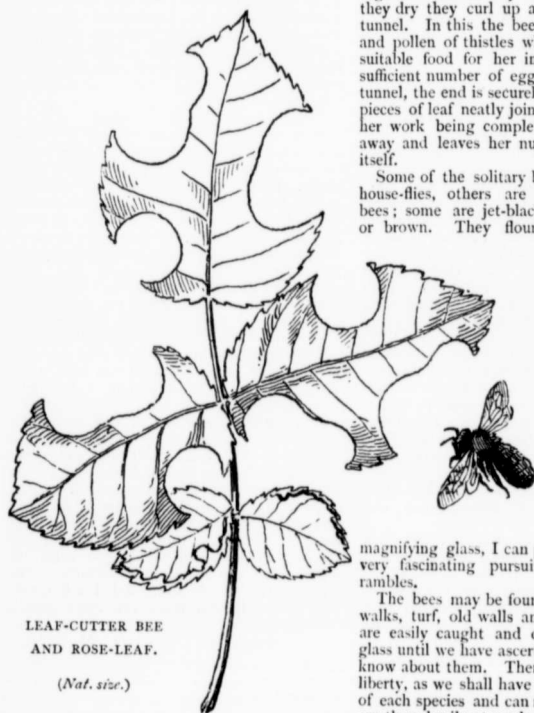


RAMBLES WITH NATURE STUDENTS.

By Mrs. BRIGHTWEN, Author of "Wild Nature Won by Kindness," etc.

THE LEAF-CUTTER BEE

BESIDES the common honey-bee, we possess in England many hundred species of what are called solitary bees. Their lives are extremely interesting, for many reasons. They live in all sorts of places, some in holes in our gravel walks, some in dry banks where they form long, deep burrows in which they lay their eggs, and then close up the holes, leaving the young bees to find their own way out. Other species adopt ready-made holes in walls and brickwork in which to rear their families.



Empty snail-shells may often be found half full of dried mud placed there by one of these eccentric bees, and if we examine this deposit we shall find small cells which are the cradles of the immature bees. A hollow bramble stem is the choice of the Mason bee (*Osmia leucomelana*). In this convenient circular chamber the bee sets to work and removes some of the pith till she has a clear space of five or six inches; then having prepared and masticated some substance which she knows to be suitable for the food of her grubs, she places a small quantity of it at the end of the hollow space and lays an egg in it so that when hatched the larva will only have to feed and grow till it changes to a chrysalis. In that condition it remains through the winter and comes out a perfect bee in the following June. Six or eight eggs are thus laid in one bramble stem each divided by a thin partition.

I constantly see another of these very curious solitary bees at work on my rose-

trees. She is known as the Upholsterer bee (*Megachile centuncularis*), so-called from her dainty fashion of lining her nest with rose leaves. The nests are not easily found, but I was fortunate enough to light upon a specimen and could examine its curious formation.

The bee settles on the edge of a rose-leaf and holding it firmly between its forelegs saws out a round piece of the leaf and flies away with it. About ten or eleven of these pieces are required to line the burrow the bee has scooped in the bank; they are neatly fitted together without any sort of cement and as they dry they curl up and form a neat little tunnel. In this the bee stores up the honey and pollen of thistles which form a sweet and suitable food for her infant bees. When a sufficient number of eggs has been laid in the tunnel, the end is securely closed up with three pieces of leaf neatly joined together, and then her work being completed the mother flies away and leaves her nursery to manage for itself.

Some of the solitary bees are smaller than house-flies, others are as large as humble bees; some are jet-black, others are yellow or brown. They flourish in great variety through the spring and summer months, and their remarkably interesting habits should lead young people to inquire about them.

As a guide in identifying the various species, I would recommend *British Bees* by W. E. Shuckard (published by Lovell Reeve and Co.) With this book, a

small net and a magnifying glass, I can promise my readers a very fascinating pursuit for their summer rambles.

The bees may be found on flowers, gravel walks, turf, old walls and hedge banks; they are easily caught and can be kept under a glass until we have ascertained all we desire to know about them. Then we may set them at liberty, as we shall have learnt the appearance of each species and can recognise them as we see them busily at work out of doors.

Unless a dried collection of insects is really needed for scientific purposes I always strongly discourage the indiscriminate killing of insects; it seems to me that it must tend to blunt kind and tender feelings in young people, and it is really needless except for those who are in training to become practical scientists.

THE HOVERER-FLY (*Syrphus Plumosus*).

As the humble-bee fly is a harbinger of spring and one of the first insects we may see visiting the early blossoms of the year, so the hoverer-fly betokens the arrival of summer. It revels in the hottest sunshine, and is one of the most active, swift-winged creatures imaginable.



THE HOVERER-FLY.

The specimen I watched to-day was a *Syrphus plumosus*, one of the handsomest of the species.

It is covered with yellow down, the wings having a few dark markings, and its general appearance is so like a small humble-bee that most people would take it to be one.

This fly seemed quite as intent upon studying me as I was to learn about it; it poised in the air for a minute or two, staring at me, humming loudly and watching my every movement.

It is quite curious to observe how stationary in the air the creature remains, its wings quivering with such exceeding rapidity that they are quite invisible, so that one is puzzled to imagine how the insect is supported in the air. Thus it will remain until I make some slight movement, when instantly the fly is gone and my eye cannot trace its flight.

One day I desired to make a drawing of a *Syrphus* and I shall not soon forget what an exercise of patience it was to capture it. I did succeed at last by a quick sweep of a gauze net, and my captive was detained for a while until I had taken its portrait.

It had not the patient gentleness of the humble-bee fly, but continued to buzz and fuss in an angry manner until I was able to set it at liberty.

ICHNEUMON FLIES.

If we observe creeping up the window panes or hovering over the flower beds some curious looking flies with very slender bodies and antennae constantly quivering, we may know them at once to be Ichneumon flies. They have a strange and cruel habit of laying their eggs in living caterpillars and chrysalides, and they are ever on the watch to find some unfortunate insect which shall become a receptacle for their progeny. These flies are of all

