JOURNAL OF CRUSTACEAN BIOLOGY, 5(3): 465–467, 1985

OCCURRENCE OF *HETEROSQUILLOIDES ARMATA* (SMITH) IN THE NORTHWESTERN GULF OF MEXICO, WITH NOTES ON VARIATION WITHIN THE SPECIES (CRUSTACEA: STOMATOPODA: LYSIOSQUILLIDAE)

David K. Camp

ABSTRACT

The stomatopod crustacean *Heterosquilloides armata* is reported for the first time from the Gulf of Mexico, and an additional record from off New Jersey is presented. Variation in the shape of the rostral plate and the posterior margin of the telson within the species is discussed.

Heterosquilloides armata (Smith) has been reported from only seven sites along the eastern seaboard of the United States, four off New England (principally Massachusetts), two off New Jersey, and one off the southeastern coast of Florida (see Manning, 1969: 52, 1980: 368, and Gore and Becker, 1975: 22, for complete listing and synonymy). During examination of unidentified stomatopods collected by RV *Alaminos* in the Gulf of Mexico and deposited at Texas A & M University (TAMU), I discovered a single female of *H. armata*. The specimen was compared with others deposited at the National Museum of Natural History, Smithsonian Institution (USNM), where another recently collected and previously unreported specimen from off New Jersey was found. This paper reports the first record of *H. armata* in the Gulf of Mexico, the additional record from off New Jersey, and provides notes on morphological variation within the species.

Heterosquilloides armata (Smith, 1881)

New Records.—1 ♂ (not measured); northwestern Atlantic, off New Jersey; CAPB-VIMS-BLM No. 182063; 39°16′30″N, 72°29′54″W; 139 m; 22 June 1976; USNM 182063.—1 ♀, carapace length (CL) 6.0 mm, total length about 29 mm; northwestern Gulf of Mexico, south of Galveston, Texas; RV *Alaminos* cruise 64-A-10, station 13-C; 27°52.5′N, 94°56′W; 121–181 m; 1-m Menzies dredge; 28 June 1964; TAMU 2-6491.

The specimen from off Texas cannot be fully illustrated because of its poor condition; it was once dried, partially crushed, and is missing both raptorial claws. However, the body is sufficiently intact to allow comparison with the lectotype (USNM 35398) and other specimens deposited at USNM. In overall appearance it agrees well with those specimens.

Variation within the Species.—The number of spines on the telson and dorsal surface of the sixth abdominal somite varies in *H. armata* and is often less than that depicted in R. P. Bigelow's illustration of the lectotype, first published by Manning (1969: fig. 11). Bigelow showed five spines on each lateral margin of the telson and three on each side of the body on the dorsal surface of the sixth somite. The telson of Gore and Becker's (1975) specimen from off eastern Florida (USNM 150273) resembles the lectotype, having five spines on one lateral margin and four on the other. Three specimens from near the type-locality off Massachusetts (USNM 21491) and the female from off Texas have reduced spination, especially on the lateral margins of the telson. The number of marginal spines in three of these specimens ranges from one to three, and one female (USNM 21491) has none. Most specimens have two well-developed spines on each side on the dorsal surface of the sixth abdominal somite plus a variable number (0–5) of tubercles near the spines, but the Gulf specimen has only a single spine and tubercle on each side.

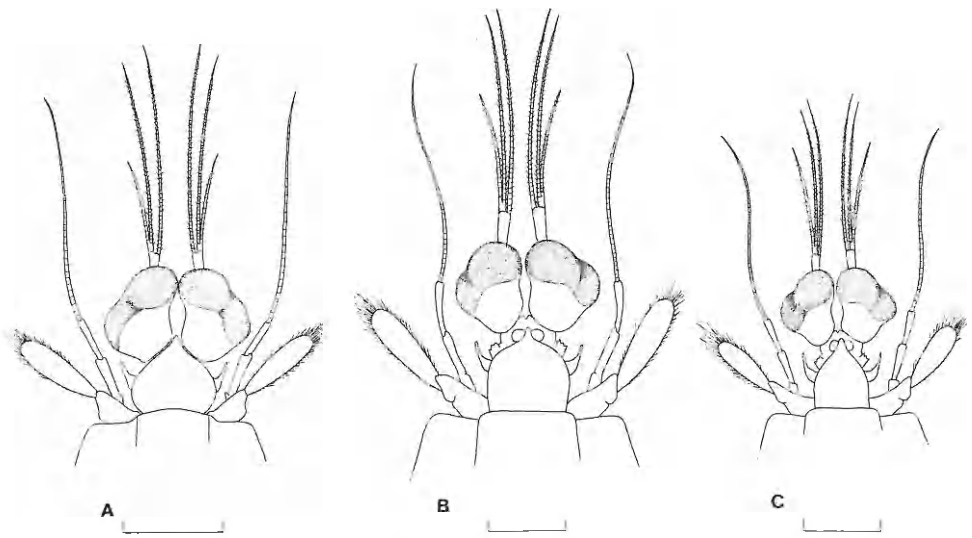

Fig. 1. *Heterosquilloides armata* (Smith), anterior portion of body showing rostral plate: A, female from off Massachusetts, CL = 5.4 mm, USNM 21491; B, female from off eastern Florida, CL = 7.4 mm, USNM 150273; C, female from off Texas, CL = 6.0 mm, TAMU 2-6491. Scale lines = 2 mm.

Rostral plate configuration differs between specimens from the New England area and those from eastern Florida and the western Gulf of Mexico. Rostral plates of the northern material are cordiform, whereas those of the southern material are more subquadrate (Fig. 1). In the Florida and western Gulf specimens, the proximolateral margins of the rostral plate are subparallel for a relatively greater distance distally from the posterior base of the plate before they begin to curve toward the midline. In the New England and New Jersey specimens, however, the lateral margins begin to curve toward the midline at a more proximal point along the plate.

Another feature which varies among specimens from northern and southern areas is the shape of the posterior margin of the telson between the movable submedian teeth, but this difference is not as pronounced as differences between rostral plates. On all specimens from the Atlantic coast, the margin on each side of the midline is straight (ventral view), whereas on the female from the western Gulf of Mexico, the margins are convexly rounded. Also, the median clefts between the submedian margins on the lectotype, the eastern Florida specimen, and the Gulf specimen are much deeper than those of other specimens from the northeastern area.

When I first compared the Gulf specimen with those from New England, I thought the former might represent an undescribed species because of the differences in shapes of the rostral plates and shapes of the posterior submedian margins of the telson. However, the intermediate nature of these features on the specimen from eastern Florida suggests that the differences represent clinal variations. More specimens are needed from intermediate localities to evaluate the significance of these differences.

Gore and Becker (1975) speculated that their specimen taken off the southeastern coast of Florida might represent an extralimital record for the species, but the western Gulf of Mexico record suggests otherwise. *Heterosquilloides armata*

is apparently a stenothermic, cold-water species of the outer shelf and upper slope. Its occurrence in the northwestern Gulf of Mexico from depths similar to those at which it has been captured in other parts of its range (96–218 m; Manning, 1969: 55) provides evidence that *H. armata* may be more widespread than previously documented.

Acknowledgements

I thank Willis E. Pequegnat for allowing me to study a portion of the stomatopod material collected in the Gulf of Mexico by RV *Alaminos* during cruises on which he was chief scientist (specimens processed under U.S. Department of the Interior, Bureau of Land Management Contract No. AA851-CT1-12), and Linda H. Pequegnat for providing data on the collections. I am grateful to Raymond B. Manning for providing space at USNM to study this and other stomatopods and for encouraging my studies on the group. Finally, I thank Jenny S. Burke and William G. Lyons of the Florida Department of Natural Resources for their helpful comments on the manuscript.

Literature Cited

Gore, R. H., and L. J. Becker. 1975. Studies on stomatopod Crustacea of the Indian River region of Florida. I. Rediscovery and extension of range of *Heterosquilla armata* (Smith, 1881).—Proceedings of the Biological Society of Washington 88: 21–28.

Manning, R. B. 1969. Stomatopod Crustacea of the Western Atlantic.—Studies in Tropical Oceanography 8: viii + 380.

———. 1980. The superfamilies, families, and genera of Recent stomatopod Crustacea, with diagnoses of six new families.—Proceedings of the Biological Society of Washington 93: 362–372.

Received: 7 December 1984.
Accepted: 31 January 1985.

Address: Bureau of Marine Research, Florida Department of Natural Resources, 100 Eighth Avenue, S.E., St. Petersburg, Florida 33701.