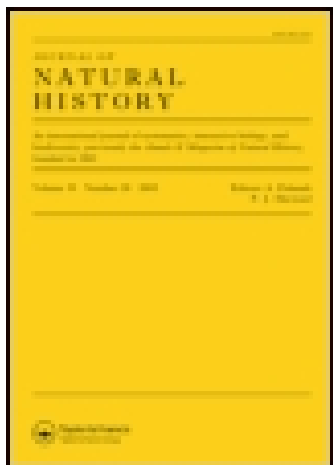


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XI.—Descriptions of five new species of fishes obtained in the New-Zealand seas by H.M.S.-'Challenger' Expedition, July 1874

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day for nearly a fortnight; and, unless where here and there weeds and stones afforded a shelter, these extensive sands yielded no other sessile-eyed Crustaceans except *Bathyporeia*, *Eurydice pulchra*, and one single small specimen of *Sulcator*. This solitary specimen we took within the first five minutes, and expected accordingly to meet with the same abundance of the species as in Wales, but, with the most eager and anxious search, during all the rest of the time could never find another in the southern locality. *Bathyporeia pilosa*, on the other hand, could have been taken in thousands. Its presence beneath the sand is betrayed by a small furrow, sometimes short and nearly straight, ending in a little pit, at others twisting and meandering about and occasionally zigzagged. The mothers with young look as if their bodies were tinted with a delicate blue; but this is due partly to a double stripe upon each ovum, the colouring of which is seen through the pellucid sides of the parent, and partly perhaps to the contents of the alimentary canal.

In the sands at Paignton, near Torquay, I have taken in close proximity to one another the sand-furrowers *Sulcator arenarius*, *Kröyera arenaria*, *Bathyporeia pilosa*, and *Eurydice pulchra*.

EXPLANATION OF PLATE III.

- Fig. 1. *Bathyporeia pilosa*, not full-grown.
 Fig. 2. The same, adult male.
 Fig. 3. Upper antennæ.
 Fig. 4. First gnathopod.
 Fig. 5. Second gnathopod.
 Fig. 6. Third pereopod.
 Fig. 7. Fourth pereopod.
 Fig. 8. Upper portion of fifth pereopod.

XI.—*Descriptions of five new Species of Fishes obtained in the New-Zealand Seas by H.M.S.-'Challenger' Expedition, July 1874.* By JAMES HECTOR, M.D., C.M.Z.S.

Trachichthys intermedius, sp. n.

P. 16. V. 1 | 6. D. 6 | 11. A. 3 | 10. L. lat. 28.
 L. transv. 6/10. Caudal 7 | 10 | 6.

Body compressed. Length of head nearly equal to the height, and contained twice and a half in the length (without caudal, which is equal in length to the head). Pectoral extends behind the vent, being same length as caudal, and has the

fourth lowest ray longest. Ventrals slightly in advance of pectorals and reaching to the vent, which is behind the middle. Snout rounded, its length being one half the diameter of the orbit. Cleft of mouth very oblique. Maxillaries expanded behind, and twice the diameter of the orbit in length. Teeth in fine villiform bands. Interorbital space equal to the orbit, prismatic, with a lozenge-shaped space on each side separated by a double elevated ridge that terminates in two spines over the nostrils in front, and diverges behind to bound an occipital space. The upper part of the head is formed of a delicate framework and membranes enclosing large cavities. The infraorbital area is crossed by seven rays, and the operculum by two vertical ridges with five transverse bars, the lowest being prolonged over the suboperculum and angle on the gill-opening as a roughly serrated spine. Between the occiput and commencement of the dorsal is a rough elevated ridge. The posterior dorsal rays rest in a groove. The caudal is deeply forked, each lobe of ten soft rays with seven sharp spines above and six below. The dorsal and anal fins end at the same vertical line; and the interspace to the caudal is equal to half the length of the body. The greatest height is vertical to the commencement of the dorsal. The serrated ventral keel consists of ten scales.

Colour silvery white, except the tips of the dorsal fin and caudal lobes, which are darkened by crowded black spots; the neck, back, and base of caudal have also a dark shade from the presence of minute spots. The scales above the lateral line are rough and adherent, but below are soft and deciduous.

Total length 2·7 inches, height ·85.

Dredged by the 'Challenger' Expedition in 400 fathoms off Cape Farewell.

This fish approaches *T. elongatus*, Günth., of which a single specimen was obtained at the Great Barrier Island; but from its having evidently intermediate characters between that species and *T. australis*, I have distinguished it under the above name.

Platystethus abbreviatus, sp. n.

B. 5. P. 16. V. 1 | 6. D. 7 | 26. A. 2 | 26. L. lat. 80.
L. transv. $\frac{6}{20}$. Caudal 3 | 14 | 3.

Body compressed; general form rhomboidal, the greatest length being vertical to the second dorsal spine, which is over the anal spine. Length equal to once and two thirds the

height, the head being two thirds of the height. Length of snout less than the diameter of the orbit, which is half the length of the head. Interorbital space equal to the snout, this being the greatest thickness of the body. The eyes are very high up; and on each orbit is a doubly serrated ridge that ends in a spine that projects forwards and covers the nostril; the inner branch of the ridge is continued backwards, bounding a deep interorbital depression, the outer is continued round the margin of the orbit. The lower jaw slightly projects. The upper jaw is formed of the intermaxillaries, the maxillaries depending vertically over the angle of the mouth and ending in a spinous process. The inferior edge of the lower jaw is serrate. Infraorbital space scaled, the opercles naked, with all the lower free edges serrate. A strong ridge with eighteen rough scales extends from the isthmus to the ventrals. The groove for the reception of the dorsal is bounded by twenty-six oblique spinous scales, and that for the anal by twenty similar scales, each having four minute spines, the first being the longest. The first dorsal spine is short, the second long, being half the length of the head; ventral spine the same length, the anal spine one third. The second dorsal spine is compressed, with a sharp anterior edge. Soft dorsal does not begin with a spine. The length of the caudal part of the body is equal to the orbital diameter, and has three short pointed spines above and below the base of the caudal, which is rounded. Scales very narrow and rough.

Colour silvery, with a black crescent behind the pectoral, which is very small and rounded. There is also a black line along the base of the dorsal and anal, and a patch on the base of the caudal.

Teeth very minute.

The depressed interorbital space, shorter form, and different number of fin-spines are the chief characters on which this fish is separated from the only other species of the genus, *P. cultratus*, of which only two specimens are recorded, from Norfolk Island.

Dredged by H.M.S. 'Challenger' Expedition in 400 fathoms off Cape Farewell.

Scorpaena barathri, sp. n.

B. 7. P. 18. V. 1 | 5. D. 11—1 | 10. A. 3 | 5. Muciferous pores 22. L. scales 65. L. transv. 7 | 20.

Length equal to thrice and one fourth the height and twice and two thirds the length of head. Teeth on the palatines, vomer, and jaws in fine villiform bands. General form com-

pressed elongate, with profile of head convex. Length of snout equal to diameter of orbit; maxillary rather longer. Interorbital space equals one third of the same. Supraorbital ridges with five spines. Præoperculum with five spines in the lower limb; suboperculum with two appressed spines on the upper limb. Third dorsal spine longest, and equal to half the length of the head. Anal spine of the same length, and greater than base of anal fin. The interval between the anal and caudal is twice that between the soft dorsal and caudal.

Colour silvery, with a yellow line and a few brown spots on the back, and a dark patch on the dorsal fin.

Approaches nearest to *S. panda*, Rich.; but is distinguished chiefly by the greater length and less height of the dorsal, and shorter pectorals.

Dredged by H.M.S.-'Challenger' Expedition in 400 fathoms off Cape Farewell.

Macrurus armatus, sp. n.

D. 11—65. A. 75. V. 7.

Length of head equal to half the length of the body before the anus and contained five times and a half in its total length. Greatest height at first dorsal ray not equal to the length of head. Second dorsal ray as long as the height of body; spinous anteriorly, and enveloped in a sheath that is prolonged as a filament, overreaches only half the distance to the second dorsal, the interspace of the dorsal fin being equal to two thirds the length of the head. Diameter of orbit is one fourth of the length of the head and equal to that of the snout, but exceeds the projection of the snout beyond the mouth by one third. Interorbital space is once and one third of the orbital diameter. First ventral ray is prolonged, and reaches to the vent. Teeth in a single series. Mouth wide, extending across four fifths of the inferior surface of the head. Scales with three feeble spines, the middle spine being granulated on the head- and neck-scales.

Colour uniform light grey.

Dredged by H.M.S.-'Challenger' Expedition in 400 fathoms off Cape Farewell.

Pseudorhombus boops, sp. n.

B. 5. D. 118. P. 11. V. 6. A. 93. C. 16. L. lat. 80.
L. transv. 36.

Eyes on left side. Mouth and head otherwise symmetrical. Length equal to twice and a half the height and thrice the
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length of the head. Lateral line arched over the pectoral fin, the length of which is one third the height and the same as that of the caudal, which is rounded. Left ventral fin in line with the anal, but not continuous. Length of maxillary is contained twice and two thirds in length of head and two thirds that of snout. Orbits separated by a narrow slightly elevated ridge that overhangs the lower orbit. Dorsal fin commences in front of eye, and one half the orbital diameter from snout. Opercular margin entire, except a shallow notch in front of pectoral. Præopercular limbs join at right angles. Cleft of mouth oblique; maxillaries extending to the anterior vertical of the upper eye. Every part covered with scales, the diameter of which is one third that of the profile, with the free margins ciliate. Teeth in a single row, on both jaws in equal number, there being six on each side above and below; none on the vomer. Lower jaw with a prominent gonyx.

Colour yellowish white above, white beneath.

Differs from *P. scaphus*, Forst., to which it is closely related, in the number of rays, and in the greater relative size of the head, and the strikingly large orbits.

Dredged by H.M.S. 'Challenger' Expedition in 400 fathoms off Cape Farewell.

XII.—On a new *Motella* from Norway.

By ROBERT COLLETT.

Motella septentrionalis, n. sp.

2. D. 50–51. A. 41–43. P. 15–16. V. 7. C. 28–30.

Body rather short; head large, depressed, contained four times in the total length (including caudal). Snout obtuse, with one barbel at each of the nostrils, and a row of eight shorter or rudimentary ones along the upper lip, one at the chin. Upper jaw considerably longer than the inferior. The maxillary extends far behind the posterior margin of the orbit (the central point of iris is rather nearer the extremity of the snout than the end of the maxillary). Teeth cardiform and of unequal size. The eyes are rather small and directed upwards; the orbit is contained seven times and a half in the length of the head (in younger individuals six times). First dorsal short, its first ray short, only twice as long as the orbit. The vent is situated in the middle between the extremity of the snout and the end of the anal. The lateral line for the most part conspicuous, consisting of about eighteen large pores.