irritation produced by so many larvæ at work, cause an increased flow of sap to the part, and a consequent thickening of the sections between the slits, so that the injured part soon assumes a gall-like appearance. On the approach of winter, the larvæ having now attained the length of .25 inch, retire back a little further and close the opening of their burrows with borings. One of the larvæ, however, and in thick limbs two or three at each end bore obliquely till one of them reaches the centre of the limb, up which it proceeds, often two or three inches; the others parallel this, but keep a wooden partition between the burrows. These larvæ are much larger—often twice the size—of those inhabiting the outer wood, and are the only ones that produce beetles.

The whole of the interior of the limb is now dead wood enclosed by a growth of living but unsound woody tissue, through which some openings remain. The limbs are much weakened at these places, and many of them, like the oak on which *Elaphidion villosum* depredates, would be broken off by the winter storms were the fibre not very tough and the trees very low. And here analogy leads to the conclusion that as the larvæ inhabit the portion of the limb next the tree, equally with that beyond the injured part, this is likely to be the case in the history of the Elaphidion mentioned.

Many of the larvæ in the outside wood perish during the winter, and the survivors, after feeding a while in the spring, likewise die, their mission seeming to have been merely to insure a sufficiency of dead wood to sustain the life of the favored few destined for full development.

In the spring the larvæ in the deep wood return and feed on the dead wood, which is now abundant enough for all their wants, and by autumn they are nearly full grown; they again retire for the winter, and in the spring, after opening up communication with the outside world, feed for a short time, and when full grown measure in length about three fourths of an inch. The larvæ now return to their burrows for final transformation. Some of them bore for at least six inches, while others scarcely go from the entrance more than twice their own lengths; the outer ends are closely packed with borings withont and soft fibre within, which also fills the inner ends. The head of the larva may be either toward or away from the opening—seemingly a matter of indifference; in the former case the beetle emerges from the place of entrance, in the latter from a round hole at right angles to the burrow, probably cut by the beetle itself, as no such hole has been detected in the many limbs I have examined contain-