Shore Flies

May 2, 2013

Shore flies (*Scatella stagnalis*) are often mistaken for fungus gnats because both are small, dark colored flies found in moist environments in the greenhouse. Both adult and shore fly larvae primarily feed on algae and are found in areas where algae are growing. While shore flies do not feed directly on plants, adult flies deposit unsightly black fly specks on foliage. Shore flies may also carry *Pythium* oospores in their midgut and excrete them in their droppings.

Adult shore flies are small, dark-grey flies (approx. 1/8 inch long), resembling fruit flies, with robust bodies, and short legs and antennae. They have five distinctive whitish spots on their gray wings which fungus gnats and hunter flies do not possess. Shore flies are easily distinguished from fungus gnats, which are slender and fragile in appearance, with long antennae. Shore flies may also be mistaken for beneficial hunter flies, which are about twice as large in size as the shore flies and have clear, iridescent wings without any white spots. See info about Hunter flies

Shore fly larvae are small, translucent-white maggots without a black head capsule that is characteristic of fungus gnat larvae. They appear legless and have a breathing tube with two spiracles at the end of their abdomen. Pupae are dark brown, spindle-shaped, with a distinctive forked structure at one end and attach themselves, often in groups, to the sides of objects or pots just above the water level or to the edge of algal mats to pupate.

Female shore flies lay on average about 300 tiny white eggs singly on algae. They develop from egg to adult in 9-11 days. Eggs hatch in about a day and larvae feed for 4 to 6 days on algae, and then pupate. Adult flies emerge from the pupae in 3 to 5 days and generally live 2 to 3 weeks.

Yellow sticky traps placed horizontally at the soil surface are used to monitor for adults. Mass

trapping of adult shore flies, using rolls of yellow sticky tape may help reduce their numbers.

Shore fly infestations are best reduced by managing algae. Minimize fertilizer and irrigation runoff and fix leaky hoses and irrigation systems. Avoid over-watering, over-fertilizing, and eliminate areas of standing water. In addition, greenhouse walls, benches, gutters, and floors should be cleaned of algae growth as often as possible. A steam cleaner or chemical sanitizer such as Zero-Tol, Oxidate, SaniDate, Xeroton, GreenShield, KleenGrow, Physan 20, Triathlon, Green Clean Pro, or TerraCyte can be used.

Atheta coriaria (Rove beetle) is a biological control option. Atheta is a generalist predator that feeds on fungus gnat and shore fly larvae and is commercially available. The adult beetles and the larvae will mainly search for eggs, young larvae and pupae, but not adults. Populations of shore flies will be reduced gradually over a period of two to three weeks. Because adults can fly, they can disperse easily throughout a greenhouse.

The beneficial nematode, *Steinernema carpocapsae* (trade name -Millenium) is labeled for shore flies. Some growers are treating as a sprench every three weeks. *Steinernema feltiae* (trade names - Nemasys, Nemashield) which is commonly used against fungus gnats is less effective against shore flies. Beneficial nematodes and predaceous mites used for fungus gnat control do not appear to work as well against shore flies because of the semi-aquatic environment in which they live. In unsprayed greenhouses, a tiny parasitoid of shore flies, *Hexacola neoscatellae*, is common.

Insecticides such as diflubenzuron (Adept), cyromazine (Citation) and pyriproxyfen (Distance) are insect growth regulators and only affect larval stages (Read and follow plant safety precautions on the label). Pyrethroid-based insecticides and Spinosad (Conserve) are labeled for adult shore flies. Growers may need both an adulticide and a larvicide for well-established populations. Contact insecticides for settled adults include Insecticidal soap (low rate) and horticultural oil (Suffoil X), provided plants are not in flower and plant safety guidelines are followed. When using any product for the first time, be sure to test on a few plants first.

More information
Fact Sheets: Shore fly Biology and Control (Cornell University)
Fungus gnats and Shore flies (UMass Extension)
Fungus gnats and Shore flies photos (UConn Extension)

Photos: Fungus gnat and shore fly on sticky card

Shore flies and algae

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