{rokbox title=|Calculation of number of species contributing to 90% similarity :: Image: Authors| thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-n90-diversity-index-sensitive-variations-beta-farriols-et-al-2021-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-n90-diversity-index-sensitive-variations-beta-farriols-et-al-2021.jpg{/rokbox}

M. Teresa Farriols, **Francesc Ordines** and **Enric Massutí**, 2021. **N90, a Diversity Index Sensitive to Variations in Beta Diversity Components.**
Diversity 2021, 13, 489. https://doi.org/10.3390/d13100489

Abstract: Species diversity in a community is mainly related to the number and abundance of species that form it. N90 is a recently developed diversity index based on the results of the similarity percentage (SIMPER) analysis that represents the number of species contributing up to ninety percent of within-group similarity in a group of samples. The calculation of N90 is based on the Bray–Curtis similarity index and involves the number of species and abundances in a group of samples. We have explored the properties of N90 compared to other alpha, beta and gamma diversity indices and to beta diversity measures accounting for nestedness and turnover. We have used a non-real data set to compare the values of all indices with N90 and two real data sets of demersal fish communities along large and short depth gradients with higher influence of turnover and nestedness, respectively, to correlate the same indices with N90. The sensitivity of N90 to reductions in the frequency of occurrence and the evenness of the distribution of species abundances among samples allows the detection of diversity loss due to the fishing-induced retreatment of species populations to localities presenting the most favorable ecological conditions. This property, both in the identification of species replacement and species loss through SIMPER analysis, make N90 a useful indicator to support the Ecosystem Approach to Fisheries within the current context of global change.

Keywords: beta diversity, similarity, species richness, species replacement, species loss, turnover, nestedness