

# HORNED OAK GALL WASP



## WHAT IS THE THREAT:

The horned oak gall wasp (*Callirhytis cornigera*) is an insect that causes golf ball-sized growths on susceptible oak species. The galls are often found on young branches and have protruding "horns." The horned galls take up to three years to fully develop after which the females emerge in the spring from the horns. These females lay eggs on swelling leaf buds. The larvae then create small blister galls along the veins of new leaves. Young wasps exit the leaf galls in early summer, mate, and then insert their eggs into young oak twigs. The twig galls increase in size over the next 24 months and develop "horns" once the galls are mature and the cycle repeats.

## WHERE IS THE THREAT:

The horned oak gall wasp occurs from southern Canada, south to Georgia, and throughout the Midwest. Outbreaks of horned oak gall occur periodically; heavy infestations recently have been reported on pin oak in Indiana and Kentucky (near Louisville) and in Missouri. Other susceptible oak species include willow, black, blackjack and water.

## SYMPTOMS:

The galls (irregular tissue growth) prevent nutrients and water from moving into new growth distal to the gall, resulting in: leaf chlorosis, canopy thinning, tip dieback, and limb loss. The weight of galls often causes twigs and branches to break and fall on heavily infested trees. Infestations on young trees can be the most devastating, but older trees can be severely affected as well. The galls are unsightly and damage the aesthetics of susceptible oaks. Heavily infested trees may need to be removed due to severe vascular restriction and loss of aesthetic value.

## WHAT TO DO ABOUT IT:

Trunk injection with the high rate of TREE-äge®/ TREE-äge® G4/ TREEäge® R10 (emamectin benzoate) has shown to prevent the initiation of new stem galls. Treatments should be applied prior to wasp emergence in early summer. Time the injections in the fall (October/ November), or early spring (March). Treatments are most effective on trees with lower levels of infestation. The treatment is intended to prevent new galls but will not eliminate existing galls. Boosting tree vigor with a "piggy-back" application of Mn-jet FE can improve the aesthetics of the affected tree and aid in recovery. Practical pruning of infested branches prior to treatment may improve efficacy.



Horned oak gall wasp larva



Horn exposed within gall tissue



Mature horned oak gall



Heavy horned oak gall infestation on pin oak

Photo Credit: Insect: Lorraine Graney, Bartlett Tree Experts, Bugwood.org; Larva: Jim Baker, North Carolina State University, Bugwood.org; Horn exposed: Lorraine Graney, Bartlett Tree Experts, Bugwood.org; Mature: Donald Grosman, Arborjet inc. ; Infestation: Donald Grosman, Arborjet inc.

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