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Observation of birds and analysis of the families with greater appearance in the central headquarters of the campus of the Amazonian State University.

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Graphical Abstract

Resumen:

In Ecuador, it is estimated that there is a high percentage of birds with a smaller territorial physical space, thus displaying more than 1500 species. For this reason, the objective of this research is to study the most diverse zone in fauna on the planet, thus awakening ornithological interest and helping the discovery of new species. The Ecuadorian Amazon zone is considered one of the places where more birds are housed in times of migration where there is the possibility of observing a vast amount of birds. This is to determine how many bird families are in the central campus of the Amazonian State University representing these data statistically.

Introduction

Ecuador is one of the biologically richest countries on the planet and has been ranked among the world's 17 "mega-diverse" nations due to the number of species in the world.
vertebrates registered in their territory (Mittermeier, et al., 1997). The study of this project will be based on the analysis of the diversity of existing birds within the delimited area such as the campus of the central SEDE of the Amazonian State University as a reference point.
This observation was carried out at several specific points within the aforementioned area, facilitating its identification and collection of corresponding data.
In order to carry out this observation, countless data and information must be processed, such as the color patterns shown, song and call notes depending on the species, physiological shapes (beaks, legs, etc.), habitat, time of year, and many other data.

Materials & Methods

Materials:

- Binoculars
- Field Guide
- Boots
- Adequate clothing (dark)
- Camera
- Edge-recording microphone

Methods:

For this research work, it has been decided to implement systematic sampling since this type of sampling allows analyzing the importance of birds as environmental indicators that are currently affected due to pollution present in the environment. It is important to emphasize the importance of birds in the environment in the same way that they are indispensable in the cultural field because they are estimated by the benefits they provide to people in the food, ornamental, economic, etc. environment.
It began with the simplest part of bird watching, which is the recognition of the area, considering it as an intervened forest; after the recognition, the materials used for the observation were prepared.
With the field guide and binoculars that are the most necessary materials for bird observation and identification, we proceeded to start the activity. Emphasizing to the members that it is necessary in an observation to identify mainly the already known species in order to be able to identify new species that have not been observed before in that area.
To do this, it is necessary to know the taxonomic keys since they facilitate identification. Once the observation has begun, everything that can be observed of the bird is analyzed in order to identify it and take its corresponding data.

Due to the fact that the birds are in constant movement, photos were taken to confirm that the identification is correct. One method that is very helpful is to attract birds by audios of their vocalizations because it helps us determine the location of the bird that responds so you can find it more accurately and identify the species.

Results and Discussion

As results of the observation carried out in the SEDE of the Amazonian State University, the following data were collected from the species sighted in the observation, which were ordered as follows:

Twenty-four species were determined, of which only two could be sighted more than three times, such as Pygochelidon cyanoleuca and Cacicus cela.

The relative abundance of the 24 species was calculated and the following results were determined:

Especies	Total, N de especies	Abundancia total	**(1)/ (2)**	**X100**	Abundancia relativa
Piaya cayana	**1**	**39**	**0,03**	**100**	**3**
Phaethornis griseogularis	**1**	**39**	**0,03**	**100**	**3**
Coragyps atratus	**1**	**39**	**0,03**	**100**	**3**
Contopus virens	**1**	**39**	**0,03**	**100**	**3**
Myiozetetes similis	**1**	**39**	**0,03**	**100**	**3**
Tyrannus melancholicus	**1**	**39**	**0,03**	**100**	**3**
Pygochelidon cyanoleuca	**4**	**39**	**0,10**	**100**	**10**
Atticora fasciata	**3**	**39**	**0,08**	**100**	**8**
Turdus ignobilis	**1**	**39**	**0,03**	**100**	**3**
Euphonia laniirostris	**1**	**39**	**0,03**	**100**	**3**
Euphonia xanthogaster	**1**	**39**	**0,03**	**100**	**3**
Chlorospingus flavigularis	**2**	**39**	**0,05**	**100**	**5**
Psarocolius angustifrons	**2**	**39**	**0,05**	**100**	**5**
Ramphocelus carbo	**2**	**39**	**0,05**	**100**	**5**

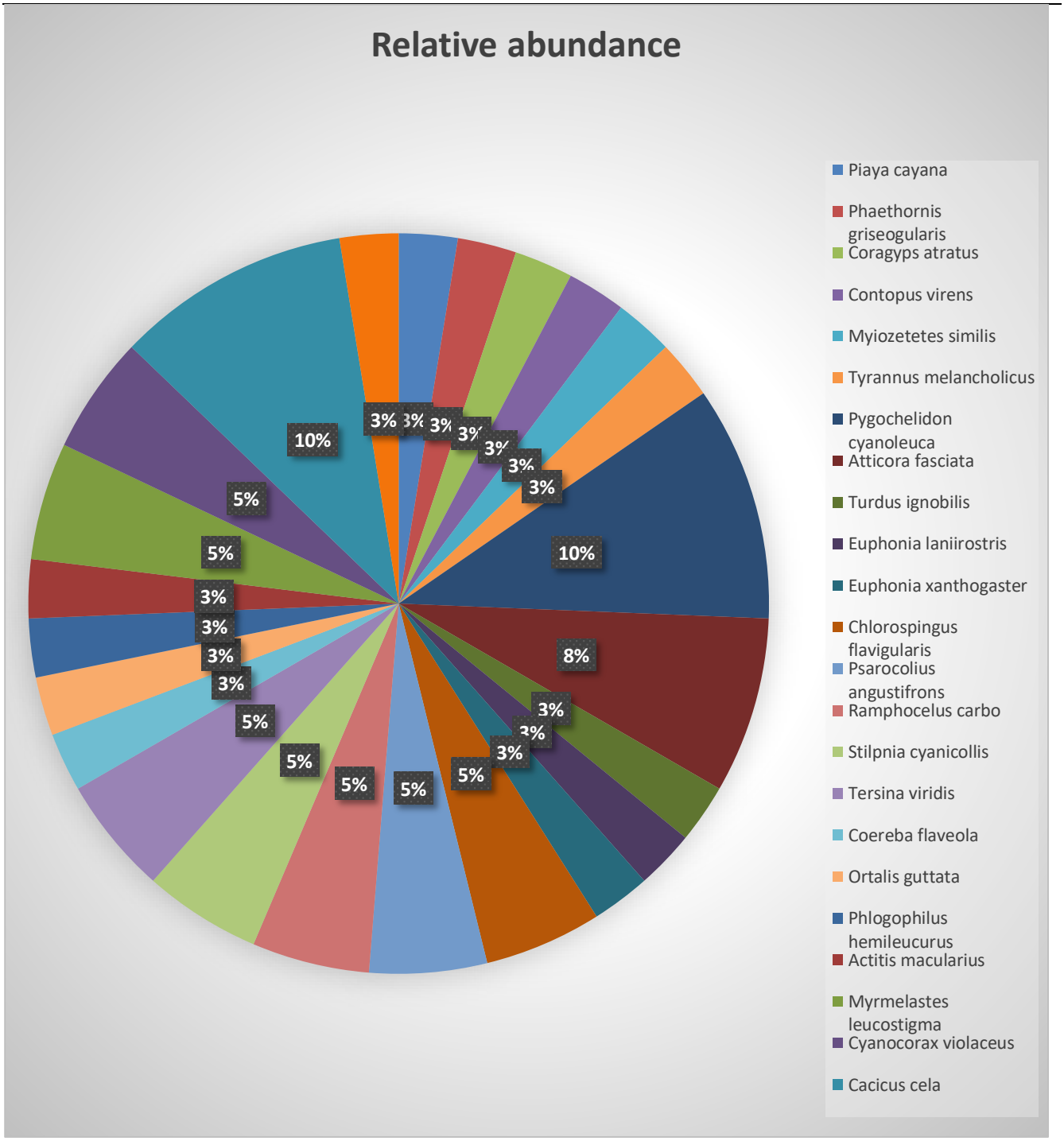
Stilpnia cyanicollis	2	39	0,05	100	5
Tersina viridis	2	39	0,05	100	5
Coereba flaveola	1	39	0,03	100	3
Ortalis guttata	1	39	0,03	100	3
Phlogophilus hemileucurus	1	39	0,03	100	3
Actitis macularius	1	39	0,03	100	3
Myrmelastes leucostigma	2	39	0,05	100	5
Cyanocorax violaceus	2	39	0,05	100	5
Cacicus cela	4	39	0,10	100	10
Thraupis palmarum	1	39	0,03	100	3
TOTAL	39				

(Jaramillo, J 2019)

Diversity:

$$Dmg = \frac{S-1}{\ln N}$$ Clase: Dmg= $\frac{24-1}{\ln(39)}$=6.27 High diversity

Considering that the observation area was an intervened forest, its diversity is considered high according to the Margaleft index.



Graph of diversity percentages. (Jaramillo, J 2019)

Conclusions.

This shows that although the area has been disturbed by humans, there are many species of birds that can coexist in that place, thus establishing its feeding and even reproductive area.

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