

(80)

Preliminary Investigation on the Effect of Termites on Wood Decay in Selected Sri Lankan Timber Species

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Abstract

Wood in suitable environmental conditions can be attacked by bacteria, fungi, insects, marine borers and some other biological organisms. Wood is the main biodegradation material which is naturally occurred in surrounding environment. As heartwood of wood consist most of the nonliving cells it shows more resistance to decay than sapwood. But insects can cause degrade in both heartwood and sapwood which are not preserved well. Termites belong to Class: Insecta, Order: Isoptera which are one of the most important as ecological contributors by breaking down the organic material of the wood structures directly. This study was done to analyze the effect of termites of selected 27 species with having different densities varying from 400 kg/m³ to 1100 kg/m³ at 12% moisture content. Ten pieces of each and every species of Wewarana, Jack, Badidel, Halmilla, Dawata, Walukeena, Hulanhik, Kaluwara, Hora, Pihimbiya, Damaniya, Godakirilla, Pelan, Hik, Etamba, Lunumidella, Diya Na, Palu, Mora, Kirihembiliya, Nedun, Kon, Kumbuk, Dummala, Milla, Kirikon and Burutha were stored in a separate same type wooden boxes and kept in same environmental conditions where termites can be seen in high densities for one year of time period in Head Office premises of State Timber Corporation at Battaramulla. According to the naked eye observations taken after one year time period Hora, Dummala, Godakirilla species were severely attack by termites while Halmilla, Walukeena, Pihimbiya, Damaniya, Pelan, Etamba, Lunumidella, Diya Na, Kirikon also attack at considerable level by termites. Other species were not attack by termites. Therefore altogether out of 27 species 12 were degraded by termites for the allocated one year time period. The other species of Wewarana, Jack, Bedidel, Dawata, Hulanhik, Kaluwara, Hik, Palu, Mora, Kirihembiliya, Nedun, Kon, Kumbuk, Milla, Burutha species were resistant to the termite attack during one year time period. However further studies are underway to develop the relationships of degradation due to termite attack with climatic conditions, geographical conditions, timber properties such as strength properties as well as the densities, mechanical properties with considerable time period which allocated to degrade.

Keywords: Ttermites, Decay, Density, Time period