

Food of Nestling Little Blue Herons in an Upland Mississippi Heronry

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I studied the reproductive biology and ecology of the Little Blue Heron (*Florida caerulea*) in a heronry located near Brooksville, Mississippi (33° 10'N 87° 45'W). For information on heronry structure, history, and species composition see Werschkul (1977a). During the 1977 breeding season I collected and analyzed regurgitated food pellets from nestling birds. The caloric content was measured as follows: (1) samples by separating food pellets into identifiable components; (2) dry weight by desiccating at 103° C for 72 h; (3) ash free dry weight (AFDW) by combustion at 550° C for 6 h; and (4) energy content by combustion in a Paar Adiabatic Bomb Calorimeter Model 1214TM. All analyses were done in triplicate. Accuracy was such that the variation among triplicates for net energy content was within 1.5% of the mean. Herein I report my findings.

I collected 30 pellets by walking through the heronry and picking up pellets regurgitated by juveniles. Juveniles between the ages of 11 and 25 days readily regurgitate when alarmed. Of the 30 pellets 13 were not appreciably digested, were intact, and probably represented the entire last feeding. These 13 intact food pellets averaged 14.33 g (SD=3.57). I observed juveniles to be fed about 5 times per day between the ages of 11 and 21 days so their average intake would be 71.65 g. The net caloric content of this food was 101.26 Kjoules g⁻¹ AFDW.

The diet of nestling Little Blue Herons consisted primarily of fish, crayfish, and amphibians (Table 1). Fish, primarily *Lepomis* spp., were the most common prey item in both quantity and volume. Amphibians were the least common. Amphibians were, however, the food source with the highest caloric value (106.69 Kjoules g⁻¹ AFDW) followed by fish (101.25 Kjoules g⁻¹ AFDW), and crayfish (99.58 Kjoules g⁻¹ AFDW). Prey availability and abundance must override caloric content in shaping the search image of Little Blue Herons.

Jenni (1969) found, by volume, the diet of Little Blue Herons in north Florida to be 54% amphibian, 33% fish, and 12% invertebrate. Meanley (1955), although he did not report food by volume, also found amphibians to be the most common large prey. Amphibians were in 26% of the pellets he examined. They were followed in frequency by crayfish, found in 24% of the pellets, and fish, found in 14% of the pellets. The lesser frequency of amphibians from nestlings at Brooksville is puzzling

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Table 1. Food of nestling Little Blue Herons.

Phyla	Class	Species	# items (%)	Volume (%) in ml	Length \pm 1 SD (cm)
Chordata	Amphibia	<u>Rana catesbeiana</u>	2 (2)	19 (6)	6.3 \pm 1.8
		<u>Rana sp.</u>	6 (5)	14 (4)	4.3 \pm 0.8
		Amphibia subtotals	8 (7)	33 (10)	
	Teleostomi	<u>Gambusia affinis</u>	9 (7)	12 (4)	4.1 \pm 0.6
		<u>Esox americanus</u>	3 (3)	8 (2)	11.0 \pm 1.8
		<u>Fundulus notti</u>	3 (3)	4 (1)	4.8 \pm 0.3
		<u>Elassoma zonatum</u>	6 (5)	3 (1)	2.3 \pm 1.4
		<u>Amia calva</u>	1 (1)	5 (2)	9.5
		<u>Lepomis spp.*</u>	59 (49)	154 (47)	4.3 \pm 1.4
		unidentified	2 (2)	4 (1)	---
Teleostomi subtotals	83 (69)	190 (58)			
Arthropoda	Crustacea	<u>Pomifelis sp.</u>	3 (3)	2 (1)	3.5 \pm 0.5
		unidentified crayfish**	27 (22)	102 (31)	7.6 \pm 1.8
		Crustacea subtotals	30 (25)	104 (32)	

* includes L. macrochirus, L. cyaneillus, L. marginatus; ** includes Procambaras, Cambaras.

since the habitat of the 3 studies is similar. The solution is probably prey availability. During 1977 little rain fell in the Brooksville area during the nesting season (Werschkul 1977b) and amphibian populations, many dependent on temporary pools for breeding, were low (R. Altig pers. comm.).

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