



Staining of wood using natural dye obtained by lichen extractives and determination of color values

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Abstract: Recently, demand on natural dyes emerged due to some health problems that occur by common use of synthetic dyes. Dyeability of wood material using Maritime sunburst (*Xanthoria parietina* (L.) Th.Fr.) Lichen extractive, one of the non-wood forest products, was investigated in this study. Lichen was collected from Isparta region and air-dried. Turkish pine (*Pinus brutia* Ten.) and Oriental beech (*Fagus orientalis* Lipsky) were used as wood material. Dyeing extractives which obtained by Maritime sunburst lichen were mixed with Aluminum Sulfate ($Al_2(SO_4)_3$) and Iron tri-chloride ($FeCl_3$) mordant to obtain dyeing material. And then, dyeing material applied to wood materials by dipping method. Stained test samples were dried in the shade and conditioned at $20 \pm 2^\circ C$ ve $\% 65 \pm 5$ RH to obtain 12% Moisture Content (MC) when through-dry state of staining were achieved. Color values of samples were measured using Chroma Meter CR-400. Obtained values were classified according to CIELAB-76 coordinates of ISO 2470 standard. According to results, Maritime sunburst lichen can be used to staining of wooden and wood-based furniture or accessories. Also, it is seen that use of this lichen type can provide aesthetical appearance on applied material.

Keywords: Lichen, Natural dye, Wood