



Redheaded pine sawfly

Neodiprion lecontei

Order Hymenoptera, Family Diprionidae;
conifer sawflies
Native pest

Host plants: Mugo, red, jack and Scotch pines that are less than 4–5 meters high are preferred, but many different species of pines are also susceptible.

Description: Adults are wasp-like, brownish, and approximately 12 mm long. Mature larvae are 20–30 mm long. They have reddish brown heads, and yellow bodies with six rows of irregular black spots.

Life history: Eggs are deposited on needles and cause rows of brown spots. First generation larvae feed between mid June and late July. Second generation larvae feed between mid August and late September.

Overwintering: Prepupa or pupa in debris.

Damage symptoms: Larvae feed in groups and can completely defoliate a tree from the top down. Young and stressed trees are particularly susceptible to damage. Heavy infestations may defoliate and kill small pines.

Monitoring: Look for egg spots on needles and for larvae from mid June to late July and again from mid August to late September. Look for groups of larvae on terminal twigs of pines and for signs of defoliation. One colony from a clutch of eggs (100–120) can defoliate a 0.6 m tree, while 15 to 20 larval colonies can defoliate a 1.8 m tree.

Physical control: Prune small populations that are accessible.

Chemical control: Horticultural oil sprays are most effective against young larvae. Use a residual insecticide when older larvae are present in large numbers. If larvae are nearly full grown, treatment should not be undertaken. Chemicals will not be as effective, and most of the damage that the plant will sustain will already have been inflicted. Any sprays that are made should be directed at larval feeding aggregations only, when possible.

Biological control: Little information is available on the impact of natural enemies on regulating this insect, although 58 beneficial insects are identified. NPV virus is transmitted by females to eggs and from larvae to larvae.

Plant mortality risk: Low to moderate

Biorational pesticides: azadirachtin, horticultural oil, insecticidal soap, pyrethrins, spinosad

Conventional pesticides: acephate, bifenthrin, carbaryl, chlorpyrifos (nursery only), cyfluthrin, deltamethrin, fluralinate, imidacloprid, lambda-cyhalothrin, malathion, permethrin



Defoliation damage caused by redheaded pine sawfly. (212)

Photo: John Davidson



Redheaded pine sawfly adults, female (left) and male (right); note the difference in antennae. (213)

Photo: David Laughlin



Redheaded pine sawfly adult female. (214)

Photo: David Laughlin



Redheaded pine sawfly (continued)



Redheaded pine sawfly adult female emerging from cocoon. (215) Photo: John Davidson



Photo: John Davidson
Eggs inserted in pine needles by the redheaded pine sawfly. (218)
Photo: John Davidson



Redheaded pine sawfly larvae. (216)
Photo: Clemson University Cooperative Extension Service



Close-up of redheaded pine sawfly larva. Notice larvae have 7 pairs of abdominal prolegs. (217)