

Butterflies of Sri Lanka

Dr. (Mrs.) W. Thelma T. P. Gunawardane

Butterflies love sunshine and Sri Lanka with its abundance of sunshine and vegetation is the home of two hundred and forty species of butterflies.

Like flowers and trees and sunsets, they enhance the beauty of the landscape. Their colour patterns, camouflage, flights, different types of mimicry and migratory trends provide a fascinating study.

In the Dry Zone of Sri Lanka one can count up to about one hundred and fifty species. However, the ideal place to study them are the foot-hills of Sri Lanka which are well clothed with forests. Here we find over two hundred species.

The most beautiful species in Sri Lanka are included in the family Papilionidae.⁴ This family also get the credit for having the Largest species, namely, *Troides darsius*, "The common Birdwing Butterfly". One can easily name *Papilio crino*¹ "The Banded Peacock" — as the most beautiful butterfly, very commonly found in the dry zone jungles of Sri Lanka. The Blue Mormon (*Papilio polymnestor parinda*)² also belonging to this family is not only colourful but also the second largest butterfly in Sri Lanka.

An interesting species in the Papilionidae family is the Common Mormon (*Papilio polytes romulus*). Here the female occurs in three different forms.³ Two of these viz. female form *romulus* and female form *stichius* mimic two other Papilionids, the Crimson rose (*Pachyopta hector*) and the Common rose, (*Pachyopta aristolochiae*) respectively. The third takes the mele-like *cyrus* form. The two mimics of the Common Mormon are said to be benefitted by its mimicking of the *Pachyopta* species, since the latter is found to be poisonous (non-edible) to the predatory animals such as birds and lizards. In other families too a number of species that mimic various 'non-edible' ones exist.

Another Papilionid that has two different colour forms is the Common Mine-sub species peculiar to Sri Lanka. Unlike in the Common Mormon, the Common Mine (*Chilasa Clytia lankeswara*) has its colour forms in both sexes. The brown form mimics four species of the Danaids of the genus *Euploea* (Crow) and the white form mimics five species of the Danaids of the genus *Danaus* and *Tirmuala* (Tigers). Most of the species of the family Danaidae are non-edible (poisonous) and thus the two forms of the Common Mime are protected from the animals that prey on them.

The study of colour variation in butterflies is a fascinating one. Unfortunately not much work in this field has been done in Sri Lanka.

Other than the examples of colour variation already mentioned, one often comes across the aberrant forms occurring in the wild. These forms are not governed by hereditary characters and thus no two butterflies of the same colour patterns will occur. Therefore, to any collector of butterflies, specimens with these colour variations would be a highly valued acquisition.

Some of our butterflies exhibit very good examples of camouflage. The well-known cases of this character are seen in a few species of the family Nymphalidae. This family consists of nearly 40 species in Sri Lanka and some of these are as beautiful as the Papilionids.

Of these, the Oak Leaf Butterfly (*Kallima philarchus*)^{5, 6} has its upper wings beautifully coloured indifferent shades of blue mixed with white and brownish red. But the underside varies to such an extent that no two butterflies of this species will have the same colour pattern. The underside depicts different stages of a drying leaf. Thus when not in flight, it cannot be easily detected and is therefore well protected from predators.

Another Nymphalid that mimics a dry leaf is the widely distributed 'Blue Admiral' (*Kaniska canace*). Unlike the 'Oak Leaf Butterfly' the 'Blue Admiral' has its wing margins very uneven, appearing to be that of a decaying leaf.

A very interesting species of the family is the Common Lascar (*Pantoparia hardonia*).

This butterfly, unlike any other, mimics a dragonfly (*Nurothemis tullia*). Not only the colour pattern but the flight too is similar to that of the above mentioned dragonfly. Thus we find that butterflies employ different types of mimicry for their survival.

Of the Nymphalids, *Hypolimas missipus missipus* (the Danaid Eggfly)^{7, 8} female again exhibits three different colour forms of the *Danaus* (the 'PlainTiger') of the family Danaidae. This is one of the most interesting polymorphic species on which hardly any work has been done.

It is quite normal for an 'edible' species to mimic a non-edible species but when a non-edible species mimics another non-edible species one wonders as to how the species concerned are benefited.

So far I have given examples of colour variation due to mimicry, depicting warning and cryptic patterns and aberrant forms. In addition to these there are other forms of variations.

The members of the family Pieridae commonly known as 'whites' or 'Sulphurs' have the seasonal forms influenced by climatic conditions. In Sri Lanka, some of these species appear as 'dry' and 'wet' seasonal forms, common to both males and females.

Other than these variations, yet another very interesting colour variation is the presence of male colour pattern on one side of the wings and that of the female colour pattern on the other side. However, the body structure of those forms is of one sex only. This form of variation called Gynandromorphs is not uncommon in Sri Lankan species. The type known as the Indian Fritillary (*Argynnis hyperbius taprobana*) Gynandromorphs are sometimes found in other species of our butterflies too.

Of the nine families of Sri Lanka butterflies, the family Lycaenidae consists of eighty-one species which is exactly one-third the total species found in Sri Lanka. These are mostly very small butterflies commonly known as the 'Blues'.

Some of the species of these butterflies have quite interesting life histories, in that the larvae are looked after by the ants. Thus these butterflies are difficult to be bred in a laboratory if isolated from ants. It is also in this family that the most rare Sri Lanka butterflies are found. One of these is the Ormiston's Oak Blue (*Arhopala ormistoni*) —so far only seven males and one female have been collected from Nakiadeniya and Galle in the Southern Province.

Another interesting phenomenon is the migration of butterflies. Everyone of us in Sri Lanka is familiar with the mass migration of these fragile insects. It is found that of the two hundred and forty species in Sri Lanka, at least sixty-nine species take part in the migration.

Most of these are from the families Nymphalidae, Pieridae Lycaenidae and Papilionidae.

Though very little work has been done in Sri Lanka on butterfly migration, there is enough evidence to show that two main migratory seasons exist. The main migratory season is from March to May and the second migratory season is from November to December.

The cause of these mass migrations is not known. It may probably be due to lack of food in their normal haunts and also that these populations have better chances of mixing up when on migration.

So far we do not have evidence to prove that we get migrant butterflies from the Indian Mainland. But it is quite possible that few species such as the *Pachilocta hector* and *Pachilocta aristolochiae* (the Crimson Rose and the Common Rose respectively) are visiting our shores during the height of these migratory periods.

The butterflies are an intrinsic part of our natural habitat.

Therefore, since ancient times legends and tales have been woven round them. One is that these butterflies migrate to pay their homage to the Sacred Footprint of Lord Buddha on the summit of Sri Pada — one of the tallest mountain peaks in Sri Lanka which is in fact popularly known even today as "Samanala Kanda" or "Butterfly Mountain".