

Scientific Name: *Pisidium moitessierianum* Paladilhe, 1866

Common Name: moitessier's pea/pill clam, pisidiid clam

Taxonomy: Available through ITIS

Identification: This triangle- to trapezoid-shaped pea clam displays a relatively rounded, thick, and coarsely striated shell with a height to length ratio of 0.88–0.90. The somewhat flattened beaks barely protrude above the dorsal margin, which exhibits a fold or ridge that is parallel to the growth rings. The 3rd cardinal tooth inside the right valve is curved and thick at both ends, with a bifurcated posterior part. The 2nd cardinal in the left valve is triangular and the 4th cardinal is a thin plate-like structure that is somewhat curved. In live individuals, there is only one siphon (Grigorovich et al. 2000).

Size: *P. moitessierianum* is around 1.8–2.8 mm long (Holopainen 1979; Grigorovich et al. 2000).

Native Range: *P. moitessierianum* is native to eastern and western European countries as well as Asia in southwestern Siberia and northeastern Kazakhstan (Grigorovich et al. 2000).

Nonindigenous Occurrences: *P. moitessierianum* was observed for the first time in the Great Lakes basin in the Tuscarawas River, which is connected to the Ohio and Erie Canal, in the 1890s. It was originally identified as *P. punctatum*. It has also been recorded from Lake St. Clair, the St. Clair River delta, western Lake Erie, and Lake Superior, in 1997–2001 (Grigorovich et al. 2000; Korniushev et al. 2001; Grigorovich et al. 2003a).

Means of Introduction: *P. moitessierianum* was very likely introduced in ships to the Great Lakes sometime in the 1890s, most likely in solid ballast, which was in use at the time (Grigorovich et al. 2000; Grigorovich et al. 2003a; Grigorovich et al. 2003b).

Status: Established where recorded.

Ecology: Moitessier's pea clam occurs in mud, silty sand, sand, silty gravel, and amongst macrophytes. It occurs from 0.5–20 m depth in the littoral zone of lakes and in wide slow rivers. It usually favors oligotrophic water with oxygen content over 50% saturation but it can tolerate some anoxic conditions over winter. *P. moitessierianum* is relatively thermophilic, preferring lower river reaches, and has recently been able to colonize Lake Annecy, France, possibly due to increasingly warm lake water. It can, however, tolerate an annual water temperature range of 1–20°C. Maximum population densities in the Great Lakes reach 145–178 individuals per m² (Bishop and Hewitt 1976; Holopainen and Hanski 1986; Smit et al. 1994; Mouthon 1999; Grigorovich et al. 2000; Zittler and Kuiper 2002; Grigorovich et al. 2003a; Mouthon and Magny 2004).

P. moitessierianum is ovoviviparous, hermaphroditic, can undergo self-fertilization, and generally carries 1–10 embryos. In Lake Paajarvi, Finland, it becomes sexually mature around 1 year, lays eggs in August to September, broods its offspring,

releases them in July around 2 years of age, and then dies (Holopainen 1979; Grigorovich et al. 2000).

Species in the genus *Pisidium* are interstitial feeders, creating burrows into which they draw water by using their cilia and foot. They feed on suspended material in the water column and also directly ingest deposits from the substrate in which they live (Lopez and Holopainen 1987).

Impact of Introduction

A) Realized: Unknown.

B) Potential: Unknown.

Remarks: *P. moitessierianum* is considered rare in some parts of its native range (Dyduch and Falniowski 1979; Beran and Horsak 1998; Horsak 2001).

P. moitessierianum is really *P. (Neopisidium) moitessierianum*, part of the polyphyletic subgenus *Neopisidium* (Kurniushin and Glaubrecht 2002).

Voucher Specimens:

References:

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Other Resources:

Author: Rebekah M. Kipp

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Group: Mollusks – Bivalves (mussels, clams, oysters)

Lake(s): Lake Erie Drainage, Lake Superior, Lake St. Clair Drainage

Genus: *Pisidium*

Species: *moitessierianum*

Common Name: moitessier's pea/pill clam, pisidiid clam

Status: Established

Freshwater/Marine: Freshwater

Pathway: Shipping

Exotic/Transplant: Exotic