

The New Zealand Crustacea Euphausiacea and Mysidacea.

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VERY little attention has been devoted hitherto to the New Zealand Euphausiacea and Mysidacea. A few species were taken by the "Challenger" in New Zealand seas, and were described by G. O. Sars in his report on the Schizopoda collected by that expedition. One or two additional species were afterwards added by Mr. G. M. Thomson and myself. Most of these have been reviewed by Hansen in subsequent papers, and later by Tattersall in his reports on the specimens collected by the British Antarctic ("Terra Nova") Expedition, 1910. The publication of the "Terra Nova" reports makes it possible to give complete lists of the species known from New Zealand up to the present.

The two groups Euphausiacea and Mysidacea, previously grouped together under the Schizopoda, are now looked upon as separate orders, and it will be well to deal with them separately.

EUPHAUSIACEA.

The Euphausiacea are pelagic forms which are only occasionally washed up on New Zealand shores. Many are subtropical, but others attain their greatest development in size and in numbers in the colder waters of Antarctic and Subantarctic regions, where they frequently occur in enormous shoals and form an appreciable part of the food of whales, seals, seagulls, and other animals.

Before the publication of Dr. Tattersall's paper only eight species were known from New Zealand, chiefly as the result of the "Challenger" Expedition. The "Terra Nova" collections were made mostly to the north of New Zealand, almost on the fringe of the Tropical Zone. They comprise twelve species, of which only five had been previously recorded in this area; the remaining seven were all species known from tropical and subtropical seas, and may here reach, or approach, the southern limit of their range.

The list of the fifteen species now known from the New Zealand area is as follows:—

1. *Thysanopoda obtusifrons* G. O. Sars.
Occurrence: North of New Zealand. (Tattersall, 1924, p. 16.)
A tropical and subtropical form of wide distribution.
2. *Nyctiphanes australis* G. O. Sars.
Occurrence: North of New Zealand. (Tattersall, 1924, p. 16.)
Frequently washed up on the beaches in the south of New Zealand; luminous. Confined to temperate seas of southern Australia and New Zealand.
3. *Euphausia recurva* Hansen.
Occurrence: North of New Zealand. (Tattersall, 1924, p. 17.)
A southern subtropical and temperate species in the Atlantic and Indian Oceans, and widespread over the Pacific.

4. *Euphausia lucens* Hansen.
Occurrence: Between New Zealand and Australia. (Tattersall, 1924, pp. 4, 19.)
5. *Euphausia similis* Sars var. *armata* Hansen.
Occurrence: North of New Zealand. (Tattersall, 1924, p. 19.)
6. *Euphausia tenera* Hansen (= *E. gracilis* Sars).
Occurrence: Australian seas off Port Jackson. ("Challenger.") (Tattersall, 1924, p. 4.)
7. *Euphausia spinifera* G. O. Sars.
Occurrence: North of New Zealand. (Tattersall, 1924, p. 26.)
A South Temperate form.
8. *Pseudeuphausia latifrons* Sars.
Occurrence: Australian seas off Port Jackson. ("Challenger.") (Tattersall, 1924, p. 4.)
9. *Thysanoessa gregaria* G. O. Sars.
Occurrence: North of New Zealand. (Tattersall, 1924, p. 27.)
Widely distributed in North and South Temperate Zones.
10. *Nematoscelis microps* G. O. Sars.
Occurrence: North of New Zealand. (Tattersall, 1924, p. 28.)
Identification of New Zealand specimens doubtful. Widely distributed in tropical and subtropical waters.
11. *Nematobrachion flexipes* Ortmann.
Occurrence: North of New Zealand. (Tattersall, 1924, p. 29.)
Tropical Atlantic and Pacific; Indian Ocean.
12. *Stylocheiron carinatum* Sars.
Occurrence: North of New Zealand. (Tattersall, 1924, p. 30.)
Widely distributed in upper waters of tropical and subtropical oceans.
13. *Stylocheiron sukumii* G. O. Sars.
Occurrence: North of New Zealand. (Tattersall, 1924, p. 30.)
Widely distributed in tropical and subtropical waters.
14. *Stylocheiron longicorne* G. O. Sars.
Occurrence: North of New Zealand. (Tattersall, 1924, p. 30.)
Widely distributed in tropical and subtropical waters.
15. *Stylocheiron abbreviatum* G. O. Sars.
Occurrence: North of New Zealand. (Tattersall, 1924, p. 31.)
Widely distributed in tropical and subtropical waters.

Dr. Tattersall groups the New Zealand species according to their distribution as follows:—

1. Coastal species:—

Pseudeuphausia latifrons.
Nyctiphanes australis.

2. Oceanic species more or less widely distributed in the South Temperate Zone:—

Euphausia recurva.
Euphausia lucens.
Euphausia similis var. *armata*.
Euphausia spinifera.

3. Oceanic species more or less widely distributed in the North and South Temperate Zones, but rarely found in tropical waters :—

Thysanessa gregaria.

4. Oceanic species more or less widely distributed in tropical and sub-tropical waters :—

Euphausia tenera.

Thysanopoda obtusifrons.

Nematoscelis microps.

Nematobranchion flexipes.

Stylocheiron carinatum.

Stylocheiron longicorne.

Stylocheiron submihi.

Stylocheiron abbreviatum.

MYSIDACEA

The Mysidacea are a group usually much smaller in size than the Euphausiacea. They are nearly all marine, being found in shallow waters near the coast, or in some cases in deeper waters; a few live in brackish or fresh water. In New Zealand, previous to Tattersall's paper, three good species, and two doubtful, had been recorded from New Zealand, the good species being *Siriella denticulata* (G. M. Thomson) (1880), *Tenagomysis novae-zealandiae* G. M. Thomson (1900), *T. tenuipes* Tattersall (1918), the last from Carnley Harbour, Auckland Islands. In 1881 Mr. T. W. Kirk described a New Zealand species under the name *Mysis meinertzhageni*, but the description is insufficient, and all attempts to trace the type specimen have failed. Calman in 1908 recorded a species from New Zealand which he referred to the genus *Pseudomma*, but the specimen was too immature to name specifically.

In the collections of the "Terra Nova" twelve species were obtained off the coast of New Zealand, only one, *Siriella denticulata*, having been recorded from this district previously. Of the twelve species, seven are described as new, six of them being referred to the genus *Tenagomysis*. To these Dr. Tattersall adds another new species of *Tenagomysis* from specimens sent him by myself. This genus, which is unknown elsewhere, is the characteristic Mysid genus of New Zealand.

The list of New Zealand genera therefore stands as follows :—

Suborder LOPHOGASTRIDA.

1. *Paralophogaster glaber* Hansen.

Occurrence: North of New Zealand. (Tattersall, 1923, p. 279.)

This species was hitherto known only from the East Indian Archipelago.

Suborder MYSIDA.

2. *Siriella thompsonii* (H. M. Edw.).

Occurrence: New Zealand waters between Three Kings and North Cape. (Tattersall, 1923, p. 280.) Very generally distributed in tropical and subtropical waters.

3. *Siriella denticulata* (G. M. Thomson).

Occurrence: North of New Zealand; Auckland Harbour; Hawke's Bay; Lyttelton Harbour; Ocean Beach, Dunedin. (Tattersall, 1923, p. 280.) A littoral species known only from New Zealand.

4. *Gastrosaccus australis* Tattersall.
Occurrence: North of New Zealand. (Tattersall, 1923, p. 282.)
A shallow-water species known only from this locality.
5. *Euchaetomera typica* Sars.
Occurrence: North of New Zealand. (Tattersall, 1923, p. 283.)
Widely distributed in Atlantic and Pacific Oceans.
6. *Euchaetomera oculata* Hansen.
Occurrence: North of New Zealand. (Tattersall, 1923, p. 284.)
Previously known from the East Indian Archipelago and the Indian Ocean.
7. *Tenagomysis novae-zealandiae* G. M. Thomson.
Occurrence: Not taken by the "Terra Nova," but redescribed by Dr. Tattersall from type specimens and others sent to him. (Tattersall, 1923, p. 291.) An estuarine species capable of living in fresh water; recorded from various localities in the South Island and from Lake Waikare in the North Island.
8. *Tenagomysis chiltoni* Tattersall.
Occurrence: Tidal inlet, Parakai. (Tattersall, 1923, p. 292.) Known as yet from this locality only.
9. *Tenagomysis similis* Tattersall.
Occurrence: Bay of Islands; Ocean Beach, Dunedin. (Tattersall, 1923, p. 293.)
10. *Tenagomysis macropsis* Tattersall.
Occurrence: North of New Zealand; Akaroa; Ocean Beach, Dunedin. (Tattersall, 1923, p. 294.)
11. *Tenagomysis robusta* Tattersall.
Occurrence: North of Auckland. (Tattersall, 1923, p. 295.)
12. *Tenagomysis thomsoni* Tattersall.
Occurrence: North of Auckland. (Tattersall, 1923, p. 296.)
13. *Tenagomysis producta* Tattersall.
Occurrence: Sandy pool, Bay of Islands. (Tattersall, 1923, p. 297.)
14. *Tenagomysis scotti* Tattersall.
Occurrence: North of New Zealand, near the Three Kings Islands. (Tattersall, 1923, p. 298.)
15. *Tenagomysis tenuipes* Tattersall.
Occurrence: Carnley Harbour, Auckland Islands; taken by the Australasian Antarctic Expedition. (Tattersall, 1923, p. 299.)

The genus *Tenagomysis* now contains nine species, all of them confined to the New Zealand area.

Dr. Tattersall gives a useful key to the species on p. 290.

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