



Study of Butterfly Diversity from Campus area of Amolokchand Mahavidyalaya Yavatmal, Maharashtra, India

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ABSTRACT

Presence of Butterfly in an ecosystem is a healthy environmental indicator as pollination of flowering plants is crucial to achieve conservation of floral diversity. Present study was carried from Campus area of Amolokchand Mahavidyalaya Yavatmal, MS, India. Amolokchand Mahavidyalaya was established in 1956. The college has well flourished Botanical garden, play grounds Spread over on 39 acres of land with highly flourished floral and faunal diversity. For present study, a check list was made comprising a total number of 15 Species belonging to 12 genera from 4 families. The aim of the study is to investigate relationship between abundance of butterfly species from study area with relation to physical factors which are important for conservation of floral and faunal diversity. During this study Butterflies were observed from August to January 2016 for consecutive 6 months. The study areas were surveyed daily from 5PM to 6 PM excluding Sundays and Holidays.

Key words: Amolokchand Mahavidyalaya, Butterfly, Conservation and Diversity.

INTRODUCTION

Butterflies are the most well-known group and they play a very important role in ecosystem. Their presence and diversity are considered to be a sign of good condition of any terrestrial biotope (Aluri and Rao, 2002). Hence butterflies are also considered as an ideal subject for ecological condition of landscape (Thomas and Malorie, 1985). They are also very responsive to climatic change (Raman, 2010). Most of the butterflies are seasonal and they prefer only a particular type of habitat (Kunte, 1997). Butterflies are beautiful and delicately coloured winged Insect. They have always fascinated common man because of their delicacy and beauty (Arya *et al.*, 2014).

The abundance and diversity of butterflies mainly depend upon various factors such as availability of host and larval food plants, foliage, humid

climate and various other features etc. As butterflies are mainly dependent on these factors, interruption in any of the above will directly affect their standing in ecosystem.

Heppner (1998) listed 19238 species of butterflies in the world. Gaonkar (1996) reported 1504 species in Indian subcontinent. Abreau (1931) reported about 177 species of butterflies in Central Provinces. Tiple (2011) recorded a total of 167 species of 90 genera from Vidarbha region. A total of 92 species of butterflies were reported in Gorewada International Biopark situated in Central India (Patil and Shende, 2014).

India is one of the 17 "mega diverse" countries of the world. It is host to a impressive number of butterflies, many of which are widely spread to the Indian Region, which makes this an important region particularly for butterfly diversity and conservation. But deforestation and increased human approach in forest and other ecosystems have resulted into loss of habitat for most of the local species diversity.

The aim of current study is to find out the current status of butterflies in Campus area of Amolokchand Mahavidyalaya, Yavatmal and to prepare a checklist of butterflies of this region for the purpose of conservation of native species present in this area..

MATERIALS AND METHODS

Study Area:

Yavatmal is a district of the state Maharashtra. It is located in the region of Vidarbha, in the east-central part of the state. Yavatmal is located in the Vidarbha region of the eastern part of the state. The land offers a wide magnitude of natural diversity with river valleys

bordering drier plateau. Two main rivers flow down the region Penganga and Wardha with their many rivulets framing this land of Cotton and Jowar. Amolokchand Mahavidyalaya is the only Science College of the Yavatmal city with well flourished floral diversity hence the campus area was selected as study area. College is situated at the geographical coordinates 20°37'40.84" North, 78°18'33.58" East.

Methods

Sweep netting: Butterflies from flowers, shrubs and small tree vegetation were collected using standardized insect-collecting net. 15-20 sweeps were employed in selected area.

Active Searching and Photography: Butterflies were actively searched near water bodies, rocks, shrubs, grounds debris, and on barks of trees on the ground surface for Photography. Photography was done by using Sony cyber shots with carl Zeiss lense and Cannon p900 Cameras.

Identification: Identification was done by available keys and with the help of experts.

Statistical Analysis:-

Shannon Wiener Diversity Index

$$H = - \sum [(P_i) * \ln (p_i)] \quad E = H/H_{\max}$$

Where,

SUM = Summation P_i = number of individuals of species I /

Total number of species

S = Number of species or species richness

H_{\max} = Maximum diversity possible

E = Evenness = H/H_{\max}

The Shannon Wiener diversity index and Evenness for these sample values of 4 families **01,06,06,02** are Shannon diversity index (H) = **1.2** Evenness = **0.87**

Fig: 1 Satellite image Showing Campus area Amolokchand Mahavidyalaya Yavatmal in Map of India.



RESULTS AND DISCUSSION

In present study 15 Species belonging to 12 genera of 4 families were recorded. Where Nymphalidae and Pieridae representing highest numbers of species (06) each which are followed by Lycaenidae (02) and Papilionidae (01) thus Nymphalidae and Pieridae are most dominant families exploring 40% of species second Family was Lycaenidae with 13% and Family Papilionidae 6%.

Table 1: Number of genera and species of Butterfly families from Campus area of Amolokchand Mahavidyalaya Yavatmal, MS, India

Sr. No.	Name of Family	Number of Genus	Number of Species
1	Lycaenidae	02	02
2	Nymphalidae	05	06
3	Papilionidae	04	06
4	Pieridae	01	01

Table 2: List of Butterflies Species recorded during Study

1. Family – Lycaenidae

- i) *Castalius rosimon*
- ii) *Leptotes plinius*

2. Family – Nymphalidae

- iii) *Ariadne ariadne*
- iv) *Danus chrysippus*
- v) *Euploea core*
- vi) *Hypolimnas bolina*
- vii) *Junonia lemonias*
- viii) *Junonia almanac*

3. Family – Papilionidae

- ix) *Papilio demoleus*

4. Family – Pieridae

- x) *Catopsilia Pomona*
- xi) *Catopsilia pyranthe*
- xii) *Cepora nerissa*
- xiii) *Delias eucharis*
- xiv) *Eurema andersoni*
- xv) *Eurema brigitta*
- x) *Catopsilia Pomona*

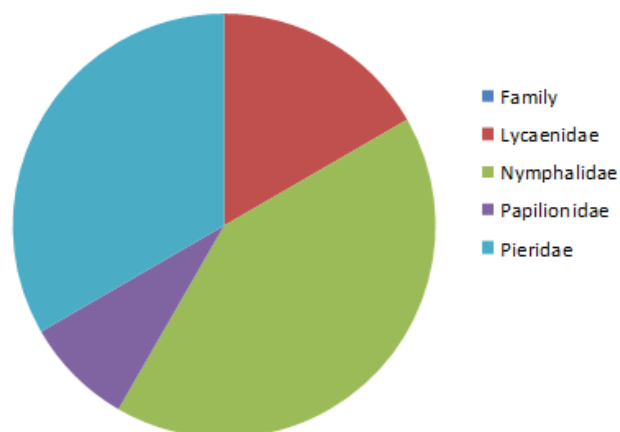


Fig. 2: Distribution of Butterflies from Campus area of Amolokchand Mahavidyalaya Yavatmal, MS, India

Conflicts of interest: The authors stated that no conflicts of interest.

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