WISCONSIN NATIVE SPECIES

White Heelsplitter

(Lasmigona complanata)

The White Heelsplitter is aptly named since the 'wing' on the shell can be quite sharp and when stepped on can 'split your heel' or, at least, cut your foot. The inside of the shell (or nacre) is pearly white, thus the name White Heelsplitter, as compared to the Pink Heelsplitter (which is similarly shaped, but actually more lavender inside). This is one of fifty species of Wisconsin native freshwater mussels.

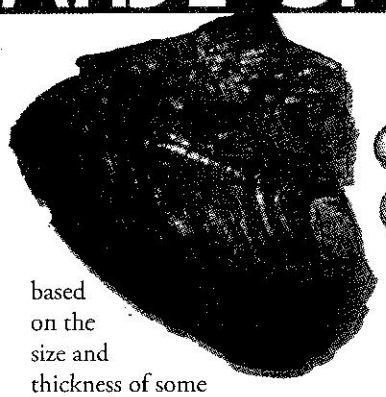
Unionids --native freshwater mussels -- are found throughout the lakes, rivers, and streams of our state. They are most abundant and diverse in rivers and streams where the running water brings them food and oxygen and takes away their waste. Some species can tolerate lakes and reservoirs with low to no flow, and some can be abundant locally, but the greatest diversity of native mussels is in flowing waters. The White Heelsplitter prefers streams and sloughs with some flow, and is found in big rivers as well.

An important factor in Unionid abundance and distribution is its host species; which, for the White Heelsplitter, are green sunfish, largemouth bass, white crappie, and common carp. These common species help explain why it is so widespread and can be locally quite abundant. Our native mussels have to encyst (attach) to the gills (or other highly vascularized tissue) of a fish to complete their life cycle. It is actually the fish blood which allows the mussel to complete is internal development to become a juvenile mussel.

To explain the surprisingly complex life cycle of our native mussels it starts, naturally, with a boy and girl; and with some mussel species you can determine gender by the different shell shapes. The male releases sperm which the female takes in and fertilizes the eggs brooded within specialized marsupial gills. The fertilized egg develops into a glochidia (pre-metamorphosed mussel), which the female releases onto the gills of a fish. After the glochidia encysts on its host, it develops all its internal organs and can then live independently, dropping off the host and starting life as a free living juvenile mussel.

The fish hosts for the White Heelsplitter help explain its widespread distribution, but not why it varies from being rare to abundant at different sites; so although the fish hosts are an important factor in whether a mussel can occur in a waterbody, the presence of the fish species does not dictate mussels will be there. At the same time, if you lose the fish host, you lose the mussels. They will live out their years, but can no longer reproduce and the population is eventually gone.

Mussels can be very long lived; the short-lived ones live 20 to 30 years, the longer-lived ones can live for 50, 80, 100, and up to 200 years. But no matter how long they live, if they can't reproduce that is the end of that population. Aging mussels are like aging tree rings. They lay down annuli when they quit growing in the winter and put on new growth come spring. If you pick up mussel shells you can see their early annuli, but as they age the lines get closer and closer and are very hard to differentiate. If you make a cross-section of the shell the internal lines are more obvious. White Heelsplitters have been recorded over eighty years of age, and likely live longer



based on the size and thickness of some of the shells, which can reach dinner-plate size. Some really old individuals have been reported from the Bad River Slough, Kakagon River, and Wood Creek Slough in Ashland County.

Native Americans used the mussels large flat surface for plates as well as for burning sweet grass or tobacco, like incense burners. The shells were also used as scrapers for hides, and the sharp 'wing' or heelsplitter part was used for cutting. The pearly part of the shell was used for decoration along with the natural pearls of various shapes and sizes that form inside.

Another common name for the White Heelsplitter is pancakes, since they are so flat compared to other native mussels. Yet another common name is angel wings, because when the two shells are opened side by side they form a shape like a pair of angel wings and are pearly white inside. These common names were given to mussels by the commercial clammers who harvested shells during the pearl button era. Although thin when they are young, the older thicker shells were made into 'mother of pearl' buttons.

Our native freshwater mussels are not as common today as they were in the past, due to declines in water quality, water volume, habitat alteration and invasives species. Unlike our native species the invasive zebra or quagga mussels do not need a fish host to complete their life cycle and therefore can reproduce without limitation, and do so to our peril! They also preferentially attach to native mussels, encrusting them and ultimately killing them by preventing them from feeding and reproducing. Fortunately we still have many lakes, rivers and streams without invasive mussels and our native mussels are hanging in there. If you see mussel shells, pick them up and check them out. They are not only pretty, but serve as habitat for insects, sponges, crayfish, and for places for fish to lay their eggs.

For more information on our native Wisconsin freshwater mussels check out the Freshwater Mussel Monitoring Program, at http://wiatri.net/inventory/mussels - you can pull up a state map with the waterbodies for which we have records and find out what species have been reported. This is by no means a comprehensive list, so feel free to send in shells or pictures from whatever waterbodies you wander.

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