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BACTERIAL MICROBIOTA OF THERMAL WATERS FROM ECUADOR

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The hot springs have an autochthonous microbial population, mainly bacteria, which have adapted to the conditions of temperature, pH, and concentration of salts, characteristic of these ecosystems. Ecuador is within the circle of the Pacific, this geographic location allows the groundwater circulating in the soil to acquire a high geothermal degree, manifested by the surge of hot waters linked to volcanic rocks at high altitudes between 2500-4000 msnm. In these waters, there is an autochthonous bacterial population that is not yet known and has not been characterized. The objective of the work was to isolate and identify the population of heterotrophic bacteria present in the thermal water of four spas (Los Elenes, Santagua de Chachimbiro, Piscinas El Cachaco, Santa Ana de Baños de Agua Santa) located in different provinces of Ecuador (Chimborazo, Imbabura, Pichincha y Tungurahua). Isolation of bacterial species was performed by culturing the samples in the Petrifilm medium (3M) for heterotrophic bacteria and R2A agar and incubated at different temperatures (25, 37, 50 ° C) for 96 hours. Taxonomic identification was carried out using biochemical tests as indicated by MacFaddin (2003) and supplemented by tests contained in the API galleries (BioMerieux). It was possible to isolate and identify the following species: *Aeromonas caviae*, *Aeromonas eucrenophila*, *Aeromonas hydrophila*, *Aeromonas media*, *Aeromonas salmonicida* subsp. *Salmonicida*, *Aeromonas schubertii*, *Alcaligenes latus*, *Bacillus alvei*, *Bacillus cereus*, *Bacillus mycoides*, *Bacillus stearothermophilus*, *Bacillus thuringiensis*, *Cedecea especie 5*, *Citrobacter freundii*, *Corynebacterium striatum*, *Edwardsiella tarda*, *Escherichia hermanii*, *Ewingella americana*, *Kurthia gibsonii*, *Micrococcus lylae*, *Pseudomonas aeruginosa*, *Pseudomonas fluorescens*, *Pseudomonas oryzihabitans*, *Psychrobacter immobilis*, *Staphylococcus cohnii* subsp. *Urealyticum*, *Staphylococcus klosii*, *Vibrio alginolyticus*, *Yersinia bercovieri* and *Yokonella regensburgei*. It is concluded that the thermal waters studied have a small bacterial microbiota but diverse with a clear predominance of Gram negative bacteria of the group Proteobacteria, mainly Gamma proteobacteria.

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