

A NEW SPECIES OF *ENOPLOMETOPUS*  
(THALASSINIDEA: AXIIDAE) FROM THE  
NORTHERN PHILIPPINES

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ABSTRACT

*Enoplometopus chacei* is described from a single male taken from shallow water at Batan Island in the Philippines. The species, a member of the subgenus *Enoplometopus*, is characterized primarily by the possession of an overall orange-red integumental pigment with few color spots on the ventrolateral carapace, as well as by several more subtle features of the appendages.

The new species described here was taken during a continuing shallow-water reconnaissance of the biologically poorly known areas of the Philippine Islands that began in 1978. The second author participated in the 1985 exploration of the Batan Islands, north of Luzon Island. Biologists from the National Museum of the Philippines, Silliman University in Negros Oriental Province, and the Smithsonian Institution coordinated a terrestrial and marine survey. During the course of collecting along the shores of Batan Island, a poison station was carried out that yielded a variety of crustaceans, including spiny lobsters and the present specimen. The poison station was located among submerged rocks at the mouth of a shallow sea cave below tall vertical cliffs. Poison was spread below the cave mouth at about 10 m depth and allowed to work its way to the rear of the cave by wave action. Many shrimps and crabs were swept out of the rocks by the receding waves and collected with hand nets.

Family Axiidae Huxley, 1879

*Enoplometopus* A. Milne Edwards, 1862

*Enoplometopus chacei*, new species

Figs. 1, 2

*Material*.—Holotype, 1 ♂, carapace length 36.7 mm, total length 109.5 mm. South end of Mananiyo Bay, Batan Island, Philippines (20°24'40"N, 121°58'35"E), hand net in 2 m, 8 June 1985. Specimen deposited in the Philippines National Museum, Manila.

*Description*.—Male (Fig. 1): Rostrum just overreaching distal antennular peduncle article, acutely tapering, with 2 pairs of lateral spines. Carapace with strong supraocular spine, 2 intermediate spines, 4 median spines plus anterior tubercle bearing setae, postcervical tubercle, 3 lateral spines; lower orbital angle acute, medially flexed; small acute branchiostegal spine. Carapace (but not dorsal rostrum) bearing fine tomentum of very short setules. Abdomen with lateral tomentum patches, dorsally smooth. Pleuron of abdominal somite 1 subcircular, largely obscured by pleuron of somite 2; latter broadly ovate, anteriorly and ventrally evenly rounded, posteroventrally with obtuse angle. Pleura of somites 3–6 ventrally straight, with marked posteroventral tooth. Posterior margin of somite 6 with slight lateral incision followed by rounded lobe. Telson (Fig. 2B) very slightly wider basally than middorsal length; single spine at midlength of lateral margin; posterolateral angle bearing 3 spines, innermost longest; posterior margin evenly convex, bearing 2 lateral, 1 median, and 2 submedian tomentose grooves.

Cornea black, slightly wider than eyestalk.

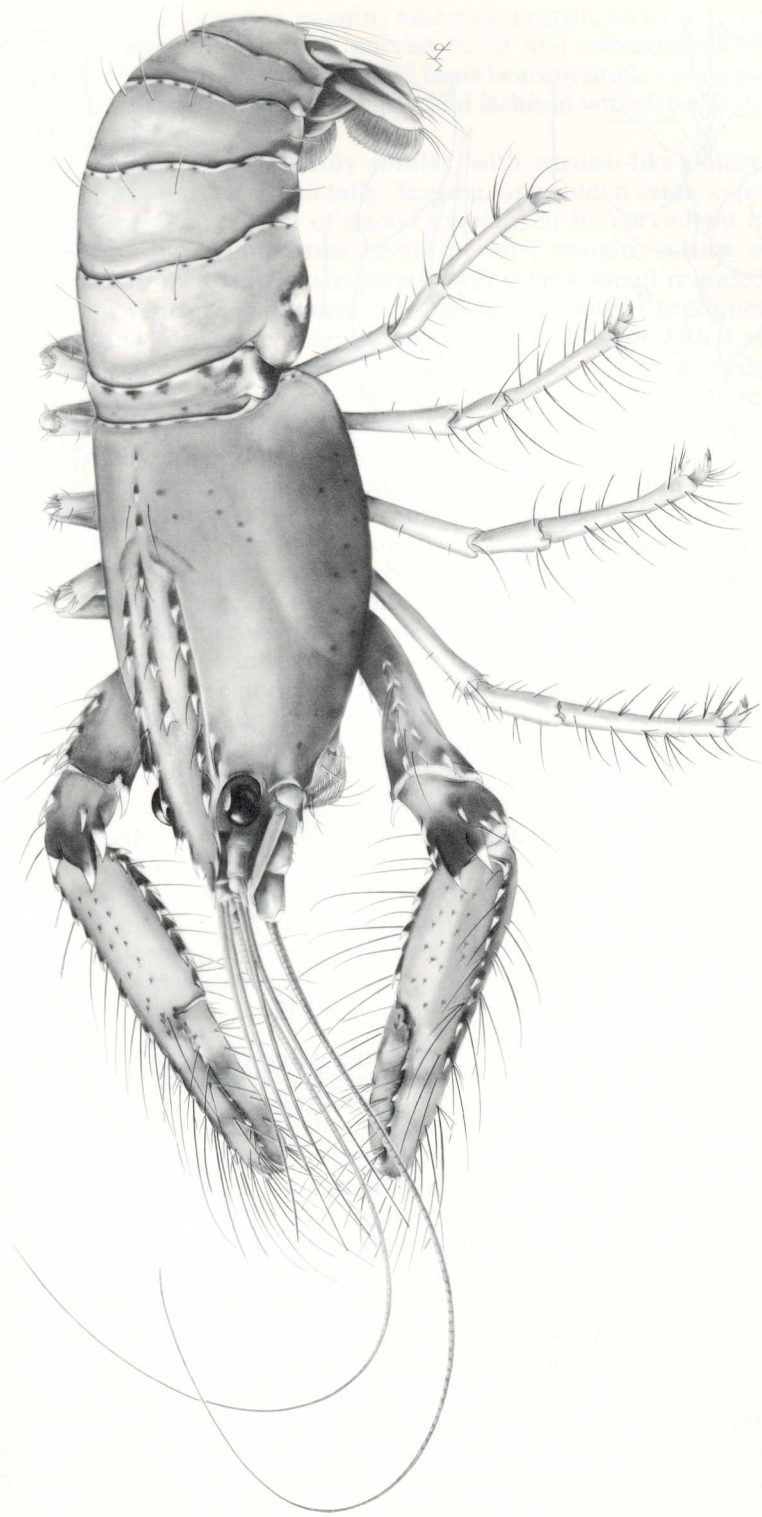


Fig. 1. *Enoplometopus chacei*, new species, holotype in dorsolateral view.

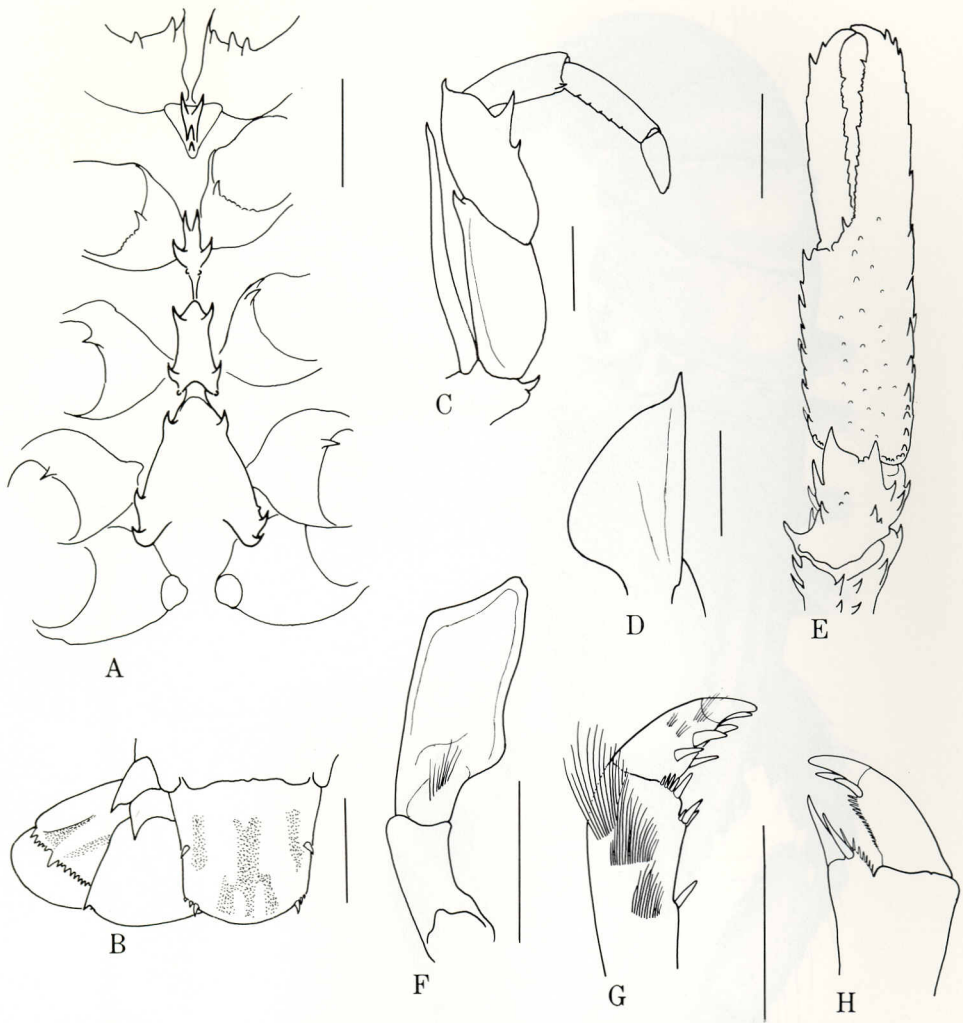


Fig. 2. *Enoplometopus chacei*, new species. A, sternal thoracic plates; B, telson and left uropod (setae omitted); C, maxilliped 3 (setae omitted); D, scaphocerite; E, right chela and carpus (setae omitted); F, pleopod 1; G, pereiopod 5, dactyl and distal propodus; H, pereiopod 2, dactyl and distal propodus. Scales = 5 mm.

Antennular peduncle articles becoming distally progressively shorter; tiny laterodistal spine at base of broader outer flagellum.

Antennal scaphocerite (Fig. 2D) triangular, with straight lateral margin ending in strong distal tooth reaching just beyond midlength of antennal peduncle article 3, inner basal angle of scale broadly rounded, dorsal surface with tomentose groove near lateral margin; basis with strong lateral tooth; coxa with smaller ventral tooth; peduncle article 2 slightly shorter than article 3.

Maxilliped 3 (Fig. 2C) with dactyl slightly more than half length of propodus; carpus subequal to propodus in length, with small posterodistal tooth; merus armed with strong distal, and smaller subdistal tooth on posterior margin, and small terminal anterodistal tooth; ischium with anterodistal tooth, outer surface



with ridge just below anterior margin, posterior margin unarmed, inner surface bearing ridge armed distally with curved tooth and small subterminal tooth, followed by row of about 20 smaller teeth; basis bearing single strong posterodistal spine; all articles, especially dactyl, merus, and ischium with dense border of setae on posterior margins.

Pereiopod 1, both legs essentially similar, with varnish-like polished surface, chelae (Figs. 1, 2E) borne horizontally, bearing long golden setae, especially on 3 distal articles; acute curved tip of dactyl overlapped by curved tip of propodal finger; dactyl bearing 2 subterminal teeth on outer margin, cutting edge with 7 large acute white-tipped teeth interspersed with several small rounded tubercles, 2 blunt teeth on ventral surface near cutting edge, dorsally 1 tooth near midline, and 1 near cutting edge close to articulation; propodal finger with 4 acute white-tipped teeth interspersed with several rounded tubercles on cutting edge, 3 strong subterminal teeth on outer margin followed by 2 blunt tubercles, and 10 acute white-tipped teeth (7 on palm) on rounded ridge of outer margin, teeth becoming smaller proximally; inner palmar margin with 13 acute white-tipped teeth, 10 of which arranged in pairs, strong tooth at inner dorsal articulation of dactyl, convex dorsal surface of palm with 12 or 13 rounded tubercles in irregular double row, ventral surface of palm with 8 or 9 rounded tubercles along midline, 7 rounded tubercles near outer margin; carpus about half length of palm (measured along midline), armed with 5 acute teeth on dorsal surface, 3 on outer lateral surface, 3 on ventral surface; merus with rounded dorsal ridge bearing 5 pairs of acute teeth, 2 outer distal, one inner distal, 3 ventrodistal, and double row of ventral spines, 6 in outer, 5 large and 3 small in inner row; ischium with 4 ventral teeth and single dorsodistal tooth; basis very short, with no free dorsal margin, bearing single ventrodistal tooth; coxa with 2 ventrodistal teeth.

Pereiopod 2 (Fig. 2H), dactyl one-fourth length of propodus, cutting edge with 2 large subterminal spines and row of about 15 tiny spines; fixed propodal finger with single elongate subterminal spine; carpus slightly more than half length of propodus, just less than half length of merus, with single ventrodistal tooth; merus with strong distal tooth on outer surface; coxa with single ventrodistal tooth.

Pereiopod 3, dactyl one-fourth length of propodus, with large terminal and 6 smaller corneous spines; propodus with strong posterodistal spine and smaller accessory spine; carpus just less than half propodal length, with small posterodistal tooth; merus two and one-third length of carpus, with strong distolateral tooth; coxa with posterodistal tooth.

Pereiopods 3–5 essentially similar, decreasing slightly in length posteriorly. Pereiopod 5, propodus with 3 distolateral bands of setae (Fig. 2G).

Sternal processes (Fig. 2A): at base of pereiopod 1, narrow, with pair of anterior teeth and 2 posterior teeth in midline; at base of pereiopod 2, with pair of closely set teeth anteriorly, pair of more widely spaced teeth posteriorly; at base of pereiopod 3, broader than preceding process, with pair of anterior teeth separated by convex lobe and pair of more widely spaced posterior teeth separated by concave indentation; at base of pereiopod 4, broadly triangular, with anterior relatively elongate pair of teeth separated by convex process, 2 pairs of teeth posteriorly on lateral margins.

Pleopod 1 (Fig. 2F) uniramous, distal lamellar portion with concave median surface, distal margin obliquely truncate.

Pleopod 2, endopod bearing 2 processes at about midlength, medial process twice width of lateral process, former distally broadly rounded, both bearing slender apical spines.



Pleopods 3–5, endopod lacking processes.

Uropodal protopod bilobed, lobes each ending in elongate narrow tooth; inner ramus reaching slightly beyond telson, with tooth at distolateral angle; outer ramus extending well beyond inner, with distinct diaeresis at distal two-thirds, strong tooth on lateral margin at diaeresis, followed by 20 teeth across proximal margin of diaeresis, seventh from outer margin being larger than rest of series; strong lateral tooth on distal lobe of ramus adjacent to tooth at diaeresis.

Color pattern (from color transparencies of fresh dead animal): Body, legs, and tail fan overall orange-red. Spines of chelipeds and dorsal carapace stark white. Posterior margin of carapace with alternating pale and dark brown patches. Posterior margin of first abdominal somite with stronger brown and white patches; lateral articulating surface with large white patch. Pleuron of abdominal somite 2 with white patch surrounded by dark brown areas on ventral margin. Posterior margins of somites 2–5 with alternating pale and brown spots. Outer uropodal ramus with distal dark brown patch.

*Etymology.*—The species is named for our esteemed colleague, Fenner A. Chace, Jr.

*Remarks.*—The present specimen clearly fits the definition of the subgenus *Enoplometopus* A. Milne Edwards, 1862, which contains four species (see Holthuis 1983: 281, and key, p. 282). Using the aforementioned key, the present specimen, lacking as it does a postcervical spine, keys out to *E. pictus* A. Milne Edwards, 1862. The other three species possess a postcervical spine.

Color pattern of the live animal in this genus appears to be a reliable feature on which to separate species. *Enoplometopus chacei* differs from *E. pictus* in lacking large blue-bordered ocelli scattered over the carapace and abdomen, and in being a larger species (ovigerous females of *E. pictus* have carapace lengths of 14.5–15.0 mm). Milne Edwards (1862: 15) further mentioned the tail fan of *E. pictus*: “Lames de la nageoire caudale marquées de bleu”; no blue pigmentation was present in the live specimen of *E. chacei*.

*Enoplometopus chacei*, with color spots limited to the lower lateral carapace, the bases of the dorsal carapace spines, and the posterior margins of the abdominal somites, differs from *E. debelius* Holthuis, 1983, (which has numerous color spots over the entire carapace and abdomen), from *E. daumi* Holthuis, 1983, (which has stripes of color on the lateral carapace and large ocelli on the dorsal abdomen), and from *E. occidentalis* (Randall, 1840) (which has four white ocelli on the lateral carapace).

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