



VI EUROPEAN CONGRESS OF PROTISTOLOGY

Special focus: Concepts in Protistology

25 – 29 July 2011 // Berlin, Germany

www.ecop2011.org

FINAL PROGRAMME and ABSTRACTS

Similarity in widely separated communities of planktonic protists (tintinnid ciliates)*Dolan, John**Laboratoire d'Océanographie, CNRS Marine Microbial Ecology Station Zoologique, Villefranche-sur-Mer, France*

Tintinnids are a monophyletic group of planktonic ciliates (mainly marine). They are, compared to many groups of protists, relatively homogenous in terms of ecology and morphology. However, tintinnids are a very species-rich group; several hundred species have been described and in a single locale, at one time, dozens of species can be found. The co-existence of so many apparently ecologically similar species remains difficult to explain. Given a rough ecological equivalency of species, community composition should vary with distance between the communities, in the absence of distributional barriers or environmental gradients. Here 3 tintinnid communities, widely separated geographically, are compared. Assemblages were sampled in two oligotrophic gyres of the Western and Eastern basins of the Mediterranean, separated by 2500 Km. A third set of samples was obtained from the California Current System, a productive upwelling area, of the Eastern Pacific Ocean. The two geographically distant Mediterranean assemblages showed very similar species richness (36-42), overall species catalogues, as well as identities of core (found in all stations) and 'occasional species'. Furthermore, the patterns of relative abundance distribution, whether in terms of species or size-classes (based on oral diameters), were nearly identical. The California Current assemblage was less species-rich (12 - 29 species per station). Remarkably though, the most abundant California Current species were nearly the same as those found in the Mediterranean. In all 3 assemblages, the size-class of 'mouth-size' (lorica oral diameter) which contained species whose mouths range between about 20 and 30 microns accounted for most of the species and the individuals. While different tintinnid species occupy distinct niches, at least that of a particular size-class, widely separated areas can harbor very similar assemblages of morphologically distinguished species. The genetic similarity of widely separated populations of a single tintinnid morphotype remains to be investigated. Nonetheless, some morphotypes appear to be globally common while others are globally rare. Research supported by the ANR Biodiversité program Aquaparadox. www.obs-vlfr.fr/LOV/aquaparadox/