

Dipsas trinitatis (Trinidad Snail-eating Snake)

Family: Dipsadidae (Rear-fanged Snakes)

Order: Squamata (Lizards and Snakes)

Class: Reptilia (Reptiles)



Fig. 1. Trinidad snail-eating snake, *Dipsas trinitatis*.

[<http://naturalhistoryphotography.net/trinidad-snail-eating-snake-dipsas-trinitatis>, downloaded 24 February 2017]

TRAITS. *Dipsas trinitatis* is a fairly large snake, with an average snout vent length of 63.8cm and a tail of 16.5cm. It has a smooth-scaled slender body which is tan and brown in colour, with dorsal black marks with yellow borders (Fig. 1). The head is dark brown with tan sides, with a rounded snout, and is the only known Trinidadian snake to lack a mental groove and sublabial scales. The Trinidad snail eater is described as being a microcephalic species when compared to *Dipsas variegata* (Fig. 2) due to its smaller head and relatively large eyes (Murphy, 2014). Sexual dimorphism is observed in this species with the females being slightly larger than the males while males have more ventral and subcaudal scales than females (Peters, 1960).

DISTRIBUTION. *Dipsas trinitatis* is a Caribbean species believed to be endemic to Trinidad, occurring only in this island. It can be found in lowlands as well as some parts of the Northern Range (Murphy, 2014).

HABITAT AND ACTIVITY. *Dipsas trinitatis* resides typically in the trees along the edges of forests, and has been found sporadically in forested areas disturbed by human activity (Murphy,

2014). Often found coiled among bromeliads and the roots of orchids or epiphytes, the Trinidad snail-eater is a nocturnally active snake that feeds primarily on small snails and slugs. This species remains mostly inactive with the exception of rainy periods where their prey becomes active (IUCN, 2017). Due to its close resemblance to *Bothrops atrox* (Figs 3 and 4), a highly venomous snake. *Dipsas trinitatis* mimics its coiling habits in addition to pretending to strike in an effort to ward off any predators, although in general it is not known to be an aggressive snake (Boos, 2001).

FOOD AND FEEDING. *Dipsas trinitatis* feeds primarily on small tree snails in addition to some terrestrial slugs. While in captivity the Trinidad snail-eater has been known to feed on species of snails such as *Orthalicus undatus* and other *Cyclodontina* species. Snakes of the *Dipsas* genus feed on snails by attacking the exposed flesh of the snail and forces the snail from the shell by manipulating its mandibles (Seigel, 1987). In order to remove the fleshy body of the snail from its protective shell, *Dipsas trinitatis* constricts around its prey in order to gain a firm grasp and then, using its specialised lower jaw, long teeth and constricting force, extracts the body of the snail from the shell consuming its flesh whole (Boos, 2001). Slugs are consumed whole without constriction. John Murphy stated in a research paper that it is perhaps due to the presence of *Dipsas variegata* in its ecosystem that *Dipsas trinitatis* developed an undersized head in an effort to reduce competition for the larger food sources which it would have shared with *D. variegata* (Fig 2). However because the lack of information for this species this cannot be yet confirmed (Murphy, 2014).

POPULATION ECOLOGY. *Dipsas trinitatis* is known as a solitary snake, being usually found in isolation along the foothills of the Northern Range and various lowlands. According to the IUCN, *Dipsas trinitatis*, although unknown in true population size and longevity, appears to have a stable population (IUCN, 2017). In 1997 *Dipsas trinitatis* was considered among the rarest snakes on the island and because it is known to be endemic to Trinidad this species is considered very rare in the world. John Murphy has since then collected over 20 specimens during the past 30 years (Murphy, 2014), indicating a healthy population.

REPRODUCTION. Like most of the Dipsadidae family, the Trinidad snail-eater is considered oviparous (Aldridge, 2016). The dipsadines usually produce eggs in a small numbers, usually five or six eggs. Additionally there is usually a seasonal reproductive cycle occurring in the months where there is higher humidity and precipitation (Moon, 2008).

BEHAVIOUR. Snakes that are arboreal such as *Dipsas trinitatis*, often use immobility to avoid detection by any predators. *Dipsas trinitatis* has been known to mimic the venomous *Bothrops atrox* perhaps in an effort to defend against its predators. Other methods used by Dipsadidae can also include the concealment of the head under its coiled body for protection (Maia-Carneiro, 2012). Because *Dipsas trinitatis* is a solitary species of snake it can be speculated that the only communication that it is involved in would probably concern reproduction where pheromones are used to locate a mate or to enforce inter individual distance (Carpenter, 2007).

APPLIED ECOLOGY. The IUCN has previously stated that *Dipsas trinitatis* is not under any direct threats as it is highly adaptive to disturbed habitats and has a stable population with no indication of a declining population. The IUCN has therefore listed this species as one of Least Concern and has no mention of any notable interactions with humans and has thus implemented no conservation action for this species (IUCN, 2017).

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Fig. 2. A comparison of *Dipsas variegata* (B, D) and *Dipsas trinitatis* (A, C).

[<http://herpetologytt.blogspot.com/2014/12/dipsas-variegata-44th-species-of-snake.html>, downloaded 20 February 2017]



Fig. 3. The fer-de-lance, *Bothrops atrox*.

[<https://www.flickr.com/photos/fagnerdelfim/5946486330/in/photostream/>, downloaded 20 February 2017]



Fig. 4. Trinidad snail-eater *Dipsas trinitatis* to compare with Fig. 3.

[<http://herpetologytt.blogspot.com/2014/12/dipsas-variegata-44th-species-of-snake.html>, downloaded 20 February 2017]