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The Texas A&M University System

TENT CATERPILLARS

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Tent caterpillars attack several kinds of broadleaf trees and shrubs and produce unsightly webs, or tents, which detract from the home landscape. Trees with substantial defoliation will have reduced growth and vigor. Caterpillars also can be very common and thus a nuisance as they move around the exterior of a home. The key to eliminating tent caterpillar problems is early detection and use of appropriate cultural or chemical control measures.

Four species of tent caterpillars are troublesome in Texas. The eastern tent caterpillar, *Malacosoma americanum*, and the western tent caterpillar, *M. californicum*, build large tents. The Sonoran tent caterpillar, *M. tigris*, builds a small tent. The forest tent caterpillar, *M. disstria*, builds no tent. These species are closely related and have very similar life histories. Life cycle, identification, host plants and control measures are discussed below.

Figure 1. Egg mass of the eastern tent caterpillar.

Figure 2. Eastern tent caterpillar larva.

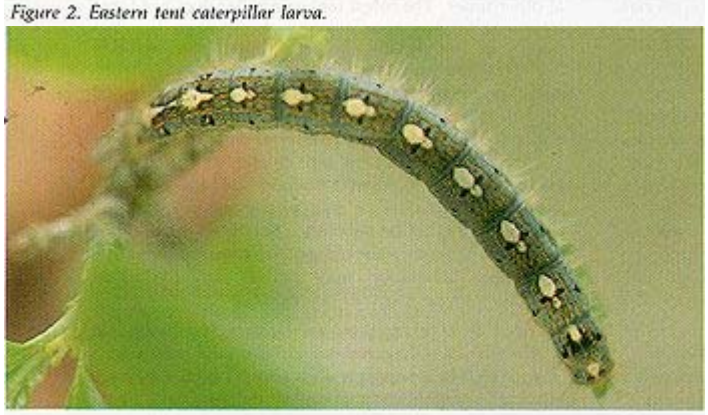

Figure 3. Forest tent caterpillar larva.

Life Cycle

In late spring or early summer, female moths deposit an egg mass encircling small twigs or on tree trunks (Figure 1). Egg masses are present on trees during most of the summer, fall and winter. The adult moth uses a sticky, frothy substance called spumaline as an adhesive to attach eggs to bark or twigs. Spumaline also is used as a hard protective covering around the egg mass in all Texas species except the Sonoran tent caterpillar.

Caterpillars, or larvae, (Figure 2,3) hatch from the eggs in early spring about the time host plants leaf out. The eastern tent caterpillar and western tent caterpillar feed on new leaves, forming small webs within a few days after hatching and enlarging the webs as they grow. The web or tent (Figure 4) is most often in a crotch of small limbs, and serves as a refuge for the larvae during the night and during rainy spells. Larvae move from the tents to feed on leaves, so damage can be found for some distance around the web. Tent caterpillars feed in groups, and thus concentrate their defoliation.

Both the eastern and western tent caterpillars form conspicuous, large webs that are easily recognized. This is not true of the other two species. The Sonoran tent caterpillar spins a small web when it molts. Molting, or skin shedding, occurs several times as the larvae grow. The larvae do not live in these small webs at other times. The forest tent caterpillar does not form a tent, and only spins a silken mat each time it molts.

During the last stage of larval development, which occurs in late spring, larvae wander considerable distances and may feed on a variety of tree, shrubs and even herbs before finding a site for pupation, or cocoon spinning. Cocoons are formed in the web, under bark, in dead plant material on the ground, or inside a rolled leaf. Forest tent caterpillars often draw leaves together to form a cocoon site. Cocoons are loosely constructed of silk and have a white or yellowish crystalline substance scattered throughout the mass. Cocoons should not be handled since the crystalline substance may cause skin irritation, especially to people with allergies.

Adult tent caterpillars are brown and yellowish moths with two diagonal markings on the front wings (Figure 5). Their wingspread is about 1 inch. They are attracted to lights and can occasionally be very abundant. The moths live for only a few days, during which they mate and lay eggs. Adults do not feed. There is only one generation of tent caterpillars per year. A diagram of the life cycle is presented in Figure 6.

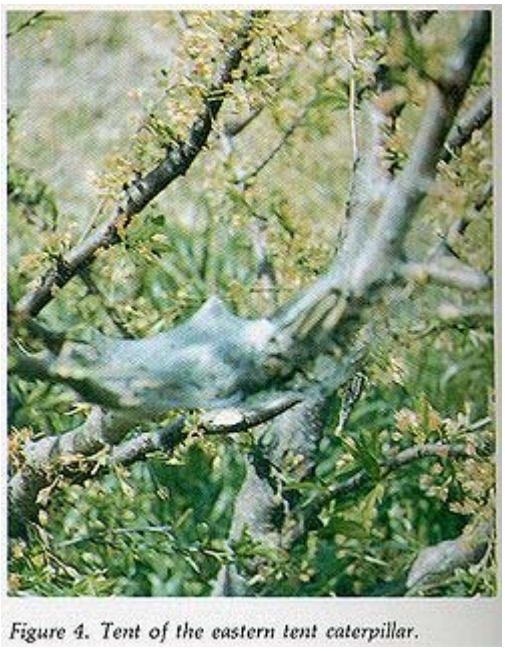

Figure 4. Tent of the eastern tent caterpillar.

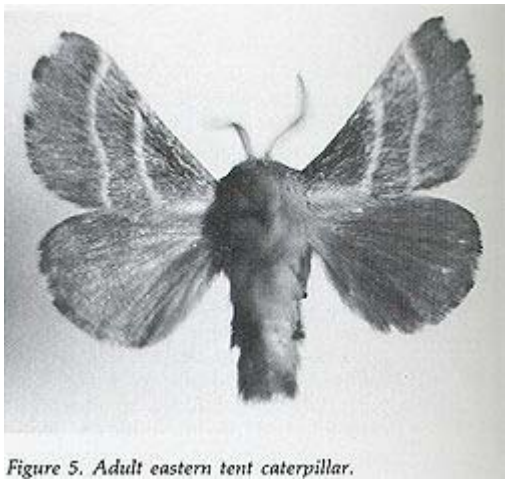

Figure 5. Adult eastern tent caterpillar.

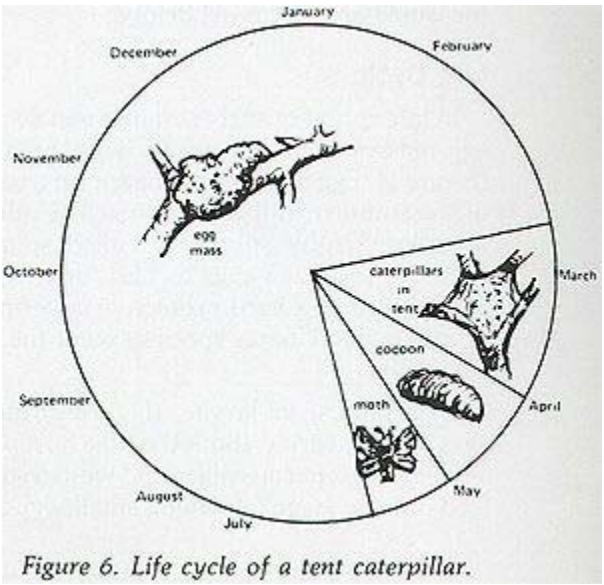

Figure 6. Life cycle of a tent caterpillar.

Identification

Tent caterpillar larvae are attractively colored and more than 1 1/2 inches long. They have a few long hairs on their bodies, mostly along the sides. The species can be easily identified by larval coloration and markings.

The eastern tent caterpillar has a solid white line down the center of its back. The forest tent caterpillar has a row of "keyhole" shaped white marks, one on each body part or segment. The western tent caterpillar may sport a variety of markings and colors, but always has a series of white dashes down the middle of its back. The Sonoran tent caterpillar lacks white marks down the middle of the back, but has a series of yellow dashes and blue spots on each segment. Also, the third from the last abdominal segment is mostly black on the top surface.

Larvae that are found with tents but do not match these descriptions are probably fall webworms. The fall webworm can have several generations per year and produces tents during late summer and fall. Information on the fall webworm is found in: L-1811, *Fall Webworm*; B-1238, *Pecan Insects of Texas*; B-1576, *Suggestions for Controlling Insects and Diseases on Commercial Pecans*; and L-1140, *Homeowner's Fruit and Nut Spray Schedule* (Texas Agricultural Extension Service).

Host Plants

Tent caterpillars attack a variety of plants, both ornamental and fruit. The eastern tent caterpillar prefers cherry, plum, peach, apple, hawthorne and related plants. It occasionally attacks other trees, such as oaks, if food is scarce. The western tent

caterpillar is found on a variety of trees and shrubs, including oaks and wild plums. The Sonoran tent caterpillar is usually seen on oaks, but occasionally will attack other trees. The forest tent caterpillar is found on a variety of hosts, but prefers oaks in Texas. It also likes tupelo gum, black gum, sweet gum and other deciduous trees. The forest tent caterpillar avoids red maple, pear, buffaloberry and silverberry.

See Table 1 for a comparison of the coloration, web forming habits and host plants of the different species.

Control

Control programs should be based on the need to eliminate unsightly webs defoliation and/or nuisance from caterpillars. A combination of cultural and chemical techniques may be necessary.

Cultural. Trees should be inspected for tent caterpillar egg masses during winter pruning. Egg masses appear as swellings on small, bare twigs. Normal pruning often can remove tent caterpillar eggs before they hatch.

Webs may be pruned out when first noticed in the spring. If they are located in areas where pruning is not desirable or possible, the tent may be destroyed by hand. Use a long pole with nails extending from it to destroy the web. A high pressure water hose also may be used to remove webs especially in hard to reach locations.

Burning the web and caterpillars is hazardous and no more effective than the above technique. If you insist on this approach, use an oily rag attached to a pole or stick as a torch, being careful not to burn the tree limb and tender foliage. Avoid personal injury and ground fires from burning rag fragments by using a tin can as a rag holder.

Caterpillars knocked from the tree or crawling on a patio may be killed by crushing. Use a broom to collect dead or crawling caterpillars around the home.

Landowners with large forests of preferred host trees should spot check for eggs in several areas of the forest during the winter. If tent caterpillar eggs are abundant over large areas, chemical control measures should be planned for hatching time.

Chemical. Several things should be considered before deciding to spray for tent caterpillars. Once feeding damage occurs it will remain throughout the season. If tent caterpillars have been allowed to feed and have completed their development, it is useless

to spray. However, removal of the tent will eliminate the unsightliness of the tent itself. Tents are quite resistant to weather and will remain in the tree for long periods.

If caterpillars are detected early, spray may be applied as spot treatments on webs. Broadcast treatments are unnecessary and wasteful except during widespread outbreaks of the forest tent caterpillar or Sonoran tent caterpillar. One carefully applied treatment, properly timed, is sufficient for control.

Any of several insecticides can be used for controlling tent caterpillars. Not all insecticides are labeled for use on all host plants. To eliminate caterpillars as a nuisance around buildings use an aerosol spray containing synergized allethrins, synergized pyrethrins or tetramethrin.

Injectable products can control tent caterpillars successfully. However, these products must be inserted in the trunks and thus cause some damage to these trees during application. Since the hazard of tent caterpillars to the health of the tree is minor injectable products are not a wise choice. Safety precautions should be followed when applying insecticides, and instructions on product labels must be followed carefully.

Table 1. Larval coloration, web forming habits and host plants of the tent caterpillars in Texas.

Species	Color of upper surface of larvae	Tent characteristics	Hosts
Eastern tent caterpillar	solid white stripe	large	cherry, apple, hawthorne and related plants; sometimes oak
Western tent caterpillar	white dashes	large	oak, wild plum
Forest tent caterpillar	keyhole shaped markings	mat of silk at molting	oak, tupelo gum, black gum, sweet gum and others
Sonoran tent caterpillar	no white marks; one black segment	several smaller webs	oak and other deciduous trees

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