# **Taxonomic Sufficiency for soft-bottom macrobenthos long term study – A case study**

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Nowadays, the knowledge of the marine ecological quality status of an environment is essential and soft-bottom macrobenthos is one of the indicators used. Studies of soft-bottom macrobenthos are time consuming and need expertise for organisms’ identification. Simplifications of these studies are tried and Taxonomic Sufficiency (TS) proposed by Ellis (1985) is one of research axes. For example, some studies highlight that family level identification could be sufficient to identify perturbed area (e.g: Bacci et al., 2009; De-La-Ossa-Carretero et al., 2012; Forde et al., 2013). Nevertheless, identification at species level could be recommended to have more precise information about the existing situation (Ajmal Khan, 2006) or to complete information from others levels (Conde et al., 2013). In Corsican waters where human impacts are less important than in main land waters, we present TS based on STARESO research studies between 2006 and 2012. This work is within the frameworks of the STARE-CAPMED program dedicated to STAtion of Reference and rEsearch on Change of local and global Anthropogenic Pressures on Mediterranean Ecosystem Drifts. After Permanova analysis and Canonical analysis of principal coordinates, eight habitat types have been identified along Corsican coastal water. Their own reference conditions and ecological class boundaries have been evaluated. Those reference conditions and ecological status have been identified for species, genus and family level. A highly significant correlation of calculated values between species and genus levels (R²=0.93) has been determined and a significant correlation between species and family level (R²=0.75). Genus and family levels have a significant Spearman correlation with species level (p<0.05). An application of these reference conditions on the macrobenthos assemblages sampling on 14 stations in spring 2011 and late summer 2012 in Calvi Bay highlights areas with high, good or moderate ecological status. In conclusion, family level is sufficient to follow spatial and/or temporal ecological status.

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