

## On the Occurrence of Post-Larval Stages of the Bass, *Morone labrax* (L.), in the Plymouth Area.

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THE post-larval stages of the bass, *Morone labrax* (L.), have never been recorded from these waters. From time to time occasional specimens of young fish have been caught in the plankton which had been tentatively assigned to this species on account of their similarity to the drawing given by Raffaele (1888). Now that the post-larval stages of this species have been described and figured by Bertolini (1933, p. 310 and Plate XIX) the Plymouth specimens can be definitely identified as *Morone labrax*, and the instances of their occurrence put on record.

Among all the specimens of young fish in the collections made during the years 1924 to 1934 only fourteen specimens of young bass have been observed, their occurrence being as follows:—

Date.	Position.	Depth of haul.	Specimens.
2.iv.25	L4	29.0 m.	1 (5 mm. long.)
29.iv.25	L6	24.3 m.	1 (4 mm. ,, )
19.v.25	L4	12.9 m.	1 (6.5 mm. ,, )
19.v.25	L4	18.9 m.	1 (4.5 mm. ,, )
13.iv.26	2 miles E. of Eddystone	21.6 m.	1 (6 mm. ,, )
22.iv.26	,, ,, ,,	24.6 m.	1 (7 mm. ,, )
22.iv.26	,, ,, ,,	39.0 m.	1 (7.5 mm. ,, )
3.vi.26	,, ,, ,,	18.0 m.	1 (6 mm. ,, )
4.vi.26	,, ,, ,,	36.3 m.	1 (7 mm. ,, )
17.iii.31	,, ,, ,,	Oblique haul	1
26.iii.31	,, ,, ,,	,, ,,	1
9.iv.31	,, ,, ,,	,, ,,	1
21.v.31	,, ,, ,,	,, ,,	1 (6 mm. long.)
27.iv.33	,, ,, ,,	,, ,,	1

From this it is evident that the young stages are likely to be met with in the plankton during the months March to June, but that they are

extremely rare. The high proportion of specimens in 1925 and 1926 is because in those years many more hauls were taken during the study of vertical distribution than in the later years, when oblique hauls were taken generally about once a week ; but the preponderance of specimens in 1931 among the later years is noteworthy.

Holt and Byrne (1898) obtained unfertilised eggs from a ripe bass in one of the laboratory aquarium tanks at the end of May ; they comment on the absence of records of eggs and young in nature and suggest the possibility that the fish spawn in the estuaries. From the positions of capture of the above specimens it seems likely that spawning takes place in the open sea here as in the Mediterranean. The rarity of the young stages in our collections is also possibly no more than a reflection of the rarity of the adult bass itself by comparison with the large numbers of the commoner species of fish.

The depths of capture of these occasional Plymouth specimens indicate that in these waters the post-larval bass live in the daytime in the deeper water layers mostly below 20 metres.

#### REFERENCES.

- BERTOLINI, F. 1933. Uova, larve e stadi giovanili di Teleostei. Fauna e Flora del Golfo di Napoli. Monografia 38, p. 310.
- HOLT, ERNEST W. L., and BYRNE, L. W. 1898. Notes on the Reproduction of Teleostean Fishes in the South-Western District. Journ. Mar. Biol. Assoc., N.S., Vol. V, No. 3, pp. 333-340.
- RAFFAELE, FED. 1888. Le uova galleggianti e le larve dei Teleostei nel golfo di Napoli. Mitth. Zool. Stat. Neap., Vol. VIII, pp. 1-84.