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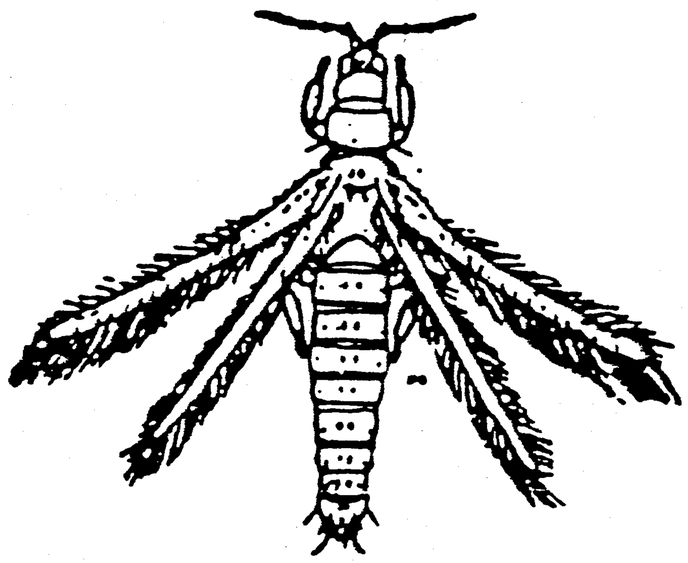
SUGAR MAPLE AND THE PEAR THRIPS



x = actual size

Pear Thrips Adult

Tiny black insects, commonly called thrips, could be responsible for the abnormal appearance (leaf tatter) of sugar maple foliage in many areas across New York State. Recently, foresters in Pennsylvania associated the pear thrips (Taeniothrips inconsequens (Uzel)) with sugar maple leaf distortion and defoliation (Simons, 1985).

The pear thrips, a native of Europe, was introduced as early as 1904 to California and later was found on the East Coast (Stannard, 1968). The pear thrips is economically important to growers of plums, cherry, apple and pear on the West and East Coasts (Borror, et al., 1979). Additional hosts of the pear thrips are maple, basswood, birch, beech, ash, and black cherry (Simons, 1985). In Europe, this insect is associated with woodland vegetation (Lewis, 1973).

LIFE CYCLE AND DESCRIPTION: The adult pear thrips has a slender brownish body and is 1.2-1.5 mm long with a yellow to orange subintegumental segment. Its head is swollen behind the eyes and has red pigmented ocelli. Antennal segments V and VI are broadly jointed, the third segment is yellowish brown. Tarsi are yellowish-brown and the fore tarsi have an apical tooth adapted for digging. Wings are long, narrow, and fringed with long hairs. The fore wings are brown and the hind wings are pale.

Only female pear thrips are known to occur in North America. Therefore, the thrips probably reproduce asexually (parthenogenisis). Both sexes are found in Europe (Stannard, 1968). Eggs are laid mainly in the petioles of blossoms and leaves as soon as buds open. Egg laying is performed with a sharply pointed down-curving, saw-toothed ovipositor. Small brown scars develop soon after eggs are laid.

Young pear thrips are small and white with red eyes. Because the larvae feed on the foliage, they may add to the injury caused by adults. After two or three weeks of feeding, the larvae fall to the ground, enter the soil to depths of up to 40 cm (Cameron et al., 1916), and form pupal cells. Strong spines on the 9th and 10th abdominal segments are used to penetrate the soil and mold a pupal cell. In the fall, the insects pupate within the cells and remain in the soil until the following spring. Adult pear thrips emerge in spring when soil temperature has risen to between 7 or 12 degrees Celsius (=45 to 50 degrees F) (Lewis, 1973). After emergence, adults migrate to the expanding buds and begin to feed. There is apparently one generation per year, adults appearing in late April to early May, and larval feeding finished by early June.

INJURY: Foliar damage is caused when thrips scrape and rasp tender plant tissue with their sharp, needle-like mouthparts to feed on plant liquids. Leaves damaged by the pear thrips are dwarfed, mottled yellow to green-brown, and distorted. This causes the tree to have a thin crown, and the effect resembles late frost damage. Blister-like scars develop along the veins and petioles of the foliage. Moderately damaged foliage can place the trees under some stress and possibly cause premature

leaf drop in early fall. Severely damaged foliage could result in early spring defoliation followed by refoliation in June or July.

MANAGEMENT: Pear thrips have many natural enemies in North America (Lewis, 1973). The importance of these natural enemies is not known.

No insecticides can be recommended at this time to control pear thrips.

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