

NOTES ON NEW ZEALAND FISHES.

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(Plate iv and Fig. 1.)

The following notes and figures are based upon specimens of several fishes from New Zealand waters, belonging to various families, which have been examined by us jointly.

*Family* HISTIOPTERIDAE.

PSEUDOPENTACEROS RICHARDSONI *Smith*.

(Plate iv, fig. 1.)

*Pentaceros richardsoni* Smith, *Illustr. Zool. S. Africa, Pisces*, 1849, pl. xxi. *Id.* Hutton, *Trans. N. Zeal. Inst.* xxii, 1890, p. 277.

A young example, 70 mm. long from the snout to the end of the caudal fin, is apparently referable to this species, though it differs considerably from the adult form as figured by Smith.

D.xiv/9-10; A.iv/8-9; P.18; V.i/5; C.17. The depth at the ventrals is 2.3 in the length to the hypural joint; head 2.7 in the same. Eye almost 3 in the head, slightly longer than the snout, and 1.2 in the interorbital width. Fourth dorsal spine 1.08, and ventral spine 1.1 in the head. All the exposed surfaces of the bones of the head and shoulder girdle are rugose with radiating spinate ridges, which are arranged as illustrated in the accompanying figure. A few small depressible teeth form a band in each jaw, and several similar teeth occur on the vomer; palatines toothless. The scales covering the cheeks and the body are minute and finely spinose, and the spines of the fins are coarsely carinate. The body bears numerous, well-defined, dark markings, which tend to form irregular rings, but they are differently arranged on each side. The spinous portions of the dorsal and anal fins and the whole of the ventrals are blackish.

*Locality*.—Nelson, New Zealand. Collected by Mr. F. G. Gibbs.

*P. richardsoni* was first recognised from New Zealand by Hutton, who identified specimens in the Canterbury Museum.

*Family* CHEIMARRICHTHYIDAE.CHEIMARRICHTHYS FOSTERI *Haast*.

(Plate iv, fig. 2.)

*Cheimarrichthys fosteri* Haast, Trans. N. Zeal. Inst. vi, 1874, p. 103, pl. xviii. *Id.* Waite, *Op. Cit.* xlii, 1909, p. 390, pl. xxxviii.

“Papanoko” Mair, Trans. N. Zeal. Inst. xii, 1880, p. 315. *Id.* Best, *Op. Cit.* xxxv, 1903, p. 78.

*Localities*.—This species was originally described from the Otira River on the western slopes of the dividing range of the South Island of New Zealand, but Waite has recorded its occurrence in several eastern streams also. Under its native name “Papanoko” it was first recognised from the Wanganui River in the North Island by Mair, while Best also records it from the Bay of Plenty district.

Maoris at Hiruharama on the Wanganui River were recently found to be securing this species in large numbers. Two examples collected by Mr. Elsdon Best were submitted to us for examination.

A comparison of North and South Island specimens, from the Wanganui and Rakaia Rivers, reveals no characters to distinguish them even subspecifically.

*Family* CHIRONEMIDAE.CHIRONEMUS MARMORATUS *Günther*.

*Chironemus marmoratus* Günther, Brit. Mus. Cat. Fish. ii, 1860, p. 76. *Id.* Ogilby, Ed. Fish. N.S. Wales, 1893, p. 54, pl. xvii.

*Haplodactylus fergussoni* Hector, Trans. N. Zeal. Inst. vii, 1875, p. 243.

*Chironemus fergussoni* Hector, Trans. N. Zeal. Inst. ix, 1877, p. 467, pl. viii, fig. 8a.

A specimen, 330 mm. long, from the Bay of Islands, New Zealand, is evidently referable to *C. fergussoni*, which species was described by Hector from examples obtained at the same locality and at East Cape. This specimen is rather more slender than others of *C. marmoratus* from Port Jackson, New South Wales, but as it agrees with them in all structural details and in its colour-marking, we are unable to find any satisfactory characters to distinguish the New Zealand from the Australian species.

The specimen from the Bay of Islands has the following characters:—D.xiv/18; A.iii/7 (8); P.15, six lower rays simple. Lateral line with 56 pierced scales to the hypural joint, and 3 more on the base of the tail.

*Family* SYNGNATHIDAE.STIGMATOPHORA LONGIROSTRIS, *Hutton*.

(Fig. 1.)

*Stigmatophora longirostris* Hutton, Fish. N. Zeal., 1872, p. 69.

D.65; P.17; Rings 21/54. Head 1.5 in its distance from the vent; head and trunk 2.1 in the tail. Snout 1.1 longer than the rest of the head; eye 2.2 in the postorbital portion of the head. Operculum with a horizontal ridge. Dorsal fin commencing on the eighth body-ring, and a little nearer the operculum than the vent; it extends over thirteen body-rings and twelve tail-rings.



Fig. 1.

A somewhat damaged specimen, 250 mm. long, is evidently identical with Hutton's species, though it differs in several details from his description.

*Locality*.—Portobello, Port Chalmers; 29th Sept., 1918.

*Family* BLENNIIDAE.TRIPTERYGION SEGMENTATUM, *sp. nov.*

(Plate iv, fig. 3.)

Br.6; D.iv, xvii, 12; A.25; P.16; V.2; C.15. L. lat. 23 + 18. Depth at the ventrals equal to about one-fifth of the length to the hypural joint; head 3.6 in the same. Eye about 3 in the head, its diameter greater than the depth of the caudal peduncle.

Head naked, with rather large pores and mucigerous canals around the eye and preopercular margin, across the nape, and on the interorbital area and the snout. Snout pointed, the jaws subequal; mouth oblique, the maxilla extending backward to below the anterior portion of the eye. Anterior nostril in a low tube, with an upstanding tentacle; posterior nostril a large opening near the upper margin of the eye. Eye large, its upper margin cutting the profile of the head; a short ocular tentacle projects from its upper portion. Interorbital space narrow, mesially grooved. Preopercular margin free and entire, with large open pores. Operculum rounded, unarmed. Gill-membranes produced into pointed lobes above the bases of the pectorals, and broadly united across the throat in front of the ventrals.

Body compressed, largely covered with scales, which have coarsely ciliated edges and their exposed surfaces concentrically striated. The space between the lateral line and the back is naked, as is the breast and abdominal surface. The tail is scaly on the sides, but has its dorsal and ventral surfaces naked. There are five rows of scales between the posterior dorsal and anal rays. Lateral line parallel with

the back, formed of coarse simple tubes and extending backward to the space between the second and third dorsal fins; a single row of scales separates it from the median row, in which each scale has a small marginal notch.

First dorsal commencing above the operculum; its first two spines are of subequal length, and the others decrease backward; the third is united by membrane to the first spine of the second dorsal. The spines of the second dorsal attain their highest point at about the fourth, and then decrease slightly backwards; the membrane from the last apparently touches the base of the first ray of the third dorsal. All the rays of the third dorsal are simple; the third is longest and the others decrease backward; the last is double. Anal originating in advance of the middle of the second dorsal and terminating behind the last ray of the third dorsal; all its rays are simple, and they increase gradually in height to about the fourth last. Pectorals large, pointed, and entirely composed of simple rays; the lower rays are somewhat thickened, and the seventh is longest. Ventrals jugular, each with a fixed spine and two simple thickened rays. Caudal imperfect, apparently rounded, and composed of simple rays.

*Colour-marking.*—Light yellowish after preservation, with eight broad, dark cross-bands descending from the back to the ventral surface; four of these are below the second dorsal and three below the third, while one crosses the caudal peduncle. The intermediate spaces are covered with grey dots near the back, which leave light borders on each side of the dark bands. There is a dark bar descending from the eye, another across the lips, and a cluster of dots forms a dark patch on the operculum. The dorsal fins have dark areas corresponding to the body bands, which coalesce on the upper parts of the fins. Anal dark, with a blackish dot at the base of each ray.

Described and figured from a single specimen about 21 mm. long.

This species differs from others of the genus recorded from New Zealand in having all its fin-rays simple, the spines of the first dorsal decreasing instead of increasing in height backwards, and in its striking colour-marking. The two first mentioned characters suggest affinity with *Notoclinus* Gill, but in that genus the second dorsal is shorter than the third and the pectoral rays are less numerous than in this new species.

*Locality.*—Shag Point, Otago, New Zealand. Under stones at low-water mark. Collected by Mr. W. R. B. Oliver.

TRIPTERYGION VARIUM *Bloch & Schneider.*

*Tripterygion varium* (Bloch & Schneider) Waite, Rec. Cantb. Mus. ii, 1, 1913, p. 7, pl. iii.

Sixteen specimens, 58-83 mm. long, exhibit considerable variation in the numbers of fin-rays and spines. Ten specimens counted have D.v-vi, xx-xxi, 13-15; A.25-29.

*Locality.*—Portobello, Port Chalmers, on the beach, 5th-6th December, 1918.

HELCOGRAMMA MEDIUM *Günther*.

*Tripterygion medium* (Günther) Waite, Rec. Cantb. Mus. ii, 1, 1913,  
p 5, pl. ii.

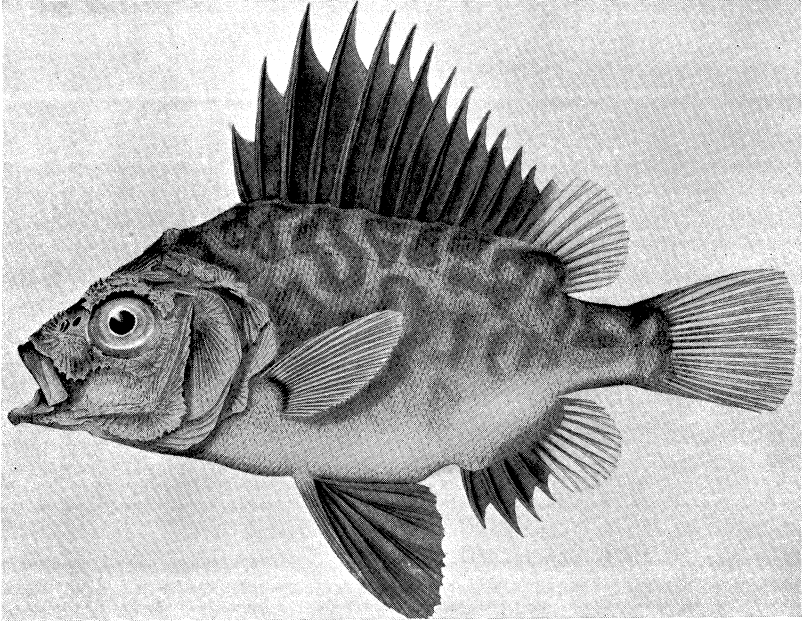
Nineteen specimens, 40-89 mm. long.

*Locality*.—Pipikariti, near Port Chalmers, in rock-pools, 12th  
December, 1918.

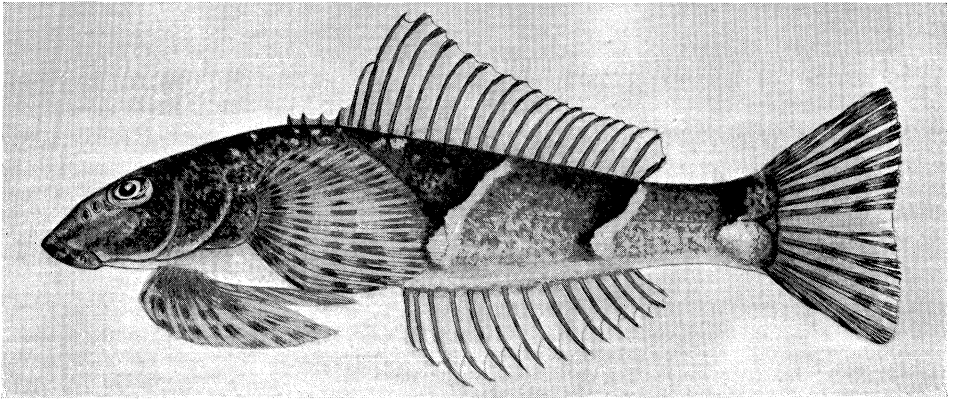
EXPLANATION OF PLATE IV.

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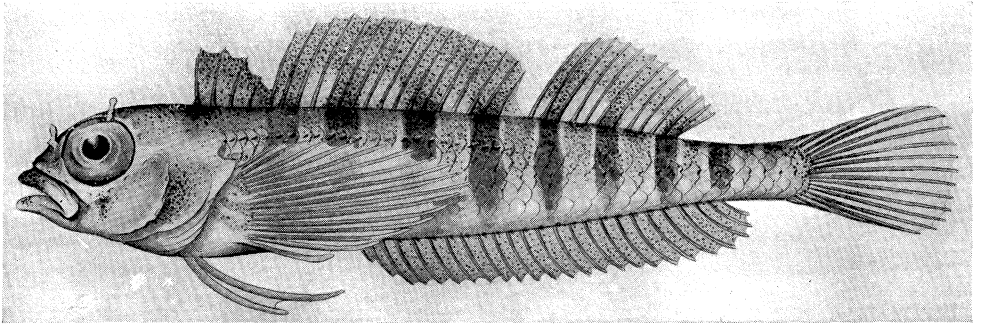
- Fig. 1. *Pseudopentaceros richardsoni* Smith. A young specimen, 70 mm. long, from Nelson, New Zealand.
- „ 2. *Cheimarrichthys fosteri* Haast. A specimen, about 147 mm. long, from Eight Mile, Hokitika River, New Zealand.
- „ 3. *Tripterygion segmentatum*, sp. nov. Holotype, about 21 mm. long, from Shag Point, Otago, New Zealand.



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