Geophysical Research Abstracts
Vol. 13, EGU2011-8665, 2011
EGU General Assembly 2011

Chemosymbiotic species from cold seeps around NE Atlantic

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Symbiotic associations with thiotrophic and methanotrophic bacteria occur in a wide array of animal species that live in reducing environments with high sulfide and methane concentrations, such as hydrothermal vents, deep-sea whale fall, sunken wood, and cold seeps. The study of the hosts is crucial to understand their evolution, but the study of their associated bacteria is also essential to understand the evolution of "symbiotic systems" and their level of adaptability

In the NE Atlantic, several chemosymbiotic species have been found in the Gulf of Guinea, Gulf of Cadiz, western and eastern Mediterranean and are here presented. These species include bathymodiolin mussels, lucinids, thyasirids, vesicomyids and solemyids bivalves but also several frenulate species (*Sigoblinum* spp, *Polybrachia*, *Lamelisabella denticulata*) and vestimentifera (*Lamellibrachia* sp.); some of the species are endemic or not yet found in other sites, whereas others are shared among sites. Furthermore the same (or sister) species have been found on both sides of the Atlantic reinforced the Atlantic Equatorial Belt' hypothesis.

Data presented here (know distribution, ecology and symbiotic interactions) will help to understand the links between organisms from all these different areas, and infer about their dispersion and evolution, not only as species but also as host, and their symbioses