**Beyond patch size: the impact of regional context and habitat quality on three endangered primates**

**Supplementary material**

**Appendix A**. Results of information-theoretic-based model selection and multimodel inference for the encounter rate and immature-to-female ratio (a proxy of reproductive output) of spider monkeys (*Ateles geoffroyi*), black howler monkeys (*Alouatta pigra*) and Mexican mantled howler monkeys (*A. palliata mexicana*) in three rainforest regions with different forest cover (50%, 17% and 5% forest cover). Abbreviations: R top food = richness of top food species; BA pioneer = basal area of pioneer species; BA top food = basal area of top food species; BA total = total tree basal area. Asterisks indicate cases in which the unconditional variance (UV) is higher than the model-averaged parameter estimates (β).

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Region/response variable | R top food | BA pioneer | BA top food | BA total | Patch size | AICc | ΔAICc | *wi* |
| **50% (*Spider monkeys*)** |  |  |  |  |  |  |  |  |
| Encounter rate | X |  |  | X | X | 24.60 | 0.00 | 0.40 |
|  | X |  | X |  | X | 25.52 | 0.92 | 0.25 |
|  | X |  |  |  | X | 26.25 | 1.65 | 0.17 |
|  |  |  |  |  | X | 28.99 | 4.39 | 0.04 |
|  | \* | \* | \* | \* | \* | 29.39 | 4.79 | 0.04 |
|  |  |  | X |  | X | 29.58 | 4.98 | 0.03 |
|  |  |  | X |  |  | 31.99 | 7.40 | 0.01 |
|  |  |  |  | X |  | 32.10 | 7.51 | 0.01 |
| **50% (*Black howlers*)** |  |  |  |  |  |  |  |  |
| Encounter rate |  | X |  |  |  | 27.67 | 0.00 | 0.23 |
|  | \* | \* | \* | \* | \* | 27.76 | 0.09 | 0.22 |
|  |  |  |  | X |  | 29.16 | 1.48 | 0.11 |
|  |  |  | X |  |  | 29.49 | 1.82 | 0.09 |
|  |  |  |  |  | X | 30.54 | 2.87 | 0.05 |
|  |  | X |  | X |  | 30.84 | 3.17 | 0.05 |
|  | X |  |  |  |  | 30.92 | 3.25 | 0.05 |
|  |  | X |  |  | X | 31.24 | 3.57 | 0.04 |
|  |  | X | X |  |  | 31.39 | 3.72 | 0.04 |
|  |  |  | X |  | X | 32.17 | 4.50 | 0.02 |
|  |  | X | X |  |  | 32.18 | 4.51 | 0.02 |
|  |  |  |  | X | X | 32.81 | 5.13 | 0.02 |
|  |  |  | X | X |  | 33.54 | 5.87 | 0.01 |
| Immature-to-female ratio | \* | \* | \* | \* | \* | 31.56 | 0.00 | 0.25 |
|  |  |  | X |  |  | 31.93 | 0.37 | 0.20 |
|  |  | X |  |  |  | 31.99 | 0.43 | 0.20 |
|  |  | X | X |  |  | 34.47 | 2.91 | 0.06 |
|  |  |  |  | X |  | 34.59 | 3.04 | 0.05 |
|  | X |  |  |  |  | 34.93 | 3.37 | 0.05 |
|  |  |  |  |  | X | 35.22 | 3.66 | 0.04 |
|  | X | X |  |  |  | 36.35 | 4.79 | 0.02 |
|  |  |  | X |  | X | 36.36 | 4.80 | 0.02 |
|  |  |  | X | X |  | 36.37 | 4.81 | 0.02 |
|  |  | X |  | X |  | 36.51 | 4.95 | 0.02 |
|  | X |  | X |  |  | 36.62 | 5.06 | 0.02 |
|  |  | X |  |  | X | 36.70 | 5.14 | 0.02 |
| **17% (*Mantled howlers*)** |  |  |  |  |  |  |  |  |
| Encounter rate |  |  |  |  | X | 3.80 | 0.00 | 0.47 |
|  |  |  | X |  | X | 4.70 | 0.91 | 0.30 |
|  |  | X |  |  | X | 8.23 | 4.43 | 0.05 |
|  | X |  |  |  | X | 8.25 | 4.45 | 0.05 |
|  |  |  |  | X | X | 8.34 | 4.54 | 0.05 |
|  | X |  | X |  | X | 9.70 | 5.91 | 0.02 |
|  |  |  | X | X | X | 10.91 | 7.12 | 0.01 |
| **5% (*Mantled howlers*)** |  |  |  |  |  |  |  |  |
| Encounter rate | X | X |  |  |  | 25.57 | 0.00 | 0.40 |
|  |  | X |  |  |  | 27.88 | 2.31 | 0.13 |
|  | \* | \* | \* | \* | \* | 28.45 | 2.88 | 0.09 |
|  | X |  |  |  |  | 28.88 | 3.31 | 0.08 |
|  |  |  |  | X |  | 29.21 | 3.65 | 0.06 |
|  |  | X | X |  |  | 30.33 | 4.76 | 0.04 |
|  | X |  |  | X |  | 30.64 | 5.07 | 0.03 |
|  |  |  | X |  |  | 31.02 | 5.45 | 0.03 |
|  | X | X |  | X |  | 31.43 | 5.86 | 0.02 |
|  | X | X |  |  | X | 31.55 | 5.99 | 0.02 |
|  |  | X |  | X |  | 31.66 | 6.09 | 0.02 |
|  | X | X | X |  |  | 31.83 | 6.26 | 0.02 |
|  |  |  |  |  | X | 32.10 | 6.53 | 0.02 |
|  |  | X |  |  | X | 32.57 | 7.00 | 0.01 |
| Immature-to-female ratio |  | X |  |  |  | 11.30 | 0.00 | 0.27 |
|  | X | X |  |  |  | 12.49 | 1.19 | 0.15 |
|  | \* | \* | \* | \* | \* | 12.73 | 1.43 | 0.13 |
|  |  |  |  | X |  | 12.78 | 1.49 | 0.13 |
|  |  | X | X |  |  | 14.18 | 2.88 | 0.06 |
|  |  | X |  | X |  | 14.72 | 3.42 | 0.05 |
|  | X |  |  |  |  | 15.00 | 3.70 | 0.04 |
|  |  |  | X |  |  | 15.64 | 4.34 | 0.03 |
|  |  | X |  |  | X | 16.00 | 4.70 | 0.03 |
|  | X |  |  | X |  | 16.23 | 4.93 | 0.02 |
|  |  |  |  |  | X | 16.28 | 4.99 | 0.02 |
|  |  |  |  | X | X | 17.12 | 5.82 | 0.01 |
|  |  |  | X | X |  | 17.46 | 6.16 | 0.01 |