Natural Heritage & Endangered Species Program

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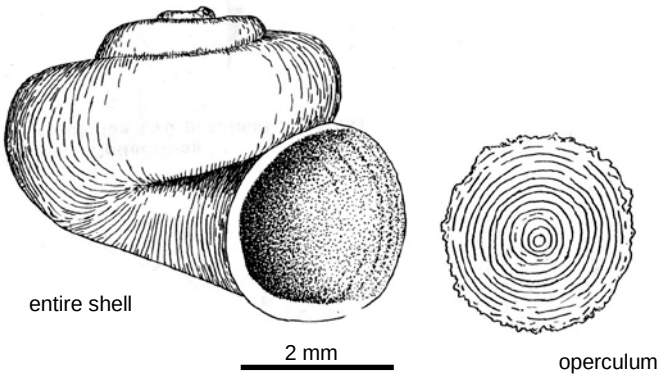
Massachusetts Division of Fisheries & Wildlife

Mossy Valvata
Valvata sincera

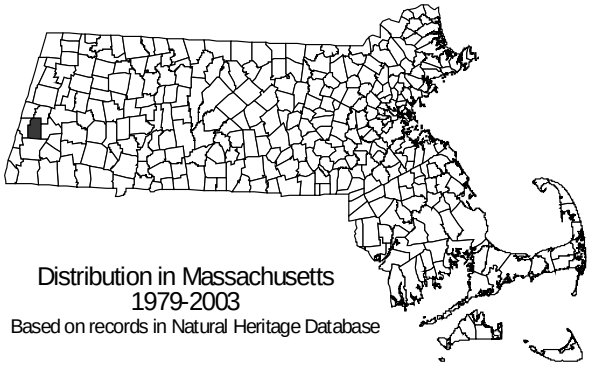
State Status: **Endangered**
Federal Status: **None**

DESCRIPTION: The Mossy Valvata is a small snail in the family Valvatidae with a shell that measures up to 5 mm in diameter. The shell has no distinctive characteristics. It is yellowish-brown in color with a low spire. As with all snails of the subclass Prosobranchia, the Mossy Valvata has an operculum, a hardened circular structure that acts as a trap door at the shell opening. For members of the Valvatidae family, the operculum has a tight inner ring that spirals out to the perimeter. Identification of this species can be difficult because it requires knowledge of the anatomical features of snails.



Smith, D. G. 1984. Selected freshwater invertebrates proposed for special concern status in Massachusetts, Part II. Mass. Dept. of Env. Qual. Engineering, Div. of Wat. Pollut. Control. Westborough, MA.

HABITAT: The Mossy Valvata is a northern species that lives in cold water and is usually found in high-calcium habitats. It is found in large oligotrophic lakes with water depths greater than 2 meters and in association with rooted aquatic vegetation including *Chara* spp. and *Potamogeton* spp. Outside Massachusetts, it has been found in rivers (Clarke 1973) and snails were abundant in eutrophic ponds in Connecticut and New York in association with filamentous algae (Jokinen 1992).



RANGE: In Massachusetts, the Mossy Valvata is at the southern geographical limit of its range and has been found in a lake and a pond in the Housatonic River drainage. There is also one record from a lake in the Sudbury/Assabet/Concord watershed (Jokinen 1983). The species is more widely distributed farther north with records from the Arctic Circle south to Connecticut and west to Minnesota.

POPULATION STATUS IN MASSACHUSETTS: Populations of the Mossy Valvata are limited to only a few sites, each threatened by surrounding development. The snail is considered to be locally rare. Its presence in Massachusetts probably represents a glacial relict situation where a few populations were left behind as the animal dispersed northward following glacial retreat (Smith 1984). Recent surveys of historical sites were unable to relocate this species (McLain 2003), suggesting that the Mossy Valvata may be extirpated from Massachusetts (D.G. Smith, personal communication 2003). Given that this species is locally rare, more survey work is needed before a conclusion on its current status can be reached. The Mossy Valvata is

listed under the Massachusetts Endangered Species Act as Endangered. All listed species are protected from killing, collecting, possessing, or sale and from activities that would destroy habitat and thus directly or indirectly cause mortality or disrupt critical behaviors. In addition, listed animals are specifically protected from activities that disrupt nesting, breeding, feeding, or migration.

THREATS: Shoreline development, water level drawdowns, lake draining, increased nutrient input, and herbicides are potential threats to this species. The resulting decreases in water clarity can prevent the growth of rooted aquatic vegetation in the deeper waters, which may be essential for the survival of the species.

SIMILAR SPECIES: The Mossy Valvata is similar to the only other Valvatidae in Massachusetts, the Threeridge Valvata (*V. tricarinata*), which can be identified by two or three spiral ridges along the shell surface. The Threeridge Valvata is more widely distributed and locally abundant. Identification guides sufficiently illustrate the differences among these species (Smith 2000).

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A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan