

### Morphometric Studies on Three Penaeid Shrimps, *Penaeus japonicus*, *P. vannamei* and *P. marginatus* in Hawaii

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*Penaeus japonicus*, *P. vannamei* and *P. marginatus* cultured at the Oceanic Institute in Hawaii, were sampled and measured. The shrimps sampled ranged from 1 to 15 g in body weight. The measurements included carapace length (CL), body length (BL), total length (TL) and body weight (BW). The results showed significant linear relationships between TL and CL, BL and CL. The relationships between CL and BW, BL and BW, TL and BW are well expressed by exponential curve. These relationships were found for all three species. However, *P. japonicus* has more similar morphometric characteristics to *P. marginatus* than *P. vannamei*. The carapace portion in *P. vannamei* is smaller than either *P. japonicus* or *P. marginatus*. In other words, *P. vannamei* has a greater edible portion than *P. japonicus* and *P. marginatus*. Equations for length-weight relationships can provide means of converting one characteristic into another.

### Diseases, Parasites, Commensals and Fouling of Commercial Penaeid Prawns of the Portonovo Coast of South India

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There are very few reports on the diseases, parasites, commensals and fouling in penaeid prawns. During the regular collection of marine and estuarine prawns in the east coast of India, a number were found to be infested with various organisms.

The prawn *Penaeus (Fenneropenaeus) indicus*, was infested with a microsporidian which causes a condition known as milk or cotton prawn. The infestation was spread throughout the abdominal musculature of the prawn. The marine prawn *Parapenaeopsis styliifera* had epibiotic growth of athecate hydrozoans, probably of the genus *Tubularia*, on the dorsal side of the carapace and abdominal segments. This is the first report of athecate hydrozoans infesting the prawn. The prawn *Metapenaeopsis stridulans* was observed to be parasitized by a bopyrid isopod, *Orbione thielemanni* and the prawn *Sicyonia lancifera*, parasitized by another bopyrid isopod, *O. kemi*. The bopyrid isopod *O. kemi* infesting the prawn *S. lancifera* is also recorded for the first time. Both bopyrid isopods were found in the branchial cavity of the prawns. The Pontoninid prawn *Chernocaris placunae* is a commensal living in the mantle cavity of the

bivalve, *Placenta placenta*. Barnacles were found attached to the carapace and first abdominal segment of the prawn, *Parapenaeopsis uncta*, whereas they were found in the telson region also in the prawn *P. styliifera*. Most of the barnacles were very small with a basal diameter of less than 1.5 mm.

### Seasonal and Local Occurrence of Adults and Postlarval Stages of *Penaeus merguensis* and *Penaeus indicus* in Batan Bay, Philippines

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Studies on seasonal and local occurrence of adults (spawners) and postlarval stages of *Penaeus merguensis* and *P. indicus* in Batan Bay and Banate Bay, Aklan yielded the following results: 1) small-sized *P. merguensis* and *P. indicus* dominated the rivers and interior bays, 2) *P. merguensis* and *P. indicus* spawners appeared throughout the year with varying monthly abundance in Batan Channel and Banate shoreline, and 3) larval stages of penaeids were found in interior bays but were more abundant in the channel and offshore areas. Postlarval stages of penaeids are more abundant along the shoreline than in water edges of mangrove swamps which indicate that channels and offshore waters may be primary spawning grounds while interior bays and rivers are secondary spawning grounds. Moreover, size distribution of carapace length of *P. merguensis* suggests that the channel and offshore areas are utilized as primary spawning grounds while the inner portions of the bay are nursery grounds and secondary spawning grounds.

Lunar phase did not show a positive correlation with abundance of both spawners and postlarval *P. merguensis* and *P. indicus*. The minimum size at sexual maturity for both male and female *P. merguensis* is about 11 mm CL. Female *P. indicus* appear to become sexually mature at a smaller size (13 mm CL) than males (20 mm CL).

### Recruitment of Postlarval Penaeid Prawns in the Vellar Estuary, South India

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The northern bank of Vellar estuary (Parangipettai, India) is ideal for postlarval penaeid prawn recruitment. The annual recruitment, distribution and the substratum preference of postlarval immigrants at three different stations in the estuary were studied in detail.