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Diversity of Dragonflies (Insecta: Odonata) in some Parts of Murtizapur Taluka of Akola District, Maharashtra

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ABSTRACT: Diversity of adult dragonflies in some part of Murtizapur taluka of Akola district was studied for a period of near about one year. In our study 19 species of dragonflies belonging to 2 families and 10 genera were recorded. Under order Odonata and suborder Anisoptera 18 species belonging to family Libellulidae and only 1 species belonging to Gomphidae family were recorded. Odonates can help to control small insects like mosquitoes and hence their conservation is of importance.

Keywords: Diversity, Dragonflies, Akola District, Odonata

INTRODUCTION

Changes in aquatic plant communities, such as plant removal to ease boat passage, mowing of shoreline vegetation or introduction of exotic species, reduces the quality of odonata habitat. Because odonates play important ecological roles as both predators and prey, loss of odonata species could have a ripple effect (known in ecology as a trophic cascade) on terrestrial and aquatic food webs (Remsburg, 2009).

Dragonflies are generalists, that is, they eat whatever suitable prey is abundant. Oftentimes, they hunt in groups where large numbers of termites or ants are flying, or near swarms of mayflies, caddisflies, or gnats. According to most studies, the main diet of adult odonates consists of small insects, especially Dipterans (flies). Maturing dragonfly larvae feed very intensively, as do females when developing their eggs. Studies show that food shortage may limit reproductive behavior. Dragonflies do not hunt in cold weather.

Though dragonflies are predators, they themselves must be wary of many predators. Birds, lizards, frogs, spiders, fish, water bugs, and even other large dragonflies have all been seen eating odonates. However, dragonflies have many adaptations enabling them to avoid predation. They have exceptional visual responses and truly agile flight. Although many insects perform courtship, it is uncommon among dragonflies. Anisoptera copulate while in flight, the male lifting the female in the air. Zygoptera copulate while perched, sometimes flying to a new perch. The length of time required for copulation varies greatly. Aerial copulations may last mere seconds to one or two minutes. Perched copulations usually last from five to ten minutes. Intraspecific competition amongst males for females is fierce. It has even been discovered that in some species of Odonata, the males will remove all the sperm of rival males from a female's body before transferring his own sperm. These species are equipped with a "scoop" at the tip of the male's abdomen that is used for this purpose. Hence the present work was undertaken to study diversity of dragonflies in Murtizapur taluka of Akola district

METHODS AND MATERIALS

Dragonflies were photographed from the month of July 2013 -March 2014. Different parts of study area were visited at different hours of day. At least 5 visits were given to each region for the collection of dragonflies. Digital Camera, Camera stand, Field Book, Pen/Pencil, Magnifying glass, Literature for identification were utilized during field study. Dragonflies were photographed in the selected sites using digital camera. Close search for dragonflies was made in every possible habitat. Random photography was done. Some parts of Murtizapur taluka (Dist. Akola), was selected as study area.

RESULTS AND DISCUSSION

In our study 19 species of dragonflies belonging of 2 families and 10 genera were recorded. Under order Odonata and suborder Anisoptera 18 species belonging to family Libellulidae and only 1 species belonging to Gomphidae family were recorded (Table 1). We observed that out of total species recorded 95 % are of Libellulidae family while remaining 5% belonged to Gomphidae showed least no. of species. Odonata is one of the oldest groups of winged insects found today. With 5680 extant species, dragonflies are a relatively small order of insects (Kalkman *et al*., 2008).

Table 1: Diversity and distribution of dragonflies of Murtizapur taluka of Akola district.

Order/ Suborder	Family	Scientific name	Common name
Odonata: Anisoptera	**Libellulidae**	*Brachythemis cantaminata* (fabricius, 1793)	Ditch Jewel
		Orthetrum Chrysis(Selys, 1891)	Brown-backed Red Marsh Hawk
		Orthetrum glaucaum (Brauer, 1865)	Blue Marsh Hawk
		Orthetrum sabina (Drury, 1770)	Green Marsh Hawk
		Orthetrum luzonicum (Brauer, 1868)	Tricoloured Marsh Hawk
		Orthetrum pruinosum (Ramber, 1842)	Crimson-tailed Marsh Hawk
		Trithemis pallindinervis (Kirby, 1889)	Long-legged Marsh Skimmer
		Trithemis festiva (Ramber, 1842)	Black Stream Skimmer
		Crocothemis servilia (Drury,1770)	Ruddy Marsh Skimmer
		Bradinopyga geminata (Ramber, 1842)	Granite Ghost
		Rhyothemis veriegata (Linnaeus, 1763)	Common Picture Wing
		Tholymis tillarga (Fabricius, 1793)	Coral-tailed Cloud Wing
		Pantala flavescens (Fabricius, 1798)	Wandering Glider
		Diplacodes travialis (Rambur, 1842)	Ground Skimmer
		Diplacodes nebulosa (Fabricius, 1798)	Blacktipped Ground Skimmers
		Diplacodes bipunctata (Brauer, 1865)	Wandering Percher
		Diplacodes luzonicum (Ramber,1842)	Black Percher
		Diplacodes haematodes (Burmeister, 1839)	Scarlet Percher
	Gomphidae	*Ictinogomphus rapax* (Ramber, 1842)	Common Clubtail

Odonata are well known insects occurring on all continents except Antarctica (Trueman, 2007).The vast majority of this group occurs in tropical and subtropical climate zones (Dumont, 1991). Western Palaearctic, wherein Iran is located, has the poorest fauna of this group in the world. Low diversity of Odonata in western Palaearctic in comparison to the other biogeographical regions is largely due to the advance of glaciers during the Pleistocene ice ages (Kalkman *et al*., 2008). The main mountain ranges and seas run east-west (e.g., the Mediterranean Sea, the Pyrenees, Alps and Himalayas) thus are forming a barrier for northern species retreating southwards (Kalkman *et al*., 2008).

Prasad and Ghosh (1988) studied the Odonata of different states and species distribution from Madhya Pradesh. Mitra (1995) while working on Odonata of Indravati Tiger Reserve added 9 more species from Chhattisgarh. Mishra (2007) studied the Odonata of Madhya Pradesh and described a total of 72 species belonging to 40 genera and 9 families distributed in different localities. A detailed entomological survey on the Dragonfly and Damselfly (Odonata) diversity in Kanha National Park stated 36 species of Odonates belonging to 2 suborder and 7 families (Tiple *et. al*., 2012).

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