

to require considerable dexterity to pierce them without turning the tip of the pin; they nearly always cover the upper surface of the abdomen, the under surface of which is composed of five segments, and has the two first connate. Sometimes in the males there is a small sixth joint left visible, by the fifth one having a notch in the middle. The females are provided with an ovipositor, composed of three horny pieces, with which they are able to thrust their eggs into the smallest crevices of the bark of the tree, which is to form the nursery and food of the young larvæ. The legs are short, having the upper joints (*femora*) stout, and sometimes bearing a spur, the second joints (*tibiæ*) are slender, with two small terminal spines, and the tarsi five jointed. On account of the shortness of their legs, they are not at all active in running. The best authorities seem to agree in saying that they have large wings and fly quickly; but I cannot say that my observations so far have led me to concur with this statement. The wings of all those which I have examined have been small in comparison to the weight of their bodies, not being quite so large as the elytra, and only having one small longitudinal fold at the apex. The chief protection of these beetles lies in the similarity of their appearance to the objects amongst which they are generally found. At the slightest provocation they draw their legs in tightly to their bodies and drop from the branch on which they may be resting or feeding, and, protected by their firm tegument, they can fall upon the hardest rocks with perfect safety. When they reach the ground they will lie perfectly still for a long time, and it requires sharp eyes indeed to detect them, unless the exact spot where they fell is noticed.

Notwithstanding that, on account of the number and beauty of the species, this family has always been a favourite one with entomologists, the lifehistories of its different tribes are still very incomplete; this is owing chiefly to the fact that most of the larvæ mature in living trees, which renders the study of them very difficult. The larvæ throughout the whole family, are much more homogeneous than the perfect insects, and may be described as yellowish-white, legless grubs, Fig. 36 *a*, of slender form, but having the prothoracic segment, Fig. 36 *c*, enormously widened in comparison to the rest of the body; this enlarged division is much flattened, and protected above and beneath with horny plates. The different stages of the Agrilini are not so regular as in the other tribes, and vary in accordance with the group to which they belong.

There seems to be much difference of opinion as to the time necessary for these insects to reach maturity. I am of opinion that the normal period is a year, the eggs being laid during one summer, and the perfect insects appearing in the next. At page 399 Vol. 10 of "The Transactions of the Linnean Society," mention is made of a curious instance of retarded development. A specimen of *Buprestis splendens*, a Swedish species bearing a close resemblance to our *Ancylolochira striata*, was found by a Mr. Montague in the act of emerging from its burrow in the wood of a desk which had stood in the Office of Works, at Guildhall, for 22 years. The insect, with the piece of wood containing the burrow, was sent to Sir Joseph Banks, who found on enquiry that the makers of the desk had obtained the plank from the Baltic. But even this is not the longest period an insect has been known to remain alive in timber. Dr. Fitch describes a longicorn beetle which made its exit from the leaf of a table, made of apple-wood, 28 years after the tree was cut down.

It is in the larval state that these insects are most injurious, when burrowing in the soft sap-wood beneath the bark, especially when in great numbers, as is frequently the case, they cause the death of many young trees by completely girdling them. Some species occasionally shew great partiality for an individual tree; e.g., in a grove of pine saplings, near Ottawa, containing upwards of 100 trees, there are two upon which, at almost any time, I could find three or four *C. liberti*, but upon no other trees in that locality have I ever taken any at all. It is a notable fact that most insects prefer injured or diseased trees, and which, on that account, have a feeble growth than would ordinarily be the case. It is to these trees then that the horticulturist should pay especial attention when hunting for them. Many remedies have been proposed for the protection of trees from the ravages of borers, but the surest mode, and the one which has to be relied on chiefly, is hand-picking. First learn which are your enemies and which your friends, and then go to work to hunt them out steadily one by one. This at first seems an impossibility, but by carefully watching at the proper time to destroy the perfect insects, and with a little experience at larvæ hunting in the fall, an orchard may soon be cleared of its pests. Steps, of course, should also be taken to prevent the beetles from depositing their eggs upon the bark of the trees. The