pairs of species and their phenological events

Variables

year (t)
species (unique say)
species_AB ("type")
study
event_DOY (y)
"system" (which species pair within which study)

N datapoints
J species

group is only species

$$y_i = a_{j[i]} + b_{j[i]} * t + \sigma_i$$

i indexes datapoints
j indexes species

$$a_j \sim N(\mu_a, \sigma_a)$$
$$b_j \sim N(\mu_b, \sigma_b)$$

we are generally not interested in a's
but we really care about b's.
especially μ_b.

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adding in 'system' – because we expect similar external conditions for species pairs.
- but only n=2 for each, so modeling as normal seems silly
- so not group → individual level predictor
- we might expect slope to be more similar (& intercept?) between same-system species than different-system species

$$b_j \sim N(\text{here?}, \sigma_b)$$