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DIVERSITY OF BUTTERFLIES (ORDER – LEPIDOPTERA: SUB – ORDER – RHOPALOCERA) FROM BANDH TALAV GONDIA MAHARASHTRA INDIA

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ABSTRACT

The present study was carried out regularly from the month of September to December 2024 on the diversity of butterflies in the study area of Bandh Talav Kudwa, district Gondia Maharashtra. The butterflies are reported and identified up to species from the study area. Butterflies are diurnal which actively fly during late morning but less active in early morning and evening. Total 66 species belonging to 49 genera under 5 families viz., Papilionidae (4 species), Pieridae (6 species), Nymphalidae (28 species), Lycaenidae (19 species) and Hesperidae (9 species) are observed and reported from Bandh Talav Gondia Maharashtra.

Four species of family Papilionidae are reported under three genera while six species of family Pieridae are reported under three genera belonging to two sub-families namely Pierinae and Coliadinae. Twenty eight species of family Nymphalidae are reported under 18 genera belonging to 6 sub-families are Satyrinae, Biblidinae, Nymphalinae, Limenitidinae, Charaxinae and Heliconiinae. Nineteen species of family Lycaenidae are reported under 3 sub-families Polyommatae, Aphnaeinae and Theclinae. Nine species of family Hesperidae are reported under 3 sub-families Coeliadinae, Pyrginae and Hesperinae.

In the present investigation most of the butterflies were attracted to visit dominant host plants namely *Lantana camara* (Tick-berry) followed by *Alternanthera sessilis* (Sessile Joyweed), *Alternanthera ficoidea* (Snow carpet), *Tephrosia perpurea* (Jangli neel), *Catharanthus roseus* (Rose periwinkle), *Oryza sativa* (Rice plant). In present study it was remarkable that above 80 % of the butterflies found on host plant *Lantana camara* (Tick-berry) from Bandh Talav Kudwa, Gondia.

Key words: Butterfly, Diversity, *Lantana camara*, Bandh Talav, Gondia

I. Introduction

Butterflies are the most beautiful insects belonging to order Lepidoptera. The butterflies are beautiful creature of nature with great economic importance as pollinator as well as bioindicator of environments and sensitive to climate change (Perveen and Fazal 2013. Manzoor *et al.*, 2013). Butterflies are good bioindicator which can be identified to lower taxonomic level and be sensitive to changes in habitat (Segre *et al.*, 2023). A record of 66 species belonging to 49 genera of five butterfly families with 15 sub-families was reported from the said catchment area of Bandh Talav Kudwa, Gondia Maharashtra.

Total 167 species of 90 genera were reported from Vidarbha region (Tiple, 2011). Total 177 species of butterflies were reported from in Central Provinces (Abreau, 1931). Butterfly are useful insects and possibly indicators because they diverse taxonomically and ecologically. Bandh Talav area is relatively untouched area for the study of diversity of butterfly therefore the present topic selected for study.

II. Materials and Methods

Study Area

Present study was carried out in Bandh Talav Kudwa, Gondia Maharashtra. Bandh Talav is situated at eastern side of district Gondia. Bandh Talav is 1.5 k.m.away from Gondia city. Bandh Talav is located at Co-ordinates 21⁰08'N and 80⁰43'E at 228 m AMSL (Above Mean Sea Level). Gondia is a famous for rice city. Bandh Talav is surrounded by agricultural fields. The schedule was regularly survey for the period of four months from September 2024 to December 2024. The data has been observed and examined during morning, afternoon and evening. In the study area from 6.30 to 11.30 (Morning), 12.30 to 4.00 pm. (Afternoon), 4.00 to 6.00 pm. (Evening). Digital camera used for digital photography. The species were observed, reported and identified by available references. Publications, standard keys and by experts. (D'Abreau, E.A., 1931, Evans, 1932, Wynter- Blyth, 1957, Kunte, 2000, Wadatkar and Kasambe 2008, Tiple, 2012, 2023).

Figure 1 Bandh Talav Kudwa, Gondia



III. Systematic Classification

Class- Insecta- Linnaeus 1758

Order- Lepidoptera- Linnaeus 1758

Sub-Order- Rhopalocera

A. Family- Papilionidae Sub family –Papilioninae Latreille, 1802

Table No.1: Checklist of butterflies reported from Bandh Talav, Kudwa Gondia

SN	Common Name	Scientific Name	Occurrence status
1	Common Mormon	<i>Papilio polytes</i> Linnaeus 1758	/Afternoon
2	Lime Butterfly	<i>Papilio demoleus</i> Linnaeus 1758	/Afternoon
3	Common Jay	<i>Graphium doson</i> Felder 1864	/Afternoon
4	Common Rose	<i>Pachliopta aristolochiae</i> Fabricius 1775	/Afternoon

B. Family- Pieridae 1. Sub family –Pierinae Swainson, 1820

SN	Common Name	Scientific Name	Occurrence status
1	Common Jezebel	<i>Delias eucharis</i> Drury 1773	From Morning

Family Pieridae 2. Sub family – Coliadinae Swainson, 1827

SN	Common Name	Scientific Name	Occurrence status
1	Mottled Emigrant	<i>Catopsilia Pyranthe</i> Linnaeus 1758	From Morning

2	Common Vagrant	<i>Catopsilia florella</i> Fabricius 1775	From Morning
3	Common Grass Yellow	<i>Eurema hecabe</i> Linnaeus 1758	From Morning
4	Small Grass Yellow	<i>Eurema brigitta</i> Stoll 1780	From Morning
5	Mimosa yellow	<i>Eurema nise</i> Cramer 1775	From Morning

C. Family- Nymphalidae 1. Sub family –Satyrinae Boisduval, 1833

SN	Common Name	Scientific Name	Occurrence status
1	Common Evening Brown	<i>Melanitis leda</i> Linnaeus 1758	Evening
2	Dark Common evening Brown	<i>Melanitis phedima</i> Cramer 1780	Evening
3	Great Evening Brown	<i>Melanitis zitenius</i> Herbst 1796	Evening
4	Common Bush Brown	<i>Mycalesis perseus</i> Fabricius 1775	Evening
5	Dark Brand Bush Brown	<i>Mycalesis mineus</i> Linnaeus 1758	Evening
6	Long Brand Bush Brown	<i>Mycalesis visala</i> Moore 1858	Evening
7	Dryad Butterfly	<i>Minois dryas</i> Scopoli 1763	Evening
8	Common Baron	<i>Euthalia aconthea</i> Cramer 1777	Evening
9	Squinting Bush Brown	<i>Bicyclus anynana</i> Butler 1879	Evening
10	Dusky Evening Brown	<i>Gnophodes chelys</i> Fabricius 1793	Evening
11	Common Palmfly	<i>Elymnias hypermnestra</i> Linnaeus 1763	Evening
12	The Bamboo Treebrown	<i>Lethe europa</i> Fabricius 1787	Evening

Family- Nymphalidae 2. Sub family –Biblidinae Boisduval, 1833

SN	Common Name	Scientific Name	Occurrence status
1	Common Castor	<i>Ariadne merione</i> cramer	Morning

Family- Nymphalidae 3. Sub family –Nymphalinae Swainson, 1827

SN	Common Name	Scientific Name	Occurrence status
1	Lemon Pansy	<i>Junonia lemonias</i> Linnaeus 1758	Afternoon
2	Grey Pansy	<i>Junonia atlited</i> Linnaeus 1763	Afternoon
3	Peacock Pansy	<i>Junonia almana</i> Linnaeus 1758	Afternoon
4	Chocolate Pansy	<i>Junonia iphita</i> Cramer 1779	Evening
5	Danaid eggfly	<i>Hypolamnas misippus</i> Linnaeus 1764	Afternoon
6	Great eggfly	<i>Hypolamnas bolina</i> Linnaeus 1758	Afternoon
7	Common Indian Crow	<i>Euploea core</i> Cramer 1780	Afternoon
8	Plain Tiger	<i>Danaus chrysippus</i> Linnaeus 1758	Afternoon
9	Blue Tiger	<i>Tirumala limniace</i> Cramer 1775	Afternoon

Family- Nymphalidae 4. Sub family –Limenitidinae Behr, 1864

SN	Common Name	Scientific Name	Occurrence status
1	Commander Butterfly	<i>Moduza procris</i> Cramer 1777	Afternoon
2	The common Sailer	<i>Neptis hylas</i> Linnaeus 1758	Afternoon

Family- Nymphalidae 5. Sub family –Charaxinae Doherty, 1886

SN	Common Name	Scientific Name	Occurrence status
1	Common Nawab	<i>Charaxes athamas</i> Drury 1770	Afternoon
2	Anomalous Nawab	<i>Chraaxes agrarius</i> C. Swinhoe 1887	Afternoon
3	Tawny Rajah	<i>Charaxes bernardus</i> Fabricius 1793	Afternoon

Family- Nymphalidae 6. Sub family –Heliconiinae, Swainson, 1822

SN	Common Name	Scientific Name	Occurrence status
1	Tawny Coster	<i>Acraea terpsicore</i> Linnaeus 1758	Afternoon

D. Family- Lycaenidae 1. Sub family –Polyommata Swainson, 1827

SN	Common Name	Scientific Name	Occurrence status
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1	Holly Blue	<i>Celastrina argiolus</i> Linnaeus 1758	From Morning to Evening
2	African Grass Blue	<i>Zizeeria knysna</i> Trimen 1862	From Morning to Evening
3	Dark Grass Blue	<i>Zizeeria karsandra</i> Moore 1865	From Morning to Evening
4	Lime Blue	<i>Chilades lajus</i> Stoll 1780	From Morning to Evening
5	Zebra Blue	<i>Leptotes plinius</i> Fabricius 1793	From Morning to Evening
6	Common Zebra Blue	<i>Leptotes pirithous</i> Linnaeus 1767	From Morning to Evening
7	Cassius blue	<i>Leptotes cassius</i> Cramer 1775	From Morning to Evening
8	Pale Grass Blue	<i>Pseudozizeeria maha</i> Kollar 1844	From Morning to Evening
9	Common Ciliate Blue	<i>Anthene lycaenina</i> C. Felder 1868	From Morning to Evening
10	Plains Cupid	<i>Luthrodes pandava</i> Horsfield 1829	From Morning to Evening
11	Common Pierrot	<i>Castalius rosimon</i> Fabricius 1775	From Morning to Evening
12	Striped Pierrot	<i>Taracus nara</i> Kollar 1848	From Morning to Evening
13	Forget –me-not Butterfly	<i>Catochrysops Strabo</i> Fabricius 1793	From Morning to Evening
14	The Gram Blue	<i>Euchrysops cnejus</i> Fabricius 1798	From Morning to Evening
15	Tiny Grass Blue	<i>Zizula hylax</i> Fabricius 1775	From Morning to Evening
16	Grass Jewel	<i>Freyeria trochylus</i> Freyer 1845	From Morning to Evening

Family- Lycaenidae 2. Sub family –Aphnaeinae Distant, 1884

SN	Common Name	Scientific Name	Occurrence status
1	Common Silver Line	<i>Spindasis vulcanus</i> Fabricius 1775	Afternoon

Family- Lycaenidae 3. Sub family –Theclinae Swainson, 1831

SN	Common Name	Scientific Name	Occurrence status
1	Powdered Oak Blue	<i>Arhopala bazalus</i> 1852	Afternoon
2	Common Acacia Blue	<i>Surendra quercetorum</i> Moore 1858	Afternoon

F. Family- Hesperiiidae 1. Sub family –Coeliadinae Evans, 1937

SN	Common Name	Scientific Name	Occurrence status
1	Common Banded awl	<i>Hasora chromus</i> Cramer 1780	Evening

Family- Hesperiiidae 2. Sub family –Pyrginae Burmeister, 1878

SN	Common Name	Scientific Name	Occurrence status
1	Indian Grizzled Skipper	<i>Spialia galba</i> Fabricius 1793	Morning
2	Grizzled Skipper	<i>Pyrgus malvae</i> Linnaeus 1758	Morning
3	Lesser Dart Skipper	<i>Potanthus omaha</i> H. Edwards 1863	Morning

Family- Hesperiiidae 3. Sub family –Hesperinae Latreille, 1809

SN	Common Name	Scientific Name	Occurrence status
1	Rice Swift	<i>Borbo cinnara</i> Wallace 1866	Morning
2	Small Branded Swift	<i>Pelopidas mathias</i> Fabricius 1798	Morning
3	Canna Skipper	<i>Calpododes ethlius</i> Stoll 1782	Morning
4	Eufala Skipper	<i>Lerodea eufala</i> Edwards 1869	Morning
5	Indian Palm Bob	<i>Suastus gremius</i> Fabricius 1798	Morning

IV. Results and Discussion

In present investigation, 66 species under 49 genera of butterflies from 15 sub-families viz. Papilioninae, Pierinae, Coliadinae, Satyrinae, Biblidinae, Nymphelinae, Limenitidinae, Charaxinae, Heliconiinae, Poliommatinae, Aphnaeinae, Theclinae, Coeliadinae, Pyrginae and Hesperinae from family Papilionidae, Pieridae, Nymphalidae, Lycaenidae and Hesperiiidae were reported and identified. The checklist of butterflies and their occurrence is given in the table no. 1.

In the present investigation largest numbers of butterflies are found during sunrays means afternoon followed by Morning and then Evening. But in the early morning no butterflies activity found. Besides migration of butterflies starts from 8.00 am onwards. In present study it was remarkable that above 80 % of the butterflies found on host plant *Lantana camara* (Tick-berry) from Bandh Talav Kudwa, Gondia.

A total 40 species under 28 genera belong to 5 families and 13 sub-families were surveyed and reported from Borhamdev Wild life Sanctuary, Chhattisgarh (Majumder *et al.*, 2011). Total 28 species belonging to 19 genera and 4 families were recorded and identified from Amgaon Tehsil of Gondia district Maharashtra (Danta and Jha 2017). Total 30 species belonging to 20 genera and 5 families were recorded from Ramtek Gadmandir Forest area Central India (Barsagade *et al.*, 2019). A total 34 species belonging to 26 genera and 5 families were reported from Urbanized Wani, District Yavatmal (Patel *et al.*, 2021). A total 64 species and 45 genera under six families were made from Sub-tropical wetland environment of Shyamlatal, Western Himalaya (Verma and Arya 2022). In Urban area butterfly diversity are rapidly growing (Fang *et al.*, 2023). A total 27 species from 22 genera belongs to five families from Meerut region of Hastinapur Wildlife Sanctuary, Uttarpradesh (Rai and Choudhary 2023). A total 134 species were recorded from Tadoba National Park, Chandrapur (Tiple and Bhagwat 2023).

In present study the abundance of species was found due to natural vegetation, available host plants, water reservoir, agriculture field and moisture which is one of the most factors essential for maintain the habitat of butterflies. Species abundance and decline their number due to hot and low temperature. The public interference, pollution and deforestation also affect the diversity of butterfly insects' species. There was other species observed like Insects (Beetles, Grasshoppers, Wasp, Fly, and Mantis), Amphibian, Reptilian, Birds, and Mammals.

Table No. 2: Showing family- wise distribution with genus and species of butterflies from Bandh Talav Gondia.

Sr.No.	Family	No. of Genus	No. of Species	%
1	Papilionidae	3	4	6.06
2	Pieridae	3	6	9.09
3	Nymphalidae	18	28	42.42
4	Lycaenidae	16	19	28.78
5	Hesperiiidae	9	9	13.63
Total		49	66	

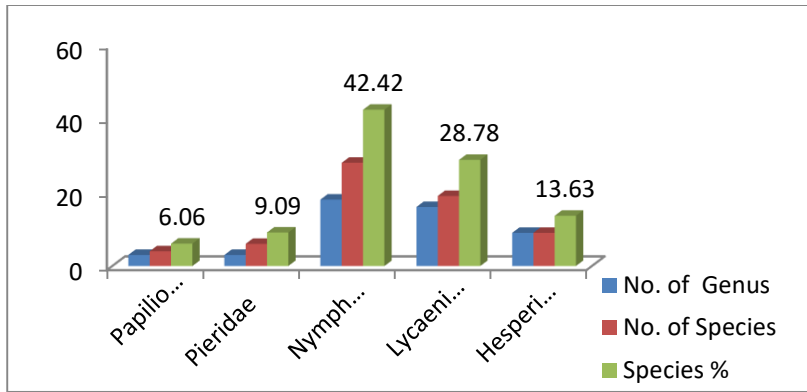


Figure 2. Showing graphical representation of genus and species of butterflies.

Family-Papilionidae



2. *Papilio polytes*

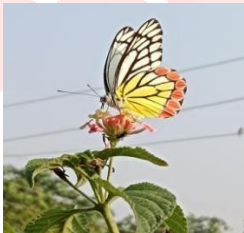


1. *Papilio demoleus*



3. *Graphium doson*

Family-Pieridae



1. *Delias eucharis*



2. *Catopsilia pyranthe*



3. *Catopsilia florella*

Family-Nymphalidae



1. *Melanitis leda*



2. *Melanitis phedima*



3. *Melanitis zitenius*

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VI. References

- Barsagade, DD., Tetwar, PL., Thakare, MP (2019). Butterfly diversity in and around Ramtek Gadmandir forest area Central India. *Journal of Entomology and Zoology Studies*.7(5):1202-1207
- D' Abreau , E.A. (1931). The Central Provinces Butterfly List. Records of the Nagpur Museum Number VII. Government Printing Press, Nagpur City. 1-39pp.
- Danta, Dezling Jha, Ashish Kumar (2017). Butterflies of Amgaon Tahsil of Gondia District Maharashtra. A preliminary survey of their community structure, Taxonomic Diversity and Their Ecology. International Journal of Researches in *Biosciences, Agriculture and Technology* .IJRBAT, special Issue (2) Vol-V.
- Evans, W.H. (1932). Identification of Indian Butterflies .2nd.Edition .Bombay Natural History Society, Mumbai, 454pp.
- Fang, Sheng-Qum., Li, Yong-Ping., Pan, Yue. Wang, Chang-Yan., Peng, Ming –Chun and Hu, Shao-Ji (2023). Butterfly Diversity in a rapidly Developing Urban Area: A case study on university Campus .Diversity.16, 4 <https://doi.org/103390/d16010004>
- Kunte, K. (2000). Butterflies of Peninsular India Universities Press (Hyderabad) and Indian Academy of Sciences (Banglore), 254pp.
- Majumder, Amitava., Chandra, Kailash., Parida, Abinash., Raha, Angshuman (2011).Insecta: Lepidoptera:Rhopalocera (Butterflies). Fauna of Boramdev Wildlife Sanctuary, Chhattisgarh. Zoological Survey of India, M-Block New Alipore, Kolkata-700053
- Manzoor,Farkhanda., Sadat, Hasan Bin and Hina (2013).Butterflies as indicator of climate change. *Zoo's print*, Volume XXVIII, Number 2
- Patel, Paresh., Uttarwar, Priya and Khamankar, Dnyaneshwar (2021). Diversity of butterflies in Wani, District Yavatmal (M.S.). *International Journal of Scientific Research in Science and Technology*. IJSRST.vol.8. Issue 1
- Perveen, Farzana and Fazal, Fatima (2013). Biology and distribution of butterfly fauna of Hazara University Garden Campus Mansehra , Pakistan.*Open Journal of Animal Sciences*.Vol.3 No.2 A
- Rai, Yashwant and Choudhary, Preeti (2023). A study on the Diversity of Butterfly species in Hastinapur Wildlife Sanctuary, Uttarpradesh. *International Journal of Advanced Research in Biological Sciences* .Int. J. Adv. Res. Biol. Sci. 10(5) : 17-26
- Segre, Hila., Kleijn, David., Bartomeus, Ignasi., De Vries, M.F. wallis., Jong, Mark de., Schee, Marten., Frank, vaader., Roman, Jacinto., Fijen, Thijs P.M. (2023).Butterflies are not a robust bioindicator for assessing pollinator communities, but floral resources offer a promising way forward. *Ecological Indicators* 154.110842
- Tiple, A D. (2012). Butterfly species diversity, relative abundance and status in Tropical Forest Research Institute, Jabalpur, and Madhya Pradesh, Central India. *Journal of Threatened Taxa*. 4(7):2713-2717.
- Tiple, Ashish D. and Bhagwat, Shatanik S. (2023). An updated list of butterfly (Lepidoptera, Rhopalocera) fauna of Tadoba National Park, Chandrapur, Maharashtra, Central India. *Journal of Insect Biodiversity and Systematics* ,9(1),103-114.
- Verma, Aman and Arya, Manoj Kumar (2022). Butterfly diversity and abundance in a sub- tropical wetland environment of Shyamlat, Western Himalaya. *Asian Journal of conservation Biology* .vol. II No.1, pp 26-40
- Wadtkar, J.S. and Kasambe Raju. (2008). Butterflies of Melghat Tiger Reserve Maharashtra with Notes on Their Abundance, Status and larval Host plants .*The Ecoscan* vol.2 No.2.
- Wynter-Blyth, M.A. (1957). Butterflies of the Indian Region. Bombay Natural History Society, 523pp.