

Environmental Change Derived from Teak Log Coffin

Nathsuda Pumijumnong

Faculty of Environment and Resource Studies Mahidol University

Salaya, Phutthamonthon, Nakhon Pathom 73170 THAILAND

nathsuda@gmail.com

Like some other countries in Southeast Asia, the district of Pang Ma Pha in Mae Hong Son Province in Northern Thailand has many caves and rock shelters rich in archeological interest. Log coffins, probably used for secondary burial ceremony, are found in these caves and rock shelters. Most coffins are made of hardwood and have similar forms and sizes. Particularly in Pang Ma Pha district where mixed deciduous forest with a natural distribution of teak is plentiful, most of the log coffins found here are made of teak wood. Teak is one of a few species in tropical zone that builds clear annual rings and has high potential for doing dendrochronology. An interesting feature of these coffins is the crafted heads at both ends. One type of head styles can be described as simple – it has no facial feature, merely a headlike shape. By contrast, the complex type has animal-like feature.

Many researchers have examined log coffins using direct C-14 for age determination. However this method can only give relative age without variability of year. In this project, more than 100 samples were taken from 18 caves in Pang Ma Pha district. Dendrochronological techniques were applied and confirmed the results by the traditional C-14 method. The objective of this study was to compare and examine the growth patterns of teak from various coffins, thereby establishing dating and cross-dating of the coffins. From a large set of coffins, two cores were collected from each coffin using an engine increment borer, then the hollows were filled with small pieces of hardwood to prevent deterioration of the coffins. The samples were measured and the ring patterns were analyzed.

Analysis revealed that there was a correlation between the samples of the same head type and the teak growth patterns revealed that the simple head type and complex head type coffins were in the same age range. This strongly suggested that in Pang Ma Pha log coffin culture; there was no temporal development from simple head type to complex head type. These results did not support our hypothesis that simple head type coffins could have been older than the complex ones.

Keyword: Dendroarchaeology, Teak, Log Coffin, Thailand