The Potency of Natural Mahogany Extract for Maintaining the Cleanliness of Rocks: A Case Study of Indonesian Temple Rocks

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Temple is one of Indonesia’s cultural heritage sites inherited from past generations. The routine maintenance of temples is to remove lichen that frequently covers the surface of rocks. The conventional way of removing lichen may deteriorate surface texture of rocks. Herein, we would like to apply mahogany extract as the lichen removal agent on the rocks. The mahogany extract from Indonesian tree was prepared by processing the mahogany seed using several methods such as peeling, roasting, crushing, pressing and filtering. Subsequently, the mahogany extract was mixed with methanol as solvent in various concentrations. The mixtures were sprayed on lichen-covered rocks to study the removal effect. It appears that 1 to 1 ratio of mahogany extract and methanol show an optimized performance for cleaning up the rock. The synergistic effect between mahogany extract and solvent was further confirmed by testing that mixture on Ascomycetes Fungi. The in vitro test of excess mahogany extract is required to evaluate the effectiveness of the solvent. This concludes that mahogany extract has been effective to clean up rocks from impurities such as lichen or Fungi. The mahogany extract is then recommended to be used as a natural compound to realize the conservation of temples.

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