



SPECIES DIVERSITY OF BUTTERFLY OF PAUNI TOWN, BHANDARA, MAHARASHTRA, INDIA

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Communicated :30.08.2022

Revision: 14.09.2022 & 21.09.2022

Accepted: 05.10.2022

Published: 30.01.2023

ABSTRACT:

A study was conducted to record the diversity of butterflies, and its status in the Pauni Town, Bhandara, Maharashtra, India, from June 2021 to May 2022. A total of 49 species of butterflies belonging to Papilionidae (05 species), Pieridae (08 species), Nymphalidae (20 species), Lycaenidae (12 species) and Hesperidae (04 species). Most species were observed from the monsoon (hot/wet season) to early winter (cool/wet season) but thereafter butterfly population was declined in early summer (March). Among the butterflies recorded, 06 species come under the protection category as per the Indian Wild Life Protection Act 1972.

Keywords: - India, Butterflies, Pauni, Bhandara, Status, Occurrence, Diversity

INTRODUCTION :

Butterflies are generally regarded as one of the best taxonomically studied groups of insects; they have been studied systematically since the early 18th century and about 18,000 species are documented worldwide (Martinez et al., 2003). Insects have been shown to be sensitive to changes in vegetation composition and the physical attributes of the environment (Gardner et al., 1995; Wood & Gillman, 1998) resulting in a decrease in insect diversity (Holloway, 1987; Holloway et al., 1992).

Butterflies are very much important for the pollination as they visit to different flowers for the nectar feeding, which make them important unit of environment (Tiple et al., 2006; 2007). Besides, they form an important part of the food chain of birds, reptiles, amphibians, spiders and predatory insects; transforming and transmitting energy from green plants to the animal.

The Indian subcontinent with a diverse terrain, climate, and vegetation hosts about 1,504 species of butterflies (Tiple, 2011; 2018; 2019; Tiple and Khurad 2009) of which

peninsular India hosts 351, and the Western Ghats 336. In Central India D'abreeu, (1931) documented a total of 177 species occurring in the erstwhile Central Provinces (now Madhya Pradesh and Vidarbha). In the recent past, several workers have studied butterflies from urban, rural and protected areas of Vidarbha. The butterfly fauna of the Vidharbha Maharashtra is well-documented with 167 species (reviewed in Tiple, 2011). The present study is an attempt to examine the diversity of butterflies from Pauni, Bhandara District.

MATERIALS AND METHODS :

The findings presented in the article are based on opportunistic sampling and photo documentation was carried out on a biweekly basis from 2021 to 2022 in and around Pauni town. Butterflies were surveyed in the lakes, rivers and surrounding areas. Butterflies were primarily identified in the field and identified with the help of field identification guide (Wynter-Blyth, 1957; Kunte, 2000).

Study Sites :

Pauni is a town in Pauni Taluka in Bhandara District of Maharashtra State, India. It belongs

to Vidarbha region. Pauni town is located at 20.78°N 79.63°E. It has an average elevation of 226 metres (741 feet). The town is surrounded on three sides by a moat and earthen rampart, and the fourth side by the Wainganga River. Pauni is situated on the bank of river Wainganga known as South Ganga. The forests are well distributed over all the agro-climatic zones. The forest types found in the area are classified as sub-tropical hill forests, tropical moist deciduous forests, tropical dry deciduous forests and lush green deciduous forests (Champion & Seth, 1968), which are home to a variety of flora and fauna.

RESULTS AND DISCUSSION :

During the course of study 49 species of butterflies, belonging to 5 families, were recorded in Pauni Town. A total of 49 species of butterflies belonging to Papilionidae (05 species), Pieridae (08 species), Nymphalidae (20 species), Lycaenidae (12 species) and Hesperidae (04 species). (Fig. 1). Among the 49 species of butterflies about 23 were very common, 12 species were common, 07 were frequent common, 06 were rare and 01 was very rare. The observed and identified species, their status in Pauni town are listed in Table 1.

Total of 49 butterflies recorded from Pauni town, 06 species come under the protected category of the Indian Wild Life (Protection) Act, 1972. Among them *Pachliopta hector* (Linnaeus, 1758), *Hypolimnas misippus* (Linnaeus, 1764) come under Schedule I of the Act. The species recorded which come under Schedule II were *Euchrysops cnejus* (Fabricius, 1798), *Lampides boeticus* (Linnaeus, 1767), *Tarucus callinara* Butler, 1886. The species recorded which came under schedule IV were *Delias eucharis* (Drury, 1773)(Gupta and Mondal 2005; Tiple 2010).

REFERENCES:

Champion, H. G., & Seth, S. K. (1968). A revised survey of the forest types of India. Manager of publications.

D'Abreu, E.A. (1931). The central provinces butterfly list. Records of the Nagpur Museum number VII. Government Printing City Press, 39pp.

Gardner, S.M., M.R. Cabido, G.R. Valladares & S. Diaz (1995). The influence of habitat structure on arthropod diversity in Argentine semi-arid Chaco forest. *Journal of Vegetation Science*, 6: 349-356.

Gupta, I. J. & D. K. Mondal (2005). Red Data Book, Part II: Butterflies of India. – Zoological Society of India, Kolkata. xv+535 pp.

Holloway, J.D. (1987). Macrolepidoptera diversity in the indo-australian tropics: geographic, biotopic and taxonomic variations. *Biological Journal of the Linnean Society*, 30: 225-241.

Holloway, J.D., A.H. Kirg-Spriggs & V. K. Chey (1991). The response of some rain forest insect groups to logging and conversion to plantation. *Philosophical Transactions of the Royal Society, London*, 335: 425-436.

Kunte, K. (2000). Butterflies of Peninsular India. Universities Press (Hyderabad) and Indian Academy of Sciences (Bangalore), 254pp.

Martinez, A.L., J.L. Bousquets, I.F. Fernandez & A.D. Warren (2003). Biodiversity and Biogeography of Mexican butterflies (Lepidoptera: Papilionoidea and Hesperioidea). *Proceedings of Entomological Society of Washington*, 105(1): 209-244.

Tiple, A.D. & A.M. Khurad (2009). Butterfly Species Diversity, Habitats and Seasonal Distribution in and around Nagpur City, Central India. *World Journal of Zoology*, 4(3): 153-162.

Tiple, A.D. & A.M. Khurad (2009). Butterfly diversity of Seminary Hill, Nagpur

- (Central India) with their habitat and occurrence. *Hislopia*, 1: 39-44.
- Tiple, A.D. (2010). Butterfly Fauna of Tadoba National Park and Surroundings, Chandrapur, Maharashtra (Central India). *Hislopia*, 3: 1-9.
- Tiple, A.D. (2011). Butterflies of Vidarbha region, Maharashtra State, central India. *Journal of Threatened Taxa*, 3(1): 1469-1477.
<https://doi.org/10.11609/JoTT.o2397.1469-77>
- Tiple, A.D. (2018). Butterflies (Lepidoptera rhopalocera) of the Bor Wildlife Sanctuary, Wardha, Maharashtra, Central India. *Biodiversity Journal*, 9(3), 171-180.
- Tiple, A.D. (2019). Diversity, Seasonal distribution and status of Butterflies in Satpuda Botanical Garden, Nagpur, Central India. *International Journal of Advance and Innovative Research*, 6 (2): 357 – 361
- Tiple, A. D., A.M. Khurad & R.L.H. Dennis (2011). Butterfly larval host plant use in a tropical urban context: Life history associations, herbivory, and landscape factors. *Journal of Insect Science*, 11(1): 1-21.
- Tiple, A. D., A.M. Khurad & R.L.H. Dennis (2007). Butterfly diversity in relation to a human-impact gradient on an Indian university campus. *Nota Lepidopterologica*, 30(1): 179-188.
- Tiple, A.D., V.P. Deshmukh & R.L.H. Dennis (2006). Factors influencing nectar plant resource visits by butterflies on a university campus: implications for conservation. *Nota Lepidopterologica*, 28: 213-224.
- Wood, B. & M. P. Gillman (1998). The effects of disturbance on forest butterflies using two methods of sampling in Trinidad. *Biodiversity and Conservation*, 7: 597-616.
- Wynter-Blyth, M.A. (1957). Butterflies of the Indian Region. *Bombay Natural History Society*, 523pp.

Table 1: Butterfly species of Tadoba National Park and surroundings together with common name. * Come under Indian Wild Life protection Act 1972.

Sr. No.	Common Name	Scientific Name	Status
		Papilionidae	
1.	Tailed Jay	<i>Graphium agamemnon</i> (Linnaeus, 1758)	R
2.	Common Rose	<i>Pachliopta aristolochiae</i> (Fabricius, 1775)	FC
3.	Crimson Rose	<i>Pachliopta hector</i> (Linnaeus, 1758)*	C
4.	Lime Butterfly	<i>Papilio demoleus</i> Linnaeus, 1758	VC
5.	Common Mormon	<i>Papilio polytes</i> Linnaeus, 1758	C
		Pieridae	
6.	Pioneer	<i>Belenois aurota</i> (Fabricius, 1793)	VC
7.	Common or Lemon Emigrant	<i>Catopsilia pomona</i> (Fabricius, 1775)	VC
8.	Mottled Emigrant	<i>Catopsilia pyranthe</i> (Linnaeus, 1758)	C
9.	Common Gull	<i>Cepora nerissa</i> (Fabricius, 1775)	VC
10.	Crimson Tip	<i>Colotis danae</i> (Fabricius, 1775)	R
11.	Common Jezebel	<i>Delias eucharis</i> (Drury, 1773)*	R
12.	Common Grass Yellow	<i>Eurema hecabe</i> (Linnaeus, 1758)	C
13.	Common Wanderer	<i>Pareronia valeria</i> (Cramer, [1776])	R
		Nymphalidae	
14.	Tawny Coster	<i>Acraea violae</i> (Fabricius, 1793)	C
15.	Joker	<i>Byblia ilithyia</i> (Drury, [1773])	FC
16.	Plain Tiger	<i>Danaus chrysippus</i> (Linnaeus, 1758)	FC
17.	Striped Tiger	<i>Danaus genutia</i> (Cramer, [1779])	VC
18.	Common Indian Crow	<i>Euploea core</i> (Cramer, [1780])	VC
19.	Common Baron	<i>Euthalia aconthea</i> (Cramer, [1777])	VR
20.	Great Eggfly	<i>Hypolimnas bolina</i> (Linnaeus, 1758)	C
21.	Danaid Eggfly	<i>Hypolimnas misippus</i> (Linnaeus, 1764)*	VC
22.	Peacock Pansy	<i>Junonia almana</i> (Linnaeus, 1758)	VC
23.	Grey Pansy	<i>Junonia atlites</i> (Linnaeus, 1763)	VC
24.	Chocolate Pansy	<i>Junonia iphita</i> (Cramer, [1779])	VC
25.	Lemon Pansy	<i>Junonia lemonias</i> (Linnaeus, 1758)	VC
26.	Blue Pansy	<i>Junonia orithya</i> (Linnaeus, 1758)	VC
27.	Common Evening Brown	<i>Melanitis leda</i> (Linnaeus, 1758)	VC
28.	Commander	<i>Moduza procris</i> (Cramer, [1777])	C
29.	Common Bushbrown	<i>Mycalesis perseus</i> (Fabricius, 1775)	VC
30.	Common Sailer	<i>Neptis hylas</i> (Linnaeus, 1758)	VC
31.	Common Leopard	<i>Phalanta phalantha</i> (Drury, [1773])	VC

32.	Baronet	<i>Symphaedra nais</i> (Forster, 1771)	VC
33.	Blue Tiger	<i>Tirumala limniace</i> (Cramer, [1775])	FC
		Lycaenidae	
34.	Common Pierrot	<i>Castalius rosimon</i> (Fabricius, 1775)	VC
35.	Forget-Me-Not	<i>Catochrysops strabo</i> (Fabricius, 1793)	C
36.	Lime Blue	<i>Chilades lajus</i> (Stoll, [1780])	VC
37.	Gram Blue	<i>Euchrysops cnejus</i> (Fabricius, 1798)*	VC
38.	Eastern Grass Jewel	<i>Freyeria putli</i> (Kollar, [1844])	C
39.	Pea Blue	<i>Lampides boeticus</i> (Linnaeus, 1767)*	VC
40.	Zebra Blue	<i>Leptotes plinius</i> (Fabricius, 1793)	C
41.	Plains Cupid	<i>Luthrodes pandava</i> (Horsfield, [1829])	C
42.	Common Lineblue	<i>Prosotas nora</i> (C. Felder, 1860)	C
43.	Pale Grass Blue	<i>Psuedozizeeria maha</i> (Kollar, [1844])	R
44.	Dark Grass Blue	<i>Zizeeria karsandra</i> (Moore, 1865)	VC
45.	Tiny Grass Blue	<i>Zizula hylax</i> (Fabricius, 1775)	FC
		Hesperiidae	
46.	Brown Awl	<i>Badamia exclamationis</i> (Fabricius, 1775)	R
47.	Rice Swift	<i>Borbo cinnara</i> (Wallace, 1866)	VC
48.	Common Banded Awl	<i>Hasora chromus</i> (Cramer, [1780])	FC
49.	Dark Palm Dart	<i>Telicota bambusae</i> (Moore, 1878)	FC

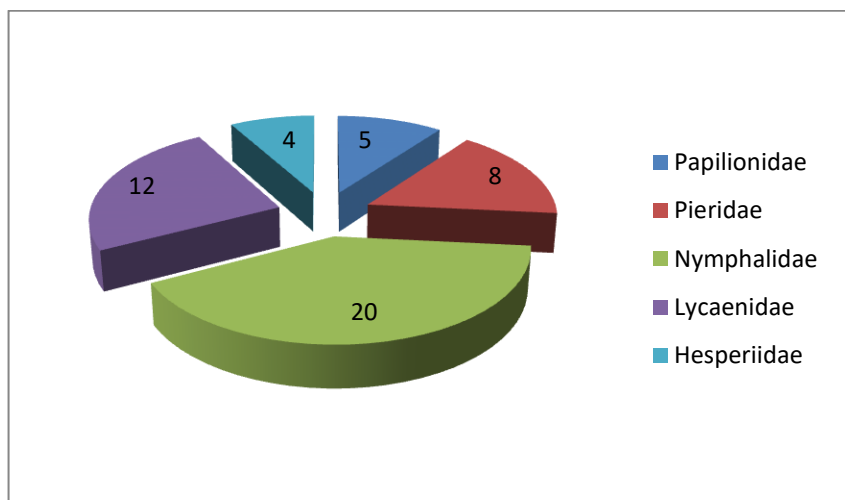


Figure 1. The number of butterfly species encountered in different families in the Pauni town, Bhandara, Maharashtra