

been fertilized.) In *Plethodon* the instinct is more delicately adjusted. This is shown in the marked preference for some particular log as a site for egg-laying. For instance, one small plot of woodland was found to contain *Plethodon* in abundance during the spring of 1913 and was visited on June 21st in the search for eggs. A dozen or more rotting logs yielded only males or sexually immature specimens; at last one log was found which, though apparently not differing from the others, yielded eleven females with eggs. A number of similar cases have been met with. The logs so greatly preferred are invariably conifers, but other factors must enter into the quest on for another coniferous log that seems quite similar may be close at hand yet be entirely destitute. Equally striking is the difficulty that has been experienced in getting females to lay eggs in a terrarium. The thin, almost translucent ventral wall of the abdomen allows the easy recognition of females containing eggs almost ready for deposition. If pieces of the logs in which the animals have been found are brought from the field and the pieces piled together in a terrarium so as to reconstruct roughly the log, there is no difficulty in keeping the animals alive and in good condition for long periods. They will feed readily on small insects, e.g., aphids; but, like most amphibia, seem to suffer little from long deprivation. Three specimens overlooked in a small terrarium last spring lived until the end of September with no attention; at the end of that period their physical condition and vigor had suffered so little that they could not be recognised after being allowed to mingle with others brought in from the field. In spite of this apparent easy acceptance of life in a terrarium, the change usually is sufficient to inhibit the egg-laying reactions, and the eggs are retained and absorbed during the next five or six weeks. Exceptionally they will be laid as under natural conditions, but only when the female has been brought from the field not more than three or four days before the time for egg-laying. It is not a question of previous impregnation or its lack, for as far as examined, all mature females have been found to have the receptacles filled with sperm some time before the egg-laying season arrives.

The character of the season has some influence on the depth beneath the surface at which the eggs are laid; in damp seasons they will be for the most part but an inch below the surface, in dry seasons they will be four or five inches below. This refers to the character of the season up to the time of egg-laying, not after.

The retention of one egg in the ovary was mentioned in the earlier paper. Later experience has confirmed the observation. The egg is always much under-sized and occurs in about one third of the females accompanying clusters of eggs in early stages of development; it is then rapidly absorbed, and must have considerable value as a