

Pauley

phate, and particulate and dissolved carbohydrate averaged higher at the station located further upbay.

Of the five environmental features investigated, chlorophyll A levels correlated more significantly with weight changes of oyster total solids. For the more seaward station, $r = 0.62$ ($P < .01$); for the upbay station, $r = 0.57$ ($P < .01$). A better relation was obtained using the product of log temperature and chlorophyll A levels with weight changes of total solids expressed as per cent (relative growth). For the seaward station, $r = 0.79$ ($P < .001$) and for the more upbay station, $r = 0.75$ ($P < .001$).

DESCRIPTION OF LABORATORY-REARED LARVAE OF *PARALITHODES PLATYPUS* (BRANDT) 1

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Larvae of the blue king crab, *Paralithodes platypus* (Brandt), were hatched and reared in the laboratory. All larval stages obtained developed in a manner similar to the development reported for other lithodid anomurans. In culture, *P. platypus* had 4 zoeal stages and a single glaucothoeal stage. The feature which distinguishes all zoeal stages of the species from zoea of the other two North Pacific species of *Paralithodes* (*P. camtschatica* and *P. brevipes*) is the presence of 9 pairs of telson processes (including a hair-like second process) rather than 8 pairs. Glaucothoe of *P. platypus* have one more pair of spines in the branchial region of the carapace than do those of *P. camtschatica*. Glaucothoe of *P. platypus* have 15 pairs of spines on the dorsal surface of the carapace — not including the spines of the frontal area (rostral complex) or the suborbital spines — whereas the glaucothoe of *P. camtschatica* have 14 pairs of spines, and the glaucothoe of *P. brevipes* have 13 pairs.

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* THE PATHOLOGY OF "SPONGY" DISEASE IN FRESHWATER MUSSELS

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In March, 1967, 123 freshwater mussels (*Margaritana margaritifera*) were collected from the

Ozette River in Washington. Seventy-five of these animals possessed large watery lesions on the foot, which have a resilient characteristic similar to a sponge; hence the name "spongy" disease. In some animals, the large spongy lesions were replaced by scarred wounds, in many instances bordered by multiple small papillary lesions that also had a spongy resilience.

Histologically, the large watery lesions are edematous areas in which some of the normal muscle tissue has been replaced by fibrous connective tissue. The epithelial covering over the afflicted area is disorganized, necrotic, lacking or reduced to a squamous lining. Those animals that possess scarred wounds and multiple small papillary lesions have a subacute inflammatory reaction with well-developed granulation tissue and collagen deposits. This disease affected only the foot of the mussels.

POST-EMBRYONIC DEVELOPMENT OF LABORATORY-REARED "SPOT" SHRIMP, *PANDALUS PLATYCEROS* BRANDT

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"Spot" shrimp were reared successfully in the laboratory from eggs stripped from females caught in Dabob Bay, Washington. Eggs were incubated in circulating bubbling sea water at 53°F. Hatching occurred after 41 days while eggs on ovigerous females held at the same temperature took 22 days longer. Larvae were cultured in floating 800 ml beakers and were fed newly hatched brine shrimp nauplii. Six stages were recorded before the post-larval stage. The shape of the telson was characteristic for each of the six stages but was not of diagnostic value for older stages. Larvae were also kept at 51°, 53°, and 55°F. Survival was best at low temperatures in the early stages but larvae at higher temperatures survived the longest. Larvae at 55°F moulted 4.5 days ahead of larvae at 51°F. Highest mortality occurred during the moulting process.

LARVAL REARING STUDIES OF THE DUNGENESS CRAB, *CANCER MAGISTER* 1

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The Dungeness crab is an important Oregon resource. Large fluctuations in annual landings prompted studies to determine the extent to which