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A NEW SPECIES OF *PSAMMOGAMMARUS* (CRUSTACEA, AMPHIPODA)
FROM THE ROQUES ARCHIPELAGO, VENEZUELA

by

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SUMMARY

Psammogammarus scopulorum n. sp. is described from Bekebe key in the Roques archipelago. The new species was found in coral debris, in a seepage behind a rubble bar.

RÉSUMÉ

Psammogammarus scopulorum n. sp. est décrit d'un flot corallien, Bekebe, dans l'Archipel des Roques. La nouvelle espèce a été trouvée parmi les débris madréporiques, dans un suintement derrière une barrière de gravats.

INTRODUCTION

In a previous paper (Stock, 1982: 195), the presence of an undescribed species of the genus *Psammogammarus* S. Karaman, 1955, in the Roques archipelago, has been recorded.

Only one other species of this genus, *Ps. caesicolus* Stock, 1980, is known from the West Indies, viz. from anchihaline waters of Curaçao (Netherlands Antilles). The present species is markedly different from *Ps. caesicolus*, and from the four other species attributed to *Psammogammarus* (see Stock, 1980: 383) as well, justifying the erection of a new species for the material from Los Roques.

Psammogammarus scopulorum n. sp.

Material. — Amsterdam Expeditions to the West Indian Islands, sta. 82-51, Los Roques (Venezuela), seepage on leeward side of coarse sand and coral debris bar of a

small key called Bekebe (11°51'22"N 66°56'02"W) (fig. 21); phreatobiological pump (method Bou-Rouch), 70 l of water filtered; temperature 28.2°C; chlorinity 17056 mg/l; April 4, 1982.

One female, in non-reproductive stage (oöstegites not setose), holotype (Zoologisch Museum Amsterdam coll. no. ZMA Amph. 107.569a, b, c).

Description. — Holotype, length (frontal margin cephalon to tip of telson) 1.7 mm; third uropod 577 µm. Unpigmented, blind.

First antenna (fig. 1) with rather swollen basal segment; segment 2 slender and narrow, shorter than segment 1; segment 3 more than half as long as segment 2. Flagellum 8-segmented, segment 1 elongate, about 3/4 of the length of the 3rd peduncle segment. Remaining flagellum segments also rather slender; long aesthetascs (as long as or slightly longer than the corresponding segments) on segments 4 through 7. Accessory flagellum 2-segmented, distinctly shorter than the first flagellum segment.

Second antenna (fig. 2) shorter than the first. Gland cone strong. Peduncle segments 4 and 5 scantily setose. Flagellum 6-segmented; first flagellum segment long, almost half as long as peduncle segment 5.

Upper lip (fig. 3) roughly rhomboidal.

Mandible (fig. 4) with 5 spines between the pars molaris and the pars incisiva. The pars molaris consists of 2 blades; the innermost of these is finely denticulated on the left mandible, and armed with 3 coarse teeth on the right one. Palp 3-segmented; basal segment small, unarmed; second segment the longest, armed

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Figs. 1-9. *Psammogammarus scopulorum* n. sp., ♀ holotype: 1, first antenna (scale ab); 2, second antenna (ab); 3, upper lip (ac); 4, left mandible and pars molaris of right mandible (ac); 5, lower lip (ac); 6, first maxilla (ad); 7, second maxilla (ad); 8, maxilliped (ac); 9, telson (ac). (For scales see next figure.)

with 2 ventral setae; third segment having about 4/5 of the length of the second, armed with 3 long ventral setae and 3 long distal setae.

Lower lip (fig. 5) with large, ciliated outer lobes and well-developed inner lobes.

First maxilla (fig. 6) with 2-segmented palp; distal armature of palp consisting of 3 spines and 2 setae. Outer lobe with 9 spines, the innermost armed with a row of fine teeth, the others with 1 (rarely 2 or 3) medial teeth. The inner lobe is longer than wide, distally armed with 7 plumose setae.

Second maxilla (fig. 7) consisting of an outer lobe with 8 distal setae and of an inner lobe with 6 barbed distal setae, a mediobasal row of 4 naked setae, and an oblique row of 5 naked setae.

Maxilliped (fig. 8) with short inner lobe (armed with 2 plumose setae, 3 spines, and 5 setules). Outer lobe with 3 shorter and 1 longer distal spines. Distal palp segment swollen; claw slender, long.

First gnathopod (fig. 10) with trapezoidal coxal plate, the anterior corner of which is bluntly rounded. Propodus with 2 palmar angle spines; palm not very oblique, armed with some 5 small palmar spines.

Second gnathopod (fig. 11) larger than the first. Coxal plate subrectangular, much wider than long. Coxal gill sausage-shaped, longer than the basis. Carpus trapezoidal, at least as long as wide. Propodus ovate, with 1 bifid palmar angle spine; palmar margin convex, with about 5 small spines of a size. Claw rather short.

Oöstegites linear.

Coxal plates 3 and 4 (figs. 12 and 13) much wider than long. Pereiopods 3 and 4 similar in shape, very poorly armed. Propodal sole with 2 setae only. Claw very thin, straight. Coxal gills with short basal stalk, ovate, large (almost as long as the basis).

Fifth pereopod (fig. 14) with an elongate, non-lobate basis; posterior margin with 3 spinules; posterodistal corner with 2 setae. Distal segments not very elongate, armature very scanty.

Sixth pereopod (fig. 15) with a small, ovate coxal gill. Basis elongate, non-lobate; posterior margin slightly convex, armed with 4 spinules. The three long distal segments armed with a low number of long, almost setiform, spines.

Seventh pereopod (fig. 16) only partially preserved: the distal segments are lacking. The basis is slightly more rectangular than in P6; posteroventral corner rounded; posterior margin armed with 5 spinules only.

Epimeral plates 1 and 2 ending in an inconspicuous posteroventral point; plate 3 distinctly pointed (fig. 20).

First uropod (fig. 17) with 1 basofacial spine; a long spine is implanted at the basis of the endopodite. Exopodite without marginal spines, endopodite with 1 marginal spine.

Second uropod (fig. 18) with subequal rami; both rami with a row of minute spinules.

Third uropod (fig. 19) with 2-segmented exopodite, both segments of equal length; armature consisting of a low number of long spines. Endopodite monomerous, almost as long as segment 1 of the exopodite.

Telson (fig. 9) almost entirely cleft; lateral margin with 2 short plumose setae; distal margin with a small spiniform process, a longer lateral and a shorter medial spine. Two very long, plumose ("sensory") setae are implanted dorsally, at a slight distance of the tip.

Derivatio nominis. — The proposed specific name, *scopulorum*, is the genitive plural of the Latin word *scopulus*, thus meaning "from the rocks", alluding to the type-locality, the Rôques archipelago.

Comparison with other species. — The present new species has a very long endopodite of the third uropod. The only other species of *Psammogammarus* in which this endopodite is as long as the first segment of the exopodite is *Ps. longiramus* (Stock & Nijssen, 1965), found in a salty well in the Dahlak archipelago (Red Sea). In the other species, the endopodite is shorter than segment 1 of the exopodite (in *Ps. caesiculus* Stock, 1980, about 75%, in *Ps. coecus* S.

Figs. 10-15. *Psammogammarus scopulorum* n. sp., ♀ holotype: 10, first gnathopod (scale ab); 11, second gnathopod (ab); 12, coxal plate of third pereopod (ab); 13, fourth pereopod (ab); 14, fifth pereopod (ab); 15, sixth pereopod (ab).

Figs. 16-20. *Psammogammarus scopulorum* n. sp., ♀ holotype: 16, basal portion of seventh pereopod (scale ab); 17, first uropod (ab); 18, second uropod (ac); 19, third uropod (ab); 20, epimeral plates 1 to 3, from the right (ab). (For scales see previous figure.)

Karaman, 1955, about 50%, in *Ps. garthi* (Barnard, 1952) about 33%, and in *Ps. gracilis* (Ruffo & Schiecke, 1976) about 20%).

The differences with *Ps. longiramus* are numerous (inner lobe of Mx1 is wider than long, armed with about 15 distal setae; the 2nd exopodite segment of uropod 3 is less elongate; the telson has laterobasal spines instead of setae; a longer accessory flagellum of A1; more richly armed pereopods 3 through 7).

It might be useful to enumerate also the differences (in addition to the shorter Ur3 endopodite) with the only other West Indian representative of the genus *Psammogammarus*, *Ps. caesicolus*, from anchihaline waters in Curaçao. The 3rd peduncular segment of A1 of *Ps. caesicolus* is much less elongate; the first flagellar segment of A1 is short; the coxal plates

1 to 4 are almost as long as wide; the palmar angle spines of P2 are longer; the coxal gills of P2 through P4 are much smaller; the propodus of P3 and P4 is more richly armed; the basis of P5 is less elongate; the posterior margin of the basis of P5 through P7 is armed with numerous setules; the telson bears lateral spines instead of setae; the posteroventral corner of the 3rd epimere is not produced into a sharp point.

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Fig. 21. Type-locality of *Psammogammarus scopulorum* n. sp., the rubble wall at Bekebe key. Dr. Steven Weinberg (centre) handles the phreatobiological pump. (Black and white print of Kodachrome slide.)

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