



XIII Congresso de ECOLOGIA

III International Symposium of Ecology and Evolution

Múltiplas ecologias: evolução e diversidade

08 a 12 de outubro de 2017 • UFV - VIÇOSA | MG

RICHNESS OF ENDEMIC ASTERACEAE HERBACEOUS SPECIES IN CERRADO: DISTRIBUTION PATTERN CONSIDERING CLIMATE AND TOPOGRAPHY

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Tema/Meio de apresentação: Macroecologia/oral

Plant distribution pattern can be related to both biotic factors (such as, presence of pollinators), and abiotic factors (such as, climate). Macroecology approaches allow to evaluate the relation between richness species and environment, emphasizing on statistical pattern analysis. Richness and endemism are relevant to select priority areas for conservation. This study aims to evaluate the distribution of richness of endemic Asteraceae herbaceous species in Cerrado considering climatic and topographic parameters. Georeferenced data of Asteraceae species were obtained at CRIA's specieslink dataset. Climatic and topographic parameters were represented by Bioclimatic and elevation variables (30 seconds) obtained in WorldClim database. One hundred sixty two (162) endemic Asteraceae herbaceous species in Cerrado were analyzed to produce a map of richness distribution considering Bioclimatic variables using Maxent software (3.4.1). Maps of richness species distribution were done using DIVA-GIS (7.5.0). Jackknife was used for variable importance tests. The richest areas of endemic Asteraceae herbaceous species in Cerrado are located in the Goiás, Bahia and Minas Gerais states, mostly in areas with higher topographic range, e.g., Espinhaço and Canastra Mountains. The results show 39% of all species distribution models having altitude as the highest relative contribution variable and h_dem (height by digital elevation modeling) has the second highest contribution with 15% of all models having it as the highest relative contribution variable. Based on jackknife tests, altitude was the variable with the highest gain alone in 38% of our models and precipitation of warmest quarter (bio_18) was the one that decreases the gain the most, when it is omitted in 13% of our models. The richest areas of endemic Asteraceae herbaceous species could be used as priority areas for conservation in Cerrado, creating or enlarging natural reserves.

The authors thank UFABC for support.