

A NOTE ON TWO NEW SPECIES OF CANUELLIDAE (COPEPODA, HARPACTICOIDA) FROM THE RED SEA

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The present paper describes two new species in the harpacticoid family Canuellidae: one in the genus *Scottolana* Por, and one in *Canuellina* Gurney. Reference is made to a general review of the Canuellidae (cf. Por, in press) for a more comprehensive outline of the taxonomic position of these genera and their constituting species.

*Scottolana uxoris**) new species (figs. 1-15)

Material. — 5 females and 8 males from the Sinai coast of the Gulf of Elat (samples SLR 1490, as well as three specimens from the collections of Dr. D. Dexter, San Diego State University). Intertidal and shallow sand bottoms.

Types. — Holotype male, HUJ.COP 101. Paratype female HUJ.COP 102.

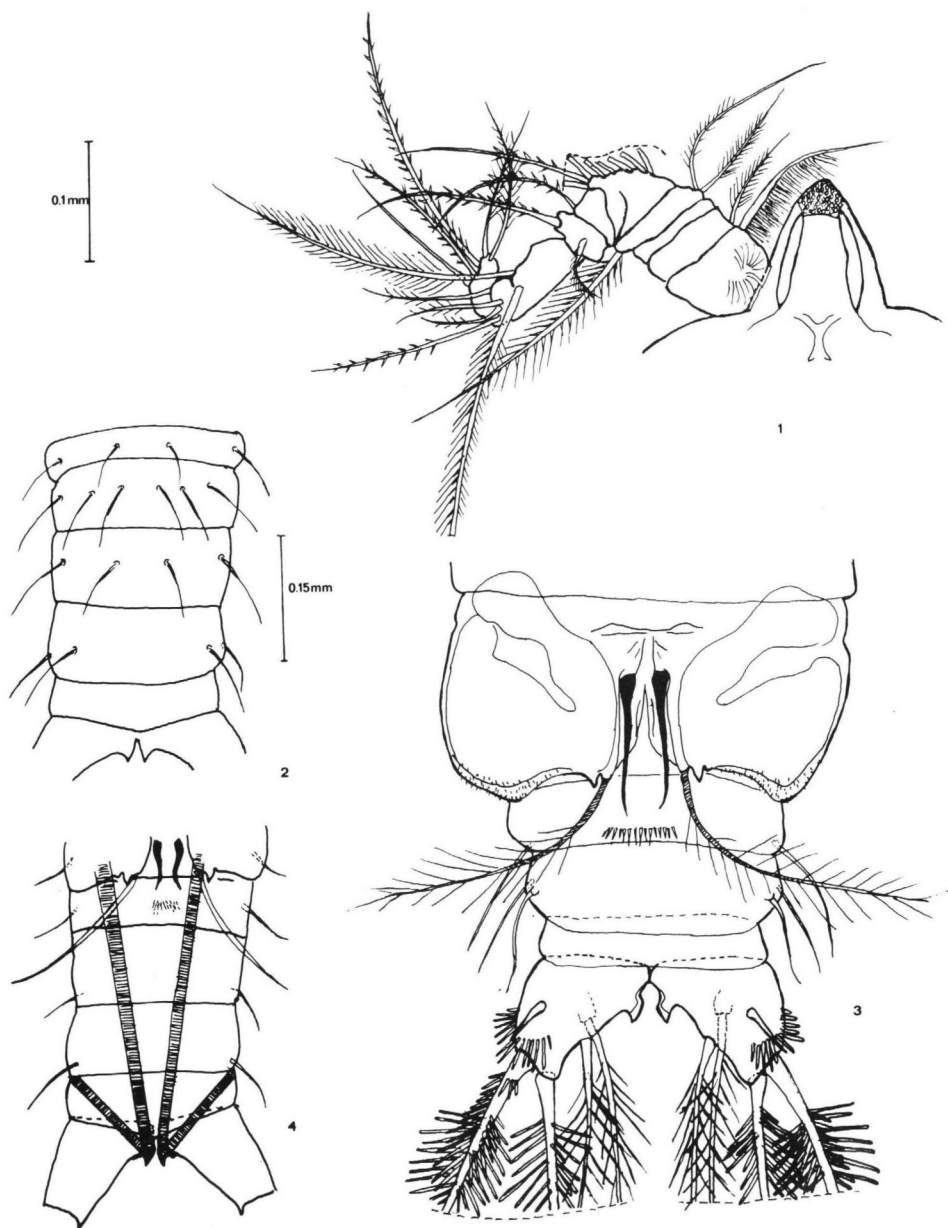
Measurements. — Size of females and males, in preserved state, 1.30-1.50 mm.

Male. — First leg-bearing somite separate from the cephalosome. No eyes. Rostrum bluntly triangular (fig. 1). All body segments bear pairs of long dorsal setae (fig. 2); the first and third abdominal somites bear two pairs each, the second has three pairs. On the fourth abdominal somite, one of the two pairs is much stronger; it is also displaced ventrally, recalling the rudiments of a pair of legs (fig. 3). Uropods bluntly triangular, nearly equilateral, with well pronounced medio-basal sclerotized hooks (fig. 3). The hooks serve as an insertion site for two pairs of longitudinal trunk muscles (fig. 4). Uropodal setae well developed and richly setulose: the two apical setae bear rod-like setules. Similar rod-like structures are also found on the surface of the uropod itself.

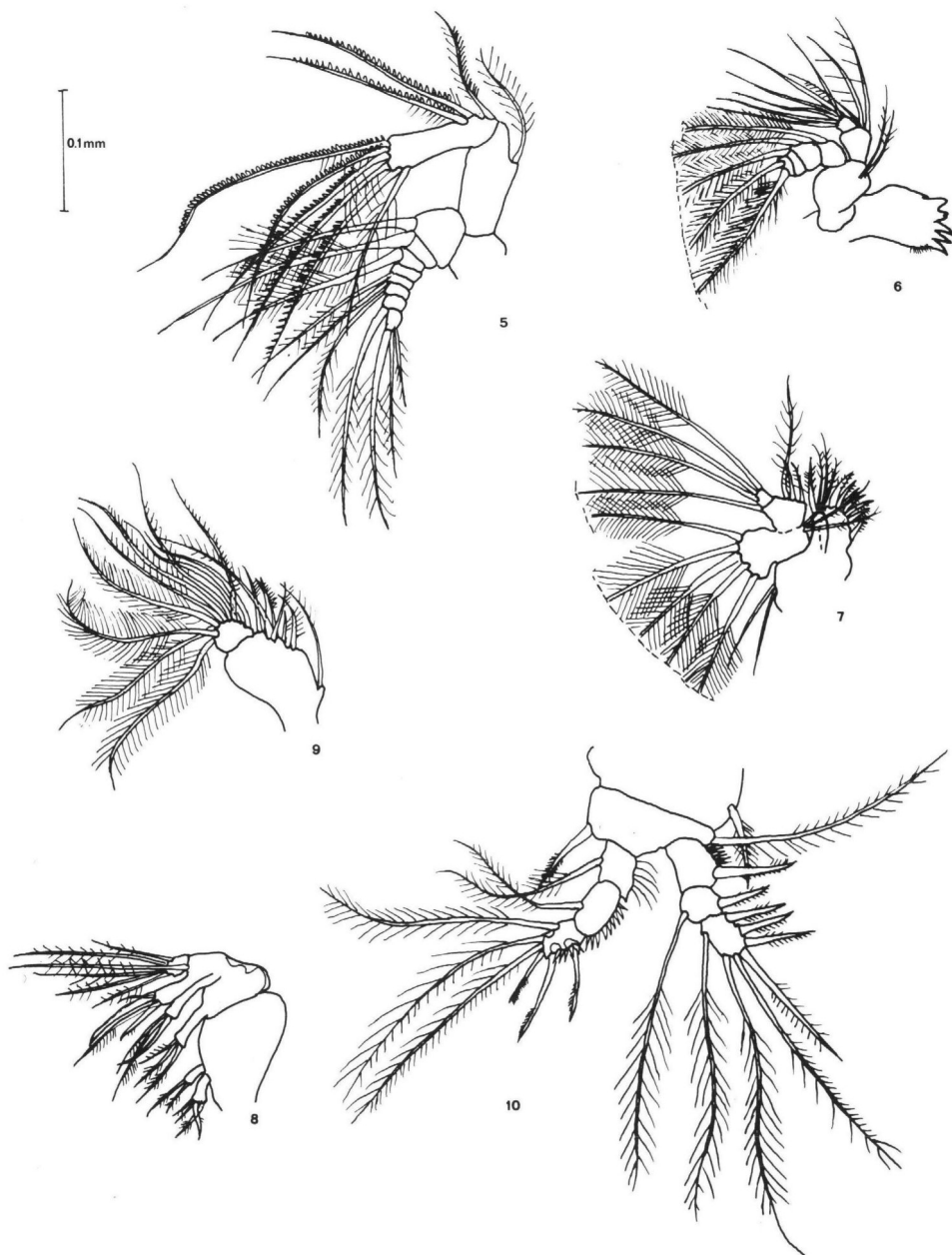
Antennula as in fig. 1, with 11 segments and only moderately prehensile. There are two very thin and inconspicuous aesthetascs only.

Antenna with 2-segmented endopodite and a big, 8-segmented exopodite (fig. 5). Secondary setation very coarse. Mandibular palp with 2-segmented endopodite and seemingly 4-segmented exopodite (fig. 6). Maxillula with 2

*) Dedicated to my wife, Dr. M. S. Almeida Prado-Por.



Figs. 1-4. *Scottolana uxoris* n. sp. 1, antennula and rostrum of male; 2, abdomen (male and female) dorsal; 3, last abdominal somites of male; 4, abdomen (male and female) ventral. Scale 0.1 applies to figs. 1 and 3, 0.15 applies to figs. 2 and 4.



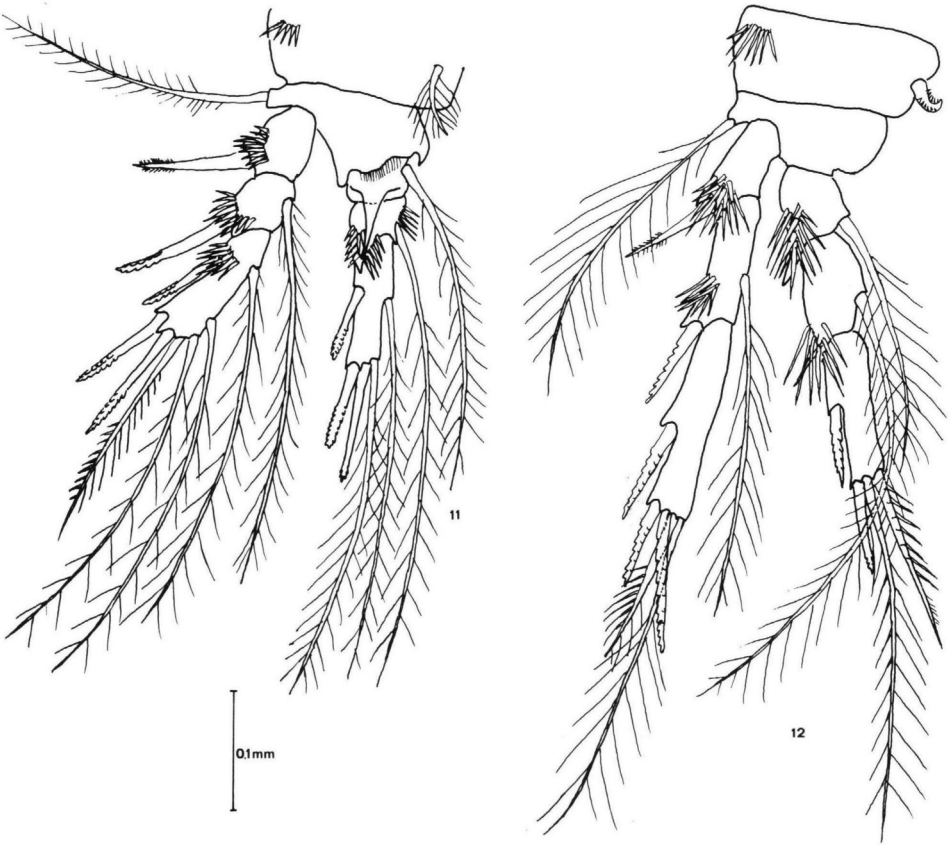
Figs. 5-10. *Scottolana uxoris* n. sp. 5, antenna; 6, mandibula; 7, maxillula; 8, maxilla; 9, maxillipede; 10, first leg.

epipodite setae, 2-segmented endopodite, and one-segmented exopodite (fig. 7). Maxilla with 5 endites (fig. 8). Maxillipede of two segments, with the typical foliaceous structure of the family (fig. 9).

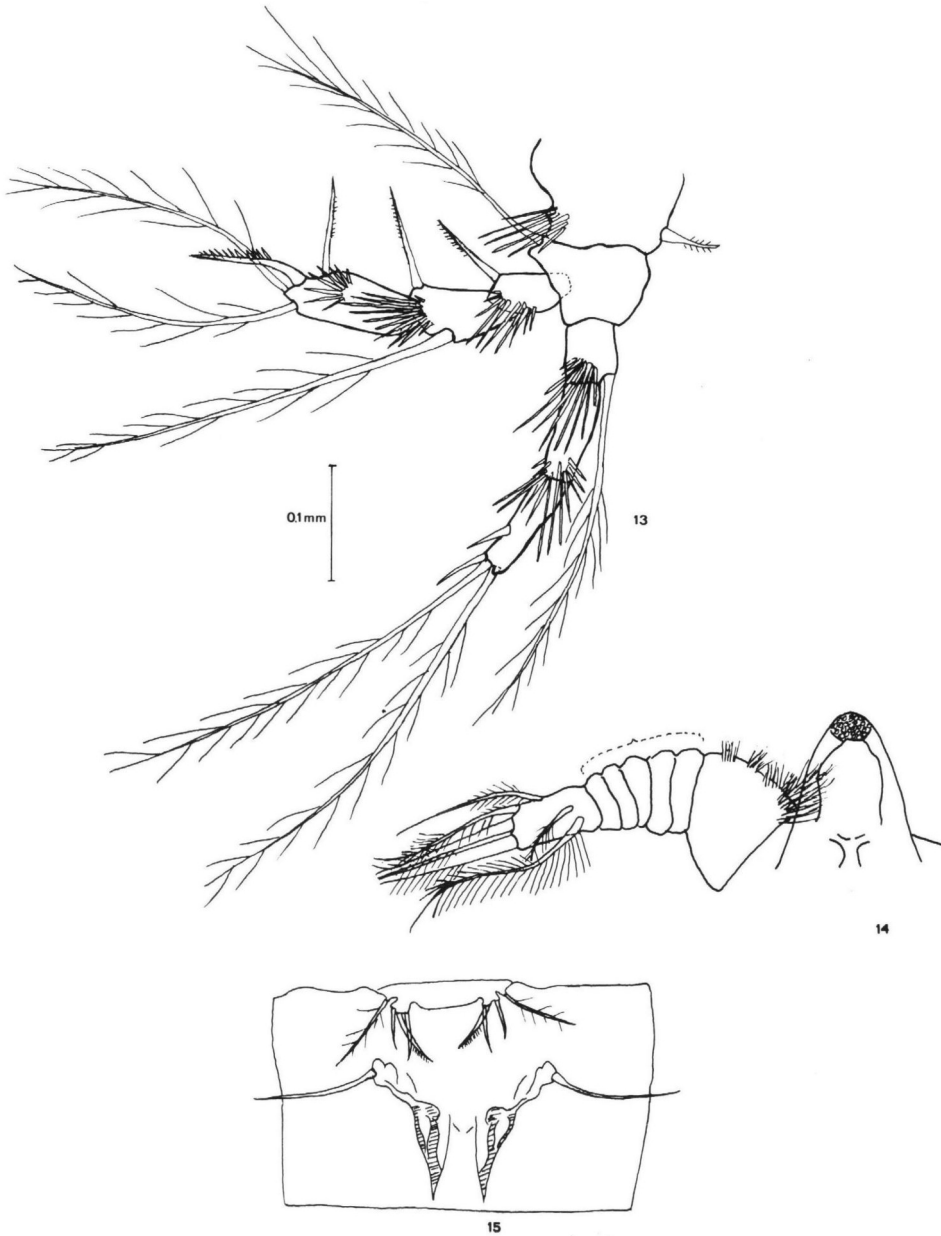
Swimming legs (figs. 10-13) three-segmented, increasing in size from P-I to P-III. P-I segments short. P-IV with exopodite usually forming an angle of 90° with the endopodite; two of the apical setae crossed. There is no sexual dimorphism in the legs. The leg segments are covered with thick sets of long surface setae, on P-IV typically rod-shaped. The coxal spine of P-III has the form of a strong hook.

Armature formula:

	Exopodite	Endopodite
P-I	0.1.223	1.1.222
P-II	0.1.322	1.1.221
P-III	0.1.032	1.1.022
P-IV	0.1.022	1.0.022



Figs. 11-12. *Scottolana uxoris* n. sp. 11, second leg; 12, third leg.



Figs. 13-15. *Scottolana uxoris* n. sp. 13, fourth leg; 14, antennule and rostrum of female; 15, fifth legs and genital area of female.

P-V as in female (fig. 15).

Petasma, or gonopodial apparatus (see Por, in press), with one pair of fairly long and strong internal apodemes, and a very long setigerous apodemal seta on the operculum, which reaches the tips of the uropods. The setae are laterally flanked by a short spiniform prominence. A pad of short spines is found on the ventral surface of the second abdominal somite, evidently related to the function of the petasma (fig. 3).

Female. — Genital complex well divided ventrally and partly divided latero-dorsally. Antennula 7-segmented, short and blunt (fig. 14). Mouthparts and

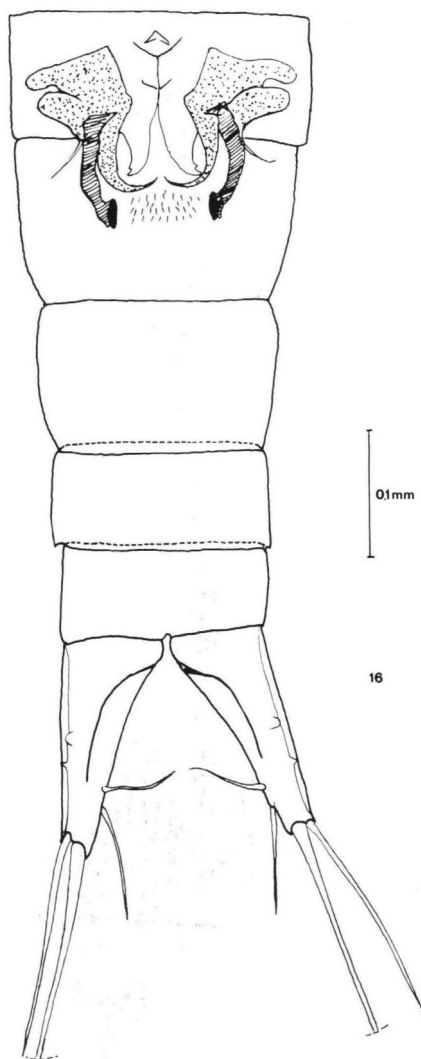


Fig. 16. *Canuellina tuba* n. sp., ♂, abdomen in ventral view, with petasma.

legs as in male. P-V with relative long setae (fig. 15). Structure of vulvae as in fig. 15. Two egg sacs.

Discussion. — The new species belongs to *Scottolana* Por as defined by Por (in press). From the other species of the genus, *S. longipes* (Thompson & Scott), the new species differs clearly in various important features: the shortness of the uropods, the structure of the petasma, and the lack of dimorphism in the male P-IV.

***Canuellina tuba**) new species (figs. 16-26)**

Material. — The new species is described after three males: one from the Gulf of Elat (sample RS 25) and two others from the Southern Red Sea archipelago of Dahlak (E 62).

This species has been reported earlier by Por (1967) as an immature male of *C. femur*. The finding of specimens in the Southern Red Sea, however, invalidates this statement.

Types. — Holotype male, HUJ.COP. 103 (Southern Red Sea).

Measurements. — Length of the 3 males, 1.26-1.35 mm.

Male. — First leg-bearing somite fused to the cephalosome. Body without any ornamentation. Uropods long and gradually tapering, basal width about half the total length; there is a well pronounced ventral keel (fig. 16). Rostrum rounded, quadrangular (fig. 17).

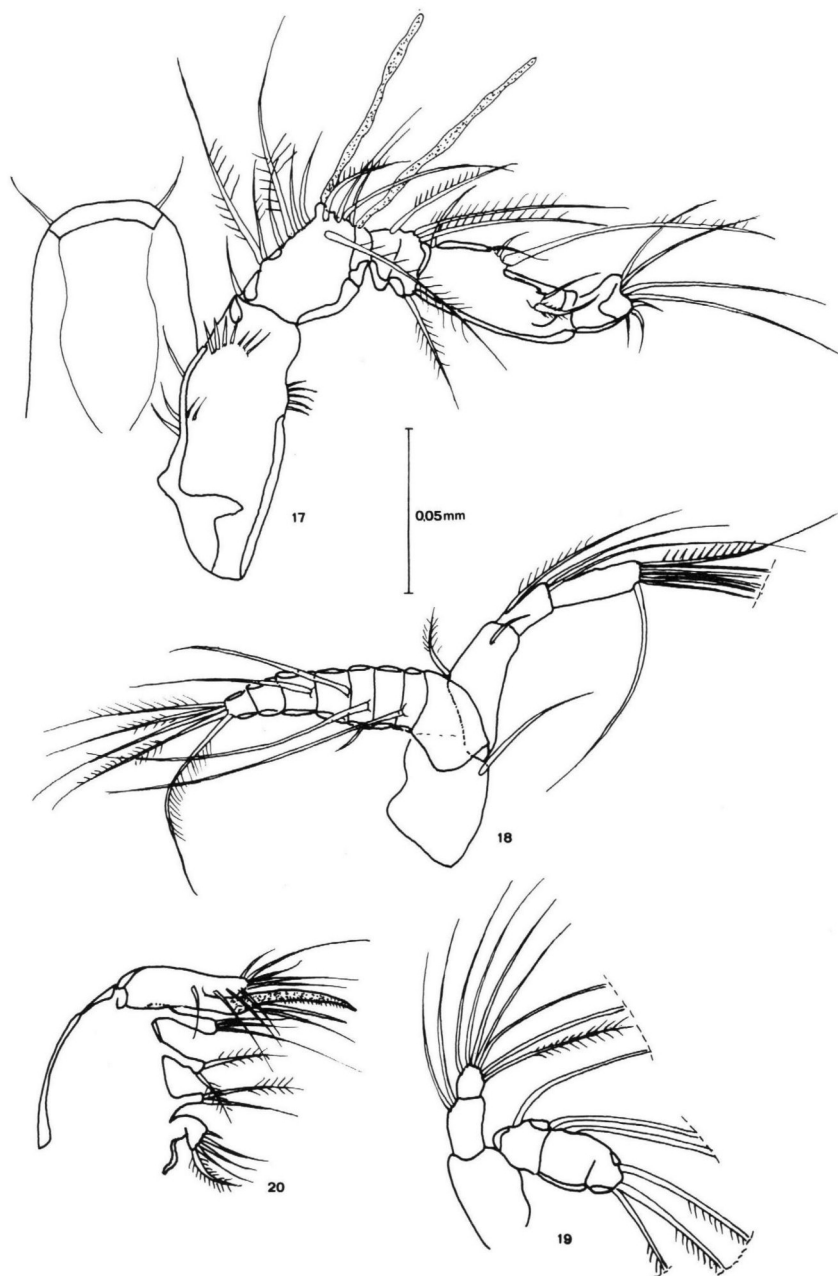
Antennula 6-segmented, with last two prehensile segments moderately modified (fig. 17). Two fairly strong aesthetascs on second segment. Basis of antenna with one seta. Antennal endopodite three-segmented; exopodite big, 8-segmented, with simple setae (fig. 18). Mandible with 2-segmented endo-, and 3-segmented exopodite (fig. 19). Maxillula with 3 epipodital setae. Maxilla (fig. 20) with 5 endites. Maxillipede 2-segmented, typical for the family (fig. 21).

Swimming legs (figs. 22-25). P-I with elongate segments, especially the endopodite. P-II and P-III increasing in size. Endopodite of P-IV reduced in size, as in all the species of the genus; barely half the length of the exopodite. There is no coxal seta or spine on P-IV. Seemingly no sexual dimorphism of the legs.

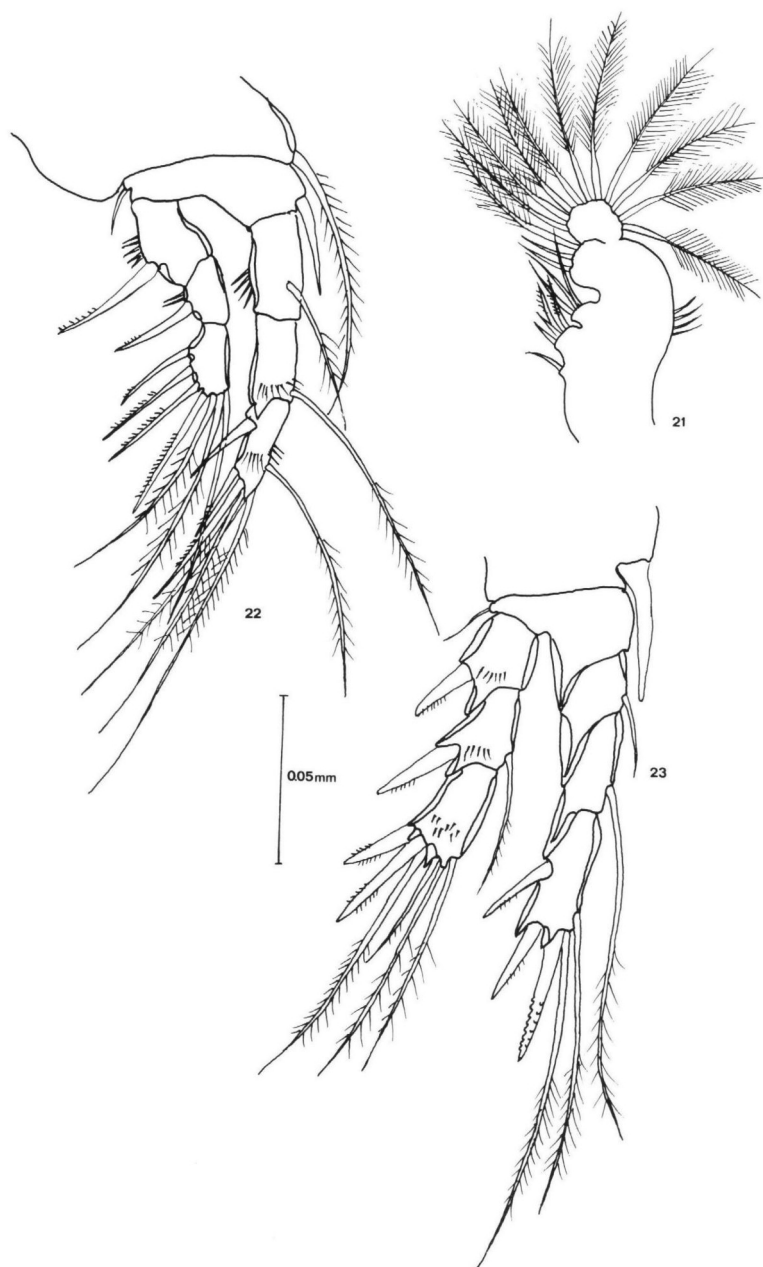
Armature of the legs:

	Exopodite	Endopodite
P-I	0.0.124	1.1.123
P-II	0.1.123	1.1.122
P-III	0.1.112	1.1.022
P-IV	0.0.022	1.0.111

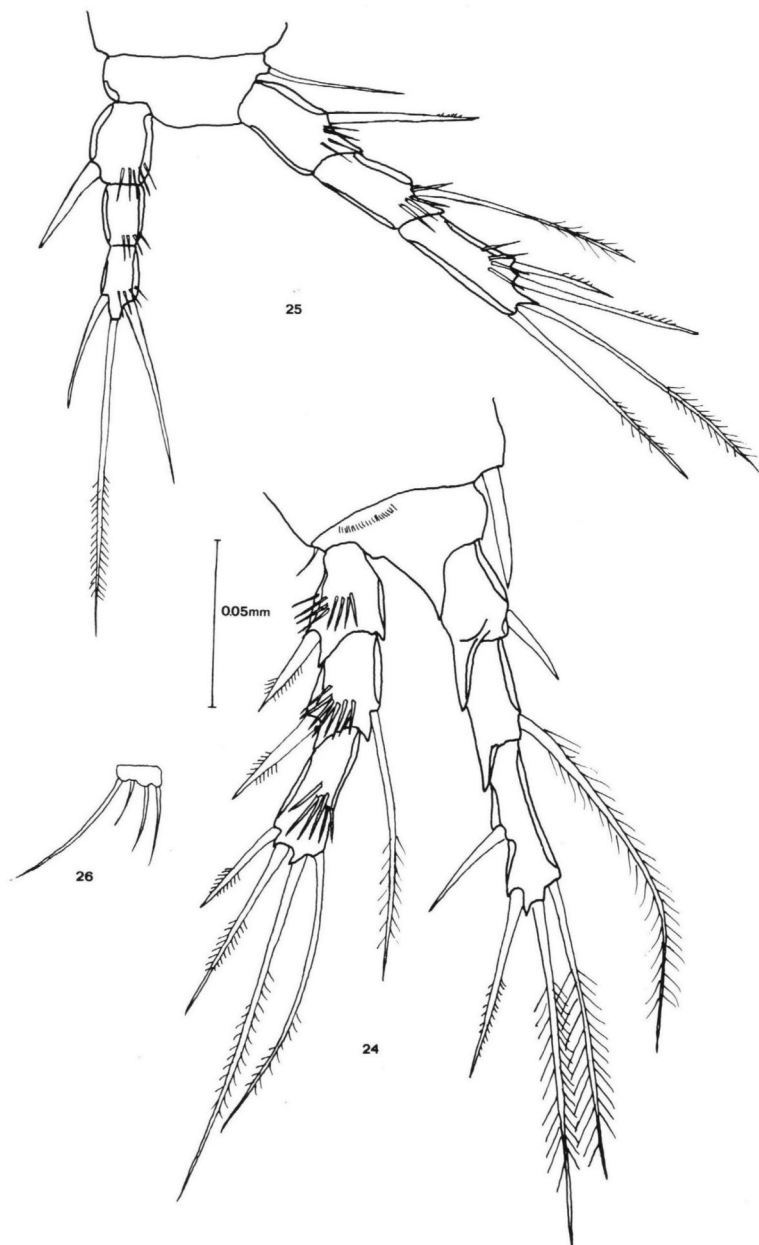
*) Named after the tuba-like opercular apodeme of the petasma.



Figs. 17-20. *Canuellina tuba* n. sp., ♂. 17, antennula and rostrum; 18, antenna; 19, palp of mandibula; 20, maxilla.



Figs. 21-23. *Canuellina tuba* n. sp., ♂. 21, maxilliped; 22, first leg; 23, second leg.



Figs. 24-26. *Canuellina tuba* n. sp., ♂. 24, third leg; 25, fourth leg; 26, fifth leg.

P-V is typical for the family (fig. 26).

The petasma (gonopode) (fig. 16) is extremely well developed with three apodemes and an external opercular seta. The internal opercular apodeme is sickle-shaped, the external one is a tube-like structure with rounded condyle-like terminal surface.

Discussion. — It is very difficult to separate the species of *Canuellina*, unless one utilizes the structure of the petasma or the sexual dimorphism of P-IV, if present.

Canuellina tuba is identical with *C. femur* Por (the armature formula of this species as described by Por (1967) has to be corrected!). However, the petasma of the two species is totally different and since the differences appear in widely separated populations of *C. tuba*, they should be considered a valid character at the specific level. Seemingly, the antennula of *C. femur* is much more modified for prehension than the one of *C. tuba*.

The female of *C. tuba* could not yet be identified.

RÉSUMÉ

Deux nouvelles espèces de la famille Canuellidae Lang sont décrites de la Mer Rouge: *Scotolana uxoris* n. sp. et *Canuellina tuba* n. sp. La position systématique de ces espèces, de leurs genres et des Canuellidés en générale, ont été rapportées plus détaillé dans une autre article (Por, sous presse).

REFERENCES

- POR, F. D., 1967. Level bottom Harpacticoida (Crustacea, Copepoda) from Elat (Red Sea). Part I. Israel Journ. Zool., 16: 101-165.
—, in press. Canuellidae Lang (Harpacticoida, Polyarthra) and the ancestry of the Copepoda. Crustaceana, (Suppl.) 7.