

## **ODONATA OF THE MANGROVE TIDAL FOREST OF WEST BENGAL, INDIA**

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### **Abstract**

This is the first report on dragonflies of the mangrove tidal forest of India. most of the 28 recorded spp. are common and widespread in the Indian lowlands.

### **Introduction**

The mangrove ecosystem of West Bengal, popularly known as the Sunderbans, recently declared as biosphere reserve, lies approximately at latitude 22° N and longitude 88° E in the South 24

Parganas district. It is a tidal littoral estuarine ecosystem and cluster of low lying deltaic islands of the Ganga-Brahmaputra deltaic complex. A large number of creeks exist in the forest and flood an extensive part of the floor almost through-out the year.

The geomorphological and salinity conditions in this region greatly vary from place to place, and play a great role in the formation of different types of vegetation.

A large part of this mangrove forest has been lost in the recent years, particularly due to reclamation for agricultural needs. It occupies 4264 km<sup>2</sup> and supports the following species as important vegetation: *Heritiera fomes*, *Excoecaria agallocha*, *Xylocarpus mekongensis*, *Bruguiera gymnorhiza*, *Sonneratia apetala*, *Aegiceras corniculatum*, etc.

The area has a more or less tropical climate. According to SINGH et al. (1971) the average monthly temperatures (in °C) at Sagar Island are as follows: Jan. (20.4), Feb. 22.85), March (26.95), Apr. (28.9), May (29.7), June (29.5), July (28.5), Aug. (28.4), Sept. (28.5), Oct. (27.5), Nov. (24.1), Dec. (20.8). The average RH of the rainy season (July-September) usually remains above 80% and in December-January it becomes 68.5-69.5%.

#### Area surveyed

The present note is based on collections of adults made by Zoological Survey of India parties.

The localities and dates of collections are given below.

- ( 1) Sagar Island, S/26-VIII-1973
- ( 2) Sagar Island, 16/26-IX-1973
- ( 3) Sagar Island, 7-IX-1974
- ( 4) Baghmara beach, 18-IX-1983
- ( 5) Baghmara khal, 15/18-IX-1983
- ( 6) Bagna, 13/19-IX-1983
- ( 7) Bhangadhuni Island, 17/18-IX-1983
- ( 8) Haldi, 11/16-IX-1983
- ( 9) Mechua Khal, 13/15-IX-1983
- (10) Sajne Khali, 10-IX-1983
- (11) Zhilla, 16-IX-1983
- (12) Fraserganj, 15-XI-1990
- (13) Baunia Abad, 23-II-1991
- (14) Basanti talla, 26-II-1991

#### Species recorded

The collections contain 135 adult specimens of 28 species. They are deposited in the National Zoological Collections at the Zoological Survey of India, Calcutta. Prior to this note MANDAL & NANDI (1989) reported a part of this list of species without any data.

##### Coenagrionidae

*Pseudagrion decorum* (Ramb.) — Loc. 1: 1 ♂  
*P. australasiae* Sel. — Loc. 1: 1 ♂  
*Ceriagrion coromandelianum* (Fabr.) — Loc. 1: 2 ♂, 2 ♀; — Loc. 2: 1 ♀  
*C. cerinorubellum* (Br.) — Loc. 1: 1 ♂  
*Ischnura senegalensis* (Ramb.) — Loc. 1: 6 ♂; — Loc. 9: 2 ♂, 2 ♀; — Loc. 4: 1 ♂, 1 ♀  
*I. a. aurora* Br. — Loc. 9: 1 ♂  
*I. elegans* (Vander L.) Loc. 13: 2 ♂, 4 ♀ (2 pairs in copulation)

*Cercion malayanum* (Sel.) — Loc. 1: 1 ♂  
*Agriocnemis pygmaea* (Ramb.) — Loc. 1: 1 ♂; — Loc. 8: 1 ♂, 1 ♀; Loc. 9: 4 ♂; — Loc. 7: 3 ♂, 1 ♀; — Loc. 5: 2 ♂, 4 ♀  
*Onychargia atrocyana* Sel. — Loc. 1: 1 ♂

##### Macrodiplaxidae

*Macrodiplax cora* (Br.) — Loc. 1: 1 ♂  
*Urothemis s. signata* (Ramb.) Loc. 1: 2 ♂; — Loc. 13: 1 ♀

##### Libellulidae

*Lathrecista a. asiatica* (Fabr.) — Loc. 1: 7 ♂, 12 ♀  
*Orthetrum s. sabina* (Dru.) — Loc. 1: 4 ♀; Loc. 2: 1 ♂; — Loc. 8: 1 ♂; — Loc. 11: 1 ♀  
*Brachydiplax sobrina* (Ramb.) — Loc. 3: 1 ♂, 1 ♀  
*Acisoma p. panorpoides* (Ramb.) — Loc. 3: 1 ♀  
*Diplacodes trivialis* (Ramb.) — Loc. 1: 6 ♂, 3 ♀; — Loc. 5: 1 ♀; — Loc. 8: 1 ♀; — Loc. 7: 1 ♀; — Loc. 12: 2 ♂, 3 ♀  
*Crocothemis s. servilia* (Dru.) — Loc. 1: 1 ♂  
*Brachythemis contaminata* (Fabr.) — Loc. 1: 7 ♂, 6 ♀; — Loc. 6: 1 ♀; — Loc. 14: 1 ♀  
*Bradinopyga geminata* (Ramb.) — Loc. 2: 1 ♂  
*Neurothemis t. tullia* (Dru.) — Loc. 3: 2 ♂, 1 ♀  
*N. fulvia* (Dru.) — Loc. 6: 1 ♂  
*Trithemis pallidinervis* (Kirby) — Loc. 1: 1 ♀; — Loc. 12: 1 ♂, 1 ♀  
*Rhyothemis v. variegata* (L. & Johanss.) — Loc. 11: 1 ♀  
*Tholymis tillarga* (Fabr.) — Loc. 1: 1 ♂  
*Pantala flavescens* (Fabr.) — Loc. 10: 2 ♀; —

Loc. 8: 1 ♂; — Loc. 5: 1 ♀; — Loc. 11: 1 ♀;  
— Loc. 7: 1 ♂; — Loc. 12: 2 ♂, 1 ♀; — Loc.  
13: 2 ♂, 1 ♀.

*Tramea basilaris burmeisteri* Kirby — Loc. 12:  
1 ♀

*T. virginia* (Ramb.) — Loc. 8: 1 ♀

#### Discussion

This is the first report on Odonata from this peculiar ecosystem of India, although CHHOTANI et al. (1983) reported *Libellago lineata andamanensis* (Fr.), *Vestalis g. gracilis* (Ramb.), *Drepanosticta annandalei* (Fr.), *Prodasineura verticalis andamanensis* (Fr.), *Copera marginipes* (Ramb.), *Agriocnemis femina oryzae* Lieft., *A. pygmaea* (Ramb.), *Lathrecista a. asiatica* (Fabr.), *Nesoxenia lineata* (Sel.), *Orthetrum chrysis* (Sel.), *O. s. sabina* (Dru.), *Diplacodes trivialis* (Ramb.), *Tholymis tillarga* (Fabr.), *Trithemis aurora* (Burm.) and *T. festiva* (Ramb.) from localities of the Andaman and Nicobar Islands having mangrove vegetation. Of these, *Agriocnemis pygmaea*, *Lathre-*

*cista a. asiatica*, *Orthetrum s. sabina*, *Diplacodes trivialis* and *Tholymis tillarga* are common to both areas. Most of the recorded species are widely distributed and common lowland species.

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**References** — CHHOTANI, G., A.R. LAHIRI & T.R. MITRA, 1983, *Rec. zool. Surv. India* 80: 467-494; — MANDAL, A.K. & N.C. NANDI, 1989, *Fauna of mangrove ecosystem, West Bengal, India*, p. 116, Zool. Surv. India, Calcutta; — SINGH, R.L., S.L. KAYASTHA & K.N. SINGH, 1971, *India: a regional geography*, natn. Geogr. Soc. India, Varanasi.

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