

The larger female was gravid and the ovaries nearly ripe. These fish were taken in a 6 x 15-foot nylon minnow seine of ¼-inch ace mesh. The habitat was a long riffle, approximately 50 feet wide and 8 to 12 inches deep, with a bottom composed of rubble and small boulders. No other darter was taken with the *P. shumardi*.

In light of Blair's (*op. cit.*) intensive collecting in the Illinois River without taking this species, it is quite possible that *P. shumardi* has recently invaded the lower reaches of the river (approximately 10 miles) between its mouth and Tenkiller Reservoir Dam. Blair (*op. cit.*) stated that he had "never yet collected a darter" in the Arkansas River. G. A. Moore (personal correspondence) took three *P. shumardi* (48-52 mm T.L.) from the Arkansas River at Dardanelle, Arkansas (approximately 150 miles downstream from the mouth of the Illinois River), on November 15, 1963. This may be further evidence of the use of the Arkansas River as a route of invasion of the more suitable habitats of some of the larger streams tributary to the Arkansas River in this area.

LITERATURE CITED

- Blair, Albert P. 1959. Distribution of the darters (Percidae, Etheostomatinae) of northeastern Oklahoma. *So'west. Nat.* 4(1):1-13.

Checklist of Mammals of the Oliver Wildlife Preserve, Cleveland County, Oklahoma

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The Oliver Wildlife Preserve of the University of Oklahoma is located two miles south of Norman, Cleveland County, on the upper level of the South Canadian River flood plain. This 60-acre forest, maintained for biological research, is composed mostly of Green Ash, American Elm, Red Cedar, and Persimmon. The area was grazed by about 15 head of cattle until the spring of 1961, when they were removed. A few small pools are present during periods of normal rainfall, and the southwest corner of the preserve is flooded in the spring. An open area on the southern part of the woods represents a sand bar of a past channel of the South Canadian River.

During the fall of 1960, I conducted a period of extensive mammal trapping in the area to compile a checklist of the mammals in the preserve. Sherman live traps were baited with a mixture of rolled oats and peanut butter, and placed in grids of 60-foot intervals at various locations within the area. Ten Havahart traps were similarly baited and placed about the area. All mammals captured were marked by clipping various combinations of toes and released.

Because removal of the cattle has resulted in a marked change in the vegetation of the preserve, this checklist is presented with the hope of stimulating interest in a comparison of pre- and post-grazing fauna and flora of the preserve. Carpenter (1959) has presented a checklist of the reptiles and amphibians of the preserve.

The common names and taxonomy used in this paper are those of Hall and Kelson (1959). After each species is given the common name and number of individuals captured (from a total of 34 individuals cap-

tured). Some species were recorded from only sight or sign records and not captured. Unless otherwise noted, the species were captured in both open and wooded areas.

Order **MARSUPIALIA**

Family **Didelphidae**

Didelphis marsupialis virginiana (Opossum) (1 capture, 1 sight)

Order **INSECTIVORA**

Family **Talpidae**

Scalopus aquaticus (Eastern mole) (sight and sign)

Order **LAGOMORPHA**

Family **Leporidae**

Sylvilagus floridanus (Eastern Cottontail) (sight)

Order **RODENTIA**

Family **Sciuridae**

Spermophilus tridecemlineatus (13-lined Ground Squirrel) (sight)

Sciurus niger (Fox squirrel) (sight)

Family **Cricetidae**

Peromyscus maniculatus (Deermouse) (6)

Peromyscus leucopus (White-footed mouse) (17)
(wooded areas)

Sigmodon hispidus texianus (Hispid Cotton Rat) (5)
(open areas)

Neotoma floridana osagensis (Eastern wood Rat) (1) (signs)
(wooded areas)

Microtus pinetorum nemoralis (Pine Vole) (1)

Family **Muridae**

Rattus norvegicus (Norway Rat) (1) (sight)

Mus musculus (House Mouse) (2)

Order **CARNIVORA**

Family **Canidae**

Canis latrans (coyote) (sight by Mr. Oliver)

Family **Procyonidae**

Procyon lotor hirtus (Raccoon) (sight and sign)

Family **Mustelidae**

Mephitis mephitis mesomelas (Striped Skunk)
(sight and sign)

LITERATURE CITED

- Carpenter, C. C. 1959. Reptiles and amphibians of the Oliver Wildlife Preserve. Proc. Okla. Acad. Sci. 37: 33-34.
- Hall, E. R. and K. R. Kelson. 1959. The mammals of North America. Ronald Press Co., New York.

**Stomach Contents of *Natrix r. rhombifera* (Reptilia:
Serpentes) From an Oklahoma Lake¹**

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During the springs and summers of 1960, 1961 and 1962, a series of 64 Diamond-backed Water Snakes, *Natrix r. rhombifera* (Hallowell), was collected from Boomer Lake, Stillwater, Oklahoma. The snakes were measured and the digestive tracts removed and preserved in ten percent formalin for examination of contents. Total lengths ranged from 59.3 cm to 117.8 cm, the mean being 90.5 cm.

Several authors (Carpenter, 1958; Diener, 1957; Guidry, 1953; Smith, 1950; Strecker, 1927) have mentioned some foods of *N. rhombifera* but no detailed study has come to our attention concerning this species.

Forty-nine of the stomachs examined contained food items. Of these, 26 were collected during daylight hours and the remainder between 7:00 p.m. and midnight. Stomachs from specimens collected during daytime yielded 191.8 ml of food material out of a total of 411.4 ml, possibly indicating that the Diamond-backed Water Snake does not restrict itself to nocturnal foraging but is rather an opportunist, feeding whenever food presents itself. This was confirmed on one occasion at midday when an adult snake was observed actively pursuing an injured fish of unknown species which it eventually captured and consumed. Diener (1957) intimated similar diurnal foraging habits in *Natrix erythrogaster*.

The stomach contents were sorted and identified to species when possible. Osteological characters were most helpful in identifying fish material. The Weberian apparatus and pharyngeal teeth were used to identify the catostomids and cyprinids, and the catfishes were easily separated by the shape of the dermethmoid bone. The *Sigmodon* remains consisted of two lower jaws which were identified by the conspicuous sigmoid lophes of the molars. Each food item was quantitatively measured by volumetric displacement and compared with the total volume of food to obtain the percentage of the total represented by each item. The results are presented in Table I.

It is obvious from Table I that *N. rhombifera* relies heavily on fishes (85.63 percent by volume) as its staple food in Boomer Lake, with the ictalurids being the most important single constituent, both in occurrence and percent of total volume. Frogs, though very abundant in the lake, appeared in only six stomachs and provided but 7.66 percent of the total food volume, indicating, perhaps, the Diamond-backed Water Snake's preference for fish. The items classified as miscellaneous should not be

¹Contribution No. 389 from the Department of Zoology, Oklahoma State University, Stillwater.