

COBRA-LIKE HOODING AND MOUTH-GAPPING IN AN ATYPICALLY MONOCLE PATTERNED *XENODON SEVERUS* (LINNAEUS, 1758): A CASE OF CONVERGENT EVOLUTIONARY BEHAVIOR?

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Abstract: Neck flattening is a common defensive behavior in *Xenodon*. Herein is described cobra-like hooding and mouth-gaping as seen in an atypically monocle patterned specimen of *Xenodon severus* from Provincia de Napo, Ecuador.

Key Words: Behavior, coloration, Serpentes, Colubridae, Napo Province, Ecuador.

Resumen: T.R. Kahn. “Aplanamiento de capuchón y apertura de boca en un patrón monocular atípico de *Xenodon severus* (Linnaeus, 1758): ¿un caso de comportamiento convergente evolutivo?”. El aplanamiento del cuello es una forma común de comportamiento defensivo en *Xenodon*. Aquí describimos aplanamiento de capuchón similar a la cobra y apertura de boca como se observó en un ejemplar atípico de *Xenodon severus* de la provincia de Napo, Ecuador, con patrón monocular de coloración.

Palabras Clave: Comportamiento, Serpentes, coloración, Colubridae, Provincia de Napo, Ecuador.

INTRODUCTION

Neck flattening in *Xenodon severus* (Fig. 1) is a commonly known threat display in this species of rear-fanged colubrid snake (T.R. Kahn, pers. obs.). Here I describe a uniquely monocle patterned specimen, which displayed true raised hooding in cobra-like aggressive mouth-gaping fashion.

The typical adult pattern (found in specimens from Colombia, Ecuador and Peru; see Campbell and Lamar 1989 and 2004 color plates) consists of ca. 6–9 wide, well separated black blotches on a ground color of golden orange or dull tan-yellow. Neonates and young juveniles are strongly patterned in two-toned bands, alternating in grey or white, contrasting with dark grayish-black bands or blotches (Campbell and Lamar 1989, 2004). This species clearly undergoes ontogenesis (Campbell and Lamar 1989, 2004), and usually keeps the blotched appearance of the young pattern, though the lighter colors change to the above-mentioned adult description. On the nape of some adult individuals a dark oval—clearly defined in neonates and juveniles—remains as partially visible in conjunction with the typically blotched body pattern, retained by most all-adult specimens.

DEFENSIVE BEHAVIOR AND ATYPICAL PATTERN

Dan Blackford and I encountered this atypically patterned specimen (Fig. 2) discussed here on 10 January 2003 at ca. 1400h in Provincia de Napo, Ecuador, in the garden at the Jatun Sacha Biological Research Station. The specimen was quickly moving through the

garden in the open when we encountered it. Upon grasping the snake by the tail it attempted to turn and bite. After a few minutes of holding the snake by the tail, spinning around to avoid being bitten, I was able to return the snake to the ground, and began attempting to photograph the specimen for voucher photographs. At this time, this large *Xenodon severus* hooded, gaped its mouth and crawled towards me aggressively (Fig. 3).

This specimen's unique pattern and propensity to hood and mouth gape, while defending itself, may in fact be a Neotropical example of convergent evolutionary behavior similar to that of true African and Asian cobra (Serpentes: Elapidae) species.

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Fig. 1. Monocle pattern on the nape in typical flattened threat spread display in *Xenodon severus* (Specimen not collected). 22.5 km East of Tena off of the Ahuano road, 1 km Southeast inside Jatun Sacha Biological Research Station, Provincia de Napo, Ecuador, South America. The flattening is typical in all *Xenodon*, not the hooding or monocle. Photo by Ted R. Kahn.

Patrón monocular nupal en comportamiento amenazador de aplanamiento en Xenodon severus (Ejemplar no capturado). 22.5 km al Este de Tena en la carretera Ahuano, 1 km al Sureste dentro de la estación de investigación biológica Jatun Sacha, Provincia de Napo, Ecuador, América del Sur. El aplanamiento es típico en todos los Xenodon, no la capucha o el monóculo. Foto por Ted R. Kahn.



Fig. 2. Atypical non-banded pattern in *Xenodon severus* (Same specimen as Fig. 1). Photo by Ted R. Kahn.

Patrón atípico sin bandas en Xenodon severus (Mismo ejemplar que en Fig. 1). Foto por Ted R. Kahn.



Fig. 3. Raised hooding and mouth gape in *Xenodon severus*. Same specimen as Figs. 1 and 2. Photo by D. Blackford.

Levantamiento de capucha y apertura de boca 0en Xenodon severus. Mismo ejemplar que en las Figs. 1 y 2. Foto por D. Blackford.