

PREDATION EVENT OF THE YUCATAN NEOTROPICAL
RATTLESNAKE *CROTALUS TZABCAN* (SQUAMATA: VIPERIDAE)
ON A RODENT, IN SOUTHERN QUINTANA ROO, MEXICO

**Evento de depredación de la víbora de cascabel yucateca *Crotalus tzabcan*
(Squamata: Viperidae) sobre un roedor, en el sur de Quintana Roo, México**

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ABSTRACT

The Yucatan neotropical rattlesnake (*Crotalus tzabcan*) is a crotalid endemic to the Yucatan Peninsula. Although it is widely distributed in this region, it is considered a highly elusive species, thus knowledge about its natural history is scarce, including observations on feeding ecology. Here, we report the first documented observation of a predation event of a wild *C. tzabcan* on a rat in a rural area in southern Quintana Roo, Mexico.

Keywords: anthropomorphized environment, Bacalar, Crotalinae, Quintana Roo, rodents, Yucatan Peninsula.

RESUMEN

La víbora de cascabel yucateca (*Crotalus tzabcan*) es un crotárido endémico de la península de Yucatán. Aunque está ampliamente distribuida en esta región, se considera una especie muy escurridiza, por lo que el conocimiento sobre su historia natural es escaso, incluyendo observaciones sobre ecología alimenticia. Reportamos el primer evento de depredación de una *C. tzabcan* silvestre sobre una rata, en una zona rural en el sur de Quintana Roo, México.

Palabras clave: ambiente antropizado, Bacalar, Crotalinae, Quintana Roo, roedores, península de Yucatán.

Documentation of predatory interaction events is essential to understand the interconnectivity of trophic systems and the underlying ecology of animal species involved in them; nonetheless, direct observations of them in the wild can be rare, particularly in elusive or secretive species (Sáez-Gómez et al., 2018 and references therein). The documentation of these observations in



primary literature is, thus, even less likely. Here, we report the first observation of a predatory behavior event by a wild *C. tzabcan* on a rat in an area inhabited by people in southern Quintana Roo, Mexico.

The Tzabcan or Yucatan neotropical rattlesnake (*Crotalus tzabcan*) is a large (up to 1.818 m in total length) crotalid endemic to the Yucatan Peninsula biotic province, where it mostly inhabits in open and dry habitats (Carbajal-Márquez et al., 2020a; Díaz-Gamboa et al., 2020; Heimes, 2016); areas of human habitation that apparently attract large numbers of rodents which in turn pull their predators from the forests. This venomous snake can exhibit diurnal, crepuscular, or nocturnal habits, depending on the climatic season. During the cold months of the dry season, it is generally found active during the daytime, whereas during the hot months of the rainy season its activity tends to be nocturnal. It is a highly elusive predator that is difficult to observe and follow in the field, specialized in preying predominantly on rodents and other small mammals (Carbajal-Márquez et al., 2020a, b).

On 15 January 2025 at 14:07 h during herpetofauna fieldwork, an adult female *C. tzabcan* (Fig. 1) was found preying on a medium-sized rodent (Fig. 2A). The observation took place in a secondary vegetation-grassland patch next to a banana plantation at Rancho Santa Lupita, located between Bacalar and Reforma, Municipality of Bacalar, Quintana Roo, Mexico (18.76901°N, 88.52260°W; WGS 84; 32 m elev.). The distress call of the rat upon being attacked by the snake led us to find the scene of the attack and allowed us to observe the event. We observed the predation event during which we took a video from a safe distance so as not to disturb the snake, allowing it to continue its normal feeding behavior. The prey was consumed headfirst (Fig. 2A, B) and consumption began while the prey was still alive, moving for over a minute as it was being ingested. The snake continued to swallow the prey slowly, for approximately eight minutes, until it was completely ingested. After that, the snake remained quiet at the scene. We then proceeded to carefully capture it with the help of a hook and a herpetological tong in order to determine a mass (with a 30 kg capacity electronic scale: 2.66 kg; previously contained in a blanket sack), length (with a measuring tape: snout-vent length = 1.35 m; total length = 1.47 m; previously contained in a transparent plastic tube), to determine sex by probing for the hemipenes (which were absent), and to photograph the individual for documentation. Finally, we relocated the snake to a natural vegetated area, located very close to the observation site.

Although we could not determine the prey's taxonomic identity, judging by its size and appearance, it likely was a Toltec cotton rat (*Sigmodon toltecus*) or a Coues's rice rat (*Oryzomys couesi*). Both rodent species have been previously recorded as common prey items of *C. tzabcan* (Carbajal-Márquez et al., 2020b). Our observation of *C. tzabcan* ingesting a rodent confirms that they exhibit diurnal activity during the dry cold months of the winter season of the Yucatan Peninsula, as well as the previously documented habit of year-round feeding (Carbajal-Márquez et al., 2020a, b).



Figure 1. Adult female *Crotalus tzabcan* photographed after preying on a rodent at Rancho Santa Lupita, Bacalar, Quintana Roo, Mexico.



Figure 2. Screenshots of a video showing the ingestion of a rodent by *Crotalus tzabcan* (A), initiating its consumption first by the rodent's head (B).

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