

CLASSIFICATORY REVISIONS IN GAMMARIDEAN AMPHIPODA (CRUSTACEA), PART 2

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Abstract.—The new family Paracalliopidae is established and the family Pseudamphilochidae is recognized from provisional proposal.

New genera are described as follows: *Relictomoera* for *Paramoera relict*a and *Sternomoera* for *P. yezoensis* and *P. japonica*; *Nasageneia* for *Pontogeneia nasa*; *Aurohornellia* for *Tulearogammarus sinuatus*; *Lupimaera* for *Maera lupana*; *Tegano* for *Melita seticornis*; *Maleriopa* for *Eriopisella dentifera*; *Texiweckeliopsis* for *Texiweckelia insolita*; *Holsingerius* for *T. samacos*; *Indocalliope* for *Paracalliope indica*; *Feriharpinia* for *Harpinia ferenteria*; *Torridoharpinia* for *Proharpinia hurleyi*.

New synonymies are provided for *Afrochiltonia* (= *Austrochiltonia*), *Ceradocopsis* (= *Maeracunha*), *Hornellia* (= *Metaceradocus*). *Echiuropus* is raised to full generic level. New lists of species are provided for *Pseudomoera*, *Paracalliope* and *Proharpinia*.

More "armchair" revisions in Amphipoda must be presented before we can issue our forthcoming "The Families and Genera of Gammaridean Amphipoda," a sequel to that done by J. L. Barnard (1969b). This time, freshwater taxa will be included with the marine in the same treatise.

Our first part is cited as Karaman and Barnard (1979).

Ceinidae

Afrochiltonia K. H. Barnard, new synonymy

Afrochiltonia K. H. Barnard, 1955:93 (*Chiltonia capensis* K. H. Barnard, 1916, original designation).

Austrochiltonia Hurley, 1958:767 (*Hyaella australis* Sayce, 1901, original designation).

Griffiths (1976) made a case for synonymizing these two genera but mistakenly assumed *Austrochiltonia* took priority. It does not and therefore the situation should appear as shown above.

Eusiridae

Pseudomoera Schellenberg, revised

Pseudomoera Schellenberg, 1929:281 (*Atylodes gabrieli* Sayce, 1901, monotypy).

Until now this genus has been monotypic but we transfer into this genus *Atylodes fontana* Sayce (1902) which for years has been placed in *Paramoera*. The type-species is characterized by the loss of medial setae on the inner plate of maxilla 1 whereas *P. fontana* has full setal armament on that plate like *Paramoera*. However, *Pseudomoera* can now be distinguished from *Paramoera* on the presence of geniculate lobes on the wrists of the gnathopods and this action

removes from *Paramoera* a clearly alien species and places it precisely contiguous to its apomorph. This creates an unusual genus in which maxillary setae are variable but this is perhaps preferable to adding yet another monotypic genus to the pool.

Species.—*fontana* (Sayce, 1902a); *gabrieli* (Sayce, 1901); Australia, Victoria, streams between 457 and 915 m of altitude.

Relictomoera, new genus

Type-species.—*Paramoera relict* Ueno, 1971a.

Body slender, compressed, smooth, urosomites free. Rostrum obsolescent; lateral cephalic lobes sinusoid; with notch in middle, anteroventral margin of head weakly produced. Eyes round, tiny, or vestigial, or absent.

Antennae elongate, 1 longer than 2, peduncular articles of antenna 1 progressively shorter (ratio 21:19:12), article 1 as long as or longer than head, articles 2–3 scarcely shorter than article 1; article 3 not produced; article 1 of primary flagellum ordinary, accessory flagellum 1-articulate, barrel shaped.

Labrum [?entire, ?subrounded, broader than long]; epistome unproduced. Molar triturative, columnar, article 2 of palp poorly lobed, article 3 shorter than 2 (ratio = 4:16:13). Labium: inner lobes [?absent].

Maxilla 1: inner plate with 5 apical setae, outer plate with 9 spines, palp long, article 1 short. Maxilla 2: inner plate not broader nor longer than outer plate, narrow, inner plate with facial row of 4 setae but no other medial setae. Maxilliped: inner plate relatively long, outer plate slightly shorter than inner, not spinose medially; palp of 4 articles, 4 slightly shorter than 3, 3 unlobed, 4 not spinose along inferior margin, unguiform, with nail.

Coxae short but contiguous, almost glabrous, coxa 1 not produced anteriorly nor expanded ventrally, coxa 4 with weak posterior lobe, excavate.

Gnathopods feeble, slender, diverse, 2 larger than 1, subchelate, not eusirid, medium, wrist of both as long as hand, without posterior lobe, with few short posterior setae, propodi rectangular or weakly expanded, gnathopod 2 especially.

Pereopods 3–7 ordinary, simple, dactyls simple, article 2 not anteriorly lobate, on pereopods 5–7 weakly expanded, weakly or moderately lobate.

Epimeron 3 smooth. Pleopods with peduncle dominating rami.

Outer rami of uropods 1–2 slightly shortened or not; rami with lateral and dorsal spines. Uropod 3 ordinary, scarcely extended beyond uropod 1, peduncle without large process, rami lanceolate, aequiramous, 1-articulate.

Telson ordinary, cleft two thirds, apices with short or thin apical armaments.

Coxal gills present on somites 2–6, ovate, some pediculate. Oostegites broad. Sternal gills absent.

Variables.—Telson elongate (*tsushimana*).

Relationship.—Like *Paramoera* but head with unusually sinusoid anterolateral margin. See *Sternomoera*. Differing from *Awacaris* Ueno by the normal palp of maxilla 1, the normal head and the stronger hand and palm of gnathopod 1. Differing from *Apherusa* in the stronger sinusoid cephalic lobes, the deeply cleft telson, and the presence of an accessory flagellum.

Species.—*relict* (Ueno, 1971a); *tsushimana* (Ueno, 1971b); Goto and Tsushimana Islands south and west of Kyushu, Japan, hypogean.

Etymology.—Name composed of root from species name plus “moera” a common root of genera in Eusiridae. Feminine.

Sternomoera, new genus

Type-species.—*Paramoera yezoensis* Ueno, 1933.

Body ordinary, compressed, smooth, urosomites free. Rostrum very small, lateral cephalic lobes rounded or mammilliform, anteroventral margin of head scarcely produced, with normal sinus. Eyes reniform.

Antennae elongate, 1 longer than 2, peduncular articles progressively shorter (ratio = 30:18:12), article 1 shorter than head, article 3 not produced; article 1 of primary flagellum short, basal articles proliferate, accessory flagellum 1-articulate, scale-like.

Labrum entire, subrounded, as long as broad; epistome unproduced. Molar triturative, columnar, article 2 of palp unlobed, article 3 as long as 2 (ratio = 4:9:10). Labium: inner lobes absent.

Maxilla 1: inner lobe with many medial setae, outer plate with 7 spines, palp long, article 1 short. Maxilla 2: inner plate not broader nor longer than outer, inner plate with scarcely submarginal facial row of many setae and several other medial setae. Maxilliped: inner plate not relatively long, outer plate slightly shorter than inner, medially spinose, palp of 4 articles, 4 shorter than 3, 3 unlobed, 4 not spinose along inferior margin, weakly unguiform, [?with nail].

Coxae ordinary, poorly setose, coxa 1 not produced anteriorly or expanded ventrally, coxa 4 with posterior lobe, excavate.

Gnathopods alike in female, almost feeble, subchelate, not eusirid, small wrist of both scarcely shorter than hand, without posterior lobe, with numerous posterior setae, hands rectangular; male gnathopods larger, 2 larger than 1, wrists broadly lobate, hands ovate, posterior margins swollen, palms oblique, with few large clavate or peg spines.

Pereopods 3–7 ordinary, simple, dactyls simple; article 2 of pereopods 3–4 not anteriorly lobate, of pereopods 5–7 poorly expanded, lobate, poorly armed; or of pereopod 6 slightly narrowed. Pleopods [?ordinary]. Epimeron 3 serrate sparsely and minutely.

Outer rami of uropods 1–2 not or scarcely shortened; rami with lateral and dorsal spines. Uropod 3 ordinary, not extended beyond uropod 1, peduncle without large process, rami lanceolate.

Telson ordinary, cleft, apices with small apical armaments. Coxal gills [2–7], ovate. Oostegites broad. Thorax with sternal gills.

Variables.—Apices of telson poorly (*yezoensis*) to densely setose (*japonica*) apically.

Relationship.—Like *Paramoera* but sternobranchiate. Not of modern crangonyctid affinity because of precisely aequiramous uropod 3, short peduncle of antenna 1, basally proliferate flagellum of antenna 1. Not bogidiellid because of the general gnathopodal facies and presence of sternal gills. Differing from *Eoniphargus* in the magniramous, aequiramous uropod 3 and vestigial accessory flagellum. Differing from *Relictomoera* in the presence of sternal gills and the normal head.

Species.—*hayamenensis* (Stephensen, 1944); *japonica* (Tattersall, 1922); *yezoensis* (Ueno, 1933); Japan, streams.

Etymology.—Name composed of “sterno” referring to sternal gills and “moera” a root used commonly for genera in Eusiridae. Feminine.

Nasageneia, new genus

Type-species.—*Pontogeneia nasa* J. L. Barnard, 1969c.

Body slender, compressed, smooth. Rostrum large, lateral cephalic lobes ordinary, anteroventral margin of head scarcely produced. Eyes reniform.

Antennae subequal, peduncular articles of antenna 1 progressively shorter, article 1 shorter than head, article 3 weakly produced; article 1 of primary flagellum ordinary to short, accessory flagellum absent.

Labrum entire, subrounded, broader than long, epistome unproduced. Molar triturative, columnar, article 2 of palp unlobed, article 3 shorter than 2. Labium: inner lobes absent.

Maxilla 1: inner lobe with medial and 2 apical setae, palp long, article 1 short. Maxilla 2: inner plate not broader but slightly longer than outer, inner plate without facial row of setae but with other medial setae, few, large, at least one slightly submarginal. Maxilliped: inner plate not relatively long, outer plate slightly shorter than inner; palp of 4 articles, 4 slightly shorter than 3, 3 unlobed, 4 not spinose along inferior margin.

Coxae ordinary to short, coxa 1 not produced anteriorly or expanded ventrally, coxa 4 without posterior lobe, excavate.

Gnathopods diverse, of similar size, subchelate, not eusirid, medium, wrist of both shorter than hand, only gnathopod 2 with strong posterior lobe extending distad, wrist without numerous long posterior setae, hands rectangular in female, inflated in male, in latter with posterior spines outside limits of oblique palm.

Pereopods 3–7 ordinary, simple, dactyls simple, article 2 not anteriorly lobate.

Epimeron 3 serrate.

Outer rami of uropods 1–2 shortened; rami with lateral and dorsal spines. Uropod 3 ordinary, not extended beyond uropod 1, peduncle with small process, rami lanceolate.

Telson ordinary, weakly cleft, apices without long apical armaments.

Relationship.—Like *Tethygeneia* but epimeron 3 serrate and hands of male gnathopods with posterior spines well outside palmar limits as in *Gondogeneia*. Calceoli tending to be much more strongly anthurial than in *Tethygeneia*, with one lobe quite linguiform.

Species.—*nasa* (J. L. Barnard, 1969c, 1979); *quinsana* J. L. Barnard, 1964, 1969a, 1979); marine, warm temperate California and Mexico, 0–1 m.

Etymology.—Name composed of “nasa” from species name plus “geneia” a name fragment commonly encountered in Eusiridae. Feminine.

Paramoera stephensi Barnard and Karaman, new name

Paramoera brachyura Stephensen, 1949:18, figure 6 [homonym to *Paramoera brachyura* Schellenberg, 1931:201–202, figure 102].

Etymology.—Named for K. Stephensen.

Gammaridae
Aurohornellia, new genus

Type-species.—*Tulearogammarus sinuatus* Ledoyer, 1967a.

Body [?ordinary], pleon [?and urosome] dorsally crenulate transversely on posterior segmental margins, each of pleosomite 2 to urosomite 2 with 2 dorsal spines, [?urosomites free]. Rostrum medium, lateral cephalic lobe sharply conical, sinus present.

Antennae elongate, antenna 1 shorter than 2, ratio of peduncular articles = 23:25:10, primary flagellum longer than peduncle, accessory flagellum 2-articulate. Antenna 2 slender.

Labrum broader than long, entire, rounded. Mandibular incisor toothed, molar triturative, ratio of palp articles = 4:17:15, article 3 linear, stubby, setae = ADE. Inner lobes of labium present. Maxillae moderately setose medially, inner plate of maxilla 1 ovate, very short, moderately setose apicomediaally, outer plate with [?7] spines, palps 2-articulate, [?symmetrical]. Inner plate of maxilla 2 [?with oblique facial row of setae]. Outer plate of maxilliped [?spinose medially, article 3 of palp unlobed, dactyl shorter than 3, unguiform, with nail].

Coxae long, with long setae, coxa 1 slightly expanded apically, coxa 3 much smaller than 1 or 2, coxa 4 long but unlobed. Gnathopods feeble, slender, almost simple, wrists elongate, hands elongate, thin, palms scarcely evident, gnathopod 2 thinner than gnathopod 1 (male not clarified).

Pereopods 3–4 ordinary. Article 2 of pereopods 5–7 expanded, moderately to strongly lobate, serratosetulose posteriorly; pereopod 7 elongate, dactyl [?elongate and setose].

Pleopods [?ordinary]. Rami of uropods 1–2 marginally spinose, outer rami slightly shortened, peduncle of uropod 1 [?with basofacial spine]. Uropod 3 slightly extended, magni- or variramous, rami thin, outer ramus with long article 2, inner ramus reaching apex of article 1 on outer ramus. Telson of ordinary length, fully cleft, lobes tapering, poorly armed but with dorsal spinules.

Coxal gills [?2–7, ovate]. Oostegites [?narrow].

Relationship.—Standing between *Hornellia* and *Megaluropus*; like *Hornellia* but coxa 3 reduced and like *Megaluropus* but rami of uropod 3 thin.

Species.—*sinuata* (Ledoyer, 1967a); Madagascar, shallow water.

Etymology.—From “aurora,” dawn, and “*Hornellia*,” a related genus. Feminine.

Ceradocopsis Schellenberg, new synonymy

Ceradocopsis Schellenberg, 1926:364 (*Ceradocopsis kergueleni* Schellenberg, 1926, monotypy).

Maeracunha Stephensen, 1949:22 (*Maeracunha tristanensis* Stephensen, 1949, monotypy) [new synonym].

Lateral cephalic lobes broadly rounded, sinus present but mandible inserted there, not antenna 2.

Antennae elongate, antenna 1 longer than 2, ratio of peduncular articles = 14:12:6, flagellar ratio = 20:7, accessory flagellum with 4 articles. Antenna 2 slender.

Mandibular incisor almost smooth, molar small and poorly tritulative, palp small, ratio of articles = 6:15:12, article 3 linear, setae = E and sparse. Inner lobes of labium absent. Maxillae medially setose, inner plate of maxilla 1 pyriform to triangular, with medial setae on apical half only, outer plate with 7–11 spines, palps [?symmetrical]. Inner plate of maxilla 2 with oblique row of facial setae. Outer plate with naked medial margin, palp article 3 weakly lobate, dactyl shorter than 3, unguiform, lacking or bearing nail.

Coxae of medium extension, poorly setose, coxa 1 expanded below, coxa 2 with anteroventral acuity, coxae 3–4 weakly shorter than 1–2, coxa 4 unexcavate posteriorly, coxa 5 as long as 4. Gnathopods diverse, gnathopod 1 small, of Melitid form, wrist scarcely elongate, scarcely lobate, hand longer, rectangular, palm weakly oblique, short, gnathopod 2 enlarged, wrist short to medium, lobate or weakly, hand elongate, large, rectangular, palm weakly oblique, weakly sculptured or strongly spinose.

Article 2 of pereopods 5–7 expanded, alike, lobate, poorly setose, serrate and straight posteriorly, appendages otherwise stout.

Rami of uropods 1–2 subequally extended, marginally spinose, peduncle of uropod 1 with basofacial spine. Uropod 3 not extended, short, magniramous, dispariramous, outer ramus with small article 2. Telson of ordinary length, fully cleft, lobes tapering, moderately to strongly armed apically.

Coxal gills [?2–6]. Oostegites [?slender].

Variants.—Outer plate of maxilla 1 with 11 spines (*peke*) but other species poorly known; though uropod 3 stated as magniramous, actually appearing to be parviramous kind with reduced outer ramus now so small as to match inner.

Relationship.—Differing from *Maera* in the strongly setose maxilla 2 (facial) and the strong article 2 on the outer ramus of uropod 3. Differing from *Ceradocus* by uropod 3 in the same way stated for *Maera*. Differing from *Paraceradocus* in the short dispariramous uropod 3 and short, slender antenna 2. Differing from *Ceradocoides* in the short, dispariramous uropod 3 and fully cleft telson. Differing from *Ceradocus* in the short dispariramous uropod 3. Differing from various genera near *Melita* in the absence of inner lobes on the labium and the miniaturized uropod 3.

Species.—*kergueleni* Schellenberg, 1926 (Bellan-Santini and Ledoyer 1974); *peke* J. L. Barnard, 1972b; *tristanensis* (Stephensen, 1949); Antarctica and antitiboreal, especially insular.

Echiuropus Sowinsky, new synonymy

Echiuropus Sowinsky, 1915:55 (*Echiuropus macronychus* Sowinsky, 1915, monotypy).

[*Asprogammarus* Bazikalova, 1975:38 (no type-species, therefore unavailable)].

[*Smaragdogammarus* Bazikalova, 1975:64 (no type-species, therefore unavailable)].

Bazikalova's new taxa belong with *Echiuropus*; she reduced *Echiuropus* to subgeneric level under *Asprogammarus* which is illegal under ICZN rules. Until type-species are selected by Bazikalova the two new taxa are unavailable. We trust biologists will allow Bazikalova to rectify this problem rather than capturing the taxa for themselves.

Hornellia Walker, new synonymy

Hornellia Walker, 1904:268 (*Hornellia incerta* Walker, 1904, monotypy).—Ledoyer, 1973:29.

Metaceradocus Chevreux, 1925:304 (*Metaceradocus perdentatus* Chevreux, 1925, monotypy) [new synonym].

Tulearogammarus Ledoyer, 1967:129 (*Tulearogammarus peresi* Ledoyer, 1967, original designation, = *Hornellia incerta* Walker).

Body ordinary, pleon and urosome dorsally crenulate transversely on posterior segmental margins, urosomites free, often with dorsal articulate spines. Rostrum small, lateral cephalic lobes rounded-quadrangle, sinus present. Eyes present.

Antennae elongate, extending subequally or antenna 2 longer, ratio of peduncular articles on antenna 1 = 20:13:7, primary flagellum longer than peduncle, accessory flagellum 2–5 articulate. Antenna 2 ordinary.

Labrum broader than long, notched (type) or entire. Mandibular incisor toothed, molar triturative, ratio of palp articles = 4:11:10 or 4:18:15, article 3 linear (type) or falcate, setae = (AB)DE. Inner lobes of labium present. Inner plate of maxilla 1 ovate, apically and part to all medially setose, outer plate with 11 spines, palps [?symmetrical]. Inner plate of maxilla 2 with oblique facial row of setae. Outer plate of maxilliped medially spinose, palp article 3 unlobed, dactyl [?shorter than 3, with nail].

Coxae ordinary, poorly setose, coxa 1 apically expanded, coxa 4 lobate. Gnathopods feeble, slender, scarcely subchelate, wrists elongate, lobed (type) or unlobed, hands ovate to rectangular, hand of gnathopod 2 elongate, palms oblique, weak, poorly defined.

Pereopods 3–4 ordinary. Article 2 of pereopods 5–7 slightly expanded, poorly setose, scarcely lobate.

Pleopods ordinary, rami of uropods 1–2 marginally spinose, only outer of uropod 2 shortened, uropod 1 with basofacial spine [in several species, type unknown]. Uropod 3 extended, magniramous, aequiramous, peduncle slightly elongate, rami elongate, lanceolate, setose, outer 1–2 articulate. Telson elongate, deeply cleft, lobes tapering, notched (type), weakly spinose apically and medially and dorsally (type) and laterally.

Coxal gills 2–7, ovate. Oostegites slightly broadened to slender.

Variants.—Uropod 3 without article 2 on outer ramus (*perdentata*, *occidentalis*, *micramphopus*, *vesentiniae*), telson fully cleft (*occidentalis*, *micramphopus*): gnathopod 2 very linear (*micramphopus*); *Metaceradocus* definable as subgenus with *micramphopus*, *occidentalis*, *perdentata* and *vesentiniae*: telson fully cleft, article 2 of outer ramus on uropod 3 absent.

Relationship.—Differing from *Elasmopoides* and *Maeropsis* and *Ceradocus* in the feeble gnathopod 2 of both sexes; somewhat ancestral to *Maerella* and *Jerbarnia* but anterior coxae normal, not reduced or diversified and maxillipedal dactyl well developed; differing from the *Eriopisella* group in the magniramous uropod 3 and well setose maxillae.

Species.—*incerta* Walker, 1904 (= *peresi* Ledoyer, 1967) (Ruffo 1969); *micramphopus* (Stebbing, 1910); *occidentalis* (J. L. Barnard, 1959); *perdentata* (Chevreux, 1925); *vesentinae* (Ruffo, 1969); *whakatane* (J. L. Barnard, 1972b); marine, warm-temperate and tropics, shallow water.

Lupimaera, new genus

Type-species.—*Maera lupana* J. L. Barnard, 1969a.

Body slender, urosomites free, naked. Rostrum obsolescent, lateral cephalic lobes mammilliform. Antennae medium to short, antenna 1 scarcely longer than 2, ratio of peduncular articles = 16:8:3, primary flagellum not longer than peduncular article 1, with 5 articles, accessory flagellum 3-articulate, more than half as long as primary flagellum. Antenna 2 also short, flagellum 4-articulate, not longer than article 5 of peduncle. Ratio of mandibular palp articles = 2:7:5, article 3 linear, setae = DE. Inner lobes of labium present. Maxillae not setose medially, inner plate of maxilla 1 rectilinear, with 3 apical setae, outer plate with 9 spines, palps symmetrical. Inner plate of maxilla 2 with 2 medial and 1 facial setae. Outer plate of maxilliped medially spinose, palp article 3 unlobed, dactyl shorter than 3, very short, unguiform, with nail.

Coxae of ordinary dimensions, poorly setose, coxa 1 weakly expanded and lobed anteroventrally, coxa 4 not lobate, coxa 5 as long as 4. Gnathopods diverse, not sexually dimorphic, gnathopod 1 small, wrist elongate, unlobed, hand subrectangular, palm short, slightly oblique; gnathopod 2 enlarged, wrist short, lobed, hand large, subrectangular, palm oblique, short, sculptured.

Pereopods 3–4 ordinary. Article 2 of pereopods 5–7 weakly expanded, weakly lobate, posterior margins poorly setose, weakly convex; article 2 of pereopod 5 not longer than coxa 5 (distinction from *Maera*); pereopods short.

Outer rami of uropods 1–2 slightly shortened, all rami marginally densely spinose, spines small, peduncle of uropod 1 with 1–2 basofacial spines. Uropod 3 not extended, very short, magniramous, almost aequiramous, rami short, scarcely longer than peduncle, spinose, spines short (distinction from *Maera*). Telson short, almost fully cleft, lobes tapering, apices weakly spinose, notched.

Coxal gills 2–6, ovate. Oostegites [?narrow].

Relationship.—Differing from *Maera*, *Paraweckelia*, and *Meximaera* in the small article 2 of pereopods 5–7, article 2 of pereopod 5 not being longer than coxa 5; rami of uropods 1–3 with spines all shortened; article 2 of antenna 1 only half as long as article 1. More than 55 species of *Maera* do not conform to this group of distinguishing characters noted for *Lupimaera*. Distinguished from *Ceradocus*, which it closely resembles, in the poorly setose maxillae, short uropod 3 and short article 2 of antenna 1; from *Ceradomoera* in the symmetrical gnathopod 2 and smooth pleon; from *Maeropsis* in the poorly setose maxilla 2; from *Ifalukia* in the normally long article 2 of mandibular palp; from *Paraceradocus* in the poorly setose maxilla 2 and linear mandibular palp; from *Anelasmopus* by the poorly setose maxillae; and from *Ceradocoides* in the deeply cleft telson and poorly setose maxillae.

Species.—*lupana* (J. L. Barnard, 1969a); California, intertidal.

Etymology.—Name composed of “lupana” and “*Maera*,” a related genus. Feminine.

Lupimaera lupana (J. L. Barnard), new combination

Fig. 1

Maera lupana J. L. Barnard, 1969a:122, figure 20.

Added description.—Right and left incisors each with 3 teeth; right lacinia mobilis bifid and complex (see illustration), left 5-dentate; right rakers 6, left 7;

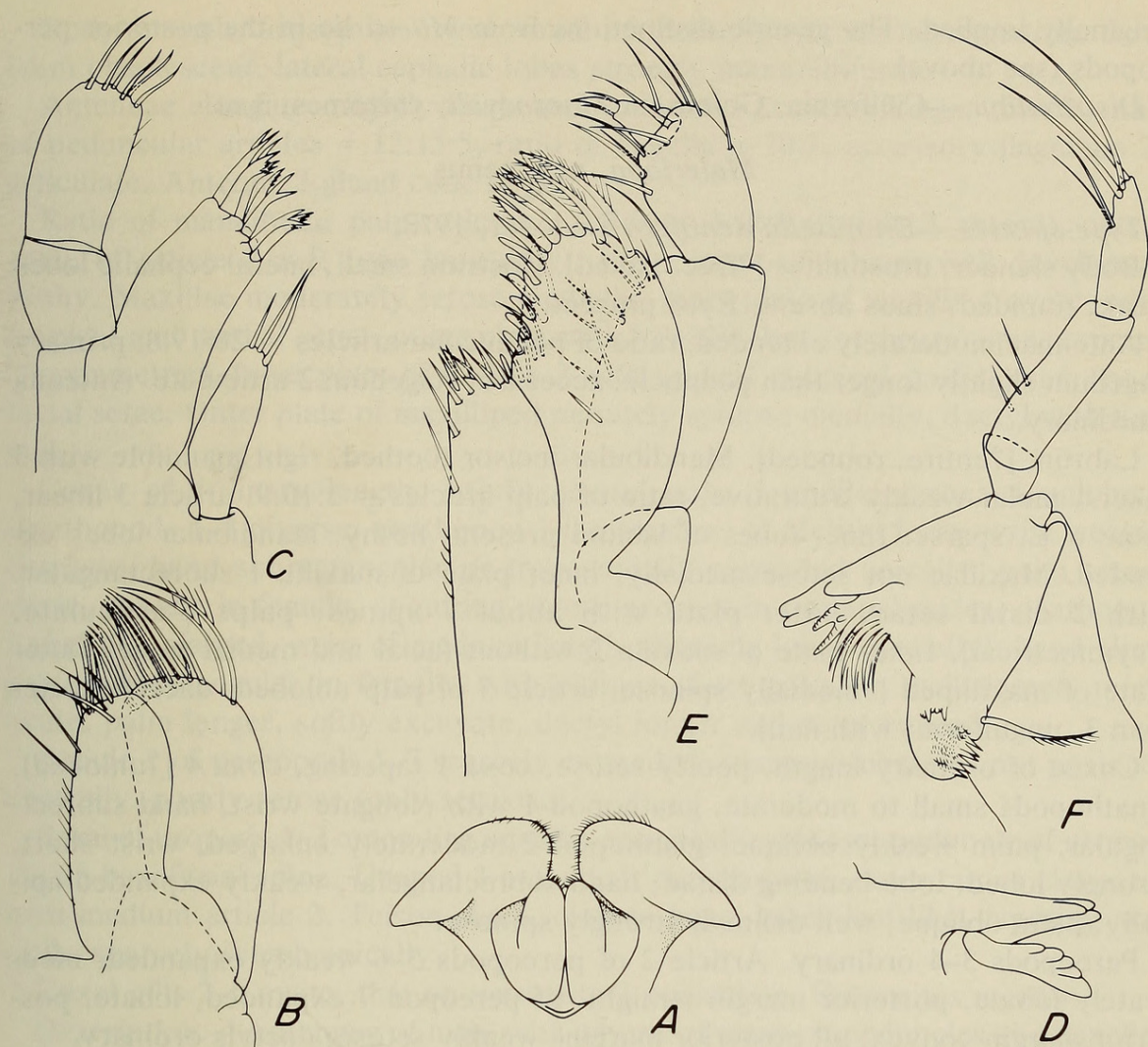


Fig. 1. *Lupimaera lupana* (J. L. Barnard), male "h" 3.95 mm: A, Lower lip; B, Maxilla 2; C, Maxilla 1; D, Left incisor and lacinia mobilis; E, Maxilliped; F, Right mandible.

molars of medium size, weakly tritulative, each with long seta; palps alike on either side, article 1 short, article 2 with 3 inner subbasal setae, article 3 shorter than 2, weakly curved but not considered falciform, of linear form but short, setae = D2E3. Lower lip with fleshy inner lobes bearing sublobes; outer lobes normal. Inner plate of maxilla 1 bluntly subconical, apex with 2–3 setae; outer plate with 9 normal spines; palps symmetrical, 2-articulate; article 1 slightly elongate, article 2 truncate, with 6 apical setae and 2 medial setules. Plates of maxilla 2 extending equally, outer broader than inner, latter with 2 thin medial setae, one facial seta near apex assumed to represent facial row. Plates of maxillipeds normal (illustrated), though article 2 elongate, palp smaller than usual in family, dactyl short, scarcely unguiform, with large nail.

Coxal gills on segments 2–6 ovate. Oostegites unknown.

Material.—J. L. Barnard Station 41, California, Goleta, 6 July 1961, 3 m, rhizomes of *Macrocystis pyrifera*, male "h" 3.95 mm (mouthparts illustrated).

Remarks.—Now that this species is segregated in its own genus the mouthparts are herein illustrated; they are not significantly distinct from those of *Maera* as

originally implied. The generic distinctions from *Maera* lie in the posterior pereopods (see above).

Distribution.—California, Goleta, in *Macrocystis* rhizomes, 3 m.

Maleriopa, new genus

Type-species.—*Eriopisella dentifera* Ledoyer, 1978.

Body slender, urosomites [?free, naked]. Rostrum small, lateral cephalic lobes weak, rounded, sinus absent. Eyes present.

Antennae moderately extended, ratio of peduncular articles = 26:19:8, primary flagellum slightly longer than peduncle, accessory flagellum 2-articulate. Antenna 2 ordinary.

Labrum [?entire, rounded]. Mandibular incisor toothed, right mandible with 3 rakers, molar weakly triturative, ratio of palp articles = 3:10:9, article 3 linear, setae = E, sparse. Inner lobes of labium present, fleshy, mandibular lobes extended. Maxillae not setose medially, inner plate of maxilla 1 subrectangular, with 2 distal setae, outer plate with about 7 spines, palps 2-articulate, [?symmetrical]. Inner plate of maxilla 2 without facial and medial setae. Outer plate of maxilliped [?medially spinose, article 3 of palp unlobed, dactyl shorter than 3, unguiform, with nail].

Coxae of ordinary length, poorly setose, coxa 1 tapering, coxa 4 [?unlobed]. Gnathopods small to moderate, gnathopod 1 with elongate wrist, hand subrectangular, palm weakly oblique; gnathopod 2 moderately enlarged, wrist short, strongly lobed, lobe bending distad, hand subrectangular, weakly expanded apically, palm oblique, well defined, strongly spinose.

Pereopods 3–4 ordinary. Article 2 of pereopods 5–6 weakly expanded, moderately lobate, posterior margin straight, of pereopod 7 expanded, lobate, posterior margin convex, all posterior margins weakly setose; dactyls ordinary.

Pleopods [?ordinary]. Rami of uropods 1–2 extending equally, marginally spinose except for outer ramus of uropod 1, latter [?with basofacial spine]. Uropod 3 slightly extended, parviramous, article 2 on outer ramus short. Telson short, deeply cleft, lobes broad but weakly tapering, each apex with subapical spine.

Coxal gills [?2–6, ovate]. Oostegites [?narrow].

Relationship.—Differing from *Eriopisa*, *Victoriopisa* and *Psammogammarus* in the loss of medial setae on the maxillae; from *Tegano* in the presence of article 3 on the mandibular palp, the short article 2 of antenna 1 and the loss of medial setae on maxilla 2; from *Eriopisella* in the slightly enlarged gnathopod 2 with strong, spinose palm.

The type-species is assumed to have a direct origin distinct from *Paraniphargus* as reflected in the tapering coxa 1, presence of eyes, large lobe on wrist of gnathopod 2, more strongly lobate and larger article 2 of pereopods 5–7, presence of article 2 on the outer ramus of uropod 3 and the loss of marginal spines on the outer ramus of uropod 3.

Species.—*dentifera* (Ledoyer, 1978); Mauritius, sublittoral, 1 species.

Etymology.—Name contrived from parts of “Mauritius” and “*Eriopisa*” with an “ell” thrown in between for euphony. Feminine.

Tegano, new genus

Type-species.—*Melita seticornis* Bousfield, 1970.

Body smooth, urosomite 2 with small middorsal posterior mucronation. Rostrum obsolescent, lateral cephalic lobes strongly mammilliform.

Antennae elongate, slightly thickened, antenna 1 scarcely longer than 2, ratio of peduncular articles = 12:15:5, ratio of flagella = 30:3, accessory flagellum 2-articulate. Antenna 2 gland cone large.

Ratio of mandibular palp articles = 4:8:0 or 3:10:0 (article 3 absent), apical setae of article 2 = E (one long only). Inner lobes of labium well developed, fleshy. Maxillae moderately setose medially, inner plate of maxilla 1 ovate, with 6 apical and medial setae, outer plate with "9-10" (but see figure) spines, palps [?asymmetric]. Inner plate of maxilla 2 with several marginal medial setae, non-facial setae. Outer plate of maxilliped minutely spinose medially, dactyl with tiny nail.

Coxae of ordinary length, poorly setose, coxa 1 undilate, coxa 4 unlobed. Gnathopods 1-2 diverse, gnathopod 1 the smaller, of Melitid form, wrist weakly elongate, hand subrectangular or trapezoidally expanded apically, palm transverse, convex in female, acquiring rugose process in terminal males, gnathopod 2 slightly enlarged, wrist of medium length, scarcely lobed (broadly), hand elongate, subrectangular in female, with oblique short palm, in male larger, more ovate, palm longer, softly excavate, dactyl longer and more curved.

Article 2 of pereopods 5-7 scarcely expanded, scarcely lobate or not postero-ventrally, poorly setose (only setulose).

Rami of uropods 1-2 extending equally, marginally spinose, peduncle of uropod 1 with basofacial spine. Uropod 3 extended, parviramous, outer ramus elongate, with medium article 2. Telson short, cleft to base, lobes leaf-like, tapering apically, sparsely setose apically.

Coxal gills 2-6 ovate, that on pereonite 2 pediculate. Oostegites narrow.

Description.—Antennae of male with whorls of setae on peduncles and flagella.

Relationship.—Differing from *Melita* in the reduced mandibular palp.

Species.—*seticornis* (Bousfield, 1970); Solomon Islands (Rennell) and Bismarck Archipelago (Mussau), anchialine.

Etymology.—Named for Lake Tegano, Rennell Island, type-locality of the type-species. Masculine.

Hadziids and Weckeliids

A Weckeliid lacks eyes and has aequiramous uropod 3. A Hadziid lacks ommatidial eyes though occasionally has ocular pigment but uropod 3 is dispariramous. Hadziids further differ from neighboring blind taxa in the elongate uropod 3, cleft telson and loss of inner lobes on the lower lip.

The two groups at times have been considered congruent but there remains the possibility that two or more ancestries occur, the Weckeliids from a *Paraweckelia-Ceradocus* ancestry and the Hadziids from a Melitid ancestry. As shown in the Key to the Hadziids and Weckeliids, the groups are so contrived that elevation to family level is impossible.

Key to Hadziids and Weckeliids

1. Outer ramus of uropod 3 with 2 articles (Hadziids) 2
- Outer ramus of uropod 3 with 1 article (Weckeliids) 10

2. Inner plate of maxilla 1 lacking medial setae, inner plate of maxilla 2 lacking oblique facial row of setae, medial margin setose or not 3
- Inner plates of maxillae 1–2 strongly setose medially, maxilla 2 with oblique facial row of setae 4
3. Uropod 3 magniramous *Paraweckelia* (twice)
- Uropod 3 parviramous *Psammoniphargus*
4. Coxa 4 with large posterodistal lobe *Saliweckelia*
- Coxa 4 unlobed 5
5. Wrists of gnathopods 1–2 unlobed, their setae marginal 6
- Wrists of gnathopods 1–2 lobed, some of their lateral setae facial 9
6. Telson shortened (uropod 3 variramous, gnathopods and telsonic spination like *Metahadzia* couplet below) *Metaniphargus*
- Telson of ordinary length or elongate 7
7. Gnathopod 1 lacking medial setal brush on article 5, palm of male gnathopod 2 densely spinose, palm of female gnathopod 2 distinct, weakly spinose, telson with medial spines, uropod 3 magniramous ... *Metahadzia*
- Gnathopod 1 with medial setal brush, palm of male gnathopod 2 poorly spinose, palm of female gnathopod 2 indistinct, telson lacking medial spines, uropod 3 parviramous 8
8. Palm of male gnathopod 2 densely setose, telson naked laterally *Dulzura*
- Palm of male gnathopod 2 not densely setose, telson with lateral spines *Protohadzia*
9. Telson with lateral spination, article 5 of gnathopod 1 elongate *Liagoceradocus*
- Telson naked laterally, article 5 of gnathopod 1 as long as 6 *Hadzia*
10. [In contradistinction to couplet 1, uropod 3 actually with vestigial article 2 on outer ramus], otherwise gnathopod 2 of both sexes of typical Ceradocid or Melitid form, hand well inflated, palm long, minutely serrate, lacking Hadziid setae, wrist very short, strongly lobed, maxilla 2 lacking oblique facial row of setae, inner plate of maxilla 1 with setae mostly apical *Paraweckelia* (twice)
- [Like couplet 1, uropod 3 lacking article 2 on outer ramus], otherwise gnathopod 2 not typical of Melitids or Ceradocids, hand either poorly inflated or palm poorly defined in either sex or short, or not serrate, or bearing Hadziid setae, wrist in either sex relatively elongate, maxillae well setose medially, inner plate of maxilla 2 with oblique row of facial setae 11
11. Coxa 4 with posterodistal lobe 12
- Coxa 4 without posterodistal lobe 13
12. Inner lobes of lower lip present, palp of mandible 1-articulate ... *Weckelia*
- Inner lobes of lower lip absent, palp of mandible 3-articulate *Alloweckelia*
13. Coxa 1 not enlarged, right lacinia mobilis present 14
- Coxa 1 much larger than coxa 2, right lacinia mobilis absent 16
14. Wrist of gnathopods lobate *Mexiweckelia*
- Wrist of gnathopods not lobate 15

- 15. Gnathopod 1 not merochelate *Mexiweckelia particeps*
 - Gnathopod 1 merochelate *Mayaweckelia*
- 16. Mouthparts projecting anteriorly as far as article 2 of antenna 1 17
 - Mouthparts (except maxilliped) projecting less than halfway along article 1 of antenna 1 18
- 17. Dactyl of maxilliped short, article 3 stout, inner plates of maxillae 1–2 elongate, outer plate of maxilla 1 with 7 spines, inner plate of maxilliped ordinary *Holsingerius*
 - Dactyl of maxilliped elongate, article 3 thin, inner plates of maxillae 1–2 ordinary, outer plate of maxilla 1 with 14 spines, inner plate of maxilliped broadly expanded *Texiweckeliopsis*
- 18. Hand of gnathopod 1 like that of gnathopod 2, longer than wrist, gnathopods of sexes alike, article 2 of pereopods 3–4 strongly expanded
..... *Allotexiweckelia*
 - Hand of gnathopod 1 different from gnathopod 2, shorter than wrist, gnathopods of sexes strongly distinct, article 2 of pereopods 3–4 thin ..
..... *Texiweckelia*

Texiweckeliopsis, new genus

Type-species.—*Texiweckelia insolita* Holsinger, 1980.

Body slender, urosomites 1–3 each with 2, 4, and 2 dorsal spines respectively. Lateral cephalic lobes truncate, without sinus. Eyes absent.

Antennae elongate, antenna 1 longer than 2, ratio of peduncular articles = 23:9:6, ventral margin of article 1 lacking spines. Accessory flagellum vestigial or absent (smaller than in other Hadziids).

Mandibles and maxillae projecting forward as far as article 2 of antenna 1. Mandibular *right lacinia mobilis absent*, palp absent. Labium without inner lobes, not gaping. Maxillae medially setose, inner plate of maxilla 1 triangular, fully setose medially, outer plate with 14–15 serrate spines, palps [?asymmetrical]. Plates of maxilla 2 slightly broadened, short, inner with oblique facial row of setae. *Inner plate of maxilliped extremely broad*, outer plate medially setose; article 3 of palp thin, with very small lobe forming weak apical chela, dactyl very long, thin, with nail (maxilliped palp thus weakly prehensile).

Coxae of medium size to short, *but coxa 1 larger than coxa 2*, coxa 4 unlobed, coxa 5 [?shorter than coxa 4]. Gnathopods subchelate, scarcely dimorphic sexually, feeble; gnathopods 1–2 almost alike, mittenform, wrists elongate, broadly lobate, setation facial, hands slightly shorter than wrists, narrow but not perfectly linear or rectangular, slightly expanded in middle and then tapering towards palm, palms weakly oblique, short, spines tiny or sparse, weakly bifid, Hadziid setae few, elongate only on gnathopod 2 and sparse on palm, male gnathopods slightly stouter than in female, especially on hands.

Pereopod 5 slightly shorter than 6–7, article 2 of pereopods 5–7 slightly expanded, weakly lobate, dactyls with several setules on inferior margin, article 6 weakly setose or spinose.

Rami of uropods 1–2 subequally extended, uropod 1 with 2 basofacial spines, comb of uropod 2 absent, outer ramus of uropod 2 dorsally naked. Uropod 3

elongate, magniramous, almost aequiramous, outer ramus 1-articulate, apices of rami weakly truncate, with several spines of which one elongate. Telson of ordinary length, cleft about two thirds, each lobe with 2 apical spines, main setules M. 90.

Coxal gills 2–6, ovate, with long stalks, 2-articulate. Oostegites narrow.

Relationship.—Differing from *Texiweckelia* in the strong forward projection of the mandibles and maxillae, and mittenform gnathopods. See *Holsingerius*.

Species.—*insolita* (Holsinger, 1980), Texas, hypogean, 1 species.

Etymology.—Name composed of *Texiweckelia* and “opsis” for “likeness.” Feminine.

Holsingerius, new genus

Type-species.—*Texiweckelia samacos* Holsinger, 1980.

Body slender, urosomites 1–3 each with 2, 2 and 4 dorsal spines respectively. Rostrum obsolescent, lateral cephalic lobes sharply mammilliform. Eyes absent.

Antennae elongate, antenna 1 longer than 2, ratio of peduncular articles = 30:16:9, ventral margin of article 1 lacking spines. Accessory flagellum vestigial or absent (smaller than in other Hadziids).

Mandibles and maxillae projecting forward as far as article 2 of antenna 1. Mandibular *right lacinia mobilis absent*, palp absent. Labium without inner lobes, gaping. Maxillae medially setose, inner plate of maxilla 1 *enlarged*, triangular, fully setose medially, outer plate with 7 serrate spines, palps [?asymmetrical]. Inner and outer plates of maxilla 2 greatly elongate, inner with oblique facial row of setae. Outer plate of maxilliped medially setose; article 3 of palp stout, apically expanded and weakly chelate, dactyl of ordinary length, thin, with nail (palp scarcely prehensile).

Coxae of medium size to short, *but coxa 1 larger than coxa 2*, coxa 4 unlobed, coxa 5 [?shorter than coxa 4]. Gnathopods subchelate, sexually dimorphic, those of female feeble; wrist of both pairs in both sexes of medium length, strongly lobate, with facial setation; hand of female gnathopod 1 shorter than wrist, rectangular, palm short, weakly oblique, minutely spinose, male hand enlarged, palm long, strongly oblique, well spinose; hand of female gnathopod 2 as long as wrist (thus elongate), thin, rectangular, palm short, weakly oblique, minutely spinose and with several Hadziid setae; anterior margin of hand lined with setae; hand of male gnathopod 2 enlarged, palm long, rounded-oblique, densely spinose (spines weakly bifid), with 2 Hadziid setae, dactyl very long. Article 2 of pereopods 3–4 scarcely expanded, poorly spinose. Pereopod 5 shorter than 6–7; article 2 of pereopods 5–7 expanded, lobate, dactyls short, with several setules on inferior margin, article 6 weakly setose or spinose.

Rami of uropods 2–3 subequally extended, uropod 1 with several basofacial spines, comb of uropod 2 absent. Uropod 3 elongate, magniramous, almost aequiramous, outer ramus 1-articulate, apices of rami weakly truncate, with several spines, of which one elongate. Telson scarcely elongate, cleft almost three-fourths, each lobe with 3 apical spines and occasional lateral spine, main setules M. 65.

Coxal gills 2–6, at least some ovate, with long stalks, 2-articulate. Oostegites narrow [but full adult unknown].

Relationship.—Differing from *Texiweckeliopsis* in the ordinary dactyl of the maxilliped, ordinary outer plates of maxillae and maxillipeds but the elongate inner plates of the maxillae.

Species.—*samacos* (Holsinger, 1980), Texas, San Marcos Well, hypogean, 1 species.

Etymology.—Named for the eminent authority on freshwater amphipods, Dr. John R. Holsinger.

Paracalliopiidae, new family

Head, eyes, mouthparts, coxae 1–3, pereopods 3–6, uropods 1–2 ordinary. Accessory flagellum vestigial. Coxa 4 poorly excavate posteriorly. Female gnathopods feeble, mittenform, male gnathopods larger, gnathopod 2 enlarged, wrist small, hand large (usually rotated inward on death), palm oblique. Pereopod 7 elongate, dactyl elongate and setose. Uropods 1–3 extending equally, peduncle of uropod 3 slightly elongate, rami short, equal, lanceolate, outer 1-articulate. Telson laminar, entire. Urosomites 2–3 coalesced.

See Eusiridae, Pontogeneiidae, Calliopiidae, Oedicerotidae.

Male antennae with calceoli; antenna 2 longer than antenna 1. Setosity of inner plates on maxillae variable. Wrists of female gnathopods elongate, weakly to strongly lobate posteriorly, lobes rounded and pointing terminad, hands slender, palms oblique, short; wrists of male gnathopods not elongate, lobes pointing almost perpendicular to axis of appendage, hands of ontogenetic appearance, palmar defining corners softly rounded, palms of both gnathopods with long setae, palm of gnathopod 2 also with stout spines; gnathopods of both sexes with patches of pubescence. Pleon well developed, epimera large. Body not carinate.

Distinguished from Eusiridae, Pontogeneiidae, Calliopiidae, and Oedicerotidae by the fused urosomites. Standing as an evolutionary grade between Calliopiidae and Oedicerotidae by mixing the head, body form, and unspecialized mouthparts of Calliopiidae with the elongate pereopod 7, elongate dactyl of pereopod 7, setose dactyl of pereopod 7, slightly elongate peduncle of uropod 3, and rudiments of fossorial adaptations in the slightly increased setosity of pereopods characteristic of Oedicerotidae. The fused urosomites, however, show that the group is divergent from the main evolutionary track.

Key to the Genera of Paracalliopiidae

1. Inner plates of maxillae densely setose medially *Paracalliope*
- Inner plates of maxillae not setose medially *Indocalliope*

Paracalliope Stebbing

Paracalliope Stebbing, 1899:210; 1906:279.—J. L. Barnard, 1972b:70.

Type-species.—*Calliope fluviatilis* Thomson, 1879 (original designation).

Inner plates of maxillae 1–2 densely setose medially. Uropods 1–2 normally spinose.

Species.—*australis* (Haswell, 1880); *fluviatilis* Thomson (J. L. Barnard, 1972b); *karitane* J. L. Barnard, 1972b; *novaecaledoniae* Ruffo and Vesentini-Paiotta, 1972;

novizealandiae (Dana) (?J. L. Barnard, 1972b); Dubious: *fluviatilis* of Chilton, 1921; New Zealand, Australia, middle IndoPacific to India; fresh and brackish waters, marine littoral.

Nomenclatural changes.—*Paracalliope fernandoi* Wignarajah (1958) belongs in the family Talitridae.

Indocalliope, new genus

Type-species.—*Paracalliope indica* K. H. Barnard, 1935.

Inner plates of maxillae not setose medially. Spines of uropods 1–2 sparse or absent.

Species.—*indica* K. H. Barnard, 1935 (Nayar, 1959); India, brackish waters, 1 species.

Etymology.—Name composed from “India” and “*Calliope*.” Feminine.

Phoxocephalidae

Feriharpinia, new genus

Type-species.—*Harpinia ferenteria* Gurjanova, 1977.

Rostrum unstricted. Eyes absent. Article 2 of antenna 1 short, ventral setae widely spread. Article 1 of antenna 2 [?ensiform], article 3 with 3 facial setules, facial spines on article 4 in [?1 row, ?all spines thin], article 5 ordinary. Right mandibular incisor with [?3 teeth, right lacinia mobilis ?bifid, molar not tritulative, with ?3+ basally fused splayed spines; ?special spines; ?palpar hump small], apex of palp article 3 oblique. Inner plate of maxilla 1 with 1 seta, palp biarticulate. Maxillipeds ordinary, apex of palp article 3 not strongly protuberant, dactyl elongate, apical nail [?distinct].

Gnathopods ordinary, small, [?dissimilar, gnathopod 2 ?weakly enlarged], article 5 of gnathopods 1–2 very short, free, palms oblique, hands ordinary, ova-torectangular, poorly setose anteriorly.

Article 5 of pereopods 3–4 [?without posteroproximal setae, article 6 with ?thin armaments]. Article 2 of pereopod 5 of [?narrow] form, articles 4–5 of pereopods 5–6 narrow; pereopod 7 ordinary, article 3 slightly enlarged, dactyl ordinary.

Epimera 1–2 [?without long facial brushes or posterior setae], epimeron 3 of ordinary classification, bearing 4 or more long setae. Urosomite 3 [?without dorsal hook].

Peduncle of uropod 1 [?without interramal spike, ?without major displaced spine, rami of uropods 1–2 ?not continuously spinose to apex, inner ramus of uropod 1 with ?1 row of marginal spines]. Inner ramus of uropod 2 [?ordinary]. Uropod 3 [?ordinary], one of rami [?longer than peduncle], bearing [?article 2 on outer ramus with ?2 apical setae]. Telson ordinary, but slightly elongate.

Relationship.—Like *Harpinia* but male armaments distinctive: instead of brushes being present on article 1 of antenna 1 and article 1 of flagellum of antenna 1 and on articles 3–4 of antenna 2, and instead of article 1 of primary flagellum on antenna 1 being enlarged and dominant, the male of *Feriharpinia* has a brush of aesthetascs on article 3 of the peduncle of antenna 1, article 1 of the primary flagellum is not grossly enlarged, and article 5 of antenna 2 has a row of large dorsal calceoli, not found in *Harpinia*.

Species.—*ferenteria* Gurjanova, 1977; Okhotsk Sea, west Kamchatka, 196–230 m, 1 species.

Etymology.—Name composed from “ferenteria” and related genus “*Harpinia*.” Feminine.

Proharpinia Schellenberg, (new composition)

Proharpinia Schellenberg, 1931:80 (*Proharpinia antipoda* Schellenberg, 1931, monotypy).—J. L. Barnard, 1960:311.—Barnard and Drummond, 1978:532.

Rostrum unconstricted. Eyes present.

Article 2 of antenna 1 short, ventral setae almost confined apically (by fiat). Article 1 of antenna 2 not ensiform, article 3 with 4–5 facial setules, facial spines on article 4 in 1 main row, all spines thin, article 5 short. Right mandibular incisor with [?3 teeth, right lacinia mobilis ?bifid, ?weakly flabellate, ?molar not trituberculate, with ?3 splayed spines]; palpar hump small, apex of palp article 3 oblique. Inner plate of maxilla 1 naked, palp biarticulate. Maxillipeds ordinary, apex of palp article 3 not strongly protuberant, dactyl body not elongate, but apical nail distinct and elongate.

Gnathopods small, scarcely dissimilar, gnathopod 2 weakly to moderately enlarged, article 5 of gnathopods 1–2 very short, free on gnathopod 1, cryptic on gnathopod 2, palms oblique, hands of gnathopods 1–2 ovato-rectangular, elongate, poorly setose anteriorly.

Article 5 of pereopods 3–4 with posteroproximal setae, article 6 with thin armaments. Article 2 of pereopod 5 of narrow form, articles 4–5 of pereopods 5–6 medium to narrow; pereopod 7 ordinary, but article 3 enlarged, dactyl ordinary.

Epimera 1–2 without long facial brushes or posterior setae, epimeron 3 of ordinary classification, bearing 3 or more long setae. Urosomite 3 without dorsal hook.

Peduncle of uropod 1 without interramal spike, without major displaced spine, rami of uropods 1–2 continuously spinose to apex, with subapical spines or nails, inner ramus of uropod 1 with 1 row of marginal spines. Inner ramus of uropod 2 ordinary. Uropod 3 ordinary, 1 of rami longer than peduncle, bearing article 2 on outer ramus, with vestigial or no apical setae. Telson ordinary.

Variants.—*Proharpinia stephensi*, the second species of the genus, is retained here only provisionally; it differs from the type in the presence of setae on the inner plate of the maxilliped and the absence of apical spination on the rami of uropods 1–2. However it matches the type in the telson, and loss of strong setation on article 2 on the outer ramus of uropod 3.

Relationship.—Differing from *Heterophoxus* in the absence of an ensiform process on antenna 2; more plesiomorphic than *Torridoharpinia* in spination of uropods 1–2 and normal condition of outer ramus of uropod 1 (not shortened), and normal armament of telson but more apomorphic in loss of setae on inner plate of maxilla 1. *Proharpinia hurleyi* and *P. tropicana* are removed to *Torridoharpinia* below.

Species.—See J. L. Barnard, 1960; *antipoda* Schellenberg, 1931; *stephensi* Schellenberg, 1931; Magellan area, Falkland Islands, 2–274 m.

Torridoharpinia, new genus

Type species.—*Proharpinia hurleyi* J. L. Barnard, 1958, 1960.

Rostrum unconstricted. Eyes present.

Article 2 of antenna 1 short, ventral setae ventrally spread or almost confined apically. Article 1 of antenna 2 not ensiform, article 3 with 4 facial setules, facial spines on article 4 in 1 main row, all spines thin, article 5 short. Right mandibular incisor with 3 teeth, right lacinia mobilis bifid, flabellate, molar not tritulative, with 2 splayed spines; palpal hump small, apex of palp article 3 oblique. Inner plate of maxilla 1 with 2–4 (type) setae, palp biarticulate. Maxillipeds ordinary, apex of palp article 3 not strongly protuberant, dactyl elongate, apical nail distinct.

Gnathopods small, dissimilar, gnathopod 2 weakly to moderately enlarged, article 5 of gnathopods 1–2 short, free on gnathopod 1, cryptic on gnathopod 2, palms oblique, hands ovatorectangular, broadened on gnathopod 2, poorly setose anteriorly.

Article 5 of pereopods 3–4 with posteroproximal setae, article 6 with thin armaments. Article 2 of pereopod 5 of narrow form, articles 4–5 of pereopods 5–6 medium to narrow; pereopod 7 ordinary, article 3 enlarged, dactyl ordinary.

Epimera 1–2 without long facial brushes or posterior setae, epimeron 3 of ordinary classification, bearing 3 or more long setae. Urosomite 3 without dorsal hook.

Peduncle of uropod 1 without interramal spike, without major displaced spine, rami of uropods 1–2 not continuously spinose to apex, inner ramus of uropod 1 only in male with 2 rows of marginal spines. Inner ramus of uropod 2 ordinary. Uropod 3 ordinary, one of rami longer than peduncle, bearing article 2 on outer ramus, with 1 or 2 (type) apical setae. Telson ordinary, but 1 apical element stout (contrast *Proharpinia*).

Relationship.—Differing from *Proharpinia* in the lack of ramal spines on female uropod 2, the shortened outer ramus of uropod 1, the presence of 1–2 long apical setae on article 2 of the outer ramus on uropod 3, the presence of a stout spine on each lobe of the telson and the presence of setae on the inner plate of maxilla 1. *Proharpinia* has only thin setae or setules on the telson.

Species.—*hurleyi* J. L. Barnard, 1958, 1960 (= *stephenseni* of Hurley, 1954, not Schellenberg, 1931); *tropicana* J. L. Barnard, 1960; New Zealand, Auckland Islands, Campbell Island, Galapagos Islands, 0–46 m, 2 species.

Etymology.—Name composed from “torrid” and “*Harpinia*.” Feminine.

Pseudamphilochidae Schellenberg, 1931

Only coxa 4 slightly broadened, coxae 2–4 with continuous margins overlapping, not rabbeted, coxae 1–2 not hidden, coxa 1 not reduced, no anterior coxa hidden. Telson cleft.

Upper lip weakly excavate but unnotched. Mandibular molar vestigial or absent. Lower lip with well developed inner lobes.

Palp of maxilliped lacking process on article 3.

Outer ramus of uropod 1 shortened. Peduncle of uropod 3 not greatly elongate, rami almost twice as long as peduncle.

Remarks.—This family has not been properly heralded in the literature before and is brought to light from a provisional proposal (Schellenberg, 1931: 92).

Pseudamphilochus Schellenberg

Pseudamphilochus Schellenberg, 1931:92.

Type-species.—*Pseudamphilochus shoemakeri* Schellenberg, 1931 (monotypy).
With familial characters.

Gnathopods of medium size, wrists short, weakly lobate, not carpocheleate, hands broad, scarcely 1.4 times as long as broad, palms subtransverse.

Species.—*shoemakeri* Schellenberg, 1931; South Georgia, littoral.

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