

NEPELLE NELERA, A NEW GENUS AND SPECIES OF MARINE AMPHIPOD FROM AUSTRALIA (CRUSTACEA: AMPHIPODA: UROHAUSTORIIDAE)

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Abstract

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A new genus and species of marine urohaustoriid amphipod, *Nepelle nelera*, is described from Tasmania. It differs from its sympatriot, *Gheegerus*, in the much more modified coxae 1–2, cleft and bell-shaped telson, setose epimeron 1 and large tooth on male antenna 2.

Introduction

The Urohaustoriidae of Australia were treated by Barnard and Drummond (1982). That work was based mainly on materials collected from Western Port and Port Phillip Bay in Victoria. The new genus described here was found in Tasmania, across the strait from Victoria. South American genera of the family were summarized in the key of Clark and Barnard (1986).

Methods of morphological description follow those of Barnard and Drummond (1978, 1982). Upper case letters refer to parts; lower case letters to left of uppercase letters refer to specimens noted in legends; lower case letters to right of uppercase refer to adjectival modifications in list below: A, antenna; B, body; C, coxa; D, dactyl; G, gnathopod; H, head; I, inner plate or ramus; K, pleopodal coupling hooks; L, labium; M, mandible; O, outer plate or ramus; P, pereopod; S, maxilliped; T, telson; W, pleon; X, maxilla; Y, pleopod; d, dorsal; p, posterior; r, right; s, setae removed; t, left.

Urohaustoriidae Barnard and Drummond, 1982

Nepelle gen. nov.

Diagnosis. Rostrum short and broad, head poorly extended anteriad from antennal notch. Antennae of haustoriid (versus urothoid) form, thus peduncle of antenna 1 short, stout, articles 2 and 3 of peduncle progressively shortened, not geniculate, both flagella moderately long. Aesthetascs simple. Antenna 2 of full haustorius form, article 4 expanded, article 5 small, articles 4–5 with facial armaments, article 4 with 3 kinds

of posterior setae, long plumes, subventral clusters of simple setae (called glassy spines) and a row of bulbar penicillate setules, article 5 with long plumes, weak glassy spines, no bulbars, facial armament rows on articles 4–5 composed of very slender setae and spinules; article 5 in male with large anteroapical claw-like tooth pointing medially. Mandibular incisors extended, of ordinary thickness, barely toothed, essentially with 2 teeth; lacinia mobilis narrow and spike like, blunt on right, sharp on left; rakers 2, only first raker serrate; molar large, extended, with accessory chopper; setae of palp article 3 weakly awned, apically bent. Inner plate of maxilla 1 of medium length, narrow, with 2 apical setae, outer plate with 11 spines, palp short, uniarticulate, with 3 large apical setae. Inner plate of maxilla 2 with weakly submarginal row of setae. Palp article 2 of maxilliped extraordinarily elongate, expanded, dactyl barely clavate, elongate, bearing 3 apical setae.

Coxae 1–2 very small, first pointed, second blunt, most of coxa 2 hidden by large, adze-shaped coxa 3, coxa 4 larger than 3, shaped like blunt arrowhead; coxae 2–5 with simple sac-like gills, gill 5 smallest; oostegites thin, strap-shaped.

Gnathopods small, grossly alike, carpi elongate, propodi somewhat smaller, mitelli-form, first simple, second minutely chelate. Dactyls of pereopods 3–7 distinguishable but on pereopods 6–7 often hidden among similar spines, those of pereopods 3–5 large, those of pereopods 6–7 very small; dactyl of pereopod 5 blade-like, spinose. Article 5 of pereopods 3–4 fully spinose posteriorly. Article 2 of pereopods 5–7 expanded but less strongly on pereopod 6 than on 5 and 7; distal articles of pereopods 6–7

scarcely widened, on 5 much more expanded; pereopods 6–7 otherwise similar, not dominating pereopod 5.

Pleopod 1 strongly dominant in setation and articulation, inner ramus shorter than outer. Epimeron 1 present and setose; epimeron 2 dominantly setose, epimeron 3 dominant in size. Urosomites 1–2 produced laterally. Rami of uropods 1–2 evenly sublinguiform, widely setose medially and apically, poorly or not setose laterally, peduncles moderately setose. Uropod 3 with rami extending subequally, well setose marginally except on outer margin of inner ramus. Telson short, broader than long, basally expanded and somewhat bell-shaped, cleft halfway.

Description. Eyes absent, ocular ganglia visible. Dorsomedial surface of article 1 on antenna 1 furnished with small, poorly organized group of setae; article 2 strongly setose dorsally; article 3 poorly setose. Article 3 of antenna 2 short, sparsely setose, flagellum slightly longer than article 4 of peduncle. Calceoli absent. Lower lip with one cone on each outer lobe, mandibular lobes well developed. Several spines on outer plate of maxilla 1 bifid or toothed. Gnathopod 2 lacking surficial buttons.

Type species. *Nepelle nelera* sp. nov. Unique.

Etymology. An Aboriginal spirit.

Relationship. This genus is very similar to *Gheegerus* Barnard and Drummond (1982) but differs in the pointed coxa 1, the cleft telson with bell-shape, the presence of setae on epimeron 1, and the large tooth on male antenna 2. Coxae 1–2 are very distinctive because in *Gheegerus* they are much more evenly rectangular. The shape of the telson is strongly distinct. By those standards within the family, this entity represents a distinct genus even though it and *Gheegerus* are monotypic.

Nepelle nelera sp. nov.

Figures 1–3

Material examined. 2 males, 1 female, 1 juvenile, 18 other mixed specimens.

Holotype: Tasmania, Eddystone Point, D. Hoggins, Aug 1978, Museum of Victoria (NMV) J17654 (male “g”, 4.95 mm, illustrated).

Paratypes: Type locality, NMV J17655 (female “f”, 4.75 mm); NMV J17657 (male “h”, 5.03 mm); NMV J17658 (juvenile “i”, 2.58 mm); NMV J17656 (18 specimens).

Diagnosis. With the characters of the genus.

Description. Male “h”, 4.95 mm; head about 70% as long as wide, rostrum about 6% as long as remainder of head, eyes represented by their attendant ganglia, actual ommatidia or pigment not discerned. Dorsal setae on article 1 of antenna 1, medial = 3 regular and 2 bulbar-penicillate, medial margin = 6 setae in facial row and apical cluster of several; article 2 with many dorsal setae, medial row of many setae; primary flagellum with 10 articles, accessory flagellum with 9 articles. Article 3 of antenna 2 with 5 medium setae; facial formula of spines on article 4 = numerous thin setae and spinules in jagged row; article 5 = 12 main setae dorsally (actually dorsal edge pointing medially) and facial row similar to article 4; flagellum with 11 articles.

Right and left mandibular incisors with 2 weak teeth each; article 3 of palp scarcely shorter than article 2, latter with 8 setae, setal formula on left and right article 3 = 1–1–1–8. Inner plate of maxilliped with 2 stout apical spines, one ventral locking spine, and 7 apical setae; medial margin of outer plate with ragged mixture of spines and scattered small setae, apex with 1 seta; article 2 of palp with row of 14 mediofacial setae; article 3 with row of 7 medial facial setae, 2 groups lateral setae.

Coxa 1 trapezoidal, bearing 4 setules on ventral margin, coxa 2 subconical and weakly bent, anterior margin convex, with 1 ventral setule near apex, coxa 3 adze-shaped, with about 6 ventral setae on narrow margin and about 10 setae on lower part of concave posterior margin, coxa 4 weakly and bluntly arrow-shaped, well setose on ventral, posterior, upper invaginated and upper lobed margins, coxae 5–6 well setose posteriorly, coxa 7 inferior and poorly setose.

Setal and spine formulas on pereopod 3 = 8–7, 13, 6–7, 6–1–4, and pereopod 4 = 6–5, 12, 5–6, 6–1–4. Article 2 of pereopods 5–7 well setose posteriorly, pereopod 5 with long mediofacial row of setae; dactyl of pereopod 5 with pair of apical spines and 4 anterior marginal spines.

Peduncular spine formulas of pleopods 1–3 = 2 and 1, 2 and 0, 2 and 1; segmental formulas = 30–19, 22–16, 18–15; basal setal formulas = 18–6–6–6, 11–2–4–4, 8–2–3–4, each inner ramus with complex basal bifid spine with double barb, posterior faces of peduncles with sets of medium facial setae, lateral and medial = 0–1, 0–2, 6–2.

Epimeron 1 rounded, with 3 facial setae posteroventrally; epimeron 2 extended into posteroventral tooth, posterior margin “crimped,”

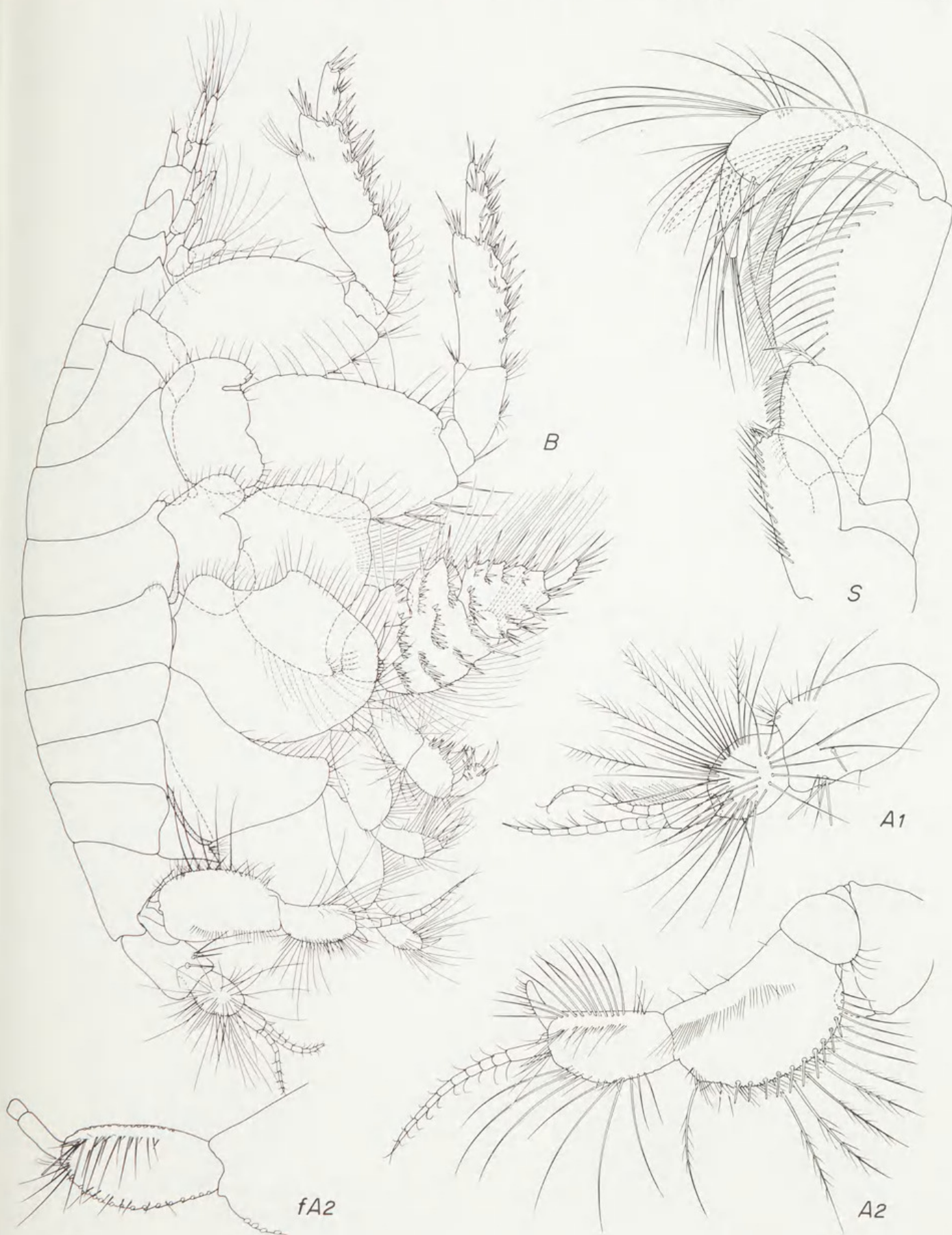


Figure 1. *Nepelle nelera*, unattributed figures = holotype male g, 4.95 mm; f = female 4.75 mm.

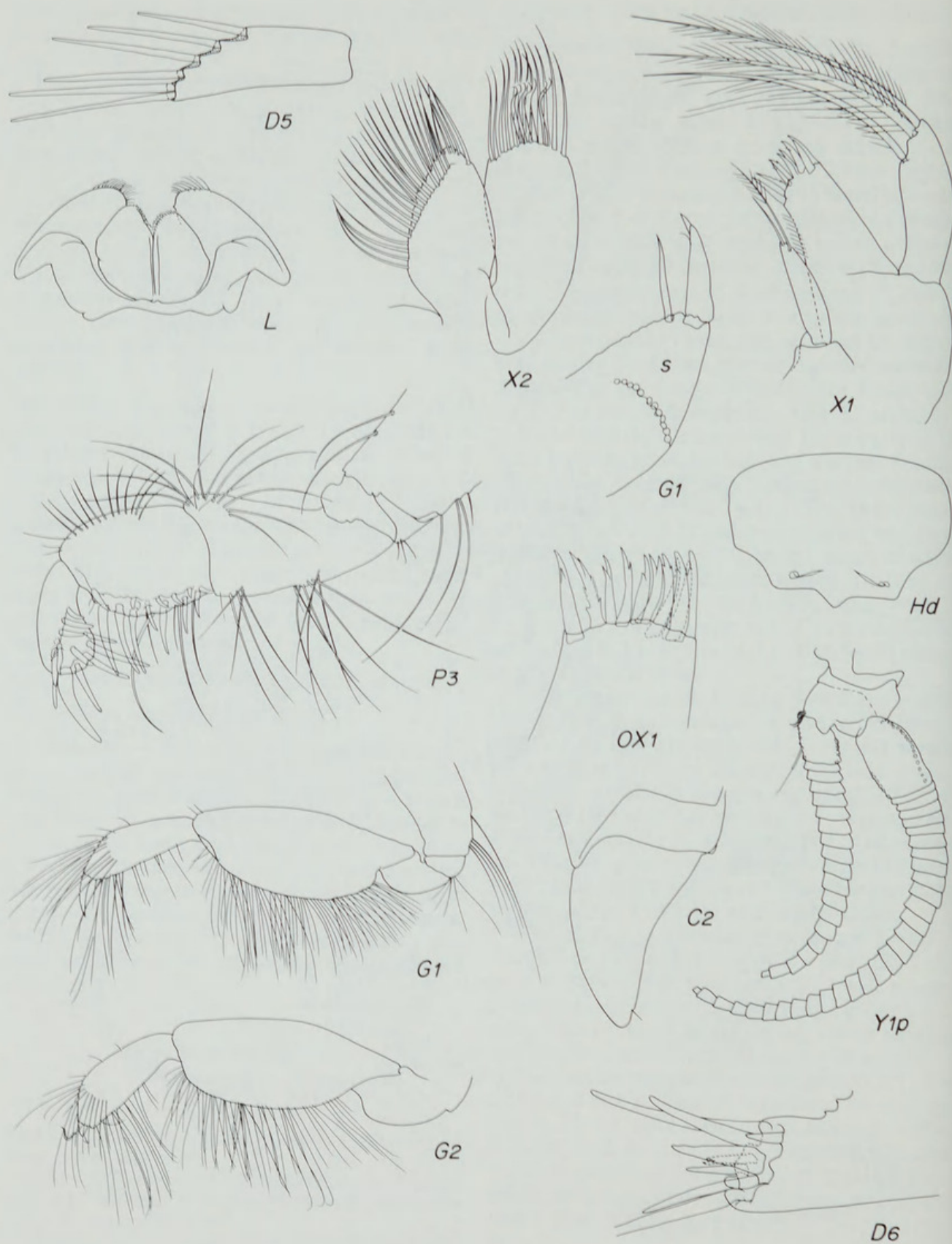


Figure 2. *Nepelle nelera*, holotype male "g", 4.95 mm. All setae not shown on pleopod.

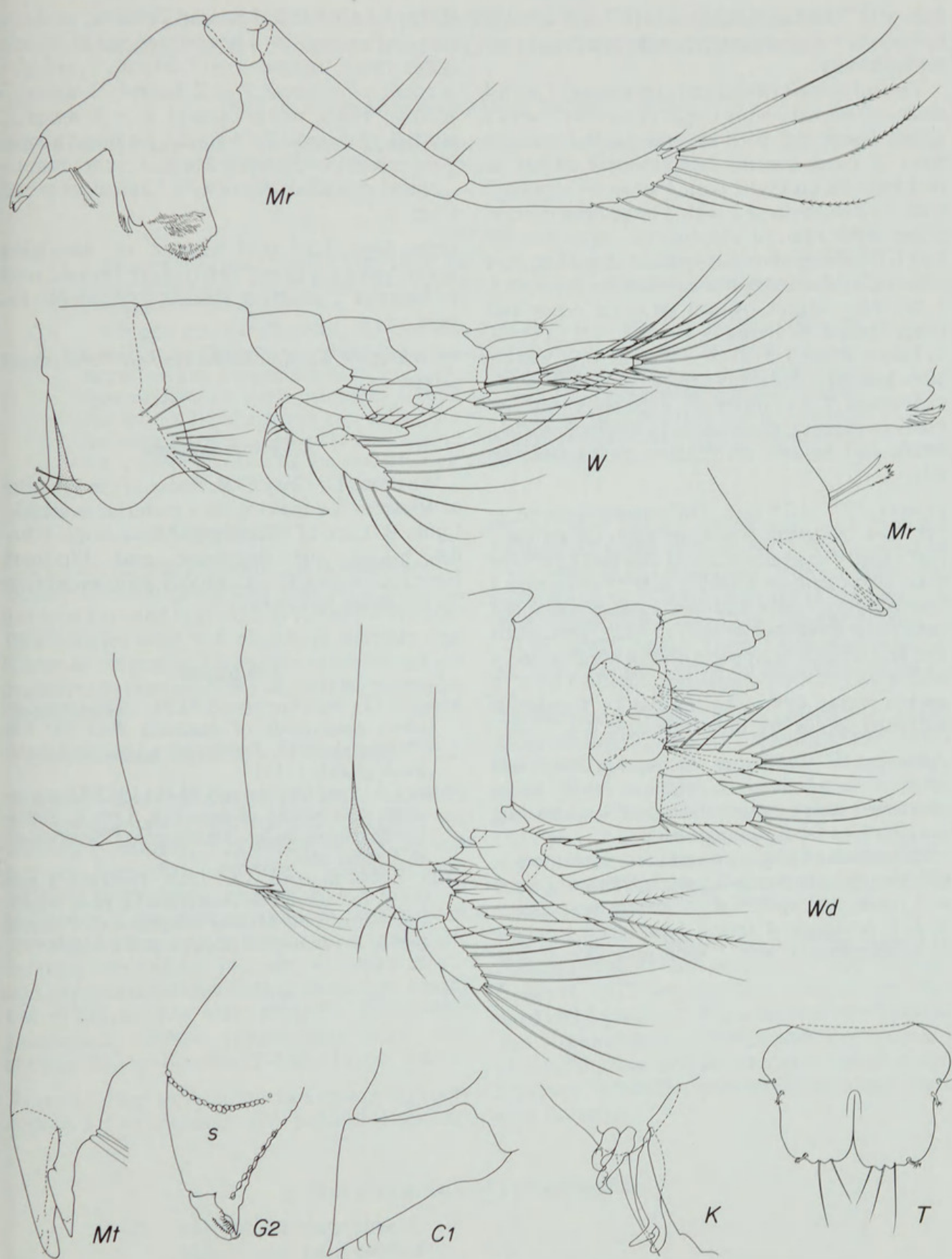


Figure 3. *Nepelle nelera*, holotype male "g", 4.95 mm.

face with 10 setae in semicircle of 7 and set of 3; epimeron 3 sharply and strongly produced posteroventrally.

Lateral margin of peduncle on uropod 1 with 4 setae, of uropod 2 with 1 seta, of uropod 3 with 1 spine. Uropod 3 with several ventral setae at base of outer ramus. Apicomedial corner of peduncle on uropod 1 with 4 setae, of uropod 2 with 4 setae; uropod 1 with 3 large dorsomedial setae; inner rami of uropods 1–2 extending 85 and 67% along outer; uropods 1–3 with 6, 4, 4 setae on medial margin of each outer ramus, 4, 3, 5 on inner ramus. Apical setae on outer and inner rami of uropods 1–3 = 3–1, 3–1, 2–2.

Telson about 1.3 times as wide as long, weakly alate basolaterally (thus somewhat bell-shaped), cleft about 50% of its length, each apex with 2–3 medium plumes, each side with small penicillate setule and second asymmetric pair basolaterally.

Female. "f", 4.75 mm. Differences from male very few: Antenna 1 lacking tooth on article 5 and slightly less setose; on all described parts of male pleon, female differing only by epimeron 1 bearing only 1 seta and peduncle of uropod 1 with only 3 (versus 4) lateral setae; pereopods less spinose, for example, article 4 of pereopod 4 with 8 and 3 anterodistal setae, article 5 with 10 anterior setae, 6 facial spines and 3 + 3 posterior marginal spines, formula on article 6 = 5–3–1.

Juvenile. "i", 2.58 mm. Generally much less setose as detailed below, principal oddity being shortened inner ramus of uropod 1, extending only 60% as far as outer ramus.

Examples of lesser armaments: Pereopod 3, anterior apical setae 7–2, article 5 anterior setae = 7, posterior spines 6–2, article 6 spines = 5–3–1; pereopod 4 article 5 posterior spines = 5–4; epimeron 1 with 1 seta, epimeron 2 = 6;

peduncle uropod 1, 3 lateral, 2 medial, no dorsal setae, of uropod 2 = 1 lateral, no medial; setae of outer rami, uropod 1 = 2 lateral, 2 apical, 5 medial, of uropod 2 = 2 lateral, 2 apical, 4 medial; inner rami, uropod 1 = 1 apical, 3 medial, of uropod 2 = 1 apical, 2 medial; uropod 3 outer ramus = 5 lateral, 3 medial, inner ramus = 2 apical, 4 medial; telson with 2 apical setae each lobe.

Etymology. Latinized version of Aboriginal word "pointing bone" referring to the odd teeth of antenna 2 pointing inward to resemble forceps.

Distribution. Tasmania, Eddystone Point, depth unknown.

Acknowledgments

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