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Database of bats captured on the Dois Irmãos *campus of* the Federal Rural University of Pernambuco, Recife, Brazil

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ABSTRACT

This database provides information on the composition, species richness, and abundance of bats captured on the Dois Irmãos campus of the Federal Rural University of Pernambuco, located in Recife, Pernambuco, Brazil. A survey of the bat fauna associated with the aforementioned university campus was conducted at six capture stations from May 2006 to April 2007, using six mist nets, with a total capture effort of 15.120 m2.h/net at each station. A spreadsheet was compiled with information on the capture (biome, state, municipality, type of environment, locality, campus area, capture station, latitude, longitude, capture method, climatic season, month, year, time of the day) and on the captured species (field number, Phylum Class, Order, Family, Subfamily, common and scientific name, diet, weight (g), sex, age, length of right forearm (mm), reproductive condition, presence of alopecia, destination of the animal, and conservation status according to IUCN, ICMBIo, and CITES). The data in this paper contains valuable historical information on the bat fauna associated with UFRPE's Dois Irmãos campus, which is considered a Green Area Protection Property (Imóvel de Proteção de Área Verde - IPAV, in Portuguese) in the city of Recife, totally inserted in an urban environment and bordering the Dois Irmãos State Park (Parque Estadual de Dois Irmãos, in Portuguese), a State Protected Area.

Keywords: Urban area; University campus; Chiroptera; Species inventory; Atlantic Forest.

PRIOR PUBLICATIONS

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DATA IMPORTANCE

- The data provided here presents a historical record of the composition and which species and trophic guilds of bats are most and least abundant in the campus, as well as the current conservation status according to IUCN (2025), ICMBio (2025), and CITES (2025);
- This data allows a comparison among different capture stations to identify which were more diverse concerning the occurrence of bats;
- This database can be used as a reference for comparative purposes with other studies, which can be conducted in the area and in urban environments, especially in the state of Pernambuco.

MATERIAL AND METHODS

Study area

This study was conducted on the main campus of the Federal Rural University of Pernambuco (UFRPE), located in the Dois Irmãos neighborhood, in the northwest region of the city of Recife, Pernambuco, Brazil. This campus, which covers an area of 147 ha, is located near densely populated areas (Sítio dos Pintos, Sítio São Brás, and Córrego da Fortuna), and is close to the Federal Highway BR-101 and to a State Protected Area, the Dois Irmãos State Park – PEDI, which includes a remnant of Atlantic Forest with 1,157.51 hectares, the city zoo, and a complex containing four dams. The region is classified as As' type climate (tropical with autumn-winter rains), according to the Köppen-Geiger classification, with two well-defined climatic seasons: rainy (April-August) and dry (September-March).

Considering the zoning of the campus and to enable a more comprehensive analysis of this area, a capture station was defined in each of the five zones into which the area is divided, except for one, in which two capture stations were selected due to their peculiar characteristics. The sites were defined as follows:

• Site I/Zone 5 (8°01'13.59"S, 34°57'14.42"W) – an extensive area composed of buildings, where there are breeding grounds for domestic animals and large cultivation of forageable plants. In this area, there are some small patches of forest;

• Site II/Zone 4 (8°01'01.52"S, 34°56'47.48"W) – an area with a heterogeneous environment composed of a large group of buildings surrounded by areas of arboreal vegetation, with the presence of fruit trees. This was the largest capture site;

• Site III/Zone 3 (8°01'05.31"S, 34°56'59.57"W) – area located between two fragments of forest, containing many individuals of *Mangifera indica L.* (Anacardiaceae), *Piper* spp. (Pipareceae), and *Cecropia* spp. (Urticaceae);

• Site VI/Zone II (8°00'52.64"S, 34°56'56.85"W) – an area located near fragments of forests, facilities for domestic animal care, and plantations of forageable plants;

• Site V/Zone 1 (8°00'47.3"S, 34°57'3.6"W) – area surrounded by open, low, and shrubby vegetation, with the presence of buildings and large and spaced trees, including fruit trees such as *Syzygium malaccense* (L.) Merr. & L.M.Perry (Mytaceae), *M. indica*, *Artocarpus heterophyllus Lam.* (Moraceae), and *Cecropia* spp.;

• Site VI/Zone 4 (8°01'07.73"S, 34°56'41.89"W) – an area with a large number of fruit trees in its surroundings, in addition to shrubby vegetation, and fragments of native forest; in this area, there are several fish and/or shrimp farming tanks, which makes this station an area with unique characteristics throughout the campus.

Data collection

Bat captures were performed monthly from May 2006 to April 2007 for a period of six nights per month, one in each of the capture sites.

Captures were conducted with six mist-nets (12 m x 2.5 m; 36 mm mesh) that were deployed from 5:00 p.m. to midnight at areas that could be potential flying paths, near resources, such as fruiting or flowering plants and water, or near potential daytime roosts, such as buildings. Mist-nets were deployed singly, in pairs, or in groups of three and were inspected at average intervals of 15 minutes. Captures were performed under different weather conditions, including heavy rain and winds, preferably during darker nights, when bats tend to spend more time outside their roosts and can more easily be captured in the nets.

Information on each captured bat was registered (species, weight, forearm length, age, sex, and reproductive stage), and each individual was placed in a numbered cotton bag and released at the capture site after nets were removed to avoid recaptures during the same night. One individual of each captured species - except *Artibeus cinereus* (Gervais, 1856) with two specimens, *Artibeus planirostris* (Spix, 1823) with two, *Carollia perspicillata* (Linnaeus, 1758) with three - was collected as voucher material, preserved in 70% ethanol, and deposited in the Mammal Collection of the Federal University of Pernambuco (UFPE), in Recife. Captured bats were identified at the time using the identification keys of Gregorin and Taddei (2008) and Gardner (2008). Subsequently, all voucher material was reviewed in light of current knowledge, using updated studies and identification keys (MORATELLI; WILSON, 2013, DÍAZ et al., 2016). All specimens captured and identified at the time as *Myotis nigricans* (Schinz, 1821) were considered in the present study as *Myotis lavali* Moratelli et al. 2011 (MORATELLI; WILSON, 2013). The taxonomy and nomenclature of the bat species followed Garbino et al. (2024), which already includes the allocation of the Neotropical species of *Eptesicus* to the newly described genus *Neoeptesicus* (CLÁUDIO et al. 2023).

DATA DESCRIPTION

This database contains the species and trophic guilds of bats captured on the Dois Irmãos campus of the Federal Rural University of Pernambuco, in Recife, Pernambuco, Brazil. Bats were captured monthly from May 2006 to April 2007, totaling 72 nights of collections. A total of 950 bats were captured, belonging to 16 species of the following families: Phyllostomidae (862 captures/10 species), Vespertilionidae (39/2), Noctilionidae (37/1), Molossidae (7/2), and Emballonuridae (5/1).

The captured species, in decreasing order of abundance, were: *Artibeus planirostris* (n=507), *Platyrrhinus lineatus* (n=77), *Artibeus lituratus* (n=74), *Sturnira lilium* (n=65), *Carollia perspicillata* (n=61), *Noctilio leporinus* (n=37), *Myotis lavali* (n=34), *Glossophaga soricina* (n=31), *Phyllostomus discolor* (n=23), *Artibeus cinereus* (n=18), *Molossus molossus* (n=6), *Neoeptesicus brasiliensis* (n=5), *Rhynchonycteris naso* (n=5), *Desmodus rotundus* (n=3), *Phyllostomus hastatus* (n=3), and *Cynomops planirostris* (n=1). Frugivorous bats were the most representative (84.42% of the captured individuals), followed by insectivores (5.37%), piscivores (3.89%), nectarivores (3.26%), omnivores (2.74%), and hematophagous (0.32%). A total of 540 individuals (56.84%) belonging to 14 species were captured in the rainy season, and 410 individuals (43.16%) of 16 species in the dry season.

Regarding abundance, the following were considered: *A. planirostris*, *P. lineatus*, *A. lituratus*, *N. leporinus*, *P. discolor*, *M. lavali*, *S. lilium* (very abundant); *A. cinereus*, *C. perspicillata*, *G. soricina* (abundant); *N. furinalis*, *M. molossus*, *R. naso*, *P. hastatus*, *D. rotundus*, *C. planirostris* (less abundant). Regarding frequency, the following were considered: *A. planirostris* (very frequent); *P. lineatus*, *A. lituratus*, *S. lilium*, *C. perspicillata* (frequent); *N. leporinus*, *M. lavali*, *G. soricina*, *P. discolor*, *A. cinereus*, *M. molossus*, *R. naso*, *N.*

furinalis, *D. rotundus*, *P. hastatus* and *C. planirostris* (less frequent).

None of the registered species is under threat according to the latest assessments by the International Union for Conservation of Nature (IUCN, 2025), the Chico Mendes Institute for Biodiversity Conservation (ICMBIO, 2025), and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES, 2025).

Dataset

The database is an Excel file (.xlsx), consisting of a single tab with 35 columns, with information about the captured specimen and the capture site/time (Tab. 1).

Table.- Description of database columns.

Category	Column Name	Description
Specimen	Field Number	Number given to the specimen when it was captured
	Phylum	Phylum of the captured species
	Class	Class of the captured species
	Order	Order of the captured species
	Family	Family of the captured species
	Subfamily	Subfamily of the captured species
	Scientific name	Scientific name of the captured species
	Common name	Common name of the captured species
	Diet	Diet of the captured species
	Age	Age group of the captured individual
	Sex	Sex of the captured individual
	Reproductive condition	Reproductive condition of the captured individual
	Forearm length	Length of the right forearm of the captured individual (in mm)
	Weight	Weight of the captured individual (in g)
	Alopecia	Presence or absence of alopecia in the individual
	Destination	Destination of the captured individual
	IUCN	Conservation status according to IUCN (2025)
	ICMBIO	Conservation status according to ICMBio (2025)
	CITES	Presence of the species in Appendices of the CITES (2025)
Capture	Country	Country in which the capture took place
	State	State in which the capture took place
	Municipality	The municipality in which the capture took place
	Locality	The locality in which the capture took place
	Biome	The biome in which the capture took place
	Habitat	Type of habitat in which the capture site was located
	Campus Zone	The zone of the campus in which the capture site was located
	Capture Site	The site where the capture took place
	Latitude	Latitude of the capture site (in degrees, minutes, and seconds)
	Longitude	Longitude of the capture site (in degrees, minutes, and seconds)
	Capture method	Method used to perform the capture
	Month	The month in which the capture took place
	Year	Year in which the capture took place
	Time	The time at which the capture took place
	Climatic season	Season when the capture occurred
Both	Observation	Observation on the capture or the captured species

SUPPLEMENTARY MATERIALS

Dataset: Dataset_Leal et al.

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