

Regeneration ecology of anemochorous tree species of the Cerrado Aguara Ñu located in the Mbaracayú Nature Forest Reserve (MNFR), Paraguay

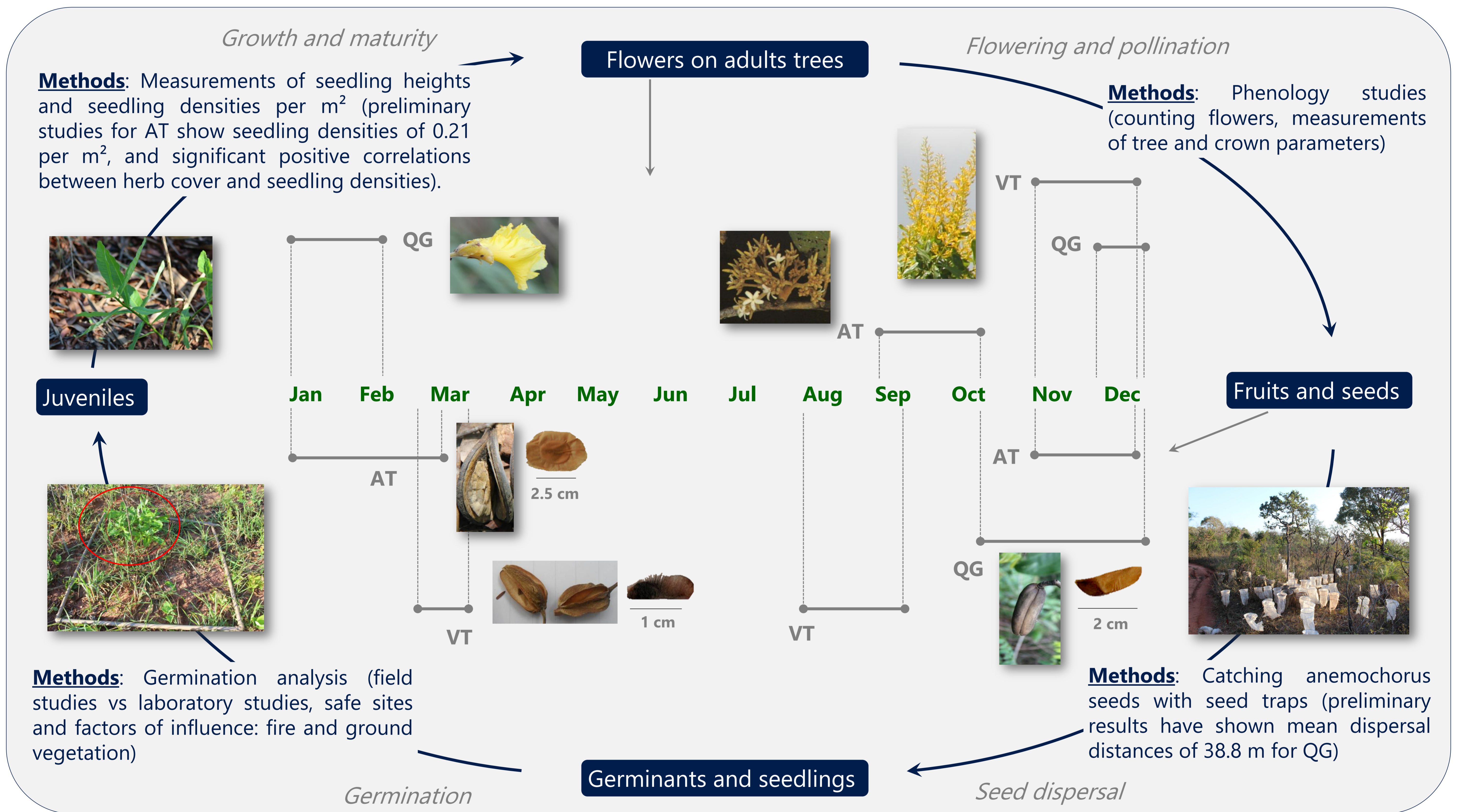
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INTRODUCTION

The purpose of the research is to study the most important stages within the regeneration cycle of the anemochorous tree species *Aspidosperma tomentosum* Mart. (AT), *Qualea grandiflora* (QG) Mart. and *Vochysia tucanorum* Mart. (VT) in the Mbaracayú Natural Forest Reserve located in eastern Paraguay. These are species typical of the cerrado biome. Study of their regeneration ecology is important as no such research has been carried out to date.

RESEARCH QUESTIONS AND HYPOTHESIS

The research questions address (i) **seed dispersal pattern** (distances to mother trees, wing loading of seeds, time of release during the year, height of release), and (ii) **spatial patterns of germinants and established seedlings** (microsite characteristics, germination rate, seedling establishment). We assume that the three species under study exhibit the highest seed densities next to the mother tree, i.e., a leptokurtic seed dispersal function. However, the density of tree seedlings should increase with distance from the parent tree (Janzen-Connell Hypothesis).



STUDY TREE SPECIES

The endemism of **cerrado** higher plants was recently estimated at 4,400 species, **representing 1.5 % of the world's total vascular plant species**. The focus here is on the following three tree species:

Vochysia tucanorum



Qualea grandiflora



Aspidosperma tomentosum



STUDY AREA

The cerrado is the second largest biome in **South America**, covering an area of around 1.8 million km² in central Brazil and parts of eastern Bolivia and north-eastern Paraguay (Ab'Saber 1977, 1983). The **cerrado ecosystem covers a total of 176,697 hectares in Paraguay**, corresponding to 0.46 % of the country (INFONA, 2011). It represents **one of the 25 'hotspots' of biodiversity**. The cerrado is currently one of the most threatened biomes in South America due to the rapid expansion of agriculture. It comprises **xeromorphic vegetation** ranging from **pure grassland** (open cerrado grassland) to **savanna vegetation** (e.g., scrub cerrado) and **dense forest formation** (cerradão).

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