

***Olenothus*, a new genus of euxanthine crab (Crustacea: Decapoda:
Brachyura: Xanthidae) from Guam**

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Abstract—A new genus and new species of xanthid crab of the subfamily Euxanthinae, *Olenothus uogi*, is described from Guam. *Olenothus* is affiliated with the genera *Euxanthus*, *Hypocolpus* and *Pleurocolpus*, but can be distinguished from them by a suite of carapace, antennal, cheliped, thoracic sternal, male abdominal and male gonopod features.

Introduction

The xanthid subfamily Euxanthinae Alcock, 1898, is currently represented by 19 genera in the Indo-Pacific and Atlantic with some 75 described species (Serène 1984, Ng 1993). Among the shallow-water collections from Guam is a very distinctive euxanthine crab with a diagnostic color pattern which superficially resembles species of *Euxanthus* Dana, 1851. Closer examination of the specimens indicate that while the species is closest to *Euxanthus*, it nevertheless differs from known species in this genus in several key characters. These characters affiliate it with two other allied genera, *Hypocolpus* Rathbun, 1897, and *Pleurocolpus* Crosnier, 1995. In fact, the Guam species has many features which link it to *Euxanthus* and *Pleurocolpus* but it nevertheless cannot be referred to either genus with any confidence.

The present paper serves to describe this new genus and species of euxanthine, here named *Olenothus uogi*. Specimens examined are deposited in the Florida Museum of Natural History, University of Florida (UF); and Zoological Reference Collection (ZRC), Raffles Museum of Biodiversity Research, National University of Singapore. The abbreviations G1 and G2 are used for the male first and second pleopods respectively. Measurements, of the carapace width by length respectively, are in millimeters.

Taxonomy

Family Xanthidae MacLeay, 1838 (sensu Guinot, 1978)
Subfamily Euxanthinae Alcock, 1898 (sensu Serène, 1984)

***Olenothus*, new genus**

Diagnosis. Carapace regions not well defined, grooves between regions rel-

atively shallow. Front bilobed, each lobe broadly triangular. Anterolateral margin strongly arcuate, posterior one-third with 2 small teeth; posterolateral margin deeply concave. Basal antennal segment large, filling orbital hiatus, with long flagellum which reaches to outer edge of orbit. Merus of third maxilliped subquadrate, anteroexternal angle subauriculiform; ischium with deep median sulcus. Exopod very prominent, basal two-thirds strongly expanded, tapering to narrower distal one-third. Anterior part of thoracic sternum relatively elongate; sternites 1 and 2 completely fused without visible suture; separated from sternite 3 by deep suture; sternites 3 and 4 completely fused, without trace of suture. Chelipeds homochelous; carpus with prominent wing-like expansion at outer. Male telson triangular; male abdominal segment 1 separated into 2 parts by deep transverse groove. G1 elongate, mostly straight; distal part gently bent obliquely, tip hooked; G2 relatively short, about one-third length of G1.

Type species. *Olenothus uogi*, new species, by present designation.

Etymology. The genus name is derived from an arbitrary combination of the Greek word “oleno” for elbow, and the name *Euxanthus*, alluding to the prominent “elbowed” cheliped carpus of the type species. The gender is masculine.

Remarks. *Olenothus* is clearly allied to *Euxanthus*, *Hypocolpus* and *Pleurocolpus*, and hence a member of the Euxanthinae as defined by Serène (1984). In external appearance, *Olenothus uogi* is most similar to members of the genus *Euxanthus* in its entire subhepatic region which does not have any trace of a longitudinal cavity. It differs significantly, however, from *Euxanthus sculptilis* Dana, 1852 (the type species) and other species in the genus in having the anterolateral margin subcristate without large teeth (vs. with large teeth and not clearly cristate), the antennal flagellum being proportionately longer, the basal part of the exopod of third maxilliped is strongly expanded (vs. normal), and the anterior thoracic sternum with sternites 3 and 4 totally fused and not separated by any trace of a transverse suture (vs. with distinct and deep transverse suture). In addition, the type species seems to be a much smaller taxon than most species of *Euxanthus*, the regions of the carapace are more poorly defined, and the carpus of the cheliped possesses a prominent wing-like extension on the outer face (cf. Guinot-Dumortier 1960, Serène 1984, and specimens of various species in the ZRC). In the form of its unspecialised subhepatic region, *Olenothus* also is similar to *Pleurocolpus*, but has a basically bilobate frontal margin (vs. distinctly quadridentate), the regions of the carapace are shallow and not well defined (vs. regions prominent and separated by deep grooves), the anterolateral margin is subcristate without large teeth (vs. with large teeth and not cristate); the antennal flagellum is relatively shorter, the carpus of the cheliped has a prominently less well produced projection, the legs and carapace do not form an opening for the respiratory current, the male telson is relatively more elongate, and the distal part of the G1 is prominently hooked (vs. straight) (cf. Crosnier 1995). In the form of the carpus of the cheliped, *Olenothus* also somewhat resembles some species of *Hypocolpus* (e.g., *H. kurodai* Takeda, 1980, from Japan) but can easily be distinguished by its lack of a subhepatic cavity, less prominently areolated carapace,

relatively longer basal antennal flagellum, the anterior thoracic sternum with sternites 3 and 4 totally fused (vs. with deep laterally interrupted median transverse suture) (cf. Guinot-Dumortier 1960, Takeda 1980, Serène 1984, and specimens of species in the ZRC). The form of the exopod of the third maxilliped varies somewhat in *Hypocolpus* and in some species (e.g., *H. stenocoelus* Guinot-Dumortier, 1960), it may approach the condition in *Olenothus* but still quite different (see Guinot-Dumortier 1960). The anterolateral margin of *Olenothus* is subcristate and closely resembles the condition in *Hypocolpus* species, although it is weaker in *Olenothus*. The combination of characters possessed by *Olenothus* makes its placement in any of the above three genera rather untenable, and as such, it seems preferable to refer it to its own genus for the time being.

***Olenothus uogi*, new species**

(Figs. 1-4)

Material examined. Holotype – male (16.5 by 10.8 mm) (UF 2096), Tepungan Channel, Guam, on wall, 2 m, at night, coll. L. Kirkendale, 17 November 1998. Paratypes – 1 male (15.4 by 9.5 mm) (ZRC 2002.171), near Orote Point, Guam, under rocks, 18-21 m, coll. H. T. Conley, February 1999; 1 female (14.5 by 9.3 mm) (UF 2097), Tepungan Channel, Guam, on wall, 1-2 m, coll. L. Kirkendale, 17 July 1999; 1 female (13.6 by 9.3 mm) (ZRC 2002.172), Piti, Guam, inside channel, 1-4 m, at night, coll. J. Starmer, 13 March 1997. 3 males (22.3 by 14.0 mm, 20.7 by 13.1 mm, 20.3 by 12.3 mm), 1 female (16.1 by 10.2 mm) (ZRC 2002.176), Guam, coll. 2000-2001.

Description. Carapace much broader than long; regions not well defined, grooves separating regions relatively shallow, dorsal surfaces gently convex, covered with very small squamiform granulations; some parts of gastric and cardiac regions may have 1-2 setae on them; branchial, gastric, cardiac and intestinal anterior parts finely granulose, lateral parts with more prominent small rounded granules; pterygostomial, suborbital and sub-branchial regions finely granulose. Front distinct but relatively narrow compared to carapace width, essentially bilobed, lobes separated by prominent broad V-shaped cleft which continues as deep longitudinal fissure into frontal region; each lobe broadly triangular, tip rounded, continuing laterally as a low but distinct knob, meeting but separated from rounded inner supraorbital angle by a short groove. Supraorbital margin finely granulated, relatively short, meeting gradually with anterolateral margin but without a distinct external orbital tooth; junction not clearly demarcating beginning of anterolateral margin. Inner edge of suborbital margin with well developed tubercle which is clearly visible from dorsal view as a small tooth. Orbits relatively small; eyestalk short, distal edge with cornea lined with small granules; cornea well developed. Anterolateral margin lined with small granules, appears gently serrated, subcristate, anteriormost part not meeting supraorbital margin but becoming lower and less distinct as it curves downwards to meet pterygostomial region before gradually becoming undiscernible; anterior two-thirds strongly arcuate; posterior one-third of margin gently convex, curving pos-

Ng: A new genus of Euxanthinae



Figure 1. Life colors of *Olenothus uogi*. A, paratype male (15.4 by 9.5 mm) (ZRC 2002.171); B, female paratype (14.5 by 9.3 mm) (UF 2097) (Photos: G. Paulay)

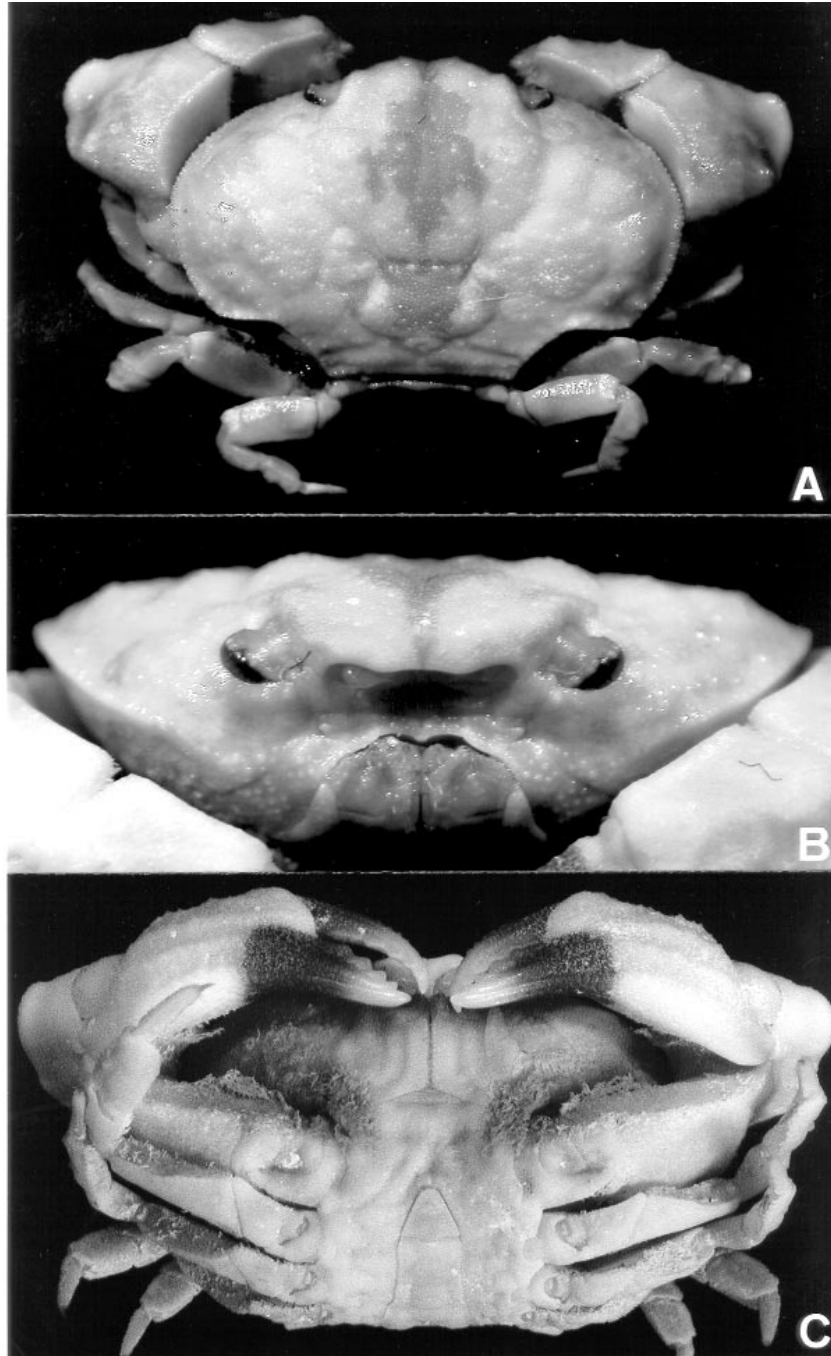


Fig. 2. *Olenothus uogi*, new species. Holotype male (16.5 by 10.8 mm) (UF 2096). A, dorsal view; B, frontal view; C, ventral view.

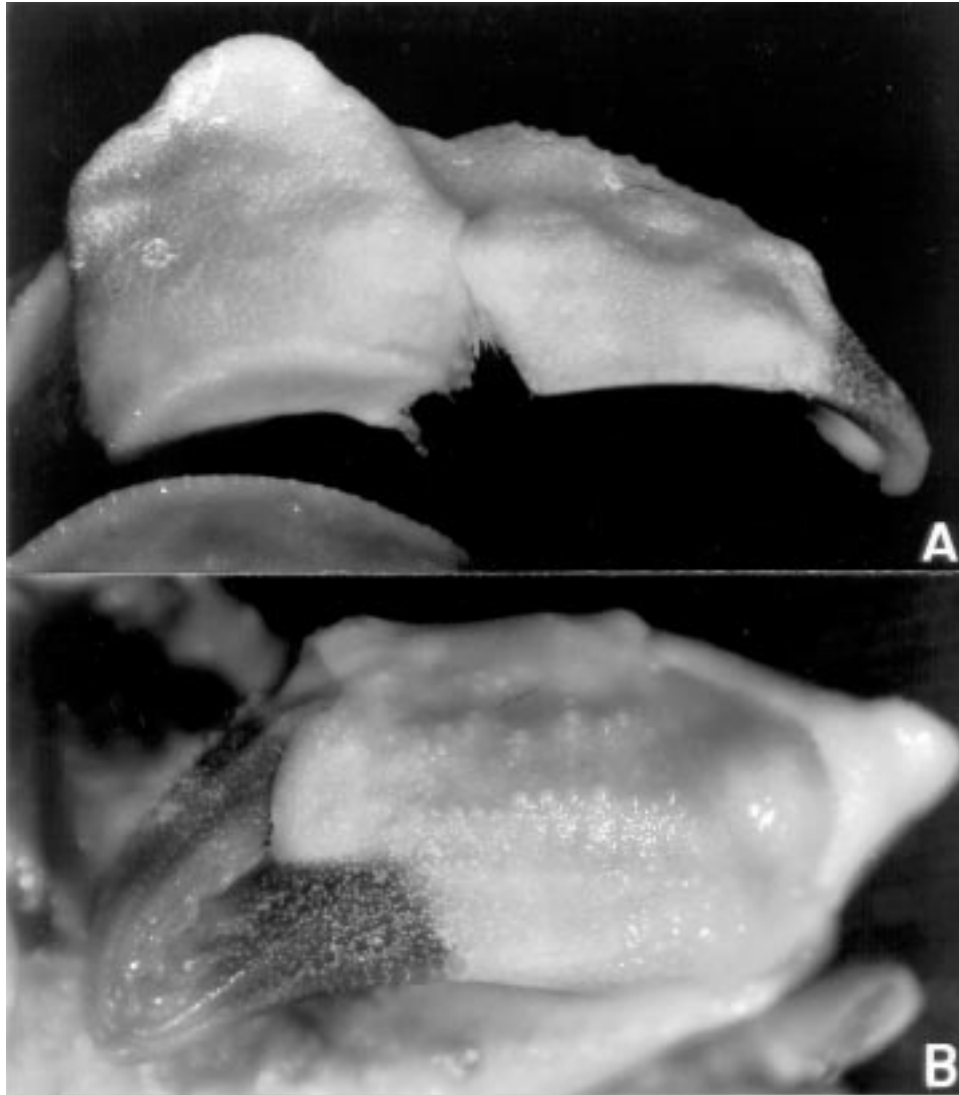


Fig. 3. *Olenothus uogi*, new species. Holotype male (16.5 by 10.8 mm) (UF 2096). A, dorsal view of left chela; B, outer view of left chela.

teriorly to posterolateral margin, with two small but prominent teeth, the last marking junction with posterolateral margin. Posterolateral margin appears deeply concave, anterior part subparallel with front, then curving sharply and converging towards posterior carapace margin; merus of last ambulatory legs fits perfectly into posterolateral margin concavity when apposed against it. Posterior carapace margin gently concave, with ridge of small granules just anterior to it. Antennules folding almost transversely. Basal antennal segment large, sub-

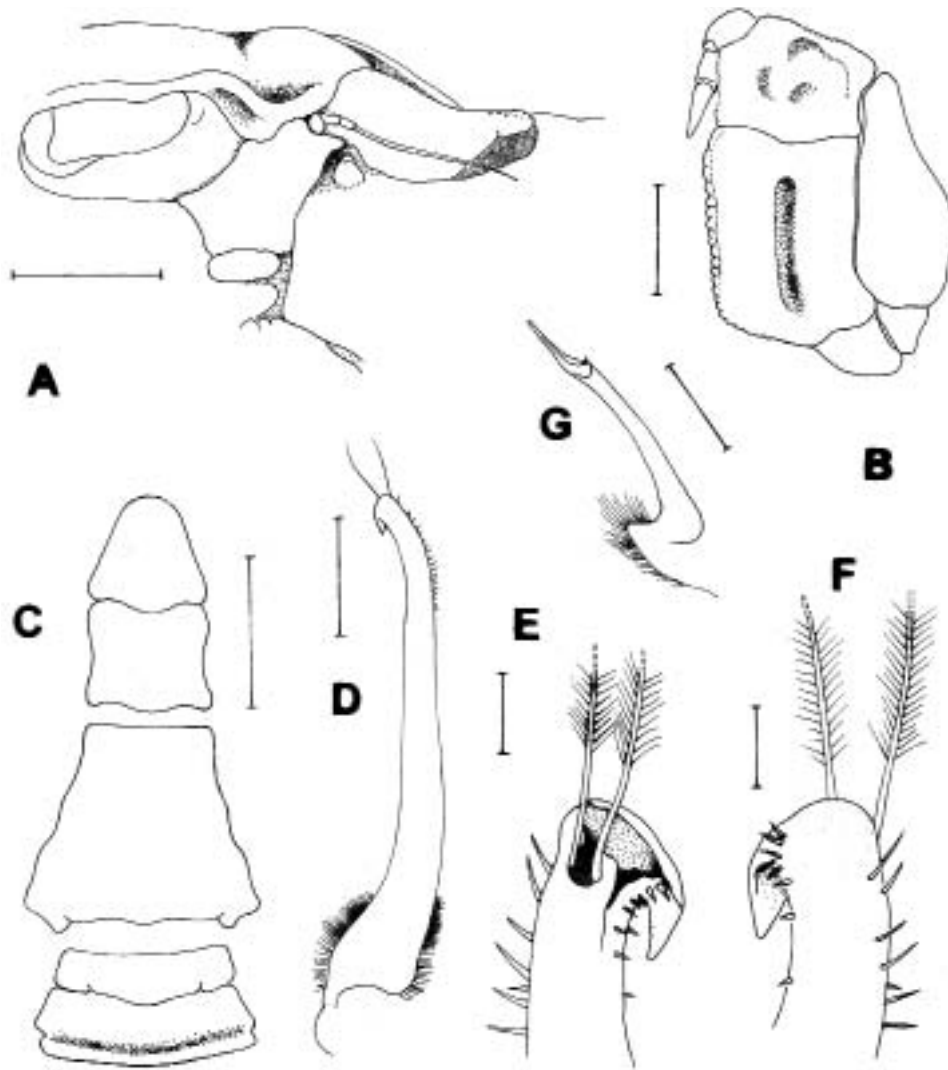


Fig. 4. *Olenothus uogi*, new species. A-C, Paratype male (15.4 by 9.5 mm) (ZRC 2002.171); D-G, Holotype male (16.5 by 10.8 mm) (UF 2096). A, front showing antennae and orbits; B, left third maxilliped; C, male abdomen; D-F, left G1; G, left G2. Scales: A, B, D = 1.0 mm; C = 2.0 mm; E, F = 0.05 mm; G = 0.5 mm.

quadrate, occupying entire space between antennular fossa and internal orbital tooth, orbital hiatus completely filled; long flagellum arising from distal margin, reaching outer edge of orbit. Endostome without oblique or longitudinal ridges.

Outer surface of third maxilliped covered with small granules and/or finely pitted, appearing semi-eroded in parts, especially merus. Merus subquadrate, with submedian elevation and several depressions; margins gently granulated;

anteroexternal angle subauriculiform. Ischium subrectangular; inner margin prominently serrated with rounded teeth; sulcus relatively deep, longitudinally median in position, separated from basis by distinct suture. Exopod very prominent, distal edge reaching almost to outer edge of merus, granulose; proximal two-thirds strongly expanded, tapering to distinctly narrower distal one-third; outer margin concave.

Thoracic sternum with anterior part relatively elongate, surfaces covered with fine granules and/or with small pits, appears rugose in parts. Sternites 1 and 2 completely fused into triangular plate; separated from sternite 3 by deep transverse suture. Sternites 3 and 4 fused, without any sutures visible; with 1 distinct depression just anterior of telson and 2 other major depressions on each side obliquely anterior to this but no transverse suture or groove discernible. Abdominal cavity deep, abdomen reaching to imaginary line joining median part of coxae of chelipeds.

Chelipeds homochelous, subequal. Fingers distinctly shorter than palm, cutting edges with 3-4 more or less flattened teeth. Dactylus, except for the base and distal one-third to half, pigmented black, proximal half of dorsal margin lined with granules. Pollex pigmented black except for distal one-third to half, pigmentation extending to one-quarter distance in to palm; with deep submarginal groove near ventral margin which extends beyond pigmented area into palm. Palm with 3 low but distinct subparallel longitudinal rows of well spaced granules on lower half of outer surface; dorsal margin lined with small granules, margin subcristate, subdorsal surface with prominent longitudinal depression which extends for most of length; rest of outer surface of palm with very fine granules. Carpus short, outer surface finely granulated; inner distal angle with low triangular tooth; outer margin with very prominent sublamelliform wing-like expansion. Merus unarmed, short, ca. length of carpus.

Ambulatory legs relatively short, second leg longest, with scattered setae, surfaces finely granulated. Merus subrectangular, subprismatic in cross-section, dorsal margin subcristate, gently serrated, subdistal part may have slightly larger denticles; ventral surface with two subparallel granulated margins. Dorsal margin of carpus subcristate, serrated, with distal part more prominently produced, appearing as uneven serrated distal tooth. Propodus almost squarish, dorsal margin serrated. Dactylus gently curved, outer margin gently serrated except for corneous distal part; rest of surface unarmed.

Male telson triangular, tip rounded, lateral margins gently convex to almost straight. Male abdominal segment 6 almost squarish, lateral margins concave. Segments 3-5 completely fused, no trace of sutures, disto-lateral margins concave, proximo-lateral margins sinuous. Segment 2 subtrapezoidal, relatively narrow transversely. Segment 1 trapezoidal, separated into 2 parts by deep transverse groove.

G1 elongate, slender, most of median part straight; distal part gently bent obliquely, tip hooked, with distinct triangular flap, opening subdistal, before flap; distal margins lined with relatively short stiff setae, area adjacent to hooked part

with 2 very long setae. G2 short, slender, distal part with petaloid process, ca. one-third length of G1.

Females. The carapaces of the two female paratypes examined have generally more granular dorsal carapace surfaces, which makes the regions somewhat more distinct. In addition, there may also be color differences.

Etymology. The species name is derived arbitrarily from the abbreviation for the University of Guam (UOG). The name is used as a noun in apposition.

Color. In males, the carapace background is whitish to pinkish with the longitudinal median parts having an uneven pattern of red to magenta, with those on the gastric regions most extensive (Fig. 1A). The lateral parts of the carapace of the two females are covered with uneven patches of red as well (Fig. 1B), making the color pattern look more blotchy.

Remarks. From the available data, *Olenothus uogi*, new species, occurs in shallow waters, among coral rocks and rubble.

Acknowledgements

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