**Table S2.** The *P* value of fisher’s exact test for the correlation between the status of species accumulator, repeller and neutral species and the status of phylogenetic accumulator, repeller and neutral species on local scales in the nine forest plots.

|  |  |
| --- | --- |
| Radius (m) | *P* Value |
| Ailaoshan | BCI | Edoro-1 | Edoro-2 | Korup | Lenda-1 | Lenda-2 | Wabikon Lake | Xishuangbanna |
| r=1 | 0.036  | 0.037 | 0.604 | 1 | 0.003 | 1 | 0.348 | 0.031 | 1 |
| r=2 | 0.033 | 0.049 | 1 | 1 | 0.048 | 1 | 1 | 0.246 | 0.032 |
| r=3 | 0.024 | 0.003 | 0.374 | 1 | 0.049 | 0.335 | 1 | 0.019 | 0.019 |
| r=4 | 0.035 | 0.041 | 1 | 1 | 0.054 | 1 | 1 | 0.005 | 0.007 |
| r=5 | 0.004 | 0.029 | 1 | 1 | 0.01 | 1 | 1 | 0.029 | 0.007 |
| r=6 | 0.064 | 0.012 | 1 | 1 | 0.008 | 1 | 1 | 0.027 | 0.004 |
| r=7 | 0.058 | 0.026 | 1 | 1 | 0.005 | 1 | 1 | 0.029 | 0.003 |
| r=8 | 0.026 | 0.015 | 1 | 1 | 0.002 | 1 | 1 | 0.11 | 0.062 |
| r=9 | 0.020 | 0.012 | 1 | 1 | 0.023 | 1 | 1 | 0.143 | 1 |
| r=10 | 0.050 | 0.029 | 1 | 1 | 0.037 | 1 | 1 | 1 | 1 |
| r=15 | 0.096 | 0.026 | 1 | 1 | 0.4 | 0.007 | 0.024 | 0.119 | 0.135 |
| r=20 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| r=30 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.581 | 1 |
| r=40 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.37 | 0.219 |
| r=50 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.255 | 0.326 |