

## PANDALIDAE

## Armed Nylon Shrimp

by Richard N. Uchida

**Valid name** *Heterocarpus ensifer* A-Milne Edwards 1881 (Fig. 40)  
**Synonymy** *Pandalus carinatus* Smith 1882  
*Heterocarpus carinatus* Agassiz 1888  
*Atlantocaris gigas* Ortmann 1893  
*Procletes atlanticus* Lenz and Strunk 1914  
*Proclete gigas* Gurney and Lebour 1941  
 (from Holthuis 1980)

**Common and vernacular names** Spot shrimp; armed nylon shrimp; two-spined shrimp

### Distribution

Distributed in NWHI from Middle Bank to Kure Atoll at depths of 271-688 m; optimum depth range for trapping the species is 350-599 m (Gooding 1984). Occurs around the main islands most abundantly in depths of 365-440 m (Struhsaker and Aasted 1974).

### Distinguishing characteristics

Three carinae (keels or ridges) and an ocellus (eyespot) on either side of the carapace. Postrostral crest and rostrum armed with 16-17 teeth along the dorsal border; 9 teeth along the ventral margin of rostrum. First and second abdominal somites relatively rounded and have no carinae; third and fourth abdominal somites armed with dorsal spines which posteriorly overhang; spine on third somite usually stronger than that on fourth, (although there is some variability in length of spine among non-Hawaiian samples (Hayashi and Miyake 1969)). Carapace translucent and internal anatomy of animal highly visible. Tip of rostrum, anterior portion of carapace, and pereopods crimson and lighter or pinkish (posteriorly). Ocellus dark crimson and distinct in most specimens. Abdomen uniformly pinkish and ovigerous females carry blue eggs on pleopods.

### Life history

The diet of *H. ensifer* includes foraminifers, micromolluscs, and other crustaceans. Forage items found in stomachs are extremely small, usually <0.5 mm. The species is cannibalistic, feeding on body parts, mostly pleopods of other shrimps.

Studies by Clarke (1972), Wilder (1977), and King (1980a, 1980b, 1981) suggested that *H. ensifer* is a protandrous hermaphrodite, that is, initially existing as a male before undergoing sex reversal into a female. Later studies, however, suggest that the species is dioecious and that the sexes can be distinguished by the endopods of the first two abdominal legs (King 1982; King and Moffitt 1984).

### Gear and catch

This species is caught in pots of varying design and configuration (Struhsaker and Aasted 1974; Wilder 1979; King 1982; Klemm 1982).

No catch records are available from the fishery, although several boats have operated in the NWHI in the past few years.

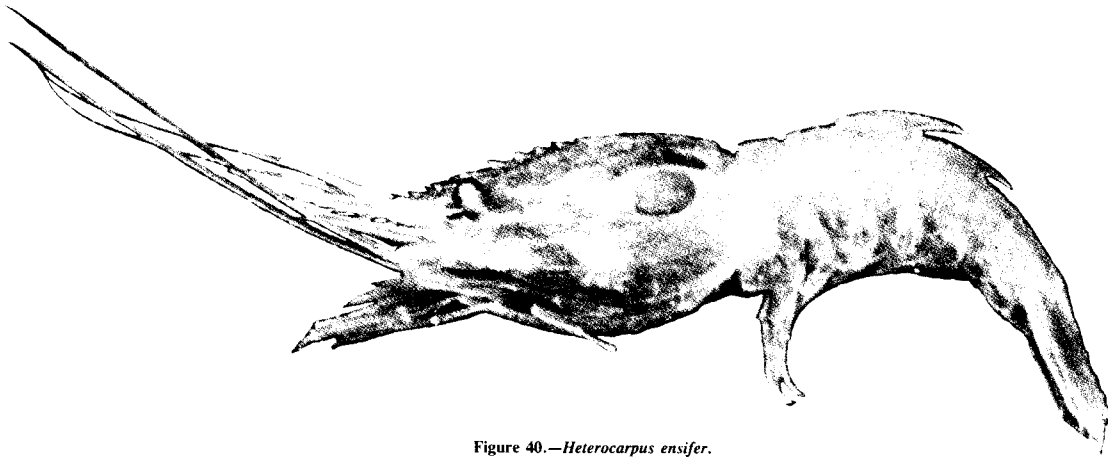


Figure 40.—*Heterocarpus ensifer*.