Proceedings of the Summer Institute in Recent Advances on the Study of Marine Fish Eggs and Larvae

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GUIDELINES FOR SORTING OUT EGGS AND LARVAE

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(A) Aim: To familiarise with the methods of sorting out fish eggs and larvae from live and preserved plankton samples.

(B) Materials:

(i) Fresh live plankton.
(ii) Clear, filtered sea water in a bucket/can.
(iii) Binocular microscope.
(iv) Monocular microscope.
(v) Embryo cups, 3 - 5 Nos.
(vi) Petridishes, 5 - 10 cm dia, 3 - 5 Nos.
(vii) Ocular micrometer, 1 No.
(viii) Stage micrometer, 1 No.
(ix) Pipettes, long type with teat, 2 Nos.
(x) Pipettes, small type with teat, 3 Nos.
(xi) Formalin, 2% in sea water, 250 ml.
(xii) Cavity slides, 3 - 5 Nos. and cover slips.
(xiii) Laboratory towel.
(xi) Dusting cloth.
(x) Specimen tubes with bakelite screw cap.

(C) Methods:

(i) Clean all the glassware first with freshwater and then with filtered sea water, to ensure them free from formalin.

(ii) Examine a sample of the live plankton under the binocular microscope.

(iii) observe the important macro characters such as (a) the size and shape of the eggs, nature of the chorion, presence or absence of oilglobule, size of the oilglobule and perivitelline space if present, nature of yolk, pigmentation on the embryo yolk and oilglobule if present, and (b) shape of the larvae (linear or shorter), position of vent, pattern of pigmentation, presence of fins, arrangement of muscle fibres etc.,

(iv) Based on the above observation of the macro characters, separate the eggs and larvae showing similarities and are of more or less the same developmental stages into embryo cups containing clear, filtered sea water.

(v) Place a sample of 5 to 10 eggs/larvae, as the case may be, in a cavity slide in the live condition and their vital characters in various stages (vide lecture notes IV) may be recorded under a monocular microscope under one or more magnifications in the live condition with an adequate number (vide Practical No.7).

(vi) If the embryo within an egg shows movements of its body (particularly seen in "late" eggs and those ready for hatching) which hampers the study of its characters add one drop of 2% formalin to kill the embryo. Record the characters and measurements rapidly before shrinkage.

(vii) Since the larvae in live condition move actively, fix them as suggested above to record their characters and measurements.

(viii) For preservation of eggs/larvae as a record and for future references, fix 5 to 10 eggs/larvae in formalin and keep them labelled in specimen tubes.