

BUTTERFLY FAUNA IN AND AROUND NAGPUR CITY OF MAHARASHTRA**Raju Kasambe* & Jayant Wadatkar****

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Key Words:

Butterflies, Nagpur, Maharashtra, checklist, Blue Mormon *Papilio polymnestor*

Abstract:

The checklist of the butterfly fauna in and around Nagpur city, Maharashtra, is prepared with annotations on abundance and habitat preferences. Total 86 species were found by the authors to occur in the study area. However, 14 species of butterflies reported earlier by D'Abreu (1931) could not be found during the study. The family wise abundance of the total species (including those by D'Abreu) reported to occur in the study area is Papilionidae 12 species, Pieridae 15 species, Lycaenidae 23 species, Nymphalidae 39 species and Hesperidae 11 species. Authors hereby report 9 new species not reported earlier by D'Abreu in the study area.

Introduction:

Nagpur city (21°06' N and 79°03' E) is located at the center of India in Maharashtra state. Comprehensive checklist of the butterfly fauna was made in and around Nagpur city in a periphery of 25 kilometers. Butterfly fauna was studied in a radius of 25 kilometers from Nagpur city.

The city has got well-protected greenery in the following places viz., Vishvesharayya National Institute of Technology (VNIT) campus, National Environmental Engineering and Research Institute (NEERI) campus, Ambazari Garden, Telangkhedi Garden, Botanical Garden, Seminary Hills, Central Jail premises, Textile Mills, Government Medical College (GMC) campus and many other smaller city gardens. Also there are unprotected forests on the North and Western sides of the city (Gorewada and Ambazari range of forests). D'Abreu (1931) had done a comprehensive study and collection of butterflies of the erstwhile Central Provinces (now Madhya Pradesh and Vidarbha), of which Nagpur was a part then. There are papers available about the butterfly diversity of Pohara-Malkhed Reserve Forest (Kasambe & Wadatkar, 2004) and of Amravati district (Wadatkar & Kasambe, 2003), in Vidarbha. However, there is no published literature about the butterflies of Nagpur after D'Abreu.

Materials and Methods:

Butterflies were observed in all representative areas like city gardens, grasslands, deciduous forests and scrub forests during monsoon and post-monsoon months in the years 2005, 2006 and 2007. Dead butterflies killed on roads were collected and identified using the available literature (Evans, 1932, Haribal, 1992, Kunte, 2000 and Wynter-Blyth, 1957). The dead specimens, though not many of them are in good condition, were kept in butterfly collection boxes. Many of the species were photographed in the wild whenever we had camera with us. Collecting live specimens was avoided during the study. The present paper provides the checklist of butterflies in the area mentioned above with notes on abundance and habitat preference. Butterflies were categorized into five groups based on their occurrence during the study period on the basis of frequency of sightings. Accordingly, those species observed were categorized as:

A-Abundant-Seen on 80-100% of field visits in most habitats

C-Common-Seen on 60-80% of field visits in most habitats **U-Occasional/ Uncommon**-seen on 40-60% of field visits in most habitats

R-Rare seen on 20-40% of field visits in most habitats

VR-Very Rare-seen on less than 20% of field visits

NF-Not found during the present study but reported earlier by D'Abreu (1931)

The habitat preferences are categorized as;

CG-City Gardens (Maharajbagh, etc.)

GR-Grasslands, open savanna countryside (Umred Road, Bhandara Road),

SF-Scrub Forest (Ambazari range, Koradi, Kamptee cantonement)

DF-Deciduous Forest (Gorewada range, Seminary Hills)

AG-Near cultivation, agriculture

Results and Discussion:

A total of 86 species were found during the study period by the authors in the study area. D'Abreu (1931) had reported total 177 species to occur in the erstwhile Central Provinces (now Madhya Pradesh and Vidarbha). Three forms of Common Mormon (*Papilio polytes*, *P.p. romulus* and *P. p. stichius*) were found to occur in Nagpur. Blue Mormon *Papilio polymnestor* seems to be the rarest of butterflies as it was seen only once in Maharajbagh garden in the city during the study period. Familywise abundance of the species of butterflies reported till date is: Papilionidae: 12%, Pieridae: 15%, Nymphalidae: 39%, Lycaenidae: 23% and Hesperidae: 11%. The Nymphalids dominate the familywise abundance amongst the diverse taxa with a maximum of 39 species reported from the study area.

Species of butterflies reported earlier to be found specifically in Nagpur (D'Abreu, 1931) but which could not be found during the study by the authors are Pailionidae: 4 species, Pieridae: 1 species, Lycaenidae: 2 species, Nymphalidae: 3 species and Hesperidae: 4 species. The reasons of why these species were not found during the study need to be investigated.

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#	Common English Name	Scientific Name	Abundance	Habitat	Comments
	Swallowtails	Papilionidae			
1	Lime Butterfly	<i>Papilio demoleus</i>	A	CG, DF, AG	
2	Blue Mormon	<i>Papilio polymnestor</i>	VR	CG	
3	Common Mormon	<i>Papilio polytes</i>	C	CG, DH	
4	Common Jay	<i>Graphium doson</i>	C	CG	
5	Tailed Jay	<i>Graphium agamemnon</i>	C	CG, DF	
6	Spot Swordtail	<i>Graphium nomius</i>	U	DF, CG	
7	Common Rose	<i>Pachliopta aristolochiae</i>	C	DF, SF	
8	Crimson Rose	<i>Pachliopta hector</i>	C	DF, SF	
9	Common Mime	<i>Papilio clytia</i>	NF		D'Abreu
10	Banded Peacock	<i>Papilio crino</i>	NF		D'Abreu
11	Bar Swordtail	<i>Papilio antiphates</i>	NF		D'Abreu
12	Common Bluebottle	<i>Papilio sarpedon</i>	NF		D'Abreu
	Whites and Yellows	Pieridae			
13	Common Jezebel	<i>Delias eucharis</i>	U	SF, DF	
14	Small /Little Orange Tip	<i>Colotis etrida</i>	U	GR, SF	
15	Crimson Tip	<i>Colotis danae</i>	U	GR, SF	
16	White Orange Tip	<i>Ixias marianne</i>	U	GR, SF	
17	Yellow Orange Tip	<i>Ixias pyrene</i>	U	GR, SF	New Report
18	Common Gull	<i>Cepora nerissa</i>	C	SF, DF	
19	Pioneer or Caper White	<i>Anaphaeis aurota</i>	C	SF, CG	
20	Common Wanderer	<i>Pareronia valeria</i>	C	SF, CG	
21	Common Grass Yellow	<i>Eurema hecabe</i>	A	SF, GR	
22	Small Grass Yellow	<i>Eurema brigitta</i>	A	SF, GR	
23	Spotless Grass Yellow	<i>Eurema laete</i>	C	SF, GR	
24	Three Spot Grass Yellow	<i>Eurema blanda</i>	C	SF, GR	
25	Common Emigrant	<i>Catopsilia pomona</i>	A	CG	
26	Mottled Emigrant	<i>Catopsilia pyranthe</i>	C	CG, SF	
27	Salmon Arab	<i>Colotis amata</i>	NF		D'Abreu
	Blues	Lycaenidae			
28	Slate Flash	<i>Rapala manea</i>	VR	SF, DF	
29	Indian Red Flash	<i>Rapala melampus</i>	VR	SF, DF	

30	Common Silverline	<i>Spindasis vulcanus</i>	VR	DF, SF	
31	Rounded Pierrot	<i>Tarucus nara</i>	C	GR, SF	New Report
32	Common Pierrot	<i>Castalius rosimon</i>	U	GR, SF	
33	Red Pierrot	<i>Talicauda nyseus</i>	VR	CG	
34	Meadow Blue	<i>Polyommatus baeticus</i>	NF		D'Abreu
35	Zebra Blue	<i>Leptotes plinius</i>	C	GR, SF	
36	African Babul Blue	<i>Azonus jesous</i>	C	CG, SF	
37	Lesser Grass Blue	<i>Zizina otis</i>	C	GR, SF	
38	Tiny Grass Blue	<i>Zizula hylax</i>	C	GR, SF, DF	
39	Dark Grass Blue	<i>Zizeeria karsandra</i>	U	GR, SF	New Report
40	Pale Grass Blue	<i>Pseudozizeeria maha</i>	R	GR, SF	New Report
41	Lime Blue	<i>Chilades laius</i>	U	CG, DF, AG	New Report
42	Plains Cupid	<i>Chilades pandava</i>	U	GR, SF	
43	Tailed Cupid	<i>Everes argiades</i>	NF		D'Abreu
44	Grass Jewel	<i>Freyeria trochylus</i>	C	GR, SF	
45	Gram Blue	<i>Euchrysops cnejus</i>	U	GR, SF, AG	
46	Pea Blue	<i>Lampides boeticus</i>	U	GR, SF, AG	
47	Forget-Me-Not	<i>Catochrysops strabo</i>	C	GR, SF	
48	Common Cerulean	<i>Jamides celeno</i>	VR	DF, CG	
49	Dark Cerulean	<i>Jamides bochus</i>	U	DF, CG	
50	Common Lineblue	<i>Prosotas nora</i>	U	SF	New Report
	Brush-Footed	Nymphalidae			
51	Common Indian Crow	<i>Euploea core</i>	A	CG, SF, DF	
52	Blue Tiger	<i>Tirumala limniace</i>	A	CG, SF, DF	
53	Plain Tiger	<i>Danaus chrysippus</i>	A	CG, SF	
54	Striped or Common Tiger	<i>Danaus genutia</i>	C	SF, DF	
55	Yellow Pansy	<i>Junonia hierta</i>	U	SF, DF	
56	Blue Pansy	<i>Junonia orithya</i>	A	GR, SF	
57	Lemon Pansy	<i>Junonia lemonias</i>	A	GR, SF, DF	
58	Peacock Pansy	<i>Junonia almana</i>	C	SF, DF	
59	Grey Pansy	<i>Junonia atlites</i>	C	SF, DF	
60	Chocolate Pansy	<i>Junonia iphita</i>	U	DF, CG	
61	Painted Lady	<i>Cynthia cardui</i>	U	SF	

62	Danaid Eggfly	<i>Hypolimnas misippus</i>	U	DF	
63	Great Eggfly	<i>Hypolimnas bolina</i>	U	DF	
64	Angled Castor	<i>Ariadne ariadne</i>	U	SF, CG	
65	Common Castor	<i>Ariadne merione</i>	A	SF, CG	
66	Common Baron	<i>Euathalia aconthea</i>	U	DF, CG	
67	Common Sailer	<i>Neptis hylas</i>	U	DF, CG	
68	Short-banded Sailor	<i>Neptis columella,</i>	R	DF	
69	Commander	<i>Moduza procris</i>	U	DF, CG	
70	Black Rajah	<i>Charaxex dolon</i>	R	DF, SF	
71	Tawny Rajah	<i>Charaxex polyxena</i>	R	DF, SF	
72	Common Leopard	<i>Phalanta phalanta</i>	U	GR, CG, SF	
73	Baronet	<i>Euthalia nais</i>	U	SF, DF	
74	Tawny Coster	<i>Acraea violae</i>	A	CG, SF	
75	Common Nawab	<i>Polyura athamas</i>	U	DF	
76	Common Three Ring	<i>Ypthima asterope</i>	U	GR	
77	Common Four Ring	<i>Ypthima huebneri</i>	R	GR	
78	Jewel Fourring	<i>Ypthima avanta</i>	NF		D'Abreu
79	Common Five Ring	<i>Ypthima baldus</i>	U	GR	New Report
80	Joker	<i>Byblia ilithyia</i>	C	GR, SF	
81	Bamboo Treebrown	<i>Lethe europa,</i>	R	DF	
82	Common Bushbrown	<i>Mycalesis perseus</i>	C	DF	
83	Tamil Bushbrown	<i>Mycalesis subdita</i>	R	CG, SF	New Report
84	Long-brand Bushbrown	<i>Mycalesis visala</i>	R	SF, DF	
85	Nigger	<i>Orsotriena meda</i>	NF		D'Abreu
86	Dark Bushbrown	<i>Mycalesis mineus</i>	NF		D'Abreu
87	Great Evening Brown	<i>Melanitis zitenius</i>	U	SF, DF	
88	Common Evening Brown	<i>Melanitis leda</i>	A	SF, DF	
89	Plum Judy	<i>Abisara echerius</i>	R	DF, CG	
	Skippers	Hesperiidae			
90	Common Banded Awl	<i>Hasora chromus</i>	A	CG, DF	
91	Plain Banded Awl	<i>Hasora chabrona</i>	NF		D'Abreu
92	Rice Swift	<i>Borbo cinnara</i>	C	CG, SF, DF, AG	
93	Straight Swift	<i>Parnara guttatus</i>	U	SF	

94	Bevan's Swift	<i>Borbo bevani</i>	U	SF	
95	Blank Swift	<i>Baoris kumara</i>	U	SF	
96	Indian Skipper	<i>Spialia galba</i>	U	SF	
97	Brown Awl	<i>Badamia exclamationis</i>	NF		D'Abreu
98	White-speckled Bush Hopper	<i>Taractrocera maevius</i>	NF		D'Abreu
99	Pale Palm Dart	<i>Telicota augias</i>	NF		D'Abreu
100	Dark Palm Dart	<i>Telicota ancilla</i>	R	SF	New Report