

# BOGDIVERSITY THURSDAY



—*from Head Naturalist Clinton*

## Leafhoppers, Treehoppers, and Spittlebugs

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True bugs in the order Hemiptera are widely varied and diverse. Most body shapes, patterns, colors, and functions have likely been exploited by one group of bugs or another. No one group showcases the wide variety of colors, body shapes, functions, or adaptations like our group of interest today: Leafhoppers, Treehoppers, and Spittlebugs!

While much of the diversity within this group of Hemipterans is found in the tropics, there are still plenty of cool leafhoppers, treehoppers, and spittlebugs right here in the Sax-Zim Bog. To date, we have documented 33 species in this diverse group. Over the Bioblitz, we had great luck with this group and documented 8 new species to the area!

Leafhoppers, Treehoppers, and Spittlebugs are part of the order Hemiptera, which translates to half-winged. This refers to the wing covers of these bugs being only half covered in a leathery, protective membrane. Specifically, this group falls within the Infraorder Cicadomorpha, which not only includes leafhoppers,

treehoppers, and spittlebugs, but also cicadas! This Infraorder also includes almost half of the known Hemipterans globally.

This group of bugs is fascinating not just for their fancy colors and shapes, but also their biology. Most are plant feeding species, using their sharp and pointed proboscis to puncture plants and drink their fluids. The nymph stages of these bugs often secrete a waxy coating to protect them from predators. Spittlebugs go a step further in protecting themselves as nymphs. They create a bubble nest, created by using air and urine to make the foam of their nests! As adults, leafhoppers, treehoppers, and spittlebugs using their amazing leaping ability to escape predators. These tiny bugs can jump over 100 times their body length in a single bound thank to specialized, gear-like joints between their rear legs. The gears allow for a massive transfer to force to propel the startled bug a great distance in the blink of an eye.

If you want to try and find these bugs, look no further than your backyard! The foamy nests of spittlebugs are easily seen at the intersections of stems and branches of plants. Leafhoppers will often perch on blades of grass or plant leaves, showing off their bright colors. Treehoppers are a little harder to find, as adults prefer hardwood trees to forage. A slow pace and a careful eye is key when searching for these amazing bugs!

More information and species identification in the photos below!  
(Photos by Head Naturalist Clinton)



An incredibly widespread species, Keeled Treehopper can be found from Brazil to Canada! This species has an interesting relationship with ants. Adults and nymphs produce honeydew, which attracts ants, who then protect the treehoppers.



The diversity of treehoppers is really quite amazing. Some species have broad-heads with horns like buffaloes, while others have single long horns as seen by this Wide-footed Treehopper. This single horn allows this species to camouflage as a spine on plants while feeding



Perhaps the "spark leafhopper" that might get you interested in this group! Candy-striped (or Red-banded) Leafhopper is an attractive member of the family Graphocephala. Many members of this family are brightly colored, with reds and blues and greens in dazzling patterns. This species is very common around the Welcome Center pollinator gardens.



A fairly new addition to the species list, Heath Spittlebug uses bog specialist plants as its host. Adult spittlebugs are often colored fairly cryptically, but Heath and Dogwood Spittlebugs both sport sharp chartreuse bands on their dark exteriors.



*Idiocerus venosus* was a new addition to the Master Species List found during the Bioblitz. Often, when using UV lights to attract moths, a number of small leafhoppers will show up to the lights.