

## Biogeographic patterns of prokaryotic microorganisms inhabiting shallow lakes from central Spain

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Authors: Camacho, A., Rochera, C., Picazo, A., Belenguer, M.

Location: *Biogeografía de Medios Litorales: Dinámicas y conservación* (2014), ISBN 978-84-617-1068-3, pages 283-285

Language: English

The biogeography of aquatic microbes is concerned about the cosmopolitan or the restricted distribution of microbial taxa. Once dispersed, biological and/or physical factors regulate their persistence and abundance where they arrive. Previous research suggests that microbial taxonomic richness may increase with ecosystem size, and composition may be related among neighbouring water-bodies. In the framework of the ECOLAKE project, 18 shallow lakes located at the La Mancha Húmeda Biosphere Reserve were studied to determine the possible biogeographic patterns of the planktonic microbial communities related to lake interconnections and environmental features. These lakes exhibited highly diverse conditions, from fresh to hypersaline waters and from oligotrophic to hypertrophic status. The DNA-fingerprinting of prokaryotic microbial communities was revealed by DGGE, to obtain diversity parameters such as OTU's commonness/rarity, Shannon diversity and evenness. Our preliminary results show that environmental conditions would shape more deeply these microbial communities than biogeographical features such as the distance between lakes. Among the studied lakes, salinity is the main factor structuring microbial populations, mainly for medium and high salinity ranges, though for low salinity lakes the trophic level becomes an important factor.

**Key words:** Biogeography; Bacterioplankton; PCR-DGGE Fingerprinting; Principal Coordinate Analysis; shallow endorheic lakes.