WILD FAUNA PRESENT IN THE URBAN RIVERSIDE LANDSCAPE DURING THE DYNAMICS OF THE RISE OF THE WATERS OF THE JARI RIVER-AP[1]

FAUNA SILVESTRE PRESENTE NA PAISAGEM RIBEIRINHA URBANA DURANTE A DINÂMICA DA SUBIDA DAS ÁGUAS DO RIO JARI-AP

FAUNA SILVESTRE PRESENTE EN EL PAISAJE RIBEREÑO URBANO DURANTE LA DINÁMICA DEL AUMENTO DEL NIVEL DEL AGUA DEL RÍO JARI–AP

FAUNE SAUVAGE PRÉSENTE DANS LE PAYSAGE RIVERAINE URBAIN LORS DE LA DYNAMIQUE DE LA MONTÉE DES EAUX DU FLEUVE JARI–AP

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Introduction

Climate extremes are acutely felt within the Amazon rainforest. During periods of water level rise beyond expectations, such as the one that occurred between February and June of 2022, both dangerous and non-dangerous species inhabiting protected areas are brought closer to urban areas. To identify perceptual indicators, the umbrella project "Vozes do Rio Jari" (Caramello; Kruger, 2023) was established and approved by the Ethics Committee. This project includes a sub-project, which became the subject of study with a scholarship for the first author and resulted in the completion of their final undergraduate project for the Environmental Management Technology program at the Federal Institute of Amapá, Laranjal do Jari campus, defended in December 2023. The motivation to investigate the presence of wildlife and its impact on affected communities, as well as on the animals themselves, arises from the need to understand how respondents feel threatened, the real risks, and what actions would be necessary to mitigate the impact on animals seeking shelter in homes as they are brought by the rising waters, simultaneously causing fear among the residents.

Due to the location of Laranjal do Jari in Amapá, near the Jari River and within the most preserved municipality in the state and the Amazon, interaction between the population and wildlife is a common occurrence, especially in low-altitude areas, which are directly influenced by the waters of the Jari River and the native forest. However, the variety and frequency of species interactions are more intense during the winter, due to the high amount of rainfall. During this period, the waters of the Jari River tend to rise above their normal level, potentially exceeding 43.0039 meters as observed in 2022, compared to a normal level of around 2.89 meters according to Aleixo and Lima (2023) during project monitoring.

With this rise in water level, surrounding areas are flooded, causing terrestrial wild animals to enter the city in search of shelter and food. Conversely, aquatic species see their habitat expanded to include all flooded regions. This scenario is not limited to Laranjal do Jari, as the interaction between residents and wildlife is common throughout the Amazon region.

Furthermore, among the animals that enter urban areas in the Amazon, snakes are the most common (Ferreira *et al.*, 2023). According to Costa (2021), there are over 400 species of snakes in Brazil, but only about 50 to 60 of them are venomous. However, within this biome, encounters with these venomous animals are more common. Costa (2021) also notes that, according to Dr. Maria Ermelinda Oliveira, a professor at the Federal University of Amazonas (UFAM), most encounters between humans and snakes in urban areas involve species such as Jararaca, Boa Constrictor and Anaconda. These snakes enter urban areas in search of rodents for food, particularly during the rainy season when food availability increases and it is their reproductive period.

Thus, considering the impacts of climate change cannot be limited to human issues but must also include the socio-biodiversity of the Amazon, which encompasses all forms of life within it. This includes zoogeography, which is rarely reported on, highlighting

how species are affected and the factors bringing them into urban areas during extreme rainy periods, justifying the present study.

Development

The Chico Mendes Institute for Biodiversity Conservation (ICMBIO, 2021) reports that the Amazon spans almost 49.30% of Brazilian territory and extends into eight other countries (Bolivia, Colombia, Ecuador, Paraguay, Peru, Venezuela, French Guiana, and Suriname). It houses the Amazon Rainforest, known as "the largest tropical forest in the world," covering an area of over 5 million km² and containing one of the world's greatest biodiversities.

Due to its vast territory, the forest does not feature just one type of vegetation. According to Sousa (2023), the flora is classified into three groups: terra firme forest, igapó forest, and várzea forest. These groups are distributed among the hydrographic basins that also contribute to its rich aquatic network.

The Jari River basin is located in Amapá and serves as a source of livelihood for many families living in its vicinity and along its direct influence areas (riverbanks). It also acts as a territorial boundary between the states of Amapá and Pará. Its tributaries include the Iratapuru, Iratapina, Noucouro, Mapiri, Cuc, Culari, Curapi, Ximim-Ximim, and Mapaoni rivers, and it discharges into the Amazon River (Rio, 2022).

This basin covers an estimated 950 km, originating in the Tumucumaque Mountains, and its course flows through three Indigenous Lands (Waiãpi, Paru d'Este, and Tumucumaque Park). Additionally, it passes through several Conservation Units (CUs) designated for full protection and sustainable use, with its watersheds bordering Suriname and French Guiana. Consequently, the basin experiences minimal human impact, except in the southern area where it traverses several municipalities, including Laranjal do Jari (Amapá), the Monte Dourado district (Pará), and Vitória do Jari (Amapá), among others (Oliveira; Cunha, 2017 *apud* Silveira, 2014).

Laranjal do Jari is situated on the left bank of the Jari River. The city began to develop in an unplanned manner in the 1960s, triggered by the arrival of Companhia Jari Florestal e Agropecuária Ltda, owned by entrepreneur Daniel Ludwig. He established his industry within the municipality of Almeirim, Pará, and constructed a planned city (Monte Dourado, a district of Almeirim, Pará) to house his employees on the right bank of the Jari River (Siqueira *et al.*, 2011 *apud* Siqueira *et al.*, 2012).

As a result of this enterprise, migration began to occur towards the opposite bank of the Jari River, leading to unorganized settlement on the left bank. To this day, most homes are still built on wooden stilts (Figure 2) (Siqueira *et al.*, 2012).

Source: Research database (2023).
Figure 1. Stilt House.

Source: Research database (2023).
Figure 2. Landscape of stilt houses in the várzea area of Laranjal do Jari – AP.

Currently, the city is growing, but now in a more "organized" manner. The area where the first settlements were constructed is known as Beiradão, with its initial formation occurring between the 1970s and 1990s (Fig. 3). In this area, houses were built on stilts due to the várzea region, which is directly affected every year by the flooding of the Jari River (Toste, 2012).

Figure 4 shows that a large area of the city lies within the várzea region of the Jari River. This, combined with the fact that Laranjal do Jari is within the Amazon Biome and surrounded by native forest, creates a unique environment. According to IBGE data (20--), the municipality itself contains five Protected Areas, including four Conservation Units (CUs): the Jari Ecological Station (ESEC), Tumucumaque Mountains National Park (PARNA), the Cajari River Extractive Reserve (RESEX), and the Iratapuru River Sustainable Development Reserve (RDSI), as well as the Waiãpi Indigenous Land (TI).

Consequently, 94.8% of the municipality's territory is classified as a conservation unit, creating a rich environment for wildlife where interactions between residents and wild or non-domesticated animals are common. It is also notable that some species tend to appear only during the river's flood season, while others become less present in the area (IBGE, 20--).

The municipality's biodiversity is extremely diverse due to these conditions. Within each Conservation Unit's territory, there is a vast variation in fauna, as all have territories exceeding 65,000 hectares (Drummond *et al.*, 2008). Each Conservation Unit thus presents a unique biodiversity, which varies due to changes in topography, resulting in different fauna and flora. As previously mentioned, the Amazon Biome's vegetation can vary according to the area's relief.

Therefore, discussing the fauna's biodiversity requires addressing each Conservation Unit individually. Some species leave the protected areas and move towards urban regions, while others are present in all CUs, such as the jaguar. According to Cullen *et al.* (2005) and De Angelo *et al.* (2011) *apud* Marato *et al.* (2013), the Panthera onca needs large remnants of natural vegetation for survival. According to WWF-Brazil [20--], each specimen's territory can range from 22 to 150 km², with males' territories overlapping those of several females, and they are extremely territorial animals.

Due to these characteristics, the jaguar can be found in all of the municipality's CUs. With approximately 95% of its territory preserved and free from human presence, the municipality offers an ideal environment for several individuals of this species. Thus, the presence of one or more individuals in each CU is common.

The following sections will provide an overview of the fauna within the CUs directly influenced by the Jari River, connecting the urban riverside area of Laranjal do Jari and identifying the origins of species that appear in this urban area during the flood season:

The Jari Ecological Station hosts several endemic species, including birds such as the channel-billed toucan (*Ramphastos vitellinus*), the black-necked aracari (*Selenidera piperivora*), the white-fronted manakin (*Lepidothrix serena*), the opal-rumped tanager (*Tangara velia*), and the red-legged honeycreeper (*Cyanerpes cyaneus*). Additionally, within the ecological station, there are 12 species of bats (*Chiroptera*), 16 non-flying mammals, and three species listed as "endangered": the giant armadillo (*Priodontes maximus*), the jaguar (*Panthera onca*), and the red-faced spider monkey (*Ateles paniscus*) (Drummond *et al.*, 2008; Ferreira *et al.,* 2022).

The most prevalent fauna in the Iratapuru River Sustainable Development Reserve are non-flying mammals, including three species listed as endangered: the jaguar (*Panthera onca*), the ocelot (*Leopardus* sp.), and the giant otter (Pteronura brasiliensis). Additionally, rare primate species such as the bearded saki (*Chiropotes sagulatus*) and the white-faced saki (Pithecia pithecia) are present (Drummond *et al.*, 2008).

Tumucumaque Mountains National Park is rich in non-flying mammals and differs from the Jari Ecological Station and the Iratapuru Reserve by having not only three but four endangered species: the jaguar (*Panthera onca*), the giant armadillo (*Priodontes maximus*), the ocelot (*Leopardus* sp.), and the giant otter (Pteronura brasiliensis). The park is home to both large and small mammals, with a higher density of small mammals (Drummond *et al.*, 2008).

The Cajari River Extractive Reserve hosts species such as the agouti (Dasyprocta leporina), the acouchi (*Myoprocta agouti*), the collared peccary (*Tayassu pecari*), the lowland tapir (*Tapirus terrestris*), the water opossum (*Chironectes minimus*), the tree rat (*Isothrix* sp.), the capybara (*Hydrochoerus hydrochaeris*), the neotropical otter (*Lontra longicaudis*), and the giant otter (*Pteronura brasiliensis*). Additionally, it is home to two species of river dolphins: the tucuxi (*Sotalia fluviatilis*) and the Amazon river dolphin (*Inia geoffrensis*), among others (Drummond *et al.*, 2008).

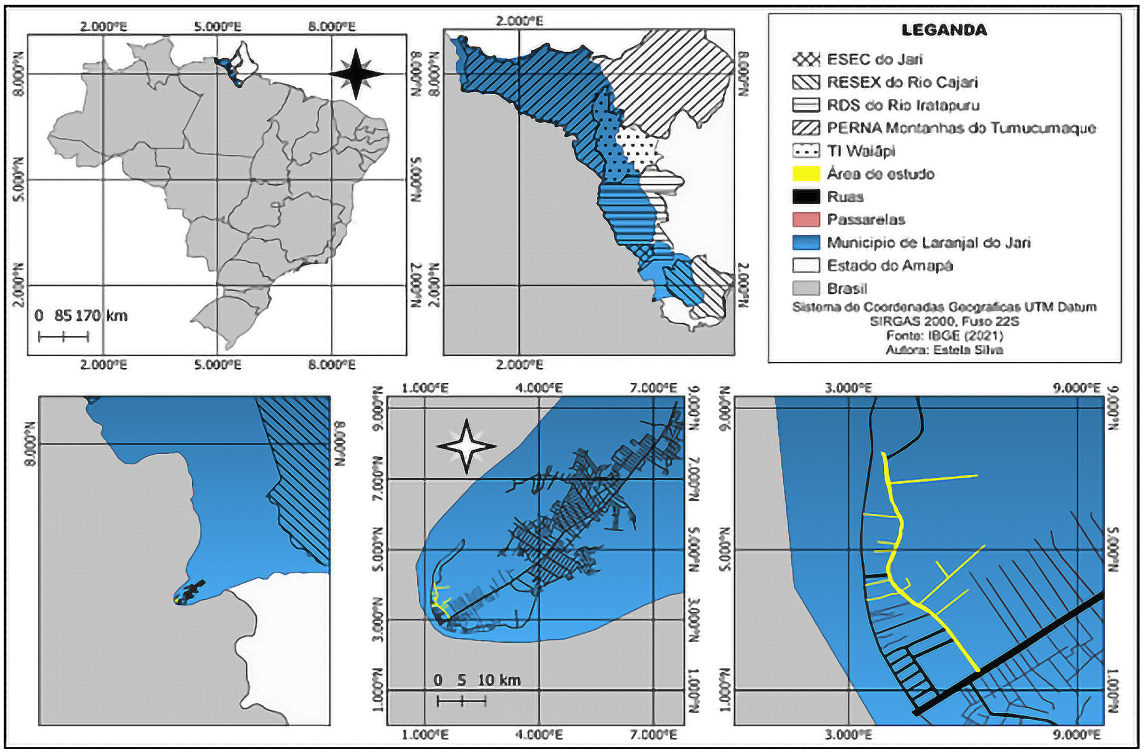
This database underpins the research, drawing from the local population's memories and records of their interactions with wildlife or sightings of animals moving through the region. By doing so, it helps to understand their perceptions of these species.

Data collection method

Study area

The research was conducted within the urban portion of Laranjal do Jari, which comprises only 18.5 km² of urban area out of the total 32,166.29 km² of the municipality's territory. This means that the urban area represents only 0.05% of the total territorial area of the municipality (Siqueira *et al.*, 2012).

Within this urban area, the research was conducted on Rua da Antiga Usina (Figure 3) in the Malvinas neighborhood. This street is one of the oldest in the city, and it is still home to some residents who witnessed the early development of Laranjal do Jari. This makes it an ideal environment for conducting interviews, considering that its residents have lived there for over 20 years and have built a fluvial identity in the area (Silva *et al.*, 2022).



Source: Authors (2023).

Figure 3. Map of Rua da Antiga Usina and adjacent walkways, Malvinas neighborhood, Laranjal do Jari–AP.

Rua da Antiga Usina is currently configured as a landfilled section by the municipality, with an approximate length of 800 meters (Figure 4). It is a paved street with flooded areas along its margins.

Source: Research database (2023).

Figure 4. Section of Rua da Antiga Usina – Laranjal do Jari / AP.

The walkways connect residents, featuring either wooden (Figure 5) or concrete (Figure 6) paths beneath the stilt houses, with most homes constructed from wood.

Source: Research database (2023).
Figure 5. Photo of a Wooden Walkway

Source: Research database (2023).
Figure 6. Photo of a Concrete Walkway

Data Collection Methodology

This research is qualitative and was conducted post facto (Yin, 2005). Data collection involved conducting interviews using a semi-structured questionnaire, which was pre-approved by the CEP (registration CAAE 59933922.3.0000.0211) and aligned with the Vozes do Jari Project, to which this study is linked. The interview participants were residents aged 18 or older from each household along both sides of Rua da Antiga Usina, who voluntarily accepted and signed the informed consent form (TCLE) to participate in the research. There was no discrimination based on sex, profession, level of education, or other factors.

The second part of the research involves returning to the residents to present a photographic catalog of the species identified during the interviews in the first phase. This aims to obtain as accurate a survey as possible of the species present in the area according to the residents' observations.

Data Analysis

The initial collected data were analyzed using descriptive statistics to rank the information according to the study categories established by Bardin (202011). This process was repeated in the second phase of the research.

Results

Among the 57 residents interviewed, 78.9% reported encountering some wild animal during the rainy season in 2022, a period during which the Jari River's high water levels left the study area isolated for four months. The residents commonly mentioned 30 species of wild animals that appeared during the flooding. According to residents aged 53 to 63 (26.3%) who have lived on Rua da Antiga Usina for 20 to 30 years, these species have not only been frequent during the last major flood in 2022 but have been seen since the first significant flood in 2000.

Considering that "the majority of the population exhibits 'faunal illiteracy,' making it challenging to create a 100% reliable list of species based on residents' identification" (Silva; Caramello; Silva, p. 65, 2023), a photographic catalog of 30 species was created based on their responses and supported by bibliographic research. This catalog includes the animals reported and their relatives that may be present in the study area, potentially interacting with the local population.

The listed wildlife species that are likely to enter the urban perimeter of Laranjal do Jari include:

1. Goliath Birdeater (Caranguejeira or Tarantula-Golias) - This spider belongs to the Suborder Mygalomorphae, Superfamily Avicularioidea, Family Theraphosidae, Subfamily Theraphosini, Genus Theraphosa, and is scientifically named *Theraphosa* aff. *blondi*;

2. Kissing Bug (Barbeiro) - Its popular name is Kissing Bug, and it belongs to the Order Hemiptera, Family Reduviidae, Subfamily Triatominae, Genus Rhodnius, and is named *Rhodnius* aff. *prolixus*;

3. Yellow Scorpion (Escorpião-Amarelo) - This specimen belongs to the Class Arachnida, Order Scorpiones, Family Buthidae, and is scientifically named *Tityus* aff. *Serrulatus*;

4. Red Spider (Aranha-Vermelha) - This animal's taxonomy is Suborder Araneomorphae, Infraorder Entelegynae, Superfamily Araneoidea, Family Theridiidae, Subfamily Theridiinae, Genus Nesticodes, Species *Nesticodes* aff. *Rufipes*;

5. Black Scorpion (Escorpião-Preto) - This animal belongs to the Class Arachnida, Order Scorpiones, Family Buthidae, Genus Tityus, and Species *Tityus* aff. *bahiensis* (Unesp, 2020);

6. Common House Spider (Aranha-Comum) - This animal's taxonomy is Suborder Araneomorphae, Infraorder Haplogynae, Superfamily Pholcoidea, Family Pholcidae, Subfamily Pholcinae, Genus Pholcus, Species *Pholcus* aff. *Phalangioides*;

7. Jumping Spider (Aranha-Saltadora) - This species of spider has the following taxonomy: Suborder Araneomorphae, Infraorder Entelegynae, Superfamily Salticoidea, Family Salticidae, Subfamily Salticidae, Tribe Chrysillini, Genus Menemerus, Species *Menemerus* aff. *Bivittatus*;

8. Electric Eel (Poraquê or Peixe-elétrico) - Popularly known as Poraquê or Electric Eel, this animal belongs to the Class Actinopterygii, Order Gymnotiformes, Family Gymnotidae, and Species *Electrophorus electricus* (Rechi, 2014);

9. Surinam Toad (Sapo-Pipa) - Popularly known as Surinam Toad or Pipa Toad, this species is part of the Order Anura, Family Pipidae, Subfamily Pipinae, Genus Pipa, and is named *Pipa pipa*;

10. Marine Toad (Sapo-Cururu) - This is the Marine Toad, belonging to the Order Anura, Family Bufonidae, Genus Rhinella, and its scientific name is *Rhinella marina*;

11. Amazon Horned Frog (Sapo-Chefe-da-Amazônia) - The Amazon Horned Frog, also known as Ceratophrys, belongs to the Order Anura, Family Ceratophryidae, Genus Ceratophrys, and the species is *Ceratophrys* aff. *Cornuta*;

12. Green Anaconda (Anaconda, Sucuri, Sucuriju) - Popularly known as Green Anaconda, Sucuri, or Sucuriju, this animal belongs to the Suborder Serpentes, Family Boidae, Genus Eunectes, and its scientific name is *Eunectes murinus* (Tudo, 2018);

13. Boa Constrictor (Jiboia) - Known as Boa Constrictor or Jiboia, this specimen belongs to the Suborder Serpentes, Family Boidae, Genus Boa, and its scientific name is *Boa constrictor* (Santos, 20--);

14. Fer-de-Lance (Jararaca-do-norte, Jararaca, Comboia) - Fer-de-Lance, also known as Jararaca-do-norte, Jararaca, or Comboia, belongs to the Suborder Serpente, Family Viperidae, Genus Bothrops, and its scientific name is *Bothrops atrox* (Frazão, 2020);

15. Coral Snake (Coral-Verdadeira) - This is another Coral Snake, belonging to the Suborder Serpentes, Family Elapidae, Genus Micrurus, and its species is *Micrurus* aff. *filiformis*;

16. Coral Snake (Coral-verdadeira) - Also known as Coral Snake, this species belongs to the Suborder Serpente, Family Elapide, Genus Micrurus, and its scientific name is *Micrurus* aff. *averyi* (Pimenta, 2022);

17. Coral Snake (Coral-verdadeira) - Another species of Coral Snake, belonging to the Suborder Serpente, Family Elapide, Genus Micrurus, and its scientific name is *Micrurus* aff. *albicinctus* (Pimenta, 2023);

18. Coral Snake (Coral-verdadeira) - Another example of Coral Snake, belonging to the Suborder Serpente, Family Elapidae, Genus Micrurus, and its species is *Micrurus* aff. *lemniscatus* (Pimenta, 2022);

19. Bushmaster (Surucucu) - The Bushmaster, also known as Surucucu, belongs to the Suborder Serpente, Family Viperidae, Genus Lechesis, and is scientifically classified as *Lechesis Muta*. However, it is often confused with its relative, the Fer-de-Lance, which is why some people call it Combóia;

20. False Coral (Coral-Falsa) - This specimen is a False Coral, belonging to the Suborder Serpente, Family Aniliidae, Genus Anilius, and its species is *Anilius* aff. *Scytale* (Anilius scytale, 2023);

21. Water Snake (Cobra-d'água) - The Water Snake, belonging to the Suborder Serpente, Family Colubridae, Genus Helicops, is scientifically known as *Helicops* add. *Hagmanni* (Sturaro; Gomes, 2008);

22. Alligator - Popularly known as Alligator or Jacaré-Tinga, this animal belongs to the Order Crocodylia, Family Alligatoridae, Genus Caiman, and is scientifically referred to as *Caiman* aff. *crocodilus* (Farias *et al.*, 2022);

23. Curulana - Also known as Jacaré-Caruá or Curulana, this species belongs to the Order Crocodylia, Family Alligatoridae, Genus Paleosuchus, and is scientifically named *Paleosuchus* aff. *trigonatus*;

24. Black Caiman - The Jacaré or Jacaré-Açu, found in the region, belongs to the Order Crocodylia, Family Alligatoridae, Genus Melanosuchus, specifically the species *Melanosuchus* aff. *niger*;

25: Dwarf Caiman - Known as Jacaré-Anão, this specimen belongs to the Order Crocodylia, Family Alligatoridae, Genus Paleosuchus, and is referred to as *Paleosuchus* aff. *palpebrosus* (Campos *et al.*, 2022);

26. White-Eared Opossum - This species of Opossum, also known as White-Eared Opossum, belongs to the Order Didelphimorphia, Family Didelphidae, Genus Didelphis, and is of the Species *Didelphis* aff. *albiventris*;

27. Black-Eared Opossum - Also known as Black-Eared Opossum, this is the penultimate of the 3 species of Opossums. It belongs to the Class Mammalia, Order Marsupialia, Family Didelphidae, and is scientifically named *Didelphis* aff. *marsupialis* (Ambiente Brasil, 2023);

28. Opossum - Known as Opossum, this is one of the 3 possible species present in the study area. It belongs to the Order Didelphimorphia, Family Didelphidae, Genus Didelphis, and is referred to as *Didelphis* aff. *imperfecta* (Sistema, 2023);

29. Otter - This animal is an otter, belonging to the Suborder Caniformia, Family Mustelidae, Genus Lontra, and species *Lontra longicaudis* (Táxeus, 2023);

30. Giant Otter - Commonly known as Ariranha by the local population, or Otter due to its resemblance to the species above. This animal belongs to the Suborder Caniformia, Family Mustelidae, Subfamily Lutrinae, Genus Pteronura, and is scientifically referred to as *Pteronura brasiliensis* (Táxeus, 2023).

From the 30 animals presented, around 30% cannot be characterized as dangerous. These species/subspecies include: *Pholcus phalangioides, Menemerus bivittatus, Nesticodes rufipes, Ceratophrys cornuta, Pipa pipa, Pteronura brasiliensis, Lontra longicaudis, Didelphis marsupialis, Didelphis albiventris,* and *Didelphis imperfecta*.

Among the specimens listed above, 67% are considered dangerous, posing a risk to public health. The majority of these are venomous animals, with the exception

of the species: *Eunectes murinus* (Green Anaconda), *Electrophurus electricus* (Electric Eel), the Alligators: *Caiman crocodilus, Melanosuchus niger, Paleocuchus trigonatus, Paleocuchus palpebrosus,* and the *Rhodnius prolixus* (commonly known as the Barbeiro). Although these species are not venomous, they are still considered dangerous.

However, according to Almeida (2019), in the state of Amapá in 2019, there were over 850 reported cases of accidents involving venomous animals, with Laranjal do Jari being the second municipality with the highest number of cases, reporting over 120 occurrences. This highlights how common it is for the population to suffer from attacks by these animals.

This reality became evident during the interviews, where some residents described their interactions with these animals. Some of the accounts included:

Interviewee 1: "Scorpions often appear in my house. I have to be careful when fetching firewood because they are usually hiding in it and try to attack me when they see me. One of them stung a boy nearby, and he almost lost his hand."

Interviewee 2: "When the water is starting to rise, I usually see boa constrictors crossing the street."

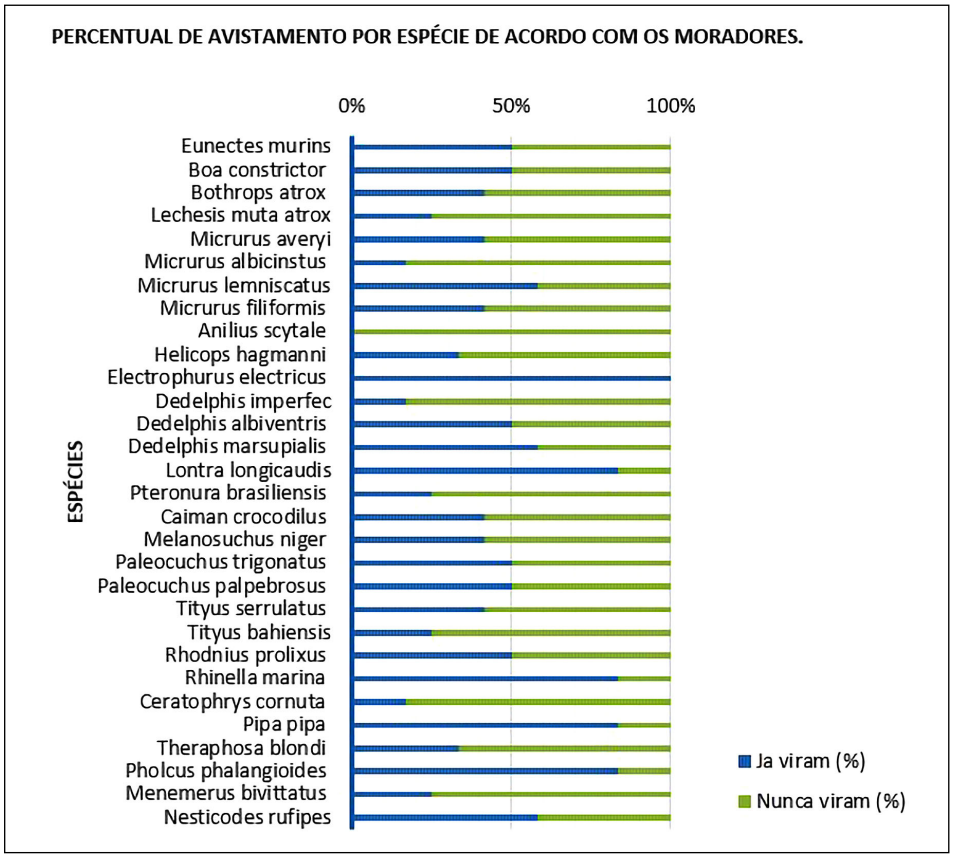
Interviewee 3: "Otters appear frequently. I often see them swimming or peeking out of the water."

Interviewee 4: "A Green Anaconda ate my dog. It entered my house and grabbed my female dog, dragging her to the side of the house and ate her. When the water receded, we found her bones next to the house. I wasn't home, but they said they heard my dog crying and the sounds of her being dragged during the night."

These incidents demonstrate that interactions between residents and wildlife occur through both direct and indirect contact, depending on the situation and the species involved.

In the second phase of the research, the study area was revisited, and during fieldwork, a photographic catalog containing all the listed specimens above, was brought along. This catalog was presented to the residents to identify which animals they recognize, aiming to obtain a more accurate listing of the population's reality. According to the residents, only the "20th specimen – *Anilius Scytale*" has never appeared in the region. These data can be seen in the following graph.

Graph 1. Data from the 2nd field trip.



Source: Research database (2023).

Based on the above, we can identify the species that have a greater presence in the study area according to the following classification:

• **1st place**: *Electrophurus electricus* (Electric Eel);

• **2nd place**: *Lontra longicaudis* (Otter), *Rhinella marina* (Marine Toad), *Pipa pipa* (Surinam Toad), *Pholcus phalangioides* (Cellar Spider);

• **3rd place**: *Didelphis marsupialis* (Common Opossum), *Nesticodes rufipes* (Red House Spider);

• **4th place**: *Eunectes murinus* (Green Anaconda), *Boa constrictor* (Boa Constrictor), *Didelphis albiventris* (White-eared Opossum), *Paleosuchus trigonatus* (Smooth-fronted Caiman), *Paleosuchus palpebrosus* (Cuvier's Dwarf Caiman), *Rhodnius prolixus* (Kissing Bug);

• **5th place**: *Bothrops atrox* (Common Lancehead), *Micrurus averyi* (Brazilian Coral Snake), *Micrurus filiformis* (Filiform Coral Snake), *Caiman crocodilos* (Spectacled Caiman), *Melanosuchus niger* (Black Caiman), *Tityus serrulatus* (Yellow Scorpion);

• **6th place**: *Helicops hagmanni* (Hagmann's Water Snake), *Theraphosa blondi* (Goliath Birdeater);

• **7th place**: *Pteronura brasiliensis* (Giant Otter), *Tityus bahiensis* (Bahia Black Scorpion), *Menemerus bivittatus* (Gray Wall Jumper), *Lechesis muta* (Bushmaster Snake);

• **8th place**: *Micrurus albicinctus* (White-banded Coral Snake), *Didelphis imperfecta* (Imperfect Opossum), *Ceratophrys cornuta* (Amazonian Horned Frog);

• **9th place**: *Anilius scytale* (False Coral Snake).

The majority of the animals listed in this research only appear during the flooding period of the Jari River, especially the Electric Eel, Anaconda, Alligators, Otter, and Giant Otter, as they only enter the study area when it is flooded, since they are aquatic animals.

The greatest risk to the population comes from contact with the Electric Eel, as all interviewees have reported seeing one personally. According to Interviewee 5:

> They always come out of their lake when the water starts rising and go back when it's almost 2 feet high. Normally, I see a small one, it's rare for me to see an adult, but it's very dangerous, especially an adult. Two years ago (2021), one of them gave a shock to a boy near Rio Branco.

The subject mentioned by the interviewee suffered sequelae, highlighting the urgency for residents to receive training on the risks and necessary precautions regarding the health of forest animals, knowing how to handle each species and where to seek necessary assistance.

Conclusion

The identification of the presence of 30 different wild animals within the urban area of Laranjal do Jari during the 2022 flooding period, as conducted in the first stage of the research, was confirmed in the second stage presented here. It was evidenced that the rising waters connect the forest with the riverside portion of the city. However, an analysis with a species inventory based on residents' reports along with the display of photographs provided greater reliability to the assertions presented.

Although the population is unfamiliar with the technical names, upon presenting the images, they pointed out the ones that were most common during the researched period, confirming that the interaction of the population with wild animals, especially snakes and amphibians, is more frequent during the rising waters period.

This leaves this urban riverside community more vulnerable since, as previously warned by Silva, Caramello, and Silva (2023), the Surucucu, Coral Snake, and Bothrops, some of the most venomous species living within the Amazon region, add to the toxicity level of these animals, and are among the most frequently found in residences. Considering they become stranded, they seek shelter and also become vulnerable.

As the community lives on stilts and these are covered by water, the interaction of wild animals with the residences is facilitated. Another factor that puts them at risk of contact with stingrays and electric fish is exacerbated by residents having to put their feet directly into the water, with the water reaching waist level for those living in the study area.

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