



Geobiology in the Lab

María José López-Galindo

Instituto de Enseñanza Secundaria San Blas, 21200 Aracena (Huelva) Spain (lopezgalindojob@gmail.com)

Geobiology is, nowadays, one of the most important lines of research of USGS. It is the interdisciplinary study of the interactions of microorganisms and earth materials (including soil, sediment, the atmosphere, the hydrosphere, minerals, and rocks) (U.S. Geological Survey, 2007).

A study about geobiological interactions between microorganisms and felsic rock surfaces was carried out in San Blas Secondary School with students, aged 16-17, as an enforcement of a part of this abstract author's thesis work, and developed in the Coruña University. The activity took place in the school laboratory as a complement of the theoretical Spanish curriculum about living things. After visiting a granitic area, near the famous Rio Tinto mining district, students collected different rock samples. They learned about bioweathering on igneous rocks, and how microorganisms can play an essential double role on rock surface: dissolution and mineral deposition. These organisms, living in hard and basic environments, are considered extremophiles (López-Galindo, 2013) which is an important translatable concept to the life beyond the Earth. Afterwards, students had the opportunity to grow these microorganisms under different conditions and examine them through a scholar microscope, comparing these images with SEM ones, taken in Central Services of Research Building in the Coruña University, to determine genus and species, when it was possible.

An opportunity to study rare living things, an introduction to geobiology, hostile environments and different physical and chemical conditions out of Earth is hereafter offered, through these simple experiences, to other secondary teachers in the world.

U.S. Geological Survey, 2007, Facing tomorrow's challenges—U.S. Geological Survey science in the decade 2007–2017: U.S. Geological Survey Circular 1309, x + 70 p.

López-Galindo, M.J. 2013, Bioweathering in Igneous Rocks. Siliceous Speleothems from a Geobiological Viewpoint. Doctoral Dissertation. Coruña University. 323 pp. <http://hdl.handle.net/2183/11581>.