ARTIFICIAL KEY TO THE MYSIDACEA OF THE CANADIAN ATLANTIC CONTINENTAL SHELF[1,2]

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Abstract

A key is given for the identification of 16 species and one variety of Mysidacea recorded up to date in waters of the Canadian Atlantic continental shelf. Two species not yet recorded but likely to occur in these waters are also included. The key is to be used with Tattersall's Review of the Mysidacea of the U.S. National Museum (1951). Diagnostic characters of four species are illustrated.

The following key has been extracted from the literature to help marine ecologists, fishery biologists, and other naturalists identify rapidly at least the most common species of Mysidacea (Crustacea, Malacostraca) occurring from the tidal zone to the upper part of the continental slope off the Canadian Atlantic coasts. For the fauna of the continental slope and deeper water, the two comprehensive works of Tattersall and Tattersall (8) and W. M. Tattersall (7) should be used together; the former alone has keys.

The species included in the key are those recorded from Canadian Atlantic waters in the basic list of W. M. Tattersall (6), to which have been added the following, recorded since that time:

Boreomysis tridens var. *lobata* n. var.: Nouvel (4)
Mysis gaspensis n. sp.: O.S. Tattersall (5)
Pseudomma affine G. O. Sars: Klawe (3)
Heteromysis formosa S.I. Smith: Bousfield (1)
Mysis litoralis (Banner): Holmquist (2)

Moreover, *Mysis relicta* Lovén and *Mysis polaris* Holmquist are included in the key, although they have not yet been recorded from the area considered, since it is not impossible that they may be found there. The common bathypelagic genera *Gnathophausia* and *Eucopia* are included in the key to genera since some stray individuals could occasionally be taken near the continental edge, but no key to their species is given.

The key is abridged primarily from those given by Tattersall and Tattersall (8) for British Mysidacea, modified to include Canadian species as described or figured by W. M. Tattersall (7) and Holmquist (2). References to diagnostic figures of every species are given in parentheses in the keys after the names of the species. These figures should always be checked after an identification, especially since the two monographs referred to are readily available.

For the sake of making the key swiftly available, no systematic examination even of the collection of Mysidacea of the Station de Biologie marine could be

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undertaken. It can be noted, however, that specimens of the following species from the Gulf of St. Lawrence are available in the latter collection:

Boreomysis tridens	*Stilomysis grandis*
Mysis mixta	*Pseudomma truncatum*
Mysis stenolepis	*Erythrops erythrophthalma*
Mysis gaspensis	*Meterythrops robusta*

Key to the Genera

1. Branchiae present on all or some of the thoracic limbs. Pleopods well developed in both sexes, natatory, unmodified. No statocyst. Marsupium with seven pairs of brood lamellae (oostegites). Bathypelagic 2
   Branchiae absent. Pleopods of female reduced, rudimentary; of male variable. Marsupium usually with less than seven pairs of oostegites. Statocyst usually present 3

2. Pleural plates of abdominal somites distinct and moderately well developed. Telson with distal constriction preceding bifurcate tip ..... *Gnathophausia*
   No pleural plates on abdominal somites. Outer margin of antennal scale naked. Telson entire ..... *Eucopia*

3. Exopod of uropod with proximal portion of outer margin naked, marked distally by one or two spines and an incipient articulation. Telson cleft. Statocyst present. Marsupium with seven pairs of oostegites ..... *Boreomysis*
   Exopod of uropod undivided 4

4. Telson entire or with a small unarmed apical incision 5
   Telson cleft 6

5. Antennal scale setose all around. Telson linguiform, margins armed with many spines in series 7
   Antennal scale with outer margin naked and ending distally in a thorn. Lateral margins of telson with few or no spines 8

6. Telson, lateral row of spines extending from base to, or nearly to, apex ..... *Mysis*
   Telson, lateral row of spines extending only from middle of lateral margin to apex ..... *Heteromysis*

7. Antennal scale very long (about 4 times as long as last two joints of antennal peduncle), slender, acutely pointed. In male, fourth pair of pleopods, exopod two-jointed with a pair of stout apical barbed setae ..... *Neomysis*
   Antennal scale shorter (about 3½ times as long as last two joints of antennal peduncle), broader, apically blunt. In male, fourth pair of pleopods, exopod four-jointed with a pair of stout apical barbed setae and one similar seta at distal end of third joint .... *Stylomysis*

8. Eyes rudimentary, without visual elements, fused to form a median plate (ocular plate) ..... *Pseudomma*
   Eyes well developed with functional visual elements 9

9. Telson shorter than broad, apex very widely truncate and armed with spines. Eyes reniform, pigment bright red (yellow in preservative liquids) ..... *Erythrops*
   Telson longer than broad, tapering, apex very narrowly truncate, armed with spines. Eyes large and globular, pigment black ..... *Meterythrops*

Keys to Species

Boreomysis G. O. Sars 1869

1. Rostral plate produced into three outgrowths, one median (rostrum) and two lateral .. 2
   Rostral plate produced into a single median rostrum 3

2. Rostral plate with lateral outgrowths acute ..... *B. tridens* G. O. Sars 1870 (Tattersall and Tattersall (8), Figs. 19–21)
   Rostral plate with lateral outgrowths rounded, lobe-like ..... *B. tridens* var. *lobata* Nouvel 1942 (Nouvel (4), Fig. 1)

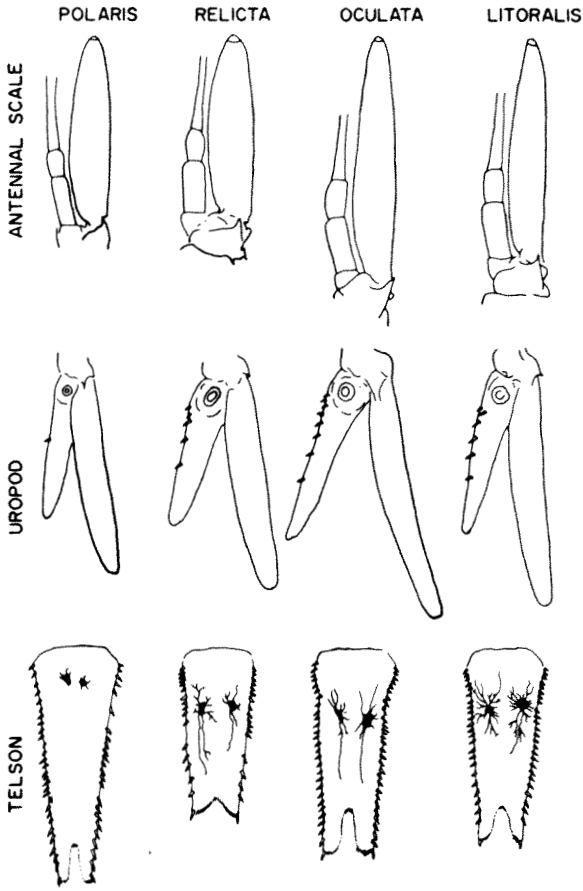

FIG. 1. Some diagnostic characters of *Mysis polaris*, *M. relicta*, *M. oculata*, and *M. litoralis*. Setation is not shown on the antennal scales and uropods. (After Holmquist (2).)

3. Rostral plate produced into a well-developed median, acute spiniform process. Tip of antennal scale transversely truncated ..... *B. arctica* (Kröyer) 1861 (Tattersall and Tattersall (8), Figs. 19, 21–22)
Rostral plate produced into two closely appressed acute spiniform processes. Tip of antennal scale obliquely truncated ..... *B. nobilis* G.O. Sars 1879 (W. M. Tattersall (7), Fig. 6)

Mysis Latreille 1802

1. Antennal scale short and broad, 4 to 5 times as long as broad, apically blunt 2
Antennal scale more elongated, more than 5 times as long as broad, apically blunt or acute 3

2. Telson short and broad, about 3½ times as long as broad at the apex; margins nearly parallel, each with less than 20 spines; apical cleft shallow and broadly open. Uropod, inner margin of endopod with three to five spines. Fresh water, not yet found in brackish water in Canada ..... *M. relicta* Lovén 1862 (present paper, Fig. 1)
Telson long and narrow, from 8 to 9 times as long as broad at the apex; margins converging, each with more than 25 spines; apical cleft deep and narrow. Uropod, inner margin of endopod with one spine. Not yet recorded, but likely to occur in Arctic Canada ..... *M. polaris* Holmquist 1959 (present paper, Fig. 1)

3. Antennal scale from 5 to 6 times as long as broad, apically blunt 4
Antennal scale more than 9 times as long as broad, apically acute 6

4. Telson short and broad, less than 4 times as long as broad at the apex; lateral margin with a row of 20–22 spines extending from base of telson only to level of base of median cleft; four chromatophores or more. Uropod, inner margin of endopod with four spines ..... *M. gaspensis* O.S. Tattersall 1955 (O.S. Tattersall (5), two figures)
Telson longer and narrower, more than 4 times as long as broad at the apex; margin with a row of 25 or more spines extending distally farther than level of base of median cleft; four chromatophores or less. Uropod, inner margin of endopod with six or more spines 5

5. Telson with 25–30 spines on lateral margin, extending from base to apex, with about four spines distal to base of median cleft; the latter deep and narrow, rounded proximally, its margins subparallel. Uropod, inner margin of endopod with seven to eight spines ..... *M. oculata* (Fabricius) 1780 (present paper, Fig. 1)
Telson with row of about 25 spines on lateral margin, extending from base to a point between apex and level of base of median cleft; the latter broader at the apex, rather acute proximally, subtriangular. Uropod, inner margin of endopod with about six spines ..... *M. litoralis* (Banner 1948) (present paper, Fig. 1)

6. Antennal scale about 9 times as long as broad, outer margin nearly straight. Telson comparatively deeply cleft, spines of lateral margin more than 30, extending almost to the apex, at least 3 or 4 on the margin posterior to base of cleft.... *M. mixta* Lilljeborg 1852 (W. M. Tattersall (7), Fig. 63)
Antennal scale about 12 times as long as broad, outer margin concave. Telson comparatively less deeply cleft, spines on the lateral margin about 25, the most distal spine at about the level of base of cleft, so that there is a considerable unarmed posterior portion of the lateral margin..... *M. stenolepis* S.I. Smith 1873 (W. M. Tattersall (7), Fig. 64)

Heteromysis S. I. Smith 1873

Single species found in the area..... *H. formosa* S. I. Smith 1873 (W. M. Tattersall (7), Fig. 100)

Neomysis Czerniavsky 1882

Single species found in the area (key to the species of the world in W. M. Tattersall (7), p. 180) ..... *N. americana* (S. I. Smith) 1873 (W. M. Tattersall (7), Fig. 77)

Stilomysis Norman 1892

Single species found in the area..... *S. grandis* (Goës) 1863 (W. M. Tattersall (7), Fig. 66)

Pseudomma G. O. Sars 1870

1. Ocular plate, serrations occupying more than half of anterolateral margin. Telson with at least four pairs of apical spines. Antennal scale more than 4 times as long as its greatest width..... *P. affine* G. O. Sars 1870 (Tattersall and Tattersall (8), Fig. 52)
Ocular plate, serrations occupying about a third of anterolateral margin. Telson with two, sometimes three pairs of apical spines. Antennal scale less than 4 times as long as its greatest width 2

2. Ocular plate about 3½ times as broad as long, with its lateral margins almost parallel; edges of its anterior median cleft not in contact with each other, cleft being triangular. Antennal scale less than 3 times as long as its greatest width . *P. truncatum* S. I. Smith 1879 (W. M. Tattersall (7), Fig. 47)
Ocular plate about 2½ times as broad as long, with lateral margins not parallel; its anterior median cleft almost closed, with edges in contact. Antennal scale more than 3 times as long as its greatest width..... *P. roseum* G. O. Sars 1870 (W. M. Tattersall (7), Fig. 46)

Erythrops G. O. Sars 1869

Single species found in the area..... *E. erythrophthalma* (Goes) 1864 (Tattersall and Tattersall (8), Fig. 41)

Meterythrops S. I. Smith 1879

Single species found in the area..... *M. robusta* S. I. Smith 1879 (W. M. Tattersall (7), Fig. 35)

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