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The Fauna of Brackish Ponds at Port Canning, Lower Bengal. Part XI.

By

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XXV. THE FAUNA OF BRACKISH PONDS AT PORT CANNING, LOWER BENGAL.

PART XI.—TWO NEW MYSIDÆ FROM BRACKISH WATER IN THE GANGES DELTA.

By WALTER M. TATTERSALL, *M.Sc.*

I am indebted to the courtesy of Dr. J. G. de Man, to whom I wish to express my thanks, for the opportunity of examining and describing the two species of Mysidæ which form the subject of the present note. The material was collected in brackish water ponds near Calcutta by Dr. Nelson Annandale, who is making an exhaustive study of the lacustrine fauna of Bengal. The majority of the specimens belong to the interesting genus *Macropsis*, but appear to differ in some points from the widely distributed and hitherto only known species, *M. slabberi*, sufficiently to warrant the establishment of a second species of that genus. The second new form here described is represented by only nine specimens. It belongs to the little known and somewhat obscure genus *Potamomysis*, but after much hesitation, I have decided to institute a new species for its reception.

Sub-fam. MYSINÆ.

Genus POTAMOMYSIS, Czerniavsky.

Potamomysis, Czerniavsky, *Monog. Mysid. Imperii Rossici*, fasc. i, p. 129, 1882; fasc. iii, p. 78, 1883.

This genus was described by Czerniavsky in the monograph referred to above, and has not since, so far as I am aware, been met with. The type of the genus with its single species, *P. pengoi*, was a female, and I cannot gather from the text that Czerniavsky ever examined male specimens. Yet in the two keys to the genera of Mysidæ which he gives on pages 57 and 62 of the first part of his monograph, he places *Potamomysis* in that group of genera characterised by having the first, second and fifth pleopods of the male rudimentary as in the female, the third and fourth pairs somewhat dissimilar from those of the female, but not truly natatory.

If I am right in referring the present species to *Potamomysis*, the position assigned to this genus in Czerniavsky's keys is incorrect, since the third, as well as the first, second and fifth pleopods of the male, appears to be simple and rudimentary as in the female, the genus thus agreeing in this respect with *Neomysis* and *Diamysis*. The species here dealt with is otherwise so closely in agreement with the general characters of *Potamomysis pengoi* that for the present I prefer to refer it to the same genus, which may therefore be diagnosed as follows:—

POTAMOMYSIS, Czerniavsky.

Antennal scale long and narrow, subulate, ciliated all round, two jointed.

Thoracic legs with the tarsus three to four jointed.

Telson short; apex entire, truncated, armed with numerous spines; lateral margins armed with short subequal spines along their entire length; no median apical setæ.

Pleopods of the male; the first, second, third and fifth pairs simple, uniramous and rudimentary as in the female; the fourth pair with a short peduncle and inner ramus as is usual in the subfamily *Mysinæ*, the outer ramus very long and slender, three jointed, the terminal joint bearing two long spiniform ciliated filaments and a single long smooth filament.

The genus is thus very closely allied to both *Neomysis* and *Diamysis*, but the form of the telson suffices to distinguish it from both, while male specimens are further distinguished by the form and armature of the fourth pair of pleopods.

Potamomysis assimilis, sp. nov.

(Plate xxi, figs. 1—8.)

General form (fig. 1) small, linear and compact.

Carapace (fig. 1) covering all the thoracic segments but the last; only slightly produced in front into a small obtuse rostral projection; antero-lateral corners apparently rounded.

Pleon (fig. 1) longer than the thorax; first five segments more or less subequal in length; sixth segment one-and-a-half times as long as the fifth.

Antennular peduncle (fig. 2) about half as long as the antennal scale; basal joint the longest; second joint small; third joint longer than the second and more robust, with a single plumose seta at the inner distal corner; a similar seta at the inner distal corner of the second joint, and at the outer distal corner of the third joint.

Antennal peduncle (fig. 3) less than half as long as the scale, with the terminal two joints subequal in length.

Antennal scale (fig. 3) equal in length to the last two segments of the pleon, long and narrow, subulate in shape, about seven times as long as broad, setose all round, two jointed, the second joint equal to between one fourth and one fifth of the entire length of the scale; spine on the outer corner of the basal joint well-developed and acute.

Eyes reaching to about the distal extremity of the basal joint of the antennular peduncle; rather stout; cornea occupying the entire distal part of the eye, pigment very black.

Mouth parts of the usual type in the *Mysinæ*, with no outstanding feature of importance.

Thoracic legs (figs. 4, 5, 6); first and second without a distinct dactylus; third to eighth with the tarsus equal in length to the merus and three jointed in all but the eighth, where it is four jointed.

Telson (fig. 7) about two-thirds of the length of the last segment of the pleon, and rather longer than broad at its base; apex truncate and bounded at each corner by a long spine between which are about seventeen shorter spines; lateral margins armed throughout their length with about ten short spines.

Inner uropod about twice as long as the telson; no spines on the inner ventral margin.

Outer uropod about one-and-a-quarter times as long as the inner.

Length of an adult female with eggs in the broad lamellæ, 5 mm.; length of the largest male, apparently mature, 4 mm.

The above description and fig. 1, pl. xxi, are taken from an adult female, 5 mm. long. The figures of the various parts are from a male measuring 4 mm. in total length, and this difference in size probably accounts for the difference in armature of the telson as shown in fig. 7 and that given in the above description. A still smaller specimen, 3 mm. in length, had only seven spines on the apex of the telson between the two large lateral ones. Czerniavsky has shown similar differences between young and adult specimens of *P. pengoi*.

A male of 4 mm. appears, to judge by the fourth pleopods, to be mature if not fully grown. The fourth pleopod of such a male is shown in fig. 8. The basal joint is short and the inner ramus of the usual structure. The outer ramus is long and styliform, reaching to the posterior end of the sixth segment of the pleon. It is three jointed, the second the shortest and the terminal joint the longest. The latter is furnished at its apex with two long, subequal ciliated filaments and on the outer distal margin with a single smooth filament, longer than the ciliated filaments at its apex. There is no prominent hirsute lobe on the antennules of the above male specimen, such as is usually met with in male Mysidæ. It is replaced by a tuft of long hairs proceeding from a small tubercle on the distal ventral edge of the antennular peduncle.

Locality of capture.—Dhappa, near Calcutta, slightly brackish water (canal), six females and three males.

This species differs from *P. pengoi* in the following points:—

(1) *Size.*—The type-specimen of *P. pengoi* was an adult female measuring 10 mm. Adult females of the present species with eggs in the brood-pouch only measure 5 mm.

(2) *Antennal scale.*—The second joint of the antennal scale of *P. pengoi* is described as small, and only about one ninth of the whole antennal scale in length. In *P. assimilis* the second joint of the scale is rather large and equal to between one fifth and one quarter of the length of the scale.

(3) Czerniavsky describes in *P. pengoi* two secondary spines at the terminal part of the tarsus of the thoracic limbs in addition to the dactylus, giving the whole limb a tri-unguiculate appearance. No such secondary dactyli appear to be present in *P. assimilis* though, as shown in fig. 6, there are sundry setæ in the position shown by Czerniavsky for the secondary nails. It may be that Czerniavsky has mistaken the setæ for spines and this apparent difference between his species and the present one may not actually occur.

Otherwise the two species are in very close agreement and the occurrence in brackish water in India of a species of this obscure genus is of special interest.

Genus MACROPSIS, G. O. Sars.

Macropsis orientalis, sp. nov.

(Plate xxii, figs. 1—9.)

The differences between *M. orientalis* and the only other known species of this curious genus, *M. slabberi*, are mainly differences in the proportions which the various parts bear to one another.

These differences are most conveniently brought out in a table of comparative measurements of the two species, side by side. It will be best, therefore, to give such a table first and then to discuss the characters of the two species, one by one, in the light of the table.

The measurements of *M. slabberi* are taken from specimens from Saltash Bridge, near Plymouth, which I received through the courtesy of the Marine Biological Station at Plymouth.

The sum of the differences between the two species is that *M. orientalis* is a much more robust form, *M. slabberi*, on the other hand, being very slender and attenuated, with the various appendages correspondingly elongated.

	Measurements.	*Macropsis slabberi.* Actual length in mm.	*Macropsis slabberi.* Percentage of length from rostrum to tip of telson.	*Macropsis orientalis.* Actual length in mm.	*Macropsis orientalis.* Percentage of length from rostrum to tip of telson.
1	Length of eye	·86	17·4	·52	9·2
2	Width ,, ,, at cornea ..	·24	4·8	·25	4·4
3	Length ,, cornea ..	·19	3·9	·17	3·0
4	,, ,, antennular ped. ..	·92	18·6	·67	11·8
5	,, ,, first joint ..	·52	10·5	·32	5·6
6	,, ,, second joint ..	·19	3·9	·15	2·6
7	,, ,, third ,, ..	·21	4·2	·20	3·5
8	,, ,, antennal scale ..	·82	16·6	·92	16·3
9	,, ,, carapace ..	1·50	30·3	1·90	33·6
10	,, ,, exposed part of thorax.	·25	5·0	·44	7·8
11	,, ,, 1st pleon segment	·30	6·0	·33	6·0
12	,, ,, 2nd ,, ,, ..	·34	6·8	·36	6·4
13	,, ,, 3rd ,, ,, ..	·39	7·9	·39	7·0
14	,, ,, 4th ,, ,, ..	·43	8·7	·42	7·4
15	,, ,, 5th ,, ,, ..	·45	9·1	·46	8·1
16	,, ,, 6th ,, ,, ..	·79	16·0	·67	11·8
17	Width ,, 6th ,, ,, ..	·36	7·3	·45	8·0
18	Length ,, telson to base of terminal spine.	·37	7·5	·42	7·4
19	,, ,, telson to tip of terminal spine.	·44	9·0	·47	8·3
20	,, ,, telson to extreme apex.	·49	9·9	·68	12·0
21	,, ,, inner uropod ..	·92	18·6	·94	16·6
22	,, ,, outer ,, ..	1·18	23·9	1·27	22·5
23	Total length—rostrum to tip of telson.	4·94	100·0	5·65	100·0

Carapace.—The carapace in *M. orientalis* is slightly longer proportionally than in *M. slabberi*, and correspondingly broader. The front part is more evenly rounded and consequently less produced in the former than in the latter species (fig. 1).

Pleon.—The measurements 11—16 in the above table of the segments of the pleon of the two species show that in *M. slabberi* the segments are proportionately more elongate than in *M. orientalis*. Especially is this so with the sixth segment which in the former species is one-and-three-quarter times as long as the fifth, while in *M. orientalis* it is less than one-and-a-half times that length. At the same time the measurement 17 shows that the sixth segment of the pleon is relatively narrower in *M. slabberi* than in *M. orientalis*, and that the rest of the body is correspondingly narrower in the former species.

Eye.—In *M. orientalis* the eye is only 9 per cent. of the total body-length, is very little more than twice as long as broad at the cornea, and the latter occupies the distal third of the whole eye. In *M. slabberi* the eye is 17 per cent. of the total body-length, is three-and-a-half times as long as broad, and the cornea occupies the distal two ninths of the whole eye. So that in *M. orientalis* the eye is on the whole very much shorter than in *M. slabberi.*

The antennular peduncle in *M. orientalis* is considerably shorter than in *M. slabberi*, being only 11·8 per cent. of the total body-length in the former compared with 18·6 per cent. in the latter. The shortening of the antennular peduncle in *M. orientalis* is proportional to that of the eye, so that in both species the eye bears the same relation to the antennular peduncle, *i.e.*, it extends to about the distal end of the second joint. The spine-like seta on the outer distal corner of the basal joint of the antennular peduncle is scarcely as robust in *M. orientalis* as in *M. slabberi.*

The antennal scale is of practically the same size in both species, with the result that, owing to the shortening up of the antennular peduncle in *M. orientalis*, the scale extends beyond the antennular peduncle, while in *M. slabberi* it falls short of it.

Telson.—The telson of *M. orientalis* (fig. 7) differs from that of *M. slabberi* mainly in having the serrated apical portion more produced and the whole telson consequently proportionally longer. The serrated apical portion of the telson in *M. slabberi* is only about one quarter of the entire length of the telson, whereas in *M. orientalis* it is considerably more than one third of that length.

In the structure of the various appendages the two species show considerable resemblance, but minor differences are to be noted. For this purpose I give, on pl. xxii, figures of the various appendages of *M. orientalis* for comparison with those of *M. slabberi.*

In the second thoracic limb of *M. orientalis* (fig. 5) the terminal joint is somewhat longer and narrower than in the same limb of *M. slabberi.* The number of joints in the tarsus of the third to the eighth thoracic limbs of *M. orientalis* varies from five to nine, the eighth limb usually having fewest joints in the tarsus. Thus in one female example dissected the joints of the tarsus were seven in the third, fourth and fifth limbs, eight in the sixth, nine in the seventh and only six in the eighth. Figure 6 depicts the eighth thoracic limb of a male with only five joints in the tarsus.

The fourth pleopod of the male of *M. orientalis* differs rather markedly from the same appendage in *M. slabberi*, in having the first joint of the outer ramus shorter than the entire inner ramus. In *M. slabberi* the reverse obtains. Otherwise the appendages in question are very similar.

I could not detect any spine on the inner ventral margin of the inner uropod of *M. orientalis* such as exists in *M. slabberi.*

Length of the largest specimens of *M. orientalis*, both males and females, 7 mm. from the rostrum to the apex of the telson.

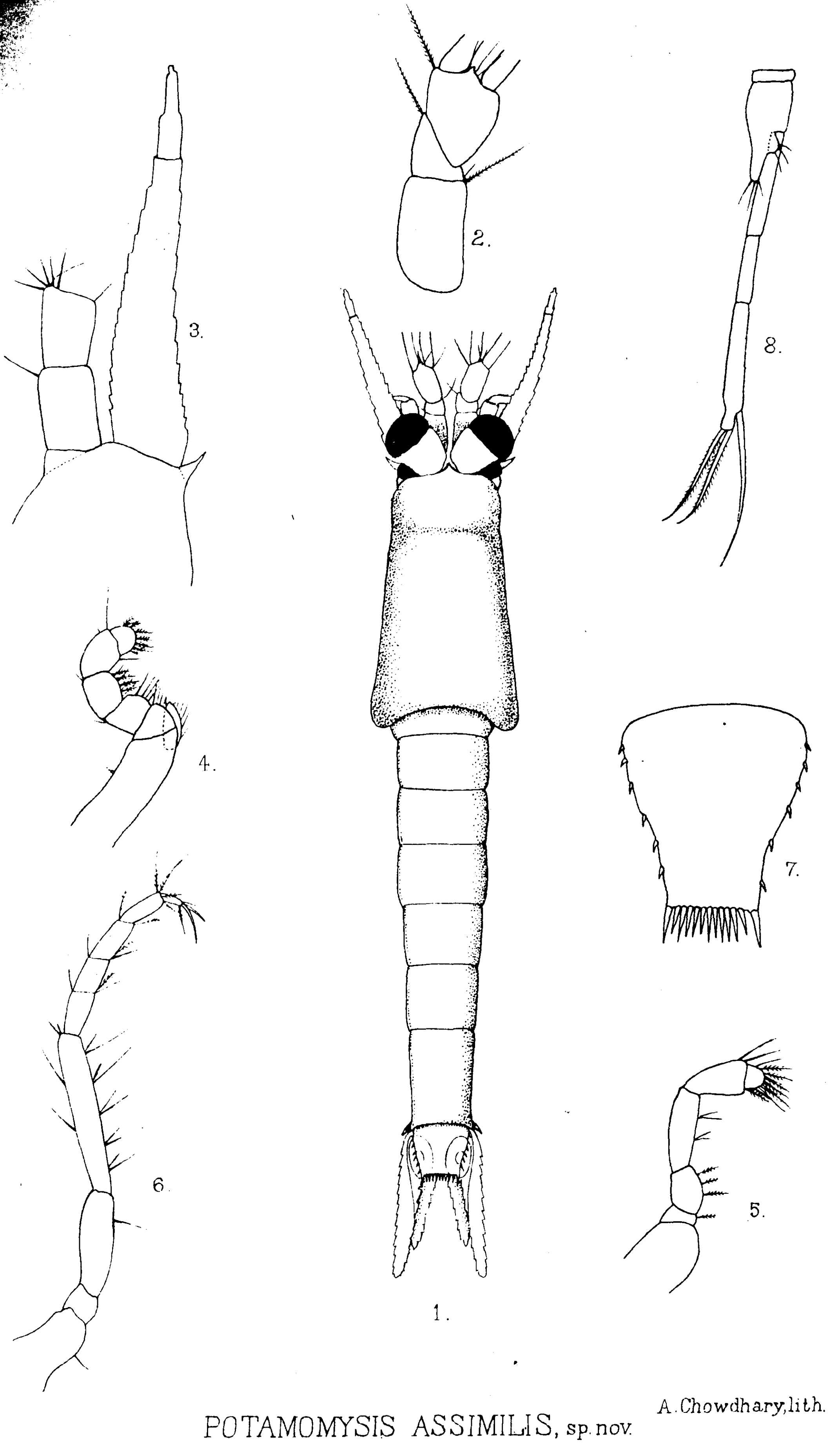
Locality of capture.—Dhappa, near Calcutta, slightly brackish water, 270 specimens, 4—7 mm. long; Port Canning, Lower Bengal, brackish water ponds, 117 specimens, 4—7 mm. long.

M. orientalis is apparently an abundant species in suitable localities.

EXPLANATION OF PLATE XXI.

POTAMOMYSIS ASSIMILIS, sp. nov.

FIG. 1.—Adult female, 5 mm. long, dorsal view.
,, 2.—Antennular peduncle, × 100.
,, 3.—Antennal scale and peduncle, × 100.
,, 4.—Endopod of first thoracic limb, × 100.
,, 5.—Endopod of second thoracic limb, × 100.
,, 6.—Endopod of eighth thoracic limb, × 100.
,, 7.—Telson, × 100.
,, 8.—Fourth pleopod of male, 4 mm., × 100.



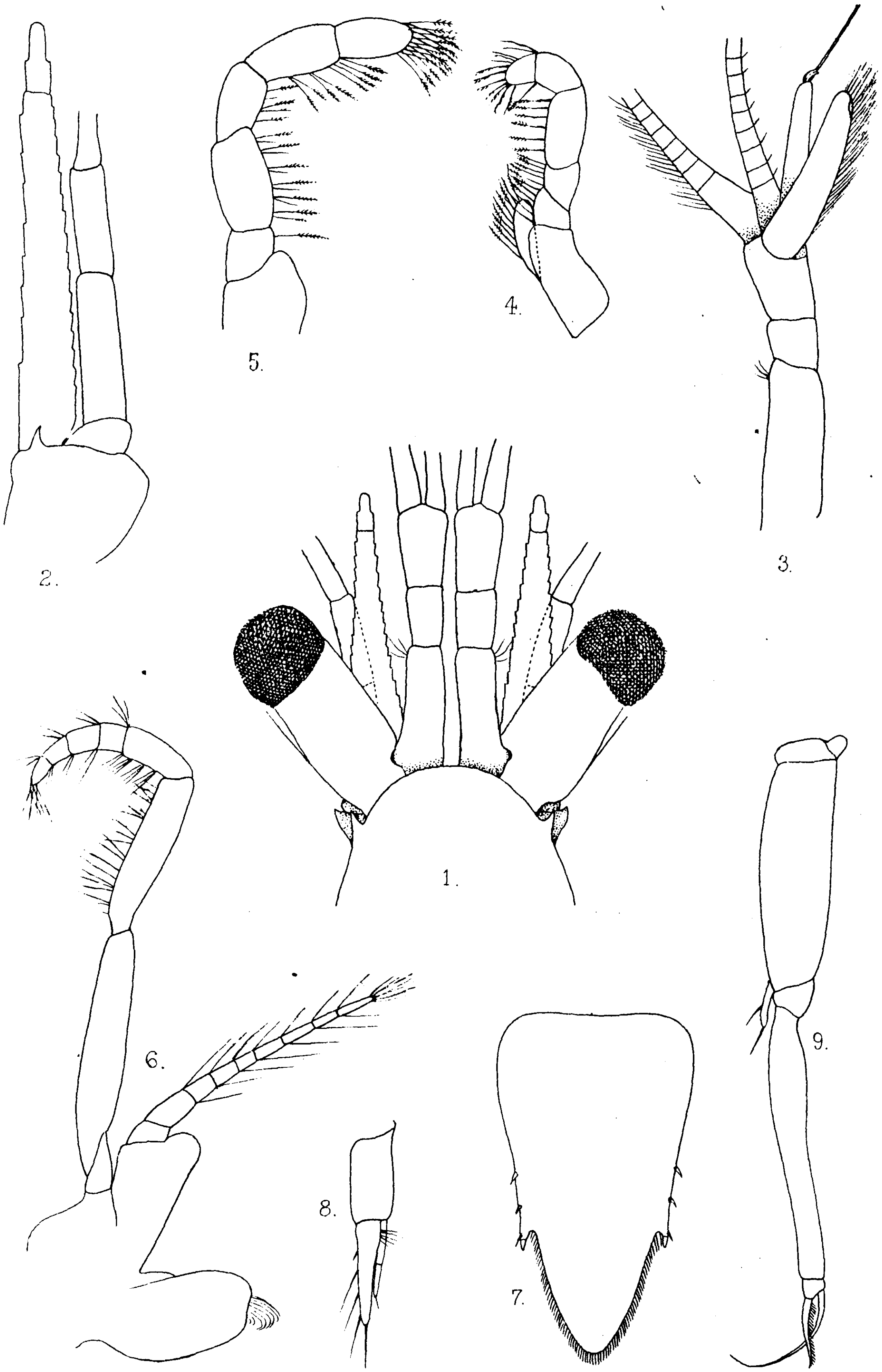
A. Chowdhary, lith.

POTAMOMYSIS ASSIMILIS, sp. nov.

EXPLANATION OF PLATE XXII.

MACROPSIS ORIENTALIS, sp. nov.

FIG. 1.—Anterior end of a female 6 mm. long, × 75.
,, 2.—Antennal scale, × 75.
,, 3.—Antennule of male, × 75.
,, 4.—Endopod of first thoracic limb, × 75.
,, 5.—Endopod of second thoracic limb, × 75.
,, 6.—Eighth thoracic limb of male, × 75.
,, 7.—Telson, × 75.
,, 8.—Third pleopod of male, × 75.
,, 9.—Fourth pleopod of male, × 75.



A. Chowdhary, lith.

MACROPSIS ORIENTALIS, sp. nov.