

Entomological Department.

A Humming-Bird Moth.

At this time of year, when the lilacs and other fragrant shrubs are in full bloom, one often sees at dusk hovering over the flowers like a humming-bird and extracting nectar with their long proboscis; many a lovely species of moth; later on in the season they frequent petunias, larkspur, the evening primrose, and many other flowers. Most of these moths are so active and swift in their movements that it is almost impossible to catch them without a net, and consequently very few except entomologists are familiar with them. They belong to various families of the order, but the largest and most bird-like are members of the Hawk-Moth family (*Sphingide*). In their larval state they are caterpillars of a green color, usually ornamented with oblique bars or stripes of different hues on the sides, and furnished with a stiff projecting tail—an appendage that is sometimes mistaken for a horn, or even a sting! When disturbed the caterpillar puts up his head in a threatening attitude, and presents an appearance somewhat like that of an *Empidonax*. Hence the scientific name of the family.

We have been led into these remarks by the receipt of a very pretty moth from Mr. John A. Gemmill of Pakenham, Ont. He writes that he has "never met with it in any other place except on his neighbor, Mr. Richey's lilacs." He adds "I have plenty of lilacs within 100 yards, but never saw one of them on mine." The specimen is a Hawk-Moth or Sphinx, known to entomologists as the *Dolichophila Chamenerii* (Harris); it has no common English name. Its expanded wings measure nearly three inches from tip to tip, and the body about an inch and a quarter.

Its general color is olive-brown, with white markings about the head and thorax; the fore-wings have a conspicuous blue-colored, slightly wavy, stripe extending from base to tip; the hind-wings are chiefly rose-colored, with a dark border, and a white spot near the base. The larva is very rarely seen—we have never met with ourselves. Harris states that it is "bronze-green above, and red beneath, with nine round cream-colored spots, encircled with black on each side, and a red caudal horn;" and that it feeds on the great willow-herb (*Epilobium angustifolium*). It is said also to feed upon purslane.

We have never observed its restriction to a particular locality, as remarked by one correspondent, but have found the moth almost every year hovering about the blossoms of the lilac, and have captured specimens in various parts of the province—from Cobourg in the east, to Sault Ste. Marie in the north-west.

Our correspondent appears to have found extreme difficulty in killing the specimen for transmission to us. He says that he tried in succession coal oil, ammonia, concentrated tartaric acid and olive oil, without much success. We generally employ chloroform for killing moths, and find it instantaneously effective; a few drops poured upon the body will kill the largest moth in a moment, but care must be

taken to exclude the specimen from the air for a little while, else it would probably revive. Smaller specimens may be readily killed by dropping them into a bottle or box containing a lump of cyanide of potassium. As these substances are extremely poisonous, the collector must exercise care in their employment, and be very particular not to leave his boxes or bottles within reach of children or careless adults.

We have another species of moth in Canada very similar to the above mentioned, but considerably larger, the *Dolichophila borealis*; it also is found about lilacs and other flowers, though seldom in such numbers as its congeners.

The Luna Emperor Moth.

A specimen of this most lovely insect was recently brought to our office by the Rev. Mr. Ross. As it is not very common, flying only at night, we present our readers with a life-like illustration of this "Queen of the Night." Its wings are of a delicate green color, with a purple-brown margin on the front of the fore-wings. A transparent eye-like spot near the



middle of each wing, and the inner angle of the posterior wings, prolonged into remarkable crescent-shaped tails, as shown in the illustration. The body of the Moth is covered with snow-white down. The caterpillar feeds upon the hickory, walnut, beech and maple.

Toads in the Garden.

Toads often come to the surface in the newspapers, and pretty soon we may expect them to come again to the surface of the ground in search of the summer insects upon which they exclusively feed. We know gardeners, who certainly know what they are about, who buy up all the toads they can get, and they amply repay their cost in the destruction of insects and larvæ. Many persons have a loathing of this really interesting, but certainly not handsome, *bufo*, the result of superstition or want of education. It is time we learned that they cannot bite any more than a garter snake, and if they could, that bite would be equally as harmless. We suppose the fiction that they carry a jewel in their head is no longer believed, Shakespeare to the contrary notwithstanding; yet the latter is more true than the former—indeed it is half true. They carry two; their eyes, at least, are as bright as any jewels that ever sparkled in a diadem. They are the most

innocent of creatures that ever ate indiscriminately anything that had life that they could swallow, that came within reach. They are worth more per head to the horticulturist than chickens, even allowing that chickens did not scratch, and to put our readers thoroughly in good humor with these insect devourers, we reproduce the following story by Dr. Harris:—He supposed the odor of the squash bug (*Cercus tristis*) would protect it from the toad; and to test the matter he offered one to a grave-looking *bufo* under a cabbage. He seized it eagerly, but spit it out instantly, reared up on his hind legs and put his front feet on top of his head for an instant as if in pain, and then disappeared across the garden in a series of the greatest leaps a toad ever made. Perhaps the bug bit the biter. Not satisfied with this, Dr. Harris hunted up another toad, which lived under the piazza, and always sunned himself in one place in the grass, and offered him a squash bug, which he took and swallowed, winking in a very satisfied manner. Twenty other fine bugs followed the first in a few moments, with no difficulty or hesitation in the taking or

swallowing, though from the wriggling and contortions, it appeared their efforts did not set well within. The stock of bugs then being exhausted, a colony of smooth black larvæ was found in a white birch, each about three-quarters of an inch long, and over one hundred of these were fed to the waiting toad. Touching one of them with the end of a straw it would coil around it, and then when shaken before him he would seize and swallow it, at first eagerly, but with diminished zest as the number increased, until it became necessary to rub the worm against his lips for some time before he could decide about it. He would then take it and sit with his lips ajar for a short time, gathering strength and resolution, and then swallow by a desperate effort. There

is no telling what the number or result would have been, as the dinner bell rang as the 101st disappeared, and by the close of the meal he had retired to his hole, nor did he appear for four days in his sunning place. It is to be hoped that he slept well but there might have been nightmares. — *Western Rural*.

Destroying Curculios.

A correspondent of the *German town Telegraph* says: "I have seen various methods for keeping these insects off plum trees, but none so simple, nor yet so effectual as the following: Soak corn cobs in sweetened water until thoroughly saturated, then suspend them to the limbs of the trees a little while after blossoming, being sure to burn the cobs after the fruit ripens, as they will be found full of young insects. A good plan is to change the cobs every few weeks. My theory is this: that the insects deposit their eggs in the cobs in preference to doing so in the young plums. The first season I tried it upon one or two only, and in the summer was rewarded by a good crop of as fine plums as ever ripened, while those on the other trees fell off when about half grown. Next spring found sweetened corn cobs dangling from the limbs of all my plum trees, and the summer found them full of delicious fruit.