**Supplementary Material**

**Title:** Geospatial patterns in traditional knowledge serve in assessing intellectual property rights and benefit-sharing in northwest South America

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**Figure S1.** Relationship between the total number of medicinal uses cited in a community and the number of medicinal uses reported by <10% of interviewees. (R2=0.93, P <0.001).

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**Figure S2.** Distribution among medicinal subcategories of (A) 218 unshared uses and (B) 19 shared uses. Unshared uses are those cited by <10% of interviewees, whereas shared uses are those cited by ≥50% of interviewees within a community.

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**Figure S3.** Distribution among 52 palm species of (A) 218 unshared uses and (B) 19 shared uses. Unshared uses are those cited by <10% of interviewees, whereas shared uses are those cited by ≥ 50% of interviewees within a community.



**Table S1.** Distribution of medicinal uses of palms across 19 medicinal categories and four countries.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Blood and Cardio-vascular system | Cultural diseases and disorders | Dental health | Digestive system | Endocrine system | General Ailments with Unspecific Symptoms | Infections and infestations | MedicinalOther | Metabolic system and nutrition | Musculo-skeletal system | Nervous system and mental health | Poisonings | Pregnancy, birth and puerperium | Reproductive system and reproductive health | Respiratory system | Sensory system | Skin and subcutaneous tissue | Urinary system | Veterinary | **TOTAL** |
| **(A) Total Uses/subcategory** | **24** | **36** | **12** | **64** | **8** | **38** | **47** | **10** | **13** | **23** | **5** | **37** | **22** | **19** | **52** | **10** | **54** | **26** | **3** | **503** |
| Colombia | 5 | 10 | 5 | 24 | 0 | 8 | 18 | 3 | 8 | 7 | 0 | 19 | 6 | 9 | 22 | 3 | 28 | 10 | 3 | 188 |
| Ecuador | 6 | 7 | 6 | 20 | 0 | 5 | 8 | 3 | 4 | 8 | 3 | 2 | 5 | 4 | 18 | 3 | 8 | 5 | 0 | 115 |
| Bolivia | 8 | 17 | 3 | 23 | 1 | 20 | 16 | 1 | 3 | 14 | 0 | 15 | 5 | 8 | 18 |  | 20 | 6 | 1 | 179 |
| Peru | 10 | 6 | 0 | 17 | 7 | 11 | 22 | 4 | 1 | 6 | 2 | 8 | 11 | 5 | 9 | 4 | 10 | 10 | 0 | 143 |
| **(B) Country singletons** | **20** | **33** | **10** | **53** | **8** | **32** | **34** | **9** | **11** | **17** | **5** | **31** | **20** | **15** | **44** | **10** | **44** | **23** | **2** | **421** |
| Colombia | 3 | 9 | 3 | 15 | 0 | 7 | 13 | 3 | 6 | 4 | 0 | 14 | 4 | 7 | 16 | 3 | 22 | 9 | 2 | 140 |
| Ecuador | 5 | 6 | 4 | 15 | 0 | 4 | 5 | 2 | 3 | 2 | 3 | 2 | 3 | 2 | 13 | 3 | 3 | 4 | 0 | 79 |
| Bolivia | 6 | 15 | 3 | 15 | 1 | 15 | 6 | 1 | 2 | 8 | 0 | 11 | 4 | 4 | 11 | 0 | 14 | 3 | 0 | 119 |
| Peru | 6 | 3 | 0 | 8 | 7 | 6 | 10 | 3 | 0 | 3 | 2 | 4 | 9 | 2 | 4 | 4 | 5 | 7 | 0 | 83 |
| **% Country singletons/ subcategory** | **83** | **92** | **83** | **83** | **100** | **84** | **72** | **90** | **85** | **74** | **100** | **84** | **91** | **79** | **85** | **100** | **81** | **88** | **67** | **85** |

**Table S2.** Number of medicinal uses of palms shared between each South American

country pair.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Colombia | Ecuador | Bolivia |
| Ecuador | 7 | **-** |  |
| Bolivia | 6 | 5 | **-** |
| Peru | 10 | 3 | 22 |

**Table S3.** Number of medicinal palm species, their uses and singletons for 52 Amerindian tribes of South America.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Tribe** | **Species** | **Uses** | **Singletons** | **Informants** | **References** | **No. Tribes with which some uses are shared** |
| Achuar | 7 | 11 | 8 | 50 | 1 | 7 |
| Aguaruna | 14 | 22 | 18 | 43 | 1 | 25 |
| Amarakaeri | 1 | 2 | 0 | 7 | 0 | 18 |
| Asháninka | 11 | 26 | 14 | 0 | 1 | 26 |
| Awá | 1 | 1 | 0 | 0 | 1 | 6 |
| Barasana | 2 | 2 | 0 | 1 | 0 | 22 |
| Baré | 2 | 5 | 0 | 3 | 0 | 26 |
| Bora | 2 | 2 | 1 | 0 | 1 | 1 |
| Carijona | 13 | 15 | 0 | 3 | 0 | 25 |
| Cavineña | 5 | 6 | 1 | 1 | 0 | 14 |
| Chacobo | 12 | 31 | 16 | 82 | 2 | 23 |
| Chanka | 11 | 17 | 6 | 26 | 2 | 35 |
| Cocama | 4 | 13 | 2 | 47 | 1 | 34 |
| Cofán | 6 | 7 | 2 | 55 | 1 | 7 |
| Coreguaje | 1 | 2 | 0 | 0 | 3 | 12 |
| Cubeo | 4 | 6 | 2 | 3 | 1 | 24 |
| Embera | 14 | 23 | 17 | 38 | 1 | 18 |
| Ese Eja | 8 | 22 | 6 | 75 | 1 | 39 |
| Guayabero | 1 | 2 | 0 | 0 | 2 | 7 |
| Huaorani | 15 | 31 | 21 | 0 | 6 | 28 |
| Inga | 4 | 6 | 1 | 3 | 0 | 35 |
| Itana | 1 | 1 | 0 | 1 | 0 | 7 |
| Leco | 10 | 54 | 26 | 146 | 2 | 34 |
| Macuna | 14 | 22 | 6 | 22 | 0 | 40 |
| Matapí | 15 | 21 | 4 | 4 | 1 | 31 |
| Miraña | 15 | 24 | 9 | 18 | 3 | 36 |
| Mosetene | 4 | 8 | 5 | 0 | 2 | 19 |
| Muinane | 7 | 15 | 14 | 0 | 3 | 21 |
| Pacahuara | 1 | 1 | 0 | 3 | 0 | 4 |
| Piapoco | 4 | 4 | 3 | 0 | 2 | 11 |
| Puinave | 2 | 3 | 3 | 0 | 3 | 0 |
| Quechua/Tacana | 5 | 10 | 2 | 0 | 1 | 35 |
| Quichua | 17 | 48 | 12 | 3 | 12 | 40 |
| Sapiteri | 2 | 2 | 0 | 1 | 0 | 23 |
| Secoya | 7 | 8 | 7 | 0 | 2 | 12 |
| Shipibo | 3 | 4 | 1 | 1 | 0 | 17 |
| Siona | 6 | 9 | 3 | 0 | 5 | 19 |
| Tacana | 10 | 41 | 13 | 77 | 3 | 38 |
| Tanimuca | 5 | 6 | 1 | 2 | 0 | 15 |
| Tikuna | 21 | 70 | 39 | 88 | 4 | 45 |
| Tsáchila | 8 | 25 | 19 | 24 | 1 | 12 |
| Tsimane | 10 | 31 | 10 | 0 | 4 | 35 |
| Uitoto | 5 | 8 | 3 | 3 | 4 | 27 |
| Urarina | 13 | 24 | 0 | 4 | 1 | 35 |
| Wounan | 1 | 1 | 0 | 0 | 1 | 1 |
| Yagua | 2 | 2 | 0 | 0 | 1 | 2 |
| Yahuna | 1 | 1 | 0 | 1 | 0 | 21 |
| Yaminahua | 3 | 7 | 0 | 10 | 0 | 34 |
| Yanesha | 2 | 9 | 2 | 0 | 2 | 36 |
| Yucuna | 11 | 19 | 6 | 15 | 1 | 29 |
| Yuracaré | 6 | 22 | 8 | 41 | 1 | 26 |
| Yuracaré/Trinitario | 5 | 10 | 3 | 0 | 1 | 21 |

**Table S4.** Frequency of consensus in medicinal uses among 52 Amerindian tribes from South America.

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**Table S5.** Frequency of consensus in medicinal uses among six non-Amerindian groups from South America.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Afro-Colombia | Afro-Ecuador | Mestizo - Bolivia | Mestizo - Colombia | Mestizo - Ecuador |
| Afro-Ecuador | 1 | - |  |  |  |
| Mestizo - Bolivia | 2 |  | - |  |  |
| Mestizo - Colombia |  |  |  | - |  |
| Mestizo - Ecuador | 2 |  | 1 |  | - |
| Mestizo - Peru | 2 |  | 13 |  | 2 |

**Table S6.** Amount of unique and shared medicinal knowledge in Amerindian communities of the same ethnicity.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Ethnicity/Country | No. communities\* | No. informants | No. uses | No. uses unique to a community | | No. uses shared between communities | % Uses shared between communities |
| Achuar-Ecuador | 2 | 46 | 9 | 4 | 5 | | 56 |
| Aguaruna-Peru | 2 | 41 | 19 | 14 | 5 | | 26 |
| Chácobo-Bolivia | 2 | 77 | 27 | 20 | 7 | | 26 |
| Emberá-Colombia | 2 | 38 | 21 | 16 | 5 | | 24 |
| Leco-Bolivia | 6 | 142 | 46 | 26 | 20 | | 44 |
| Tacana-Bolivia | 3 | 67 | 5 | 2 | 3 | | 60 |
| Tsáchila-Ecuador | 2 | 22 | 21 | 20 | 1 | | 5 |
| Yuracaré-Bolivia | 2 | 23 | 15 | 14 | 1 | | 7 |
| \* Only communities with >10 informants | | | | | | | |

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