

New Species of Crustacea from New Zealand of the Genera *Scyllarus* and *Ctenocheles* with Notes on *Lyreidus tridentatus*

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Abstract.

Two new species of decapod crustacea trawled in northern New Zealand waters. They are *Scyllarus aoteanus* n. sp. nearest allied to the Tasmanian *mawsoni* Bage and *Ctenocheles maorianus* n. sp. which resembles *collini* Ward from South Queensland. Both genera are new additions to the New Zealand fauna. The paper concludes with a number of Bay of Plenty deep water records of the crab *Lyreidus tridentatus*.

DECAPODA.

Family SCYLLARIDAE.

Genus SCYLLARUS Fabricius.

1775. Syst. Ent. p. 413. = *Arctus* Haan, 1849, in Siebold, F. Japon (Crust.), p. 238, = *Arctus* Dana, 1852, Proc. Acad. Nat. Sci. Phil. 6, p. 14.

Scyllarus aoteanus n. sp. Pl. 68, figs. 1, 2.

This species closely resembles *mawsoni* (Bage, 1938, and Hale, 1941), from 122 metres off Maria Island, Tasmania, and *sordidus* Stimpson (Bate, 1888), from Hong Kong.

All three have an almost identical intricate arborescent sculptural pattern on the abdominal somites. The chief difference between *mawsoni* and *aoteanus* is shown in the profile of the midline of the carapace. The former shows the fourth of the midline spines very prominent, the second one less than half its development, and numbers one and three smaller again. In the latter, all four are of about equal size and not prominent. One and two are single spines, but three and four are paired.

The carapace again provides the chief differentiating criteria between *sordidus* and *aoteanus*. In the former each lateral margin is lacinated by three equally strong spiny projections. In the latter only the upper two spines are prominent and the whole length of the margin is denticulated by lesser spines. The spiny sculpture on the dorsal surface of the carapace is much nearer to that of *mawsoni* than to that of *sordidus*.

Description of holotype (male)

Carapace very thick, strongly sculptured in definite areas by tubercles and sharply-pointed, broad-based spines. Gastral ridge tuberculated by a double row of low rounded tubercles with a third row interpolated towards the lower margin. Lateral margins studded with

17 irregular low denticles, median ones resembling human molars, in addition to two spiny projections, one above and the other below the eye. Mid-line of carapace with a single broad-based spine in front; second spine with a subsidiary spine on each side; third and fourth series double medially, fourth with subsidiary groups of spines on each side and below.

Abdominal somites very elaborately sculptured in arborescent patterns. Telson with two prominent wide-spaced calcareous spines; membranous remainder square ended.

Appendages characteristic of the genus. First pair of antennae with a wide basal joint, remaining joints slender. Second pair of antennae fan-shaped. First joint small, second with one large and one small spine, third fan-like with two prominent cusps on the outer side of the main diagonal cusp and four on the inner side, fourth and last joint with six large cusps and a small one on the inner margin.

Colour: Uniformly pale creamy-buff.

Dimensions (Holotype): Total length 89 mm. Carapace: Length in mid-line, 27 mm.; breadth of frontal margin, 26.5 mm.; breadth between orbits, 18 mm.; breadth at posterior border, 22 mm.

Holotype: Auckland Museum.

Locality: Houhora Beach, Northland, New Zealand (Captain H. M. S. Ryder, 1931) (Holotype); 20 fathoms off Port Fitzroy, Great Barrier Island (54 mm., total length).

Family CALLIANASSIDAE.

Genus CTENOCHÉLES Kishinouye.

1926. Annot. Zool. Jap. 11, p. 63. Type: *C. Balssi* Kish. Ohsu, Japan.

Ctenocheles maorianus n. sp. Pl. 68, figs. 3-7.

This species closely resembles *C. collini* (Ward, 1945), from Mud Island, Moreton Bay, Queensland. The most noticeable difference lies in the chelipeds, the left one in particular having long rake-like fingers, much more produced than in either *balssi* or *collini*, but not so extremely long and slender as in *Thaumastocheles*.

Description of holotype (male)

The whole animal is very lightly calcified; long and slender, with sides subparallel, compressed laterally. Carapace long and narrow, keeled medially and with a small rostral spine; gastric region more strongly calcified than rest of carapace. Abdominal somites narrowly rectangular, smooth, all but last very lightly calcified. Sixth somite and telson relatively strongly calcified.

Chelipeds unlike, the left one slightly the larger. In *collini* the right chela is very much larger than the left.

Left chela with an ovate-globose palm and very long slender fingers, twice the length of the palm, furnished with long slender interlocking teeth, about 30 in number, eight of which are primaries of about $2\frac{1}{2}$ times the length of the intermediates.

Right chela with an elongate-rectangular palm and short stout fingers about the same length as the palm, furnished with about 20 blunt, ill-formed teeth, about seven of which are more or less regularly spaced primaries. There is very little difference between the primary and secondary teeth, which are minute compared with the long, sharp, slender teeth of the left chela.

The opthalmopoda are relatively conspicuous, flattened, oblong plates lying together and projecting in front of the rostrum. The front proximal edges are pointed. The site of the eye is shown by a raised surface at about the front third of the upper surface. The eyes are not pigmented and do not seem to reach the surface, so presumably the animal is blind.

Antennules stout, two-thirds the length of the slenderly tapered second antennae. Other appendages characteristic of the genus.

Colour (in alcohol) : buff; chelipeds with the palms pink or brownish tinged.

Dimensions (Holotype): Total length (rostrum to end of telson), about 112 mm. Carapace: Length, 27 mm.; width, 10 mm. anteriorly, 11 mm. posteriorly; maximum depth, 12.5 mm. Sixth somite: Length, 17 mm.; width, 11 mm. Left chela: 35 mm; dactylos, 22 mm. Right chela: 27.5 mm.; dactylos, 14 mm. Left chela: 38 mm.; dactylos, 25 mm. (Plate Island).

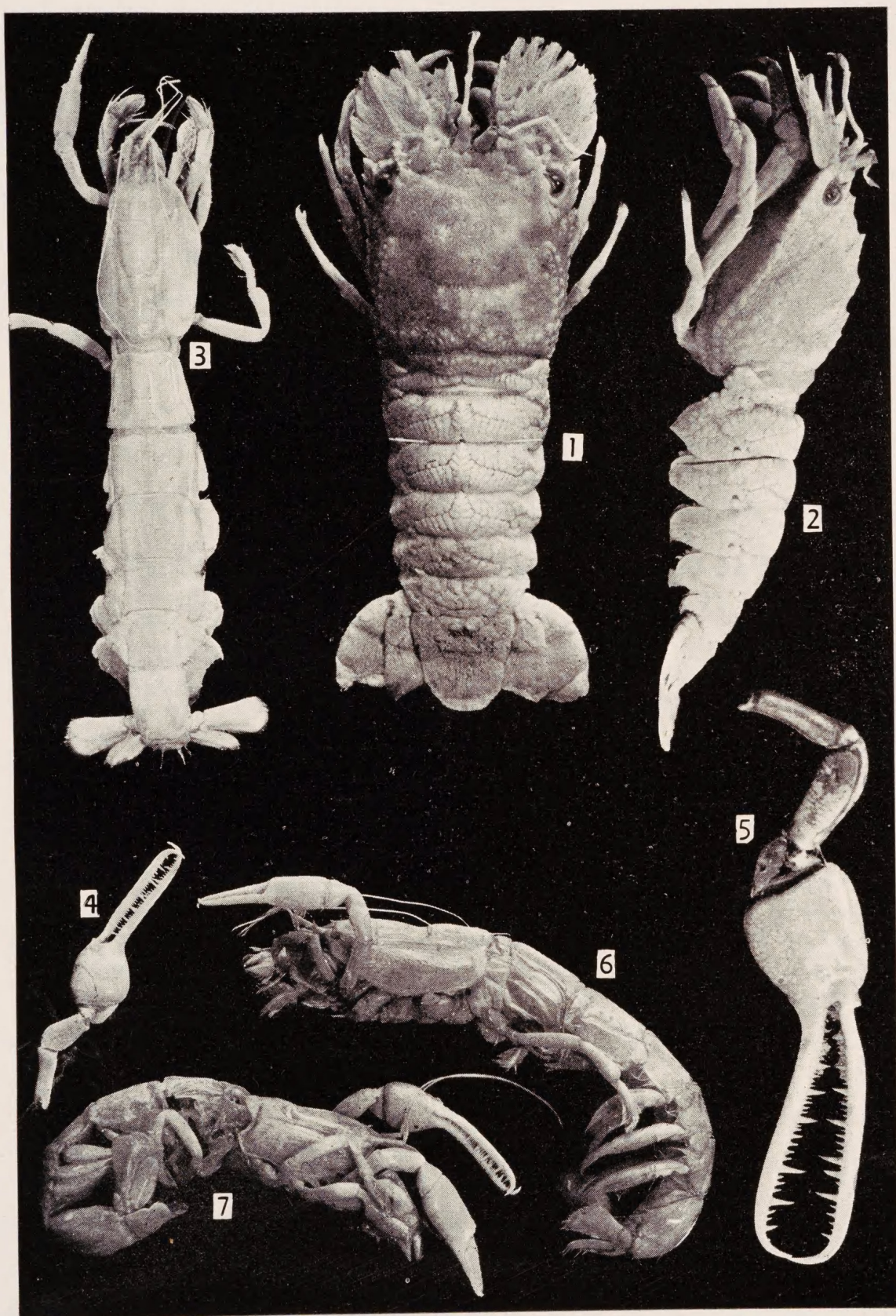
Holotype: Auckland Museum.

Localities: Trawled, Hauraki Gulf (C. Daniel, 1934) (Holotype); 19-20 fath., 8 miles E. of Tiri Tiri Island, Hauraki Gulf (F. Flinn, 4/9/1930) (left chela missing); 30 fath. off Plate Island, Bay of Plenty (S. Voss, 1949) (left chela); Tasman Bay, Nelson (W.V. Hadfield, 1949) (left chela).

Remarks: A well preserved example, 122 mm. in length, minus the larger chela, is in the Auckland Museum collection, but has no data. It is apparently a male, and differs from the other material in having the left chela as the smaller one.

The species is apparently a deep burrower in soft mud, for chela are frequently torn off by trawl nets, but the dislodgement of a complete animal is of rare occurrence.

External sex characters are difficult to determine with certainty, and I am loath to dissect any of the three reasonably complete animals at my disposal.



1, 2. *Scyllarus aoteanus* n. sp. Holotype, 89 mm. 3-7. *Ctenocheles maorianus* n. sp. Holotype (7), 112 mm., Paratype (3, 6), 122 mm., large left chela from off Plate Island, 38 mm.

BRACHYURA.

Genus LYREIDUS de Haan.

1841. In Siebold F. Japon (Crust.), p. 140. (Type: *L. tridentatus* de Haan).

Lyreidus tridentatus de Haan

1841. *Lyreidus tridentatus* de Haan, in Siebold, F. Japon (Crust.), p. 140.

1933. *Lyreidus australiensis*, Ward, Austr. Zool. 7 (5), p. 377.

1947. *Lyreidus* sp. Powell, Rec. Auck. Inst. Mus. 3 (3), p. 170.

1949. *Lyreidus australiensis*: Richardson & Kreft, "Tuatara," Vict. Un. Coll., Wellington, p. 69.

The record of this handsome gymnopleuran crab, made by Richardson and Kreft (1949) from the Cook Strait area, on the basis of material found in the stomach of a dogfish, can now be amplified by the following series of occurrences from the continental shelf in the Bay of Plenty.

Localities: West of Alderman Islands, 50 fathoms (H. C. Hopkinson, March, 1946); N.E. of Motiti Island, 49 fathoms, Bay of Plenty; mud bottom (J. Shirley, 1946); Between Mayor Island and Motiti Island, 70-100 fathoms (S. Voss, June, 1949); Seven miles S.E. of Whale Island, Bay of Plenty; mud bottom (S. Voss, 21/4/1948); Wai-kawa Point, near Cape Runaway, 60 fathoms (S. Voss, Aug., 1949) (female "in berry").

Remarks: The genotype is from Japan and the species is evidently wide ranging down the margin of the Western Pacific.

Mr. Frank McNeill, Australian Museum, Sydney, considers that Ward's *australiensis* is inseparable from the genotype, and in support of this statement quotes Sakoi, 1937, Studies on the Crabs of Japan II, Rep. Tokyo Bunrika Daigaku, Sect. B., Suppl. 2, p. 168: "*L. australiensis* Ward was substituted for *L. tridentatus*, reported by Haswell from the sea of Australia in the earlier period, but the discriminations enumerated by Ward between *australiensis* and *tridentatus* are artificial and I am at a loss how to discriminate these species."

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