UTTAR PRADESH JOURNAL OF ZOOLOGY

41(9): 18-23, 2020
ISSN: 0256-971X (P)

BUTTERFLY DIVERSITY OF CHRISTIAN COLLEGE CAMPUS, KATTAKADA, THIRUVANANTHAPURAM (INDIA) - A PRELIMINARY STUDY

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AUTHOR'S CONTRIBUTION
The sole author designed, analysed, interpreted and prepared the manuscript.

Article Information

Editor(s):
(1) Dr. Jose Guerrero Casado, Technical University of Manabi, Ecuador.
Reviewers:
(1) Suprakash Pal, Uttar Banga Krishi Viswavidyalaya, India.
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Received: 24 April 2020
Accepted: 29 June 2020
Published: 18 July 2020

Short Communication

ABSTRACT

The present survey was aimed to prepare a checklist of the butterflies found in and around Christian college campus since this was the first study to check the butterfly fauna of the college. Butterfly survey revealed the presence of more than 100 butterflies belonging to 20 different species from six families. The dominant species belongs to the Family *Nymphalidae* with six species. Studies on the abundance of butterfly species at Christian College, Kattakada showed that 45% are very common, 30% rare, 10% belongs to Common and 15% belongs to Not rarecategory.

Keywords: *Nymphalidae*; *Pieridae*; *Lycaenidae*; *Papilionidae*; *Sphingidae*; *Noctuoidea*.

1. INTRODUCTION

Butterflies are insects which belong to order Lepidoptera, which includes moths also. Adult butterflies have big, often brilliantly coloured wings, and eye-catching flutter flight. Butterflies are usually regarded as one of the most excellent taxonomically studied group of insects [1]. There are over 180,000 species in this order. Lepidoptera comes from the Greek words lepido and Pteron which means scale and wing.

Worldwide there are more than 28,000 species of butterflies, with about 80 percent establish in tropical regions. The Indian subcontinent bearing a diverse terrain, climate and vegetation hosts about 1,504 species of butterflies [2]. Kerala region has rich and diverse butterfly fauna because of the accessibility of wide range of habitats. Among the 1501 species so far recorded from India, 327 species are found in Kerala region [3]. India has around 1,501 species of butterflies, out of which 334 species are reported from the Western Ghats and 37 species are endemic to the Western Ghats [4]. Of the 334 species of butterflies of Western Ghats, 316 species have been reported from Kerala [5]. Butterflies may react to disturbance and change in habitat and act as an ecological indicator [6].

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Christian College, Kattakada, Thirvananthapuram is located in an area where is rich in vegetation. The campus is spread over an area of 15 acres with lush green vegetation having large trees, bushy shrubs and long grasses that provide shelter to the butterflies. The good supply of nectar, smart vegetation, open areas and reduced use of pesticides lead to varied species diversity of butterflies within the space. The present survey was aimed to prepare a checklist of the butterflies species found in and around the college campus since this was the first study to check the butterfly fauna of the college.

2. MATERIALS AND METHODS

The findings presented here are based on random surveys carried out from November 2018 to February 2019 surveyed from morning 9 a.m. till 5 p.m. in the afternoon. Butterflies were photographed from different angles as often as possible to obtain sufficient photographs to enable positive identification of species. Photographs were taken with mobile camera and with a digital camera. Butterflies were primarily identified directly in the field with the help of field guides followed by photography, and rarely by capture. Collection was restricted to those specimens that could not be identified directly. All scientific names followed in the present study are in accordance with Varshney [7] and common English names follow Wynter-Blyth [8]. The observed butterflies were categorized in five categories on the basis of their abundance in the campus: VC-very common (> 20 sightings), C-common (10-20 sightings), NR–not rare (5-10 sightings), R–rare (< 5 sightings).

3. RESULTS AND DISCUSSION

Butterfly survey of Christian College campus revealed the presence of more than 100 butterflies belonging to 20 different species from Six families (Table 1). The dominant species belongs to the Family *Nymphalidae* with six species and Family *Pieridae* with six species then by Family *Lycaenidae* with four species followed by Family *Papilionidae*with two species and finally by the Family *Sphingidae*with only one member and *Noctuoidea*with only one member. Family wise composition of butterfly species is given in Fig. 1. Studies on the abundance of butterfly species at Christian College, Kattakada showed that 45% are very common, 30% rare where as 10% belongs to Common and 15% belongs to not rare (Fig. 2).

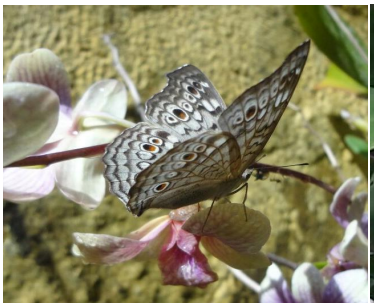
The preference of butterflies for particular habitats is associated with the availability of larval host plants and adult nectar plants. The rich diversity of butterflies, especially the Nymphalids and Lycaenids in Christian College campus indicates a varied assemblage of floral species. The flora in our campus is a mixed type with herbs and shrubs and trees. The diverse faunal diversity of our college provide diverse habitat, food and breeding sites for butterflies.

Apart from being one of the most prominent biodiversity indicators butterflies also act as our native gardener for their dependence on indigenous plants for completion of the life cycle [9]. Therefore, an abundance of butterflies usually indicates a healthier ecosystem. Butterflies also serve as major pollinators of both wild and cultivated plants [10]. With the pressing needs of the growing human population in India, natural greeneries are being clear felled giving way to urbanization, pollution and overgrazing. Loss of prime habitat is the major threat to all wildlife including butterflies. In addition to these, a variety of threats from human recreational activities, trampling, run-off from roads, litter deposition and weeds are common factors which affect butterfly populations. Although we cannot completely nullify the ill effects of urbanization and development, we can at least try to reduce them by planting endemic trees and plants supporting the local wildlife. This will make sure that at least the common species will not go on to the verge of extinction.

Plate I.

Family *Nymphalidae*

Tawny coster Glassy tiger Striped tiger



Large eyed bushbrownGrey pansy brush-footed butterfly Family *Pieridae*



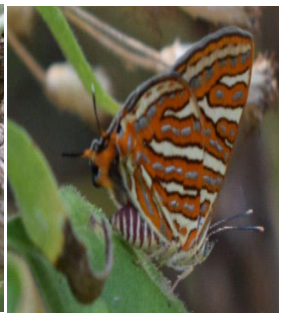
Psyche striped albat Mottled emigrant



Orange emigrant Common emigrant Common jezebel

Family *Lycaenidae*

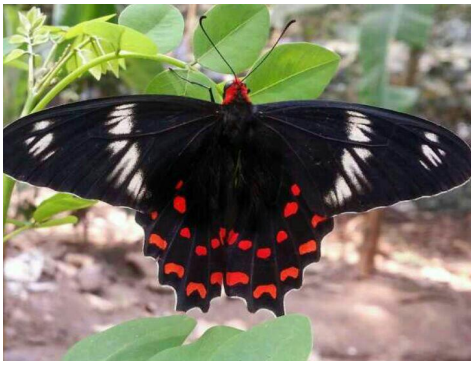


Plains cupid Gram blue ApeflyLong-banded silverlin Family *Sphingidae.* Family: ***Noctuoidea***


Sphinx moth Owlet moths

Family *Papilionidae*




Crimson rose, Swallowtail butterfly

Table 1. List of butterflies recorded from Christian College Kattakada campus together with status

Sl no	Family	Common name	Scientific name	Status
1.	*Nymphalidae*	Tawny coster	*Acraeaviolae*(Fabricius)	VC
2.	*Nymphalidae*	Glassy tiger	*Paranticaaglea*(Stoll)	NR
3.	*Nymphalidae*	Striped tiger	*Danausgenutia*(Cramer)	VC
4.	*Nymphalidae*	Large eyed bushbrown	Mycalesisperseus	C
5.	*Nymphalidae*	Grey pansy	*Junoniaatlites*(Linnaeus)	R
6.	*Nymphalidae*	brush-footed butterfly	*Cuphaerymanthis*	NR
7.	*Pieridae*	Psyche	*Leptosianina*(Fabricius)	VC
8.	*Pieridae*	Striped albatross	*Appiasolferna*	VC
9.	*Pieridae*	Mottled emigrant	*Catopsiliapyranthe*(Linnaeus)	VC
10.	*Pieridae*	Common emigrant	*Catopsiliapomona*(Fabricius)	VC
11.	*Pieridae*	Common jezebel	*Delias eucharis*	R
12.	*Pieridae*	Orange Emigrant	*Catopsiliascylla*	C
13.	*Lycaenidae*	Gram blue	*Euchrysopscnejus*(Fabricius)	VC
14.	*Lycaenidae*	Apefly	*Spalgisepius*(Westwood)	R
15.	*Lycaenidae*	Long-banded silverline	*Spindasislohita*(Horsfield)	C
16.	*Lycaenidae*	Plains cupid	*Chiladespandava*(Horsfield)	VC
17.	*Sphingidae.*	Sphinx moth	Oleander Hawk Moth,	R
18.	*Papilionidae*	crimson rose	*Pachliopta hector*	R
19.	*Papilionidae*	swallowtail butterfly	*Euploea core*	VC
20.	*Noctuoidea*	Owlet moth	*Mesogonaolivata*	R

VC-very common (> 20 sightings), C-common (10-20 sightings), NR–not rare (5-10 sightings), R–rare (< 5 sightings)

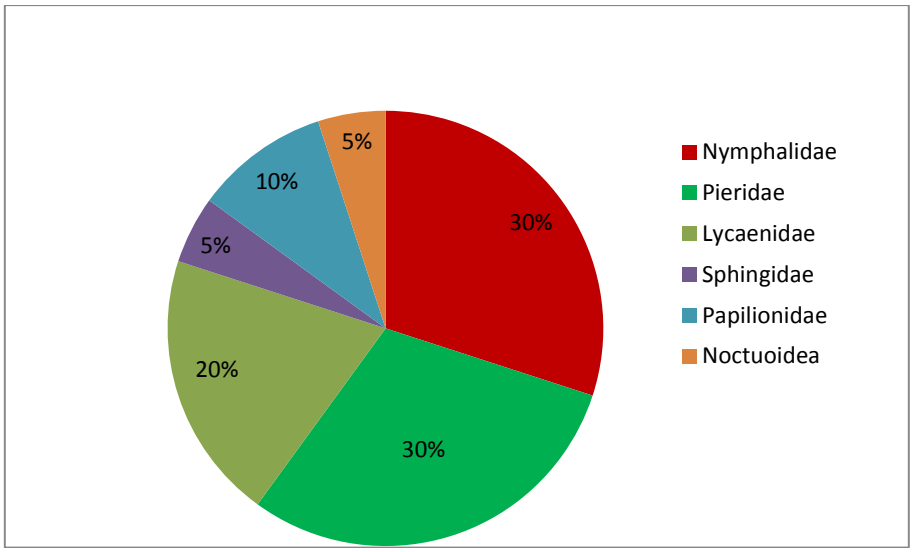


Fig. 1. Family wise composition of butterfly species at Christian college campus

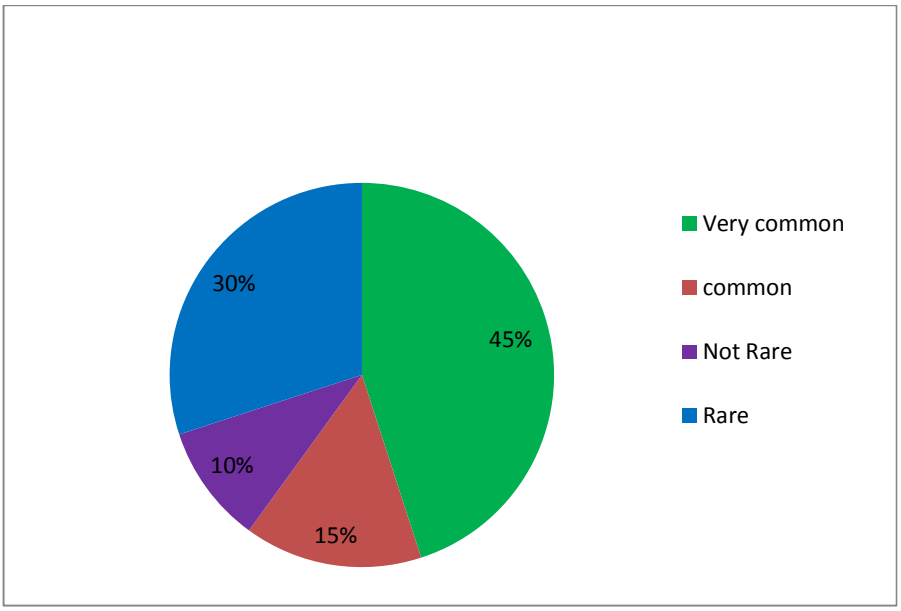


Fig. 2. Status of butterfly species at Christian college campus

4. CONCLUSION

The findings of the present study underline the importance of institutional campuses as a preferred habitat for butterflies. If the landscaping and maintenance of gardens are carefully planned, the diversity of butterflies may increase in our college campus providing a rich ground for butterfly conservation as well as for research. This study will also add to our future attempts in understanding the complex nature of mutualistic interaction between butterflies and flowering plants that is essential for continuity of ecosystem services. This is the first effort in exploring the butterfly wealth of Christian College Campus, Kattakada. The present list of butterfly species is not conclusive and exhaustive and future exploration will be continued to update this checklist.

DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict

of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

COMPETING INTERESTS

Author has declared that no competing interests exist.

REFERENCES

1. Robbins RK, Opler PA. Biodiversity II, understanding and protecting our biological resources. Joseph Henry Press, Washington DC; 1997.
2. Tiple AD. Butterflies of Vidarbha region Maharashtra, India: A review with and implication for conservation. Journal of Threatened Taxa. 2011;3(1):1469-1477.
3. Palot MJ, Balakrishnan VC, Kambrath B. Keralathile Chithrasalabhangal, Malabar Natural History Society, Calicut. Kerala. 2003;195.
4. Evans WH. The identification of Indian butterflies. 2nd Edition. Bombay Natural History Society, Mumbai, India. 1932;464.
5. Palot MJ, Balakrishnan VC, Kalesh S. An updated checklist of butterflies of Kerala, with their Malayalam names.Malabar Trogon. 2012;9(3):22–29.
6. Mac Nally R, Fleishman E. A successful predictive model of species richness based on indicator species. Conservation Biology. 2004;18:634-646.
7. Varshney RK. Index *Rhopalocera indica* Part II. Common names of butterflies from India and neighbouring countries. Records of Zoological Survey of India; Occassional Paper No. 47. 1983;1- 49.
8. Wynter-Blyth MA. Butterflies of the Indian Region. Bombay Natural History Society, Mumbai. 1957;523.
9. Kunte K. Butterflies of peninsular India. Universities Press (Hyderabad) and Indian Academy of Sciences (Bengaluru). 2000;270.
10. Tiple AD, Deshmukh VP, Dennis RLH. Factors influencing nectar plant resource visits by butterflies on a university campus: implications for conservation. Nota Lepidopteralogica. 2006;28:213-224.