

A NEW PONTONIINE SHRIMP GENUS AND SPECIES (CRUSTACEA: DECAPODA: PALAEMONIDAE) FROM THE PHILIPPINE PANGLAO 2004 EXPEDITION

Masako Mitsuhashi

Laboratory of Biology, Osaka Institute of Technology, Ohmiya, Asahi-ku, Osaka 535-8585, Japan

Tin-Yam Chan

*Institute of Marine Biology, National Taiwan Ocean University, 2 Pei-Ning Road, Keelung 202, Taiwan, R. O. C.
Email: tychan@mail.ntou.edu.tw (Corresponding author)*

ABSTRACT. – A new genus and species of pontoniine shrimp, *Blepharocaris panglao*, has been found in Panglao Island in the Philippines. The new genus is unique in the Pontoniinae on account of the orbital rim being laminar and distinctly separated from the leaf-like inferior orbital angle. The relationship of this new genus with other similar pontoniines is discussed.

KEY WORDS. – New genus, new species, Palaemonidae, Pontoniinae, Panglao Island, Philippines.

INTRODUCTION

The expedition PANGLAO 2004, organized by the Muséum national d'Histoire naturelle, Paris, and the University of San Carlos, Cebu, yielded an abundant coral reef fauna from Panglao Island in the Philippines. Amongst the decapod crustaceans collected, pontoniine shrimps were one of the main groups. Despite the intensive survey of the U.S. Fish Commission Steamer ALBATROSS Philippine Expedition and the detailed work of Chace & Bruce (1993) on the Philippines palaemonids, there were still many pontoniines collected during PANGLAO 2004 that were not previously reported from the Philippines (e.g. Marin & Chan, 2006). This includes an unusual species obtained from coral rubble at 20 m depth. The shrimp can be referred to the subfamily Pontoniinae on account of a slender third maxilliped and three pairs of terminal spines on the telson. However, it is unique in the Pontoniinae on account of the lower orbital rim being laminar and separated from the inferior orbital angle which is leaf-like. As this new species also shows some other unusual morphological features and can not be satisfactorily placed in any described genus of the subfamily, a new genus is established to accommodate it.

The single specimen of the new genus and species is deposited in the Philippines National Museum, Manila (NMCR). The abbreviation CL is the postorbital carapace length and TL is the total length measured from the tip of the rostrum to the end of the telson.

SYSTEMATICS

PALAEMONIDAE Rafinesque, 1815

PONTONIINAE Kingsley, 1878

Blepharocaris, new genus

Type species. – *Blepharocaris panglao*, new species.

Diagnosis. – Small-sized shrimp with moderately depressed body. Rostrum well-developed, triangular, overreaching eyes, dorsally dentate, postrostral teeth present, ventrally unarmed, lateral carina distinct. Carapace glabrous; supraorbital spine absent; orbital rim round, lower half laminar and raised laterally, separated by distinct notch from inferior orbital angle; inferior orbital angle well-developed, leaf-like, acute, with acute antennal spine immediately ventrally, with second submarginal fixed hepatic spine below; branchiostegite angle membranous, well produced, round. Abdomen glabrous, third somite not posteriorly produced, pleura broadly rounded. Telson with two pairs of dorsal, three pairs of terminal spines. Eyes well-developed, cornea subconical. Antennule with stylocerite well-developed, basal peduncular segment with distolateral tooth. Antenna with scaphocerite well-developed, basicerite unarmed. Epistome unarmed. Fourth thoracic sternite lacking finger-like median process. Mandible without palp, molar process slender, incisor process reduced. Maxillula with simple palp, lower lacinia slender. Maxilla

with palp simple, basal and coxal endites absent. First maxilliped with elongate palp, exopod short, caridean lobe large, basal endite triangular, coxal endite fused with basal endite, epipod large and triangular. Second maxilliped with endopod and exopod typical of subfamily, epipod stout, feebly bilobed, without podobranch. Third maxilliped with slender endopod, ischiomerus fused with basis, arthrobranch absent. First pereopod slender, chela with fingers simple, with dense groups of setae distally. Second pereopods robust, unequal in size, similar in shape, fingers with triangular teeth, carpi, meri and ischia unarmed. Third to fifth pereopods robust, dactyli simple, stout, hooked. Uropod with protopodite unarmed posterolaterally, exopod with small distolateral spine accompanied with minute mobile spine medially.

Etymology. – The Greek *blepharon* (eyelid) and *caris* (shrimp) refer to the laminar orbital rim in this genus. Gender feminine.

Discussion. – *Blepharocaris* is unique in the Pontoniinae on account of the laminar orbital rim, which is separated by a distinct notch from the leaf-like inferior orbital angle. The submarginal spine below the antennal spine is referred here as an hepatic spine because an anteriorly arising hepatic spine is also reported in several pontoniine species such as *Periclimenes hertiwigii* Balss, 1913 and *P. calcaratus* Chace & Bruce, 1993.

The moderately depressed body form, presence of postrostral teeth and absence of ventral tooth on rostrum, anteriorly produced branchiostegite, reduced maxilla and stout ambulatory pereopods with hooked dactyli suggested that

the new genus may be related to *Pliopontonia* Bruce, 1973a and *Tectopontonia* Bruce, 1973b. Moreover, the absence of arthrobranch on the third maxilliped in *Blepharocaris* is also shared by *Tectopontonia* and this may suggest that the two genera are most closely related. Yet, both *Pliopontonia* and *Tectopontonia* are further separated from *Blepharocaris* by lacking an hepatic spine and with the cornea hemispherical.

Blepharocaris panglao, new species

(Figs. 1–4)

Material examined. – Holotype: female (CL 2.7 mm, TL 12.3 mm) (NMCR 27016), PANGLAO 2004, stn B16, 9°37.6'N 123°47.3'E, Bingag, Panglao Island, Philippines, 20 m, coral rubble on sand and gravel, 17 Jun.2004.

Description. – Small-sized shrimp of moderately depressed body form (Fig. 1). Rostrum well-developed, laterally compressed and triangular, directed slightly downwards, reaching base of second segment of antennular peduncle, lateral carina distinct and continuous with orbital margin, dorsal border armed with six regularly spaced teeth, with four teeth on anterior one-third of carapace and two teeth above orbit, ventral border unarmed (Figs. 1; 2A, B). Carapace glabrous; orbital rim round, lower half laminar and raised laterally, separated by distinct notch from inferior orbital angle; inferior orbital angle well-developed, leaf-like, acute; antennal spine well-developed, marginal; hepatic spine immovable, submarginal, slightly shorter than antennal spine, arising immediately posteroventral to antennal spine, exceeding carapace by two-thirds spine length;

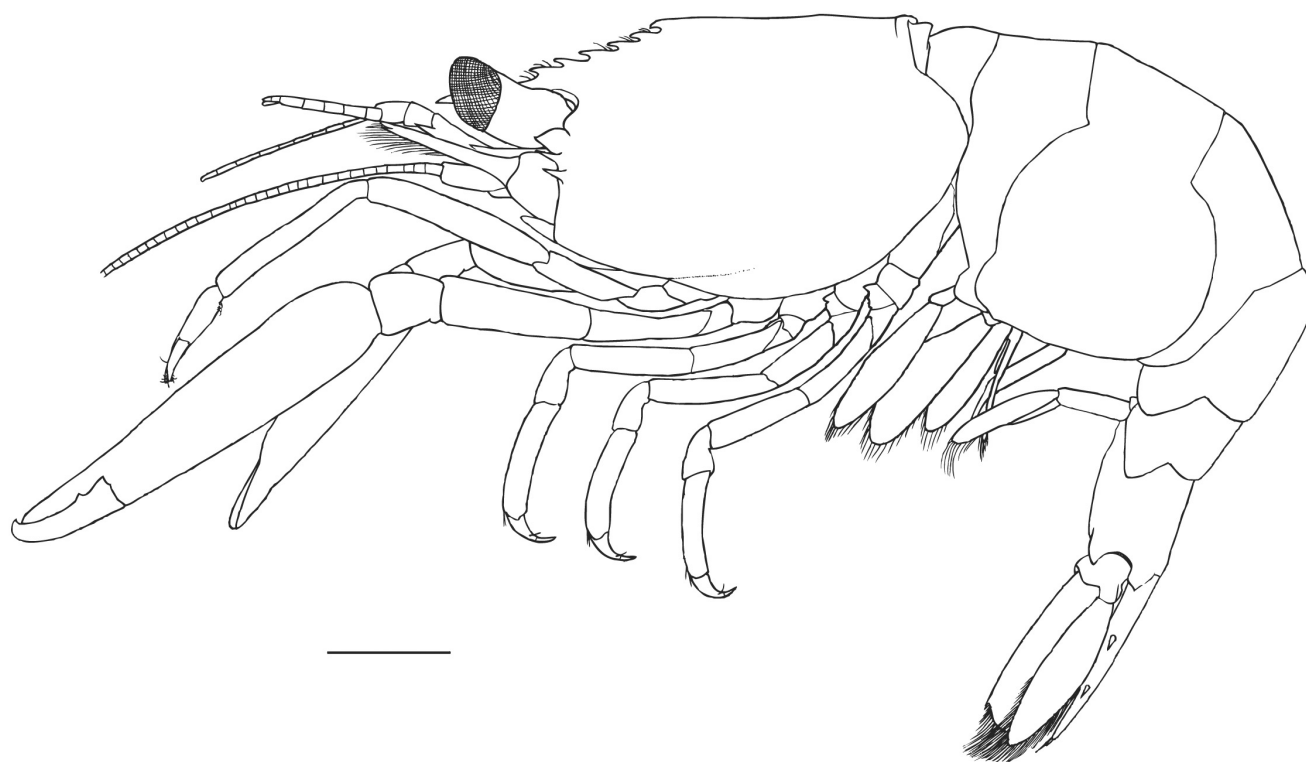


Fig. 1. *Blepharocaris panglao*, new genus, new species, holotype, female (CL 2.7 mm, TL 12.3 mm), lateral view. Scale bar = 1.0 mm.

branchiostegite membranous, strongly produced anteriorly and overreaching antennal spine, tip rounded (Figs. 1; 2A–D, G).

Abdomen glabrous, third somite not produced posteriorly, pleura broadly rounded, fifth somite about 0.7 times as long as sixth somite, sixth somite slightly longer than broad (Fig. 1).

Telson straight, twice as long as greatest width; two pairs of slender dorsal spines situated at 0.38 and 0.67 of telson length; three pairs of terminal spines present, lateral spines shortest, about one-third of intermediate spine, intermediate spine slender, long, submedian spines plumose, longest, about four times longer than lateral spines (Figs. 1; 2E).

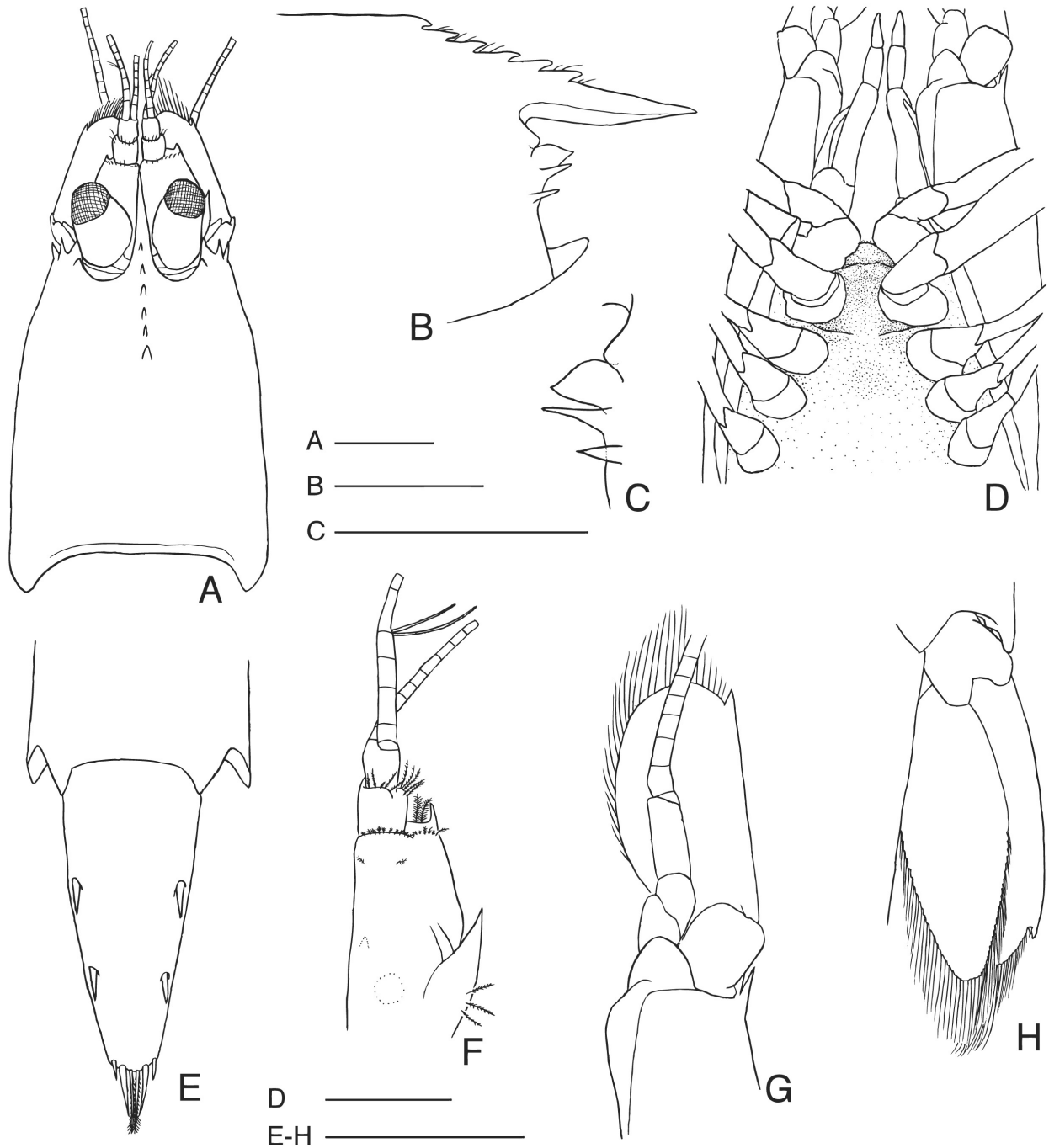


Fig. 2. *Blepharocaris panglao*, new genus, new species, holotype, female (CL 2.7 mm, TL 12.3 mm): A, carapace, dorsal; B, anterior part of carapace, lateral; C, orbital rim, inferior orbital angle, antennal and hepatic spines, lateral; D, thoracic sternite, ventral; E, telson and posterior part of sixth abdominal somite, dorsal; F, right antennular peduncle, dorsal; G, left antennular peduncle and anterior part of carapace, ventral; H, right uropods, lateral. Scale bars = 1.0 mm.

Eyes well-developed, lacking ocellus, cornea subconical, as wide as stalk, stalk somewhat longer than wide, with dorsal surface slightly concave (Figs. 1; 2A).

Antennule with stylocerite well-developed; basal antennular segment with length longer than width, bearing distolateral spine and minute medioventral spine; intermediate and distal

segments subequal in length, intermediate segment bearing plumose setae distally; upper flagellum with distal portion missing (Fig. 2F).

Antenna with basicerite lacking spine; carpocerite subcylindrical, extending to middle of lamella; scaphocerite well-developed, reaching distal end of antennular peduncle,

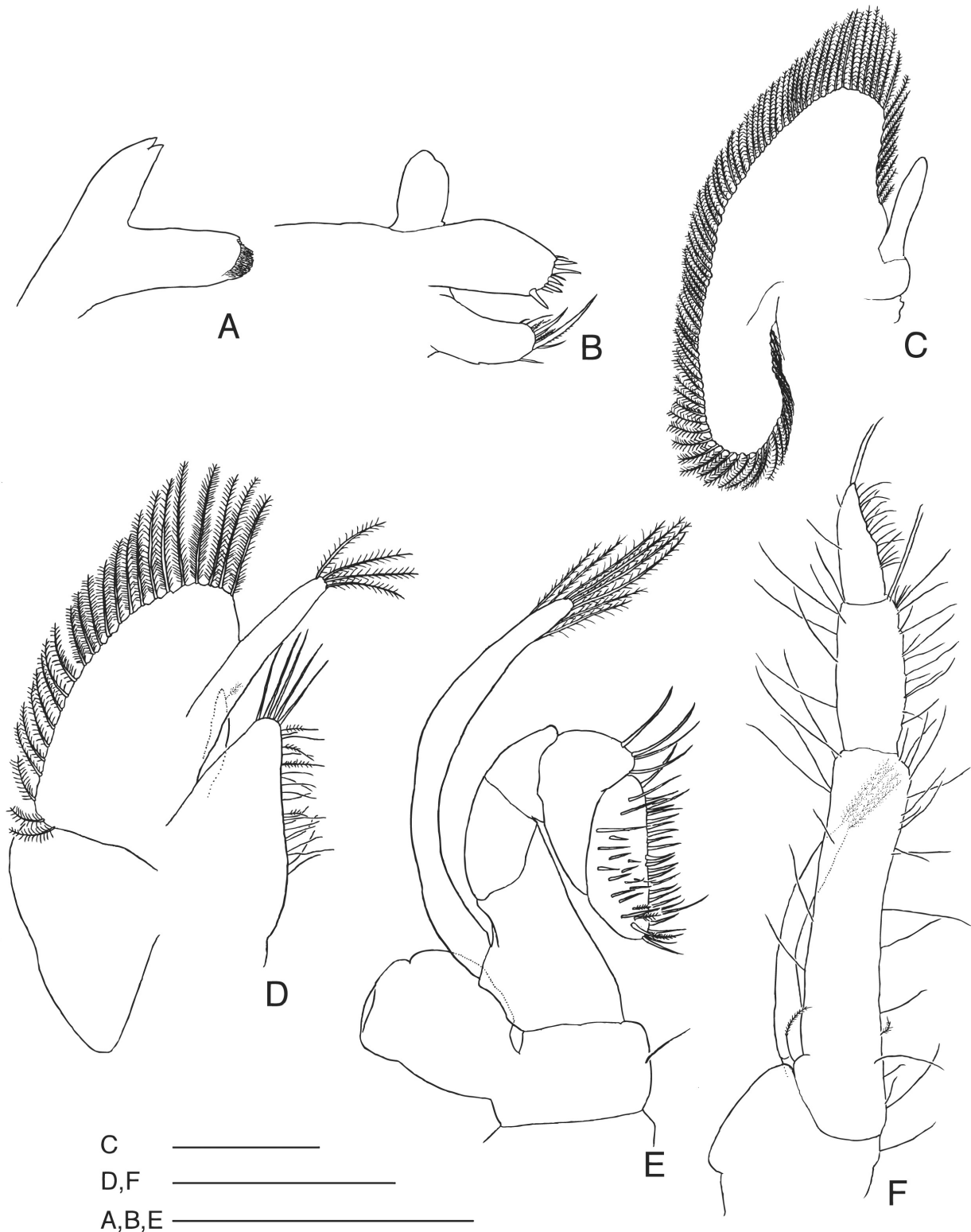


Fig. 3. *Blepharocaris panglao*, new genus, new species, holotype, female (CL 2.7 mm, TL 12.3 mm): A, mandible; B, maxillula; C, maxilla; D, first maxilliped; E, second maxilliped; F, third maxilliped. All from right side, external views. Scale bars = 0.5 mm.

medial margin broadly rounded, lateral margin straight, distolateral tooth not exceeding anterior margin of lamella (Fig. 2G). Epistome unarmed. Fourth thoracic sternite moderately broad and with very shallow transverse ridge (Fig. 2D).

Mouthparts described based on right side. Mandible without palp, incisor process reduced and armed with two apical teeth, molar process slender and bearing short setae (Fig. 3A). Maxillula with simple palp; upper lacinia slender, with five spines and some setae distally; lower lacinia even more slender, distally with long serrated spine and some simple and plumose setae (Fig. 3B). Maxilla with palp slender and

naked, basal and coxal endites absent, scaphocerite well-developed and elongate (Fig. 3C). First maxilliped with palp elongate, with plumose seta near tip; exopod short, distally setose; caridean lobe well-developed; basal endite elongated triangular, distal part with five long simple setae, medial border with some simple or plumose setae; coxal endite reduced, fused with basal endite; epipod large, feebly bilobed (Fig. 3D). Second maxilliped with normal endopod; distal segment moderately broad, about 2.8 times maximum width, densely setose medially; penultimate segment with four long setae at anteromedial angle, coxa bearing one long slender seta on medial margin; exopod long, distally setose, epipod stout and feebly bilobed; podobranch absent (Fig. 3E). Third

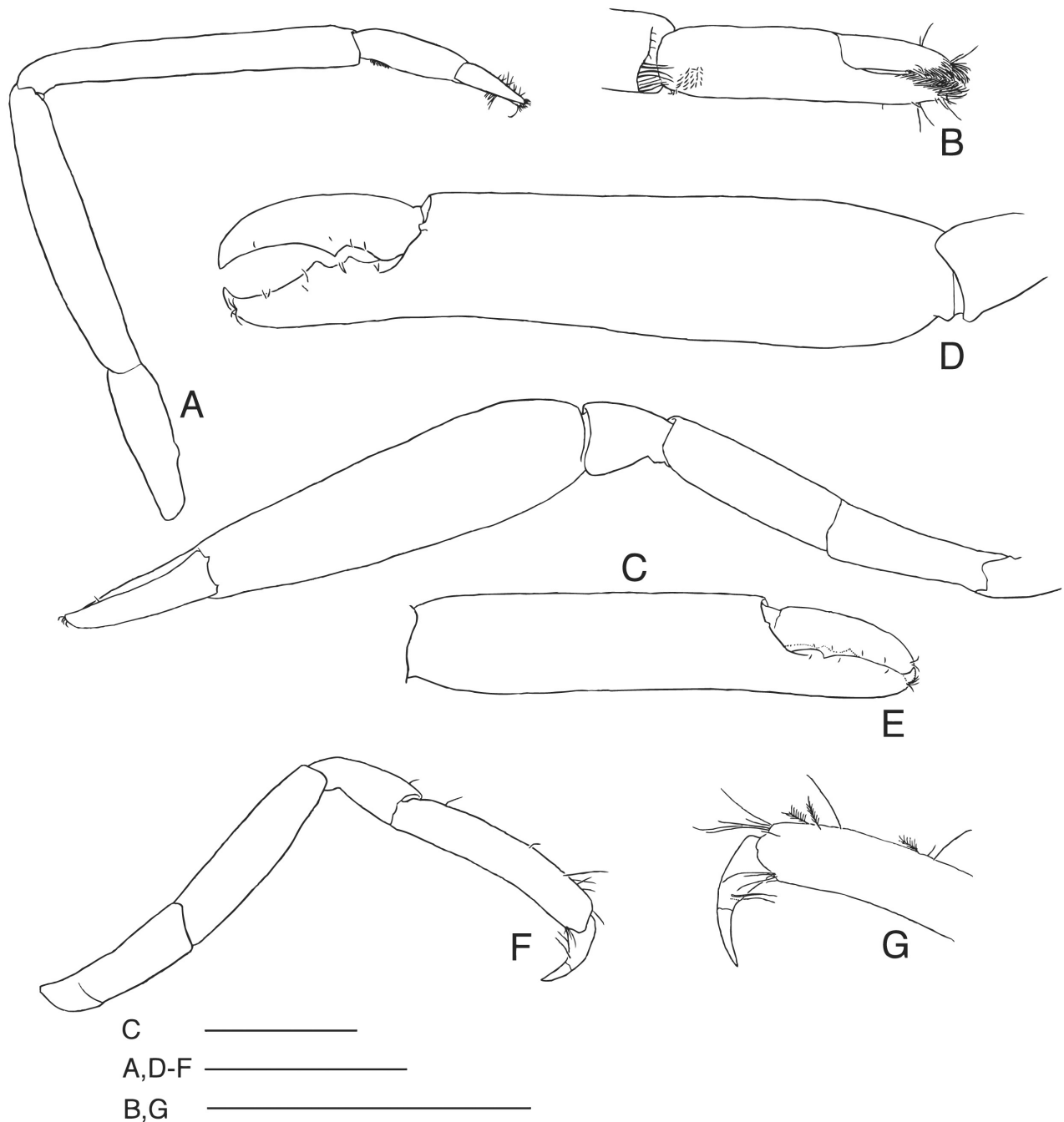


Fig. 4. *Blepharocaris panglao*, new genus, new species, holotype, female (CL 2.7 mm, TL 12.3 mm): A, right first pereiopod, ventral; B, same, chela, medial; C, left second pereiopod, ventral; D, same, chela, medial; E, chela of right second pereiopod, medial; F, right third pereiopod, medial; G, same, dactylus and distal part of propodus, lateral. Scale bars = 1.0 mm.

maxilliped with slender endopod; ischiomerus almost straight, almost completely fused with basis, combined length about five times as long as width, with long setae laterally and medially; penultimate segment slightly narrower than ischiomerus, about twice as long as wide, with long setae along lateral and medial margins; distal segment slightly shorter than penultimate segment, about three times as long as wide, tapering distally, medial margin densely covered with short setae, distal and lateral margins with few long setae; epipod short, naked; exopod short, distally setose, not reaching penultimate segment; arthrobranch absent (Fig. 3F).

First pereopod slender, long, extending beyond antennular peduncle by carpus; chela with simple fingers, cutting edges of fingers provided with dense groups of setae on distal one-third; fingers about 3.5 times as long as wide; palm sub-cylindrical, about 1.5 times as long as fingers, 2.7 times as long as broad; carpus slender, about twice as long as chela, nine times as long as broad; merus slightly shorter than carpus, 5.6 times as long as maximum width, lateral margin feebly convex; ischium about half length of merus, 3.2 times as long as maximum width (Figs. 1; 4A, B).

Second pereopods robust, unequal in size but similar in shape; movable finger bearing one proximal triangular tooth, about 3.5 times as long as proximal width; fixed finger with two proximal triangular teeth; palm about three times as long as fingers, 3.5 times as long as greatest width; carpus short, distally expanded, about one-fifth of palm length, as long as distal width; merus three times longer than wide, about 2.5 times as long as carpus; ischium about three times as long as distal width, slightly shorter than merus (Figs. 4D–E).

Third to fifth pereopods similar, stout; dactyli simple, strongly curved, longer than twice proximal width, with long simple setae on lateral surfaces; propodi about three times as long as dactyli, five times longer than wide, with some simple or plumose setae on dorsal and distoventral borders, ventral spines absent; carpi shorter than half length of propodi, narrower proximally; meri about 2.5 times as long as carpi; ischia about 0.8 times meri length, less than three times greatest width (Figs. 4F, G); both merus and ischium relatively longer in fifth pereopod.

Pleopods of the single mature female normal, exopods broad and about three times as long as wide; first pleopod with endopod cylindrical and slightly shorter than one-third of exopod, with long apical setae; second to fifth pleopods with exopods longer than endopods, appendix interna about half as long as endopod and one-third length of exopod.

Uropod with protopodite unarmed posterolaterally, exopod bearing small distolateral spine with minute movable spine medially, exopod and endopod about three times as long as greatest width (Fig. 2H).

Etymology. – The new species is named after its type locality Panglao Island. The name is used as a noun in apposition.

Distribution. – Known only from the type locality Panglao Island, the Philippines, at a depth of 20 m.

Colouration. – Not known.

Remarks. – The general appearance of this new shrimp (e.g., dorsoventrally depressed body and short pereopods) suggests that it is a symbiont, though there is no information on the host animal of the specimen. However, as the present species is most similar to *Pliopontonia furtiva* Bruce, 1973a (associated with corallimorpharian zooanthids) and *Tectopontonia maziwiae* Bruce, 1973b (associated with the scleractinian coral *Acropora surculosa* (Dana)), it is likely that *Blepharocaris panglao* may also be associated with a coelenterate host.

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