

## **Determination of Oxygen Production by Cyanobacteria in Desert Environment Soil**

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The cyanobacterias have been characterized for being precursor in the production of oxygen. By means of photosynthetic reactions, they provide oxygen to the environment that surrounds them and they capture part of surrounding CO<sub>2</sub>. This way it happened since the primitive Earth until today. Besides, these microorganisms can support the harmful effects of ultraviolet radiation. The presence of cyanobacterias in an environment like a dry tropical bioma, such as the geographical location called Desert of The Tatacoa (Huila - Colombia), is determinant to establish parameters in the search of biological origin of atmospheric oxygen detected in Mars. In that case, I work with a random sample of not rhizospheric soil, taken to 15 cm of depth. After determining the presence of cyanobacterias in the sample, this one was in laboratory to stimulate the oxygen production. The presence of oxygen in Mars is very interesting. Being the oxygen a gas very reactive, it disappears if it is not renewed; the possibility that this renovation of oxygen has a biological origin is encouraging, bearing in mind that in a dry environment and high radiation such as the studied one, the production of oxygen by cyanobacterias is notable. Also it is necessary to keep in mind that the existence of cyanobacterias would determine water presence in Mars subsoil and the nutrients cycles renovation. An interesting exploration possibility to some future space probe in Mars might be the study of worldwide distribution of oxygen concentration in this planet and this way, identify zones suitable for microbial life.