18. Studies on Japanese Mysidacea

I. Descriptions of New and Some Already Known Species Belonging to the Genera, Neomysis, Acanthomysis and Proneomysis

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(With Text-figures 1–116)

Collected materials of Japanese Mysidacea contain many interesting species and reveal new facts with respect to their taxonomy, distribution and habits. The study of the specimens is in progress and among them so far examined ten species, that is, two belonging to the genus *Neomysis*, four to *Acanthomysis* and four to *Proneomysis*, are dealt with in the present paper. Of these species seven are new to science, one can be identified with certainty as an already known species and the remaining two are doubtful whether they are referable to already known ones or not. All of them are described and figured in minute details for comparison with each other and to clear up some doubtful points in their structure and taxonomic position.

It is my pleasant duty here to express my deep gratitude to Professor Ikusaku Amemiya, by whose suggestion and guidance the present study was undertaken and carried out. I am also indebted to Mr. Kiichi Nakazawa for his kind information given to me as well as valuable specimens placed by him at my disposal. Thanks are due to Mr. Hiroaki Aikawa, Mr. Katuaki Tuzinaga and other gentlemen who all kindly sent me materials for the study.

Genus *Neomysis* Czerniawsky, 1882

Zimmer (1915) amalgamated the genus *Acanthomysis* Czerniawsky (=*Dasymysis* Holt and Beaumont (1900), *Metamysis* Nakazawa (1910), not Sars, *Orientomysis* Derzhavin (1913)) with the genus *Neomysis* Czerniawsky (1882) on the ground that the distinctions between these two genera have been broken down in the light of the species described by Nakazawa and Derzhavin. In the structure of the male pleopods both genera are identical and the only difference between them lies in the antennal scale. In *Neomysis* the antennal scale is very long, with a sharply pointed apex, while in *Acanthomysis* the antennal scale is comparatively short, with a rounded apex.

The numerous species referred to the comprehensive genus of Zimmer may be divided into two groups according to the character of the antennal scale, as follows :

Group I. Antennal scale with an acute spiniform apex.

N. awatchensis (Brandt)
Mysis awatschensis Brandt 1851, Czerniawsky 1882
Syn: *N. nigra* Nakazawa 1910, Tattersall 1921
N. intermedia (Czerniawsky)
Heteromysis intermedia Czernawsky 1882
N. intermedia, Nakazawa 1910
Syn: *N. awatschensis* Tattersall 1921, Derzhavin 1923
N. isaza Marukawa 1928
N. mercedis Holmes 1897
Holmes 1900, Tattersall 1932
N. rayii Murdoch 1885
Syn: *N. toion* Derzhavin 1913
N. integer (Leach)
Mysis integer Leach 1815
Syn: *Mysis vulgaris* Thompson 1828
N. vulgaris Czerniawsky 1882
N. franciscorum Holmes 1900
Hansen 1913, Schmitt 1919
N. mirabilis (Czerniawsky)
Heteromysis mirabilis Czerniawsky 1882
N. kadiakensis Ortmann 1908
Schmitt 1919, Tattersall 1932
N. japonica Nakazawa 1910
N. americana (Smith)
Zimmer 1904
Mysis americana Smith 1874
N. spinosa Nakazawa 1910
N. czerniawskii Derzhavin 1913
Syn: *N. andersoni* Schmitt 1919
N. patagona Zimmer 1907
N. meridionalis Colosi 1924
N. monticelli Colosi 1924

Group II. Antennal scale with a rounded apex.

N. longicornis (Edwards)
Mysis longicornis Edwards 1837
Acanthomysis longicornis, Czerniawsky 1882
Dasymysis longicornis (Edwards), Holt and Beaumont 1900
Syn: *Acanthomysis playdens* Czerniawsky 1882
Acanthomysis spinosissima Czerniawsky 1882
N. sagamiensis (Nakazawa)
Metamysis sagamiensis Nakazawa 1910

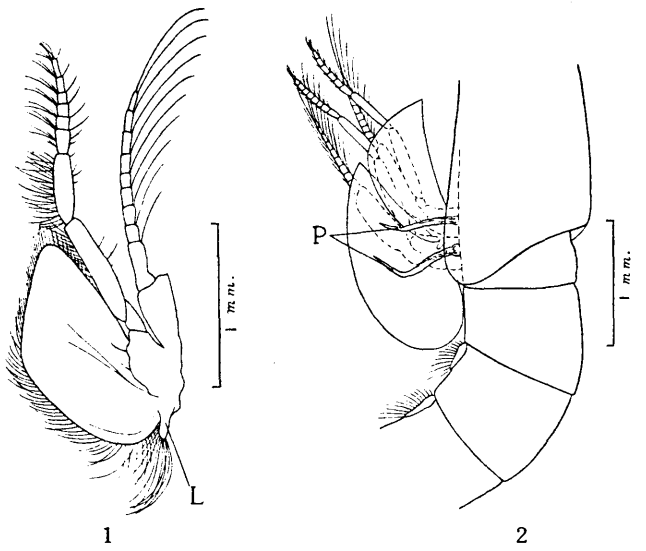
N. mitsukurii (Nakazawa)
Metamysis mitsukurii Nakazawa 1910
N. schrencki (Czerniawsky)
Mysis schrencki Czerniawsky 1882
N. stelleri (Derzhavin)
Orientomysis stelleri Derzhavin 1913
N. costata (Holmes)
Illig 1930, Tattersall 1932
Mysis costata Holmes 1900, Hansen 1913
N. dybowskii (Derzhavin)
Orientomysis dybowskii Derzhavin 1913
N. indica Tattersall 1922
N. hodgarti Tattersall 1922
N. macropsis Tattersall 1932
N. columbiae Tattersall 1933
N. pseudomacropsis Tattersall 1933
N. sculpta Tattersall 1933

As far as I can make out consulting with the keys in Illig's (1930), Tattersall's (1932) and Zimmer's (1909) papers, the present genus, therefore, comprises 28 already known species, as listed above, and is becoming somewhat unwieldy. Therefore, Tattersall inclines to the opinion that it would be better to separate them into two genera according to the character of the antennal scale. In his paper (1932) he says, "it seems probable that Group II will have to be separated generically from the remainder on the character of the antennal scale. It forms a ready means of separating the species into two groups which may well be given generic rank. In such case the name *Acanthomysis* must be used to designate the second group of species." In his later paper (1933) he also says, "When the numerous species belonging to the genus *Neomysis* come to be revised, it will probably be found convenient to group them into a number of closely allied genera." Tattersall, however, in both of his papers (1932, 1933), did not divide the genus *Neomysis* into two genera and adopted Zimmer's arrangement, and it seems that he hesitated before dividing them into two genera and awaited the discovery of some definite distinctions between the two groups beside the character of the antennal scale.

Tattersall in his paper (1932) described interesting facts he observed in the three species belonging to the group I, viz. *N. mercedis* Holmes, *N. franciscorum* Holmes and *N. kadiakensis* Ortmann. The facts, namely, are the following two points which until then had escaped notice. The first point is the presence of a small posterior setose lobe on the posterior pair of oostegites, projecting backward, and rather sharply marked off from the main oostegite. The second point is the presence in the female of a rather long, delicate, somewhat curved and forwardly directed spiniform process on the median line of the last three thoracic sterna.

Especially on these points I examined the five species in my material, viz.

N. japonica Nakazawa, *N. spinosa* Nakazawa, *N. intermedia* (Czerniawsky), *N. czerniawskii* Derzhavin? and *N. nakazawai* n. sp. The results of my examination slightly differ from Tattersall's observation. As to the first point, I found the lobe (Fig. 1) which seems to correspond to that observed and described



Figs. 1-2. *Neomysis intermedia* Czerniawsky

Fig. 1. Seventh thoracic limb with the anterior oostegite to show the posterior lobe (L).

Fig. 2. Middle part of the body to show the processes (P) on the last two thoracic sterna and the marsupial pouch.

by Tattersall to be present on the 'posterior' oostegites in his species. The lobe more or less developed is, on the contrary, on the anterior oostegites in all above named species, and I could not find out any peculiar lobe on the posterior oostegites. Judging, however, from his figure, Tattersall seems to have mistaken the term 'posterior' for 'anterior'. Similar lobe also can be observed in some species belonging to the group II, viz. *N. mitsukurii* (Nakazawa), *N. dybowskii* (Derzhavin)?, *Acanthomysis longirostris* n. sp. and *A. dimorpha* n. sp. As to the second point, I could find such processes (Fig. 2) only on each of the last two thoracic sterna as far as concerned to all my species belonging to the group I except *N. spinosa*. In *N. spinosa* I failed to find such process.

From the above said results of my examination, I think that these two points may or may not be the distinctive characters between the two groups. Further examination is necessary and I reserve here to decide the weight of

these points to count for the generic importance. But at any rate, I believe that the difference in the character of the antennal scale forms a ready means of separating the species into two genera.

In my material I found three new species belonging to the genus *Neomysis* in Zimmer's sense. One of them belongs to the group I, and the other two to the group II. I believe that Japan and her adjacent seas are rich in species of *Neomysis*, and expect that a considerable number of new species may further be discovered hereafter.

Hence, so as not to complicate the genus *Neomysis*, here I separate the group II from the group I generically only on the ground of the difference in the character of the antennal scale and use the name *Neomysis* to designate the group I and *Acanthomysis* the group II.

Neomysis nakazawai[1] n. sp.

Figures 3-13.

LOCALITY. Noda, Karafuto (Sakhalin).

Type specimen. 24 females, no males.

The material was kindly sent to me by Mr. Nakazawa, to whom I am greatly indebted for the privilage of examining and describing the present species.

There are no male specimens in the collection, therefore, the following description is based only on female specimens.

DESCRIPTION. Body stout. Last thoracic somite has 2 rather faint depressions on dorsal side. Anterior 5 abdominal somites have obscure grooves on dorsal side, 3 on the first somite, 2 on each of the second and the third, and 1 on each of the fourth and the fifth.

Front margin of the carapace produced into a wide subquadrangular plate with rounded angles, about $^{2}/_{3}$ as long as broad, but the carapace leaves the whole of the eye-stalks and antennules uncovered; front margin of the rostral plate concave with a broad ob-trapezoidal indentation and somewhat depressed at the middle. Antero-lateral corners of the carapace long and acutely pointed.

Eyes, including the stalk, about $1^{2}/_{3}$ times as long as broad, cornea occupying about $^{1}/_{3}$ of the entire eye in dorsal view.

Antennular peduncle long and slender; basal joint almost as long as the 2 distal joints combined.

Antennal scale long and narrow, about 15 times as long as broad, and about 3 times as long as the antennular peduncle, setose all round, 2-jointed, the distal joint about $^{1}/_{5}$ of the entire length of the scale and terminating in an acute spiniform apex; basal joint, from which the scale arises, with a prominent spine on both inner and outer corners.

Antennal peduncle about $^{1}/_{3}$ of the length of the scale; the third joint

[1] In honour of Mr. Kiichi Nakazawa.

slightly shorter than the second.

Mouth parts, first and second thoracic limbs show no feature of special interest.

Third to the eighth thoracic limbs rather slender, propodite divided into 9–15 subjoints which increase in number posteriorly; basal plate of the exopod with a spiniform outer distal angle.

Marsupial pouch consisted of 2 pairs of oostegites; the posterior margin of the anterior pair of the oostegites with a tiny, setose, backwardly projecting lobe. Each of the last 2 thoracic sterna provided with a long, delicate, spiniform process on the median line.

Sixth abdominal somite about $1^1/_5$ times as long as the fifth.

Pleopods of the female are all rudimentary.

Telson linguiform, about $1^2/_5$ times as long as the last abdominal somite and about $2^1/_5$ times as long as broad at the base; lateral margins concave in the first $^1/_3$ part, convex in the second $^1/_3$ part and then gradually narrowing toward a narrowly rounded apex; the margins densely armed throughout their length with many stout spines; in the proximal $^2/_3$ of the margins the spines are rather widely spaced, in the next half of the margins the spines growing larger posteriorly and grouped into 5–7 sets, each set composed of a large spine followed by 2–5 slightly smaller spines, and in the last $^1/_{10}$ of the margins around the apex the spines are short, blunt, very closely set and of even size.

Inner uropod slightly shorter than the telson and its ventral inner margin armed with a dense row of about 80 spines.

Outer uropod $1^1/_2$ times as long as the telson.

Length. Adult females, 30 mm.

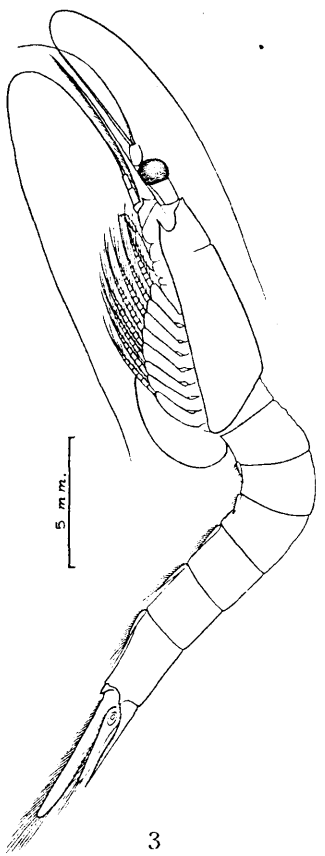


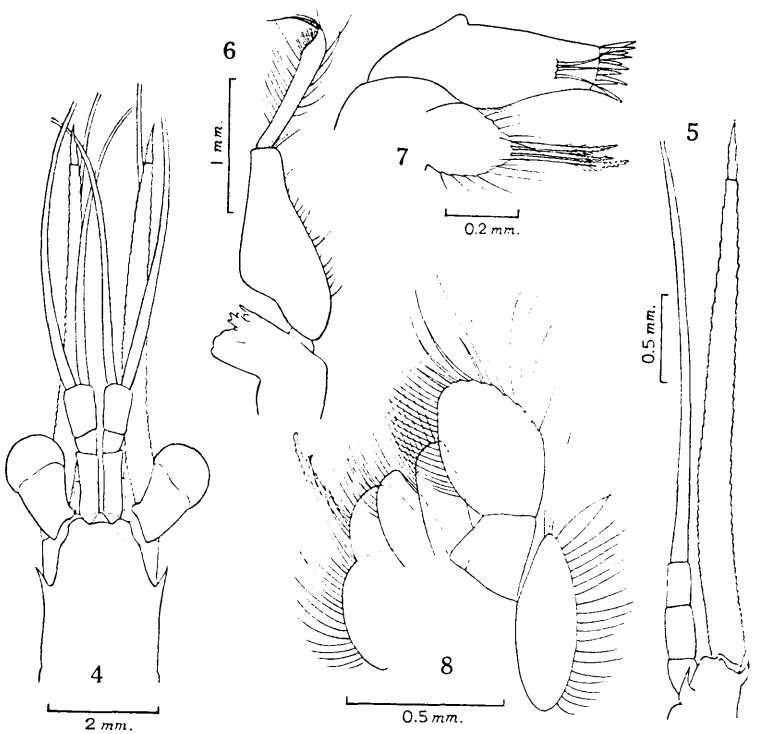
Fig. 3. *Neomysis nakazawai* n. sp.
Lateral view of adult female.

REMARKS. Although I could not obtain male specimens, the present species must be included in the genus *Neomysis*, diagnosed clearly by the combination of the characters afforded by the antennal scale, propodite, telson, pleopod

of the female, oostegite, etc.

The present species is very closely allied to *N. patagona* Zimmer, from Magellan Straits, in the peculiar shape of the rostral plate, and easily distinguishable in this point from other species hitherto described. But the present species differs from *N. patagona* in the following points:

(1) Last thoracic somite and anterior 5 abdominal somites have grooves on dorsal side, whereas in *N. patagona* the body is smooth.



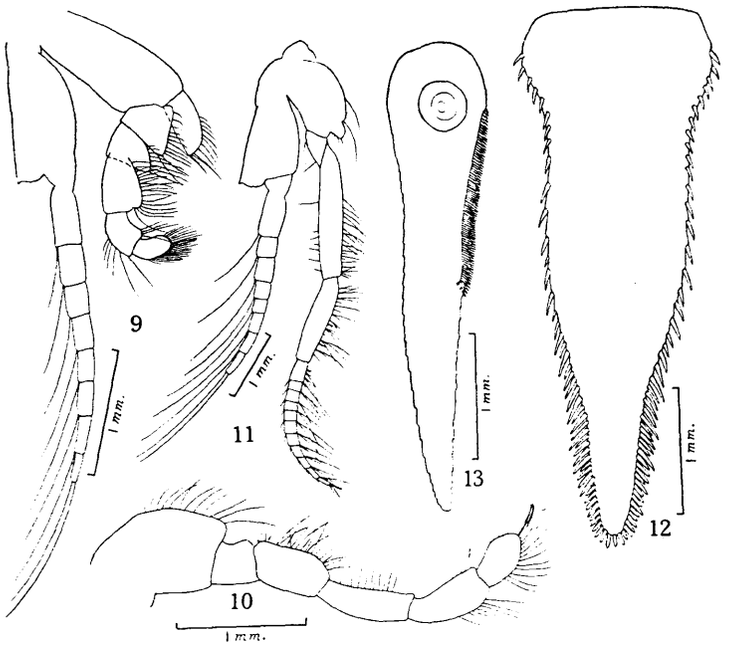
Figs. 4–8. *Neomysis nakazawai* n. sp.

Fig. 4. Anterior end of a female to show rostral plate, eye, antennule and antennal scale.
Fig. 5. Antennale scale and peduncle.
Fig. 6. Mandible and palp.
Fig. 7. First maxilla.
Fig. 8. Second maxilla.

(2) In the present species the rostral plate leaves the whole of the eye-stalks and antennules uncovered, while in *N. patagona* the rostral plate reaches to the middle of the eye-stalks.

(3) Antennal scale is relatively longer, 15 times as long as broad in the present species, while in *N. patagona* it is 9 times as long as broad.

(4) Propodite of the third to the eighth thoracic limbs subdivided into 9–15 joints in the present species and 8–9 in *N. patagona*.



Figs. 9–13. *Neomysis nakazawai* n. sp.

Fig. 9. First thoracic limb.
Fig. 10. Endopod of second thoracic limb.
Fig. 11. One of the posterior thoracic limbs.
Fig. 12. Telson.
Fig. 13. Inner uropod.

(5) The present species is rather easily distinguishable from *N. patagona* in the armature of the telson.

(6) Inner uropod is provided with a dense row of about 80 spines on the ventral inner margin in the present species, while in *N. patagona* with only 1 spine on the same part.

(7) Outer uropod is setose all round, and has no spines not as in *N. patagona*.

Neomysis czerniawskii Derzhavin?

Figures 14–21.

Neomysis czerniawskii Derzhavin 1913
Neomysis andersoni Schmitt, 1919; Rept. Canad. Arctic Exp. 1913–1918. 7, Crustacea, (B), 1 B–8 B, 3 text-figs.

LOCALITIES. Port Samé, Aomori Prefecture. Abundant, adult males and females.

Off the coast of the Sikotan Peninsula, Hokkaido. Abundant, adult males and females.

Present specimens from the two localities, especially the Sikotan samples agree very well with Derzhavin's description of *N. czerniawskii* in many essential points. But to my regret, as Derzhavin's description is very brief and rather incomplete, and he made no mention about the features of the fourth pleopod of the male in his text, I can not make full comparison of the present specimens with the Derzhavin's. Recently Tattersall united *N. andersoni* Schmitt with *N. czerniawskii* by the examination of Schmitt's co-types. But it is a regret for me unable to say anything about the matter, as I can not consult with Schmitt's original description of *N. andersoni*.

Judging from scrutiny of Derzhavin's figures in his paper the present specimens from the two localities slightly differ from *N. czerniawskii* in the apical armature of the telson. In my specimens the apex of the telson is armed with 4 equally long spines, while in Derzhavin's figure of *N. czerniawskii* the 4 spines show different features, e. i., the inner pair of the spines are shorter than the outer. As to the fourth pleopod of the male of Derzhavin's specimens, I can only cognise vaguely its form and length by his figure of the male. In his figure only tiny fourth pleopod is shown. But I think his figure depicts an immature male with tiny fourth pleopod which has not yet fully grown. Immature males in my specimens from Port Samé, which measure 9 mm. in length also show the same condition as Derzhavin's figure. Thus, it is quite certain that Derzhavin's figure was drawn from some immature specimen. As to the shape of the rostrum Derzhavin gave no description thereof and in his comparison of *N. czerniawskii* with *N. spinosa* Nakazawa he made also no reference to the rostrum, but in my present specimens the rostrum clearly differs from that of *N. spinosa*.

On the other hand, there are slight differences between the Samé and the Sikotan specimens, that is, in the body length of the adult, and in the number of joints of the propodite and in that of the spines on the ventral inner margin of the inner uropod, as are shown in the following table.

However, I think that these differences cannot be considered more than variations in a species, as in many other important characters all these specimens are very similar. It is not seldom occurrence that the number of joints of propodite and that of spines on the ventral inner margin of inner uropod are liable to variations in the same species. Nevertheless, the Samé specimens

	Number of joints of propodite	Number of spines on the ventral inner margin of uropod	Body length
Samé specimen	8-10	44-54	16 mm
Sikotan specimen	9-12	54-60	21 mm
N. czerniawskii (after Derzhavin)	9-12	54	21 mm

show fairly noticeable differences from others, e. i., in the body length and in the number of joints of propodite. Yet, the said differences seem to me also variations in the same species, as these kinds of variations in one species are equally rather common in Mysidacea according to localities and also to different seasons of the year even in the same locality. Therefore, the Samé specimens may be at greatest one variety in the species, the samples of which were collected from Kamchatka (Derzhavin) and Sikotan.

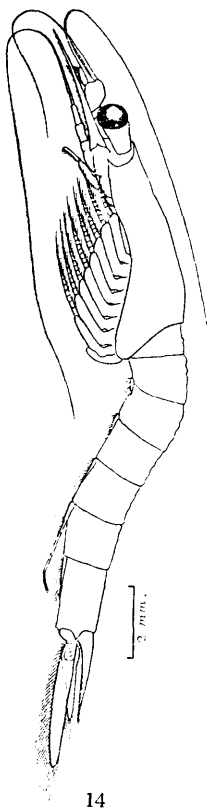


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Fig. 14. *Neomysis czerniawskii* Derzhavin ? Lateral view of adult male.

I am not quite sure yet whether the present specimens actually belong to the same species as that described by Derzhavin or not. Decision on this point can only be made by examination of fully grown specimens of *N. czerniawskii*, or, perhaps, when Schmitt's description of *N. andersoni* is available for reference. So that I reserve here to draw any conclusion on the specific identification of the present specimens for future study. However, from above said reasons and also taking into consideration the hydrographical relation of the three localities where Derzhavin's and my specimens were collected, I am rather inclined to the opinion that my present specimens from two localities are identical with each other and also with *N. czerniawskii* at the same time. And it seems advisable in this opportunity to give a brief description of the Sikotan specimens.

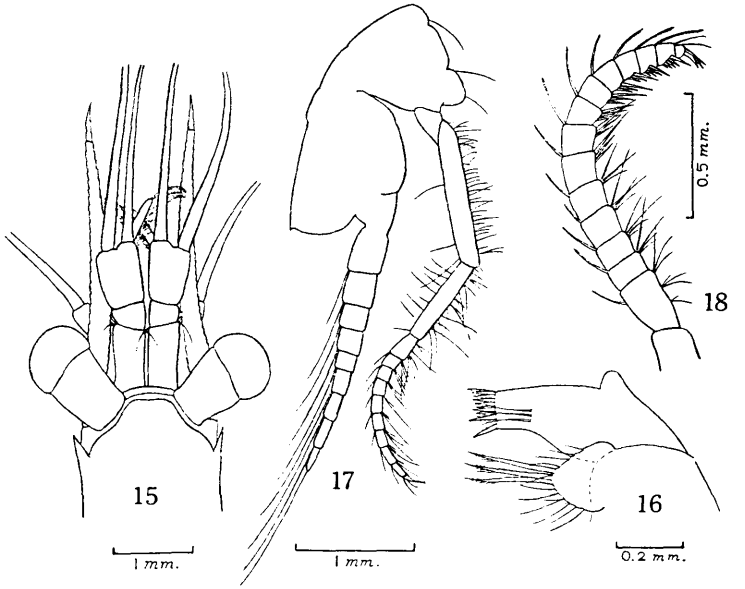
Description. Front margin of the carapace produced into a wide subquadrangular plate with rounded angles, the front margin of the plate somewhat depressed at the apex, so that it appears slightly concave in outline; antero-lateral corners of the carapace acutely pointed.

Each of the free somite of the thorax and the 5 anterior abdominal somites with 2 or 3 faint transverse grooves on dorsal side.

Eyes globose, eye-stalks rather long.

Antennular peduncle more robust in the male than in the female; its first joint provided with 2 long plumose setae, one on the outer distal corner and the other near the inner distal corner; male sexual appendage slender, about as long as the third joint.

Antennal scale narrowly lanceolate in shape with a pointed apex, about 14 times as long as broad, extending far beyond the antennular peduncle, 2–2½ times as long as it, 2-jointed, the distal joint $^1/_6$–$^1/_7$ of the entire length of the scale; the scale somewhat longer in the female than in the male; the second joint of the antennal peduncle slightly longer than the third joint.



Figs. 15-18. *Neomysis czerniawskii* Derzhavin ?

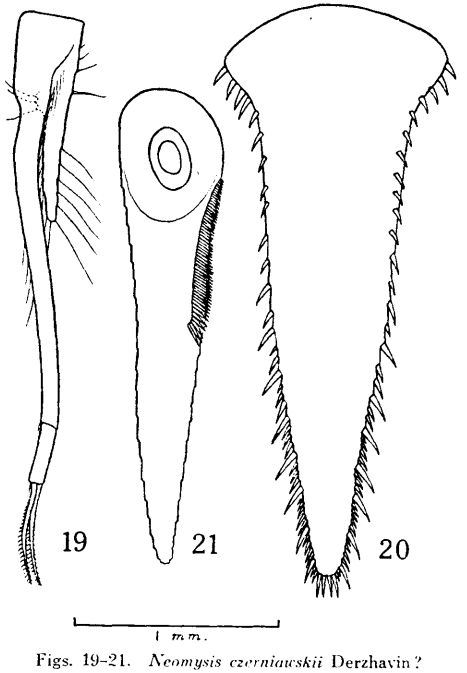
Fig. 15. Anterior end of a male to show rostral plate, eye, antennule and antennal scale.
Fig. 16. First maxilla.
Fig. 17. Third thoracic limb.
Fig. 18. Distal joints of eighth thoracic limb to show the peculiar transformation of the setae along the inner margin of propodite.

Mouth parts, first and second thoracic limbs show no very marked difference from those in other species of the genus.

Third to the eighth thoracic limbs slender; propodite divided into 9–12 joints, the number of the joints increases posteriorly. In the last thoracic limbs setae on the inner margin of distal 5–6 joints of propodite transformed into strong spines.

Fourth pleopod of the male reaching to the middle of the last abdominal

somite, exopod 2-jointed, the first joint about 5 times as long as the second joint, the latter terminated by 2 long spinous setae, about 1½ times as long as the joint.



Figs. 19–21. *Neomysis czerniawskii* Derzhavin?

Fig. 19. Fourth pleopod of the male.
Fig. 20. Telson.
Fig. 21. Inner uropod.

Telson long and narrowly triangular, about 1½ times as long as the last abdominal somite, and 2½ times as long as broad at the base, abruptly narrowing at a short distance from the base and then gradually narrowing to a slender truncate apex, the proximal ⅖ of the lateral margins armed with about 15 short, stout and uniform spines, in the distal ⅗ of the margins spines arranged in 8–10 successive sets, each set being composed of 2–4 small spines followed by a longer and stronger spine, the apex bears 4 equally long spines, which are about as long as the longer lateral spines.

Inner uropod almost as long as the telson, and with a dense row of about 51 spines on the ventral inner margin.

Outer uropod about 1½ times as long as the inner.

Length. Adult specimens of both sexes, 21 mm.

REMARKS. The present species is very closely allied to *N. spinosa* Nakazawa, but is distinguishable from it by the shape of the rostrum, by the absence of the spiniform process on the eye-stalk and of the spines on the fifth and the sixth abdominal somites, and by the number of joints on the propodite and of the spines on the inner margin of the inner uropod.

DISTRIBUTION. Awatschin Bay, Bay of Petropawlowsk, Kamchatka. (Derzhavin, 1913).

Genus *Acanthomysis* Czerniawsky, 1882 emend.

This genus was established by Czerniawsky in 1882 and has been named at various times *Dasymysis* by Holt and Beaumont 1900, *Metamysis* by Nakazawa 1910 and *Orientomysis* by Derzhavin 1913. In 1915, Zimmer in his revision of the genera of the tribe Mysini regarded all these genera as synonyms of *Neomysis*, mainly on the basis of the character of the pleopods which are uniform throughout their members.

Afterward numerous species have been referred to the genus *Neomysis*, and thus the genus became very rich in species and somewhat unwieldy. Hence, I have separated the group of species which have the antennal scale with a rounded apex from the genus *Neomysis* and revived the name *Acanthomysis* to designate group II as already discussed under the genus *Neomysis*.

DEFINITION OF THE GENUS. A genus of the tribe Mysini closely allied to *Neomysis*, but is distinguishable from it by the rounded apex of the antennal scale. In other respects the genus absolutely agrees with *Neomysis*.

Type: *A. longicornis* (Edwards).

REMARKS. The present genus is distinguishable from all other genera of the tribe Mysini by the combination of the characters afforded by the antennal scale and the fourth pleopod of the male.

I found 2 species in my material, both new to science. With 13 species already described, the genus will now include 15 species altogether as are shown as follows:

A. longicornis (Edwards) 1837
= *Neomysis longicornis* (Edwards)
A. sagamiensis (Nakazawa) 1910
= *Neomysis sagamiensis* (Nakazawa)
A. mitsukurii (Nakazawa) 1910
= *Neomysis mitsukurii* (Nakazawa)
A. schrencki (Czerniawsky) 1882
= *Neomysis schrencki* (Czerniawsky)
A. stelleri (Derzhavin) 1913
= *Neomysis stelleri* (Derzhavin)
A. costata (Holmes) 1900
= *Neomysis costata* (Holmes)
A. dybowskii (Derzhavin) 1913
= *Neomysis dybowskii* (Derzhavin)
A. indica (Tattersall) 1922
= *Neomysis indica* Tattersall
A. hodgarti (Tattersall) 1922
= *Neomysis hodgarti* Tattersall
A. macropsis (Tattersall) 1932
= *Neomysis macropsis* Tattersall
A. columbiae (Tattersall) 1933
= *Neomysis columbiae* Tattersall
A. pseudomacropsis (Tattersall) 1933
= *Neomysis pseudomacropsis* Tattersall
A. sculpta (Tattersall) 1933
= *Neomysis sculpta* Tattersall

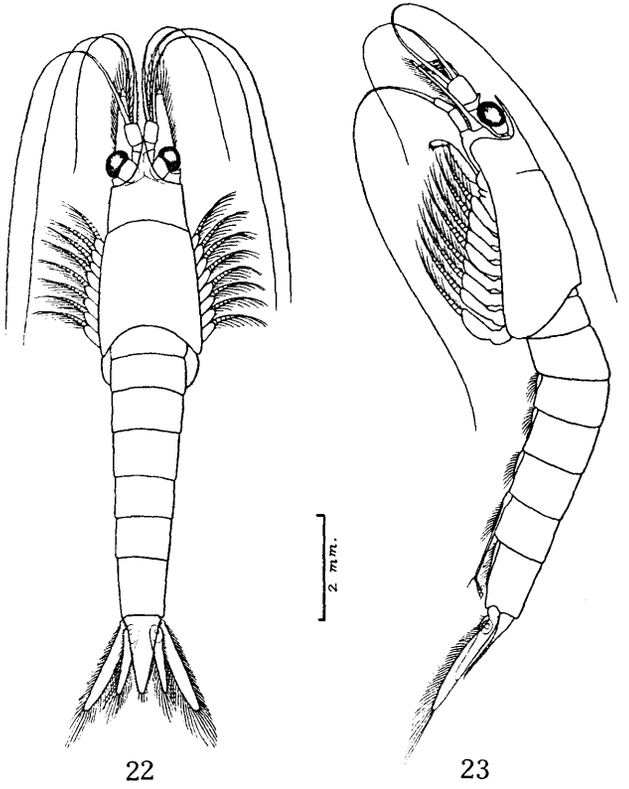
A. longirostris n. sp.
A. dimorpha n. sp.

Acanthomysis longirostris n. sp.

Figures 22–32.

LOCALITIES. Port Gunzan, Tyôsen (Korea).
Type specimen. Abundant, adult males and females.
Ariake Sea, Kyûshû. 22 males, 8 females.

DESCRIPTION. Body smooth, without spinules or grooves on either thorax or abdomen.



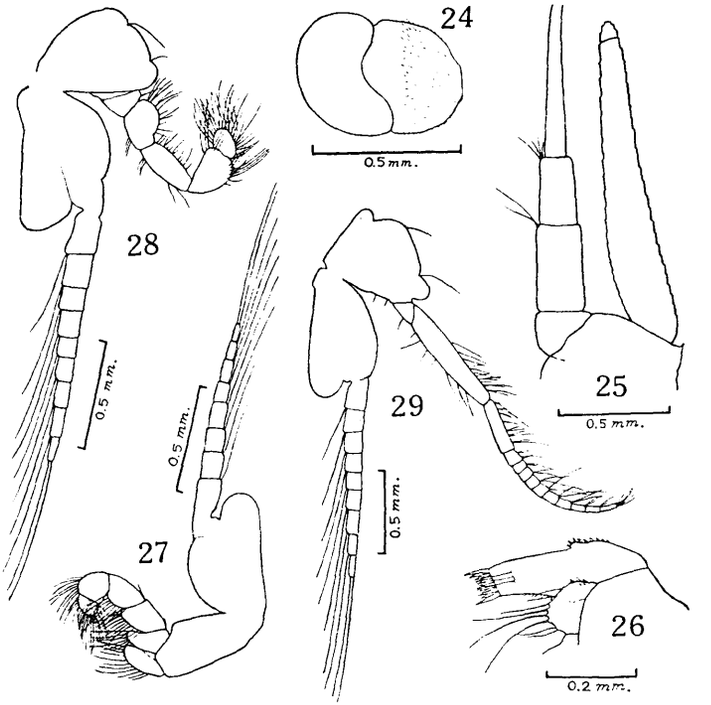
Figs. 22–23. *Acanthomysis longirostris* n. sp.

Fig. 22. Dorsal view of adult female showing rostral plate.
Fig. 23. Lateral view of adult male.

Front margin of the carapace produced into a long triangular rostral plate with a sharply pointed apex, the apex reaches to the distal end of the second joint of the antennular peduncle; antero-lateral corners of the carapace rounded.

Eyes normal in shape, pigment black; eye-stalk stout and its proximal half densely beset with spinules.

Antennular peduncle with the first joint slightly shorter than the third joint; male sexual appendage long, triangular and about half as long as the third joint.



Figs. 24–29. *Acanthomysis longirostris* n. sp.

Fig. 24. Eye.
Fig. 25. Antennal scale and peduncle.
Fig. 26. First maxilla.
Fig. 27. First thoracic limb.
Fig. 28. Second thoracic limb.
Fig. 29. One of the posterior thoracic limbs.

Antennal scale narrowly lanceolate in shape, about 7 times as long as broad, apex rounded, 2-jointed, the distal joint about $^1/_5$ of the entire length of

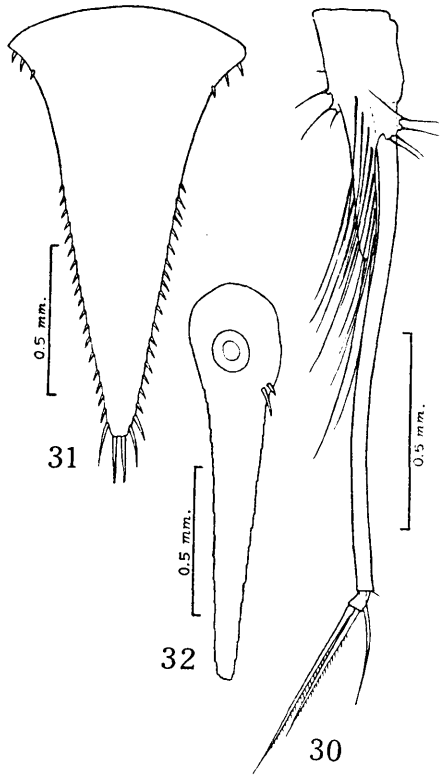
the scale; the scale extends for $^2/_5$ of its length beyond the antennular peduncle and its own peduncle, and slightly longer in the female than in the male.

Labrum pointed anteriorly and the spine reaching to the middle of the second joint of the palp of mandible.

First maxillae with a ridge on the outer margin of the outer plate armed with about 10 spinules; outer margin of the inner plate also armed with several spinules.

Second maxillae, first and second thoracic limbs show no features of special interest.

Remaining thoracic limbs with propodite divided into 9–11 (mostly 10) joints; meropodite longer than carpopodite.



Figs. 30–32. *Acanthomysis longirostris* n. sp.

Fig. 30. Fourth pleopod of the male.
Fig. 31. Telson.
Fig. 32. Inner uropod.

The sixth abdominal somite $1^1/_3$ times as long as the fifth.

Fourth pleopod of the male reaching almost to the posterior end of the last somite of the abdomen; endopod of usual form: exopod 2-jointed; the first joint very long and its inner distal corner armed with a long simple seta, about $^1/_4$ of the length of the joint; the second joint very short, only $^1/_{22}$ of the length of the first joint and terminated by 2 long spinous setae about 8 times as long as the joint.

Telson long, triangular, $1^1/_3$ times as long as the last abdominal somite, and almost twice as long as broad at the base, abruptly narrowing at a short distance from the base and then almost straightly narrowing to a slender but truncate apex; lateral margins armed with about 23 small spines, 3 of them situated near the base and the others on the distal $^1/_3$ of the margins; the last pair of lateral spines abruptly increasing in length, almost as long as a pair of spines on the apex, which are about $^1/_{10}$ of the length of the telson.

Inner uropod slightly longer than the telson, with 2–3 spines on the lower inner margin near statocyst; statocyst rather small.

Outer uropod about $^1/_3$ longer than the telson.

Length. Adult males and females, 11 mm.

REMARKS. The present species is very closely allied to *A. hodgarti* (Tattersall). But it differs from *A. hodgarti* in the following points:

(1) The rostral plate is much longer than that of *A. hodgarti*, the apex sharply pointed and reaches to the distal end of the second joint of the antennular peduncle.

(2) Propodite of the third to the eighth thoracic limbs subdivided into 9–11 joints in the present species and 5–6 joints in *A. hodgarti*.

(3) Superficially, telson is very much similar to that of *A. hodgarti*, but the apex more narrowly truncated than in *A. hodgarti*, and slightly differs in the apical armature. In *A. hodgarti* the apex bears 4 equally long spines, while in the present species the apex bears only 2 long spines, yet it looks very much alike the same part of *A. hodgarti*, if it is seen together with the last pair of the lateral spines.

(4) In this species the exopod of the fourth pleopod of the male has very short second joint, about $^1/_{22}$ of the length of the first joint and terminated by 2 long spinous setae; while in *A. hodgarti* the second joint $^2/_7$ of the length of the first joint and terminated by a long simple seta.

Tattersall described the fourth pleopod of the male in *A. hodgarti* as follows: "Fourth pleopod reaching almost to the base of the telson, endopod with well developed side lobe, exopod composed of three joints, first joint very long, three and a half times as long as the second, latter bearing a very long straight simple seta three times as long as the joint, terminal joint very minute with a single short seta at the apex." However, I cannot find out the tiny third joint in his small figure. If his description is correct, I think these structures of the fourth pleopod of the male do not conform to the generic character of the genus *Acanthomysis*.

The present species is also closely allied to *A. longicornis* (Edwards) and *A. sagamiensis* (Nakazawa), but easily distinguishable from both of them by several features e. i., the rostral plate, the number of joints of the propodite of the thoracic limbs, the fourth pleopod of the male and the armature of the telson.

Long rostral plate and the form of the fourth pleopod of the male will serve to distinguish the present species from any hitherto known species in the genus.

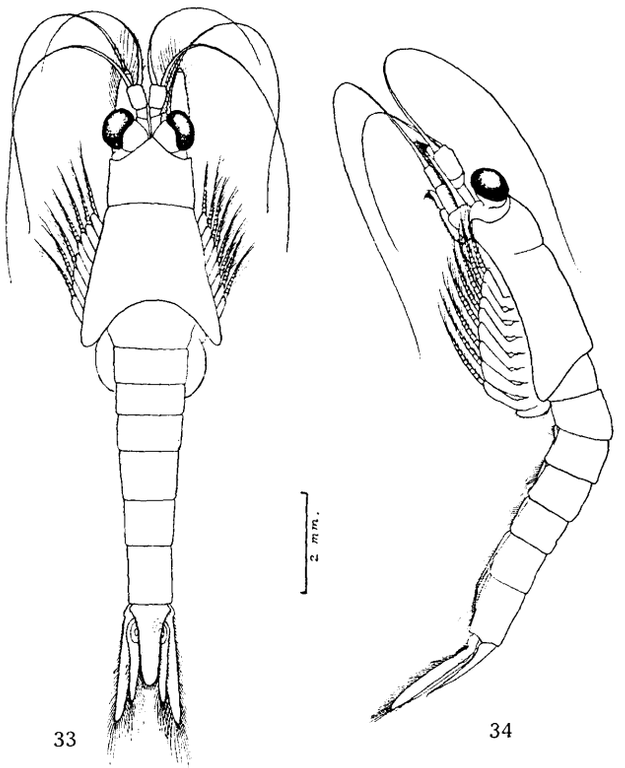
Acanthomysis dimorpha n. sp.

Figures 33–46.

LOCALITY. Off Urusan, Korea Straits.
Type specimen. 26 males, 22 females.

DESCRIPTION. Front margin of the carapace produced into a short triangular rostral plate, apex obtusely pointed; antero-lateral corners of the carapace rounded.

Eyes large, slightly depressed in lateral view, in dorsal view the whole eye is about as long as broad and the cornea about half as long as the entire length of the eye.



Figs. 33-34. *Acanthomysis dimorpha* n. sp.

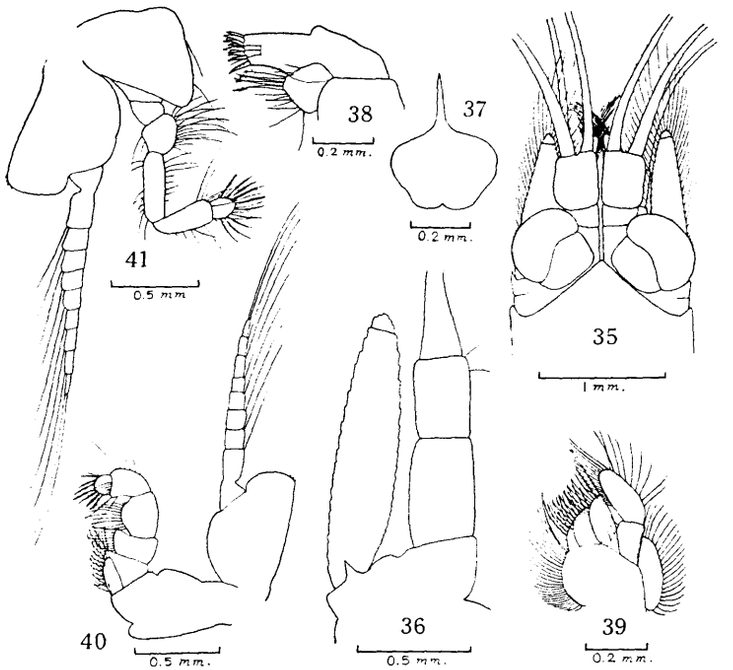
Fig. 33. Dorsal view of adult female. Fig. 34. Lateral view of adult male.

Antennular peduncle short and stout, in the male the third joint almost as long as the 2 proximal joints combined, male sexual appendage well developed and triangular in shape; in the female the third joint shorter than the 2 proximal joints combined.

Antennal scale slightly longer than the antennular peduncle, in the male

the scale extends to the distal end of the male sexual appendage, about 4 times as long as broad, apex rounded, 2-jointed, the distal joint $^1/_{11}$ of the entire length of the scale; basal joint, from which the scale arises, with a prominent spine on the outer distal corner. Antennal peduncle slightly shorter than the antennular peduncle.

Mouth parts, first and second thoracic limbs show no very marked difference from those in other species of the genus.



Figs. 35-41. *Acanthomysis dimorpha* n. sp.

Fig. 35. Anterior end of a male to show rostral plate, eye, antennule and antennal scale.
Fig. 36. Antennal scale and peduncle.
Fig. 37. Labrum.
Fig. 38. First maxilla.
Fig. 39. Second maxilla.
Fig. 40. First thoracic limb.
Fig. 41. Second thoracic limb.

Third to the eighth thoracic limbs slender, propodite divided into 4-5 joints. Basal plate of the exopod of all thoracic limbs with 1-6 small spines on the outer distal corner.

Sixth abdominal somite about $1^2/_3$ times as long as the fifth.

Fourth pleopod of the male extending backwards beyond the middle of