



Spittlebugs

Several species
Order Hemiptera, Family Cercopidae;
froghoppers or spittlebugs
Native pest

Host plants: Native Saratoga spittlebug, *Aphrophora saratogensis*, nymphs feed on herbaceous and woody plants, while adults feed on red pine. Native meadow spittlebug, *Philaenus spumarius*, feed on numerous species of herbaceous plants. Native pine spittlebug, *Aphrophora parallela*, feed on Scotch, Austrian, and eastern white pine, spruces, and firs. Other species include the dogwood spittlebug, *Clastoptera proteus* and alder spittlebug, *Clastoptera obtusa*.

Description: Adult froghopper bugs are 6–12 mm long, elongate, oval, and usually dull colored with prominent eyes. Nymphs are smaller and greenish-yellow.

Life history: Eggs usually hatch in May. Nymphs feed under a frothy, spittle-like foam. Adults are present from mid- through late summer, but they do not make spittle. All stages of the insect feed on sap. There is usually one generation a year.

Overwintering: Eggs on bark.

Damage symptoms: Feeding by all stages, if populations are numerous enough, may cause twig and branch dieback. Pines suffer most damage when weather conditions favor disease. Spittlebugs may vector the fungus *Sphaeropsis pini* that can cause flagging injury. Spittlebugs may vector the bacterium, *Xylella fastidiosa*, which causes bacterial leaf scorch.

Monitoring: In May and June, search inside spittle on terminal twigs of hosts for slow moving nymphs. Monitor in July and August for spittlebug adults.

Physical control: Light, accessible spittlebug infestations can be removed by hand or by a strong water spray.

Chemical control: Light infestations have little effect on trees, and control measures are usually not necessary. If infestations are heavy in May, spray spittle covered areas with a residual insecticide. This pest has a wide variety of natural enemies including several parasitic wasps and some fungal diseases. It is important to conserve natural enemies when selecting a control option. Use of insecticidal soap or horticultural oil can be effective, if coverage is thorough. Soil-applied, systemic insecticides, like imidacloprid, are also effective.

Biological control: Some mymarid and aphelinid egg parasitoids are found at low levels. In some populations a pipunculid fly, *Verrallia virginica*, caused 50–60% parasitism of adult spittlebugs. The meadow spittlebug, *Philaenus spumarius*, is regulated by a pipunculid fly, while few reports of parasitism are found for the pine spittlebug, *Aphrophora parallela* (Van Driesche et al. 1996).

Plant mortality risk: Low



Spittle produced by nymphs of pine spittlebug on Scotch pine. (225)

Photo: John Davidson



Spittle on Scotch pine. (225)

Photo: Cliff Sadof



Spittle mass surrounding Juniper spittlebug. (W21)

Photo: Whitney Cranshaw



Spittlebugs (continued)

Biorational pesticides: azadirachtin, insecticidal soap, pyrethrins

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



Juniper spittlebug nymph exposed from spittle mass. (W22)
Photo: Whitney Cranshaw



Juniper spittlebug early nymph with spittle mass. (W23)
Photo: Whitney Cranshaw



Pine spittlebug adult; note the long sucking mouthpart between the legs. (227)

Photo: John Davidson



Twolined spittlebug adult. (226)

Photo: Clemson University Cooperative Extension Service