

### THE WOOLLY BARK LOUSE OF THE PINE.

This is an insect which, in some localities, is very destructive to the white pine. Large patches are frequently found on the trunk and branches covered with a white, cottony secretion, under the protection of which live myriads of tiny lice. These puncture the bark with their sharp beaks and feed upon the sap, thus exhausting the trees, and sometimes causing their death. Large numbers of these lice are destroyed by lady-birds, who feed on them both in the larval and perfect state. Two species are especially useful in this instance. One is shown in fig. 24, where it is represented in its three stages. This is known as the painted lady-bird (*Harmonia picta*); the other is black, with two red spots, and is called the twice-stabbed lady-bird (*Chilocorus bivulnerus*). The larva is shown in fig. 25.



Fig. 24.



Fig. 25.

### PINE LEAF SCALE INSECT—*Chionaspis pinifoliae*.

Another allied species is the pine-leaf scale insect (*Chionaspis pinifoliae*, Fitch). The leaves of the pine are sometimes found to be covered with innumerable elongate, snowy-white bodies, which, on examination, are found to be the scales of an insect; these when abundant give to the whole foliage a whitened appearance, and, if the insects are allowed to pursue their course unchecked, the leaves shortly become yellow or brown, and the trees languish and occasionally die. In fig. 26 is shown a tuft of leaves injured

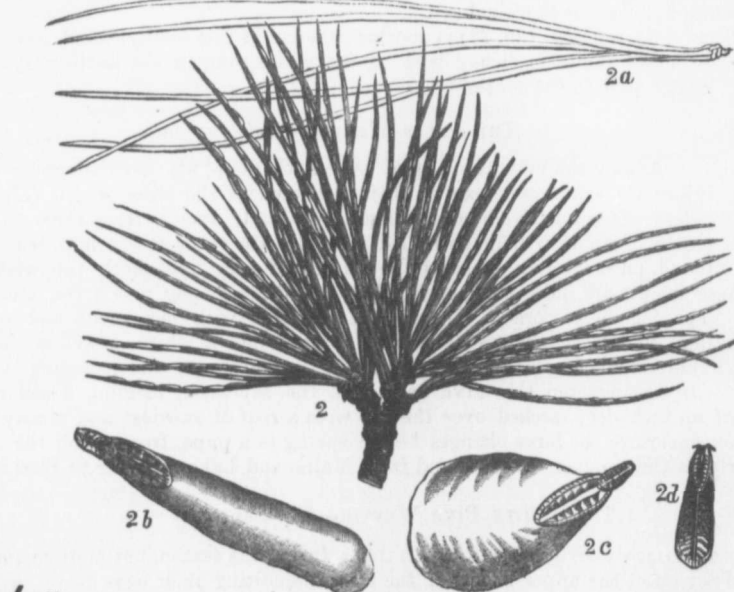


Fig. 26.

by this scale insect. The scale of the female, shown at 2c, is about one-tenth of an inch long, that of the male, shown partly grown at 2d and mature at 2b, is not more than one-thirtieth of an inch. Both male and female scales are much magnified in the figure. This insect has not yet proved troublesome in forests, but has chiefly affected trees in cultivation. It very closely resembles a species found on cultivated pines in Europe, and may possibly prove to be the same. The eggs are produced under the female

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In the are suffer usually on shoots. (larva which shiny-brown dots on each devours the tion which times pro of exuding chrysalis i to fourteen across. I white, and