

# Predation of the lizards *Ameivula nigrigula* (Arias et al., 2011) and *Iguana iguana* (Linnaeus, 1758) by Jaguarundi cats, *Herpailurus yagouaroundi* (Saint-Hilaire, 1803), in the Caatinga morphoclimatic domain, Brazil

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Predation is an important interspecific interaction that can influence the dynamics of the communities involved by modulating species' population density and distribution (Oliveira et al., 2025). Lizards occupy intermediate levels within trophic networks, acting alternately as both predators and prey. In this context, they serve as important food resources for a wide range of animal groups, including invertebrates, anurans, other reptiles, birds, and mammals (Leite et al., 2019; Oliveira et al., 2023).

*Ameivula nigrigula* (Arias et al., 2011) is a lizard species (Squamata: Teiidae) endemic to the Caatinga morphoclimatic domain and transitional zones between the Caatinga and Cerrado biome. It typically occurs along the right bank of the São Francisco River, in habitats characterised by sandy soils surrounding rocky outcrops, and is found at elevations above 400 metres (Arias et al., 2011; Pinto-Silva and Silva-Soares, 2018). Its conservation status is classified as 'Data Deficient' (Silveira et al. 2021).

*Iguana iguana* (Linnaeus, 1758) is an arboreal and herbivorous lizard species (Swanson, 1950), with

a geographic distribution extending from southern Mexico to central Brazil and Bolivia, including several Caribbean islands (Iguana Taxonomy Working Group, 2016)). In terms of conservation status, it is classified as 'Least Concern' (LC) (Bock et al., 2022).

The Jaguarundi, *Herpailurus yagouaroundi* (Saint-Hilaire, 1803; Fig. 1), is a medium-sized felid that exhibits a broad geographic distribution, ranging from southern Texas in the United States to the provinces of Buenos Aires and Río Negro in Argentina (Oliveira, 1998). There are several dietary records of *H. yagouaroundi* that include reptiles as prey (Olmos, 1993; Tófoli et al., 2009; Bianchi et al., 2011; Silva-Pereira et al., 2011; Dias and Bocchiglieri, 2015; Rinaldi et al., 2015; Migliorini et al., 2018; Alanis-Hernández et al., 2024), however, no records of predation on *A. nigrigula* or *I. iguana* have been reported to date.



**Figure 1.** Specimen of *Herpailurus yagouaroundi* from the municipality of Petrolina, state of Pernambuco, Brazil. Photo by Ellen Candida Ataíde-Gomes.

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Here, we document these two lizard species as prey of *Herpailurus yagouaroundi* and provide an updated predation overview for this predator.

Here, we report on the results of necropsies of two road-killed *H. yagouaroundi* specimens. The first specimen is an adult male (CEMAFAUNA – CTAX-3396), that was struck by a vehicle in the municipality of Juazeiro (40.4244°W, 9.4091°S), located within the Caatinga morphoclimatic domain in the state of Bahia, and was collected by the Instituto do Meio Ambiente e Recursos Hídricos do Estado da Bahia (INEMA). The second specimen is a young male (CEMAFAUNA – CTAX-3795) that originates from the municipality of São José de Piranhas (38.5492°W, 7.0405°S), in the Caatinga region of the state of Paraíba. This felid was sent to CEMAFAUNA on 5 April 2024 by private individuals shortly after being road-killed, where it was necropsied for helminthological studies. During the necropsies we

observed that both felids had preyed on lizards. Both animals were deposited in the scientific collection of the Centro de Conservação e Manejo de Fauna da Caatinga (CEMAFAUNA CAATINGA) at the Universidade Federal do Vale do São Francisco (UNIVASF). All data were registered in the Sistema Nacional de Gestão do Patrimônio Genético e do Conhecimento Tradicional Associado (SISGEN # A738D2A).

The stomach content of the adult male (CEMAFAUNA – CTAX-3396) included a relatively well-preserved specimen of *Ameivulla nigrigula* (snout-vent length of 90.9 mm) (Figs. 2A–C). Species identification was made possible by the presence of a moderately pointed snout, granules in the supraorbital semicircles (Fig. 2E), absence of tibiotarsal spurs, an enlarged scale behind the fourth subocular, five supraciliaries (Figs. 2D, E), ventral scales arranged in eight longitudinal rows (Fig. 2C), and a black spot in the gular and sublial regions



**Figure 2.** Lizards collected in the stomach contents of two Jaguarundi cats *Herpailurus yagouaroundi* in the Caatinga from Brazil. A–E; *Ameivulla nigrigula*. A; entire specimen in the stomach content, ventral view. B; entire specimen, dorsal view. C; entire specimen after fixation, ventral view. D; Anterior region, lateral view. E; Anterior region, dorsal view. F–J; *Iguana iguana*. F; body fragments. H; mid-dorsal region fragments with a crest. I; skin fragments bearing small, indistinct scales. J; fragments exhibiting femoral pores. Photos by Fabiano M. Vieira (A) and Gabriela Felix-Nascimento (B–J).

(Figs. 2A, C). This distinctive colouration constitutes the primary diagnostic character that differentiates *Ameivula nigrigula* from its congeners (see Arias et al., 2011; Oliveira et al., 2022).

The stomach content of the young male (CEMAFAUNA – CTAX-3795) included fragments of skin, muscle, and bone of *Iguana iguana* (Figs. 2F–J). Despite the advanced stage of digestion, the remains were identified as *I. iguana*, based on criteria described by Vanzolini et al. (1980), including the light green colouration (Figs. 2F, I) which is a characteristic of juvenile *I. iguana*; fragments exhibiting femoral pores (Fig. 2J); others with large, triangular scales from the

mid-dorsal region forming a crest (Fig. 2H); and most skin fragments bearing small, indistinct scales (Fig. 2I).

We conducted a literature review to investigate previous records of the diet of *H. yagouaroundi* in May 2025 using the databases Web of Science, ScienceDirect, Scopus, Scientific Electronic Library Online (SciELO), Google Scholar, and Medline (PubMed), with the following keywords: *Ameivula nigrigula*, *Iguana iguana*, *Herpailurus yagouaroundi*, *Puma yagouaroundi*, yagouaroundi, jaguarundi, diet, predation, predator, prey item, prey, Teiidae, and Iguanidae. This showed that reptilian prey items have been recorded from areas in Brazil and Mexico (Table

**Table 1.** Reptiles preyed on by jaguarundi cats, *Herpailurus yagouaroundi*.

Prey item	States (biomes) and countries	References
<b>SQUAMATA</b>		
Unidentified lizard	Espírito Santo (Atlantic Forest), Brazil	Bianchi et al. (2011)
Unidentified snake	Espírito Santo (Atlantic Forest), Brazil	Rinaldi et al. (2015)
Unidentified	Espírito Santo (Atlantic Forest), Brazil	Bianchi et al. (2011)
	Rio Grande do Sul (Atlantic Forest), Brazil	Kasper et al. (2016)
	Jalisco, Mexico	Guerrero et al. (2002)
<b>Tropiduridae</b>		
<i>Tropidurus hispidus</i>	Sergipe (Caatinga), Brazil	Dias and Bocchiglieri (2015)
<i>Tropidurus</i> sp.	Paraná (Atlantic Forest), Brazil	Silva-Pereira et al. (2011)
<b>Colubridae</b>		
<i>Dryophylax hypoconia</i>	Southern region of Brazil (Pampa), Brazil	Migliorini et al. (2018)
<i>Drymobius margaritiferus</i>	Hidalgo, Mexico	Alanis-Hernández et al. (2024)
<i>Mesotes strigatus</i>	Southern region of Brazil (Pampa), Brazil	Migliorini et al. (2018)
Unidentified	São Paulo (Atlantic Forest), Brazil	Tófoli et al. (2009)
	Hidalgo, Mexico	Alanis-Hernández et al. (2024)
	Jalisco, Mexico	Guerrero et al. (2002)
<b>Diploglossidae</b>		
<i>Ophiodes</i> sp.	Southern region of Brazil (Pampa), Brazil	Migliorini et al. (2018)
<b>Iguanidae</b>		
<i>Iguana iguana</i>	Paraíba (Caatinga), Brazil	Present study
<i>Ctenosaura pectinata</i>	Jalisco, Mexico	Guerrero et al. (2002)
<b>Teiidae</b>		
<i>Ameivula nigrigula</i>	Bahia (Caatinga), Brazil	Present study
<i>Salvator merianae</i>	Southern region of Brazil (Pampa), Brazil	Migliorini et al. (2018)
<i>Salvator</i> sp.	São Paulo (Atlantic Forest), Brazil	Tófoli et al. (2009)
Unidentified	Piauí (Caatinga), Brazil	Olmos (1993)
<b>Phrynosomatidae</b>		
<i>Sceloporus</i> sp.	Hidalgo, Mexico	Alanis-Hernández et al. (2024)
<b>Crotalinae</b>		
Unidentified	São Paulo (Atlantic Forest), Brazil	Tófoli et al. (2009)

1), but these do not include *A. nigrigula* and *I. iguana*. All previous Brazilian records of lizard food items refer to members of the families Diploglossidae, Teiidae, and Tropicuridae, from the Pampa, Atlantic Forest, and Caatinga biomes (Table 1), with the majority from regions within the Atlantic Forest. In the Caatinga biome, up to the present study, lizard records are limited to *Tropidurus hispidus* (Spix, 1825) in the state of Sergipe (Dias and Bocchiglieri, 2015), and to an unidentified tropidurid specimen in the state of Piauí (Olmos, 1993).

Among the predators previously recorded for *A. nigrigula* are the snake *Pseudoboa nigra* (Duméril et al., 1854) in the state of Pernambuco (Oliveira et al., 2023) and the arachnid *Lasiadora* sp. (Leite et al., 2019). Predation records of *I. iguana* include predatory species of reptiles, birds, mammals, and even a single amphibian (van den Burg and Kaiser, 2026). Among wild felid species, predation on this lizard has been documented for *Leopardus pardalis* (Linnaeus, 1758), *Panthera onca* (Linnaeus, 1758), and *Puma concolor* (Linnaeus, 1771) (Chinchilla, 1997; Rivas et al., 1998; Loc-Barragán, 2017). Thus, this study provides the first documented evidence of predation on *A. nigrigula* and *I. iguana* by *H. yagouarundi*, thereby contributing novel insights into the trophic interactions involving these species and significantly advancing our understanding of their natural history in the Caatinga morphoclimatic domain.

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