

## The relevance of taxonomy to Amazon plant diversity estimates

Dr. Domingos Cardoso

In this seminar, Domingos gave us a broad view of the taxonomy to Amazon plant. What I have learned is that based on the GBIF database, there are 11,676 species, 1225 genera of plants on Amazon rainforest, however nearly 50% of plants are incorrectly named, due to they are recorded based on political region, but not geological area. These mistake names result from non Amazonia species biomes, spelling variants and synonyms, non-tree species, not native neo tropical species and non-Amazonia cultivation species. The uncertainty Amazon plant species richness and identity will somehow affect the downstream conservation and evolutionary patterns and processes that drive biodiversity, leaving studies in incomplete and irreproducible conclusions.

In order to solve these problems, they have assembled a comprehensive dataset of Amazonia seed plant species from published sources that includes falsifiable data based on voucher specimens identified by taxonomic specialists. Their list comprises 14,003 species, of which 6,727 are trees, providing a valid starting point for synergy among tropical plant systematists, ecologists and evolution biologists.

Combine with my own experience, I can always find that some mistake named species on some database, because of the reasons that mentioned above. Taxonomy is the foundation of ecology and evolution, and with the development of biotechnology, it also needs constantly self-correction, otherwise it will go into some mistakes or chaos. I'm not surprised that there are some mistakes in those database but did not expect it have this many. So very appreciate their work and also encourages me to self-correction on scientific research.