

What's for dinner: documented predations of the Blunt-headed Tree Snake, *Imantodes cenchoa* (Linnaeus, 1758)

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As both mesopredators and prey, snakes have an important role in the food web (Adams et al., 2024), as well as contributing to many ecological functions (Valencia-Aguilar et al., 2013; Cortés-Gomez et al., 2015). Therefore, understanding the trophic preferences of snakes is essential for unravelling the complexities of key community processes (Maritz et al., 2021). Insights into their hunting strategies, prey selection, and behavioural adaptations can shed light on predator-prey relationships, energy flow, and nutrient cycling within ecosystems.

Imantodes cenchoa (Linnaeus, 1758), commonly known as the Blunt-headed Tree Snake, has a broad Neotropical distribution from Mexico through Central America to Argentina (Arzamendia et al., 2019). Its elevational range extends from sea level to 1700 m. This arboreal, nocturnal, egg-laying species occurs in tropical wet and dry forests as well as gallery forests, where it is usually abundant (Myers, 1982). It is currently listed as Least Concern by the IUCN (Arzamendia et al., 2019).

We conducted a literature review, searching both indexed and grey literature in Google Scholar for studies reporting on the diet of this species. Search strings consisted of combinations of the species name ("*Imantodes cenchoa*" or "Blunt-headed Tree Snake") paired with diet-related terms ("feeding", "food", or "prey"). Additional relevant publications were identified through citation tracking of reference lists. The published literature indicates that the diet of *I. cenchoa* consists of small to medium-sized animals, with lizards

as its main prey (González-Acosta et al., 2023), most of species belonging to the genus *Anolis* and *Norops*. As the second is now considered within *Anolis*, the number of distinct species recorded as prey is 21, with predation on *A. fuscoauratus* being mentioned five times, from Ecuador, Brazil and Peru, and for *A. punctatus* four times, from Brazil and Ecuador. In addition, two species of the genera *Basiliscus* and *Sceloporus*, and one species of the genera *Cnemidophorus*, *Enyalioides*, *Gonatodes* and *Polychrotidae* were also documented as



Figure 1. Predation of a Yellow-tongued Anole (*Anolis scyphus*) by a Blunt-headed Tree Snake (*Imantodes cenchoa*) in Taisha Canton, Morona Santiago Province, Ecuador. Photo by Diana Székely.

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Table 1. A list of prey items reported for *Imantodes cenchoa* in the scientific literature. The scientific name is the one reported in the article, the name in parenthesis is the currently accepted name. Method refers to prey reported from the analysis of stomach content (SC) or from direct observation (DO). Superscript numbers following the scientific name, country, and method link each record to its supporting citation.

Prey category	Scientific name (Valid name)	Country	Method	Citation
Insecta	insect wings	Brazil	SC	de Sousa et al., 2014
	crickets	Venezuela	DO	La Marca, 2004
Amphibia	frog eggs	Central America		Powell, 2005
	frogs	Venezuela	DO	La Marca, 2004
	<i>Hyla</i> sp.	Guatemala		Campbell, 1999
	<i>Scinax</i> sp.	Guatemala		Campbell, 1999
	<i>Eleutherodactylus</i> sp. (<i>Craugastor</i> sp.)	¹ eastern Panama, ² Guatemala, ³ Panama	³ DO	¹ Myers, 1982; ² Campbell, 1999; ³ Ray et al., 2011
	<i>Eleutherodactylus crassidigitus</i> (<i>Craugastor crassidigitus</i>)	Panama		Myers, 1982
	<i>Eleutherodactylus raniformis</i> (<i>Craugastor raniformis</i>)	eastern Panama		Myers, 1982
	<i>Eleutherodactylus fenestratus</i> (<i>Pristimantis fenestratus</i>)	Brazil	SC	Martins and Oliveira, 1998
	<i>Eleutherodactylus terraebolivaris</i> (<i>Pristimantis terraebolivaris</i>)	Ecuador	DO	Test et al., 1966
	<i>Craugastor metriosistus</i>	Colombia		Rojas-Morales et al., 2021
	<i>Hyalinobatrachium viridissimum</i>	Mexico	SC	Diaz-Garcia et al., 2023
	<i>Prostherapis trinitatis</i> (<i>Mannophryne trinitatis</i>)	Ecuador		Test et al., 1966
Reptilia	lizard skulls	Brazil	SC	de Sousa et al., 2014
	lizard tails	Brazil	SC	de Sousa et al., 2014
	lizard scales	Brazil	SC	de Sousa et al., 2014
	lizard eggs	¹ Central America, ² Brazil	² SC	¹ Powell, 2005; ² de Sousa et al., 2014
	¹ diurnal lizards, ^{2,3} lizards	¹ Ecuador, ³ Central America	² DO	¹ Duellman, 1978; ² La Marca, 2004; ³ Powell, 2005
	snake eggs	Central America		Powell, 2005
	<i>Basiliscus galeritus</i>	Colombia	DO	González-Acosta et al., 2023
	<i>Basiliscus vittatus</i>	Guatemala		Campbell, 1999
	<i>Sceloporus variabilis</i>	Mexico	DO	Aguilar-Herrera et al., 2023
	<i>Sceloporus olivaceus</i>	Mexico	SC	De Luna et al., 2016
	<i>Gonotodes</i> sp.	¹ Trinidad, ² Brazil	^{1,2} SC	¹ Wehckind, 1955; ² de Sousa et al., 2014
	<i>Gonotodes humeralis</i>	Brazil	SC	de Sousa et al., 2014
	<i>Enyaliodes praestabilis</i>	Ecuador	DO	Garcia et al., 2023
	<i>Cnemidophorus</i> sp.	Venezuela	DO	La Marca, 2004
	Polychrotidae	Panama	DO	Ray et al., 2011
	<i>Anolis</i> sp.	¹ Trinidad, ² Mexico-Guatemala, ³ Honduras, ³ Costa Rica, ⁴ Mexico, ^{4,7} Panama, ^{5,6} Brazil,	^{5,6} SC, ^{3,7} DO	¹ Wehckind, 1955; ² Landy et al., 1966; ³ Henderson and Nickerson, 1976; ⁴ Myers, 1982; ⁵ Sazima and Argolo, 1994; ⁶ Martins and Oliveira, 1998; ⁷ Ray et al., 2011; ⁸ García-Ayachi et al., 2020
	<i>Norops</i> sp.	Brazil	SC	de Sousa et al., 2014
	<i>Anolis antonii</i>	Colombia	DO	Rojas-Morales et al., 2021
	<i>Anolis</i> cf. <i>auratus</i>			García-Ayachi et al., 2020
	<i>Anolis barkeri</i>	¹ Mexico	¹ DO	¹ Clause and Clause, 2016; ² García-Ayachi et al., 2020
	^{1,2,4} <i>Anolis capito</i> , ³ <i>Norops capito</i> (<i>Anolis capito</i>)	^{1,3} Guatemala, ² Panama,	¹ DO	¹ Stuart, 1948; ² Myers, 1982; ³ Campbell, 1999; ⁴ García-Ayachi et al., 2020
	<i>Anolis chrysoplepis</i>	¹ Brazil	¹ SC	¹ de Sousa et al., 2014
	^{1,3} <i>Anolis frenatus</i> , ² <i>Dactyloa frenata</i> (<i>Anolis frenatus</i>)	^{1,2} Panama	² DO	² García-Ayachi et al., 2020 ¹ Myers, 1982; ² Ray et al., 2011; ³ García-Ayachi et al., 2020
	^{1,2,3,4} <i>Anolis fuscoauratus</i> , ⁵ <i>Norops fuscoauratus</i> (<i>Anolis fuscoauratus</i>)	^{1,2} Ecuador, ^{2,5} Brazil, ³ Peru	^{2,3,5} SC	¹ Duellman, 1978; ² Martins and Oliveira, 1998; ³ Duellman and Mendelson, 1995; ⁴ García-Ayachi et al., 2020; ⁵ de Sousa et al., 2014
	<i>Norops bourgeai</i> (<i>Anolis laeiventrtris</i>)	Guatemala		Campbell, 1999
	<i>Anolis latifrons</i>	Panama		Myers, 1982

Table 1. Continued.

Prey category	Scientific name (Valid name)	Country	Method	Citation
	<i>Anolis lemurinus</i>			García-Ayachi et al., 2020
	<i>Anolis limifrons</i>	Panama		Myers, 1982
	<i>Anolis mariarum</i>	¹ Colombia	¹ SC	¹ Gutiérrez-Cárdenas et al., 2005 ² García-Ayachi et al., 2020
	<i>Norops ortonii</i> (<i>Anolis ortonii</i>)	^{1,3} Brazil	^{1,3} SC	¹ Martins and Oliveira, 1998; ² García-Ayachi et al., 2020; ³ de Sousa et al., 2014
	<i>Anolis petersii</i>	¹ Mexico	¹ DO	¹ García-Padilla and Luna-Alcántara, 2011; ² García-Ayachi et al., 2020
	<i>Anolis planiceps</i>			García-Ayachi et al., 2020
	<i>Norops punctatus</i> (<i>Anolis punctatus</i>)	¹ Ecuador, ^{2,3} Brazil	^{1,3} SC	¹ Duellman, 1978; ² Martins and Oliveira, 1998; ³ de Sousa et al., 2014; ⁴ García-Ayachi et al., 2020
	<i>Norops rodriguezi</i> (<i>Anolis rodriguezi</i>)	Guatemala		Campbell, 1999
	<i>Norops tandai</i> (<i>Anolis tandai</i>)	Brazil	SC	Ferreira et al., 2020
	<i>Anolis trachyderma</i>	¹ Ecuador, ¹ Brazil, ² Peru		¹ Vitt et al., 2002; ² García-Ayachi et al., 2020
	<i>Anolis tropidogaster</i>	Panama		Myers, 1982
	<i>Norops uniformis</i> (<i>Anolis uniformis</i>)	^{1,2} Guatemala	¹ DO	¹ Stuart, 1948; ² Campbell, 1999; ³ García-Ayachi et al., 2020
Mammalia				
	newborn mice	Venezuela	DO	La Marca, 2004

prey items (Table 1). There are no reports of *I. cenchoa* preying on snakes, but Powell (2005) reports snake egg consumption. *Imantodes cenchoa* occasionally preys on amphibians (Martins and Oliveira, 1998), with published evidence indicating four species of the genus *Eleutherodactylus*, and single species of the genera *Craugastor*, *Hyalinobatrachium*, *Hyla*, *Prostherapis*, and *Scinax*. *Imantodes cenchoa* has rarely been documented feeding on insects, with studies reporting wings in stomach content (de Sousa et al., 2014) and direct observations of eating crickets (La Marca, 2004; Powell, 2005), and only once on mammals, when preyed on newborn mice (La Marca, 2004).

On 4 April 2025, at 21:08 h, we observed an adult *I. cenchoa* feeding on an individual of *Anolis scypheus* (Cope, 1864) (Fig. 1), in Taisha Canton, Morona-Santiago Province, Amazon Rainforest region of Ecuador (2.4202°S, 77.4766°W; datum WGS84, 304 m elevation). The snake was hanging from a bush, approx. 1.5 m height, biting its prey by the head. The lizard was already motionless at the time of the encounter. After taking *in situ* photographs, we left to minimise the disturbance; no specimens were collected.

Anolis scypheus Cope, 1864, commonly known as the Yellow-tongued Anole, is a medium-sized diurnal lizard, widespread throughout the western Amazon Basin (Caicedo et al., 2020). It inhabits the leaf litter of primary and secondary lowland rainforest, including areas subject to seasonal flooding. *Anolis schypheus* is

currently listed as Least Concern by the IUCN (Caicedo et al., 2020). Its main predators include birds of prey, such as hawks, and larger reptiles, including snakes (Avila-Pires, 1995). Like other species of *Anolis*, individuals rest on horizontal surfaces of leaves at night (Vitt et al., 2002), making them an ideal prey for the nocturnal predator that is the Blunt-headed Tree Snake (Ray, 2012). Our work provides additional data on the diet of *I. cenchoa* and presents an overview of its dietary spectrum.

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