

Euler A.M.

Oral presentation

Classification of plant communities, structure and diversity of forests in Acre, Brazil

Session: Classification, structure and dynamics of plant communities

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The southwest Amazon (SWA, Brazil) is considered a transitional (vegetation) zone between the Andes Mountains and the Amazon lowlands; it is among the forests with the highest diversity of flowering plants worldwide. Antimary State Forest is a protected area of sustainable use located in Acre state. The objectives of this study are: 1) to improve knowledge on the floristic composition, diversity, and structure of the Antimary forests; and 2) to describe plant communities in SWA using the Braun-Blanquet phytosociological method. Data were collected during two field trips covering a total area of 150 ha within two different forest management units. Classification of plant communities followed the Braun-Blanquet methodology, which is rarely used in the Amazon, if not unique. 48 relevés were recorded in homogeneous stands, and profile diagrams were made. In total, 946 species belonging to 326 genera and 118 families were recognized. Most of the species recorded in the Antimary forests are rare. 49% of the species richness comes from non-tree species, and there are many epiphytes, especially in the Araceae family. Two communities were recognized: (1) a *Vitex triflora* – *Trichilia quadrijuga* community with semi-closed canopy occurring in mesic areas; and (2) a *Metrodora flavida* – *Ceiba s.l.* community with more open-canopy forests and unsteady relief crossed by several small creeks (igarapés). There is evidence that this distinction is caused by environmental gradients found across the study sites. Both communities presented high a diversity ($H' = 4.3$ and $H' = 5.15$) at local scale, and Antimary forests present high β diversity. The use of the Braun-Blanquet method was successful in the study of Amazonian plant communities and should be applied over more extensive areas. The results from phytosociological study can be used to set up performance criteria for the conservation and monitoring of forest concessions, representing actual and potential natural vegetation for the surrounding areas.