

Influence of bark harvesting on xylem vessel density and area of 10 medicinal tree species (Benin)



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Study area

Protected forest of Monts Kouffé

Area : 180 300 ha

Dry forest :

Isobertinia doka, *Anogeissus leiocarpus*, *Daniellia oliveri*, *Lannea kerstingii*

Wooded Savanna : *Pericopsis laxiflora*, *Pterocarpus erinaceus*, *Pseudocedrela kotschy*, *Parinari curatelifolia*, *Maranthes polyandra*, *Uapaca togoensis*, *Detarium microcarpum*, *Lophira lanceolata*



Ecological study

Aim

Hypothesis : Medicinal tree species present different ability to recover from wound.

Objectives 1) compare the re-growth area (edge and sheet re-growth),
2) assess the impact of bark harvesting on the vegetative growth and on insect attack,
3) suggest a species-specific strategy for a sustainable management of bark harvesting.

Species

Afzelia africana (Caesalpinaceae)
Burkea africana (Caesalpinaceae)
Detarium microcarpum (Caesalpinaceae)
Khaya senegalensis (Meliaceae)
Lophira lanceolata (Ochnaceae)

Mangifera indica (Anacardiaceae)
Maranthes polyandra (Chrysobalanaceae)
Pterocarpus erinaceus (Papilionaceae)
Pseudocedrela kotschy (Meliaceae)
Uapaca togoensis (Phyllanthaceae)

Materials and methods

Bark harvesting

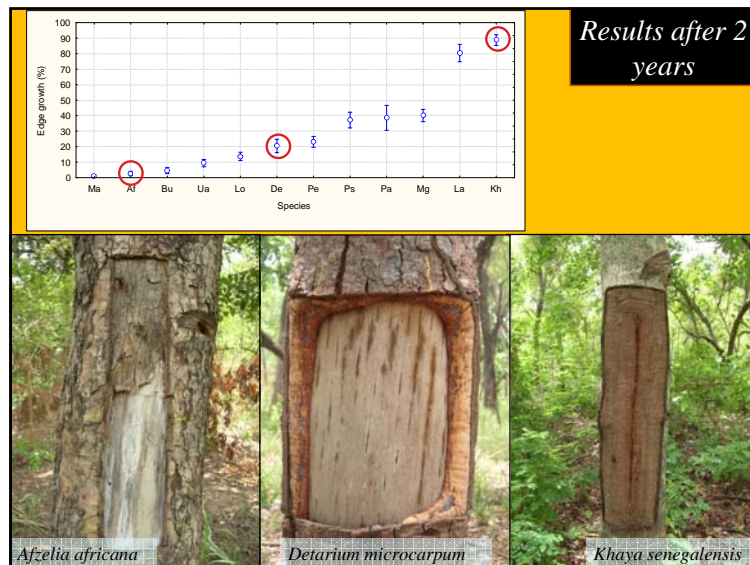
Materials and methods

Season : dry and rainy

Diameter : D1 (10-20cm), D2 (21-30cm), D3 (< 31 cm)

Debarking Intensity : 7 Intensities (20%, 50%, square, 75%, 100%)





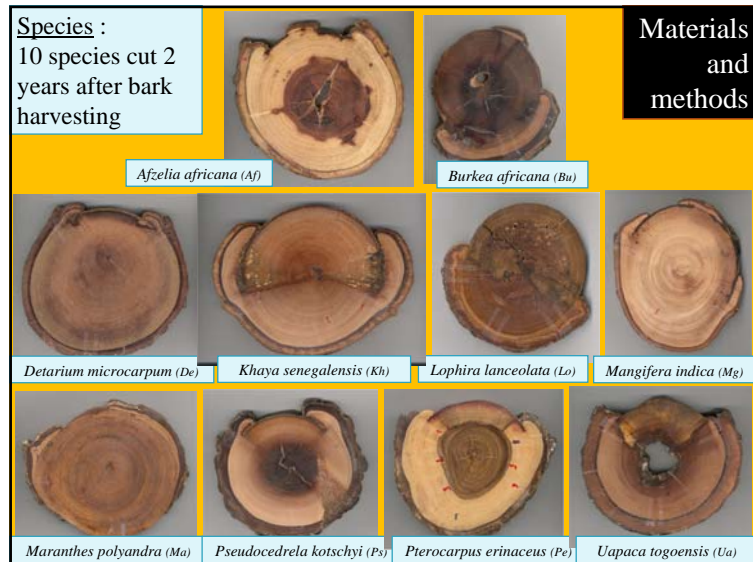
Anatomical study

Scientific questions

1° Does bark harvesting change wood development in terms of vessel density and vessel area?

2° Which tree species form a traumatic canal in response to injury ?

3° How does compartmentalization illustrate after bark harvesting amongst each 10 tree species ?

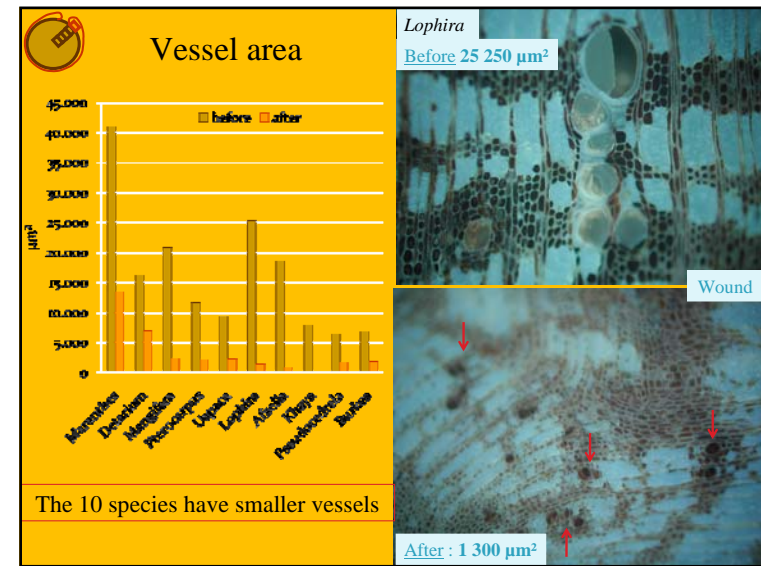
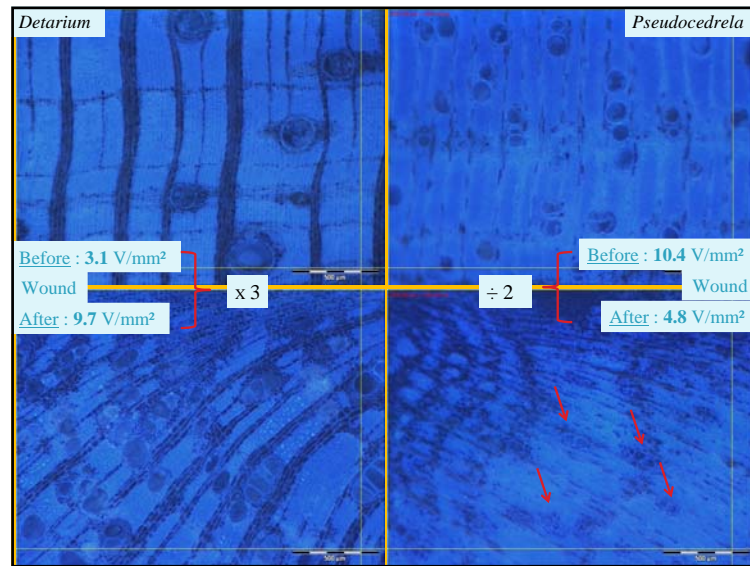
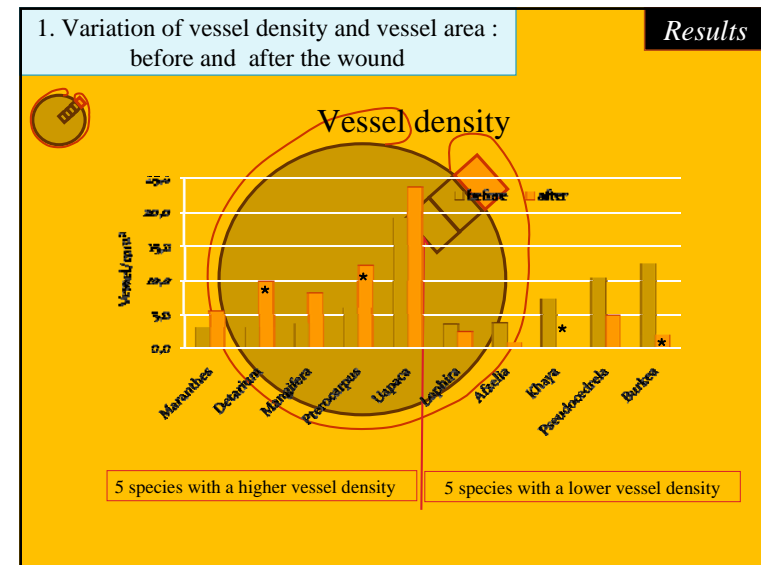
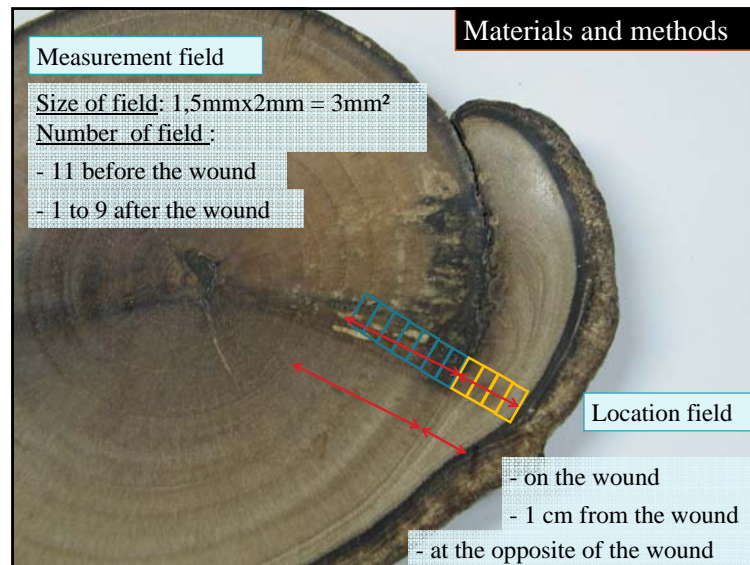


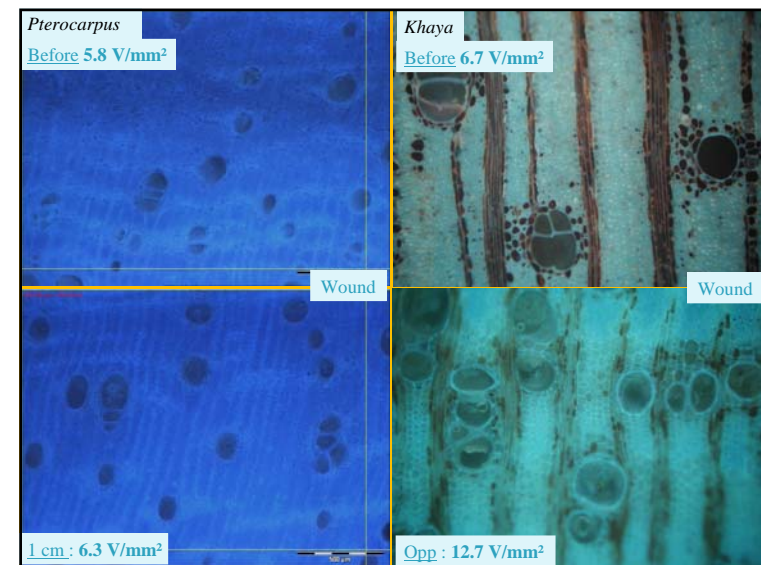
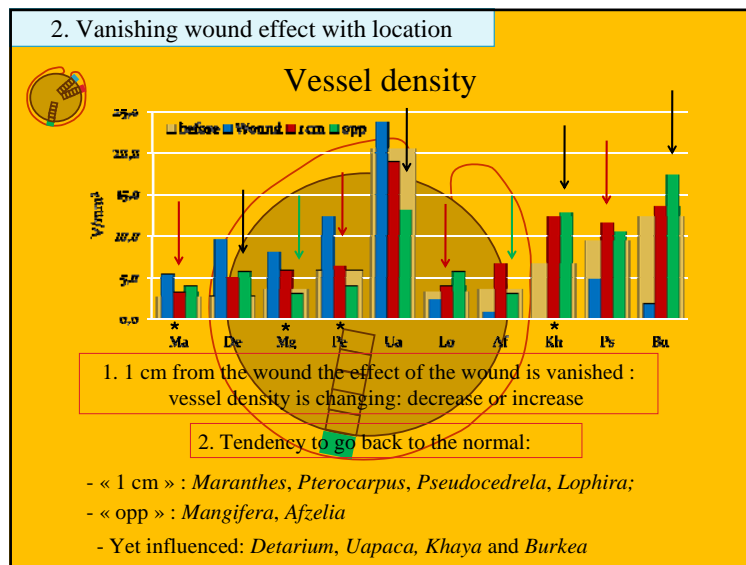
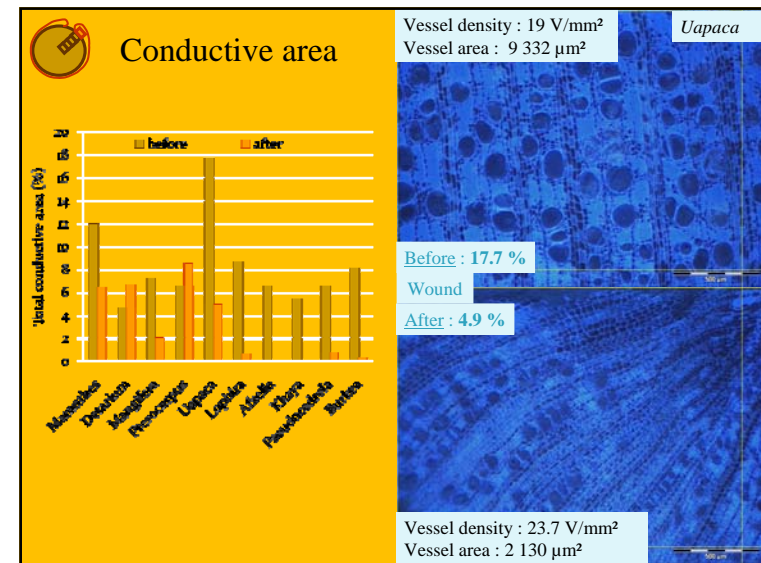
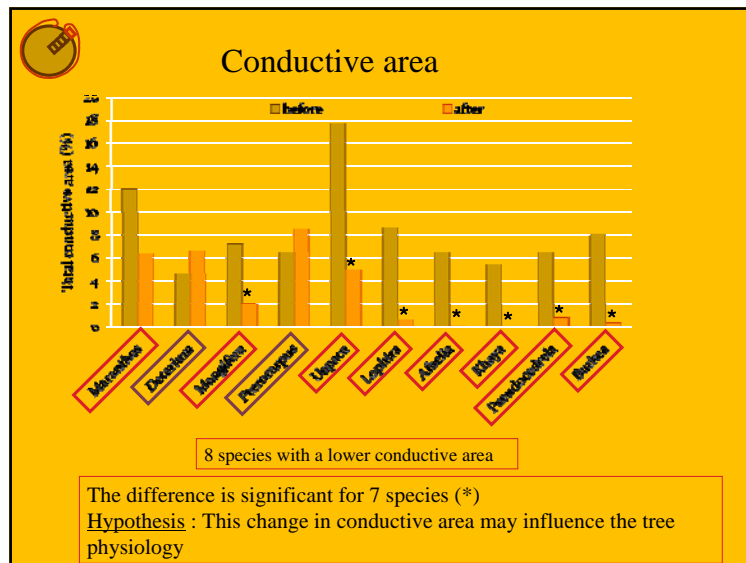
Measurement :

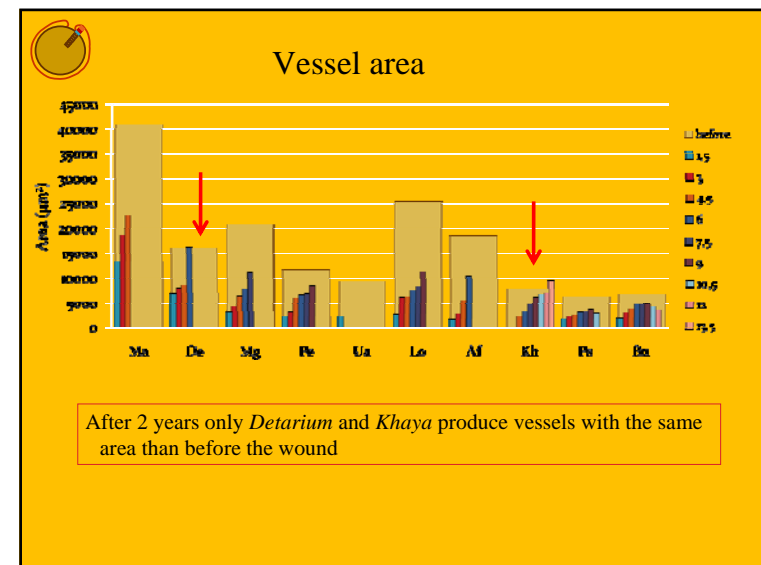
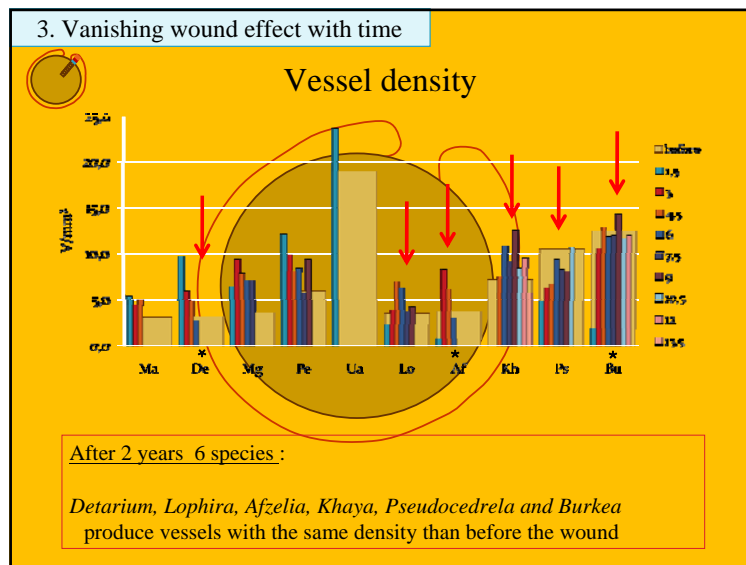
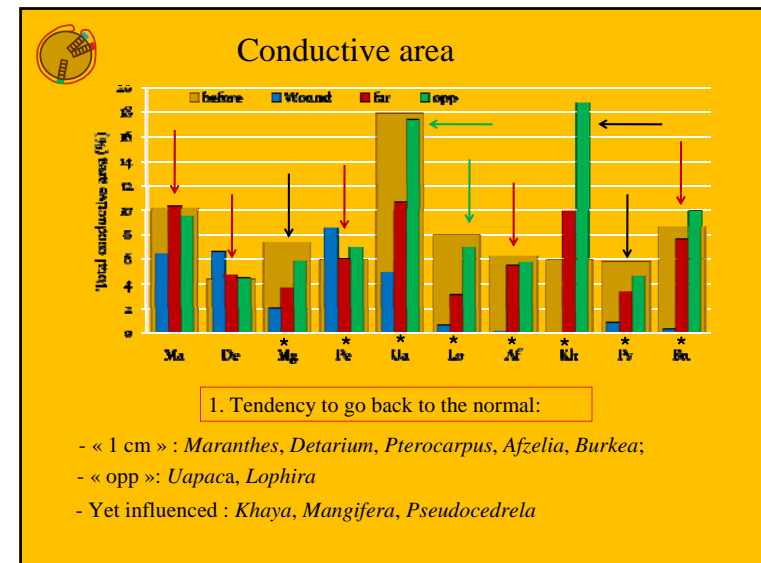
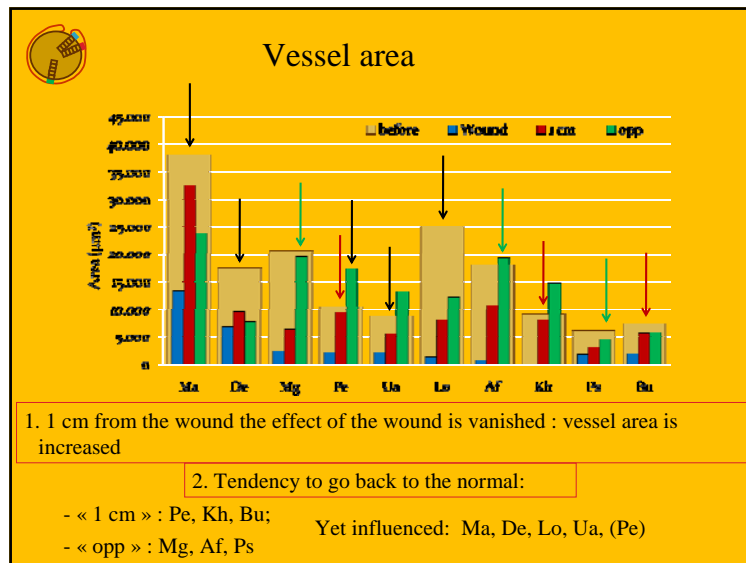
- 1)Vessel number
- 2)Vessel area

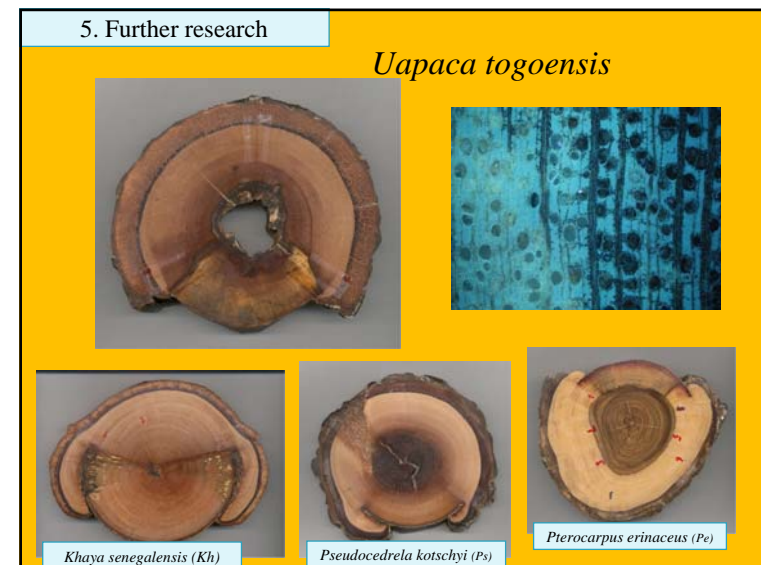
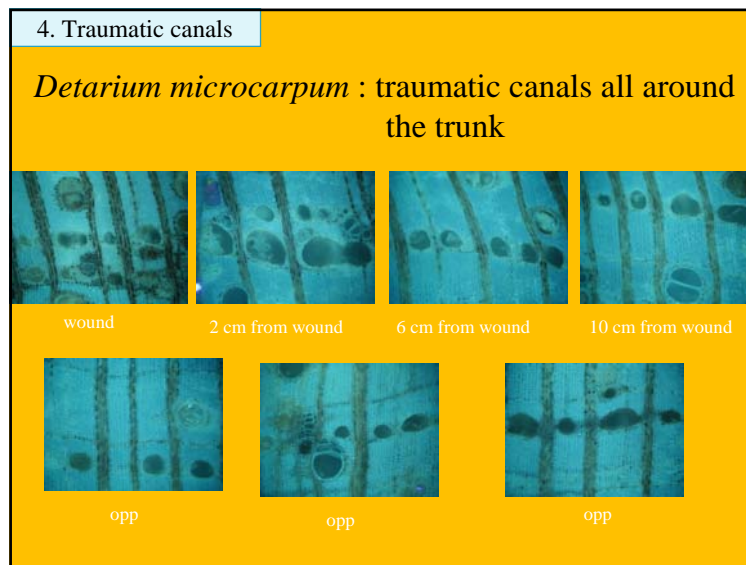
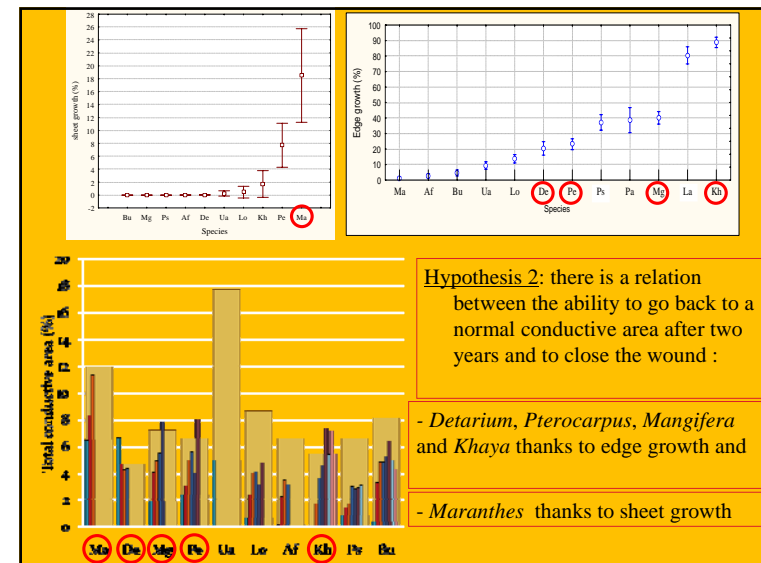
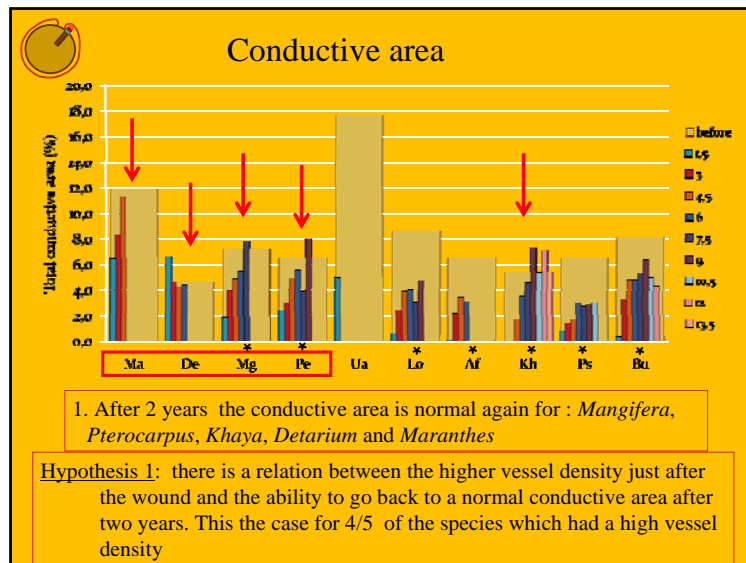
Materials and methods













Nature is still full of mysteries
.....and that is for our pleasure !