REPTILES & AMPHIBIANS

Maximum Brood Size for the Yucatán Neotropical Rattlesnake (*Crotalus tzabcan* Klauber 1952)

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Research on reproductive biology and life history of vertebrates (e.g., ages and sizes at first reproduction, litter sizes) is essential to understanding the evolution and ecology of species, and rattlesnakes (Crotalinae: *Crotalus* spp. and *Sistrurus* spp.) are excellent model organisms for reproductive studies in nature (Taylor and Booth 2017). However, field observations of breeding female rattlesnakes remain relatively scarce, particularly for species outside the United States, in part because they usually are smaller than male counterparts and likely also because males are easier to find than females in some populations (Taylor and Booth 2017).

The Yucatán Neotropical Rattlesnake (*Crotalus tzabcan* Klauber 1952) is a crotaline endemic to the Yucatán Peninsula Biotic Province, where it inhabits mostly open and dry environments (Heimes 2016; Carbajal-Márquez et al. 2020). Although it is widely distributed in this region, it is elusive, and thus knowledge on its natural history is scarce. As with other crotalines, *C. tzabcan* is viviparous, with mating usually occurring during the dry season, and birthing during the rainy season from July to September (Armstrong and Murphy 1979; Dundee et al. 1986; Lee 1996; Heimes 2016; Carbajal-Márquez et al. 2020; Díaz-Gamboa et al. 2020). We herein report a litter of *C. tzabcan* from a rural area in southern Quintana Roo, Mexico, that represents the maximum litter size documented for this species.

At 1638 h on 13 June 2025, we found an adult female *C. tzabcan* (SVL = 142 cm; total length = 152 cm, excluding the rattle; weight = 2,900 g) during herpetofaunal fieldwork in secondary vegetation at Rancho Santa Lupita, located between Bacalar and Reforma, Municipality of Bacalar, Quintana Roo, Mexico (18.76046, -88.52696; 30 m asl). Because the snake was bulky and appeared pregnant (Fig. 1), we captured it for further observations. We provided water *ad libitum* and fed the snake pre-killed domestic Brown Rats

Figure 1. An adult female Yucatán Neotropical Rattlesnake (*Crotalus tzabcan*) found at Rancho Santa Lupita, Bacalar, Quintana Roo, Mexico (left) and a litter of 24 neonates born in captivity on 29 July 2025 (right). Photographs by Pablo M. Beutelspacher-García.

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(*Rattus norvegicus*) (it accepted one rat per week). During its time in captivity, the snake mostly remained hidden under a piece of bark provided as shelter.

On the morning of 29 July 2025, we discovered that the snake had given birth to 24 live young (Fig. 1). The neonates averaged 325 mm total length (310–336 mm), 296 mm SVL (281–310 mm), and 23.1 g (20–30 g). All shed their skins on the day following parturition. On 1 August 2025, we released the snake and its litter at the site where the female was captured.

Neill (1962) reported an average total length of 315 mm for *C. tzabcan* at birth, which is slightly lower than what we recorded. Armstrong and Murphy (1979) reported total lengths of 290–350 mm (mean = 316 mm) for a litter produced on 31 August, which encompassed a wider range but a lower mean; birth weights were 18.4–26.8 g (mean = 23.4 g), a slightly narrower range but a higher average than reported here. To the best of our knowledge, the litter size reported herein represents the maximum recorded for the species, outnumbering the brood of 21 reported by Armstrong and Murphy (1979).

The birth date reported herein coincides with dates reported in other anecdotal observations for *C. tzabcan* and encounters of neonates in the field (Dundee et al. 1986; Lee 1996; Carbajal-Márquez et al. 2020), supporting the hypothesis that *C. tzabcan* has a reproductive cycle similar to that of temperate pitvipers and suggesting that this trait could be phylogenetically conserved (Almeida-Santos and Salomão 1997; Carbajal-Márquez et al. 2020).

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