



DIVERSITY PATTERN OF BUTTERFLY COMMUNITIES IN DIFFERENT HABITAT: A BRIEF STUDY

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ABSTRACT

Butterflies are important bioindicators which should be protected to conserve the biodiversity and environment. A study about butterfly diversity was carried out in Jintur taluka Parbhani district of Maharashtra, India. Three sites were used in the study area for the surveys of butterflies, a total of 86 individuals and 10 species of butterflies belong to 4 families were recorded during the study period. The study area is rich in butterfly diversity and further research could be conducted to obtain more details on butterfly diversity for the conservation.

Key words: Butterfly, Biodiversity, Conservation, Bioindicators.

INTRODUCTION.

Butterflies are wonderfully diverse in shape, size and color. They are found everywhere around the world except near the Poles. Butterflies are good indicators of climatic conditions, seasonal and ecological changes, they can also serve in formulating strategies for conservation. Hence butterflies play a vital role in ecosystem and co-evolutionary relationship between them and plants as well as their lives are interlinked (Ghazanfar et al., 2016).

Butterflies are considered an important organism since they are not only a good pollinator (Abaynew et al., 2018) but also a good indicator of environment quality (Kim, 1993) hence, they need to be conserve. Butterflies are very susceptible towards the climatic factors i.e. Extreme Temperature, Irregular Rainfall and Draught, changes in these factors are responsible for reducing the number of butterfly species (Kumar et al., 2017; Kavya et al., 2021). The present study is a report of butterfly diversity from the Jintur region. The study will be helpful to understand the current status to organize a checklist and further Environmental Impact Assessment studies in the region



MATERIALS AND METHODS.

Study area:

The present study was carried out in the Jintur, district Parbhani, region of Maharashtra, India. Three sampling sites were selected for the present study viz, Nemgiri Digamber Jain Temple, Yeldari Dam and Van Udyan Yeldari (Forest Garden).

Survey Method and Identifications.

The field surveys on butterflies were carried out in the study area. Regular survey were conducted from June to July 2023 by visual observation. Butterflies were accessed in the study area from 9 am to 11 am in the morning by random observations.

Identification of species was done by analyzing the data which was in the form of photographs taken by digital camera (Redmi 8). Photographs were taken in both positions (open and closed wings). Species were identified on the basis of their morphological appearance like size, shape, color, design and pattern. Reference books, Literature, Internet data and Photographs were used for accurate identification (Kumar et al., 2016., Varshney and Smetacek, 2015) and Identification of Butterflies with the help of entomologist expert from Department Of Zoology. Shikshan Maharshi Guruwarya R.G Shinde Mahavidyalaya, Paranda.

RESULTS AND DISCUSSION.

In order to understand the checklist of the species of butterfly observed in the study area and results are presented in (Table 1 and Table 2). It is clear from the results given in table 1 that Three sites were used in the study area for the surveys of butterflies, a total of 86 individuals and 10 species of butterflies belong to 4 families were recorded . Nymphalidae was the richest family in the study area that comprised (50) individuals of butterfly followed by Papilionidae (13) Pieridae (22) and Uraniidae (01) individuals.

Local status of butterfly species in the study area were recorded. The result are given in table 2. It is clear from the result summarized in table-2 that Van Udyan Yeldari shows Densely presence of butterfly species as compared with Nemgiri Tample Area and Yeldari Dam Area. Also this observation is related with the findings of (Charn, 2015) who listed 54 species of butterfly belong to 7 families from the forest strip of Punjab. Konwar & Bortamuly (2021) studied and conclude that a total of 158 butterfly species were observed in Titabar, Jorhat, Assam, out of which 61 butterflies belongs to Nymphalidae family, 38 Lycaenidae, 29 Hesperidae, 17 Pieridae, 11 Papilionidae and two from family Riodinidae.

Table 1: Checklist of the species of Butterfly recorded in the study of Area.

Sr. No	Family	Scientific Name	Common Name	Individual Number of Butterflies
1		<i>Tirumala limniace</i> (Cramer, 1775)	Blue Tiger	07
2		<i>Hypolimnas bolina</i> (Linnaeus, 1758)	Great eggfly	08
3		<i>Junonia lemonias</i> (Linnaeus, 1758)	Lenon pansy	06
4	Nymphalidae	<i>Danaus chrysippus</i> (Linnaeus,1758)	Plain Tiger	12
5		<i>Danaus genutia</i> , (Cramer, 1779)	Striped Tiger	06
6		<i>Euploea core</i> (Cramer, 1780)	Common Crow	11
7	Papilionidae	<i>Papilio polytes</i> (Linnaeus, 1758)	Common Mormon	10
8		<i>Pinceps demoleus</i> (Linn, 1758)	Lime butterfly	03
9	Pieridae	<i>Eurema hecabe</i> (Linnaeus, 1758)	Common Grass Yellow	22
10	Uraniidae	<i>Micronia aculeate</i> (Guenee,1857)	Grey Swallowtail Moth.	01
Total				86

Eight species of butterfly are common in status viz. *Hypolimnas bolina* *Junonia lemonias*, *Danaus chrysippus*, *Danaus genutia*, *Euploea core*, *Papilio polytes*, *Pinceps demoleus*, *Eurema hecabe* .The rare species of butterfly located in Nemgiri Tample Area is *Micronia aculeate*.

Table 2: Local Status of Butterfly species in the study of Area.

Sr No	Scientific Name	Study Area			Local Status
		NemgiriTample Area	Yeldari Dam Area	Van Udyan Yeldari	
1	<i>Tirumala limniace</i> (Cramer, 1775)	++	+	++	Occasional
2	<i>Hypolimnas bolina</i> (Linnaeus, 1758)	++	+	+++	Common
3	<i>Junonia lemonias</i> (Linnaeus, 1758)	+	+	++	Common
4	<i>Danaus chrysippus</i> (Linnaeus,1758)	+++	+++	+++	Common
5	<i>Danaus genutia</i> (Cramer, 1779)	++	+	+++	Common
6	<i>Euploea core</i> (Cramer, 1780)	+++	++	+++	Common
7	<i>Papilio polytes</i> (Linnaeus, 1758)	+++	++	+++	Common
8	<i>Pinceps demoleus</i> (Linn, 1758)	+	+	+++	Common
9	<i>Eurema hecabe</i> (Linnaeus, 1758)	+++	+++	+++	Common
10	<i>Micronia aculeate</i> (Guenee,1857)	+	--	--	Rare

--= Absent, += Present, ++ = Moderately present, +++ = Densely present.



Photo: Photographs of the butterfly species observed in area viz, Nemgiri Digamber Jain Temple, Yeldari Dam and Van Udyan Yeldari (Forest Garden) of district Parbhani, Maharashtra, India.

CONCLUSION.

The present study is a preliminary record of butterfly diversity from Jintur, Nemgiri Digamber Jain Temple, Yeldari Dam and Van Udyan Yeldari (Forest Garden) district



Parbhani, Maharashtra, India. Family Nymphalidae is the most dominant one followed by Nymphalidae was the richest family in the study area that comprised (50) individuals of butterfly followed by, Papilionidae (13), Pieridae (22) and Uraniidae (01) individuals. Butterflies are considered as ecologically important organisms since these are good pollinator and also good indicator of environmental quality (Brereton et al., 2010; Fleishman & Murphy, 2009). Hence further studies must be conducted to conserve the diversity and their natural habitat.

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