Forest anomalies and human occupation in Central Africa during the last two millennia

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Maley & Brennac 1998b Les variations de la végétation et des paléoenvironnements du sud Cameroun au cours des derniers millénaires
Vincens et al. 2004 Forest response to climatic changes during the last 4000 years, Journal of Biogeography, 26, 879–885
Project: History of tropical forests

(1) Ecology of forest communities

(2) Population genetics

(3) Dendrochronology

(4) Soil analysis (archaeology, pedology)

(5) Anthracology
Anomalies in the forest
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• Can we correlate patches of tall light-demanding trees species – forest anomalies - with human activity (as suggested in a tentative hypothesis by van Gemerden et al. 2003 and Brncic et al. 2009)?

• Can we use forest ecology to select survey areas in the Central African rainforest?
Method

- Forest inventories
- Ecological surveys
- Test Areas
- Dutch auger testing
- Test pits (10 cm spits)
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Results

- Charcoal in forest soils (1 = 20 cm; 6 = 120 cm)
Results

- Pottery

205 BP
*Elaeis* nut

37 P1 F2 5 cm

39 P1 F1 20 cm
Results

- Pottery

1715 ± 25 BP
Elaeis nut

1715 ± 25 BP
Elaeis nut
Results

• Pottery

1630 ± 25 BP
*Canarium* nut
• Pottery is present in most of the surveyed areas, but more frequent within patches of long-lived light demanding species

• In 85% of the cases potsherds are associated with charcoal, *Elaeis guinensis* and *Canarium schweinfurthii* nuts
Conclusions and perspectives

- Waiting for genetics, anthracology and dendrochronology. Important developments are still needed as regards site formation processes and pedology.

- Abundant traces of human occupation found where none had been recorded before.
Conclusions and perspectives

• Archaeological survey method adapted for the rainforest (surveys outside of eroded areas)

• New avenues of research as regards dynamics of forest occupation (village vs. field)
Conclusions and perspectives

• Foresters must undertake forest inventories to obtain international certificate of sustainable development

• Access to this data is possible when collaborations based on mutual trust are developed
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Acknowledgements: Forest companies Pallisco, Wijma Cameroun and Groupe Rougier

21st Biennial of the Society of Africanist Archaeologists

Toronto – 23rd of June, 2012