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Short Communication

New prey records for the Atlantic Central American Milksnake *Lampropeltis polyzona* (Serpentes: Colubridae)

Víctor Vásquez-Cruz

PIMVS Herpetario Palancoatl. Avenida 19 número 5525, Colonia Nueva Esperanza, C.P. 94540, Córdoba, Veracruz, México. E-mail: victorbiolvc@gmail.com.

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The Atlantic Central American Milksnake (also known as the Mexican false coral snake), *Lampropeltis polyzona* Cope, 1860*,* is a New World taxon with a complicated taxonomic history. Formerly, it was considered a subspecies of the widespread and polytypic *Lampropeltis triangulum* (Lacépède, 1789), but recent phylogenetic analyses by Ruane *et al*. (2014) and Chambers and Hillis (2020) indicate that the taxon likely warrants species-level recognition. Although these two works differ in the geographic ranges they ascribe to *L. polyzona,* both indicate that the snake ranges widely along both the Pacific and Atlantic coasts of Mexico, from southern Sonora and northern Veracruz south to at least northern Guerrero and northern Oaxaca. Across this range, *L. polyzona* occurs in a wide array of vegetation types including spiny subtropical forest, seasonal evergreen forest, cloud forest, pine-oak forest and tropical deciduous forest (Heimes 2016, Uetz *et al*. 2019). The recent species-level recognition of *L. polyzona* merits an update of the food items known to compose the diet of this snake. Herein I report seven new prey items in wild-caught *L. polyzona* from central Veracruz, Mexico; these data were obtained through fieldwork and dissection of museum specimens. I also provide an updated list of the diet items recorded in the literature for this species. My observations reveal the first cases of ophiophagy in *L. polyzona* and demonstrate an interesting food web linkage involving the non-native lizard *Anolis sagrei*.

During fieldwork across central Veracruz from 2014–2019, I opportunistically gathered dietary data from six *Lampropeltis polyzona*. In each case, I deposited either a specimen voucher at the Colección Herpetológica del Museo de Zoología "Alfonso L. Herrera," Facultad de Ciencias, Universidad Nacional Autónoma de México (MZFC-HE), or a digital photographic voucher at the Natural History Museum of Los Angeles County (LACM PC). Additionally, I dissected and gathered dietary data from a

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preserved specimen of *L. polyzona* in the collection of the Instituto Tecnológico Superior de Zongolica (ITSZ-R). Subsequently, I compiled a database of prey items of *L. polyzona* based on an exhaustive literature review and included only those records that mentioned at least the genus of the prey (Table 1). Each previously unpublished dietary record of *L. polyzona* is detailed below.

On 21 August 2014 at approximately 20:00 h, in the Colonia Agrícola Rincón de las Flores (18°42'48.79" N, 96°51'6.75" W; WGS 84; 1,259 m a.s.l.), municipality of Tezonapa, I salvaged a dead juvenile *Lampropeltis polyzona* (MZFC-HE 34402) that contained a partially digested adult *Scincella* sp. (Figure 1A). On 04 September 2015 at approximately 10:00 h, in a mixed coffee plantation at the same locality, I salvaged a dead adult *L. polyzona* (MZFC-HE 34403) that contained a partially digested adult *Sceloporus variabilis* Wiegmann, 1834 (Figure 1B).

On 14 April 2016 at approximately 20:00 h in the tourist center of Rancho Fermín (18°54'6.45" N, 96°48'16.42" W; WGS 84; 590 m a.s.l.), municipality of Atoyac, I observed and photographed an adult *L. polyzona* eating an adult *Coniophanes fissidens* (Günther, 1858) (Figure 1C) in a shade-grown coffee plantation.

On 17 June 2017 at approximately 02:02 h near Los Túneles Ferroviarios, 1 airline km NW of Atoyac (18°55'13.15" N, 96°46'12.79" W; WGS 84; 489 m a.s.l.), municipality of Atoyac, I captured and subsequently released an adult male *Lampropeltis polyzona* [snout–vent length (SVL) 850 mm, tail length (TL) 100 mm] in an area planted with palm (*Chamaedorea* sp.) and mango trees (*Mangifera indica* L.). Prior to release, this snake regurgitated a juvenile *Leptodeira septentrionalis* (Kennicott, 1859) (Figure 1D), which given its good condition, probably had been ingested only a few hours earlier.

On 23 May 2017 at approximately 18:00 h in a greenhouse in an industrial area on the outskirts of the town of Yanga (18°50'10.78" N, 96°48'25.27" W; WGS 84; 540 m a.s.l.), municipality of Yanga, Veracruz, I observed a juvenile *Lampropeltis polyzona* feeding on a sub-adult male *Anolis sagrei* Duméril and Bibron, 1837 (Figure 1E). I did not observe the capture of the *Anolis*.

On 09 December 2019 at approximately 10:00 h in a small area of secondary vegetation 2 km NW of Coatepec (19°27'32.0" N, 96°56'39.0" W; WGS 84; 1,179 m a.s.l.), municipality of Coatepec, I found a dead adult *Lampropeltis polyzona* (LACM PC 2495: SVL 700 mm, TL 83 mm) that contained a *Sceloporus variabilis* tail and a reptile eggshell in its stomach (Figure 1F).

In the ITSZ-R collection, I examined four preserved specimens of *Lampropeltis polyzona;* only one (ITSZ-R-109, male, SVL 1056 mm) contained identifiable stomach contents. These consisted of hair and a lower mandible from a *Mus musculus* (Linnaeus, 1758) (Figure 1G).

In total I recorded seven novel prey items, adding to the 13 prey items for *Lampropeltis polyzona* previously recorded in the literature. The composition of the updated diet of this species is, as follows: 9 (45%) of the 20 types of prey items consumed are lizards; 4 (20%) are mammals; 3 (15%) are reptile eggs; 2 (10%) are snakes; and 2 (10%) are birds (Table 1). Authors of previous reports stated that the diet of *L. polyzona* is mostly composed of small mammals (e.g., Heimes 2016, Rorabaugh and Lemos-Espinal 2016), but this expanded dataset (although small) suggests that the snake feeds primarily on reptiles (55%), occasionally on mammals (20%) and rarely on birds and reptile eggs (25%). Although the genus *Lampropeltis* is known to be ophiophagous (e.g., Fitch and Fleet 1970, Ernst and Ernst 2003, Cotten *et al*. 2008), there were no reported cases of snake predation by *L. polyzona* until the present study. The lizard *Anolis sagrei* is considered a non-native, invasive species in Veracruz, Mexico, and has become widely established worldwide. The ecological impact of introduced *A. sagrei* is usually considered negative (e.g., Delaney *et al*. 2014, Thawley *et al*. 2019), but my data suggest that *A. sagrei* represents a potentially common and valuable food resource for *L. polyzona* in the vicinity of Yanga, Veracruz.

Figure 1. (**A**) Remains of a *Scincella* sp. from the stomach of MZFC 34402. (**B**) Remains of *Sceloporus variabilis* from the stomach of MZFC 34403. (**C**) Adult *Lampropeltis polyzona* preying on an adult *Coniophanes fissidens*. (**D**) Adult male *L. polyzona* with a recently regurgitated juvenile *Leptodeira septentrionalis*. (**E**) Juvenile *L. polyzona* feeding on a subadult male *Anolis sagrei*. (**F**) Tail of *Sceloporus variabilis* and reptile eggshell from the stomach of LACM PC 2495. (**G**) Lower jaw of *Mus musculus* from the stomach of ITSZ-R-109.

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Table 1. List of dietary items recorded for the Atlantic Central American Milksnake *Lampropeltis polyzona*.

Prey	Observation	State	Reference
IGUANIDAE			
Ctenosaura pectinata	*In situ* observation	Isla Isabel, Nayarit	Rodríguez and Drummond 2000
C. pectinata (eggs)	Dissection	Isla Isabel, Nayarit	Rodríguez and Drummond 2000
PHRYNOSOMATIDAE			
Sceloporus variabilis	Dissection	Veracruz	This study
Sceloporus sp.	Captive observation	Jalisco	Mitchell 1980
SCINCIDAE			
Plestiodon sp.	Captive observation	Jalisco	Mitchell 1980
Plestiodon sp.	—	Veracruz	Pérez-Higareda *et al*. 2007
Scincella sp.	Dissection	Veracruz	This study
DACTYLOIDAE			
Anolis sagrei	*In situ* observation	Veracruz	This study
TEIIDAE			
Aspidoscelis costata	*In situ* observation	Isla Isabel, Nayarit	Rodríguez and Drummond 2000
A. costata (eggs)	*In situ* observation	Isla Isabel, Nayarit	Rodríguez and Drummond 2000
Holcosus sp.	—	Veracruz	Pérez-Higareda *et al*. 2007
DIPSADIDAE			
Coniophanes fissidens	*In situ* observation	Veracruz	This study
Leptodeira septentrionalis	*In situ* observation	Veracruz	This study
Reptile egg shell	Dissection	Veracruz	This study
AVES: SULIDAE			
Sula leucogaster	*In situ* observation	Isla Isabel, Nayarit	Cohen 1988
Sula nebouxii	*In situ* observation	Isla Isabel, Nayarit	Rodríguez and Drummond 2000
MAMMALIA: SORICIDAE			
Cryptotis parva	*In situ* observation	Veracruz	Aguilar-López and Pineda 2013
Sorex saussurei	Dissection	Hidalgo	Mendoza-Quijano and Ruíz-Piña 1995
MAMMALIA: MURIDAE			
Reithrodontomys sp.	Dissection	Michoacán	Williams 1978
Mus musculus	Dissection	Veracruz	This study