

## Bird predation by Hispaniolan vinesnakes (Dipsadidae, *Uromacer*)

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Although West Indian dipsadid snakes are known to prey on birds, most occurrences of ornithophagy have been reported in largely ground-dwelling species (Table 1). The snake genus *Uromacer* is endemic to Hispaniola, comprising three species distributed across the main island and several satellite islands. Species of *Uromacer* have green, or brown and green, coloration, are of moderate length (800-1500 mm snout-vent length), and gracile. Among dipsadids, they are the only predominantly arboreal species in the West Indies and are diurnal. They are both active and ambush predators, and their prey is subdued with the aid of venom delivered by fangs situated toward the back of the mouth. The two long-snouted species (*U. frenatus* Günther, 1865 and *U. oxyrhynchus* Duméril, Bibron & Duméril, 1854) are ambush predators known to feed largely on diurnally active lizards (*Anolis*, *Leiocephalus*, *Ameiva*) to the extent of being considered exclusively saurophagous (Henderson et al., 1987). A third species, *U. catesbyi* Schlegel, 1837, is heavier-bodied with a blunt snout and its diet includes a large proportion of frogs (especially the hylid *Osteopilus dominicensis*; Henderson et al., 1987; Landestoy, pers. obs.) that are located by way of active foraging. Recently, however, *U. oxyrhynchus* has also been observed feeding on a frog (*Eleutherodactylus inoptatus*; Landestoy, pers. obs.). To date, only a single incidence of predation on a bird by a species of *Uromacer* has been reported (Henderson & Powell, 2009). Herein we present fortuitous encounters of species of *Uromacer* preying on birds. All observations were made in the Dominican Republic.

*Uromacer* sp.: February 2012: An adult snake was observed with a palm chat (*Dulus dominicus*) in its mouth. The head of the bird was in the snake's jaws and it was vigorously flapping its wings. The bird's struggle diminished over about 15 min. Observations were terminated before swallowing commenced. Birds in proximity to the event appeared agitated (C. Rimmer, pers. comm., 2012).

*Uromacer catesbyi*: October 2002: At 12:00 h, an adult snake (approx. 1.3 m total length) was observed subduing a juvenile bananaquit (*Coereba flaveola*) in the undergrowth (at ~1.5 m) of well-shaded riparian forest. The bird's movements had stopped by 12:05 h (Fig. 1).

30 July 2016: At ~14:05 h, an adult *U. catesbyi* was spotted at the entrance of a Hispaniolan Woodpecker



Figure 1. *U. catesbyi* subduing a young Bananaquit (*C. flaveola*)

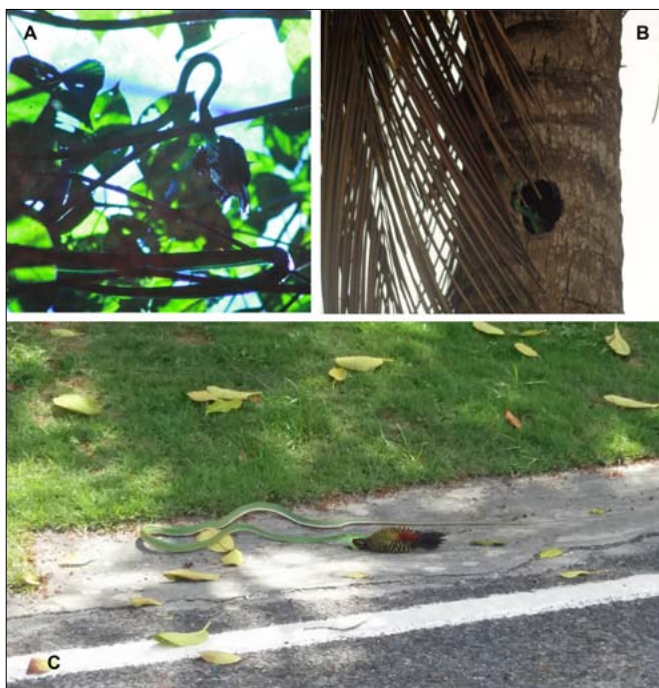
(*Melanerpes striatus*) nest cavity in a coconut palm (*Cocos nucifera*) at the Cap Cana grounds, La Altagracia Province (Fig. 2B). The snake's neck was distended suggesting it had just ingested one of the nest's occupants.

*Uromacer oxyrhynchus*: 2003: At about 12:10 h, and about 6.0 m above ground, an adult snake (approx. 1.6 m total length) was observed holding a Palm Chat (*Dulus dominicus*) by the head (Fig 2A) while other birds (*Mimus polyglottos*, *Phaenicophilus palmarum*, *Quiscalus niger*) appeared agitated and were vocal.

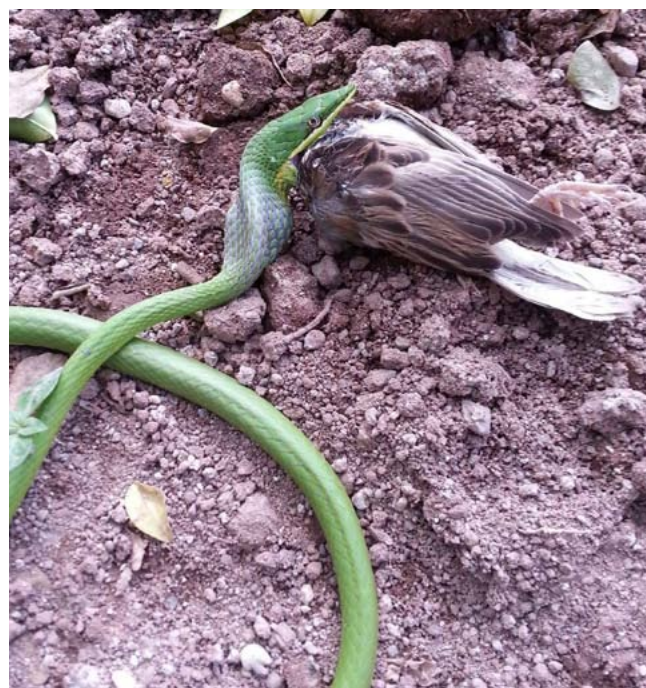
May 2015: At ~11:00 h, a *U. oxyrhynchus* with a total length of 1.69 m was found in a street gutter swallowing an adult Hispaniolan Woodpecker (*M. striatus*) headfirst (Fig. 2C) at the Cap Cana grounds, La Altagracia Province; swallowing was completed within 30 min and the snake then moved into dense vegetation. When first observed, the bird was motionless and the nearest large trees were ~20 m away; consequently, the possibility of scavenging cannot be discounted.

**Table 1.** West Indian dipsadid snakes known to prey on birds. With the exception of species of *Uromacer*, all of the species listed are largely ground-dwelling. Details of *Uromacer* predation appear in the text.

Snake species	Bird species	Island	Reference
<i>Borikenophis portoricensis</i>	<i>Coereba flaveola</i>	Puerto Rico	Perez-Rivera & Laboy-Rivera (1996)
<i>Cubophis cantherigerus</i>	<i>Columbina passerina</i>	Cuba	Reyes-Vazques et al. (2013)
	<i>Turdus plumbeus</i>		
<i>Cubophis fuscicauda</i>	<i>Xiphidiopicus p. percussus</i>	Cuba	Rodríguez-Cabrera (2017)
	"Honey Creeper" (likely <i>Coereba flaveola</i> )	Cayman Brac (Cayman Islands)	Grant (1940)
<i>Cubophis vudii</i>	<i>Geothlypis trichas</i>	Eleuthera (Bahamas)	Schwartz & Henderson (1991)
	Unidentified	Cat Island (Bahamas)	Henderson & Sajdak (1996)
<i>Haitiophis anomalus</i>	<i>Crotophaga ani</i>	Hispaniola	Landestoy et al. (2013)
<i>Uromacer</i> sp.	<i>Dulus dominicus</i>	Hispaniola	This paper
<i>Uromacer catesbyi</i>	<i>Coereba flaveola</i>	Hispaniola	Henderson & Powell (2009); this paper
<i>Uromacer oxyrhynchus</i>	<i>Dulus dominicus</i>	Hispaniola	This paper
	<i>Passer domesticus</i>		
	<i>Melanerpes striatus</i>		



**Figure 2.** A. *U. oxyrhynchus* holding a palm chat (*D. dominicus*) B. *U. catesbyi* exiting the interior of a nest cavity of a Hispaniolan woodpecker (*M. striatus*). C. *U. oxyrhynchus* with an adult Hispaniolan Woodpecker



**Figure 3.** *U. oxyrhynchus* swallowing a house sparrow (*P. domesticus*). Deglutition stopped after several minutes.

3 June 2015: In the yard of a house in the rural countryside (Inoa, San José de las Matas, Santiago Province, elevation 360 m) at 16:15 h, an adult snake (approx. 1.1 m total length) was observed holding a house sparrow (*Passer domesticus*) (Fig. 3). After about 20 min, swallowing stopped and the snake regurgitated the bird.

Although smaller prey (arboreal/scansorial lizards and frogs) make up the vast majority of prey items recorded for species of *Uromacer* (Henderson et al., 1987), it is not surprising that avian prey is occasionally and opportunistically consumed. All of the predated birds were diurnally active, suggesting that captures were made by

ambush. The lone (possible) exception is of *U. catesbyi* feeding at the nest cavity of a woodpecker. That likely would have required active foraging and, of the three species of *Uromacer*, *U. catesbyi* is the most active forager (Henderson, 1987). Also of note, all of our observations were of adult snakes (juveniles and subadults may lack the size and strength to subdue avian prey), and we lack documentation of avian prey for *U. frenatus*, the member of the genus that feeds most frequently on ground-dwelling prey (Henderson et al., 1987).

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