

Abstract

Amchang Wildlife Sanctuary is situated on the eastern part of the capital city Guwahati, district Kamrup, Assam. The area of the sanctuary is about 78.64sq.km. It is located at the lower foothills of Shillong plateau which is the adjoined part of Raja Mayang hill Reserve Forest and Pabitora Wildlife Sanctuary. Amchang is declared as a Wildlife Sanctuary on 19th June 2004 by the Government of Assam. It comprises of three reserve forests Amchang, South Amchang and Khanapara. The central coordinate of Amchang Hill is 91°45'00" East and 26°6'20"North.

Monitoring butterfly population is an important means of measuring change in the environment as well as the state of habitats for biodiversity. It is also a useful way that both professional ecologists and volunteers can contribute to the conservation of butterflies and biodiversity. Butterflies are important bio indicators which should be protected to conserve the biodiversity and environment. Evans (1932) reported 962 butterfly species belonging to 6 families from North-Eastern States except Sikkim Himalayas. Out of these 303 butterfly species were recorded from Manas biosphere reserve in 2009. Butterfly which varies from place to place and season to season and even from one minute to the next is because of the biotic and abiotic environments which reasonably affect and influence in the distribution, diversity and abundance of butterflies.

Different species of plants and habitats of Amchang Wildlife Sanctuary attract wide variety of butterfly fauna which play a vital role in pollination of various flowering plants besides a key component of food chain. The investigation on species diversity and abundance was carried out in three vicinity area of distinct habitat types within the sanctuary. Survey was carried out in two consecutive years 2014 and 2015. Forty-eight species of butterfly of five families were identified during the entire study periods. Out of these 9 species from the family Papilionidae, 25 Nymphalidae, 9 Pieridae, 3 Lycaenidae and only 2 species from the family of Satyridae. Nymphalidae-Brush-footed Butterfly family was the most dominant. The study revealed that the monsoon season has the highest diversity than winter, pre-monsoon and retreating monsoon.

Lowest diversity was found during winter season. The higher butterfly diversity during monsoon season may be due to wide range of species, whereas the low diversity during winter season may be due to non-availability of wide range of plant species. The analysis of correlation between seasonal abundance and species phylogeny shows significant result. The diversity was calculated by using diversity indices namely: Simpson's index, Margalef's index and Shannon-Wiener index (H'). The calculated values of diversity indices showed that the highest diversity was obtained from Ghagua site which was dense forest area and canopy coverage with some agricultural land, ferns & streams and lowest diversity was obtained from Bonda site which was most disturbed area affected with the expansion of the city area of Guwahati. All sites were selected on the basis of their position in vegetation and accessibility.