

CHAPTER 15

Butterfly (Order: Lepidoptera) Diversity of Forest Park, Yeldari, Hingoli Maharashtra, India

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Abstract

The goal of the current study was to compile a list of the butterfly species found in the 35-hectare Yeldari zone of Forest Park. Study was completed from Aug.2024 to Sep.2024. The present studies numbers of 36 species of butterflies of belonging order Lepidoptera and 5 Families Hesperiiidae 2, Pieridae 7, Papilionidae 4, Nymphalidae 16, Lycaenidae 7 were recorded. We have recorded 36 species of butterflies in this study. In the present day, 452+ species are included in Wildlife (Protection) Act,1972. This Act has been included for protection and conservation The species diversity of butterflies of Forest Park, Yeldari. (Latitude 19° 72' N; Longitude 76° 74' E) is situated near the Yeldari Dam. Butterflies are

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also called flying flowers. A large number of butterfly host plants have been introduced in the park. Butterflies represent powerful and profound meanings of life.

Keywords: Lepidoptera, Butterflies, Forest Park, Yeldari, Diversity, Pollinators, Nectar eater

Introduction

In India, about 1504 species of butterflies have been identified and documented. Butterfly belonging to Lepidoptera order that includes butterflies. A few Lepidoptera are directly beneficial to humans. It is one of the most widely distributed and easily identifiable insect orders in the world. They also represent life, our journey, weddings, and festivities. Refers to the characteristic covering of microscopic dust like scales like wings. Butterflies generally like eat sweet juice or nectar. Most adult butterflies live one or two weeks. But some species hibernate during winter. They serve as beneficial pollinators and have a major role in the food chain. Butterflies are the beautiful creatures and need to be conserved. Because they are both beautiful and mysterious, butterflies are profound and potent symbols of life. Insects are the most dominate group of invertebrates. Three body components are present in them. abdomen, thorax, and head. Compound eyes, three sets of legs, and a chitinous exoskeleton covering the body. Butterfly scientific name is Rhopalocera. It consists of enormous compound eyes with numerous light-sensitive lenses. Each eye has its own refractive system and contributes to its own piece of the image. It usually has an antenna, and it may even have a clubbed antenna. So many species of insects that scientist believe make up most of the species on earth. Butterflies have two types of colors including the structural color and pigmented color which come from two different Sources. Coleoptera (Beetles), Hymenoptera (bees), Lepidoptera (butterflies), Odonata (dragonflies) and many more orders. September is a good month for butterflies for several reasons, Monarch migration: September is the peak of the Monarch butterfly migration. Weather patterns: September weather patterns can cause some butterflies to live longer, fly longer, or even fit in a partial late generation. Species activity: Some species, like the Painted Lady, feed to prepare for migration. Others, like the Brimstone, engage in prolonged pre-winter feeding. Big Butterfly Month: September is celebrated as Big Butterfly Month, a time to honor butterflies and encourage conservation efforts. Activities include: Recording butterfly counts, Observing common species, Citizen Science surveys, Competitions, Talks, Quizzes and Webinars.

Materials and Methods

Study Area Forest Park Yeldari is position at Sengaon Sub District in Hingoli District, Maharashtra, India. Forest Park Yeldari lies at Latitude 19° 72' N; Longitude 76° 74' E. Hingoli is bordered by the Parbhani on the West, Akola and Yeotmal on North, and Nanded district on South East. Hingoli is located in the northern part of Marathwada. The Forest Park Yeldari has a total area of 35 hectare of all park area which has various different of trees, woody plant, open grasslands and flowering plants. Forest Park Yeldari has become a very important habitat for butterflies. All plants needed for butterflies are planted in park. The habitats include garden lands, Plantations, Children's playground, herbs, Nursery etc. The climate in this area is characterized by hot temperatures in the summer, well-

distributed rainfall during the monsoon season, and generally dry weather the rest of the year. The cold season lasts from December to February.

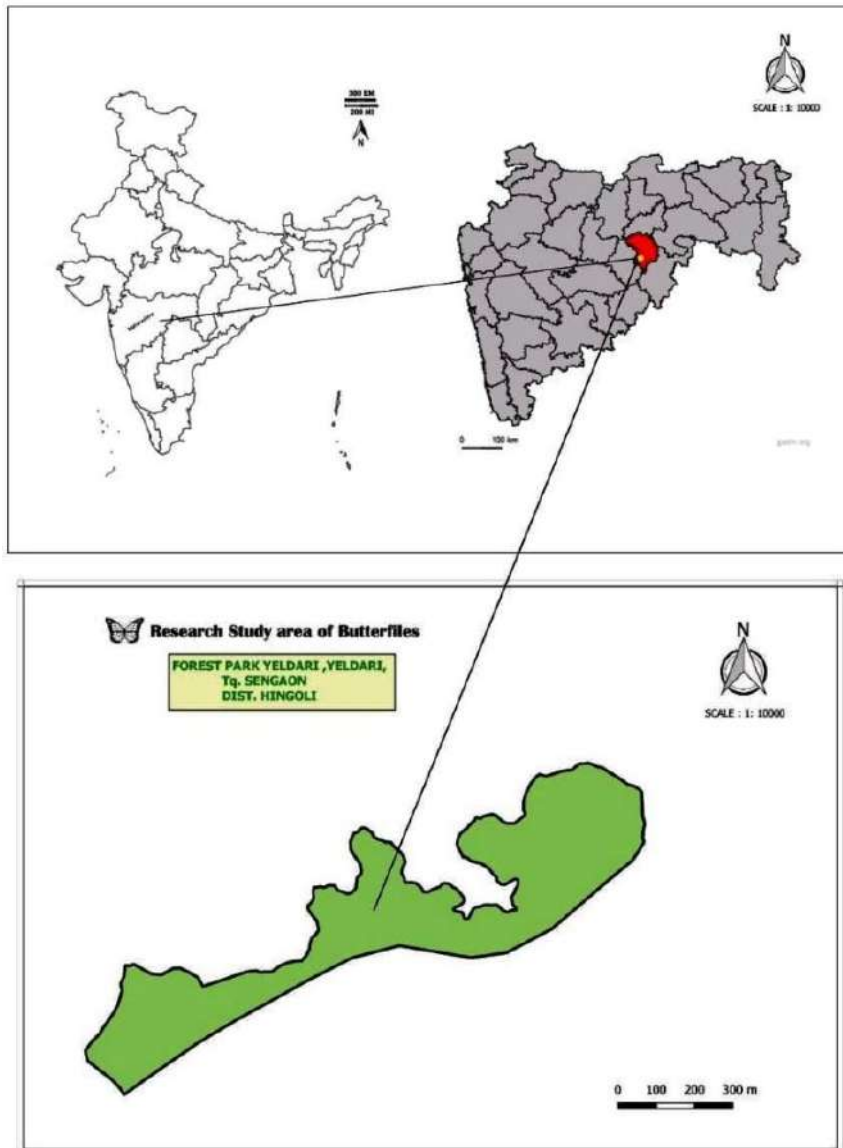


Fig. 1. Research Study area of Butterflies

Survey Method

The data was collected via the Visual Counter method, which involved binocular eye observation and captured photographs. Study period was from Aug.2024 to Sep.2024. We have total data of two month. We observed and captured pictures every day the time of observation was from 7:00 to 10:00 am sunrise time and 4:00 to 6:00 pm sundown time. We took observations in morning and evening time.

Photographs were taken using Canon80 D + (150-600 mm), Nikon P900 Point and Shoot Camera and Olympus ,10X50 DPS I Binocular was used for close observation of Butterflies. With the aid of the field guides by Kasmbe (2016) and Kehimkar (2008), the species classification was definitive.

Result and Discussion

During the survey, 36 butterfly species from 05 families were found in the research site. In this study, 36 butterfly species from the order Lepidoptera and five families (Hesperiidae 2, Pieridae 7, Papilionidae 4, Nymphalidae 16, and Lyaenidae 7) were identified. The list of butterflies observed throughout the study period was reported in Table 1, together with their common and scientific names and the Wildlife Protection Act of 1972. All of nature's beauty is beloved by humans. Any natural scene or legacy is improved in aesthetic value by butterflies. Biological pest control is provided by butterflies. Butterflies are frequently depicted as the embodiment of nature or as symbols of liberty, beauty, or tranquility. Butterflies maintain the environmental balance by participating in the food chain and food web formation. They are the major source of food for many birds, bats and other animals. Butterflies are attracted to nectar and brilliant flowers, allowing them to collect and transport pollen to other plants. This helps flowers, fruits, and vegetables generate more seeds.

Table 1. Checklist of the species of butterflies observed in the study area

Sr. No	Family	Common	Scientific Name	Status	IUCN Status	WPA Schedule
1	Hesperiidae	Common Banded Awl	<i>Hasora chromus</i>	VC	NE	-
2	Hesperiidae	Rice Swift	<i>Borbo cinnara</i>	VC	NE	-
3	Pieridae	Small Grass Yellow	<i>Eurema brigitta</i>	C	LC	-
4	Pieridae	Common Grass Yellow	<i>Eurema hecabe</i>	VC	NE	-
5	Pieridae	Spotless Grass Yellow	<i>Eurema laeta</i>	VC	NE	-
6	Pieridae	Common emigrant	<i>Catopsilia Pomona</i>	VC	NE	-
7	Pieridae	Common Gull	<i>Cepora nerissa</i>	VC	NE	-
8	Pieridae	White Orange Tip	<i>Lxias Marianne</i>	VC	NE	-
9	Pieridae	Common Jezebel	<i>Delias eucharis</i>	VC	NE	-
10	Papilionidae	Tailed Jay	<i>Graphium Agamemnon</i>	VC	NE	-
11	Papilionidae	Common Mormon	<i>Papilio polytes</i>	VC	NE	-
12	Papilionidae	Lime Butterfly	<i>Papilio demoleus</i>	VC	NE	-
13	Papilionidae	Crimson Rose	<i>Pachliopta hector</i>	C	LC	II

14	Nymphalidae	Blue Tiger	<i>Tirumala limnace</i>	VC	NE	-
15	Nymphalidae	Stripped Tiger	<i>Danaus genutia</i>	VC	NE	-
16	Nymphalidae	Plain Tiger	<i>Danaus chrysippus</i>	VC	LC	-
17	Nymphalidae	Common Crow	<i>Euploea core</i>	C	NE	-
18	Nymphalidae	Common Evening Brown	<i>Melanitis leda</i>	VC	LC	-
19	Nymphalidae	Tawny Coster	<i>Acraea terpsicore</i>	VC	NE	-
20	Nymphalidae	Angled Castor	<i>Ariadne Ariadne</i>	VC	NE	-
21	Nymphalidae	Common Castor	<i>Ariadne merione</i>	VC	NE	-
22	Nymphalidae	Blue Pansy	<i>Junonia orithya</i>	VC	LC	-
23	Nymphalidae	Peacock Pansy	<i>Junonia almanac</i>	VC	LC	-
24	Nymphalidae	Lemon Pansy	<i>Junonia lemonias</i>	VC	LC	-
25	Nymphalidae	Great Egg fly	<i>Hypolimnas bolina</i>	VC	NE	-
26	Nymphalidae	Dark Evening Brown	<i>Melanitis phedina</i>	VC	NE	-
27	Nymphalidae	Danaid Egg fly	<i>Hypolimnas misippus</i>	VC	LC	-
28	Nymphalidae	Tamil Bushbrown	<i>Mycalesis subdita</i>	C	NE	-
29	Nymphalidae	Common three ring	<i>Ypthima asterope klug</i>	C	NE	-
30	Lycaenidae	Common Silverline	<i>Spindasis vulcanus</i>	VC	NE	-
31	Lycaenidae	Common Pierrot	<i>Castalius rosimon</i>	VC	NE	-
32	Lycaenidae	Forget me Not	<i>Catochrysops strabo</i>	VC	NE	-
33	Lycaenidae	Small Cupid	<i>Chilades parrhassius</i>	C	NE	-
34	Lycaenidae	Lime Blue	<i>Chilades parrhassius</i>	VC	NE	-
35	Lycaenidae	Rounded Pierrot	<i>Tarucus nara</i>	VC	NE	-
36	Lycaenidae	Red Pierrot	<i>Talicauda nyseus</i>	VC	NE	-

Key: WPA,2022 Wildlife (Protection) Amendment Act,2022 (Schedule I, II), The International Union for Conservation of Nature (IUCN) classifies species as Least Concern or Not Evaluated. (C Common; VC Very Common).

Conclusion

The study highlights the importance of forest parks as ideal habitats for butterflies. Careful garden maintenance can boost butterfly diversity in our park, making it a valuable resource for both conservation and research. To stay warm, butterflies extend their wings on leaves, dirt piles, or rocks. Butterflies play multiple roles in the ecosystem, including pollination, prey, pest management, plant genetic variety, and environmental beauty. They also help reduce carbon dioxide levels in the air.

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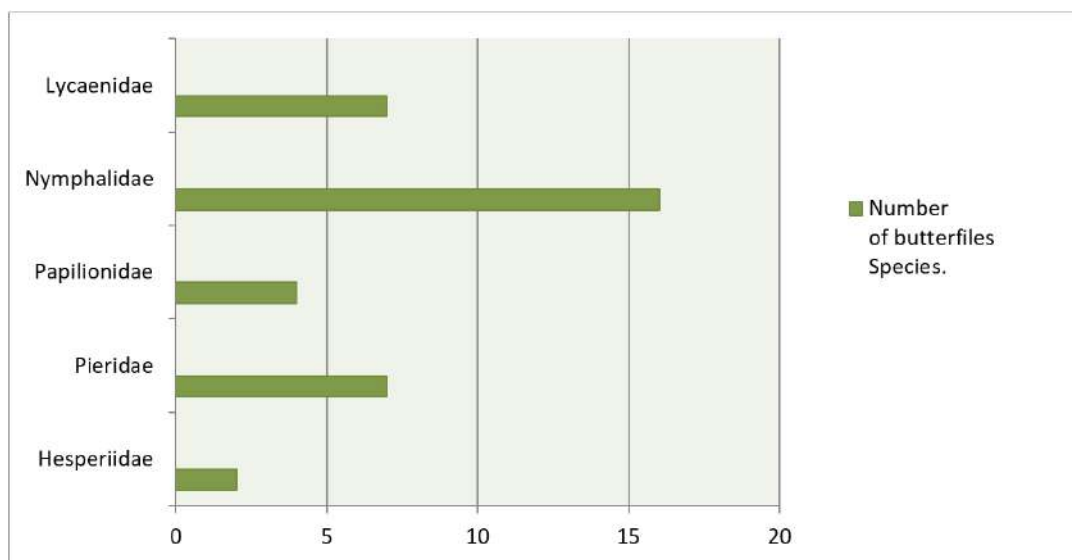
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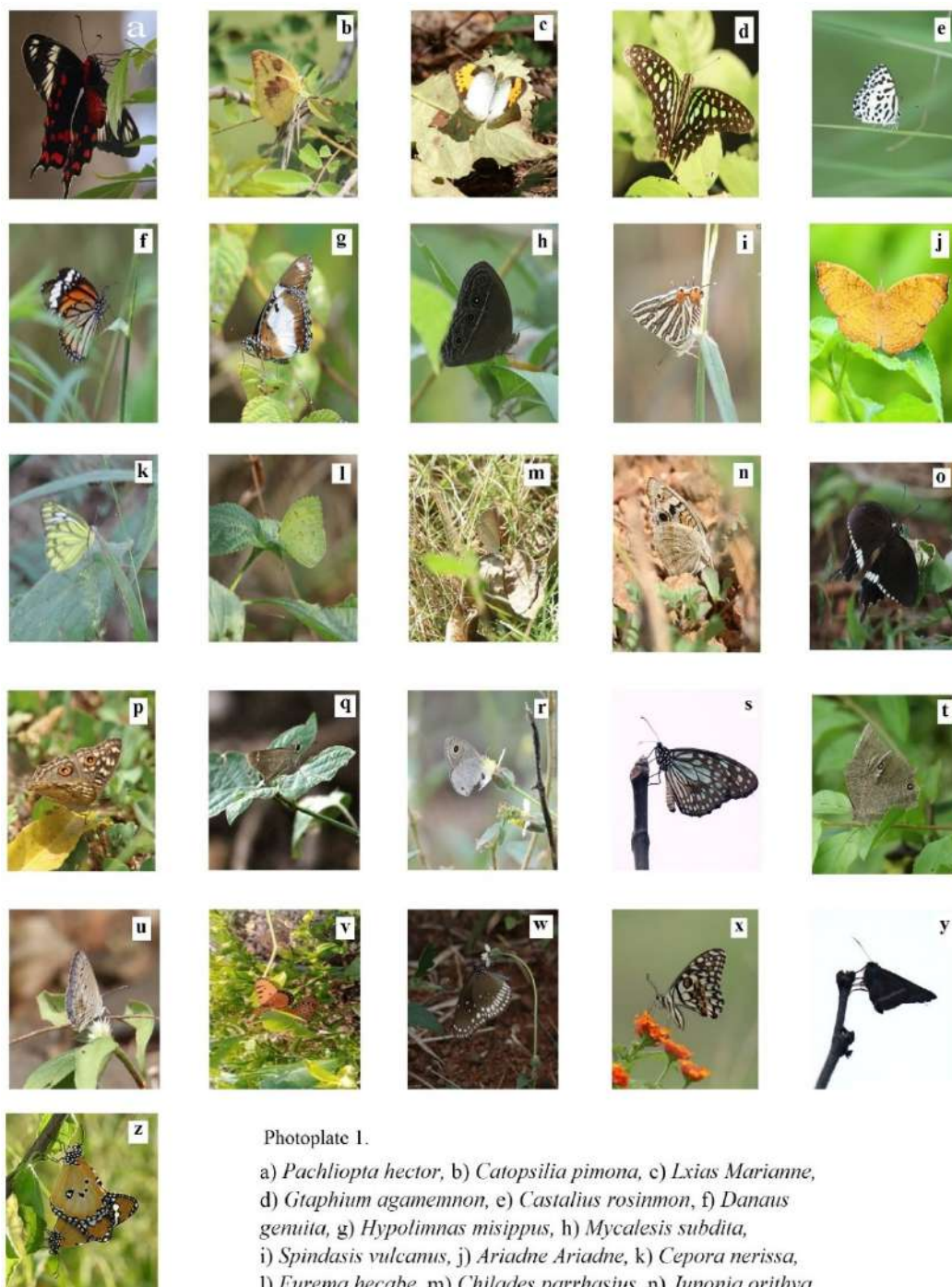
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Chart 1. The Number of butterflies species encountered in different families in Forest Park, Yeldari





Photoplate 1.

- a) *Pachliopta hector*, b) *Catopsilia pimona*, c) *Lxias Mariamme*,
d) *Gtaphium agamemnon*, e) *Castalius rosinmon*, f) *Danaus genuita*, g) *Hypolimnas misippus*, h) *Mycalesis subdita*,
i) *Spindasis vulcanus*, j) *Ariadne Ariadne*, k) *Cepora nerissa*,
l) *Eurema hecabe*, m) *Chilades parrhasius*, n) *Junonia orithya*,
o) *Papilio polytes*, p) *Junonia lemonias*, q) *Borbo cinnara*,
r) *Ypthima asterope klug*, s) *Tirumala leda*, t) *melanitis leda*,
u) *Chilades lajus*, v) *Acraea violae*, w) *Euploea core*, x) *Papilio demoleus*, y) *Hasora chromus cramer*, z) *Danaus chrysippus*,