LATE SUMMER FOODS OF YOUNG ALLIGATORS IN FLORIDA[1]

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ABSTRACT

Thirty-six immature alligators *(Alligator mississippensis)* collected from a canal in the Everglades were examined for information on summer food preferences. A snail *(Pomacea paludosa)* comprised 65.8 percent by volume of the stomach contents. Invertebrates accounted for 98.0 percent by volume of the total stomach contents.

INTRODUCTION

As part of a study designed to determine the productivity of the American alligator in Florida, specimens collected for reproductive tract examination were also examined for information on food preferences.

Reports on the diet of the alligator are limited. Giles and Childs (1949) examined the stomachs from 318 specimens taken by hunters on the Sabine National Wildlife Refuge in southwestern Louisiana and found a definite correlation between length of the alligator and types of food taken. Alligators less than 5 feet long contained mainly crustaceans while those over 5 feet showed a preference for vertebrates. Kellogg (1929) analyzed the contents of 149 stomachs collected from Louisiana, Georgia, and Florida, and found that 70 percent by volume of the diet was invertebrates, 20 percent vertebrates, and 1 percent debris. Chamberlain (1930) reported that the stomach of one alligator taken by set-hook in North Carolina contained five young herons of two species, *Hydranassa tricolor* and *Florida caerulea*. McIlhennny (1934) reported 136 herons, 27 turtles, 22 gar, 8 snakes, 1 rabbit, and 1 muskrat in the stomachs of 24 Avery Island, Louisiana specimens from 5 ft 3½ in (161.1 cm) to 10 ft 1 in (306.9 cm) collected from 1927 to 1931. McIlhenny thought that the large number of herons and egrets found in the stomachs was due to the dense concentration of these birds on the island.

These are the only references in the literature on the food habits of the alligator based on actual analysis of stomach contents. Most of the published references on the diet of the alligator are based on field observations and notations of theoretical prey species existing in typical alligator habitat. For example, Ditmars (1939) stated simply that the food of the alligator consists of fish, mammals, birds, frogs, tadpoles, and insects. He also said that waterfowl and dogs may be included in the diet of the larger individuals.

MATERIALS AND METHODS

The stomach contents from 36 alligators collected in the L-38 Canal of the Florida Everglades on the night of 9 August 1966 were identified. Canal L-38 parallels U. S. 27 along the west side of the highway from Terrytown to Andytown, Broward County, Florida. The alligators were weighed and the sex determined by the method described by Chabreck (1963). The weights ranged from 2.1 lb (0.95 kg) to 12.4 lb (5.6 kg). The largest specimen was slightly over 4 ft (121.8 cm) long. The stomachs were labeled and placed in a 10 percent formalin solution. The percentage of each item that occurred in each stomach was estimated by volumetric displacement. The number and percentage of occurrences of each item were also determined.

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RESULTS AND DISCUSSION

A cursory examination of each alligator was made before the stomach was excised. All specimens seemed to be in good health. Thirty-five of the stomachs were full and one was about one-fourth full. No differences in either stomach volume or food selection could be attributed to the sex of the alligator being examined. A summary of the food identified from the 36 stomachs is in Table 1.

TABLE 1 — FOODS FOUND IN 36 ALLIGATOR STOMACHS.

Item	Found	No. Stomachs In Which Found	Percent Occurrence	Volume Displaced (ml)	Percent Volume
Gastropoda	121	24	25.1	2135.0	65.8
Crustacea	90	36	18.6	1035.8	31.9
Pisces	25	12	5.1	36.5	1.1
Insecta	25	13	5.1	8.0	0.3
Debris	224	30	46.1	27.8	0.9
Totals	485		100.0	3243.1	100.0

Gastropoda. The large ampullarid snail *(Pomacea paludosa* Say) comprised 65.8 percent of the stomach contents. The snail was found 119 times in 24 stomachs. Three other unidentified snails were counted besides the *Pomacea.* Clinch and Turner (1956) described the range of *Pomacea* in the U. S. to be restricted to Florida and extreme southern Georgia. The snail is common in the portion of the Everglades where the alligators were collected for this report. This species of snail does not occur in southwestern Louisiana where Giles and Childs (1949) made their collections. Kellogg (1929) reported that the alligators he examined came from Louisiana, Georgia, and Florida, which includes the range of *Pomacea paludosa* Say, but he did not report the snail in the stomach contents.

Crustacea. The remains of freshwater crayfish *(Cambarus* sp.) were found in every stomach examined. Two of the alligators contained 9 crayfish each. The crayfish was observed 90 times and comprised 31.9 percent of the total stomach content. Kellogg (1929) stated that crustaceans, crayfish, and blue crabs *(Callinectes sapidus)* comprised 47 percent of the diet of the 149 stomachs he analyzed. Giles and Childs (1949) reported crustaceans to be the most important food item and stated that crustaceans were eaten by all sizes of alligators but were of pronounced importance to the smaller individuals, making up the bulk of their food. Giles and Childs (1949) observed 797 crayfish, 17 blue crabs, and 10 grass shrimp *(Palaemonetes intermedius)* in the stomachs they examined.

Pisces. Six species of fish representing three families *(Cyprinodontidae, Centrachidae,* and *Poeciliidae)* were found in the 36 stomachs examined from the Everglades. Seven flagfish *(Jordanella floridae)* were counted in the stomach of a 2.5 lb (1.1 kg) male. Flagfish congregate in shallow pools on the canal berms. That the flagfish were all in the same state of digestive decomposition suggests that the alligator may have fed in one of these concentrated situations.

The Florida killifish *(Fundulus seminolis)* was counted five times; one alligator contained three.

Representatives of the topminnow family were four mosquitofish *(Gambusia affinis)* and three sailfin mollies *(Mollienisia latipinna).* Only four members of the family Centrachidae were found in the stomachs. Two of these were largemouth bass *(Micropterus salmoides),* the larger being about 6 in (15.2 cm) long. Two specimens of *Lepomis* were counted but species could not be identified. Giles and Childs (1949) found only nine sunfish in the 318 stomachs checked and Kellogg (1929) noted nine in six stomachs he examined.

Notably absent from the stomachs were gar *(Lepisosteus* sp.) and

mudfish *(Amia calva)*, both of which are abundant in the canals of southern Florida. McIlhenny (1934) found a total of 22 gar in the 24 specimens examined from Avery Island and Kellogg (1929) counted one gar and one mudfish in his work on food habit. Giles and Childs (1949) found five mudfish but no gar. We attribute their absence in our study to the small size of the alligators examined.

Fish were the only vertebrates observed in our examinations accounting for only 1.1 percent of the total food volume. They can be considered of minor importance when compared to the 98.0 percent total volume of invertebrates.

Insecta. Insects from four Orders (Hemiptera, Odonata, Coleptera, and Orthoptera) were found. Of the 25 insects found, 20 were the giant water bug *(Belostoma griseus)*. One alligator contained nine belostomids. The total volume percentage of insects observed amounted to only 0.3 percent. The smallest alligator we examined was 29 in (83.7 cm) long and it contained one giant water bug. Insects could be more important as food for smaller alligators.

Debris. Although stones, roots, pieces of wood, and other hard objects could hardly be considered food, no less than 224 such articles were found in the stomachs we examined. They accounted for 0.9 percent by volume of the total contents.

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REEVE'S PHEASANT INVESTIGATIONS IN KENTUCKY[1]

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ABSTRACT

Establishment was not attained during a six-year intensive investigation into the factors influencing survival of liberated pen-reared Reeve's pheasants in Kentucky.

During the tenure of the study, 6,815 juvenile and 859 adult Reeve's were liberated in a variety of habitat composition at seven pre-selected release areas. The sex ratio of release stock was 93 cocks per 100 hens. To enhance field identification, all liberated pheasants were marked with plastic neck tags and metal leg bands.

The total recorded mortality was less than two percent of the number released. Approximately thirty percent of the known fatalities was attributed to predation. Avian and fox predation accounted for most of predatory fatalities.

[1] A Contribution of Kentucky Federal Aid Project W-38-R