

Vent fauna habitats: chemical and biological controls

*N. Le Bris**

The interaction of the hydrothermal fluid and seawater above the seafloor creates a mosaic of micro-environments with physico-chemical properties strongly departing from seawater. These particular environments favour the settlement and growth of specially adapted invertebrates, which form dense communities around vent sources. Species distribution along a gradient of hydrothermal influence is thought to reflect their physiological tolerance and to the environmental requirements of the chemosynthetic microbes on which they rely. The physico-chemical diversity of habitats is therefore of main relevance to study life strategies and adaptations to these extreme environments. The mixing interface is a complex medium which is constrained by a number of geological, physical, chemical and biological processes, from the individual organism to the vent field scales. In situ monitoring of chemical parameters along with temperature has largely improved the knowledge of these non-stationary environments. The variability of physico-chemical factors within and among habitats is larger than first considered. An overview of the current knowledge and future prospects on these issues will be presented.

** Presenting author. IFREMER, Département Etude des Ecosystèmes Profonds, Technopôle Brest-Iroise, BP70, 29280 Plouzané, France. nlebris@ifremer.fr*