line between North and South Carolina, the toads are divided between those having the spotted undersides of *B. americanus* and others having the immaculate undersides of *B. fowleri*. One specimen captured near the Reedy river in Greenville county, I submitted to the National Museum for full identification. I quote the finding of the government herpetologist in part: "The toad is nearest to *Bufo fowleri*. . . It is probable that the two species intergrade in South Carolina and in that case a definite identification of this toad is impossible."

If by species we are to understand a group that is not known to intergrade with some other species, and by subspecies groups that do intergrade, Yarrow, who in the Check-list of 1883, and Cope, who in 1889 classified Fowler's toad as *Bufo lentiginosus fowleri*, would appear to be more nearly right than Garman and others who have written it down as a species.

ANDREW L. PICKENS

Greenville, S. C.

NOTES ON THE REPTILES AND AMPHIBIANS OF THE DISMAL SWAMP.

During a short stay, June 8-11, 1925, at Lake Drummond, in the Dismal Swamp, in company with Messrs. C. S. East of Washington, D. C., and H. L. Bowen of Broadwater, Va., the writer made the following notes on the reptiles and amphibians observed. With the lock keeper's house, at the head of the lumber canal leading from the lake, as a base, investigations were made in the area around the junction of Washington and Jericho ditches, on the north side of the lake, at Camp Drummond on the south side and in the immediate vicinity of the lumber canal. This area was formerly covered by cypress but this is now replaced by a dense growth of swamp gum, swamp maple and similar trees, closely interwoven with Smilax and Toxicodendron, forming an impenetrable tangle and

rendering collecting difficult. Other difficulties encountered were drought and extensive peat fires and these factors, together with the limited time, account for the brevity of this list, which may by no means be considered representative of the region. Many other species have been collected in the same area.

Bufo fowleri Garman. Although the *fowleri* note is prevalent in the toad chorus here, at this time, occasional *americanus* calls and some intermediate in character were heard. Here, as in the region around the District of Columbia, the only differentiating character, which is to be found at all permanent, between the toads singing in the approved *americanus* fashion and those adhering to the *fowleri* Gesand, is size. The *americanus* callers are invariably large, mature toads. The distinct *fowleri* calls are uttered by the smaller individuals.*

Bufo terrestris Bonaterre. Fairly abundant in this part of the Swamp and calling at the time.

Acris gryllus LeConte. Numerous everywhere in the vicinity of the lake, and the various canals and ditches.

Hyla versicolor LeConte. Found everywhere here. These frogs were heard calling from cypress trees situated in the lake at distance of 30-40 feet from the shore.

Hyla femoralis Latreille. One example was found on a fence rail near the lock keeper's house, on the night of June 10th. As far as I know, this frog has not been recorded so far north, heretofore.

Rana sphenoccphala Cope. Leopard frogs in this locality have all the characteristics of *sphenocephala*. They suggest *pipiens* even less than the leopard frogs of the Potomac drainage do. They seem the most numerous amphibians here.

*Mr. Viosca, of New Orleans, La., informs me that he has encountered difficulties in the determination of *Bufo fowleri* and *B. americanus* in his region, similar to those I have encouutered in the Dismal Swamp and the Potomac drainage area.

Rana clamitans Latreille. Fairly plentiful along the lumber canal but not observed at the lake.

Rana virgatipes Cope. Rather common in the sphagnaceous areas around the lake and abundant in the old lumber canal. The call of this frog was heard on the night of June 10, during a light rain.

Stereochilus marginatus Hallowell. One specimen of this salamander was found, at the junction of Washington and Jericho ditches.

Chrysemys picta Schneider. Although several species of turtles have been recorded from the swamp, this was the only one observed. It was quite common in the canals and ditches.

Lampropeltis g. getulus Linn. One adult—found at Camp Drummond, in the act of devouring eggs of *Eumeces*.

Natrix sipedon fasciata Linn. The water snakes of the Dismal Swamp are typical of the southern race. They were abundant at every station visited.

Eumeces fasciatus Linn. Numerous; several batches of well incubated eggs were found.

Leiolopisma laterale Say. An adult found near Washington ditch and a batch of well incubated eggs found in the wall of the lumber canal, add this lizard to our list.

It may be of interest to note that we were assured by residents that many species secured by collectors in earlier visits to this region, are still abundant. Although we failed to find either *Siren* or *Amphiuma* through working suitable stations thoroughly, we were informed that both species are common in the proper season. *Crotalus horridus* was reported to be common on the ridges or "glades" in the Swamp. August, 1926, I received a letter from Mr. W. H. Hull, a resident in Wallaceton, Va., announcing the discovery of a rattlesnake over five feet long, and differing from the common rattler of the region. From his very clear description this would seem to be *Crotalus adamenteus*.

Mr. Bowen, who remained in the Swamp after my return to Washington, reports a specimen of *Farancia* from a station near Suffolk.

MAURICE BRADY

Washington, D. C.

A NOTE ON THE EGG-LAYING OF *ELAPHE OBSOLETA OBSOLETA* (SAY)

On July 13, 1926, the writer captured a large female *Elaphe obsoleta obsoleta* (Say) which was sunning itself on a fallen sapling along Loyalhanna Creek, near Rector, Westmoreland county, Pennsylvania. This specimen was placed in a cage in the laboratory with a small *Coluber constrictor constrictor* (L.). The *Elaphe* did not climb as easily as the *Coluber*, and frequently attempted to burrow its head into the shallow sand.

On the morning of July 26, I found the snake coiled about a pile of seventeen eggs. The eggs were roughly arranged in two layers with the axes pointing in various directions. When the female was moved so that the eggs could be counted and measured she made two blows at my hand with the mouth closed, but offered no more resistance. After the snake was replaced she remained coiled about the eggs during the day. The next morning, however, the eggs were found scattered over the sand and the female paid no attention to them.

The eggs were pure white in color, and the egg "shell" was much tougher than that of a turtle's egg. The average length was 42.7 mm.; the greatest length 47 mm.; and the smallest length 39 mm. The average diameter was 23 mm.; the greatest diameter 24 mm.; and the smallest diameter 22 mm.

One egg was opened during the first day. The embryo was coiled and the beating of the heart could be seen quite plainly. The remaining eggs were placed in wet sand and moss and kept at a temperature that probably averaged less than the outdoor temperature.