Appendix 1 - Diversity indices and the corresponding equations.

<table>
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<tr>
<th>Index</th>
<th>Source</th>
<th>Equation</th>
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<tbody>
<tr>
<td>Brillouin diversity (HB)</td>
<td>Magurran (2004)</td>
<td>( HB = \frac{\ln N! - \sum \ln n_i!}{N} )</td>
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<tr>
<td>Brillouin evenness (E)</td>
<td>Magurran (2004)</td>
<td>( E = \frac{HB}{HB_{\text{max}}} )</td>
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<td></td>
<td></td>
<td>( HB_{\text{max}} = \frac{1}{N} \ln \left( \frac{N!}{[N/S]^{\frac{S}{N}} \cdot ([N/S]+1)^\frac{S}{N}} \right) )</td>
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<tr>
<td>Tree Height Diversity (THD)</td>
<td>Kuuluvainen et al. (1996)</td>
<td>( H' = -\sum_{i=1}^{S} (p_i \ln p_i) )</td>
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<tr>
<td>Tree Diameter Diversity (TDD)</td>
<td>Rouvinen &amp; Kuuluvainen (2005)</td>
<td>( H' = -\sum_{i=1}^{S} (p_i \ln p_i) )</td>
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<tr>
<td>Vertical evenness (VE)</td>
<td>Neumann &amp; Starlinger (2001)</td>
<td>( VE = \sum_{i=1}^{S} (-\ln \pi_i) \cdot \frac{\pi_i}{\ln 4} )</td>
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<tr>
<td>Ripley’s ( K(t) )</td>
<td>Haase (1995)</td>
<td>( K(t) = \frac{1}{n^2} \sum_{i=1}^{n} \sum_{j=1}^{n} I_i(\delta_{ij}) \cdot w_{ij}, \text{ for } i \neq j )</td>
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<tr>
<td></td>
<td></td>
<td>( L(t) = \sqrt{\frac{K(t)}{\pi}} - t )</td>
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<tr>
<td>Ripley’s ( K_{12}(t) )</td>
<td>Haase (1995, 2001)</td>
<td>( K_{12}(t) = \frac{n_1 n_2}{n_1 + n_2} \cdot \sum_{i=1}^{n_1} \sum_{j=1}^{n_2} w_{ij} \cdot I_i(\delta_{ij}) )</td>
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<tr>
<td></td>
<td></td>
<td>( L_{12}(t) = \sqrt{\frac{K_{12}(t)}{\pi}} - t )</td>
</tr>
<tr>
<td>O-ring (r)</td>
<td>Wiegand &amp; Moloney (2004)</td>
<td>( O_{12}(r) = \lambda_2 g_{12}(r) )</td>
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<tr>
<td></td>
<td></td>
<td>( g_{12}(r) = \frac{dK_{12}(r)}{dr} \cdot (2\pi r)^{-1} )</td>
</tr>
</tbody>
</table>

Legend: \( n_i \): number of individuals in the \( i \)th species; \( N \): total number of individuals; \( S \): number of species in the sample; \( [N/S] \): the integer of \( N/S \); \( r \): \( N - S [N/S] \); \( p_i \): proportion of stems in the \( i \)th layer, based respectively on tree height for THD and tree diameter for TDD; \( \pi_i \): relative crown area of all trees in the \( i \)th height layer; \( t \): distance lag; \( A \): plot area with \( n \) trees; \( \text{counter variable set to 1 if the distance } \delta_{ij} \text{ between tree } i \text{ and tree } j \text{ is less or equal to } t \); \( w_{ij} \): weighting factor to correct for the edge effects; \( n_1 \) and \( n_2 \): number of events in the two classes.