

# A Study of Butterfly Species Diversity in M. N. College Campus, Visnagar, Mehsana District, Gujarat, India

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**Abstract:** The present study was carried out to understand the butterfly diversity and abundance in M. N. College, Visnagar, Gujarat, India from November 2019 to March 2020. A total of 40 species of butterflies belonging to 29 genera and five families were recorded from the present study. From the observed butterflies, family *Pieridae* was the most dominant among the five families with 14 species, followed by *Nymphalidae* comprising of 9 species, *Lycaenidae* have 9 species, *Papilionidae* with 5 species and *Hesperiidae* with 3 species. The present study added valuable information on diversity of butterfly fauna and will contribute in developing effective conservation.

**Keywords:** Butterfly, Biodiversity.

## 1. Introduction

Butterflies belong to the order Lepidoptera and are one of the most colourful, widespread and easily identifiable class of insects. They are potentially useful ecological indicators of urbanization because sensitive to changes in microclimate, temperature and extremely important components of the bioindicators of the world. Butterflies (Lepidoptera: Rhopalocera) are important and attractive insects that support human society economically and ecologically. Butterflies are nature's messengers, not only bringing brilliance to their world, but also pollinating flowers and exposing our community's wellbeing.

## 2. Material and Method

M. N. College is located at Visnagar taluka in Mehsana district, Gujarat, India. M. N. College campus lies at 23°41'55''N and 72°32'16''E. This campus falls in 42 acres of area. Having 7 pollinating areas here. I used point count method for this study. My study period was from November 2019 to March 2020. I have total data of 5 months. I observed and captured pictures every day. The time of observation was from 9:00 am to 4:00 pm. I took observations in morning and evening time. The record of individual butterflies was taken at the time of appearance to me. I used digital camera of 1300D and 700D along with the zoom lens (CANON ZOOM LENS EF-S 55 – 250mm and CANON ZOOM LENS EF-S 18 -55mm). The

recorded butterfly species were identified with the help of photographs by using manual books, available research papers, articles and with the help of experts. For identification of species of butterflies, I used Butterflies of India by Peter Smetacek and A pictorial field guide to Butterflies of Forest Campus, Coimbatore by Ruchi Dave.

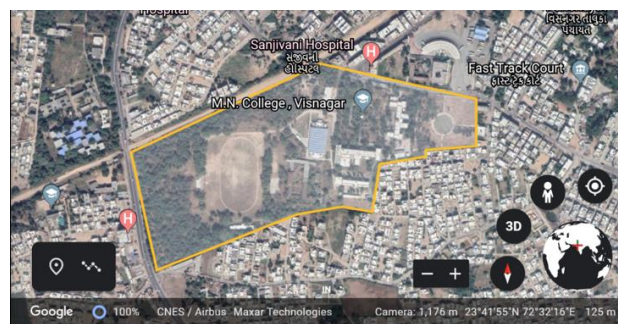


Fig. 1. Google image of study site

## 3. Result and Discussion

I recorded total 40 butterfly species during my study of area M. N. College Campus, Visnagar, Mehsana, Gujrat, India. Total number of 40 individual's species of butterflies belonging within five (5) families and total twenty-nine 29 genera recorded till March, 2020. The family *Pieridae* (14) was the dominant contributing family followed by *Nymphalidae* (9), *Lycaenidae* (9), *Papilionidae* (5) and *Hesperiidae* (3) with individuals being the least. This study shows that M. N. College Campus, Visnagar possesses around 40 species of butterfly. Having 7 seven pollinating area in college campus. Butterfly diversity is different with season.

According to similar study Aishwarya V. Nair and Pradarsika Mitra., (2014) they found total 46 species of butterfly around Sarojini Naidu college campus, Kolkata, West Bengal, India. They studied on butterfly diversity and abundance. The preference of butterflies for particular habitats is connected with the availability of host plants and nectar plants. Butterfly helps in pollination of the plants by acting as a carrier of the pollen from the flower that it visits and hence helping in

development of new plants and M. N. College campus has huge diversity of plants and also has huge diversity of different types of butterfly species so this study was done to make awareness of pollinators in students and locals.

Table 1

List of observe butterfly species in M. N. College Campus, Visnagar

S. No.	Common Name	Scientific Name
<b>Family: Pieridae</b>		
1.	Small Salmon Arab	<i>Colotis amata</i>
2.	White Arab	<i>Colotis phisadia</i>
3.	Common Emigrant	<i>Catopsilia pomona</i>
4.	Mottled Emigrant	<i>Catopsilia pyranthe</i>
5.	Common Grass Yellow	<i>Eurema hecabe</i>
6.	Spotless Grass Yellow	<i>Eurema laeta</i>
7.	Three Spot Grass Yellow	<i>Eurema blanda</i>
8.	Yellow Orange Tip	<i>Ixias pyrene</i>
9.	White Orange Tip	<i>Ixias marianne</i>
10.	Crimson Tip	<i>Colotis danae</i>
11.	Pioneer	<i>Belenois aurota</i>
12.	Common Gull	<i>Cepora nerissa</i>
13.	Common Jezebel	<i>Delias eucharis</i>
14.	Common Albatross	<i>Appias albina</i>
<b>Family: Nymphalidae</b>		
15.	Great Egg Fly	<i>Hypolimnas bolina</i>
16.	Danaid Egg Fly	<i>Hypolimnas misipus</i>
17.	Plain Tiger	<i>Danaus chrysippus</i>
18.	Blue Tiger	<i>Tirumala limniace</i>
19.	Blue Pansy	<i>Junonia orithya</i>
20.	Peacock Pansy	<i>Junonia almanac</i>
21.	Lemon Pansy	<i>Junonia lemonias</i>
22.	Tawny Coaster	<i>Acraea violae</i>
23.	Common Evening Brown	<i>Melanitis leda</i>
<b>Family: Lycaenidae</b>		
24.	Plain Cupid	<i>Luthrodes pandava</i>
25.	Small Cupid	<i>Chilades parrhasius</i>
26.	Zebra Blue	<i>Leptotes plinius</i>
27.	Fore-Get-Me-Not	<i>Catochrysops Strabo</i>
28.	Tiny Grass Blue	<i>Zizula hylax</i>
29.	Pale Grass Blue	<i>Pseudozizeeria maha</i>
30.	Lesser Grass Blue	<i>Zizinia otis</i>
31.	Dark Grass Blue	<i>Zizeeria karsandra</i>
32.	Grass Jewel	<i>Freyeria trochylus</i>
<b>Family: Papilionidae</b>		
33.	Common Jay	<i>Graphium doson</i>
34.	Tailed Jay	<i>Graphium agamemnon</i>
35.	Common Mormon	<i>Papilio polytes</i>
36.	Common Rose	<i>Pachliopta aristolochiae</i>
37.	Lime	<i>Papilio demoleus</i>
<b>Family: Hesperidae</b>		
38.	Indian Skipper	<i>Spialia galba</i>
39.	Indian Palm Bob	<i>Suastus gremius</i>
40.	Common Banded Awl	<i>Hasora chromus</i>



Fig. 2. Small Salmon Arab



Fig. 3. White Arab



Fig. 4. Common Emigrant



Fig. 5. Mottled Emigrant



Fig. 6. Common Grass Yellow



Fig. 7. Three Spot Grass Yellow



Fig. 8. Spotless Grass Yellow



Fig. 13. Common Gull



Fig. 9. Yellow Orange Tip



Fig. 14. Common Jezebel



Fig. 10. White Orange Tip



Fig. 15. Common Albatross



Fig. 11. Crimson Tip



Fig. 16. Great Eggfly



Fig. 12. Pioneer



Fig. 17. Danaid Eggfly



Fig. 18. Plain Tiger



Fig. 23. Tawny Coster



Fig. 19. Blue Tiger



Fig. 24. Common Evening Brown



Fig. 20. Blue Pansy



Fig. 25. Plains Cupid



Fig. 21. Peacock Pansy



Fig. 26. Small Cupid



Fig. 22. Lemon Pansy



Fig. 27. Zebra Blue



Fig. 28. Fore-Get-Me-Not



Fig. 29. Tiny Grass Blue



Fig. 30. Pale Grass Blue



Fig. 31. Lesser Grass Blue



Fig. 32. Dark Grass Blue



Fig. 33. Grass Jewel



Fig. 34. Common Jay



Fig. 35. Tailed Jay



Fig. 36. Common Mormon



Fig. 37. Common Rose



Fig. 38. Lime



Fig. 39. Indian Skipper



Fig. 40. Indian Palm Bob



Fig. 41. Common Banded Awl

#### 4. Conclusion

Butterflies maintain the ecosystem by acting as pollinator, prey, biological pest control, make genetic variation in plants, and increase environmental beauty, decrease the level of carbon dioxide in air. The findings of the present study highlight the importance of recognized campuses as a perfect habitat for butterflies. If the improving and care of gardens are carefully planned, the diversity of butterflies may increase in our college campus providing a rich ground for butterfly conservation as well as for research. This study will also add to our future attempts in understanding the complex nature of mutualistic contact between butterflies and flowering plants that is important for continuity of ecosystem services.

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