



Phytosociological floristic inventory in the Brazilian Cerrado

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Background: The Cerrado biome has originally 2 million square kilometers about 23% of the whole Brazilian territory but had a big amount of his natural areas deforested by a intense anthropic action on the last decades. The formation of planted pastures and commercial soybeans plantations are still the principal economic activities of the region and the cattle production with higher extension at about 25% of the Cerrado area (KLINK; MOREIRA, 2002). The Cerrado biome and the Atlantic forest - Rainforest are considered a biodiversity hotspot, with high rates of endemism and that undergo strong pressures by the anthropic actions (BEGON et al. 2006). **Methods:** The study was conducted on the Central plateau in the Minas Gerais state, specifically around the Buenópolis County, with an altitude of 740 meters and about 800 kilometers from the Atlantic Ocean, with the geographic position of south 17° 52' 11" latitude and the meridian of west 44° 10' 22" longitude. The sampling area was made by eight random plots with 500 square meters (10m x 50m) in the Cerrado area with about 28,84 hectares. All the trees that have higher or equal circumference at the chest height 15 centimeters (measured at 1,30 height from the ground) had their total girth and height measured and also were botanically identified. Then was conducted an phytosociological analyzes (Horizontal structure) and parametric analyzes, which means an distribution of the number of trees and basal area by hectare and by species and by diametric class to select sampling trees to be used to construct allometric equations. The diversity indexes that were used was Shannon-Weaver (H') (Shannon & Weaver, 1949), mixture quotient from Jentsch (Q) (Hosokawa, 1981) and Pielou Equability (J) (Pielou, 1975). **Result:** The total volume founded on the study area was 35,4998 m³.ha⁻¹. The phytosociological analyzes from the fragments of Cerrado showed the following results: Shannon-Weaver diversity index of (H') was 2,53, the H'max was 3,14, the Pielou Equability (J) was 0,81 and the Jentsch mixture quotient (Q) was 1:22. **Conclusion:** The diametric distribution with the inverted -j is an indicative that this studied community showed a big amount of regenerating individuals, which is very important for the sustainability of that cerrado fragment.

Keywords: Cerrado; Hotspot; Brazilian; Savannah

ID:535

Monday, July 10th, 2017, Maya

Oral session: Biodiversity inventories in tropical ecosystems I

Large-scale Evaluation of Multimedia Analysis Techniques for Biodiversity inventories

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Background: LifeCLEF (www.lifeclef.org) is a worldwide research forum dedicated to the evaluation of multimedia-oriented identification systems. Its principle is to measure and boost the performance of the state-of-the-art by sharing large-scale experimental data covering thousands of species. **Methods:** Each year, hundreds of research groups register to the proposed challenges. Results are then synthesized and further analysed in joint research papers. The LifeCLEF research platform is globally organized around 4 tasks. Each task is based on large and collaboratively revised data and the measured challenges are defined in collaboration with biologists and environmental stakeholders in order to reflect realistic usage scenarios. **Results:** The first task, PlantCLEF, deals with image-based plant identification and is organized since 2011. It is based on a growing collaborative data collection produced by PlantNet (<http://identify.plantnet-project.org/>) initiative with tens of thousands of botanists. In 2017, this dataset contained several thousands of plant pictures belonging to 10,000 species. Each image is associated with an xml file containing the taxonomic ground truth as well as other meta-data such as the type of view, the author name, the date and the geo-loc. The second task, BirdCLEF, deals with audio-based bird identification and is based on the audio recordings collected by a very active nature watchers network called Xeno-canto. Dataset used for this task is focused on more than 20,000 audio recordings belonging to the more than 1000 bird species represented in the South-American region. The third task deals with the identification of sea organisms. The SeaCLEF 2017 dataset contains both 2D and 3D visual data (videos, images, and stereo camera data) and thermal images of marine organisms (mainly fish, e.g., coral fish, salmon, whales and dolphins). The last task, GeoLifeCLEF, is dedicated to automatically predict the list of species that are the most likely to be observed at a given location. This pilot task, based on GIBIF data and environmental data, is designed in the aim to facilitate biodiversity inventories through the development of location-based recommendation services. **Discussion / Conclusion:** This international challenge has the ambition to become one of the first place of exchange between ecologists and computer scientists, to solve problems related to large scale automated living organism identification.

Keywords: automated species identification, benchmark

ID:583

Monday, July 10th, 2017, Maya

Oral session: Biodiversity inventories in tropical ecosystems I