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Research Paper

## A PRELIMINARY OBSERVATION ON BUTTERFLIES OF SAHYADRI COLLEGE CAMPUS, SHIVAMOGGA, KARNATAKA, INDIA

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Sahyadri College is one of the biggest colleges in Shivamogga city with an area of 85 acres. The college has a beautiful botanical garden with variety of flowering plants. Butterflies play an immense role in pollination, which helps to increase heterozygosity in flora through kinds of pollen dispersion from one place to another place. They are also good indicators of environmental quality as they are sensitive to changes in the environment. A preliminary survey of butterflies was conducted from June to December 2013. A total of 33 species of butterflies were recorded under five families. Among the five families, Nymphalidae dominated the list with 9 species. Families Papilionidae and Pieridae were represented by eight species each. Hesperidae and Lycaenidae were represented by four species each. It was found that four species of butterflies were very common, seventeen species of butterflies were common and twelve species of butterflies were rare in occurrence in Sahyadri College Campus of Shivamogga, Karnataka state.

**Keywords:** Butterflies, Sahyadri College Campus, Shivamogga, Karnataka, India

### INTRODUCTION

Insects comprise more than half of earth's diversity of species (May, 1992). Butterflies are the most beautiful and colorful creatures on the earth and have a great aesthetic value. Butterflies are lovely and graceful insects provide economic and ecological benefits to the human society (Bubesh *et al.*, 2012). Butterflies have most ecological significance among all insects. Butterflies play an immense role in pollination, which helps to increase heterozygosity in flora or

brings variations through kinds of pollen dispersion from one place to another place (Mahendra *et al.*, 2013). They are also good indicators of environmental quality as they are sensitive to changes in the environment. India has more than 1400 species of butterflies, 330 of them in the Western Ghats alone, and of which 37 are endemic (Kunte, 2000). Butterflies are seasonal in their occurrence. They are common for only a few months and rare or absent in other months. In this paper an attempt is made to study the

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butterflies of Sahyadri College Campus of Shivamogga.

## MATERIALS AND METHODS

### Study Area

Sahyadri College is one of the biggest colleges in Shivamogga with an area of 85 acres. The college has a beautiful botanical garden with variety of flowering plants. Shivamogga city (13° 55' 21.83" N, 75° 34' 23.123" E) is heartland of Karnataka state, located on the banks of river Tunga. According to the Shivamogga City Municipal Corporation, the city has a total area of about 50 km<sup>2</sup> (19.31 square miles). Climate of Shivamogga is tropically wet and dry. This means that the winter and the early part of summer are typically dry periods. Majority of the rainfall occurs between June and early October. Shivamogga is a part of region vernacularly known as Malnaad (Land of hills) in Karnataka. Most of these hills are part of Western Ghats, a region famous for plentiful rainfall and lush greenery (Adamsab and Hina Kousar, 2010).

### METHODOLOGY

Field observations were made once in 15 days for a period of seven months from June to December 2013. Butterflies were observed, captured, identified and released immediately at the spot of capture. The key characters used for identification were color pattern, wing span, mode of flight, etc. (Evans, 1932; Haribal, 1992; Wynter-Blyth, 1957). The dead specimens, many of them not in very good condition, were kept in butterfly collection box.

### RESULTS AND DISCUSSION

Butterfly diversity in India varies in different parts. Larsen (1988) made a detailed survey of

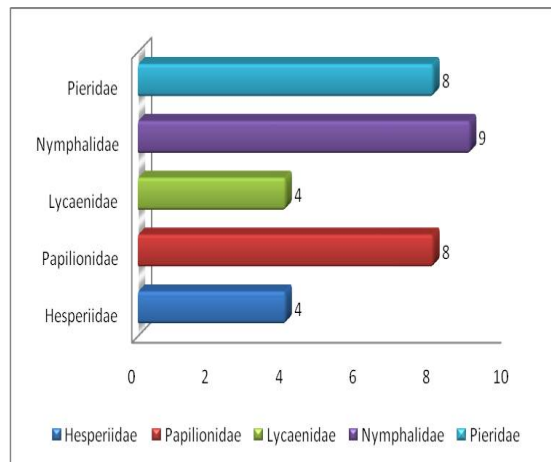
butterflies of Nilgiri Mountains and recorded nearly 300 species including endemics. Prasanna Kumar *et al.* (2013) recorded 84 species of butterfly from tropical habitats of Eastern Ghats of Andhra Pradesh. Pramod Kumar *et al.* (2007) recorded 57 species of butterflies from the Tiger-Lion Safari, Thyavarekoppa, Shivamogga, Karnataka. Raghavendra Gowda *et al.* (2011) reported 54 species of butterflies from Lakkavalli range of Bhadra wildlife Sanctuary, Karnataka. Venkata Raman (2010) reported 70 butterfly species in the Eastern Ghats. Jeevan *et al.* (2013) recorded 41 species of butterflies from Mandagadde of Shivamogga, Karnataka. Sharmila and Joseph (2013) reported 101 species of butterflies from Alagarhills, Tamil Nadu. (Bubesh Gupta *et al.* (2012) recorded 50 species of butterfly from Seshachalam Biosphere Reserve, Andhra Pradesh. Kunte (1997) recorded 103 species of butterflies from four tropical habitats in Northern Western Ghats. Solman Raju (2004) recorded 68 species of butterflies from Visakhapatnam.

A total of 33 species of butterflies belonging to five families were identified from the Sahyadri College Campus. The family-wise distribution of butterflies of Sahyadri College Campus is given in Table 1 and depicted in Figure 1. Genus compositions of different families are given in Figures 3-7. Relative abundance of butterflies was given in Figure 2. Four species of butterflies were very common, seventeen species of butterflies were common and twelve species of butterflies were rare. Common butterflies include *Papilio polytes*, *Papilio polymnestor*, *Pachliopta aristolochiae*, *Hypolimnas bolina*, *Euploea core*, *Tirumala limniace*, *Junonia almana*, *Junonia iphita*, *Ideopsis vulgaris*, *Catopsila pyranthe*, *Ixias pyrene*, *Delias eucharis*, *Hesperia comma*, *Borbo*

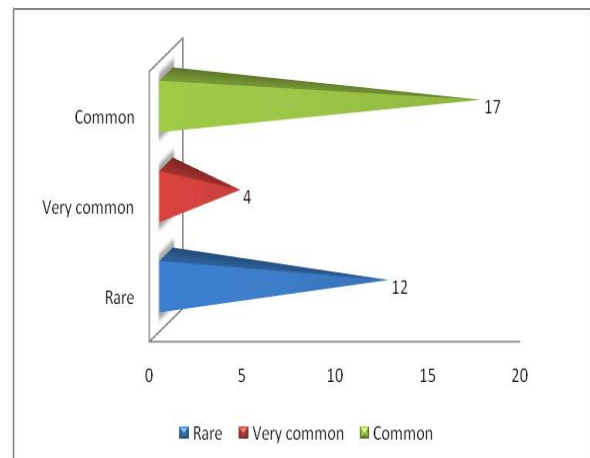
**Table 1: List of Butterflies of Sahyadri College Campus of Shivamogga**

S. No.	Common name	Scientific name	Relative abundance
<b>Family: Papilionidae</b>			
01	Common mormon	<i>Papilio polytes</i> Linnaeus, 1958	C
02	Blue mormon	<i>Papilio polymnestor</i> Cramer 1775	C
03	Tailed Jay	<i>Graphium agamemnon</i> Linnaeus 1958	VC
04	Common joy	<i>Graphium doson</i> C&R Felder 1864	VC
05	Common rose	<i>Pachliopta aristolochiae</i> Fabricius 1775	C
06	Lime butterfly	<i>Papilio demoleus</i> Linnaeus 1758	R
07	Crimson rose	<i>Pachliopta hector</i> Linnaeus 1758	R
08	Common banded peacock	<i>Papilio crino</i> Fabricius 1792	R
<b>Family: Nymphalidae</b>			
09	Great eggfly	<i>Hypolimnas bolina</i> Linnaeus 1758	C
10	Common crow	<i>Euploea core</i> Cramer 1780	C
11	Dark blue tiger	<i>Tirumala septentrionis</i> Butler 1874	R
12	Blue tiger	<i>Tirumala limniace</i> Cramer 1775	C
13	Lemon pansy	<i>Junonia lemonias</i> Linnaeus 1758	R
14	Peacock pansy	<i>Junonia almana</i> Linnaeus 1758	C
15	Chocolate pansy	<i>Junonia iphita</i> Cramer 1779	C
16	Common evening brown	<i>Melanitis leda</i> Linnaeus 1758	R
17	Glassy blue tiger	<i>Ideopsis vulgaris</i> Butler 1874	C
<b>Family: Pieridae</b>			
18	Great orange tip	<i>Hebomoia glaucippe</i> Linnaeus 1758	R
19	Mottled emigrant	<i>Catopsila pyranthe</i> Linnaeus 1758	C
20	Lemon emigrant	<i>Catopsila Pomona</i> Fabricius 1775	VC
21	Common grass yellow	<i>Eurema hecabe</i> Linnaeus 1758	VC
22	Yellow orange	<i>Ixias pyrene</i> Linnaeus 1764	C
23	Pioneer	<i>Belenois aurota</i> Fabricius 1793	R
24	Common gull	<i>Cepora nerissa</i> Fabricius 1775	R
25	Common jezebel	<i>Delias eucharis</i> Drury 1773	C
<b>Family: Hesperidae</b>			
26	Dark palm dark	<i>Telicota ancilla</i> Herrich-Schaffer 1869	R
27	Skipper butterfly	<i>Hesperia comma</i> Linnaeus 1758	C
28	Rice swift	<i>Borbo cinnara</i> Wallace 1866	C
29	Common spotted flat	<i>Celaenorrhinus leucocera</i> Kollar 1848	R
<b>Family: Lycaenidae</b>			
30	Dark cerulean	<i>Jamides bochus</i> Stoll 1782	C
31	Red pierrot	<i>Talicauda nyseus</i> Guerin 1843	C
32	Pea blue	<i>Lampides boeticus</i> Linnaeus 1767	C
33	Dark grass blue	<i>Zizeeria karsandra</i> Moore 1865	R
<b>Note:</b> R-Rare, C-Common, VC-Very common			

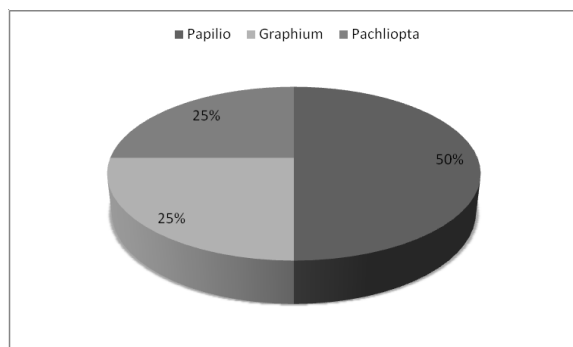
**Figure 1: Butterflies of Different Families**



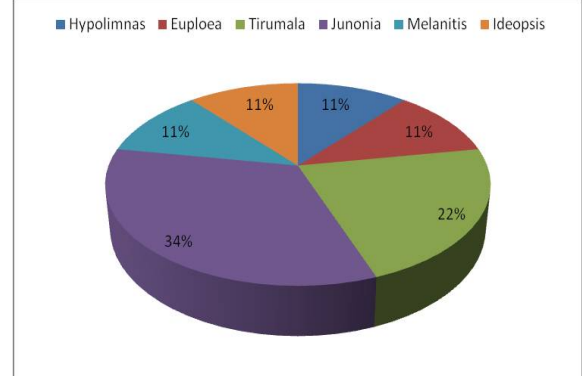
**Figure 2: Relative Abundance of Butterflies**



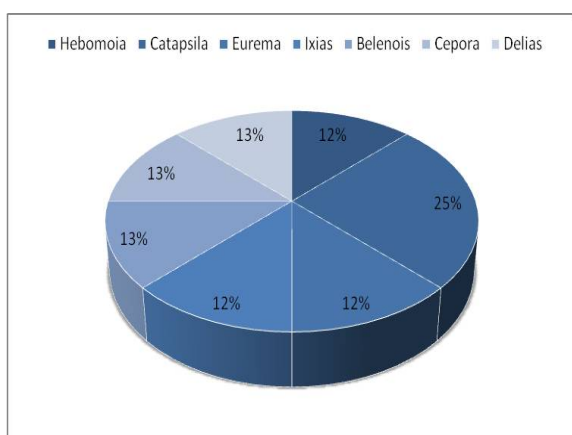
**Figure 3: Genus Composition Of Papilionidae**



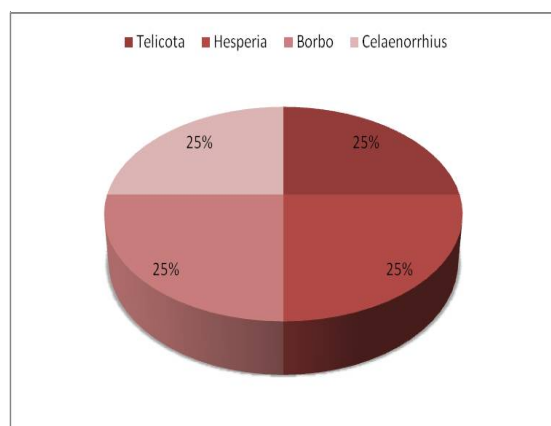
**Figure 4: Genus Composition Of Nymphalidae**

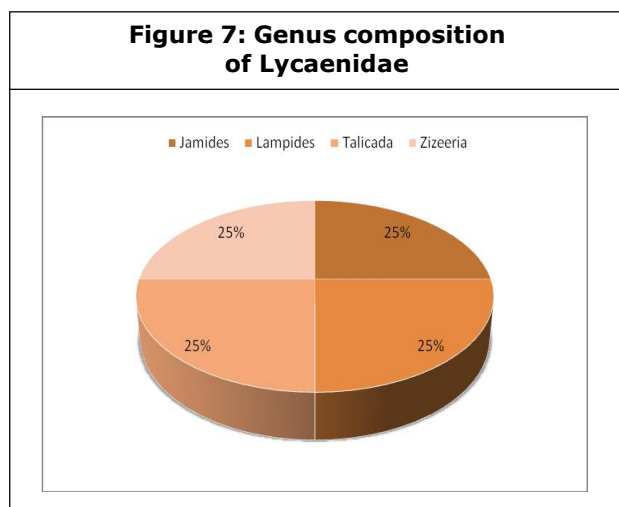


**Figure 5: Genus composition of Pieridae**



**Figure 6: Genus composition of Hesperidae**



**Figure 7: Genus composition of Lycaenidae**

*cinnara*, *Jamides bochus*, *Talicada nyseus* and *Lampides boeticus*. Very common butterflies include *Graphium Agamemnon*, *Graphium doson*, *Catopsila Pomona* and *Eurema hecabe*. Rare butterflies include *Papilio demoleus*, *Pachliopta hector*, *Papilio crino*, *Tirumala septentrionis*, *Junonia lemonias*, *Melanitis leda*, *Hebomoia glaucippe*, *Belenois aurota*, *Cepora nerissa*, *Telicota ancilla*, *Celaenorrhinus leucocera* and *Zizeeria karsandra*.

## CONCLUSION

A total of 33 species of butterflies belonging to five families were identified from the Sahyadri College Campus. The species richness and diversity of butterflies is higher in the study area. The botanical garden and growth of natural trees are the main causes of species richness and diversity of butterflies. From our observations, we conclude that the butterfly community varied significantly among different habitats. Vegetation type played a major role in diversity patterns of butterfly community.

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