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Salle 201, Bâtiment PS2, CIRAD-UMR AMAP,
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“It’s a matter of choice” Forest reproductive material (FRM) management from an intercontinental perspective.

presented by

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ABSTRACT

Tree species are not uniform biological entities, but evolved through natural selection to distinct intraspecific genetic ecotypes adapted to local environments. Hence, the “genetic identity” of seed sources used in reforestation programs is an essential part of sustainable forest management to mitigate climate-induced maladaptation. European forests have experienced a long tradition of artificial regeneration and human mediated gene flow has profoundly altered the native genetic population structure of several tree species. Frequent failures in reforestation have given rise to provenance research and the establishment of large-scale growth trials for most European timber species which has laid the groundwork for the legislative framework on forest reproductive material (FRM) implemented in Europe today. In contrast, our knowledge on adequate reforestation strategies in tropical forests of West and Central Africa, a region of increasing reforestation efforts, is limited. By integrating a comprehensive inventory of forest genetic resources (FGR) and geocological data, a project recently launched by the Université de libre Bruxelles (ULB) will provide a first spatial assignment of seed zones for key timber species of the Guineo-Congolian forest complex.

The project will combine species distribution modelling (SDM) and molecular data to develop a novel methodical approach to forest seed zone delineation. The results will, ultimately, produce an accurate picture of intraspecific diversity of key timber species in tropical Africa and provide (i) guidance in choosing suitable seed sources associated with climate change, (ii) a basis for consistent monitoring and evaluation of sustainable management actions, and (iii) key insights for the conservation of FGR.

KEY WORDS

reforestation; forest genetic resources; human-mediated gene flow; tree breeding; SDM modelling

Invited and animated by:

Dr. Gilles DAUBY (UMR AMAP)

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