

# Taxon occurrence as a function of both biological traits and environmental context

the changing North American species pool

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The Paleobiology Database  
revealing the history of life



## Question

When are certain ecologies/ecotypes enriched or depleted?

Community structure

Species pool

Bambach Eco-cube ideas from paleo

Fourth-corner modeling

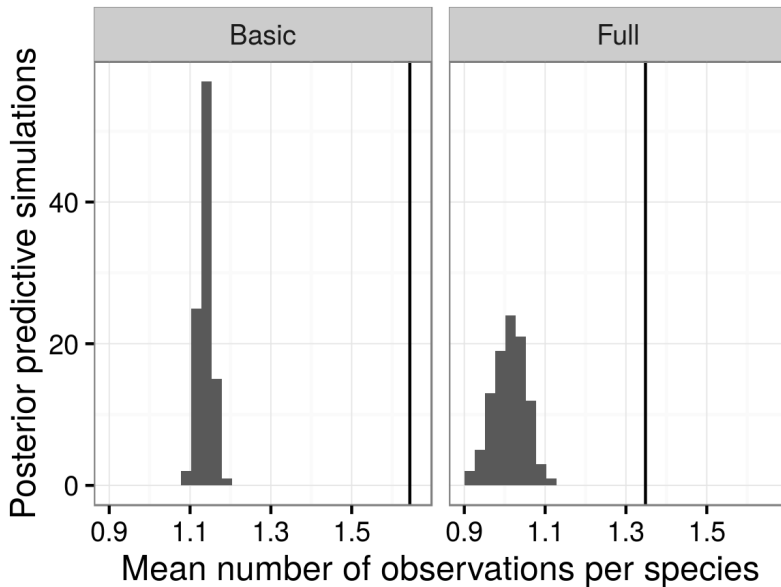
results from analysis of extinction selectivity and individual level covariates

group level covariates



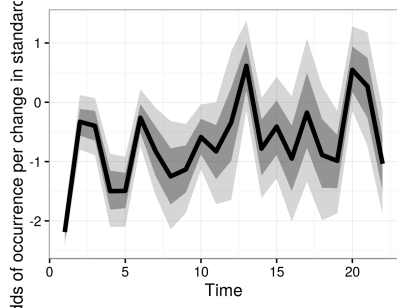
Inference

# Posterior predictive performance

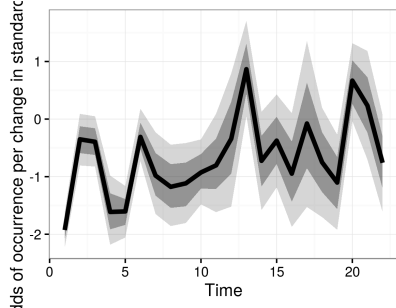


# Effect of mass on log-odds of occurrence

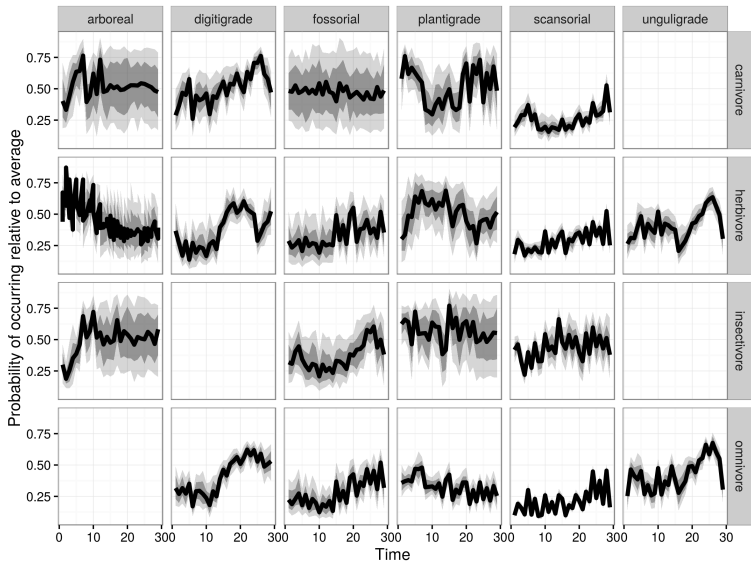
Basic model



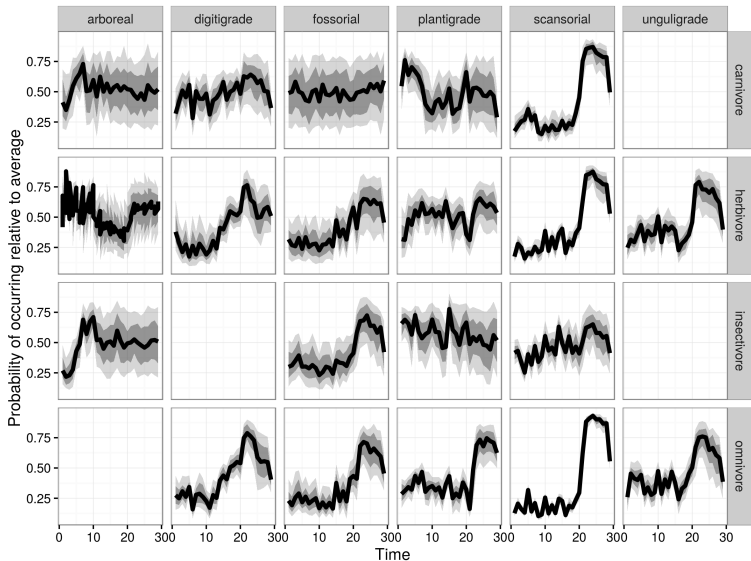
Full model



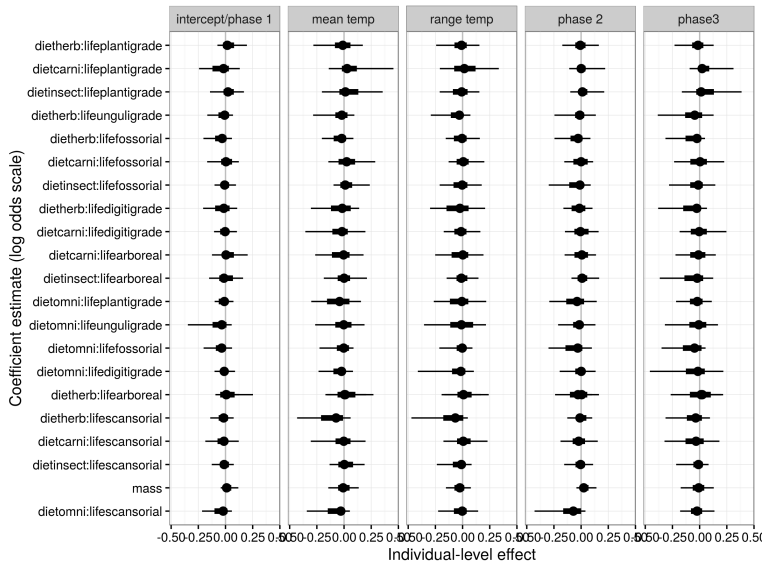
# Probability occurrence is of ecotype (basic model)



# Probability occurrence is of ecotype (full model)



# Group-level effects (climate, plant phase)



# Concerns

# Conclusions



# Acknowledgements