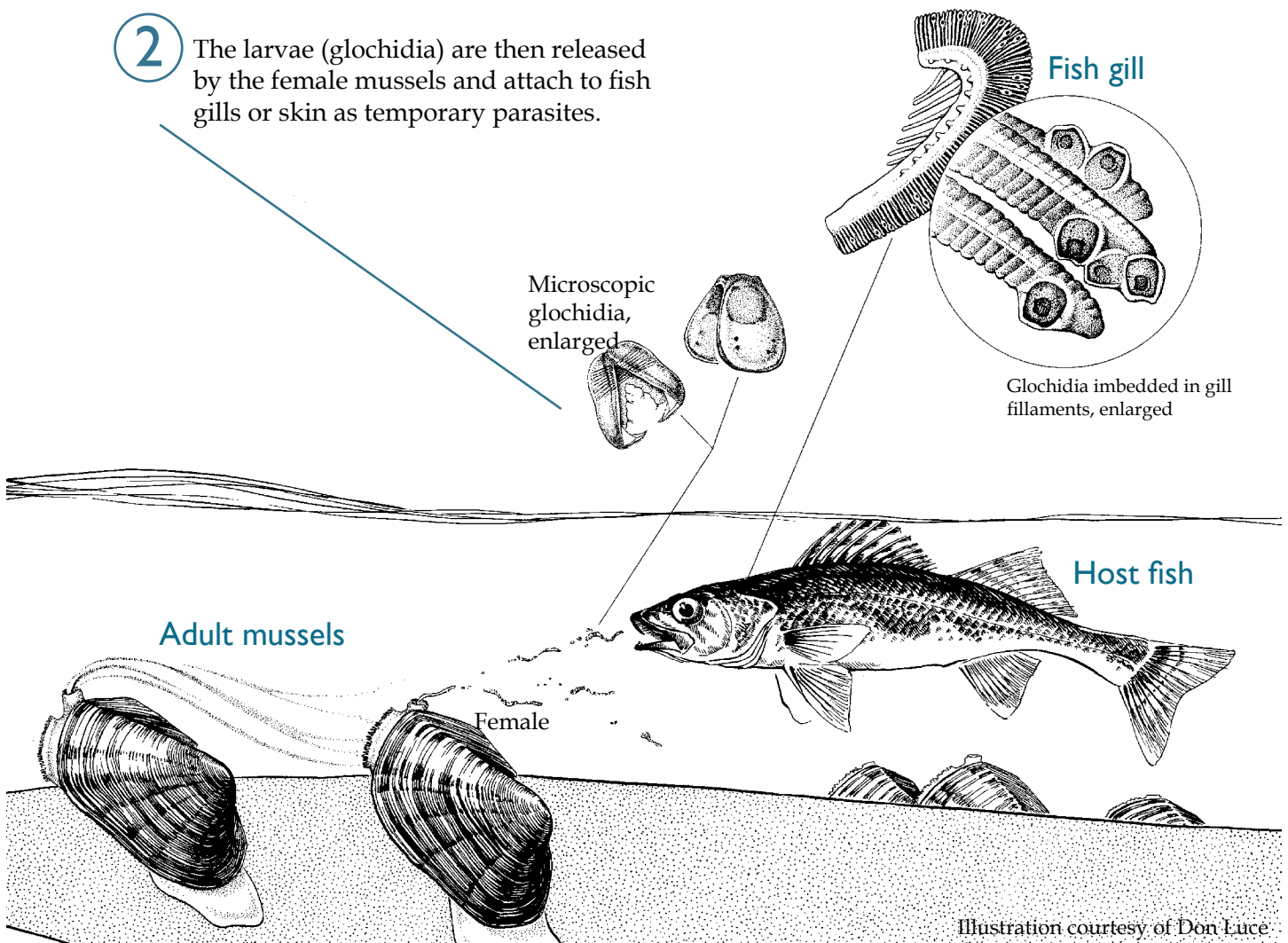


# MUSSEL LIFE CYCLE

Freshwater mussels have a complicated life history that is tightly linked to freshwater fishes. Attaching to a host is also the primary way that mussels are distributed throughout a water body; therefore, a mussel species' distribution is directly related to the host fish's distribution.

- 2 The larvae (glochidia) are then released by the female mussels and attach to fish gills or skin as temporary parasites.

- 3 Over a few weeks to several months the glochidia develop (metamorphose) into juvenile mussels while attached to the host fish.



- 1 Males release sperm into the water that are drawn in by the females. The fertilized eggs are brooded in the female's gills, where they develop into tiny larvae called glochidia.

- 4 When this process is complete the juveniles detach from the host, fall to the lake or stream bed, and begin their lives as free living mussels. Some freshwater mussels require one particular species of fish as a host for their larvae whereas others may use many.

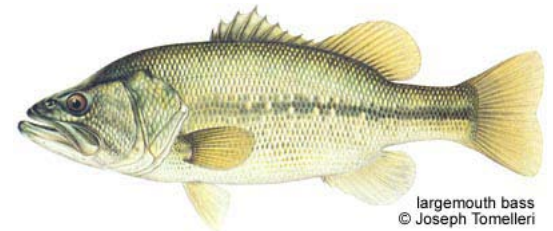
## The Fascinating Reproduction Strategies of Mussels

The female mussels have evolved various strategies to get fish to get close enough to release their larvae into the gills of the fish. These include elaborate extension of the female mussel's mantle (the soft tissue that produces the mussel's shell) that resemble small fish, insects, or worms. A female mussel may actively move the lure to attract the attention of the fish. The fish think that they are going to eat something and instead they rupture the little membranes in the mussel's gills. The larvae clamp onto the fish's gills. Other mussel species package their developing larvae (glochidia) into cases that may resemble insects on which fish normally feed. When a fish attempts to eat this "imposter insect" the fish becomes infected with the mussel's larvae.



### Plain pocketbook

The plain pocketbook mussel uses a lure that mimics a minnow to attract predator fish like the largemouth bass and walleyes.



### Black sandshell

The black sandshell mussel lures fish with a big flap with a bunch of long tentacles on the end that they wave and flap to attract fish like walleye and sauger.



## For More Information

Minnesota Department of Natural Resources - <http://www.dnr.state.mn.us/mussels/index.html>

Freshwater Mollusk Conservation Society - <http://molluskconservation.org/>

U.S. Fish & Wildlife Service - <http://www.fws.gov/midwest/mussel/projects.html>

<http://www.fws.gov/midwest/endangered/clams/mussels.html>

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Photos courtesy of Bernard Sietman. Illustration courtesy of Don Luce. Fish illustrations courtesy of Joseph Tomelleri.

"Ask an Expert about the Minnesota River" project profiles scientists and citizens answering questions about the health of the Minnesota River. More answers to questions about the Minnesota River can be found at: [mrbdc.mnsu.edu/learn](http://mrbdc.mnsu.edu/learn)

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