

BOGDIVERSITY THURSDAY



—*from Head Naturalist Clinton*

Bladderworts

POST #7—October 14, 2021

Pitcher plants and sundews are perhaps the best-known carnivorous plants in Minnesota. However, they are not the only carnivorous plants found here. This week's post will consider the most diverse group of carnivorous plants in the state of Minnesota: Bladderworts!

Bladderworts are a group of primarily aquatic and wetland dependent species in the genus *Utricularia*. These plants have brightly colored flowers that stick up above the water's surface, with feathery leaves and branches below the surface. Most bladderworts have bright yellow flowers, though there are two purple flowered species in Minnesota! There are 8 species of bladderwort in Minnesota, with 6 of these species documented in the Sax-Zim Bog.

The name of this group of plants comes from the distinct, clam-shaped bladders along the leaves and branches of the plants. These bladders capture microscopic aquatic organisms. This adaptation allows these plants to survive in nutrient poor

conditions by supplementing missing nutrients they need to survive. The bladders also manage buoyancy of the plants. When flowering, the bladders fill with air. These bladders then deflate, allowing the plant to sink and prepare to overwinter.

Bladderworts primarily grow in slow moving or stagnant water, like in bogs, fens, small streams, ponds, and lakes. They lack obvious root structures like other plants and are primarily free-floating or anchored into the mucky substrates by their branches. They can easily be found by looking into the water near shore. Their zig-zagging and feathery branches are often lime green, contrasting with other aquatic vegetation. This group of plants is primarily pollinated by flower flies, which are not at risk of being captured (unlike pollinators of sundews or pitcher plants!).

More information about these plants included in the images below!

(Photos by Head Naturalist Clinton; Hidden-fruited Bladderwort photos by Sparky Stensaas)



Common Bladderwort is very common across the Sax-Zim Bog. This abundant species is easily found along the ditch along the west side of Owl Avenue. Slow-moving water with mucky substrates are preferred by most bladderworts.



The small dark structures in this photo show the distinct bladders. The structures have tiny trigger hairs that close over macroscopic organisms. Not all bladderworts have as many bladders as this individual.



Flat-leaved Bladderwort get their name from the fairly flattened leaves and is one of a few bladderwort species found around the world!



Hidden-fruited Bladderwort is quite uncommon in Minnesota. A state-threatened species, this plant was found during one of our BioBlitzes! This species gets its name from its cleistogamous flowers. Cleistogamous flowers self-pollinate and rarely open.



Horned Bladderwort is another difficult plant to find in the Sax-Zim Bog, just known from one location. They have distinctly narrow and slender spurs below their flowers. However, outside of the Sax-Zim Bog this species is Rather abundant in appropriate habitat and can occur in dense growths.