FICHES D'IDENTIFICATION DU PLANCTON

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FISH EGGS AND LARVAE

BLENNIIDAE OF THE NORTH ATLANTIC

(revised)

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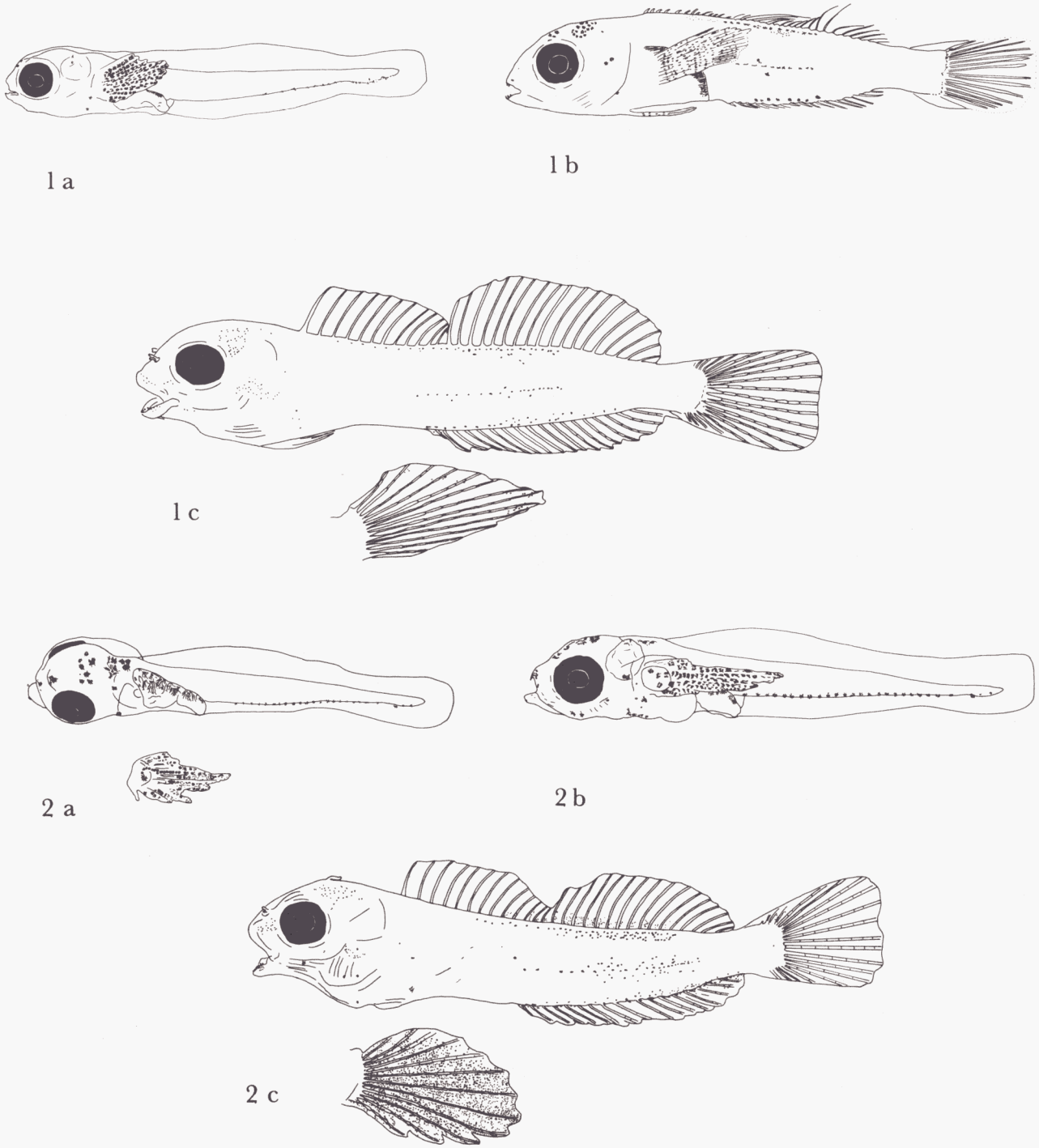
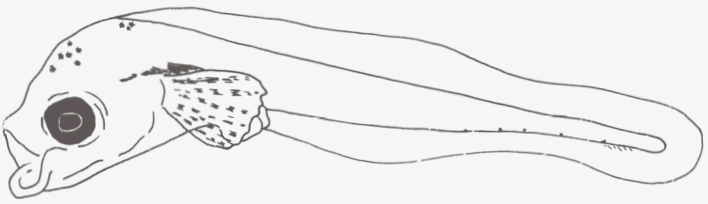


Figures 1–2: 1. *Lipophrys pholis* L. (a) larva, 6·25 mm, (b) larva, 12·5 mm, (c) larva, 16 mm; 2. *Coryphoblennius galerita* L. (a) larva, 3·3 mm, (b) larva, 4·5 mm, (c) larva, 16 mm.



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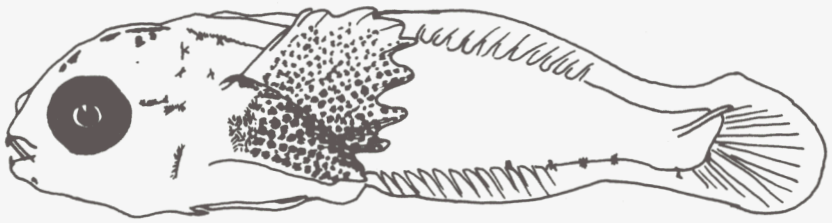

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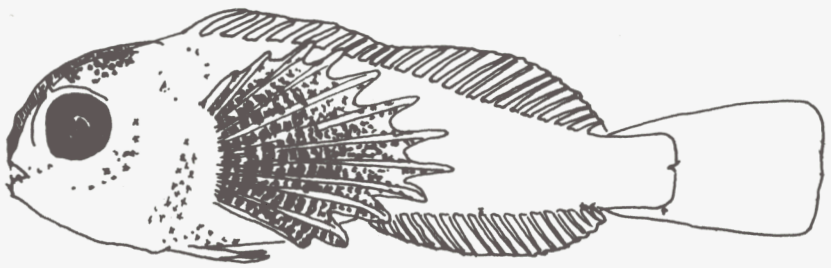

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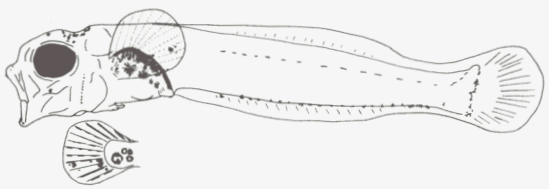

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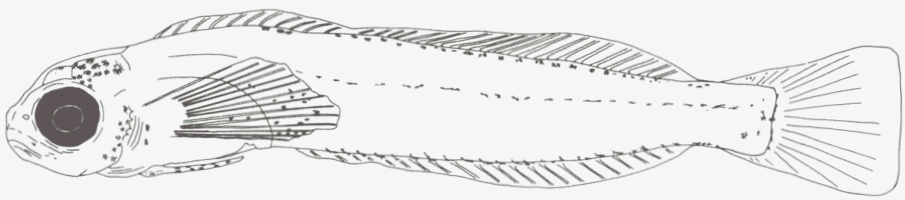

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Figures 3–4: 3. *Blennius ocellaris* L. (a) larva, 4·8 mm, (b) larva, 8·5 mm (Ford, 1922), (c) larva, 13·25 mm (Ford, 1922); 4. *Parablennius gattorugine* (Brünnich). (a) larva, 5·5 mm, (b) larva, 10·75 mm, (c) larva, 18 mm.

Blenniidae of the North Atlantic

The four species of Blenniidae occurring in the area of the North Atlantic dealt with in this paper are listed and their approximate distributions are shown in Table 1. *Coryphoblennius galerita* was reared to late larval stage under laboratory conditions (Fives, 1980). With the exception of *C. galerita,* the description of the eggs is a résumé of descriptions by previous authors. Many of the drawings are of specimens taken from the plankton off the west coast of Ireland. As the specimens were preserved in 4 % formalin/sea water buffered with borax, slight shrinkage may have occurred. The definitive nomenclature used is from Wheeler (1978).

DESCRIPTION OF EGGS

1. Eggs demersal, deposited in single layer several square centimetres in area, usually below mid-tide level, in rock pools on under-surfaces of flat stones and in crannies between stones. Each egg approximately 1·4 mm diameter, with oil globules, coloured purple and gold, three-quarters spherical with flattened attachment to substratum ..... Shanny, *Lipophrys pholis* L.
2. Eggs demersal, deposited close together, in a single layer, usually at or above mid-tide level, in rock crevices on the underside of the stones forming the roof of the crevice. Each egg approximately 1 mm diameter, transparent with golden-yellow oil globules and a purple hue, nearly spherical, with a third of the sphere hidden from view within the adhesive disc ..... Montagu's Blenny, *Coryphoblennius galerita* L.
3. Eggs demersal, deposited in single layer, usually at 10 to 20 metres' depth in empty whelk shells or bivalves. Each egg approximately 1·2 mm diameter, with oil globules, coloured pink, changing to purple and then to brown, nearly spherical with small attachment to substratum ..... Butterfly Blenny, *Blennius ocellaris* L.
4. Eggs demersal, deposited in single layer, usually below low-water mark on overhanging rocks of crevices. Each egg approximately 1·6 mm diameter, no oil globule, coloured purple and gold, hemi-spherical closely adhering to substratum ..... Tompot Blenny, *Parablennius gattorugine* (Brünnich)

KEY TO IDENTIFICATION OF LARVAE

Larvae and early post-larvae of Blenniidae are easily recognizable through the following characteristics: pre-anal region one quarter to one third the total length of body; digestive tube dorsally pigmented and dilated anteriorly; horizontal diameter of eye less than twice the height of the head; pectorals well-developed and long, without spines; vertebral count about 8 to 11 pre-anally and 31 to 33 post-anally.

Newly hatched larvae

1. Pectoral fins radially pigmented 2
   Pectoral fins unpigmented 3

2. Pectoral fins nearly reaching anus; larva approximately 4·4 mm; little or no yolk; teeth present; a few chromatophores on front of head, one or two near operculum; internal pigment on dorsal surface of intestine; a few chromatophores along posterior ventral margin ..... *Lipophrys pholis* L.

   Pectoral fins pointed and extending to second or third post-anal body segment; one of the central rows of chromatophores extending into base of pectoral fin in a distinctive ventrally directed curve; larva approximately 3·3 mm; little or no yolk; a scattering of chromatophores on top and back of head, one at base of auditory capsule, chromatophores on dorsal surface of intestine, along each dentary, a metameric series of 24 or 25 along posterior ventral margin from fifth or sixth post-anal vertebra to urostyle tip ..... *Coryphoblennius galerita* L.

   Pectoral fins rounded, with distil margin falling well short of anus; larva approximately 4·6 mm; abundant yolk; a mass of chromatophores on top of head, two chromatophores possible on snout, some chromatophores on dorsal surface of intestine and in interorbital region; four chromatophores possible along posterior ventral margin ..... *Blennius ocellaris* L.

Table 1

Species
1. *Lipophrys pholis* L.
2. *Coryphoblennius galerita* L.
3. *Blennius ocellaris* L.
4. *Parablennius gattorugine* (Brünnich)

Distribution		
Atlantic coast of Norway		1.
British coasts:	west and northwest	1,4.
	southwest	1,2,3,4.
	south	1,4.
	east	1.
	English Channel (eastern)	1,4.
	English Channel (western)	1,2,3,4.
Irish coasts:	west	1,2,3,4.
	northwest	1,4.
	southwest	1,2,3,4.
	south and east	1,3,4.
Atlantic coast of France and Spain		1,2,3,4.
Mediterranean		1,2,3,4.
Madeira		1,2,4.
Black Sea		2,3.
Azores		4.

3. Pectoral fins rounded, larva approximately 4·9 mm; large brown yolk sac; a few chromatophores on top of head and on snout, chromatophores on dorsal intestine; according to Lebour (1927) there are no chromatophores along posterior ventral margin; however, by 5·5 mm a metameric series of chromatophores extends along the ventral margin of the post-anal two thirds of body ..... *Parablennius gattorugine* (Brünnich).

Post-larvae, 9 to 14 mm

1. Pectoral fins radially pigmented 2
   Pectoral fins slightly pigmented 3

2. Pectoral fins pointed, with 13 rays and extending to mid-caudal trunk region; chromatophores on upper surface spinal cord anteriorly with some pigment on either side of mid-line in anterior post-anal region; a few chromatophores along posterior ventral margin and a vertical row at base of caudal fin; dorsal, anal, and caudal fin rays becoming visible ..... *Lipophrys pholis* L.

   Pectoral fins pointed and, at about 12 mm (according to Padoa, 1956), with 12 rays and extending past the mid-caudal trunk region; chromatophores extending along dorsal, ventral, and mid-line of mid-caudal trunk region; dorsal, anal, and caudal fin rays becoming visible ..... *Coryphoblennius galerita* L.

   Pectoral fins rounded, with 12 rays and extending over anterior third of caudal trunk region; no pigment visible along spinal cord; dorsal, anal, and caudal fin rays becoming visible, ventral fins small; tentacles already beginning to develop above each eye ..... *Blennius ocellaris* L.

3. Pectoral fins with a few chromatophores on postero-ventral margin, with 14 rays and extending just past anus; a row of chromatophores extending along upper side of spinal cord post-anally; dorsal, anal, and caudal fin rays becoming visible, ventral fins small ..... *Parablennius gattorugine* (Brünnich).

Late post-larvae and juveniles, 15 to 22 mm

1. Pectoral fins with 13 rays 2
   Pectoral fins with 12 rays 3
   Pectoral fins with 14 rays 4

2. Pectoral fin rays = 13, dorsal fin rays = 11–13+18–20, anal fin rays = 18–20, caudal fin rays = 13, ventral fin rays = 2–3. Adult characters at 16 to 19 mm in length, but with pectoral fins extending to third anal fin ray; in 25 mm specimen, pectoral fins extending to second anal fin ray but in adults extending only to anal papilla..... *Lipophrys pholis* L.

3. Pectoral fin rays = 12, dorsal fin rays = 13+15–16, anal fin rays = 17–18, caudal fin rays = 14, ventral fin rays = 2. A median occipital crest present at 16 mm. Pectoral fins highly pigmented; by 23 mm extending to the 8th ray of anal fin but in adults hardly passing the anal aperture. At 16 mm, pigment present along the base of the dorsal fin membrane..... *Coryphoblennius galerita* L.

   Pectoral fin rays = 12, dorsal fin rays = 11–12+14–16, anal fin rays = 18, caudal fin rays = 16, ventral fin rays = 1–7. Cephalo-abdominal region large in comparison with the rest of trunk. All adult characters assumed by 25 mm ..... *Blennius ocellaris* L.

4. Pectoral fin rays = 14, dorsal fin rays = 31 (the anterior 12 to 14 of which are pseudospinous), anal fin rays = 21, caudal fin rays = 12–13, ventral fin rays = 2–3. By 18 mm the rudiments of the tentacles appearing above each eye, and the foundation of the first two vertical pigment bands on the dorsal fins already laid. Pectoral fins extending to the third or fourth anal fin ray and no pigment on the upper third of these fins..... *Parablennius gattorugine* (Brünnich)

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