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## ASSESSMENT OF NOX CONTENTS BY MEANS OF A SENTINEL LICHEN *XANTHORIA PARITIENA L* IN THE TOWN OF TIARET, ALGERIA: POLLUTION CLASSES AND MAPPING

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### ABSTRACT

Estimating the extent of pollution by measuring the amount of pollutants accumulated in the atmosphere by living beings is a relatively recent and highly successful environmental technique that has been utilized for decades. The assessment of bioaccumulation in these organisms, such as lichens, alleviates the issues that can arise during direct physico-chemical tests, which can be highly complex and time-consuming. The purpose of this research is to determine NO<sub>x</sub> emissions from a road source in Tiaret and its vicinity, as measured by the lichen *Xanthoria parietina*. Infrared spectroscopy was used to determine the NO<sub>x</sub> contents of 33 *Xanthoria parietina* lichens. The lichens were planted at different times of year and in different locations near major roadways. With maximum values of 35,00% and 34,70%, respectively, The Winter and Autumn seasons had the highest percentages of nitrogen oxides. High NO<sub>x</sub> concentrations are also present throughout the Spring season, with a maximum of 33.40%. Low values, with a maximum value of 10%, were seen throughout the Summer season. The obtained results clearly show high NO<sub>x</sub> concentrations in this species' thalli, indicating a high level of pollution at the city level.

**Keywords :** *Xanthoria parietina L*, NO<sub>x</sub>, air pollution, mapping, Tiaret.