**Table S1. Additional information about protected areas included in the study.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Protected area** | **Code** | **Area (ha)\*** | **Country** | **Tropical region** | **Number of cameras** | **Number of Families\*\*** | **Number of Species\*\*** |
| Barro Colorado Nature Monument - Soberania National Park | BCI | 4,890 | Panama | Neotropical | 60 | 15 | 24 |
| Bukit Barisan | BBS | 295,000 | Indonesia | Indo-Malayan | 60 | 18 | 32 |
| Bwindi Impenetrable Forest | BIF | 32,700 | Uganda | Afrotropical | 60 | 13 | 22 |
| Caxiuanã National Forest | CAX | 317,945 | Brazil | Neotropical | 60 | 12 | 23 |
| Central Suriname Nature Reserve | CSN | 1,600,000 | Suriname | Neotropical | 65 | 13 | 30 |
| Cocha Cashu - Manu National Park | COU | 1,716,294 | Peru | Neotropical | 60 | 15 | 32 |
| Korup National Park | KRP | 125,900 | Cameroon | Afrotropical | 60 | 11 | 17 |
| Manaus | MAS | 1,198,944 | Brazil | Neotropical | 89 | 11 | 22 |
| Nam Kading | NAK | 169000 | Laos | Indo-Malayan | 60 | 16 | 25 |
| Nouabalé Ndoki | NNN | 423,870 | Republic of Congo | Afrotropical | 64 | 16 | 30 |
| Pasoh Forest Reserve | PSH | 13,610 | Malaysia | Indo-Malayan | 60 | 18 | 34 |
| Udzungwa | UDZ | 208,869 | Tanzania | Afrotropical | 61 | 15 | 24 |
| Virunga Massif | VIR | 16,000 | Democratic Republic of the Congo | Afrotropical | 60 | 7 | 10 |
| Volcán Barva (Brulio Carrillo National Park) | VB | 49,921 | Costa Rica | Neotropical | 60 | 13 | 22 |
| Yanachaga Chimillen National Park | YAN | 122,000 | Peru | Neotropical | 63 | 14 | 25 |
| Yasuni National Park | YAS | 1,030,070 | Ecuador | Neotropical | 60 | 13 | 28 |
| \*Areas were extracted from the World Database on Protected Areas (WDPA). Pasoh Forest Reserve, and Manaus were extrected from 64 |
| \*\*Number of mammals families and species detected by camera traps and included in this study. Species with a body mass >=75 g, ground dwelling and scansorial species |

**Table S2. Candidate multinomial models ranked according to Akaike information criterion (AIC) for each biogeographic region.** LR= Likelihood ratio**,** AIC=Akaike Information Criterion, N=sample size (number of independent events), and ΔAIC= delta AIC.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Region** | **Model** | **N** | **LR** | **AIC** | **ΔAIC** |
| Afrotropics | trophic\_guild \* b\_mass | 60704 | 51432.88 | 81979.44 | 0.00 |
| Afrotropics | trophic\_guild + b\_mass | 60704 | 47502.84 | 85897.48 | 3918.04 |
| Afrotropics | trophic\_guild | 60704 | 45973.84 | 87422.48 | 5443.04 |
| Afrotropics | b\_mass | 60704 | 33151.42 | 100236.90 | 18257.46 |
| Afrotropics | 1 | 60704 | 29969.28 | 103415.04 | 21435.60 |
| Indo-Malayan | trophic\_guild \* b\_mass | 8602 | 6102.54 | 12829.98 | 0.00 |
| Indo-Malayan | trophic\_guild + b\_mass | 8602 | 5677.21 | 13243.32 | 413.33 |
| Indo-Malayan | trophic\_guild | 8602 | 5639.64 | 13276.88 | 446.90 |
| Indo-Malayan | b\_mass | 8602 | 5318.54 | 13589.99 | 760.01 |
| Indo-Malayan | 1 | 8602 | 5299.85 | 13604.68 | 774.69 |
| Neotropics | trophic\_guild \* b\_mass | 57076 | 37722.82 | 87717.97 | 0.00 |
| Neotropics | trophic\_guild + b\_mass | 57076 | 31624.34 | 93804.45 | 6086.48 |
| Neotropics | trophic\_guild | 57076 | 30988.40 | 94436.39 | 6718.42 |
| Neotropics | b\_mass | 57076 | 24355.06 | 101061.73 | 13343.76 |
| Neotropics | 1 | 57076 | 24044.83 | 101367.96 | 13649.99 |



**Figure S1. Multinomial model coefficient estimates by each region.** The intercept (vertical line at 0) is represented with Carnivores as the reference group. Level of significance (p-value): \* = 0.05, \*\* = 0.01, \*\*\* = 0.001.

 

**Figure S2.** a) Distribution of body mass values (log scale kg) of ground-dwelling mammals for the three different biogeographic regions. b) Number of species in each trophic guild and each biogeographic region.

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**Figure S3.** **Examples of Kernel density activity of species by tropical region and trophic group.**



**Figure S4. Extended predicted probability of being diurnal (A), crepuscular (B) and nocturnal (C) for a sequence of body mass values by trophic guild and continent.** Lighter regions correspond to the upper and lower 95% confidence intervals. Circles represent raw proportions of diurnal, crepuscular, and nocturnal activity for species included in this study are based on the number of independent events (log-scaled), with the smallest circle corresponding to 1 and the biggest to 1055 events.