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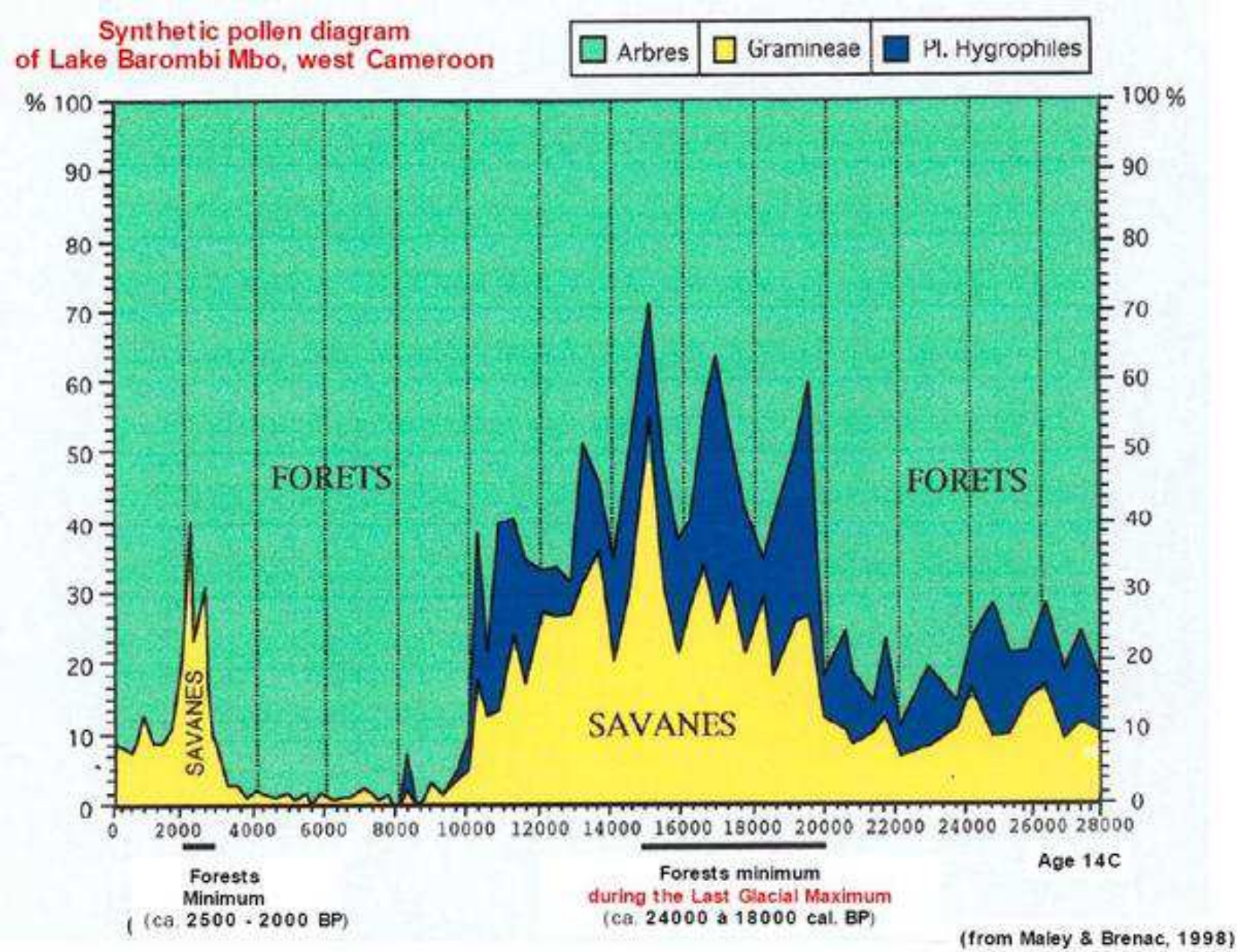
LA DESEXCELLENCE

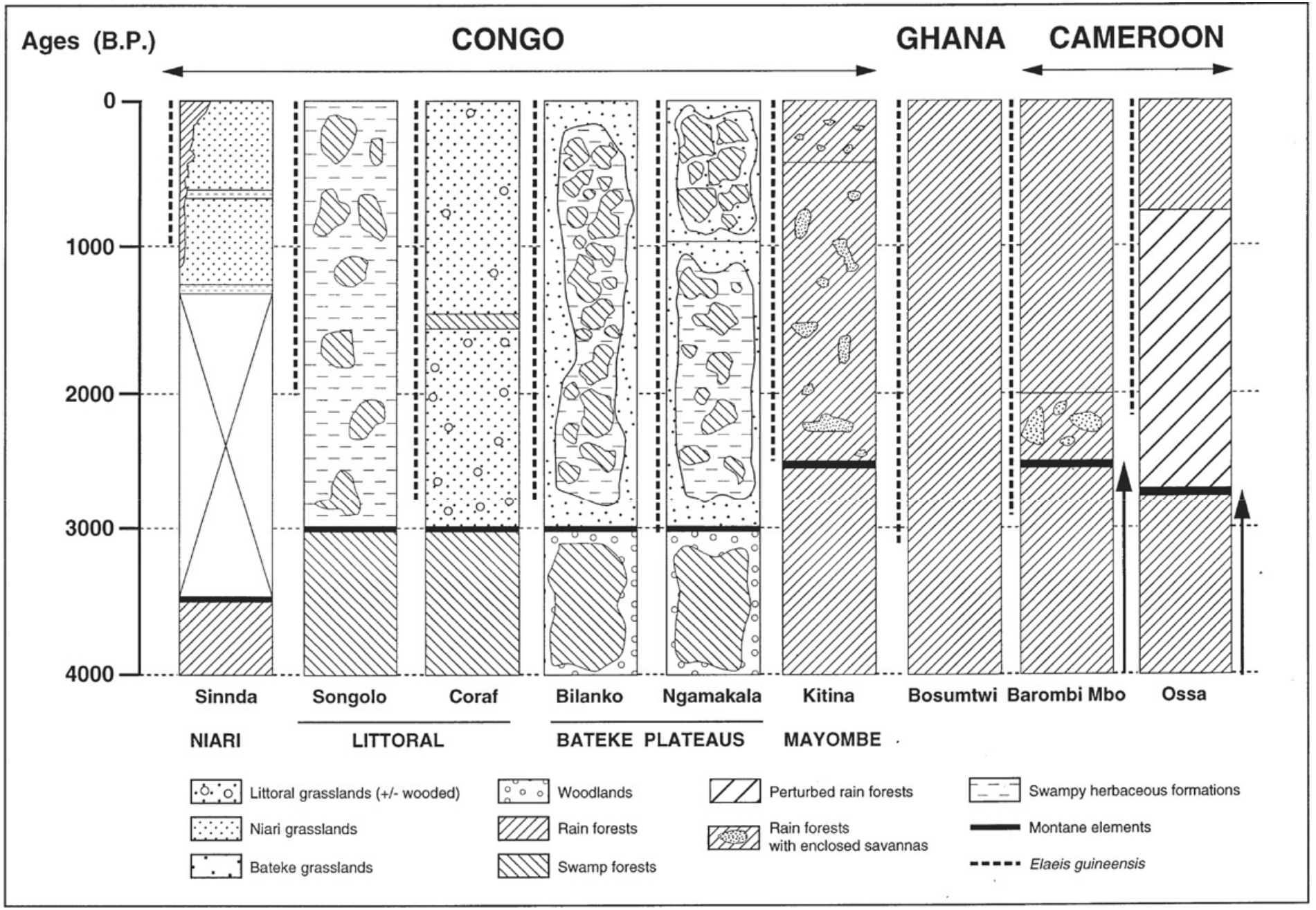
Forest anomalies and human occupation in Central Africa during the last two millennia

Alexandre LIVINGSTONE SMITH, Hans BEECKMAN, François CERISIER, Jean-Louis DOUCET, Jean-François GILLET, David GRUSLIN, Hélène GUION, Wannes HUBAU & Nils BOURLAND

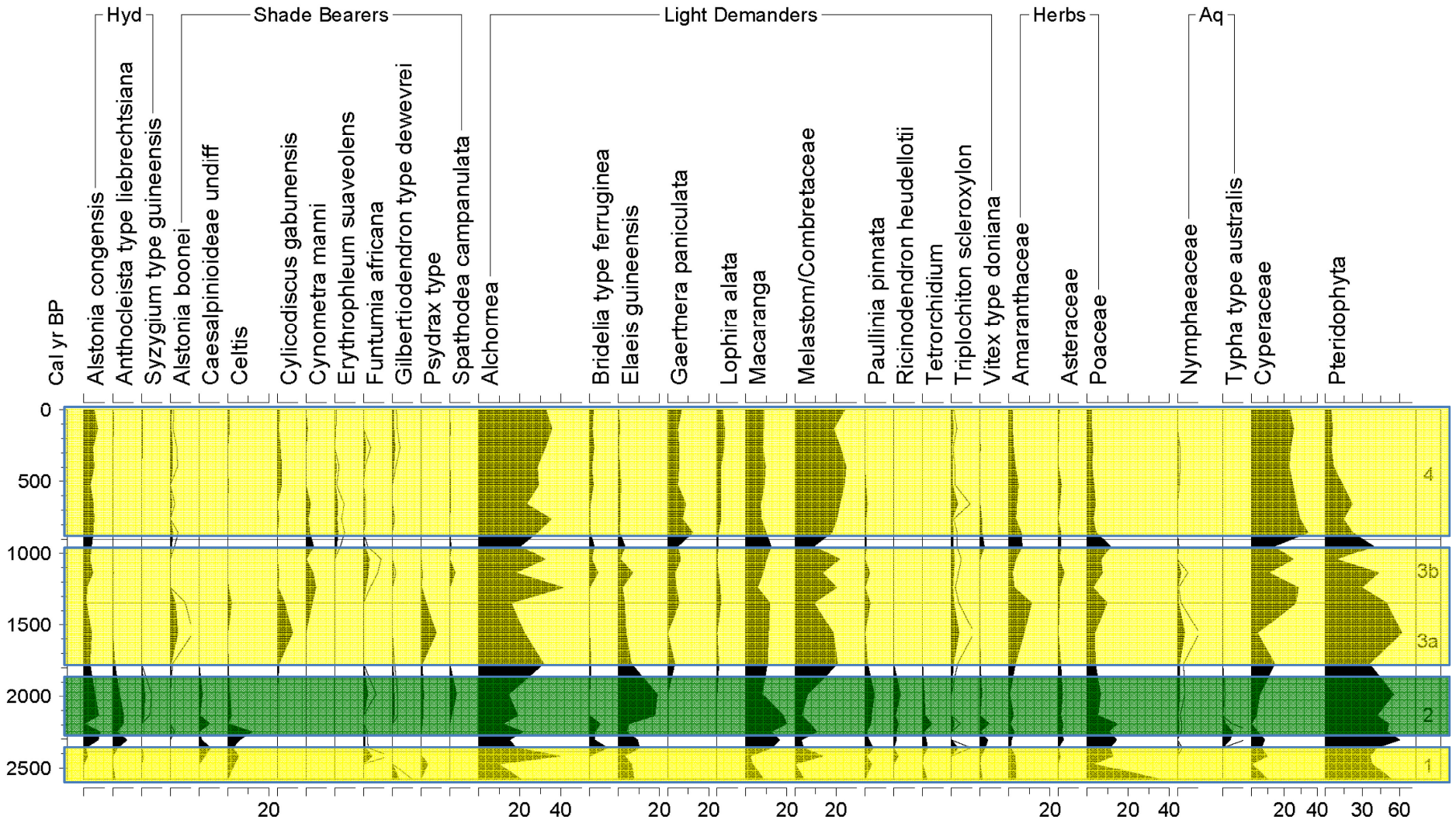
21st Biennial of the Society of Africanist Archaeologists — Toronto – 23rd of June, 2012



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


Hyd
Shade Bearers
Light Demanders
Herbs
Aq
Cal yr BP
Alstonia congensis
Anthocleista type liebrechtsiana
Syzygium type guineensis
Alstonia boonei
Caesalpinioideae undiff
Celtis
Cylicodiscus gabunensis
Cynometra manni
Erythrophleum suaveolens
Funtumia africana
Gilbertiodendron type dewevrei
Psydrax type
Spathodea campanulata
Alchornea
Bridelia type ferruginea
Elaeis guineensis
Gaertnera paniculata
Lophira alata
Macaranga
Melastom/Combretaceae
Paullinia pinnata
Ricinodendron heudellotii
Tetrorchidium
Triplochiton scleroxylon
Vitex type doniana
Amaranthaceae
Asteraceae
Poaceae
Nymphaeaceae
Typha type australis
Cyperaceae
Pteridophyta
0
500
1000
1500
2000
2500
4
3b
3a
2
1
20
20 40
20
20
20
20
20
20 40
20 40
30 60

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

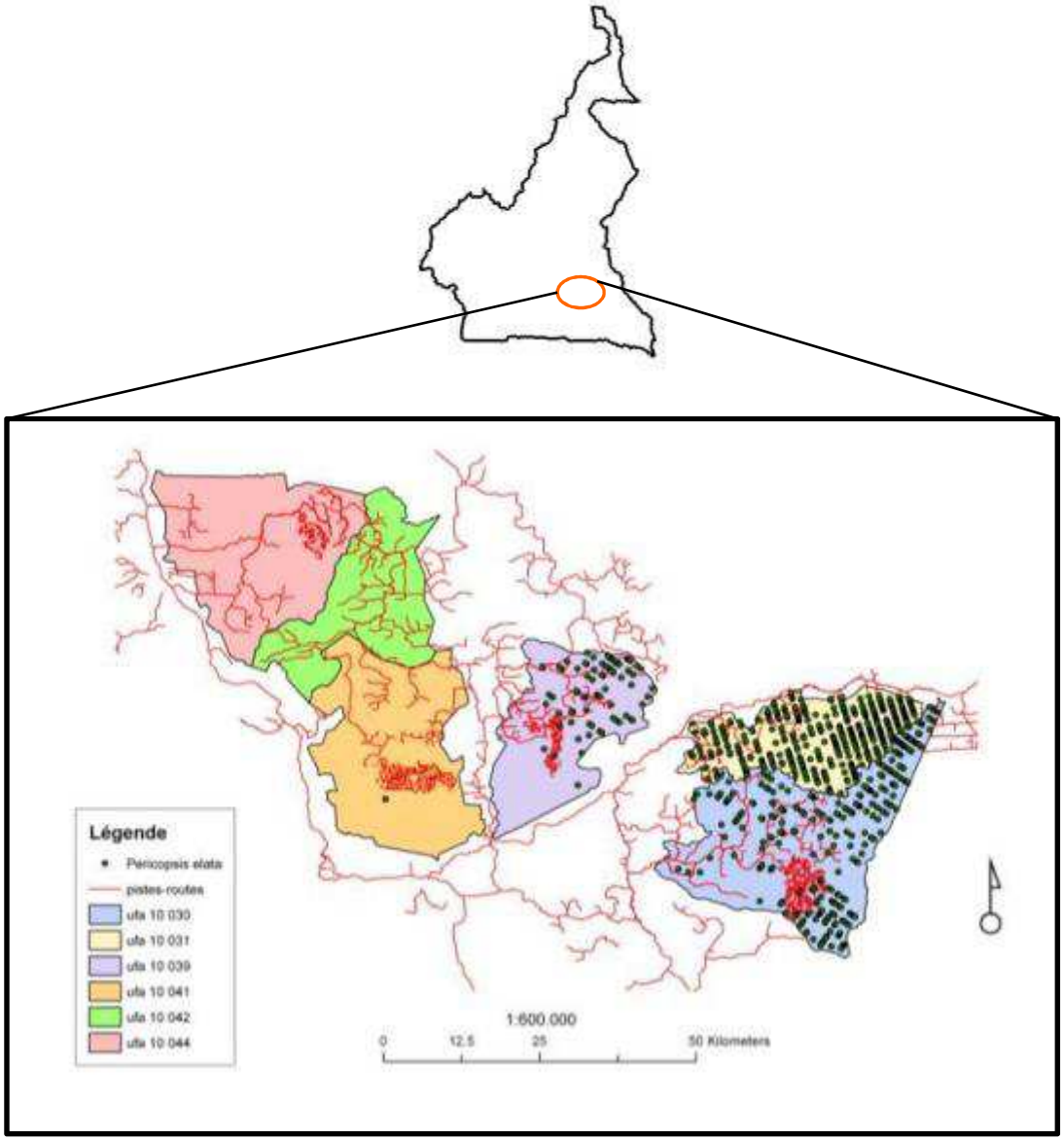
Anomalies in the forest

- 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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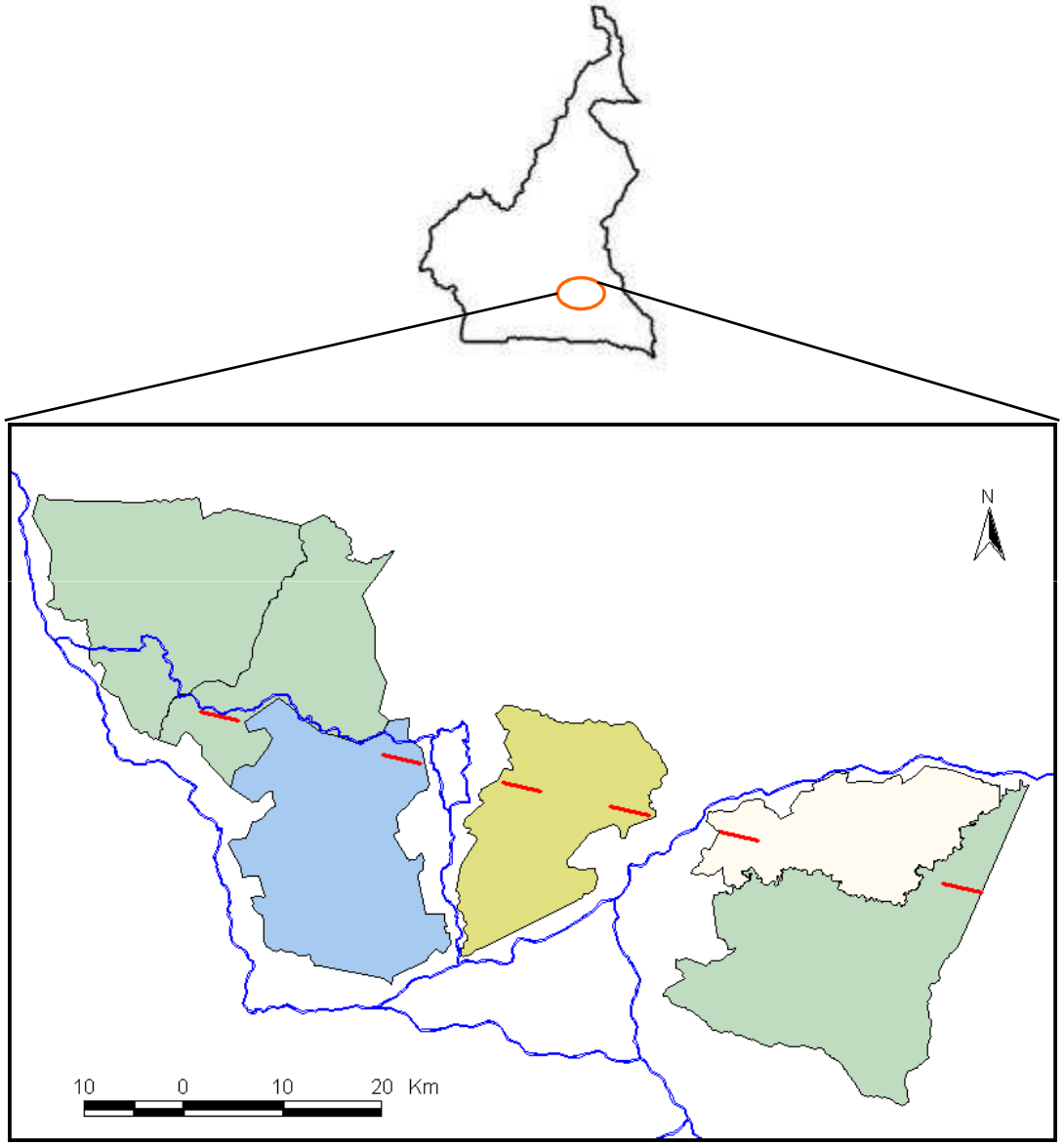

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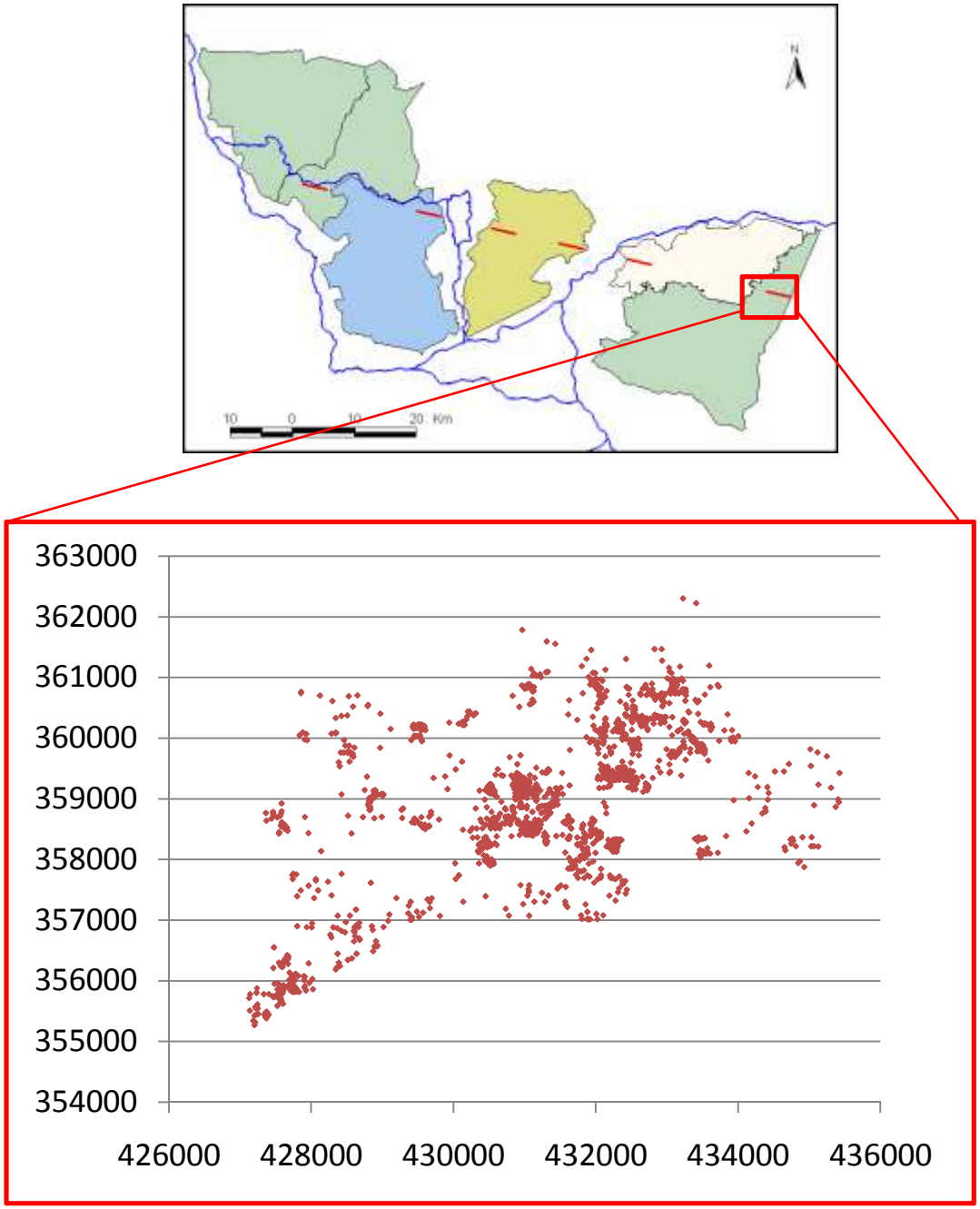

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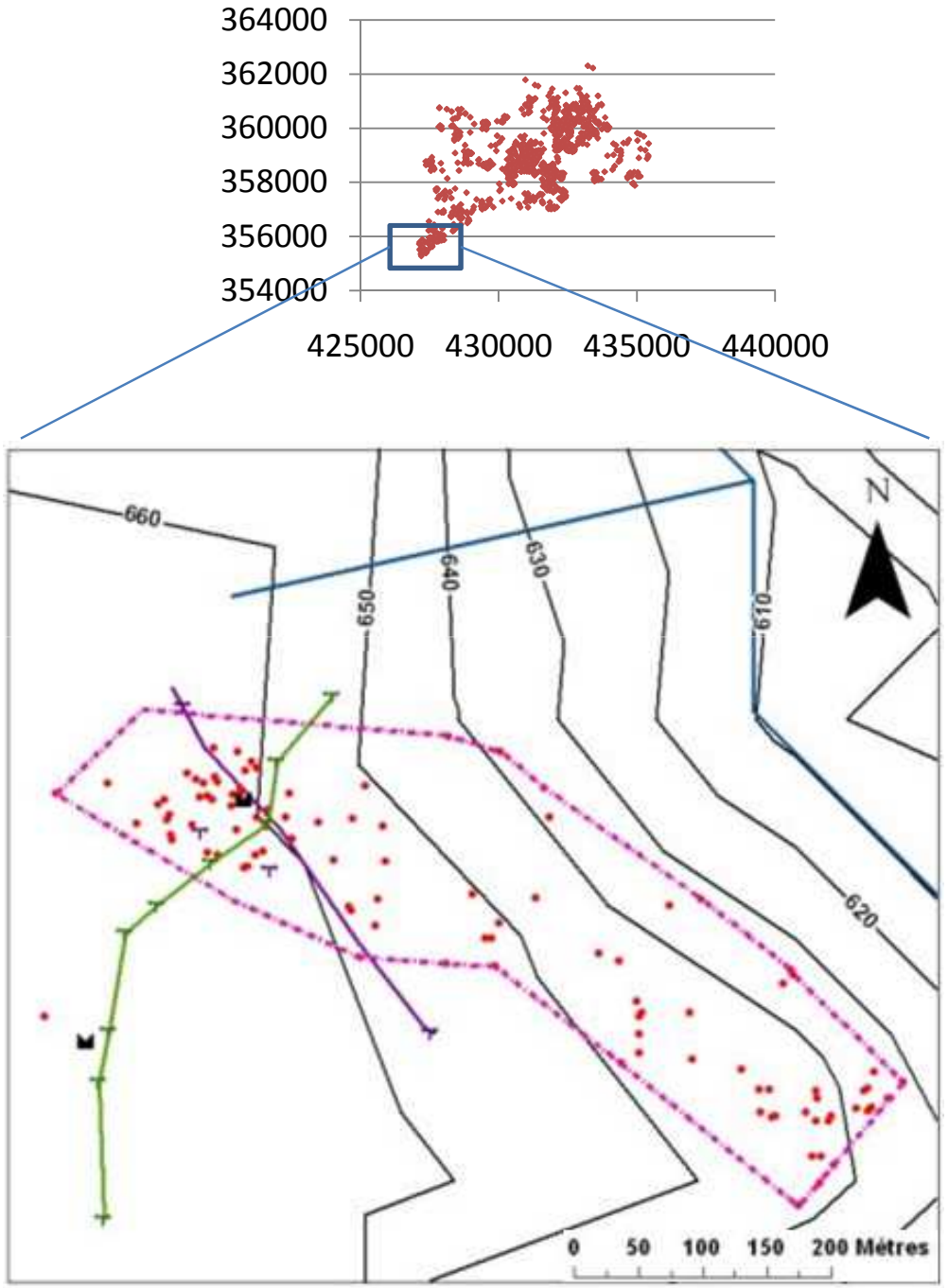

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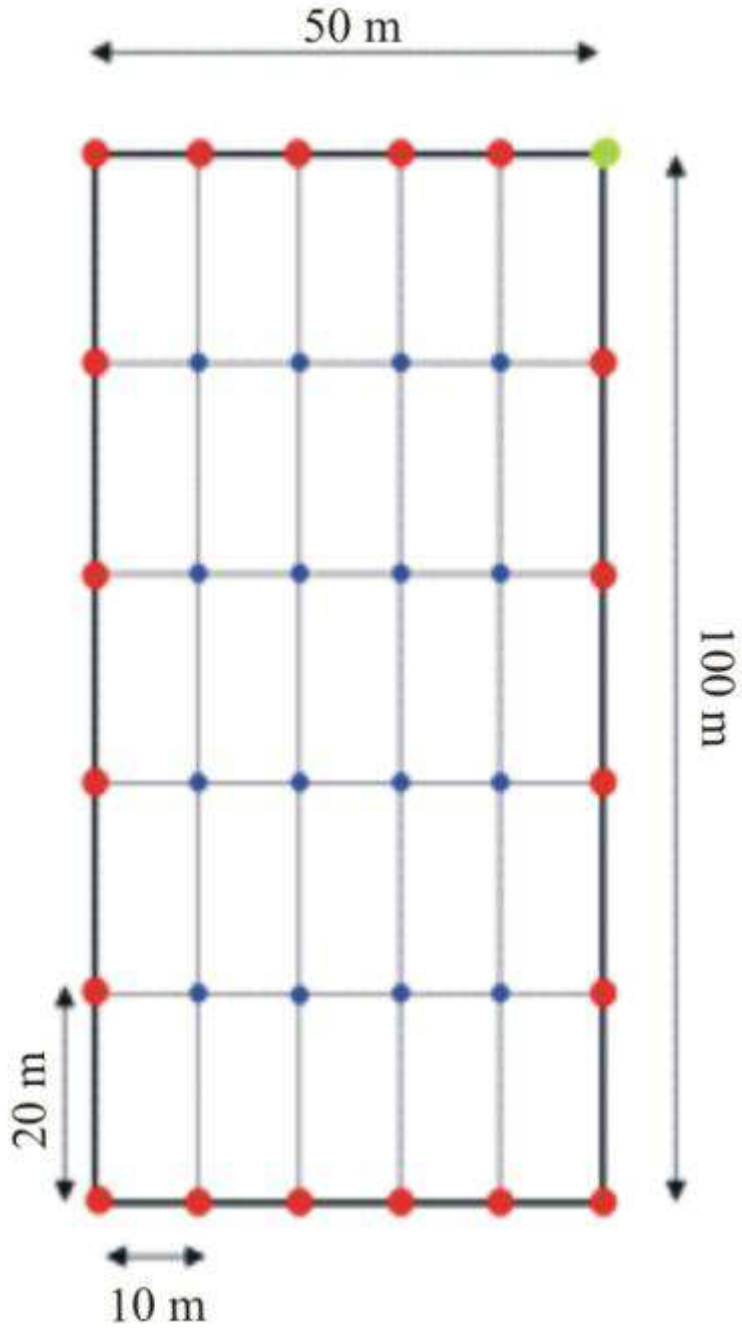

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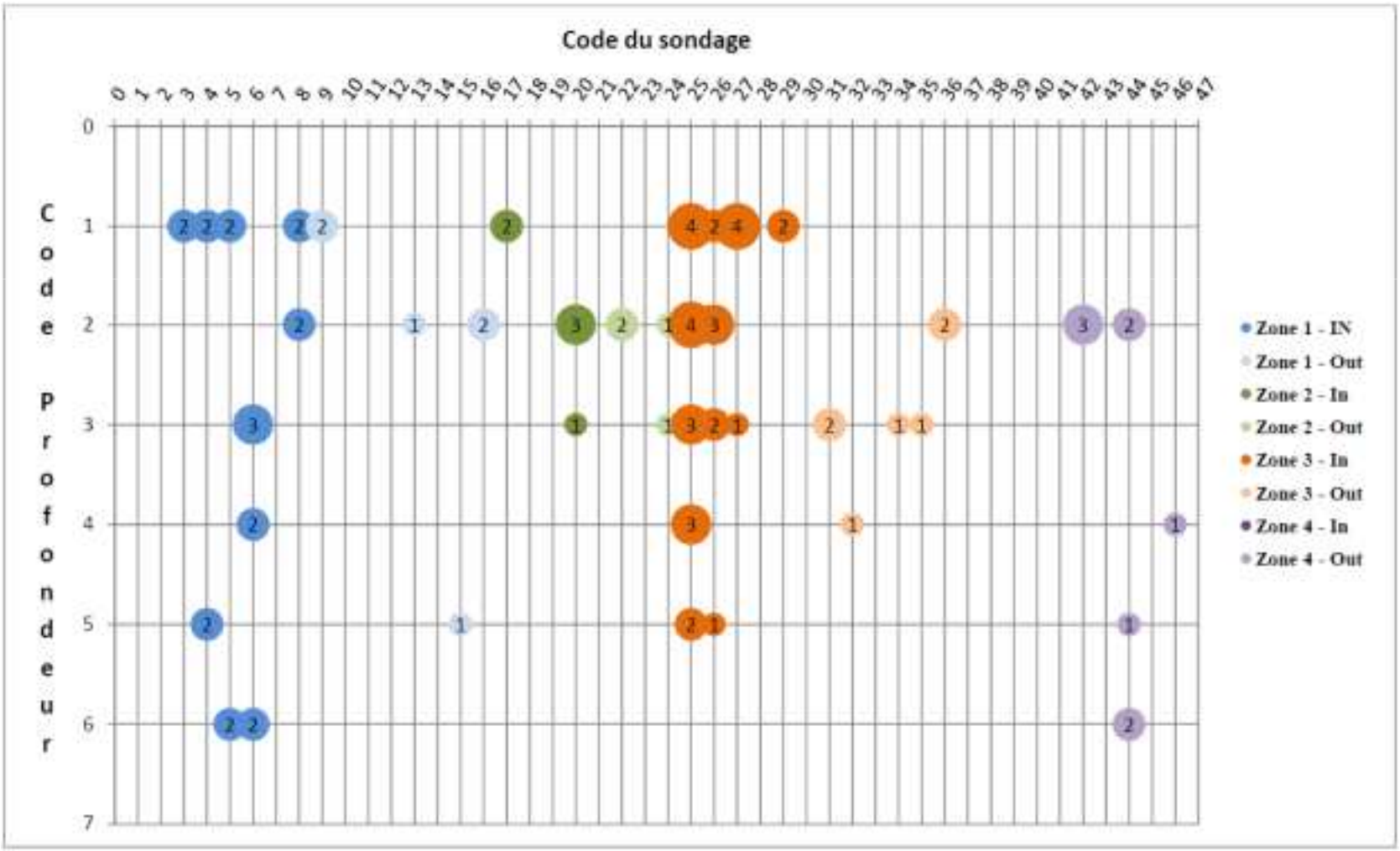
Results

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



Results

- Pottery

205 BP
***Elaeis* nut**

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- Pottery

1715 ± 25 BP
***Elaeis* nut**

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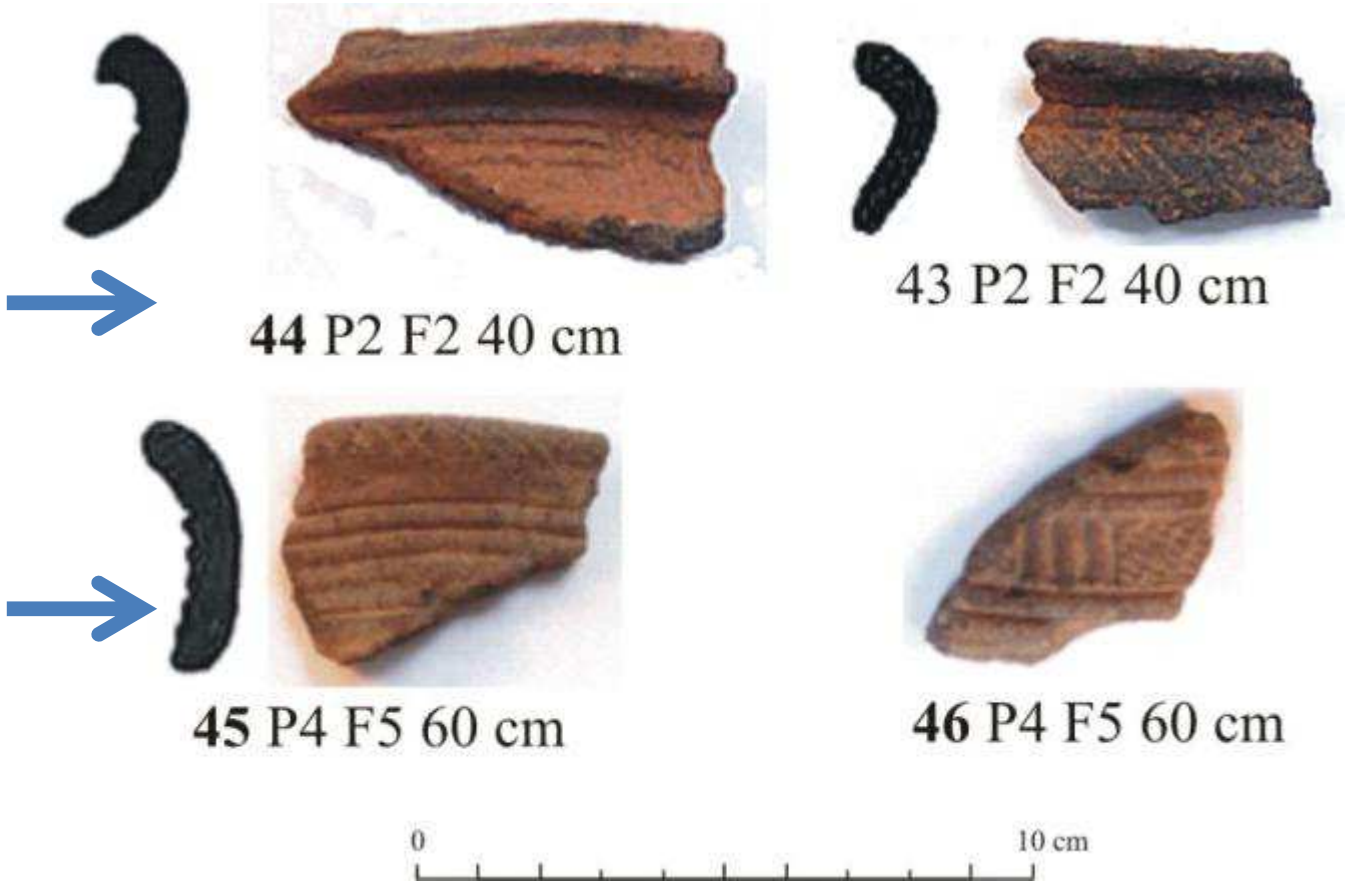
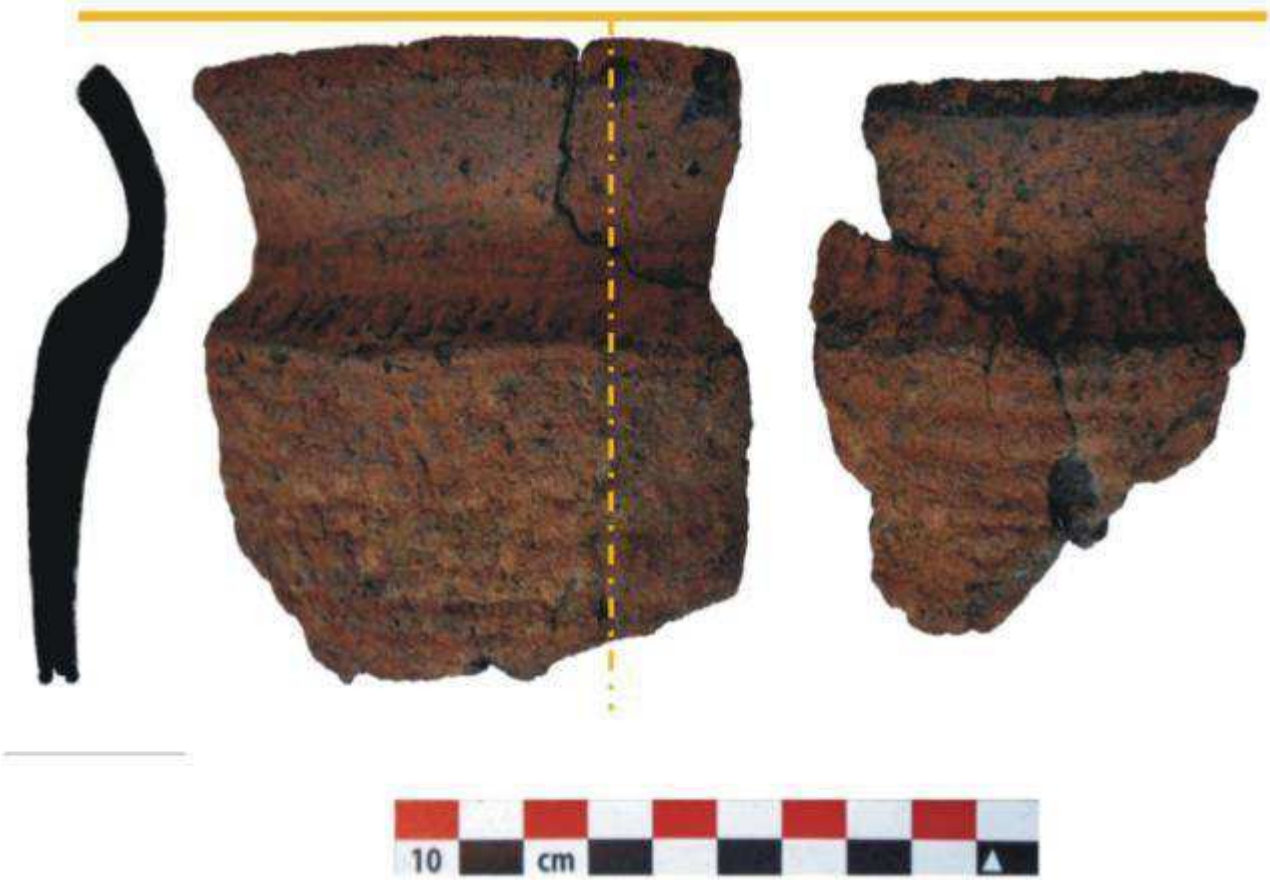


Results

- 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 developped

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