

# THE PURDUE LANDSCAPE REPORT

## Horned Oak Galls Can Make a Mess out of Pin and Related Oaks

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The horned oak gall making wasp, *Callirhytis cornigera* (Osten Sacken) causes pin and willow oaks to produce large numbers of round, spiked woody galls up to 2 inches in diameter around the stems of pin and willow oak trees. These galls will girdle limbs and can kill the portion of the branch that extends from the gall. Galls can't be removed without cutting twig tissue. On small trees gall makers can significantly alter the shape of trees when they attack the structurally significant branches like the central leader. Heavy infestations can kill oaks in urban plantings.



Figure 1. The horned oak gall maker can produce large galls with and without horns. In the older literature these galls were also called gouty oak galls.



Figure 2. Adult gall making wasps emerge from horns or holes in galls in the spring and lay eggs on young expanding oak leaves.

Female wasps emerge from woody galls in early spring (April) and lay eggs into the swelling leaf buds. Each egg hatches into a larva that produces a small blister gall along the vein on the undersides of leaves. In summer (June) adults fly from leaf galls and lay eggs into twigs. The resulting galls become visible the following spring as small bumpy areas on twigs. Over the summer each twig gall expands and increases in size. Galls continue to grow two years until adults emerge in early spring to lay eggs on to leaf buds. Large groups of individual galls will grow together over this time to create spiked galls along branches. These galls can eventually girdle twigs and kill branches.



Figure 3. Eggs laid by the wasp produce galls on the midribs of leaves. Adults emerge from these galls in June to lay the eggs on twigs that produce galls and new adult wasps 33 months later.



Figure 4. Small galls on the right side of the photo taken in late July are galls produced from females who laid eggs on twigs in June of the previous year (13 months). Galls of this size will not produce adult wasps. It has been 25 months since gall makers laid eggs in these medium size galls. Adults will emerge the following April (33 months) to lay eggs in expanding oak leaves. These 37-month old galls had wasps emerge 4 months earlier in April.

Remove young expanding twig galls as soon as they are visible in the spring. Cutting off old, dried galls is not necessary. Applications of insecticides can kill leaf galls, but do not reduce the number of new stem galls produced. Research conducted to date has been promising, but slow going. Use of long-lasting products such as emamectin benzoate injections every two years in May have been shown to reduce the production of stem galls. But with a 33-month life cycle, it takes a long time to start seeing results. Don't expect miracles.

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