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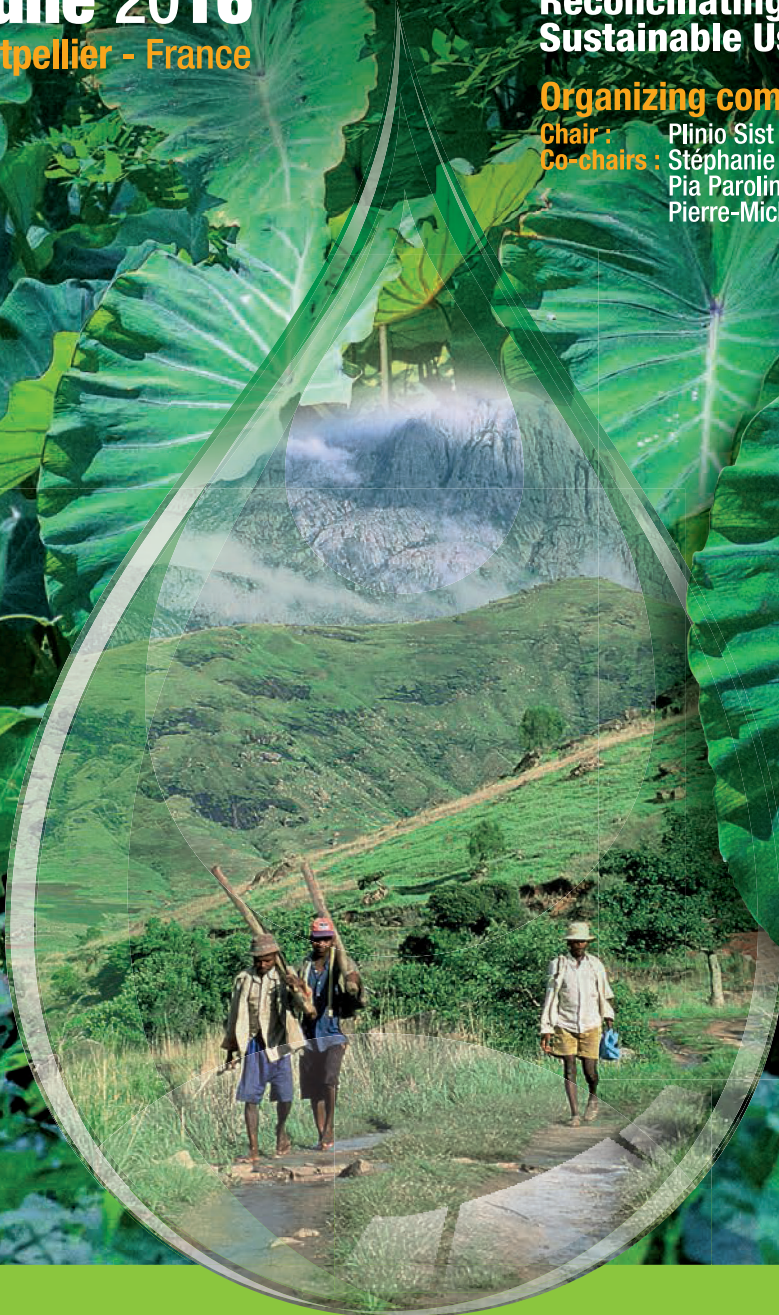
19-23 June 2016
Le Corum, Montpellier - France

Annual Meeting of the Association for Tropical Biology and Conservation

**Tropical Ecology and Society
Reconciling Conservation and
Sustainable Use of Biodiversity**

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**PROGRAM
&
ABSTRACTS**

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P15-01 – S15 Ecosystem ecology of african forests

17:30 – 18:30 – Joffre Area (Level 1)

Variation of leaf gas exchange and leaf water potential among ecological guilds along wet-dry gradient in Ghana

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The tropical African forest is understudied in terms of ecosystem function and its links to ecosystem composition and diversity. The aims of this study are to determine the seasonal variation in photosynthesis and leaf water potential among species functional groups along wet-dry gradient in Ghana. Leaf gas exchange, predawn and midday leaf water potential were measured on selected trees grouped into ecological guild status of pioneers, non-pioneer light demanders (NPLD) and shade bearers in three ecological zones in Ghana. Different ecological guilds behaved differently with regard to seasonality for the transition forest of Kogyae, in the forest-savannah transition zone of Ghana. Both sun and shade leaves behaved similarly in the respective ecological guilds. Pioneer species exhibited the highest maximum photosynthesis (AMAX) in the early rainy season, followed a decreasing order by minor and major rainy seasons. With the shade bearers, the AMAX values for the minor and early rainy seasons were similar and smaller than that of the major rainy season. The sun leaves exhibited higher AMAX in the early and minor rainy seasons than the shade leaves in the entire ecological guilds at Bobiri, in the moist semi-deciduous forest zone. However, the shade leaves generated higher AMAX during the major rainy season. A very high value was exhibited in the major rainy season than the other two seasons for all the ecological guilds. At Ankasa, in the wet evergreen forest zone, the values for both the shade bearer tree species and NPLD species were higher in the major than in the minor rainy season. Predawn water potential exhibited seasonality at Bobiri. The highest occurred in the major rainy season for the pioneer and NPLD species, and in the minor season for the shade bearers. Similar seasonal trend occurred in the midday water potential for all the ecological guilds. The predawn water potential at Ankasa for both shade bearers and NPLD were higher in the major than in the minor rainy season. However with the midday water potential, the shade bearers and NPLD behaved differently. Seasonality pattern of the predawn water potential of all the ecological guilds were similar at Kogyae. It increased from that of early rainy through the major to a maximum value in the minor rainy season. However with the shade bearer, the highest was exhibited in the minor rainy season. The three ecological guilds behaved differently with regard to the midday water potential.

P17-01 – S17 Palm ecology in a changing world

17:30 – 18:30 – Joffre Area (Level 1)

Flower-visitor communities and pollination services to açai palm (*Euterpe oleracea* Mart.) in native várzea forest and terra firme plantation – A first perspective

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Background:The açai palm (*Euterpe oleracea* Mart.) is native to the flooded forests (várzeas) of the estuarine Amazonian delta region of Brazil, Guyana and Venezuela. The fruit of the açai palm (‘açai’) has long provided a staple food for local riverine communities, and more recently, an important source of income as a result of growing domestic and international demand. Yet, despite the huge ecological, economic and cultural importance of açai, understanding of its pollination ecology is limited. Furthermore, increased demand for the fruit is driving plantation of açai in areas of physiologically-unsuitable terra firme habitats, which often require additional inputs (e.g. irrigation, fertiliser) and threaten remaining fragments of dry tropical forest. Our aim was to investigate the reproductive biology of açai, the identity of important pollinators and the impacts of the transition from native várzea forest to plantation in terra firme on flower-visiting insect communities and pollination services.

Methods:We made observations of flower-visiting insects and compared pollination success in açai inflorescences under natural conditions (unmanipulated control), bagged (insect-excluded) and hand-pollinated inflorescences to quantify pollination services in 14 areas (7 várzea forest, 7 planted terra firme) close to Belém, Pará, eastern Brazilian Amazon.

Results:Initial results revealed flower-visitor communities were dominated by bees belonging to the Meliponini tribe (Hymenoptera: Apidae), but other bees (Halictidae), ants (Formicidae), wasps (Vespidae), flies (Diptera: Sarcophagidae, Syrphidae) and beetles (Coleoptera: Chrysomelidae, Curculionidae) were also frequent visitors. We viewed a clear distinction in visitor communities of inflorescences in different sexual phases (male or female flowers) and across time periods within days.

Discussion:Results of this project provide growers with practical information on how best to conserve both native pollinator diversity in areas used for açai production and evidence to support the use of managed pollinators in açai to improve crop yields.