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A NEW MARINE GENUS OF THE *MAERA* GROUP (CRUSTACEA: AMPHIPODA) FROM BELIZE

James Darwin Thomas and J. L. Barnard

Abstract. — A new genus and species, *Dumosus atari* of the *Maera* group from coral rubble at Belize is described. It is related to *Gammarella* and is probably cryptic. The eyes are reduced. *Dumosus* differs from *Gammarella* in the loss of medial setation on the maxillae, reduction of article 3 on the mandibular palp, loss of article 2 on the outer ramus of uropod 3, and in the loss of major spination on the plates of maxilla 1 and the maxilliped; in contrast to *Gammarella*, *Dumosus* retains the plesiomorphic uropod 3 typical of the *Maera*-group.

Legend for Figures

Capital letters in illustrations are explained in the following list; lower case letters to the right of capital letters or in the body of an illustration are explained also in the following list; lower case letters to the left of capital letters are provided for subsidiary figures to note illustrated specimens listed in "Material." For each page of figures one main specimen is called "unattributed" and lacks letter designation. B, body; C, coxa; D, dactyl; G, gnathopod; I, inner plate; L, labium; M, mandible; O, outer plate or ramus; P, pereopod; R, uropod; S, maxilliped; T, telson; U, labium; V, palp; W, pleon; X, maxilla; Y, gill; o, opposite; r, right.

Dumosus, new genus

Diagnosis. — Head and antennae of *Elasmopus*-form, thus rostrum small, anteroventral antennal sinus small but notch absent, antenna 1 of medium length, article 2 nearly as long as 1, article 3 much shorter, accessory flagellum 3-articulate; antenna 2 very short, slightly exceeding article 2 of antenna 1, flagellum very short, not longer than article 5 of peduncle, 4-articulate.

Prebuccal mass weakly extended anteriorly, upper lip rounded below. Mandibular incisors toothed, laciniae mobiles and rakers present on both sides, molar triturative, with large seta on right, small seta on left, palp article 1 scarcely elongate, article 2 naked, article 3 about 70 percent as long as 2, slender, linear, with 1 D-seta, 2 E-setae. Lower lip with fleshy inner lobes and well developed mandibular lobes. Inner plate of maxilla 1 with 1 apical, 1 subapical medial seta, outer plate with 7 spines, palp article 1 elongate, armament of right and left palps asymmetrical. Plates of maxilla 2 slender, inner with one medial seta. Inner plate of maxilliped lacking thick spines, bearing only setae, outer plate with medial and apical spines, palp poorly setose, article 3 with apical hook, dactyl stubby, with medium nail.

Coxae of ordinary length, poorly setose, coxa 1 quadrate, unproduced anteriorly, coxae 1-2 with posteroventral tooth-notch, coxa 3 slightly the narrowest of coxae 1-4, posterodorsal excavation shallow, coxa 5 much shorter than 4, lobes of coxae 5-6 shallow. Simple gills on coxae 2-6; female unknown.

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Gnathopod 1 small, of melitid form, carpus and propodus subequally long, carpus not lobed, propodus with stiff posterior setal-spines, palm oblique, weakly sculptured. Male gnathopod 2 greatly enlarged, metacarpus with posterodistal sharp tooth (thus almost metacarpochelate), carpus short, strongly lobate, hand large, pyriform, palm and hind margin continuous, palm undefined, armed with few spines and many long apically curved bulbar setae, dactyl much shorter than false palm.

Pereopods 3-4 ordinary, slender, pair of locking spines asymmetrical, dactyl with 2 main inner setules near base of nail, no outer tooth. Pereopods 5-7 of short form but increasingly elongate from 5 to 7, of reverted form, article 2 on pereopods 5-6 of narrow pyriform shape with weak posterior sinuosity, posteroventrally lobate, posterior serrations weak to moderate respectively, remaining articles slender; pereopod 7 with shield-like article 2 bearing medium castellations posteriorly.

Pleopods well developed, peduncle long, rami equally long. Pleon unarmed dorsally. Epimera diverse, third dominant, epimeron 1 with subventral ridge, naked ventrally, with small posteroventral tooth, epimeron 2 with lateral ridge, one facial spine, large posteroventral tooth; epimeron 3 nearly straight behind, with medium tooth and posteroventral serrations below main tooth, 1 facial spine.

Uropod 1 with strong basofacial spine, strong apicolateral spine; uropods 1-2 with long apical spines, outer ramus of uropod 1 lacking marginal spines, other rami with few marginal spines. Uropod 3 small, aequiramous, not exceeding uropods 1-2, peduncle short, rami lanceolate, sharp, inner only with tiny apical armament, outer similar apically also with 2 sets of lateral armaments. Telson short but longer than broad, deeply cleft, each apex bifid, with one spine and setule, each lobe with subapical lateral setule set.

Type-species. — *Dumosus atari*, new species.

Etymology. — *Dumosus* from "covered with thorn bushes" referring to gnathopod 2, and *atari*, a Carib Indian word for star.

Relationship. — The present genus differs from *Maera* in the *Elasmopus*-like male gnathopod 2 lacking defined palm. As far as we know, no species of *Maera* has a shield-like article 2 on pereopod 7, nor the degree of diversity of pereopods seen in this species.

This genus differs from *Elasmopus* in the linear article 3 of the mandibular palp, with lanceolate and poorly armed rami of uropod 3. It bears close resemblance to *Lupimaera* Barnard and Karaman (1982) (based on *Maera lupana* J. L. Barnard, 1969) but the rami of uropod 3 are slender and poorly armed, coxa 5 is short, and article 2 of pereopods 5-7 is diverse, unlike *Lupimaera*.

Unlike *Meximaera* Barnard (1969), the new genus has enlarged and non-female-like gnathopod 2, poorly armed rami of uropod 3, poorly armed mandibular palp, and diverse pereopods 5-7.

A superficial resemblance occurs between this genus and the Caribbean cave genus *Paraweckelia* Shoemaker (1959). Although *Paraweckelia* appears less specialized in the presence of more medial maxillary setae, non-diverse pereopods 5-7, long and spiny rami of uropod 3, and longer antennae, *Paraweckelia* is more specialized in the apomorphic telson.

Because of the poorly developed rami of uropod 3 and diverse pereopods 5-7, *Dumosus* cannot be ancestral to hadziids and weckeliids.

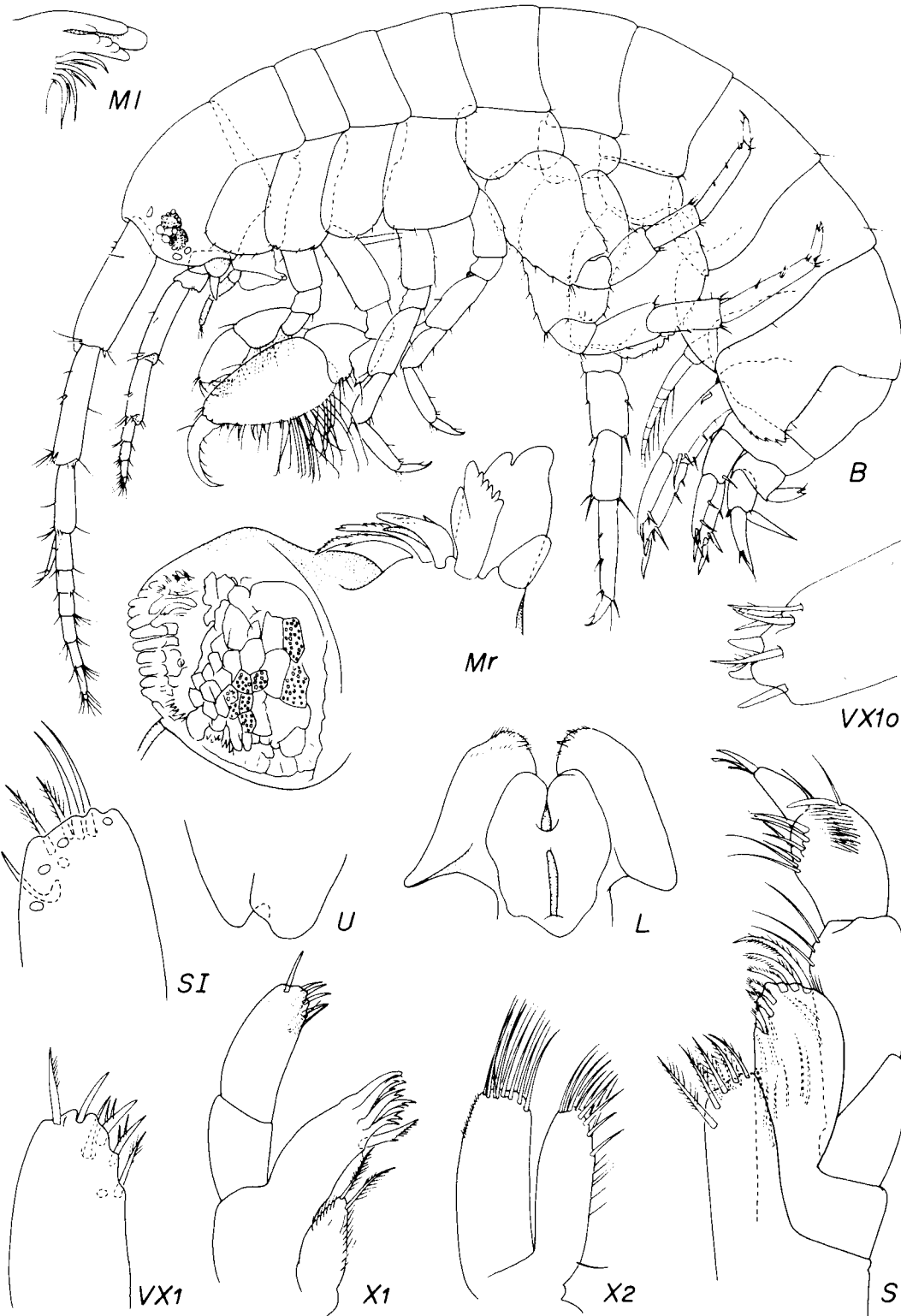


Fig. 1. *Dumosus atari*, new species, holotype, male "x."



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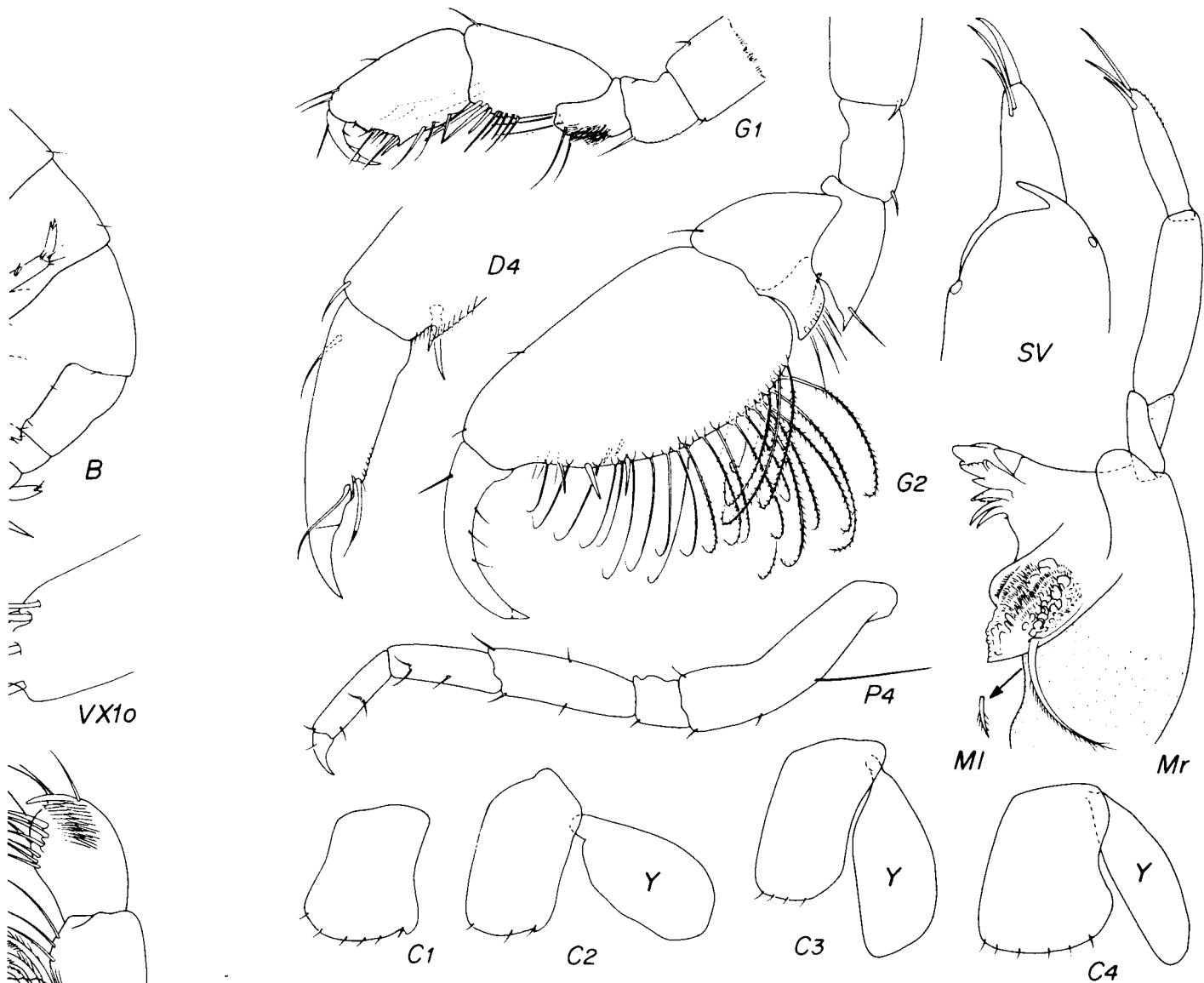


Fig. 2. *Dumosus atari*, new species, holotype, male "x."

The shield-like pereopod 7 is comparable to *Gammarella* Bate (see Chevreux & Fage 1925 as *Pherusa* [= *Nuuanu*, = *Cottesloe*] and *Tabatzius* McKinney and Barnard (1977), from the Caribbean Sea, but those genera differ from our new genus in the fully setose medial margins of the maxillae and the non-falcate article 3 of the mandibular palp lacking most D-setae. It is possible to build a plesio-morphic-apomorphic sequence of evolution from the base stock of *Gammarella* to *Dumosus* through loss of medial maxillary setae, reduction in mandibular palp article 3, loss of article 2 on the outer ramus of uropod 3, loss of major spines on inner plate of maxilliped, loss of several spines on the outer plate of maxilla 1 and retention of the primitive elongate inner ramus of uropod 3. The two genera (and the similar *Tabatzius*) share similar gnathopods, telson, pereopods, and many similarities in body form, head, antennae, mandibles, maxillipeds and pleon.

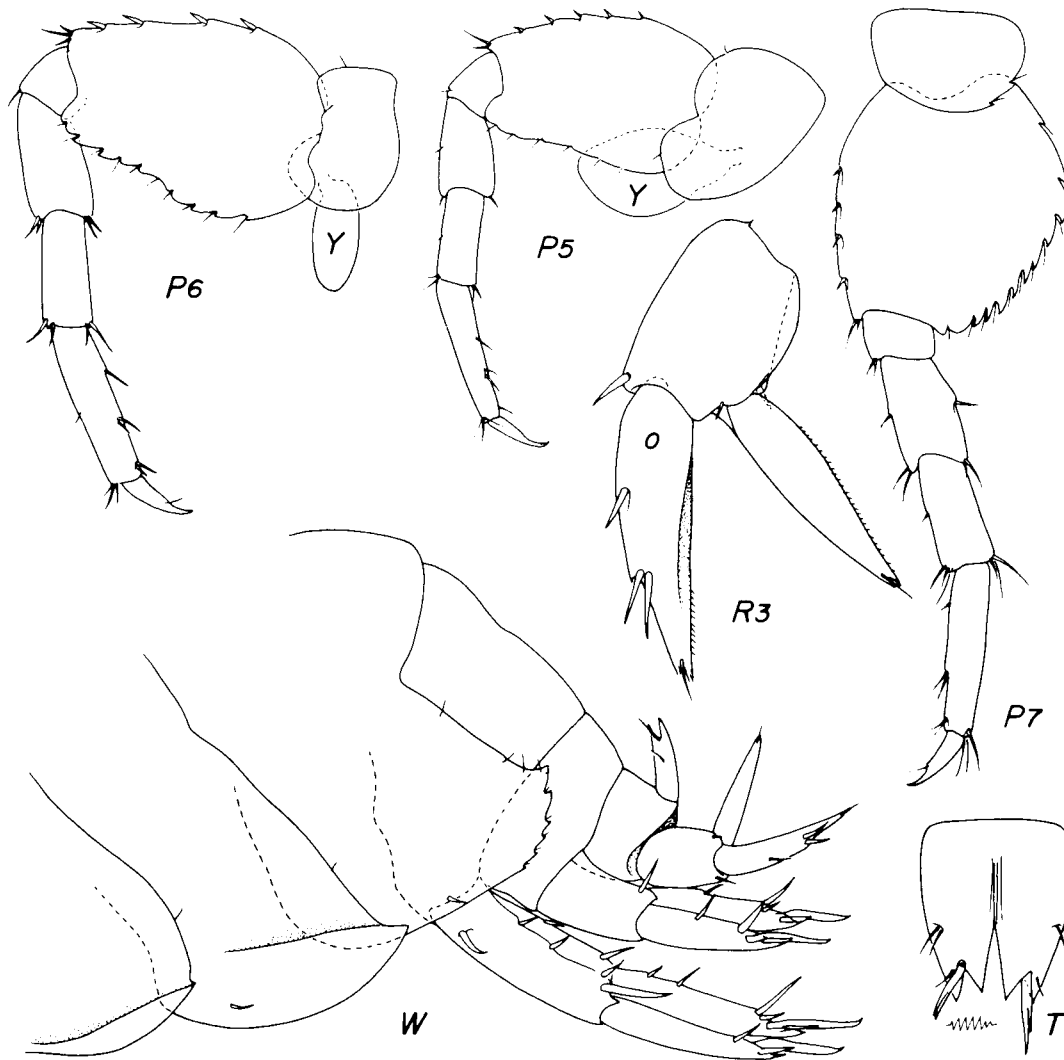


Fig. 3. *Dumosus atari*, new species, holotype, male "x."

There is a superficial resemblance of *Dumosus* to *Ceradocopsis* (see Barnard and Karaman 1982), from the southern hemisphere, in the shortness of uropod 3, form of head, antennae, gnathopods, mandibles, maxilliped, uropods 1-2 and telson, but *Ceradocopsis* has more medial maxillary setae, less shield-like pereopod 7 and bears an article 2 on the outer ramus of uropod 3.

Dumosus atari, new species
Figs. 1-3

Description of unique male, 1.96 mm.—Eyes composed of ochre-brown pigment mass with several clear, mostly anterior ommatidia extending outward, one detached gangliar ommatidium dorsally. Flagellum of antenna 1 shorter than articles 2-3 of peduncle combined. Article 4 of antenna 2 with weak apical hump; gland cone large, basal article small.

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Mandibular incisors with articulate accessory tooth on medialmost edge, right and left rakers 3, with interrakers. Inner plate of maxilliped with scythe-like ventral coupling hook.

Article 4 of gnathopod 1 pubescent; dactyls of gnathopods with apical nail and inner setules. Pereopod 3 like illustration of pereopod 4 but slightly larger.

Peduncle of pleopods elongate, usually with one lateral seta, 2 coupling hooks, rami extending equally, as long as peduncle, 5-articulate. Peduncle of uropod 2 with one apicomedial spine.

Holotype.—USNM 195138, male, 1.96 mm. Unique specimen with left pereopod 5 missing.

Type-locality.—Carrie Bow Cay, Belize, 24 Jun 1982, formalin wash of coral rubble from back reef, 0.5–1.0 m, coll. J. D. Thomas.

Remarks.—We have searched for this species again at Belize several times and in many other Caribbean localities to no avail; its clearly distinct generic position, and the excellent condition of the specimen makes it possible to describe.

Acknowledgments

We would like to thank the Scholarly Studies Program, administered by Assistant Secretary for Science, Dr. David Challinor, Smithsonian Institution, for support during this study. The first author was also supported by NSF grant DEB8121128. Dr. Klaus Rützler, Director of the Smithsonian Western Atlantic Mangrove Project (SWAMP) kindly provided field facilities in Belize. Mike Carpenter of the Smithsonian also provided the first author with invaluable assistance in the field. We would like to thank Linda B. Lutz, Mobile, Alabama, for inking the plates.

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