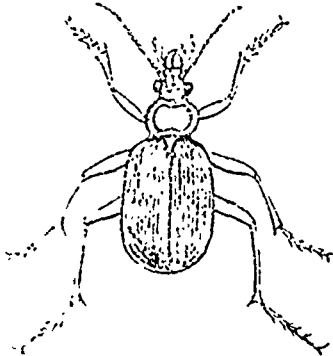


## Entomology.

### Carnivorous Ground Beetles.

We lately brought before our readers an account of the first family of Coleoptera, which are termed Tiger Beetles (*Cicindelidae*) from their rapacious propensities, and which, as insect destroyers, are highly useful to man. The next, and infinitely more numerous family, possesses the same highly satisfactory character, and should be treated by us with the same tender consideration. The members of it, from their habits and mode of life, are called by the general name of Carnivorous Ground Beetles (*Carabidae*). Unlike the Tiger Beetles, which are only represented by one genus, (*Cicindela*) in this country, the Ground Beetles consist of a vast number of different genera and species; over forty genera and an immense variety of species are already known to Canadian Entomologists, and more are added to the list every year. Some of the species are the most difficult to determine of all our beetles, and

Fig. 1.

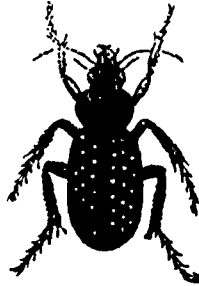


afford an intricate puzzle to the student; the general features of the whole family can, however, be easily learnt from a few specimens, representations of which we now proceed to place before our readers.

The largest and handsomest member of this family is the Green Caterpillar-hunter (*Calosoma scrutator*, Fabr. "the beautiful-bodied searcher"). Fig. 1. represents the size and shape of a large specimen of this species—some males are considerably smaller—but no woodcut can convey an idea of its exceeding beauty and brilliance of colour. The head and thorax are dark purplish black, the latter with a greenish coppery margin: the wing-covers (elytra) are bright shining green, with fine longitudinal lines and scattered punctures, and a broad coppery-red margin: the under-side is deep shining green varied with coppery markings: the legs are blackish-brown, in some lights deep purple. This magnificent beetle, as its name implies, feeds upon caterpillars, especially the obnoxious canker-worm of the United States, sometimes even ascending trees for the purpose; its larva (or grub) has also the same useful propensities. It is rather a rare insect in Canada, though found

occasionally in most parts of Ontario; collectors of insects can often find specimens in summer after a southerly gale, on the outer shore of the Toronto Island, which is a famous place for obtaining rare beetles, that have been drowned in the lake and washed ashore by the waves.

Fig. 2.



Another caterpillar-hunter (Fig. 2.) belonging to the same genus as the preceding, is quite a common insect in Canada, and can be found in May and June under logs or stones, as long as the ground is moist; in the hot dry weather it is not so readily met with. It is called the hot, or glowing *Calosoma* (*C. Calidum*, Fabr.) from the appearance of the wing-covers, which are black with six rows of bright coppery impressed spots, thus bearing a fanciful resemblance to a vessel of coals with a perforated cover. Its general colour is shining black, unrelieved except by the spots just mentioned; still it is a handsome beetle, though not to be compared to the preceding species. Like its congener, it devours caterpillars with avidity, both in its larval and perfect states, and is a capital hand at reducing the numbers of those horrid pests, the cut-worms; we usually transport a number of these big beetles into our garden every spring to keep down these cutters-off of our young cabbage plants.

The next large beetle of this family to which we would draw attention, is the murky ground-beetle (*Harpalus saliginosus*, Say); it is entirely of a dull black colour, and may be readily recognized from Fig. 3. We beg our readers to take particular notice of this figure, as there are a very large number of beetles of the same general shape and structure, though usually smaller, that prey upon

Fig. 3.

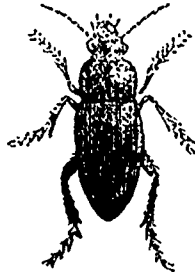


Fig. 4.



other insects, and are consequently useful to man. Any dark-brown, black, green or metallic coloured beetles of this shape, that are found under chips or stones in damp places, or running in grass, may be safely considered as belonging to this family, and

therefore be treated with kindness and consideration; it always gives us a pang of regret to find the crushed body of one of these beetles lying by the way side, where it has been ruthlessly trampled under foot by some ignorant "lord of creation." The particular species here referred to is stated by Mr. Riley to be a formidable enemy of that western plague, the Colorado potato beetle; it is also satisfactory to learn that an allied species (*H. Pennsylvanicus*, De Geer?) a very common insect in Canada, is a merciless devourer of the plum curculio.

A much smaller but very peculiar genus of beetles, is called the Bombardier (*Brachinus*), from its extraordinary power of discharging from its tail end a very pungent fluid, accompanied by a report (resembling the sound *phut*) and some smoke-like vapour; this fluid, which resembles nitric acid in its effects, and makes a stain on the fingers that will last for several days, is no doubt intended for its defence against more powerful beetles. Fig. 4. represents one of these beetles (*B. fumans*, Linn.); its head, thorax, and legs are yellowish-red, and its wing-covers dark blue. Like other ground beetles, it may be found under sticks and stones in the spring, and in similar hiding places on the damp margin of rivers during the hot summer months. There are quite a number of different species of this genus in Canada, but all are very much alike.

Our limited space forbids our going on with the list of species of this family, but we trust that the examples given will prove sufficient to enable our readers to recognize these friendly beetles, and save them from being doomed to a pitiless destruction that knows no difference between friend and foe. Should any one, however, be still in doubt as to the character of any specimen that he meets with, we beg that he will send it to us for identification, that we may judge whether he and his fellows are worthy of death, or are deserving of a better fate.

### What a Spider Eats per Diem.

In order to test what a spider can do in the way of eating, we arose about daybreak in the morning to supply his fine web with a fly. At first, however, the spider did not come from his retreat, so we peeped among the leaves, and there discovered that an earwig had been caught and was now being feasted on. The spider left the earwig, rolled up the fly, and at once returned to his "first course." This was at half-past five a.m. in September. At seven a.m. the earwig had been demolished, and the spider, after resting a while, and probably enjoying a nap, came down for the fly, which he had finished at nine a.m. A little after nine we supplied him with a daddy-long-legs, which he ate by noon. At one o'clock a blowfly was greedily seized, and then immediately, with an appetite apparently no worse for his previous indulgence, he commenced on the blowfly.