Scientific Name: *Tanysphyrus lemnae* Paykull/Fabricius, 1792

Common Name: duckweed/aquatic weevil

Taxonomy: Available through ITIS

Identification: Adults of this aquatic weevil or rhynchophorous beetle exhibit a mottled or dull black elytra that is wider than the thorax by half. They display brown antennae and tarsi. The hind legs have bilobed third segments. In adults at rest, the cylindrical beak curves back into the prosternum. The anterior coxae are contiguous. There are various widely spaced hair-scales for protection upon occasional immersion. Larvae are transparent to translucent beige with yellow-brown heads in older individuals (Leconte and Horn 1876; Scotland 1934; Tanner 1943; Thorpe and Crisp 1949; Pennak 1978; Merritt and Cummins 1984; Center et al. 2002).

Size: *T. lemnae* adults are around 1.2–1.5 mm long by 0.6 mm wide, while neonates are 0.5 mm long, and larvae are 3 mm long right before they pupate (Scotland 1934; Pennak 1978; Center et al. 2002).

Native Range: *T. lemnae* is native to Europe (Mills et al. 1993).

Nonindigenous Occurrences: The earliest record of *T. lemnae* in the Great Lakes basin is from 1934 in Ithaca, New York, which is located on Cayuga Lake, part of the Lake Ontario drainage. It is known from a large area in the Lake Ontario and Lake Michigan watersheds, including parts of Wisconsin, New York, and Michigan (Scotland 1934; Tanner 1943; Bayer and Brockmann 1975; Mills et al. 1993; Duggan et al. 2003).

Means of Introduction: Unknown.

Status: Established where recorded.

Ecology: *T. lemnae* is an herbivorous shredder of floating hydrophytes. It requires a host plant and is usually associated with duckweeds (*Lemna* spp.) and duckmeats (*Spirodela* spp.). However, it can also be found on other species. For example, in Florida it is specifically associated with exotic water lettuce (*Pistia stratiotes*) (Merritt and Cummins 1984; Lillie 1991; Dray et al. 1993; Center et al. 2002).

This weevil lays off- white to yellow eggs one at a time in the thalli of floating hydrophytes. Eggs develop in tunnels in the space between the upper and lower epidermis, in holes plugged with frass (macrophyte pieces mixed with excrement). When emerging from the tunnels, larvae eat their way out, consuming the first thallus in 12 hours then burrowing and/or swimming short distances to the next. Adults also consume floating thalli, eating large holes into them. Larvae typically find their way to the riparian zone and pupate in the soil or under clumps of macrophytes. The total generation time for *T. lemnae* is around 16–20 days (Scotland 1934; Center et al. 2002)

Adult *T. lemnae* are not able to swim and live on their host plant species. However, occasional submersion does occur, and they can survive (Thorpe and Crisp 1949).

Impact of Introduction

A) Realized: Unknown.

B) Potential: Unknown.

Remarks:

Voucher Specimens:

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Other Resources:

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Group: Insect - Does not fit available groups

Lake(s): Lake Ontario Drainage, Lake Michigan Drainage

Genus: *Tanysphyrus*

Species: *lemnae*

Common Name: duckweed/aquatic weevil

Status: Established

Freshwater/Marine: Freshwater

Pathway: Unknown

Exotic/Transplant: Exotic