

**Colloque de l'Ecole Doctorale BEE**  
(Biodiversité, Ecologie, Evolution)

**Congress of the Graduate School BEE**  
(Biodiversity, Ecology, Evolution)



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two sister species *E. ivorensis* and *E. suaveolens* assigned to genetic cluster were available for the lowland tropical forests of western and central Africa. Using a Species Distribution Model approach based on MaxEnt algorithm we tested for the environmental differences between species and genetic clusters within species. At species level, the climatic niche significantly differed and only slightly overlapped, suggesting a parapatric speciation along a climatic gradient. Within the two sister species, the niche of the parapatric central African genetic clusters suggests mostly a secondary contact following the recolonization from different forest refugia.

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#### ***From individual diet determination to food web disentanglement: the use of stable isotopes and fatty acids in the study of ant trophic ecology***

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*Ants feed on a broad range of food sources and play a variety of trophic functions in tropical forests where their biomass and diversity are high. Due to the difficulty of assessing ant diet by direct observations in the field, biochemical methods such as stable isotope (SI) and fatty acid (FA) analyses appear as a solution to investigate their trophic ecology. SI and FA analyses have only rarely been used in tropical terrestrial environments. We illustrate the use of these techniques at two different levels of resolution: 1/ at the level of a species, with the determination of the trophic position of a rare and cryptic neotropical ant species, *Tatuidris tatusia*, and 2/ at the level of an elevation gradient in Papua New Guinea, by testing whether ants species with a large distribution occupy the same trophic level at each elevation, and whether their food is based on the same primary sources. While feeding experiments on live *T. tatusia* and direct observation in the field did not provide any information on their food preference, the N isotope analysis of its tissues and of a series of other arthropods present in the leaf-litter suggested that *T. tatusia* are top predators in the leaf-litter food web. The study in Papua New Guinea is still ongoing. However, based on preliminary results and on a short review of the state of the art, we will show how SI and FA analyses are complementary to investigate changes in trophic interactions in food webs along elevation gradients.*

#### **MORIN-RIVAT Julie**

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#### ***Nineteenth century human history explains the current dominance of light-demanding tree species in central African moist forests***

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*-Laurent Bremond, CBAE, Centre de Bioarchéologie et d'Écologie, Montpellier, France.*

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*The canopy of central African moist forests is dominated by light-demanding trees. Most of these species show a distribution of diameters that indicates a regeneration shortage. Here we show through the combined analysis of botanical, palaeoecological, archaeological and*