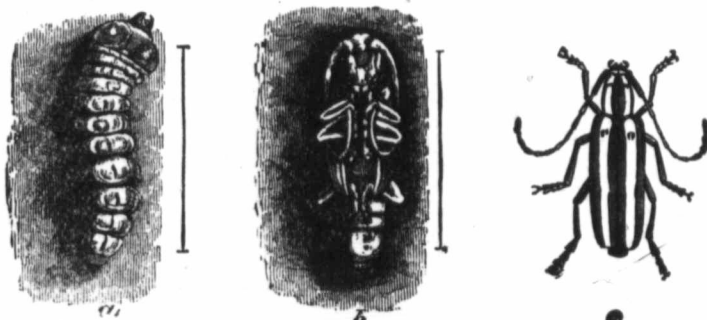


shallow cavities, filled with sawdust-like castings. These are often seen on the bark, and indicate where the "borer" is at work. As it reaches maturity, it cuts a passage upwards into the solid wood, and then curves towards the bark.



Round-headed Apple Tree Borer, *Saperda candida*: a, larva; b, pupa; c, beetle.

In this channel it enters the *pupa* stage about spring. When fully developed, it is an inch long, with a round head that distinguishes it from the flat-headed borer, which also affects the apple tree.

The *imago* is a slender beetle, one inch long, with two broad, whitish stripes on the wing covers, and long jointed antennae. It appears about June.

11. FLAT HEADED BORER (*Chrysobothris femorata*).

This insect also attacks the trunk of the apple tree, but lays its *eggs* higher up the tree than the preceding one. The *larva* is a pale yellow, an inch long, and has a well-marked flat head, much wider than the body. It is sometimes found even in the limbs, and is not so long in developing as the round-headed borer. It cuts flat channels in the sapwood, and sometimes girdles the tree. Castings and discolored bark indicate its presence. It finally bores into the solid wood, and becomes a *pupa* for about two weeks, and then emerges as an *imago* about half an inch long, somewhat flat, and of a greenish black color, with three raised lines on each wing-cover. The legs and under side of the body present a coppery lustre.



Flat Headed Apple Tree Borer, *Chrysobothris femorata* Fabr: a, larva; b, beetle.

Remedies.—1. Examine the trees in autumn, and where the sawdust-like castings indicate the presence of the "borer," a stiff wire may be pushed in and the larva killed, or sometimes the larva can be cut out with a knife.

2. About the beginning of June, apply the following mixture to the trunk of the tree: One pound of hard soap, or one quart soft, in two gallons of water; heat to boiling, and add one pint crude carbolic acid; make a second application in three weeks. This can be well done by using an old scrubbing-brush to rub it in.

apple
takes
flat