

a few hours; at most a day or two. It moves only a few inches from its birthplace, then settles, becomes covered with a scale, and in the case of the female, remains fixed for life, and begins producing young in about thirty days. After becoming fixed, it lives by sucking the sap of the plant upon which it is located. The males have wings, and may fly about at maturity, but the females are always wingless. During the few hours or days the tiny lice are moving about, they may get upon birds and such insects as ants and small beetles, and by them be carried to other trees. One observer has noticed that in infested districts the scale is often more common near a bird's nest. As trees in a nursery grow close together, they present favorable conditions for being infested. Fruit from infested trees may have the scale upon it; even wind may assist in spreading these insects that appear at first so comparatively helpless to travel by their own efforts. Thus *birds, insects, fruit, scions* from infested trees, *infested trees*, and *wind* may all be important factors in the distribution of the scale.



Female scale, with a male adult to the left, greatly enlarged.

THE LIFE HISTORY OF THE INSECT.

The nearly fully grown insect passes the winter beneath its wax-like scale. About June the young begin to appear, as exceedingly minute, six-legged insects, like yellowish specks, moving about. They creep about only for a few hours, at most a day or two, then settle but a few inches from their birthplace, and become attached to the spot from which the females never move. During their sedentary life the females lose their feelers and legs, and have neither eyes nor wings. The males, however, have legs, feelers (antennae) eyes and wings in the adult condition. The scale of the female is circular, with a small nipple in the centre. This scale is from a twelfth to one-twentieth of an inch in diameter, and may be of a light or dark gray color, and usually is much the same color as the bark; the nipple in the centre may be a pale yellow or blackish color. The scale of the male is oblong, with the nipple near one end, and is thus readily distinguished from that of the female. The female brings forth living young, and does not lay eggs, as is usually the case with scale insects, such as the oyster shell and scurfy scales. She may bring into life from 100 to 500 young during the six weeks of her existence after reaching the adult stage.

The males develop about a week sooner than females, the latter taking about five weeks, and emerge from their scales as exceedingly minute two-winged, fly-like insects. From June, when the young appear, a constant succession of generations is observed.