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Newsletter of the
Invertebrate Conservation & Information Network of South Asia (ICINSA)

The status of butterflies in Joychandi Hill, Purulia, West Bengal

Researches on butterflies had been conducted across different areas of the Purulia district (Samanta et al.; Das 2018; Deo & Mahato 2023; Mukherjee et al. 2023), which is the westernmost district of West Bengal and lies within the eastern expanse of the Chotanagpur plateau. Characterized by subtropical climate, it experiences an average annual precipitation ranging from 1,100–1,500 mm (Das 2016).

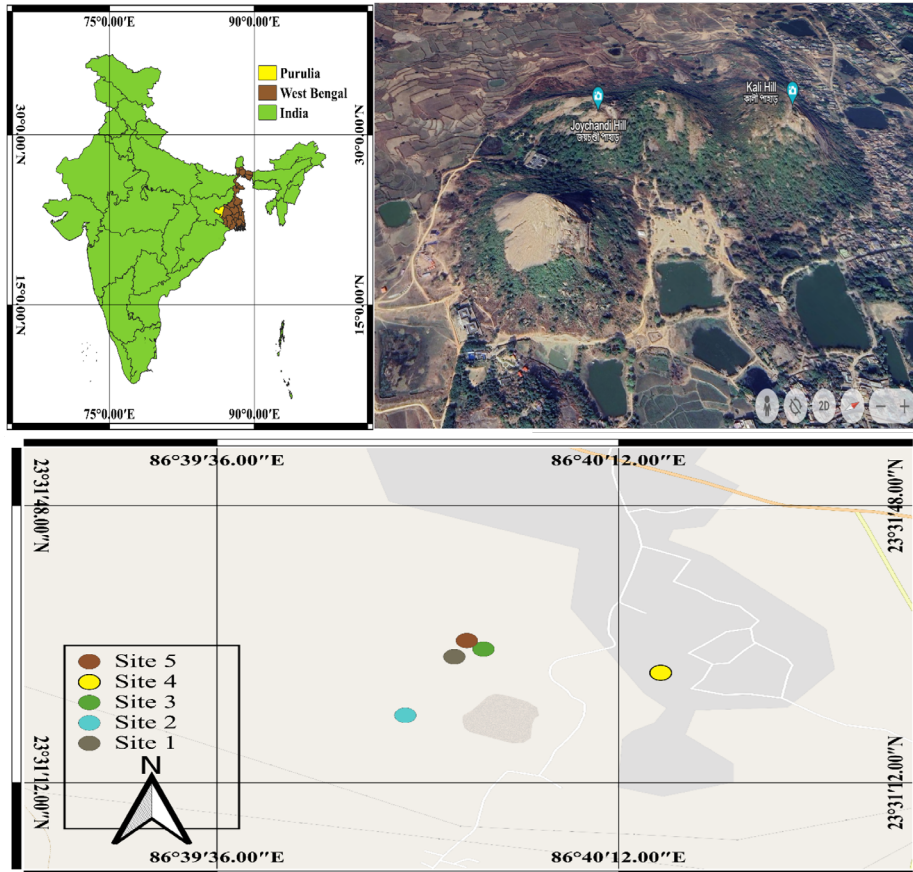
The present study aims to enhance our

understanding of butterfly diversity and potential threats they face in Joychandi Hill (23.55 N & 86.67 E), located within Block No. 1 of Raghunathpur sub-divisional town in Purulia district.

Joychandi Hill comprises of three hills, namely Joychandi, Kalipahari, and Jugtila, with an average elevation of 155 m.

The area features light forests and bushes, boasting a diverse array of Angiospermic species, many of which serve as nectar and host plants for butterflies.

Some dominant plant species include *Acacia concinna*, *Helicteres isora*, *Alangium salviifolium*, *Holoptelea integrifolia*, *Azadirachta indica*, *Mallotus philippensis*, *Butea monosperma*, *Lantana camara*, *Pergularia daemia*, and *Pennisetum polystachio*.



Map of study area, Joychandi Hill, Purulia District, West Bengal, India.

Table 1. Family-wise checklist with common and scientific names along with Schedule WPA-1972 protected status and abundance rate. Abundance Index: W = Widespread; C = Common; LC = Less Common; R = Rare.

Family		Common name	Scientific name	Schedule WPA-1972	Status
Lycaenidae	1	Common Pierrot	<i>Castalius rosimon</i>		W
	2	Striped Pierrot	<i>Tarucus nara</i>		C
	3	Common Cerulean	<i>Jamides celeno</i>		C
	4	Dark Cerulean	<i>Jamides bochus</i>		R
	5	Pale Grass Blue	<i>Pseudozizeeria maha</i>		W
	6	Dark Grass Blue	<i>Zizeeria karsandra</i>		LC
	7	Lesser Grass Blue	<i>Zizina otis</i>		W
	8	Tiny Grass Blue	<i>Zizula hylax</i>		LC
	9	Tailless Lineblue	<i>Prosotas dubiosa</i>	II	W
	10	Common Lineblue	<i>Prosotas nora</i>		W
	11	Pointed Ciliate Blue	<i>Anthene lycaenina</i>	II	R
	12	Common Guava Blue	<i>Virachola isocrates</i>		R
	13	Common Hedge Blue	<i>Acytolepis puspa</i>		LC
	14	Indian Oakblue	<i>Arhopala atrax</i>		R
	15	Indian Cupid	<i>Cupido lacturnus</i>		R
	16	Gram Blue	<i>Euchrysops cnejus</i>		C
	17	Silverstreak Blue	<i>Iraota timoleon</i>		R
	18	Forget-me- not	<i>Catochrysops strabo</i>		C
	19	Black-spotted Grass Jewel	<i>Freyeria putli</i>		C
	20	Common Red Flash	<i>Rapala iarbus</i>		LC
	21	Indigo Flash	<i>Rapala varuna</i>	II	LC
	22	Pea Blue	<i>Lampides boeticus</i>		C
	23	Common Silverline	<i>Cigaritis vulcanus</i>		R
	24	Purple Leaf Blue	<i>Amblypodia anita</i>		C
	25	Zebra Blue	<i>Leptotes plinius</i>		C
Nymphalidae	26	Common Palmfly	<i>Elymnias hypermnestra</i>		C
	27	Common Sailor	<i>Neptis hylas</i>		C
	28	Common Crow	<i>Euploea core</i>		W
	29	Great Eggfly	<i>Hypolimnas bolina</i>		C
	30	Peacock Pansy	<i>Junonia almana</i>		W
	31	Blue Pansy	<i>Junonia orithya</i>		C
	32	Grey Pansy	<i>Junonia atlites</i>		W
	33	Yellow Pansy	<i>Junonia hierta</i>		LC
	34	Chocolate Pansy	<i>Junonia iphita</i>		C
	35	Lemon Pansy	<i>Junonia lemonias</i>		C
	36	Plain Tiger	<i>Danaus chrysippus</i>		W

Family		Common name	Scientific name	Schedule WPA-1972	Status
Nymphalidae	37	Striped Tiger	<i>Danaus genutia</i>		C
	38	Blue Tiger	<i>Tirumala limniace</i>		C
	39	Common Four-ring	<i>Ypthima huebneri</i>		W
	40	Common Leopard	<i>Phalanta phalantha</i>		C
	41	Common Bushbrown	<i>Mycalesis perseus</i>		W
	42	Common Evening Brown	<i>Melanitis leda</i>		W
	43	Anomalous Nawab	<i>Charaxes agrarius</i>		R
	44	Indian Nawab	<i>Charaxes bhārata</i>		C
	45	Black Rajah	<i>Charaxes solon</i>	II	LC
Pieridae	46	Mottled Emigrant	<i>Catopsilia pyranthe</i>		W
	47	Lemon Emigrant	<i>Catopsilia pomona</i>		W
	48	Common Grass Yellow	<i>Eurema hecabe</i>		C
	49	Indian Pioneer	<i>Belenois aurota</i>		C
	50	Three-spot Grass Yellow	<i>Eurema blanda</i>		LC
	51	Common Gull	<i>Cepora nerissa</i>		C
	52	Striped Albatross	<i>Appias libythea</i>		C
	53	Common Jezebel	<i>Delias eucharis</i>		C
	54	Psyche	<i>Leptosia nina</i>		C
	55	Common Castor	<i>Ariadne merione</i>		C
	56	Indian Wanderer	<i>Pareronia hippia</i>		C
Hesperiidae	57	Golden Angel	<i>Caprona ransonnettii</i>		C
	58	Oriental Palm Bob	<i>Suastris gremius</i>		LC
	59	Grass Dart	<i>Taractroceras ceramas</i>		LC
	60	Rice Swift	<i>Borbo cinnara</i>		C
	61	Small Branded Swift	<i>Pelopidas mathias</i>		C
	62	Bush Hopper	<i>Ampittia dioscorides</i>		C
	63	Chestnut Bob	<i>Lambrix salsala</i>		R
	64	Tree Flitter	<i>Hyarotis adrastus</i>		R
	65	Brown Awl	<i>Badamia exclamationis</i>		C
	66	Common Banded Awl	<i>Hasora chromus</i>		LC
Papilionidae	67	Blue Mormon	<i>Papilio polymnestor</i>		LC
	68	Common Mormon	<i>Papilio polytes</i>		W
	69	Common Rose	<i>Pachliopta aristolochiae</i>		LC
	70	Common Mime	<i>Papilio clytia</i>	I	C
	71	Lime Swallowtail	<i>Papilio demoleus</i>		W
	72	Tailed Jay	<i>Graphium agamemnon</i>		LC
	73	Common Jay	<i>Graphium doson</i>		C
	74	Common Banded Peacock	<i>Papilio crino</i>		R

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Blue Mormon.



Common Cerulean.



Indian Nawab.



Black Rajah.



Brown Awl.



Bush Hopper.



Chocolate Pansy.



Common Four-ring.



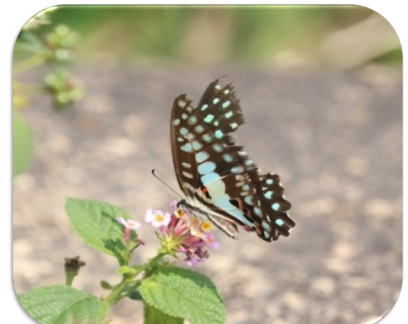
Common Grass Yellow.



Common Gull.



Common Hedge Blue.



Common Jay.

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Common Mormon.



Common Sailor.



Common Silverline.



Golden Angel.



Grass Demon.



Indian Cupid.



Indian Oakblue.



Lemon Pansy.



Mottled Emigrant.



Oriental Palm Bob.



Pea Blue.



Peacock Pansy.

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Plain Tiger.



Tiny Grass Blue.



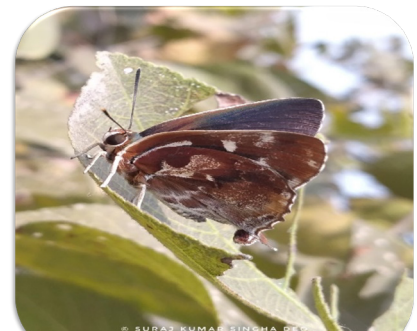
Red Flash.



Tailless Lineblue.



Zebra Blue.



Silverstreak Blue.



Purple Leaf Blue.



Striped Pierrot.



Three-spot Grass Yellow.

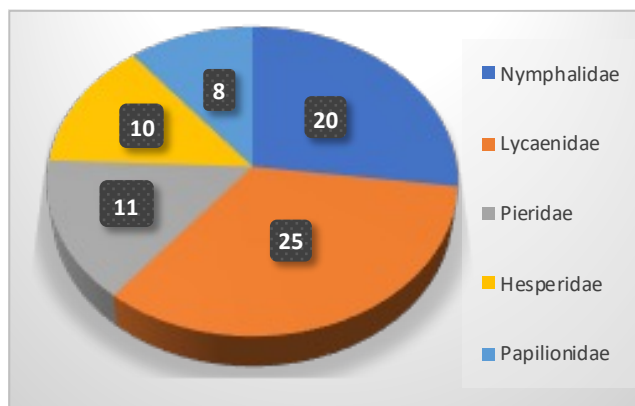
To document the butterflies, a combination of direct search technique (Sutherland 1996) and opportunistic sighting methods was applied for the present study.

The survey was conducted from February 2020 to February 2023 and butterflies were photographed using a DSLR (Canon77D camera) and a Samsung A20s camera. Habitat types of the five

sampling sites are presented in the table. Common species were identified in the field, while rare species were identified with the help of field guides (Bingham 1907;

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Pie chart representation of total number of butterfly species recorded from each family.

Table 2. Name and habitat type of the five study sites.

Site No	Habitat Type
1	Mixed vegetation
2	Wetlands with swamp and bushes
3	Light forests, dominated by <i>Acacia concinna</i> , <i>Holoptelea integrifolia</i> , and <i>Helicteres isora</i>
4	Grasslands
5	Rocky slopes

Kehimkar 2016). Till date there are a number of published reports available about the butterfly diversity of entire Chota Nagpur Plateau eco-region which includes the work of Mukherjee et al. (2023) that recorded 143 species from the Ajodhya Hills of Purulia, West Bengal; Singh (2010) reported 71 species from Ankua reserve forest while Patra et al. (2022) documented 72 species from the hilly terrains of Ghatsila, Jharkhand. The present study, which covered much smaller area than the above mentioned studies, reports 74 species of butterflies, representing 50 genera, and five families. Our research indicates a healthy ecosystem and the

presence of rich floral diversity in the study area. Among the families, Lycaenidae emerged as the most dominant with 25 species.

Additionally, five species are listed under the Wildlife Protection Act of 1972. Due to increased urbanization and ongoing deforestation, peripheral forest patches bordering Joychandi Hills have significantly shrunk in recent years, endangering the very foundation of butterfly populations. Regular man-made forest fires at Joychandi Hill directly affects vegetation and may influence butterfly species composition (Kunte 2001).

As butterflies are very sensitive to environmental changes, these issues are major threats to the butterfly diversity of the area in the near future (Kunte 2000). The findings of these studies provide valuable data for the development of targeted conservation strategies aimed at preserving butterfly diversity in Joychandi Hill.

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