

Deep Underground Laboratory Integrated Activity in biology (DULIA-bio)



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The Gollum Project: Characterising subterranean bacterial communities in depth(s)

The literature describing microorganism inhabiting the very inside of rocks –rather than pores of the surface of rocks– are scarce. The few reports analysing the microbial diversity of rock inhabitants evidence, though, a rather high diversity of microbial taxa and metabolism pathways, including bacterial groups such as green non-sulfur, sulfur or iron reducing, and also methan producers, amongst others. The Somport tunnel crosses different rocks from the late Paleozoic ages, and includes several Facies. Its length, depth and diverse ecology make it a perfect site for extremophile ecology studies. We discuss our preliminary results and our sampling strategy aiming at characterizing through high throughput sequencing (metagenomics) the resident rock-associated bacterial communities. Sampling will be carried out at different depths and rocks, which will allow an unprecedented characterization detail of the subterranean microbial communities living in a wide range of extreme underground biocenoses.

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