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# *Myosotella myosotis* (= *Phytia setifer*, Cooper, 1872)

A bristle-bearing ear shell (Draparnaud, 1801)

Phylum: Mollusca  
Class: Gastropoda, Pulmonata  
Order: Basommatophora  
Family: Melampidae  
(=Ellobiinae)

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## 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).

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

**Operculum**—lacking in pulmonates.

**Juveniles**—with small hairs on edges of sutures, disappear in adult (fig. 4); juveniles wider than adults (shells) (Hedgepeth 1962).

## 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 californica*, *Littorina sitkana*, *L. (A.) newcombiana*, *L. scutulata*; pulmonate. *Melampus olivaceus* farther south. Amphipod *Orchestia*, isopods. Plants *Spergularia canadensis*, *Distichlis*, *Carex*.

## Quantitative Information

**Weight**—

**Abundance**—very common in marshes: often only invertebrate found at its tide level.

## Life History Information

**Reproduction**—hermaphroditic.

**Growth Rate**—

**Longevity**—

**Food**—

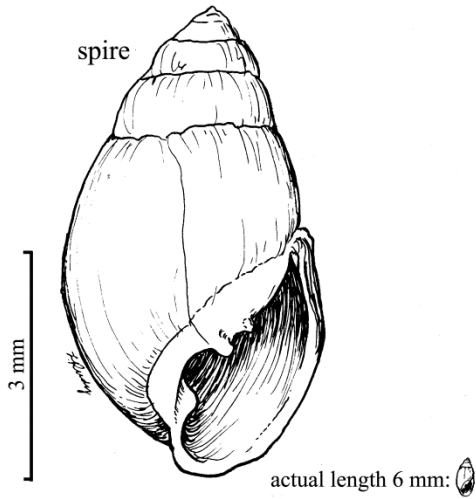
**Predators**—

**Behavior**—avoids immersion: an air breather, possessing a lung.

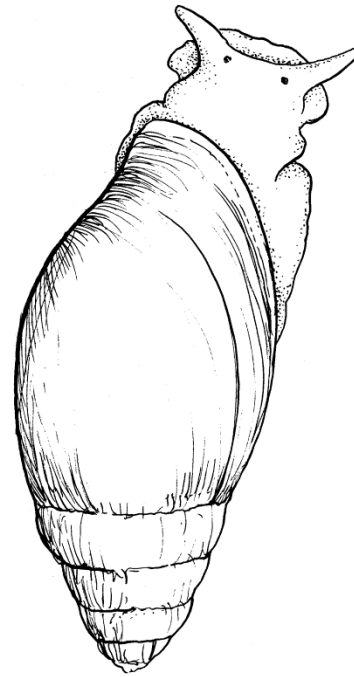
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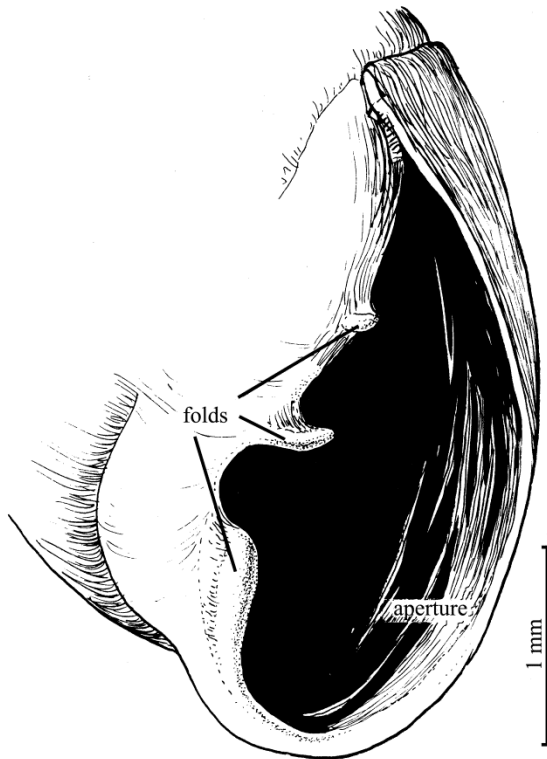
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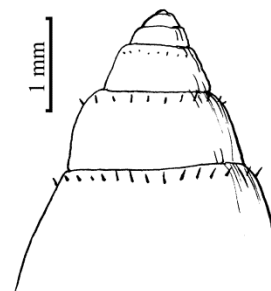
1. *Myosotella myosotis* (anterior view) x12:  
higher than wide; 5 or more whorls;  
elevated spire; aperture rounded, ear-  
shaped and half length of shell.



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.