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Study on butterfly diversity in and around Sakoli, District Bhandara, Maharashtra

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ABSTRACT

A study on butterfly diversity was carried out in and around Sakoli dist. Bhandara, Maharashtra. Some selected areas in the city and nearby villages were surveyed. A total of 86 species belongs to the family Papilionidae, Pieridae, Nymphalidae, Lycaenidae and Hesperidae were recorded during the study period. Maximum of 33 species from Nymphalidae, followed by Lycaenidae (21), Pieridae (12), Hesperidae (12) while minimum Papilionidae (8) contributing 59 genera. Nymphalidae with 22 followed by Lycaenidae (18), Hesperidae (10) and Pieridae (8) are some of major genera. The minimum of genera reported from Papilionidae (3). In this study, the butterflies were categorized as very common, common, not rare, rare and very rare. The total of butterflies recorded as very common (38%), common (23%), not rare (8%), rare (19%) and found to be very rare (12%). From the present study, it reveals that the butterflies in and around Sakoli are rich in diversity.

Key words: Butterfly, Diversity, Abundance, Sakoli, Maharashtra.

INTRODUCTION

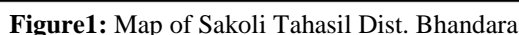
The butterflies (Lepidoptera) are diverse in form of shape, size and color. They have a great significance of their great aesthetic value and ecological benefits. They found to be vanishing from the surrounding vicinity due to escalating urbanization and many of anthropogenic activities. Their presence in a habitat gives an information concern of host plant as they spend their developmental stages over there, also important in food chain, providing food for birds, reptiles, bats etc. Globally 19238 species were documented by Heppner (1998), 1504 species from Indian subcontinent (Gaonkar 1996; Smetacek 1992), 177 species from Central India (Vidharbha, Madhya Pradesh and Chhattisgarh) by D' Abreau (1931), Tiple (2011) reported 167 species of butterflies. Some of the important contribution in butterflies studies are de Niceville (1886), Marshall and Niceville (1882), Kunte (2000), Mathew and Rahamathulla (1993), Lewis

(1973), Sharma *et al.*, (2006), Kehimkar (2008, 2011), Tiple and Khurad (2009), Tiple (2011), etc. Fewer work on diversity of butterflies were recognized from Bhandara and Gondia district such as Bhandarkar and Paliwal (2015), Paliwal and Bhandarkar (2019), Ganvir and Khaparde (2018). The present study is a report of butterfly diversity from the urban and semi urban region in and around Sakoli. The study will be helpful to understand the current status to organize a checklist and further Environmental Impact Assessment studies in the region.

MATERIALS AND METHODS

Sakoli city is located on NH 6 (N21.0776, E80.0132) surrounded by ponds, lakes and shrub forest. Navegaon-Nagzira Tiger Reserve is close to the city. The study was conceded from monsoon to late winter season in the year 2020. The survey carried out daily to every site during 08:00AM to 13:00 PM. The

butterflies were categorized on the basis of their abundance such as, VR- Very Common (>100 Sightings), C- Common (50-100 Sightings), NR- Not Rare (15-50 Sighting), R- Rare (2-15 Sighting), VR- Very Rare (<2 Sighting) (Tiple 2012).



were noted in family Papilionidae (8). These 5 families were contributed 59 genera. The largest number of genera were reported in family Nymphalidae (22) followed by Lycaenidae (18), Hesperidae (10), Pieridae (8), and minimum number of genera (3) were reported in family Papilionidae (**Table 3**). 33 (38%) were Very Common, 20 (23%) were Common, 7 (8%) were Not Rare, 16 (19%) were Rare and 10 (12%) were Very Rare (**Table 2**). Common Grass Yellow is Most Common butterfly and Blue Mormon butterfly is found to be most rare. The butterflies always found in habitat specific areas and near associated with host plant specific regions. The diversity increases with habitat types. The study area harbors varies habitats including plantation, shrubs, gardens, wetlands, meadow and forest. This might be the cause of species diversity in the region. This study will be helpful for further detail revise on biodiversity of butterflies in the region.

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Table1. Butterfly diversity with status in and around Sakoli.

SN	FAMILY	COMMON NAME	GENERIC NAME	STATUS
1	Papilionidae	Common Jay	<i>Graphium doson</i>	NR
2		Tailed Jay	<i>Graphium agamemnon</i>	C
3		Common Mime	<i>Papilio clytia</i>	R
4		Common Mormon	<i>Papilio polytes</i>	VC
5		Blue Mormon	<i>Papilio polymnestor</i>	VR
6		Lime Butterfly	<i>Papilio demoleus</i>	VC
7		Common Rose	<i>Pachio ptaaristolochiae</i>	VC
8		Crimson Rose	<i>Pachio ptahector</i>	R
9	Pieridae	Small Grass Yellow	<i>Eurem abrigitta</i>	VC
10		Common Grass Yellow	<i>Eurema hecabe</i>	VC
11		Spotless Grass Yellow	<i>Eurema laeta</i>	R
12		Common Emigrant	<i>Catopsilia pomona</i>	VC
13		Mottled Emigrant	<i>Catopsilia pyranthe</i>	VC
14		Common Wanderer	<i>Pareronia valeria</i>	VC
15		Common Albatross	<i>Appias albina</i>	VC
16		Stripped Albatross	<i>Appias libythea</i>	C
17		Common Gull	<i>Cepora nerissa</i>	C
18		Pioneer	<i>Belenois aurota</i>	C
19		Psyche	<i>Leptosia nina</i>	VR
20		Common Jezebel	<i>Delias eucharis</i>	R
21	Nymphalidae	Blue Tiger	<i>Tirumala limniace</i>	VC
22		Glassy Tiger	<i>Parantica aglea</i>	NR
23		Plain Tiger	<i>Danaus chrysippus</i>	VC
24		Stripped Tiger	<i>Danaus genatia</i>	C
25		Common Crow	<i>Euploea core</i>	VC
26		Brown King Crow	<i>Euploea klugii</i>	C
27		Common Nawab	<i>Polyura athamas</i>	R
28		Tawny Raja	<i>Charaxes bernardus</i>	VR
29		Black Raja	<i>Charaxes solon</i>	VR
30		Common Evening Brown	<i>Melanitis leda</i>	VC
31		Bamboo Tree Brown	<i>Lethe europa</i>	C
32		Common Palm fly	<i>Etymnia shypermnestra</i>	C
33		Common Brush Brown	<i>Mycalesis perseus</i>	VC
34		Dark Brand Brown	<i>Mycalesis mineus</i>	R
35		Common Three Ring	<i>Ypthima asterope</i>	VR
36		Tawny Coster	<i>Acraea eiola</i>	VC
37		Common Leopard	<i>Phalanta phalantha</i>	R
38		Commander	<i>Moduza procris</i>	NR
39		Common Sergeant	<i>Athyma perius</i>	R
40		Common Sailer	<i>Neptis hylas</i>	VC
41		Short Banded Sailer	<i>Phaedyra columella</i>	R
42		Common Baron	<i>Euthalia aconthea</i>	C
43		Baronet Butterfly	<i>Euthalia nais</i>	VC
44		Angle Castor	<i>Ariadheariadhe</i>	NR
45		Common Castor	<i>Ariadhe merione</i>	C
46		Joker	<i>Byblia ilithyia</i>	R
47		Blue Pansy	<i>Junonia orithiya</i>	VC
48		Grey Pansy	<i>Junonia atlites</i>	VC
49		Chocolate Pansy	<i>Junonia lphita</i>	VC
50		Lemon Pansy	<i>Junonia lemonias</i>	VC
51		Peacock Pansy	<i>Junonia almana</i>	VC
52		Great Egg fly	<i>Hypolimnias bolina</i>	VC
53		Denied Egg fly	<i>Hypolimnias misippus</i>	VC
54		Indian Purple Leaf Blue	<i>Amblypodia anita</i>	NR

Table 1. contd...

55		Common Hedge Blue	<i>Acytolepis puspa</i>	VR
56		Common Pierrot	<i>Castalius rosimon</i>	VC
57		Angled Pierrot	<i>Castalius caleta</i>	C
58		Rounded Pierrot	<i>Tarucus nara</i>	NR
59		Plum Judy	<i>Abisara echerius</i>	R
60		Pale Grass Blue	<i>Pseudozizeeria maha</i>	C
61		Forget Me Not	<i>Catochrysops strabo</i>	VC
62		Lime Blue	<i>Chilades laius</i>	VC
63		Plain Cupid	<i>Chilades pandava</i>	C
64		Guava Blue	<i>Deudorix isocrates</i>	R
65		Common Cerulean	<i>Jamides celeno</i>	C
66		Pea Blue	<i>Lampides boeticus</i>	VC
67		Zebra Blue	<i>Leptotes plinius</i>	R
68		Lime Blue	<i>Prosotas nora</i>	VC
69		Tiny Grass Blue	<i>Zizula hylax</i>	VC
70		Lesser Grass Blue	<i>Zizula otis</i>	VC
71		Bright Babul Blue	<i>Azanus ubaldus</i>	R
72		Monkey puzzle	<i>Rathinda amor</i>	VR
73		Black Spotted Grass Jewel	<i>Freyeria putli</i>	VR
74		Slate Flash	<i>Rapala manea</i>	R
75	Hesperiidae	Indian Grizzled Skipper	<i>Spialia galba</i>	C
76		Large Branded Swift	<i>Pelopidas sudochracea</i>	C
77		Small Branded Swift	<i>Pelopidas mathias</i>	VC
78		Rice Swift	<i>Borbo cinnara</i>	C
79		Indian Dartlet	<i>Oriens goloides</i>	R
80		Brown Awl	<i>Badamia exclamationis</i>	C
81		Blank Swift	<i>Caltoris kumara</i>	C
82		Restricted Demon	<i>Notocrypta curuvifascia</i>	NR
83		Conjoined Swift	<i>Pelopidas conjuncta</i>	VC
84		Tricolor Pied Flat	<i>Coladenia indrani</i>	VR
85		Dark Palm Dart	<i>Telicota ancilla</i>	C
86		Common Red Eye	<i>Matapa ario</i>	VR

VC- Very Common; C- Common; NR - Not Rare; R-Rare; V- VeryRare

Table2. Number of species, species percentage and status of butterflies of Sakoli.

Sr. No.	Status	No.ofspecies	%of species
1	VeryCommon	33	38%
2	Common	20	23%
3	NotRare	7	8%
4	Rare	16	19%
5	VeryRare	10	12%

Table 3 - Distribution of genera and species of butterflies in respective families

Sr. No.	Family	No.ofGenera	No.ofSpecies
1	Papilionidae	3	8
2	Pieridae	8	12
3	Nymphanidae	22	33
4	Lycaenidae	18	21
5	Hesperiidae	10	12
Total	5	61	86

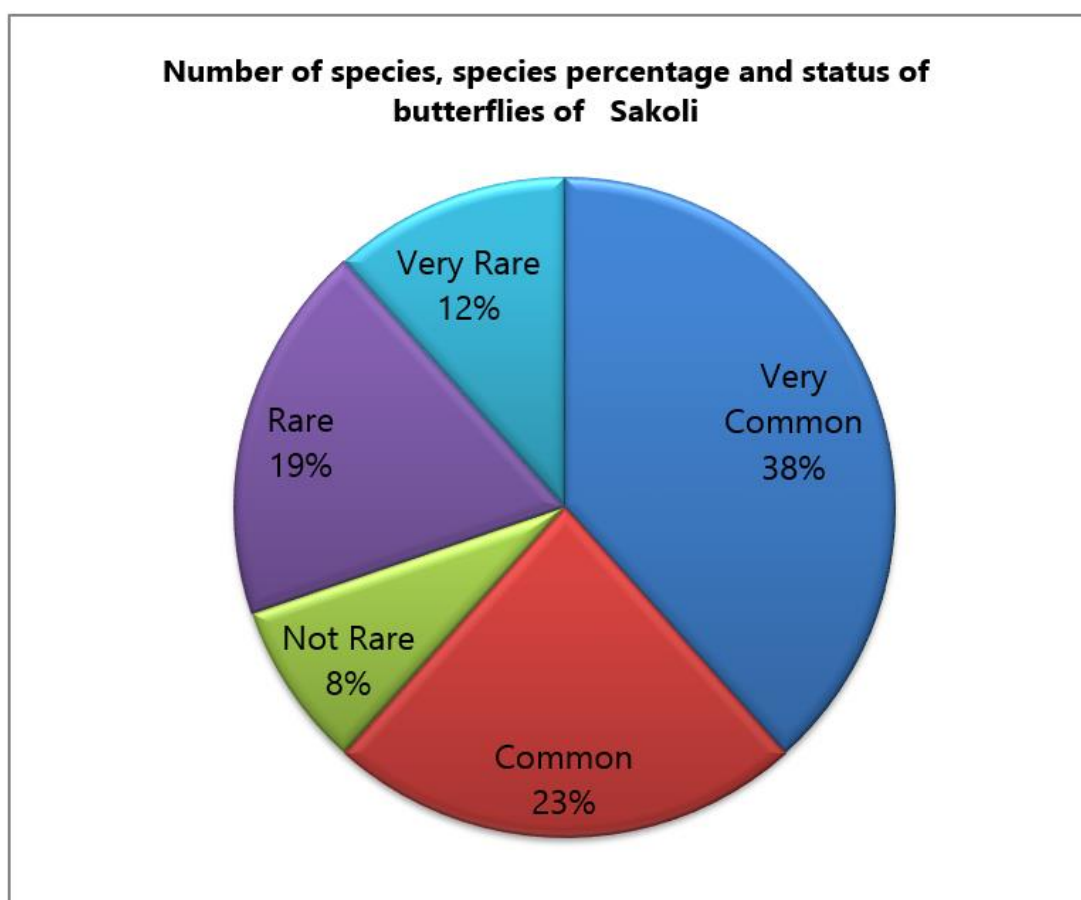


Fig. 2: Number of species, species percentage and status of butterflies of Sakoli

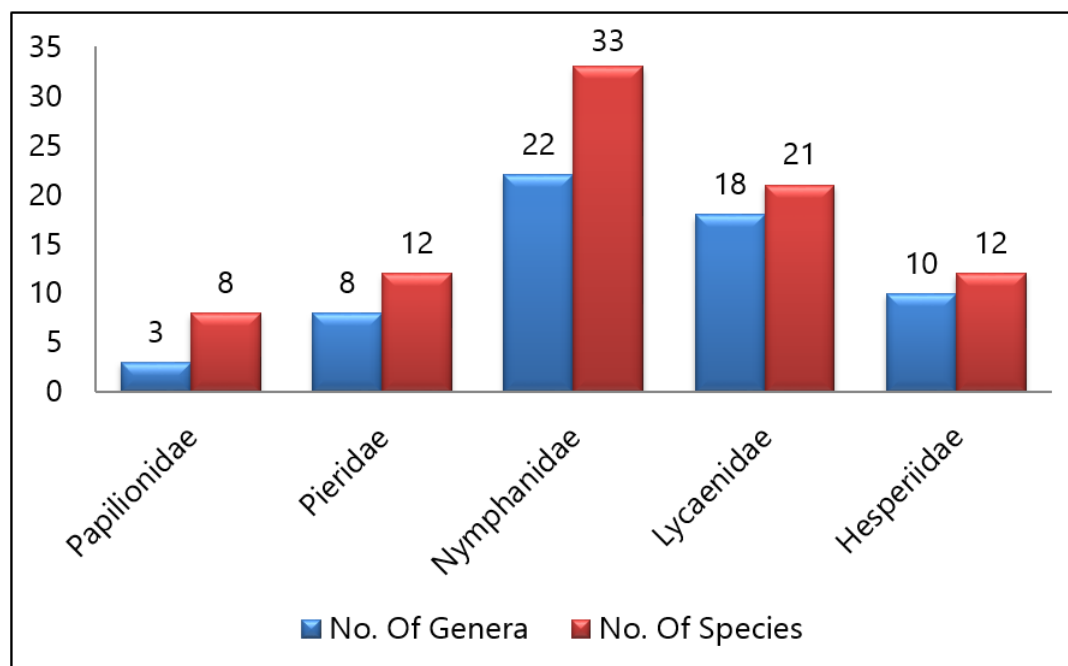


Fig. 3. Distribution of genera and species of butterflies in respective families

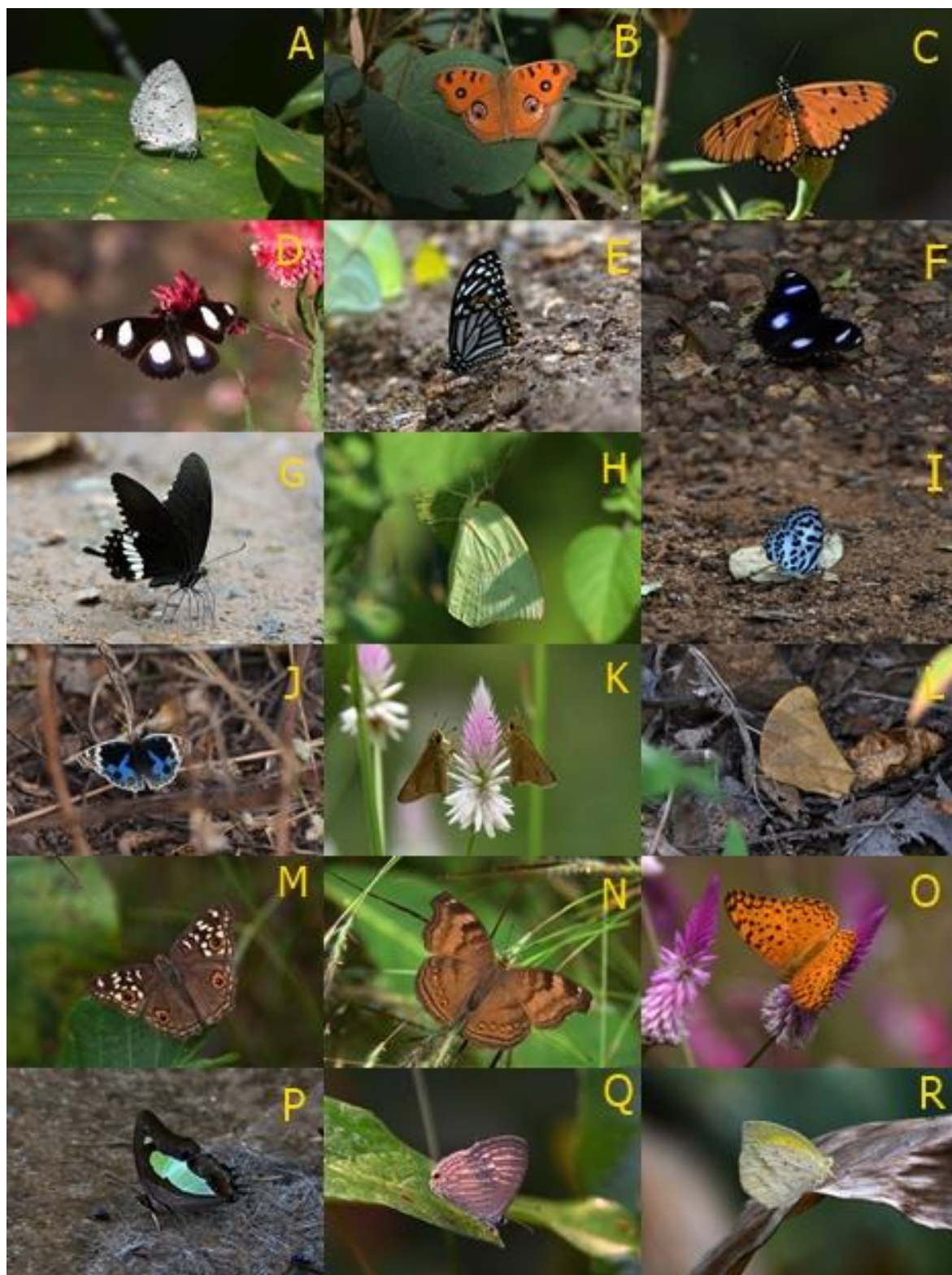


Plate I (A-AJ): Butterfly Diversity in and around Sakoli Dist. Bhandara. (A) Plain Hedge blue, (B) Peacock Pansy, (C) Tawny Coster, (D) Danaid Egg fly, (E) Common Mime, (F) Great Egg fly, (G) Common Mormon, (H) Mottled Emigrant, (I) Common Pierrot, (J) Blue Pansy, (K) Rice Swift, (L) Common Evening Brown, (M) Lime Pansy, (N) Chocolate Pansy, (O) Common Leopard, (P) Common Nawab, (Q) Common Cerulean, (R) Spotless Grass Yellow (S) Common Grass Yellow.



Plate I (T-AJ): Butterfly Diversity in and around Sakoli Dist. Bhandara. (T) Blue Tiger, (U) Common Crow, (V) Indian Skipper, (W) Indian Skipper, (X) Lime Butterfly, (Y) Line Blue, (Z) Restricted Demon, (AA) Tricolor Pied Flat, (AB) Striped Tiger, (AC) Baronet, (AD) Common Jezebel, (AE) Plain Tiger, (AF) Common Wanderer, (AG) Dark Plam Dart, (AH) Tiny Grass Blue, (AI) Common Emigrant, (AJ) Angled Pierrot.

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