

## Checklist of Butterflies in Seshachalam Bio-reserve forest - Eastern Ghats of Andhra Pradesh - India

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### Abstract:

*The diversity of Butterflies in Seshachalam Bio-reserve forest was studied with periodically filed exploration. Nearly 106 butterfly species were recorded from 5 families in the environs of Seshachalam bio reserve forest area (2015-16). The number of population recorded from the family Nymphalidae (31.13%) with highest followed by Lycaenidae (20.75%), Pieridae (15.35%), Hesperidae (15.09%) and least number of population was recorded from Papilionidae (13.20%).*

**Key words:** Seshachalam Reserve forest, Butterflies, Eastern Ghats, Andhra Pradesh.

## INTRODUCTION

Seshachalam Bio-reserve forest have a wealthy and diverse butterfly fauna, it is one of the richest biodiversity hotspots in

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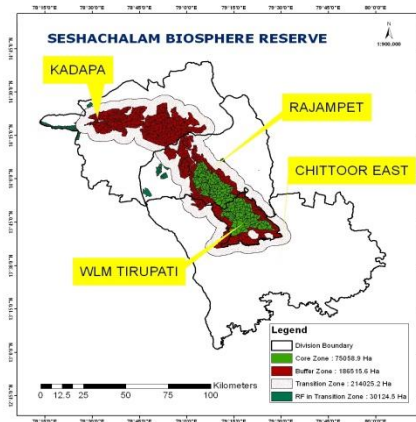
India lies between 13° 38" and 13° 55"N latitude and 79° 07" and 79° 24" E longitudes and spread over two districts Chittoor and Kadapa of Southern Andhra Pradesh. Vegetation in the study area is deciduous forests with patches of moist deciduous and evergreen to semi-evergreen forests. In the Eastern Ghats of Southern Andhra Pradesh, the highest point is Tirumala hills with 1251m height. The terrain is undulating with forest covered valleys. Most of the rainfall is received from the northeast monsoon and a little from the southwest monsoon. The average rainfall in this region is 900 mm; the average temperature of the region varies from 12° C to 44° C. Some previous studies was recorded the slight number of butterfly species from covered short region of Seshachalam Bio-reserve forest<sup>1-4</sup>. Moreover, these studies were focused only a checklist of family-wise species in Seshachalam Bio reserves forest. So, the present study was an investigation of the species level richness of butterflies in this study area.

Butterflies are seasonal in their occurrence. They are common for only a few months and rare or absent in others. The seasons when they are rare or not active as adults are usually spent either as caterpillars or as pupae. Seasonal fluctuations are often influenced by environmental factors including temperature, photoperiod, rainfall, humidity, variation in the availability of food resources and vegetation cover such as herbs and shrubs<sup>5-8</sup>. The months when the adults are active are called the "flight period". Distinct flight periods naturally suggest seasonality of the early stages of butterflies as well. Thus occur in different seasons<sup>9</sup> the growing human population and increasing urbanization have also led to an enhanced pressure on the remaining semi-natural habitats. On top of these factors, the evidence was accumulating that climatic change in recent decades has had a major effect, leading to species declines and extinctions<sup>10-11</sup>. Predict that the impact of

the expected future changes in the populations and distribution of butterflies will be huge, and action was urgently needed.

## MATERIALS AND METHODS

The Entomological collection, occasional rearing of larval and field observations were made during June 2015 to May 2016. The counts are conducted along fixed transects of about 0.5 – 3 kilometers, consisting of smaller sections, each with a homogeneous habitat type. In The fieldwork record all butterflies in an imaginary box 2.5 meters to their left, 2.5 meters to their right, 5 meters above them and 5 meters ahead of them <sup>12</sup>. For easily identified butterflies, directly observed and recorded and then unidentified butterflies were photographed and later on identified by using specific guide books <sup>13-14</sup> and consultation with Zoological survey of India (ZSI). The study involved walking along the forest paths at a constant speed and recording the butterfly diversity.



**Figure- 1: Seshachalam Biosphere reserve forest (Source: [www.seshachalambiospherereserve.in](http://www.seshachalambiospherereserve.in))**

## RESULT AND CONCLUSION

In Seshachalam bio-reserve forest during the study period 106 species of butterflies were recorded (Table.1 and Figure-1). The family-wise butterflies species percentage have noticed as 31.13% in Nymphalidae, 20.75% in Lycaenidae, 15.09% in Hesperidae, 13.20% in Papilionidae and 15.35% in Pieridae (Fig. 2) Nymphalidae was shown in high population rather than other families. Further, Papilionidae was revealed in the least population when compare to other butterfly population. Finally the order of the family-wise butterfly population was significantly different (Figure-2). Butterflies were identified were caught by hand net and released after identification<sup>15-17</sup>. Most photographic documents were done. Species identification was made using various field guides and other available literature.

**Table - 1: Check list of Butterflies reported from Seshachalam Bio-reserve forest**

S.No	Family	Scientific name	Common name
1	Papilionidae	<i>Graphium agamemnon</i>	Tailed jay
2		<i>G. doson</i>	Common jay
3		<i>Pathysa nomius</i>	Spot sword tail
4		<i>Pachliopta aristolochiae</i>	Common rose
5		<i>P. hector</i>	Crimson rose
6		<i>Papilio polymnestor</i>	Blue mormon
7		<i>P. polytes</i>	Common mormon
8		<i>P. memnon</i>	Common merun
9		<i>P. liomedon</i>	The black tail
10		<i>P. crino</i>	Common banded peacock
11		<i>Princeps demoleus</i>	Lime butterfly
12		<i>Papilio helenus</i>	Red Helen
13		<i>Graphium antiphates</i>	Five bar sword tail
14		<i>Appis indira</i>	Plain puffin
15	Pieridae	<i>Anaphaeis aurota</i>	The pioneer
16		<i>Appias pandione</i>	Spot puffin
17		<i>Appias albino</i>	Common albatross
18		<i>Catopsilia crocale</i>	Common emigrant
19		<i>Catopsilia Pomona</i>	Lemon emigrant
20		<i>Catopsilia pyranthe</i>	Molted emigrant

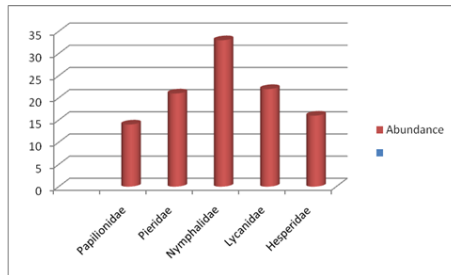
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21		<i>Colotis danae</i>	Crimson tip
22		<i>Colotis eucharis</i>	Plain orange tip
23		<i>Colotis fausta</i>	Large salmon arab
24		<i>Colotis amata</i>	Small salmon arab
25		<i>Colotis etrida</i>	Small orange tip
26		<i>Cepora nerissa</i>	Common gull
27		<i>Cepora nadina</i>	Lesser gull
28		<i>Delias eucharis</i>	Common jezebel
29		<i>Eurema hecabe</i>	Common grass yellow
30		<i>Eurema brigitta</i>	Small grass yellow
31		<i>Eurema blanda</i>	Three spot grass yellow
32		<i>Leptosia nina</i>	The psyche
33		<i>Valeria valeria anais</i>	Common wanderer
34		<i>Pieris canidia</i>	Indian Cabbage white
35		<i>Ixias pyrene</i>	Yellow orange tip
36	<b>Nymphalidae</b>	<i>Danaus chrysippus</i>	Plain tiger
37		<i>Tirumala limniace</i>	Blue tiger
38		<i>Cupha erymanthis</i>	Rustic
39		<i>Euploea core</i>	Common crow
40		<i>Elymnia hypermnestra</i>	Common palm fly
41		<i>Eritesfalcipennis</i>	Common Cyclops
42		<i>Melantis leda</i>	C. evening brown
43		<i>Mycalesis visala</i>	Tamil brush brown
44		<i>Ariadne merione</i>	Common castor
45		<i>Euthalia garuda</i>	The baron
46		<i>Euthalia nais</i>	The baronet
47		<i>Hypolimnas bolina</i>	Great egg fly
48		<i>Hypolomnas misippus</i>	Danaid egg fly
49		<i>Junonia almanac</i>	Peacock pansy
50		<i>Junonia hierta</i>	Yellow pansy
51		<i>Junonia lemonias</i>	Lemon pansy
52		<i>Junonia orithyia</i>	Blue pansy
53		<i>Junonian iphita</i>	Chocolate pansy
54		<i>Neptishylas</i>	Common sailer
55		<i>Phalanta phalantha</i>	Common leopard
56		<i>Byblia ilithyia</i>	The Joker
57		<i>Vanessa indica</i>	The Paller
58		<i>Cynthia erota</i>	The Devil
59		<i>Atella alcippe</i>	The Camel
60		<i>Acraea terpsicore</i>	Tawny coster
61		<i>Melantis phedima</i>	Dark evening brown
62		<i>Euploea sylvester</i>	Double-branded crow
63		<i>Euploea klugii</i>	Brown king crow
64		<i>Paranticam aglea</i>	Glassy Tiger
65		<i>Parantica nilgiriensis</i>	Glassy tiger

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66		<i>Ypthima bueberi</i>	Common four ring
67		<i>Ypthima baldus</i>	Common five ring
68		<i>Neptis jubab</i>	Chestnut streaked
69	<b>Lycaenidae</b>	<i>Apharitisvulcanus</i>	Common silver line
70		<i>Castalius rosimon</i>	Common pierrot
71		<i>Castalius caleta</i>	Common Comb
72		<i>Tarucus nara</i>	Rounded pierrot
73		<i>Euchrysops cnejus</i>	Gram blue
74		<i>Evereslact urnus</i>	Indian cupid
75		<i>Jamide sceleno</i>	Common cerulean
76		<i>Rapala airbus</i>	Indian red flash
77		<i>Spindasis vulcanus</i>	The silverline
78		<i>Talicaada nyseus</i>	Red pierrot
79		<i>Lycaenes thesemolus</i>	The wind mill
80		<i>Rapala jarbus</i>	Indian Red glass
81		<i>Curetis thetis</i>	Oak blue
82		<i>Pratapa deva</i>	Common cool
83		<i>Rathinda omor</i>	Monkey puzzle
84		<i>Chilades pandava</i>	Plains cupid
85		<i>Chilades lajus</i>	Lime blue
86		<i>Lampides boeticus</i>	Pea Blue
87		<i>Zizeeria karsandra</i>	Dark grass blue
88		<i>Curetis siva</i>	Shiva sun bean
89		<i>Udaspes folus</i>	Grass Demon
90		<i>Jamides celeno</i>	Common Cerulean
91	<b>Hesperiidae</b>	<i>Borbo cinnara</i>	Rice swift
92		<i>Pelopidas mathias</i>	Small branded swift
93		<i>Hasora chromus</i>	Common banded Awl
94		<i>Hasora nexis</i>	The Red dot
95		<i>Suastus gremius</i>	Indian Palm Bob
96		<i>Spialia galba fabricius</i>	Indian skipper
97		<i>Udaspes folus</i>	Grass Demon
98		<i>Caprona ransonnettii</i>	Golden Angle
99		<i>Badamia exclamatinis</i>	Brown Awl
100		<i>Hasora badra badra</i>	Common Awl
101		<i>Oriens golapseudolus</i>	Common Dartlet
102		<i>Oriens goloides</i>	Small Dartlet
103		<i>Tagiades gana athos</i>	Suffused snow flat
104		<i>Tagia desjapetusravi</i>	Common snow flat
105		<i>Erionota thrax</i>	Palm Redeye
106		<i>Caltois kumara</i>	Blank Swift

**Fig 2: Family wise richness in the Butterflies of Seshachalam Bio-reserve forest**



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**Plate: 1**

Family : Nymphalidae, Butterflies in Seshachalam Bio reserve forest – Eastern Ghats, Southern Andhra Pradesh, India



**Plate: 2**

Family : Pieridae (whites and yellows), Butterflies in Seshachalam Bio reserve forest – Eastern Ghats, Southern Andhra Pradesh, India



**Plate: 3**

Family: Hesperidae (Skippers), Butterflies in Seshachalam Bio reserve forest – Eastern Ghats, Southern Andhra Pradesh, India





**Plate: 4**

Family Papilionide (Swallowtails), Butterflies in Seshachalam Bioreserve forest – Eastern Ghats, Southern Andhra Pradesh, India



**Plate: 5**

Family : Lycaenidae (Blues), Butterflies in Seshachalam Bio reserve forest – Eastern Ghats, Southern Andhra Pradesh,



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