Vol. 86, No. 27, pp. 333–338 28 September 1973

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

A NEW SPECIES OF *SESARMA*, S. (*HOLOMETOPUS*) *RUBINOFFORUM*, FROM THE PACIFIC COAST OF PANAMÁ (CRUSTACEA, DECAPODA, GRAPSIDAE)

By Lawrence G. Abele
Smithsonian Tropical Research Institute, P. O. Box 2072, Balboa, Canal Zone

This species of *Sesarma* was collected during a survey of the decapod crustacean fauna of Panamá. It was referred to by Abele (1972:132) as an undescribed species of *Sesarma* and is now described below.

The abbreviation *cb* refers to carapace breadth measured at midline; *cl* to carapace length measured at midline; AHF to the Allan Hancock Foundation, Los Angeles, California; RMNH to the Rijksmuseum van Natuurlijke Historie, Leiden, The Netherlands; UPRC to the University of Panama Reference Collection, Panama City, Republic of Panamá; USNM to the National Museum of Natural History, Washington, D. C.

Sesarma (Holometopus) rubinofforum, new species
Figures 1–3

Material: Panamá, Pacific coast, Canal Zone, Diablo Heights, mangrove swamp on east bank of Panama Canal; 18 February 1969; L. G. Abele, LGA 69-30; 1 male paratype, *cb* 6.7 mm, UPRC; 1 ovigerous female paratype, *cb* 8.4 mm (illustrated, Fig. 1), USNM. Panamá, locality data as above; salinity 22.4%; temperature 27.9° C; 25 January 1971; L. G. Abele, T. A. Biffar, LGA 71-5; male holotype, *cb* 8.8 mm, 5 male paratypes, *cb* 3.3–10.4 mm, 4 female paratypes, *cb* 6.0–8.8 mm, USNM; 1 male, *cb* 8.0 mm, 1 female, *cb* 7.8 mm (paratypes), RMNH; 1 male, *cb* 6.8 mm, 1 female, *cb* 7.0 mm (paratypes), AHF.

Description: The carapace is wider than long, the width being about 1.16 (1.11–1.23) times the length. The frontal region does

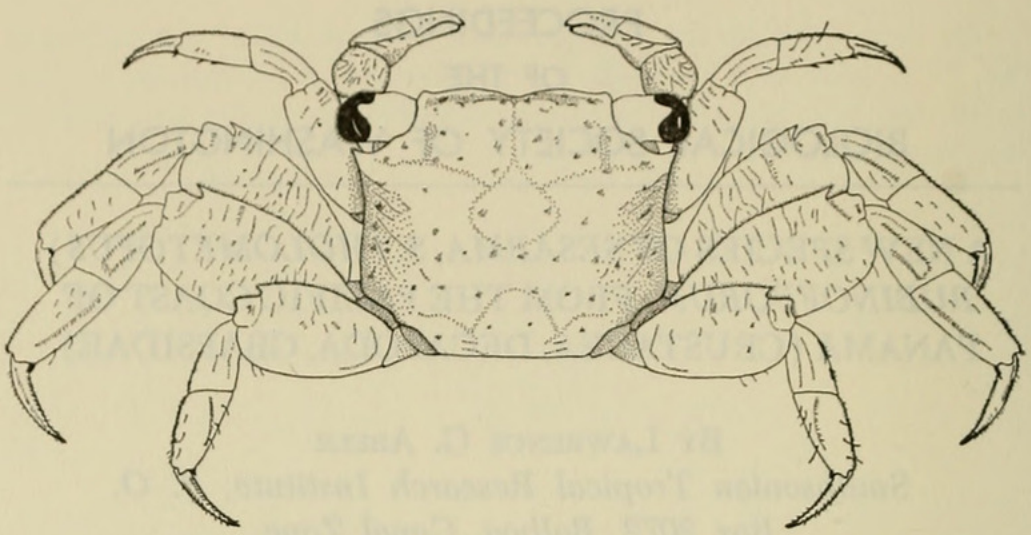

FIG. 1. *Sesarma rubinofforum*, new species. Ovigerous female paratype. cb 8.4 mm. USNM.

not widen distally and is about 0.60 of the carapace width. The frontal margin is sinuous with a broad median depression. The interorbital region is divided into four distinct lobes; the lateral (outer) lobes are indistinctly subdivided into two lobes by two patches of pubescence. The regions of the carapace are distinct. The dorsal and lateral surfaces of the carapace have many patches of short, brown pubescence. The outer orbital angle is acute; there is no tooth or lobe posterior to it. There are about four granular ridges on the lateral surfaces of the carapace. The carapace narrows posteriorly.

The cornea is rounded and well pigmented. The width of the cornea is about two-thirds of the length of the eyestalk and cornea combined.

The merus of the chelipeds has the margins distinctly serrate; a subdistal lobe is present on the lateral margin. There are many subacute granules along the border of the carpus and on its dorsal surface; there is no tooth or lobe at the medial angle. There is a strong granulate ridge extending the length of the dorsal surface of the palm; it is weakly bifurcate proximally. Other poorly defined rows of granules arise from this ridge and extend onto the medial surface of the palm. The lateral surface of the palm is smooth except for a few scattered granules. The movable finger is slightly longer than the palm; there are about seven strong, acute tubercles along the dorsal surface of the finger, of which the median ones are the strongest.

The walking legs are robust with the third (fourth periopod) being the longest. The length of the merus of the third is about 1.9 times the width; the superior borders have minute widely spaced teeth and a strong, acute subdistal tooth; the inferior border is smooth. There are short horizontal rows of granules present on the meri of the walking legs. The carpus has some scattered setae present on the dorsal sur-

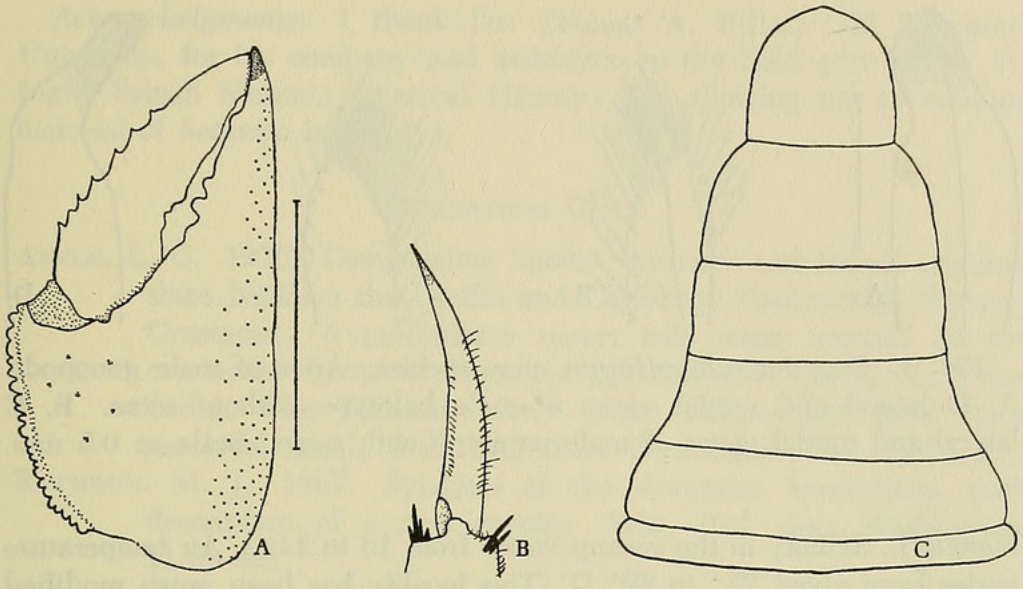

FIG. 2. *Sesarma rubinofforum*, new species. A, lateral view of chela of male holotype. B, dactylus of walking leg, male holotype. C, abdomen of male paratype. Scale = 2 mm.

face. There is light pubescence on the dorsal surface of the propodus and less on the ventral surface; there are three pairs of strong, black spines on the distal inferior margin. The dactylus has three dorsal and two ventral poorly defined rows of pubescence. The merus is slightly less than twice the length of the carpus which is subequal in length to the propodus. The dactylus is slightly shorter than both the propodus and carpus.

The male abdomen is subtriangular in shape narrowing distally from the third segment. The telson is broadly rounded; the length and width are subequal. The female abdomen is subcircular in outline.

The male gonopod is simple and unarmed. The endpiece (amber-colored apex) is rectangular, directed laterally and covered with simple setae.

Variation: Females have less pubescence on the carapace than males; the female chelae are not as robust as those of males, the tuberculation is weaker and there are three or four rather than seven or eight tubercles on the dorsal surface of the movable finger.

Measurements: Immature males have a *cb* of about 3.3 mm; immature females, *cb* 6.0 to 6.3 mm; mature males, *cb* 6.2 to 10.4 mm; mature females, *cb* 7.0 to 8.4 mm; ovigerous females, *cb* 8.8 to 9.0 mm; eggs small and numerous, diameter 0.3–0.5 mm.

Type-locality: Pacific coast of Panamá on the east bank of the Panama Canal in a mangrove swamp near Diablo Heights, Canal Zone.

Distribution: Known only from the type-locality.

Habitat: The specimens were collected from damp areas beneath litter deep inside a mangrove swamp composed primarily of *Rhizophora*

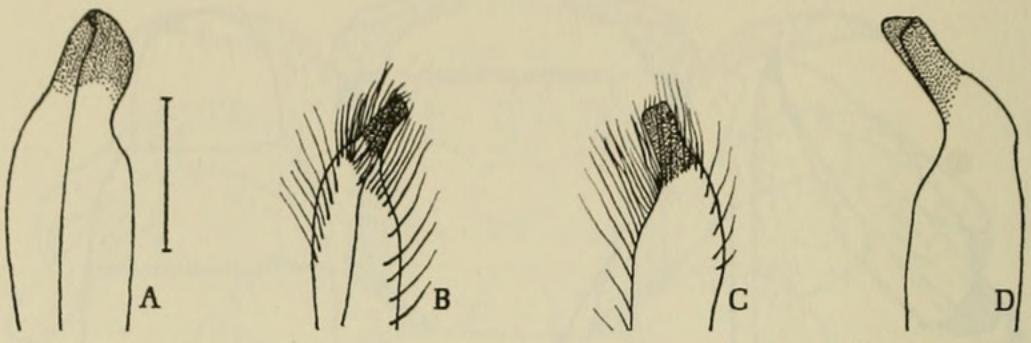

FIG. 3. *Sesarma rubinofforum*, new species. Apex of male gonopods. A, D lateral and mesial views of male holotype without setae. B, C lateral and mesial views of male paratype with setae. Scale = 0.5 mm.

mangle L. Salinity in the swamp varies from 16 to 24‰. Air temperature varies from about 27° to 29° C. This locality has been much modified during the last year by clearing and only a small stand of mangroves remain. Twenty species of decapods were collected before clearing, including *Sesarma rhizophorae* Rathbun and *S. sulcatum* Smith.

Remarks: *Sesarma* (*Holometopus*) *rubinofforum* appears to be the Pacific analogue of *S. rectum* Randall, 1840. It can be distinguished from *S. rectum* by the following characters: there is a slight emargination posterior to the outer orbital angle in *S. rectum* which is lacking in *S. rubinofforum*; the carpus of the cheliped of *S. rectum* is armed with a sharp tooth at the medial angle while that of *S. rubinofforum* is rounded; the movable finger of the chela of *S. rectum* is armed with 14–16 acute tubercles while that of *S. rubinofforum* is armed with 3–8; the endpiece of the gonopod of *S. rectum* is somewhat flared while that of *S. rubinofforum* is not flared; adults of *S. rectum* are from *cb* 13–44 mm while adults of *S. rubinofforum* range from *cb* 6–10 mm.

Discussion: White (1847:38) in his list of the Crustacea in the British Museum listed "*Sesarma subintegra*, n. s." based on material from Brazil. No description or reference to a figure or description accompanied the use of the name and it is therefore a nomen nudum. However, no reference to this name is made in works on American Sesarminae (Rathbun, 1897, 1918) and its true identity appears never to have been established. Through the kindness of Dr. R. W. Ingle, British Museum (Natural History), I was able to examine one of the two extant syntypes. The specimen is a dried male (*cb* 37.3, *cl* 32.0 mm) in poor condition but there is little doubt that it belongs to the species known today as *Sesarma rectum* Randall, 1840, of which *Sesarma mulleri* A. Milne Edwards, 1869, is also a synonym.

Etymology: The specific name is for Ira and Roberta Rubinoff, of the Smithsonian Tropical Research Institute, who have, in many ways, aided efforts toward an understanding of the biota of Panamá.

Acknowledgments: I thank Dr. Thomas A. Biffar, Old Dominion University, for his company and assistance in the field and Dr. R. W. Ingle, British Museum (Natural History), for allowing me to examine material of *Sesarma subintegra*.

Literature Cited

Abele, L. G. 1972. Comparative habitat diversity and faunal relationships between the Pacific and Caribbean Panamanian decapod Crustacea: A preliminary report with some remarks on the crustacean fauna of Panamá. pp. 125–138. *In* M. L. Jones (ed.). The Panamic biota: some observations prior to a sea level canal. Bull. Biol. Soc. Washington, No. 2, 1972.

Rathbun, M. J. 1897. Synopsis of the American Sesarminae, with description of a new species. Proc. Biol. Soc. Washington, 11:89–92.

———. 1918. The grapsoid crabs of America. Bull. U. S. Nat. Mus., 97:i–xxii, 1–461, text-figs. 1–172, pls. 1–161.

White, A. 1847. List of the specimens of Crustacea in the collections of the British Museum. i–vii, 1–143. London.