Not all bad:

A case for selective treatment of plant pests

For some insects, such as the mountain pine beetle and tomato fruit worm, how to manage pests is a straightforward decision. Mountain pine beetles kill trees outright and tomato fruit worms can destroy your harvest before you get to eat it. However, not all insects that feed on our plants are so destructive that they warrant treatment.

As UW Extension's entomologist, my job is to identify insects and advise people on methods to manage them. Recently, I was asked about treating the psyllids that feed on hackberry tree leaves and form swellings of leaf tissue to live inside.

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The Black-capped Chickadee, a year-round resident of Wyoming, feeding on hackberry psyllids pulled from the galls in the summer.

Hackberry tree leaf galls

Hackberry psyllids (*Pachypsylla* spp) are tiny, aphid-sized insects that look like miniature cicadas as adults. The two most common species in Wyoming are the hackberry nipplegall maker (*Pachypsylla celtidismamma*) and the smaller hackberry blister gall psyllid (*Pachypsylla celtidivesicula*).

The feeding activity of the psyllid causes a protective swelling of leaf tissue called a gall. The immature stages of psyllid species live inside the blister and nipple galls that they form on hackberry leaves. The juvenile psyllids feed on plant fluids with sucking mouthparts, but they do not kill the leaves.

As the psyllid nymphs grow, the galls on the leaves become more and more noticeable. This may cause a tree owner some alarm, as they may be concerned that the insect is killing their tree.

Fortunately, this is not the case. Certainly, the tree could do without the psyllids feeding on it, but the loss of effective leaf area is easily tolerated, especially if the plant is not stressed by drought or other environmental factors. As an "insurance policy" against leaf loss, plants often have many more leaves than they require for optimum growth. Heavy pruning of grape vines or tomato plants, for example, ensures that the plants' extra energy goes to their fruit and not to support excess, shaded leaves; it does not kill the plants.

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***Left**: A tiny Brown Creeper with an even tinier hackberry psyllid in its beak that it found hiding in the tree bark during the winter.*

***Right**: A Yellow Warbler in the early spring searching for adult hackberry psyllids hiding in the new leaves. The psyllid females that survived the winter on the tree bark will deposit their eggs on the underside of the new hackberry leaves.*

Benefits for birds

Some tree owners may consider the aesthetics of the leaves ruined by hackberry galls, especially if they don't realize other creatures appreciate the appearance of the galls. The creatures I am referring to are songbirds. For avid bird watchers, songbirds in a hackberry may more than make up for the "warty" appearance of the leaves.

People in the U.S. spend billions annually on birdseed to attract and watch birds at their feeders. Hackberry psyllids, both when they are in the leaves and when they are sheltering in the tree bark cracks as adults in the fall and winter, are nutritious food for many species of songbirds. Some of these songbird species have no interest in seeds but require insects in their diet. The presence of hackberry psyllids is a win-win for the birds and the bird watcher.

An entomologist's perspective

I understand the desire to grow perfect plants and the value that people place on their trees and landscapes. However, I urge landowners to think twice about treating plants for purely aesthetic reasons.

I have rarely treated my own ornamental plants for leaf-feeding insects and never for gall-forming pests. Instead, I make sure my plants are not water stressed and that they have access to supplemental essential nutrients, such as iron, if necessary to keep them healthy. I have lost trees and shrubs to environmental stress, such as early and late hard freezes and one rut-crazed buck deer—but not to gall-forming pests such as the hackberry psyllid.

I mainly observe the relationship of plants, their pests, and the pests' predators in my landscape. Rather than eradicate all pests, I try to maintain adequately watered, vigorous plants that can tolerate a few bugs and support the creatures that feed on those bugs.

Fostering biological control on your landscape means adopting a more tolerant response to hackberry psyllids and other plant pests. In addition to saving time and money on treatments, you may also enjoy new benefits, such as the sight and sound of songbirds in your hackberry trees.

Are my plants in danger?

Sometimes a homeowner may not know whether an insect issue is serious or not. If you're concerned about the health of your plants, contact a local extension office. Extension personnel can help diagnose the problem or direct you to an expert. Alternatively, you can submit photos and a description of the plant's symptoms directly to extension specialists at https://bit.ly/wy-pest-id.

UW Extension Entomology Specialist **Scott Schell** is a "bug guy" with a fondness for birds. Contact him at sschell@uwyo.edu or (307) 766-2508 for advice on pesky plant pests.