

Ressources génétiques en environnement océanique profond: exploration, valorisation et conservation

IFREMER

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Découverts il y a trente ans, les écosystèmes profonds chimiosynthétiques comprennent les zones de suintement froid situées le long des marges continentales et les sources hydrothermales le long des rides océaniques entre plusieurs centaines et plusieurs milliers de mètres de profondeur. Ces écosystèmes présentent un intérêt exceptionnel dû à leur localisation et aux conditions extrêmes qui les caractérisent (pression, température, substances toxiques à forte concentration, déficit en oxygène, adaptation génétique des espèces à ces conditions abiotiques extrêmes). Les difficultés

Genetic Resources in the Deep-Sea : Exploration, exploitation and conservation.

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Discovered thirty years ago, deep sea chemosynthetic ecosystems include cold seeps, distributed along continental margins, and hydrothermal vents situated on the mid oceanic ridges, at several hundred to several thousand meter depth. These ecosystems are exceptional due to their location and to the extreme conditions they exhibit (pressure, temperature, toxic compounds, anoxia, and genetic adaptation of species to those extreme abiotic conditions). Difficulties in accessing this environment are as high as their interest in terms of knowledge and understanding of life as well as in terms of potential exploitation. Few ships in the world are equipped to allow deep sea exploration. Six submarines and about ten robots (ROV) allow accessing the deep sea environment to realize observations, measurements or collection of mineral or biologic material. These activities allow improving our knowledge of the habitat, and our understanding of the distribution of species assemblages and of their adaptation to their extreme environment. Due to their dependence on fluid emission, these ecosystems are