



BioWooEB
Biomass
Wood
Energy
Bioproducts
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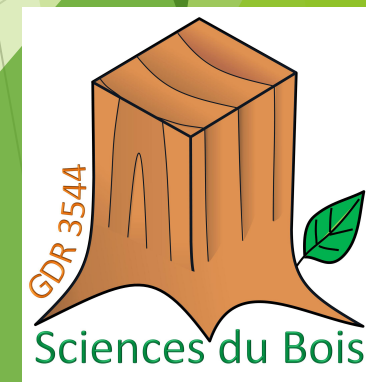
ARCHIWOOD

**Jeu de données de morphologie végétale,
anatomie et architecture d'espèces de bois
à Madagascar**

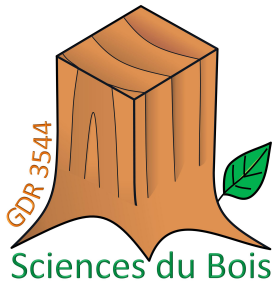


LA RECHERCHE AGRONOMIQUE
POUR LE DÉVELOPPEMENT


sebastien.paradis@cirad.fr
21-23 novembre 2017 * Nantes



ArchiWood : quoi, pourquoi, comment ?



QUOI ?

- ▶ Projet de numérisation de documents patrimoniaux du Cirad
- ▶ Production d'un jeu de données proposé en Open data 

POURQUOI ?

- ▶ Nombreuses collections « analogiques » : xylothèque + herbiers + cahiers de terrain de l'UMR Amap (modélisation de plantes)

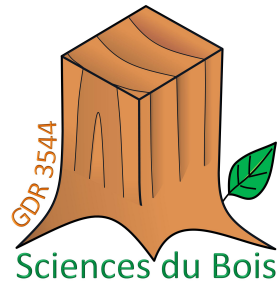
COMMENT ?

- ▶ Sélection d'un sous ensemble de données → Madagascar
- ▶ Numérisation & production de métadonnées : InsideWood, IAWA, biblio, Dublin Core

ArchiWood : le jeu de données

- ▶ 3600 documents
- ▶ 250 espèces

Base de données unique sur les caractéristiques botaniques de nombreuses espèces de Madagascar



Notes & croquis

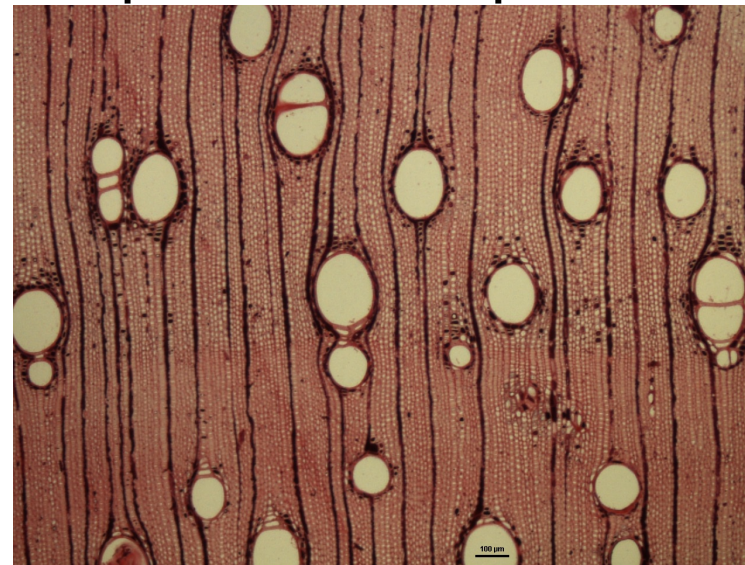


Photos



Certaines datent de 1964

Coupes anatomiques



x40, x100, x200 pour chacun des 3 plans © Francis Hallé

ArchiWood : mais encore



USAGES ?

- ▶ Diversité des propriétés & comportements techno = « le bon choix d'un bois tropical »
- ▶ Relations entre structure des bois & leurs caractéristiques physico-mécaniques, chimiques, biologiques

DIFFUSION

- ▶ Données dans un entrepôt (Zenodo)
- ▶ Attribution d'un DOI au jeu de données
- ▶ Site web
- ▶ Publication d'un datapaper

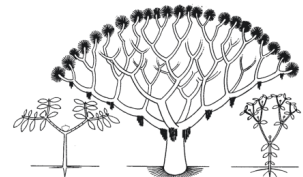
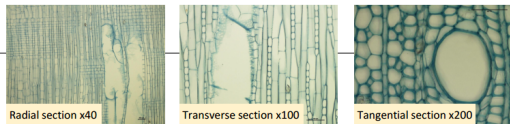
Amira Azizan¹, Loïc Brancheriau², Yves Caraglio³, Pierre Bonnet³, Christine Heinz^{1,3}, Patrick Langbour², Sébastien Paradis³, Nabila Boutahar², Yannick Brohard³, Emma Guillon¹



Purpose To enhance biodiversity knowledge and to promote accessibility to the scientific heritage of CIRAD's **xylotheque** and **fieldwork documents** related to one of the tropical biodiversity hotspots.

Taxonomic coverage 250 species, 244 genera, 102 families

CIRAD's xylotheque For each species: anatomical slides of 3 sections at 3 magnifications. Scientific collection since 1937.

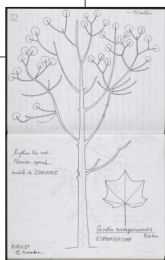


Trait coverage
The International Association of Wood Anatomists Feature and Identification list (IAWA Committee 1989)



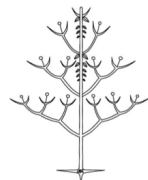
Fieldwork documents Notes, photographs and illustrations by French botanist Francis Hallé. Collection since 1970.

Trait coverage
15 morpho-architectural traits defined by Hallé & Oldeman (1970), Halle et al. (1978) and Barthélémy & Caraglio (2007).

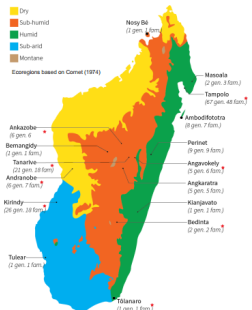


Growth form	Tree / shrub
Rhythmic growth	Yes
Branching process	Yes
Branching patterns	Delayed
Type of leaves	Simple
Phyllotaxis	Alternate
Leaf venation	Palmate
Petiole	Yes
Stipules	Yes
Position of sexuality	Terminal
Inflorescences type	-
Flower symmetry	-
Flower type	-
Fruit	-
Roots	Undergrowth

Architectural model Scarrone



Geographic coverage
Obtained from fieldwork documents



More on this dataset

Our dataset provides high resolution digitized **anatomical slides** and **fieldwork documents** as well as indexed information for each trait available. Morphological and architectural traits for a species or a set of species (genus, family) can be obtained as metadata for further analysis.

Those curated information may contribute to research such as:

- Biogeographical variation within species and genus in plant anatomy regarding the ontogeny and structure of sampled plants
- Diversity of wood characteristics and technological behaviors that directly govern the choice of tropical timber use
- Relationship between tropical wood structure and certain physical, mechanical, chemical, and biological properties of the material

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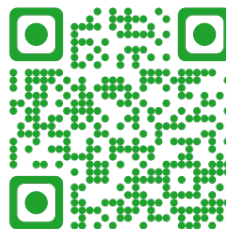
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Poster B16

Merci

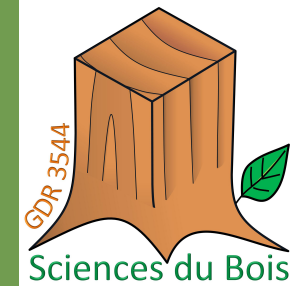
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ARCHIWOOD

**DONNÉES DE MORPHOLOGIE VÉGÉTALE,
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DE BOIS À MADAGASCAR**

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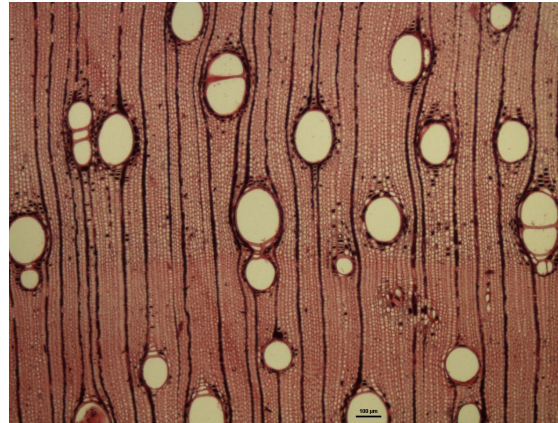
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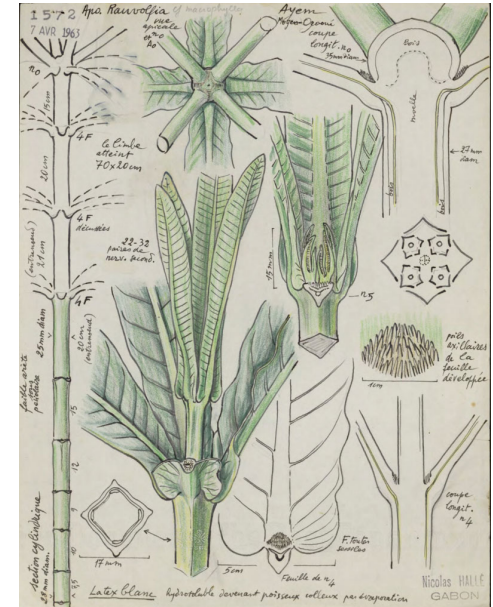
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© Francis Hallé

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ArchiWOOD DATASET FOR ANATOMICAL, MORPHOLOGICAL AND ARCHITECTURAL TRAITS OF PLANT SPECIES IN MADAGASCAR

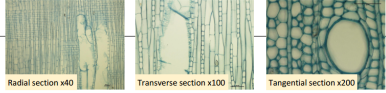
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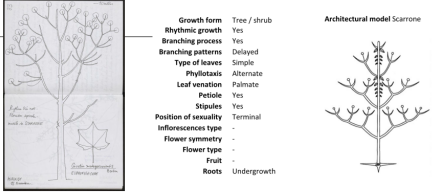


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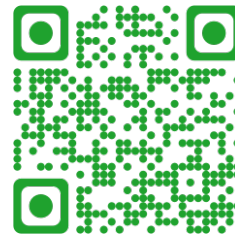
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