

Amsterdam Expeditions to the West Indian Islands, Report 22*)

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 filot 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 (Zoölogisch 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.

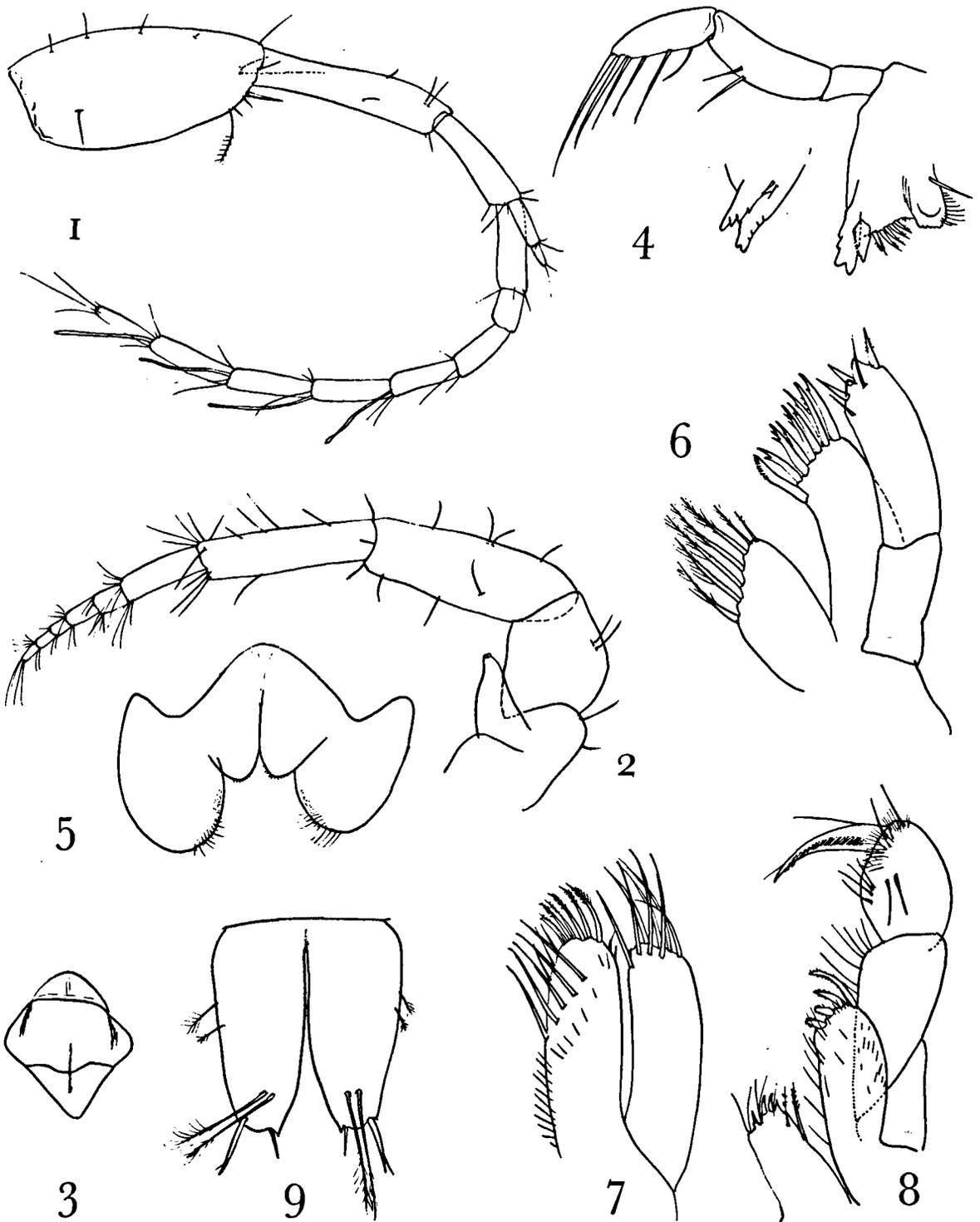
First antenna (fig. 1) with rather swollen basal segment; segment 2 slender and narrow, shorter than segment 1; segment 3 more than half as long as segment 2. Flagellum 8-segmented, segment 1 elongate, about 3/4 of the length of the 3rd peduncle segment. Remaining flagellum segments also rather slender; 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

*) Report 21 has been published in Bijdr. Dierk., 52 (2): 228-230 (1982).



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 mediolateral 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.

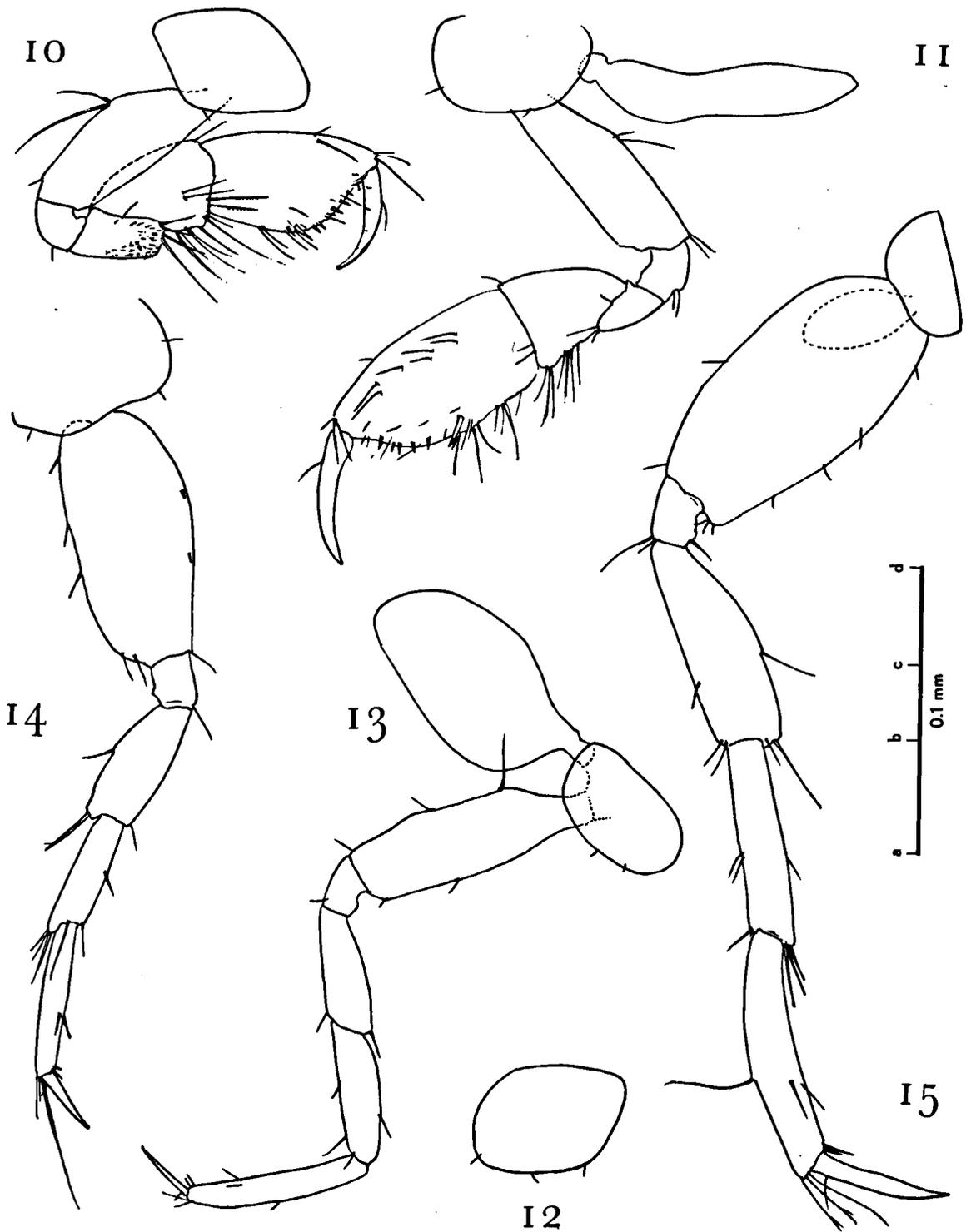
Second uropod (fig. 18) with subequal rami; both rami with a row of minute spinules.

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.

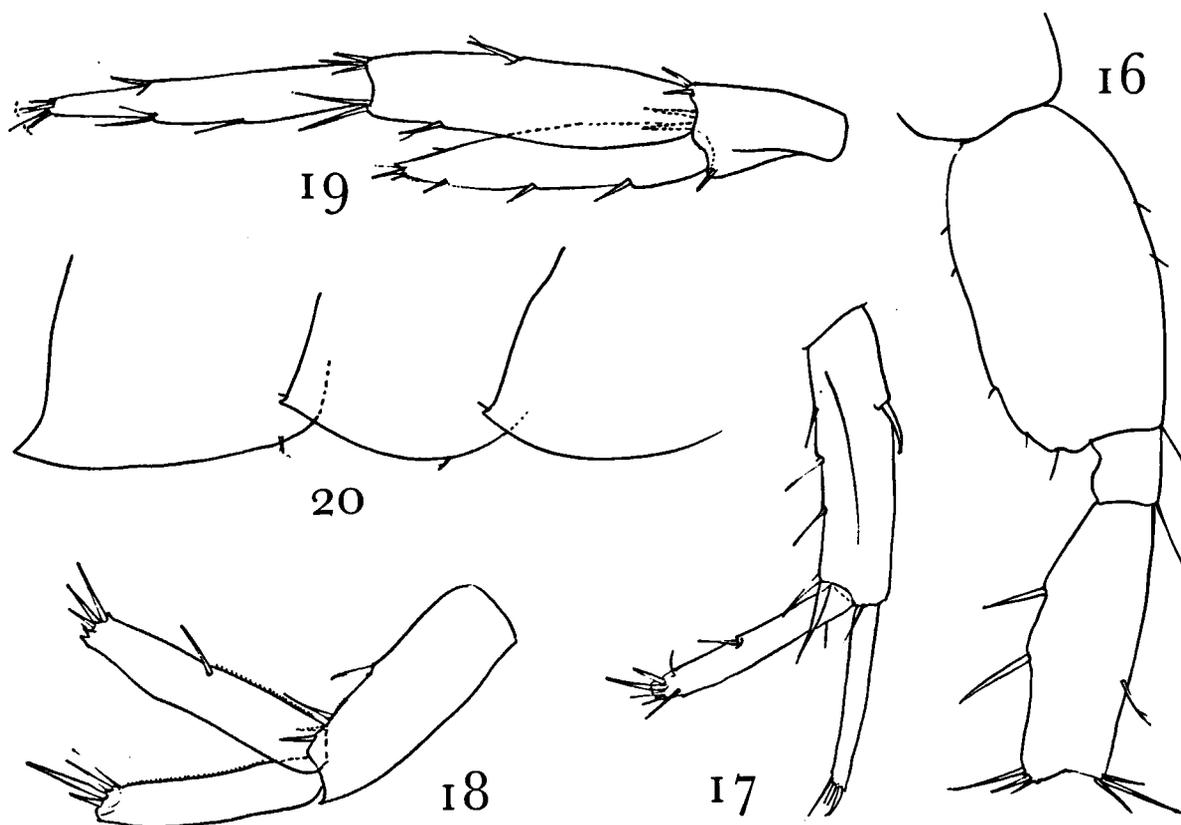
Telson (fig. 9) almost entirely cleft; lateral margin with 2 short plumose setae; distal margin with a small spiniform process, a longer lateral and a shorter medial spine. Two very long, plumose ("sensory") setae are implanted dorsally, at a slight distance of the tip.

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 Roques 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. caesicolus* 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.

ACKNOWLEDGEMENTS

The fieldwork in the Roques archipelago has been financially supported by the Treub Maatschappij (Utrecht), the Beijerinck-Popping Fonds (Amsterdam), the Amsterdamse Universiteits Vereniging (Amsterdam) and the University of Amsterdam. The sampling of Los Roques has been carried out by Dr. Steven Weinberg, Mrs. Francisca Zijlstra, and the author.



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.)

Many thanks are due to Drs. Roger Laughlin and Ernesto Weil, of the Fundación Científica Los Roques (Caracas), for many services rendered, such as air transportation to the islands, inter-insular boat transportation, and in particular for their hospitality in the foundation's facilities on Dos Mosquesos island.

The organization of the fieldwork in Venezuela has greatly benefited from support rendered by H. M. Embassy of The Netherlands, Caracas, in particular by Dr. Ir. Th. P. M. de Wit, Agricultural Attaché.

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