

## Finding *Ophiodermella*

By Bob Lemon and Linda Schroeder

**Bob-**

Marine Park, a muddy sand/cobble beach on the southeast shore of Bellingham Bay, Whatcom County, WA has been the annual training site for a group of citizen scientists tasked with monitoring two aquatic reserves in northern Washington. The sessions were timed to the first good minus tides of April.

The usual and expected life forms were encountered, but additionally many little gelatinous hemispheres were present on most solid substrates. Presumably eggs, but our literature and knowledge were insufficient to determine whose eggs. Additionally, we were seeing a lot of presumably uncommon, subtidal *Ophiodermella inermis* (Reeve, 1843) predatory snails. (Fig. 1) Could these snails be migrating up-slope for spring feeding opportunities? Or could they be responsible for the numerous egg clusters?

It appeared to myself and fellow naturalist, Doug Stark, that *O. inermis* should be expected (and was pursued) elsewhere in Bellingham Bay, especially at one of our monitoring sites, Boulevard Park, a mile away, also on the southeast shore. Whether searching at our 12 monitoring sites in Whatcom and Skagit Counties or doing casual explorations on a variety of beaches, no location would yield an *O. inermis* in five years of searching.

Year after year the same pattern, after the April season starter at Marine Park, no more of these snails. Could this be a temporal thing? Furthermore, we continued to wonder about the relationship of snail to eggs; their own or their meal? I discussed this with another fellow naturalist, Linda Schroeder and then this April, my wife, Annie Prevost, accompanied me to Marine Park with the expectation of finding *O. inermis* and eggs.

We were abundantly rewarded! At Marine Park, south of the lagoon outfall at about the 0 to -1 ft. level in sand with *Zostera* (eelgrass), inverted, spire down and feet in the air, were hundreds within our vision range to the south at a density of about 10 per square meter. (Fig. 2) Egg hemispheres were present on nearly all available rock, dead shell, or any hard surface. (Fig. 3) Most were diatom fowled and muddy, likely they had been there a while. If this is a seasonal mating thing, unless they are anticipating another round, why are the snails still here long after the eggs have been deposited? Though no actual egg deposition was seen, I am personally convinced the egg hemispheres must be coming from our *O. inermis* friends. Next year I will at least: get out earlier, bring my ¼ meter



Fig. 2

Annie Prevost photo



Fig. 1

Annie Prevost photo



Fig. 3

Annie Prevost photo

frame, look closely for egg deposition and hatching, and perhaps more.

**Linda-**

Bob had discussed with me his curiosity about finding *Ophiodermella*, along with possible eggs and wondered if I had any insight. I couldn't help him at the time because I had never found this snail live myself.

As it happened, I was headed to Point Whitehorn, the southwest point of Birch Bay, also in Whatcom County on the same day Bob and Annie were visiting Marine Park. I was on a mission to photograph some invertebrates, without really a thought toward the *Ophiodermella*. But on my way back from the Point, I stumbled on first one, then another and finally dozens of *Ophiodermella* popping up out of the sand on the incoming tide!

I found the snails at the same 0 to -1 ft. level as Bob did and also at the edge of the highest *Zostera* patch, in this case the Japanese Eelgrass. I observed densities a bit higher than 10 per square meter, but also had no way to do a formal count. (Fig. 4) Egg hemispheres were also present although not in great number. They were quite clean and translucent and perhaps more recently laid than the ones Bob had observed. (Fig. 5,6) There was little to no hard substrate for the deposition

of eggs and they were on even the tiniest bits of hard surface, including bits of seaweed, and where lacking a hard substrate, they were deposited directly on the sand.

Although I frequent Birch Bay several times a year, I realized the reason I had never stumbled across the *Ophiidermella* before was their location. This time I just happened to be on the very last sand bar not yet submerged by the incoming tide, which is at the western end of the beach. Normally I would have started walking back toward the State Park by that time. This sand bar becomes completely surrounded by water before it submerges so a person would tend to be back on the main beach by the time the snails were popping up out of the sand. I was much later coming back this time and was in the right place at the right time. I walked along the rest of the exposed sand and through shallow water and only found the snails along one



Fig. 4 Linda Schroeder photo



Fig. 5 Linda Schroeder photo

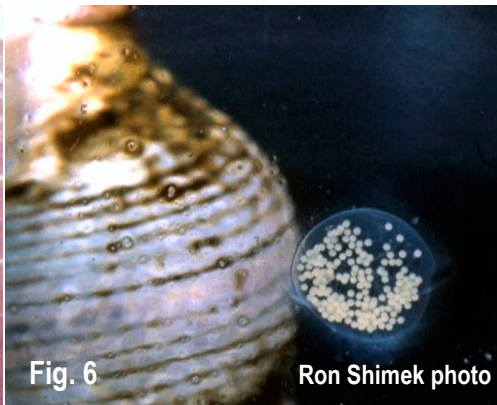


Fig. 6 Ron Shimek photo

section of the sand bar, facing the open water with none on the beach facing side. Finally I was forced to leave my search and get back to the main beach before I was wading in water much deeper than my boots.

One month later I repeated my trip to that spot, but this time saw only a half a dozen of the snails and no eggs. It certainly seemed to reinforce the idea that the *Ophiidermella* have a specific season they can be observed intertidally.

With our recent observations in hand I contacted Ron Shimek, who had published a paper on the biology of *Ophiidermella* in 1983 while working at Friday Harbor Laboratories. Ron was excited about our find and commented

that we seemed to see densities higher than what he had observed during his study. He confirmed we were finding them during their egg laying season of late winter through spring and that the eggs start out pale white-tan and become more yellowish as they develop. This matches our observations of my whitish, clean eggs at Birch Bay and Bob finding more yellowish, aged looking eggs at Bellingham Bay.

Reference:

Shimek, R.L. (1983). Biology of the Northeastern Pacific Turridae. I. *Ophiidermella*. *Malacologia* 23(2): 281-312.

*The Dredgings*, volume 58 No. 4, 2018, pages 3 - 4

### Follow-up to "Finding *Ophiidermella*"

by Linda Schroeder

Early this year we obtained some follow-up information concerning a previous article in *The Dredgings* (Vol. 58 No. 4) which detailed some observations on the snail *Ophiidermella inermis* (Reeve, 1843). The article is also posted on our website at this time.

In the article the comment was made that *Ophiidermella* only seemed to be found intertidally in the early springtime. Ron Shimek sent us a further comment concerning the temperatures that can be found on the substrate surface. Based on research Ron had undertaken he adds "I was able to show by some experiments that the reason the animals seemed to disappear in the summer was a shift in their behavior. Following one good warm day on the beach, they wait until the cooler water comes in with the tide and covers them before they start to pop up from being buried. Even though it doesn't seem like it, the dark sandy beaches around the Salish Sea, can get very hot. I measured beach surface substrate temperatures of about 35 deg C, or about 95 deg F, when the air temperature was about 23 deg C or about 73.4 deg F. It doesn't take long at the warm end of those temperatures to kill a large proportion of the snails.

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