

Gardening Basics

Oak Gall Insects



"Galls on young oak leaves" by S. Rae is licensed under CC BY 2.0.

Galls are abnormal growths of tissue in trees and other plants. The exact answer as to how they form is still somewhat of a mystery – most are caused by insects, either by the laying of eggs in the leaves, twigs, bark, buds, flowers, nuts, and roots or by their larvae when they begin to feed. Galls provide shelter, food, and protection for the larvae.

The chemical produced by the specific species of gall-causing insect determines the shape of the gall, which can be round and dense, fuzzy, woolly, veined, bullet-shaped, or horned. About 80% of galls in the U.S. are found on different oak trees.

What causes galls?

Mites, insects, nematodes, bacteria, or fungi cause some galls. Most, however, are caused by tiny wasps. The horned oak galls you see on live oak trees are caused by the Cynipid Gall Wasp. The galls form in the small branches or twigs of the oak tree. Horned oak galls are usually pink to brown with a yellow-green tissue inside and are 1/8" to 1" in diameter when first created.

Different species of the Cynipid Gall Wasp cause other unique oak galls:

- gouty oak gall (woody twig galls) by *Callirhytis* spp.
- hedgehog gall (leaf galls with orange-colored "hair"), by *Acraspis erinacei* Beutenmuller
- wool sower gall (sticky, spongy galls on twigs with seed-like structures inside), by *Callirhytis seminator* Harris
- woolly leaf gall (leaf galls on post oak), by *Andricus laniger* Ashmead
- oak apple (spherical, spongy-filled galls on red oak), by *Amphibolips* spp.

Are oak galls harmful?

Although unattractive, the galls are not harmful to the tree's health. The leaves may be distorted, and early leaf drops may occur. Occasionally, small twigs may be girdled (where the tree's ability to transport water and nutrients is impaired), causing them to die. The only way to prevent them is to grow plants that are not subject to galls.



"HYM Cynipidae *Callirhytis cornigera* on *Quercus imbricaria* horned oak gall-BOONMO-RiverOaksHouse-20100418-LFE-007" by Ifelliott is licensed under CC BY-NC-SA 2.0.

Learn more at these links:

- "Forest Health: Oak Gall Insects", Texas A&M Forest Service <https://tfsweb.tamu.edu/OakGallInsects/>
 "Campus Biodiversity: Oak Gall Wasps", University of Texas at Austin Biodiversity Center: <https://biodiversity.utexas.edu/news/entry/oak-gall-wasps>
 "Cynipid Wasp", Field Guide to Common Texas Insects, Texas A&M AgriLife Extension: <https://texasinsects.tamu.edu/cynipid-wasp/>