

FISH-EATING BY THE COBRAS *NAJA MELANOLEUCA* AND *NAJA NIGRICOLLIS* (ELAPIDAE) IN THE NIGER DELTA (PORT HARCOURT, RIVERS STATE, NIGERIA)

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INTRODUCTION

Forest Cobras (*Naja melanoleuca*) and Spitting Cobras (*N. nigricollis*) are widespread and abundant elapid snakes in rainforests and mangrove forests of southeastern Nigeria (Romer, 1953; Butler and Reid 1986, 1990). In the Niger Delta (Port Harcourt, Rivers State) they are found in a wide variety of different habitats. Forest Cobras are especially common in primary and secondary swamp forests, whereas Spitting Cobras are more common in semicultivated and drier habitats. In some localities, however, they are sympatric. In one of these localities we observed a peculiar foraging behaviour shown by both Forest and Spitting Cobras: foraging on fish. This peculiar foraging behaviour is described in this note.

STUDY AREA

All observations given here were made at Orubiri (N 04° 42' 2.5", E 007° 01' 13.6"), a locality on the Niger Delta situated close to Port Harcourt, the biggest town of River State (Figure 1). This locality is characterized by arboreal mangrove formations, with patches of secondary permanently flooded swamp forest. The observations were made in September-October, 1996. Times of observations given here follow Lagos time.

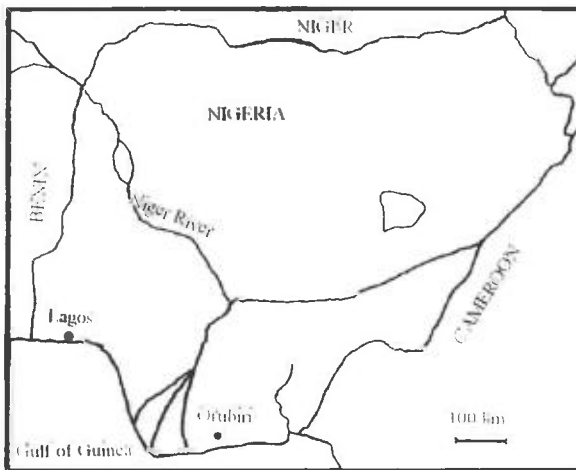


Figure 1. Map of Nigeria showing the site where records of fish-eating by cobras were collected.

RECORDS AND DISCUSSION

On 28 September, at 1105 a.m., we observed a juvenile male *N. melanoleuca* (snout-vent length = 63.2 cm, tail length = 12.8 cm) swimming in a muddy pond surrounded by mangroves. The cobra moved quickly along the borders of the pond, trying to capture *Periophthalmus* fish. These fish were extremely abundant in the ponds of the study area. In about fifteen minutes of monitoring, the snake was able to ingest two fish and failed to capture another fish. He ingested the fish immediately after capture, without using envenomation to kill the prey. On 6 October, at 18.35, close to the locality where the above observation was made, we found a freshly road-killed male *N. nigricollis* (snout-vent length = 74.5 cm, tail broken). It was dissected to obtain any food item. In the stomach we found remains of a lizard (*Agama agama*) and two *Periophthalmus* fish. The total ingested biomass was 29.2 g, whereas the snake weighed 143.5g.

These data show that, at least in the mangrove forests of southeastern Nigeria, both cobra species feed upon fish. We speculate that *Periophthalmus* species, due to their peculiar "semi-terrestrial" behaviours, may represent ideal prey types for predators like cobras that frequently inhabit wet areas and pond borders. Predation of cobras upon fish is, to our knowledge, a rarely reported occurrence in the scientific literature. The few dietary records from Nigeria indicated that *N. melanoleuca* feed upon eggs, and *N. nigricollis* upon lizards and small mammals (Butler and Reid, 1990). No fish-eating is recorded. According to Phelps (1989), *N. melanoleuca* is at least semi-aquatic throughout many parts of its range, and feeds largely upon fish and amphibians. Conversely, fish were to our knowledge never reported as prey for free-ranging *N. nigricollis*, a species that is known to prey usually upon small mammals, toads, birds, eggs, and reptiles including snakes (Phelps, 1989).

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