



Horned Oak Galls

Oak trees are attacked by many species of gall-forming insects. The activity of these pests results in many kinds of malformed, odd appearing leaves, stems and flower growths called galls. For the most part, leaf and flower galls are not measurably injurious. However, this is not the case with many of the twig or woody galls. The horned and gouty oak galls may be seriously injurious to pin and red oak, respectively. Heavily galled pin oaks may be disfigured and weakened. Some have died from the debilitating effects of the gall maker, a small cynipid wasp.

The horned oak gall maker (*Callirhytis cornigera*) is a member of the wasp group of insects. However, it does not sting people. The tiny wasps develop in large ball-shaped twig swellings (Fig. 1), and the majority emerge during early May. All the adults appear to be female. They lay eggs on the underside of newly formed oak leaves. The insects in the vein galls mature and emerge as wasps around mid-July.

They are much smaller than their parents. Both males and females occur in this brood. These wasps then mate and the females soon lay eggs in oak twigs. It is not known how soon these eggs hatch or when the twig galls begin to develop. While it is possible that the gall begins to form the same year the eggs are laid, it is more likely that they will not develop until the following year. Larvae may be found in twig galls but do not complete their development and emerge as adults until two years from the time the egg was laid.

What is the Outlook for Preventing Damage?

Because our information is at best sketchy, we cannot provide a sound recommendation for a prevention program for the horned oak gall maker. However, here are some factors in the situation.

1. **Gall insect parasites.** Insects parasitic on the horned oak gall wasp have been found in the galls. It is possible that these parasites will contribute to a natural decline of the wasps during some of the following generations. In other words, some natural control may occur.
2. **Natural resistance.** There are pin oak trees in each of the infested areas which have not become infested with horned oak galls. These trees do not have a single gall on them even though they are growing in the midst of infested trees. This raises the question of natural "resistance" in some trees. If not "resistance" perhaps some other factor prevents infestation of these plants. Regardless of the cause of "resistance" the occurrence of uninfested trees may offer the opportunity to develop through selection and/or breeding pin oaks which are resistant to infestation.

No insecticidal control chemicals can be recommended at this time. Where possible, cut out the galls before the horns form and destroy them.

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Fig. 1 A "horned oak gall" that has formed on an oak twig. Note the horn-like projections on the gall. (Photograph A. Steven Munson, USDA Forest Service, www.bugwood.org)