

supply of nourishment for the female during her wait by the eggs. Occasionally it will almost equal the remaining eggs in size and then will be laid along with them, producing a cluster with one markedly small egg. For example, in one cluster of seven eggs, six of them had a diameter of 3.75 m.m., the remaining one of 2.75 m.m. From a difference so marked as this there is a gradual transition to the state where all the eggs of the cluster are the same size; such are about one half of all cases. The writer has twice found similarly undersized eggs of *Amblystoma*; the numbers were small, nine and eleven in the two cases, and the eggs of but two-thirds the normal size. They developed normally, producing under-sized larvae which were perfect anatomically but defective in their feeding instincts. The one lot would not feed at all; the other would snap fitfully at *Cyclops*, etc., but would not eat enough to grow or ever to maintain life. This was quite striking for both lots were the species *jeffersonianum* the larvae of which are normally voracious feeders and easy to raise. In *Plethodon* the early development of the small egg is quite normal, its fate has never been followed past the time when the larva is well formed.

One female, kept in a terrarium with her eggs, swallowed two of them, and three hours later regurgitated them. The eggs were killed by the process, whether by digestive action or by the mechanical violence it is impossible to say, for they were in the process of gastrulation at the time. This is a most critical period for the egg, its delicacy is at the maximum and very slight disturbance will cause its death. The swallowing of their spawn has been noted for many amphibia, usually where, as above, something has happened to pervert the natural instincts. Smith (1907) however, describes it as normal for *Cryptobranchus*; in this case moreover when regurgitated the eggs frequently continue to develop.

Means taken to determine the mating habits have so far been fruitless. The single observation of Wilder (1913) on *Desmognathus* is probably a close approximation to the habits of *Plethodon* in this respect.