

COMMON TREE AND SHRUB PESTS OF INDIANA

1. OYSTERSHELL SCALE (Brown Race), *Lepidosaphes ulmi* (Linnaeus). The brown race oystershell scale attacks hybrid lilac, poplar, redbud, dogwood, ash and fruit trees. The gray race type usually attacks common lilac. Mature scales are found firmly attached to the branches (pictured). Here, they feed by sucking sap and may eventually kill their host. Young scales or "crawlers" wander over the plant before attaching themselves to the branches. The two-generation brown race crawlers are active in early June and late July. The gray race crawlers are present in early June only. *For control, see E-29.*

2. MAPLE BLADDER GALL, *Vasates quadripedes* Shimer. Maple bladder gall appears as small, wart-like growths on the upper surface of the leaves of young silver or soft maple trees (pictured). They are caused by mites that overwinter in the buds and attack the leaves as soon as these buds break in spring. Although affected leaves may be distorted, the galls seldom hinder tree health and vigor. *For control, see E-56.*

3. FLATHEADED BORER, *Chrysobothris femorata* (Olivier). The flatheaded borer attacks many fruit and shade trees, but usually only those in a weakened, injured, or sunscalded condition. Silver maple is especially susceptible. The borers burrow beneath the bark into the cambium and sapwood (pictured). If left unchecked, they may eventually girdle and kill the host. Damaged areas in the trunk may be discolored and slightly sunken. *For control, see E-41.*

4. APHIDS, *Several species.* Aphids attack fruit trees, shade trees, ornamental evergreens, deciduous ornamentals and many types of shrubs. They weaken their host by sucking plant sap, causing curled or twisted leaves and twigs, and malformed flowers. Some species carry virus diseases from infected to healthy plants. All types secrete "honeydew," which attracts flies and ants, stains objects, and encourages growth of an unsightly sooty mold. Aphids are small, soft-bodied, winged or wingless, and vary in color from green to shades of red, black or brown (pictured). They cluster on the new growth of the underside of leaves, but some species work underground. *For control, see E-41.*

5. PINE NEEDLE SCALE, *Chionaspis pinifoliae* (Fitch). This small, elongated, white scale attacks most types of needled evergreens but is especially common on mugho pine. Like the oystershell scale, the pine needle scale sucks sap. Heavy populations weaken the host and may kill it. This scale has two generations a year, with the young scales or "crawlers" present in late May and again in late July. *For control, see E-29.*

6. BAGWORM, *Thyridopteryx ephemeraeformis* (Haworth). This destructive caterpillar attacks both evergreen and deciduous plants, the most common being firs, junipers, pines, spruces, black locust, maples, sweet gum, and sycamore. Starting in early June, bagworms begin feeding on the foliage, spinning a bag of thread and leaf bits as they feed and grow. Defoliation is apparent by July and August and is often fatal to evergreens. The caterpillar crawls part way out of the bag to feed (pictured), but retreats inside if disturbed. In late August or September, the mature worm attaches the bag to a branch or other object and changes into the adult stage. Eggs are contained in the overwintering bags. *For control, see E-27.*

7. SMALLER EUROPEAN ELM BARK BEETLE, *Scolytus multistriatus* (Marsham). This small, dark brown beetle is the principal carrier of Dutch elm disease. The larvae feed beneath the bark of dead or dying elms, creating galleries in which they overwinter (pictured). In spring, about the time lilacs are in bloom, adult beetles emerge covered with the Dutch elm disease fungus spores. They immediately migrate to healthy trees and feed at the twig crotches (pictured), and thus may deposit the disease spores. *For control, see E-41.*

8. ELM LEAF BEETLE, *Pyrrhalta luteola* (Muller). The elm leaf beetle attacks all elm species but prefers Chinese elm. Both larvae and adults feed on the underside of the leaves, giving them a "skeletonized" appearance (pictured). Heavily infested leaves turn brown as if scorched by fire. Adult beetles overwinter in protected sites and can be a household pest in spring and fall. Starting about mid-May, the beetles deposit their yellow eggs on the underside of elm leaves. In a week, the eggs hatch and the new larvae feed until early July. Then they crawl or drop to the base of the tree to pupate. Adults emerge in about 10 days, feed on the leaves, and lay eggs for a second generation. *For control, see E-25.*

9. EASTERN TENT CATERPILLAR, *Malacosoma americanum* (Fabricus). The tent caterpillar is a leaf-feeding pest of numerous fruit trees and deciduous ornamentals. It is common on apple, wild cherry and witch hazel. It overwinters in the egg stage. These eggs are deposited in bands around the twigs. As leaves emerge in spring, the eggs hatch and larvae feed on the leaves. At night and during bad weather, they cluster on their silken tent (pictured). When the host plant is defoliated, the caterpillars wander about and may invade homes. *For control, see E-41.*

10. YELLOW-NECKED CATERPILLAR, *Datana ministra* (Drury). The yellow-necked caterpillar is found on many fruit trees and ornamentals, especially pin oak. It feeds in large colonies (pictured) on the leaves, causing greatest damage in July and August. Young caterpillars skeletonize the foliage, leaving only the veins and upper surface. The older ones eat all of the leaf but the mid-rib. *For control, see E-41.*

11. SPRUCE MITE, *Oligonychus ununguis* (Jacobi). This tiny, spider-like pest is common to needled evergreens, including spruce, arbor vitae, hemlock, juniper, and some pines. It damages the needles, causing the plant to turn white, yellow or brown. Damage occurs in early spring and fall and usually starts at the bottom of the plant, progressing upward and outward. Close examination will reveal round, brownish eggs and an almost invisible webbing over the leaves and branches (pictured). Other species of mites attack deciduous plants. *For control, see E-42.*

Current Control Information

The information and color illustrations presented here are designed to help you correctly identify some tree and shrub pests found in Indiana. These pests and the problems they cause do not change, but the methods of dealing with them do. Therefore, Purdue University Extension entomologists have prepared the following publications to keep Hoosier homeowners, nurserymen and arborists up to date on the latest recommended control methods and materials:

- E-25 The Elm Leaf Beetle
- E-27 How to Control Bagworms
- E-29 Scale Insects on Shade Trees and Shrubs
- E-41 Insect Pests of Shade Trees and Shrubs (\$3.00)
- E-42 Mites on Ornamentals
- E-56 Galls on Shade Trees and Shrubs

Single copies of these publications, revised periodically, may be obtained by Indiana residents from their local county Cooperative Extension Service office or from Agricultural Communication Media Distribution Center, 301 South 2nd Street, Lafayette, IN 47901-1232, Phone: 765-494-6794.

COMMON TREE AND SHRUB PESTS

For safe and effective use of insecticides, always identify the problem correctly.



1. Oystershell scale



2. Maple bladder gall



3. Flatheaded borer



4. Aphid



5. Pine needle scale



6. Bagworm



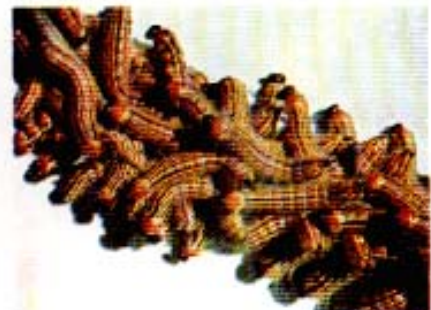
7. Smaller European elm bark and galleries



8. Elm leaf beetle and larvae



9. Eastern tent caterpillar



10. Yellow-necked caterpillar



11. Spruce mite injury

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