

## BUTTERFLY FAUNA OF GOVERNMENT ARTS & SCIENCE COLLEGE CAMPUS, KOZHIKODE, KERALA

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Government Arts & Science College, located in the heart of Kozhikode District in Kerala State, possesses a botanical garden and a medicinal garden. There are about 250 species of plants present in these gardens, which support a wide variety of butterfly species. A preliminary survey for butterflies was carried out by making daily observations in the morning (from 0800 to 1000hr) and evening (from 1500 to 1700hr) from June 2004 to May 2005 to document the butterfly diversity in the college campus. Collections were also made using a sweep net and the collected specimens were dry preserved following Arora (1990) and deposited in the museum of Zoology Department. Great care was taken to collect only the minimum number of individual species for identification purposes. This was in view of preserving the species density and diversity. Butterflies were also photographed as and when possible. Identification of species was done using available literature (Antram, 2002; Evans, 1932; Gunathilagaraj *et al.*, 1998; Haribal, 1992; Palot *et al.*, 2003; Kunte, 2000) and with the help of experts. Species classification and scientific names are as per Gunathilagaraj *et al.* (1998). Butterflies observed were categorized into five groups based on their occurrence during the period of study. Accordingly those species which could be observed 80-100% of days were categorized as very common (VC), 60-80% as common (C), 40-60% as occasional (O), 20-40% as rare (R) and below 20% as very rare (VR). Population density of individual species was noted by counting the number actually observed daily in the field along transects passing through the garden.

A total of 32 species of butterflies belonging to 27 genera and 12 subfamilies, distributed over five families were detected from the monitoring sites during the study period, as shown in Table 1. The family Nymphalidae dominated with 20 species followed by Pieridae (4 species), Lycaenidae and Papilionidae (3 species each) and Hesperidae (2 species).

Species like *Ariadne merione*, *Neptis hylas*, *Euploea core*, *Charaxes solon*, *Talicauda nyseus*, *Captopsilia pomona*, *Leptosia nina* and *Eurema hecabe* were very common and could be seen on all days during the period of observation. Seven species, viz., *Melanitis leda*, *Orsotrioena medus*, *Junonia lemonias*, *J. atlites*, *Polyura athamas*, *Pachilioptia aristolochiae* and *Tirumala limniace* were common. *J. almana*, *Parantica aglea*, *Barbo cinnara* and *Pachilioptia hector* were occasional visitors. *Ariadne ariadne*, *Euthlia aconthea*, *Ypthima huebneri*, *Mycalesis perseus*, *Hypolimnys misippus*, *Danaus chrysippus*, *Discophora lepida*, *Jamides celeno*,

*Iambrix salsala*, *Appias albina* and *Graphium agamemnon* were seen rarely. Two species viz., *Y. baldus* and *Curetis thetis* were very rare.

Eventhough, the family Nymphalidae exhibited the maximum species diversity, family Pieridae showed maximum species density. Out of the four species of butterflies observed under Pieridae, three species, viz., *C. Pomona*, *L. nina* and *E. hecabe* occurred in large numbers. Among the members of the family Nymphalidae, *E. core*, showed the maximum density. Among Papilionidae *P. aristolochiae* though exhibited a moderate density, was much less than that of the already mentioned species. All others occurred in varying numbers. Three species of butterflies recorded from the campus have protected status under the Wildlife Protection Act, 1972. The Great Egfly, *Hypolimnys misippus* and the Crimson Rose, *Pachilioptia hector* are protected under Schedule I Part IV, while the Common Albatross, *Appias albina* under Schedule II Part II. So far, 322 species of butterflies have been recorded from Kerala (Jaffer Palot *et al.*, 2003; Mani, 1997). It is interesting to note that the Government Arts & Science College Campus at Calicut, having an area of not more than four hectares had a butterfly fauna of 32 species indicate the rich diversity of butterflies in the area. Also, the occurrence of three protected species in the centre of the city where the effects of atmospheric pollution are high is also a commendable feature.

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Table 1. List of butterflies recorded from the campus of Government Arts &amp; Science College campus, Kozhikode

S. No.	Scientific Name	Common Name	Larval Food Plant in the G.A.S.C. Campus	Abundance
<b>Family: Nymphalidae</b>				
<b>Subfamily: Limenitinae</b>				
1	<i>Ariadne ariadne</i> Linnaeus	Angled Castor	<i>Rivinus communis</i>	R
2	<i>Ariadne merione</i> Cramer	Common Castor	<i>Rivinus communis</i>	VC
3	<i>Neptis hylas</i> Moore	Common Sailor	<i>Helicteres isora</i>	VC
4	<i>Euthlia aconthea</i> Cramer	Common Baron	<i>Mangifera indica</i> <i>Anacardium occidentale</i>	R
<b>Subfamily: Satyrinae</b>				
5	<i>Ypthima huebneri</i> Kirby	Common Four Ring	Grasses	R
6	<i>Ypthima baldus</i> Fabricus	Common Five Ring	Grasses	VR
7	<i>Mycalesis perseus</i> Fabricus	Common Bush Brown	Grasses	R
8	<i>Orsotrioena medus</i> Fabricus	Nigger	Grasses	C
9	<i>Melanitis leda</i> Drury	Common Evening Brown	<i>Hetropogon contortus</i>	C
<b>Subfamily: Nymphaliniinae</b>				
10	<i>Junonia lemonias</i> Linnaeus	Lemon Pansy	<i>Lepidagathis</i> sp., <i>Nelsonia canescens</i>	C
11	<i>J. almana</i> Linnaeus	Peacock Pansy	<i>Barleria</i> sp. <i>Osbeckia</i> sp.	O
12	<i>J. atlites</i> Linnaeus	Grey Pansy	<i>Barleria</i> sp.	C
13	<i>Hypolimnas misippus</i> Linnaeus*	Great Eggfly	<i>Portulaca oleracea</i> , <i>Fleurya interrupta</i>	R
<b>Subfamily: Danainae</b>				
14	<i>Tirumala limniace</i> Gmelin	Blue Tiger	<i>Asclepias curasavica</i>	C
15	<i>Parantica aglea</i> Cramer	Glassy Blue Tiger	<i>Tylophora carnosa</i> , <i>Cryptolepis buehneri</i>	O
16	<i>Danaus chrysippus</i> Linnaeus	Plain or Common Tiger	<i>Calotropis procera</i>	R
17	<i>Euploea core</i> Cramer	Common Crow	<i>Ichnocarpus fruitescens</i>	VC
<b>Subfamily: Charaxinae</b>				
18	<i>Polyura athamas</i> Drury	Common Nawab	<i>Acacia catechu</i> , <i>Delonix regia</i>	C
19	<i>Charaxes solon</i> Fabricus	Black Rajah	<i>Tamarind</i> , <i>Wagetea spicata</i>	VC
<b>Subfamily: Morphinae</b>				
20	<i>Discophora lepida</i> (Moore)	Southern Duffer	Bamboos	R
<b>Family Lycaenidae</b>				
<b>Subfamily: Polyommatainae</b>				
21	<i>Jamides celeno</i> Fabricus	Common Cerulean	<i>Sarasa asoka</i> , <i>Caesalpinia</i> sp.	R
22	<i>Talica nyseus</i> (Guerin)	Red Pierrot	<i>Bryophyllum</i> sp.	VC
<b>Subfamily: Theclinae</b>				
23	<i>Curetis thetis</i> Drury	Indian Sunbeam	<i>Derris scandens</i> , <i>Xylia</i> sp.	VR
<b>Family Hesperidae</b>				
<b>Subfamily: Hesperinae</b>				
24	<i>Iambrix salsala</i> (Moore)	Chestnut Bob	Grasses	R
25	<i>Barbo cinnara</i> (Wallace)	Rice Swift	<i>Oryza sativa</i> , <i>Cymbopogon</i> sp.	O
<b>Family Pieridae</b>				
<b>Subfamily: Pierinae</b>				
26	<i>Appias albina</i> C&R Felder**	Common Albatross	<i>Drypetes oblongifolia</i>	R
27	<i>Leptosia nina</i> Fabricus	Psyche	<i>Capparis heyneana</i> , <i>Crataeva</i> <i>Religiosa</i> , <i>Cassia fistula</i>	VC
<b>Subfamily: Coliadinae</b>				
28	<i>Captopsilia pomona</i> Fabricus	Common Emigrant	<i>Cassia</i> sp., <i>Bauhinia</i> sp.	VC
29	<i>Eurema hecabe</i> Moore	Common Grass Yellow	Different species of grasses	VC
<b>Family: Papilionidae</b>				
<b>Subfamily: Papilioninae</b>				
30	<i>Graphium agamemnon</i> Felder & Felder	Tailed Jay	<i>Anona squamosa</i> , <i>Michelia</i> <i>champa</i> , <i>Polyalthia longifolia</i>	R
31	<i>Pachliopta hector</i> Linnaeus*	Crimson Rose	<i>Aristoclochia indica</i>	O
32	<i>P. aristolochiae</i> Fabricus	Common Rose	<i>Cinnamomum zefanicum</i> <i>Listea chinensis</i>	C

VC - Very Common; C - Common; O - Occasional; R - Rare; VR - Very Rare

\* - indicates species coming under Schedule I Part IV and \*\* - Schedule II Part II of The Wildlife (Protection) Act, 1972.

