

On the Young Stages of *Blennius ocellaris* L., *Blennius pholis* L., and *Blennius gattorugine* L.

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With Figures 1-12 in the Text.

THE post-larval blennies taken off Plymouth during recent years have been assigned to three species, namely, *Blennius ocellaris* L., *Bl. pholis* L., and *Bl. gattorugine* L. The process of identification, however, has emphasised the need for the revision of the available descriptions and illustrations of the various stages in development, and I have, therefore, thought it desirable to report on the Plymouth forms and give drawings of them.

BLENNIUS OCELLARIS (12 rays to the pectorals).

Ehrenbaum (2, p. 83) has copied two figures of the young of this species which were originally produced by Holt (5, p. 45), and it is somewhat unfortunate that both need to be commented upon. The first is satisfactory as a representation of the appearance of a larva some time after hatching, but the length is wrongly given as 6.3 mm. Garstang (4, p. 74) explained that this was an error in transcription, and, after a re-examination of Holt's specimens, he found that the total length was 4.6 mm. (varying between 4.55 and 4.65). The second figure, depicting a young fish of 18 mm., which Holt tentatively assigned to *Bl. ocellaris*, was taken exception to by Garstang and the identification questioned, and it must be admitted that it does not portray satisfactorily the characters of the species.

The full account of the rearing of the young from the egg by Garstang (4) was unfortunately not illustrated; but as several of his original specimens are in the Plymouth collection, I have been able to identify quite readily the more recently captured examples and have made a series of drawings which are given below (Figs. 1 to 4).

BLENNIUS PHOLIS (13 rays to the pectorals).

The Plymouth post-larvæ of corresponding length agree with the description and figure of a specimen of 15.5 mm. taken off Falmouth, which was given by Holt (5, p. 47) and copied by Ehrenbaum (2, p. 81).

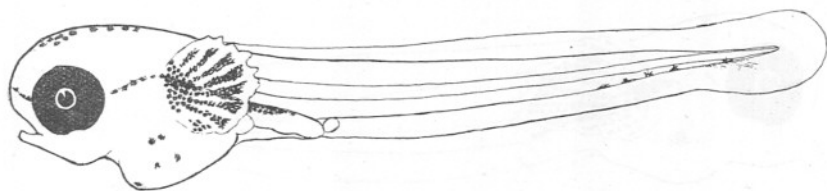


FIG. 1.—*Blennius ocellaris*. 4.6 mm. Newly hatched larva.

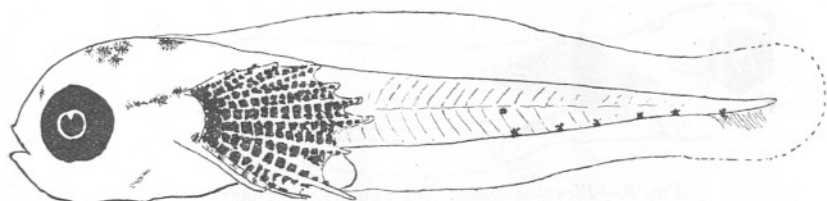


FIG. 2.—*Blennius ocellaris*. 5.0 mm. Y.F.T. 1920.

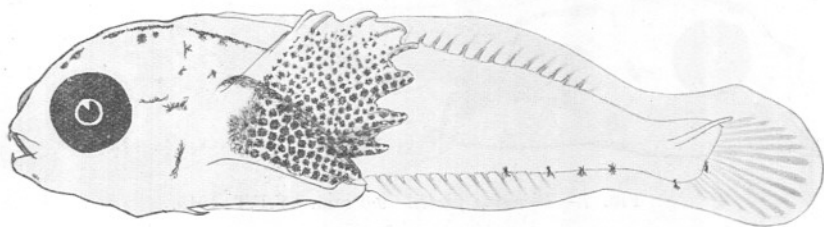


FIG. 3.—*Blennius ocellaris*. 8.5 mm. Y.F.T. 1919.

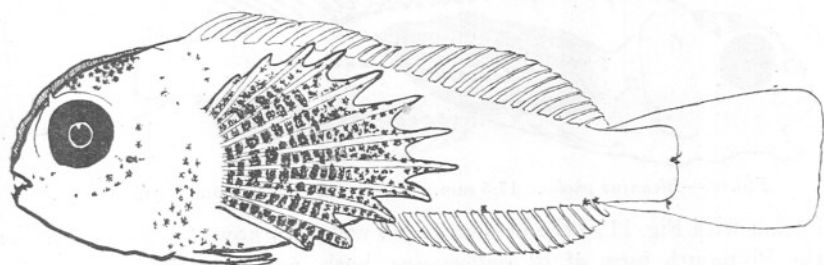


FIG. 4.—*Blennius ocellaris*. 13-25 mm. Y.F.T. 1913. External pigment only.

In the more recent publication of Le Danois (I, p. 161), descriptions and drawings of post-larvæ of 11 mm. and 15 mm. respectively have been presented which cause some difficulty. Le Danois' specimens both exhibit a restricted distribution of pigment on the pectorals, a condition

not shown in the Plymouth forms. Then, again, his two post-larvæ differ greatly from one another in body proportions, whereas the Plymouth examples show no such striking variation. It is really difficult to regard Fig. 313 of Le Danois as representing the post-larva at a similar length of the same species as that figured by Holt, and a comparison of the

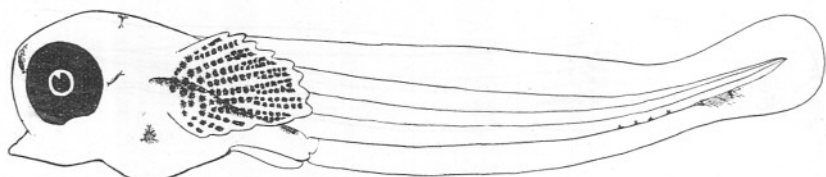


FIG. 5.—*Blennius pholis*. 5.0 mm. Larva shortly after hatching.

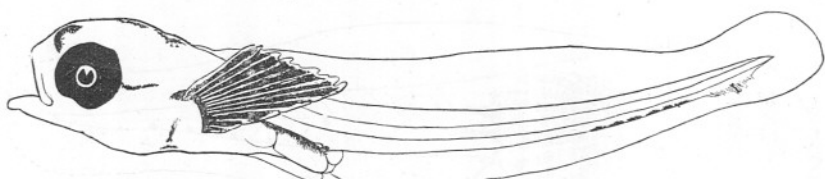


FIG. 6.—*Blennius pholis*. 5.5 mm. End of larval stage.

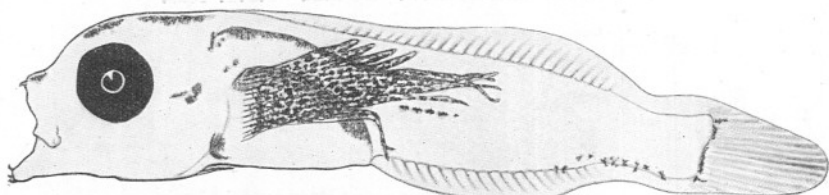


FIG. 7.—*Blennius pholis*. 9.0 mm. Y.F.T. 1919.

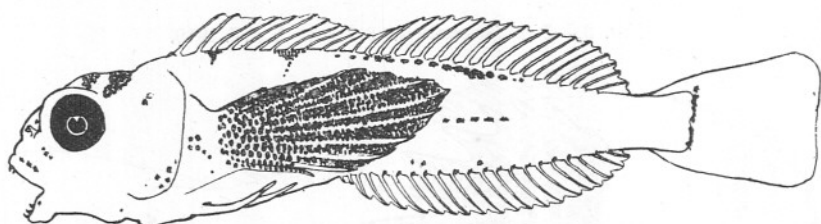


FIG. 8.—*Blennius pholis*. 17.5 mm. Y.F.T. 1914. External pigment only.

former with Fig. 11 of the present paper will show how closely it resembles the Plymouth form of *Bl. gattorugine*, both in the relatively long post-anal part of the body, and in the limited distribution of pigment on the pectorals.

The post-larvæ in general have a body form which is distinct from that of the other species in that it lacks the depth and robustness of *Bl. ocellaris*, and is not greatly attenuated post-anally as in *Bl. gattorugine*. The

pectorals are always deeply pigmented and relatively long. At 9 mm. black pigment is strongly marked along the upper surface of the spinal cord anteriorly, and the commencement of pigment on the exterior surface of the body may be seen along either side on the middle line slightly posterior to the anus (Fig. 7).

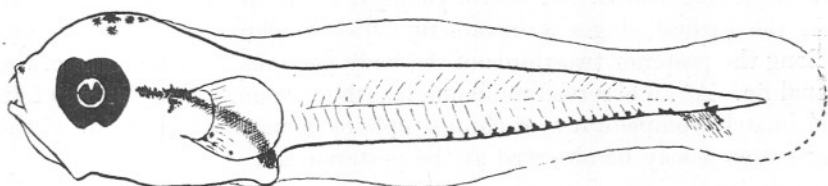


FIG. 9.—*Blennius gattorugine*. 6.0 mm. Y.F.T. 1920.

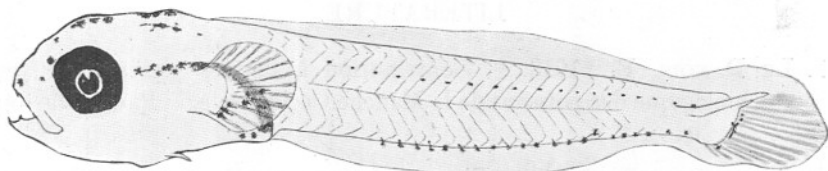


FIG. 10.—*Blennius gattorugine*. 9.0 mm. Y.F.T. 1920.

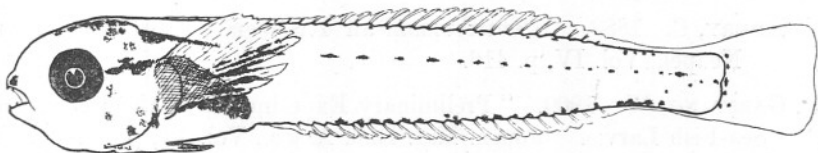


FIG. 11.—*Blennius gattorugine*. 13.0 mm. Y.F.T. 1913.

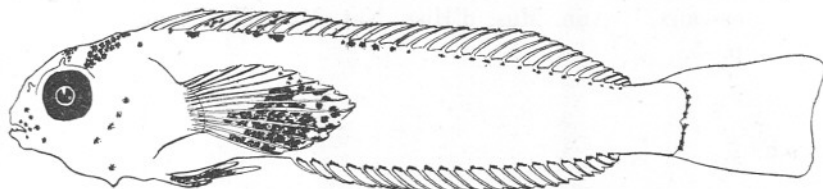


FIG. 12.—*Blennius gattorugine*. 18.5 mm. Y.F.T. 1913. External pigment only.

BLENNIUS GATTORUGINE (14 rays to the pectorals).

Emery (3) has given an account of the later developmental stages of this species with two excellent coloured drawings, and Le Danois (I, p. 120) has figured young fish of 23 mm. The Plymouth specimens of corresponding length agree with these descriptions. The smallest individual in which the rudiments of the tentacles could be observed measured 18 mm., at which size also the foundation of the first two pigment bands across the dorsal fin is already laid.

The post-larvæ are distinguishable from those of the other species on account of the long post-anal length, and the smaller and typically pigmented pectorals. At 6 mm. (Fig. 9) the little pigment which is present on the pectorals is restricted to a few chromatophores at the base of the rays on the lower part of the fin. With ensuing growth this pigment becomes augmented, but is still confined to the postero-ventral region. In the earliest stages a metameric series of chromatophores extends along the posterior two-thirds of the body post-anally at the base of the anal fin. At an observed minimum length of 8 mm. the beginning of an ultimately complete row of chromatophores along the upper side of the spinal cord may be observed at the posterior end.

LITERATURE.

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