

GREEN HERON (*BUTORIDES VIRESCENS*) PREDATION AT VILLAGE WEAVER
(*PLOCEUS CUCULLATUS*) NESTS

JAMES W. WILEY

Biological Resources Division, U. S. Geological Survey, Reston, Virginia 22092, USA; Mailing Address: Maryland Cooperative Fish and Wildlife Research Unit, 1120 Trigg Hall, University of Maryland Eastern Shore, Princess Anne, MD 21853, USA; e-mail: jwwiley@mail.umes.edu

Abstract.—On 3 June 2000, I observed two incidences of a Green Heron (*Butorides virescens*) depredating nests and eating nestlings of Village Weaver (*Ploceus cucullatus*) at a colony in northeastern Dominican Republic.

Resumen.—MARTINETE (*BUTORIDES VIRESCENS*) DEPREDACIÓN A NIDOS DE MADAM SAGÁ (*PLOCEUS CUCULLATUS*). El 3 de junio de 2000 observé dos ocasiones en las que un Martinete (*Butorides virescens*) depredó los nidos y consumió los pichones de Madam Sagá (*Ploceus cucullatus*) en una colonia en el nordeste de la República Dominicana.

Key words: *Butorides virescens*, *depredation*, *Dominican Republic*, *Green Heron*, *Ploceus cucullatus*, *Village Weaver*

WHILE ENGAGED in studies of Shiny Cowbird (*Molothrus bonariensis*) interactions with Village Weavers (*Ploceus cucullatus*) in the Dominican Republic, I observed two incidences of depredation by a Green Heron (*Butorides virescens*) at weaver nests. Both incidents occurred on 3 June 2000 at a medium-sized weaver nesting colony containing approximately 120 active nests in a large ceiba tree (*Ceiba pentandra*) in a pasture 17 km east (N18°54.63', W069°09.62') of Sabana de la Mar, El Seibo Province, northeastern Dominican Republic. Before the first depredation event, the weavers were showing normal activity, with birds flying in and out of the nest tree, displaying at nest entrances and on nearby branches, and entering and leaving nests, with occasional low-intensity vocalizations. At 09:09 h, an adult Green Heron flew from the woodlot nearest (150 m northeast) the colony toward the weaver nest tree, whereupon weaver activity intensified with progressively louder calling by more individuals, and increasingly active movements of weavers as the heron neared the nest tree. Many of the weavers left the nest tree, flying to distant perches, whereas others circled back and landed in the nest tree as the heron alighted. Those birds that remained or returned to the ceiba loudly scolded the heron as it perched on the crown of the nest tree. Some weavers repeatedly dived at the perched heron.

After about 15 s, the heron made a short flight to a nearby weaver nest, where it clung to the nest side, probed the interior with its bill, and also appeared to be tearing at the nest with its feet. The heron attacked three nests in rapid succession, working on each nest for no more than 20 s. I did not see the

heron remove any items from the weaver nests. During this activity, the weavers greatly escalating their defensive actions, with additional birds attacking the heron and calling more loudly. Many of the weavers that had initially flown away from the nest tree returned to join in the defense of the nest colony. Although the attacking weavers came close to the heron, few actually struck the larger bird during their defense. Despite the weavers' aggressive defenses, the heron persisted in visiting nests and at a fourth nest it extracted one weaver chick. The heron fluttered to a nearby branch, then slowly moved to the ceiba crown by walking along branches, carrying the motionless chick in its bill. The weavers redoubled their attacks, further intensifying the volume of their calling with still more birds diving at the heron. After reaching the tree crown, where the heron was more exposed to the weaver attacks, the predator swallowed the chick whole.

The heron then moved to a nearby weaver nest within the tree interior, where it again hung by its feet from one of the globular nests, tugged at the nest material, and probed the interior with its bill. At the third nest in this series of attacks, the heron extracted a weaver chick, then immediately moved to the tree crown, where it paused for about 25 s before flying to the woodlot 150 m northeast of the weaver colony at 09:16 h. Several weavers pursued the heron, which carried the nestling in its bill, for about 30 m before turning back to the nest tree. The weavers' excited behavior subsided to a normal level of activity within 5 min. I saw no further attacks during two hours of subsequent observations.

Although not among the food items commonly

Table 1. Selected examples of the use of birds as prey by various species of herons, egrets, and bitterns (family Ardeidae).

Predator species	Avian prey	Reference
Great White Heron <i>Ardea herodias occidentalis</i>	Small birds	Audubon 1835, Hancock and Kushlan 1984
Great Blue Heron <i>Ardea herodias</i>	Young of rails and other marsh birds Domestic fowl Black-necked Stilt <i>Himantopus mexicanus</i> Other birds	Audubon 1835 Forbush 1925 Olsen and Johnson 1971 Bent 1927
Gray Heron <i>Ardea cinerea</i>	Young birds Black Coot <i>Fulica atra</i> Ducklings Several marsh and passerine birds	Collinge 1924–1927 del Hoyo <i>et al.</i> 1992:p. 385 Marquiss and Leitch, 1990 summarized in Palmer 1976, vol. 1
Intermediate Heron <i>Egretta intermedia</i>	Birds	del Hoyo <i>et al.</i> 1992: p. 410
Black-headed Heron <i>Ardea melanocephala</i>	Young birds (usually of ground-nesting species)	Hancock and Kushlan 1984
Purple Heron <i>Ardea purpurea</i>	Eurasian Skylark <i>Alauda arvensis</i> Nestling waterbirds (Black Coot, anatidae, rallidae, charadriidae) Little Grebe <i>Tachybaptus ruficollis</i>	Owens and Phillips 1956 Amat and Herrera 1977 Belman 1974
Little Egret <i>Egretta garzetta</i>	Small birds	Hafner 1977
Squacco Heron <i>Ardeola ralloides</i>	Bird	Hancock and Kushlan 1984
Cattle Egret <i>Bubulcus ibis</i>	Yellow-rumped Warbler <i>Dendroica coronata</i> Various adult and nestling birds	Sprunt <i>in</i> Palmer 1976, vol. 1 McLachlin and Liversidge <i>in</i> Roberts 1957, Ridley and Percy 1958, Siegfried 1966, Stimson 1966, Boddiford 1965, Dismore <i>in</i> Fogarty and Hetrick 1973, Powers <i>in</i> Fogarty and Hetrich 1973, Taylor 1979, Hancock and Kushlan 1984
Striated Heron <i>Butorides striatus</i>	Nestling Quelea <i>Quelea quelea</i> Quelea	Van Ee 1973 Stocker 1994
Black-crowned Night-Heron <i>Nycticorax nycticorax</i>	Young of other colonial-nesting waterbirds, such as terns, other herons and ibises Young Franklin's Gulls <i>Larus pipixcan</i> , American Coots <i>Fulica americana</i> , Yellow-headed Blackbird <i>Xanthocephalus xanthocephalus</i> , and Red-winged Blackbirds <i>Agelaius phoeniceus</i>	Beckett 1964, Kale 1965, Collins 1970, Hunter and Morris 1976, Andrews 1981, Hancock and Kushlan 1984 Wolford and Boag 1971
Rufous Night-Heron <i>Nycticorax caledonicus</i>	Eggs and chicks of other birds	del Hoyo <i>et al.</i> 1992: p. 420
Yellow-crowned Night-Heron <i>Nyctanassa violacea</i>	Birds fallen from the nest	Audubon 1835
Nankeen Night-Heron <i>Nycticorax calendonicus</i>	Nestlings	Hancock and Kushlan 1984
Least Bittern <i>Ixobrychus exilis</i>	Suspected of eating eggs and young of Yellow-headed Blackbird	Roberts 1936, p. 195
Little Bittern <i>Ixobrychus minutus</i>	Eggs and nestlings of Reed Warblers <i>Acrocephalus scirpaceus</i>	Voisin 1991, p. 92
Eurasian Bittern <i>Botaurus stellaris</i>	Birds Wren (<i>Troglodytes</i> sp.) and tit (<i>Panurus</i> sp.)	Hancock and Kushlan 1984 Voisin 1991, p. 72
Australasian Bittern <i>Botaurus poiciloptilus</i>	Small birds	Hancock and Kushlan 1984

taken by herons, birds have been reported as occasional prey for several species of herons (Table 1). Depredation of birds by Green Herons, however, has not been reported. Howell (1932) and Cottam and Uhler (1945) examined a collective 255 Green Heron stomachs containing food, yet found no evidence of avian prey. del Hoyo *et al.* (1992) did not list avian prey among the animals taken by Green Herons. In the West Indies, Bowdish (1902) and Wetmore (1916, 1927) examined stomachs, finding no avian prey. Green Heron food in Puerto Rico consisted primarily of invertebrates (87.9%) and fishes (9.5%), with occasional lizards (1.2%) and amphibians (*Leptodactylus albilabris*; 0.6%) (Wetmore 1916).

Availability of food resources may vary among seasons and years, as a result of climatic or other environmental changes. Some herons are known to take advantage of other, atypical prey when “normal” food resources become more difficult to locate. Cunningham (1965) reported Cattle Egrets taking birds when no other prey was available. Wolford and Boag (1971) reported Black-crowned Night-Herons fed their young almost exclusively on the eggs and young of birds, which represented an available and super-abundant food supply, during part of the breeding season in an artificial man-made habitat. Van Ee (1973) observed Cattle Egrets preying on nesting Queleas (*Quelea quelea*) in South Africa. About 1000 Cattle Egrets congregated at the Quelea colony, which comprised about 6000 nests. The egrets used their bills and feet to tear open the nests and expose the young, which were eaten. About 70% of the Quelea nests were thus depredated. Stocker (1994) reported a Striated Heron (*Butorides striatus*) feeding on a free-flying Quelea. The Striated Heron has been considered conspecific with *B. virescens* (American Ornithologists’ Union 1983), which provides an interesting similarity to my observations of a Green Heron feeding on birds.

Village Weavers and their nest contents are frequent prey of avian predators, including Sharp-shinned Hawk (*Accipiter striatus*), Ridgway’s Hawk (*Buteo ridgwayi*), Merlin (*Falco columbarius*), American Kestrel (*Falco sparverius*), Barn Owl (*Tyto alba*), Burrowing Owl (*Athene cunicularia*), and Hispaniolan Lizard-Cuckoo (*Saurothera longirostris*) (Wiley 1996, pers. obs.). During inspections of weaver nesting colonies, I have found several reptiles feeding on weaver eggs and chicks, including *Anolis ricordi* (2 eggs in stomach), *Epicrates striatus* (1 egg, 3 chicks in one digestive tract, 2 chicks in second individual), and *Uromacer catesbyi* (1 chick in digestive tract). That Green Herons may occasionally depredate weaver nests is no surprise, since eggs

and chicks of that species are concentrated in colonies, easily located, and ineffectively defended against larger predators. These depredation events are apparently rare and local in occurrence. In 95 hours of observations at Village Weaver nest colonies during June 2000 and 172 h in June 2001, I observed no other predation attempts by Green Herons. Similarly, in extensive observations at weaver colonies in other years, I observed no such events.

ACKNOWLEDGMENTS

I thank James Kushlan for his review of the manuscript and for pointing me to a critical publication.

LITERATURE CITED

- AMAT, J. A., AND C. M. HERRERA. 1977. Alimentación de la Garza Imperial en las marismas del Guadalquivir durante el periodo de nidificación. *Ardeola* 24:95–104.
- ANDREWS, S. 1981. Black-crowned Night Heron predation on Black-necked Stilt. *Elepaio* 41:86.
- AUDUBON, J. J. 1835. *Ornithological biography*. Vol. 3. Edinburgh.
- BECKETT, T. A. 1964. Black-crowned Night Heron feeding behaviour. *Chat* 28:93–94.
- BELMAN, P. J. 1974. Purple Heron chick regurgitating young Little Crake. *Br. Birds* 67:439.
- BENT, A. C. 1927. Life histories of North American marsh birds. *US Natl. Mus. Bull.* 135.
- BODDIFORD, G. 1965. Cattle Egrets eating young Bob-whites. *Oriole* 30:91.
- BOWDISH, B. S. 1902. Birds of Porto Rico. *Auk* 19 (4):356–366.
- COLLINGE, W. E. 1924–1927. Food of some British wild birds, 2nd ed. York, England.
- COLLINS, C. T. 1970. The Black-crowned Night Heron as a predator of tern chicks. *Auk* 87:584–586.
- COTTAM, C., AND F. M. UHLER. 1945. Birds in relation to fishes. *US Dept. Agric., Wildl. Res. and Manage. Leaflet no. GS-83*. Washington, DC.
- CUNNINGHAM, R. L. 1965. Predation on birds by the Cattle Egret. *Auk* 82:502–503.
- DEL HOYO, J., A. ELLIOTT, AND J. SARGATAL (Eds.) 1992. *Handbook of the birds of the world*. Vol. 1. Barcelona: Lynx Edicions.
- FORBUSH, E. H. 1925. *Birds of Massachusetts and other New England states*. 3 vols. Boston: Massachusetts Dept. Agric.
- FOGARTY, M. J., AND W. M. HETRICK. 1973. Sum-

- mer foods of Cattle Egrets in northcentral Florida. *Auk* 90:268–280.
- HAFNER, H. 1977. Contribution à l'étude écologique de quatre espèces de herons (*Egretta g. garzetta* L., *Ardeola r. ralloides* Scop., *Ardeola i. ibis* L., *Nycticorax n. nycticorax* L.) pendant leur nidification en Camargue. Unpubl. thesis, Toulouse.
- HANCOCK, J., AND J. KUSHLAN. 1984. The herons handbook. NY: Harper & Row, Publishers.
- HOWELL, A. H. 1932. Florida bird life. NY: Coward-McCann.
- HUNTER, R. G., AND R. D. MORRIS. 1976. Nocturnal predation by Black-crowned Night Heron at a Common Tern colony. *Auk* 93:629–633.
- KALE, H. W. 1965. Nesting predation by herons in a Georgia heronry. *Oriole* 30:69–70.
- MARQUISS, M., AND LEITCH, A. F. 1990. The diet of Grey Herons *Ardea cinerea* breeding at Loch Leven, Scotland, and the importance of their predation on ducklings. *Ibis* 132(4):535–549.
- OLSEN, C. S., AND H. M. JOHNSON. 1971. Great White Heron captures and eats Black-necked Stilt. *Auk* 88:668.
- OWENS, D. F., AND G. C. PHILLIPS. 1956. The food of nestling Purple Herons in Holland. *Br. Birds* 49:494–499.
- PALMER, R. S. (ED.). 1976. Handbook of North American birds, Vol. 1. Loons through flamingos. New Haven: Yale Univ. Press.
- RIDLEY, M. W., AND L. R. PERCY. 1958. The exploitation of sea birds in Seychelles. London: Colonial Res. Stud., 25.
- ROBERTS, A. 1957. The birds of South Africa. Cape Town: Cape Times Std.
- ROBERTS, T. S. 1936. The birds of Minnesota. Vol. 1. Minneapolis: Univ. Minnesota Press.
- SIEGFRIED, W. R. 1966. On the food of nestling Cattle Egrets. *Ostrich* 37:219–220.
- STIMSON, L. 1966. A remarkable 109 days in the Dry Tortugas. *Fla. Nat.* 39:149.
- STOCKER, R. 1994. Green-backed Heron preying on Quelea. *Honeyguide* 40:247.
- TAYLOR, D. W. 1979. Cattle Egret eating Yellow Wagtail. *Br. Birds* 72:475.
- VAN EE, C. A. 1973. Cattle Egrets prey on breeding Queleas. *Ostrich* 44:136.
- VOISIN, C. 1991. The herons of Europe. London: T. & A. D. Poyser.
- WETMORE, A. 1916. Birds of Porto Rico. US Dep. Agric. Bull. 326:1–140.
- WETMORE, A. 1927. Birds of Porto Rico and the Virgin Islands. NY Acad. Sci. Scientif. Surv. Porto Rico Virgin Islands. Vol. 9, parts 3 & 4. Pp. 245–406.
- WILEY, J. W. 1996. Breeding-season food habits of Burrowing Owls (*Athene cunicularia*) in southwestern Dominican Republic. *J. Raptor Res.* 32 (3):241–245.
- WOLFORD, J. W., AND D. A. BOAG. 1971. Food habits of Black-crowned Night Herons in southern Alberta. *Auk* 88:435–437.



Ardea brunnescens, Gundl. Vulg. Aguaita-Caiman Oscuro [Green Heron *Ardea virescens*] – Lam. No. 12 in Lembeye, J. (1850) Aves de la isla de Cuba.