

## Research Notes

### A Specimen of *Nemichthys* (Pisces, Apodes) from New Zealand Waters.

L. R. RICHARDSON and J. A. F. GARRICK

[Read before the Wellington Branch, March 25, 1953, received by the Editor April 2, 1953.]

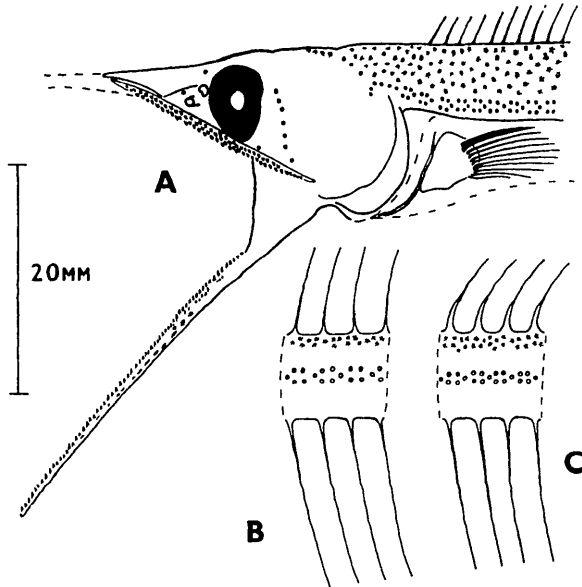
THE following account is based on a single, somewhat damaged specimen of a snipe-eel which was found entangled in the bistles on the inner aspect of the baleen plates of a humpback whale. The whale was killed some time towards the end of July, 1952, in Cook Strait, not far from the entrance to Toiy Channel. We are much indebted to Mr. O. Huntley, who found the specimen, and who, recognising it as a novelty, collected and preserved it. The specimen came into our hands through Mr. W. H. Dawbin. The condition of the specimen is relatively good, though the ethmovermerine portion of the upper jaw is missing, as is the tip of the tail including the caudal fin. The abdominal wall from the isthmus posteriorly for a distance of 150 mm is lacking, so that we can have no certainty of the attachment of the branchiostegal membranes ventrally or of the position of the cloaca. Generally the firmness of the flesh is good, and allowing for the length of time the whale was on the board before this specimen was found, we can assume the eel was taken by the whale close to the killing area, indicating a maximum depth of not more than 300 fathoms; but having regard to the general behaviour of the whale there is the probability the specimen was taken at a depth between 50 and 100 fathoms.

In spite of the damage there is no uncertainty of the general systematics of the specimen. The united frontals; the long body, with the relatively short abdominal cavity, continuous with the long and tapering tail; the greatly produced lower jaw; the proximity of the nostrils to the eye, the vertical suspensorium; etc., fully indicate (Trewavas, 1932) the *F. Nemichthyidae*; and the presence of a lateral line with three rows of minute pores; the reduced dorsal over the middle third of the body; the caudal filament; place the specimen without doubt in the cosmopolitan genus *Nemichthys* Richardson 1848. Our specimen has only 10 rays in the pectoral fin not the usual 11, though this is probably only individual variation and not indicative of New Zealand material generally.

The specific position is more difficult. Roule and Beitin (1929) reduced the ten then recognised species to one, *Nemichthys scolopaceus* Richardson 1848, an action which Beebe and Crane (1937) accept with reserve, these authors maintaining that the *N. fronto* Garman 1899 is a second species distinct in the much smaller eye. Our specimen agrees in this feature with *N. scolopaceus*. It is large-eyed, the horizontal diameter of the eye being contained in the postorbital length about 2.8 times. However, the eyes of our specimen are not circular, as are those of other nemichthyids, since the vertical diameter is greater than the horizontal. This does not appear to be the result of injury, but rather the normal condition, but until more material becomes available it would be unwise to exclude our specimen from the species *N. scolopaceus* because of this character. The following data are taken from our specimen.

*Measurements* Total length, 835 mm.; tip of maxilla to front of eye, 100 mm.; horizontal diameter eye, 4.5 mm.; posterior margin eye to end of opercular flap (branchiostegal membrane) 130 mm.; posterior margin of eye to pectoral basis, 18.5 mm.; tip of lower jaw to end of oesophagus, 295 mm.; length maxilla, 20.0 mm.; length lower jaw along base, 41.0 mm.; vertical diameter eye, 6.0 mm.; interorbital width (width frontals) 2.5 mm.; depth head at level of posterior margin of orbit 11.0 mm.; maximum depth body, 9.0 mm., just anterior to middle of body, length longest pectoral ray, 8.0 mm.; length longest dorsal ray, 9.0 mm., in advance of middle of body, length longest anal ray, 17.0 mm., in middle third of body.

*Teeth* On the maxilla there are four rows of teeth, irregularly arranged, and the rows ill-formed. On the mandible (on each side) there are six regular rows of teeth arranged



TEXT-FIG.—A, *Nemichthys scolopaceus*, lateral view head and branchial region. (Broken lines indicate structures missing in our specimen.) B., lateral view of portion of anterior third of body, showing lateral line pores, chromatophores and filamentous dorsal fin-rays. C., portion of middle third of body showing thickened bases of dorsal fin-rays not yet fully developed as "spines".

longitudinally. These teeth also form oblique rows running forwards and inwards. The ethmomerine teeth are now missing; but a few seen originally, agreed with Beebe and Crane's account. All of the teeth are in the form of erect sharp cusps curved posteriorly.

*Fins.* Pectoral rays 10, of which the first ray is very strongly developed. The fourth and fifth rays are the longest, the latter being 8.0 mm. long. The position of the pectoral insertion in our specimen cannot be determined with precision, though it appears to be at the level of the third or fourth dorsal ray. Dorsal rays about 340, though the tip of the caudal filament is missing. From about the 145th ray to the 235th ray, the rays are thickened basally to form curved "spines", though they are still filamentous distally. Anal rays were not counted because of the missing anterior and posterior portions of the fin.

*Lateral Line Pores.* Pores not easily seen, but are made discernible by brushing Indian ink over the specimen. Arranged in three rows. Dorsal and ventral rows in opposing groups of two pores. Median row of single pores each of which separates consecutive groups of dorsal and ventral pores.

*Colour* (in formalin) Dusky cream, with widely spaced brown to black dendritic chromatophores along upper one-fifth of body, though anteriorly the chromatophores extend to the lateral line, with a few passing on to the occiput. Mandible with a few black chromatophores along the middle third of its length.

#### REFERENCES

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