

SMALL FRUIT CROPS

CORNELL COOPERATIVE EXTENSION

Tarnished Plant Bug

Lygus lineolaris (Palisot de Beauvois)

Tarnished plant bug (TPB) is a major pest of strawberry and brambles in New York State. TPB and other species of *Lygus* occur throughout North America, Europe, and Asia. This insect is a pest of more than fifty economically important plants, including apple, peach, and pear, as well as strawberry and raspberry.

The Adults

TPB is a "true bug," with piercing-sucking mouthparts. Adults are 6 to 6.5 mm (0.25 in.) long, oval, and somewhat flattened (fig. 1). They are greenish-brown with reddish-brown markings on the wings. A distinguishing characteristic is a small but distinct yellow-tipped triangle in the center of the back, behind the head.

TPB overwinters as an adult under leaf litter, stones, tree bark, mulch, and in other protected places. At the end of April, these adults become active and begin laying eggs in crop and weed hosts. This overwintering adult population

peaks in early May in New York State. Two to four indistinct generations can occur annually, with development from egg to adult taking 30 to 40 days.

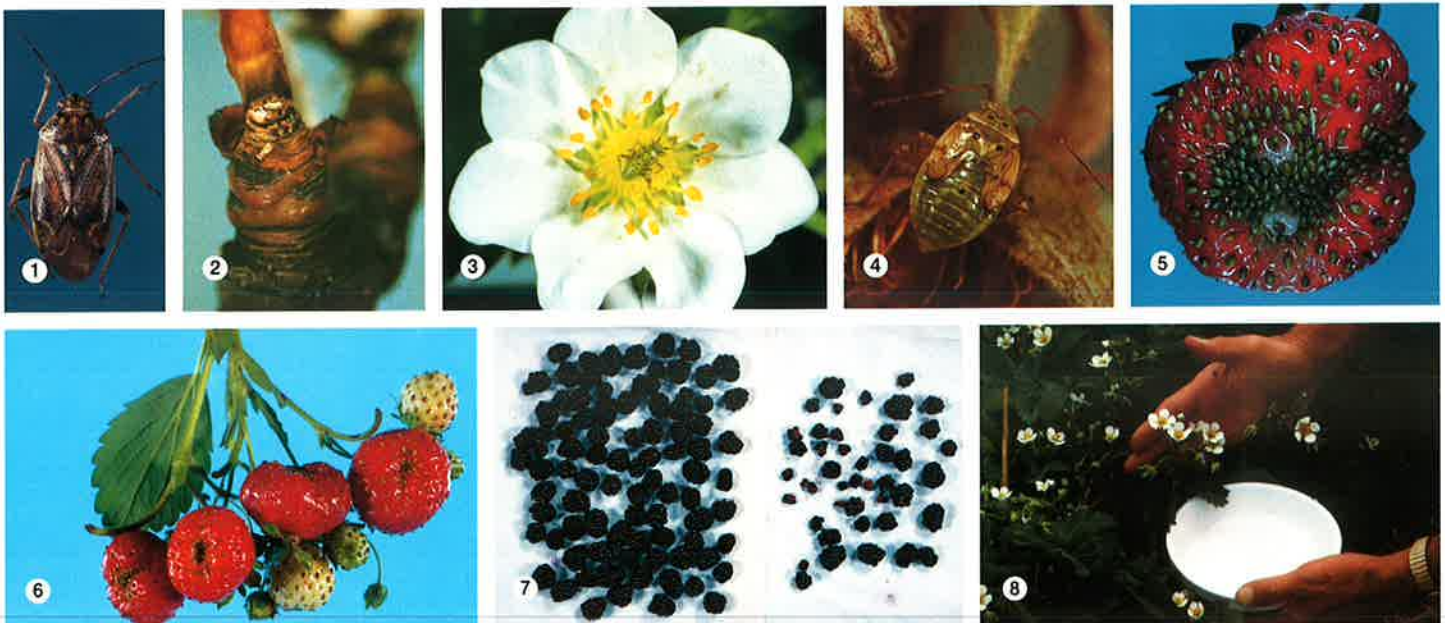
Eggs

Eggs are about 1 mm (0.04 in.) long and flask shaped. Each egg is laid in the plant tissue so that only the small, anterior end is visible. Eggs can be laid on fruit crops (fig. 2), but are generally deposited on weeds and grasses.

Nymphs

Eggs hatch into nymphs about seven days after being laid. The young nymphs are pale green and resemble aphids (fig. 3), but differ from aphids in that they have more robust legs, are more rapid in their movements, and have no abdominal cornicles (backward-pointing structures that

Actual Size Egg Nymphs Adult



resemble short stems). Newly hatched nymphs are about 1 mm (0.04 in.) long and remain greenish throughout their five instars or stages. Later instars turn brown and develop wing pads (fig. 4).

Damage

Strawberry. Feeding activity of TPB nymphs and adults can produce strawberries that range from slightly damaged to 100 percent unmarketable. By damaging individual achenes (seeds) of the strawberry, TPB nymphs prevent growth of the receptacle. This damage leads to the “cat-faced” or “button-berry” fruit that is often characterized by apical seediness (figs. 5, 6). To distinguish this deformity from other causes (such as poor pollination), look for hollow seeds resulting from TPB feeding. Often these hollow seeds are straw brown.

Most damage occurs around petal fall, with less occurring prior to or during bloom. In New York State, June-bearing cultivars with early fruits have been almost free of injury, whereas later-maturing cultivars have been more severely damaged.

Brambles. TPB damage on blackberries and raspberries can resemble TPB damage on strawberries. Moderate injury to the achenes may be covered over and go unnoticed as the surrounding drupelets enlarge, but when the fruit is eaten, the damaged area will feel like a hard pit. More

severe feeding on buds, blossoms, and developing berries can result in fruit that is deformed or undersized (fig. 7, damaged fruit on right).

Monitoring and Control

Strawberry. Plantings near weedy areas or alfalfa are likely to attract migrating TPB. Mowing or removing weed hosts near plantings is one way to control TPB. However, adjacent weedy fields and alfalfa plots should *not* be mowed or disturbed just before or during the strawberry blossom period, because doing so stimulates movement of TPB into the plantings.

Many predators and parasites attack TPB, but little is known about the beneficial effects of these insects in strawberry plantings. The need for chemical treatment is determined by the density of nymphs in the inflorescences. These nymphs are monitored just before blossoms open until harvest. To monitor, shake flowers or fruit over light-colored saucers and count the nymphs caught (fig. 8). Treatment is needed at levels of 1 to 2 nymphs per inflorescence.

Brambles. Although few good guidelines exist, periodically inspect the developing berries for evidence of feeding.

Consult local Cooperative Extension recommendations for the proper pest management procedures for your area.

Guide to Stages

Stage	Timing	Where to Look
Adults		
Overwintering generation	Late April	On flower buds, weedy areas, alfalfa fields Use pan sampling in strawberry
Summer generation	Summer to fall	Other hosts, especially legumes such as alfalfa and clovers
Eggs	Continuous, starting in early spring	Not practical
Nymphs	May through fall	Flower buds, fruit, alfalfa, weedy areas

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