Butterflies and Moths

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Butterflies are probably the most noticeably beautiful of all insects and they hold more attractions for the amateur collector than most other members of the insect world. With their relatives they belong to the great order of insects known as Lepidoptera, a name which means scaly-winged, for all the lovely colouring and intricate designs of their wings lie in the numerous small scales which are arranged like over-lapping tiles on a background of transparent wing-membrane which is in its turn, stiffened by veins.

One of the questions most frequently asked is: What is the difference between a butterfly and a moth? The popular idea that all butterflies are gaily coloured sun-worshipers, and that all moths are drab creatures of the night does not always hold good, for there are brightly coloured moths and drab butterflies, just as there are day-flying moths and a few dusk-flying butterflies. There are, however, several well-marked structural differences and the most noticeable of these lies in the antennae - the two

feelers on the insect's head. In the butterfly these end in a knob or in a hook, while in the moth they are either thread-like or feathery, and always taper to a point even when there may be a thickening towards the end.

There is no such thing as a baby butterfly. That is to say, a small yellow butterfly never grows up into a large yellow butterfly. The insect's real infancy is spent in the caterpillar stage, and all its growth takes place then. The caterpillar is, in fact, the young butterfly.

So many of us consider caterpillars or "worms" as they are often called, repulsive and even dangerous but if we take the trouble to observe them more closely, we find that many are gaily striped and spotted and are quite beautiful in their own way. They may be handled quite safely for they never bite or sting, though a few of the hairy moth caterpillars can cause a temporary rash if carelessly handled. The caterpillar is harmful only to the vegetation on which it feeds, as gardeners know to their cost.

Caterpillars are usually most exclusive in their diet. They will refuse to eat just any or every plant, each species having its own decided preference and they will often die of starvation rather than sample anything else. The butterfly on the other hand exists chiefly on nectar sucked from the flowers, but though one supposes she

has no memory of her humble past, yet she shows a wonderful instinct in always laying her eggs on the special sort of plant necessary for the well-being of her offspring.

Butterflies and moths, as well as their caterpillars, are very defenseless creatures. For some, protection against birds and other enemies lies in colouring that blends perfectly with their surroundings, while the strikingly coloured ones are said to be distasteful and in their case the bright colours are danger signals to be remembered after one or two experiences.

The caterpillars have many devices for safety. Some roll a leaf, fastening it in position with silken threads to make a chamber wherein they may feed in comparative safety: Others shelter within a pod or stem and some tiny ones tunnel between the surfaces of a leaf; many moth caterpillars remain underground at the roots of a plant during daylight hours, only emerging after dark to feed on the leaves above.

It is interesting to follow a caterpillar through its growth and transformation. Its main job is eating which it does with a will, consuming many times its own weight in vegetation. Since its skin does not grow but only stretches to a limited degree, the insect has periods of rest when this skin is shed and it emerges with a brand new skin, somewhat slack and wrinkled to allow for another round of feasting. With each such

moult it becomes a size larger, and when its growth is finally completed it ceases to eat and becomes a chrysalis or pupa, possibly splashed with gold or silver.

A butterfly chrysalis is most probably hung from a leaf or twig to which its tail is attached, and it has often, also, the support of a silken thread, or "girdle" around its waist. In this dormant condition it seems to rest, whilst a process of breaking down and rebuilding of its internal structure takes place. Then one day a miracle happens - the chrysalis splits to liberate the butterfly, whose wings unfold and expand as you watch. The transformation is now complete - the earth bound creature becomes a thing of the air; the devourer of solid food becomes a sipper of nectar; the recluse becomes a dancer in the sunshine! For this reason the butterfly was chosen in ancient China as the symbol of immortality - a strange distinction for so evanescent a creature. In old Mexico it was symbolic of fire.

The moth caterpillar, when it pupates above ground usually spins itself a case of silken threads, sometimes felted with its hairs, but many burrow underground and there make themselves little cells. Sometimes the pupae are dug up, and when disturbed can twist their tails about quite actively. In some parts of the country the children call them "Apempey" and believe that they can point the way home to a lost

child - this method being quite as effective, one supposes, as that of following one's nose!

The "Silk worm" has done something towards retrieving the bad reputation of caterpillars as a whole. When it is about to pupate it spins itself a silken case or cocoon, which can be unwound as a single long thread, and this is the silk of commerce. The Chinese were the first to discover its possibilities and the caterpillars have been so carefully tended through countless generations that they have become thoroughly domesticated and are now quite unable to fend for themselves. Silk worms have been tried in Jamaica on more than one occasion, but for one reason or another, the venture has never proved really successful.

In Jamaica, we have well over a hundred recorded species of butterflies, ranging from the big swallow-tails down to the tiny blues and there are certainly others not yet recorded. Our most spectacular butterfly is the giant swallowtail butterfly, scientifically called *Papilio homerus*, which lives chiefly in the mountainous regions of the Blue Mountains near Bath and in certain parts of the Cockpit Country, and is to be found in no other part of the world than Jamaica. It measures about six inches (15 cm) across the wings and is recorded as the largest butterfly in the Western Hemisphere. There

are several other butterflies, smaller and less spectacular it is true, which like *homerus*, may be found nowhere else but in our island.

One of our commonest butterflies is the black and yellow striped "Zebra butterfly" which ranges over hills and plains alike. It has an interesting habit, almost unique in the butterfly world - that of collecting together in swarms each evening to roost on some branch, preferably a leafless one overhanging a stream, and it is a beautiful sight to see them assembling in their numbers and dancing in the air before settling down for the night.

Butterflies are not always the gentle, peaceful creatures they seem to be. Some are quite capable of attacking intruders on their chosen domain, and the large yellow and black Swallowtail butterfly, *Papilio thersites*, is a veritable warrior. He has been seen by more than one observer to dart furiously at passing birds and scare them away by the very suddenness of his attack - certainly a turning of the tables!

One of the marvels of butterfly life is their power to migrate. They look so very frail, one would hardly credit them with being capable of undertaking long sea journeys, yet they do cross wide tracts of ocean and their travels have been the subject of much scientific study. On Jamaica, at certain periods, one may see vast numbers of yellow

butterflies heading straight out to sea on the start of their journey and vessels, hundreds of miles from land, have been invaded during stormy weather by swarms of butterflies seeking temporary refuge.

Our most striking moths are the Sphingids or Hawk moth (family Sphingidae), those swift strong-flying insects that resemble miniature aeroplanes. Some are very like Humming birds as they hover before a flower and are in fact, called humming-bird hawk moths. In the Sphingids one may easily see the wonderful tongues with which all, but a very few Lepidoptera are equipped. It is a long flexible tube through which the flower juices are sucked up and when not in use it is kept coiled up, like a watch spring, in a little cleft in the insect's head. It is known to attain a length of ten inches (22 cm) in some hawk moths, enabling them to reach to the base of the deepest flower cup. A few butterflies and moths have no mouth parts at all and take no food during their brief lifetimes.

For some reason, most of our large moths and butterflies are locally (and incorrectly called "bats"), the true bats being called "ratbats" by way of distinction. Since the humble caterpillar can miraculously become the gorgeous butterfly, it seems reasonable to some minds that the bat has also emerged from some other form of life,

and I have been solemnly assured that they grow from mosquitoes! But, of course, the bat is a mammal and was a bat from birth.