Appendix S5

*Evaluating hypothesis support.—*To determine the support for each of the host-pathogen coexistence hypotheses (e.g., source-sink, rescue, hotspots), we compared the posterior distributions of parameters of interest (Fig. 1 in main text) by computing the proportion of MCMC draws from the posterior distribution where one parameter was greater than the other (Ruiz-Gutiérrez *et al.* 2010). These estimates can be interpreted as direct probabilities. Extreme proportions (i.e., ≥ 0.95) suggested significant differences between parameters and little overlap of their posterior distributions. We considered regression coefficients meaningful if the 95% credible interval did not overlap zero.

Table S1. Comparison of parameter posterior distributions.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Parameter | Definition | Comparison (A > B) | | Probability |
| Φ | Survival | Uninfected | Infected | 0.43 |
|  |  |  |  |  |
| γ | Expected arrival per site | Infected | Uninfected | 0.43 |
|  |
|  |
|  |  |  |  |  |
| *N* | Total abundance | Wet 2010 | Wet 2011 | 0.00 |
|  | Wet 2011 | Wet 2012 | 0.00 |
|  |  | Wet 2012 | Dry 2013 | 0.91 |
|  |  | Dry 2013 | Wet 2013 | 0.54 |
|  |  | Wet 2013 | Dry 2014 | 0.39 |
|  |  |  |  |  |
|  |  | Wet 2010 | Dry 2014 | 0.00 |
|  |  |  |  |  |
| *p* | Detection | Infected wet | Infected dry | 0.95 |
|  |  | Uninfected wet | Uninfected dry | 1.00 |

References

Ruiz-Gutiérrez, V., Zipkin, E. F., & Dhondt, A. A. (2010). Occupancy dynamics in a tropical bird community: unexpectedly high forest use by birds classified as non-forest species. *Journal of Applied Ecology*, 47, 621–630.