Respiratory plasticity and elevational range breadth in Andean birds

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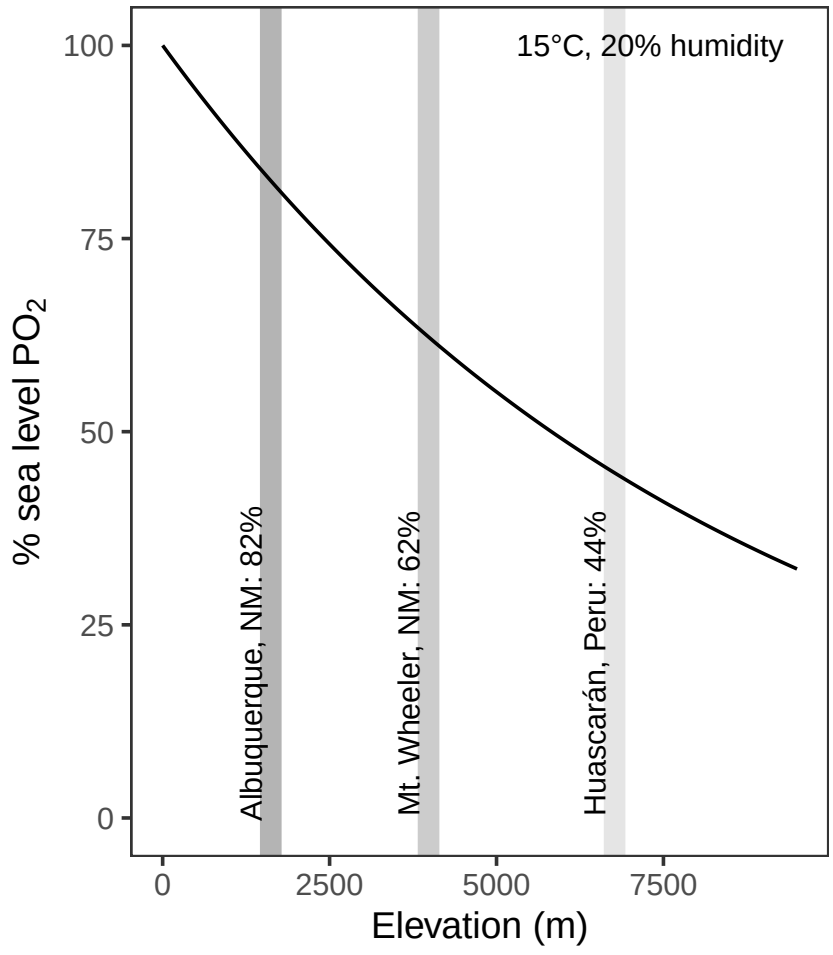
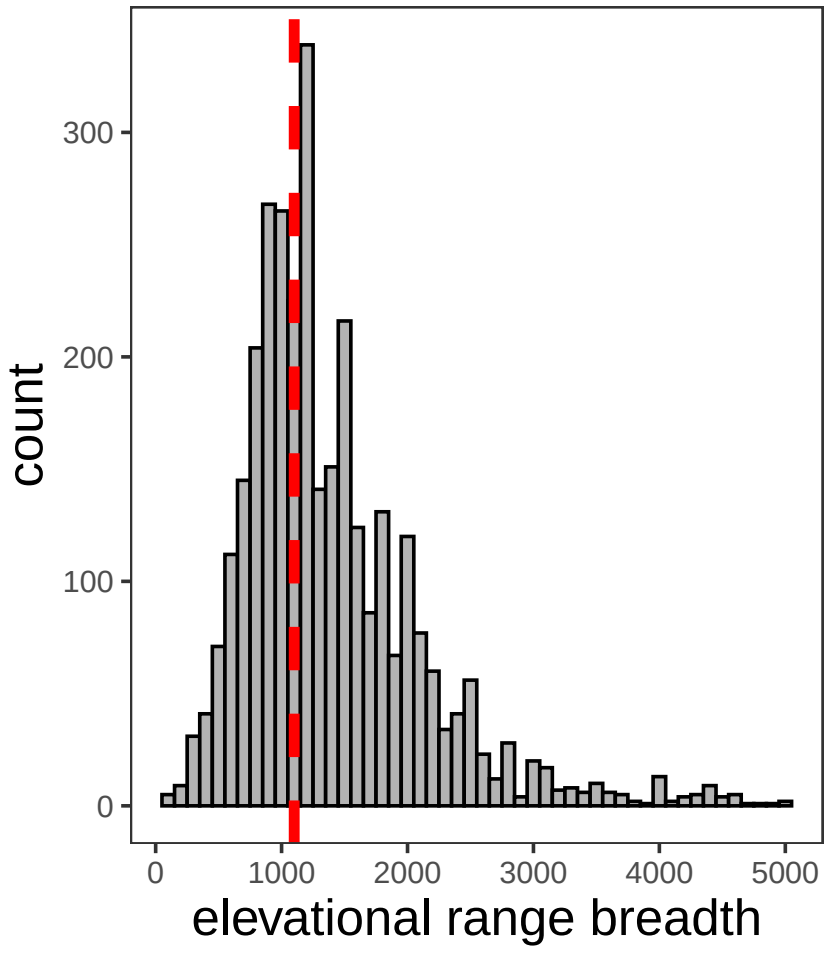
Does physiology limit elevational ranges?

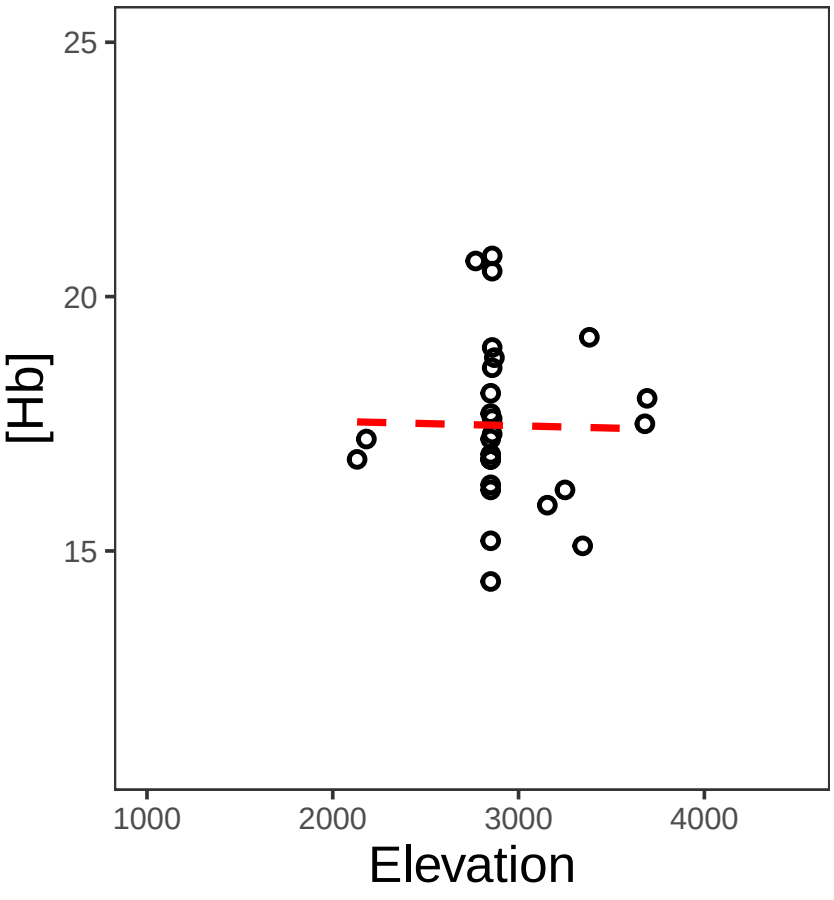
Blood O_2-carrying capacity and elevational specialization



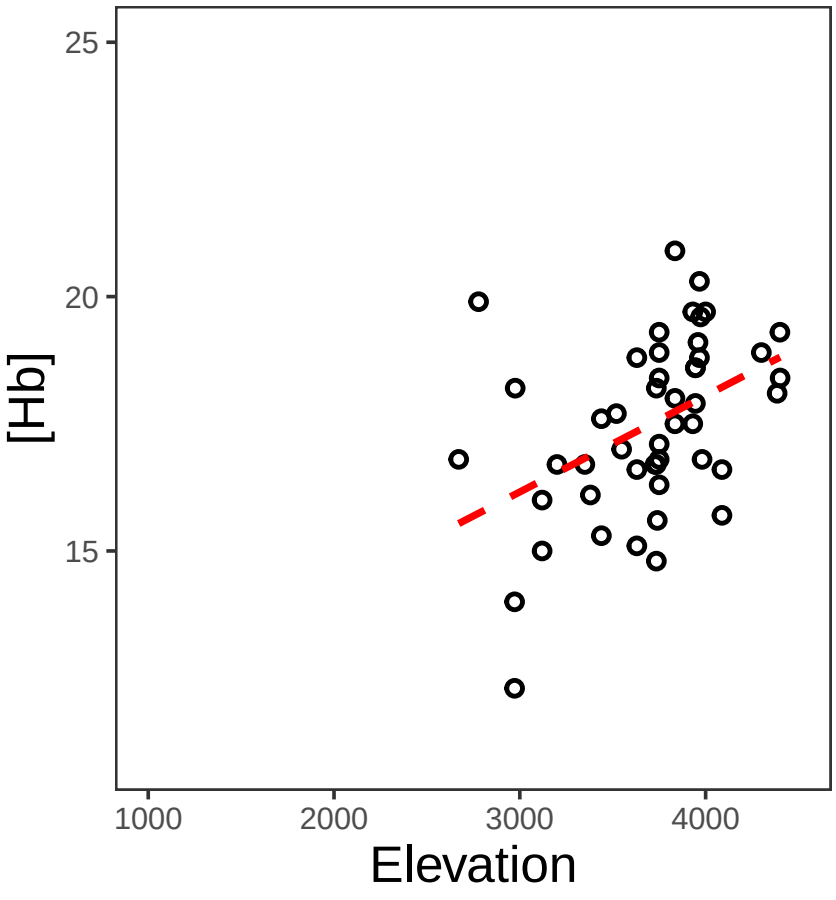


Respiratory plasticity

shallower slope, less plastic



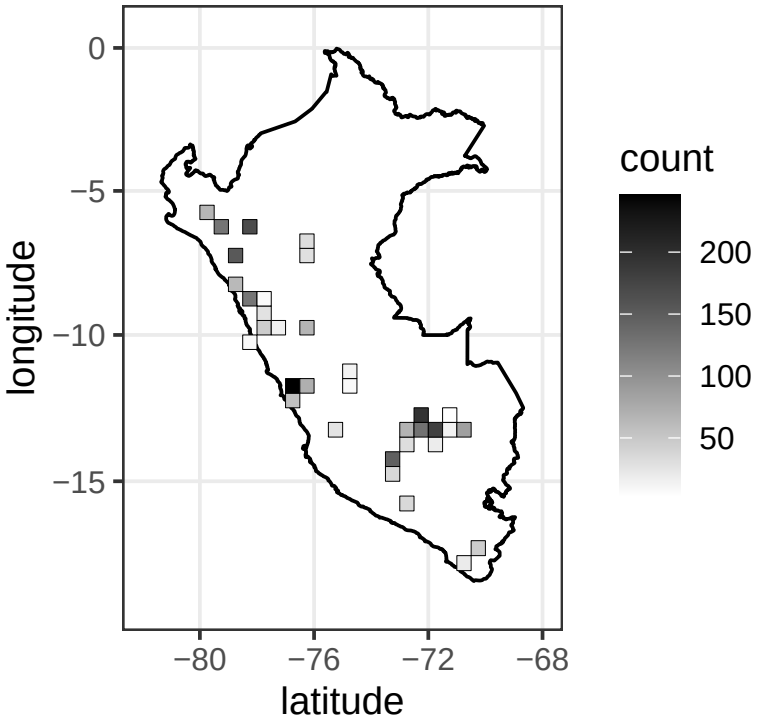
steeper slope, more plastic

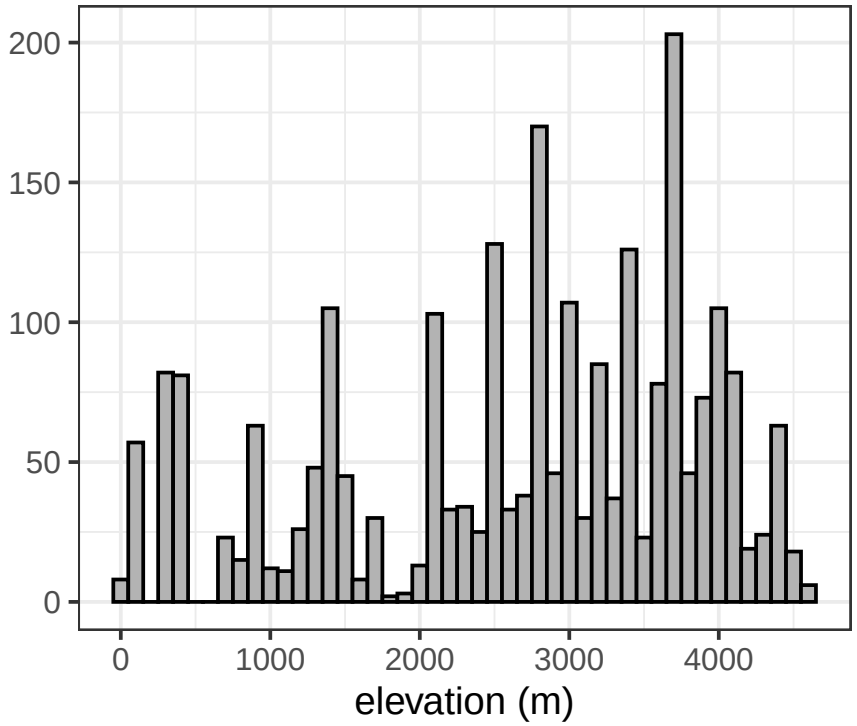


H_1: Respiratory plasticity constrains range breadth

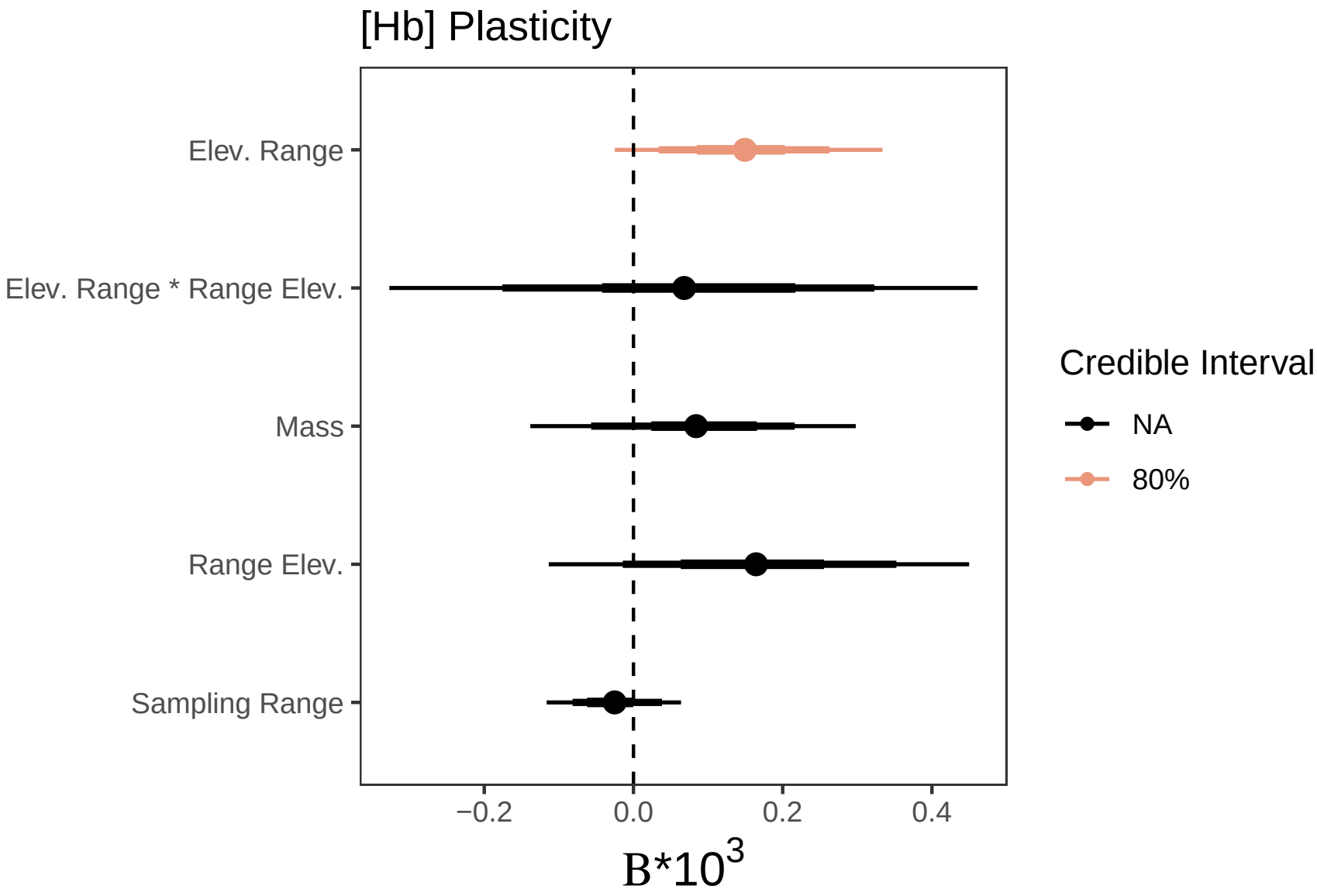
Methods

- **[Hb]** from 2367 individuals of 137 species
- Bayesian multivariate linear models





Elevational generalists have greater respiratory plasticity



We conclude: respiratory plasticity may facilitate elevational range expansion—even if broad elevational ranges aren't stable in the long term (Gadek et al. 2017)