

On distribution of thermoacidophilic archaea and preservation of archaeal ether lipids in sediments in Kirishima hot springs.

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Hot waters and sediments were collected from Yunono-Jigoku (pH5.80), Ioudani and Yahata-Jigoku in Kirishima, Kagoshima, Japan. In the enrichment cultures (L medium) from hot waters of all sampling sites, growths of thermoacidophilic archaea, which are close relatives of the genus *Sulfolobus* were observed. Surface sediments from all sites contained archaeal ether lipids. Although Yunono-Jigoku is not suitable for acidophiles because of its rather neutral acidity, the inhabitation of close relatives of the archaeon *Sulfolobus* and preservation of archaeal ether lipids in the sediment as biomarkers were proved.