**Supplementary Table S2.** Tables of mean, standard deviation, confidence intervals, and percentage bias for each measure for each sample size assessed in this work.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Mean** | **SD** | **95%CI** | **n** | **Expected value** | **Bias (%)** |
|  | 1.24 | 0.49 | 1.22 | 5 | 6.42 | 80.70 |
|  | 1.76 | 0.84 | 1.73 | 10 | 6.42 | 72.59 |
|  | 2.73 | 1.06 | 2.7 | 20 | 6.42 | 57.43 |
|  | 4.04 | 1.12 | 4.01 | 40 | 6.42 | 36.97 |
|  | 5.21 | 0.97 | 5.19 | 80 | 6.42 | 18.66 |
| 1D ~ Shannon measure exponential | 6.16 | 0.54 | 6.14 | 160 | 6.42 | 3.93 |
| 6.41 | 0 | 6.41 | 200 | 6.42 | 0.00 |
| 2.29 | 1.24 | 2.26 | 5 | 10 | 77.07 |
| 3.79 | 1.58 | 3.74 | 10 | 10 | 62.13 |
|  | 5.95 | 1.48 | 5.91 | 20 | 10 | 40.48 |
|  | 7.99 | 0.99 | 7.97 | 40 | 10 | 20.07 |
|  | 9.26 | 0.4 | 9.25 | 80 | 10 | 7.40 |
|  | 9.88 | 0.07 | 9.88 | 160 | 10 | 1.19 |
|  | 10 | 0 | 10 | 200 | 10 | 0.00 |
|  | 0.88 | 0.79 | 0.86 | 5 | 5.06 | 82.53 |
|  | 1.61 | 0.97 | 1.58 | 10 | 5.06 | 68.22 |
|  | 2.6 | 1.04 | 2.57 | 20 | 5.06 | 48.72 |
|  | 3.67 | 1.04 | 3.64 | 40 | 5.06 | 27.55 |
|  | 4.46 | 0.82 | 4.43 | 80 | 5.06 | 12.00 |
| 2D ~ Levins niche breadth measure | 4.95 | 0.38 | 4.94 | 160 | 5.06 | 2.26 |
| 5.06 | 0 | 5.06 | 200 | 5.06 | 0.00 |
| 2.15 | 1.35 | 2.11 | 5 | 10 | 78.52 |
| 3.61 | 1.52 | 3.57 | 10 | 10 | 63.86 |
|  | 5.52 | 1.38 | 5.48 | 20 | 10 | 44.80 |
|  | 7.33 | 1.01 | 7.30 | 40 | 10 | 26.68 |
|  | 8.78 | 0.55 | 8.76 | 80 | 10 | 12.21 |
|  | 9.77 | 0.12 | 9.77 | 160 | 10 | 2.25 |
|  | 10.00 | 0.00 | 10.00 | 200 | 10 | 0.00 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Mean** | **SD** | **95%CI** | **n** | **Expected value** | **Bias (%)** |
|  | 0.10 | 0.17 | 0.00 | 5 | 0.51 | 81.25 |
|  | 0.19 | 0.17 | 0.00 | 10 | 0.51 | 62.52 |
|  | 0.29 | 0.13 | 0.00 | 20 | 0.51 | 42.26 |
|  | 0.38 | 0.09 | 0.00 | 40 | 0.51 | 24.09 |
|  | 0.45 | 0.06 | 0.00 | 80 | 0.51 | 11.96 |
| Renkonen (1938) | 0.49 | 0.03 | 0.00 | 160 | 0.51 | 2.45 |
|  | 0.51 | 0.00 | 0.00 | 200 | 0.51 | 0.00 |
|  | 0.24 | 0.17 | 0.00 | 5 | 1 | 76.47 |
|  | 0.40 | 0.14 | 0.00 | 10 | 1 | 59.70 |
|  | 0.58 | 0.09 | 0.00 | 20 | 1 | 42.47 |
|  | 0.72 | 0.06 | 0.00 | 40 | 1 | 28.32 |
|  | 0.83 | 0.04 | 0.00 | 80 | 1 | 17.29 |
|  | 0.93 | 0.01 | 0.00 | 160 | 1 | 7.02 |
|  | 1.00 | 0.00 | 0.00 | 200 | 1 | 0.00 |
|  | 0.09 | 0.19 | 0.01 | 5 | 0.51 | 82.27 |
|  | 0.17 | 0.19 | 0.01 | 10 | 0.51 | 66.23 |
|  | 0.27 | 0.17 | 0.00 | 20 | 0.51 | 45.84 |
|  | 0.37 | 0.13 | 0.00 | 40 | 0.51 | 26.39 |
|  | 0.45 | 0.09 | 0.00 | 80 | 0.51 | 11.48 |
|  | 0.50 | 0.04 | 0.00 | 160 | 0.51 | 2.07 |
| Morisita (1959) | 0.51 | 0.00 | 0.00 | 200 | 0.51 | 0.00 |
|  | 0.27 | 0.20 | 0.01 | 5 | 1 | 72.94 |
|  | 0.45 | 0.17 | 0.00 | 10 | 1 | 54.83 |
|  | 0.64 | 0.12 | 0.00 | 20 | 1 | 36.02 |
|  | 0.80 | 0.07 | 0.00 | 40 | 1 | 19.97 |
|  | 0.92 | 0.03 | 0.00 | 80 | 1 | 8.42 |
|  | 0.98 | 0.01 | 0.00 | 160 | 1 | 1.51 |
|  | 1.00 | 0.00 | 0.00 | 200 | 1 | 0.00 |
|  | 0.12 | 0.20 | 0.01 | 5 | 0.50 | 76.21 |
|  | 0.21 | 0.19 | 0.01 | 10 | 0.50 | 57.98 |
|  | 0.30 | 0.15 | 0.00 | 20 | 0.50 | 39.53 |
|  | 0.39 | 0.12 | 0.00 | 40 | 0.50 | 22.30 |
|  | 0.45 | 0.08 | 0.00 | 80 | 0.50 | 9.76 |
|  | 0.49 | 0.03 | 0.00 | 160 | 0.50 | 1.72 |
| Pianka (1973) | 0.50 | 0.00 | 0.00 | 200 | 0.50 | 0.00 |
|  | 0.28 | 0.21 | 0.01 | 5 | 1 | 71.97 |
|  | 0.46 | 0.17 | 0.00 | 10 | 1 | 54.20 |
|  | 0.64 | 0.12 | 0.00 | 20 | 1 | 35.76 |
|  | 0.80 | 0.07 | 0.00 | 40 | 1 | 19.84 |
|  | 0.92 | 0.03 | 0.00 | 80 | 1 | 8.45 |
|  | 0.98 | 0.01 | 0.00 | 160 | 1 | 1.53 |
|  | 1.00 | 0.00 | 0.00 | 200 | 1 | 0.00 |
|  | 0.17 | 0.29 | 0.01 | 5 | 0.51 | 65.82 |
|  | 0.18 | 0.20 | 0.01 | 10 | 0.51 | 64.99 |
|  | 0.29 | 0.17 | 0.00 | 20 | 0.51 | 42.29 |
|  | 0.41 | 0.11 | 0.00 | 40 | 0.51 | 20.12 |
|  | 0.48 | 0.06 | 0.00 | 80 | 0.51 | 6.58 |
|  | 0.50 | 0.02 | 0.00 | 160 | 0.51 | 0.91 |
| 1Dβ (Jost, 2007) | 0.51 | 0.00 | 0.00 | 200 | 0.51 | 0.00 |
|  | 0.35 | 0.23 | 0.01 | 5 | 1 | 64.96 |
|  | 0.57 | 0.16 | 0.00 | 10 | 1 | 42.73 |
|  | 0.79 | 0.08 | 0.00 | 20 | 1 | 21.07 |
|  | 0.92 | 0.03 | 0.00 | 40 | 1 | 7.85 |
|  | 0.97 | 0.01 | 0.00 | 80 | 1 | 2.56 |
|  | 1.00 | 0.00 | 0.00 | 160 | 1 | 0.41 |
|  | 1.00 | 0.00 | 0.00 | 200 | 1 | 0.00 |
|  | 0.32 | 0.54 | 0.01 | 5 | 0.53 | 39.57 |
|  | 0.22 | 0.27 | 0.01 | 10 | 0.53 | 58.57 |
|  | 0.32 | 0.19 | 0.01 | 20 | 0.53 | 40.08 |
|  | 0.41 | 0.14 | 0.00 | 40 | 0.53 | 21.90 |
|  | 0.48 | 0.09 | 0.00 | 80 | 0.53 | 9.55 |
|  | 0.52 | 0.04 | 0.00 | 160 | 0.53 | 1.59 |
| 2Dβ (Jost, 2007) | 0.53 | 0.00 | 0.00 | 200 | 0.53 | 0.00 |
|  | 0.39 | 0.27 | 0.01 | 5 | 1 | 60.55 |
|  | 0.60 | 0.17 | 0.00 | 10 | 1 | 39.64 |
|  | 0.77 | 0.09 | 0.00 | 20 | 1 | 22.63 |
|  | 0.89 | 0.04 | 0.00 | 40 | 1 | 11.14 |
|  | 0.96 | 0.02 | 0.00 | 80 | 1 | 4.48 |
|  | 0.99 | 0.00 | 0.00 | 160 | 1 | 0.77 |
|  | 1.00 | 0.00 | 0.00 | 200 | 1 | 0.00 |