

**BUTTERFLY DIVERSITY AND STATUS IN MANDAGADDE OF SHIVAMOGGA,
KARNATAKA, INDIA**

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ABSTRACT: Biodiversity of butterflies in Mandagadde of Shivamogga of Karnataka carried out. Many butterfly species are strictly seasonal and prefer only a particular set of habitats and they are good indicators in terms of anthropogenic disturbances and habitat destruction. The richness and diversity of butterfly species is proportional to the food plant diversity, richness of flowers and intensity of rainfall. Unfortunately, butterflies are threatened by habitat destruction and fragmentation almost everywhere. A total of 52 species of butterflies belonging to 5 families were recorded during the study period. Among the 5 families, Nymphalidae dominated the list with 23 species, Papilionidae with 9 species, Pieridae and Lycaenidae with 8 species each and Hesperidae with 4 species. It is found that 9 species of butterflies are very common, 26 species are common and 17 species are rare in occurrence in Mandagadde.

Key words: Butterfly diversity, Status of butterflies, Mandagadde, Shivamogga, India

INTRODUCTION

Butterflies are the most beautiful and colorful creatures on the earth and have a great aesthetic value. Butterflies are taxonomically well studied group, which have received a reasonable amount of attention throughout the world (Ghazoul, 2002). Butterflies are lovely and graceful insects provide economic and ecological benefits to the human society. They are valuable pollinators when they move from plant to plant gathering nectar. 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. The butterfly diversity in the tropics compared to temperate regions of the world. In this paper an attempt is made to study the diversity and status of butterflies in Mandagadde of Shivamogga.

MATERIALS AND METHODS

Study area: Mandagadde lies on the geographical coordinates of 13° 44' 0" N and 75° 26' 0" E, situated at about 21 km away from the Shivamogga district, Mandagadde district experiences cool climate with temperature ranging between 14°C to 20°C during winter and between 22°C to 35°C during summer. The cold season is from December to February, it is followed by hot season (March-May). The South-West monsoon is from June to September.

Methodology

Field observations were made once in 15 days for one year of a period from May 2010 to April 2011. Butterflies were observed, captured, identified and released immediately at the spot of capture. The key characters used for identification were color patten, 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 DISCUSSTION

A total of 52 species of butterflies belonging to 44 genera and 5 families were recorded in (Table 1, Figures 1-12 and Plates 1-15). Among the 5 families, Nymphalidae dominated the list with 23 species, Papilionidae with 9 species; Pieridae and Lycaenidae have 8 species each. Hesperidae have only 4 species.

It is found that 9 species of butterflies are very common, 26 species are common and 17 species are rare in occurrence. Larsen (1987) 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 butterflies from tropical habitats of the Eastern Ghats in 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. A total of 52 species of butterflies belonging to 44 genera and 5 families were recorded in the study area. A total of 19 genera 23 species of Nymphalides were recorded. The genus *Junonia* was represented by 3 species, *Hypolimnas* was by 2 species and other forms like *Acraea*, *Danaus*, *Elymnias*, *Euploea*, *Ideopsis*, *Melanitis*, *Mycalesis*, *Bicyclus*, *Neptis*, *Presis*, *Tirumala*, *Phalantha*, *Symphaedta*, *Ypthima*, *Byblia*, *Cupha* and *Orsotrioena* were represented by a single species.

Table 1 List of Butterflies in Thirthahalli panchayat town.

S. No.	Name of Butterfly(Scientific name)	Common name	Status
FAMILY – PAPLIONIDAE			
01	<i>Graphium agamemnon</i> L.	Tailed Jay	C
02	<i>Papilio demoleus</i> L.	Common Lime Butterfly	VC
03	<i>Papilo polytes</i> L.	Common Mormon	C
04	<i>Papilo polymnestor</i> Cra.	Blue Mormon	R
05	<i>Pachliopta hector</i> L.	Crimson Rose	C
06	<i>Troides minos</i> Cra.	Southern Birdwing	R
07	<i>Graphium nomius</i> Esper	Spot Swordtail	C
08	<i>Graphium serpedon</i> L.	Common Blue Bottle	R
09	<i>Pachliopta aristolochiae</i> Fab.	Common Rose	R
FAMILY – NYMPHALIDAE			
10	<i>Acraea violae</i> Coster	Tawny Coster	C
11	<i>Danaus chrysippus</i> L.	Plain Tiger	C
12	<i>Elymnias hypermnestra</i> L.	Common Palmfly	VC
13	<i>Euploea core</i> Cra.	Common Crow	R
14	<i>Hypolimnas bolina</i> L.	Great Eggfly	R
15	<i>Hypolimnas misipus</i> L.	Danaid Eggfly	C
16	<i>Ideopsis vulgaris</i> But.	Blue Glassy Tiger	R
17	<i>Junonia almana</i> L.	Peacock Pansy	C
18	<i>Junonia iphita</i> Cra.	Chocolate Pansy	R
19	<i>Junonia hierta</i> Fab.	Yellow Pansy	C
20	<i>Melanitis leda</i> L.	Common Evening brown	C
21	<i>Mycalesis mineus</i> L.	Dark-brand Bushbrown	R
22	<i>Bicyclus safitza</i> West wood	Common Brushbrown	C
23	<i>Neptis hylas</i> L.	Common Sailor	C
24	<i>Presis atlites</i> L.	Gray Pansy	R
25	<i>Tirumala limniace</i> Cra.	Blue Tiger	C
26	<i>Junonia orithya</i> L.	Blue Pansy	C
27	<i>Phalantha phalantha</i> Druy	Common Leopard	VC
28	<i>Symphaedta nais</i> Foster	Baronet	VC
29	<i>Ypthima baldus</i> Fab.	Common Four Ring	VC
30	<i>Byblia ilithya</i> Druy	Jocker	C
31	<i>Cupha erymanthis</i> Druy	Rustic	C
32	<i>Orsotrioena medus</i> Fab.	Nigger	C
FAMILY – PIERIDAE			
33	<i>Catopsila pomona</i> Fab.	Lemon Emigrant	C
34	<i>Catopsila pyranthe</i> L.	Mottled Emigrant	C
35	<i>Delias eucharis</i> Drury	Common Jezebel	R
36	<i>Eurema blenda</i> L.	Three spot Grass Yellow	VC
37	<i>Pareronia valeria</i> Cra.	Common Wanderer	C
38	<i>Anaphaeis aurota</i> Fab.	Pioneer White	VC
39	<i>Hebomoia glaucippe</i> L.	Great Orange Tip	R
40	<i>Lxias pyrene</i> L.	Yellow orange	R

FAMILY- LYCAENIDAE			
41	<i>Jamides bochus</i> Stoll	Dark Cerulean	C
42	<i>Talicauda nyseus</i> Guerin	Red Pierrot	C
43	<i>Zizeeria karsandra</i> Moore	Dark Grass Blue	VC
44	<i>Castalius rosiman</i> Fab.	Common Pierrot	VC
45	<i>Lampides boeticus</i> L.	Pea Blue	C
46	<i>Discolampa ethion</i> West wood	Banded Blue Pierrot	C
47	<i>Alphnaeus vulcanus</i> Fab.	Common Silverline	R
48	<i>Arhopala amantes</i> Hewitson	Large Oak Blue	R
FAMILY – HESPERIIDAE			
49	<i>Hasora chromus</i> Cra.	Common Banded Awl	R
52	<i>Hesperia comma</i> L.	Skipper Butterfly	C
51	<i>Spialia Skipper</i> L.	India Skipper	R
52	<i>Borbo cinnara</i> Wallace	Rice Swift	C

C - Common, VC – Very common, R - Rare

Papilionidae population represents 4 genera and 9 species. The genus *Papilio* and *Graphium* was represented by 3 species each, *Pachliopta* by 2 species and *Troides* by a single species each. Pieridae population comprises 4 genera and 5 species. The genus *Catopsila* was represented by 2 species, *Delias*, *Eurema*, *Anaphaeis*, *Hebomoeta*, *Lxias* and *Pareronia* by a single species each. Lycaenidae population represents 8 genera and 8 species. The genera *Jamides*, *Talicauda*, *Zizeeria*, *Castalius*, *Lampides*, *Discolampa*, *Alphnaeus* and *Arhopala* were represented by a single species each. Hesperiididae population comprises 4 genera and 4 species. The genera *Hasora*, *Hesperia*, *Spialia* and *Borbo* were represented by a single species. The species richness and diversity of butterflies is higher in the studied area. The growth of natural trees, social forestry with polyculture practices and irrigated paddy fields provide a better food. Sources of food for all stages of butterflies form the reason for richness 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 communities. Butterfly habitat protection should be given the first priority in any conservation programme. Attempts should be made to initiate conservation of butterflies in the National parks and Sanctuaries. Research efforts should be stepped up to gather basic information on the biology and ecology of all butterflies.

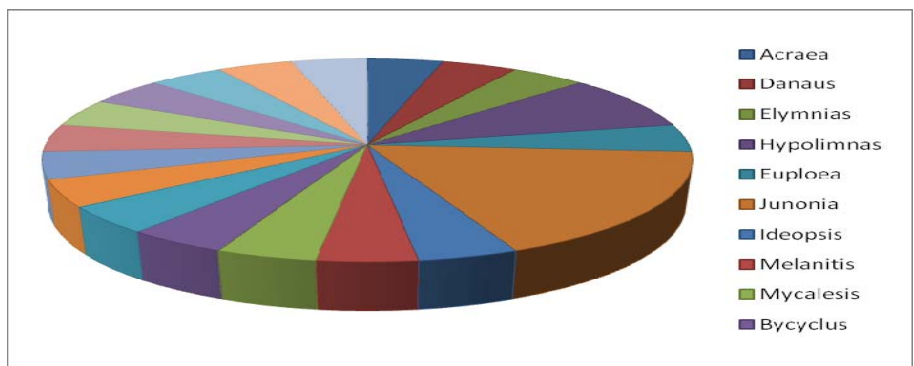


Figure 1. Genus composition of Nymphalidae

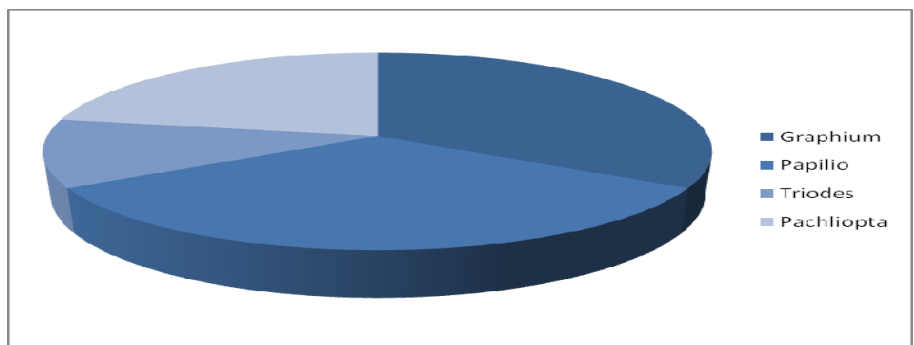


Figure 2. Genus composition of Papiionida

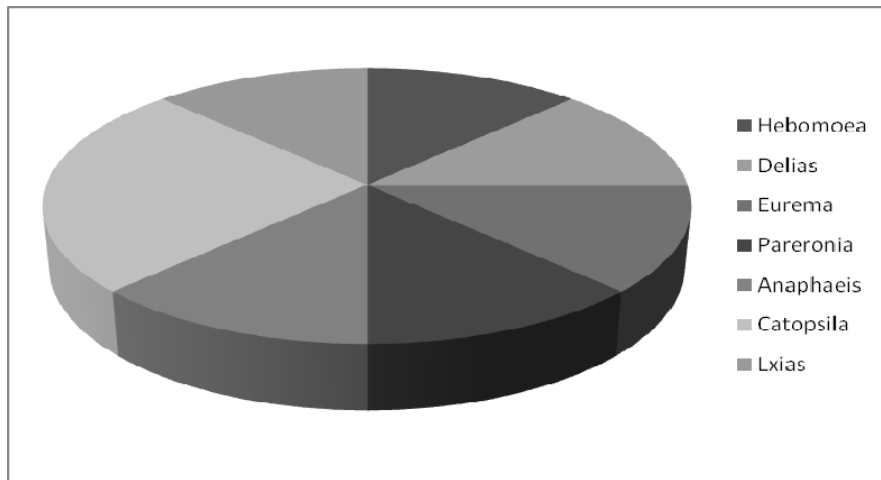


Figure 3. Genus composition of Pieriedae

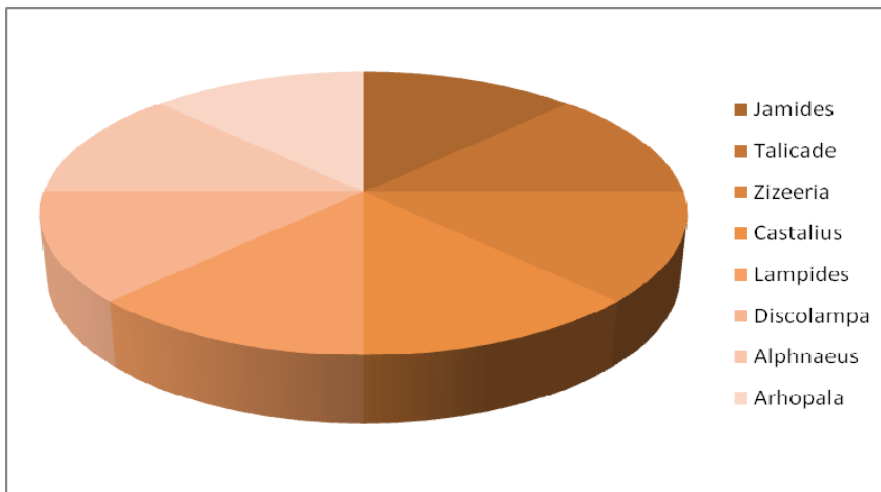


Figure 4. Genus composition of Lycanidae

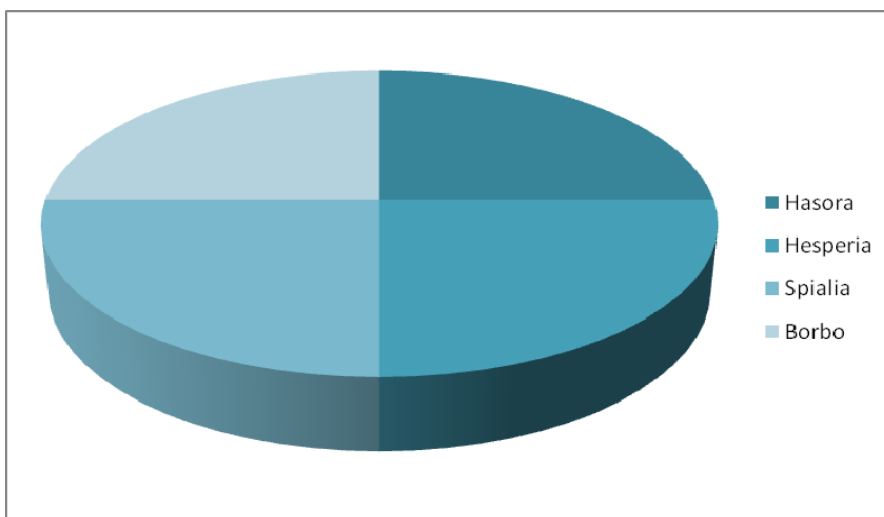


Figure 5. Genus composition of Heperidae

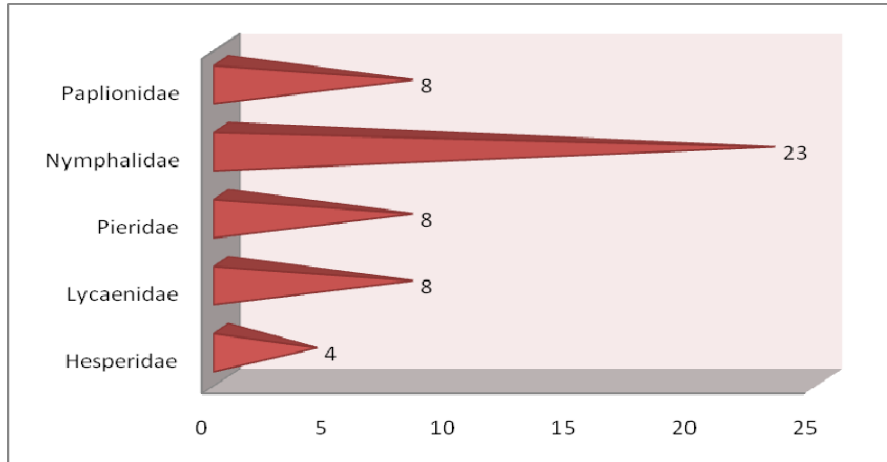


Figure 6, Butterflies of different families

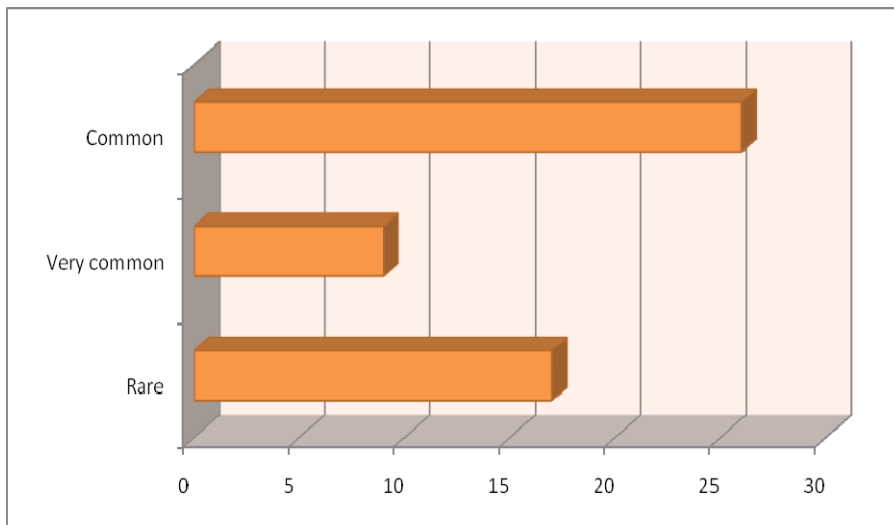


Figure 7. Status of butterflies

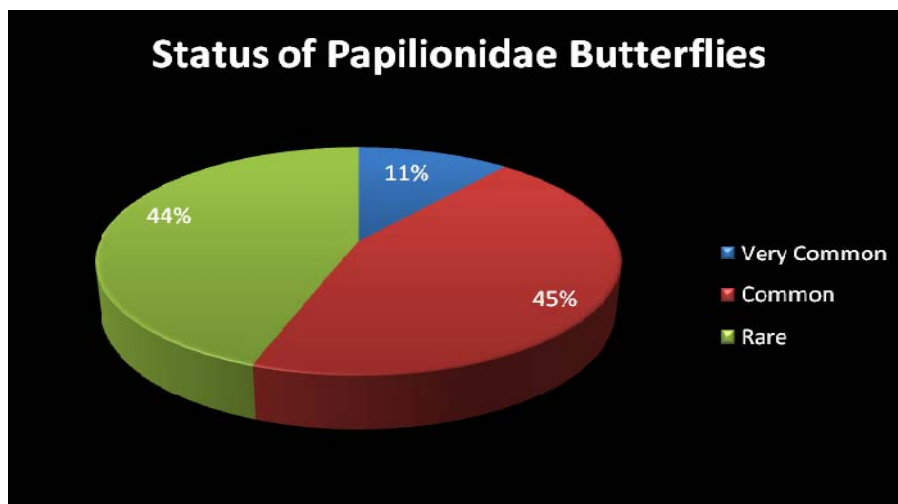


Figure 8. Status of Papilionidae butterflies

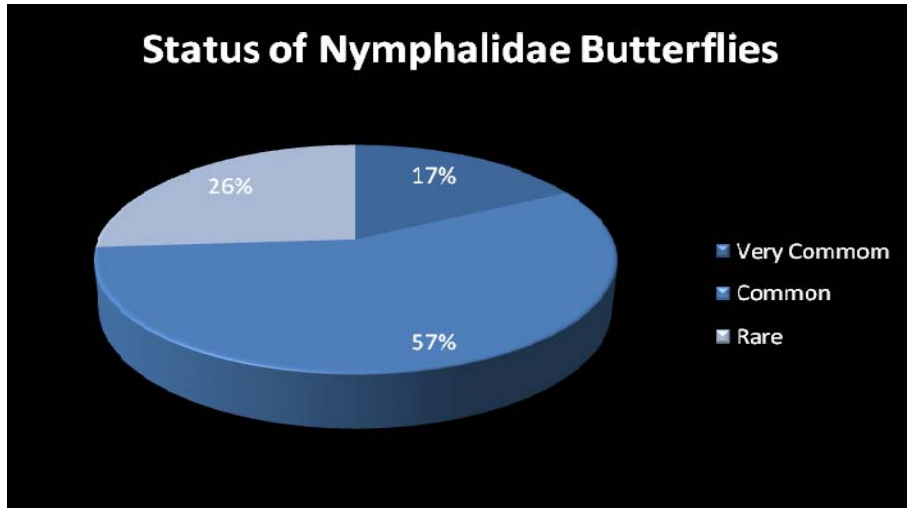


Figure 9. Status of Nymphalidae butterflies

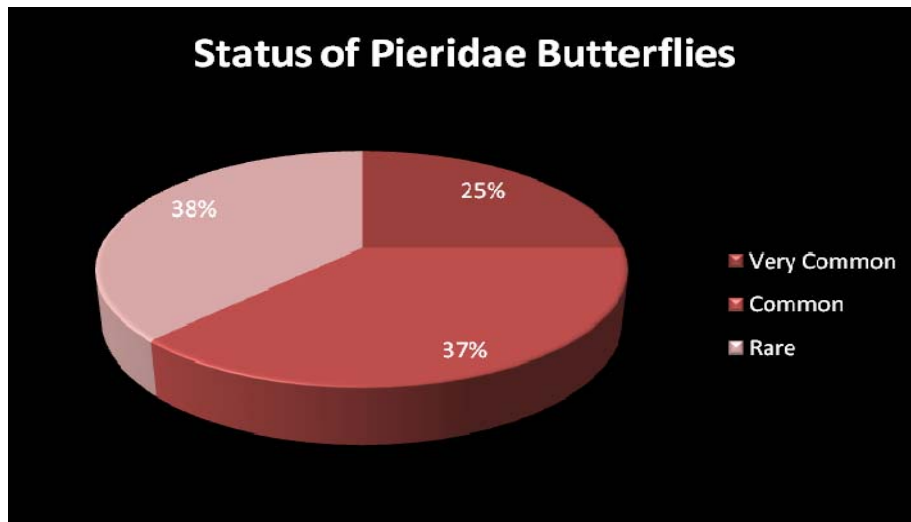


Figure 10. Status of Pieridae butterflies

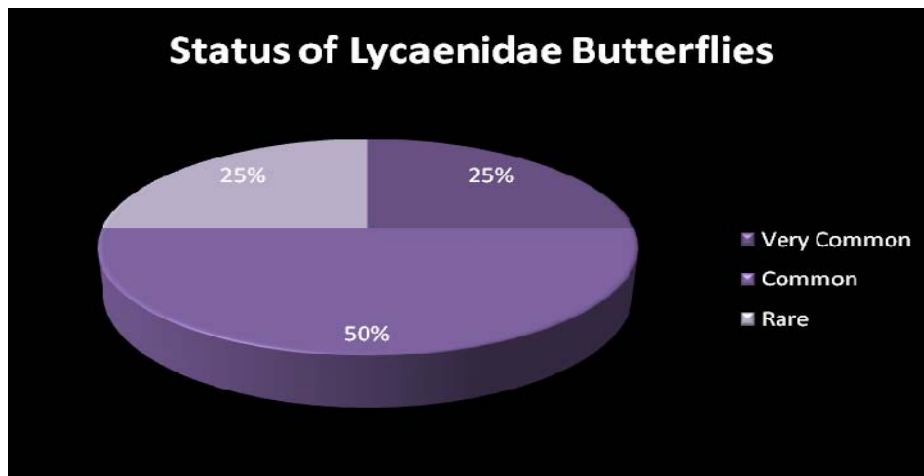


Figure 11. Status of Lycaenidae butterflies

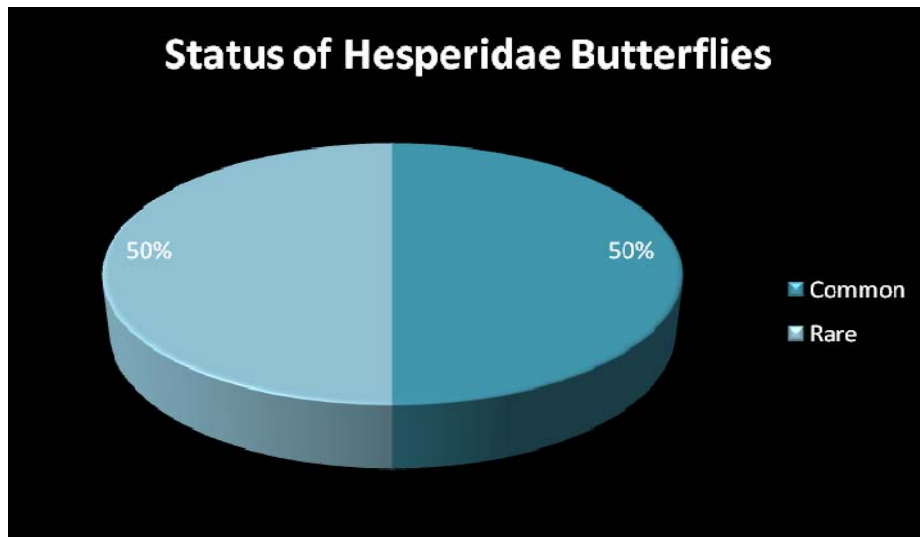


Figure 12. Status of Hesperidae butterflies



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