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Diversity Distribution of Important Savannah Grasses in West Africa: Evolutionary Aspects and Implications for Conservation

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Abstract

Poaceae is one of most important families in the world, both in ecological and economic dimensions. It is also a major component of African savannahs. As such, the family has been shown to be a good predictor for total plant diversity for the sahelo-sudanian region. Good diversity indicators are necessary where records of vegetation are scarce as it is the case in Africa and many other regions in the tropics. Our aim is to map the overall grass diversity of West Africa. We will compile field observations and herbarium data from large datasets (FloTrop from the CIRAD in Montpellier, Herbarium Senckenbergianum (FR), Ouagadougou University Herbarium (OUA)) and produce maps using GIS. From these maps, total vascular plant diversity will be extrapolated to highlight priority areas for plant conservation.

In second place, we will focus on the grass genera *Andropogon* and *Hyparrhenia*, as they are dominant floristic components of the West African savannahs in term of species diversity as well as in terms of total vegetation core. Both genera are composed of approximately fifty African species. Half of those species occurs in West Africa and ten are endemic to the area. Most of them are of great importance for wild grazers and cattle. Patterns of distribution will be shown including diversity, functional types and climatic preferences as well as modelled potential distributions of those grasses under different scenarios of climate change. Our results are important for the understanding of the grass savannahs biomes and are a prerequisite for anticipation of the influence of climate change on the distribution of economically important grass species.

Keywords: Biodiversity conservation, climate change, plant diversity map, Poaceae, species distribution modelling, West-Africa