

CATOCALÆ.—UNDERWING MOTHS.

BY G. J. BOWLES, MONTREAL.

The Noctuidæ, or night-flying moths form a large division of the order Lepidoptera. Generally speaking, they are clothed in a sober livery of grey or brown, and are therefore not very conspicuous or attractive in their appearance. But on a closer examination, many of them are found to be marked with beautiful patterns in lines and spots, while some are spangled with gold or silver in different ways. There are some genera, however, towards the end of the family, as at present classified by entomologists, which are remarkable on account of their size and the richness and beauty of their markings. In their case nature has departed from her rule, that quiet colours should be characteristic of the Noctuidæ, and has decked them out in gay apparel, as if, even in these night-flying insects, she could not resist the impulse which has spread beauty of colour and form throughout the whole creation.

Chief among these is the genus *Catocala*, commonly called "under wings," and to these moths we wish to draw the attention of our readers.

The *Catocalas* are found both in the old and new worlds, and principally, if not wholly, in temperate regions. Between thirty and forty species inhabit Europe, (four of which occur in Britain, according to Newman,) while those taken in America number more than sixty. These are, so far as known, confined to the North American continent, and have not yet been taken in the West India Islands, with one exception, *Ilia*, which the Rev. C. J. S. Bethune states is found in Jamaica. Canada has more than thirty species, all of which are also found in the United States. Some of these are comparatively abundant, and inhabit large areas, extending as far north as Hudson's Bay; others are comparatively rare, or confined to certain localities. The species with black hind wings are, with two exceptions, absent from the northern parts of the Province of Quebec, but begin to appear in Western Ontario, and are most common in the Western, Middle and Southern States. They seem to require milder climatic conditions than the others, and to represent the less hardy portion of this extensive group of moths.

Although these insects surpass the rest of the Noctuidæ in average size, they are never very numerous, and therefore their larvæ are not destructive to vegetation in any appreciable degree. The caterpillars feed on the leaves of various trees, such as oak, poplar and willow. They are of peculiar shape, being long and narrow, flattened on the under surface, and convex above, and bearing a row of pointed fleshy appendages on each side, where the convex and flattened surfaces meet. They are also striped and marked in various ways, according to the species, and all have flattened heads, which in some species are bilobed. In the larva state, they are very active, and can walk quite rapidly. This rapid motion gives them almost a geometrid appearance, which, in some species, is assisted by the fact that the larva has only twelve feet instead of sixteen, the usual number allotted to the Noctuidæ. The caterpillars of the larger species are from two to three inches long when full grown.

When it ceases to feed, the larva spins a thin, gauzy cocoon, and changes into a brown pupa or chrysalis, covered with a purplish bloom like that of a plum. The perfect insects all emerge during July, August and September, some species appearing earlier than others, but it is probable that all pass the winter in the egg state, hatching out at the same time in spring as the leaves of their food plant appear.

The moths are strong, active insects, with good powers of flight. Though night flyers, and therefore having the habit, common to the Noctuidæ, of resting in the daytime as if asleep, they are very easily disturbed. In fact some species seem to be always wide awake, so that they can hardly be approached during daylight without taking to flight. As evening approaches, the moths gradually arouse themselves, and at this time may sometimes be seen flitting around the trees in gardens or on the outskirts of the woods. A *Catocala*, thus seen flying, is a very pretty object, particularly one of the red-winged species. With its richly-coloured hind wings, and the contrasted grey fore wings, all in rapid motion, it is indeed a "thing of beauty." Their proper time of flight, how-