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www.researchtrend.net

Odonate Fauna of Karhandla Region of Umred-Karhandla Wildlife Sanctuary, Maharashtra, India

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| Received: 02 December 2015 | Accepted: 30 December 2015 |

ABSTRACT

Umred-Karhandla Wildlife Sanctuary is located in Nagpur district of Maharashtra state. It is one of the important conservation areas of Central India. The vertebrate fauna of this Sanctuary is well recognized, however, its invertebrate fauna including odonates remains largely unknown. Hence, the present study was conducted to ascertain the odonate fauna of this Sanctuary. A faunal survey of odonates was carried out at various water bodies located in and around Karhandla range of this Sanctuary during the period November 2014 to October 2015. This survey has revealed a total of 28 species of odonates inhabiting the study area. These include 22 species of dragonflies and 6 species of damselflies. Among the Anisoptera, family Libellulidae dominates with 19 species of dragonflies, while family Gomphidae is represented by 1 species and family Aeshnidae by 2 species. Among the 6 species of Zygoptera recorded, 5 species of damselflies belong to family Coenagrionidae, while family Lestidae is represented by 1 species.

Key Words: Damselfly, dragonfly, Maharashtra, Nagpur, Odonata.

INTRODUCTION

Dragonflies and damselflies belong to suborders Anisoptera and Zygoptera, respectively, of order Odonata in class Insecta. Odonates are well admired for their beautiful colours and spectacular flying abilities, which include hovering in the air like a helicopter. They are amphibious insects that spend their juvenile stages in water, while the adults are terrestrial. Being closely associated with freshwater bodies like ponds, lakes, streams and rivers, they can be used as bio-indicators of environment health. Both juveniles and adults being exclusively carnivorous and predatory by habit and as they primarily feed on other insects including their own, odonates play an important role in keeping insect populations in check. They even prey on insects that act as vectors of serious diseases and therefore, they can be classified as biological control agents.

According to Schorr & Paulson (2015), approximately 5900 species of odonates are known from the world. As per Subramanian (2014), 474 species of odonates in 142 genera of 18 families are known from India. Fraser (1933, 1934, 1936) was the first researcher to study the Indian odonates in detail. The odonate fauna of Central India and particularly Nagpur district is well documented. Andrew *et al* (2008) have reported 45 species of odonates from Central India. Andrew (2013) has recorded 34 species of odonates from Zilpi Lake, Nagpur. Shende & Patil (2013) and Patil *et al* (2014) have reported 34 species of dragonflies and 21 species of damselflies, respectively, from Gorewada International Bio-Park, Nagpur. The odonate fauna of Umred-Karhandla Wildlife Sanctuary is largely unknown, hence, the present study.

MATERIALS AND METHODS

Nagpur (c. 21.06°N 79.03°E) is located in the Vidarbha region of Maharashtra which lies in Central India. Umred-Karhandla Wildlife Sanctuary (c. 20°50'08"N 79°30'40"E) is situated at a distance of about 55 km. from Nagpur. This is a recently notified Wildlife Sanctuary established in the year 2013. It is spread over an area of 189 sq. km. in Umred, Kuhl, Bhivapur and Pauni talukas of Nagpur district. This Sanctuary has tropical dry deciduous type forest and is rich in invertebrate and vertebrate fauna. The odonate fauna of the Sanctuary was surveyed through monthly visits to water bodies like ponds, ditches and streams found in and around Karhandla region of the Sanctuary. This study was carried out during the period November 2014 to October 2015. The odonate species that were sighted during the study were identified with the help of relevant taxonomic literature by Fraser (1933, 1934, 1936) and the field guides by Subramanian (2005) and Andrew *et al* (2008). Wherever possible, the recorded species

were photographed for verification and authentication.

RESULTS AND DISCUSSION

The survey of the odonate fauna of Karhandla region of Umred-Karhandla Wildlife Sanctuary has revealed a total of 28 species (Table 1). These include 22 species of dragonflies (Anisoptera) in 16 genera of 3 families, namely, Gomphidae, Aeshnidae and Libellulidae, and 6 species of damselflies (Zygoptera) in 5 genera of 2 families, namely, Coenagrionidae and Lestidae. Among the Anisoptera, family Libellulidae is represented by 19 species (Fig.1.), whereas, the families Gomphidae and Aeshnidae are represented by 1 species and 2 species, respectively. Among the Zygoptera, family Coenagrionidae is represented by 5 species of damselflies, while family Lestidae is represented by 1 species. When compared to the studies carried out by Andrew *et al* (2008), Andrew (2013), Shende & Patil (2013), and Patil *et al* (2014), it is found that all the species recorded in this study are commonly found in Central India. None of the odonate species recorded herein is threatened.





Fig. 1. Odonates of Umred-Karhandla Wildlife Sanctuary: (Pictures 1 to 19): 1. Odonate habitat 2. *Ictinogomphus rapax* 3. *Brachythemis contaminata* (Male) 4. *Brachythemis contaminata* (Female) 5. *Bradinopyga geminata* 6. *Crocothemis servilia* (Male) 7. *Crocothemis servilia* (Female) 8. *Diplacodes trivialis* (Male) 9. *Diplacodes trivialis* (Female) 10. *Orthetrum luzonicum* 11. *Orthetrum sabina* 12. *Pantala flavescens* 13. *Potamarcha congener* (Male) 14. *Potamarcha congener* (Female) 15. *Tholymis tillarga* (Male) 16. *Trithemis aurora* (Female) 17. *Trithemis pallidinervis* 18. *Zyxomma petiolatum* 19. *Agriocnemis pygmaea*

Table 1: List of Odonates of Karhandla range of Umred-Karhandla Wildlife Sanctuary

S. NO.	COMMON NAME	ZOOLOGICAL NAME	STATUS
Suborder Anisoptera (Dragonflies)			
Family Gomphidae (Clubtails)			
1.	Common Clubtail	<i>Ictinogomphus rapax</i> (Rambur, 1842)	C
Family Aeshnidae (Darners)			
2.	Blue-tailed Green Darner	<i>Anax guttatus</i> (Selys, 1839)	C
3.	Blue Darner	<i>Anax immaculifrons</i> (Rambur, 1842)	C
Family Libellulidae (Skimmers)			
4.	Trumpet Tail	<i>Acisoma panorpoides</i> Rambur, 1842	C
5.	Blue-tailed Black Marsh Skimmer	<i>Brachydiplax sobrina</i> (Rambur, 1842)	C
6.	Ditch Jewel	<i>Brachythemis contaminata</i> (Fabricius, 1793)	C
7.	Granite Ghost	<i>Bradinopyga geminata</i> (Rambur, 1842)	C
8.	Ruddy Marsh Skimmer	<i>Crocothemis servilia</i> (Drury, 1770)	C
9.	Ground Skimmer	<i>Diplacodes trivialis</i> (Rambur, 1842)	C
10.	Blue Marsh Hawk	<i>Orthetrum glaucum</i> (Brauer, 1865)	C
11.	Tricoloured Marsh Hawk	<i>Orthetrum luzonicum</i> (Brauer, 1868)	C
12.	Crimson Tailed Marsh Hawk	<i>Orthetrum pruinosum</i> (Rambur, 1842)	C
13.	Green Marsh Hawk	<i>Orthetrum sabina</i> (Drury, 1770)	C
14.	Wandering Glider	<i>Pantala flavescens</i> (Fabricius, 1798)	C
15.	Yellow Tailed Ashy Skimmer	<i>Potamarcha congener</i> (Rambur, 1842)	C
16.	Common Picture Wing	<i>Rhyothemis variegata</i> (Linnaeus, 1763)	C
17.	Coral-Tailed Cloud Wing	<i>Tholymis tillarga</i> (Fabricius, 1798)	C
18.	Red Marsh Trotter	<i>Tramea basilaris</i> (Kirby, 1889)	C
19.	Crimson Marsh Skimmer	<i>Trithemis aurora</i> (Burmeister, 1839)	C
20.	Black Stream Skimmer	<i>Trithemis festiva</i> (Rambur, 1842)	C
21.	Long-Legged Marsh Skimmer	<i>Trithemis pallidinervis</i> (Kirby, 1889)	C
22.	Brown Dusk Hawk	<i>Zyxomma petiolatum</i> (Rambur, 1842)	C
Suborder Zygoptera (Damselflies)			
Family Coenagrionidae (Dartlets)			
23.	Pigmy Dartlet	<i>Agriocnemis pygmaea</i> (Rambur, 1842)	C
24.	Coromandel Marsh Dart	<i>Ceriagrion coromandelianum</i> (Fabricius, 1798)	C
25.	Golden Dartlet	<i>Ischnura aurora</i> (Brauer, 1865)	C
26.	Senegal Golden Dartlet	<i>Ischnura senegalensis</i> (Rambur, 1842)	C
27.	Pixie Dartlet	<i>Rhodischnura nursei</i> (Morton, 1907)	C
Family Lestidae (Spreadwings)			
28.	Brown Spreadwing	<i>Lestes umbrinus</i> Selys, 1891	C

C: Common

ACKNOWLEDGEMENTS

I am thankful to the Principal, S. M. M. College of Science, Nagpur, for facilities.

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