

Interactive comment on “Biogeography of planktonic microbial communities across the whole Mediterranean Sea” by F. Mapelli et al.

Anonymous Referee #3

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OSD-10-291-2013 "Biogeography of planktonic microbial communities across the whole Mediterranean Sea by Mapelli F, Varela MM, Barbato M, alvarino R, Fusi M, Alvarez M, Berlino G, Daffonchio D, Borin S

The authors analyzed the distribution patterns of planktonic bacterial community through the water column and across different water masses in the whole Mediterranean Sea by determining bacterial community composition using Automated Ribosomal Intergenic Sequence Analysis (ARISA). They used bacterial community composition, prokaryotic abundance and environmental variables (i.e., positions, depth, salinity, Temperature dissolved oxygen, PO₄, NO₃ and NO₂) from the cruise to show bacterial diversity is correlated to different water masses across the water column of the eastern and western Mediterranean Sea. Overall, the manuscript is well written and clear with a

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few exceptions noted below.

Two points concerned are 1) the authors have used the physico-chemical factors to characterize water masses which excludes temporal changes in bacterial substrate quality in a given water body. DOM/POM quality could be a good factor for the age of a given water body in the aphotic zone. It would be helpful to have more data on primary production, Chl.a, DOM/POM quality.

2) There is no definition of “water masses” in the manuscript. It may be possible that sampling points have identical temperature and salinity despite that they are not hydrologically connected on a relevant time scale. The authors need to assess the definition of water masses much better or describe data set on how water masses are moving in this sampling region to test the relationship between bacterial community dynamics and water masses.

Minor suggestion: It would be great to show a similarity matrix for the entire individual sample determined by ARISA in the Mediterranean Sea. This figure makes clear for readers regarding the patterns and similarity of bacterial community composition in the Mediterranean Sea.

Interactive comment on Ocean Sci. Discuss., 10, 291, 2013.

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