

The Black Sea has undergone major changes from the 1960's to the present. Tintinnid ciliates of the microzooplankton have been studied in the Black Sea for over 130 years. Using historical records, a time line was constructed for each species and apparent changes in species inventories documented. The number of species recorded increased steadily from the 1870's to the mid-1960's. From the 1960's to the 1990's, with the installation of the Iron Gates dam of the Danube River and eutrophication, the frequency of new species records declined but with no apparent species losses. The 1990's to the present saw the rise and fall of the comb jelly and the collapse and recovery of the anchovy fishery, a period with increases in the number of new species and apparent losses of resident species. It appears that abrupt changes in planktonic ecosystems may be detectable with a very crude metric of community composition - lists of species.

#### 18:00 – 18:15 AN INTEGRATED MICROBIAL OBSERVATORY IN THE NW MEDITERRANEAN SEA

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Microbial Observatories are important for the discovery of unknown microorganisms and for the characterization of novel biochemical, metabolic, physiological, genomic, and other properties and processes of newly described or poorly understood microbes and microbial assemblages. An integrated Microbial Observatory has been developed on the Catalan coast of the Mediterranean sea in 2005 and is presently shared by two institutes in France and in Spain. Three sampling stations located at different depths are monitored to (i) understand the cell biology and biogeochemical activities of the major bacterioplankton groups, (ii) discover undescribed microorganisms and microbial consortia from diverse habitats and, (iii) characterize the properties and activities of newly described and poorly understood microbes and microbial communities. The ecology of a few key phylogenetic groups is currently investigated, a few new bacterial species and algae group have been described and a collection of environmental microorganisms has been developed.

#### 18:15 – 18:30 BACTERIAL COMMUNITIES ON COPEPOD FAECAL PELLETS: BIODIVERSITY, FACTORS AND FUNCTIONS.

De Troch, Marleen; Cnudde Clio; Willems Anne; Vanreusel Ann, Marine Biology, Ghent University, Belgium.

Copepod faecal pellets should not be considered as waste products since they form a unique substrate for bacteria. The bacterial communities colonizing these pellets governs their re-use. Systematic removal of pellets of benthic copepods (order Harpacticoida) in lab experiments resulted in an increased production of smaller pellets. The consumed food source (different diatoms) is deterministic for the amount of faecal pellets produced but also for the bacterial diversity on the pellets. Freeze-dried diatoms as food resulted into a more diverse bacterial community in comparison to a diet of fresh diatoms. The age of the faecal pellets is also crucial for the bacterial composition. Trophic upgrading is vital for grazers and bacteria have an important bottom-up control on grazers. On the other hand, grazers modify the diversity of the bacterial communities dependent on their need, illustrating a clear top-down control. In conclusion, the food transit through the digestive track of harpacticoid copepods causes a major change in the composition of the food associated micro-organisms. In this way, the production of faecal pellets guarantees an enrichment of bacteria in the environment.

#### Parallel Sessions

### Afternoon

#### Polivalent Room.

#### Session 1.10 Patterns and drivers in the distribution of marine biodiversity: in homage to John Gray

Chairs : Paul Somerfield and Richard Warwick.