RESEARCH PAPER

Studies on the host plants of butterflies

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The study was conducted to investigate the native larval food plants utilized by the larvae of butterflies in Agroclimatic Zone III of Karnataka. The larval food plants of the butterflies of Bagalkot region coming under Zone III were identified and placed on record for the first time on the basis of studies made under laboratory and field conditions. This information is essential from the point of biodiversity conservation and formulation of management programmes for faunistic studies of butterflies of the area and to elucidate their role in co-existence of plants and pollinators.

Key words **:** Agroclimatic zone-III, Karnataka, Butterflies, Host plants

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INTRODUCTION

Butterflies are the most beautiful, fragile and important component of our biodiversity. They are known as the flying jewels or flying flowers. Apart from being aesthetically attractive, butterflies occupy a vital position in ecosystems and their occurrence and diversity are considered as good indicators of the health of any given terrestrial biotope (Kunte, 2000; Aluri and Rao, 2002; Thomas, 2005). Each habitat has a specific set of micro environment suitable for a species. Habitat association of butterflies can be directly related to the availability of food plants (Thomas, 1995).

There are two different functions that plants serve for butterflies:

– Nectaring plants - plants that the butterflies will sip nectar from and

– Host plants- species specific plants on which they can lay their eggs and the caterpillars will eventually eat. As herbivorous insects, the distribution of larval hosts and nectar plants has a distinct impact on the status of butterfly diversity (Culin, 1997; Solman Raju, 2004).

The choice of oviposition site by the imago is also important. There is an advantage in obvious selective oviposition by adults on suitable plants, but inappropriate choices can be overcome by movement of the larvae. A review of long series of experiments pertinent to insects and their food plants has been made by Merz (1959). In addition, many structural and mechanical characteristics of plants modify the insect host relationships, mostly by limiting the acceptability of those plants in which they occur. The question of how and why eggs are deposited on potential hosts by females has historically been dominated by the preference – performance problem (Thompson, 1988), under the assumption that host preference has evolved to assure maximal offspring performance. Further, groups of closely related butterfly species are almost always confined to related larval host plants (Gilbert and Singer, 1975).

Though, many butterflies lay their eggs on certain food plants with great precision as stressed by Merz (1959), numerous rnistakes have been recorded on the other hand. (*e.g.*, Remington, 1952; Dethier, 1959). In such cases, larvae have to either find an appropriate plant or perish *i.e.* many starve to death if they cannot find the right plant.

Most butterflies acquire all of their nutrition during larval development; adults are only capable of refueling on carbohydrates, often in the form of nectar. Nectar and other adult food sources can provide some amino acids, to compensate for poor larval nourishment (Mevi - Schutz and Erhardt, 2003).Thus, adult and larval feeding requirements are very different.