



Dragonflies in Kuttanadu: Preliminary Observations

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ABSTRACT

The order Odonata, comprising dragonflies and damselflies are one of the most spellbinding insect groups. Due to amphibious life history, short generation time, high trophic position and diversity, odonates are considered not only as integral element of freshwater ecosystems but also as adept indicators of ecosystem health. The present study identified ten species of dragonflies in Muttar region of Kuttanadu. As odonates are considered as ecological indicators, the present study deserves much attention and scope for further research.

KEYWORDS

Odonata, Dragonflies, Damselflies.

Introduction

Members of the order Odonata include some of the most ancient and lovely insects that ever roamed the earth (Sharma, 2007). Dragonflies and Damselflies are the prominent and colourful insects in tropical landscapes which are considered as a crucial component of freshwater ecosystem as well as good indicators of ecosystem health (Adarsh, 2014). Habitat specificity and prey abundance plays a major role in the distribution and ecology of Odonates. They lay their eggs in a wide range of aquatic habitats ranging from small tanks to rivers. Most of the Odonates are active during the midday and some species are nocturnal. Odonate as a predator plays a significant role in biological control of insect pests. In addition to providing aesthetic pleasure studying Odonates give a valuable insight about ecosystem health especially of wetlands (Subramanian, 2005)

Materials and Methods

The Kuttanadu basin in central Kerala extends over 1600 sq. km. and four rivers Pamba, Achenkovil, Manimala and Meenachil rivers flows through Kuttanadu. The area for the present study was Muttar panchayath in Kuttanadu which has irrigation canals, marshes and inundated paddy fields (Fig. 1). Regular observations were conducted for dragonflies in summer months in 2014. Dragonflies were collected and identified by observing the morphological characteristics. Standard keys/identification manuals were used for identification (Fraser, 1936; Subramanian, 2005).

Results

The Dragonfly species identified were grouped into four relative abundance categories such as very common, common, occasional and rare. The dragonflies sighted during 75%-100% of the field days were grouped into very common, those which were sighted during 50%-74% of the field days were grouped into common 25%-49% were grouped into occasional and those which were seen below 24% of the field days were grouped into rare categories. A total of 10 species of Dragonflies (Anisoptera) were identified from the area under study (Table 1). Dragonflies identified were belongs to two families Gomphidae and Libellulidae of which Libellulidae was the dominant family with nine members. The relative abundance analysis showed that four species out of ten were occasional, four were rare, and one each were common and very common. The very common species were Common Picture Wing (*Rhyothemis variegata*) and the rare ones were Ground Skimmer (*Diplacodes trivialis*), Wandering Glider (*Pantala flavescens*), Coral-tailed Cloud Wing (*Tholymis tillarga*) and Long-legged Marsh Glider (*Trithemis pallidinervis*).

Table 1: List of dragonflies recorded in the study

Sl. No.	Common name	Family/Scientific Name	Abundance
	Clubtails	Gomphidae	
1	Common Clubtail	<i>Ictinogomphus rapax</i>	Occasional
	Skimmers	Libellulidae	
2	Little Blue Marsh Hawk	<i>Brachydiplax sobrina</i>	Occasional
3	Ground Skimmer	<i>Diplacodes trivialis</i>	Rare
4	Pied Paddy Skimmer	<i>Neurothemis tullia</i> (female)	Occasional
	Pied Paddy Skimmer	<i>Neurothemis tullia</i> (male)	Occasional
5	Crimson-tailed Marsh Hawk	<i>Orthetrum pruinosum</i>	Common
6	Green Marsh Hawk	<i>Orthetrum Sabina</i>	Occasional
7	Wandering Glider	<i>Pantala flavescens</i>	Rare
8	Common Picture Wing	<i>Rhyothemis variegata</i>	very common
9	Coral-tailed Cloud Wing	<i>Tholymis tillarga</i>	rare
10	Long-legged Marsh Glider	<i>Trithemis pallidinervis</i>	rare





Fig1 & 2: A panoramic view of the study area

Discussion

Odonates are the dominant aquatic insects and often referred as the bio indicators of the aquatic ecosystem. Odonates are authentic indicators of human impact on freshwater ecosystem. Biological monitoring methods using aquatic insects have been developed and reliably tested in both temperate and tropical aquatic systems (Foote and Hornung, 2005). The nymphs of odonates are key predators in water, the adults scourage on gnats and midges in the aquatic realm.

The odonate diversity in Kerala is reported early by many researchers (Emiliyamma & Radhakrishnan, 2002; Emiliyamma et al., 2005). The present findings are also in accordance with earlier reports (Kiran and Raju, 2011). The marshes, inundated paddy fields and canals are the reason for the presence of more diversity among dragonflies in such a small study area presently. Sharma et al. (2007) also established more diversity of odonates in diversified habitats. The present findings are rather significant and thus underlining importance of odonate conservation.

Conclusion

Dragonflies are one of the most bewitching insect groups as they has amphibious life history with high trophic position and diversity. Odonates respond to anthropogenic activity and serve as successful indicators of habitat quality across the world. The present study also documented the high diversity of odonates in Kuttanadu region in Kerala, India

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