



Mathieu MILLAN is currently a PostDoc at the Institute of Botany of The Czech Academy of Sciences. Working in open ecosystems with trait-based approaches, he is interested in capturing plant ecological functions using plant architecture, and community dynamics with an emphasis on plant development and ontogeny.

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16h00 – 17h00

Salle 201, Bâtiment PS2, CIRAD-UMR AMAP,
Boulevard de la Lironde

PLANT ARCHITECTURE, ONTOGENY AND ECOLOGICAL FUNCTIONS IN SAVANNA WOODY SPECIES

presented by

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ABSTRACT

Open ecosystems, such as savannas, are shaped and maintained by disturbances, for example fire and herbivory. In such ecosystems, plants are exposed to regular biomass loss, preventing the regular course of growth. Thus, it is difficult to understand how they build their bodies, how and when they invest their biomass in their different parts, when they reach their flowering onset, and how their population dynamics works. As the growth process is often interrupted and altered, the use of size-related traits, such as classic plant height and stem diameter, has limited utility in understanding the processes involved in coping with disturbances. An alternative tool to size classes is the use of developmental stages, like seedling, sapling, adult, senescent, etc. In this presentation, I will show how plant architecture (whole plant approach based on morphogenetics and plant morphology) helps define such developmental stages (called ontogenetic stages) and how the developmental status of individuals mediates size-related trait scaling relationships. Additionally, I will discuss how it allows us to predict flowering thresholds (flowering onset and large flower production). I will then discuss the benefits of including plant development in functional ecology and how to incorporate this ontogenetic stage-based approach to improve our understanding of woody species population and community dynamics in open ecosystems.

KEY WORDS

Allometry; Forks; Ontogeny; Plant architecture; Reiteration; Savanna

Invited and animated by:

Artémis Antes & Tristan Charles-Dominique (UMR AMAP)

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