Mast-Trait

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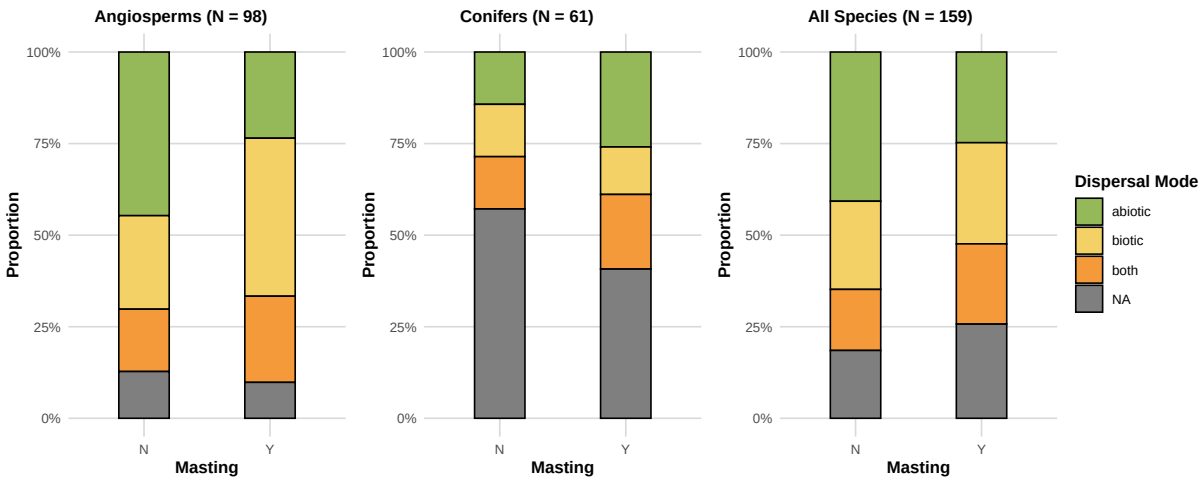
```
> source("C:/PhD/Project/PhD_thesis/mast_trait/analyses/plottingSweave.R")
> source("C:/PhD/Project/PhD_thesis/mast_trait/analyses/glm.R")
```

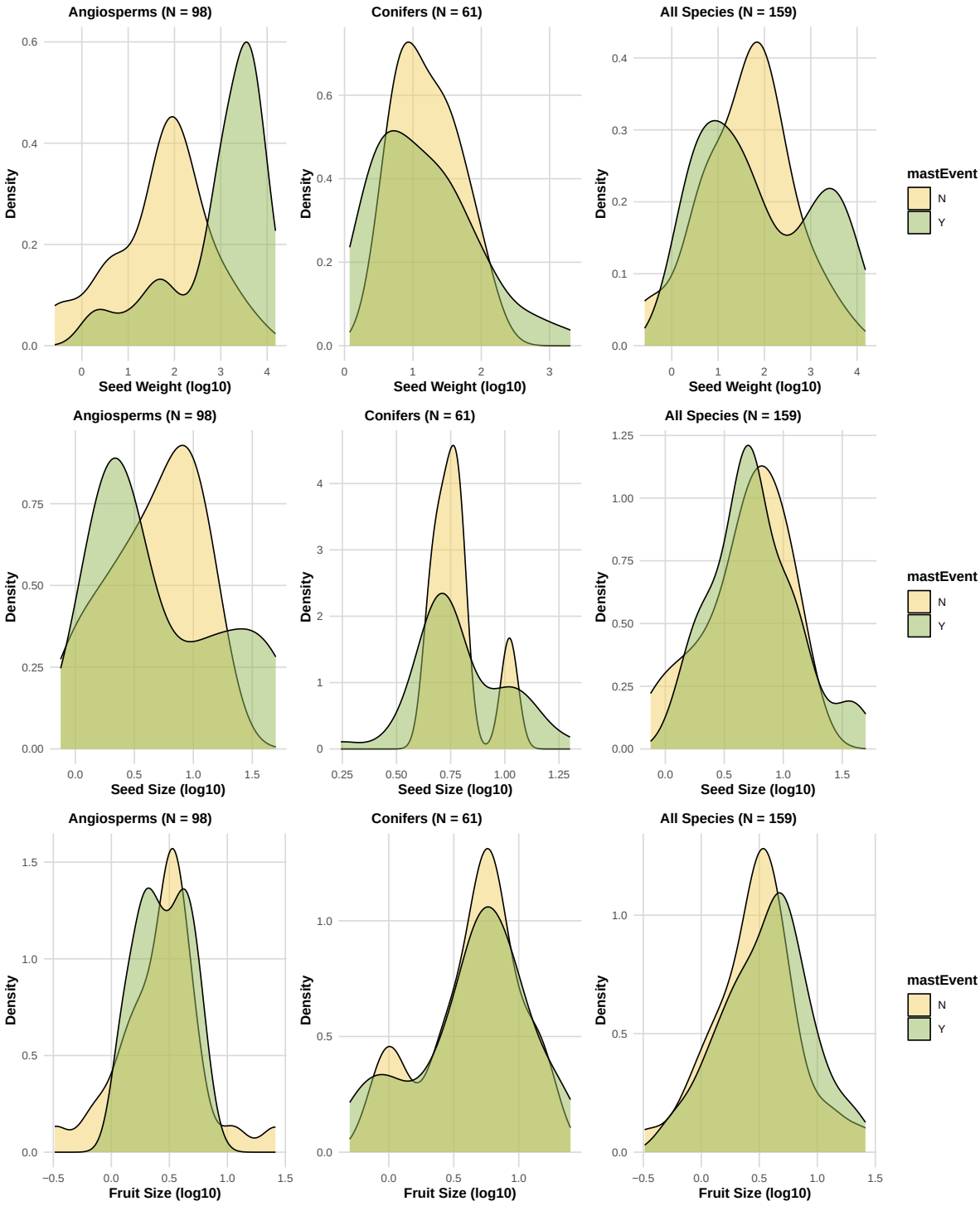
Hypotheses

Predator Satiation

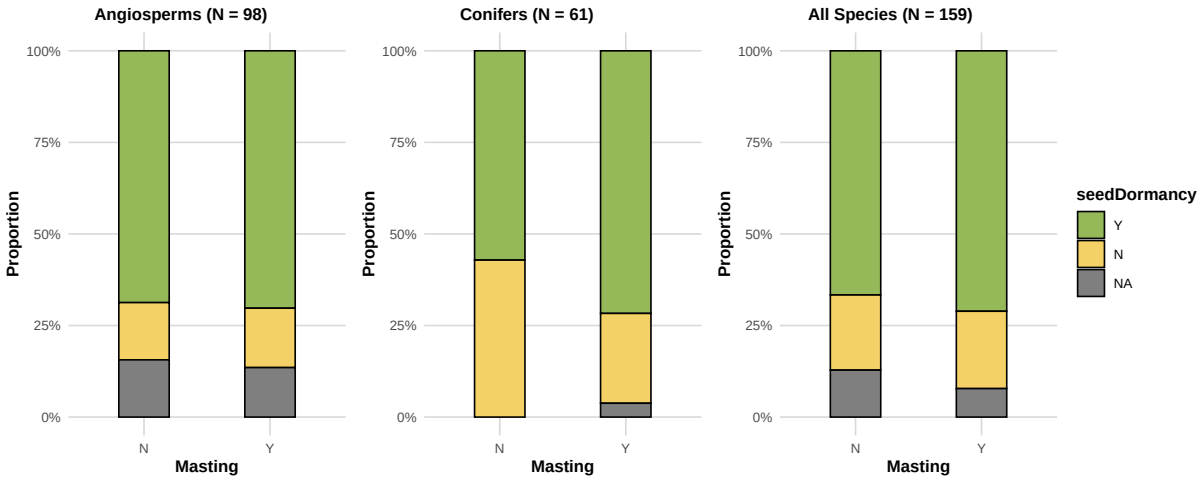
- Dispersal mode: Animal-dispersed species may be more likely to mast, or the mechanisms behind masting could differ depending on dispersal mode.



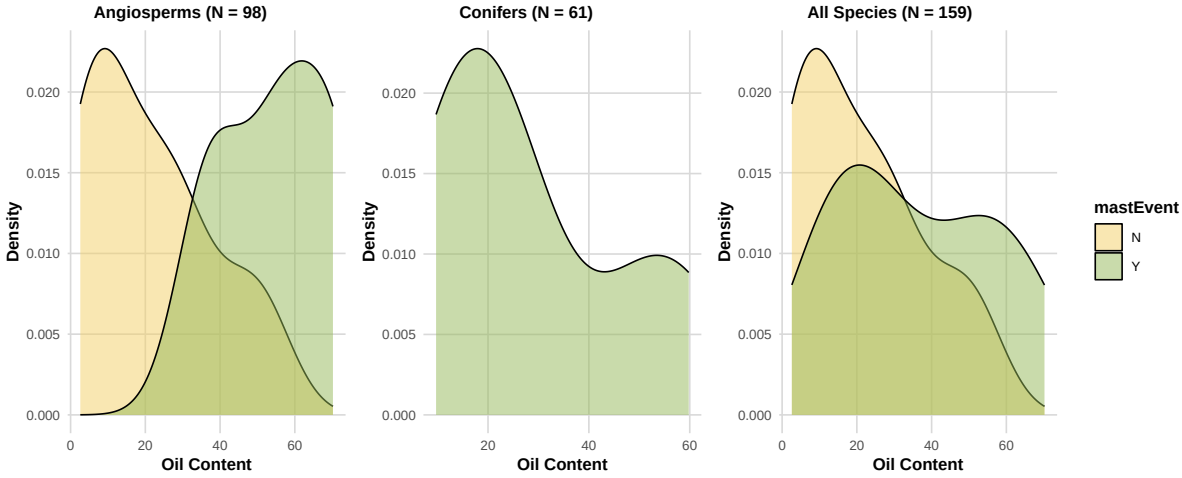
- **Seed size:** Among animal-dispersed species, larger-seeded species might be more prone to masting.



- **Seed dormancy:** Species with dormant seeds are expected to be more likely to mast.

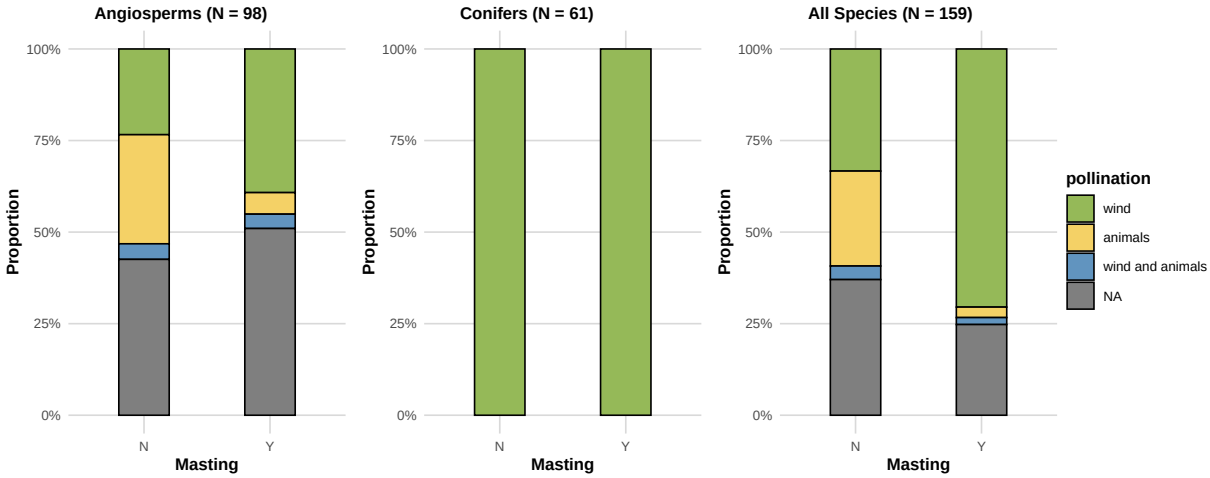


- **Nutrient content:** Species with more nutritious seeds may be more likely to mast.

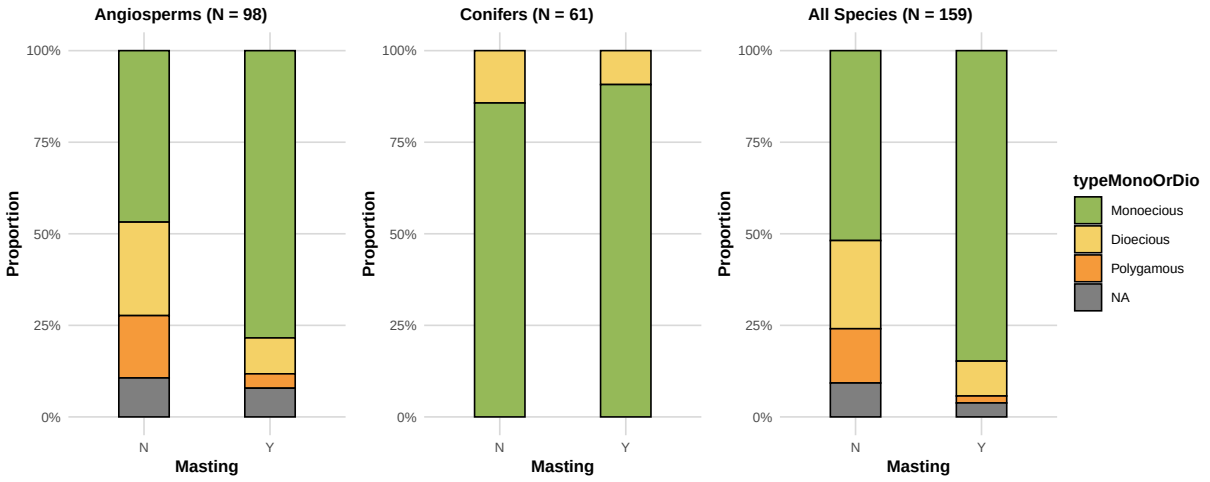


Pollination Coupling

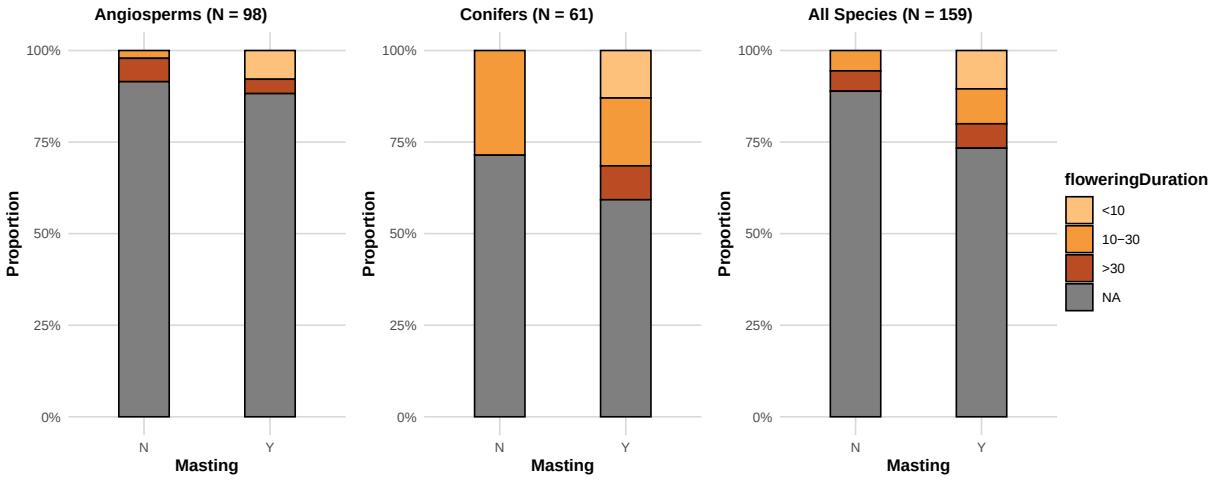
- Wind-pollinated species are expected to mast more frequently.



- Monoecious species may be more likely to mast.

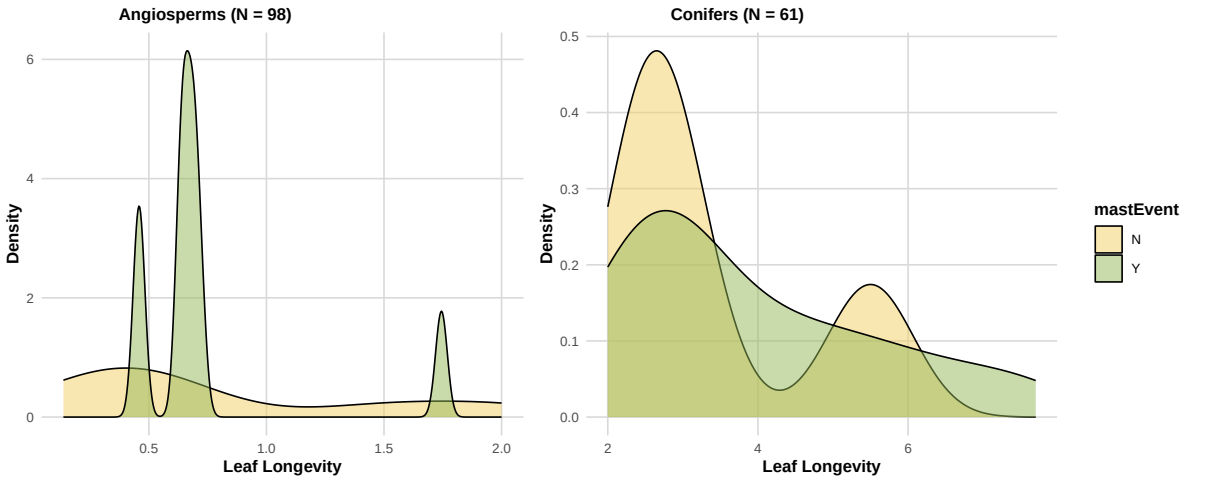


- Species with longer flowering periods may be more likely to mast.

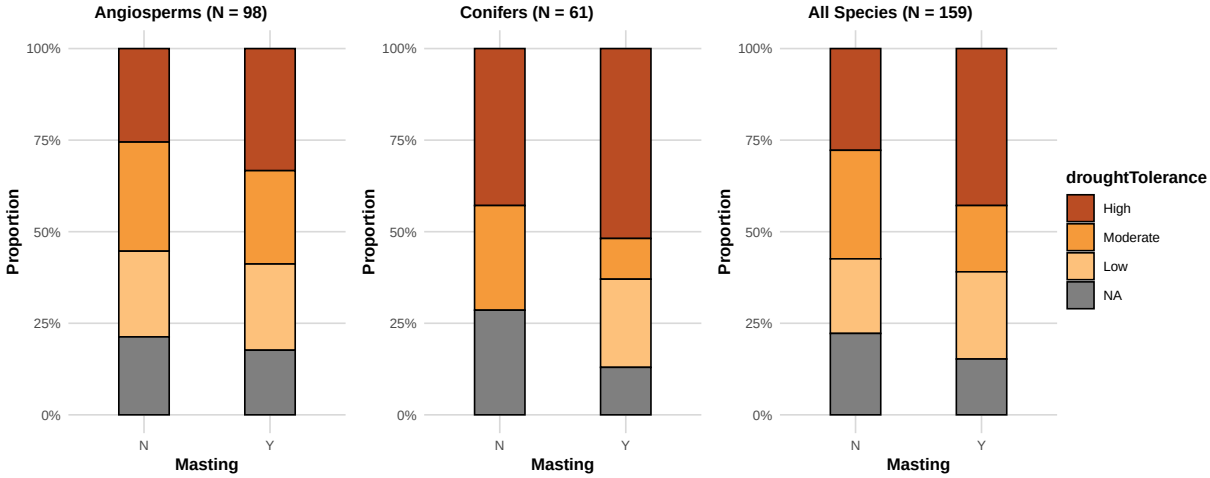


Resource Matching

- Leaf longevity: Species with long-lived leaves are expected to mast more frequently.

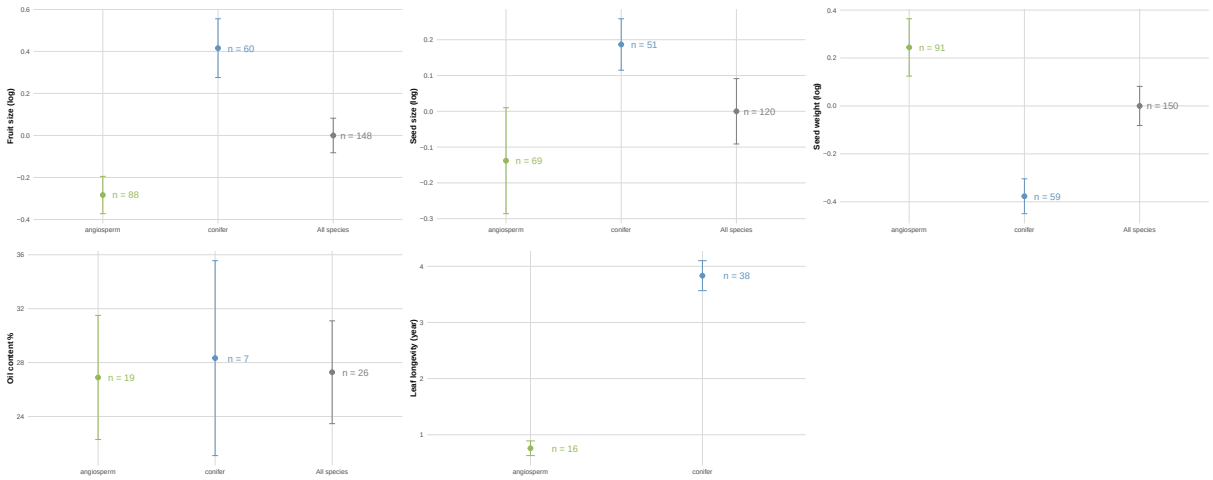


- Drought tolerance: May go either way — tolerant species can accumulate resources; intolerant species respond to resource fluctuations.

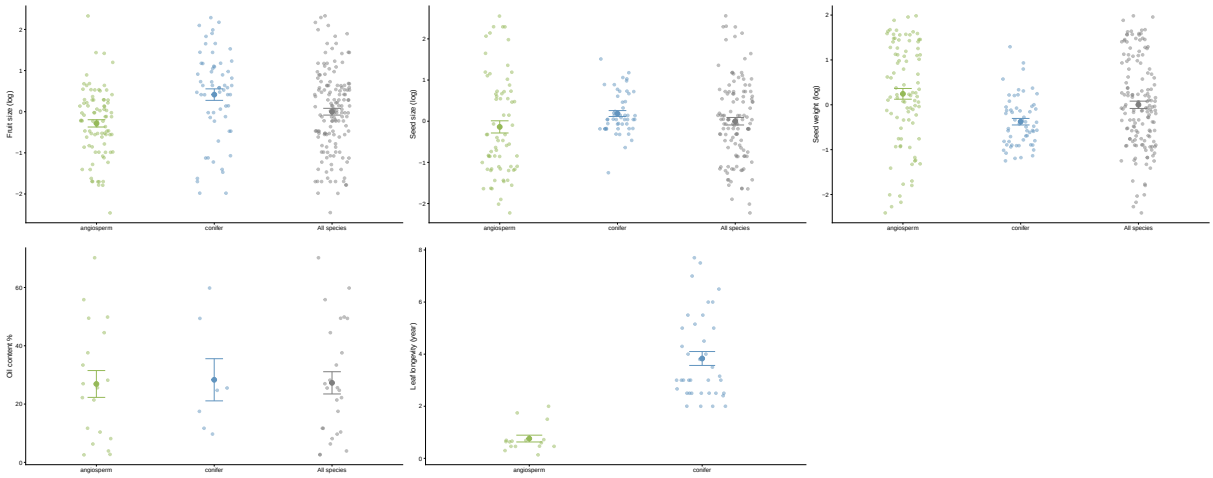


Data visualization

I calculated the mean and standard errors for the continuous traits in the raw dataset, with number of the data.



Here's the version of raw data scattering on the plot

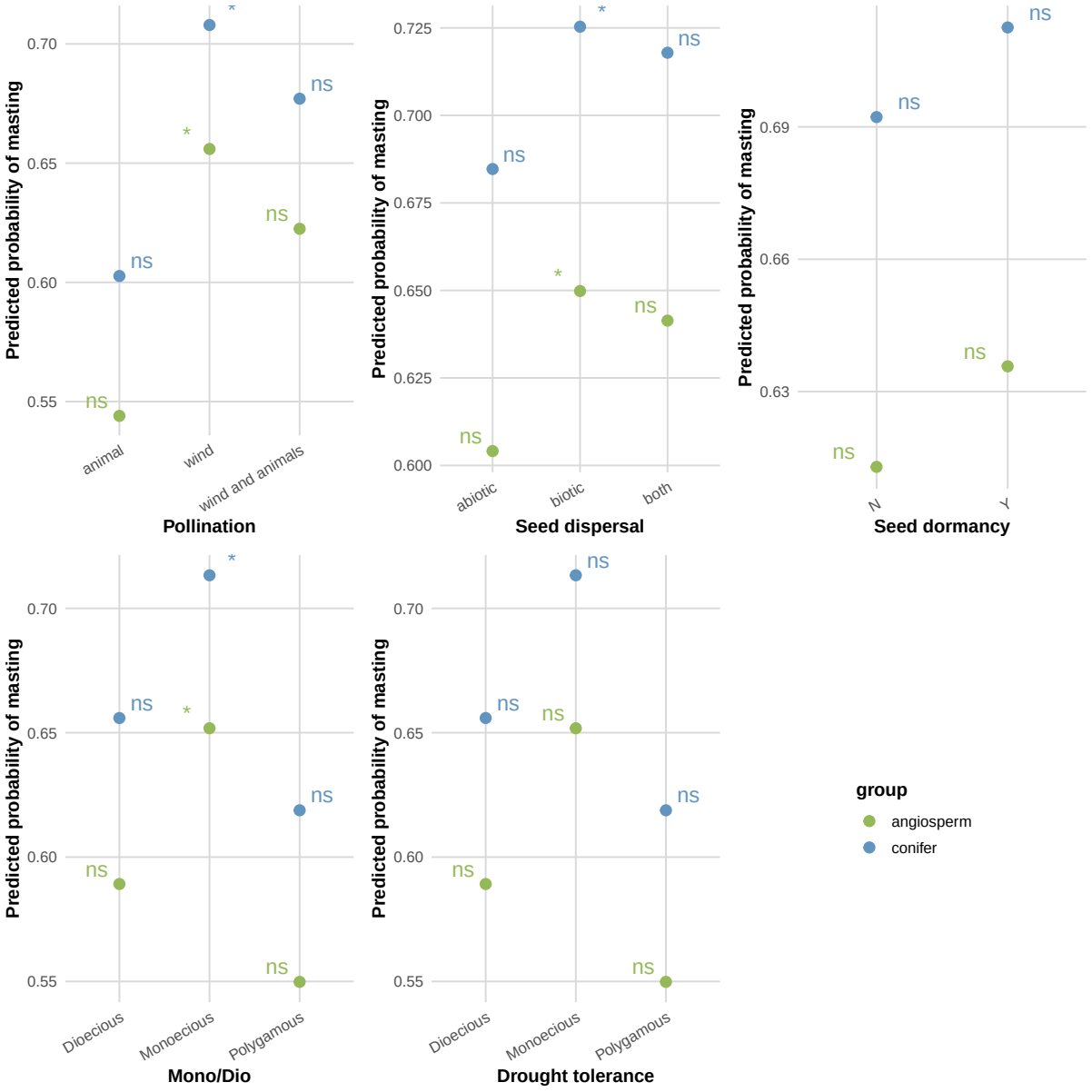


Results

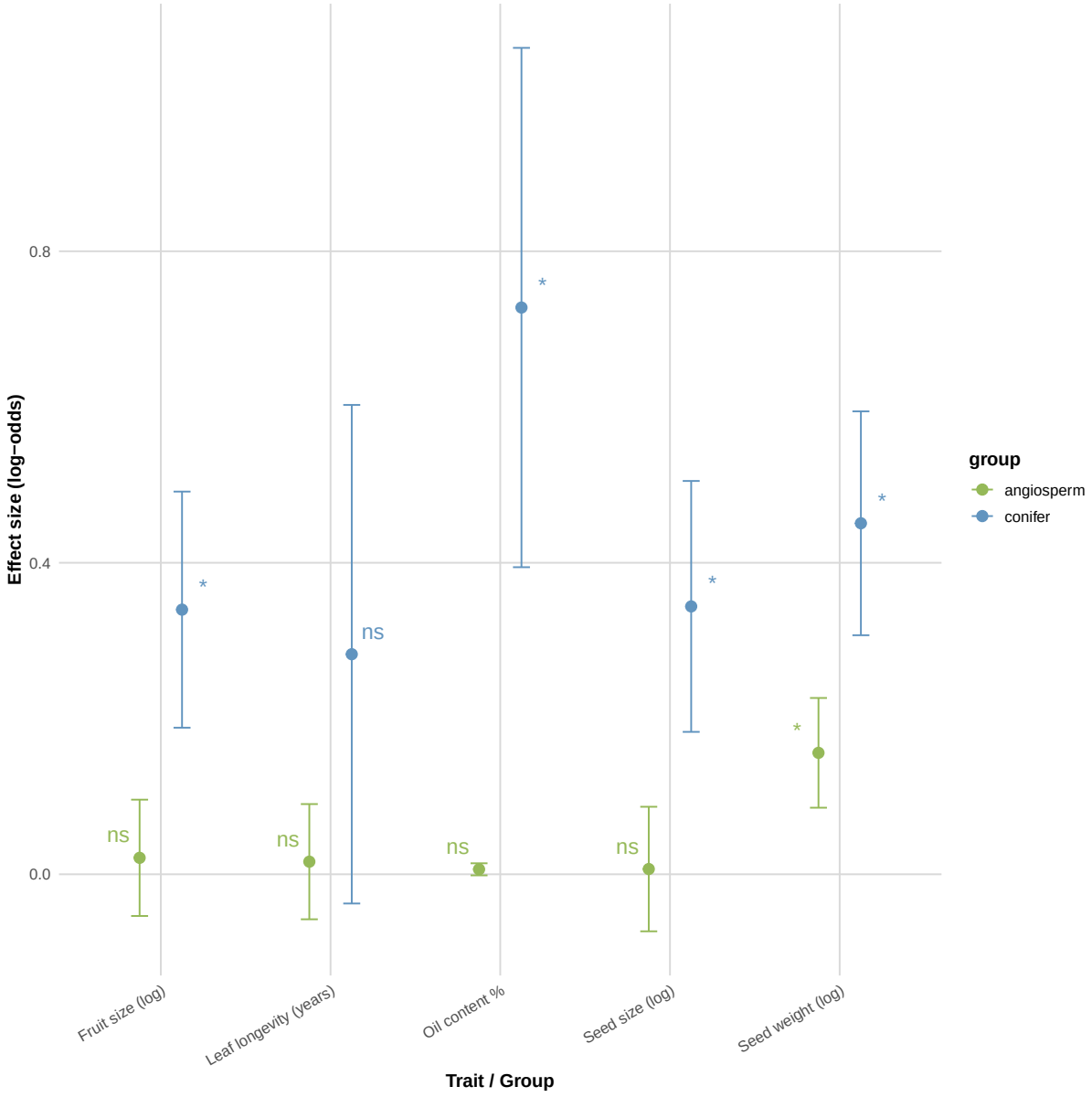
I ran the phyloglm, including the phylogeny variation.

I also ran the common glm, using conifer and angiosperm as a fixed effect in the model, and here's the results from these models:

For the categorical traits, I calculated the probability (of being a strong masting species) for each level:



For the continuous traits, I just presented the effect sizes, with the star indicating a p-value smaller than 0.05:


Effect size (log−odds)
0.8
0.4
0.0
ns
*
ns
ns
*
ns
ns
*
*
Fruit size (log)
Leaf longevity (years)
Oil content %
Seed size (log)
Seed weight (log)
Trait / Group
group
angiosperm
conifer