

out. There is no change in the colour or pattern, except that the medio-dorsal line becomes somewhat more prominent, and the spiracular line appears to cross the incisures. Length a day or two after the fourth moult, 14 mm.

Final Stage.—(Plate 9, figs. 2 and 3, mature larva $\times 3$.) Not differing from preceding stage, the general effect of the stripes being a striking example of protective coloration, alternate lines of white and pale green on a dark green background being well calculated to render the larva inconspicuous as it rests among the clustered pine-needles. During the last two instars the latero-dorsal white stripes become tinged with yellow, which may deepen to a decided orange. Unlike the congeneric caterpillars, the markings do not disappear as the time for pupation approaches. Length when feeding has stopped, 17 to 20 mm. Duration of fourth and fifth stages together, 10 to 18 days, at least two days being spent upon the final mat.

Length of Larval Life.—The shortest span from egg to chrysalis was 27 days 10 hours; the longest, 38 days; the average for 12 larvæ, 30 days.

Pupation.—The caterpillars seek the ground as the time for pupation approaches, and turn to chrysalids among the leaves.

The Chrysalis.—(Plate 9, fig. 4, dorsal aspect; fig. 5, lateral aspect $\times 8$.) I am unable to find any character which will serve to distinguish the chrysalis of *niphon* from that of *irus* or *augustus*. As a rule, it is very dark above, the wing-cases somewhat ruddier, the whole surface heavily sprinkled with black spots and irregular blotches, variable in size and arrangement, and affording no clue to the species of the enclosed insect. The "slender dorsal ridge" is a variable quantity sometimes present, but more often not.

TENTHREDINIDÆ OF COLORADO.

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Unlike most families of the Hymenoptera, the Tenthredinidæ are not highly specialized insects. They do not live in well-organized societies as do many of the bees, ants and wasps, but are solitary in their habits. In the case of the social Hymenoptera, we have a colony organization where different kinds of individuals are entrusted with different duties to perform. Such a high degree of specialization is manifest, that we observe with amazement and wonder the instinctive qualities displayed by them. Not so in the case of the Saw-flies: the only obligation resting upon these