

(II)

**NOTES ON BUTTERFLIES OF GUDGUDIA RANGE OF
SIMILIPAL TIGER RESERVE, ORISSA, INDIA****Introduction**

Invertebrates are much more diverse and equally significant in their ecological role as compared to vertebrates. They dominate all life forms. Among all the groups of invertebrates, butterflies have most aesthetic value for which they attract all. They also play a crucial role in the ecosystem. They are major components of the food chain of birds, lizards and spiders. They play a vital role in pollination of many flowering plants; they even act as indicator species, responding to the ecological changes more rapidly (Pollard, 1979, Taylor *et al.*, 1978). Pioneering studies on butterflies in Orissa date back to Taylor and De Niceville (1988), followed by Annandale and Drover (1921), Wynter-Blyth (1957), Mandal and Nandi (1984, 1987), Mandal and Maulik (1991) and Sahu *et al.* (2006). The butterfly fauna of India is quite rich comprising 1,500 species (Kunte, 2000). However they are least studied when compared to other vertebrates. The present study aims to prepare a database on the butterfly fauna of Gudgudia Range of Similipal Tiger Reserve.

Study Area

Similipal Tiger Reserve (STR), located between latitudes 20°17' to 22°10' N and longitudes 85°57' to 86°47' E, is a part of Mahanadi Biogeographical region lying to the end of the Eastern Ghats, forming a biogeographical link between northern and

southern India. Situated in the Mayurbhanj District of Orissa, Similipal is a mass of hill blocks with numerous peaks and valleys. Terrain is undulating and hilly interspersed with open grassland and wooded areas. The area has a sub-tropical climate with 1,500 mm of rainfall annually and temperature varies from 2°C to 48°C (Mohanty *et al.*, 2004). Out of nineteen existing ranges, the present study was carried out in Gudgudia Range. The major forest type of Gudgudia Range varies from high level of sal to mixed forest with pine plantations.

Methodology

Initially, a five-month survey on butterfly fauna was carried out from December 2001 to April 2002. Butterflies were counted using transect method (Arun and Azeez, 2003). Transect of 1 km length were laid in four different types of vegetation, namely sal forest, mixed forest, open fields and pine plantation. A total of 12 transects were sampled (3 transects in each type of habitat) between 0800 to 1130hrs. All the butterflies encountered within a radial distance of 5 m were counted. Each transect was sampled 8 times. Butterflies encountered opportunistically outside the transects were also recorded. Apart from this, butterflies were also recorded during several visits (10 visits) to the study area later on between December 2005 to March 2006. The butterflies were identified using field guides (Haribal, 1992).

Observations

During the study period a total of 50 species representing 35 genera of five families were recorded. Among all the five families, Nymphalidae was dominant in this area with 16 genera and 21 species. Among all the butterflies of this family Common Indian Crow (*Euploea core*), Common Tiger (*Danaus genutia*), Danaid Eggfly (*Hypolimnys misippus*), Lemon Pansy (*Precis lemonias*), Yellow Pansy (*Junonia hierta*) and Blue Pansy (*Junonia orithya*) were frequently encountered. Next to it was Papilionidae which represent twelve species belonging to six genera and Pieridae with seven genera having ten species. While as Lycaenidae and Hesperidae were represented by four genera five species and two genera two species respectively (Appendix 1). Mixed forest and riverine forests were more preferred by the butterflies. It was observed that flowering of *Lantana* bushes were visited by many butterfly species, particularly Danaid Eggfly, Common Indian Crows and Common Tigers. Where

as Orange oak leaf (*Kallima inachus*), Common Nawab (*Polyura athamas*), Common Coster (*Ariadne merione*) and Common Map (*Cyrestis thyodamas*) were rarely found. Common Sailors (*Neptis hylas*) were restricted to woody habitat and most of the Browns (*Melanitis leda* and *Mycalesis perseus*) were found in sal-dominated forest. The pine plantations had the least number of butterflies encountered, which can be attributed to the lack of under grown vegetation. The opens fields and grasslands with short grasses were frequented by Gram Blues (*Euchrysops cnejus*) and Common Grass Yellows (*Eurema hecabe*). Earlier 21 species of Lepidoptera belonging to 16 genera were recorded from Chahala range of STR (Sahu *et al.*, 2006). The present study adds 30 species to the list from STR. However incidences of forest fire were found to be most devastating factor in this area. Hence, measures must be taken to minimize the forest fire not only to conserve the butterfly fauna but also for preserving the ecology of this area.

Appendix 1

Family	Common Name	Scientific Name
1	2	3
Papilionidae	Glassy blue bottle	<i>Graphium cloanthus</i> (Westwood)
	Paris peacock	<i>Papilio paris</i> (Linnaeus)
	Spot sword tail	<i>Pathysa nomius nomius</i> (Esper)
	Chain sword tail	<i>Pathysa aristus antirates</i> (Double day)
	Great zebra	<i>Graphium xenocles</i> (Double day)
	Common jay	<i>Graphium donson</i> (C. & R. Fedler)
	Common mime	<i>Chilasa clytia clytia</i> (Linnaeus)
	Common mormon	<i>Papilo polites</i> (Linnaeus)
	Lime butterfly	<i>Papilo demoleus</i> (Linnaeus)
	Common peacock	<i>Papilio polyctor ganesa</i> (Double day)

Contd...

1	2	3
	Common rose	<i>Atrophaneura aristolochiae</i> (Fabricius)
	Common blue bottle	<i>Graphium sarpendon</i> (Linnaeus)
Pieridae	Indian cabbage white	<i>Pieris canidia</i> (Evans)
	Plain sulphur	<i>Dercas lycoris</i> (Double day)
	Large cabbage white	<i>Pieris brassicae</i> (Gray)
	Common wanderer	<i>Pareronia valeria</i> (Cramer)
	Yellow orange-tip	<i>Ixias pyrene</i> (Linnaeus)
	Common jezebel	<i>Delias eucharis</i> (Drury)
	Common emigrant	<i>Catopsilia pomona</i> (Fabricius)
	Mottled emigrant	<i>Catopsilia pyranthe</i> (Linnaeus)
	Common grass yellow	<i>Eurema hecabe</i> (Linnaeus)
	Small grass yellow	<i>Eurema brigitta</i> (Cramer)
Lycaenidae	Common acacia blue	<i>Surendra quercetoum quercetoum</i> (Moore)
	Common cerulean	<i>Jamides celeno celeno</i> (Cramer)
	Dark cerulean	<i>Jamides bochus</i> (Cramer)
	Common pierrot	<i>Castalius rosimon</i> (Fabricius)
	Gram blue	<i>Euchrysop cnejus</i> (Fabricius)
Nymphalidae	Common castor	<i>Ariadne merione</i> (Cramer)
	Common evening brown	<i>Melanitis leda</i> (Cramer)
	Common bush brown	<i>Mycalesis perseus</i> (Fabricius)
	Nigger	<i>Orsotrioena medus medus</i> (Fabricius)
	Orange oak leaf	<i>Kallima inachus inachus</i> (Boisduval)
	Common map	<i>Cyrestis thyodamas</i> (Boisduval)
	Common nawab	<i>Polyura athamas</i> (Drury)
	Lemon pansy	<i>Precis lemonias lemonais</i> (Linnaeus)
	Common leopard	<i>Phalanta phalantha</i> (Drury)
	Yellow pansy	<i>Junonia hierta</i> (Fabricius)
	Blue pansy	<i>Junonia orithya</i> (Linnaeus)
	Peacock pansy	<i>Junonia almana</i> (Linnaeus)
	Grey pansy	<i>Junonia atlites</i> (Linnaeus)
	Great egg fly	<i>Hypolimnas bolina</i> (Linnaeus)
	Danaid egg fly	<i>Hypolimnas misippus</i> (Linnaeus)
	Common sailer	<i>Neptis hylas</i> (Linnaeus)
	Commander	<i>Modusa procris procris</i> (Cramer)
	Baronet	<i>Symphaedra nais</i> (Forster)
	Glassy tiger	<i>Parantica agleides</i> (C. & R. Fedler)
	Common tiger	<i>Danaus genutia</i> (Cramer)
	Plain tiger	<i>Danaus chrysippus</i> (Linnaeus)
	Common crow	<i>Euploea core core</i> (Cramer)

Contd...

1	2	3
Hesperiidae	Rice swift	<i>Borbo cinnara</i> (Wallce)
	Common dartlet	<i>Oriens goloides</i> (Moore)

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