



Bithynia tentaculata (Linnaeus 1758) mud bithynia



Taxonomy & Systematics. The Bithyniidae is a minor group in the diverse, worldwide Superfamily Rissoacea - prosobranch gastropods generally small in body size, shallow or even amphibious in their habit, bearing cusps around the base of their median radular tooth. The penis arises from the neck. Although present in the Pleistocene fossil record of North America, the single species found in America today seems to have been reintroduced from Europe in the late 19th century.

The taxonomy and systematic position of *Bithynia tentaculata* have been unambiguous and stable for many years.

Habitat & Distribution. From a point of introduction in the Great Lakes, recent North American populations of *B. tentaculata* spread east to Quebec and west to Wisconsin, as well as through the Mohawk and Hudson Rivers. The population introduced to the Potomac River of Virginia in the 1930s apparently represents the southern limit of its range.

The Potomac population seems to reach maximum density at Great Falls - snails are not as common in slower, muddier, warmer, and presumably less oxygenated environments. Elsewhere in North America *Bithynia* populations have colonized a variety of permanent waters, including ponds, lakes, marshes, canals, and rivers, and occur on a variety of substrates, including gravel, sand, clay, mud, rocks, and macroscopic vegetation. It thrives in both mesotrophic and eutrophic lakes, and can dominate snail assemblages where nutrient levels are high. *Bithynia* populations are, however, apparently restricted to waters relatively high in hardness.

Ecology & Life History. While retaining the ancestral ability to graze the substrate, *Bithynia* has evolved a "food groove" at the base of its gill that allows it to filter-feed. The relative importance of grazing and filter-feeding to the energy budget of the snail seems to depend on the environmental concentration of suspended particles.

Life cycles can be completed in less than one year - exceptionally rapid for populations of freshwater prosobranchs. New York populations initiate egg laying in May or June and continue into July, and that some individuals born in spring may breed in the fall of the same year. Eggs are deposited on hard substrates, with up to 77 eggs contained in each mass. Individuals appear to live up to 18 months, and possibly as long as 39 months.

Populations of *B. tentaculata* inhabiting rivers and lakes of the Upper Midwest serve as intermediate hosts for digenean flukes that have been implicated in massive waterfowl die-offs.



Conservation Status. NatureServe G5/SNA - Secure/Not Applicable (exotic).