

AN INVENTORY OF BUTTERFLIES FROM CHILKIGARH, WEST BENGAL

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Chilkigarh (22°15'-22°0' N; 86°45'-87°0' E) is a village under Jamboni block in the Jhargram district of West Bengal, India. Located at the east catchment zone of the Dulung river at an elevation of 60-85 m above mean sea level, the area is predominantly characterized by reddish-brown silty-clay loamy soil and tropical moist deciduous forest (Kamilya & Paria, 1994; Saadi *et al.*, 2020). The area presently is gaining prominence due to the biological and historical importance of the Chilkigarh Sacred Grove, a relict forest patch consisting of deciduous, semi-deciduous and evergreen species in its near-climax stage, harbouring the renowned Kanak Durga temple (Bhakat, 2009; Kar *et al.*, 2015).

A rapid survey was carried out for the butterfly fauna during 25-28 February, 2017 in the village area, including the forest patches, gardens, roadside habitats, the river bed and the sacred grove for two days, covering the entire diurnal span to

record both crepuscular and day-flying species. The identification of the adult species was done *in-situ* and from photographs following Evans (1927), Wynter Blyth (1957), Kehimkar (2016) and Kunte *et al.* (2023). Classification was according to van Nieukerken *et al.* (2011).

A total of 47 species of butterflies under 35 genera and five families were documented for the first time from this region (Table 1), with the family Nymphalidae being most species-rich (46.8%), followed by Papilionidae and Lycaenidae (14.9% each), Pieridae (12.8%) and Hesperidae (10.6%). The taxonomic distribution for the five butterfly families is shown in Table 2, which clearly illustrates Nymphalids to be the most taxonomically diverse family (with 22 species under 14 genera and eight subfamilies). Each genus under Hesperidae, Pieridae and Lycaenidae was represented by a single species. The genus *Junonia* Hübner was unique being represented by all the six species that are available in the country (Table 1).

Apart from the 12 rarely observed species (marked with * in Table 1) during the study period, the remaining butterflies were fairly common throughout the area, especially concentrated in and around the maintained gardens. Only six species, namely *N. paralyos*, *U. folus*, *J. celeno*, *E. klugii*, *D. sondaica* and *M. leda* were recorded in the sacred grove. A single individual of *D. sondaica* was found to settle on the thick litter in the sacred forest, with bamboo thickets nearby. *P. clytia*, *N. paralyos* and *Z. karsandra* were found nectaring from the flowers of *Hibiscus rosa-sinensis*, *Clerodendrum viscosum* and *Vernonia cinerea* respectively, while *Tridax procumbens* served as the most available source of nectar for *C. nerissa*, *S. vulcanus*, *L. plinius* and *C. pandava*. Two rare nymphalids, *C. psaphon* and *M. procris* were recorded while puddling on the Dulung river bed.

Extensive studies exploring the floral diversity of this area were carried out by Kamilya & Paria (1994) and Saadi *et al.* (2020). However, faunistic studies, especially of invertebrates, are few, as compared to their vertebrate counterparts, which have been studied mostly within and very rarely outside the grove (Bhakat, 2009; Das *et al.* 2014). The present study on butterfly fauna adds to the known

invertebrate faunal diversity existing in the area. The diverse habitats of Chilkigarh, including the Chilkigarh Kanak Durga Sacred Grove – a protected and recently declared Biodiversity Heritage Site (Anon, 2018) serves as a unique faunal repository. Increase in human-induced habitat modification and fragmentation, both inside the sacred grove as well as areas surrounding the grove is a potential threat towards the integrity of the ecosystem.

Table 1. A list of the butterfly fauna (Lepidoptera: Papilionoidea) of Chilkigarh, West Bengal. (* indicates rarity of species)

Order Lepidoptera

Family Papilionidae

Subfamily Papilioninae

Graphium agamemnon (Linnaeus, 1758)

Papilio clytia Linnaeus, 1758

Papilio polytes Linnaeus, 1758

Papilio polymnestor Cramer, 1775

Papilio demoleus Linnaeus, 1758

Papilio crino Fabricius, 1793

Pachliopta aristolochiae (Fabricius, 1775)

Family Hesperidae

Subfamily Pyrginae

Celaenorrhinus leucocera (Kollar, 1848) *

Subfamily Hesperinae

Iambrix salsala (Moore, 1865)

Notocrypta paralysos (Wood-Mason & de Nicéville, 1881) *

Udaspes folus (Cramer, 1775) *

Telicota sp. *

Family Pieridae

Subfamily Coliadinae

Eurema hecabe (Linnaeus, 1758)

Catopsilia pyranthe (Linnaeus, 1758)

Subfamily Pierinae

Pareronia anais (Lesson, 1837)

Appias libythea (Fabricius, 1775)

Cepora nerissa (Fabricius, 1775)

Leptosia nina (Fabricius, 1793)

Family Lycaenidae**Subfamily Theclinae**

Spindasis vulcanus (Fabricius, 1775)

Subfamily Polyommatainae

Castalius rosimon (Fabricius, 1775)

Leptotes plinius (Fabricius, 1793)

Jamides celeno (Cramer, 1775) *

Zizeeria karsandra (Moore, 1865)

Chilades pandava (Horsfield, 1829)

Chilades lajus (Stoll, 1780)

Family Nymphalidae**Subfamily Danainae**

Tirumala limniace (Cramer, 1775)

Danaus genutia (Cramer, 1779)

Danaus chrysippus (Linnaeus, 1758)

Euploea klugii Moore, 1858 *

Euploea core (Cramer, 1780)

Subfamily Charaxinae

Charaxes psaphon Westwood, 1847 *

Subfamily Morphinae

Discophora sondaica Boisduval, 1836

Subfamily Satyrinae

Melanitis leda (Linnaeus, 1758)

Elymnias hypermnestra (Linnaeus, 1763)

Mycalesis sp.

Subfamily Limenitidinae

Neptis hylas (Linnaeus, 1758) *

Neptis jumbah Moore, [1858] *

Moduza procris (Cramer, [1777])

Subfamily Heliconinae

Acraea violae Fabricius, 1775

Subfamily Biblidinae

Ariadne merione (Cramer, 1779)

Subfamily Nymphalinae

Junonia orithya (Linnaeus, 1758) *

Junonia hierta (Fabricius, 1798) *

Junonia iphita (Cramer, 1782)

Junonia atlites (Linnaeus, 1763)

Junonia almana (Linnaeus, 1758)

Junonia lemonias (Linnaeus, 1758)

Hypolimnas bolina (Linnaeus, 1758)

Table 2. An overview of the taxonomic diversity of butterfly fauna of Chilkigarh.

Family	Subfamilies	Genera	Species
Papilionidae	1	3	7
Hesperiidae	2	5	5
Pieridae	2	6	6
Lycaenidae	2	7	7
Nymphalidae	8	14	22
TOTAL:	15	35	47

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