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THE WHITE--MARKED TUSSOCK--MOTH

AGRICULTURAL EXPERIMENT STATION
IOWA STATE COLLEGE OF AGRICULTURE
AND MECHANIC ARTS

Entomology Section

Ames, Iowa

THE WHITE-MARKED TUSSOCK-MOTH[1]

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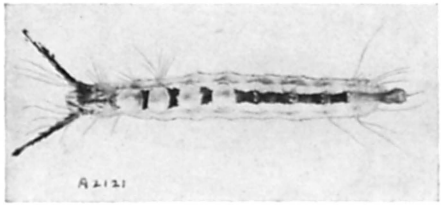
Numerous reports of the abundance of the white-marked tussock-moth in Iowa have been received this fall (1916) at the Agricultural Experiment Station at Ames. The insect seems to be common generally in the state, since reports have come in from so many widely separated communities, including Dubuque, Marshalltown, Des Moines, Fort Dodge, Red Oak, and elsewhere. While this is not a new insect in Iowa, it seldom causes such widespread notice.

THE INJURY

The injury is caused by the caterpillars of the moth, which feed on various shade and orchard trees. The insect is a well known pest of shade trees, frequently causing much damage in states east of the Mississippi river. Where abundant, the caterpillars (larvae), may strip trees completely of foliage, causing severe damage. With this in mind, it is essential that immediate measures be taken whenever the insect appears in Iowa, to prevent further damage in 1917.



Larva of White-marked Tussock-Moth

THE INSECT

The mature larva is a beautiful caterpillar, about 1½ inches long, with conspicuous tufts of fine hair. Projecting forward and diverging are two tufts of black hair, one-third as long as the body; to the rear a single tuft, also black, and a little shorter. On the upper side are four compact tufts or tussocks of white or cream color, each on a separate segment of the larvae. The head is coral red. In general appearance the larvae is dark gray, with a broad, velvety black band on the back, bordered with yellow stripes and yellow below.

After passing thru the intermediate pupa or resting stage, the caterpillar becomes the mature insect, or moth. Only male moths have fully developed wings. The males are ashy gray in color, the wings expanding to about 1⅜ inches. The fore wing is crossed with undulating bands of darker shades and bears a conspicuous white spot.

The White-marked Tussock-Moth

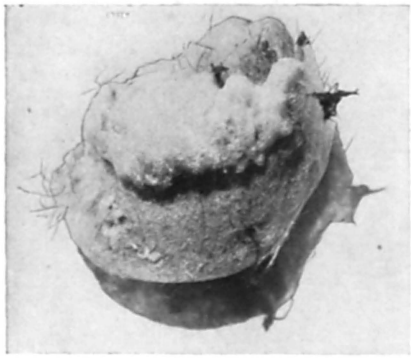
1 *Hemerocampa leucostigma.*

The female has only rudimentary wings and is hairy, stout, and light grayish in color. She is unable to fly and mating therefore takes place wherever the female emerges from the pupa.

The eggs are deposited in conspicuous masses of about 400 on the cocoon where the female emerges. These are nearly spherical in shape, and yellowish in color. The whole mass is covered with a frothy substance.

APPEARANCE DURING THE SEASON

This insect spends the winter in the egg stage. The white egg masses are often conspicuous objects on tree trunks and even on the sides of buildings in localities where the larvae have been exceptionally common. Young caterpillars hatch in Iowa in June. In 1908 these were observed by the writer at Shenandoah, June 6, for the first time that year. By June 15 larvae were common at the same place.



Egg mass of White-marked Tussock-Moth

After feeding about a month, the caterpillar forms its brownish, silken cocoon on the bark of trees, on twigs or elsewhere. It then transforms, first to the intermediate pupa stage, and then to the moth. Consequently, in Iowa another lot of eggs are deposited in midsummer and later, in August and September, a new lot of caterpillars appear. These feed and mature late in September, the insect passing the winter in the egg stage.

FOOD PLANTS

The white-marked tussock-moth is best known as a shade tree insect and is most destructive to such trees as elm, soft maple and linden. The larvae feed on many other plants, among which are the poplar, willow, oak, ash, catalpa, boxelder, birch, horse chestnut, and other trees. The insect is frequently found on apple foliage and the writer once observed a caterpillar feeding on a blade of corn.

CONTROL MEASURES

Control measures may be directed in two ways; against the eggs and against the caterpillars.

The destruction of egg masses during the colder months is a most important measure. These masses are conspicuous and may be easily collected by hand. In fact, school children in some localities have been encouraged to gather these and are paid for so doing. Those egg masses which are out of each can be treated with creosote applied by means of a sponge soaked in this material and attached to a pole.

In spring, trees not infested with this insect may be protected by placing

around the trunk a band of tanglefoot fly paper. A special preparation known as "tree tanglefoot" is desirable for this purpose. The bands should be about 9 inches wide and placed at a convenient height on the trunk. These bands will not protect trees already infested, and where branches intermingle there is always a chance for outside infestation regardless of bands.

The application of arsenical poisons to the foliage of trees already infested with the larvae is also recommended. The main reliance, however, should be placed on the destruction of egg masses and the banding of trees. Spraying is not only expensive but difficult to accomplish satisfactorily in case of large trees. Lead arsenate is preferable for this purpose. This should be used at the rate of five pounds of lead arsenate paste to 50 gallons of water.