

BOGDIVERSITY THURSDAY



—*from Head Naturalist Clinton*

Leaf Beetles

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Globally, beetles are one of, if not the most, species rich group of organisms. Some beetles are flashy, gaudy, and obvious while others are fairly bland, but important to their respective ecosystems. We have covered a few different beetles so far on BogDiversity Thursday Posts and those posts can be found in our post archive here: <https://saxzim.org/.../bogdiversity-thursday-post-archive/>

Today, we are taking a look at another fairly showy group of beetles: Leaf Beetles!

Leaf Beetles, in the family Chrysomelidae, are an interesting bunch. There are anywhere between 37,000 and 50,000 species in this family. Many of these beetles are flashy, with elaborate maculations or bright warning coloration. But these beetles, for all of their glitz and glam, are often considered pests. Their habit of defoliating plants is part of their biology, even though it can be troublesome agriculturally. Often, these cool beetles often have specific relationships with host plants, just like butterflies!

Aposematic coloration is often employed by these beetles. Aposematic coloration can be best described by bright colors, like red, orange, and yellow, indicating danger! In the case of Swamp Milkweed Leaf Beetle (pictured below), both adults and larvae eat milkweed and the toxins found in milkweed get incorporated into their bodies. Not all leaf beetles feed on plants with toxins, but the warning coloration might still be present, keeping them safe from potential predators.

Among the leaf beetles, the genus *Calligrapha* is one of the best! There are around 50 species, mostly found in Central and South America. These beetles not only feature elaborate markings on their elytra (wing covers), but come in a wide range of colors from bright green to deep red and most shades in between. In the Sax-Zim Bog, 4 species of Calligrapher beetles have been documented, including the fairly uncommon *Calligrapha rowena*. This species only has 67 observations in iNaturalist, with 3 observations in Minnesota!

It is important to note that these beetles, even if they can be destructive, are native species found in places that are adapted to their life histories. Similarly, defoliating moth species like Tent Caterpillars, are important parts of their ecosystems and do little harm to intact ecosystems. This is not the case with non-native defoliating species like Japanese Beetle or non-native boring beetles like Emerald Ash Borer. Those species can be destructive because they have no checks from predators because they evolved in places with different predators. Our native species, on

the other hand, have limited negative effects on ecosystems and should be supported with specific host plants, like willow, dogwood, or milkweed.

When warm weather finally appears this summer and you notice insect foraging activity in a patch of plants, take a second to look for these beautiful beetles! More information about the species photographed below can be found with the photos.

(Photos by Head Naturalist Clinton)



Common Willow Calligrapher, as the name suggests, is quite common and uses willow as its host! This is one of three Calligrapher beetles in our area with creamy white and silver elytras, so you have to get a good look at their patterns to make an ID (but knowing their host plants works too!).



Dogbane leaf beetle lacks the maculations on the elytra seen by most leaf beetles, but it is still a beautiful beetle! The flashy and metallic greens and reds really stand out when you see these beetles in a stand of dogbane.



The only dark-colored member of the genus *Calligrapha* in our area is the handsome Russet Alder Leaf Beetle! Common names of leaf beetles are often helpful, as they mention the name of the host plant used by the beetle!



This beetle lacks a common name, but *Cryptocephala mutabilis* is a super neat leaf beetle. It is part of the group of Case-bearing Leaf beetles. The larvae in this group use their feces to make protective cases, that help hide them and protect them from potential predators.



Our last leaf beetle is much more common in the southern part of Minnesota. Swamp Milkweed Leaf Beetle is a great example of aposematic coloration, with the bright greens and orange colors letting you know this is not a beetle to be eating!