

FUNCTIONAL TRAITS AND SPECIATION OF TROPICAL AFRICAN SPECIES: THE CASE OF GENUS GUIBOURTIA BENN

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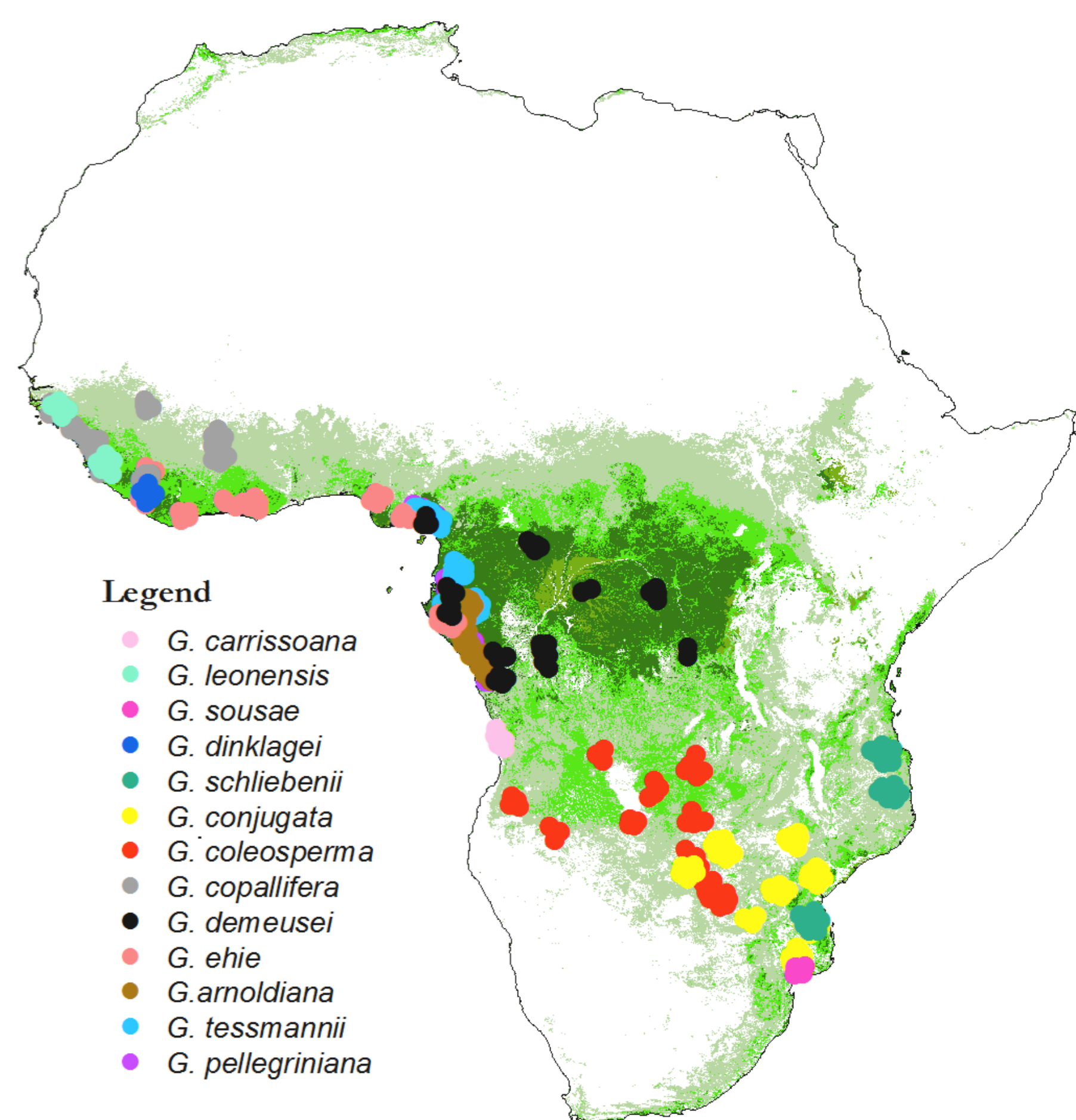


Figure 1. Distribution range map of *Guibourtia* African species (adapted from Mayaux et al. (2003) et CJBG (2012))

CONTEXT

- ✧ Comparative ecology approach is widely used to understand mechanisms of speciation.
- ✧ However, few studies take into account the importance of physiological traits as criteria for interspecific differentiation.
- ✧ Ideal candidate: *Guibourtia* J. J. Benn. Emend. J. Léonard (Fabaceae / Caesalpinioideae): several sisters species, some are morphologically similar and parapatric.



Parts and seeds of *G. tessmannii*
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Fruits of *G. demeusei*
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Fruits of *G. copallifera*
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GUIBOURTIA MODEL

13 African tree species (figure 1) including 6 endemic to the Guineo-Congolese zone (White, 1983) and 1 species in America.

Precious wood (FCBA, 2008) exported to Europe and Asia.

Some species present high socio-cultural value for local populations (sacred for pygmies in Central Africa).

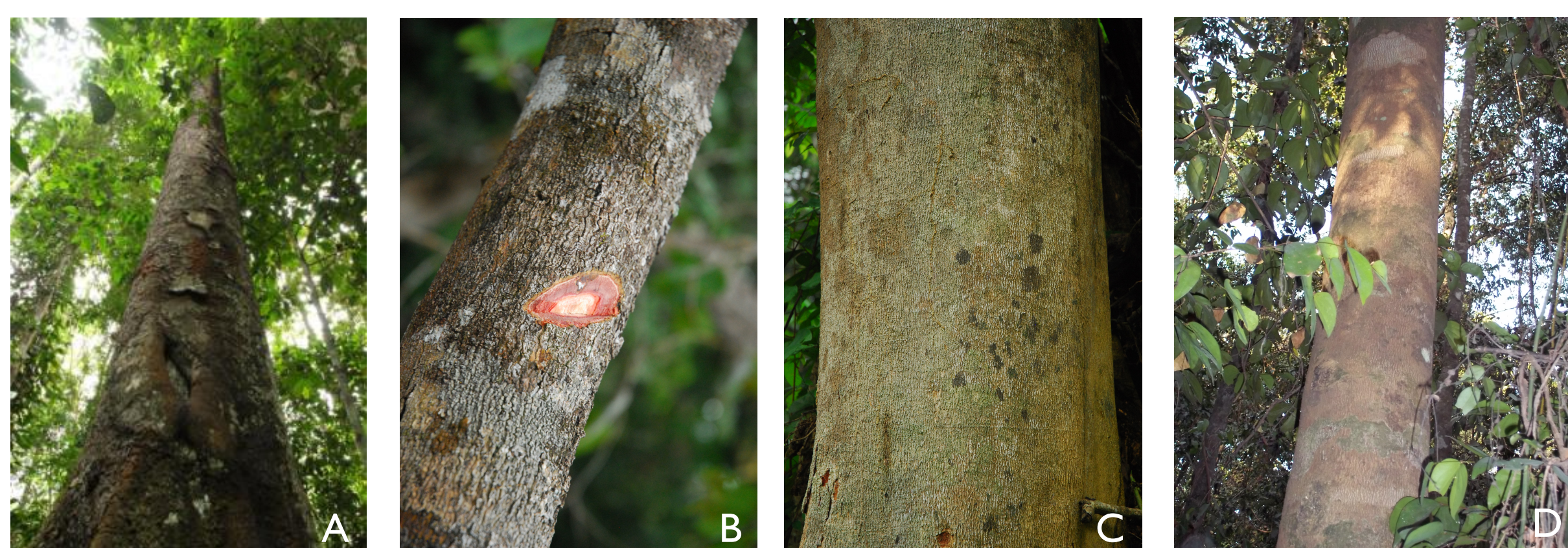
Local threats on some of species (illegal logging).

Species of different ecosystems (forest and savanna).

Morphologically very similar species found in various areas with different climates and soils (sandy, clayloam, limestone, hydromorph).

RESEARCH QUESTIONS

1. What are the phylogenetic differences within the genus *Guibourtia* ?
2. To what extent phylogeny, functional traits and bioclimatic envelope are linked?



Trunk of (A) *G. tessmannii*, (B) *G. demeusei*, (C) *G. ehie* et (D) *G. copallifera* following the forest-savanna gradient
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