

# NEW PREY RECORDS FOR CAT-EYED SNAKES OF THE GENUS *LEPTODEIRA* (SQUAMATA: DIPSADIDAE) WITH HISTORICAL REVIEW OF THE SPECIES' DIET

## NUEVOS REGISTROS DE DEPREDACIÓN POR SERPIENTES OJO DE GATO DEL GÉNERO *LEPTODEIRA* (SQUAMATA: DIPSADIDAE), CON REVISIÓN HISTÓRICA DE ESPECIES CONSUMIDAS

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**Resumen.**— Las serpientes ojo de gato presentan una amplia variedad de presas compuesto principalmente por ranas y lagartijas. En este trabajo realizamos una revisión de las presas registradas para el género *Leptodeira*, y reportamos nuevos registros de dieta para varias especies de estos ofidios.

**Palabras clave.**— Colombia, dieta, *Leptodeira*, nuevos registros de presas.

**Abstract.**— Cat-eyed snakes consume a wide variety of prey items, mostly including frogs and lizards. In this paper, we report new dietary records for snakes of the genus *Leptodeira*, and perform a review of prey items recorded for the genus.

**Keywords.**— Colombia, diet, *Leptodeira*, new prey records.

*Leptodeira* is a genus of opisthoglyphous nocturnal snakes with marked terrestrial or semi-arboreal habits, which can be found near bodies of water, especially during the reproductive season of anurans (Bello-Sánchez et al., 2018; Costa & Andrade, 2020). Currently 18 species are recognized within the genus, all of which are considered potential amphibian hunters, however, they may have a fairly general diet, feeding on lizards, other snakes, fish and even birds (Skehan, 1959; Russell et al., 1999; Dueñas & Báez, 2003; Maitland, 2003; Entiauspe-Neto et al., 2016; van Buurt & Dilrosun, 2017; Cortés-Ortiz et al., 2022). Here, we review the

diet of different *Leptodeira* species, and report new prey for *L. ashmeadii*, *L. bakeri* and *L. ornata*. The literature review is based on published scientific papers describing predation events recorded for the different species of the genus *Leptodeira* in Central and South America. The information was obtained through different sources and databases (Google Scholar, PubMed, SciELO, ScienceDirect and Web of Science), restricting the search in different languages of the information to the following words or search terms: diet, *Leptodeira*, predation, consumption, foraging, trophic ecology, predator-prey interaction, ecological

interactions, feeding, producing information for 12/18 *Leptodeira* species.

The snakes were identified based on characters and distribution areas proposed in the literature (Barrio-Amorós, 2019; Uetz et al., 2023; Costa et al., 2022). We differentiate *Leptodeira ashmeadii* by the presence of (7–9/7–9) supralabial scales, two parallel dark brown stripes in the parietal region that run towards the occipitals merging with the first dorsal spot in the occipital region in the shape of a horseshoe and its distribution to the northeast of South America. *L. ornata* by the presence of (8–9/7–9) supralabial scales, back of the head brown, usually without spots and occipital region light brown with a broad median line, the presence of a dark butterfly-shaped spot in the occipital region and, its distribution throughout the Magdalena River basin, Colombia. But *L. bakeri* can be differentiated by its pattern of large dorsal spots (generally not exceeding 24 spots), these can extend widely, involving the first row of dorsal scales, without continuing on the ventral scales.

We refer as *L. cf. ornata* to the specimen recorded in Santa Marta, District of San Lorenzo in Panama, *L. aff. ornata* to the one recorded in Rancho Quemado, Costa Rica, and *L. annulata* to the one recorded in Bridge Pond, Gamboa, Province of Colon in Panama (Crawford, 2007) given the information we have for identification. This is mainly due to recent taxonomic updates for the genus, where some of these taxa show morphological similarity, as well as evidence of possible cryptic diversity related to the *L. ornata* group (Costa et al., 2022).

*Leptodeira ashmeadi*, *L. bakeri* and *L. ornata* are nocturnal snakes with terrestrial habits, but they can be found on small bushes or near bodies of water (Abarca et al., 2021; Ali & Ali, 2022). These can inhabit a wide variety of warm environments and dry vegetation (van Buurt and Dilrosun, 2017). The limited information available on the diet of *L. ashmeadi* comes from northern Colombia and northwest Venezuela, and in the case of *L. ornata* from northwest Costa Rica, south-central Panama and northwest Colombia. For the three species, anurans are the most common prey, followed by lizards (Manzanilla et al., 1998; Ugueto & Rivas, 2006; Vargas-Salinas & Aponte-Gutiérrez, 2013; Nuñez & Garro, 2020; Abarca et al., 2021; Ali & Ali, 2022; Dougherty & Lisondro, 2023).

On 16 October 2020 at 10:24 h in a family home in Girón, Santander, Colombia (7.038889° N, 73.141389° W; 842 m a.s.l.), an adult individual of *Leptodeira ashmeadii* with a total length (TL) of 650 mm was recorded and photographed feeding on an adult Yellow-headed gecko (*Gonatodes albogularis*), with a snout-vent length (SVL) of 60 mm. The event that lasted approximately

15 minutes occurred at ground level on some rubble, where the snake was seen biting the lizard by the neck and coiling it around the body. Later, he ingests it from head (see Appendix 1).

On 16 October 2020 at 19:20 h in Buritaca, Santa Marta, Magdalena, Colombia (11.262041° N, 73.768519° W; 8 m a.s.l.), an adult individual of *Leptodeira bakeri* with a total length of 450 mm was recorded and photographed feeding on an adult Common house gecko (*Hemidactylus frenatus*, 50 mm SVL). The event lasted approximately 15 minutes on the ground, where the snake was seen biting the lizard on the ventral part of the neck and ingesting it from head (Fig. 1).



**Figura 1.** Depredación de *Hemidactylus frenatus* por *Leptodeira bakeri*. Foto: Mónica Beltrán. / **Figure 1.** Predation on *Hemidactylus frenatus* by *Leptodeira bakeri*. Photo: Mónica Beltrán.

On 24 January 2021 at 20:18 h on the Melchor Ecogranja, in Las Llanadas, Sucre, Colombia (9.136944° N, 75.28500° W; 109 m a.s.l.), an adult individual of *Leptodeira ashmeadii* (TL 610 mm) was found feeding on an adult Four-eyed toad (*Pleurodema brachyops*, 30 mm SVL). The event lasted approximately 15 minutes on grass at ground level. There, the snake grabbed the anuran from the anterior area and ingested it from the head (Fig. 2A).

On 31 December 2021 at 20:33 h in the backyard of a family home in Las Llanadas, Sucre, Colombia (9.149444° N, 75.278889° W; 131 m a.s.l.), an adult individual of *Leptodeira ashmeadii* (TL 660 mm) was recorded and photographed hunting an adult of iridescent-eyed banana frog (*Boana pugnax*, 80 mm SVL). The event lasted approximately 20 minutes on the branch of a lemon bush (*Citrus × latifolia*). In this case the snake grabbed the anuran by the posterior lateral area and ingested it from head (see Appendix 2).

On 28 August 2022 at 09:07 h on the Melchor Ecogranja in Las Llanadas, Sucre, Colombia (9.136944° N, 75.28500° W; 109 m a.s.l.), an adult individual of *Leptodeira ashmeadii* (TL 602 mm)

was recorded and photographed hunting an adult Warty toad (*Rhinella humboldti*, 40 mm SVL). The event lasted approximately 18 minutes at ground level. In this case, the snake grabbed the anuran by the posterior lateral area of the body and ingested it from the hind legs (Fig. 2C).

On 21 December 2022 at 21:45 h in Jurubida, Nuquí, Chocó (5.842787° N, 77.274305° W; 7 m a.s.l.), an adult individual of *Leptodeira ornata* (TL 582 mm) was recorded and photographed preying a juvenile Basilisk (*Basiliscus basiliscus*, 130 mm SVL). The event lasted approximately 34 minutes next to a stream at ground level. In this case, the snake grabbed the lizard by the head and ingested it head first (Fig. 2B).



**Figura 2.** Depredación por *Leptodeira* spp.: *L. ornata* depredando un individuo adulto de *Pleuroderma brachyops* (A), *L. ornata* consumiendo un individuo de *Basiliscus basiliscus* (B), *L. ashmeadii* depredando un adulto de *Rhinella humboldti* (C), *L. ornata* consumiendo un individuo de *Scinax* aff. *ruber* (D), *L. ashmeadii* consumiendo huevos de *Phyllomedusa venusta* (E), *L. ashmeadii* depredando un individuo de *R. humboldti* (F), *L. bakeri* consumiendo un individuo de *R. humboldti* (G), *L. ashmeadii* depredando un individuo de *Loxopholis rugiceps* (H), y *L. ornata* consumiendo un individuo de *Rhinella* sp (I). Fotos: Oscar Sierra-Serrano (A, C y E), Nuquí Herping (B), Juan Jiménez-Bolaño (D), Luz Peralta (F), Ronald A. Díaz-Flórez (G), Hernán Granda-Rodríguez (H), Gerardo Marulanda (I).

**Figure 2.** Predation by *Leptodeira* spp.: *L. ornata* preying on an adult individual of *Pleuroderma brachyops* (A), *L. ornata* consuming an individual of *Basiliscus basiliscus* (B), *L. ashmeadii* preying on an adult individual *Rhinella humboldti* (C), *L. ornata* consuming an individual of *Scinax* aff. *ruber* (D), *L. ashmeadii* consuming *Phyllomedusa venusta* eggs (E), *L. ashmeadii* preying on an individual of *R. humboldti* (F), *L. bakeri* consuming an individual of *R. humboldti* (G), *L. ashmeadii* preying on an individual of *Loxopholis rugiceps* (H), *L. ornata* consuming an individual of *Rhinella* sp (I). Photos: Oscar Sierra-Serrano (A, C and E), Nuquí Herping (B), Juan Jiménez-Bolaño (D), Luz Peralta (F), Ronald A. Díaz-Flórez (G), Hernán Granda-Rodríguez (H), Gerardo Marulanda (I).



On 27 February 2023 at 10:20h. at Media Luna, San Juan Nepomuceno, Bolívar, Colombia (9.957638° N, 75.152656° W; 312 m a.s.l.), an adult individual of *Leptodeira ornata* (TL 470 mm) was recorded and photographed feeding on an adult Striped tree frog (*Scinax* aff. *ruber*, 37 mm SVL). The event lasted approximately seven minutes on some fallen palm leaves over a body of water, where the snake was seen biting the frog on the back and ingesting it while it was still alive (Fig. 2D).

On 28 August 2023 at 19:54h at Vda. El canal, Chalán, Sucre, Colombia (9.577500° N, 75.347500° W; 323 m a.s.l.), an adult individual of *Leptodeira ashmeadii* (TL 550 mm) was recorded and photographed feeding on Red-eyed monkey Frog (*Phyllomedusa venusta*) eggs. These were found on an avocado leaf (*Persea americana*) and were approximately 5 mm in diameter each (Fig. 2E).

On 10 November 2023 at 20:43h on the premises of the Universidad del Magdalena, Santa Marta, Magdalena, Colombia (11.224760° N, 74.184278° W; 96 m a.s.l.), an adult individual of *Leptodeira ashmeadii* (TL 530 mm) was hunting an adult warty toad (*Rhinella humboldti*, 60 mm RCL). The event lasted approximately 25 minutes at ground level, where the snake was seen holding the anuran from the anterior dorsal area of the body (Fig. 2F). Although the toad constantly resisted try to free itself, the snake did not let go and it was evident the prey lost strength until it died. Once the snake subdued the toad, it was ingested it head first.

On 15 November 2023 at 20:00h on the Universidad del Magdalena, Santa Marta, Magdalena, Colombia (11.225769° N, 74.185778° W; 90 m a.s.l.), an adult individual of *Leptodeira ashmeadii* (TL 550 mm) was observed feeding on an adult Four-eyed toad (*Pleurodema brachyops*, 40 mm RCL). The event lasted approximately 10 minutes on grass at ground level. There, the snake grabbed the anuran from the anterior area and ingested it from the head.

On 5 March 2024 at 18:27h during field work in the Ranchería de Panacira, municipality of Maicao, La Guajira, Colombia (11.190283° N, 72.313505° W; 138 m a.s.l.), an Aruban cat-eyed snake (*Leptodeira bakeri*) with total length of 376 mm was located. This was kept for approximately 20 minutes inside a cloth bag and when it was removed, a regurgitated Warty toad (*Rhinella humboldti*) was found. This toad was without head and arms, and had a length of 70 mm, including the hind legs (Fig. 2G).

On 24 March 2024 at 07:32h during a tour at Tour Cacao Ancestros, San Francisco, Antioquia, Colombia (5.971944° N, 75.108889° W; 1,032 m a.s.l.), an adult individual of *L. ashmeadii*

(TL 781 mm) was photographed preying on an adult toad (*Rhinella* sp., 110 mm SVL). The event lasted approximately 25 minutes on rocks at ground level. In this way, the snake grabbed the anuran from the anterior area and ingested it head first (Fig. 2I).

On 25 March 2024 at 19:00h during herpetofauna monitoring in the Piedra River, Santa Marta, Magdalena, Colombia (11.275661° N, 73.904118° W; 50 m a.s.l.), an adult *L. ashmeadii* (TL 500 mm), was found within a stream while feeding on an adult Root lizard (*Loxopholis rugiceps*, 40 mm SVL). The event lasted approximately 10 minutes on some Caracolí (*Anacardium excelsum*) leaves fallen on the rocks of the body of water. In this case, the snake managed to bite the lizard through the upper part of the neck (Fig. 2H) and ingested it from head.

Among the new prey recorded, we found representation of both amphibians (Anura) and reptiles (Sauria), which were identified based on diagnostic morphological characters. The warty toad (*Rhinella humboldti*), characterized by being a small toad with marked bony crests on the head, an olive-gray color, small elongated poison glands on the back of the eardrum, very granular skin and ocher-yellow gluttony in males. (Galvis-Peñuela et al., 2011; Pereyra et al., 2021). The iridescent-eyed banana frog (*Boana pugnax*) can be differentiated from other Hylids present in the area by the presence of pronounced, double bars of a dark color on the abdominal flanks, black bars on the anterior surface of the thighs and extensive palmaeatures on the back, hands and feet (Lynch & Suárez-Mayorga, 2001). The red-eyed monkey frog (*Phyllomedusa venusta*) is easily distinguished by having practically smooth skin with small pustules, a bright green back, white lips, yellowish cream flanks with whitish spots, and a grayish belly with white spots (Barrio-Amorós, 2006). The striped tree frog (*Scinax ruber*) is characterized as a small greenish-brown frog, with the groin and the back of the thighs yellowish with irregular dark brown spots. It also has a dark supratympanic band, light flanks with small dark brown spots and a yellowish belly (Renjifo & Lundberg, 1999). The four-eyed toad (*Pleurodema brachyops*) is easy to recognize by its large and showy blue-black lumbar spots, on a reddish background, which simulate a pair of eyes. The hidden surface of the thighs and inguinal region are also reddish. It has thin fingers without webbing (Galvis-Peñuela et al., 2011; Hernández-Palma et al., 2023).

As for reptiles, the yellow-headed gecko (*Gonatodes albogularis*) is distinguishable for being a dichromatic species, where the females are a brown hue with scattered spots on the back and the males have a coppery-orange hood on their heads and the rest of the body is blackish in color. Also thin, cylindrical fingers with small, narrow scales, with a narrow but divided terminal lamella

above the claws (Barrio-Amorós, 2010; Galvis-Peñuela et al., 2011; Uetz et al., 2023). The common house gecko (*Hemidactylus frenatus*) is a small lizard with a coloration that can vary from light gray to medium brown, with dark stripes from the nostril to the eye and dark stripes on the sides of the body at variable distances. On the upper part of the head and body, it has small granular scales and scattered flat tubercles in the parietal and temporal areas, ventrally it has larger overlapping flat scales. It has well-developed fingers, each with an oblong digital pad, rectangular lamellae of the pads, divided medially except for the terminal one (Galvis-Peñuela et al., 2011; Uetz et al., 2023). The root lizard (*Loxopholis rugiceps*) is also a small lizard (does not exceed 450mm LRC) that is characterized by having both the forelimbs and hindlimbs covered with strongly keeled scales

and a small head. The color of the back is dark brown with the sides of a more reddish tone. The labial scales are whitish with vertically elongated black spots (Renjifo & Lundberg, 1999; Uetz et al., 2023).

During the review we did not find information on the diet of *L. approximans*, *L. frenata*, *L. larcorum*, *L. misinawui*, *L. pulchriceps* and *L. tarairiu*. The majority of prey reported for *Leptodeira* species are anurans, accounting for 81.5% of the total, with 75 individuals from 65 species across 9 families, mainly Hylidae, Phyllomedusidae, and Leptodactylidae. Additionally, 6.5% of the prey are lizards, 7.6% are snakes, and 4.3% are fish. Only one species of salamander (*Bolitoglossa*) was recorded as prey of *L. ornata* (Ali & Ali 2022). Following the anurans, lizards and snakes

**Tabla 1.** Lista de presas registradas para *Leptodeira* spp., en este estudio y en la literatura. / **Table 1.** List of prey items recorded for *Leptodeira* spp., in literature and this study.

Species	Prey	References
<i>Leptodeira splendida</i>	<b>Amphibians</b>	
	<i>Lithobates psilonota</i>	Huerta-García et al., 2015
<i>Leptodeira maculata</i>	<b>Amphibians</b>	
	<i>Hypopachus oxyrrhinus</i>	Cruz-Sáenz et al., 2010
	<i>Incilius mazatlanensis</i>	Cruz-Sáenz et al., 2010
	<i>Leptodactylus fragilis</i>	Mata-Silva et al., 2012
	<i>Lithobates neovolcanica</i>	Cruz-Sáenz et al., 2010
	<i>Rhinella horribilis</i>	García-Mata et al., 2017
	<i>Smilisca baudinii</i>	Cruz-Sáenz et al., 2010
	<b>Snakes</b>	
	<i>Salvadora mexicana</i>	Palacios-Aguilar et al., 2020
	<i>Leptodeira maculata</i>	Montalbán et al., 2010
	<b>Lizards</b>	
<i>Sceloporus pyrocephalus</i>	Palacios-Aguilar et al., 2020	
<i>Leptodeira septentrionalis</i>	<b>Amphibians</b>	
	<i>Agalychnis callidryas</i>	Brown, 2020
	<i>Agalychnis moreletii</i>	Kaiser, 2010
	<i>Agalychnis spurrelli</i>	Ortega-Andrade et al., 2011
	<i>Craugastor cf. loki</i>	Cabrera-Guzmán et al., 2009
	<i>Dendropsophus ebraccatus</i>	Savage, 2002
	<i>Dendropsophus microcephalus</i>	Oliva et al., 2010
	<i>Incilius valliceps</i>	Engerman & Engerman, 2015
<i>Leptodactylus fragilis</i>	Dehling, 2009	



**Tabla 1 (cont.).** Lista de presas registradas para *Leptodeira* spp., en este estudio y en la literatura.

**Table 1 (cont.).** List of prey items recorded for *Leptodeira* spp., in literature and this study.

Species	Prey	References
<i>Leptodeira septentrionalis</i> (cont.)	<i>Leptodactylus melanonotus</i>	McKelvy et al., 2013
	<i>Lithobates vaillanti</i>	Mora, 1999
	<i>Scinax elanochroa</i>	Russell et al., 1999
	<i>Smilisca baudini</i>	Savage, 2002
	<i>Smilisca cyanosticta</i>	Bello-Sánchez et al., 2018
	<i>Smilisca phaeota</i>	Arroyo-Trejos & Mora, 2016
	<i>Rhaebo haematiticus</i>	Arias et al., 2015
	<i>Rhinella humboldti</i>	Bello-Sánchez et al., 2018
	<b>Snakes</b>	
	<i>Ninia sebae</i>	McKelvy et al., 2013
<i>Leptodeira annulata</i>	<b>Amphibians</b>	
	<i>Elaichistocleis surinamensis</i>	Graham & Kelehear, 2017
	<i>Elaichistocleis panamensis</i>	Crawford, 2007
	<i>Synapturanus</i> sp.	Martins & Oliveira, 1998
	<i>Rhaebo guttatus</i>	Dueñas & Báez, 2003
	<i>Rhinella granulosa</i>	Morais & Ávila, 2007
	<i>Rhinella marina</i>	Dueñas & Báez, 2003
	<i>Rhinella mirandariveroi</i>	Ferraz et al., 2018
	<i>Rhinella crucifer</i>	Vrcibradic et al., 2007
	<i>Osteocephalus taurinus</i>	Campos et al., 2011; Hangman & Schulte, 2007
	<i>Boana crepitans</i>	Lantyer-Silva et al., 2012; Hudson et al., 2019
	<i>Boana lanciformis</i>	Duellman, 1978; Duellman, 2005; Dueñas & Báez, 2003
	<i>Cruziohyala craspedopus</i>	Campbell & Lamar 2007
	<i>Dendropsophus bokermanni</i>	Duellman, 1978; Duellman, 2005
	<i>Dendropsophus marmoratus</i>	Duellman, 1978; Duellman, 2005
	<i>Dendropsophus parviceps</i>	Duellman, 1978; Duellman, 2005
	<i>Phyllomedusa</i> sp.	Martins & Oliveira, 1998; Duellman, 2005
	<i>Phyllomedusa vaillanti</i>	Nascimiento et al., 2013
	<i>Phyllomedusa tetraploidea</i>	Nascimiento et al., 2013
	<i>Phyllomedusa tomopterna</i>	Nascimiento et al., 2013



**Tabla 1 (cont.).** Lista de presas registradas para *Leptodeira* spp., en este estudio y en la literatura.

**Table 1 (cont.).** List of prey items recorded for *Leptodeira* spp., in literature and this study.

Species	Prey	References
<i>Leptodeira annulata</i> (cont.)	<i>Phyllomedusa nordestina</i>	Falkenberg et al., 2013
	<i>Scinax ruberv</i>	Beebe, 1946; Dueñas & Báez, 2003
	<i>Crossodactylus bokermanni</i>	Thomassen et al., 2013
	<i>Leptodactylus</i> cf. <i>macrosternum</i>	Sales et al., 2013
	<i>Leptodactylus mystaceus</i>	Carvalho et al., 2007
	<i>Leptodactylus rhodonotus</i>	Arrivillaga et al., 2019
	<i>Adenomera</i> sp.	Martins & Oliveira, 1998
	<i>Pristimantis ramagii</i>	Dos Santos et al., 2018
	<i>Pristimantis altamazonicus</i>	Duellman, 1978
	<i>Pristimantis brevicrus</i>	Duellman, 2005
	<i>Physalaemus cuvieri</i>	Costa & Andrade, 2020
	<b>Lizards</b>	
	<i>Hemidactylus mabouia</i>	Cantor & Pizzatto, 2008; Hudson et al., 2019
	<b>Snakes</b>	
	<i>Atractus zebrinus</i>	Cantor & Pizzatto, 2008
<i>Oxyrhopus guibei</i>	Cantor & Pizzatto, 2008	
<i>Erythrolamprus poecilogyrus</i>	Entiauspe-Neto, et al. 2016	
<i>Leptodeira rhombiferas</i>	<b>Amphibians</b>	
	<i>Rhinophrynus dorsalis</i>	Céspedes et al., 2018
	<i>Engystomops pustulosus</i>	Dougherty & Lisondro, 2023
	<i>Boana rosenbergi</i>	Dougherty & Lisondro, 2023
	Hylidae	Knight, 2016
	<i>Rhamdia</i> sp.	Céspedes & Abarca, 2014
	<i>Rhamdia guatemalensis</i>	Rojas-Carranza & Anderson, 2023
	<i>Rhamdia laticauda</i>	Solís & Guerrero, 2016
	<b>Snakes</b>	
<i>Chironius flavopictus</i>	Nuñez et al., 2021	
<i>Leptodeira rubricata</i>	<b>Fishes</b>	
	Poeciliidae	Savage, 2002; Solórzano, 2004.
<i>Leptodeira ornata</i>	<b>Amphibians</b>	
	<i>Hyalinobatrachium colymbiphylum</i>	Nuñez-Escalante & Garro, 2020
	<i>Agalychnis callidryas</i>	Dougherty & Lisondro, 2023
	<i>Boana rosenbergi</i>	Dougherty & Lisondro, 2023



**Tabla 1 (cont.).** Lista de presas registradas para *Leptodeira* spp., en este estudio y en la literatura.

**Table 1 (cont.).** List of prey items recorded for *Leptodeira* spp., in literature and this study.

Species	Prey	References
<i>Leptodeira ornata</i> (cont.)	<i>Duellmanohyla legleri</i>	Abarca et al., 2021
	<i>Rhinella humboldti</i>	Vargas-Salinas & Aponte-Gutierrez, 2013
	<i>Bolitoglossa lignicolor</i>	Ali & Ali 2022
<i>Leptodeira punctata</i>	<b>Amphibians</b>	
	<i>Smilisca fodiens</i>	Rodríguez et al., 2011
<i>Leptodeira nigrofasciata</i>	<b>Amphibians</b>	
	<i>Phyllodactylus tuberculosus</i>	Mora et al., 2020
<i>Leptodeira polysticta</i>	<b>Amphibians</b>	
	<i>Smilisca baudinii</i>	Mendoza-Henao, 2011
<i>Leptodeira ashmeadii</i>	<b>Amphibians</b>	
	<i>Rhinella humboldti</i>	This study
	<i>Boana pugnax</i>	This study
	<i>Phyllomedusa venusta</i>	This study
	<i>Trachycephalus typhonius</i>	Manzanilla et al., 1998
	<i>Pleurodema brachyops</i>	This study
	<b>Lizards</b>	
	<i>Gonatodes albogularis</i>	This study
	<i>Phyllodactylus ventralis</i>	Ugueto & Rivas. 2006
	<i>Hemidactylus frenatus</i>	This study
<i>Leptodeira uribei</i>	<b>Amphibians</b>	
	<i>Tripurion spatulatus</i>	Torres-Pérez-Coeto et al., 2018
	<i>Incilius marmoratus</i>	Torres-Pérez-Coeto et al., 2018
	<b>Lizards</b>	
	<i>Anolis nebulosus</i>	Nieto-Toscano & Martínez-Coronel, 2021

are the second most diverse dietary items (represented by four and two families, respectively), both with six species reported in the diet of four *Leptodeira* species. Finally, as the least recorded items are fish, represented by four prey belonging to the family (Heptapteridae), one of them remaining unidentified (Table 1).

Most species of the genus *Leptodeira* are not strictly batracophagous. However, the high proportion and diversity of anuran prey reported in their diet, added to the fact that several anuran species can produce toxic skin secretions (Almeida et al., 2019; Dupont, 2020), suggests that there may be a high

level of dietary specialization among several species within the genus, but they are mainly generalist snakes. On the other hand, *Leptodeira* species likely consume more species of fish, salamanders, and snakes than have been reported. But the low number of studies on the trophic ecology of these snakes makes it difficult to precisely determine the true extent of prey diversity within the genus. In some cases, prey was only identified to genus level due to the status of preservation of the specimen.

Some studies suggest that snakes may change their dietary preferences depending on food availability, which could result





in them feeding more on anurans during the rainy season and switching to lizards or other more common groups during the dry season (Roberto & Ramos, 2020). However, this hypothesis has not been tested. This requires more natural history data to assess the total diversity of prey consumed by snakes of the genus *Leptodeira* and to test whether dietary preference could be related to developmental stages, or restricted by environmental variables such as seasonality and changes in food availability, and/or behavioral factors such as hours of activity.

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## CITED LITERATURE

- Abarca, J.G., E. Hidalgo-Mora, R. Ramírez-Campos & A. Valverde-Castillo. 2021. Predation of a Legler's Stream Frog, *Duellmanohyla legleri* (Anura: Hylidae), by an Ornate Cat-eyed Snake, *Leptodeira* cf. *ornata* (Squamata: Dipsadidae). *Reptiles & Amphibians* 28:218-219.
- Ali, Z. & H. Ali. 2022. A Cat-eyed Snake (*Leptodeira* aff. *ornata*) Preying on a Wood-colored Salamander (*Bolitoglossa lignicolor*). *Reptiles & Amphibians* 29:294-295.
- Almeida, D., J.C., Dietz, B.F. Rodrigues de Oliveira, J.D. Gonçalves, M.R. Magalhães & R.S.A. Jesuíno. 2019. Antibacterial activity of the skin secretion of *Phyllomedusa azurea* (Anura: Hylidae) from the Central Brazil Cerrado. *Revista de Biología Tropical* 67:1-10.
- Arias, E., G. Chaves, A. García-Rodríguez & M.J. Ryan. 2015. Predation of *Rhaebo haematiticus* (Anura: Bufonidae) by *Leptodeira septentrionalis* (Serpentes: Dipsadidae) in Costa Rica. *Mesoamerican Herpetology* 2:563-566.
- Arrivillaga, C., J. Oakley & M. Huang. 2019. *Leptodeira annulata* (Banded Cat-Eyed Snake). *Diet. Herpetological Review* 50:802-803.
- Arroyo-Trejos, I. & J.M. Mora. 2016. Internal organ ingestion as an alternative feeding behavior for the Northern Cat-eyed Snake (*Leptodeira septentrionalis*). *Mesoamerican Herpetology* 3:153-156.
- Barrio-Amorós, C.L. 2006. A new species of *Phyllomedusa* (Anura: Hylidae: Phyllomedusinae) from northwestern Venezuela. *Zootaxa* 1309:55-68.
- Barrio-Amorós, C.L. 2010. Gonatodes, los geckos diurnos de Venezuela. *Rio Verde* 3:43-50.
- Barrio-Amorós, C.L. 2019. On the taxonomy of snakes in the genus *Leptodeira*, with an emphasis on Costa Rican species. *Reptiles & Amphibians* 26:1-15.
- Beebe, W. 1946. Field notes on the snakes of Kartabo, British Guiana, and Caripito, Venezuela. *Zoologica* 31:11-2.
- Bello-Sánchez, E.A., A. González, R.L. Nochebuena & J.E. Morales. 2018. *Leptodeira septentrionalis* (Northern Cat-eyed Snake). *Diet. Herpetological Review* 49:756.
- Brown, T.W. 2020. The Northern cat-eyed snake *Leptodeira septentrionalis* (Squamata; Colubridae): hunting and feeding strategy on red-eyed tree frog *Agalychnis callidryas* (Anura: Hylidae) in Belize. *Captive & Field Herpetology* 4:1-3.
- Cabrera-Guzmán, E., F. Carmona-Torres & V.H. Reynoso. 2009. *Leptodeira septentrionalis* (Cat-eyed snake). *Diet. Herpetological Review* 40:99.
- Campbell, J.A. & W.W. Lamar. 2007. *The Venomous Reptiles of the Western Hemisphere*. Cornell University Press. Ithaca, New York, USA.
- Campos, V., M.M. dos Santos & C. Strüssmann. 2011. *Osteocephalus taurinus* (Manaus slender-legged treefrog). *Predation. Herpetological Review* 42:412.
- Cantor, M. & L. Pizzatto. 2008. Natural history notes: *Leptodeira annulata* (Banded Cat-eyed Snake). *Diet. Herpetological Review* 39:470-471.
- Carvalho, V.T., L. Bonora & R.C. Vogt. 2007. Natural history notes: *Leptodeira annulata* (Banded cat-eyed snake). *Diet. Herpetological Review* 38:89.
- Céspedes V. & J.G. Abarca. 2014. Nature notes: *Leptodeira rhombifera*. *Diet. Mesoamerican Herpetology* 1:288-289.
- Céspedes, J., J. Astorga, J. Sánchez & J. Obando. 2018. Predation of *Rhinophrynus dorsalis* (Duméril and Bibron, 1841) (Anura: Rhinophrynidae) by *Leptodeira rhombifera* (Günther, 1872)



- (Serpentes: Dipsadidae), in Guanacaste, Costa Rica. Herpetology Notes 11:959-960.
- Cortés-Ortiz, B., E.A. Aguilar-Herrera & V.H. Jiménez-Arcos. 2022. Predation on *Leptodeira polysticta* (Dipsadidae) by *Tiltocatl kahlenbergi* (Theraphosidae) in the tropical forest of Los Tuxtlas, Veracruz. *Revista Latinoamericana de Herpetología* 5:98-100.
- Costa, J.C.L., R. Graboski, F.G. Grazziotin, H. Zaher, M.T. Rodrigues & A.L.C. Prudente. 2022. Reassessing the systematics of *Leptodeira* (Serpentes, Dipsadidae) with emphasis in the South American species. *Zoologica Scripta* 51:415-433.
- Costa, W.P. & F.S. de Andrade. 2020. Predation behaviour of *Leptodeira annulata* Linnaeus, 1758 (Serpentes: Dipsadidae) on *Physalaemus cuvieri* Fitzinger, 1826 (Anura, Leptodactylidae). *Herpetology Notes* 13:457-459.
- Crawford, A.J. 2007. Natural history notes: *Chiasmocleis panamensis* (Panama Humming Frog). Predation. *Herpetological Review* 38:181.
- Cruz-Sáenz, D., S. Guerrero-Vázquez, A. Camacho-Rodríguez & D. Lazcano. 2010. *Leptodeira maculata* (Southwestern Cat-eyed Snake). Diet. *Herpetological Review* 41:366.
- Dehling, D.M. 2009. *Leptodeira septentrionalis*. Prey. *Herpetological Review* 40:356.
- Dos Santos, W.F.S., M. Dubeux & N.R. da Silva. 2018. Natural history notes: *Pristimantis ramagii* (Leaf-litter Frog). Predation. *Herpetological Review* 49:99-100.
- Dougherty, R.P. & A.K. Lisondro. 2023. Predation of the anurans *Agalychnis callidryas*, *Boana rosenbergi*, and *Engystomops pustulosus* by the snakes *Leptodeira ornata* and *Leptodeira rhombifera* in an artificial pond. *Herpetology Notes* 16:507-516.
- Dueñas, M.R. & L. Báez. 2003. The Ringed Cat-Eye Snake *Leptodeira annulata* (Colubridae: Dipsadinae) as hunter and prey: a review of its diet in the upper Amazon River basin. *Revista Latinoamericana de Herpetología* 65:102-112.
- Duellman, W.E. 1978. The biology of an equatorial herpetofauna in Amazonian Ecuador. University of Kansas, Museum of Natural History, Miscellaneous publication 65:1-352.
- Duellman, W.E. 2005. Cusco Amazónico, The Lives of Amphibians and Reptiles in an Amazonian Rainforest. Comstock Publishing Associates, Cornell University, New York, USA.
- Duport, A.S. 2020. Sapo común, sapo argentino, sapo grande *Rhinella arenarum*. *Universo Tucumano* 58:1-20.
- Engeman, R.M. & C. Engeman. 2015. *Leptodeira septentrionalis* (Northern Cat-eyed Snake). Diet and predation. *Herpetological Review* 46:104-105.
- Entiauspe-Neto, O.M., A.M. Rocha & D. Loebmann. 2016. First record of ophiophagy in *Erythrolamprus poecilogyrus* (Wied, 1825) (Serpentes: Dipsadidae). *Herpetologia Brasileira* 5:61-62.
- Falkenberg, L.M., A.S. Protazio, R.L. Albuquerque & D. Oliveira-Mesquita. 2013. Predation of *Phyllomedusa nordestina* (Anura: Hylidae) by *Leptodeira annulata* (Serpente: Dipsadidae) in a temporary pond. *Herpetology Notes* 7:97-98.
- Ferraz, D., W.P. Ramalho & M. Sousa-Andrade. 2018. Natural history notes: *Rhinella mirandaribeiroi*. Predation. *Herpetological Review* 49:520.
- Galvis-Peñuela, P.A., A. Mejía-Tobón & J.V. Rueda-Almonacid. 2011. Fauna silvestre de la Reserva Forestal Protectora Montes de Oca, La Guajira, Colombia. *Corpogujira*, La Guajira, Colombia.
- García-Mata, E.S., D. Cruz-Sáenz, J.A. Carlos-Gomez, B. Navarro-Velázquez, D. Lazcano & L.D. Wilson. 2017. Notes on the Herpetofauna of Western Mexico 17: Predation on *Rhinella horribilis* (Linnaeus, 1758) by two species, *Leptodeira maculata* (Hallowell, 1861) and *Caracara cheriway* (Jacquin, 1784), in the municipality of Cuauhtémoc, Colima, Mexico. *Bulletin of the Chicago Herpetological Society* 52:139-145.
- Graham, S.P. & C. Kelehear. 2017. Natural history notes: *Leptodeira annulata* (Banded Cat-eyed Snake). Diet. *Herpetological Review* 48:675-676.
- Hagman, M. & R. Schulte. 2007. Natural history notes: *Leptodeira annulata* (Banded Cat-eyed Snake). Prey. *Herpetological Review* 38:90.
- Hernández-Palma, T.L., Rueda-Solano, L.A., Valkonen, J.K. & Rojas, B. 2023. Predator response to the coloured eyespots and defensive posture of Colombian four-eyed frogs. *Journal of Evolutionary Biology* 2023:1040-1049.



- Huerta-García, E., V.C. Rosas-Espinoza, A.L. Santiago-Pérez, A.A. Godoy-González, J. Arreola-Aguirre & A. Ayón-Escobedo. 2015. Predation of *Lithobates psilonota* (Anura: Ranidae) by *Leptodeira splendida* (Squamata: Colubridae) in streams of the natural protected area Sierra de Quila, Jalisco, Mexico. *Acta Zoológica Mexicana (nueva serie)* 31:324-326.
- Hudson A.A., N.R. Honório & B.M. Bernardette. 2019. *Leptodeira annulata* (Banded Cat-eyed Snake). Diet and reproduction. *Herpetological Review* 50:160-161.
- Kaiser, K. 2010. Natural history notes: *Agalychnis moreletii* (Morelet's Frog). Predation. *Herpetological Review* 41:331.
- Knight, J.L. 2016. Natural history notes: *Leptodeira rhombifera* (Common Cat-eyed Snake). Neonate diet / scavenging. *Herpetological Review* 47:313-314.
- Lantyer-Silva, A.S.F., S. Siqueira & J. Zina. 2012. Natural history notes: *Hypsiboas crepitans* (Rattle-voiced Treefrog). Predation. *Herpetological Review* 43:121
- Lynch, J.D. & A.M. Suárez-Mayorga. 2001. The distributions of the Gladiator frogs (*Hyla boans* group) in Colombia, with comments on size variation and sympatry. *Caldasia* 23:491-507
- Maitland, D.P. 2003. Predation on Snakes by the Freshwater Land Crab *Eudaniela garmani*. *Journal of Crustacean Biology* 23:241-246.
- Manzanilla, J., E. La Marca, O. Villarreal & D. Sánchez. 1998. *Phrynohyas venulosa* (Veined Treefrog, "Rana lechosa"). Antipredator device. *Herpetological Review* 29:39-40.
- Martins, M. & M.E. Oliveira. 1998. Natural history of snakes in forests of the Manaus region, Central Amazonia, Brazil. *Herpetological Natural History* 6:78-150.
- Mata-Silva, V., J.D. Johnson & A. Ramírez-Bautista. 2012. *Leptodeira maculata* (Southwestern Cat-eyed Snake). Diet. *Herpetological Review* 43:660.
- McKelvy, A.D., A. Figureoa & T.R. Lewis. 2013. First record of ophiophagy in the widely distributed snake *Leptodeira septentrionalis* (Kennicott, 1859) (Ophidia, Colubridae). *Herpetology Notes* 6:177-178.
- Mendoza-Henao, A. 2011. Distress call of *Smilisca baudinii* (Hylidae) during predation by *Leptodeira polysticta* (dipsadidae) in Chiapas, México. *Revista Latinoamericana de Herpetología* 4:161-164.
- Montalbán H., C.A., E.E. Neri C. & S. Aréchaga O. 2010. *Leptodeira cussiliris* (Duellman's Cat-eyed Snake). Diet, Cannibalism. *Herpetological Review* 41:237.
- Mora, J.M. 1999. Natural history notes: *Leptodeira annulata* (Culebra Destenida, Banded Cat-eyed Snake). Diet. *Herpetological Review* 30:102.
- Mora, J.M., J. Ramírez-Alvarado, J. Alpízar-Rodríguez, A. Rodríguez-Picado, S. Gallo-Gutiérrez & L.J. Alfaro-Rodríguez. 2020. Predation by a Black-banded Cat-eyed Snake, *Leptodeira nigrofasciata* Günther 1868 (Squamata: Dipsadidae) on a Yellow-bellied Gecko, *Phyllodactylus tuberculatus* Wiegmann 1834 (Squamata: Phyllodactylidae) in Northwestern Costa Rica. *Reptiles & Amphibians* 27:96-97.
- Morais, D.H. & R.W. Avila. 2007. Natural history notes: *Bufo granulatus* (Granular Toad). Predation. *Herpetological Review* 38:180.
- Nascimento, B.T.M., M. Mejía, M. Ellis & F. Maffei. 2013. *Phyllomedusa* spp. (Anura, Hylidae): predation by *Leptodeira annulata* (Serpentes, Dipsadidae). *Herpetologia Brasileira* 2:20-23.
- Nieto-Toscano, L.F. & M. Martínez-Coronel. 2021. Notes on the Natural History and Distribution of Uribe's Cat-eyed Snake, *Leptodeira uribei* (Dipsadidae). *Reptiles & Amphibians* 28:298-299.
- Núñez E., R. & D. Garro. 2020. Predation of a Plantation Glassfrog, *Hyalinobatrachium colymbiphylum* (Anura: Centrolenidae), by an Ornate Cat-eyed Snake, *Leptodeira ornata* (Squamata: Dipsadidae), in Costa Rica. *Reptiles & Amphibians* 27:489-490.
- Núñez E., R., C. Alvarado A. & A. Alvarado. 2021. Second Report of Ophiophagy in a Cat-eyed Snake (*Leptodeira* sp.) in Costa Rica. *Reptiles & Amphibians* 28:102-103.
- Oliva, M.V., R.M. Jones, K. Kaiser, M. Alloush, S. Marczak, and K.S. Martineau. 2010. *Dendropsophus microcephalus* (Yellow Treefrog). Predation. *Herpetological Review* 41:195.
- Ortega-Andrade, H.M., C. Tobar-Suárez & M. Arellano. 2011. Tamaño poblacional, uso del hábitat y relaciones interespecíficas de *Agalychnis spurrelli* (Anura: Hylidae) en un bosque húmedo



- tropical remanente del noroccidente de Ecuador. Papeis Avulsos de Zoologia 51:1-19.
- Palacios-Aguilar, R., B.O. Butler, B. Cortés-Ortíz & R. Santos-Bibiano. 2020. *Leptodeira maculata* (Southwestern Cat-eyed Snake). Diet/Ophiophagy. Herpetological Review 51:621-622.
- Pereyra, M.O., B.L. Blotto, D. Baldo, J.C. Chaparro, S.R. Ron, A.J. Elias-Costa, P.P. Iglesias, P.J. Venegas, M.T.C. Thomé, J.J. Ospina-Sarria, N.M. Maciel, M. Rada, F. Kolenc, C. Borteiro, M. Rivera-Correa, F.J.M. Rojas-Runjaic, J. Moravec, I. de la Riva, W.C. Wheeler, S. Castroviejo-Fisher, T. Grant, C.F.B. Haddad & J. Faivovich. 2021. Evolution in the genus *Rhinella*: a total evidence phylogenetic analysis of neotropical true toads (Anura: Bufonidae). Bulletin of the American Museum of Natural History 447:1-156.
- Renjifo, J.M. & M. Lundberg. 1999. Anfíbios y reptiles de Urrá. Editorial Colina, Medellín, Colombia.
- Roberto, I.J. & A. Ramos S. 2020. Review of prey items recorded for snakes of the genus *Chironius* (Squamata, Colubridae), including the first record of *Osteocephalus* as prey. Herpetology Notes 13:1-5.
- Rodríguez, C., I. Recchio, D. Lazcano, C. Martínez-Sánchez & B. Baldwin. 2011. Natural history notes: *Leptodeira punctata* (Western Cat-eyed Snake). Diet. Herpetological Review 42:616
- Rojas-Carranza, A.H. & N. Anderson. 2023. Predation by the Common Cat-eyed Snake, *Leptodeira rhombifera* Günther, 1872, on the Pale Catfish in Costa Rica. Herpetology Notes 16:561-563.
- Russell, M.J., M. Maple & A. Strieby. 1999. *Scinax Elaeochroa* (NCN). Attempted predation. Herpetological Review 30:38.
- Skehan, P.Jr., 1959. Ophiophagy in *Leptodeira*. Herpetologica 15:160.
- Sales, R.F.D., J.S. Jorge, M.N.C. Kokubum & E.M.X. Freire. 2013. Natural history notes: *Leptodeira annulata* (Banded Cat-eyed Snake). Diet. Herpetological Review 44:524.
- Savage, M.J. 2002. The Amphibians and Reptiles of Costa Rica. A Herpetofauna Between Two Continents, Between Two Seas. The University of Chicago Press, Chicago, Illinois, USA.
- Solís, J.M & M.F. Guerrero. 2016. Natural history notes: *Leptodeira rhombifera*. Diet. Herpetological Review 47:313.
- Solórzano, A. 2004. Serpientes de Costa Rica: Distribución, Taxonomía, e Historia Natural. Instituto Nacional de Biodiversidad, Santo Domingo de Heredia, Costa Rica.
- Thomassen, H., F. Leal & P.C. de Anchieta García. 2013. Natural history notes: *Leptodeira annulata* (Banded Cat-eyed Snake). Diet. Herpetological Review 44:692-693.
- Torres-Pérez-Coeto, J., J. Alvarado-Díaz & I. Suazo-Ortuño. 2018. Nature notes: *Leptodeira uribe* (Bautista and Smith, 1992). Diet. Mesoamerican Herpetology 5:167-169.
- Uetz, P., P. Freed, R. Aguilar, F. Reyes, J. Kudera & J. Hošek (Eds.). 2023. The Reptile Database. <http://www.reptile-database.org>, [Accessed on December 2023]
- Ugueto, G. & G. Rivas. 2006. *Phyllodactylus ventralis* (Venezuelan Leaf-toed Gecko). Ecology; Predation. Herpetological Review 37:226-227.
- Van Buurt, G. & H. Dilrosun. 2017. Predation by an Amazonian Giant Centipede (*Scolopendra gigantea*) on a Baker's Cat-eyed Snake (*Leptodeira bakeri*). Reptiles & Amphibians 24:127.
- Vargas-Salinas, F. & A. Aponte-Gutierrez. 2013. A race for survivorship: failed predation on the toad *Rhinella humboldti* (Gallardo, 1965) by the Cat-eyed snake *Leptodeira septentrionalis* (Kennicott, 1859). Herpetology Notes 6:189-191.
- Vrcibradic, D., C. da Costa Siqueira, C.F.D. Rocha, M. van Sluys & J.A.L. Pontes. 2007. Natural history notes: *Leptodeira annulata* (Banded Cat-eyed Snake). Size, reproduction, and prey. Herpetological Review 38:89-90.



## APPENDICES

**Apéndice 1.** Depredación de *Gonatodes albagularis* por *Leptodeira ashmeadii*.

**Appendix 1.** Predation on *Gonatodes albagularis* by *Leptodeira ashmeadii*.

<https://youtube.com/shorts/aqWSPw06xel?feature=share>

**Apéndice 2.** Depredación de *Baana pugnax* por *Leptodeira ashmeadii*.

**Appendix 2.** Predation on Banana frog *Baana pugnax* by *Leptodeira ashmeadii*.

<https://youtube.com/shorts/RENzrhCcVky>

