

common to all of the genus *Lecanium*, which serves to enfold the eggs. Underneath the species in question are two transverse parallel lines of this white down (fig. 2) ; one of them, probably the anterior, is nearly marginal, and is interrupted in the middle ; while the other is nearly central, and in place of the interruption at the middle it has a V-shaped projection back or away from the other line. The form of the scale is quadrangular, and not unlike that of a turtle (fig. 1). When fully developed it is a little more than 3-16 of an inch long, and a little more than $\frac{2}{3}$ as wide.

Here at Lansing, the small, yellow, oval eggs appear late in August. In Tennessee they would be found under the scales in their cotton wrappings many days earlier. The eggs are 1-40 of an inch long, and 1-65 of an inch wide. These eggs, which are very numerous, hatch in the locality of their development, and the young or larval lice, quite in contrast with their dried, inert, motionless parents, are spry and active. They are oval (figs. 3 and 4), yellow, and 1-23 of an inch long and 1-40 of an inch wide. The eyes, antennæ (fig. 5) and legs (fig. 6) are plainly visible when magnified 30 or 40 diameters. The 9-jointed abdomen is deeply emarginate, or cut into posteriorly (fig. 3), and on each side of this slit is a projecting stylet or hair (figs. 3 and 4), while from between the eyes, on the under side of the head, extends the long recurved beak (fig. 4). The larvæ soon leave the scales, crawl about the tree, and finally fasten by inserting their long slender beaks, when they so pump up the sap that they grow with surprising rapidity. In a few weeks their legs and antennæ disappear and the scale-like form is assumed. In the following summer the scale is full-formed and the eggs are developed. Soon the scale, which is but the carcass of the once active louse, drops from the tree, and the work of destruction is left to the young lice, a responsibility which they seem quite ready to assume.

In my observations I have detected no males. Judging from others of the bark-lice, these probably possess wings, and will never assume the scale form, though Prof. P. R. Uhler writes me that some of the males are apterous. He says that it is very important to know and record the males, and that the genera are hardly determined without them.

REMEDIES.

If valued shade or honey trees are attacked by these insatiate destroyers, they could probably be saved by discrete pruning—cutting off