934. *Merogomphus longistigma longistigma* Fraser, *Fauna Brit. India Odon.*, **2**: 311-313.

***Merogomphus longistigma tamaracherriensis* Fraser, 1931**

1931. *Merogomphus longistigma tamaracherriensis* race or sp.? Fraser, *Rec. Indian Mus.*, **33**: 460; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 313.

***Microgomphus souteri* Fraser, 1924**

1924. *Microgomphus torquatus souteri* Fraser, *Rec. Indian Mus.*, **26**: 427 & 474 *Microgomphus souteri* Fraser, 1925, *J. Bombay nat. Hist. Soc.*, **30**: 853-854; Laidlaw, 1930, *Trans. Ent. Soc. Lond.*, **78**: 182; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 355-356.

Material examined: 1 male, 6-vi-2010, Aralam Wildlife Sanctuary (Kannur Dt.), Coll. Md. Jafer Palot.

***Onychogomphus acinaces* (Laidlaw, 1922)**

1922. *Onychogomphus acinaces* Laidlaw, *Rec. Indian Mus.*, **24**: 407-408.
1924. *Lamellogomphus acinaces* Fraser, *J. Bombay nat. Hist. Soc.*, **29**: 988-990; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 280-282.

***Onychogomphus malabarensis* (Fraser, 1924)**

1922. *Onychogomphus biforceps* Fraser (nec Selys), *Rec. Indian Mus.*, **24**: 424-425.
1924. *Lamellogomphus malabarensis* Fraser, *J. Bombay nat. Hist. Soc.*, **29**: 990-991; Laidlaw, 1930, *Trans. Ent. Soc. Lond.*, **78**: 193; Needham, 1932, *Rec. Indian Mus.*, **34**: 224.

1934. *Lamelligomphus malabarensis* Fraser, *Fauna Brit. India Odon.*, **2**: 279-280.

Onychogomphus nilgiriensis (Fraser, 1922)

1922. *Onychogomphus biforceps nilgiriensis* Fraser, *Rec. Indian Mus.* **24**: 425-426.

1924. *Lamelligomphus nilgiriensis* Fraser, *J. Bombay nat. Hist. Soc.*, **29**: 986-988; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 276-279.

Onychogomphus nilgiriensis annaimallaicus

Fraser, 1934

1934. *Onychogomphus nilgiriensis annaimallaicus*, new race? Fraser, *Fauna Brit. India Odon.*, **2**: 279.

Onychogomphus striatus Fraser, 1924

1922. *Onychogomphus bistrigatus* Fraser, *Rec. Ind. Mus. Vol.*, **24**, p. 424.

1924. *Onychogomphus striatus* Fraser, *J. Bombay Nat. Hist. Soc. Vol.*, **29**, p. 1000, fig. 2; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 249-250

Paragomphus lineatus (Selys, 1850)

1850. *Gomphus lineatus* Selys, *Rev. Odon.* p. 386.

1854. *Onychogomphus lineatus* Selys, *Bull. Acad. Belg.*, **21**: 36; Williamson, 1907, *Proc. U. S. Nat. Mus.*, **33**: 309-310.

1924. *Mesogomphus lineatus* Fraser, *Rec. Indian Mus.*, **26**: 427 & 477; Fraser, 1934, *Fauna, Brit. India Odon.*, **2**: 230-234.

Material examined: 1 male, 7-xii-2004, Kinalur estate (Kozhikode Dt.), Coll. K. C. Gopi.; 1 male, 15-xi-2006, Madla (Bhadra WLS, Karnataka), Coll. K. G. Emiliyamma.

Family LIBELLULIDAE

Acisoma panorpoides Rambur, 1842

1842. *Acisoma panorpoides* Rambur, *Ins. Nevrop.* P. 28; Lietinck, 1954, *Treubia*, **22** (suppl.): 146.

1911. *Acisoma panorpoides panorpoides* Ris, *Cat. Coll. Selys Lib.*, **12**: 456 ; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 330-331.

Material examined: 1 male, 1 female, 30-xii-1998, Chalamattom (Kottayam Dt.); 2 males, 3 females, 27-x-2004, Kadalundi (Kozhikode Dt.), 1 male, 9-v-2005, Pookode lake (Wayanad Dt.), Coll. K. G. Emiliyamma; 1 male, 18-xii-1998, Kanniparamba (Kozhikode Dt.), Coll. P. M.

Sureshan; 1 male, 2-x-2001, Kuniyan (Kasaragod Dt.), Coll. Md. Jafer Palot.

Aethriamanta brevipennis (Rambur, 1842)

1842. *Libellula brevipennis* Rambur, *Ins. Nevrop.* p.114.

1889. *Aethriamanta brevipennis* Kirby, *Trans. Zool. Soc. Lond.*, **12**: 283; Tsuda, 1991, *A distributional list of World Odonata*, 1991, p. 144.

1936. *Aethriamanta brevipennis brevipennis* Fraser, *Fauna Brit. India Odon.*, **3**: 445-447.

Material examined: 1 male, 1 female, 20-x-2003; 1 male, 27-x-2004, Kadalundi (Kozhikode Dt.), Coll. K. G. Emiliyamma; 4 males, 1 female, 23-ii-2000, Parumala/Mannar (Alappuzha Dt.), Coll. K. C. Gopi; 1 male, 15-ix-2001, Kasaragod, Coll. Md. Jafer Palot.

Brachydiplax chalybea Brauer, 1868

1868. *Brachydiplax chalybea* Brauer, *Verh. zool.- bot. Ges. Wien*, **18**: 173, 725; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 328-329.

1954. *Brachydiplax chalybea chalybea* Lieftinck, *Treubia*, **22** (suppl.): 143.

Material examined: 1 male, 25-viii-2003, Kadalundi (Kozhikode Dt.), Coll. K. G. Emiliyamma.

Brachydiplax sobrina (Rambur, 1842)

1842. *Libellula sobrina* Rambur, *Ins. Nevrop.* p. 114.

1893. *Brachydiplax sobrina* Kirby, *J. Linn. Soc. Zool.*, **24**: 551; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 325-327.

Material examined: 1 male, 1 female, 10-vi-2001, Chemballickundu (Kannur Dt.); 1 female, 20-vii-2004, Madayipara (Kannur Dt.) Coll. Md. Jafer Palot; 4 males, 29-x-2000, Kumarakom; 1 male, 31-x-2000, Velloor (Kottayam Dt.), Coll. P. M. Sureshan.

Brachythemis contaminata (Fabricius, 1793)

1793. *Libellula contaminata* Fabricius, *Ent. Syst.*, **2**: 382.

1868. *Brachythemis contaminata* Brauer, *Verh. zool. - bot. Ges. Wien*, **17**: 736 ; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 365-366.

Material examined: 1 male, 18-xii-1998, Cheroopa (Kozhikode Dt.); 2 males, 4 females,

19-iii-1999, Pothundi (Palakkad Dt.); 4 males, 5 females, 17-iii-1999, Malampuzha (Palakkad Dt.); 1 male, 27-x-2000, Kanjirappally (Kottayam Dt.); 1 male, 2 females, 30-x-2000, Kidangoor (Kottayam Dt.), Coll. P. M. Sureshan; 3 males, 23-ii-2000, Parumala/Mannar (Alappuzha Dt.), Coll. K. C. Gopi; 1 male, 1 female, 12-ix-2001, Malampuzha (Palakkad Dt.), Coll. Dinesan Cheruvat; 1 male, 3 females, 25-ii-1996, Chimony WLS (Thrissur Dt.), Coll. C. Radhakrishnan; 2 males, 3 females, 24-x-2002, Vadikkadavu (Malappuram Dt.), Coll. K. G. Emiliyamma

Bradinopyga geminata (Rambur, 1842)

1842. *Libellula geminata* Rambur, *Ins. Nevrop.* p. 90.
1911. *Bradinopyga geminata* Ris, *Cat. Coll Selys, fasc.*, **13**: 545 & 548; Fraser, 1936, *Fauna Brit. India Odon.* **3**: 349-350.

Material examined: 2 males, 18-i-1999, Eranhipalam (Kozhikode Dt.), Coll. Ashok kumar; 1 male, 2 females, 20-xiii-1999, Chevayur (Kozhikode Dt.); 1 female, 23-ii-1996, Athirappally (Thrissur Dt.), Coll. C. Radhakrishnan; 2 males, 1 female, 12-ix-2001, Malampuzha (Palakkad Dt.), Coll. Dinesan Cheruvat; 2 males, 4-vi-2003, Thusharagiri (Kozhikode Dt.); 1 female, 21-vii-2004, Madayipara (Kannur Dt.) Coll. Md. Jafer Palot; 3 males, 4 females, 27-x-2004, Kadalundi (Kozhikode Dt.), Coll. K. G. Emiliyamma.

Cratilla lineata Foerster, 1903

1770. *Orthemis lineata* Brauer, *Sitzungsber. Akad. Wien.* **77**: 9.
1903. *Cratilla lineata* Forster, *Ann. Mus. Hungar.* p. 537; Fraser, 1936, *Fauna Brit. India Odon.* **3**: 286-288.
1949. *Cratilla lineata calverti*, Lieftinck, *Verh. NaturaiGes. Basel.*, **64**(1): 201-202.

Material examined: 1 female, 5-xi-1995, Muthuvanchal (Wayanad Dt.); 4 females, 18-xii-1998, Thunnilokadavu (Wayanad Dt.); 1 female, 11-xi-1994, Rampur R. F. (Wayanad Dt.), Coll. P. M. Sureshan; 1 female, 26-x-2001, Payangadi (Kannur Dt.), Coll. Md. Jaffer Palot; 1 female, 26-i-1994, Manjucholamala (Kasaragod Dt.), Coll. K. C. Gopi; 2 females, 28-viii-2003, Thusharagiri (Kozhikode Dt.), K. G. Emiliyamma.

Crocothemis servilia (Drury, 1770)

1770. *Libellula servilia* Drury, *III. Ins.*, **1**: 112-113; Rambur, 1842, *Ins. Nevrop.* p. 80.
1868. *Crocothemis servilia* Brauer, *Verh. zool. -bot. Ges. Wien.*, **18**: 737.
1936. *Crocothemis servilia servilia* Fraser, *Fauna Brit. India Odon.*, **3**: 345-347.

Material examined: 1 male, 1 female, 2-iv-1998, Anchuthengu (Thiruvananthapuram Dt.), Coll. P. T. Cherian; 1 male, 21-ix-1999, Kadalundi (Kozhikode Dt.); 1 male, 24-iv-2002, Eengappuzha (Kozhikode Dt.), Coll. K. G. Emiliyamma; 1 female, 16-iii-2001, Kulasekaram (Thiruvananthapuram Dt.); 2 males, 3 females, 6-xi-2002, Payangadi (Kannur Dt.); 1 male, 24-xi-1994, Madayikavu (Kannur Dt.) Coll. K. C. Gopi; 1 male, 21-ix-1999, Kadalundi (Kozhikode Dt.); 3 females, 18-xii-1998, Mavoor/ Pallikadavu (Kozhikode Dt.); 1 female, 20-iii-1999, Mangalam dam (Palakkad Dt.); 1 male, 1 female, 5-ix-2001, Kolavipalam (Kozhikode Dt.), Coll. P. M. Sureshan; 1 male, 9-ix-2001, Chemballickundu (Kannur Dt.); 2 females, 23-vii-2004, Madayipara (Kannur Dt.) Coll. Md. Jafer Palot.

Diplacodes lefebveri (Rambur, 1842)

1842. *Libellula lefebvrei* Rambur, *Ins. Nevrop.*, p. 112.
1890. *Diplacodeslefebvrei* Kirby, *Cat. Odon.*, P. 42; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 333-335.

Diplacodes nebulosa (Fabricius, 1793)

1793. *Libellula nebulosa* Fabricius, *Ent. Syst.*, **2**: 379.
1889. *Diplacodes nebulosa* Kirby, *Trans. Zool. Soc. Lond.* **12**: 308; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 335-336.

Material examined: 2 males, 1 female, 14-viii-2000, Madayipara (Kannur Dt.), Coll. Md. Jafer Palot; 2 males, 27-x-2002, Kadalundi (Kozhikode Dt.), Coll. K. G. Emiliyamma.

Diplacodes trivialis (Rambur, 1842)

1842. *Libellula trivialis* Rambur, *Ins. Nevrop.* p. 115.
1891. *Diplacodes trivialis* Karsch, *Ent. Nachr.*, **17**: 246; Fraser, 1936, *Fauna of Brit. India Odon.* **3**: 336-338.

Material examined: 1 male, 30-x-1995,

Kamathalachi (Parambikulam WLS, Palakkad Dt.); 1 male, 1 female, 14-iii-1996, Cheechali (Parambikulam WLS), 3 females, 23-ii-2000, Parumala (Alappuzha Dt.); 1 male, 1 female, 26-vi-2002, Thavanakkadavu (Ernakulam Dt.), Coll. C. Radhakrishnan; 1 female, 24-iii-1998, Neyyar Dam site (Thiruvananthapuram Dt.); 1 male, 25-iii-1998, Kovalam (Thiruvananthapuram Dt.); 1 male, 1 female, 28-iii-1998, Golden Valley (Thiruvananthapuram Dt.); 1 male, 1 female, 29-iii-1998, way to Chankiri (Thiruvananthapuram Dt.); 1 female, 30-iii-1998, Mottanood river (Thiruvananthapuram Dt.); 1 female, 3-iv-1998, Paighat (Thiruvananthapuram Dt.), Coll. P. T. Cherian; 2 males, 18-iii-2001, Chathankode (Thiruvananthapuram Dt.); 2 males, 1 female, 16-iii-2001, Kulasekaram (Thiruvananthapuram Dt.); 1 male, 17-iii-2001, Parassala, (Thiruvananthapuram Dt.); 1 female, 10-v-1995, Peechi R. F. (Trichur Dt.); 1 female, 13-x-1993, Parappa R. F. (Kasaragod Dt.); 6 females, 6-xi-2002, Payangadi (Kannur Dt.); 2 males, 4 females, 7-xi-2002, Theckumbad island (Kannur Dt.); 1 female, 30-iii-1997, Pulickal (Parambikulam WLS, Palakkad Dt.), Coll. K. C. Gopi; 1 female, 25-iv-2000, Thiruvambadi (Kozhikode Dt.); 1 male, 15-xi-1998, Chalamattom (Kottayam Dt.); 1 male, 2 females, 3-ii-2000, Calicut university campus; 1 male, 1 female, 24-i-2002, Kadalundi (Kozhikode Dt.); 2 males, 6 females, 30-I-2003, Ponnani port area (Malappuram Dt.); 3 males, 25-vi-2004, Thusharagiri (Kozhikode Dt.); 1 male, 11-v-2005, Chembra (Wayanad Dt.), Coll. K. G. Emiliyamma; 1 female, 19-vii-1982, Chathamangalam (Kozhikode Dt.), Coll. K. N. Nair; 3 males, 23-iii-1999, Chulliyar (Palakkad Dt.); 1 female, 20-iii-1999, Mangalam dam site (Palakkad Dt.); 1 female, 4-xi-1995, Pezhakunnu (Parambikulam WLS, Palakkad Dt.); 1 female, 19-ix-2001, Kolavipalam (Kozhikode Dt.); 1 female, 19-ii-1997, Pamba (Pathanamthitta Dt.); 1 male, 2-iii-1994, Vattapoiil (Wayanad Dt.), Coll. P. M. Sureshan; 1 male, 1 female, 14-ii-2003, Chinnar WLS (Idukki Dt), 4 males, 6 females, 14-x-2001, Madayipara (Kannur Dt.); 1 male, 2 females, 8-ix-2001, Malampuzha (Palakkad Dt.);

1 male, 2 females, 27-iii-2003, Manjeswaram (Kasaragod Dt.), Coll. Md. Jafer Palot; 1 male, 17-i-1992, Kuyilimala (Idukki Dt.), Coll. M. B. Raghunathan.

Epithemis mariae (Laidlaw, 1915)

1915. *Amphithemis mariae* Laidlaw, *Rec. Indian Mus.*, **11**: 337-339; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 258-259.

Material examined: 2 males, 30-iii-1997, Pulickal (Parambikulam WLS, Palakkad Dt.); 2 males, 24-ix-1993, Santhimala (Kasaragod Dt.), Coll. K. C. Gopi; 1 female, 6-xi-1995, Muthalakayam (Parambikulam WLS); 3 males, 1 female, 14-xi-1996, Vellayikkamalai (Idukki WLS, Idukki Dt.), Coll. P. M. Sureshan.

Hydrobasileus croceus (Brauer, 1867)

1867. *Tramea croceus* Brauer, *Verh. zool.-bot. Ges. Wien*, **17**: 813.
1890. *Hydrobasileus croceus* Karsch, *Berlin Ent. Zeit.*, **33**: 351; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 429-430.

Material examined: 1 female, 21-x-2001, Pandalam (Pathanamthitta Dt.), Coll. Ashok Kumar.

Hylaeothemis indica Fraser, 1946

1889. *Tetrathemis fruhstorferi* Karsch, *Ent. Nachr.*, **15**: 321; Kirby, 1890, *Cat. Odon.*, p. 44.
1909. *Hylaeothemis fruhstorferi* Ris, *Cat. Coll. Selys, fasc.*, **9**: 64-65; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 261-262.
1991. *Hylaeothemis fruhstorferi apicalis* Tsuda, *A distributional list of world Odonata*, p. 157.
1946. *Hylaeothemis indica* Fraser, *Proc. R. ent. Soc. Lond.*, (B) **15**(7/8): 97-100

Material examined: 1 female, 28-viii-2003, Thusharagiri (Kozhikode Dt.); 1 male, 10-v-2005, Vannathimala (Wayanad Dt.); 1 female, 11-v-2005, Chembra (Wayanad Dt.), Coll. K. G. Emiliyamma.

Indothemis carnatica (Fabricius, 1798)

1842. *Libellula caesia* Rambur, *Ins. Nevrop.* p. 95.
1911. *Indothemis caesia* Ris, *Cat. Coll. Selys, fasc.*, **13**: 529-531; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 340-341.

1991. *Indothemis carnatica* Tsuda, *A distributional list of World Odonata*, 1991, p. 157.

Lathrecista asiatica (Fabricius, 1798)

1798. *Libellula asiatica* Fabricius, *Ent. Syst., Suppl.* p. 283.
1909. *Lathrecista asiatica asiatica* Ris, *Cat. Coll. Selys, fasc.*, 9: 129-132; Fraser, 1918, *J. Bombay nat. Hist. Soc.*, 26: 147-149; Fraser, 1936, *Fauna Brit. India Odon.*, 3: 281-284.

Material examined: 1 male, 25-x-2001, Aralam WLS (Kannur Dt.); 1 male, 27-xii-2003, Nelliampathy hills (Wayanad Dt.); 1 male, 5-ix-2005, Pazhayangadi (Kannur Dt.) Coll. Md. Jafer Palot; 2 males, 20-x-2003, Kadalundi (Kozhikode Dt.), Coll. K. G. Emiliyamma; 1 male, 4-viii-2001, Edakkad (Kozhikode Dt.), Coll. Ashok kumar.

Lyriothemis acigastra (Selys, 1878)

1878. *Calothemis acigastra* Selys, *Mitth. Mus. Dresden*, p. 309
1883. *Lyriothemis acigastra* Selys, *Ann. Soc. Ent. Belg. Vol.*, 27, pp. 97, 143
1936. Fraser, *Fauna Brit. India Odon.*, 3: 265-267.
2013. *Taprobanica*, 5(1): 73-74.

Material examined: 4male, 1female, 17-vii-2010; 3 male, 29-viii-2010, Aravanchalkavu, (Kannur Dt.); 1 female, 9-ix-2010; 2 female, 21-ix-2010, Madayipara (Kannur Dt.), Coll. Muhamed Jafer Palot.

Neurothemis fulvia (Drury, 1773)

1773. *Libellula fulvia* Drury, *III. Exot. Ins.*, 2: 84-85.
1889. *Neurothemis fulvia* Kirby, *Trans. Zool. Soc. Lond.* 12: 271; Fraser, 1936, *Fauna Brit. India Odon.*, 3: 353-354; Lieftinck, 1954, *Treubia*, 22 (suppl.): 150.

Material examined: 1 male, 25 - iv - 2000, Thiruvambadi (Kozhikode Dt.), Coll. K. G. Emiliyamma; 1 male, 21-iii-1994, Kasadukka (Kasaragod Dt.); 1 female, 14-x-1993, Chempilankai (Kasaragod Dt.); 1 female, 30-v-2002, Kinalur estate (Kozhikode Dt.); 2 females, 13-x-1993, Parappa R. F. (Kasaragod Dt.); 1 male, 19-iii-1994, Kavadikanam (Kasaragod Dt.); 1 male, 24-ix-1993, Santhimala (Kasaragod Dt.), Coll. K. C. Gopi; 1 female, 4-xi-2002, Edakkad

(Kozhikode Dt.), Coll. Ashok Kumar; 2 males, 9-viii-1982, Kudathai (Kozhikode Dt.), Coll. K. N. Nair; 1 female, 18-I-1992, Painavu (Idukki Dt.), Coll. M. B. Raghunathan; 1 male, 6-iv-1995, Aralam WLS (Kannur Dt.), Coll. Md. Jafer Palot; 1 female, 2-iii-1994, Chandanathodu (Wayanad Dt.), Coll. P. M. Sureshan.

Neurothemis intermedia (Rambur, 1842)

1842. *Libellula intermedia* Rambur, *Ins. Nevropp.*, p. 91.
1889. *Neurothemis intermedia* Selys, *Ann. Mus. Civ. Genova*, 27: 454.
1911. *Neurothemis intermedia intermedia* Ris, *Cat. Coll. Selys, fasc.*, 13: 563-564; Fraser, 1936, *Fauna Brit. India Odon.*, 3: 357-358.

Material examined: 2 males, 17-iii-1999, Malampuzha (Palakkad Dt.); 3 males, 1 female, 21-iii-1999, Pothundi (Palakkad Dt.); 3 males, 22-iii-1999, Kanjirampuzha (Palakkad Dt.); 1 male, 16-viii-1997, Amakulam (Kollam Dt.); 1 female, 27-x-1995, Venkoli (Parambikulam WLS, Palakkad Dt.), Coll. P. M. Sureshan; 1 female, 26-I-1994, Manjucholamala (Kasaragod Dt.); 1 male, 23-iii-1994, Bendadukka (Kasaragod Dt.), Coll. K. C. Gopi. 1 female, 1-ix-2001, Madayipara (Kannur Dt.); 1 male, 27-xii-2001, Aralam WLS (Kannur Dt.), Coll. Md. Jafer Palot.

Neurothemis intermedia atlanta Ris, 1916

1916. *Neurothemis intermedia atlanta* Ris, *Cat. Coll. Selys, fasc.* 16: 1168; Fraser, 1924, *Rec. Ind. Mus.*, 26: 438-439; Fraser, 1936, *Fauna Brit. India Odon.*, 3: 358-359.

Material examined: 1 female, 14-x-1993, Chempilankai (Kasaragod Dt.), Coll. K. C. Gopi; 1 male, 1 female, 2-x-2001, Kuniyan (Kasaragod Dt.), Coll. Md. Jafer Palot.

Neurothemis tullia (Drury, 1773)

1773. *Libellula tullia* Drury, *III. Exot. Ins.*, 2: 85.
1890. *Neurothemis tullia* Kirby, *Cat. Odon.*, p. 8
1911. *Neurothemis tullia tullia* Ris, *Cat. Coll. Selys, fasc.* 13: 551; Fraser, 1936, *Fauna Brit. India Odon.*, 3: 360-362.

Material examined: 1 male, 3 females, 3-iv-1998, Paighat (Thiruvananthapuram Dt.), Coll.

P.T. Cherian; 2 males, 14-iv-1997, Vely, Coll. M.B. Raghunathan; 2 males, 14-iii-2001, Attingal (Thiruvananthapuram Dt.); 3 males, 17-iii-2001, Parassala (Thiruvananthapuram Dt.); 2 males, 1 female, 17-iii-2001, Neyyattinkara; 1 male, 1 female, 18-iii-2001, Vithura Chathankodu (Thiruvananthapuram Dt.); 1 male, 1 female, 30-v-2002, Kinalur estate (Kozhikode Dt.), Coll. K. C. Gopi; 2 males, 20-xii-1998, Maryland (Kottayam Dt.); 1 female, 24-x-2002, Vadikkadavu (Malappuram Dt.); 2 females, 9-v-2005, Pookode lake (Wayanad Dt.); 1 male, 25-iv-2000, Thiruvambadi (Kozhikode Dt.); 2 males, 6 females, 22-ii-2001, Kuttiadi (Kozhikode Dt.) Coll. K. G. Emiliyamma; 2 males, 1 female, 8-iii-2002, Kinaloor estate (Kozhikode Dt.), Coll. C. Radhakrishnan; 3 males, 4 females, 18-xii-1998, Mavoor/ Thennilakadavu (Kozhikode Dt.); 2 males, 17-I-1995, Peruvannamuzhi (Kozhikode Dt.); 4 males, 21-iii-1999, Pothundi (Palakkad Dt.), 2 males, 24-x-2000, Kumarakom (Kottayam Dt.); 1 male, 30-x-2000, Kidangoor (Kottayam Dt.); 1 male, 31-x-2000, Velloor (Kottayam Dt.); 1 male, 1 female, 25-x-2000, Kanjirampara (Kottayam Dt.); 2 males, 1 female, 12-xi-1996, Mullakudy (Periyar Tiger Reserve, Idukki Dt.); 1 male, 14-xi-1996, Vellayikkamalai (Idukki WLS); 1 male, 1 female, 14-iii-1996, Cheechali (Parambikulam WLS, Palakkad Dt.), Coll. P. M. Sureshan; 4 males, 2 females, 21-ix-1982, Koduvally (Kozhikode Dt.); 2 males, 1 female, 6-xii-1985, Kurichiarmala (Wayanad Dt.), Coll. K. N. Nair.

***Onychothemis testacea ceylanica* Ris, 1912**

1912. *Onychothemis tonkinensis ceylanica* Ris, *Cat. Coll. Selys, fasc.*, **16**: 832, 835.
1924. *Onychothemis testacea ceylanica* Laidlaw, *Spolia Zeylanica*, **12**: 349; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 404-406.

***Orthetrum chrysis* Selys, (1891)**

1891. *Libella testacea* race? *chrysis* Selys, *Ann. Mus. Civ. Genova*, **30**: 462.
1900. *Orthetrum chrysis* Ris, *Archivfur Natur.* Bd. **1**: 186, pl. ix, fig. 2; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 310-311.

Material examined: 3 males, 17 - ii - 2004, Thusharagiri (Kozhikode Dt.); 1 male, 22-ii-2001, Chathancode (Kozhikode Dt.); 1 male, 15-xi-1998, Chalamattom (Kottayam Dt.); 3 males, 17-ii-2004, Thusharagiri (Kozhikode Dt.); 1 male, 27-x-2004, Kadalundi (Kozhikode Dt.), Coll. K. G. Emiliyamma; 2 males, 30-v-2002, Kinalur estate (Kozhikode Dt.); 1 male, 1 female, 6-xi-2001, Thalakkulathur (Kozhikode Dt.), Coll. K. C. Gopi; 1 male, 12-I-1992, Kudayuritty (Idukki Dt.), Coll. M. B. Raghunathan; 1 male, 1 female, 27-x-2001, Aralam WLS (Kannur Dt.); 1 male, 22-x-2001, Meenmuttithodu (Kannavam R.F., Kannur Dt.); 1 male, 4-vi-2003, Thusharagiri (Kozhikode Dt.), Coll. Md. Jafer Palot; 1 male, 1 female, 4-ix-1995, Kottiyur R.F.(Kannur Dt.), Coll. C. Radhakrishnan.

***Orthetrum glaucum* (Brauer, 1865)**

1865. *Libellula glauca* Brauer, *Verh. zool.- bot. Ges. Wien*, **15**: 1012.
1890. *Orthetrum glaucum* Kirby, *Cat. Odon.* p.39; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 307-309.

Material examined: 2 males, 23-xii-1994, Kurichiat R.F (Wayanad Dt.), Coll. C. Radhakrishnan; 1 male, 1 female, 30-v-2002, Kinalur estate (Kozhikode Dt.); 1 male, 27-x-1993, Pullody (Kasaragod Dt.), Coll. K. C. Gopi; 1 male, 9-xi-1996, Mlappara (Periyar Tiger Reserve, Idukki Dt.); 2 males, 2 females, 9-xi-1994, Periya R.F. (Wayanad Dt.); 1 male, 11-xi-1994, Rampur R.F. (Wayanad Dt.), Coll. P. M. Sureshan; 2 males, 2 females, 23-ix-2004, Thusharagiri (Kozhikode Dt.); 2 males, 12-v-2005, Banasuramala foot hills (Wayanad Dt.), Coll. K. G. Emiliyamma.

***Orthetrum luzonicum* (Brauer, 1868)**

1868. *Libella luzonica* Brauer, *Verh. zool.- bot. Ges. Wien*, **18**: 169, 732.
1890. *Orthetrum luzonicum* Kirby, *Cat. Odon.* p. 38; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 298-300.

Material examined: 1 male, 30-xii-1998, Chalamattom (Kottayam Dt.); 1 male, 25-iv-2000, Muthappanpuzha (Kozhikode Dt.); 2 males, 24-x-2002, Vadikkadavu (Malappuram Dt.); 1 male, 1

female, 17-ii-2004, Thusharagiri (Kozhikode Dt.); 1 male, 9-v-2005, Pookode lake (Wayanad Dt.), Coll. K. G. Emiliyamma; 1 male, 15-iii-2001, Kallar (Thiruvananthapuram Dt.); 1 male, 24-i-1994, Ranipuram (Kasaragod Dt.); 1 male, 7-xii-2004, Kinalur estate (Kozhikode Dt.), Coll. K. C. Gopi; 1 male, 1 female, 8-iii-2002, Kinalur estate (Kozhikode Dt.); 1 female, 5-ix-2002, Chevayur (Kozhikode Dt.), Coll. C. Radhakrishnan; 1 male, 7-xii-2002, Aralam WLS (Kannur Dt), Coll. Md. Jafer Palot; 1 male, 18-viii-1997, Vallamvetti, Anchal R.F. (Kollam Dt.); 1 female, 12-xi-1994, Kuppadi R.F. (Wayanad Dt.), Coll. P. M. Sureshan.

Orthetrum pruinosum neglectum

(Rambur, 1842)

1842. *Libellula neglecta* Rambur, *Ins. Nevrop.* p. 86.
 1909. *Orthetrum pruinosum neglectum* Ris, *Cat. coll. Selys, fasc.*, 9: 181, 239-240;
 1936. Fraser, *Fauna Brit. India Odon.*, 3: 311-313.

Material examined: 1 male, 29-x-1995, Sirkarpathy (Parambikulam WLS, Palakkad Dt.); 2 males, 31-x-1995, Anchupoola (Parambikulam WLS); 1 male, 6-xi-1995, Muthalakayam (Palakkad, Parambikulam WLS); 1 male, 6-xi-1996, Karadikkavala (Periyar tiger Reserve, Idukki Dt.); 1 male, 8-xi-1996, Mlappara (Periyar Tiger Reserve, 1 male, 12-xi-1996, Mullakudy (Periyar Tiger Reserve); 2 males, 10-xi-1996, Karikkavu (Periyar Tiger Reserve, Idukki Dt.); 1 male, 17-xi-1999, Karimpuzha (Ernakulam Dt.); 1 male, 1 female, 11-xi-1994, Rampur R.F. (Wayanad Dt.); 1 male, 18-xii-1998, Cheroopa (Kozhikode Dt.), Coll. P. M. Sureshan; 1 male, 16-iii-2001, Kulasekaram; 1 male, 17-iii-2001, Neyyattinkara (Thiruvananthapuram Dt.); 1 male, 24-i-1994, Ranipuram (Kasaragod Dt.); 1 male, 27-x-1993, Pullody (Kasaragod Dt.), Coll. K. C. Gopi; 1 male, 24-x-2002, Vadikkadavu (Malappuram Dt.); 2 males, 17-ii-2004, Thusharagiri (Kozhikode Dt.); 1 male, 27-x-2004, Kadalundi (Kozhikode Dt.), Coll. K. G. Emiliyamma.

Orthetrum sabina (Drury, 1770)

1770. *Libellula sabina* Drury, *III. Exot. Ins.*, 1: 114-115.
 1889. *Orthetrum sabina* Kirby, *Trans. Zool. soc. Lond.*, 12: 302; Fraser, 1936, *Fauna Brit. India Odon.*, 3: 300-302.
 1954. *Orthetrum sabina sabina*, Lieftinck, *Treubia* 22 (suppl.): 137.

Material examined: 1 male, 17-i-1995, Peruvannamuzhi (Kozhikode Dt.); 2 males, 3 females, 17-iii-1999, Malampuzha (Palakkad Dt.); 2 females, 23-iii-1999, Chulliyar (Palakkad Dt.); 2 males, 22-iii-1999, Kanjirampuzha (Palakkad Dt.), 1 male, 25-x-2000, Kanjirampara (Kottayam Dt.); 2 males, 26-ii-2002, Padanakara (Malappuram Dt.); 1 male, 2-xi-1995, Thunakadavu (Parambikulam WLS, Palakkad Dt.); 1 male, 3-xi-1995, Orukomban (Parambikulam WLS); 1 male, 6-xi-1995, Muthalakayam (Parambikulam WLS), Coll. P. M. Sureshan; 1 male, 18-xii-1997, Karamana (Thiruvananthapuram Dt.), Coll. M. B. Raghunathan; 1 female, 17-iii-2001, Parassala (Thiruvananthapuram Dt.); 1 female, 15-iii-2001, Kallar (Thiruvananthapuram Dt.); 1 male, 22-ii-2000, Thannermukkom (Alappuzha Dt.), Coll. K. C. Gopi; 1 female, 30-vii-1984, Mavoor (Kozhikode Dt.); 3 males, 1 female, 21-ix-1982, Koduvally (Kozhikode Dt.), Coll. K. N. Nair; 1 male, 8-iii-2002, Kinalur estate (Kozhikode Dt.); 1 male, 23-ii-2000, Parumala/Mannar (Alappuzha Dt.); 1 male, 11-x-1995, Peechi R.F.(Thrissur Dt.); 1 male, 23-ii-1994, Kurichiat R.F.(Wayanad Dt), Coll. C. Radhakrishnan; 1 male, 15-xi-1998, Chalamattom (Kottayam Dt.); 1 male, 24-iv-2002, Eengappuzha (Kozhikode Dt.); 2 males, 24-x-2002, Vadikkadavu (Malappuram Dt.); 1 male, 17-ii-2004, Thusharagiri (Kozhikode Dt.); 2 males, 1 female, 27-x-2004, Kadalundi (Kozhikode Dt.), Coll. K. G. Emiliyamma.

Orthetrum taeniolatum (Schneider, 1845)

1845. *Libellula taeniolata* Schneider, *Stett. Ent. Zeit.*, 6: 111; Selys, 1850, *Rev. Odon.*, p. 290.
 1890. *Orthetrum taeniolatum* Kirby, *Cat. Odon.*, p. 37; Fraser, 1936, *Fauna Brit. India Odon.* 3: 296-298.

Material examined: 1 male, 22-x-2001, Kannavam R. F. (Kannur Dt.), Coll. Md. Jafer Palot.

Orthetrum triangulare (Selys, 1878)

1878. *Libella triangularis* Selys, *Mitth. Mus. Dresden*, p. 314; id., 1891, *Ann. Mus. Civ. Genova*, **30**: 461.

1909. *Orthetrum triangulare triangulare* Ris, *Cat. Coll. Selys, fasc.*, **9**: 181, 243-244; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 305-307.

Material examined: 1 male, 12.iv.2005. Kurichyar mala (Wayanad Dt.). Coll. Md Jafer Palot; 1 female, 12-xi-1996, Mullakudy (Periyar Tiger Reserve, Idukki Dt.); 2 males, 8-xi-1996, Mlappara (Periyar Tiger Reserve), Coll. P. M. Sureshan.

Palpopleura sexmaculata (Fabricius, 1787)

1787. *Libellula sexmaculata* Fabricius, *Mant. Ins.*, **1**: 338.

1868. *Palpopleura sexmaculata* Brauer, *Verh. zool.-bot. Ges. Wien*, **18**: 716.

1936. *Palpopleura sexmaculata sexmaculata* Farser, *Fauna Brit. India Odon.*, **3**: 318-320.

Material examined: 1 female, 13-xii-1985, Thariyodu (Wayanad Dt.); 1 female, 18-iv-1984, Meppadi (Wayanad Dt.); 1 male, 4 females, 27-ix-1983, Kottappadi (Wayanad Dt.), Coll. K. N. Nair; 1 male, 8-iii-2006, Kasaragod, Coll. K. G. Emiliyamma. 1 female, 12-xi-1996, Mullakudy (Periyar Tiger Reserve, Idukki Dt.); 1 female, 9-xi-1996, Mlappara (Periyar Tiger Reserve, Idukki Dt.); 1 male, 6-xi-1996, Karadikkavala (Periyar tiger Reserve, Idukki Dt.); 1 female, 12-xi-1994, Kuppadi R.F. (Wayanad Dt.), Coll. P. M. Sureshan; 1 male, 2 females, 11-v-2002, Vallamkulam (Pathanamthitta Dt.), Coll. Ashok Kumar; 1 female, 28-ii-1994, Mananthavady, (Wayanad Dt.); 1 male, 24-xii-1994, Kurichiat R.F. (Wayanad Dt.), Coll. C. Radhakrishnan; 1 male, 1 female, 22-iii-1997, Thunakkadavu, (Parambikulam WLS, Palakkad Dt.); 1 male, 24-i-1994, Ranipuram (Kasaragod Dt.), Coll. K. C. Gopi.

Pantala flavescens (Fabricius, 1798)

1798. *Libellula flavescens* Fabricius, *Ent. Syst. Suppl.* p. 285.

1861. *Pantala flavescens* Hagen, *Syn. Neur. N. Amer.* p. 142; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 414-416.

Material examined: 5 females, 17-xii-1997, Tropical Botanical Garden, Palode (Thiruvananthapuram Dt.), Coll. M. B. Raghunathan; 1 male, 15-x-2001, Kadalundi (Kozhikode Dt.); 1 male, 30-xii-1998, Chalamattom (Kottayam Dt.); 2 males, 3 females, 24-x-2002, Vadikkadavu (Malappuram Dt.), Coll. K. G. Emiliyamma; 1 male, 4 females, 30-x-2002, Chevayur (Kozhikode Dt.); 1 male, 26-vi-2002, Thavanakkadavu (Kozhikode Dt.); 1 female, 9-x-1995, Vellanimala-Adakappara (Thrissur Dt.), Coll. C. Radhakrishnan; 3 males, 4 females, 20-x-1983, Koumpara (Kozhikode Dt.), Coll. K. N. Nair; 1 male, 17-iii-1999, Malampuzha (Palakkad Dt.); 4 males, 30-x-2000, Kidangoor (Kottayam Dt.); 1 female, 27-x-2000, Kanjirappally (Kottayam Dt.); 2 males, 26-x-2000, Mundakayam (Kottayam Dt.); 2 females, 12-xi-1996, Mullakudy (Periyar Tiger Reserve, Idukki Dt.); 1 male, 19-xi-1996, Chinnar WLS, (Idukki Dt.); 2 males, 24-xi-1999, Idamalayar (Idukki Dt.), Coll. P. M. Sureshan; 1 male, 24-xi-1994, Madayikavu (Kannur Dt.), Coll. K. C. Gopi; 2 males, 1 female, 13-iii-2000, Madayipara (Kannur Dt.), Coll. Md. Jafer Palot.

Potamarcha congener (Rambur, 1842)

1842. *Libellula obscura* Rambur, *Ins. Nevrop.* p. 64.

1890. *Potamarcha obscura* Karsch, *Berlin Ent. Zeit.*, **33**: 371; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 289-291.

1891. *Potamarcha congener* Selys, *An. Soc. Espan.*, **20**: 221.

Material examined: 5 males, 18-iii-2001, Vithura Chathankodu (Thiruvananthapuram Dt.), Coll. K. C. Gopi; 1 female, 24-iii-1997, Peruvaripallam (Parambikulam WLS, Palakkad Dt.), Coll. C. Radhakrishnan; 1 female, 16-xi-1998, Maryland (Kottayam Dt.), Coll. K. G. Emiliyamma; 1 female, 23-iii-1999, Chulliyar (Palakkad Dt.); 1 male, 1-iii-1994, Thirunelli R.F. (Wayanad Dt.), Coll. P. M. Sureshan.

Rhodothemis rufa (Rambur, 1842)

1842. *Libellula rufa* Rambur, *Ins. Nevrop.* p. 71.
 1911. *Rhodothemis rufa* Ris, *Cat. Coll. Selys, fasc.*, **13**: 592-593; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 368-369.

Material examined: 3 males, 1 female, 24-x-2002, Vadikkalkdavu (Malappuram Dt.); 1 male, 1 female, 27-x-2004, Kadalundi (Kozhikode Dt.), Coll. K. G. Emiliyamma. 1 female, 30-x-2000, Kidangoor (Kottayam Dt.); 1 female, 20-ii-2002, Kottooli (Kozhikode Dt.), Coll. P. M. Sureshan; 1 female, 23-ix-2001, Madayipara (Kannur Dt.); 1 female, 15-ix-2001, Kasaragod, Coll. Md. Jafer Palot.

Rhyothemis triangularis Kirby, 1889

1889. *Rhyothemis triangularis* Kirby, *Trans. Zool. Soc. Lond.*, **12**: 319; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 427-428.

Material examined: 1 male, 13-xii-2002, Periyar R. F (Wayanad), Coll. Jafer Palot.

Rhyothemis variegata (Linnaeus, 1763)

1763. *Libellula variegata* Linnaeus, *Amoenitates Acad.*, **6**: 412.
 1867. *Rhyothemis variegata* Hagen, *Stett. Ent. Zeit.*, **28**: 232.
 1913. *Rhyothemis variegata variegata* Ris, *Cat. Coll. Selys, fasc.*, **15**: 931; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 423-424.

Material examined: 1 male, 1 female, 20-xii-1998, Maryland (Kottayam Dt.); 1 male, 22-ii-2001, Kuttiadi (Kozhikode Dt.); 1 female, 25-vi-2004, Thusharagiri (Kozhikode Dt.) Coll. K. G. Emiliyamma; 1 female, 22-x-1998, Chevarambalam (Kozhikode Dt.); 1 male, 3 females, 23-ii-2000, Parumala/Mannar (Alappuzha Dt.), Coll. C. Radhakrishnan; 1 female, 30-v-2002, Kinalur estate (Kozhikode Dt.); 2 males, 7-xi-2002, Theckumbadu island (Kannur Dt.), Coll. K. C. Gopi; 1 female, 30-vii-1984, Mavoor/Myladikunnu (Kozhikode Dt.); 1 female, 7-vii-1982, Quilandy (Kozhikode Dt.); 2 females, 15-xii-1985, Kalpetta (Wayanad Dt.), Coll. K. N. Nair; 2 females, 16-iii-1999, Chittoor (Palakkad Dt.), 1 male, 27-x-2000, Kanjirappally (Kottayam

Dt.), 1 male, 25-x-2000, Kanjirampara (Kottayam Dt.); 1 male, 2 females, 24-x-2000, Kumarakom (Kottayam Dt.); 1 female, 31-x-2000, Velloor (Kottayam Dt.); 2 males, 1 female, 29-x-2000, Kidangoor (Kottayam Dt.); 1 male, 12-xi-1999, Kodanad/Mallana R.F. (Ernakulam Dt.); 1 male, 16-viii-1997, Amakulam (Kollam Dt.), Coll. P. M. Sureshan.

Sympetrum fonscolombei (Selys, 1840)

1837. *Libellula flaveola* (nom.preoc.) Fonscolombe, *Ann. Soc. Ent. France*, **6**: 144.
 1874. *Sympetrum fonscolombei* Meyer-Dur, *Mitt. Schweiz. Ent. Ges.*, **4**: 327; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 377-379.

Tetrathemis platyptera Selys, 1878

1878. *Tetrathemis platyptera* Selys, *Mitt. Mus. Dresden*, p. 316; Kirby, 1890, *Cat. Odon.* p. 44; Fraser, 1936, *Faun Brit. India Odon.*, **3**: 250-251.

Material examined: 1 male, 1 female, 16-xi-1998, Chalamattom (Kottayam Dt.), Coll. K. G. Emiliyamma; 1 male, 2-x-2002, Edakkad (Kozhikode Dt.), Coll. Ashok Kumar; 1 female, 26-x-2000, Mundakayam (Kottayam Dt.), Coll. P. M. Sureshan; 1 male, 23-ix-2001, Madayipara (Kannur Dt.), Coll. Md. Jafer Palot.

Tholymis tillarga (Fabricius, 1798)

1798. *Libellula tillarga* Fabricius, *Ent. Syst. Suppl.* p. 285.
 1867. *Tholymis tillarga* Hagen, *Stett. Ent. Zeit.*, **28**: 220; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 411-413.

Material examined: 1 male, 1 female, 20-vii-1999, Chevayur (Kozhikode Dt.); 2 males, 4-iii-1999, Chevarambalam (Kozhikode Dt.); 1 male, 27-xii-1994, Chethalayam (Wayanad Dt.), Coll. C. Radhakrishnan; 2 females, 25-iv-2000, Pullurampara (Kozhikode Dt.); 1 male, 1 female, 24-x-2002, Vadikkadavu (Malappuram Dt.); 1 female, Mathappuzha (Malappuram Dt.) Coll. K. G. Emiliyamma; 1 female, 29-x-1995, Sirkarpathy (Parambikulam WLS, Palakkad Dt.); 1 male, 30-x-2000, Kidangoor (Kottayam Dt.); 1 male, 19-xi-1996, Chinnar WLS, (Idukki Dt.) Coll. P. M. Sureshan; 1 male, 16-x-2001, Edakkad (Kozhikode Dt.), Coll. Ashok kumar; 1 female,

30-x-2002, Chevayur (Kozhikode Dt.); 1 male, 30-vi-2001, Madayipara (Kannur Dt.), Coll. Md. Jafer Palot; 1 female, 6-xi-2001, Thalakkulathur (Kozhikode Dt.), Coll. K. C. Gopi.

***Tramea basilaris burmeisteri* Kirby, 1889**

1839. *Libellula chinensis* Burmeister, *Handb. Ent.*, 2: 852.
 1889. *Tramea burmeisteri* Kirby, *Trans. Zool. Soc. Lond.*, 12: 316.
 1936. *Tramea basilaris burmeisteri* Fraser, *Fauna Brit. India Odon.*, 3: 432-434.

Material examined: 1 male, 7-iii-2006, Kannur, Coll. K. G. Emiliyamma.

***Tramea limbata similata* (Rambur, 1842)**

1832. *Libellula limbata* Desjardins, *Rapport Soc. Maurice*, p. 1
 1889. *Tramea limbata* Kirby, *Trans. Zool. Soc. Lond.*, 12: 318; Fraser, 1936, *Fauna Brit. India Odon.*, 3: 436-438.
 1920. *Tramea limbata* race *similata* Fraser, *J. Bombay nat. Hist. Soc.*, 27: 53, 54.
 1991. *Tramea limbata similata* Tsuda, *A distributional list of world Odonata*, 1991, p. 184.

Material examined: 1 male, 1-vi-2000, Kadalundi (Kozhikode Dt.), Coll. K. G. Emiliyamma; 1 female, 30-iii-1998, Mottanood river (Thiruvananthapuram Dt.), Coll. P. T. Cherian; 1 male, 16-iii-1999, Chittoor (Palakkad Dt.), 1 male, 25-x-2000, Kanjirampara (Kottayam Dt.); 1 male, 5-ix-2001, Kolavipalam (Kozhikode Dt.), Coll. P. M. Sureshan; 1 male, 29-iv-2003, Madayipara (Kannur Dt.), Coll. Md. Jafer Palot; 1 male, 8-ix-2001, Malampuzha (Palakkad Dt.), Coll. Dinesan Cheruvat.

***Trithemis aurora* (Burmeister, 1839)**

1839. *Libellula aurora* Burmeister, *Handb. Ent.*, 2: 859.
 1868. *Trithemis aurora* Brauer, *Verh. zool.-bot. Ges. Wien.*, 18: 177, 735; Fraser, 1936, *Fauna Brit. India Odon.*, 3: 383-385.

Material examined: 1 male, 1 female, 28-iii-1998, Golden Valley (Idukki); 1 male, 30-iii-1998, Mottanood river (Thiruvananthapuram Dt.), Coll. P. T. Cherian; 3 males, 30-xii-1998,

Chalamattom (Kottayam Dt.); 1 male, 25-iv-2000, Muthappanpuzha (Kozhikode); 3 males, 24-iv-2002, Eengappuzha (Kozhikode Dt.); 1 female, 28-viii-2003, Thusharagiri (Kozhikode Dt.); 1 male, 9-v-2005, Kalpetta (Wayanad Dt.), Coll. K. G. Emiliyamma; 1 male, 15-iii-2001, Kallar (Thiruvananthapuram Dt.); 3 females, 30-v-2002, Kinalur estate (Kozhikode Dt.), Coll. K. C. Gopi; 1 male, 2-xi-1995, Thunakadavu (Parambikulam WLS, Palakkad Dt.); 2 males, 1 female, 3-xi-1995, Orukomban (Parambikulam WLS); 1 male, 1 female, 6-xi-1995, Muthalakayam (Parambikulam WLS); 2 males, 27-x-2000, Kanjirappally (Kottayam Dt.); 1 male, 8-xi-1996, Mlappara (Periyar Tiger Reserve, Idukki Dt.); 1 male, 6-xi-1996, Karadikkavala (Periyar tiger Reserve, Idukki Dt.); 1 male, 18-xi-1996, Chambakkad (Chinnar WLS, Idukki Dt.), Coll. P. M. Sureshan; 1 male, 22-x-2001, Meenmuttithodu (Kannavam R.F., Kannur Dt.), Coll. Md. Jafer Palot; 2 males, 16-xii-1985, Muthanga WLS (Wayanad Dt.), Coll. K. N. Nair; 2 males, 1 female, 23-xii-1994, Kurichiat R.F. (Wayanad Dt.), Coll. C. Radhakrishnan.

***Trithemis festiva* (Rambur, 1842)**

1842. *Libellula festiva* Rambur, *Ins. Nevrop.*, p. 92.
 1868. *Trithemis festiva* Brauer, *Verh. zool.-bot. Ges. Wien.*, 18: 736; Fraser, 1936, *Fauna Brit. India Odon.*, 3: 387-389.

Material examined: 1 male, 28 - iii - 1998, Golden Valley (Thiruvananthapuram Dt.), Coll. P. T. Cherian; 1 male, 8-iii-2002, Kinalur estate (Kozhikode Dt.); 3 males, 23-xii-1994, Kurichiat R.F. (Wayanad Dt), Coll. C. Radhakrishnan; 2 males, 28-xii-1998, Chalamattom (Kottayam Dt.); 1 male, 24-iv-2002, Eengappuzh (Kozhikode Dt.); 2 males, 17-ii-2004, Thusharagiri (Kozhikode Dt.); 1 male, 11-v-2005, Kanthanpara (Wayanad Dt.), Coll. K. G. Emiliyamma; 1 male, 30-v-2002, Kinalur estate (Kozhikode Dt.), Coll. K. C. Gopi; 2 males, 2 females, 19-iii-1999, Pothundi (Palakkad Dt.); 1 male, 8-xi-1996, Mlappara (Periyar Tiger Reserve, Idukki Dt.); 1 male, 6-xi-1996, Karadikkavala (Periyar tiger Reserve, Idukki Dt.); 1 male, 18-xi-1999, Thundathil (Ernakulam Dt.); 2 males, 8-viii-1997,

Parakkadavu (Kollam Dt.); 1 male, 22-vi-1995, Thusharagiri (Kozhikode Dt.), 3 males, 30-iii-1997, Orukomban (Parambikulam WLS, Plakkad Dt.); Coll. P. M. Sureshan; 1 male, 22-x-2001, Kannavam R.F., (Kannur Dt.), Coll. Md. Jafer Palot; 3 males, 16-xii-1985, Muthanga WLS (Wayanad Dt.), Coll. K.N.Nair.

***Trithemis kirbyi* Selys, 1891**

1868. *Trithemis aurora* Kirby (pars), *Proc. Zool. Soc. Lond.*, p. 327.
 1891. *Trithemis kirbyi* Selys, *Ann. Mus. Civ. Genova*, **30**: 465.
 1912. *Trithemis kirbyi kirbyi* Ris, *Cat. Coll. Selys. Fasc.* **14**: 760, 778; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 385-387.

Material examined: 1 female, 10-iii-2001, Valiyakarikkandam (Kannur Dt.), Coll. Md. Jafer Palot; 1 female, 11-iv-2000, Adivaram (Kozhikode Dt.), Coll. K. G. Emiliyamma; 1 female, 8-iii-2002, Kinaloor estate (Kozhikode Dt.), Coll. C. Radhakrishnan; 1 female, 6-xi-1996, Karadikkavala (Periyar tiger Reserve, Idukki Dt.); 1 female, 18-xi-1996, Chambakkad (Chinnar WLS, Idukki); 1 female, 23-i-1997, Venkoli (Parambikulam WLS, Palakkad Dt.), Coll. P. M. Sureshan; 1 female, 12-ix-2001, Malampuzha (Palakkad Dt.), Coll. Dinesan Cheruvat; 1 female, 11-x-1995, Peechi R.F. (Thrissur Dt.), Coll. K. C. Gopi.

***Trithemis pallidinervis* (Kirby, 1889)**

1889. *Sympetrum pallidinervis* Kirby, *Trans. Zool. Soc. Lond.*, **12**: 327.
 1907. *Trithemis pallidinervis* Morton, *Trans. Ent. Soc. Lond.*, p. 304; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 389-391.

Material examined: 1 male, 27-iii-1998, Kallar river site (Thiruvananthapuram Dt.), Coll. P. T. Cherian; 1 female, 1 male, 1-ii-2002, Kadalundi (Kozhikode Dt.); 1 male, 29-i-2003, Puthuponnani (Malappuram Dt.); 1 male, 12-v-2005, Banasura foothills (Wayanad Dt.), Coll. K. G. Emiliyamma.

***Urothemis signata* (Rambur, 1842)**

1839. *Libellula sanguinea* Burmeister, *Handb. Ent.*, **2**: 858.

1913. *Urothemis signata signata* Ris, *Cat. Coll. Selys, fasc.* **16**: 1023; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 442-444.

Material examined: 1 female, 22-ii-2001, Chathancode (Kozhikode Dt.); 2 females, 29-i-2003, B. M. Kayal (Malappuram Dt.), 3 males, 2 females, 20-x-2003, Kadalundi (Kozhikode Dt.), Coll. K. G. Emiliyamma; 1 male, 16-x-2001, Edakkad (Kozhikode Dt.), Coll. Ashok kumar; 2 males, 29-x-2000, Kumarakom (Kottayam Dt.); 1 male, 30-x-2000, Kidangoor (Kottayam Dt.); 1 male, 26-x-2000, Mundakayam (Kottayam Dt.); 1 female, 25-x-2000, Kanjirampara (Kottayam Dt.); 2 males, 3 females 5-ix-2001, Kolavipalam (Kozhikode Dt.), Coll. P. M. Sureshan; 1 male, 26-vi-2002, Thavanakkadavu, (Ernakulam Dt.), Coll. C. Radhakrishnan.

***Zygonyx iris malabarica* Fraser, 1926**

1919. *Zygonyx iris* Fraser (pars), *J. Bombay nat. Hist. Soc.*, **26**: 741-742.
 1926. *Zygonyx iris malabarica* Fraser, *J. Bombay nat. Hist. Soc.*, **31**: 763-766; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 395-396.

Material examined: 1 male, 17-ii-2004, Thusharagiri (Kozhikode Dt.); 1 male, 1 female, 10-v-2005, Vannathimala (Wayanad Dt.), Coll. K. G. Emiliyamma; 1 male, 13-vi-2003, Thusharagiri (Kozhikode Dt.); 1 male, 9-iii-2002, Kappil, (Aralam WLS, Kannur Dt.), Coll. Md. Jafer Palot; 1 male, 27-v-2003, Thusharagiri (Kozhikode Dt.), Coll. C. Radhakrishnan.

***Zygonyx torrida isis* Fraser, 1924**

1924. *Zygonyx isis* Fraser, *Rec. Ind. Mus. vol.*, **26**, pp. 426, 440, 441.
 1931. *Zygonyx torrida isis* Fraser, *Rec. Ind. Mus. vol.*, **33**, pp. 446; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 401-402.

***Zyxomma petiolatum* Rambur, 1842**

1842. *Zyxomma petiolatum* Rambur, *Ins. Nevrop.* p. 30; Hagen, 1858, *Verh. zool.-bot. Ges. Wien.*, **8**: 479; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 409-410.

Material examined: 1 male, 18-viii-2000, Edakkad (Kozhikode Dt.); 1 female, 2-ii-2000, Kunduparamba (Kozhikode Dt.), Coll. Ashok

kumar; 1 female, 21-ii-2001, Puthiyangadi (Kannur Dt.); 1 female, 26-x-2001, Aralam WLS (Kannur Dt.), Coll. Md. Jafer Palot; 1 male, 1 female, 12-xi-2002, Kadalundi (Kozhikode Dt.), Coll. K. G. Emiliyamma.

Family MACROMIIDAE

Epophthalmia frontalis binocellata

(Fraser, 1924)

1924. *Macromia binocellata* Fraser, *Rec. Indian Mus.*, **26**: 451-452.
 1936. *Epophthalmia frontalis binocellata* Fraser, *Fauna Brit. India Odon.*, **3**: 199-201.

Epophthalmia vittata Burmeister, 1839

1839. *Epophthalmia vittata* Burmeister, *Handb. Ent.*, **2**: 845.
 1936. *Epophthalmia vittata vittata* Burmeister, *Fauna Brit. India Odon.*, **3**: 194-196.
 1953. *Epophthalmia vittata vittata*, Bhasin, *Indian For. Leaf.*, **121** (3): 73.

Macromia annaimallaiensis Fraser, 1931

1931. *Macromia annaimallaiensis* Fraser, *Rec. Indian Mus.*, **33**: 447, 452-453; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 168-169.

Macromia bellicosa Fraser, 1924

1924. *Macromia bellicosa* Fraser, *Rec. Ind. Mus. Vol.* **26**, pp. 427, 453-454, pl. 25, fig. 9; *Fauna Brit. India Odon.* **3**: 175-177.

Macromia cingulata Rambur, 1842

1842. *Macromia cingulata* Rambur, *Ins. Nevrop.* p. 137; Fraser, *Fauna Brit. India Odon.*, **3**: 179-182.

Macromia ellisoni Fraser, 1924

1924. *Macromia ellisoni* Fraser, *Rec. Ind. Mus. vol.*, **26**, pp. 427, 457-458, pl. 25, fig.3; Fraser, *Fauna Brit. India Odon.*, **3**: 169-171.

Macromia flavocolorata Fraser, 1922

1922. *Macromia flavocolorata* Fraser, *J. Bombay nat. Hist. Soc.*, **28**: 702; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 186-189.

Macromia ida Fraser, 1924

1924. *Macromia ida* Fraser, *Rec. Ind. Mus. vol.*, **26**, pp. 427, 449-450, pl.25, fig. 4; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 189-190.

Macromia indica Fraser, 1924

1924. *Macromia indica* Fraser, *Rec. Indian Mus.*, **26**: 427, 447-449; Needham, 1932, *Rec. Indian Mus.*, **34**: 211-212; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 166-167.

Macromia irata Fraser, 1924

1924. *Macromia irata* Fraser, *Rec. Indian Mus.*, **26**: 427, 454-455; Fraser, 1936, *Fauna Brit. India Odon.*, **3**: 190-191.

Suborder ZYGOPTERA

Family CALOPTERYGIDAE

Neurobasis chinensis (Linnaeus, 1758)

1758. *Libellula chinensis* Linnaeus, *Syst. Nat.* **1**: 545; Edwards, 1750, *Nat. Hist. Birds*, **3**: 112.
 1842. *Calopteryx chinensis* Rambur, *Ins. Nevrop.*, p. 226.
 1890. *Neurobasis chinensis* Kirby, *Cat. Odon.*, p. 102; Fraser, 1924, *Rec. Indian Mus.*, **26**: 428, 479.
 1934. *Neurobasis chinensis chinensis* Fraser, *Fauna Brit. India Odon.*, **2**: 121-124; Lieftinck, 1954, *Treubia* **22** (suppl.): 23.

Material examined: 2 males, 2 females, 11-v-2005, Kanthanpara (Wayanad Dt.); 2males, 1female, 17-ii-2004, Thusharagiri (Kozhikode Dt.), Coll.K.G.Emiliyamma; 1 female, 27-x-1995, Venkoli (Parambikulam WLS, Palakkad Dt.); 1male, 7-xi-1996, Thanikudy (Periyar Tiger Reserve, Idukki Dt.); 1 male, 1 female, 15-xi-1999, Evergreen (Ernakulam Dt.), Coll. P.M. Sureshan; 1 female, 22-x-2001, Meenmutthodu (Kannavam R.F., Kannur Dt.), Coll. Md.Jafer Palot; 1 male, 1 female, 24-xii-1994, Kurichiat R.F. (Wayanad Dt); 1 male, 25-xii-1994, Kuruva island (Wayanad Dt.), Coll. C. Radhakrishnan.

Vestalis apicalis Selys, 1873

1873. *Vestalis apicalis* Selys, *Bull. Acad. Belg.* (2) **36**: 612; Kirby, 1890, *Cat. Odon.*, p. 102.
 1934. *Vestalis apicalis apicalis* Fraser, *Fauna Brit. India Odon.*, **2**: 128-130.

Material examined: 3 males, 16-iii-2001, Kulasekaram (Thiruvananthapuram Dt.), Coll. K. C. Gopi; 1 male, 1 female, 25-iv-2000, Thiruvambadi (Kozhikode Dt.); 2 males, 24-iv-2002, Puthuppady (Kozhikode Dt.); 1 male, 1 female, 11-iv-2000, Adivaram (Kozhikode Dt.),

Coll. K.G.Emiliyamma; 1 male, 30-x-1995, Kamathalachi (Parambikulam WLS, Palakkad Dt.); 1 female, 28-x-2000, Bharanganam (Kottayam Dt.); 2 males, 1 female, 15-xi-1999, Evergreen (Ernakulam Dt.); 1 female, 8-viii-1997, Parakkadavu (Kollam Dt.); 1 female, 13-viii-1994, Begur R. F. (Wayanad Dt.); 2 males, 7-iv-1995, Karimkappu (KannurDt.); 1 male, 8-viii-1997, Parakkadavu (Kollam Dt.), Coll. P.M. Sureshan; 3 males, 16-iii-2001, Kulasekaram (Thiruvananthapuram Dt.); 1 male, 4 females, 30-v-2002, Kinalur estate (Kozhikode Dt.); 2 males, 23-iii-1994, Bendadukka (Kasaragod Dt.), Coll. K.C.Gopi; 1 male, 15-ix-2001, Kasaragod; 1 male, 23-x-2001, Kannavam R. F. (Kannur Dt.), Coll. Md. Jafer Palot; 1 male, 15-xii-1985, Kurichiyad (Wayanad Dt.), Coll. K.N.Nair.

Vestalis gracilis (Rambur, 1842)

1842. *Calopteryx gracilis* Rambur, *Ins. Nevrop.*, p. 224.
1854. *Vestalis gracilis* Selys & Hagen, *Mem. Soc. Sci. Liege*, **9**: 84. *Vestalis gracilis gracilis* Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 126-128.

Material examined: 1 male, 1 female, 7-xii-2004, Kinalur estate (Kozhikode Dt.); 3 males, 16-iii-2001, Kulasekaram (Thiruvananthapuram Dt.), Coll. K.C.Gopi; 1 male, 1 female, 25-iv-2000, Thiruvambadi (Kozhikode Dt.), Coll. K.G. Emiliyamma; 1 male, 18-iii-1996, Cheechali (Parambikulam WLS, Palakkad Dt.); 1 male, 25-ii-1996, Chimony WLS (Thrissur Dt.); 1 female, 24-xii-1994, Kurichiat R.F.(Wayanad Dt); 2 females, 25-xii-1994, Kuruva island (Wayanad Dt.); 2 males, 4 females, 4-ix-1995, Kottiyur R.F.(Kannur Dt.)Coll. C. Radhakrishnan; 1 male, 15-xii-1997, Kovalam (Thiruvananthapuram Dt.); 3males, 2females, 18-i-1992, Painavu (Idukki Dt.), Coll. M. B. Raghunathan; 1 male, 2-viii-1995, Mavoor/Pallikadavu (Kozhikode Dt.); 1 female, 8-ii-1996, Kakkayam (Kozhikode Dt.); 3 males, 2 females, 17-i-1995, Peruvannamuzhi (Kozhikode Dt.); 1 male, 20-iii-1999, Mangalam Dam (Palakkad Dt.); 1 male, 1 female, 29-x-2000, Idamaruku (Kottayam Dt.), 1 male, 12-xi-1996, Mullakudy (Periyar Tiger Reserve, Idukki Dt.); 1 female, 15-xi-1999, Evergreen (Ernakulam

Dt.); 1 female, 16-viii-1997, Amakulam (Kollam Dt.); 4 males, 2 females, 31-i-1995, Paripputhodu (Kannur Dt.), Coll. P. M. Sureshan; 1 male, 23-iii-1994, Bendadukka (Kasaragod Dt.); 2 females, 15-xii-1985, Kurichiyad (Wayanad Dt.), Coll. K.N.Nair.

Vestalis submontana (Fraser, 1934)

1929. *Vestalis gracilis amoena* Fraser, *J. Bombay nat. Hist. Soc.*, **33**: 583.
1934. *Vestalis gracilis montana* Fraser, *Fauna Brit. India Odon.*, **2**: 128 (1934)
1934. *Vestalis submontana* Fraser, *Fauna Brit. India Odon.*, **2**: 128 (1934); Hamalainen, 2011, *Notul. Odonatol.*, vol. **7**, No. 8, pp. 69-76.

Material examined: 1 male, 1 female, 26-i-1997, Peruvripallam (Palakkad Dt.); 1 female, 16-iii-2001, Kulasekaram (Thiruvananthapuram Dt.); 1 female, 24-ix-1993, Santhimala (Kasaragod Dt.), Coll. K. C. Gopi; 1female, 29-x-2000, Idamaruku (Kottayam Dt.), Coll. P.M.Sureshan; 1male, 13-vi-2003, Thusharagiri (Kozhikode Dt.), Coll. Md. Jafer Palot; 1 female, 10-v-2005, Vannathimala (Wayanad Dt.), Coll. K. G. Emiliyamma.

Family CHLOROCYPHIDAE

Calocypha laidlawi (Fraser, 1924)

1924. *Rhinocypha laidlawi* Fraser, *Rec. Indian Mus.*, **26**: 482-483.
1928. *Calocypha laidlawi* Fraser, *J.Bombay nat.Hist. Soc.*, **33**: 457-458; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 53-55.

Libellago lineata indica (Fraser, 1928)

1919. *Micromerus lineatus* Fraser, *Rec. Indian Mus.* **16**: 197-198, (larva); Laidlaw, 1924, *Spolia Zeylanica*, **12**: 354, 355.
1928. *Micromerus lineatus indica* Fraser, *J.Bombay nat. Hist. Soc.*, **33**: 686-687.
1934. *Libellago lineata indica* Fraser, *Fauna Brit. India Odon.*, **2**: 63-65.

Material examined: 1 male, 21-iii-1999, Mangalam dam (Palakkad Dt.), Coll. P. M. Sureshan; 2 males, 1 female, 24-iv-2002, Eengappuzha (Kozhikode Dt.), Coll. K.G.Emiliyamma; 2 females, 30-v-2002, Kinalur estate (Kozhikode Dt.), Coll. K. C. Gopi; 1 female,

26-viii-1982, Naduvattur (Kozhikode Dt.), Coll. K.N. Nair; 1 male, 23-ix-2001, Madayipara (Kannur Dt.); 1 male, 7-xii-2002, Aralam WLS (Kannur Dt.); 1 male, 23-x-2001, Kannavam R.F. (Kannur Dt.), Coll. Md. Jafer Palot.

***Rhinocypha bisignata* Hagen in Selys, 1853**

1855. *Rhinocypha bisignata* Selys, *Syn. Cal.* 62; Kirby, 1890, *Cat. Odon.* p. 113; Laidlaw, 1917, *Rec. Indian Mus.*, **13**: 38; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 49-52.

Material examined: 1 male, 28-iii-1998, Golden Valley; 1 male, 29-iii-1998, Way to Chankiri (Thiruvananthapuram Dt.), Coll. P. T. Cherian; 2 females, 25-iv-2000, Muthappanpuzha (Kozhikode Dt.), 1 male, 2 females, 30-xii-1998, Chalamattom (Kottayam Dt.); 1 female, 24-iv-2002, Poolode (Kozhikode Dt.); 1 male, 11-v-2005, Kanthanpara (Wayanad Dt.), Coll. K.G.Emiliyamma; 1 male, 1 female, 29-x-1995, Sirkarpathy (Parambikulam WLS, Palakkad Dt.); 1 female, 29-x-2000, Idamaruku (Kottayam Dt.); 1 male, 1 female, 28-x-2000, Bharanganam (Kottayam Dt.); 1 female, 30-x-2000, Kidangoor (Kottayam Dt.); 4 males, 1 female, 6-xi-1996, Karadikkavala; 1 male, 10-xi-1996, Karikkavu (Periyar tiger Reserve, Idukki Dt.); 1 male, 15-xi-1999, Evergreen (Ernakulam Dt.); 1 male, 23-xii-1994, Kurichiyat (Wayanad Dt.); 1 female, 9-viii-1997, Kazhuthuruthi (Kollam Dt.), Coll. P. M. Sureshan; 2 males, 15-iii-2001, Ponmudi (Thiruvananthapuram Dt.); 1 male, 1 female, 30-v-2002, Kinalur estate (Kozhikode Dt.), Coll. K. C. Gopi; 1 male, 1 female, 9-iii-2001, Aralam WLS(Kannur Dt.); 2 males, 3 females, 4-vi-2003, Thusharagiri (Kozhikode), Coll. Md. Jafer Palot.

Family COENAGRIONIDAE

***Aciagrion hisopa* (Selys, 1876)**

1876. *Pseudagrion hisopa* Selys, *Bull. Acad. Belg.* (2) **42**: 509.
1933. *Aciagrion hisopa* Selys, *Ann. Mus. Civ. Genova*, (2) **10** (30): 511-512; Fraser, *Fauna Brit. India Odon.*, **1**: 340-342.
1954. *Aciagrion hisopa hisopa* Lieftinck, *Treubia*, **22** (suppl.): 76.

***Aciagrion occidentale* Laidlaw, 1919**

1919. *Aciagrion hisopa* Selys, race *occidentalis* Laidlaw, *Rec. Indian Mus.*, **26**: 186.
1923. *Aciagrion occidentale* Fraser, *J. Bombay nat. Hist. Soc.*, **29**: 749.
1933. *Aciagrion occidentale*, Fraser, *Fauna Brit. India Odon.*, **1**: 335-337.

Material examined: 1 male, 1 female, 27-iii-1998, Kallar River site (Thiruvananthapuram Dt.); 1 female, 1 male, 25-iii-1998, Kovalam (Thiruvananthapuram Dt.), Coll: P. T. Cherian; 1 female, 9-iii-2001, Kappil Road (Kannur Dt.); 1 male, 2 females, 22-vii-2004, Madayipara (Kannur Dt.) Coll. Md. Jafer Palot; 2 males, 3 females, 23-ii-1997, Muzhiyar (Kozhikode Dt.), Coll. P.M. Sureshan; 2 males, 6-xi-2002, Payangadi (Kannur Dt.), Coll. K. C. Gopi; 1 male, 24-xii-1994, Kurichiat R. F. (Wayanad Dt), Coll. C.Radhakrishnan; 2 males, 3 females, 28-viii-2003, Thusharagiri (Kozhikode Dt.); 1 female, 10-v-2005, Chembra (Wayanad Dt.), Coll. K.G. Emiliyamma.

***Agriocnemis keralensis* Peters, 1981**

1981. *Agriocnemis keralensis* Peters, *Dtsch. Ent. Z., N. F.* **28**, Heft I- III, Seite, 93-108.

Material examined: 2 males, 3 females. 30.X.2000, Kidangur (Kottayam Dt.), Coll. P. M. Sureshan.

***Agriocnemis pieris* Laidlaw, 1919**

1919. *Agriocnemis pieris* Laidlaw, *Rec. Indian Mus.*, **16**: 179-180; Fraser, 1923, *J. Bombay nat. Hist. Soc.*, **29**: 747; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 384-385.

Material examined: 1 male, 22-ii-2001, Chathancode (Kozhikode Dt.), 3 males, 9-v-2005, Kalpetta (Wayanad Dt.), Coll. K. G. Emiliyamma; 2 males, 30-v-2002, Kinalur estate (Kozhikode Dt.); 1 male, 1 female, 19-iii-1994, Kavadikanam (Kasaragod Dt.); Coll. K. C. Gopi; 2 males, 27-x-2000, Ponkunnam (Kottayam Dt.); 2 females, 24-ii-2000, Nedumudi (Alappuzha Dt.), Coll. K. C. Gopi; 2 males, 18-xi-1999, Thundathil/Cherukadu (Ernakulam Dt.), Coll. P. M. Sureshan.

Agriocnemis pygmaea (Rambur, 1842)

1842. *Agrion pygmaeum* Rambur, *Ins. Nevrop.* p. 278.
1877. *Agriocnemis pygmaea* Selys, *Syn. Agr. 5me Legion: Agrion (suite fin)*, p. 52; Fraser, 1933, *Fauna Brit. India Odon.*, 1: 398-401; Lieftinck, 1954, *Treubia*, 22 (suppl.) 73.

Material examined: 1 male, 18-iii-1996, Karimala (Ernakulam Dt.) 7 males, 5 females, 30-x-2000, Kidangoor (Kottayam Dt.); 5 males, 3 females, 29-x-2000, Kumarakom (Kottayam Dt.); 1 female, 17-I-1992, Kuyilimala (Idukki); 1 male, 1 female, 20-ii-2002, Cheruvannur (Kozhikode Dt.); 2 males, 3 females, 19-iii-1999, Nenmara (Palakkad Dt.), Coll. P. M. Sureshan; 4 females, 5 males, 25-iii-1998, Kovalam (Thiruvananthapuram Dt.); 1 female, 27-iii-1998, Kallar river site (Thiruvananthapuram Dt.), Coll: P. T. Cherian; 1 female, 16-xii-1997, Vely (Thiruvananthapuram Dt.), Coll: M. B. Raghunathan; 1 male, 3 females, 14-iii-2001, Attingal (Thiruvananthapuram Dt.); 3 males, 2 females, 17-iii-2001, Parassala (Thiruvananthapuram Dt.); 1 female, 17-iii-2001, Neyyattinkara, (Thiruvananthapuram Dt.); 3 males, 1 female, 16-iii-2001, Kulasekaram (Thiruvananthapuram Dt.); 1 female, 30-v-2002, Kinalur estate (Kozhikode Dt.); 1 male, 19-iii-1994, Kavadikanam (Kasaragod Dt.), Coll: K.C.Gopi; 1 female, 22-ii-2000, Chathancode (Kozhikode Dt.); 2 males, 2 females, 24-x-2002, Vadikkadavu (Malappuram Dt.); 3 males, 3 females, 27-x-2004, Kadalundi (Kozhikode Dt.), Coll. K.G.Emiliyamma; 1 female, 2-x-2001, Kuniyan (Kasaragod Dt.), Coll. Md. Jafer Palot; 1 male, 24-xii-1994, Kurichiat R. F. (Wayanad Dt.); 4 males, 3 females, 25-xii-1994, Kuruva island (Wayanad Dt.), Coll. C. Radhakrishnan.

Agriocnemis splendidissima Laidlaw, 1919

1919. *Agriocnemis splendidissima* Laidlaw, *Rec. Indian Mus.*, 16: 180-182; Fraser, 1923, *J. Bombay nat. Hist. Soc.*, 29: 47; Fraser, 1933, *Fauna Brit. India Odon.*, 1: 392-394.

Material examined: 1 male, 24-iv-2002, Puthuppady (Kozhikode Dt.), Coll. K. G. Emiliyamma; 2 males, 1 female, 24-xii-

1994, Kurichiat R. F. (Wayanad Dt.), Coll. P. M. Sureshan; 1 male, 1 female, 26-xii-1994, Noolpuzha (Wayanad Dt.), Coll. C. Radhakrishnan.

Archibasis oscillans (Selys, 1877)

1924. *Pseudagrion praeclarum* Fraser, *Rec. Indian Mus.*, 36: 428.
1936. *Archibasis mimetes praeclara* Fraser, *Fauna Brit. India Odon.*, 3: 310-312.
1991. *A. oscillans* Selys, *A distributional list of World Odonata*, 1991, p. 32

Ceriagrion cerinorubellum (Brauer, 1865)

1865. *Pyrrhosoma cerinorubellum* Brauer, *Verh. zool. -bot. Ges. Wien*, 15: 511. *Ceriagrion cerinorubellum* Selys, 1876, *Bull. Acad. Belg.*, (2) 42: 526; Fraser, 1933, *Fauna Brit. India Odon.*, 1: 326-328.

Material examined: 3 females, 3-iv-1998, Paighat (Thiruvananthapuram Dt.), Coll: P. T. Cherian; 2 males, 1 female, 18-iii-2001, Vithura-Chathankodu (Thiruvananthapuram Dt.); 1 male, 2 females, 7-xi-2002, Theckumbadu island (Kannur Dt.), Coll. K. C. Gopi; 3 male, 2 females, 22-ii-2001, Chathancode, (Kozhikode Dt.); 2 males, 1 female, 24-x-2002, Vadikkadavu (Malappuram Dt.); 2 males, 1 female, 27-x-2004, Kadalundi (Kozhikode Dt.); 4 males, 1 female, 9-v-2001, Madayipara (Kannur Dt.), Coll. Md. Jafer Palot; 1 male, 3 females, 29-x-2000, Kumarakom (Kottayam Dt.); 6 males, 2 females, 31-x-2000, Velloor (Kottayam Dt.); 4 males, 5-ix-2001, Kolavipalam (Kozhikode Dt.), Coll. P. M. Sureshan; 1 male, 22-ii-2000, Thanneermukkom (Alappuzha Dt.), Coll. C. Radhakrishnan.

Ceriagrion coromandelianum (Fabricius, 1798)

1798. *Agrion coromandelianum* Fabricius, *Ent. Syst. Suppl.*, p. 287.
1876. *Ceriagrion coromandelianum* Selys, *Bull. Acad. Belg.*, (2) 42: 528; Fraser, 1933, *Fauna Brit. India odon.*, 1: 315-316.

Material examined: 1 male, 14-iii-2001, Thenmalaiurukunnu (Thiruvananthapuram Dt.), Coll. P. T. Cherian; 1 male, 1 female, 14-iii-2001, Attingal (Thiruvananthapuram Dt.); 2 males, 18-iii-2001, Vithura-Chathankodu (Thiruvananthapuram

Dt.); 4 males, 1 female, 17-iii-2001, Parassala (Thiruvananthapuram Dt.); 2 males, 1 female, 17-iii-2001, Neyyattinkara (Thiruvananthapuram Dt.); 1 male, 23-iii-1994, Bendadukka (Kasaragod Dt.), Coll. K. C. Gopi; 4 males, 2 females, 25-x-2000, Kanjirampara (Kottayam Dt.); 1 male, 20-ii-2002, Cheruvannur (Kozhikode Dt.); 2 males, 18-iii-1999, Walayar (Palakkad Dt.); 1 female, 21-iii-1999, Parli (Palakkad Dt.), Coll. P. M. Sureshan; 1 male, 1-ix-2001, Madayipara (Kannur Dt.), Coll. Md. Jafer Palot; 1 male, 24-x-2002, Vadikkadavu (Malappuram Dt.); 1 male, 1 female, 23-ix-2004, Thusharagiri (Kozhikode Dt.); 5 males, 1 female, 27-x-2004, Kadalundi (Kozhikode Dt.), Coll. K. G. Emiliyamma; 1 male, 24-xii-1994, Kurichiat R. F. (Wayanad Dt.), Coll. C. Radhakrishnan.

Ceriagrion olivaceum Laidlaw, 1914

1914. *Ceriagrion olivaceum* Laidlaw, *Rec. Indian Mus.* **8**: 345-346; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 324-325.

Material examined: 1 male, 23-ix-2004, Thusharagiri (Kozhikode Dt.), Coll. K. G. Emiliyamma; 1 male, 21-xi-2007, Kundur (Bhadra WLS, Karnataka), Md. Jafer Palot.

Ceriagrion rubiae Laidlaw, 1916

1916. *Ceriagrion rubiae* Laidlaw, *Rec. Indian Mus.*, **12**: 132-133; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 318-319.

Material examined: 3 males, 3 females, 7-iii-2006, Kasaragod, Coll. K. G. Emiliyamma; 2 males, 21-vii-2004, Madayipara (Kannur Dt.), Coll. Md. Jafer Palot.

Ischnura aurora (Brauer, 1865)

1858. *Agrion delicatum* Hagen, *Verh. zool. -bot. Ges. Wien*, **8**: 479.

1865. *Agrion aurora* Brauer, *Verh. Zool. -bot. Ges. Wien*, **15**: 510.

1876. *Ischnura delicata* Selys, *Bull. Acad. Belg.*, (2) **41**: 281; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 360-362.

1915. *Ischnura aurora* Ris, *Nova Caledonia, Zool.*, **2**: 67.

1991. *Ischnura aurora aurora* Tsuda, *A distributional list of World Odonata*, p. 34.

Material examined: 1 male, 18-iii-2001 Vithura-Chathankodu (Thiruvananthapuram Dt.); 1 male, 24-ii-2000, Nedumudi (Alappuzha Dt.), Coll. K. C. Gopi; 1 male, 2 females, 1-ii-2002, Kadalundi (Kozhikode Dt.); 1 male, 11-v-2005, Kanthanpara (Wayanad Dt.), Coll. K. G. Emiliyamma; 1 male, 1 female, 27-ii-2002, Melur (Kannur Dt.); 3 males, 1 female, 22-iii-1999, Kanjirampuzha (Palakkad Dt.), Coll. P. M. Sureshan; 1 female, 11-v-2002, Vallamkulam (Pathanamthitta Dt.), Coll. Ashok Kumar; 1 male, 25-xii-1994, Kuruva island (Wayanad Dt.), Coll. C. Radhakrishnan; 1 male, 21-vii-2004, Madayipara (Kannur Dt.), Coll. Md. Jafer Palot.

Ischnura senegalensis (Rambur, 1842)

1842. *Agrion senegalensis* Rambur, *Ins. Nevrop.* p. 276.

1876. *Ischnura senegalensis* Selys, *Bull. Acad. Belg.*, (2) **41**: 273; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 348-351; Lieftinck, 1954, *Treubia* (suppl.): 74.

Material examined: 1 male, 27-x-2004, Kadalundi (Kozhikode Dt.), Coll. K. G. Emiliyamma; 3 males, 25-iii-1998, Kovalam (Thiruvananthapuram Dt.), Coll. P. T. Cherian.

Mortonagrion varralli Fraser, 1920

1920. *Mortonagrion varralli* Fraser, *J. Bombay nat. Hist. Soc.*, **27**: 148; Fraser, 1931, *Rec. Indian Mus.*, **33**: 464; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 409-411.

Material examined: 2 males, 2 females, 7-xi-2002, Theckumbadu island (Kannur Dt.), Coll. K. C. Gopi; 1 male, 1 female, 18-i-2004, Mathappuzha (Malappuram Dt.); 1 male, 4-ii-2004, Kadalundi (Kozhikode Dt.), Coll. K.G.Emiliyamma; 2 males, 22-vii-2004, Madayipara (Kannur Dt.), Coll. Md. Jafer Palot.

Onychargia atrocyana (Selys, 1865)

1865. *Onychargia atrocyana* Selys, *Bull. Acad. Belg.*, (2) **20**: 416; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 417-418; Lieftinck, 1954, *Treubia*, **22** (suppl.): 53.

Material examined: 2 males, 3 females, 9-v-2005, Pookode Lake (Wayanad Dt.), Coll. K. G. Emiliyamma.

Paracercion calamorum (Ris, 1916)

1919. *Argiocnemis dyeri* Fraser, *Rec. Indian Mus.*, **16**: 451-452.
1923. *Coenagrion dyeri* Fraser, *J. Bombay nat. Hist. Soc.*, **29**: 748; Fraser, 1933, *Fauna Brit. India odon.*, **1**: 413-415.
1984. *Cercion calamorum dyeri* Lieftinck *et al.*, *Cat. Taiwanese Dragonflies* p. 23.

Pseudagrion decorum (Rambur, 1842)

1842. *Agrion decorum* Rambur, *Ins. Nevrop* p. 258.
1876. *Pseudagrion decorum* Selys, *Bull. Acad. Belg.*, (2) **42**: 504; Kirby, 1890,
1933. *Cat. Odon.* p.153; Fraser, *Fauna Brit. India Odon.*, **1**: 286-289.

Pseudagrion indicum Fraser, 1924

1924. *Pseudagrion indicum* Fraser, *Rec. Indian Mus.*, **26**: 495-497; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 303-304.

Material examined: 1 female, 23-x-2001, Kannavam R. F. (Kannur Dt.), Coll. Md. Jafer Palot; 1 male, 17-ii-2004, Thusharagiri (Kozhikode Dt.), Coll. K. G. Emiliyamma; 3 males, 31-iii-2004, Kinalur estate (Kozhikode Dt.) Coll. K. C. Gopi; 1 male, 8-iii-2002, Kinalur estate (Kozhikode Dt.), Coll. C. Radhakrishnan.

Pseudagrion malabaricum Fraser, 1924

1924. *Pseudagrion malabaricum* Fraser, *Rec. Indian Mus.*, **26**: 494-495; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 284-286.

Material examined: 5 males, 18-iii-2001, Vithura - Chathankodu (Thiruvananthapuram Dt.) Coll. K. C. Gopi.

Pseudagrion microcephalum (Rambur, 1842)

1842. *Agrion microcephalum* Rambur, *Ins. Nevrop* p. 259.
1876. *Pseudagrion microcephalum* Selys, *Bull. Acad. Belg.*, (2) **42**: 504.
1890. Kirby, *Cat. Odon.*, p.153; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 278-280.

Material examined: 4 males, 2 females, 8-iii-2002, Kinaloor estate (Kozhikode Dt.); 1 male, 26-vi-2002, Thavanakkadavu (Kozhikode Dt.), Coll. C. Radhakrishnan; 2 males, 24-iv-2002,

Puthuppady (Kozhikode Dt.), 1 male, 1 female, 27-x-2004, Kadalundi (Kozhikode Dt.), Coll. K. G. Emiliyamma; 1 female, 19-xi-1996, Chinnar WLS, (Idukki Dt.) Coll. P. M. Sureshan; 1 male, 2-x-2001, Kuniyan (Kasaragod Dt.), Coll. Md. Jafer Palot; 2 males, 20-ix-2001, Malampuzha (Palakkad Dt.), Coll. Dinesan Cheruvat; 1 male, 6-xi-2002, Payangadi (Kannur Dt.), Coll. K. C. Gopi.

Pseudagrion rubriceps Selys, 1876

1876. *Pseudagrion rubriceps* Selys, *Bull. Acad. Belg.*, (2) **42**: 510; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 296-299.
1954. *Pseudagrion rubriceps rubriceps* Lieftinck, *Treubia* 22 (suppl.): 60; Mitra, 1983, *Ent. mon. Mag.*, **119**: 29.

Material examined: 1 male, 2 females, 15-iii-2001, Kallar (Thiruvananthapuram Dt.), Coll. K. C. Gopi; 1 male, 19-xi-1996, Chinnar WLS, (Idukki Dt.) Coll. P. M. Sureshan; 3 males, 12-ix-2001, Malampuzha (Palakkad Dt.), Coll. Dinesan Cheruvat.

Family EUPHAEIDAE

Dysphaea ethela Fraser, 1924

1924. *Dysphaea ethela* Fraser, *Rec. Indian Mus.*, **26**: 480-482; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 92-94.

Euphaea cardinalis (Fraser, 1924)

1924. *Pseudophaea cardinalis* Fraser, *Rec. Indian Mus.*, **26**: 512-513.
1929. *Indophaea cardinalis* Fraser, *J. Bombay nat. Hist. Soc.*, **33**: 295-296; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 108-110.

Material examined: 1 male, 12-xi-1996, Mullakudy (Periyar Tiger Reserve, Idukki Dt.); 1 male, 15-xi-1999, Evergreen (Ernakulam Dt.), Coll. P. M. Sureshan; 1 male, 26-x-2001, Aralam WLS (Kannur Dt.), Coll. Md. Jafer Palot.

Euphaea dispar (Rambur, 1842)

1842. *Euphaea dispar* Rambur, *Ins. Nevrop* p. 230;
1890. *Pseudophaea dispar* Kirby, *Cat. Odon.* p. 109; Laidlaw 1917, *Rec. Indian Mus.*, **13**: 32.
1929. *Indophaea dispar* Fraser, *J. Bombay nat. Hist. Soc.*, **33**: 294-295; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 105-108.

Material examined: 1 male, 2 females, 9-vii-2004, Thusharagiri (Kozhikode Dt.); 1 male, 28-viii-2003, Thusharagiri (Kozhikode Dt.); 1 male, 12-v-2005, Banasura foothills (Wayanad Dt.); 1 male, 10-v-2005, Vannathimala (Wayanad Dt.), Coll. K. G. Emiliyamma; 1 male, 1 female, 8-iii-2002, Aralam WLS (Kannur Dt.); 4 males, 4-vi-2003, Thusharagiri (Kozhikode Dt.), Coll. Md. Jafer Palot.

***Euphaea fraseri* (Laidlaw, 1920)**

1920. *Pseudophaea fraseri* Laidlaw, *Rec. Indian Mus.*, **21**: 23-27.
1929. *Indophaea fraseri* Fraser, *J. Bombay nat. Hist. Soc.*, **33**: 296-298; Fraser, 1934, *Fauna Brit. India Odon.*, **2**: 110-112.

Material examined: 3 males, 30-v-2002, Kinalur estate (Kozhikode Dt.), Coll. K.C. Gopi; 1 male, 11-iv-2000, Adivaram (Kozhikode Dt.), Coll. K. G. Emiliyamma; 1 male, 1 female, 26-x-2001, Aralam WLS (Kannur Dt.); 1 male, 23-x-2001, Kannavam R.F., (Kannur Dt.); 1 male, 13-vi-2003, Thusharagiri (Kozhikode Dt.); 1 male, 5-iv-1995, Uppukunnu (Kannur Dt.); 1 male, 21-ix-2003, Periya R. F. (Wayanad Dt.), Coll. Md. Jafer Palot; 1 male, 12-viii-1994, Thirunelli (Wayanad Dt.); 1 male, 23-xii-1994, Kurichiyat (Wayanad Dt.); 2 males, 13-viii-1994, Irumpupalam, Begur R.F. (Wayanad Dt.), Coll. P.M. Sureshan.

Family LESTIDAE

***Indolestes gracilis birmanus* (Selys, 1891)**

1916. *Lestes gracilis birmanus* Ris, nec Selys, *Suppl. Ent.*, **5**: 13-14. *Ceylonolestes davenporti* Fraser, 1930, *J. Bombay nat. Hist. Soc.*, **34**: 96-97; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 69-71.

***Indolestes pulcherrimus* Fraser, 1924**

1924. *Ceylanicolestes pulcherrima* Fraser, *Rec. Ind. Mus.* Vol. **26**, pp. 487-489, pl. 26, fig. 6; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 72-74.

***Lestes dorothea* Fraser, 1924**

1933. *Lestes dorothea* Fraser, *Rec. Ind. Mus.* vol, **26**, pp. 484-486; Fraser, *Fauna Brit. India Odon.*, **1**: 35-36

***Lestes elatus* Hagen in Selys, 1862**

1858. *Lestes elata* Hagen, *verh. zool. – bot. Ges. Wien*, **8**: 478; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 37-40.
1890. *Lestes elatus* Kirby, *Cat. Odon.*, p. 162.

Material examined: 1 female, 25-iii-1998, Kovalam (Thiruvananthapuram Dt.), Coll. P. T. Cherian; 1 female, 22-ii-2001, Chathancode (Kozhikode Dt.); 1 male, 1 female, Mathappuzha (Malappuram Dt.), 11-iii-2006, Coll. K. G. Emiliyamma; 1 female, 4-ix-1995, Kottiyur R.F. (Kannur Dt.); 1 male, 26-xii-1994, Noolpuzha (Wayanad Dt.); 1 male, 25-xii-1994, Kuruva island (Wayanad Dt.), Coll. C. Radhakrishnan; 1 female, 20-vii-2004, Madayipara (Kannur Dt.), Coll. Md. Jafer Palot.

***Lestes malabarica* Fraser, 1929**

1929. *Lestes malabarica* Fraser, *J. Bombay nat. Hist. Soc.*, **33**: 847-848; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 40-43.

Material examined: 1 male, 21-vii-2004, Madayipara (Kannur Dt.), Coll. Md. Jafer Palot.

***Lestes patricia* Fraser, 1924**

1924. *Lestes patricia* Fraser, *Rec. Ind. Mus.* vol, 26, pp. 486; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 47-48

***Lestes praemorsus* Hagen in Selys, 1862**

1862. *Lestes praemorsa* Selys, *Bull. Acad. Belg.* (2) **13**: 320
1890. *Lestes praemorsus* Kirby, *Cat. Odon.*, p. 162.
1933. *Lestes praemorsa praemorsa* Selys, *Fauna Brit. India Odon.*, **1**: 30-33.

Material examined: 1 male, 21-vii-2004, Madayipara (Kannur Dt.), Coll. Md. Jafer Palot.

***Lestes viridulus* Rambur, 1842**

1842. *Lestes viridulus* Rambur, *Hist. Nat. Ins. Nevrop.* pp. 252-253; Fraser, *Fauna Brit. India Odon.*, **1**: 45-46.

Family PLATYCNEMIDIDAE

***Copera marginipes* (Rambur, 1842)**

1842. *Platycnemis marginipes* Rambur, *Ins. Nevrop.* p. 240.

1890. *Copera marginipes* Kirby, *Cat. Odon.* p. 129; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 192-197; Lieftinck, *Treubia* **22** (suppl.): 51-52.

Material examined: 6 males, 4 females, 16-iii-2001, Kulasekaram (Thiruvananthapuram Dt.); 2males, 2 females, 30-v-2002, Kinalur estate (Kozhikode Dt.); 1male, 23-ii-2000, Parumala/Mannar (Alappuzha Dt.), Coll. K. C. Gopi; Coll. K.C.Gopi; 1 female, 2-iv-1998, Anchuthengu (Thiruvananthapuram Dt.); 1 male, 9-iv-1998, Thenmalai urukunnu (Thiruvananthapuram Dt.), Coll. P. T. Cherian; 2 females, 25-iv-2000, Thiruvambadi (Kozhikode Dt.); 1male, 1female, 22-ii-2001, Chathancode (Kozhikode Dt.); 1 male, 24-iv-2002, Puthuppady (Kozhikode Dt.); 3males, 30-xii-1998, Chalamattom (Kottayam Dt.); 1 male, 11-v-2005, Kanthanpara (Wayanad Dt.), Coll. K. G. Emiliyamma; 1 male, 6-ix-2001, Madayipara (Kannur Dt.); 1male, 1 female, 22-x-2001, Meenmuttithodu (Kannavam R.F., Kannur Dt.), Coll. Md. Jafer Palot; 1female, 1-v-1999, Mayanad (Kozhikode Dt.), Coll. Ashok Kumar; 2males, 1 female, 19-xi-1996, Chinnar WLS, (Idukki Dt.) Coll. P.M.Sureshan; 2 males, 2 females, 20-ix-2001, Malampuzha (Palakkad Dt.), Coll. Dinesan Cheruvat.

***Copera vittata deccanensis* Laidlaw, 1917**

1863. *Psilocnemis vittata* Selys, *Bull. Acad. Belg.*, (2) **16**: 170.
1890. *Copera vittata* Kirby, *Cat. Odon.* p. 129; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 198-201.
1923. *Copera vittata deccanensis* Laidlaw, *Rec.Indian Mus.*, **13**: 337-339; Fraser, 1923, *J. Bombay nat. Hist. Soc.*, **29**: 744.

Material examined: 1 male, 2 females, 18-iii-1996, Karimala (Ernakulam Dt.), Coll. C. Radhakrishnan; 1 male, 3 females, 31-iii-2004, Kinalur estate (Kozhikode Dt.) Coll. K. C. Gopi; 1male, 9-vii-2004, Thusharagiri (Kozhikode Dt.), Coll. K. G. Emiliyamma; 1 male, 10-iii-2001, Valiyakarikkandam (Kannur Dt.), Coll. Md. Jafer Palot; 1 male, 12-I-1992, Kudayuritty (Idukki Dt.), Coll. M.B. Raghunathan.

Family PLATYSTICTIDAE

***Platysticta deccanensis* Laidlaw, 1915**

1915. *Platysticta deccanensis* Laidlaw, *Rec. Indian Mus.*, **11**: 388; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 124-126.
1860. *Platysticta maculata* Selys, *Bull. Acad. Belg.*, (2) **10**: 437; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 121-123.

Material examined: 1 male, 14-viii-2008, Kolamala (Kozhikode Dt.), Coll. K. G. Emiliyamma.

***Protosticta antelopoides* Fraser, 1931**

1931. *Protosticta antelopoides* Fraser, *Rec. Indian Mus.*, **33**: 467-468; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 107-109.

Material examined: 1 female, 4-vi-2003, Thusharagiri (Kozhikode Dt.), Coll. Md. Jafer Palot; 1 male, 9-vii-2004, Thusharagiri (Kozhikode Dt.); 1 female, 10-v-2005, Vannathimala (Wayanad Dt.), Coll. K. G. Emiliyamma.

***Protosticta davenporti* Fraser, 1931**

1931. *Protosticta davenporti* Fraser, *J. Bombay nat. Hist. Soc.*, **35**: 70-71; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 105-107.

***Protosticta gravelyi* Laidlaw, 1915**

1915. *Protosticta gravelyi* Laidlaw, *Rec. Indian Mus.*, **11**: 389-390; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 103-105.

Material examined: 1 male, 2 females, 9-vii-2004, Thusharagiri (Kozhikode Dt.), Coll. K. G. Emiliyamma; 1 male, 30-v-2002, Kinalur estate (Kozhikode Dt.), Coll. K.C. Gopi; 1 female, 4-vi-2003, Thusharagiri (Kozhikode Dt.), Coll. Md. Jafer Palot; 1 male, 31-i-1995, Paripputhodu (Kannur Dt.), Coll. P. M. Sureshan.

***Protosticta hearseyi* Fraser, 1922**

1922. *Protosticta hearseyi* Fraser, *Rec. Indian Mus.*, **24**: 5-6; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 113-115.

Material examined: 1 male, 1 female, 23-iii-1979, New Amarambalam RF (Silent Valley NP), Coll. K. R. Rao.

***Protosticta mortoni* Fraser, 1924**

1924. *Protosticta mortoni* Fraser, *Rec. Indian Mus.*, **26**: 500-501; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 111-113.

Material examined: 4 males, 12-v-2005, Banasura foot hills (Wayanad Dt.), Coll. K. G. Emiliyamma.

***Protosticta rufostigma* Kimmins, 1958**

1958. *Protosticta rufostigma* Kimmins, *Bull. British Mus. Nat. Hist. (Ent.)*, vol. **7**, No. 7, pp. 349-350.

***Protosticta sanguinostigma* Fraser, 1922**

1922. *Protosticta sanguinostigma* Fraser, *Rec. Indian Mus.*, **24**: 6-7; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 109-111.

Material examined: 1 male, 11-v-2005, Chembra (Wayanad Dt.); 1 male, 28-viii-2003, Thusharagiri (Kozhikode Dt.), Coll. K. G. Emiliyamma; 2 males, 3 females, 4-vi-2003 & 13-vi-2003, Thusharagiri (Kozhikode Dt.), Coll. Md. Jafer Palot.

Family PROTONEURIDAE

***Caconeura gomphoides* (Rambur, 1842)**

1842. *Argia gomphoides* Rambur, *Ins. Nevrop*, p. 256.
1917. *Indoneura gomphoides* Laidlaw, *Rec. Ind. Mus. Vol.*, **13**, pp. 347-348, pl.15, fig. 7; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 252-254.

***Caconeura ramburi* (Fraser, 1922)**

1917. *Indoneura gomphoides* Laidlaw, (*ramburi*, nec. *Gomphoides*) *Rec. Indian Mus.*, **13**: 347-348; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 254-256.
1922. *Indoneura ramburi* Fraser, *Rec. Indian Mus.*, **24**: 2-3.

Material examined: 4 males, 2 females, 28-viii-2003 & 9-vii-2004, Thusharagiri (Kozhikode Dt.), Coll. K. G. Emiliyamma; 3 males, 1 female, 4-vi-2003 & 13-vi-2003, Thusharagiri (Kozhikode Dt.), Coll. Md. Jafer Palot; 1 male, 1 female, 12-viii-1997, Kattilapara (Kollam Dt.), Coll. P. M. Sureshan.

***Caconeura risi* (Fraser, 1931)**

1931. *Indoneura risi* Fraser, *Rec. Indian Mus.*, **33**: 469-471; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 258-259.

Material examined: 3 males, 29-x-2000, Idamaruku (Kottayam Dt.), Coll. P. M.

Sureshan; 1 male, 27-x-2001, Aralam WLS (Kannur Dt.), Coll. Md. Jafer Palot. 5 males, 16-iii-2001, Kulasekaram (Thiruvananthapuram Dt.); 1 male, 18-iii-2001, Vithura-chathankodu (Thiruvananthapuram Dt.); 2 females, 30-v-2002, Kinalur estate (Kozhikode Dt.), Coll. K. C. Gopi; 1 male, 11-iv-2000, Adivaram (Kozhikode Dt.), Coll. K. G. Emiliyamma.

***Caconeura t-coerulea* (Fraser, 1933)**

1922. *Indoneura ramburi* Fraser, *Rec. Indian Mus.*, **24**: p.3; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 256.

***Disparoneura apicalis* (Fraser, 1924)**

1924. *Chloroneura apicalis* Fraser, *Rec. Indian Mus.*, **26**: pp. 429, 501-503, fig. 4; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 248-250

***Disparoneura quadrimaculata* (Rambur, 1842)**

1842. *Argia quadrimaculata* Rambur, *Ins. Nevrop*, p. 255.
1917. *Chloroneura quadrimaculata* Laidlaw, *Rec. Ind. Mus.*, vol. **13**, pp.323, 344; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 246-248

***Elattoneura souteri* (Fraser, 1924)**

1924. *Disparoneura souteri* Fraser, *Rec. Indian Mus.*, **26**: 521, 523; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 232-234.

***Elattoneura tetrica* (Laidlaw, 1917)**

1917. *Disparoneura tetrica* Laidlaw, *Rec. Indian Mus.*, **13**: 345-346; Fraser, 1923, *J. Bombay nat. Hist. Soc.*, **29**: 743; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 235-236.

***Esme cyaneovittata* Fraser, 1922**

1922. *Esme cyaneovittata* Fraser, *Mem. Dept. Agric. India (Ent.)*, **7**: 45-46 ; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 263-264.

***Esme longistyla* Fraser, 1931**

1931. *Esme longistyla* Fraser, *Rec. Ind. Mus.*, **33**: 449, 471-472, fig. 6; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 266-268.

***Esme mudiensis* Fraser, 1931**

1931. *Esme mudiensis* Fraser, *Rec. Ind. Mus.*, **33**: 472-473; Fraser, 1933, *Fauna Brit. India Odon.*, **1**: 264-266.

Material examined: 1 male, 13-vi-2003, Thusharagiri (Kozhikode Dt.), Coll. K.G. Emiliyamma.

***Melanoneura bilineata* Fraser, 1922**

1922. *Melanoneura bilineata* Fraser, *Mem. Dept. Agric. India (Ent.)*, 7: 55; Fraser, 1933, *Fauna Brit. India Odon.*, 1: 260-262.

Material examined: 1 female, 13-vi-2003, Thusharagiri (Kozhikode Dt.), Coll. K. G. Emiliyamma.

***Phylloneura westermanni* (Selys, 1860)**

1860. *Alloneura westermanni* Selys, *Bull. Acad. Belg.*, (2): 10: 447.

1922. *Phylloneura westermanni* Fraser, *Rec. Indian Mus.*, 24: 3-4; Fraser, 1933, *Fauna Brit. India Odon.*, 1: 269-271.

Material Examined: 1 male, 2 females, 28-viii-2003, Thusharagiri (Kozhikode Dt.); 2 males, 23-ix-2004, Thusharagiri; 1 male, 10-v-2005, Vannathimala (Wayanad Dt.), Coll. K. G. Emiliyamma; 2 males, 1 female, 27-v-2003, Thusharagiri (Kozhikode Dt.), Coll. C. Radhakrishnan; 1 male, 2 females, 4-vi-2003 & 13-vi-2003, Thusharagiri (Kozhikode Dt.), Coll. Md. Jafer Palot.

Prodasineura verticalis annandalei

(Fraser, 1921)

1917. *Disparoneura tetrica* Laidlaw, *Rec. Indian Mus.*, 13: 345-346; Fraser, 1923, *J. Bombay nat. Hist. Soc.*, 29: 743; Fraser, 1933, *Fauna Brit. India Odon.*, 1: 214-216.

Material examined: 1 male, 24-iv-2002, Puthuppady (Kozhikode Dt.); 3 males, 1 female, 11-iv-2000, Adivaram (Kozhikode Dt.), Coll. K. G. Emiliyamma; 4 males, 30-v-2002, Kinalur estate (Kozhikode Dt.); 1 male, 30-iii-1997, Pulickal (Parambikulam WLS, Palakkad Dt.); 1 male, 31-iii-2004, Kinalur estate (Kozhikode Dt.) Coll. K. C. Gopi.

DISCUSSION AND OBSERVATION

The Odonata of southern Western Ghats comprise of 169 species representing two suborders, 14 families and 82 genera. The Anisopteran fauna comprises of 54 genera and 105 species, with 40 species endemic to Western Ghats and Zygopteran fauna comprises of 28 genera

and 64 species including 28 species endemic to Western Ghats (Subramanian, 2007). The families Gomphidae, Corduliidae, Platystictidae and Protoneuridae exhibit high levels of endemism.

Many dragonflies (Anisoptera), especially the members of families Aeshnidae, Chlorogomphidae, Corduliidae and Gomphidae are highly seasonal and occur in very low population densities. Hence, the representation of these families in the collection is very less. Among Anisoptera, family Libellulidae is the most species rich (49 species), followed by Gomphidae (25 species), Corduliidae (12 species), Macromidae and Aeshnidae with 10 and 9 species respectively. All the above families, except Libellulidae has high endemism, Gomphidae (20 endemic species), Corduliidae (10 endemics) and Macromiidae (6 endemics). Endemic odonates of the Western Ghats are mostly found in riverine habitats such as montane streams and rivers. A large proportion (82%) of the endemics survives exclusively in riverine habitats (Subramanian, 2007). In the case of family Libellulidae, the members occupies with very diverse habitats from sea level to higher elevation in the forest.

The damselflies (Zygoptera) are less speciose than dragonflies. The family Coenagrionidae has the highest species diversity with 21 species followed by Protoneuridae (14 species) and Platystictidae and Lestidae (8 species each). The families Protoneuridae and Platystictidae have high endemism. The members of damselflies are weak fliers, can be seen near and far away from water. The species of family Protoneuridae are always seen near water hanging on leaf blades. The genera such as *Vestalis* were observed far away from water, occupying each and every leaves of forest plants. *Rhinocypha bisignata* always found settled on rocks inside the water or near water. *Libellago lineata* were found near slow flowing streams. The members of genus *Agriocnemis* were observed settled on plants in the marshy area and occasionally far away from water also. *Ceriagrion cerinorubellum* is a common species, oftenly encountered in gardens and houseyards, where as

C. olivaceum and *C. rubiae* are forest species. There are 10 species of dragonflies and damselflies (Table 1) coming under IUCN *Onychargia atrocyana* has been collected near pond filled with weeds. The members of families Threatened and Near Threatened categories Calopterygidae, Euphaeidae, Platystictidae and (Subramanian *et al.*, 2011). Protoneuridae, are forest dwellers.

Table -1

Family	Species	Ctegrory
Gomphidae	<i>Heliogomphus promelas</i> (Selys, 1873)	NT
Corduliidae	<i>Idionyx galeata</i> Fraser, 1924	NT
Gomphidae	<i>Megalogomphus hannyingtoni</i> (Fraser, 1923)	NT
Protoneuridae	<i>Melanoneura bilineata</i> Fraser, 1922	NT
Protoneuridae	<i>Phylloneura westermanni</i> (Selys, 1860)	NT
Libellulidae	<i>Indothemis carnatica</i> (Fabricius, 1798)	NT
Gomphidae	<i>Chlorogomphus xanthoptera</i> (Fraser, 1919)	VU
Protoneuridae	<i>Disparoneura apicalis</i> (Fraser, 1924)	VU
Platystictidae	<i>Platysticta deccanensis</i> Laidlaw, 1915	VU
Platystictidae	<i>Protosticta sanguinostigma</i> Fraser, 1922	VU

During the present study, *Melanoneura bilineata*, *Phylloneura westermanni*, *Platysticta deccanensis* and *Protosticta sanguinostigma* were from the forest areas of Thusharagiri (Kozhikode) and Wayanad. The habitats of these species are Myristica swamps, which are rare formations of evergreen forests and important for endemic odonates (Subramanian, 2007).

Major threats to the Western Ghats odonates have been identified as agricultural activity, stream flow regulation, pesticide, fertilizer and

sediment runoff, urban and industrial development resulting decline in habitats such as waterbodies, conversion of ponds, tanks and pools for agricultural purposes and building and road construction cause irreparable damage to habitats that support odonates. Beside, sand mining, riparian deforestation, and dumping of waste, also threaten the habitats of odonates (Subramanian *et al.*, 2011). In order to conserve the odonate fauna of Western Ghats, we have to protect the habitats of this significant faunal group.

REFERENCES

- Asiathambi, M and Manickavasagam, S. 2002. Odonata of Annamalai University, Annamalainagar, Tamil Nadu, India. *Zoos' Print*, **17**(2): 704-706.
- Emiliyamma, K.G. and Radhakrishnan, C. 2000. Odonata (Insecta) of Parambikulam Wildlife Sanctuary, Kerala, India. *Rec. zool. Surv. India*, **98**(1): 157-167.
- Emiliyamma, K.G. and Radhakrishnan, C. 2002. Additions to the Odonata (Insecta) of Thiruvananthapuram district, Kerala. *Zoos' Print Journal*, **17**(10): 914-917.
- Emiliyamma, K.G, Radhakrishnan, C. and Muhamed Jafer Palot. 2005. *Pictorial Handbook – Common Dragonflies and Damselflies of Kerala*, : 1-67, Zoological Survey of India.

- Emiliyamma, K.G. 2005. On the Odonate (Insecta) fauna of Kottayam District, Kerala, India. *Zoos' Print*, **20**(12): 2108-2110.
- Emiliyamma, K.G. and Radhakrishnan, C. 2006. First report of *Cyclogomphus heterostylus* Selys (Odonata: Insecta) from Kerala, South India. *Rec. zool. Surv. India* : **106** (part-2): 123-124.
- Emiliyamma, K.G. and Radhakrishnan, C. 2006. Insecta: Odonata; in: *Fauna of Biligiri Rangaswamy Wildlife Sanctuary, Conservation Area Series*, **27**: 21-25, Zoological Survey of India, Kolkata.
- Emiliyamma, K.G. Radhakrishnan, C. and Muhamed Jafer Palot. 2007. Odonata (Insecta) of Kerala. *occ. paper*. 269, pub. by *Zoological Survey of India*, 1-200, 6 plates.
- Emiliyamma, K.G. and Radhakrishnan, C. 2007. Insecta: Odonata. In: *Fauna of Kudremukh National Park, Conservation Area Series*, **32**: 27-48.
- Emiliyamma, K.G. and Radhakrishnan, C. 2007. Insecta: Odonata. In *Fauna of Bannerghatta National Park, Conservation Area Series*, **33**: 39-41.
- Emiliyamma, K.G. 2009. Insecta: Odonata. In: *Fauna of Tamil Nadu, State Fauna Series*, **17**: 35-39.
- Emiliyamma, K.G. Md. Jafer Palot, Radhakrishnan, C. and Balakrishnan, V.C. 2013. *Lyriothemis acigastra*: a new addition to the Odonata Fauna of Peninsular India. *Taprobanica*, Vol., **5**(1): 73-74.
- Fraser, F.C. 1931. Additions to the survey of the Odonata (Dragonfly) fauna of Western India, with descriptions of nine new species. *Rec. Indian Mus.*, **33**: 443-474.
- Fraser, F.C. 1933. The Fauna of British India, including Ceylon and Burma. Odonata, vol. 1. pp. XIII + 428. Taylor & Francis Ltd., London: 1-423.
- Fraser, F.C. 1934. The Fauna of British India, including Ceylon and Burma. Odonata, vol. 2. pp. XIII + 398. Taylor & Francis Ltd., London: 1-398.
- Fraser, F.C. 1936. The Fauna of British India, including Ceylon and Burma. Odonata, vol. 3. p. XII + 461. Taylor & Francis Ltd., London.
- Gunther Peters. 1981. Trockenzeit – Libellen aus dem indischen Tiefland. *Dtsch. Ent. Z., N. F.* 28. *Heft, I-III, seite* 93-108.
- Gunathilagaraj, K., Soundararajan, R.P. Chitra, N. and Swamiappan, M. 1999. Odonata in the rice fields of Coimbatore. *Zoos' Print*, **14**(6): 43-44.
- Jafer Palot, M., Radhakrishnan, C. and Soniya, V.P. 2005. Odonata (Insecta) diversity of a ricefield habitat in Palakkad district, Kerala, S.India. *Rec. zool. Surv. India*, **104** (Part 1-2): 71-77.
- Jafer Palot, M, Dinesan Cheruvat, Emiliyamma, K.G. and Radhakrishnan, C. 2002. Dragonfly Menace at the National Fish Seed Farm, Malampuzha, Kerala. *Fishing chimes*, **22** (5): 56 & 60.
- Jafer Palot, M and Soniya, V.P. 2004. Studies on the Odonata (Insecta) from a backwater swamp on Northern Kerala. *J. Bombay nat. Hist. Soc.*, **101** (1): 177-179.
- Kandibane, M. S. Raguraman and N. Ganapathy, 2005. Relative abundance and diversity of Odonata in an irrigated rice field of Madurai, Tamil Nadu. *Zoos' Print*, **20**(11): 2051-2052.
- K. A. Subramanian, Francy Kakkasserry and Manoj Nair, V. 2011. The status and distribution of dragonflies and damselflies (Odonata) of the Western Ghats. In *The Status and Distribution of Freshwater Biodiversity in the Western Ghats, India*. Cambridge, UK Gland, Switzerland: IUCN and Coimbatore, India: Zoo Outreach Organisation Compiled by Molur, S, Smith K. G., Daniel, B. A. and Darwall, W. R. T.

- Mathavan, S. and Miller, P.L. 1989. A collection of dragonflies (Odonata) made in the Periyar National Park, Kerala, South India, in January 1988. *Soc. Int. Odonatol. Rapid Comm. (suppl.)*, **10**: 1-10.
- Mitra, T.R. 2002. Geographical distribution of Odonata (Insecta) of Eastern India. *Memoirs of the Zoological Survey of India*, **19**(1): 1-208.
- Mitra, T.R. 2003. Ecology and biogeography of Odonata with special reference to Indian fauna. *Rec. zool. Surv. India, Occ. Pap.*, **202**: 1-41.
- Mitra, T.R. 2006. *Handbook on – Common Indian Dragonflies (Insecta: Odonata)*: 1-124, Zoological Survey of India.
- Prasad, M. and Varshney, R.K. 1995. A checklist of the Odonata of India including data on larval Studies. *Oriental Ins.*, **29**: 385-428.
- Prasad, M. and Kulkarni, P.P. 2000. Insecta: Odonata. in: *Fauna of Nilgiri Biosphere Reserve, Conservation Area Series*, **11**: 73-83.
- Radhakrishnan, C. 1997. Ecology and conservation status of Entomofauna of Malabar. *Zoos' Print*, **11**: 2-5.
- Radhakrishnan, C. and Emiliyamma, K.G. 2004. Odonata (Insecta) of Kerala: A systematic database. In: *Advancements in Insect Biodiversity*, Ed. Rajiv K. Gupta. Agrobios, Jodhpur.
- Ramachandra Rao, K. and Lahiri, A.R. 1982. First records of Odonates (Arthropoda: Insecta) from the Silent Valley and New Amarambalam Reserved Forests. *J. Bombay nat.Hist. Soc.*, **79** (3): 557-562.
- Schorr, M. Lindeboom, M. and Paulson, D. 2011. World Odonata List. <http://www.pugetsound.edu/x6140.xml>
- Subramanian, K.A. and Sivaramakrishnan, K.G. 2002. Conservation of Odonate fauna in Western Ghats- A biogeographic perspective. : pp. 11-22. *Vistas of Entomological Research for the new Millennium* (eds. K.P. Sanjayan, V. Mahalingam and M.C. Muralirangan). *G.S. Gill Research Institute*, Chennai.
- Subramanian, K.A. 2005. Damselflies and dragonflies of peninsular India-A field Guide. Ebook of the Project Lifescape. Indian Academy of Sciences and Centre for Ecological Sciences, Indian Institute of Science, Bangalore, India. 118pp. Available online in PDF format: http://ias.ac.in/initiat/sci_ed/lifescape/odonates.html
- Subramanian, K.A. 2007. Endemic Odonates of the Western Ghats: Habitat Distribution and Conservation. In: *Biology of Odonata* (Ed.Tyagi). pp.257-271. Scientific Publishers, Jodhpur, India.
- Subramanian, K.A. 2009. A Checklist of Odonata (Insecta) of India. (online version). <http://zsi.gov.in/zoological-survey-of-india/zsi>.