Influence of ecological traits on mammal extinction risk

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Abstract

1 Introduction

2 Methods

2.1 Bioprovince occupancy

2.2 Survival model

$$p(\theta|y) \propto p(y|\theta)p(\theta) \tag{1}$$

2.2.1 Sampling distribution

$\alpha \in \mathbb{R}^+$

$\sigma \in \mathbb{R}^+$

$y \in [0, \infty)$

$$
\begin{aligned}
p(y|\alpha, \sigma) &= \text{Weibull}(y|\alpha, \sigma) \\
&= \frac{\alpha}{\sigma} \left(\frac{y}{\sigma}\right)^{\alpha-1} \exp\left(-\left(\frac{y}{\sigma}\right)^{\alpha}\right)
\end{aligned} \tag{2}
$$

$$\sigma = \frac{\exp(-(\beta_0 + \sum_{i=1}^{I} \beta_i X_i))}{\alpha} \tag{3}$$

2.2.2 Censoring

Right censored

Left censored

2.2.3 Priors

$$\beta_0 = \text{Normal}(0, 100)$$
$$\beta_i = \text{Normal}(0, 10)$$
$$\alpha = \text{Half Cauchy}(0, 2.5)$$

3 Results

4 Discussion