

Ecography

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Supplementary material

Appendix 1

Table A1. Summary information for the forest inventory plots. “N” indicates the number of plots in the set, while the minimum/maximum longitude and latitude give the bounding box for each set of plots. The other columns give the number of stems, genera, and families; “species ID” indicates the number of stems that were identified to species or morphospecies, and “species” indicates the number of unique species that were found, among stems that were identified to species. Numbers are given as the average number per plot for the plots within the set, followed by the standard deviation in parentheses.

| | n | min. long. | max. long. | min. lat. | max. lat. | stems | | genera | | families | | species ID | | species | |
|---------------|-----|---------------|---------------|-----------|-----------|-------|--------|--------|--------|----------|-------|------------|--------|---------|--------|
| All plots | 263 | -77.0477 | -69.1401 | -13.2150 | -3.9275 | 72.7 | (20.6) | 29.2 | (11.6) | 18.5 | (6.2) | 49.4 | (31.2) | 20.7 | (15.6) |
| Allpahuayo | 39 | -73.4674 | -73.3954 | -4.0670 | -3.9275 | 75.4 | (20.1) | 30.9 | (14.4) | 18.9 | (7.3) | 71.6 | (21.0) | 34.9 | (16.9) |
| Rio Tambopata | 41 | -69.5327 | -69.4599 | -12.9967 | -12.9140 | 72.4 | (20.3) | 26.2 | (13.3) | 16.0 | (7.2) | 35.8 | (22.9) | 10.6 | (7.9) |
| Kosñipata | 16 | -71.6036 | -71.5047 | -13.1722 | -13.0356 | 90.1 | (19.7) | 25.8 | (9.2) | 19.8 | (5.3) | 82.8 | (21.3) | 28.9 | (10.5) |

Table A2. Correlations among the topographic variables used in this study.

| | Elev. | Slope | Plan curv | Prof curv | TWI | Mar insol | Jun insol | Dec insol |
|-----------|--------|--------|--------------|--------------|--------|--------------|--------------|--------------|
| Slope | 0.804 | | | | | | | |
| Plan curv | -0.018 | -0.001 | | | | | | |
| Prof curv | -0.348 | -0.380 | 0.200 | | | | | |
| TWI | -0.741 | -0.891 | 0.034 | 0.306 | | | | |
| Mar insol | -0.172 | -0.511 | 0.006 | 0.138 | 0.342 | | | |
| Jun insol | -0.036 | -0.137 | -0.026 | -0.035 | 0.094 | 0.795 | | |
| Dec insol | -0.045 | -0.318 | 0.049 | 0.229 | 0.207 | -0.160 | -0.710 | |
| REM | 0.509 | 0.446 | 0.103 | 0.172 | -0.583 | 0.088 | 0.058 | 0.021 |

Table A3. Correlations among the climatic variables used in this study.

| | MAT | MDR | TS | TAR | MAP | Pmax | Pmin | PS | DSL | MCWD |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| MDR | -0.812 | | | | | | | | | |
| TS | -0.001 | -0.036 | | | | | | | | |
| TAR | -0.661 | 0.796 | 0.517 | | | | | | | |
| MAP | -0.017 | -0.179 | 0.033 | -0.238 | | | | | | |
| Pmax | -0.025 | -0.205 | 0.028 | -0.239 | 0.720 | | | | | |
| Pmin | -0.174 | -0.003 | 0.094 | -0.018 | 0.849 | 0.611 | | | | |
| PS | -0.309 | 0.389 | 0.214 | 0.544 | -0.524 | -0.485 | -0.082 | | | |
| DSL | -0.087 | 0.234 | 0.108 | 0.380 | -0.795 | -0.644 | -0.559 | 0.778 | | |
| MCWD | -0.295 | 0.390 | 0.207 | 0.539 | -0.658 | -0.565 | -0.382 | 0.855 | 0.848 | |
| Cloud. | -0.330 | 0.131 | -0.800 | -0.383 | 0.037 | 0.113 | 0.066 | -0.082 | -0.125 | -0.123 |

Table A4. Results of the forward selection procedure for the Allpahuayo and Kosñipata landscapes from a species-level analysis of community turnover.

| order | Allpahuayo | | Kosñipata | |
|-------|------------|-------------------------------|-----------|-------------------------------|
| | variable | $R^2_{\text{adj}} \times 100$ | variable | $R^2_{\text{adj}} \times 100$ |
| 1 | Sand | 5.4 | Elevation | 6.1 |
| 2 | Slope | 7.6 | Prof curv | 11.9 |
| 3 | Clay | 9.8 | MAT | 15.5 |
| 4 | Clay-sand | 13.4 | Dec insol | 19.1 |

Variables are ranked in order according to the size of their additional contribution to the overall amount of variation explained (R^2_{adj}). $R^2_{\text{adj}} \times 100$ is the cumulative percent of variation explained by the model that includes that variable and all previous variables.

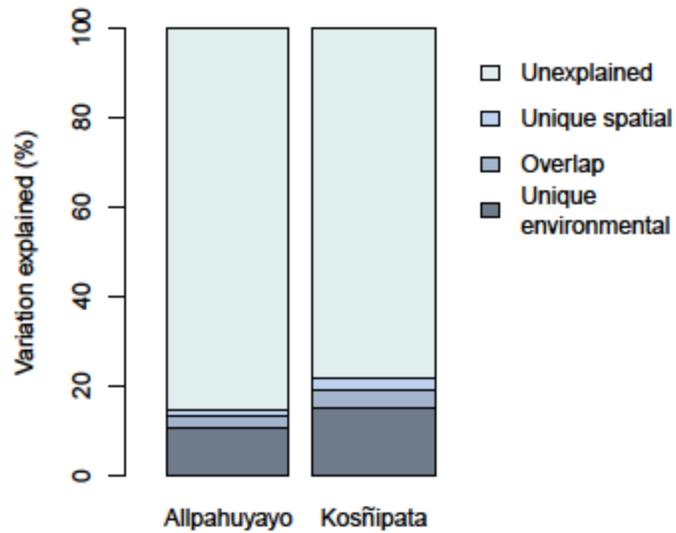


Figure A1. Partitioning of compositional variation between environmental and spatial variables in the Allpahuayo and Kosñipata landscapes when analysis was performed at the species-level. The contribution of the environmental variables is equal to the sum of “unique environment” and “overlap”, and the contribution of the spatial variables is equal to the sum of “unique spatial” and “overlap”. “Overlap” is the spatially structured environmental fraction.