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BOMOLOCHUS PAUCUS, A NEW SPECIES OF COPEPOD PARASITIC ON SCIAENID FISHES FROM SOUTHERN CALIFORNIA

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Abstract.—A new species of bomolochid copepod, *Bomolochus paucus,* from California sciaenid fishes differs from all other *Bomolochus* species by the combination of bearing 5 setae on the last exopod segment of leg 4, spinules on the ventral surface of the last abdominal segment only, and the endopod of leg 4 only slightly longer than the exopod.

As part of a general survey of copepods parasitic on fishes occurring at the Orange County sewer outfall, California, one of us (MD) examined 237 white croaker *Genyonemus lineatus* (Ayres) and 97 queenfish *Seriphus politus* Ayres. A new species of parasitic copepod (Bomolochidae) was collected from these sciaenid fishes, and is described below.

A low incidence and intensity of infestation is indicated as only 1 queenfish and 8 white croakers were infested.

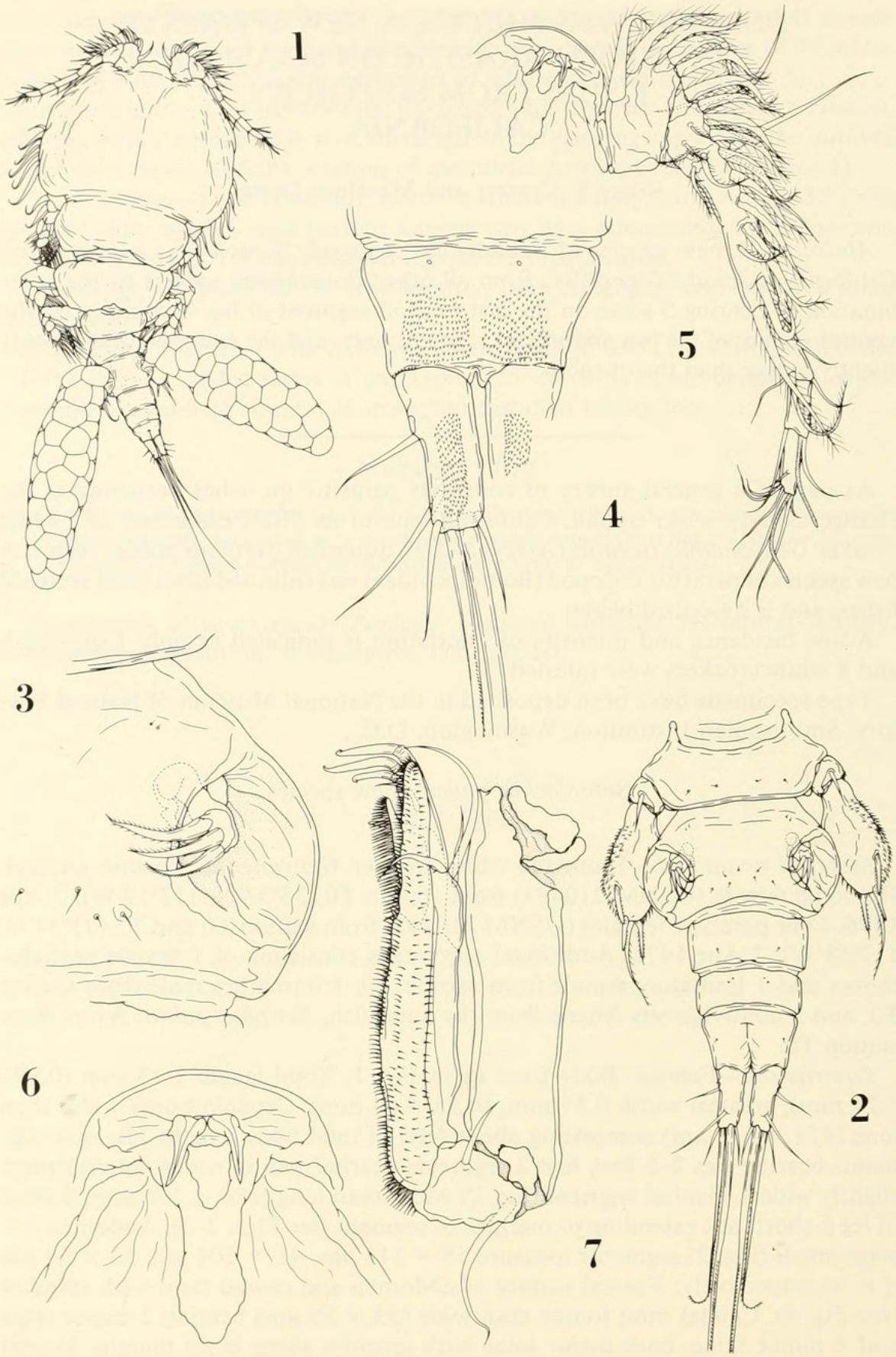
Type specimens have been deposited in the National Museum of Natural History, Smithsonian Institution, Washington, D.C.

Bomolochus paucus, new species
Figs. 1–21

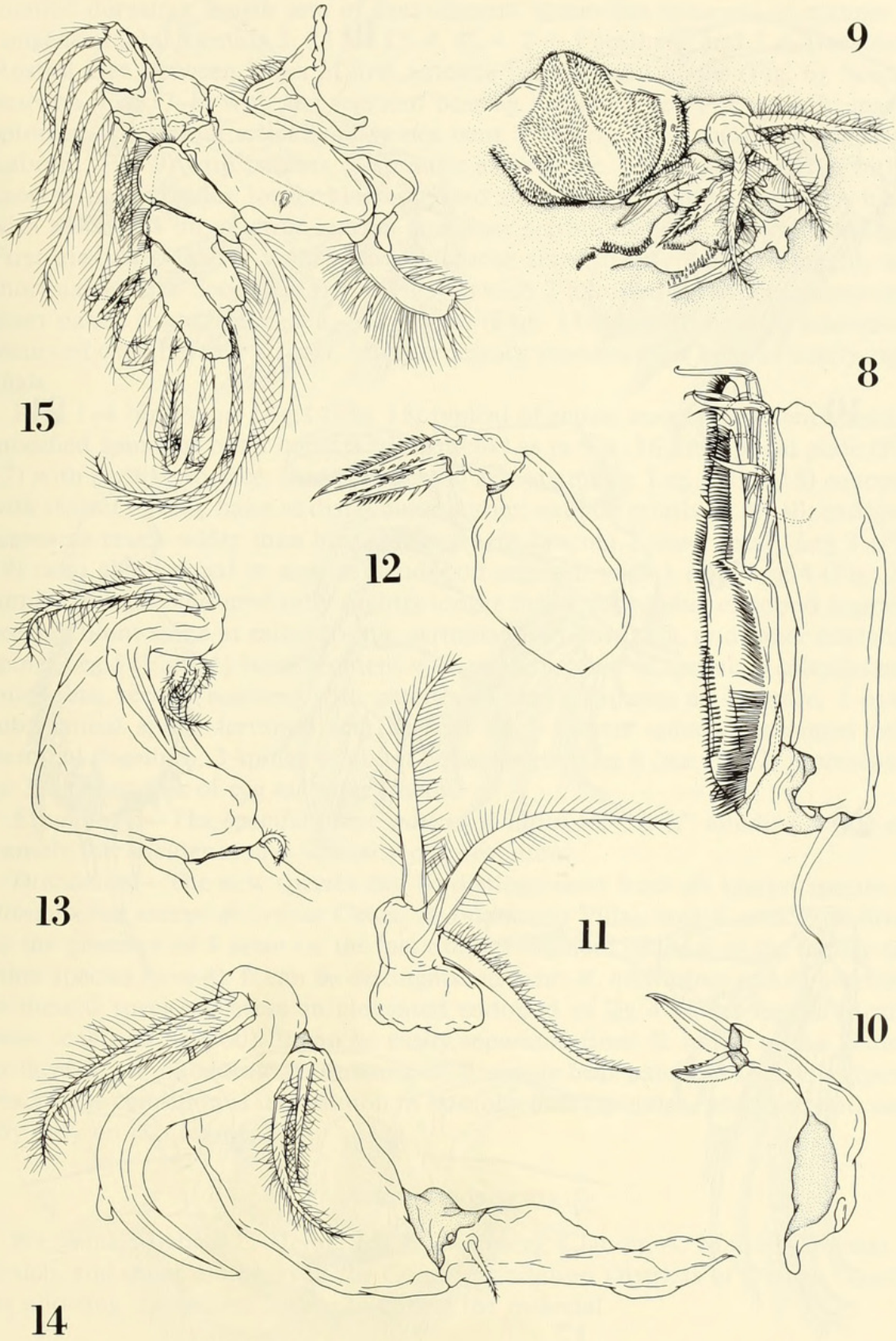
Material examined.—From the white croaker *Genyonemus lineatus* (Ayres): Holotype female (USNM 210491) from station T0 (33°37′N, 117°59′W), 7 Apr 1976. Four paratype females (USNM 210492) from station T0 and T3 (33°34′N, 117°58′W), 7 Apr 1976. Additional specimens consisting of 1 female cephalothorax and 1 immature female from station T0; 1 immature male from station T3; and 1 nonovigerous female from the queenfish, *Seriphus politus* Ayres from station T0.

Description.—Female: Body form as in Fig. 1. Total length 1.11 mm (0.99–1.21 mm), greatest width 0.59 mm, (0.55–0.64 mm). Cephalothorax wider than long (479 × 611 μm) comprising about 40% of total body length. Thoracic segments bearing legs 2–5 free, first 2 segments nearly equal in width (anteriormost slightly wider). Genital segment (Fig. 2) wider than long (124 × 175 μm), 3 setae of leg 6 short, not extending to margins of segment (see Figs. 2–3). Abdomen 3–segmented, (Fig. 2) segments measure 55 × 115 μm, 41 × 104 μm, 53 × 94 μm (l × w) respectively. Ventral surface of abdomen and caudal rami with spinules (see Fig. 4). Caudal rami longer than wide (55 × 26 μm) bearing 2 major setae and 4 minor setae, both major setae with spinules along inner margin, longest seta 432 μm long.

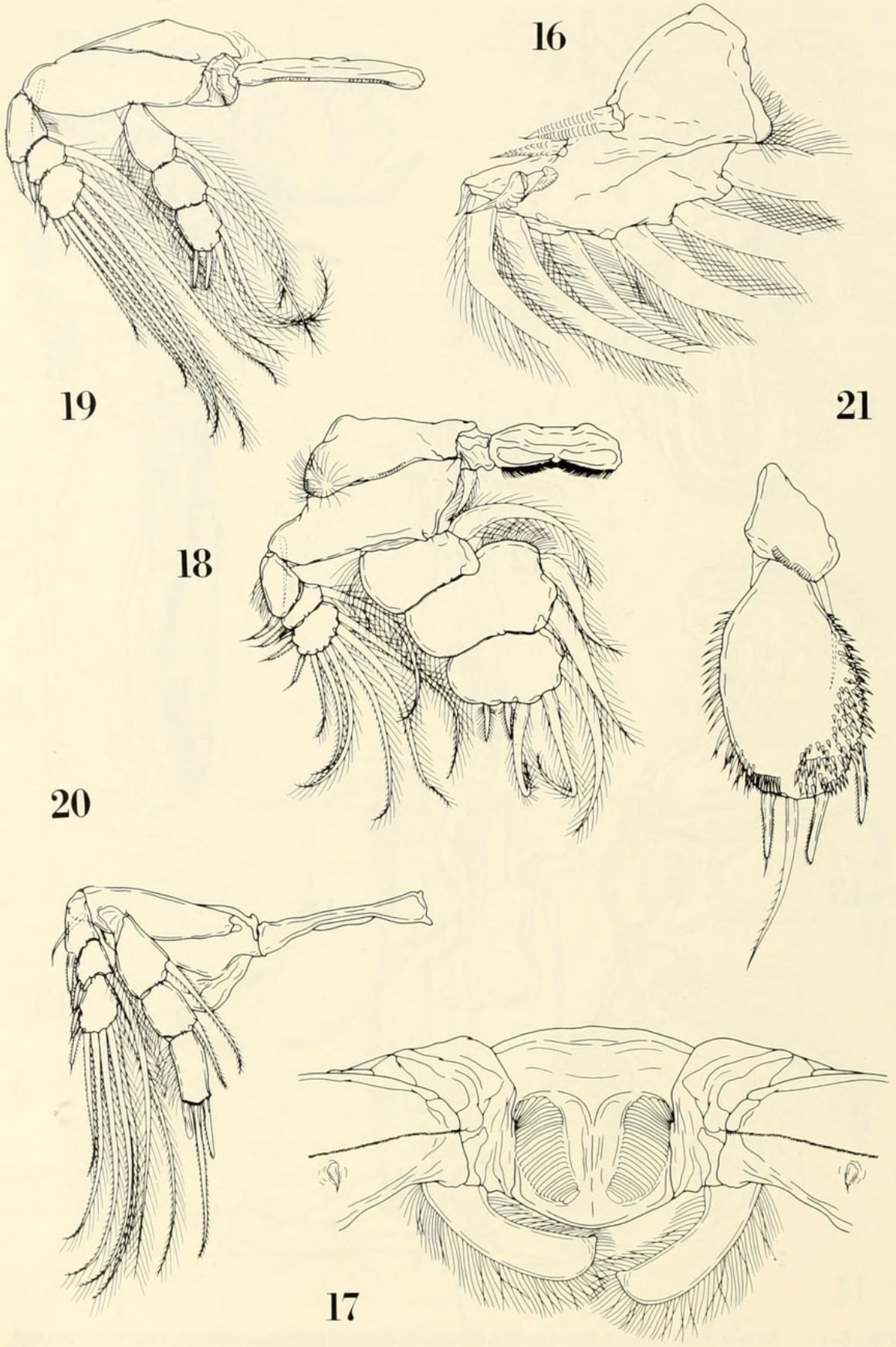
First antenna (Fig. 5) 5-segmented ventrally (second segment appears 3-seg-



Figs. 1–7. *Bomolochus paucus,* new species, female: 1, Dorsal; 2, Thoracic segment bearing leg 5, genital complex, abdomen, caudal rami, dorsal; 3, Genital area, dorsal; 4, Last abdominal segment and caudal rami, ventral; 5, First antenna, ventral; 6, Rostral area, ventral; 7, Second antenna, inner.



Figs. 8–15. *Bomolochus paucus,* new species, female: 8, Second antenna, outer; 9, Oral area, ventral; 10, Mandible, antero-inner; 11, First maxilla, postero-outer; 12, Second maxilla, anteroventral; 13, Maxilliped, ventral; 14, Maxilliped, ventral; 15, Leg 1, ventral.



Figs. 16–21. *Bomolochus paucus,* new species, female: 16, Leg 1 exopod, dorsal; 17, Leg 1 interpodal plate, ventral; 18, Leg 2, ventral; 19, Leg 3, ventral; 20, Leg 4, ventral; 21, Leg 5, ventral.

mented dorsally), fourth seta of first segment somewhat recurved in manner of congeners, setal formula 5, 23 (or 15, 4, 4), 4, 2 + 1 aesthete, and 7 + 1 aesthete. Rostral area between bases of first antenna with ventral hooks (Fig. 6). Second antenna (Figs. 7–8) with last segment bearing indiscrete rows of sparsely spaced spinules, 4 terminal articulated spines bent at nearly right angles, and 4 setae. Labrum (Fig. 9) with patches of spinules as in figure. Mandible (Fig. 10) with 2 short terminal blades; longer blade serrated along posterior margin, shorter blade with serrations on anterior margin and finer serrations along posterior margin. First maxilla (Fig. 11) with 3 stout plumose setae, nearly equal in length, and short naked seta. Second maxilla (Fig. 12) with 2 terminal spinose processes and short naked subterminal seta. Maxilliped (Figs. 13–14) with heavily sclerotized recurved claw bearing a short, blunt accessory process; claw bent at nearly right angle.

Legs 1–4 biramous. Leg 1 (Fig. 15) typical of genus; exopod segments bearing modified spines at outer corners of segments as in Fig. 16, interpodal plate (Fig. 17) with padlike surface; inner coxopodal seta spatulate. Leg 2 (Fig. 18) coxopod with cluster of long hairs at distal outer corner; exopod relatively small; endopod segments much wider than long, midsegment bearing 2 inner setae. Leg 3 (Fig. 19) rami about equal in size, midendopod segment with 1 seta. Leg 4 (Fig. 20) similar to leg 3, endopod only slightly longer than exopod, last endopod segment bearing blunt spine at outer corner, terminal spinulose seta, and inner bladelike spine. Leg 5 (Fig. 21) basal segment with posterior row of spatulate spinules and outer seta; second segment with patches of heavy spinules as in figure, 1 outer subterminal spine, terminal seta flanked by 2 shorter spines, innermost with terminal flagellum; 3 spines of about equal length. Leg 6 (see Fig. 3) represented by 3 setae at area of egg sac attachment.

Etymology.—The specific name *paucus* is Latin for "few," alluding to the extremely low incidence and intensity of infestation.

Discussion.—The new species can be distinguished from all known species of *Bomolochus* except *B. soleae* Claus, *B. multiceros* Pillai, and *B. unicirrus* Brian by the presence of 5 setae on the last exopod segment of leg 4 of the female (all other species have 4). It can be distinguished from *B. multiceros* and *B. unicirrus* as these 2 species possess an elongated endopod of leg 4 of the female (nearly twice length of exopod). It can be easily separated from *B. soleae* as the ventral surfaces of all 3 abdominal segments of *B. soleae* bear patches of spinules (pers. obs.). This condition is uncommon in bomolochids (spinules, when present, usually only on last segment).

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