

ODONATA IN THE RICE FIELDS OF COIMBATORE

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Odonata is the only large insectan order which is entirely predaceous. Both as nymphs and as adults, they are voracious predators on other insects. All Odonata are found close to fresh water, though adult dragonflies often venture out for some distance overland, foraging for food. During our survey (1997-1998) in rice fields of Coimbatore, we recorded 16 species of Odonata (Table 1) (7 damselflies and 9 dragonflies). Considering their abundance in rice fields, we have every reason to think that they must be making an important contribution to the biological control of rice pests, even though systematic studies on their role in the regulation of pest population in rice fields are limited.

Tyagi (1997) has checklisted 491 species of Odonata in India, revising the inventories made earlier by Fraser (1933, 1934, 1936) in his Fauna volumes and by Prasad and Varshney (1995). But checklisting of Odonata found in rice fields in India has not been attempted before. Fraser (1933) recorded *Lestes elata* Hagen as the commonest species of rice field damselflies in the Peninsular India. Barrion and Litsinger (1994) have given the diagnostic keys for the identification of rice field Odonata in Asia and Africa and their list includes 14 Species of Odonata (5 damselflies and 9 dragonflies). As for their predatory role in rice fields, the damselflies *Ischnura senegalensis*, *Agriocnemis pygmaea*, (Poorani, 1990). *I. delicata*, *I. rufostigma* Selys and *Ceriagrion coromandelianum* (Krishnasamy *et al.*, 1984) were reported to be predating upon leaf and planthoppers. Krishnasamy *et al.* (1984) have also reported the dragonflies, *Orthetrum sabina*, *Crocothemis servilia*, *Pantala flavescens* and *Diplacodes nebulosa* (Fabricius) as effective predators of rice field Lepidoptera.

Of the 16 species of Odonata recorded by us, *Orthetrum sabina* and *Ischnura delicata* were the most abundant of dragon- and damselflies respectively. *O. sabina* in particular was found active even in rice fields sprayed with insecticides. Fraser (1936) also recorded *O. sabina* as the most dominant and predaceous of all dragonflies in southern India.

Earlier faunal lists of Odonata include those of Abraham (1959) and Ramakrishna Ayyar and Krishna Ayyar (1933) for Coimbatore, Fraser (1933, 1934, and 1936) and Prasad and Varshney (1995) for India. Further studies are in progress to assess the predatory potential of these beautiful insects in keeping the rice field insects under check. We thank Dr. B.K. Tyagi for his article on Dragonfly Wealth of India (Tyagi, 1997) which gave impetus to our work on rice field Odonata.

Table 1. Odonata in the rice fields of Coimbatore

Zygoptera (Damselflies)

Coenagrionidae

Ceriagrion cerinorubellum (Brauer)

Ceriagrion coromandelianum (Fabricius)

Ischnura delicata Hagen

Ischnura senegalensis (Rambur)

Agriocnemis pygmaea (Rambur)

Agriocnemis rubescens Selys

Lestidae

Lestes viridula Rambur

Anisoptera (Dragonflies)

Libellulidae

Orthetrum chrysis Selys

Orthetrum sabina (Drury)

Brachythemis contaminata (Fabricius)

Crocothemis servilia (Drury)

Diplacodes trivialis (Rambur)

Neurothemis tullia (Drury)

Trithemis aurora (Burmeister)

Pantala flavescens (Fabricius)

Trapezostigma basilaris burmeisteri Kirby

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NOTE

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SPOTTING OF THE GIANT WOOD SPIDER (*NEPHILA MACULATA*) IN THE GUINDY NATIONAL PARK, CHENNAI

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The Guindy National Park (GNP) consisting of 270.57 ha. of Reserved Forest is one of the last refuges of a tropical dry evergreen forest type of the Coromandel Coast. The biodiversity within the Park is quite amazing despite the fact that it is a very small area surrounded by concrete jungles and human habitations. Today, these exert intense pressure directly and indirectly to the Park.

An ecological study on invertebrates with special emphasis on Arachnids (spiders and their relatives) is currently in progress in the Reserved Forest area of Guindy National Park. An important aspect of this study is to observe and record predatory habits and habitat associations of different species of spiders. It has been found that these animals play an important ecological role as insectivores (Nyffeler & Benz, 1987) but surprisingly, the basics of spider predation ecology is still largely unknown for most species.

It was during this study that we came across a spider, which has

so far not been seen or recorded in GNP. A female Giant Wood Spider (*Nephila maculata*) was spotted in all her glory. The Giant Wood Spider was first spotted on the 3rd of November 1998 during which time the monsoon had begun in the city. The *Nephila* species has the distinction of building the largest orb-web with a span of about 1.5m. This species is a conspicuous feature of tropical environments, the massive female with her stocky, elongated, beautifully marked body catching the attention of many a photographer. The total body length of this spider (excluding legs) can go upto 36 - 45mm, with the male of this species only about 10 - 12mm! The total body length (including legs) of the individual spotted was measured to be 75mm. The habitat of this species is around bushes and trees in thick, wooded forests and has usually been observed in higher altitudes with cooler climatic conditions. Only a solitary female was spotted by us for 5 days and searches around the area of sighting for any other individuals were in vain. Readings of the length and span of the web, the length of the individuals, and the height of the web from ground level were recorded (Table 1). We also noticed her feeding on a moth and, on a subsequent day, feeding on an Earhead Bug (*Leptocoris* sp.)

Table 1. Dimension and position of *Nephila maculata* web

| Data | 5 Nov. '98 | 6 Nov. '98 | 7 Nov. '98 |
|------------------------------|------------|------------|------------|
| Length | 26 inches | 20 inches | 22 inches |
| breadth: | 30 inches | 31 inches | 37 inches |
| hub ht. from ground level | 102 inches | 108 inches | 99 inches |

The fact that this particular species was found in isolation and to our knowledge not been spotted in GNP earlier prompted us to make the following notes.

References to previous articles and literature show that the *Nephila* sp. has so far usually been recorded in high altitudes, at least in southern India. "17 females and 3 males were collected from the Nilgiri district 1000ft. above sea level in October 1961". (Phanuel, 1963). Ray Sherriffs (1918) in his *Contribution to the Study of Arachnology*, 1918, has recorded *Nephila maculata* only in Dolosbage, Ceylon (3000ft.).

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