

## FOUR NEW MYSIDS FROM CALIFORNIAN COASTAL WATERS

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## A B S T R A C T

One new genus and four new species of Mysidacea collected from Californian coastal waters are described. *Amathimysis trigibba*, new species, is unique in having three tubercles on the carapace and is further distinguished from other species of the genus by the antennal scale, mandibular palp, fifth male pleopod, and uropod. This is the first record of the genus occurring on the Pacific coast. *Acanthomysis californica*, new species, is recognized as a new species by the smooth abdominal somites and the shape and armature of the telson. *Acanthomysis brunnea*, new species, is distinguished by the shape of the rostral plate, the slender antennal scale, the slender side lobe of the fourth male pleopod, and the shape and armature of the telson. The new genus *Hippacanthomysis* is distinguished from allied genera of the tribe Mysini by having an expanded and knife-shaped first segment of the exopod of the fourth male pleopod.

The species described herein are based on specimens collected during ecological investigations in Californian coastal waters by the National Marine Fisheries Service of the United States. In this paper we describe 4 new species, one of which is placed in a new genus. The type specimens are deposited in the National Museum of Natural History (USNM), Smithsonian Institution, Washington, D.C.

*Amathimysis trigibba*, new species

Figs. 1, 2

*Material.*—21 February 1974: 4 adult ♂♂, 3.0 mm, 4 adult ♀♀, 2.8–3.2 mm, 3 immature ♂♂, 3 immature ♀♀; Fishermans Cove, Catalina Island, California (33°27'N, 118°30'W); depth 10 m; collected with small hand dredge fitted with plankton netting pushed along the bottom by a diver.—April 1974: 3 adult ♂♂, 3.5 mm, 2 immature ♂♂; Isthmus Reef, Catalina Island, California; depth 15 m; collected with mesh bag.—24 February 1981: 3 adult ♀♀, 2.9 mm, 2 immature ♂♂, 2.8, 3.1 mm; Isthmus Reef, Catalina Island, California; depth 15 m; collected with mesh bag.—26 September 1983: 3 adult ♂♂, 2.7–3.0 mm, 2 immature ♂♂, 2.6, 2.8 mm, 4 immature ♀♀, 2.4–2.6 mm; Fishermans Cove, Catalina Island, California; depth 12 m; collected with hand dredge.

*Type Series.*—Holotype (USNM 228061), adult ♀ with embryos, 2.9 mm; allotype (USNM 228062), adult ♂, 3.0 mm; and paratypes (USNM 228063), 2 adult ♀♀, both 2.9 mm (one of which was dissected) and 2 immature ♂♂, 2.8, 3.1 mm. Holotype and paratypes were collected on 24 February 1981, at Isthmus Reef, Catalina Island, California, and allotype on 26 September 1983, at Fishermans Cove, Catalina Island, California.

*Description.*—General form rather robust, conspicuous constriction present between thorax and abdomen.

Frontal margin of carapace produced anteriorly in broadly rounded rostral plate, extending to base of antennular peduncle; lateral margins of rostrum evenly convex, partially covering eyestalks in female, eyestalks exposed in male (Fig. 1B, C); posterior margin of carapace emarginate, exposing last thoracic somite; 3 small tubercles on dorsal surface located between frontal margin of carapace and cervical sulcus (Fig. 1A–C).

Eyes developed, slightly longer than broad; cornea wider than stalk (Fig. 1B, C).

Antennular peduncle short, more robust in male than female; in female, segment 1 about as long as broad, segment 2 short, segment 3 longer than broad (Fig. 1B); in male, segment 3 broader than segment 2 and longer than preceding 2 segments combined, with single simple seta on inner distal margin, downward produced processus masculinus hirsute (Fig. 1C).

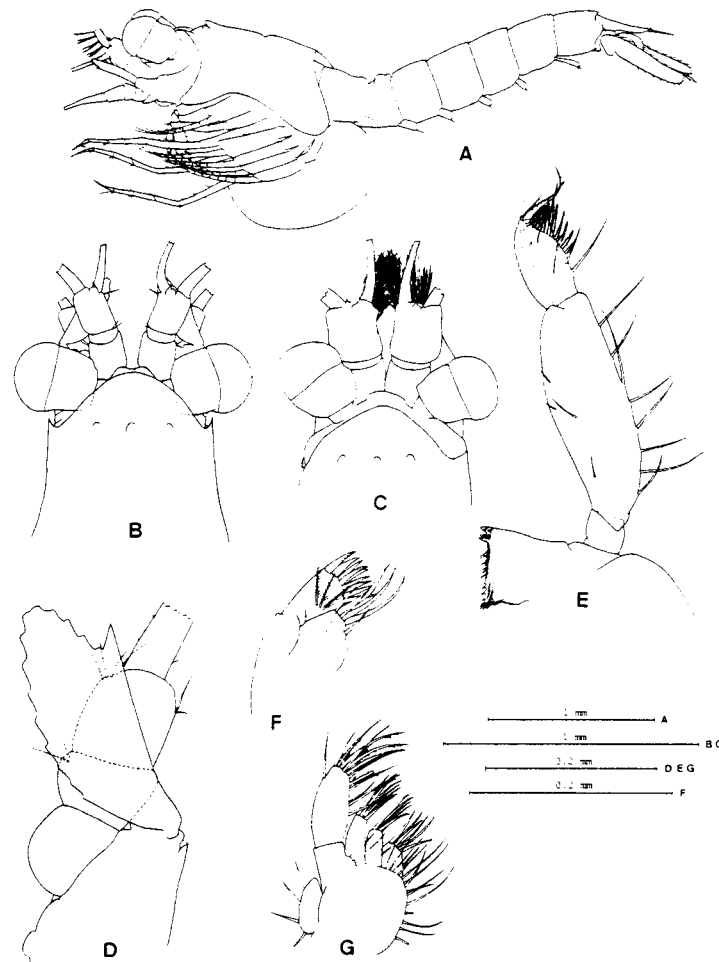


Fig. 1. *Amathimysis trigibba*, new species. A, adult female (2.9 mm) in lateral view; B, anterior end of adult female; C, anterior end of adult male; D, antenna (♀); E, mandible (♀); F, maxillule (♀); G, maxilla (♀).

Antenna with scale short, lanceolate, one-fifth of its length extending beyond distal margin of antennular peduncle (Fig. 1B), less than 3 times as long as broad, apex extending far beyond lateral triangular denticle, outer margin proximal to denticle naked, slightly concave near base, convex inner margin and outer margin distal to denticle setose; terminal lobe slightly wider than long, no distal suture; antennal peduncle shorter than antennular peduncle, extending to distal three-fourths of scale, segment 2 shortest; sympod without pointed outer distal corner (Fig. 1D).

Labrum with broadly rounded frontal margin.

Mandible simple, similar to that of *Amathimysis gibba* Brattegard; palp 3-segmented, segment 2 slender, 3 times as long as broad, armed sparsely with

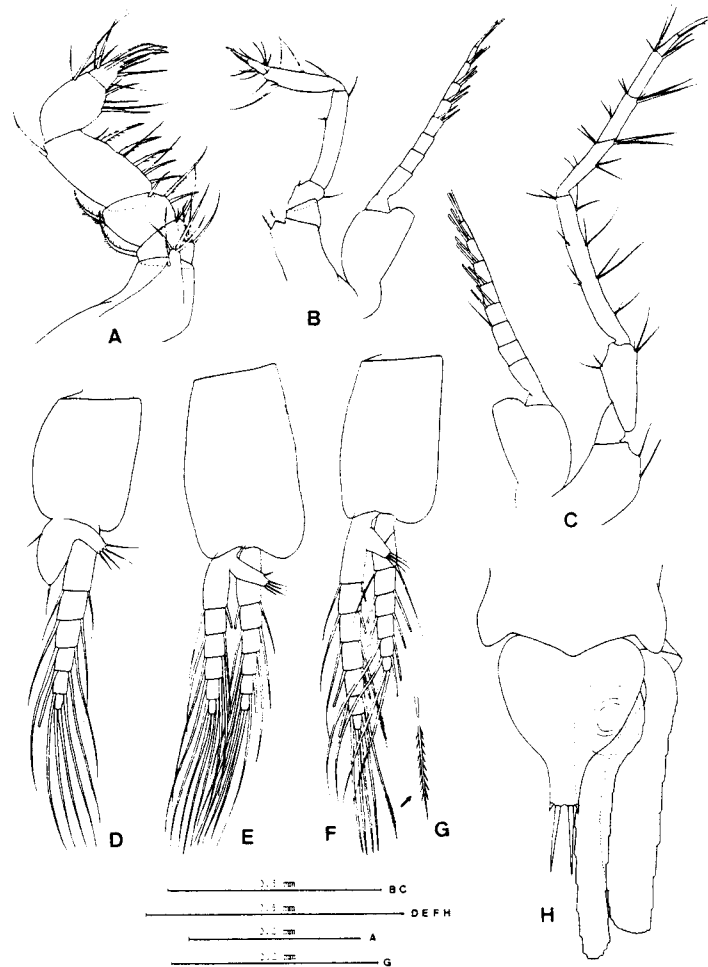


Fig. 2. *Amathimysis trigibba*, new species. A, endopod of first thoracic limb (♀); B, second thoracic limb (♀); C, fifth thoracic limb (♀); D, first pleopod (♂); E, fourth pleopod (♂); F, fifth pleopod (♂); G, distal part of modified seta on fifth segment of endopod of fifth pleopod (♂); H, telson and uropod (♀).

slender setae, segment 3 two-fifths as long as segment 2, twice as long as broad, armed with about 13 barbed spines arranged in regular row (Fig. 1E).

Maxillule with about 9 strong spines on distal margin of outer lobe, inner lobe with 3 long stout setae and 2 shorter setae on distal margin, 2 short setae on outer margin and 2 short setae (one is broken in Fig. 1F) on inner margin (Fig. 1F).

Maxilla with exopod small, with only 5 setae along outer margin; endopod rather slender, 2-segmented, segment 2 twice as long as broad (Fig. 1G).

First thoracic endopod with small endite armed with 4 setae at apex, merus as long as carpo-propodus and dactylus combined, armed with 5 strong barbed setae on inner margin, claw longer than dactylus, serrated on distal third of concave margin (Fig. 2A).

Second thoracic limb with exopod 8-segmented, outer distal margin of basal

plate rounded, without denticles; endopod slender, sparsely setose, merus 5 times as long as broad, almost equal to combined length of carpo-propodus and dactylus, dactylus more than twice as long as broad, terminating in straight claw a little longer than dactylus (Fig. 2B).

Fifth thoracic limb with exopod 8-segmented, with rounded outer distal margin of basal plate; endopod slender, merus slightly curved inwardly, 1.8 times as long as ischium, carpus about half length of merus, segmented by oblique articulation from 2-segmented propodus (Fig. 2C)

Sixth abdominal somite as long as preceding one (Fig. 1A), posterior margin somewhat produced posteriorly and covering basal part of telson in dorsal view (Fig. 2H); all abdominal somites without developed pleural plate (Fig. 1A).

Marsupium composed of 2 pairs of oostegites, posterior pair considerably larger than anterior one.

Pleopods of male bilobed, natatory; first pair with endopod reduced to unsegmented lobe, exopod 6-segmented (Fig. 2D); second to fourth pairs with 6-segmented exopod and endopod being of equal length, each segment of each limb with simple plumose seta on either side of distal margin (Fig. 2E); fifth pair modified, endopod 7-segmented and much longer than exopod, segments 6 and 7 armed with pair of slightly modified setae, distally naked and thicker than ordinary setae, outer setae of segments 3, 4, and 5 furnished with coarse spinules on distal one-third with short terminal portion naked (seta from segment 4 broken but showing apparently similar modification); exopod extending beyond segment 4 of endopod, 6-segmented, without modified setae (Fig. 2F, G). Pleopods of female reduced to simple lobe, fifth pair elongated, twice as long as preceding pair (Fig. 1A).

Uropod rather short; endopod longer than exopod, less than twice as long as telson, without spines near statocyst (Fig. 2H).

Telson 1.1 times longer than last abdominal somite, 1.4 times as long as broad; lateral margins naked, proximal two-thirds convex and distal one-third concave, distal one-fifth subparallel; distal margin transverse, one-fifth of maximum width at base, armed with 2 pairs of spines, inner pair two-fifths of telson length and 6–7 times as long as outer pair (Fig. 2H).

*Remarks.*—Morphological features of the carapace, mouth parts, thoracic appendages, and telson leave no doubt that the new species belongs to the genus *Amathimysis*. Until now, the genus consisted of 6 species, *A. gibba* Brattegard, 1969, *A. polita* Brattegard, 1974, *A. cherados* Brattegard, 1974, *A. brattegardii* Stuck and Heard, 1981, *A. brasiliiana* Băcescu, 1984 (= *Katerythrops (Amathimysis) brasiliiana*) and *A. serrata* Murano, 1986. All these species have been recorded from coastal waters of the Gulf of Mexico and the Caribbean Sea (e.g., Băcescu and Ortiz, 1984; Brattegard, 1969, 1974a, b; Modlin, 1984; Stuck and Heard, 1981; Murano, 1986). That this new species was collected from the Pacific coast of California is of great interest in the zoogeography of mysids.

This species is easily distinguished from the other 6 species by the 3 tubercles on the carapace. Characteristics such as the antennal scale with a long apical lobe, the mandibular palp with the second segment armed sparsely with slender setae, the fifth male pleopod coarsely plumate on outer distal end of segments 3–5, and the endopod of the uropod longer than the exopod are available as distinguishable points from the other species.

Băcescu (1984) and Băcescu and Ortiz (1984) treated *Amathimysis* as a subgenus within the genus *Katerythrops*, though they did not give any comments. In the shape of the telson and the modified fifth male pleopod, *Amathimysis* is allied

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to *Katerythrops*, but the modification of the fifth male pleopod of *Amathimysis* is of a different form than that of *Katerythrops* (Murano, unpublished); moreover, the former genus differs morphologically from the latter in the constriction between the thorax and abdomen, the tubercles on the carapace, and the shape of the mouthparts. These characters should be sufficient to allow *Amathimysis* to stand as a valid genus.

*Etymology.*—The species is named after the 3 humps on the carapace.

*Ecological Note.*—This species was collected from several locations along the northwest shore of Catalina Island, California, at depths from 5–23 m. It was most abundant within the suspended detritus layer just over sand/silt substrata but it also occurred among low benthic algae growing on rocks. At night it ventured at least several meters into the water column where it occurred in densities about 8.5 per m<sup>3</sup>; here it was preyed upon by most of the nocturnal species of fishes occurring in that habitat (Hobson and Chess, 1976).

*Acanthomysis californica*, new species

Figs. 3, 4

*Material.*—25 March 1982; 1 adult ♂, 11.3 mm (holotype, USNM 228056), 1 adult ♀, 13.7 mm (allotype, USNM 228057); 36°55.9'N, 122°27.0'W; collected with a Tucker trawl from 119 m where the bottom depth was 143 m.

*Description.*—Carapace short anteriorly, exposing entire eyestalks, with frontal margin produced into triangular rostral plate; apex more narrowly rounded in male; anterolateral corners rounded; posterior margin emarginate, exposing last thoracic somite (Fig. 3A–C).

Eyes large, extending to distal margin of antennular peduncle segment 2; cornea semiglobular, wider than stalk; stalk without papilliform process on dorsal surface (Fig. 3B, C).

Antennular peduncle more robust in male than female, in male, segment 1 slightly longer than segment 3, while in female, segment 1 clearly longer (Fig. 3B, C).

Antennal scale setose all round, lanceolate, 6 times as long as broad, extending to distal margin of antennular peduncle in male and beyond it in female; distal suture present (Fig. 3D); antennal peduncle three-fourths as long as scale, segment 2 longest, nearly twice as long as segment 3; sympod with spinous process on outer distal corner (Fig. 3D).

Labrum with long, acute frontal process (Fig. 3E).

Maxillule with humplike process armed with several small spines on middle of outer margin of outer lobe (Fig. 3G).

Mandible, maxilla, and first and second thoracic endopods showing no remarkable characteristics (Fig. 3F, H–J).

Endopods of third to eighth thoracic limbs with carpo-propodus 4-segmented (Fig. 4A); exopod of thoracic limbs 8-segmented in first and eighth pairs and 9-segmented in second to seventh pairs.

Female with 2 pairs of oostegites.

Abdominal somites smooth, without folds, furrows, or spine rows (Fig. 3A).

Pleopods of female rudimentary, increasing in length posteriorly; fifth pair very slender, with small proximal lobe, more than twice as long as first pair. Pleopods of male similar to those of female except fourth pair; fourth pair biramous, endopod short, unsegmented, less than half length of exopod, exopod (tip of setae) extending to middle of last abdominal somite, 2-segmented, proximal segment 6

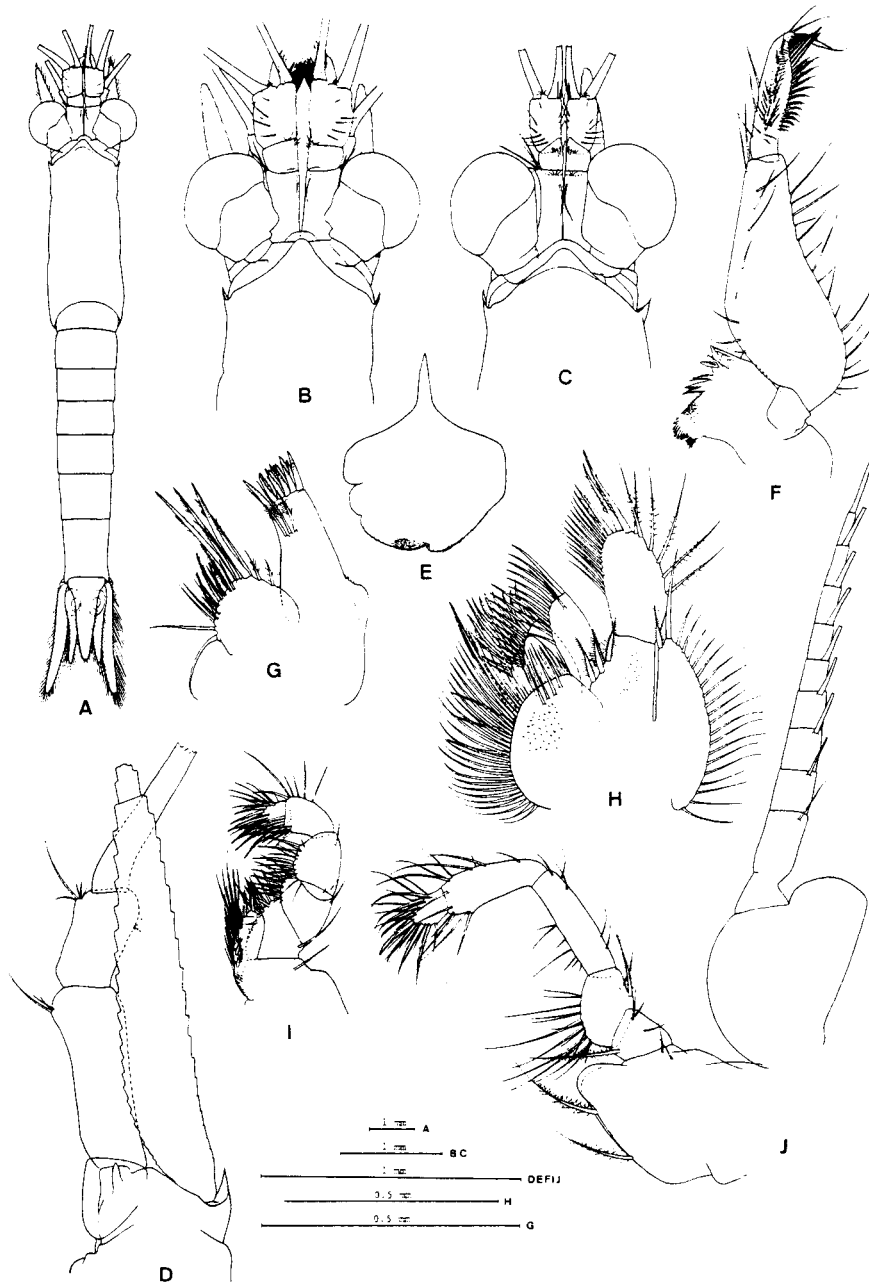


Fig. 3. *Acanthomysis californica*, new species. A, adult male (11.3 mm) in dorsal view; B, anterior end of adult male; C, anterior end of adult female; D, antenna ( $\delta$ ); E, labrum ( $\varnothing$ ); F, mandible ( $\delta$ ); G, maxillule ( $\delta$ ); H, maxilla ( $\delta$ ); I, endopod of first thoracic limb ( $\delta$ ); J, second thoracic limb ( $\delta$ ).

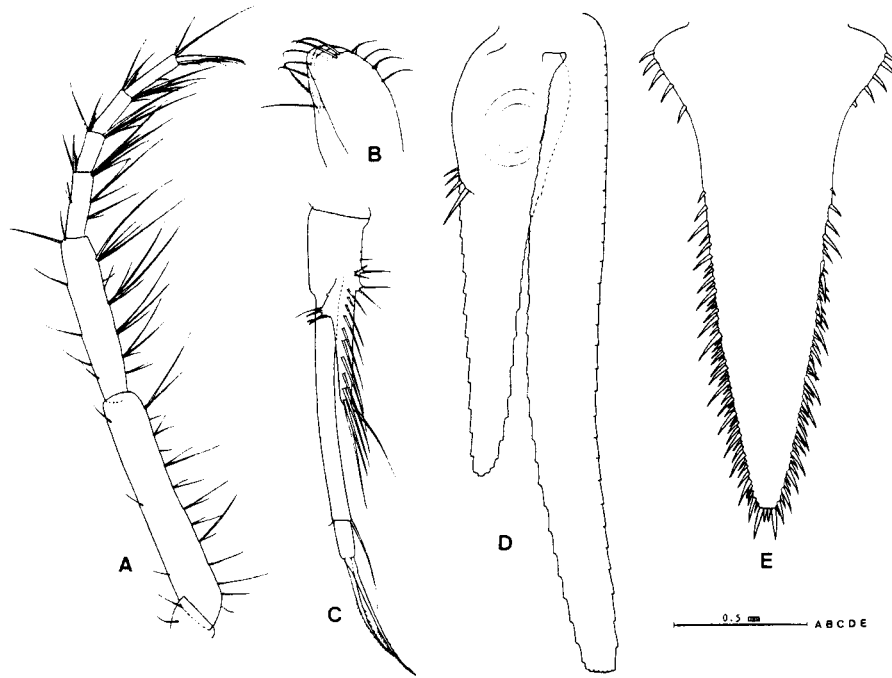


Fig. 4. *Acanthomysis californica*, new species. A, one of anterior thoracic endopods ( $\delta$ ); B, penis; C, fourth pleopod ( $\delta$ ); D, uropod ( $\delta$ ); E, telson ( $\delta$ ).

times as long as distal segment, inner distal margin with long simple plumose seta being 2.5 times as long as distal segment, seta of outer margin minute, distal segment more than twice as long as broad, with 2 unequal terminal setae furnished with fine spinules on distal half, longer seta nearly half length of exopod, with indistinct suture near its base, shorter seta four-fifths as long as longer one.

Uropod slender; exopod outwardly curved, more than 8 times as long as broad, 1.5 times longer than endopod; endopod tapering, extending slightly beyond apex of telson, with 4 or 5 spines on inner margin of statocyst region (Fig. 4D).

Telson 1.2 times as long as last abdominal somite, twice as long as broad, narrowing abruptly near base, distal four-fifths elongate and triangular; distal margin truncate, narrow, with 2 pairs of spines, outer pair more than twice as long as inner; lateral proximal margin armed with 5 rather large spines, these separated by unarmed region from distal series of spines in which 14 or 15 larger spines are separated by groups of 1-4 smaller spines, these smaller spines gradually increasing in length distally (Fig. 4E).

*Remarks.*—The genus *Acanthomysis* has been mainly recognized by the characteristics of the antennal scale and fourth male pleopod (Li, 1964); the antennal scale has a rounded tip and is furnished with setae along the entire margin; and the fourth male pleopod bears a 2-segmented exopod furnished with 2 terminal setae.

Recently, Holmquist (1979, 1980, 1981a, b) reviewed the genus and concluded that this genus was heterogeneous. According to her, the true *Acanthomysis* (*Acanthomysis sensu stricto*), for which *A. longicornis* (Milne Edwards, 1837) is the type

species, consists of only 6 species, and the other species must be referred to genera other than *Acanthomysis*. For their reception, she established 6 genera: *Pacificacanthomysis*, *Alienacanthomysis*, *Exacanthomysis*, *Disacanthomysis*, *Xenacanthomysis*, and *Holmesimysis*, and reestablished one genus, *Orientalomysis*. Nevertheless, as many as 28 species remain as "incertae sedis."

The present new species resembles the genus *Acanthomysis* sensu stricto in the following characters: (1) the abdominal somites bear no folds, furrows, or spine rows; (2) the endopod of the third to eighth thoracic limbs has the carpo-propodus divided into 4 subjoints; (3) the endopod of the uropod has 4 or 5 spines on the inner margin near the statocyst; and (4) the telson abruptly narrows near the base, where the lateral margin is armed with 5 spines, this being separated by an unarmed part from the distal series of spines.

However, this species is not in agreement with the diagnosis of *Acanthomysis* sensu stricto given by Holmquist (1981b) in the following respects: (1) the body is not hispid; (2) the proximal lobe of the pleopods is small; (3) the fourth male pleopod bears a long seta on the inner distal end of the proximal segment of the exopod; and (4) the telson has a truncate distal end.

Holmquist (e.g., 1981b) regarded oostegites of the female as an important character in mysid taxonomy. In the present study, however, these structures could not be examined in detail because only a single specimen was available.

In the present incomplete state of revision of the genus *Acanthomysis* sensu lato, we think it better that this species be referred to the genus *Acanthomysis* sensu lato.

*Etymology.*—The species is named after the locality in which it was collected.

*Acanthomysis brunnea*, new species

Figs. 5, 6

*Material.*—21 September 1978; 3 adult ♀♀, 17.4 mm (2 specimens damaged); Albion Cove, Mendocino County, California (39°14'N, 123°47'W); depth 12 m; collected with hand net.—8 December 1978; 3 adult ♂♂, 18.9 mm (2 specimens damaged); from the stomach of a blue rockfish, *Sebastes mystinus*; Albion Cove, California.—11 May 1982; 2 adult ♂♂ (16.1, 13.3 mm), 2 adult ♀♀ with embryos in marsupium (15.7, 15.3 mm); Albion Cove, California; depth 10 m; collected with hand net.

*Type Series.*—Holotype (USNM 228058), adult ♂, 16.1 mm; allotype (USNM 228059), adult ♀, 15.3 mm; paratypes (USNM 228060), 1 adult ♂, 13.3 mm and 1 adult ♀, 15.7 mm. All collected on 11 May 1982, at Albion Cove, California.

*Description.*—Carapace with frontal margin produced anteriorly into triangular rostral plate with pointed apex, covering proximal portion of eyestalks and antennular peduncles, lateral margins of rostrum nearly straight, converging about a right angle (Fig. 5A, B); anterolateral corners bluntly pointed; posterior margin emarginate, exposing last thoracic somite dorsally (Fig. 5C).

Eyes well developed, reniform, extending beyond distal margin of segment 2 of antennular peduncle, without papilliform process on stalk; cornea hemispherical, wider than stalk (Fig. 5A, B).

Antennular peduncle more robust in male than female, segment 3 of male longer than preceding 2 segments combined, with processus masculinus well developed, equal in length to segment (Fig. 5A), segment 3 of female armed with 6 long setae on distal margin below inner flagellum and with 5 short setae at anteromedial corner (Fig. 5B).

Antennal scale long, extending beyond antennular peduncle by half its length in female and by two-fifths in male, more than 7 times as long as broad, setose on entire margin, distal segment longer than wide; antennal peduncle half length



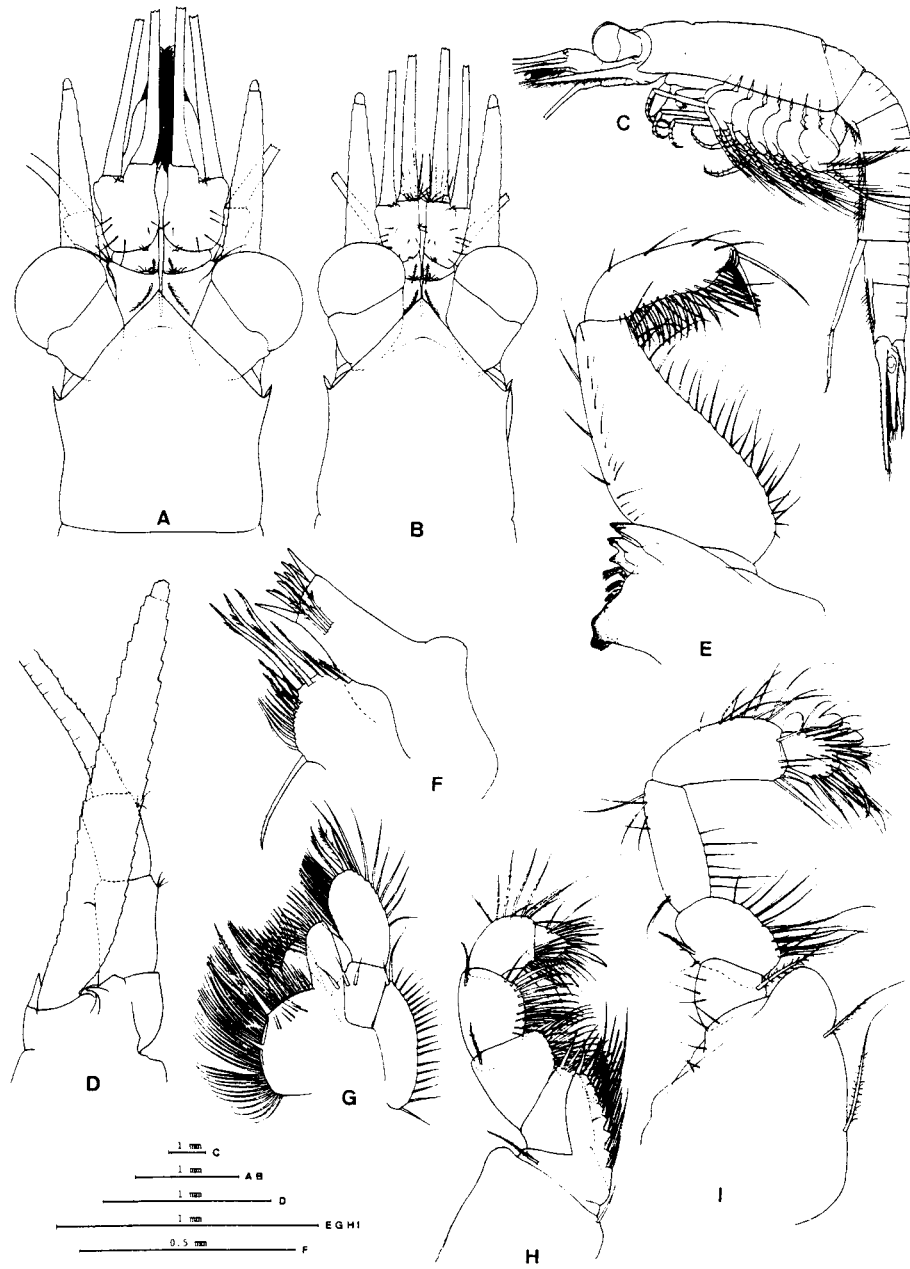


Fig. 5. *Acanthomysis brunnea*, new species. A, anterior end of adult male; B, anterior end of adult female; C, adult male (16.1 mm) in lateral view; D, antenna ( $\delta$ ); E, mandible ( $\delta$ ); F, maxillule ( $\delta$ ); G, maxilla ( $\delta$ ); H, endopod of first thoracic limb ( $\delta$ ); I, endopod of second thoracic limb ( $\delta$ ).

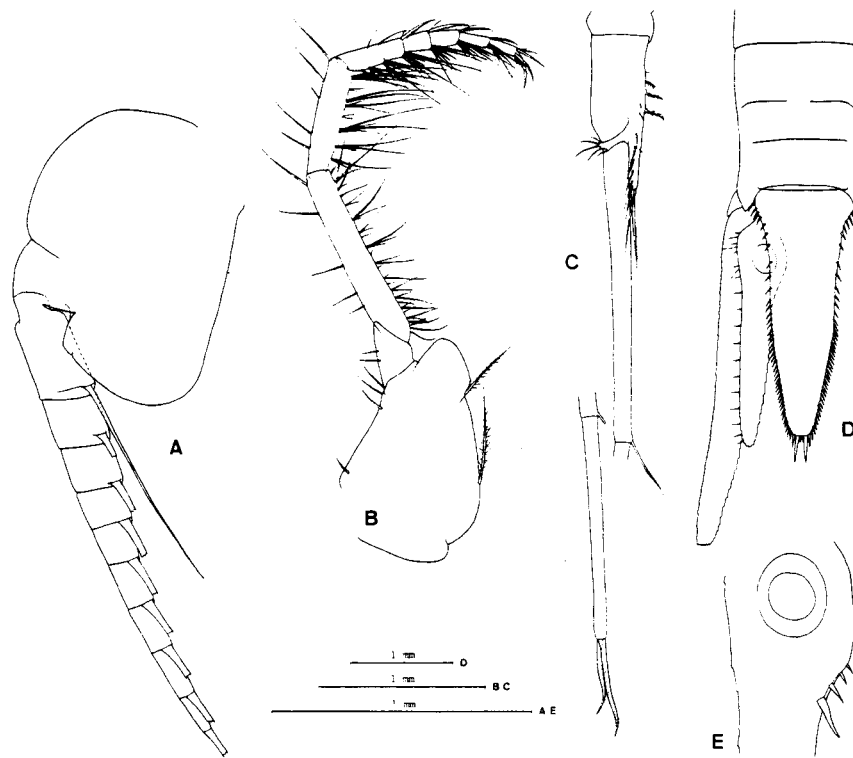


Fig. 6. *Acanthomysis brunnea*, new species. A, exopod of second thoracic limb ( $\delta$ ); B, endopod of third thoracic limb ( $\delta$ ); C, fourth pleopod ( $\delta$ ); D, posterior end of adult male; E, proximal part of endopod of uropod ( $\delta$ ).

of scale, 3-segmented, segment 2 longest; sympod with strong denticle at outer distal corner (Fig. 5D)

Labrum with long, acute frontal projection.

Other mouthparts and first and second thoracic endopods showing no remarkable characteristics (Fig. 5E-I).

Endopods of third to eighth thoracic limbs with carpo-propodus 5-segmented, each of distal 4 subjoints armed with serrated seta on outer distal margin, subjoint 1 longer than subjoints 2 and 3 combined, with 4 groups of long setae on inner margin (Fig. 6B); exopod of thoracic limbs 8-jointed in first pair, 9-jointed in second to eighth pairs, no denticles on rounded outer distal margin of basal plate (Fig. 6A).

Marsupium composed of 2 pairs of ordinary oostegites and 1 rudimentary pair.

Last thoracic somite and abdominal somites 2-6 with 2 transverse folds, abdominal somite 1 with 3 folds (Fig. 5C).

Pleopods of female rudimentary, unsegmented, increasing in length from first pair to fifth pair, fifth pair twice as long as first. Male pleopods similar to those of female except fourth pair; fourth pair biramous, endopod unjointed, short and narrow, terminating in seta, side lobe well developed, slender, 3 times as long as broad, exopod very long, extending to middle of telson, segment 1 more than 4

times as long as endopod, 1.5 times as long as segment 2, armed with seta on inner distal margin, segment 2 terminating in 2 unequal strong setae with rows of spinules (Fig. 6C).

Uropod slender; endopod a little longer than telson, tapering, armed on inner margin near statocyst with 4 spines increasing in length distally; exopod nearly 1.5 times as long as endopod, curved outwards, with distal margin truncate (Fig. 6D, E).

Telson 1.7 times longer than last abdominal somite, 2.5 times as long as broad, triangular with narrow distal margin; distal margin one-eighth of maximum width at base, with 2 pairs of spines, outer being longest among marginal spines of telson and inner being shortest; lateral margin with concave proximal half and straight distal half, with about 35 subequal spines more widely spaced on proximal half (Fig. 6D).

*Remarks.*—The new species has the following characters: (1) each abdominal somite has 2 or 3 transverse folds; (2) the labrum has a long, acute frontal process; (3) the exopod of the fourth pleopod of the male is very long, reaching the middle of the telson, and the endopod bears a slender, laterally extending side-lobe; (4) the telson is furnished with subequal spines along the whole length of the lateral margin; and (5) the marsupium is composed of 2 pairs of ordinary oostegites and one rudimentary pair. The combination of these characters is incompatible with any species of *Acanthomysis* sensu stricto or of the six genera which were separated from *Acanthomysis* sensu lato and established by Holmquist (1979, 1980, 1981a, b).

As already noted in "*Remarks*" of the previous species, many species still remain in *Acanthomysis* sensu lato. The present species is also distinguishable from these species by the characters mentioned above.

In the present state, it is considered that this species should also be assigned to *Acanthomysis* sensu lato.

*Etymology.*—One of the authors (Chess), who was the collector, originally designated this species as "Big Brown." The specific name is derived from it.

*Ecological Note.*—When alive this species has rich brown pigmentation that closely matches the brown algae (*Laminaria* and *Nereocystis*) that dominate the habitat where it is found. Typically it is seen in well-formed schools of 30–50 individuals that actively swim within 10–30 cm of algae-covered boulders. This strong-swimming species occurs at depths of 8–23 m along the open coast where heavy seas prevail. Adults have been seen in this habitat during all seasons. From microscopic analysis of the stomach contents of ten individuals we found that 75.7% ( $\bar{x}$  estimated volume) was composed of crustacean fragments. Most of the identifiable fragments were from gammaridean amphipods but fragments of calanoid and harpacticoid copepods were also present. Diatoms and algal fragments comprised about 4% of their diet and the remaining portion was composed of undetermined material.

#### *Hippacanthomysis*, new genus

*Diagnosis.*—Thoracic and abdominal somites smooth, without folds, furrows, or spine rows. Eyes well developed, reniform. Antennal scale lanceolate, entire margin setose, with distal suture. Labrum with long, acute frontal process. Endopods of thoracic limbs 3–8 with carpo-propodus 4-segmented. All pleopods of female and male, except fourth pair of male, rudimentary, unsegmented, with small side-lobe. Endopod of fourth male pleopod 2-segmented, segment 1 long, gradually becoming widest at a distance three-fourths of its length, segment 2 cylindrical,

terminating in 2 strong, barbed setae. Telson narrowing abruptly for proximal one-third, then linguiform for distal two-thirds; lateral margin armed with about 10 rather large spines on proximal part and with grouped spines on linguiform part, each spine group composed of larger spine followed by 1–8 smaller ones; distal end broadly rounded, furnished with 2 pairs of spines, outer pair twice as long as inner. Uropod rather short, inner margin of statocyst region of endopod with about 13 spines increasing in length distally.

*Remarks.*—Within related genera, such as *Acanthomysis*, *Neomysis*, etc., there are no described species that possess the unique knife-shaped fourth pleopod of the male. Besides this characteristic, the new genus should also be distinguished from related genera by the shape and armature of the telson, a cluster of fine setae on the apex of the penis, and the endopod of the uropod shorter than the telson.

*Etymology.*—One of the authors (Chess) originally designated this species as “Sea Horse Mysid.” The generic name is derived from it.

*Hippacanthomysis platypoda*, new genus, new species

Figs. 7, 8

*Material.*—26 September 1978; 2 immature ♀♀ (badly damaged); Cone Rock, Albion, Mendocino Cove, California (39°14.4'N, 123°46.9'W); collected with an air lift.—26 September 1978; 2 adult ♀♀ (badly damaged); Cone Rock, Albion, California.—7 July 1983; 1 adult ♂, 10.6 mm, 1 adult ♀, 12.2 mm; Albion, California; collected from over coarse sand at a depth of 19 m with hand net.

*Type Series.*—Holotype (USNM 228064), adult ♂, 10.6 mm; allotype (USNM 228065), adult ♀, 12.2 mm. Both collected on 7 July 1983, at Albion, California.

*Description.*—Carapace produced anteriorly in triangular rostral plate, in male, apex narrowly rounded and lateral margin of rostrum slightly concave, in female, apex rather broadly rounded and lateral margins straight or slightly convex (Fig. 7A, B); posterior margin emarginate, exposing last thoracic somite (Fig. 7C).

Eyes developed, with cornea hemispherical, slightly wider than stalk, papilliform process absent on stalk (Fig. 7A, B).

Antennular peduncle more robust in male than female, male segment 3 equal to segment 1 in length, as long as broad, with large processus masculinus (Fig. 7A); female segment 3 with seta at middle of inner margin, 2 long setae at inner distal corner, and 5 short setae at base of inner flagellum (Fig. 7B).

Antenna with scale longer than antennular peduncle, entire margin setose, 4.5 times as long as broad, distal suture present; distal two-thirds of inner margin nearly straight and proximal one-third convex, distal two-thirds of outer margin convex and proximal one-third slightly concave; antennal peduncle somewhat longer than half length of scale, 3-segmented, segment 2 longest, nearly twice as long as broad; sympod with strong tooth on anterodistal corner (Fig. 7D).

Labrum with long, acute frontal projection (Fig. 7E).

Mandibular palp with segment 3 two-thirds as long as segment 2 and furnished with about 25 setae arranged regularly along outer margin (Fig. 7F).

Maxillule with swelling over proximal half of outer margin of outer lobe (Fig. 7G).

Maxilla and first and second thoracic endopods similar to those of *Acanthomysis* (Figs. 7H, 8B, C).

Endopods of thoracic legs 3–8 with 4-subdivided carpo-propodus (Fig. 8D). Thoracic exopod 9-segmented in second to seventh pairs and 8-jointed in first and eighth pairs.

Female with 2 pairs of oostegites.

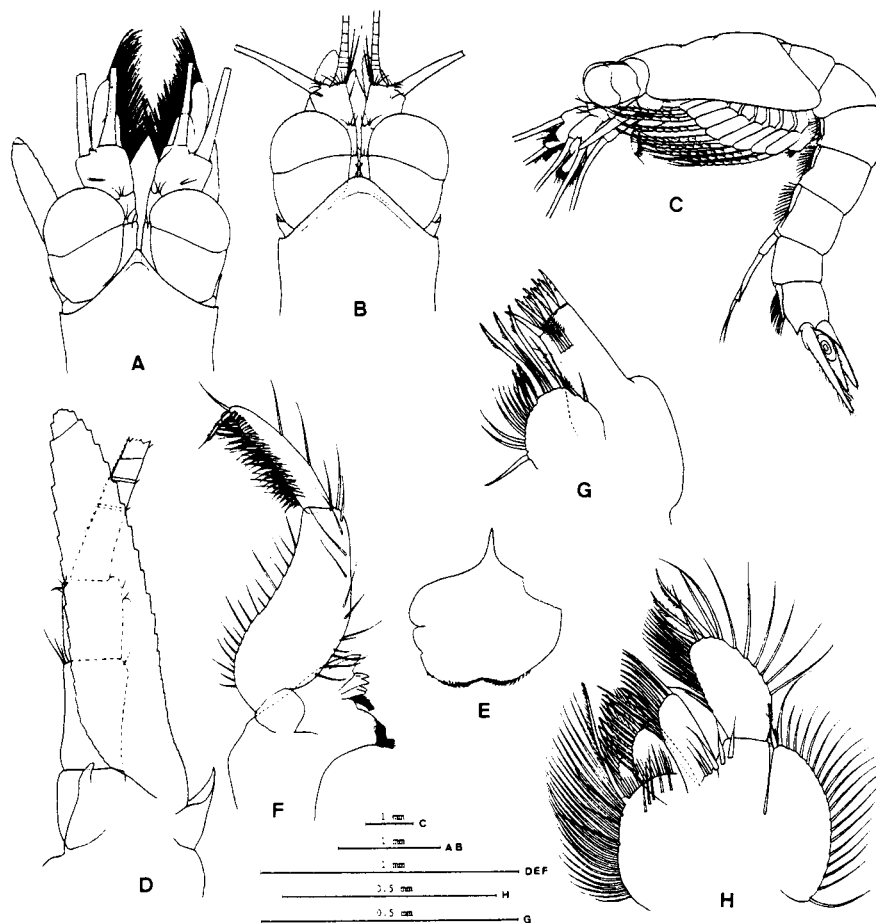


Fig. 7. *Hippacanthomysis platypoda*, new genus, new species. A, anterior end of adult male; B, anterior end of adult female; C, adult male (10.6 mm) in lateral view; D, antenna ( $\delta$ ); E, labrum ( $\delta$ ); F, mandible ( $\delta$ ); G, maxillule ( $\delta$ ); H, maxilla ( $\delta$ ).

Penis elongate, elliptical, with about 11 short spines sparsely arranged on posterior margin and 2 long barbed setae on anterior margin near apex; apex with cluster of fine setae and 6 naked long setae (Fig. 8A).

Abdominal somites smooth, without furrows, folds, or spines (Fig. 7C).

Pleopods of female rudimentary, fifth pair twice as long as first. First to third and fifth pleopods of male reduced to short, single lobe as in female; fourth pleopod of male biramous, extending beyond distal end of abdominal somite 6, exopod well developed, 2-segmented, segment 1 long and flattened, knife-shaped, 3 times longer than endopod, less than 5 times as long as maximum breadth, inner margin smooth, proximal half straight and distal half slightly convex, outer margin strongly convex in distal half, minutely crenulate, distal end armed with pair of short setae, segment 2 cylindrical, 5 times as long as broad, one-fourth as long as segment 1, terminating in 2 subequal, strong, barbed setae 2.5 times as long as segment, endopod short and unsegmented, with small proximal lobe (Fig. 8E).

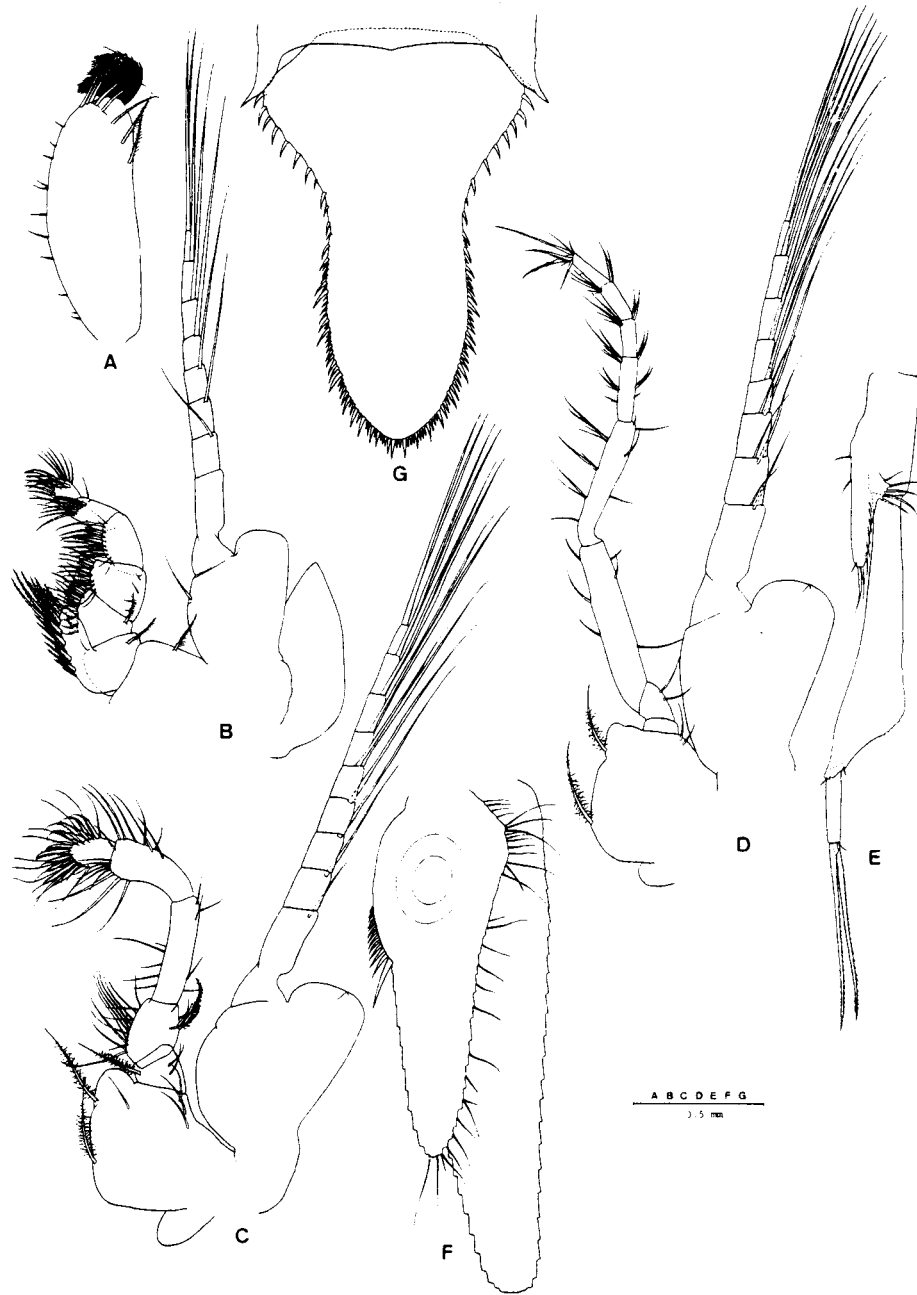


Fig. 8 *Hippacanthomysis platypoda*, new genus, new species. A, penis; B, first thoracic limb (♂); C, second thoracic limb (♂); D, eighth thoracic limb (♂); E, fourth pleopod (♂); F, uropod (♀); G, telson (♂).

Uropod rather short, entire margin setose; endopod shorter than telson, tapering, armed on inner margin near statocyst with 13 spines increasing in length distally; exopod 1.3 times longer than endopod (Fig. 8F).

Telson large, 1.7 times longer than abdominal somite 6, 1.5 times longer than maximum width, narrowing abruptly near base forming slight constriction at one-third its length from base, distal two-thirds linguiform; proximal one-third of lateral margin sparsely armed with 8–10 spines, distal two-thirds armed with 10 or more longer spines with 1–8 smaller spines between them; apex with 2 pairs of spines with outer pair being twice as long as inner (Fig. 8G).

*Remarks.*—As noted above, the new species is easily distinguished from allied species by the curious form of the fourth male pleopod.

*Etymology.*—The name of the species refers to the shape of the fourth male pleopod.

*Ecological Note.*—This species has been found at depths of 6–20 m and only in close proximity to coarse sandy substrata. It usually occurs in groups of 10–30 individuals that appear relatively inactive, often hovering only a few cm from the bottom. While hovering, their bodies are usually bent into an upright sinuous curve with the head highest, in a manner reminiscent of a swimming sea horse. In the field, the males can often be distinguished by their dark brown pigmentation and the females by their light greenish hue. This species occurs along the outer coast exposed to strong surge.

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