

Recommendations & Future Prospects

CHAPTER V

5. RECOMMENDATIONS & FUTURE PROSPECTS

1. The present study was focused on studying butterfly diversity, their habitat preferences and seasonal distribution in fragmented habitats of Vadodara, Bharuch and The Dangs district of Gujarat. Similarly, such studies can be conducted in various other parts of Gujarat, with varied habitats and variable temperatures.
2. Rhopaloceran studies conducted in the present study can be considered as an initiative attempt to study the indicator species in fragmented habitats. Thus, such other indicator species like dragon flies, etc. should be studied to obtain clear depiction on the environmental degradation system.
3. Recent literatures aim in moving towards the conservation of butterfly species. But such objective can be achieved when systematic approach is developed to conserve related species along with its habitat and associated vegetation.
4. Initiating planned conservation strategy can be successful when in-depth studies on life histories and governing survival factors are conducted. For example, in present study, Indian Sunbeam *Curetis thetis* exhibited rare occurrence in the agricultural landscape and urban residential habitats. Certain species asks for its observation on life histories and associated existing factors to it.
5. Moreover, Common Baron *Euthalia aconthea* documented in The Dangs with its larval host plant *Mangifera indica* was not documented in urban area and agricultural landscapes of Vadodara, even though such fragmented habitats showed the presence of *Mangifera indica*.
6. Numerous diversity studies are carried out as whole. Despite of all, there is a need to study family HesperIIDae in detail, about its association with plant resources and their solitary appearances.

7. Scarce studies are being conducted on the behavioural aspects of butterflies which should be encouraged and look after. For example, Baronet *Symphaedra nais* found near the human inhabitation, but one cannot nullify the fact of the presence of Sal trees i.e. *Shorea robusta* which is a selective food plant of this species.
8. According to the present study, decline in the population of butterfly individuals was observed in the main agricultural fields of Chhani and diverted towards the complementary plantations. This clearly indicates that decrease in the use of chemical and synthetic pesticides can gradually elevate the butterfly population. As an alternative use of botanicals and bio-control agents should be encouraged.
9. Present study revealed good quality of urban plantations that are cultivated according to the urban landscape designs. But during the study it was observed that there is an utmost need of more open vegetative plots in such urban area. Such open plots should be allowed to flourish naturally. Hence, this will result in pretty good yield of weeds and other vegetation types. Hence, will attract more butterflies and some may also serve as host plants for them. Hence, it is recommended to allow the growth of natural vegetation in personal garden as well as gardens associated with high rise buildings (if any).
10. During the present study, industrial vicinity of Ankleshwar showed poor number of butterfly diversity i.e. 29 species. Even though multiple companies show certain quantity of vegetative cultivation, it didn't succeed in elevating the butterfly population in surrounding areas. Being one of the important industrial hub, Ankleshwar also need to have good greenery surrounding areas so as to compensate for the loss of biodiversity. Hence, it is recommended that the industries in Ankleshwar should renovate its idea on urban designing and design landscape concentrating on the plantations in the surrounding vacuity which can also serve as host plants to many butterflies.
11. Saputara Hill Station also served as one of the marvellous paradise for butterflies. One of the major tourists attraction both for the Gujarat and Maharashtra population, it is highly recommended that one should go for the establishment of Butterfly Park with its planned cultivation as well as natural vegetation spread.

12. Present study revealed that Waghai Botanical Garden is considered to be the Abode for butterflies with variety of plots like dry and moist deciduous plots, medicinal plots, etc. with its plantation. Hence, minimal recommendation involved is to manage and keep the health of botanical garden alive and will elevate more number of butterfly species.
13. New ideas like butterfly gardening and butterfly farming is recommended in surrounding areas or in personal home gardens. This will enhance the butterfly diversity as well as population and thereby create a lively and jovial nature thriving surrounding you.
14. Present generation are more inclined onto the wildlife conservation aspects, hence it is recommended to also volunteer and give a helping hand to involve in butterfly farming and butterfly gardening.