RESEARCH NOTES

PARTURIENT ANACONDA, *EUNECTES GIGAS* LATREILLE, EATING OWN ABORTIVE EGGS AND FOETAL MEMBRANES.—A 15-foot anaconda, exhibiting the characters of *Eunectes gigas* Latreille as redefined by Dunn and Conant (1936, Proc. Acad. Nat. Sci. Phila., 88: 503-506) was collected in British Guiana in October, 1958, and kept on display at Ross Allen's Reptile Institute, Inc. It gave birth to young on the night of January 8-9, 1959. By 8:25 A.M. on the morning of the 9th, the snake had produced 4 living young and 19 large abortive eggs. After parturition had ceased, the reptile began to eat the abortive eggs, one by one. By noon only 4 abortive eggs remained. Photographs were made to document the episode.

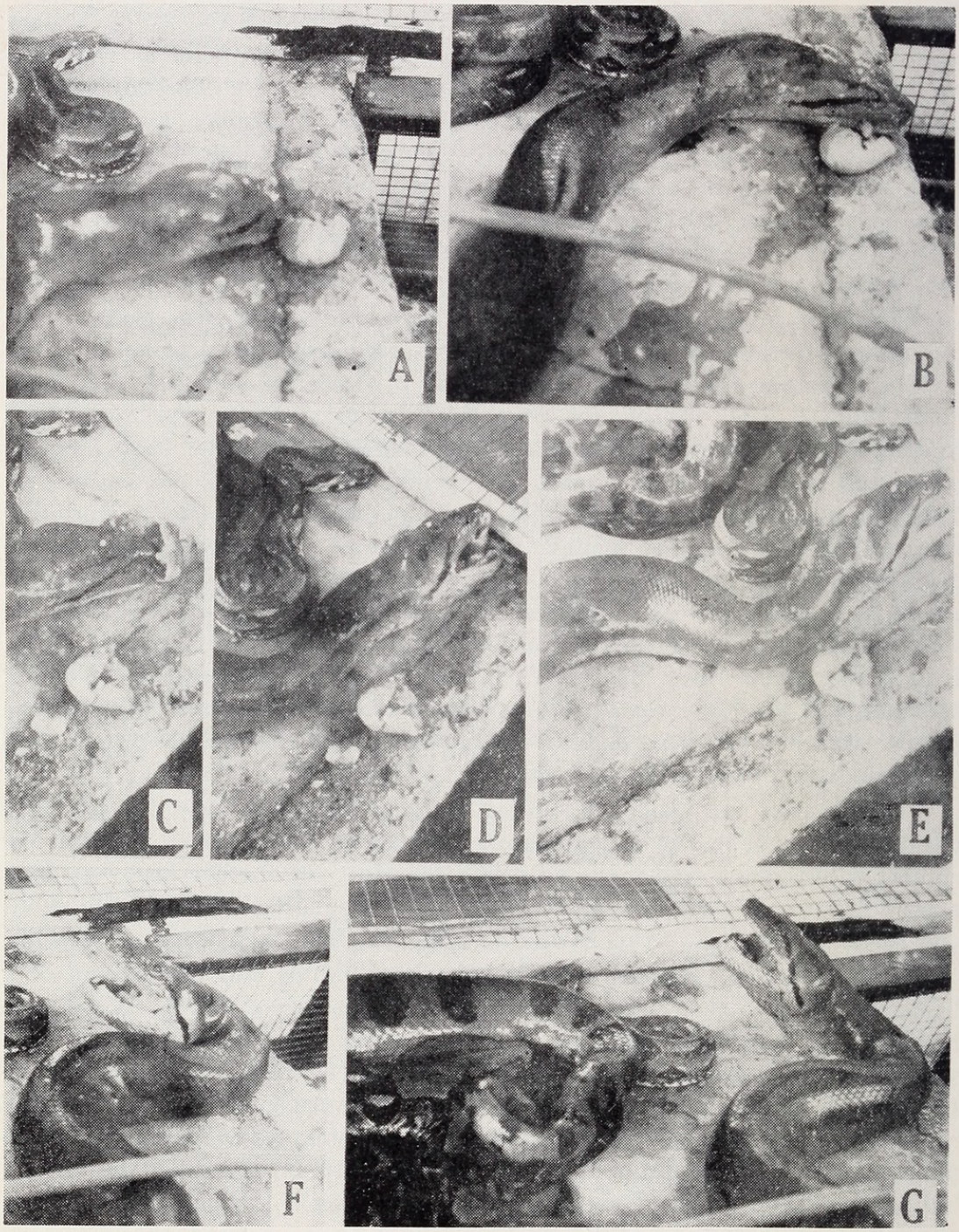
The method whereby the snake ate the abortive eggs was quite unlike the normal feeding behavior. The snake would press its nose to the concrete substratum, slowly following a trail of foetal membranes and birth fluids (Fig. 1, a-b). When the nose touched an abortive egg, the snake's tongue would flicker out a few times in exploratory fashion. Then the reptile would slowly open its mouth, and gently try to engulf the entire egg. This being difficult on concrete (c), the anaconda would slowly push the egg until it was secured against some backstop. Then with considerable delicacy the snake would take the egg into its mouth (d). Next it would tilt the head upward, also elevating the head and neck (e). In this position the snake would slowly masticate the egg, and swallow the fragments (f-g). During the swallowing, the snake's tail was coiled and uncoiled a number of times, but the body remained motionless. After ingestion of the egg, the reptile would lower the head to the substratum, lie motionless for 5 or 6 minutes, then search for another egg.

In one case the anaconda, nosing an egg, pushed it over the rim of a basin in the cage. The snake became motionless the moment its nose lost contact with the egg, and made no search therefor. In another case, following a trail toward an egg, the snake encountered a small puddle of birth fluids and foetal membranes. This it tried to consume, by small, biting movements.

The anaconda's method of eating the birth debris was reminiscent of a lizard's feeding in that (1) the head was first bent down, the tip of the nose touching the item to be ingested; (2) the item was taken into the mouth by a simple bite; (3) the head was then elevated; and (4) the item was masticated. In contrast, the normal feeding behavior of an anaconda is more typically snake-like. The prey is seized usually with a slashing, sideways bite, followed almost instantly by coils of body. While deglutition proceeds, the snake's tail is waved and thrashed about. (Such tail-waving is characteristic of many normally feeding snakes and lizards, especially if several individuals are penned together.)

The normal method whereby a snake engulfs its prey involves no mastication but a sort of "walking" motion of the jaws, made possible by their extreme flexibility; the snake "literally draws itself over the prey . . . " (Schmidt, 1950, Evolution, 4: 79). The normal method of ingestion is the "most fundamental snake character . . . Once the evolutionary trend toward

lightness and flexibility of the jaw apparatus had set in there could not be any development of the jaws or teeth for comminution of the food." (*idem*).



This particular anaconda had never accepted food in captivity. As an experiment, a small shad was rubbed in the birth debris and placed near the snake's head. The anaconda took it as though it had been another abortive egg. With the fish in its jaws, the snake raised its head and began mastication. This procedure, effective on the fragile abortive eggs, was useless with the tougher fish, which was finally dropped. A rabbit, rubbed in the

birth fluids, was also taken, lifted, chewed ineffectually for a time, and abandoned. The normal feeding behavior would permit an anaconda this size to swallow prey much bigger than the shad or the rabbit; a specimen of *Eunectes gigas*, about the size of this one, once passed the remains of a large dog (Neill and Allen, 1956, Herpetologica, 12(3): 173-174). Evidently, the scent of the birth debris evoked from the snake a reaction quite different from the usual pattern of feeding behavior. Another 15-foot anaconda, penned with the parturient female, also became stimulated by the abortive eggs, which it nosed and investigated; but it was disturbed by people in the cage, and soon desisted. South American boas, *Boa c. constrictor* Linnaeus, likewise in the cage, were oblivious to the proceedings.

Many mammals are well known to devour their own afterbirth; the habit is also widespread among live-bearing lizards (Oliver, 1955, The Natural History of North American Amphibians and Reptiles: 259). It is interesting to find the same behavior pattern in a primitive snake. The function of this behavior is problematical, at least in reptiles. It is possible that the anaconda obtains some physiologically or metabolically useful substance by eating its own birth debris; however, such actions have a more obvious survival value. As we have many times noted, a parturient anaconda produces a large quantity of birth fluids, foetal membranes, and abortive eggs, all of which have a strong and characteristic odor. This odor might soon advertise to keen-nosed carnivores the nearby presence of relatively helpless young snakes and their exhausted female parent. By devouring the debris immediately after birth, the adult reduces the telltale odor to a minimum.

The family Boidae, which includes the anaconda, appeared very early in the history of snakes (Bellairs and Underwood, 1951, Biol. Rev. Cambridge Phil. Soc., 26(2): 195). Modern boids exhibit numerous primitive features of the viscera, vascular system, and skeleton (*ibid.*: 231; Romer, 1956, Osteology of the Reptiles: 571-572). The occurrence in a boid of a primitive, unspecialized, lizard-like method of ingestion is therefore noteworthy, even though it is not a part of the usual feeding behavior. Other snakes employ masticating motions, something like those of lizards, when biting in defense or attack, or when drinking, but apparently not when ingesting solid objects.—WILFRED T. NEILL and ROSS ALLEN, Research Division, Ross Allen's Reptile Institute, Inc., Silver Springs, Florida.

Research Note Quart. J. Florida Acad. Sci.

PLICARIA FULVA SCHNEIDER (ASCOMYCETES) IN FLORIDA SOILS. In a recent article I (1959, Quart. J. Florida Acad. Sci. 22: 147-154) reported the recovery of species of *Phymatotrichum* Bon. (*Fungi Imperfecti*) from soils in chrysanthemum plantings. Further work has shown that all Florida isolates were the conidial stage of *Plicaria fulva* as represented by a culture kindly supplied by Dr. Schneider.

A generic name was not assigned to the conidial stage of *P. fulva* when it was described by Schneider (1954, Zentr. Bakteriol. Parasitenk. Abt. II, 108: 147-153). Wolf, (1955, J. Elisha Mitchell Sci. Soc. 71: 213-217) described *Mycotypha dichotoma* F. A. Wolf (Phycomycetes) from soil in which con-