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On some New Zealand Schizopoda.

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[Read 7th December, 1899.]

(PLATES 33 & 34.)

THOUGH so many species of Crustacea have been described from New Zealand from time to time, yet the amount of collecting which has been done in the Colony, and especially in the North Island, is really very small. The result is that only a few individuals, representative of whole families, have in many cases been recorded.

Trawling is now becoming common, and the opportunity of securing material in this manner will no doubt be more or less utilized. But up to the present, and excluding the fragmentary collections made during the 'Challenger' Expedition, nearly all the material hitherto studied has been obtained by shore collectors. The specimens described in this paper come under the same heading: they are the only Schizopod crustaceans which have yet been found in New Zealand waters, but probably the group will be found to be well represented.

SCHIZOPODA.

Fam. MYSIDÆ.

Genus SIRIELLA, Dana.

SIRIELLA DENTICULATA. (Pl. 33. figs. 1-5.)

Mysis denticulata, Thomson, Ann. & Mag. Nat. Hist. ser. 5, vol. vi. p. 1, 1880; Trans. N. Z. Inst. vol. xiii. p. 205, pl. vii. fig. 6, 1881.

This species appears to be intermediate in most of its characters between *S. Thompsoni*, M.-Edwards, and *S. gracilis*, Dana. I had provisionally included it in the former; but Prof. G. O. Sars, to whom I sent specimens, considers it to be a new species.

It resembles *S. Thompsoni* in the acutely pointed frontal projection, in the large eyes with greatly expanded cornea, in the general form of the telson, and in size.

On the other hand, its affinities with *S. gracilis* are seen in (1) the slender form of the body, (2) in having the last joint of the antennular peduncle rather short and stout, as in fig. 1, (3) in the form of the antennal scale, (4) in the divided propodal

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joints of the legs, (5) in having the last caudal segment as long as the two preceding taken together, and (6) in the form of the apex of the telson.

The adult specimens attain a length of fully 10 mm. The *antennal scale* (fig. 2) is about three times as long as broad, the apex is obliquely truncate, and the outer margin is produced into an acute spine or denticle. The *legs* (fig. 3) have the propodal joint distinctly divided into two articulations, the proximal being the shorter. The *telson* (fig. 4) is rather slender, and tapers considerably towards the apex; the latter is very narrow and obtusely truncate, and bears three short spines between the rather long terminal spines of the margin, in this respect somewhat resembling *S. gracilis*. The *uropods* (fig. 5) project considerably beyond the telson. The inner plate is narrow-lanceolate, with the auditory apparatus very fully developed and the inner edge spinose. The outer plate is somewhat longer than the inner, and has the outer edge of the basal joint armed with spines, which in large specimens are from ten to twelve in number, and which increase in size posteriorly.

Hab. I have only met with this species in Otago Harbour, though it is probably common; but Mr. Suter has sent me one (mutilated) specimen from Lyttelton Harbour. In the Report on the Schizopoda of the 'Challenger' Expedition, Prof. G. O. Sars states that both species of *Siriella* (*S. Thompsoni* and *S. gracilis*) were taken at the surface of the sea. The former has a very wide range, having been taken in the Atlantic and Pacific Oceans, and in the Tasman Sea; the latter occurs in the seas of the Indian Archipelago and in the Pacific Ocean. My specimens were taken in the dredge in 6 fathoms of water. I have only met with the species once.

Genus TENAGOMYSIS, nov. gen.

Generic characters.—Body slender, as in *Mysis*. Dorsal shield short, not covering more than half of the cephalothorax; front obtusely pointed. Antennary scale narrow-lanceolate, setose on both margins. Mandibles with well defined molar tubercle; palp with a much dilated second joint (Pl. 34. figs. 9 & 10) Maxillæ and maxillipedes as in *Mysis*. Feet rather slender and weak.

Marsupial pouch in the female formed of three pairs of laminae

increasing in size posteriorly, the first very small. Pleopoda in the female small and narrow, very feebly developed; in the male they are well-developed and two-branched; in the first pair the inner ramus is very small and one-jointed, the outer of the usual natatory form; the remaining pairs have both rami long and subequal. Telson short, deeply cleft at the apex.

Uropods narrow; inner plate much shorter than outer, both densely furnished with marginal setæ. Auditory apparatus well-developed.

This genus appears to be intermediate between *Leptomysis* and *Heteromysis*, resembling the former in general structure and especially in the pleopoda and limbs. It differs from it, however, in the form of the front of the carapace, in the telson, and in a less marked degree in having the antennary scale one-jointed, instead of distinctly two-jointed. The resemblance to *Heteromysis* lies particularly in the dilated second joint of the mandibular palp.

The genus is formed to contain a species which is not uncommon on the coasts of New Zealand.

TENAGOMYSIS NOVE-ZEALANDIÆ, n. sp. (Pl. 33. figs 6-8; Pl. 34. figs 9-17.)

Form of the body linear, tapering slightly to the telson; length about six times the greatest breadth.

Dorsal shield short, obtusely pointed in front in the median line; evenly rounded on the posterior margin, only slightly produced backwards on the lateral portions.

Eyes large, cornea hemispherical, peduncles short and stout.

Peduncle of the *superior antennæ* with the basal joint subequal in length with the 2nd and 3rd together; the appendage in the male is produced into a rounded process, furnished with a dense bunch of hairs at its base; inner flagellum less than half as long as the outer, very slender, destitute of hairs, and rather densely pigmented in great portion of its length (figs. 6 & 7).

Scale of the *inferior antennæ* obliquely lanceolate, more than twice as long as the peduncle, maximum width about one fifth of the length, densely furnished with plumose setæ, which are very long on the curved inner margin; both the scale and the peduncle of the antennæ are more or less ornamented with black stellate or frondose markings (fig. 8).

Maxillæ of the first pair are normal. The second pair of

maxillæ have the terminal joint broadly obovate, and furnished with numerous strong setæ on the outer margin. The *maxillipedes* and *gnathopods* present no very distinctive features.

The *legs* are rather slender in structure, the propodos ending in a tuft of fine setæ; the exopodites are all well-developed, with a broad basal joint, bearing a ten- or eleven-jointed setose branch (fig. 12).

The *marsupial pouch* in the female is formed of three pairs of lamellæ, the anterior of which are very small, and the posterior very large.

The *pleopods* are rudimentary in the females. In the males the first pair has the inner ramus very short and one-jointed, obtuse at its apex, and with a lateral process produced across the long outer ramus; the latter is normally six-jointed (figs. 13 and 14). The succeeding pairs have both rami well-developed, subequal in length and natatory, but the inner is always furnished with a process near its base which is produced more or less across the outer branch (fig. 15). *Telson* short, only about half as long as broad, slightly narrowing at the sides, which are furnished with about twelve spines including the terminal one; the apex is deeply cleft, the sides of the notch being furnished with fine close-set pectinate spines and the centre defined by two long plumose setæ (fig. 17).

The *wropods* have the outer plate long and slender, somewhat obliquely truncate at the apex; the inner is about two-thirds as long as the outer, broadly lanceolate in form, and tapering to an obtuse apex, its inner margin has numerous spines between the setæ; both plates are densely setose on both margins (fig. 16).

Length of the adult females, 10-16 mm.

Hab. In the Kaikorai lagoon (brackish water), estuary of the Waikouaiti River, and rock-pools at Brighton,—all near Dunedin. Also dredged in the Bay of Islands from a depth of 8 fathoms.

FAM. ECPHAUSIDÆ.

Genus NYCTIPHANES, G. O. Sars.

NYCTIPHANES AUSTRALIS, G. O. Sars.

Nyctiphanes australis, G. O. Sars, Report on the 'Challenger' Schizopoda, p. 116, pls. xx. & xxi. figs. 1-7.

Numerous specimens of this species were gathered by Dr. Benham and Mr. A. Hamilton at Port Chalmers.

The specimens originally described by Sars were all taken on the south and east coasts of Australia, "in the surface-net, and in most instances at night."

EXPLANATION OF THE PLATES.

PLATE 33.

Siriella denticulata × 43.

- Fig. 1. Eye and peduncle of antennule.
 2. Antennal scale, denuded of most of its setæ.
 3. Leg of the 2nd pair.
 4. Telson.
 5. Uropod, denuded of setæ.

Tenagomysis nova-zealandia.

- Fig. 6. Peduncle of antennule of ♂, from below × 43.
 7. " " of ♀, " × 56.
 8. Antennal scale, × 43.

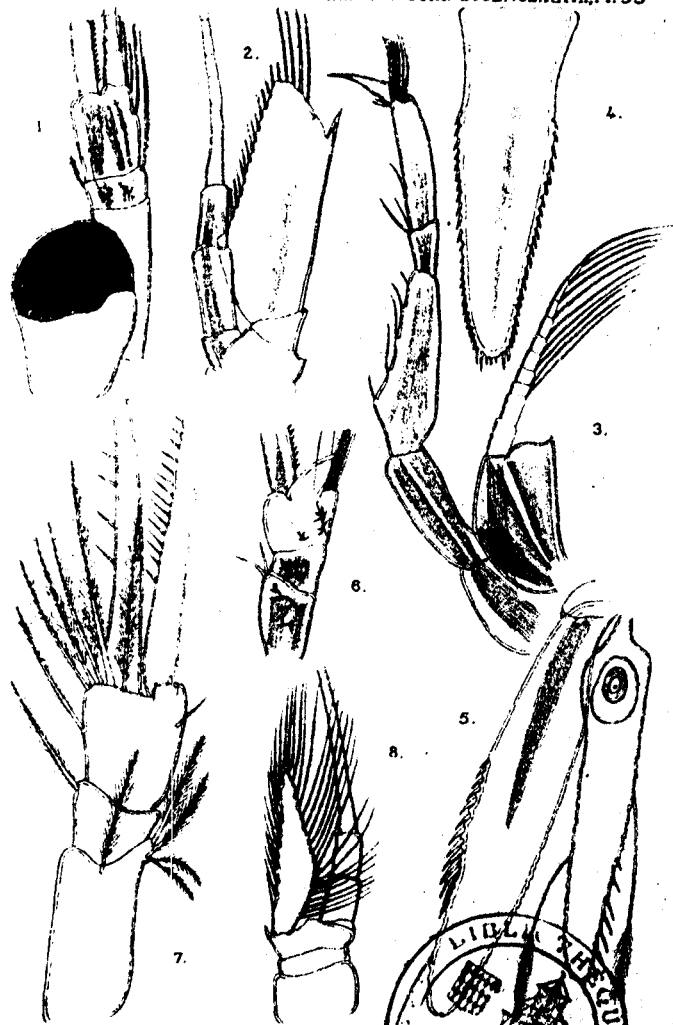
PLATE 34.

Tenagomysis nova-zealandia.

- Fig. 9. Mandible.
 10. Mandibular palp. } × 125.
 11. Second maxilla. }
 12. Leg of the third pair of ♂, × 56.
 13. 1st pleopod, ♂, × 56.
 14. External ramus of same, × 125.
 15. 5th pleopod, ♂, × 125.
 16. Uropod, × 43.
 17. Telson, × 56.

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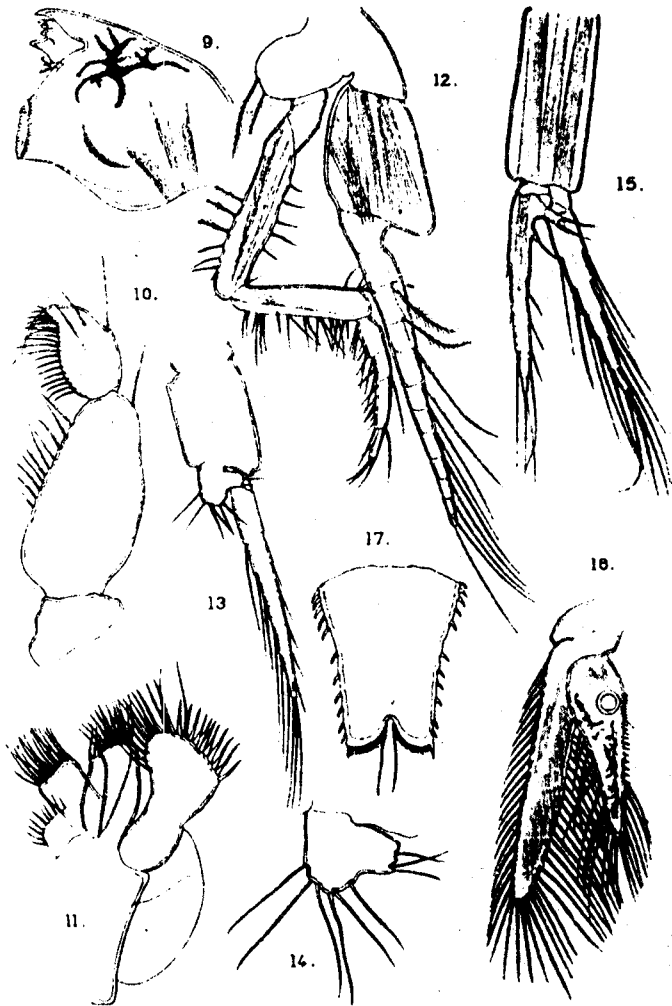


1-5, SIRIELLA DENTICULATA;
6-8, TENAGOMYSIS NOVAE-ZEALANDIAE.



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TENAGOMYSIS NOVAE ZEALANDIAE.