

still. It is possible that the ones which died might have done so any way as the others did in the running water, and I should think, judging from those put in the cold chest that lobsters might be kept alive for a number of days in a temperature of from 40° to 45° or 50°. I think 34° was a little too cold for them. At present I could not well regulate the temperature, but hope at some future day to give it another trial.

I placed several lobsters in water at the freezing point. They were just alive after one hour's immersion, but did not recover when placed in running water. All these lobsters were taken from water at a temperature of 69° and 70°.

WASHINGTON, D. C., *October 21, 1884.*

6.—DIRECTIONS FOR COLLECTING EMBRYOTOCOID FISH EMBRYOS.

By JOHN A. RYDER.

The species collected should be carefully identified, if the adults are not sent along with the embryonic material. Locality, etc., are also essential, together with dates of collecting.

If the gravid ovaries are removed it should be very carefully done, so as not to bruise, crush, or displace the contents. The gravid ovaries should then be placed in from ten to twenty times their own bulk of Muller's fluid, where they can remain for three or four weeks, but should not be so crowded into the phials as to be malformed. On the whole it would be preferable to get as small a species as possible and preserve the gravid adults entire in Muller's fluid, the body-cavity being first opened carefully to allow the fluid access to the interior. In this they may remain three or four weeks before removal into two or three changes of water during a day, when they may be put into 70 per cent. alcohol. Washing or soaking in water is desirable for a day to get rid of the salts in the fishes which discolor the alcohol and also, in combination with the latter, make the objects brittle.

It is very desirable that the embryos be in their normal positions and relations to the adult in the ovaries, and that as many stages as possible be obtained in order that my studies may be as consecutive as possible.

The Muller's fluid will be supplied in packages of 13, 13, 19, or what is enough of the powdered potash-bichromate, and sodic sulphate to make a quart of fluid with that amount of clean, fresh water. The material collected should be addressed to John A. Ryder, Smithsonian Institution, Washington, D. C.

Glass jars will be the best to keep the material in. Fruit jars with screw tops answer the purpose well and prevent the leakage of the yellow Muller's fluid.