

Microorganisms: Bio-deteriorating agents of cultural heritage

Cultural heritages are very important assets economically (produce great revenue) as well as socially (carry traditions and culture). They are tourist attraction and store all the information of past life, techniques and culture. **Biodeterioration** of cultural heritage is a worldwide problem. It includes microbial activity, which further lead to undesirable changes in heritage sites. **Microorganisms** are present everywhere in atmosphere and may flourish on the material of inorganic and organic origin. Through a scope of chelating and scratching measures numerous micro-organisms cause harm to heritage sites. Microorganisms secrete enzymes that can catalyse the response of microbes or activities such as corrosion. They also cause chemical alteration of historic materials by releasing their metabolic products on the substrate (on which they can grow). These metabolic wastes include organic and inorganic acids, alkalis, chelating agents, enzymes and pigments. The exoenzymes like cellulases, proteinase, tannase, β -glucosidase and many organic and inorganic acids produced by microbial cells also play an important role in the deterioration. These acids are liberated into the substrate and cause a drop in pH and further weakens the primary material of cultural heritage site. Therefore, it is required to identify microbial flora and fauna present on the surface of cultural heritage to find a possible way to protect them. anna.eiring@ttuhs.edu

Mansvi Yadav
JECRC University, India.

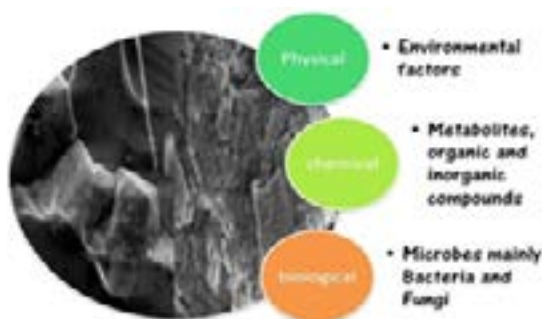


Figure 1. Bio-deteriorating factors affecting cultural heritage

Biography:

Dr. Mansvi Yadav is assistance professor in JECRC university, Jaipur. She has her research in the field of biodeterioration of cultural heritage. She also has experience of teaching as well as of administrative responsibilities.

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