

adults while being held lightly by the tail cast off a portion of it, the separation occurring in the part grasped and leaving in the one case a stump 1 cm. and in the other 1.75 cm. long, measuring from anus to end of stump. In no case observed has the length of tail retained been less than .5 cm.; it was usually more. There does not seem to be any one place where separation greatly tends to occur. Incomplete separation has also been noted, the vertebrae and muscles separating but the skin failing to break; this causes a slight grooving of the tail as though an invisible thread were tied around, compressing it. Longitudinal sectioning was used to examine both proximal and distal pieces in those cases that occurred under observation, and the relation of parts in the wound was found to be as follows, (Figure 1.) Separation of the vertebral column occurs between vertebrae; this is the condition also in *P. oregonensis* (Hubbard, '03). In the muscle the myomeres are not broken but separation occurs in the myocomma opposite the middle of the last vertebra retained. The skin however does not break here but at the myocomma opposite the middle of the first vertebrae of the piece cast off. Two things are accomplished by this; first the wound that now terminates the animal's tail is protected by the extra length of skin which collapses laterally upon it and almost covers it in. Second, on the piece cast off considerable raw surface is left exposed, the irritation from which is doubtless largely responsible for the rapid contortions that occur. This piece must play an important part in the protective device for by its violent movements it would draw the attention and invite the first attack of an enemy.

A similar habit has been noted in *P. oregonensis* by Hubbard ('03) but there are distinct points of difference. Briefly in *P. oregonensis* on moderate stimulation the glands on the dorsum of the tail swell greatly and pour out an abundant secretion. Only the most powerful stimulation—the act of being swallowed by a snake, or being plunged into a fixing fluid without previously being anaesthetized—would rouse the animal to the point of sacrificing its tail. Separation always occurs at a constriction just behind the anus. No mention is made of the behaviour of the piece separated and, the subject of the paper being correlated protective devices, it is perhaps fair to assume that it presents no striking peculiarity. In *P. cin. eryth.* the tail shows neither constriction nor swelling nor does the great development of dorsal glands occur, the thickness of the dorsal skin being one-twelfth to one-eighth of the diameter of the tail, while it constitutes one-fourth of the swollen tail of *P. oregonensis*.

Owing to the extreme aversion to light already mentioned it has been impossible to ascertain in a terrarium the manner of fertilization of the