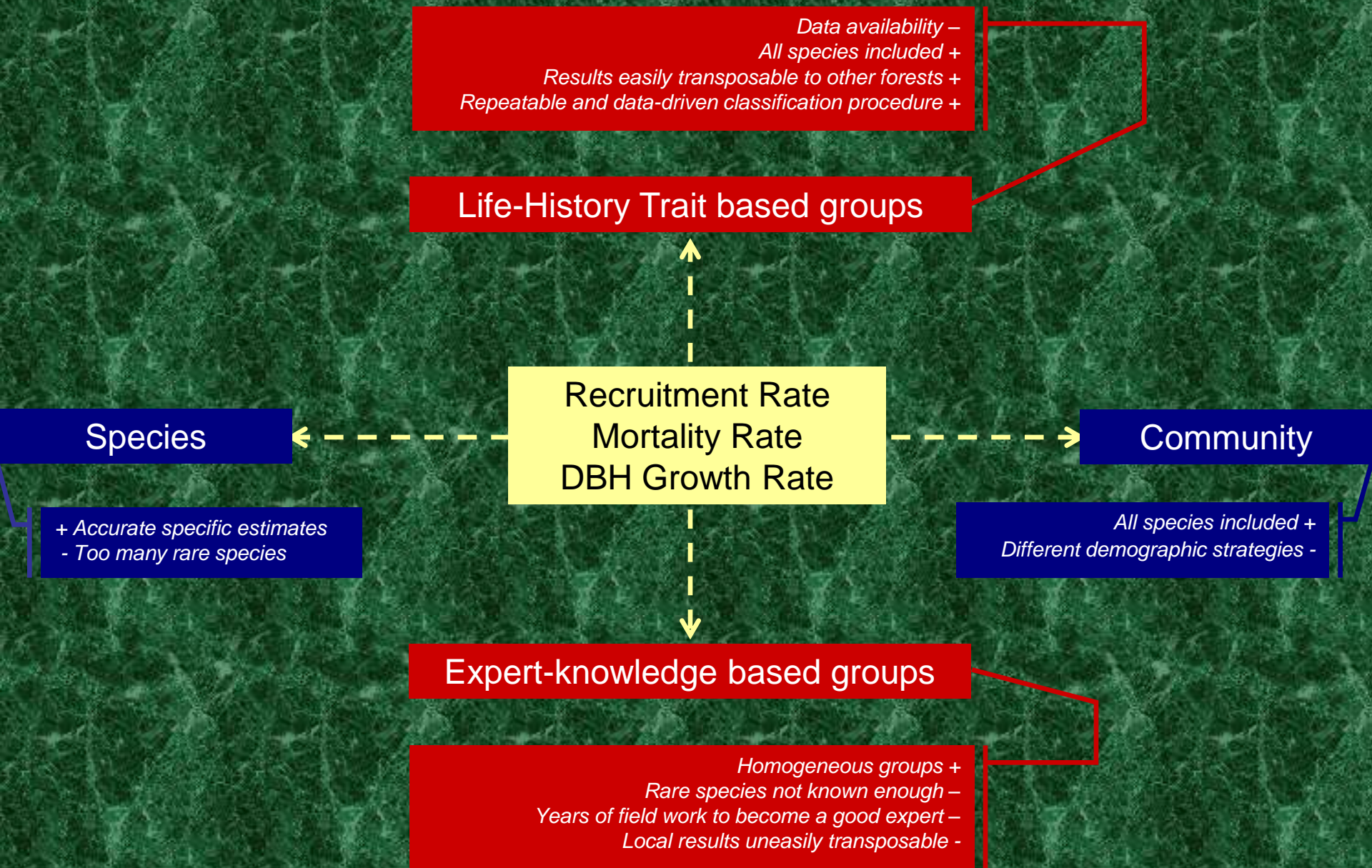


# **Tree Demographic Strategies and Life-History Traits**

**A case study in a tropical forest  
of French Guiana**



Defense  
Strategy

Wood Density  
Height max  
DBH max  
Forest Layer  
Architectural model

'Morphological'  
Strategy

Phenols  
Terpens  
Leaf toughness  
Foliar protein contents

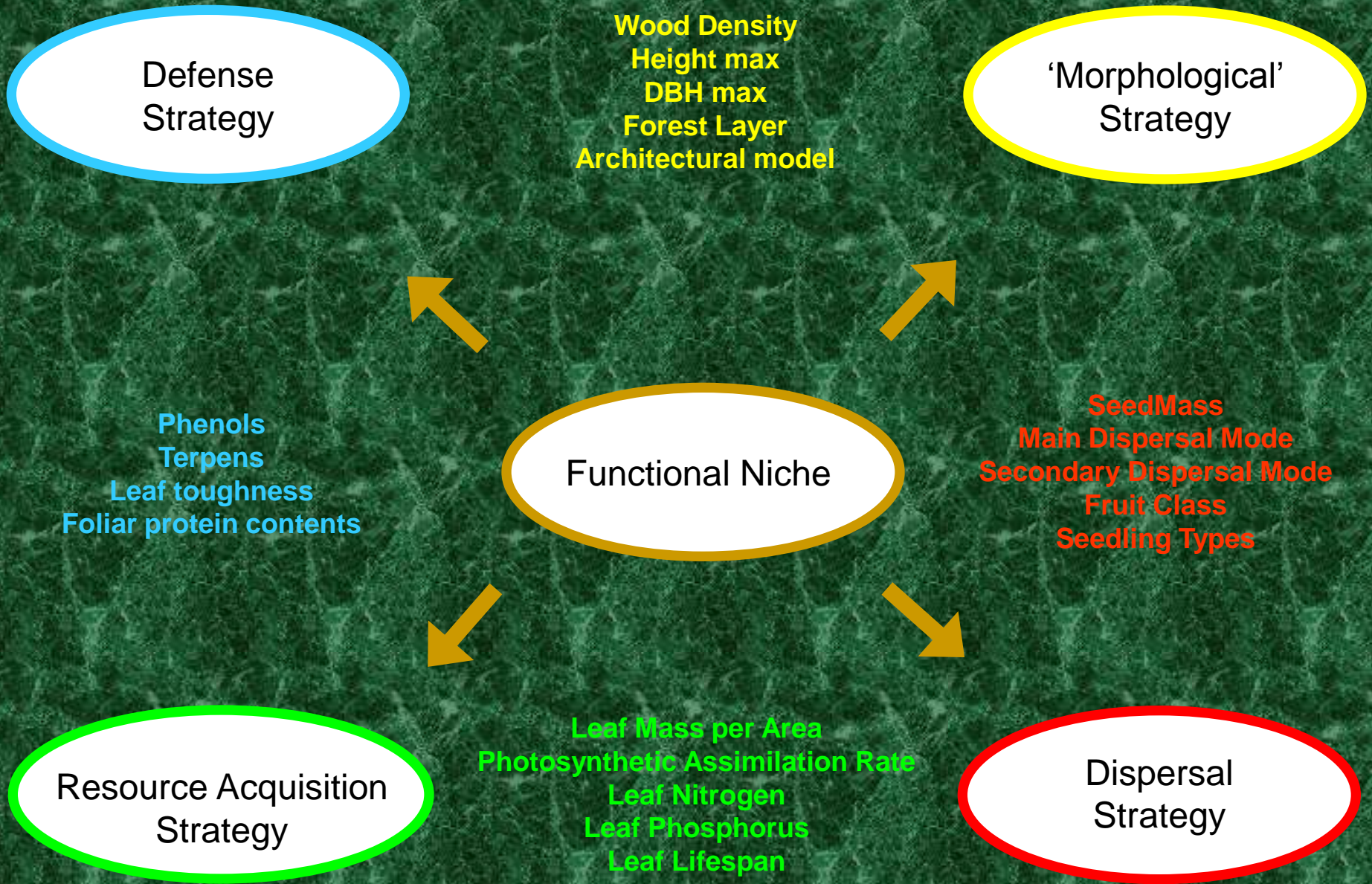
Functional Niche

SeedMass  
Main Dispersal Mode  
Secondary Dispersal Mode  
Fruit Class  
Seedling Types

Resource Acquisition  
Strategy

Leaf Mass per Area  
Photosynthetic Assimilation Rate  
Leaf Nitrogen  
Leaf Phosphorus  
Leaf Lifespan

Dispersal  
Strategy

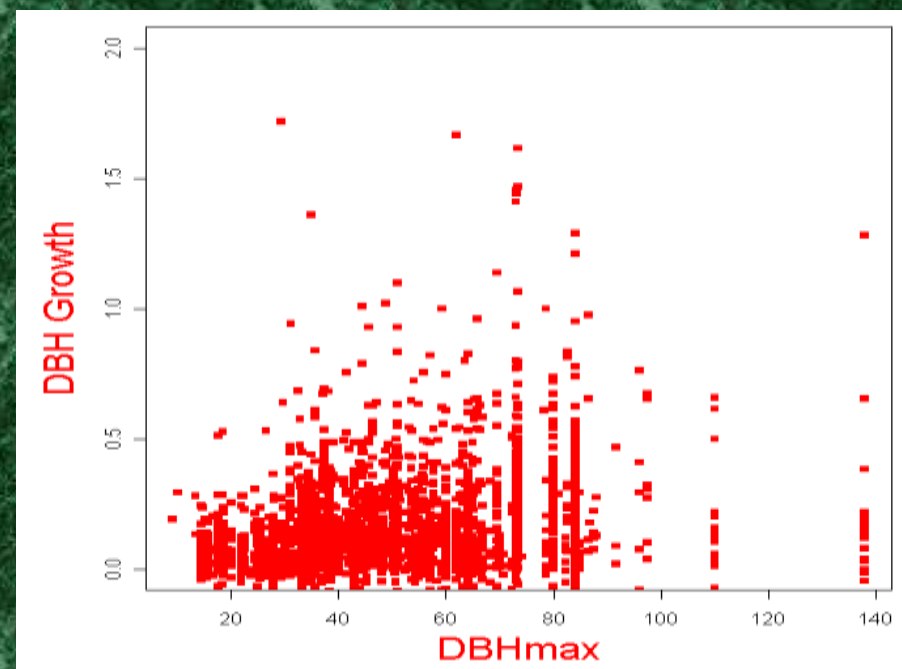
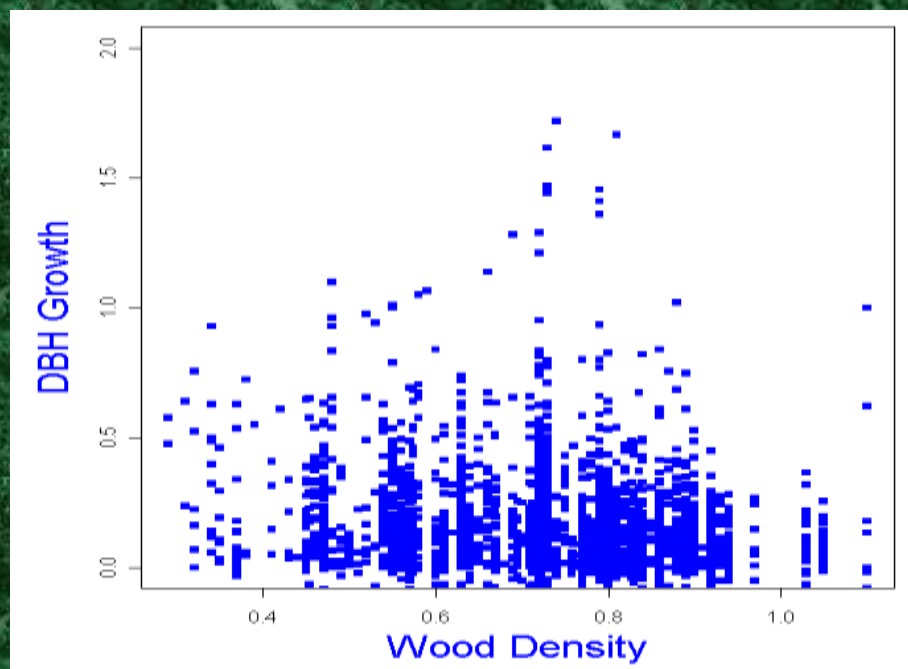
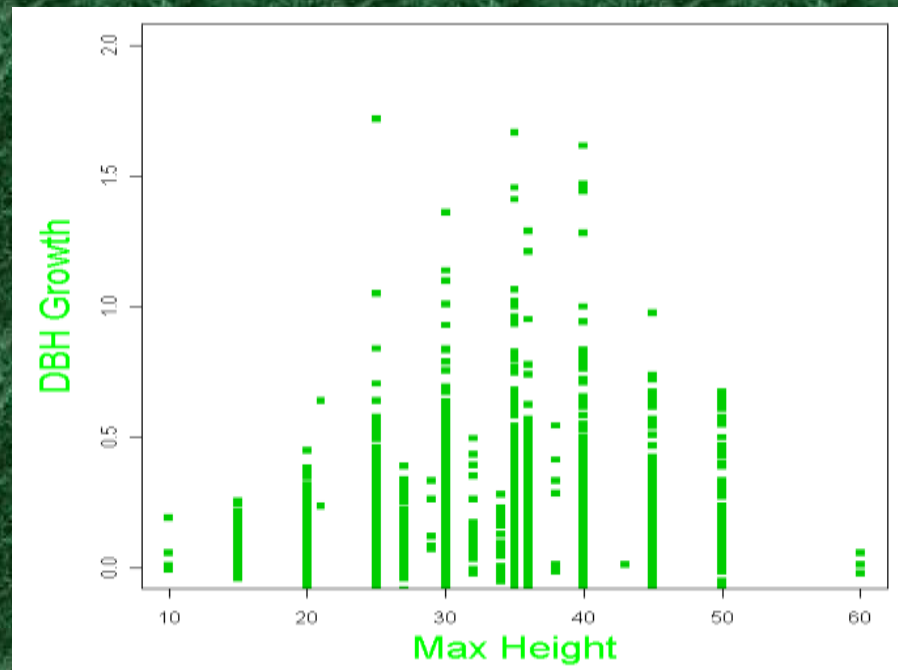


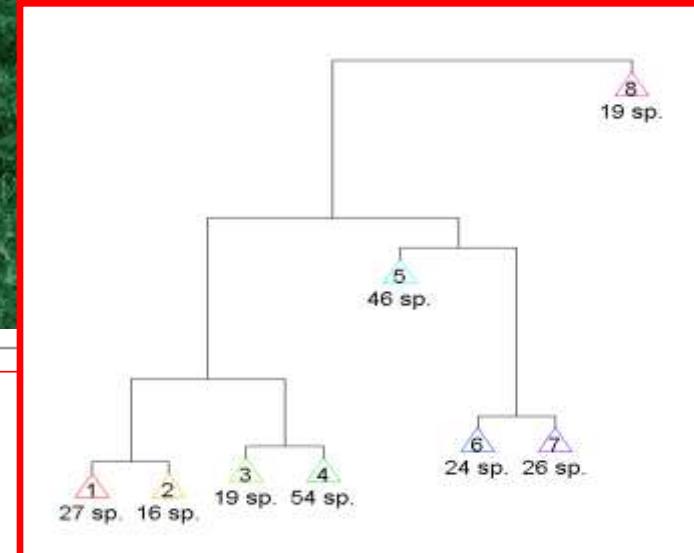
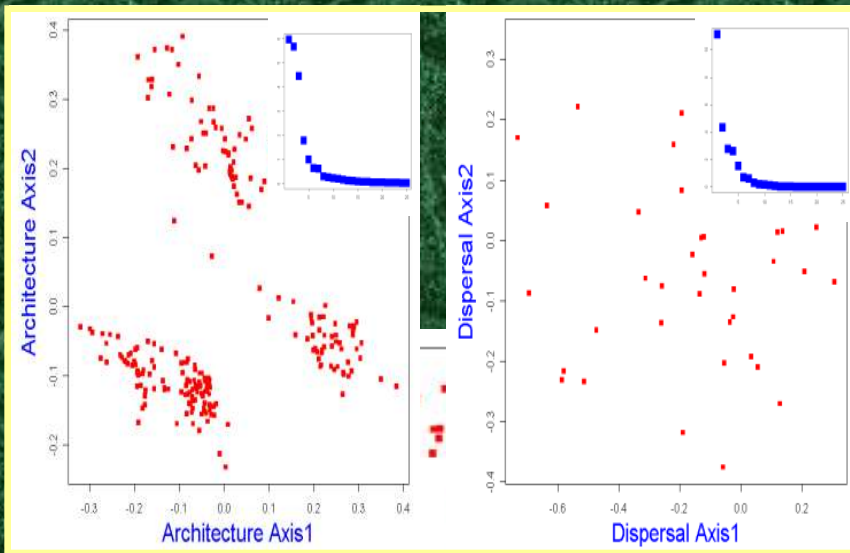
Location: Piste de St Elie  
Fieldwork done by IRD researchers

Initial census: 1986-1991  
Final census: 2003

478 species  
7295 individuals

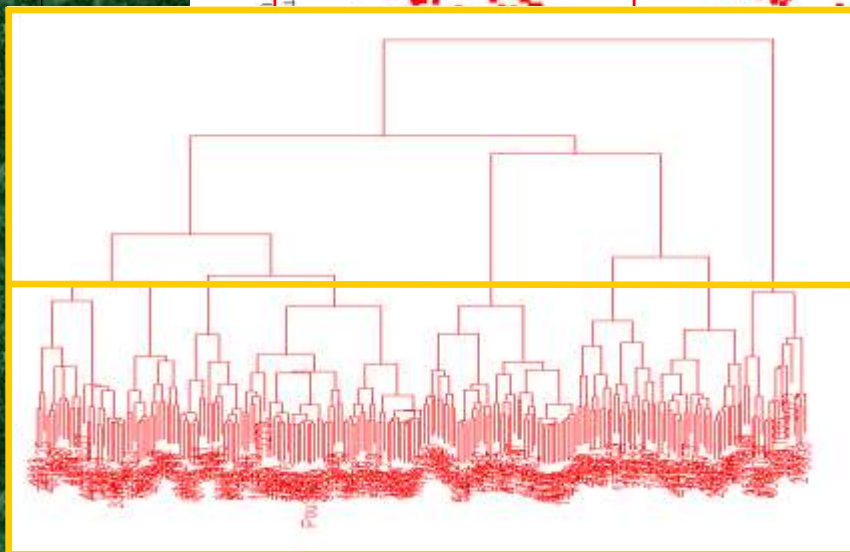
Upland *terra firme* soil types



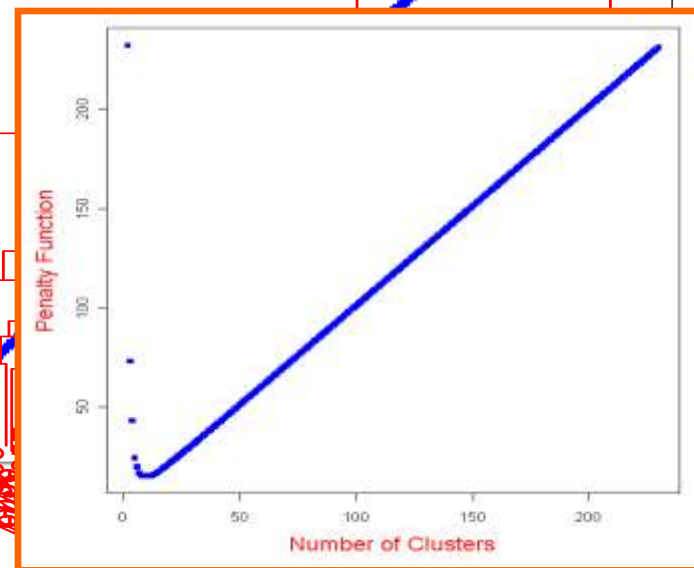
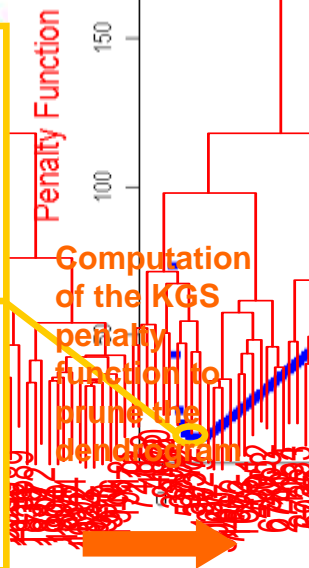


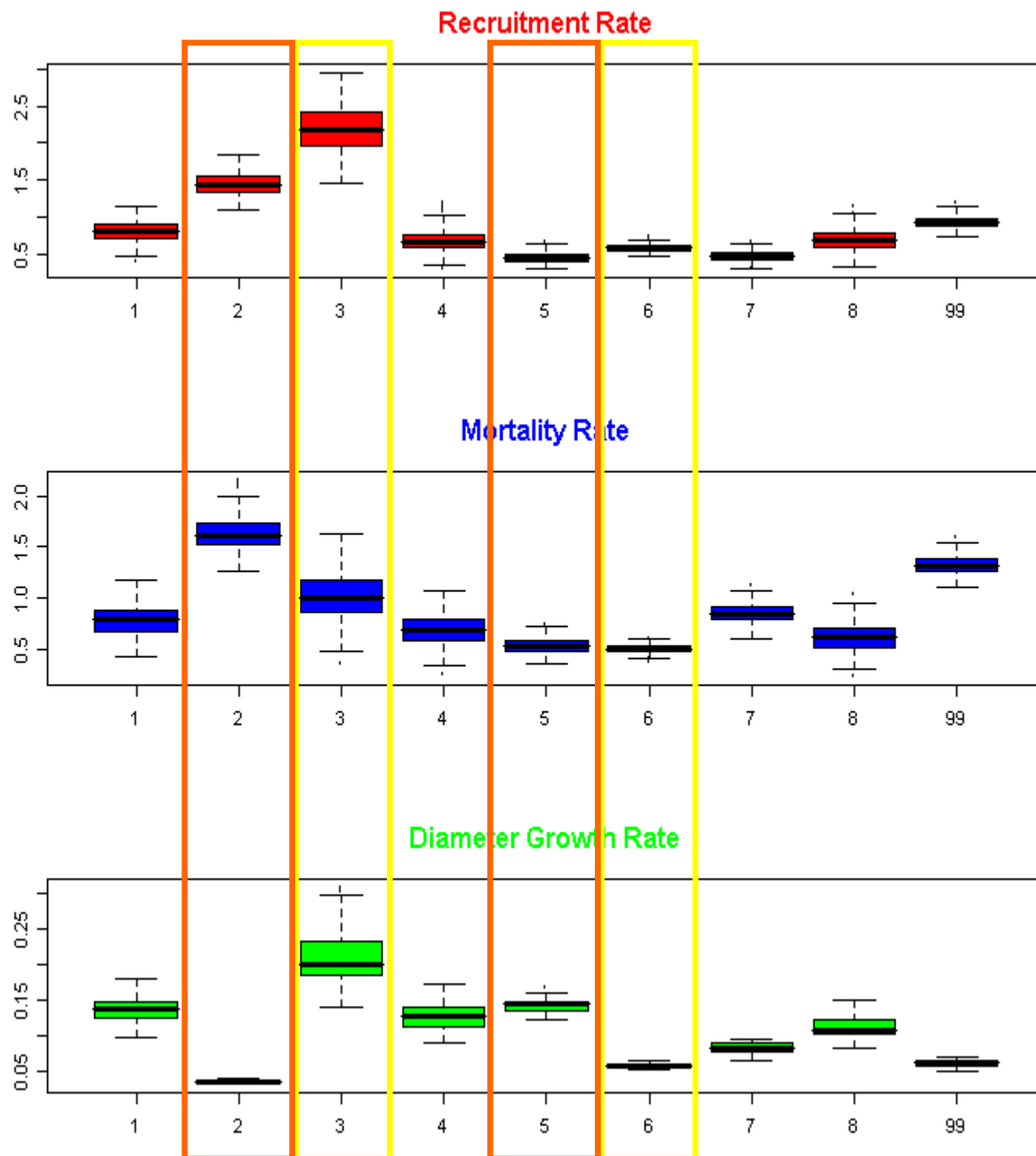
Extraction of Axis Coordinates  
Agglomerative Hierarchical Clustering

Classification of 231 out of 478 species  
# 5669 out of 7295 individuals



Computation  
of the KGS  
penalty  
function to  
prune the  
dendrogram





779 individuals  
26 sp.

High DBHmax  
Hedyosmum species  
Z0 ecHeight < 30  
Hypogaeal cotyledons  
Epigeal cotyledons  
Eugenia spp.

2137 individuals  
199 individuals  
19 sp.  
23 sp.

High wood density  
Low Wood Density  
Heavy seeds  
Light seeds  
Zoochorous  
Axis 2 orthotropous  
Hypogaeal cotyledons  
Zoochorous  
Understorey/Canopy  
Epigeal foliar cotyledons  
Lecythis spp.  
Cecropia spp.  
Eschweilera spp.

**LHT data available for 75% of individuals**

**LHT data available for 45% of species**

**Data-driven classification procedure**

**Sensitivity to data coding, % information, classification methods**

**The species functional unity is central to the analysis procedure**

**Demographic strategies cannot be linked a particular value of a given trait**

**Interesting results without foliar ecophysiological LHT**

**Groups cannot be linked with strategies of resource acquisition s./.**

**Groups of species sharing similar LHT combination easily transposable**

**Classification procedure dependent on the local species pool**

**BRIDGE gives the opportunity to gather complementary data**

**We have to wait several months to see the results**