

Diversity of Insects from Jangamhatti area, Chandgad, Kolhapur district of Maharashtra

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ABSTRACT

For the first time surveys and collection of insects in Jangamhatti area, Chandgad, Kolhapur district of Maharashtra was carried out in year 2014 to 2015. During the study period, 44 species of insects belonging to 9 orders. The order Lepidoptera was dominant with 18 species followed by Hemiptera, Coleoptera, Orthoptera, Hymenoptera, Odonata, Diptera, Mantodea and Blattodea with 9,6,4,2,2,1,1, and 1 species respectively. Data revealed that, the fauna of Insects of study region is rich may be because of variety of plants, varied ecological conditions rainfall, and temperature.

Keywords: Diversity, Jangamhatti, Temperature.

INTRODUCTION

The class insecta is a huge and highly diversified group of animal Kingdom with 1.5 million species representing nearly 90% of the animal kingdom (Mani, 1982). Till now about 8, 00,000 species of living insects (Mandal and Ray 2006) and 2,000 species of fossil insects have been recorded and yet the large number of species to be discovered in future (Tembhare, 1997). About 75,000 species are reported from India comprising nearly 10% of entire insect fauna (State of Art Report Zoology, 1991). Biodiversity is the variability among living organisms from all sources including interalia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; This include diversity within species between species and ecosystem. The members of the class - Insecta are arranged in 29 orders (Grimaldi and Engel 2005, Arillo and Engel 2006). Four of these orders the Coleoptera, Diptera, Hymenoptera, and Lepidoptera –

account for 81% of all the described species of living insects. The order Lepidoptera is one of the most species-rich groups of insects, with an estimated number of species close to 146,000 (Bakowski & Doku-Marfo, 2009).

Many insects are considered as agricultural pest, because they can create large populations which feed on crops but there are some insects which are beneficial to human being. Insects are vital not only to the ecosystem, but also to global food supply for humans. Many insects plays an important role in pollination, they transfer pollen from one flower to another. Beetles and flies, for instance, pollinate a very broad range of flowers, and some species may even visit plants that emit a foul stench that would deter other pollinators from visiting.

Butterflies and moths, like bees, are attracted to sweet, delicate fragrances. Moths are important pollinators of night scented flowers such as evening scented stocks. (www.BuzzAboutBees.net).

Although, a series of revisionary studies have been subsequently carried out from different geographical regions, no exhaustive survey has so far been carried out especially from the various forests. Therefore, for the first time an attempt was made to study fauna of insects of Jangamhatti , Maharashtra.

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MATERIAL AND METHODS

This study was conducted at Jangamhatti, Chandgad Kolhapur district during 2014 to 2015. The insects were collected by using aerial insect sweeping nets and hand picking method. The collected specimens were brought to the laboratory and killed in killing bottle using chloroform. The collected specimens were preserved by both dry and wet preservation methods. They were identify with the help of available literature providing standard key, illustration, picture guide, internet, Zoological survey of India and Bombay Natural History society Mumbai.

Study Region:

The study area selected for the observation and study of insects from this dam and surrounding forest area. jangamhatti dam and surrounding area is covered with dense lush green forest. This part of Maharashtra has very good summer with temperature rising of maximum of 35-36 degree Celsius and the Rainfall here is seasonal, and the average rainfall is 2500 mm. in a year. Since this place is located on 15°-51'-30" (North) Latitude and 74°-18'-00" (East) Longitudinal' in Western Ghats, it has a pleasant climate, with temperatures in the range of 36°C to 29°C during summer and 21°C to 14°C during winter. The rainy season witnesses heavy rains by the Monsoon. The Monsoon period is from June to September with rainfall averaging more than 2500 mm every year and heavy winds. This is a small man made dam done near Jangamhatti Village and is accessible via tilari route. This is usually made for the water supply of water to nearby villages like Jangahamatti. Kaliwade and Kitwade villages. The most prominent feature of this place is that it is away from the main road and has a scenic and picturesque beauty with absolute silent environment with only sound of the water, chirping birds and insects.

RESULTS AND DISCUSSION

In the present study, a total of 44 species distributed over 24 families belonging to 9 orders were reported. The order Lepidoptera was dominant with 18 species followed by Hemiptera, Coleoptera, Orthoptera, Hymenoptera, Odonata, Diptera, Mantodea and Blattodea with 9,6,4,2,2,1,1, and 1 species respectively (Table 1).

Table 1: Checklist of insects from Jangamhatti area

Sr. No	Order	Families and Species
1	Lepidoptera	Family : Nymphalidae
		<i>Ariadne merione assama</i>
		<i>Danaus chrysippus</i>
		<i>Euploea core</i>
		<i>Junonia lemonias</i>

		<i>Melanitis phedima</i>
		<i>Neptis hylas</i>
		<i>Tirumala limniace leopardus</i>
		Family : Pieridae
		<i>Catopsilia pomona</i>
		<i>Delias eucharis</i>
		<i>Eurema brigitta rubella</i>
		Family: Lyценidae
		<i>Freyeria trochilus</i>
		<i>Jamides celeno</i>
		<i>Talicaда nyseus</i>
		Family:Papilionidae
		<i>Pachliopta hectors</i>
		<i>Papilio polymnestor</i>
		Family: Riodinidae
		<i>Abisara echerius</i>
		Family: Erebidae
<i>Erebus macrops</i>		
Family: Hesperidae		
<i>Udaspes folus</i>		
2	Hemiptera	Family: Pentatomidae
		<i>Nezara viridula</i>
		<i>Halyomorpha halys</i>
		<i>Gonopsis sp</i>
		<i>Erthesina fullo</i>
		<i>Eysarcoris sp</i>
		Family: Tessartomidae
		<i>Tessartoma sp</i>
		Family: Coreidae
		<i>Leptocorisа sp</i>
		<i>Physomerus grossipes</i>
Family: Scutelleridae		
<i>Scutellera nobilis</i>		
3	Coleoptera	Family: Buprestidae
		<i>Sternocera sp</i>
		Family:Scarabaeidae
		<i>Dynastes sp</i>
		<i>Phyllophaga sp</i>
		Family: Chrysomelidae
		<i>Aspidomorpha miliaris</i>
		<i>Charidotella sp</i>
Family: Coccinelidae		
<i>Illies cincta</i>		
4	Orthoptera	Family: Acrididae
		<i>Acridium exaltata</i>
		<i>Catantops pingus</i>
		<i>Gastrinargus africanus</i>
		Family: Tettigonidae
<i>Phyllozelus sp</i>		
5	Hymenoptera	Family: Anthrophoridae
		<i>Xylocopa aestuans</i>
		Family: Apidae
		<i>Apis indica</i>
6	Odonata	Family: Coenagrionidae
		<i>Pseudagrion decorum</i>
		Family: Libellulidae
		<i>Crocothemis servillia</i>

7	Diptera	Family: Calliphoridae <i>Sarcophaga fasciata</i>
8	Mantodea	Family: Mantidae <i>Hierodula ventralis</i>
9	Blattodea	Family: Blattidae <i>Periplaneta americana</i>

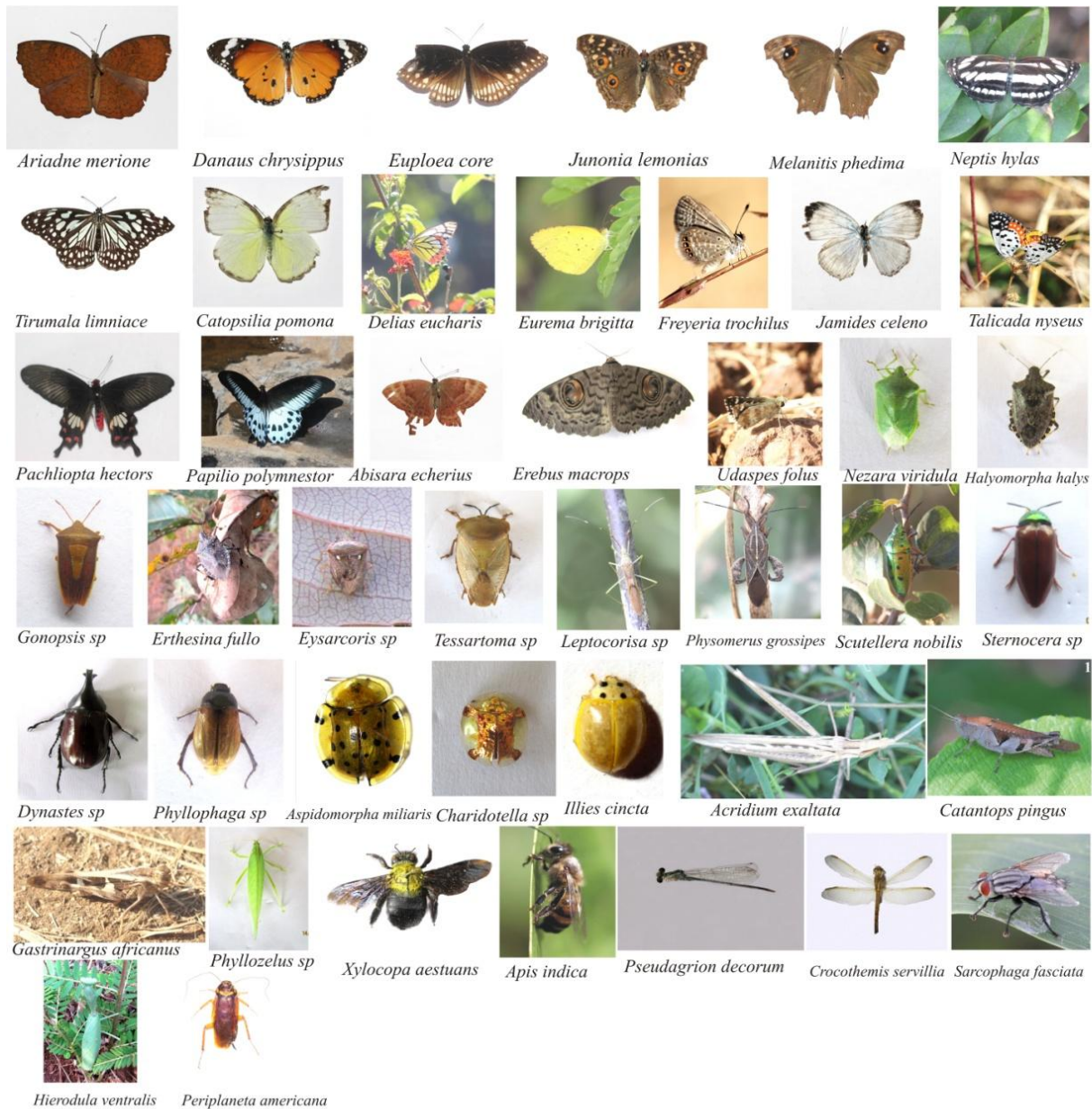
species composition and diversity of insects of the Kogyae Strict Nature Reserve in Ghana recorded 8147 individuals representing 135 families from 21 orders. Mone et al (2014) studied on Comparison of insect biodiversity between organic and conventional plantations in Kodagu, Karnataka, India. They have been reported 457 ground insect species.

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Aland et al, (2010) reported 44 species of heteropteran insects from Amba reserved Forest, Western Ghats, Maharashtra. Sharma and Agrawal (2012) studied on faunal diversity of aquatic insects. They were reported 29 species of aquatic insects in Surha Tal of District - Ballia (U. P.), India. Alamu et al, (2013) studied on diversity and nutritional status of edible insects in Nigeria and they were reported 22 edible insects. Kyerematen et al (2014) studied on

Figure-1. Checklist of insects from Jangamhatti area



Conflict of Interests

Authors declare that there is no conflict of interests regarding the publication of this paper.

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