|  |  |  |  |
| --- | --- | --- | --- |
| Tree type | Tree size | Rejection rate | Median alpha (95% HPD) |
| Slow speed-up | 25 | 0.126 | 0.443 (0-3.18) |
| Slow speed-up | 50 | 0.118 | 0.34 (0-1.963) |
| Slow speed-up | 100 | 0.105 | 0.22 (0-1.324) |
| Slow speed-up | 150 | 0.098 | 0.189 (0-1.113) |
| Slow speed-up | 200 | 0.085 | 0.162 (0-0.9) |
| Slow speed-up | 500 | 0.061 | 0.096 (0-0.545) |
| Slow speed-up | 1000 | 0.061 | 0.065 (0-0.415) |
| Rapid speed-up | 25 | 0.191 | 0.882 (0-7.012) |
| Rapid speed-up | 50 | 0.136 | 0.603 (0-4.082) |
| Rapid speed-up | 100 | 0.122 | 0.527 (0-3.024) |
| Rapid speed-up | 150 | 0.122 | 0.442 (0-2.485) |
| Rapid speed-up | 200 | 0.086 | 0.349 (0-2.01) |
| Rapid speed-up | 500 | 0.079 | 0.241 (0-1.437) |
| Rapid speed-up | 1000 | 0.069 | 0.183 (0-1.083) |
| Slow slow-down | 25 | 0.112 | 0.278 (0-1.792) |
| Slow slow-down | 50 | 0.082 | 0.14 (0-0.985) |
| Slow slow-down | 100 | 0.073 | 0.091 (0-0.549) |
| Slow slow-down | 150 | 0.053 | 0.055 (0-0.388) |
| Slow slow-down | 200 | 0.064 | 0.05 (0-0.349) |
| Slow slow-down | 500 | 0.05 | 0.028 (0-0.209) |
| Slow slow-down | 1000 | 0.042 | 0.017 (0-0.146) |
| Rapid slow-down | 25 | 0.093 | 0.192 (0-1.45) |
| Rapid slow-down | 50 | 0.077 | 0.118 (0-0.854) |
| Rapid slow-down | 100 | 0.058 | 0.061 (0-0.408) |
| Rapid slow-down | 150 | 0.064 | 0.038 (0-0.329) |
| Rapid slow-down | 200 | 0.051 | 0.029 (0-0.278) |
| Rapid slow-down | 500 | 0.036 | 0.014 (0-0.147) |
| Rapid slow-down | 1000 | 0.054 | 0.006 (0-0.11) |

Table XX. Rejection rate and alpha estimates for data simulated under a constant rate Brownian model on a trees simulated under time variable speciation rates. Tree type refers to the extinction fraction for the birth-death trees. The rejection rate is the proportion of OU models favoured relative to a Brownian motion model.