Symposium 18: Environmental Controls and the Evolution of Water Use Strategies in Tropical Plants

Bonito, 22nd June 2012 (Friday)

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Scenarios of future global climate change predict an increase in the frequency and severity of droughts promoted by higher temperatures and altered precipitation regimes (IPCC 2007). These climatic changes will have a direct effect on the plant water cycle (Ryan 2011). Physiological responses of plants to changing environmental conditions and adaptation strategies have been investigated throughout the tropics. For instance, under seasonal dry conditions, plants reduce transpiration through leaf shedding or stomatal closure. Sunken stomata, thick cuticles, low surface/volume stem and leaf ratios are examples of plant traits which evolved under xeric conditions. The objectives of our symposium are: (1) to present the newest results from studies on plant water relations in different tropical ecosystems including multi-scale experimental approaches and long-term monitoring; (2) to compare adaptive strategies of tropical plants to changes in environmental conditions; and (3) to identify future research needs to better understand and forecast the effects of climate change on plant water relations at the individual plant and community scale.

TALKS (Room Kadiwéu 1, 16h30-18h00)

16h30-16h45 (S18.P.01) **Tree transpiration in tropical forest plantations: effects of species, seasonality and diversity.** *Norbert Kunert*

16h45-17h00 (S18.P.02) **The role of internal water sources in regulating the water balance of woody plants.** *Fabian Scholz*

17h00-17h15. **Water use characteristics of cacao and associated shade trees in an agroforestry system (Indonesia) under drought conditions.** *Luitgard Schwendenmann*

17h15-17h30 (S18.P.04) **Seasonal cycles of leaf desiccation and rehydration of a vascular resurrection plant under contrasting water availabilities at the brazilian 'Campos Rupestres.'** *Grazielle Sales Teodoro*

17h30-17h45 (S18.P.05) **Morphological and ecophysiological adaptations of the African baobab (*Adansonia digitata* L.) to drought.** *Sebastiaan De Smedt*

17h45-18h00 (S18.P.06) **Water relations and hydraulic architecture of evergreen and deciduous tree species with different wood density: the effect of a severe dry spell in the semideciduous Atlantic Forest.** *Sabrina Andrea Rodríguez*

POSTER (Karuha Space, 15h30-16h30)

S18.P.01. **Effect of seasonal water stress in the physiological parameters of different species in the area of environmental remediation.** *Angélica Lino Rodrigues*