

THE EGG-LAYING HABITS OF *PLETHODON CINEREUS*

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Two accounts of the natural history of this, our commonest salamander, have appeared, one by Miss M. E. Cochran (1911) and one by the writer (1909). Both agree in their descriptions of the eggs, but neither gives any information as to the mode of deposition. The writer has sought to determine this by observations made on *Plethodon* both in its natural habitat and in a terrarium. The following is an account of the more important observations together with comment and inference. Fertilization is internal; this had been predicted in the earlier paper (1909) and has since been confirmed by the fact that a female isolated in a terrarium for four days laid eggs that developed naturally.

*Case I.* On one occasion the actual extrusion of the eggs was observed. The female had been placed when captured in a small glass jar along with fragments of the log in which she was found; and the jar with others containing eggs was carried back to the laboratory in a small bag. Chiefly for the sake of the eggs which are very delicate the bag was guarded from shocks as far as possible, then for another hour it stood unopened. On removing the jar from the bag it was seen that the egg laying had just begun, fortunately in such a position that all its details could be observed. The lips of the cloaca are pressed against the surface from which the eggs will eventually hang and a small quantity of mucus is extruded and adheres firmly to it. This much had been completed before observation began so nothing can be said as to the interval that then elapses before the first egg is laid. The extrusion of each egg occupies about twenty seconds and an interval of five to ten minutes occurs before the next appears. The first three eggs were laid in contact with the mucus above mentioned; the fourth, and last, adhered to them in turn through the stickiness of the egg-envelopes. As the female did not move during the entire process, all the eggs were laid at the same point, each egg as it came, crowding the preceding ones aside, thus making sure of being in contact with them. For over an hour after the last egg was laid the female did not change her position; during the next hour she left the eggs a few minutes, then returned and coiled herself about them.