

Odonata (Dragonflies, Damselflies) Diversity in an around Sakoli, Bhandara District, Maharashtra

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Abstract: Dragonflies and damselflies (Odonata) are ecologically important insects, serving as indicators of environmental health and playing crucial roles in predator-prey interactions. Insect are most diverse, successful, and dominated taxon of the animal kingdom. They are found in almost every habitat across the globe. It is due to their diverse body size, habit, fecundity, different modes of respiration, food diversity etc, because of these diverse characteristics, they became an important component of our ecosystem. (Fraser, F.C. (1936). The order odonatan is one of the most popular insect groups. Odonata occupies almost all kinds of habitat, running water, rain-pools and lakes, rivers etc. A survey conducted in 2023 found a total of 43 species, of odonates belonging to 06 families, were collected for the present study survey was conducted during May to end November morning to midday when odonates are most active.

Keywords: Sakoli Tahsil, Odonata, Dragonflies, Damselflies

I. INTRODUCTION

Two of the most varied animals on the planet are dragonflies and damselflies. Of the 5,740 species of odonates that have been identified worldwide, India is home to 474 species across 142 taxa and 18 families (Subramanian, 2014). Beautiful insects called odonates have aquatic larval phases. The food web's top predators and crucial components are present in both the adult and larval phases (Mishra *et al.*, 2019; Babosova *et al.*, 2019)

The Western Ghats of India, encompassing the Bhandara district, harbor a rich biodiversity of odonates due to diverse habitats and favorable climatic conditions. Odonates, despite their captivating beauty, often remain overlooked in biodiversity assessments.

In Maharashtra total 101 species of odonates are recorded (Kulkarni *et al.* 2012). As skillful predators, they keep populations of mosquitoes and other flying insects in check, acting as nature's pest control vigilantes. Moreover, their intricate roles in pollination and seed dispersal contribute significantly to the health and vibrancy of the ecosystem. They are important predators in the ecosystem,

Study Area:

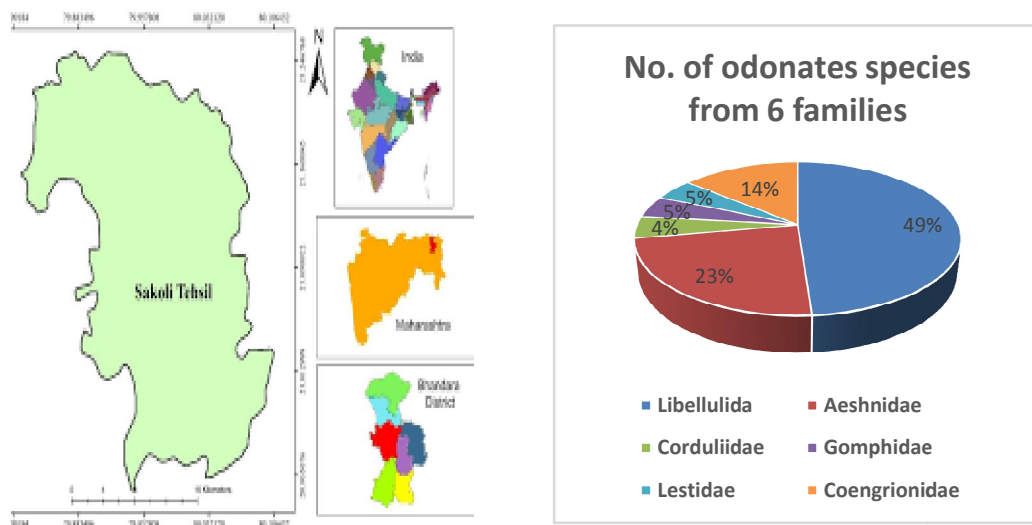
Sakoli Tehsil come under Bhandara district of Maharashtra state is home to a diverse range of odonates, or dragonflies and damselflies. Sakoli Latitude is 21.0674 and Longitude is 79.9554. In Sakoli tehsil has many resources and good plant diversity. Such type of climate is favourable to normal development of odonates.

Data Collection:

Field surveys were conducted in diverse habitats across Sakoli, including wetlands, paddy fields, streams, and forest edges, between May and end of November 2023. The observation is carried out by weekly visit during morning and evening time. Species were photographed by using Sony α -600 and identified in their natural habitat. Identification is done by the standard identification key prescribed by Subramanian (2014).

Result:

The survey found a total of 43 species of Odonates in Sakoli district. The most common families were:



Discussion

India is harbour of 499 species of Odonata (Prasad and Varshney 1995), while present study documents total 56 species of Odonata from Chakrashila Wildlife Sanctuary. Baruah *et. al* (2016) reported 82 species of odonata from Kaziranga-karbi Hills of central Assam. Total 45 species of odonata was recorded from Barpeta district of Assam by Baruah and Saikia (2015). Gupta and Veeneela (2016) reported the presence of 14 species in urban landscape of Cachar District of Assam where there is high human disturbance. A total of 39 species belonging to 5 families and 22 genera were recorded from Deepor beel bird sanctuary (Kalita and Ray, 2015). Thus, all the studies indicate that good forest and marsh habitat with less human disturbance support a good number of odonate.

The diversity of odonates in Sakoli district is comparable to that of other parts of India. The district is home to a variety of habitats, including rivers, lakes, ponds, and wetlands. These habitats provide the odonates with the resources they need to survive, including food, shelter, and breeding sites.

The study found that the odonate fauna of Sakoli district is rich and diverse, with a high number of endemic species. A survey conducted in 2023 found a total of 43 species, were collected for the present study. Survey was conducted during May to end of November 2023 from morning to midday when odonates are most active. In suborder Anisoptera, Family Gomphidae is represented by *Ictinogomphus rapax*, Aeshnidae by *Anax guttate*, *Anax parthenepe* Cordulegasteridae by *Cordulogaster sp.* Family Libellulidae is dominant in all other collected species of dragonflies which belong to this family. Among Libellulidae, *Pantala sp.*, *Brachythemis contaminata* are abundant. *Orthetrum sabina*, *Tramea virginia*, *Diplocoides trivialis* are common. Among collected damselflies, golden darter, blue darter are common. The most common dragonflies in the district are the Common Bluebottle (*Orthetrum cancellatum*), the Common Hawker (*Aeshna cyanea*), and the Blue-spotted Darter (*Sympetrum danae*). The most common damselflies in the district are the Common Blue Damselfly (*Enallagma cyathigerum*), the Azure Damselfly (*Coenagrion puella*), and the Common Whiteface (*Aeshna cyanea*).

II. CONCLUSION

The study's findings suggest the odonates of Sakoli district are a valuable part of the ecosystem. They are important predators, pollinators, and seed dispersers. The researchers recommend that the district's wetlands and other water bodies be protected to ensure the continued survival of the odonates that live there. The diversity of odonates in the district is a testament to the health of the environment.

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