Effects of forest fragmentation in community of exotic ants

Background : the impact of logging on the physical environment is determined by severity, which can range from clear cutting, to canopy thinning, to selective logging. In canopy openness and reduction in vegetation structure and understory plant richness can cause large change in ant communities (Uhl, 1989)

Statistical question : what is the impact of forest fragmentation in exotic ant community?

Mechanistic question : How does forest fragmentation make easier the dominance of exotic ants?

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What is the impact of forest fragmentation in the exotic ant community?

Response variable : y = abundance of exotic ants

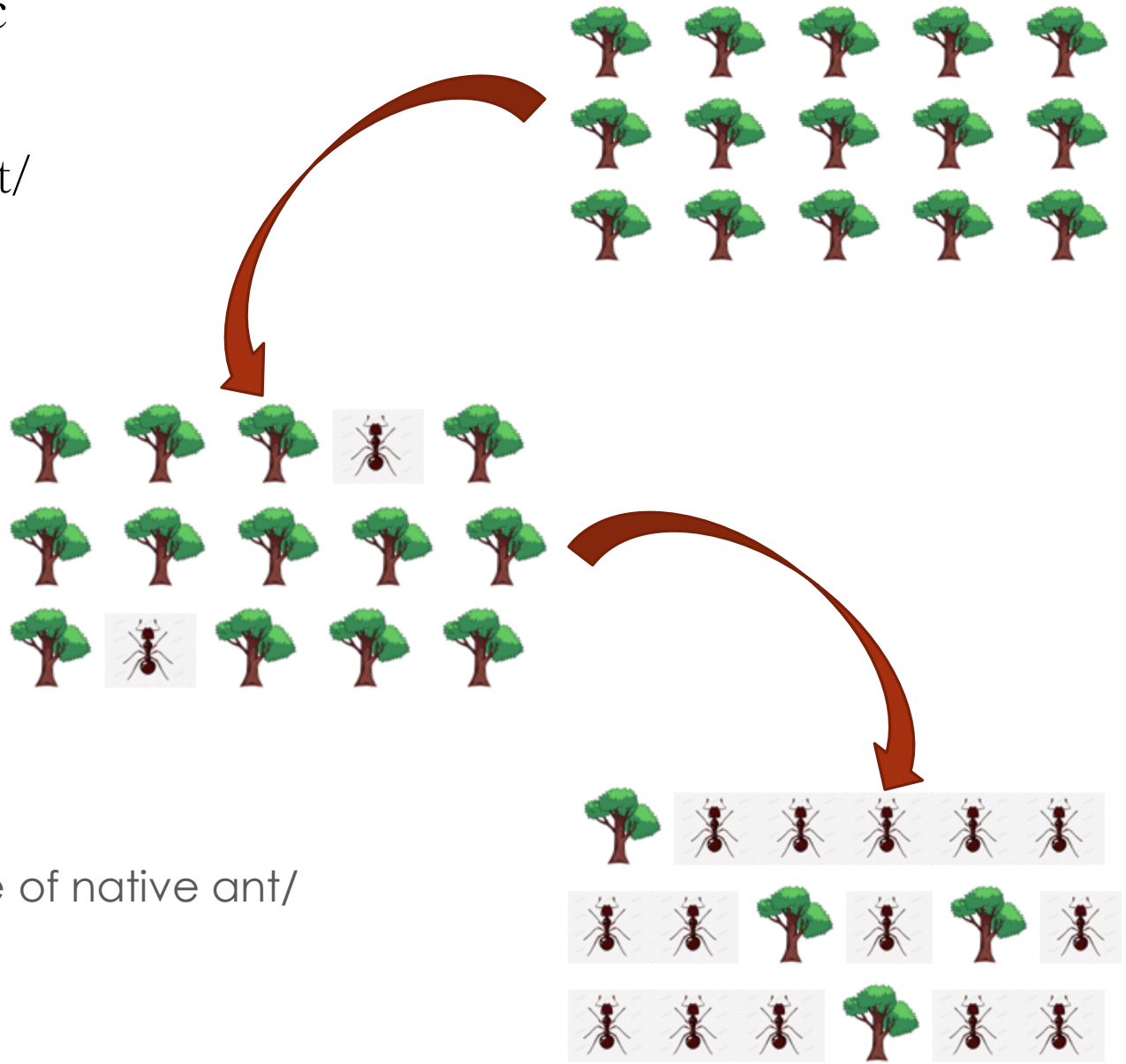
Predictor variable : x = size of forest fragment/ diversity of native ant/ diversity of another arthropodes

Family : *Poisson*

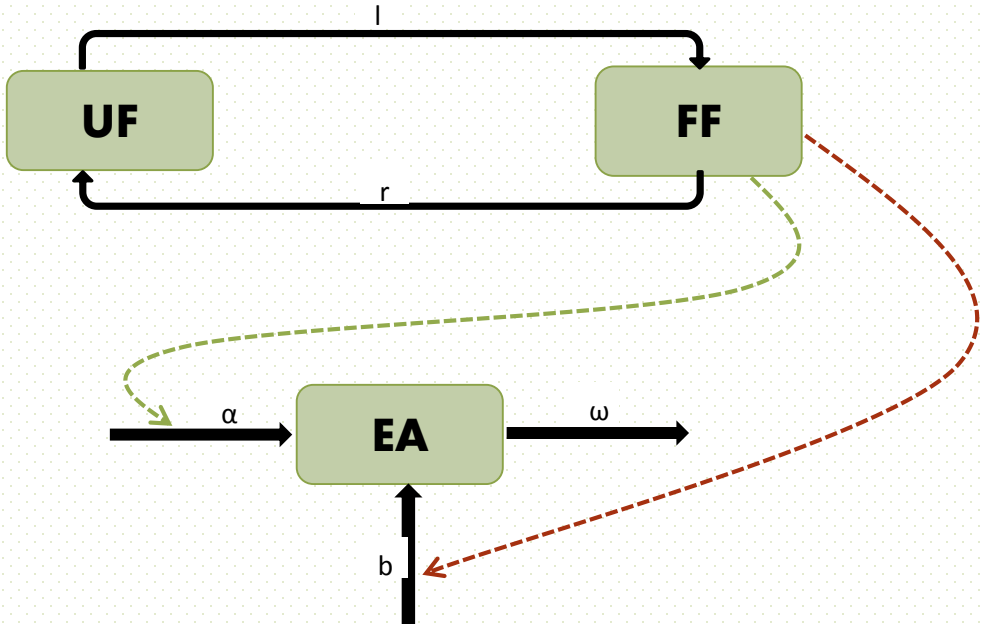
Link : *log*

Hypothesis : The abundance of exotic ants is linked to the forest fragmentation

R code : glm(y~size of forest fragment+abundance of native ant/ another arthropodes, family= ''poisson'')



How does forest fragmentation make easier the dominance of exotic ants?



l : logging

r : reforestation/regeneration

a : introduction/migration

b : birth

ω : death

$$\frac{dUF}{dt} = -l.UF + r.FF$$

$$\frac{dFF}{dt} = l.UF - r.FF$$

$$\frac{dEA}{dt} = \alpha.FF + b.FF.EA - \omega.EA$$

Future prospects :

1. Carry out field collecting data in another forest
2. Investigate the biology that make exotic ant more comfortable in the degraded area

Literature

Uhl, C. (1989). Ecological Impacts of Selective Logging in the Brazilian Amazon : A case study from the Paragominas Region of the State of Para. *BIOTROPICA*, *21*(2), 98–106.

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