

| Model        | Biodiversity measure | Slope  | $r^2$ | $p - value$ |
|--------------|----------------------|--------|-------|-------------|
| Lognormal    | $N_{\max}$           | 0.94   | 0.56  | $< 0.0001$  |
|              | Evenness             | -0.49  | 0.52  | $< 0.0001$  |
|              | Skewness             | 0.14   | 0.54  | $< 0.0001$  |
| Zipf         | $N_{\max}$           | 0.96   | 0.52  | $< 0.0001$  |
|              | Evenness             | -0.58  | 0.56  | $< 0.0001$  |
|              | Skewness             | 0.095  | 0.35  | $< 0.0001$  |
| Log-series   | $N_{\max}$           | 0.77   | 0.71  | $< 0.0001$  |
|              | Evenness             | -0.12  | 0.65  | $< 0.0001$  |
|              | Skewness             | 0.043  | 0.80  | $< 0.0001$  |
| Broken-stick | $N_{\max}$           | 0.65   | 0.66  | $< 0.0001$  |
|              | Evenness             | -0.011 | 0.29  | $< 0.0001$  |
|              | Skewness             | 0.016  | 0.24  | $< 0.0001$  |