

# Assessment of Butterfly Diversity in Mahad Taluka, Western Ghats, Maharashtra, India

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**Abstract:** A study was conducted to estimate the butterfly diversity in the Mahad taluka Western Ghats. Raigad district Maharashtra. Insects play a vital role in the maintenance of essential life support systems in natural habitat is well known. Among all insects butterflies are ecologically important; the butterflies feed on the nectar and are important as pollinators of flowering plants. The larval stages of butterflies feed on the leaves are the primary herbivores in the ecosystem and are important in the transfer of the radiant energy which is fixed by plants and making it available to the other organisms. The present paper incorporates 73 species and sub species distributed over 5 families of butterflies from Mahad Taluka of Raigad District Western Ghats Maharashtra. Family Nymphalidae represented 24 species followed by families Lycaenidae, Pieridae, Papilionidae and Satyridae with 21, 11, 09 and 08 species respectively.

**Keywords:** survey, Butterflies, Mahad Taluka, Western Ghats, Maharashtra

## I. INTRODUCTION

The Lepidoptera, butterflies (Rhopalocera) and moths (Heterocera) are a diverse and abundant insect groups in many ecosystems, as herbivores, pollinators and prey (Janzen, 1987; Barlow and Woiwood, 1989).

In India entire Western Ghats is recognized as one of the mega biodiversity centre and 800,000 numbers of insect species are reported from India (Ray A. and Ray K., 2006). There are about 17,280 species of butterflies in the world, out of which, 1641 species belonging to 394 genera have been reported from the Indian subcontinent (Varshney, 2006). Biodiversity and abundance of species is highly correlated with the availability of food plants in the surrounding (Kunte, 2000). Biodiversity is rarely mentioned in connection with green areas such as parks, Gardens etc. documentation of local biodiversity is important to develop proper conservation plans, Very less information have been carried out in Mahad taluka to document the butterfly diversity. Insects diversity plays an important role in the Aquatic and terrestrial aquatic ecosystems by providing ecosystem services such as Pest control, pollination, nutrient decomposition, and maintenance of ecosystem (Koh and Sodhi 2004; Losey and Vaughan 2006). Among insects, butterflies are the most attractive elements of the universe. They perform prominent roles in pollination (Tiple et al., 2006; Tiple 2018).

## II. MATERIALS AND METHODS

The butterflies were observed and photographed in the sampling sites for a period of two year between January 2020 and December 2021. During the survey, an efficient protocol was adopted.. Study area was visited 15 day interval to different sites from morning 8 AM to afternoon 11 AM during good weather periods.

The butterflies were collected with the help of Swip-net method. The specimen was Photographed (Nikon D7100; Nikon Inc., Tokyo, Japan) and then they were released in the environment. The identification was done with the help of appropriate Literature (Gay, 1992; Gunathigalraj, 1998; Lefroy, 1909; Marshall, 1957; Meena Haribal, 1992, Wynter-Blyth, 1957)

### List of Butterfly Species collected during surveys from Dapoli Taluka, Ratnagiri.

Family	Species
<b>I. Papilionidae</b>	
	1. <i>Graphium sarpedon</i>

	2. <i>Graphium agammemnon</i>
	3. <i>Papilio demoleus</i>
	4. <i>Papilio polymnestor</i>
	5. <i>Papilio polytes polytes</i>
	6. <i>Priniceps helenus helenus</i>
	7. <i>Pachliopta aristolochiae</i>
	8. <i>Graphium sarpedon</i>
	9. <i>Graphium agammemnon</i>
<b>II. Pieridae</b>	
	1. <i>Belenois aurota aurota</i>
	2. <i>Cepora nerissa phryne</i>
	3. <i>Delias eucharis</i>
	4. <i>Leptosia nina nina</i>
	5. <i>Ixias marianne</i>
	6. <i>Hebomoia glaucippe glaucippe</i>
	7. <i>Pareronia valeria hippia</i>
	8. <i>Catopsilia pomona</i>
	9. <i>Belenois aurota aurota</i>
	10. <i>Cepora nerissa phryne</i>
	11. <i>Delias eucharis</i>
<b>III. Satyridae</b>	
	1. <i>Melanitis leda ismene</i>
	2. <i>Melanitis phedima</i>
	3. <i>Elymnias hypermnestra undularis</i>
	4. <i>Lethe rohria</i>
	5. <i>Lethe europa europa</i>
	6. <i>Ypthima huebneri</i>
	7. <i>Ypthima baldus satpura</i>
	8. <i>Melanitis leda ismene</i>
<b>VI. Nymphalidae</b>	
	1. <i>Ariadne merione</i>
	2. <i>Phalanta sp.</i>
	3. <i>Cynthia cardui</i>
	4. <i>Precis iphita iphita</i>
	5. <i>Junonia almana almana</i>
	6. <i>Junonia hierta hierta</i>
	7. <i>Junonia orithya</i>
	8. <i>Junonia lemonias lemonias</i>
	9. <i>Hypolimnas bolina</i>
	10. <i>Neptis hylas</i>
	11. <i>Neptis jumbah</i>
	12. <i>Ariadne merione</i>
	13. <i>Phalanta sp.</i>
	14. <i>Cynthia cardui</i>
	15. <i>Pantoporia hordonia hordonia</i>
	16. <i>Athyma ranga ranga</i>
	17. <i>Athyma perius</i>

	18. <i>Euthalia aconthea</i>
	19. <i>Euthalia lubentina</i>
	20. <i>Polyura athamas</i>
	21. <i>Charaxes solon</i>
	22. <i>Junonia atlites atlites</i>
	24 <i>Kallima horsfieldi</i>
<b>V. Lycaenidae</b>	
	1. <i>Curetis acuta/thetis</i>
	2. <i>Caleta decidia/Caleta caleta</i>
	3. <i>Jamides bochus bochus</i>
	4. <i>Jamides celeno aelianus</i>
	5. <i>Jamides alecto</i>
	6. <i>Catochrysops strabo strabo</i>
	7. <i>Leptotes plinius</i>
	8. <i>Tarucus nara</i>
	9. <i>Tarucus ananda</i>
	10. <i>Zizeeria knysna karsandra</i>
	11. <i>Zizinia otis sangra</i>
	12. <i>Pseudozizeeria maha</i>
	13. <i>Pithecops corvus</i>
	14. <i>Cilastrina lavendularis puspa</i>
	15. <i>Acetolepis puspa</i>
	16. <i>Chitades lalus laius</i>
	17. <i>Freyeria trochilus putli</i>
	18. <i>Amblypodia anita</i>
	19. <i>Curetis acuta/thetis</i>
	20. <i>Caleta decidia/Caleta caleta</i>
	21. <i>Jamides bochus bochus</i>

### III. RESULTS AND DISCUSSION

The present paper incorporates 73 species and sub species distributed over five families of butterflies from Mahad Taluka of Raigad District Western Ghats. Family Nymphalidae represented 24 species followed by families Lycaenidae, Pieridae, Papiionidae and Satyridae with 21, 11, 09 and 08 species respectively. In future concentrated efforts will be made to enlist maximum number of butterfly species so as to achieve total biodiversity of butterflies in Mahad Taluka of Raigad District western Ghats.

Basistha et al., (1999) reported 56 species of butterflies from Orang Wildlife Sanctuary, Assam. Ali and Basistha (2000) reported 79 species of butterflies from Assam State Zoo-Cum-Botanical garden. Sonia and Pallot (2003) was recorded 43 species of butterflies from paddy field ecosystem of Palakkad District, Kerala. Whereas in the present study in all 60 species of butterflies were reported. The present study revealed presence of diversity of host plants in the region under study. In future extensive survey will be carried out so as to study holistic profile of butterfly diversity, their host range and role in ecosystem.

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