

by Richard N. Uchida

Valid name *Penaeus marginatus* Randall 1840 (Fig. 39)
Synonymy *Penaeus teraoi* Kubo 1949
Penaeus (Melicertus) teraoi Burukovsky 1972
 (from Holthuis 1980)
Common and vernacular names Royal Hawaiian shrimp; aloha prawn; opae; opaelolo

Distribution

Taken in the NWHI at Laysan (Rathbun 1906), French Frigate Shoals, Necker Island, and Maro Reef at depths of 112-243 m.

Distinguishing characteristics

Small chelae on the first three pereopods; third pereopod the longest. Relatively short, sharp-pointed rostrum, reaching a little beyond the tip of the antennular peduncle; armed dorsally with 9-10 teeth; 2-3 teeth on inferior margin. Postrostral crest extending nearly to posterior margin of carapace; bordered on either side by a broad furrow. Dorsomedian carina on abdomen beginning at about one-third the width of fourth somite and extending posteriorly into fifth and sixth somites, ending in acute spine directed posteriorly.

In life, red to pinkish red on dorsal surface and paler on sides; anterior portion of carapace below the eyes and outer edge of tail fan tinged with crimson.

Life history

Almost all members of the Family Penaeidae, with perhaps one or two exceptions, breed in offshore waters. The eggs are broadcast rather than clutched under the abdomen as in most decapods. The hatched larvae are pelagic and usually found far out to sea,

although some may be washed into nearshore waters. As growth continues, the larvae are swept into shallow coastal waters where they metamorphose into juveniles. After completing the juvenile phase nearshore, the subadults move offshore into deeper waters. Opaelolo ≤ 40 mm total length (TL) have been found in nearshore and surface waters between Hawaii and Laysan Island (Rathbun 1906). Larger specimens, 40-95 mm TL, are usually found in harbors and shallow waters; whereas large specimens ≥ 125 mm are found in waters from 82 to 333 m.

Opaelolo apparently breeds throughout the year (Struhsaker and Yoshida 1975). Around the major islands, opaelolo makes nocturnal movements into shallower depths. Unlike other penaeids, opaelolo shows negative phototactic responses by moving offshore into deeper waters during daytime rather than burrowing. In captivity, however, it burrows readily, indicating that burrowing is also an important behavioral trait.

Gear and catch

Inshore, the species is taken by dip net at night, mostly by recreational fishermen. In deeper waters, for example, in Pailolo Channel, trawls are used. During the existence of a trawl fishery in the Pailolo Channel between 1974 and 1977, catches varied between 2,234 and 4,395 kg per year.

There is no fishery for this species in the NWHI.



Figure 39.—*Penaeus marginatus*.