

BOGDIVERSITY THURSDAY



—*from Head Naturalist Clinton*

Wood-boring Longhorn Beetles

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It is a treat to be able to showcase the biodiversity of the Sax-Zim Bog slowly, but surely, through our Bogdiversity Thursday posts! This week we profile a group of beetles with fascinating biology that lack a lot of positive press: Wood-boring Longhorn Beetles!

If you took all of the animal species in the world, placed them in a basket, and reached in to pick out a species you have a 25% chance of pulling out a beetle. Beetles make up a significant portion of the world's animal biodiversity with around 400,000 species of beetle described so far. It has been estimated that beetle biodiversity may be much higher, with some estimates totaling 900,000 to 2,100,000 species! In the Sax-Zim Bog, our beetle documentation has a long way to go. As of this post, we have documented 131 species of terrestrial beetle, with an additional 18 species of aquatic beetle.

Longhorn beetles, in general, are a particularly flashy group of beetles. They do not actually have horns, but do have particularly long antennae. Many folks may be familiar with the day-active

flower longhorn beetles with their colorful patterns and conspicuous presence on flowers. You may not be as familiar with the cryptic and often very large wood-boring longhorn beetles that are present in the vast forests of our region.

Adult wood-boring longhorn beetles are nocturnal and often are attracted to lights. We see a number of these cryptic beetles when observing moths in the Sax-Zim Bog at night. Wood-boring longhorn beetles play an important role in ecosystem management. They are active decomposers of dead and dying trees. Adults lay their eggs in trees that are dead or are dying and the larvae consume the inner dead wood of the tree, breaking it down into soil. Larvae remain in this life stage for 2-5 years depending on the species before pupating and emerging as adults. Adults feed on plant material and in some cases live tree bark.

Wood-boring beetles often get a bad rap, especially with fairly destructive non-native species like Emerald Ash Borer. Native wood-boring beetles perform an important role in an ecosystem and without them forest health may decline and woodpeckers lack an important and abundant food source. Adult wood-boring longhorn beetles have large, powerful mandibles and can give a strong bite when handled. They will also utilize the powerful spines on their thorax and wing covers to pinch would-be predators. However, these defense mechanisms offer no threat to humans, but might surprise you if you are not expecting it!

More information about these amazing beetles is included with the photos below!

(Photos below by Head Naturalist Clinton)



Among the most commonly observed wood-boring longhorn beetles, White-spotted Sawyer can be quite variable in coloration. Many adults are jet black, with conspicuous white spots at the intersection of their elytra. However, you will also find adults like the one photographed above, with mottled grayish patterns. Males of all longhorn beetles have longer antennae than females, sometimes stretching to twice their body length or more!



Northeastern Pine Sawyer is a large and impressive beetle, reaching lengths of 1.5 inches (not including antennae). This species prefers larger conifers, especially White Pine, but will use all sorts of conifers. The large mandibles of our wood-boring longhorn beetles are useful when laying eggs. Females may spend as many as 20 minutes excavating a hole in a tree to lay their eggs!



Balsam Fir Sawyer is a recent addition to the Master Species List and was found at Wood Thrush Woods. This handsome beetle is much more colorful than the related White-spotted and Northeastern Pine Sawyers. Not frequently observed, this species has only 50 observations on iNaturalist, compared to the over 5000 observations of White-spotted Sawyer.



Smaller and more colorful than the previous species, wood-boring longhorn beetles in the genus *Saperda* are quite colorful! We have observed two species in this genus in the Sax-Zim Bog so far. Poplar Borer sports a soft blue-gray background, with bright yellow spots on the elytra. This beauty utilizes trees in the *Populus* genus for its life cycle.



Alder Borer is a sharp contrast from its cousin Poplar Borer. This beetle sports orangeish elytra covered in rufous-red chevrons. As its name suggests, this species utilizes alders for its life cycle. Larvae typically feed at the base of alders and may also feed on birches.