

Other Scales, such as the Forbes and Putnam's, may be found on Apple-trees, but thus far have not been abundant, and therefore have attracted little attention. Should they occur in injurious numbers at any time, they may be got rid of with the lime-sulphur wash.

APPLE-TREE BORERS.

THE ROUND-HEADED APPLE-TREE BORER (*Saperda candida*), Fig. 29, is a very serious enemy to young trees. The parent beetle is a handsome insect of a chocolate brown color with two bands of chalky-white extending from one extremity to the other on the upper surface and with long jointed antennæ. The female lays her eggs in an incision which she makes in the bark during the month of June; the young larvæ tunnel under the bark and feed upon the sap-wood, living for three years in that condition, and making larger and deeper burrows as they increase in size. Their presence may generally be ascertained by the little heap of sawdust-like castings at the base of the affected tree. Working under cover as they do, they cannot be reached by ordinary poisons, and can only be destroyed by the insertion of a wire into their boring, or by cutting out with a knife. The former operation is somewhat uncertain, and the latter may injure the tree to a serious extent. The only safe remedy, then, is to prevent the adult from laying its eggs upon the tree.



Fig. 29. Round-headed Apple-tree Borer: a, grub; b, pupa; c, beetle.

When the borers are known to be in a nursery or young orchard, the trees may be protected by wrapping a few sheets of paper around the trunk extending from the surface of the ground to two feet in height. At the bottom the paper should be hilled up with earth, and at the top made tight with a cord of bast or other material that will readily break with the growth of the tree. Above the paper the trunk should be washed from the limbs downward with soft-soap reduced to the consistency of paint by adding a solution of washing soda. Whale-oil or common soft-soap may be used. The object of this is to prevent the beetles from laying their eggs on the base of the tree and hindering those that have completed their transformations from getting out, by means of the paper protection. The wash higher up will deter the insect from laying eggs anywhere else.