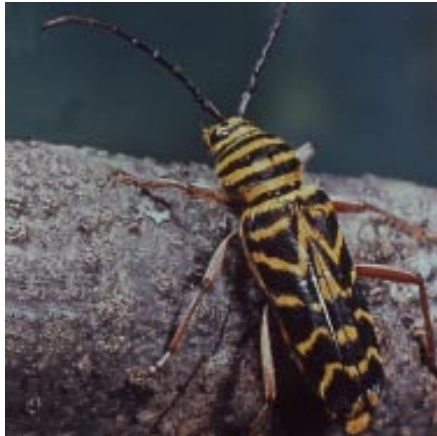


SHADE AND FOREST INSECTS

An Aid to Identification and Control



1. LOCUST BORER
Adult



2. RED-HEADED PINE SAWFLY
Larvae



3. PINE SPITTLEBUG
Nymphs



4. ELM LEAF BEETLE
Upper - Adult
Lower - Larva



5. PALES WEEVIL ON PINE



6. NANTUCKET PINE TIP MOTH
Right - Adult
Left - Pupa



7. TUSSOCK MOTH LARVA



8. ORANGE-STRIPED OAK WORM



9. OAK SAWFLY - Larva

Photo Description And Life History Information

1. Locust Borer. *Megacyllene robiniae* (Forster). Adult.

Adults may be found feeding on pollen of goldenrod in the fall. Adult beetles lay eggs on the bark of black locust where the young larvae hatch and overwinter. In the spring, the larvae feed in the bark of black locust, and frass (sap) can be seen flowing from wounds. In mid-summer the larva pupates in its burrow and emerges as an adult at the time of goldenrod bloom.

Black locust trees are highly susceptible to attack by this borer until they are 6 inches or more in diameter. As the bark thickens, larval survival is lower and the trees should escape further injury.

2. Red-Headed Pine Sawfly Larvae. *Neodiprion lecontei* (Fitch). Typical damage is shown in photo.

This sawfly is one of the most destructive of the native sawflies, especially to young pines.

The life history of the red-headed pine sawfly is complicated, but it may have one to two generations each year. Broods of larvae may be found feeding from May until late fall. Adults lay their eggs in slits in the pine needles and the larvae, upon emergence, become full grown in 25-31 days.

3. Pine Spittlebug. *Aphrophora parallela* (Say).

Nymphs. Photo shows the immature nymphal stage of the spittlebug feeding on pine and engulfed in its frothy "spittle."

Pines heavily infested with this spittlebug will be dripping wet from the continual ejection of undigested sap by these insects. Although the nymphs feed on the sap, perhaps the greatest injury is caused by the invasion of black sooty mold after the insects leave.

Adults lay eggs in late summer in the terminal buds of pines. The eggs hatch the following spring, and the young nymphs begin feeding on the twigs. The spittle-covered nymphs migrate in their feeding and become full grown by midsummer.

The parasitic fungus *Entomophthora aphrophora* is the most important natural control of this insect.

4. Elm Leaf Beetle. *Galerucella xanthomelaena* (Shrank). Adult and larva.

This insect is a primary pest of all elm trees. The adult beetle overwinters in sheltered areas. In the spring the adults feed on developing foliage.

Eggs are deposited in groups of 5 to 25 on the underside of the leaves. Each female may lay up to 800 eggs.

After hatching from the eggs, the young larvae feed from 2-4 weeks on the lower surface of the leaves and then pupate in the bark of the tree. Adults emerge after a pupal period of about 10 days. In the South, there may be as many as three generations a year, but the larvae of the first generation cause the most damage.

5. Pales Weevil. *Hylobius pales* (Herbst). Adult.

This insect is a primary pest of Eastern white pine although many other pines are attacked, especially in the South.

The adult overwinters in litter on the forest floor. In July the adult lays pearly white eggs in the inner bark of freshly cut pine logs. The eggs hatch in about 2 weeks. The larvae are white, have no legs, and are slightly longer than the adult.

The new brood of adults emerges from pupation in September and generally cause their most serious damage to young trees at that time. Feeding is usually at night or at the sheltered base of seedlings during daylight.

The first evidence of attack is the withered seedling. Pales weevils are usually a pest in cut-over or burned-over pine lands. Waiting one year after cutting before planting seedlings is a recommended practice.

6. Nantucket Pine Tip Moth. *Rhyacionia frustrana* (Comstock). Adult and pupa.

This insect attacks all species of "hard" pines, except slash and longleaf.

The moth lays its eggs singly on needles, buds, or shoots. Upon hatching, the larva feeds at the base of a shoot or bud. Feeding sites are usually marked by exuding pitch and frass. The growing larva tunnels into the bud or shoot tip and pupates. From one to four generations per year may occur, depending upon climate limitations.

7. Tussock Moth Larva. *Halisidota* sp.

This insect is known as tussock moth although it actually belongs to the arctiids or "tiger moth" family. The larva shown is either the pale tussock moth or a near relative.

The larvae are general feeders on deciduous trees and are usually found singly.

8. Orange-Striped Oakworm. *Anisota senatoria* (J. E. Smith). Larvae.

Unlike the tussock moth, this insect may be found in large numbers on the various species of oak. Infestations are usually localized, but defoliation may be severe.

The moths emerge from June to August and lay their eggs in clusters on the undersides of leaves. The larvae feed from July to October and then overwinter as pupae in the soil.

9. Oak Sawfly Larva. Probably *Caliroa* sp. The larvae of this sawfly can cause extensive skeletonizing of oak leaves as shown in the photo.

Little is known about the life history of the oak sawfly, but it is most likely similar to that of the Pear Slug. This would mean that two generations a year occur, in midsummer and in the fall. Large numbers of these larvae can damage shade oaks.

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