

MORPHO-ANATOMICAL CHANGES IN THE LEAVES OF ALSTONIA SCHOLARIS (L.) R. Br. IN RESPONSE TO PARTICULATE MATTER POLLUTION

Asad Ullah¹, Rehan Siddiqi M¹, and Anum Gulzar Bhathi¹

¹Forman Christian College

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Abstract

Leaves of *Alstonia scholaris* (L.) R. Br. are sensitive to particulate matter pollution. Thus these leaves show morphological and anatomical changes to counter the effect of particulate matter pollution. To evaluate this, samples of the said leaves were collected from three sites of Orange Line Train Route (polluted). Peeling and cross sections were used to study morphological and anatomical features of the leaves of the said tree. The samples were preserved using FAA (Formaline, Acetic acid and Alcohol solution). Sections of the leaves were cut using free hand sectioning techniques and stained using toluidine blue. Then their anatomy was compared to the leaves obtained from Botanical garden of Forman Christian College (unpolluted). Studies carried out on these leaves showed that no significant changes are there in the epidermal cells of both types. But size and number of stomata and size of mesophyll cells showed marked differences. It is necessary to understand the molecular mechanism behind defense mechanism employed by the plant to mitigate the negative effects of particulate matter pollution.

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