**S6 Table. Multidimensional functional alpha-diversity indexes.**

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| --- | --- | --- |
| Name | Formulae | Statistical Definition |
| Functional Richness  (Villéger et al. 2008) | (1) | The volume of the convex hull that shapes the species present in the set. |
| Functional Identity (Mouillot et al. 2013) | (2) | The weighted average position of the species in the set along each axis. |
| Functional Dispersion (Laliberté & Legendre 2010) | (3) | The weighted deviation from the center of gravity (i.e. defined by the FIde values) of the species in the set. |
| Functional Divergence  (Villéger et al. 2008) | (4) | The deviation of biomass-density from the center of gravity of the vertices that make up the convex hull of the studied set. |
| Functional evenness (Villéger et al. 2008) | (5) | The homogeneity of the distribution of biomass density along the minimum spanning tree (i.e. the tree that connects all the species in the set with the least accumulated branch length) for the studied set. |
| Functional Originality (Mouillot et al. 2013) | (6) | The weighted average distance to the nearest species from the global set of species. |
| Functional specialization (Bellwood et al. 2006, Mouillot et al. 2013) | (7) | The weighted average distance to the nearest species from the global set of species. |
| Functional mean pairwise distance (Weiher et al. 1998) | (8) | The weighted average distance between all pairs of species. |
| Functional mean nearest neighbor distance  (Weiher et al. 1998) | (9) | The weighted distance to the nearest neighbor within the set. |
| Functional alpha diversity based  in Hill numbers  (Chao et al. 2019) | (10) | The Hill number of functional diversities of order q, where is the number of species in the i-th functional entity. |

**Reference**

Magneville C, Loiseau N, Albouy C, Casajus N, Claverie T, Escalas A, Leprieur F, Maire E, Mouillot D, Villéger S. mFD: an R package to compute and illustrate the multiple facets of functional diversity. Ecography. 2022 Jan;2022(1). https://doi.org/10.1111/ecog.05904