Symposium on Kerguelen Plateau Marine Ecosystem and Fisheries

13 – 15 November 2017, Hobart, Australia

ABSTRACT

Phylogenetic Diversity as an index for Conservation Planning in CCAMLR statistical sub-areas

Presentation Type: Oral

~~Poster~~

Author One (Marc Eléaume, Muséum national d'Histoire naturelle, Paris, CP51 57 rue Cuvier 75231 Paris France, marc.eleaume@mnhn.fr)

Author Two (Lenaïg Hemery, institution, Muséum national d'Histoire naturelle, Paris, CP51 57 rue Cuvier 75231 Paris France, lenaig.hemery@gmail.com)

Additional authors (Nadia Améziane, Muséum national d'Histoire naturelle, Paris, CP51 57 rue Cuvier 75231 Paris France, nadia.ameziane@mnhn.fr)

Abstract

A huge barcoding effort has been ongoing since the last IPY (2007-2008) and resulted in a wealth of taxonomic findings. New species as well as yet unrecognised variants have been discovered and described. In parallel, conservation planning in Antarctica has strengthen with the enforcement of Heard Island and MacDonald Island (HIMI) Marine Reserve, extension of French EEZ Kerguelen and Crozet Reserve Naturelle, South Orkneys and Ross Sea MPAs implementation, and Weddell Sea, Domain I and Sub-Antarctic MPA projects. Conservation planning has also acquired refined methods that now can include evolutionary indices such as Phylogenetic Diversity (PD) to take into account history of taxa. This index is highly dependent on the number of species included in the analysis and also highly dependent on our knowledge of their inter-relationships.

Here we use 38 species in 20 genera and 6 families of crinoids to estimate PD for each CCAMLR statistical subareas. We used a high resolution sampling barcoding approach that proved to be central in decyphering the level of diversity within each taxon, especially at the species level. In some cases we do suspect the existence of cryptic, still undescribed species (e.g. *Promachocrinus kerguelensis, Notocrinus virilis, Isometra graminea*) and used lineages instead of species. In parallel, a new phylogeny is available that can be used to reflect relationships among taxa and infer their history.