

A NEW SPECIES OF THE GENUS *SPINIANIRELLA*  
MENZIES (CRUSTACEA: ISOPODA: JANIRIDAE)  
FROM THE WESTERN ATLANTIC

Brian Kensley and Richard Heard

*Abstract.* — *Spinianirella serrata* is described from 350 m off Puerto Rico. This new species differs from *S. walfishensis* Menzies (from the south-eastern Atlantic) in the more spinose nature of the cephalic and pereonal processes, and in the pleonal and uropodal structure of the male.

---

Menzies (1962) described the genus *Spinianirella* to accommodate a single female specimen taken in 1816 m in the Walvis Basin of the south-eastern Atlantic. Kensley (1984) recorded 14 specimens of the same species from off the east coast of South Africa, in depths of 150–850 m. To date, these two records constitute the entire record for the genus. The occurrence of a second species of the genus, *S. serrata*, from the western Atlantic off Puerto Rico, forms a significant extension to both the distribution and diagnosis of the genus.

Family Janiridae  
*Spinianirella* Menzies

*Spinianirella* Menzies, 1962:171, fig. 55. — Wolff, 1962:34, 262, 271, 274, 275. — Kensley, 1984:283, fig. 37.

*Type-species.* — *Spinianirella walfishensis* Menzies, 1962, by original designation.

*Revised diagnosis.* — Janiridae with lateral margins of cephalon and pereon produced into spinous processes. Pleon consisting of single broad segment. Eyes absent. Mandibular palp of 3 articles. Pereopod 1 shorter than following pereopods, prehensile, with dactylus and propodus together folding against carpus. Pereopods 2–7 slender, ambulatory. Uropod uniramous, of 2 articles.

*Spinianirella serrata*, new species  
Figs. 1, 2

*Material.* — HOLOTYPE, USNM 211360, ♀, TL 3.2 mm, PARATYPE, USNM 211361, ♂, TL 5.0 mm, 17°49.9'N, 66°34.1'W, 350 m, Mar 1984, bottom substrate a mixture of sand, silt, and clay.

*Description.* — Body slightly more than 3 times longer than wide (excluding lateral spinous processes); widest at pereonite 3. Integument dorsally sclerotized, somewhat rugose, bearing scattered tubercles and setules. Anterior cephalic margin concave between antennal bases. Anterolateral elongate process of cephalon apically acute, bearing spine-like tubercles; lateral margin of cephalon convex posterior to spinose processes. Pereonites 1–3 increasing in length and width posteriorly, pereonites 4–7 decreasing in width and length posteriorly. Pereonite 1 with single lateral spinose process; spines on posterior margin and on lateral pereonite

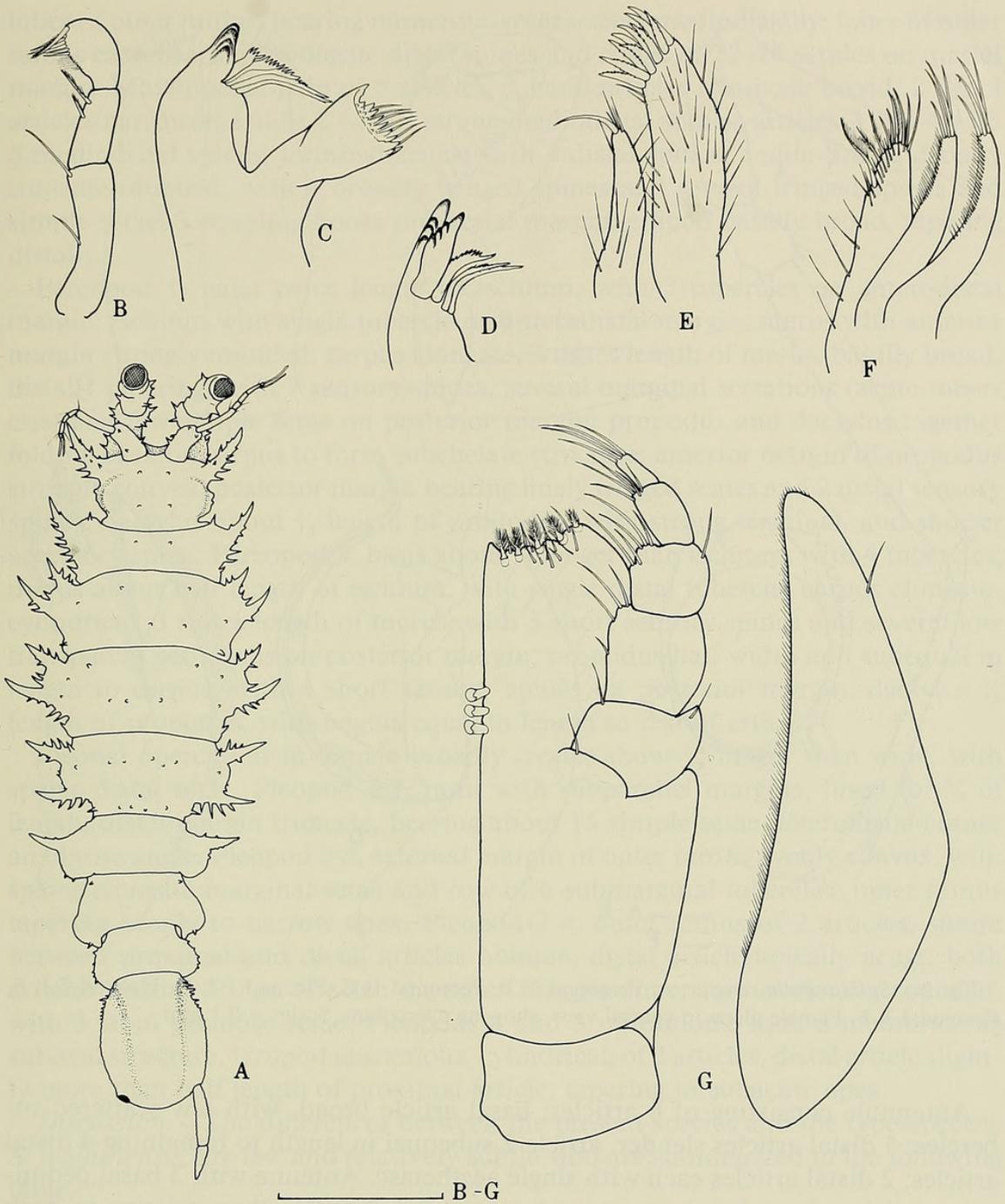


Fig. 1. *Spinianirella serrata*: A, Holotype ♂, dorsal view, TL 3.2 mm; B, Mandibular palp; C, Right mandible, palp not shown; D, Incisor and spine row of left mandible; E, First maxilla; F, Second maxilla; G, Maxilliped and epipod. Scale = 0.1 mm.

margin behind process becoming elongate. Pereonites 2–4 each with 2 lateral spinose processes. Pereonite 5 with single lateral process. Pereonites 6 and 7 lacking processes, with convex spinulose lateral margin. Pleon consisting of single segment, but with shallow anterodorsal transverse groove perhaps indicating single fused pleonite. Pleonal lateral and posterior margins gently convex. Pleon 1.3 times longer than wide, dorsally with raised and rounded central longitudinal area. Anterolateral margins spinose.

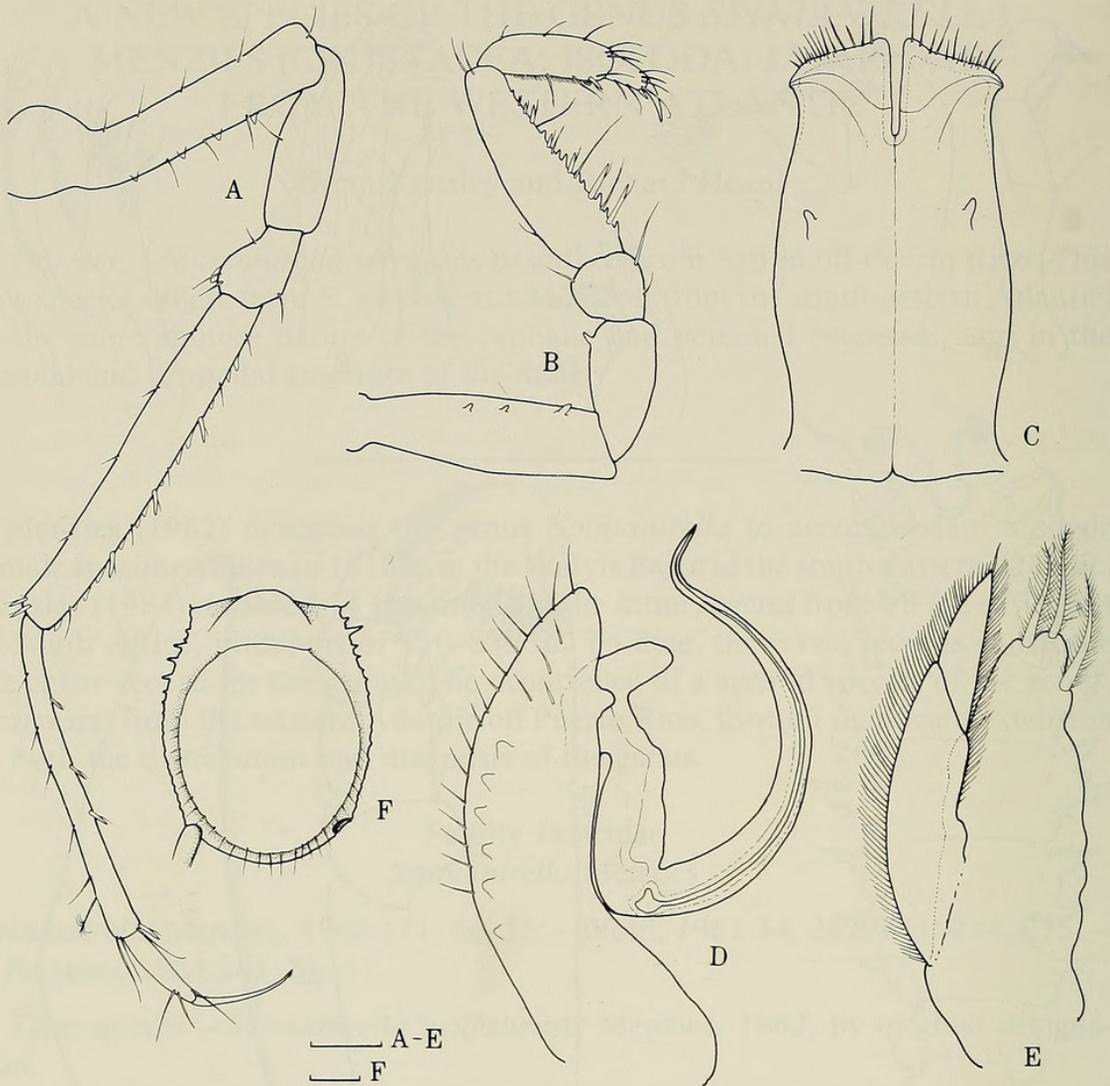


Fig. 2. *Spinianirella serrata*: A, Pereopod 3; B, Pereopod 1; C, Pleopod 1 ♂; D, Pleopod 2 ♂; E, Pleopod 3 ♂; F, Female pleon in ventral view, showing operculum. Scales = 0.1 mm.

Antennule consisting of 6 articles; basal article broad, with few scattered tubercles; 5 distal articles slender, article 2 subequal in length to remaining 4 distal articles; 2 distal articles each with single aesthetasc. Antenna with 3 basal peduncular articles short, bearing scattered acute tubercles; flagellum missing in both specimens. Mandibular palp of 3 articles, basal article 1.3 times length of article 2, bearing single spine at midlength and another at distal margin; article 2 with 2 distal fringed spines; article 3 almost semicircular in outline, half length of article 2, bearing 8 distal fringed spines becoming progressively longer distally; incisor with 4 strong cusps; lacinia mobilis of left mandible strong, sclerotized, distally broadened into 4 cusps; of right mandible short, resembling toothed spine; 4 spines in spine-row, 2 closest to incisor short and distally toothed, 2 closest to molar more elongate, fringed; molar process strong, distally truncate, triturative surface demarked by 2 strong teeth joined by ridge on outer surface, by row of short spines and elongate fringed setae on inner surface. Maxilla 1, inner ramus about half width of outer, bearing 1 stout, elongate, and 3 slender distal spines; outer ramus with 10 distal serrate spines. Maxilla 2, inner ramus broader than

lobes of outer ramus, bearing numerous spines/setae mediolaterally; lobes of outer ramus each bearing 4 elongate distal spines and fringe of 22–26 setules on mesial margin. Maxillipedal palp of 5 articles, 3 basal articles relatively broad, 2 distal articles narrower; article 2 with 3 strong mediolateral spines; articles 3 and 4 with 5 mediolateral spines; terminal article with 4 distal spines; endite broad, distally truncate-rounded, with 4 broadly fringed spines and several fringed spines and simple setae; 3 coupling hooks on mesial margin; epipod basally broad, tapering distally.

Pereopod 1, basis twice length of ischium, with 3 tubercles on anterodistal margin; ischium with single tubercle on anterodistal margin; merus with anterior margin strongly rounded; carpus elongate, 3 times length of merus, basally broad, distally tapering, with 7 sensory spines, several marginal serrations (acute tubercles) and few simple setae on posterior margin; propodus and dactylus together folding back on carpus to form subchelate structure; anterior margin of propodus strongly convex, posterior margin bearing finely fringed scales and 2 distal sensory spines; dactylus about  $\frac{2}{3}$  length of propodus, with strong terminal, and shorter accessory spine. Pereopod 3, basis about  $\frac{1}{3}$  longer than ischium, with 4 tubercles; merus about half length of ischium, with single distal tubercle; carpus elongate-cylindrical, 3 times length of merus, with 3 short sensory spines and several low transparent serrations on posterior margin; propodus half width and subequal in length to carpus, with 4 short sensory spines on posterior margin; dactylus  $\frac{3}{5}$  length of propodus, with unguis equal in length to rest of article.

Pleonal operculum in female broadly ovate, about  $\frac{1}{3}$  longer than wide, with sparse distal setae. Pleopod 1 ♂, rami with subparallel margins, fused for  $\frac{3}{4}$  of length; distal margin truncate, bearing about 15 simple setae, laterodistal corner an obtuse angle. Pleopod 2 ♂, external margin of outer ramus evenly convex, with sparse elongate marginal setae and row of 6 submarginal tubercles; inner ramus tapering evenly to narrow apex. Pleopod 3 ♂, outer ramus of 2 articles, suture between proximal and distal articles oblique, distal article apically acute, both articles bearing fringe of setae on outer margin; inner ramus distally rounded, with 3 stout plumose setae. Pleopods 4 and 5 uniramous, each a membranous suboval structure. Uropod uniramous, cylindrical, of 2 articles, distal article slightly more than half length of proximal article, tapering to subacute apex.

*Discussion.* — The differences between the present species and the type-species, *S. walfishensis*, are few and relatively subtle, and are summarized in the following table:

Character	<i>S. serrata</i>	<i>S. walfishensis</i>
TL adult	3.2 mm	4.7–5.2 mm
Integument	Few sparsely scattered small tubercles	Numerous relatively dense tubercles
Cephalic and pereonal processes	Strongly spinous	Non- to faintly spinous
Pleonal marginal spination	Short spines in anterior third	Regularly distributed from anterior margin to uropod
Pleopod 1 ♂	Distolateral corner barely produced	Distolateral corner well produced
Pleonal operculum ♀	Evenly ovate	Broader basally than distally
Uropod	Distal article shorter than proximal	Distal article subequal to proximal

The present record provides yet another example of the supposedly widespread distribution of deepsea isopod genera, being separated from the original record of the genus by the north-west to south-east oblique width of the Atlantic Ocean. Although the only specimens of *S. serrata* came from 350 m, and specimens of *S. walfishensis* have been reported from 150–850 m (Kensley 1984), and 1816 m (Menzies 1962), the lack of eyes, or even of ocular peduncles would indicate that *Spinianirella* is a true deepsea genus. The Puerto Rican collecting site for *S. serrata* and the collecting site for *S. walfishensis* off South Africa are on, or immediately adjacent to, steep slopes into deep water.

Crustaceans occurring in the same sample with *S. serrata* included the amphipods *Byblis* sp. and *Ampelisca* sp., a tanaidacean, *Typhlotanais* sp., a cumacean, *Nannastacus* sp., and the decapods *Callianassa marginata* and *Automate* sp.

*Etymology*.—The specific epithet refers to the serrate nature of the cephalic and pereonal lateral processes.

#### Acknowledgments

We thank Dr. T. E. Bowman of the Smithsonian Institution, for reading and commenting on the manuscript of this paper.

#### Literature Cited

- Kensley, B. 1984. The South African Museum's *Meiring Naude* cruises. Part 15. Marine Isopoda of the 1977, 1978, 1979 cruises.—*Annals of the South African Museum* 93(4):213–301.
- Menzies, R. J. 1962. The isopods of abyssal depths in the Atlantic Ocean.—*Vema Research Series* 1:79–206.
- Wolff, T. 1962. The systematics and biology of bathyal and abyssal Isopoda Asellota.—*Galathea Report* 6:1–320.

(BK) Department of Invertebrate Zoology, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560; (RH) Gulf Coast Research Laboratory, Ocean Springs, Mississippi 39564.



Kensley, Brian Frederick and Heard, Richard W. 1985. "A New Species Of The Genus *Spinianirella* Menzies (Crustacea, Isopoda, Janiridae) From The Western Atlantic." *Proceedings of the Biological Society of Washington* 98, 682–686.

**View This Item Online:** <https://www.biodiversitylibrary.org/item/107750>

**Permalink:** <https://www.biodiversitylibrary.org/partpdf/46604>

**Holding Institution**

Smithsonian Libraries and Archives

**Sponsored by**

Biodiversity Heritage Library

**Copyright & Reuse**

Copyright Status: In copyright. Digitized with the permission of the rights holder.

Rights Holder: Biological Society of Washington

License: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Rights: <https://biodiversitylibrary.org/permissions>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.