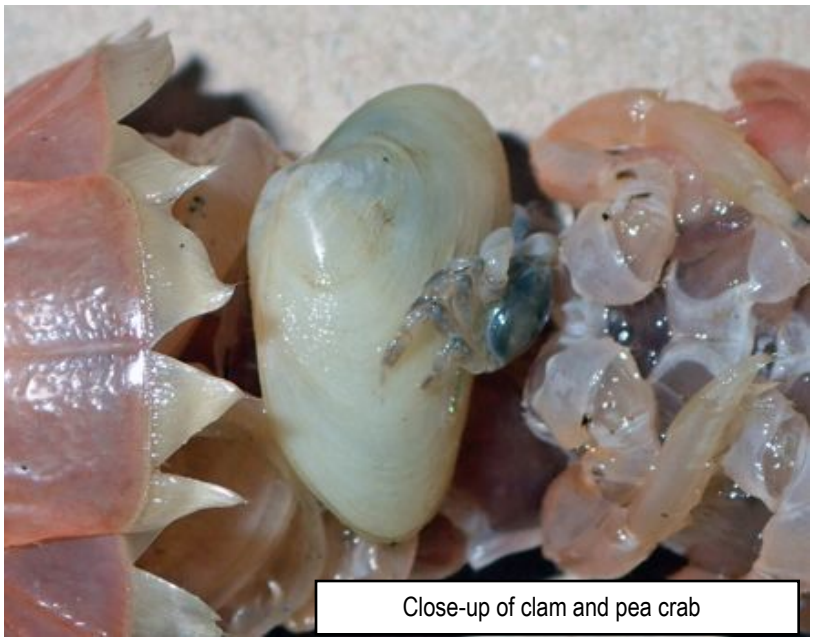
Mini-ecosystem or Seafood Smorgasbord?
by Linda Schroeder, photos by Greg Jensen

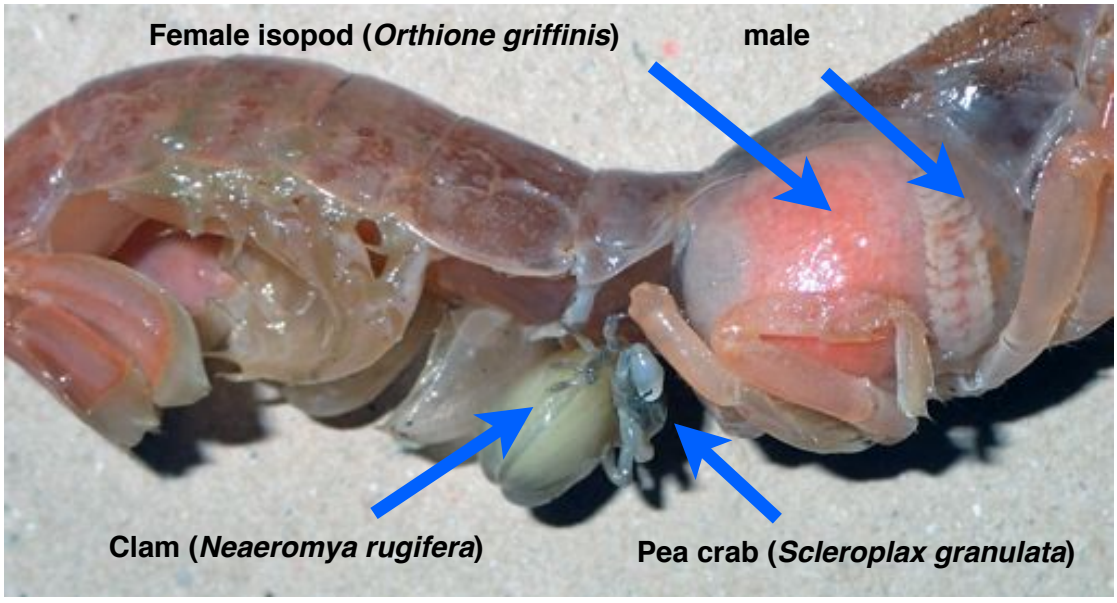
This is how Greg Jensen phrased it in his email when he sent me the photo of this Blue mud shrimp, *Upogebia pugettensis*, found during a May survey on the east side of Indian Island. The survey is part of preparations to remove the man-made connection between Indian and Marrowstone Islands, restoring the water channel.

There were several notable features of this mud shrimp. First, it was sitting out of its burrow at low tide, "waiting to be eaten by a seagull" said Greg. Secondly, he noted the pea crab, *Scleroplax granulata*, remained clinging to the shrimp. While it is a known associate of the shrimp, living in its burrows, it seemed more unusual that it hadn't remained in the burrow and instead stayed with the shrimp as it left the safety of the burrow. It was actually clinging to the Mud shrimp clam as much as the shrimp. This clam, *Neaeromya rugifera*, is well-known to live commensally on the abdomen of the mud shrimp.


Close-up of clam and pea crab

The final notable feature was the presence of the parasitic isopod, *Orthione griffenis*. This is an invasive Asian species first discovered in Washington in 1988. The isopod appears to be causing the collapse of mud shrimp populations along the Pacific coast. It prevents the female shrimp from being able to reproduce and in some places more than 90% of the mud shrimps are infected.

This shrimp harbored quite the little ecosystem going on with both commensal and parasitic relationships. It was also a seafood smorgasbord featuring three crustacean species and a mollusk for some happy gull if Greg hadn't found it first.



References:
Jensen, G. (2014). *Crabs and Shrimps of the Pacific Coast*. MolaMarine. Bremerton, WA. pp 240.

Dumbauld, B.R., Chapman, J.W., Torchin M.E. & Kuris A.M. (2011). Is the collapse of the Mud shrimp (*Upogebia pugettensis*) populations along the Pacific coast of North America caused by outbreaks of a previously unknown bopyrid isopod parasite (*Orthione griffenis*)?. *Estuaries and Coasts* Vol 34 (2): 336-350.

How many animals do you see? There are five in this picture. This blue mud shrimp, *Upogebia pugettensis*, was spotted by Greg Jensen during a survey of Indian Island. As Greg put it, this was a "seafood smorgasbord" waiting to be eaten by a seagull. The shrimp was sitting out of its burrow out in the open, a daring exercise indeed. Read more about this mini-ecosystem on **page 5**.