# A key to the Mysidacea of the Pacific Northwest

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A key to 28 species of Mysidacea of the coastal and inland waters of Oregon, Washington, and British Columbia is presented. The literature on taxonomic revisions, continuing taxonomic problems, and recently described species is reviewed. Diagnostic illustrations and an annotated species list containing the geographic distribution and general ecology of each mysid are also included.

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On trouvera ici une clé d'identification des 28 espèces de Mysidacea des eaux côtières et continentales d'Oregon, du Washington et de la Colombie-Britannique. La littérature associée aux révisions taxonomiques, aux problèmes taxonomiques et aux espèces récentes fait l'objet d'une révision. L'article contient également des illustrations diagnostiques ainsi qu'une liste des espèces de mysidacées accompagnée de notes sur la répartition géographique et l'écologie générale de chacune.

[Traduit par la revue]



## Introduction

Mysids are recognized as an integral part of estuarine food webs. They are important as predators (Siegfried and Kopache 1980; Fulton 1982) and as food for fishes (Haertel and Osterberg 1967; Orsi and Knutson 1979) and shrimp (Sitts and Knight 1979). There has been an increase in research on marine and estuarine systems, ranging from zooplankton and fishery dynamics to studies on the effects of human impact and pollution. Identification of mysids is difficult, yet no adequate key to the mysids of the Pacific Northwest is available. We therefore present a key designed to help both the general biologist and the specialist in making accurate and rapid identifications.

The mysids included in the key are those that inhabit the coastal and inland waters of Oregon, Washington, and British Columbia, ranging from the intertidal zone to the shallow coastal water over the continental shelf. The geographic ranges of many of the species extend to California and southern Alaska and a few species are even more widespread.

For anyone who does not have a good working knowledge of the listed mysid species, the importance of detailed descriptions and illustrations from published references cannot be overemphasized. The terminology used for mysids can be confusing because it has not been standardized. Figures 1 and 2 illustrate the terminology commonly used in the reference literature. In the key, the terminal structures on the 4th male pleopods, which frequently, but unjustifiably, have been called setae, have been noted as "setae."

For positive identification of a mysid, the use of only the characters usually found in a key is not satisfactory. Knowledge of the secondary sexual characters is essential, but general appearance, body size, general shape of the antennal scale, telson, and various other appendages, behavior patterns, habitat, and the geographic range may be helpful. Therefore, as much as possible of this information has been included in the key, in Figs. 3 and 4, and in the species list. The telson and antennal scale for each species are shown in Fig. 3, and unusual diagnostic characters that are specific for certain species and mentioned in the key are illustrated in Fig. 4. Dissection may be necessary to identify some mysids. Methods of measuring body length of mysids vary; customarily, and in the key below, the length is taken from the front of the carapace (including the rostrum) to the apex of the telson.

Identifications must be made carefully. Characters such as the absolute number of spines and setae should be used with caution because they may vary with the size of the specimens. In most cases, very young individuals and mutilated specimens, especially if there are only a few, are best left unidentified. It is also possible that a specimen may not be able to be identified from this key. For example, oceanic or deep-water species are not included in the key; however, occasionally they may be found near shore. Also, there are as yet undescribed species known to occur in this area and if found they obviously could not be properly identified.

The basic references for coastal mysids of the Pacific Northwest are W. M. Tattersall (1933, 1951), Banner (1948–1954), and Holmquist (1958–1982). A good synopsis of the coastal mysid fauna was based on the 1955–1966 collections of the National Museums of Canada (Holmquist 1982). Papers dealing with deep-water mysids off the North American coast include Ortmann (1908), Esterly (1914), W. M. Tattersall (1933, 1951), Banner (1948–1954), and Băcescu and Gleye (1979).

Several other publications should be useful for further information on mysids. For example, Ii's (1964) *Mysidae* is recommended for its information on Pacific mysids and *The British Mysidacea* by Tattersall and Tattersall (1951) for the chapter on general morphology of mysids. A World list of mysid species was published in 1977 by Mauchline and Murano. A mysid bibliography, compiled by Clarke and completed by Beeton (Beeton and Clarke 1978), replaces and supplements an earlier bibliography by Gordan (1957). Mauchline (1980) discusses many aspects of mysid research based on recent international publications.

Some of the confusion in the Pacific mysid literature has been resolved in recent years. An extensive revision of the genus *Acanthomysis* established seven new genera (Holmquist 1979, 1980, 1981*a*, 1981*b*). All the Pacific mysid species previously referred to this genus show some characters that are significantly

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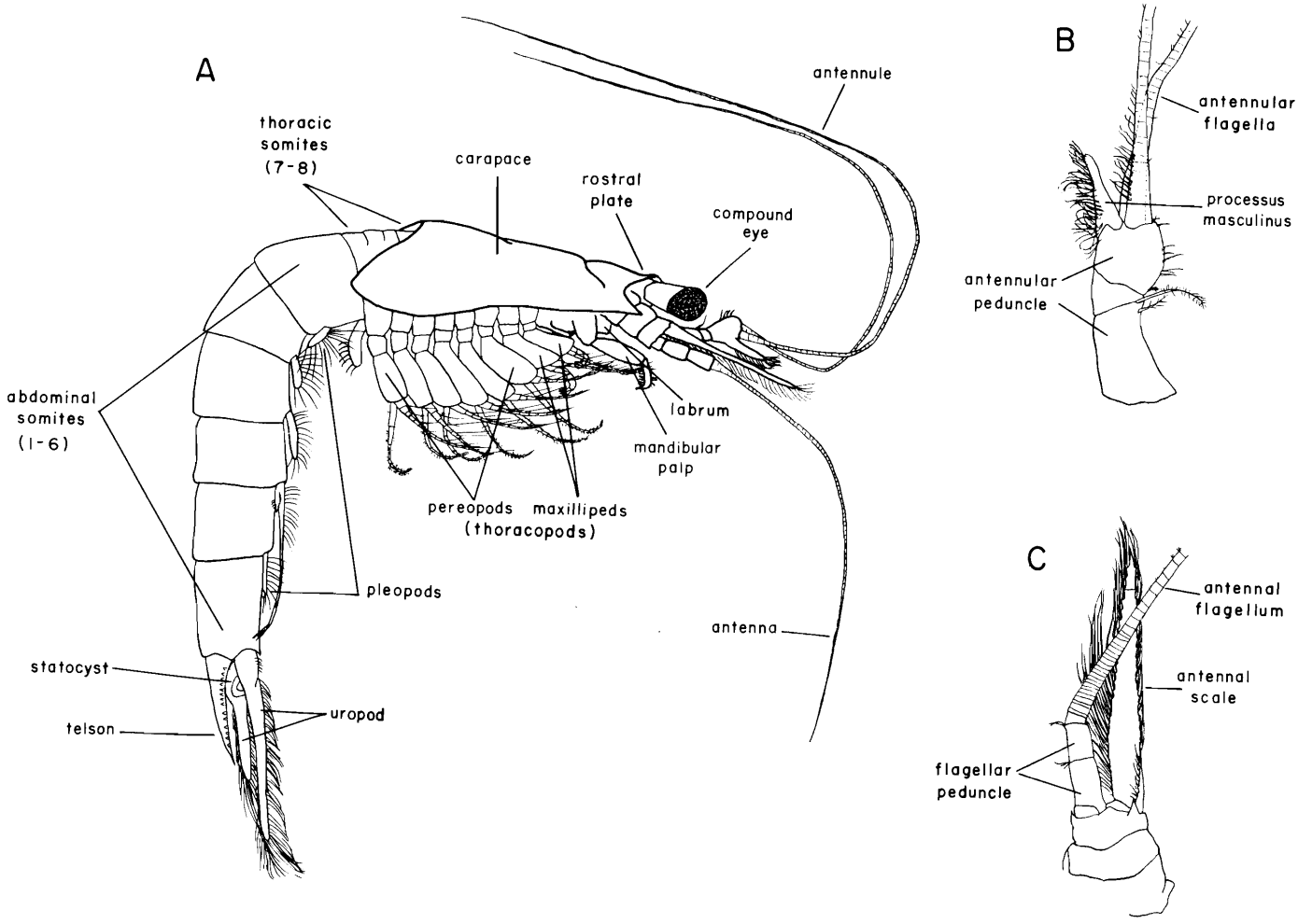



FIG. 1. Descriptive terminology of a mysid, *Neomysis mercedis*, illustrated by a common mature male. (A) Lateral view. (b) Antennule. (C) Antenna. Figures not to scale: A, original (Daly); B, original (Holmquist); C, Holmquist 1973.

different from those of the *Acanthomysis* type species. At this time, no *Acanthomysis* species are known to occur in the Pacific Ocean. Several other northeast Pacific species occasionally have been misidentified due to inadequate material or premature conclusions, e.g., *Mysis litoralis* (Banner), *Neomysis mercedis* Holmes, *Inusitatomysis insolita* Ii (Holmquist 1958, 1973, 1982). Taxonomic problems that still need to be considered include the Pacific material of *Meterythrops robusta* S. I. Smith, *Amblyops abbreviata* (M. Sars), and *Stilomysis grandis* (Goës) which are urgently in need of a revision. There are too many incongruities for all of the records to be authentic. The genus *Caesaromysis* is also in need of revision. Pacific specimens referred to *Caesaromysis hispida* Ortmann differ from specimens described from the Atlantic Ocean (Banner 1948; Murano 1977). The species *"Acanthomysis" columbiae* is still of unknown systematic position. Further, three new northwest Pacific mysid species have been described in recent years, *Holmesimysis sculptoides* Holmquist, 1979, *Holmesimysis nudensis* Holmquist, 1979, and *Columbiaemysis ignota* Holmquist, 1982. *Pseudomma truncatum* S. I. Smith has not been included in the key or the species list below because its occurrence in the Pacific area is very questionable (Holmquist 1982).

## Key to the Mysidacea of the Pacific Northwest

1*a*. Telson cleft ..... 2
1*b*. Telson not cleft ..... 6

2*a*. Outer margin of antennal scale without setae ..... 3
2*b*. Outer margin of antennal scale with setae ..... 4

3*a*. Outer margin of antennal scale with only stout terminal spine. Telson with few stout, lateral spines, and longer pair apical spines; cleft with denticles, without spines or setae. Exopod of uropod with stout spines on outer margin and setae on inner margin. All male and female pleopods biramous (Fig. 2F); exopod of 3rd pleopod of male elongated with 2 terminal spinelike structures. Moderately large, maximum length about 20 mm, stout, often conspicuously maculate. ..... *Archaeomysis grebnitzkii*

3*b*. Outer margin of antennal scale with about 6 large teeth. Telson with many moderate lateral spines and large pair apical spines; cleft with denticles and 2 median plumose setae, without spines. Exopod of uropod without spines, with setae on lateral and distal margins. All pleopods of female and 1st–3rd and 5th of male rudimentary (as in Fig. 2E); 4th pleopod of male elongated, uniramous, with 9–10 segments (Fig. 4I). Moderate size, length up to about 15 mm, without conspicuous chromatophores. ..... *Inusitatomysis insolita*

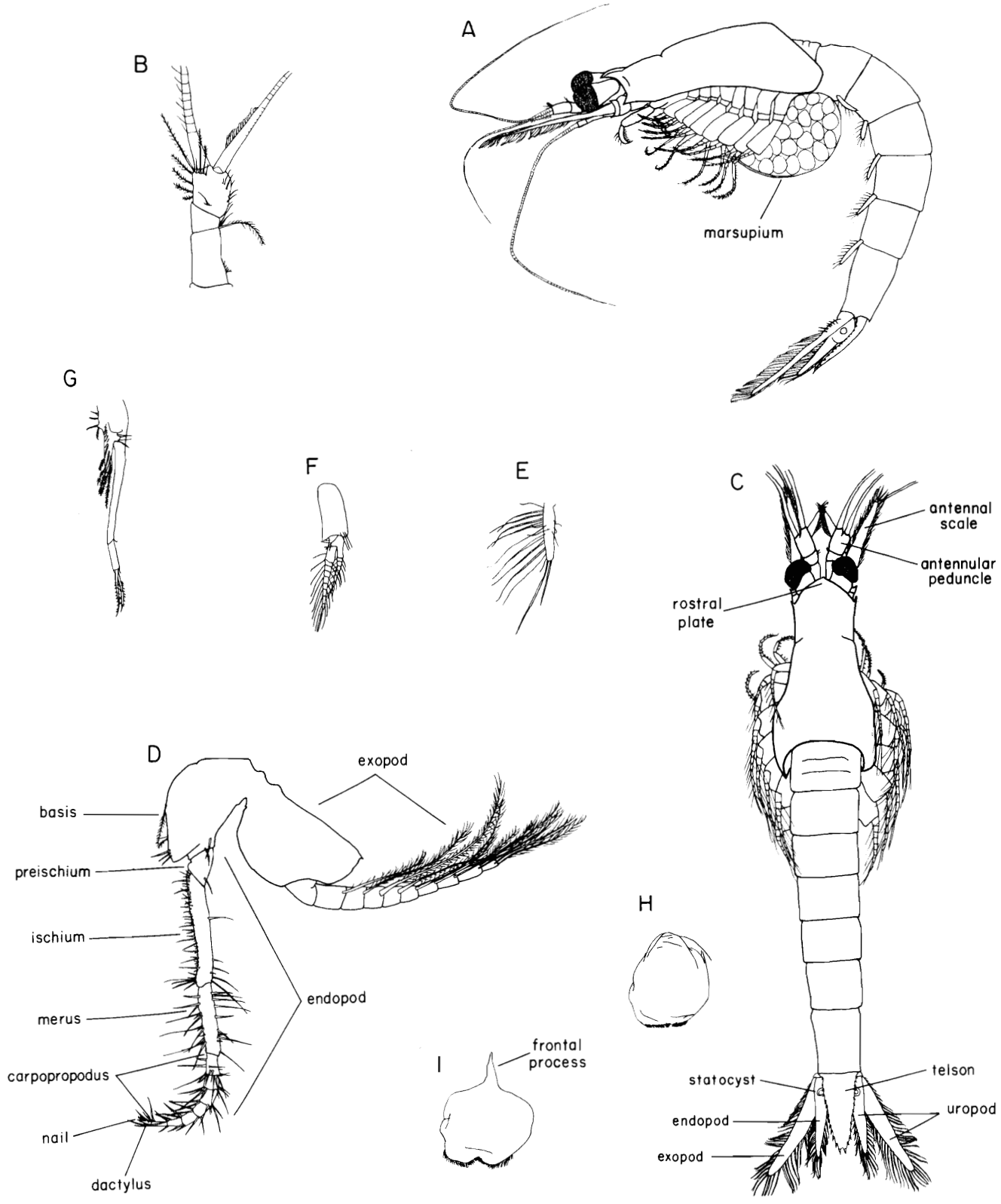
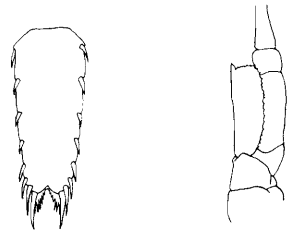
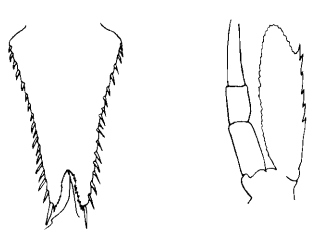


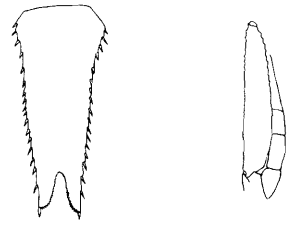

FIG. 2. Typical morphological characters of mysids. (A–D) *Neomysis mercedis*. (A) Lateral view of gravid female. (B) Antennule of mature female. (C) Dorsal view of mature male. (D) 2nd pereopod (4th thoracopod). (E–G) Pleopods. (E) Rudimentary, uniramous (*Columbiaemysis ignota*). (F) Biramous (*Archaeomysis grebnitzkii*). (G) Fourth male; elongated with terminal "setae" (*N. mercedis*). (H–I) Labrum. (H) Without a frontal process, ventral view (*Alienacanthomysis macropsis*). (I) With frontal process, ventral view (*C. ignota*). Figures not to scale: A–D, original (Daly); E, H, I, redrawn from Holmquist 1980, 1982; F, redrawn from Ii 1964; G, redrawn from Tattersall 1951.



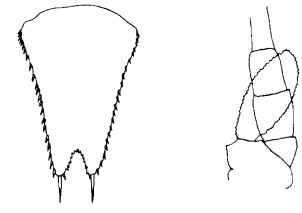
Archaeomysis grebnitzkii



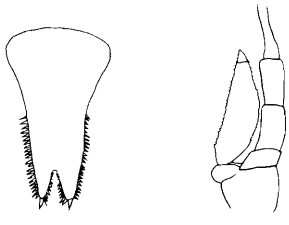
Inusitatomysis insolita



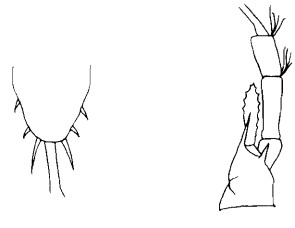
Mysis litoralis



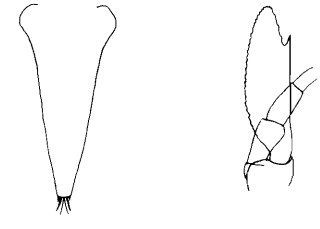
Heteromysis odontops



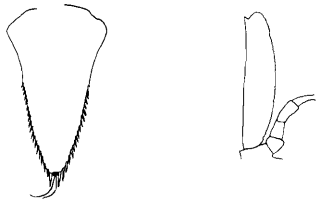
Mysidella americana



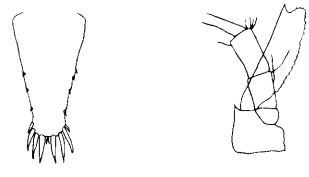
Caesaromysis vanclevei



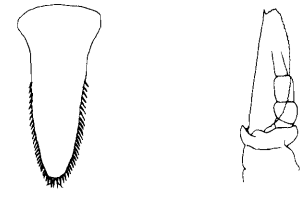
Meterythrops robusta



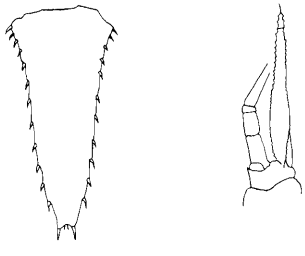
Holmesiella anamala



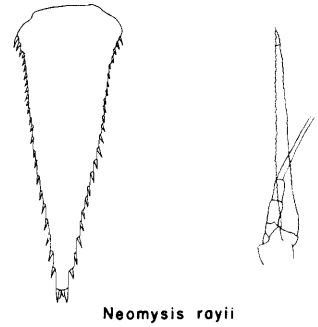
Pseudomma berkeleyi



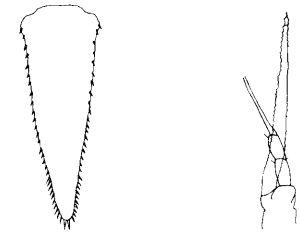
Amblyops abbreviata



Neomysis mercedis



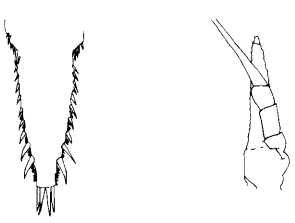
Neomysis rayii



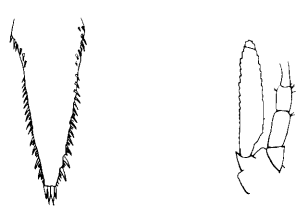
Neomysis kadiakensis



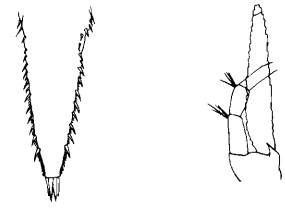
FIG. 3. Telson and antennal scale for each species in key; figures redrawn (not to scale) from original descriptions or redescriptions (Sars 1872, 1879; Smith 1879; Ortmann 1908; Banner 1948*a*, 1948*b*; Tattersall 1951; Holmquist 1958–1982; Gleye 1981).



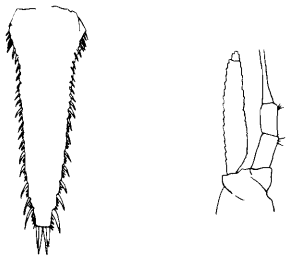
Holmesimysis costata



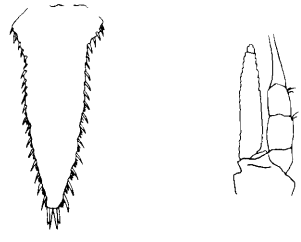
Holmesimysis nuda



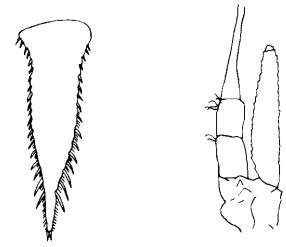
Holmesimysis sculpta



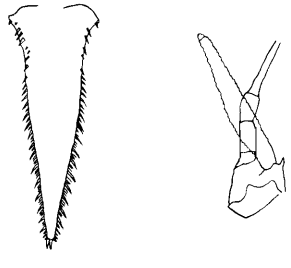
Holmesimysis sculptoides



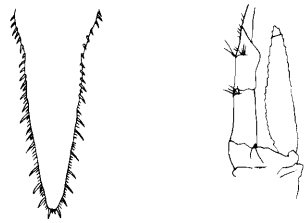
Holmesimysis nudensis



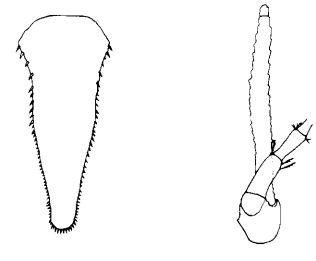
Exacanthomysis davisi



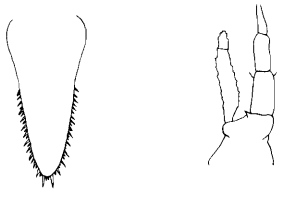
Exacanthomysis alaskensis



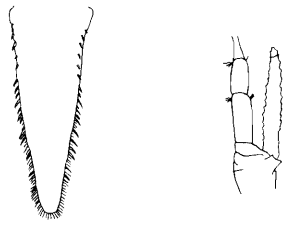
Pacifacanthomysis nephrophthalma



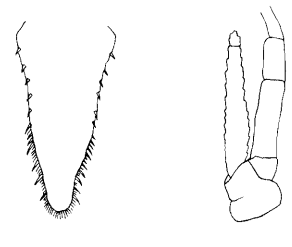
"Acanthomysis" columbiae



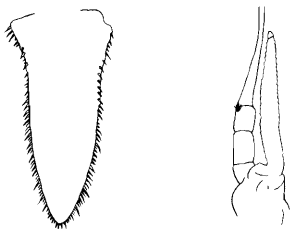
Proneomysis wailesi



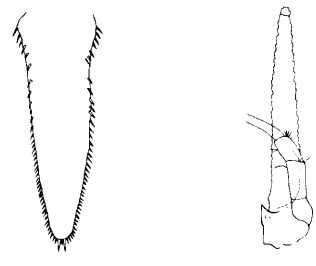
Xenacanthomysis pseudomacropsis



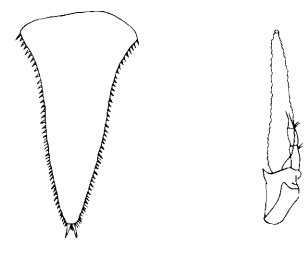
Alienacanthomysis macropsis



Disacanthomysis dybowskii



Columbiaemysis ignota



Stilomysis grandis

FIG. 3 (*concluded*)

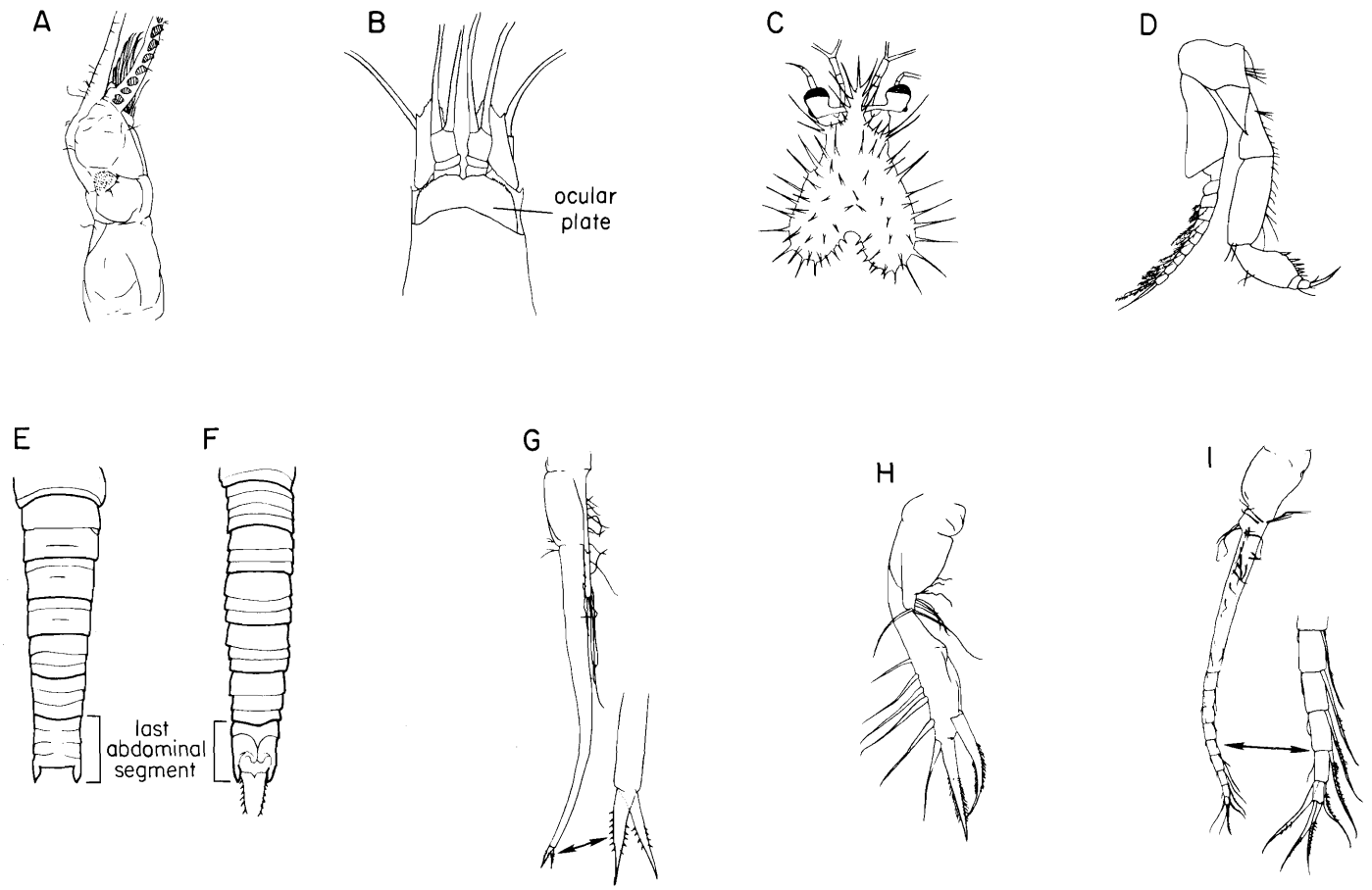



FIG. 4. Unusual diagnostic characters used in key. (A) Antennule of mature male with small striated structures on flagellum (*Xenacanthomysis pseudomacropsis*). (B) Ocular plate (*Pseudomma* sp.). (C) Cephalothorax (*Caesaromysis hispida* according to Banner, 1948). (D) Endopod of strongly built 3rd thoracopod (*Heteromysis odontops*). (E) Dorsal view of abdomen showing 3 pairs of transverse folds and lateral projections on last segment (*Exacanthomysis davisi*). (F) Dorsal view of abdomen showing 2 transverse folds with both middorsal and lateral projections on last segment (*Holmesimysis costata*). (G–I) Various types of 4th pleopods of male. (G) Peg-shaped terminal "setae" (*H. costata*). (H) Awl-shaped terminal "setae" (*X. pseudomacropsis*). (I) Uniramous (*Inusitatomysis insolita*). Figures not to scale: A, original (Daly); B, redrawn from Banner 1948; C, redrawn from Tattersall 1951; D–I, redrawn from Holmquist 1979–1982.

4*a*. Antennal scale longer than its flagellar peduncle. All pleopods of female and 1st and 2nd of male rudimentary; 3rd and 4th of male biramous, 4th with elongated exopod of several segments and 2 terminal "setae"; 5th uniramous, small. Telson with small spines on entire length of lateral margins and small pair apical spines; cleft with denticles, without spines or setae. Large, maximum length about 30 mm. ..... *Mysis litoralis*

4*b*. Antennal scale about as long as its flagellar peduncle. All male and female pleopods rudimentary ..... 5

5*a*. Telson with small spines on entire length of lateral margins and 2 pairs apical spines, the outer pair much longer; cleft with denticles, without spines or setae. Endopod of 3rd thoracopod strongly built (Fig. 4C); carpo-propodus with strong spines. Moderately small, maximum length about 11 mm. ..... *Heteromysis odontops*

5*b*. Telson with moderate spines only on about distal half of lateral margins and moderate pair apical spines; cleft with denticles proximally and small spines distally, without setae. Endopod of 3rd thoracopod not very strongly built; carpo-propodus without spines. Small, length about 8 mm. ..... *Mysidella americana*

6*a*. Carapace and abdomen with long spines (Fig. 4B). Telson rounded-triangular. Pleopods of female rudimentary; those of male biramous. Small, length about 10 mm. ..... *Caesaromysis hispida*

6*b*. Carapace and abdomen without long spines ..... 7

7*a*. Antennal scale outer margin with terminal stout tooth or spine; outer margin not setose. Pleopods of female rudimentary, those of male biramous. ..... 8

7*b*. Antennal scale outer margin without teeth or spines; both margins setose. Pleopods of female rudimentary; those of male rudimentary, except 4th, which has longer exopod of varying length with terminal spinulose "setae," sometimes spinelike, awl- or peg-shaped (3rd male pleopod of 27*b*, *Stilomysis grandis*, not rudimentary) ..... 11

8*a*. Telson elongate, narrowly triangular, with unarmed lateral margins; apex truncate, with 2 pairs of spines and median pair of plumose setae. Male pleopods without extended endopods or exopods. Moderately large, length up to 17–20 mm. ..... *Meterythrops robusta*

8*b*. Telson more or less linguiform with spines on distal half to two-thirds of lateral margins ..... 9

9*a*. Eyes well developed. Carapace with rostrum. Apex of telson truncate with 2 pairs of spines, outer spines longer, and median pair of plumose setae. 4th pleopod of male with endopod much longer than exopod, and 1 long terminal "spine" and a spinule. Large, length up to 30–40 mm. ..... *Holmesiella anomala*

9*b*. Eyes rudimentary, without visual elements. Carapace without rostrum, with anterior margin slightly curved. ..... 10

10*a*. "Eyes" coalesced, as "ocular plate" (as in Fig. 4A), with median frontal notch and anterolateral margins coarsely serrate. Telson with distal half of lateral margins armed with few small spines; apex broad, arcuate with several pairs of strong spines, outermost shortest, and with median pair of plumose setae. Pleopods of male not described. Small, length up to 8 mm ..... *Pseudomma berkeleyi*

10*b*. "Eyes" not coalesced, each plate with small anteromedian pointed projection. Telson linguiform, distal two-thirds of lateral margins, including apex, with closely set moderate spines; apex narrowly rounded, with median pair of plumose setae. Pleopods of male without endopods or exopods notably extended. Moderate, length up to about 17 mm. ..... *Amblyops abbreviata*

11*a*. Antennal scale with pointed apex. Telson triangular ..... 12

11*b*. Antennal scale with rounded apex. Telson triangular or linguiform ..... 14

12*a*. Telson with 15 or less widely spaced spines on each lateral margin. 4th pleopod of male slightly curved, almost extending to end of last abdominal segment (Fig. 1A). Moderately large, maximum length about 19 mm. ..... *Neomysis mercedis*

12*b*. Telson with more than 15 spines on each lateral margin. 4th pleopod of male almost straight, extending to end of last abdominal segment or beyond ..... 13

13*a*. Distal marginal spines of telson shorter than distance between their bases. Large, length up to about 35 mm. *Neomysis rayii*

13*b*. Distal marginal spines of telson longer than distance between their bases. Moderately large, length up to about 23 mm. ..... *Neomysis kadiakensis*

14*a*. Posterior margin of last abdominal segment with acute middorsal projection (as in Fig. 4E). Telson with several small spines between larger spines on lateral margins; apex with 2 pairs of subequal, stout spines, median pair strongest. 4th pleopod of male with 2 terminal "setae" as peg-shaped structures (Fig. 4G) ..... 15

14*b*. Posterior margin of last abdominal segment nearly straight, without middorsal projection. Telson with apex otherwise armed. 4th pleopod of male with 1–2 terminal "setae" or awl-shaped structures ..... 19

15*a*. Middorsal and lateral marginal projections only on last abdominal segment ..... 16

15*b*. Middorsal and lateral marginal projections on last and on other abdominal segments ..... 17

16*a*. Abdominal segments each with at least 2 transverse dorsal folds (Fig. 4E). Small to moderately small, length about 7–13 mm. ..... *Holmesimysis costata*

16*b*. Abdominal segments usually smooth, occasionally with single transverse dorsal fold on 1 or more of last 3 segments, rarely with 2 folds on only 3rd or 4th segment. Small to moderately small, length about 8–14 mm. ..... *Holmesimysis nuda*

17*a*. 5th abdominal segment with middorsal and lateral marginal projections; 4th, and occasionally 3rd, with middorsal marginal projection; all abdominal segments with at least 2 transverse dorsal folds. Moderately small, maximum length up to about 13 mm. ..... *Holmesimysis sculpta*

17*b*. 5th abdominal segment with middorsal and lateral marginal projections, other abdominal segments without projections. . . 18

18*a*. Abdominal segments with at least 2 transverse dorsal folds. Uropods with 3–5 spines on inner margin at statocyst. Small to moderately small, length about 8–12 mm. ..... *Holmesimysis sculptoides*

18*b*. Abdominal segments smooth, rarely with 1 transverse dorsal fold on 1 or more of last 3 segments. Uropods with 6–8 spines on inner margin at statocyst. Small to moderately small, length about 9–12.5 mm. ..... *Holmesimysis nudensis*

19*a*. Abdominal segments with transverse dorsal folds, last segment always with three folds not connected middorsally (as in Fig. 4D). Telson with several small spines between larger spines on lateral margins; apex with 2 pairs of spines, median pair smaller. 4th pleopod of male with 2 terminal "setae" ..... 20

19*b*. Abdominal segments without transverse dorsal folds. Telson and 4th pleopod of male variously armed ..... 21

20*a*. Telson abruptly narrowing near distal end; lateral margins with large spines conspicuously increasing in size to narrowed distal part; distal part with about 12 small spines. Small to moderately small, length about 7–11 mm. ..... *Exacanthomysis davisi*

20*b*. Telson not abruptly narrowing near distal end; lateral margins with large spines not increasing in size, distal part with about 3 small spines. Moderately small to moderate, length about 10.5–15.5 mm. ..... *Exacanthomysis alaskensis*

21*a*. Carapace with anterolateral corners rounded. Telson elongate triangular, with several small spines between larger spines on margins; apex slightly rounded, with 2 pair of spines, median pair smaller. 4th pleopod of male extending beyond last abdominal segment, with 2 terminal "setae." Moderate size, maximum length about 13 mm. ..... *Pacifacanthomysis nephrophthalma*

21*b*. Carapace with anterolateral corners produced, acute to subacute (except 27*b*, *Stilomysis grandis*). Telson more or less linguiform, with either equal or unequal spines on margins ..... 22

22*a*. Anterior margin of carapace with supraocular spine on each side. Antennal scale long, very narrow; margins setose, except at base. Telson with slightly unequal marginal spines. 4th pleopod of male slender, not extending beyond last abdominal segment, with 2 terminal "setae." Moderate size, maximum length about 14 mm. ..... *"Acanthomysis" columbiae*

22*b*. Anterior margin of carapace without supraocular spines. Antennal scale with margins setose to base ..... 23

23*a*. Telson with subequal spines, lateral margins with spines only on distal half, occasionally with single spine proximally. Antennal scale small. 4th pleopod of male scarcely extending beyond last abdominal segment, with terminal "setae." 5th pleopod of male long, with 1 long terminal "seta," reaching beyond telson. Small, maximum length up to about 8 mm. . *Proneomysis wailesi*

23*b*. Telson with spines on entire length of lateral margins. 4th and 5th pleopods of male otherwise ..... 24

24*a*. Apex of telson broadly rounded with many closely set spines of about equal size. Antennal scale short, about as long as flagellar peduncle ..... 25

24*b*. Apex of telson rounded or truncated with 2 large lateral and smaller median pair of spines. Antennal scale long, much longer than flagellar peduncle ..... 26

25*a*. Telson long, narrow, almost as long as endopod of uropod; lateral margins with equal, widely spaced spines proximally, subequal, more closely set spines medially and equal, closely spaced spines distally. Labrum with small, acute frontal process. Atennules of male with small striated structures on inner flagellum (Fig. 4F). 4th pleopod of male stout, curved, with 2 terminal "setae" as awl-shaped structures armed with spinules (Fig. 4H). Moderate size, maximum length about 17 mm. ..... *Xenacanthomysis pseudomacropsis*

25*b*. Telson moderately long, about $\frac{3}{4}$–$\frac{4}{5}$ length of endopod of uropod, proximally broad, narrowing somewhat abruptly at distal end; lateral margins with equal, widely spaced spines proximally, closely set small spines between larger spines medially and equal, closely spaced spines distally. Labrum without frontal process (Fig. 2H). Antennules of male without striated structures on flagellum. 4th pleopod of male slender, almost straight, with 2 terminal "setae." Moderate size, maximum length about 15 mm. ..... *Alienacanthomysis macropsis*

26*a*. Lateral margin of telson with many subequal small, densely set spines. 4th and 5th pleopods of male of about equal length; 4th with 2 terminal "setae." Large, maximum length about 25 mm. ..... *Disacanthomysis dybowskii*

26*b*. Lateral margins of telson with spines of about equal length ..... 27

27*a*. Labrum with long, acute frontal process (Fig. 2I). Distal corner of platelike proximal segment of thoracopodal exopod broadly rounded. Endopod of uropod with few spines on inner margin at statocyst. Male not known. Moderate size, maximum length about 14 mm. ..... *Columbiaemysis ignota*

27*b*. Labrum without long frontal process (as in Fig. 2H). Distal corner of platelike proximal segment of thoracopodal exopod acute. Endopod of uropod with many spines along inner lateral margin from statocyst almost to apex. 3rd and 4th pleopods of male biramous, exopod of 4th extending far beyond last abdominal segment with 3 terminal "setae." Large, maximum length about 30 mm. ..... *Stilomysis grandis*



## Annotated species list

ORDER Mysidacea

FAMILY Mysidae

SUBFAMILY Gastrosaccinae

*Archaeomysis grebnitzkii* Czerniavsky, 1882

*Callomysis maculata* Holmes, 1894; non *Archaeomysis maculata* (Holmes, 1894) W. M. Tattersall, 1932 (see Holmquist 1975)

Intertidal, common, often abundant, in open coastal or unprotected inland waters above sandy bottom, with pebbles and boulders, sometimes with mud, *Zostera* and kelp; brackish to marine waters, higher salinity water preferred. California to south western Alaska; Japan.

SUBFAMILY Mysinae

TRIBE Erythropini

*Amblyops abbreviata* (M. Sars, 1868)

*Pseudomma abbreviatum* M. Sars, 1868; *Amblyopsis abbreviata* (M. Sars, 1868) G.O. Sars, 1869; *Amblyops abbreviata* (M. Sars, 1868) G. O. Sars, 1872

Midwater plankton to epibenthos in deep water (150 to 1000 m). North Atlantic region; few specimens recorded from the northeast Pacific may be questionable.

*Caesaromysis hispida* Ortmann, 1893

*Caesaromysis liguriae* Colosi, 1916; *Caesaromysis vanclevei* Banner, 1948

Coastal and oceanic, mid- to deep-water plankton (50 to 1200 m). Oregon to southern Alaska.

*Holmesiella anomala* Ortmann, 1908

Coastal and oceanic, mid- to deep-water plankton (50 to 900 m). Common. Southern California to Alaska; possibly Korea.

*Meterythrops robusta* S. I. Smith, 1879

Midwater plankton to epibenthos (50 to >200 m), above sandy–muddy bottom. Northern and Arctic regions of the Atlantic Ocean; the few records from localities in northeast Pacific may be questionable.

*Pseudomma berkeleyi* W. M. Tattersall, 1933

Epibenthic in deep water (120 m). Known only from type locality (5 specimens). British Columbia.

TRIBE Mysini

*"Acanthomysis" columbiae* (W. M. Tattersall, 1933)

*Neomysis columbiae* W. M. Tattersall, 1933; *Acanthomysis columbiae* (W. M. Tattersall, 1933) Ii, 1936; uncertain position, Holmquist 1981*b*

Shallow water (5 to 7 m), sandy bottom. Known from only few specimens. California to British Columbia.

*Alienacanthomysis macropsis* (W. M. Tattersall, 1932)

*Neomysis macropsis* W. M. Tattersall, 1932; *Acanthomysis macropsis* (W. M. Tattersall, 1932) Ii, 1936; *Alienacanthomysis macropsis* (W. M. Tattersall, 1932) Holmquist, 1981

Shallow water, among eelgrass and algae. Not uncommon. California to southern Alaska.

*Columbiaemysis ignota* Holmquist, 1982

Intertidal, sandy-rocky bottom with algae. Known only from few specimens and localities. British Columbia.

*Disacanthomysis dybowskii* (Derzhavin, 1913)

*Orientomysis dybowskii* Derzhavin, 1913; *Neomysis dybowskii* (Derzhavin, 1913) W. M. Tattersall, 1932; *Acanthomysis dybowskii* (Derzhavin, 1913) Ii, 1936; *Disacanthomysis dybowskii* (Derzhavin, 1913) Holmquist, 1981

Shallow coastal waters (to 30 m), with eelgrass and algae. Apparently not common along Washington and British Columbia coasts. Washington to Alaska; Kamchatka and Korea.

*Exacanthomysis alaskensis* (Banner, 1954)

*Acanthomysis alaskensis* Banner, 1954; *Exacanthomysis alaskensis* (Banner, 1954) Holmquist, 1981

Shallow water (to 55 m); clay or rocky bottom, with algae. Few specimens only recorded. San Juan Islands and Alaska.

*Exacanthomysis davisi* (Banner, 1948)

*Acanthomysis davisi* Banner, 1948; *Exacanthomysis davisi* (Banner, 1948) Holmquist, 1981; *Neomysis costata*: W. M. Tattersall, 1932; *Acanthomysis costata*: W. M. Tattersall, 1951 (see Holmquist 1979)

Shallow coastal waters, often nearshore, among algae and eelgrass. Common around San Juan Islands. California to southern Alaska.

*Holmesimysis costata* (Holmes, 1900)

*Mysis costata* Holmes, 1900; *Acanthomysis costata* (Holmes, 1900) Ii, 1936; *Holmesimysis costata* (Holmes, 1900) Holmquist, 1979; non *Neomysis costata* (Holmes, 1900) W. M. Tattersall, 1932; non *Acanthomysis costata*: W. M. Tattersall, 1951 (see Holmquist 1979)

Intertidal, among eelgrass, algae, and kelp above sandy or rocky bottom; estuarine, in bays and small inlets. Common, especially in high salinity water. California to British Columbia; Hawaii.

*Holmesimysis nuda* (Banner, 1948)

*Acanthomysis sculpta nuda* Banner, 1948; *Holmesimysis nuda* (Banner, 1948) Holmquist, 1979

Shallow coastal waters; sandy or rocky bottom, with algae, kelp, and eelgrass. Not uncommon. Washington to British Columbia.

*Holmesimysis nudensis* Holmquist, 1979

Shallow coastal water. Known only from one locality. British Columbia.

*Holmesimysis sculpta* (W. M. Tattersall, 1933)

*Neomysis sculpta* W. M. Tattersall, 1933; *Acanthomysis sculpta* (W. M. Tattersall, 1933) Ii, 1936; *Holmesimysis sculpta* (W. M. Tattersall, 1933) Holmquist, 1979

Shallow coastal waters. Known definitely from only two localities. British Columbia.

*Holmesimysis sculptoides* Holmquist, 1979

Shallow coastal waters; muddy, sandy, or rocky bottom, with algae, kelp, and eelgrass. Known from only a few localities. Washington to British Columbia.

*Inusitatomysis insolita* Ii, 1940

*?Inusitatomysis serrata* Tattersall, 1951; *?Inusitatomysis californica* Băcescu and Gleye, 1979

Midwater plankton to epibenthos (10 to 150 m). Very few specimens recorded. British Columbia; possibly California; Japan.

*Mysis litoralis* (Banner, 1948)

*Pugetomysis litoralis* Banner, 1948; *Mysis oculata* (Fabricius, 1780) Banner, 1954, partim; *Mysis litoralis* (Banner, 1948) Holmquist, 1958

Shallow to deep water, above sandy–muddy bottom, often in eelgrass. Common around San Juan Islands, otherwise apparently scarce in northeast Pacific. Washington to northern Alaska; circumpolar in Arctic to subarctic region.

*Neomysis kadiakensis* Ortmann, 1908

Coastal waters, bays and inlets, midwater plankton to epibenthic (to 100 m), rarely in low salinity water. Not uncommon. California to Alaska.

*Neomysis mercedis* Holmes, 1897

*Neomysis awatschensis* (Brandt, 1851) Banner, 1954

Euryhaline, fresh to brackish water. Common, often abundant. California to southern Alaska.

*Neomysis rayii* (Murdoch, 1884)

*Mysis rayii* Murdoch, 1884; *Neomysis rayii* (Murdoch, 1884) Zimmer, 1904; *?Neomysis franciscorum* Holmes, 1900

Plankton (to 100 m); rarely in low salinity water. Not uncommon. California to northern Alaska; Kamchatka Peninsula.

*Pacifacanthomysis nephrophthalma* (Banner, 1948)

*Acanthomysis nephrophthalma* Banner, 1948; *Pacifacanthomysis nephrophthalma* (Banner, 1948) Holmquist, 1981

Coastal; midwater plankton to epibenthos (to 300 m). Few specimens only recorded. California to Alaska.

*Proneomysis wailesi* W. M. Tattersall, 1933

Shallow to midwater plankton (to 50 m). Common around San Juan Islands, otherwise apparently scarce in northeast Pacific. Washinton to southern Alaska.

*Stilomysis grandis* (Goës, 1863)

*Mysis grandis* Goës, 1863; *Mysideis grandis* (Goës, 1863) G. O. Sars, 1879; *Stilomysis grandis* (Goës, 1863) Norman, 1892

Midwater plankton to epibenthos (to 500 m). Western Greenland; Spitsbergen; Northern Norway; Novaya Zemlya; one published record from British Columbia and few from Bering Sea may be questionable.

*Xenacanthomysis pseudomacropsis* (W. M. Tattersall, 1933)

*Neomysis pseudomacropsis* W. M. Tattersall, 1933; *Acanthomysis pseudomacropsis* (W. M. Tattersall, 1933) Ii, 1936; *Xenacanthomysis pseudomacropsis* (W. M. Tattersall, 1933) Holmquist, 1980

Open waters of coastal areas in plankton (to 175 m). Often abundant. Washington to northern Alaska; Kamchatka and Korea.

TRIBE Heteromysini

*Heteromysis odontops* Walker, 1898

Midwater plankton. Known only from original specimens from Puget Sound; other records are questionable.

SUBFAMILY Mysidellinae

*Mysidella americana* Banner, 1948

Nearshore to deep water. Known only from original specimens from British Columbia and specimens from southern California.

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