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A NEW GENUS OF BOMOLOCHID COPEPOD FROM EASTERN PACIFIC HAEMULID FISHES

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ABSTRACT

Four previously described species of bomolochid copepods from fishes of the western Atlantic and eastern Pacific (*A. asperatus, A. crevalleus, A. divaricatus,* and *A. nudiusculus*) are transferred to a new genus, *Acantholochus,* with the description of an additional new species, *Acantholochus nasus.* These five species are unique in that they all possess prominent, heavily sclerotized spines on the female exopod of leg 3. The presence of 2 ventral rostral hooks in the female separates this new genus from *Holobomolochus.*

Acantholochus new genus

Diagnosis.—FEMALE.—Body form typical of family. Thoracic segments bearing legs 2–5 free. Abdomen 3-segmented. Caudal ramus with 4 minor setae and 2 terminal major setae. Rostrum with hooks. First antenna 5–7 segmented; first segment without modified setae. Accessory process of maxilliped claw reduced or absent. Legs 1–4 biramose. Mid-endopod segment of legs 2–3 with 2 setae. Mid-endopod segment of leg 4 with 1 seta. Outer spines of leg 3 exopod long and heavily sclerotized. Endopod of leg 4 much longer than exopod. MALE.—As in female except abdomen 2-segmented; outer spines of leg 3 exopod not heavily sclerotized; endopod of leg 4 2-segmented; leg 5 with 2 terminal setae. Diagnosis of male based on *S. divaricatus* (Cressey and Cressey).

Etymology.—The Greek *acantho* (thorn) alluding to the unusually well-developed exopod spines of leg 3, *lochus* a common suffix of bomolochid genera.

Type-Species.—*Acantholochus divaricatus* (Cressey and Cressey).

Remarks.—In 1980 Cressey and Cressey reported 3 new species of bomolochids from the nasal sinuses of new world *Scomberomorus.* In 1981 Cressey reported an additional related new species from the nasal sinuses of the carangid *Caranx hippos* from the Gulf of Mexico. The new species described below from Pacific haemulids is the fifth species bearing prominent heavily sclerotized spines on the exopod segments of leg 3. The earlier described species were assigned to *Holobomolochus* based primarily on the lack of modified setae on the first antenna, a fundamental characteristic of the genus as described by Vervoort (1969). Further, Vervoort's diagnosis was based on *Bomolochus nothrus* Wilson (=*B. glyphisodontis* Kroyer; Cressey, 1981) a species in which rostral hooks are lacking. Based on an analysis of the species assigned to *Holobomolochus* I am currently splitting the group into several genera based on the presence or absence of the rostral hooks as one of the generic characters (Cressey, 1983). The new species described below plus the 4 species from scombrids and carangids all have prominent, heavily sclerotized spines on the exopod of the female third leg. This shared character indicates the 5 species comprise a closely related group, hence I have designated the new genus *Acantholochus* to accommodate them.

KEY TO FEMALES OF *ACANTHOLOCHUS*

1a. First antenna with 7 segments 2
1b. First antenna with 5 segments 3

2a. Spines of leg 3 without serrations ..... *asperatus* (Cressey and Cressey)
2b. Spines of leg 3 with serrations ..... *nasus* new species
3a. Caudal rami with ventral patch of spinules ..... *crevalleus* (Cressey)
3b. Caudal rami without ventral patch of spinules 4
4a. Ventral surface of last abdominal segment with patch of stout spinules ..... *divaricatus* (Cressey and Cressey)
4b. Ventral surface of last abdominal segment with patch of fine-hairs ..... *nudiusculus* (Cressey and Cressey)

Acantholochus nasus new species
Figures 1–11

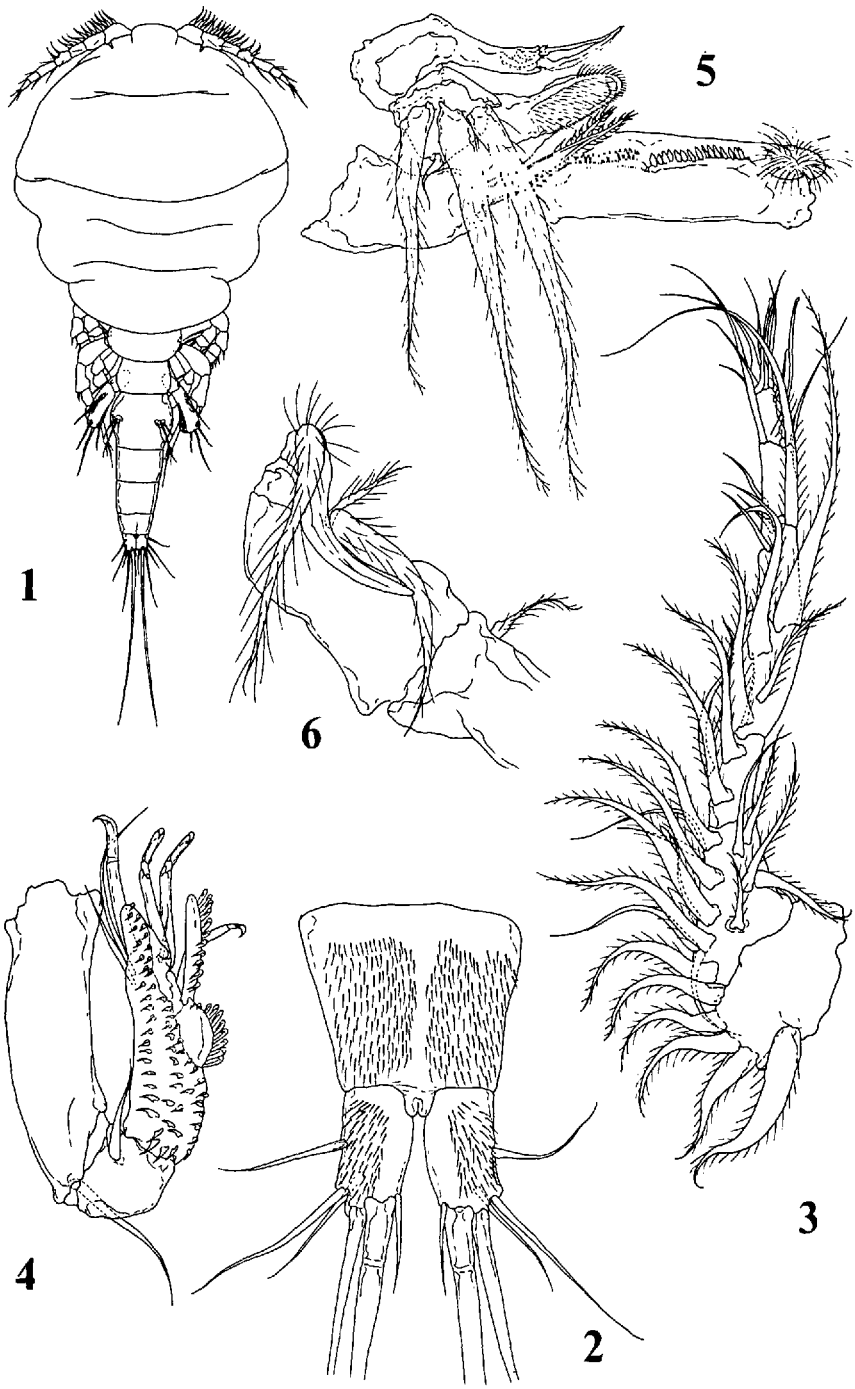
Material Examined.—Holotype female (USNM 204802) from the nasal sinuses of *Anisotremus interruptus* (Gill) (USNM 80528) collected off the Pacific coast of Panama. Paratypes (USNM 204804) 1 female from *A davidsoni* (Steindachnar) (USNM uncat.) from Pacific coast of Mexico; Paratypes (USNM 204803) 1 female from *A dovii* (Gunther) (USNM 294075) from Pacific coast of Colombia, 2 females (USNM 204805) from *Orthopristis reddingi* Jordan and Richardson (USNM 167570) from off Baja California.

Female.—Body form as in Figure 1. Total length of holotype 705 μm, greatest width 320 μm (measured at widest part of cephalon). Cephalon comprises about ⅓ of total body length. Ventral rostral hooks present. Genital segment somewhat wider than long (99 × 92 μm). Abdomen 3-segmented, segments measure 55 × 55 μm, 37 × 51 μm, and 39 × 51 μm (l × w) respectively. Ventral surface of last abdominal segment with 2 patches of spinules (Fig. 2). Caudal rami (Fig. 2) longer than wide (23 × 17 μm) ventral surface with conspicuous spinules, armed with 6 setae as in the figure (longest seta 265 μm).

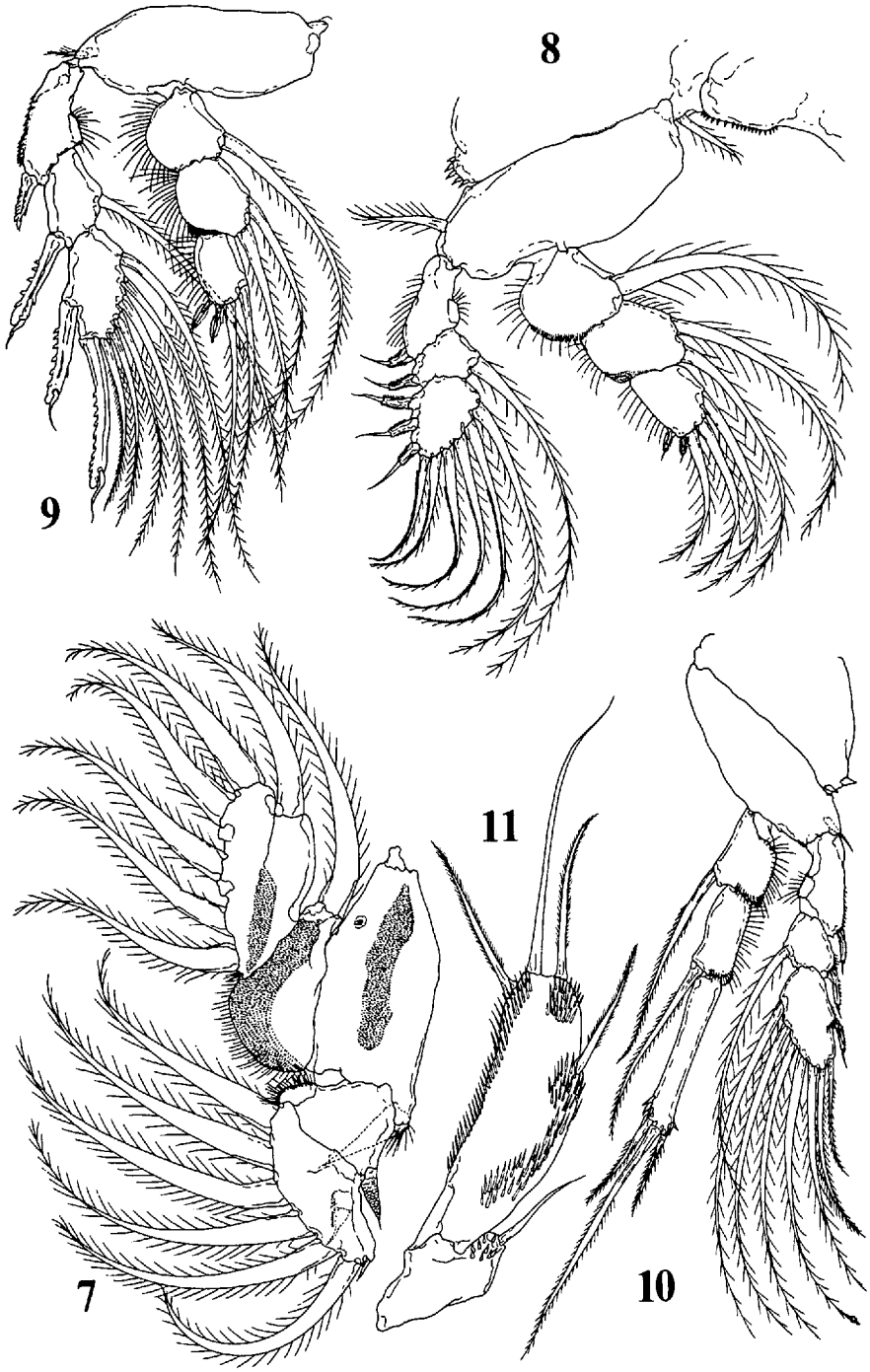
First antenna 7-segmented (Fig. 3) with an aesthete on each of last 2 segments. Second antenna (Fig. 4) first segment with a long, naked seta at outer distal corner, second segment with a shorter naked seta at inner distal corner, third segment with scattered prominent hooklets (not arranged in discrete rows), an outer prominence with a row of well-developed hooklets, a subterminal outer process with a row of well-developed hooklets and subterminal articulated spines and 3 naked setae. Surface of labrum with 2 patches of long spinules. Oral area (Fig. 5) typically bomolochid, First maxilla bearing 3 long sparsely plumose setae and 1 short naked seta. Paragnath tonguelike with a patch of hairlike spinules and a row of spinules along outer edge. Labium represented by an interrupted row of scalelike spinules with a hirsute knob at each posterolateral corner. Maxilliped (Fig. 6) claw somewhat recurved and without accessory process.

Leg 1 (Fig. 7) basipod with a patch of spinules; exopod first segment with a prominent scaly spine at outer distal corner, second segment with 3 short spines and 6 setae; endopod first segment with a large patch of spinules and an inner seta, last 2 segments partially fused bearing 6 setae and a patch of spinules.

Leg 2 (Fig. 8) exopod spines with lateral spinules and each bearing a prominent flagellum, 5 outermost setae of last segment with very short plumosities on outer edge, inner edges with normal plumosities. Leg 3 (Fig. 9) exopod first segment with patch of stout spinules along outer edge, spines on outer distal corners of exopod segments very heavily sclerotized bearing stout serrations along outer edge, terminalmost spine on last segment longer than segment and terminalmost seta with spinules along outer edge, other setae normally plumose. Leg 4 (Fig. 10) armed as in figure, endopod longer than exopod. Leg 5 (Fig. 11) with patches of stout spinules as indicated in the figure, lateral, inner, and outermost terminal setae of free segment about equal in length and bearing fine serrations, midterminal seta about ⅓ longer than others and naked. Leg 6 represented by 3 setae at area of egg sac attachment.



Figures 1–6. *Acantholochus nasus*, new species, female: 1, dorsal; 2, last abdominal segment and caudal rami, ventral; 3, first antenna; 4, second antenna; 5, mouthparts and labium; 6, maxilliped.



Figures 7–11. *Acantholochus nasus*, new species, female: 7, leg 1; 8, leg 2; 9, leg 3; 10, leg 4; 11, leg 5.

Male.—Unknown.

Etymology.—*Nasus* from Latin "nose" alluding to the site of infestation on the host.

Remarks.—The new species differs from the four previously described species by the presence of conspicuous serrations on the exopod spines. It can be further separated from *A. divaricatus, A. nudiusculus* and *A. crevalleus* as they have 5-segmented first antennae (7 in the new species). So far this species has been collected only from Pacific haemulid fishes.

Literature Cited

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