

APPARENT SIBLICIDE AND ATTEMPTED CANNIBALISM AMONG GREEN HERON (*BUTORIDES VIRESCENS*) NESTLINGS IN BIRAMA SWAMP, CUBA

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Abstract: Siblicide is frequent in species of birds exhibiting brood reduction but rarely includes cannibalism. This paper reports an apparent case of siblicide and attempted cannibalism in the Green Heron (*Butorides virescens*) in Birama Swamp, Cuba, on 26 June 2006. We found a nest with three nestlings in which the smallest nestling was dead and partially swallowed by one of its siblings. When the corpse was extracted from the sibling to avoid its suffocation, the two surviving nestlings fought with each other to swallow it again. There was no evidence of starvation or food limitation, and both nestlings grew continuously during the next 5 d. This is the first report of apparent siblicide and attempted cannibalism in this species, which does not exhibit the usual characteristics of brood reducing species of herons and egrets.

Key words: Birama Swamp, *Butorides virescens*, cannibalism, Cuba, Green Heron, siblicide

Resumen: REPORTE INUSUAL DE CANIBALISMO ENTRE PICHONES DE AGUAITACAIMÁN (*BUTORIDES VIRESCENS*) EN LA CIÉNAGA DE BIRAMA, CUBA. El fratricidio es frecuente en especies reduccionistas de nidada pero muy raramente incluye el canibalismo. Este trabajo reporta un caso aparente de fratricidio y un intento de canibalismo en Aguaitacaimán (*Butorides virescens*) en la ciénaga de Birama, Cuba, encontrado el 26 de junio del 2006. Se encontró un nido de tres pichones donde el mediano tenía al más pequeño parcialmente tragado. Al retirarse el cuerpo para evitarle la asfixia ambos pichones sobrevivientes compitieron por tragar al cuerpo del hermano. No existieron evidencias de hambruna en el nido, ni limitación en el alimento y los pichones continuaron desarrollándose de forma normal durante los siguientes 5 días. Este es el primer registro de fratricidio aparente y canibalismo en esta especie que no posee marcadas las características propias de las especies reduccionistas de la familia.

Palabras clave: Aguaitacaimán, *Butorides virescens*, canibalismo, Ciénaga de Birama, Cuba, fratricidio

Résumé : PROBABLE FRATRICIDE ET TENTATIVES DE CANNIBALISME ENTRE POUSSINS DE HÉRON VERT (*BUTORIDES VIRESCENS*) DANS LE MARAIS DE BIRAMA À CUBA. Le fratricide est fréquent chez les espèces d'oiseaux qui montrent des réductions de nichées mais le cannibalisme reste rare. Ce papier rapporte un cas probable de fratricide et de tentative de cannibalisme chez le Héron vert (*Butorides virescens*) survenu le 26 juin 2006 dans le Marais de Birama à Cuba. Nous avons trouvé un nid avec 3 oisillons dans lequel le plus jeune était mort et partiellement mangé par un de ses frères. Quand le corps fut extrait du nid pour éviter sa pourriture, les deux poussins survivants se sont battus entre eux pour essayer de le manger à nouveau. Il n'existait aucun élément indicatif de famine ou de problème dans le nid et les deux oisillons ont continué à développer pendant les 5 jours suivants. Il s'agit de la première observation d'un apparent fratricide et de tentative de cannibalisme chez cette espèce qui ne présente pas les caractéristiques habituelles de réduction de nichée des hérons et aigrettes.

Mots-clés : *Butorides virescens*, cannibalisme, Cuba, fratricide, Héron vert, Marais de Birama

SIBLICIDE, THE PASSIVE OR ACTIVE elimination of one sibling—usually the smaller—by another, is regarded as an essential component of brood reduction strategy (Lack 1968, Ricklefs 1969), and is associated with species exhibiting marked intraclutch differences in eggs or nestlings, and in habitats where food supplies are unstable or unpredictable (see review by Mock *et al.* 1990). Werschkul y Jackson (1979) suggested that sibling competition is a dominant force in the evolution of growth rates in birds. However, the elimination of smaller nestlings usually occurs in a passive or active way but rarely includes cannibalism, which is

much more common in insects and amphibians (Mock *et al.* 1990). In birds, cannibalism has been reported most frequently in Laridae (e.g., Parsons 1971, Zubakin 1975, Watanuki 1988, Safina and Burger 1983).

Siblicide has been reported in several species of herons and egrets, including the Great Blue Heron (*Ardea herodias*; Quinney 1982), Cattle Egret (*Bubulcus ibis*; Fujioka 1985), Little Blue Heron (*Egretta caerulea*; Werschkuld 1979), and Great Egret (*Ardea alba*; Mock 1984), among others. However, cannibalism between siblings has been reported only as a very rare event in herons and



Fig. 1. Nestling of Green Heron (*Butorides virescens*) during an apparent attempt at cannibalism of the smallest sibling in a nest found in Birama Swamp, Cuba, during 26 June 2006. Photo by Dennis Denis.

egrets, including the Cattle Egret (Telfair 1983) and Black crowned Night Heron (*Nycticorax nycticorax*; Dusi 1968). Here I report an apparent case of siblicide and attempted cannibalism among nestlings of the Green Heron (*Butorides virescens*) in Birama Swamp, Cuba.

In June 2006, we monitored a breeding colony of the Green Heron in an area known as La Flora (20°32'16" N, 77°00'55" W), on the eastern side of Las Playas Lagoon in Birama Swamp, Cuba. The colony is located in a 2 ha lowland area flooded with swallow (10-40 cm deep) brackish water covered with small black mangrove (*Avicennia germinans*) shrubs. We found, measured, and labeled 56 nests which were monitored daily during a 10 d period to measure reproductive parameters.

On 26 June, we observed an apparent attempt of cannibalism of a nestling by its two larger siblings in nest 22. When we arrived at the nest, the nestling was already dead and its head and part of the neck were inside the esophagus of a sibling which was

trying to swallow it. We took many photos (Fig. 1) and a short video of this behavior. The victim was the smallest of the three nestlings and appeared to be 1-2 d old, estimated by the equation provided by Denis (2002) for this species based on tarsus length (18.2 mm). The tarsus length of the surviving siblings was 29.5 mm and 25.5 mm, respectively. We removed the dead nestling from its siblings to avoid their suffocation, because they both were very similar in size. However, when we returned the corpse to the nest, both remaining nestlings fought with each other to swallow it again, so we decided to remove it from the nest.

We continued to visit the nest for an additional 5 d. During this period the surviving nestlings did not shown any evidence of starvation or food limitation. To the contrary, they consistently grew, achieving a tarsus length of 42.2 mm and 37.8 mm, respectively, by the last day we saw them, which eliminated the hypothesis of starvation or parent abandonment. Habitat conditions appeared to be

optimal due to early rains, and was reflected by high numbers of breeding pairs in all waterbird species breeding in the area (unpublished data). All 56 of the nests in this colony were still successful by the time we departed.

The dead nestling showed no evidence of sickness, weakness, or wounds, and may have died by suffocation. However, caution is warranted in classifying this case as siblicide because we did not observe when it was killed, or as cannibalism because we did not see it completely ingested by its sibling(s). This appears to be the first report of apparent siblicide and attempted cannibalism in the Green Heron (Davis and Kushlan 1994). This species does not exhibit the characteristics of other species exhibiting brood reduction. Green Herons nest solitary or in small groups, the eggs and nestlings are very similar in size, and exhibit high frequency of synchronous hatching (Slagsvold *et al.* 1984, Denis *et al.* 1999). Gavino and Dickerman (1972) did not consider sibling competition as an important factor affecting body weight in Green Heron nestlings. However, McClure *et al.* (1959) considered competition between siblings as the cause of high variability found between young of the same age in other herons.

ACKNOWLEDGMENTS

We thank Osliby Antúnez and Suany Rodríguez, second-year biology students, who participated in the research of Green Herons breeding in La Flora, Birama Swamp. We also thank J. A. Kushlan and A. Tossas for reviewing the manuscript, Ideawild for providing field equipment, and the specialists of the protected Area Delta del Cauto for their logistic support in the field.

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