Myosotella myosotis

A bristle-bearing ear shell

Phylum: Mollusca

Class: Gastropoda, Heterobranchia, Euthyneura, Tectipleura

Order: Eupulmonata, Ellobiida

Family: Ellobioidea, Ellobiidae, Pythiinae

Description

Size: to 8 mm; this specimen, 4 mm.
Color: variable: chestnut, purplish or yellowish brown; black with striations. Interior porcelain-like (Carlton and Roth 1975).
Shell:

Shape: rather olive-like; higher than wide, no spiral ridges; spire pointed, elevated; five or more whorls (fig. 1). Aperture rounded, ear-shaped, about ½ shell length.

Columella: 3 folds above anterior end, one weakly developed (fig. 3).

Operculum: lacking in pulmonates.
Body:

Eyes: at bases of cephalic (and only) tentacles: order Basommatophora (fig. 2) (Carlton and Roth 1975).

Possible Misidentifications

Of the other salt marsh gastropods, Littorinidae and Lacunidae are stouter and larger than *Myosotella*, turbinate and without elevated spires. The somewhat similarly shaped *Olivella* sp. is much larger (to 30 mm) and has an anterior canal in its aperture; it lives in clean sand, not in salt marshes (see plate).

Assiminea californica is a tiny (about 3 mm) brown gastropod sometimes found with *M. myosotis*. It resembles *Littorina* in shape, being stout and convex; its inner lip is a small thickened callus, without folds.

The many species of the tiny Opisthobranch *Odostomia* spp. resemble *Myosotella* superficially, but lack columellar folds and a radula. They are parasitic.

None of the preceding snails is closely related to *Myosotella*.

Snails of the subclass Pulmonata, which includes the land snails, have a vascularized mantle cavity serving as a lung, in place of gills. There are no other similar pulmonates known in northwestern salt marshes. (*Melampus olivaceus* is found farther south) (McLean 1969).

Ecological Information

Range: Puget Sound to Anaheim Bay, California (McLean 1969). Probably introduced from the Atlantic coast in the 19th century (Carlton and Roth 1975). (*Myosotella myosotis* is the Atlantic name; *Phytia setifer* or *myosotis* is a west coast equivalent name used by some authors) (Keen and Coan 1974, Kozloff 1974a).
Local Distribution: Coos Bay: South Slough, many stations (Matthews 1979).
Habitat: *Salicornia* marshes, among debris, mud, crevices of docks, pilings.
Salinity: brackish water: about 16 ‰ seawater; avoids immersion (Matthews 1979). Tolerates all salinities including freshwater; well adapted: an air breather.
Temperature:
Tidal Level: near high tide line (Keen and Coan 1974); at levels which are rarely inundated: it is often the only invertebrate at this high level (Kozloff 1974a). South Slough (Coos Bay): found at + 6.0’ MLLW.
Associates: ciliates in mantle cavity (Kozloff 1945); prosobranch gastropods *Assiminea california, Littorina sitkana, L. (A.) newcombiana, L. scutulata*; pulmonate. *Melampus olivaceus* farther south. Amphipod *Orchestia*, isopods. Plants *Spergularia canadensis, Distichlis, Carex.*
Abundance: very common in marshes: often only invertebrate found at its tide level.

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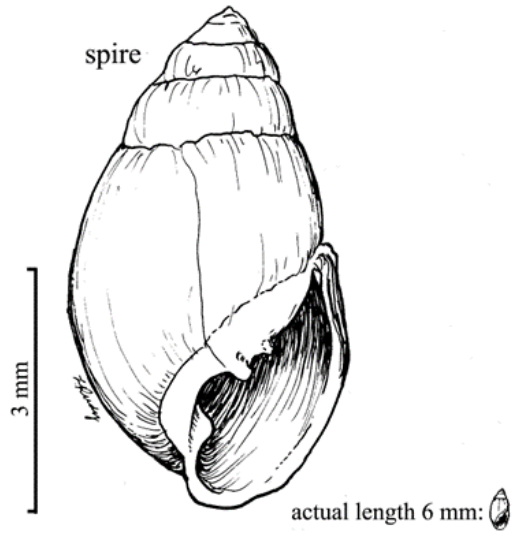
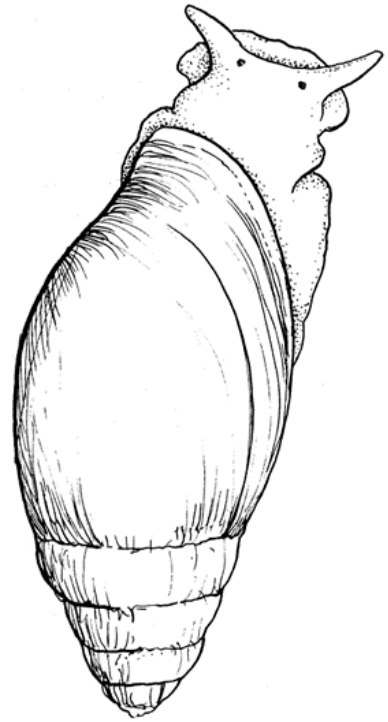
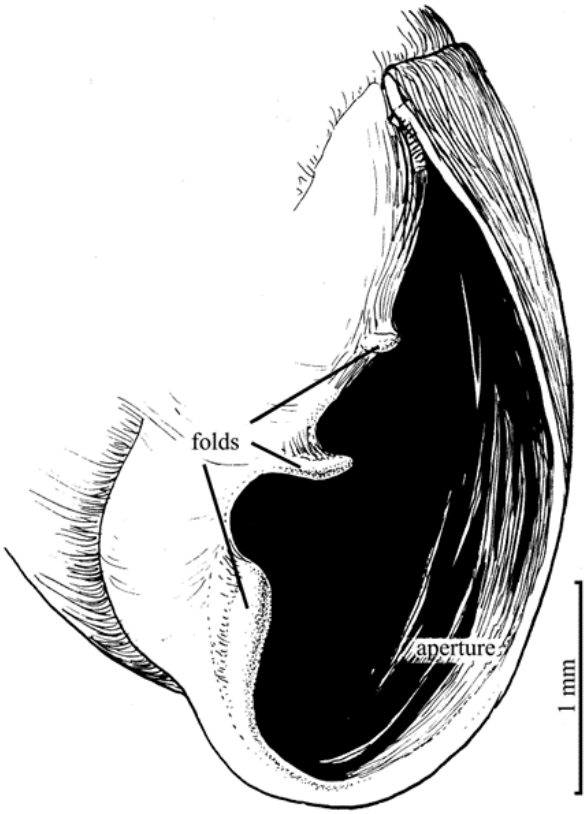
Myosotella myosotis



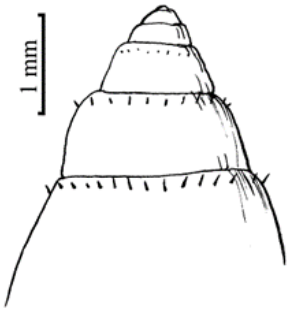
1. *Myosotella myosotis* (anterior view) x12: higher than wide; 5 or more whorls; elevated spire; aperture rounded, ear-shaped and half length of shell.



2. *M. myosotis* (dorsal view) x12: note eyes at tentacle bases.



3. Columella and aperture (anterior view) x32: three columellar folds, one weak; no operculum.



4. Juvenile x15: hairs on sutures.

Unknown. 1983. *Myosotella myosotis. In:* Oregon Estuarine Invertebrates: Rudys' Illustrated Guide to 140 Common Species, 3rd ed. T.C. Hiebert, B.A. Butler and A.L. Shanks (eds.). University of Oregon Libraries and Oregon Institute of Marine Biology, Charleston, OR.

Life-History Information

Reproduction: hermaphroditic.
Larva:
Juvenile: with small hairs on edges of sutures, disappear in adult (fig. 4); juveniles wider than adults (shells) (Hedgepeth 1962).
Longevity:
Growth Rate:
Food:
Predators:
Behavior: avoids immersion: an air breather, possessing a lung.

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