Teak Log Coffins in Northwest Thailand: 
Dated by Dendrochronology and 14C Wiggle Matching

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Abstract

Log coffins have been discovered in caves and rockshelters in the Pang Ma Pha district, Mae Hong Son province, Northwestern Thailand. Most are made of teak wood. Many researchers have used the 14C method to determine their age. However, 14C cannot provide as precise a calendar age as dendrochronology. In this paper, we therefore applied dendrochronology analysis to a number of teak log coffins at the Ban Rai Rockshelter to establish a floating chronology and to cross-date the coffins relative to each other. Then, wiggle matching was used for one log coffin to derive an approximate but absolute calendar age. The findings indicated that cutting of this teak tree occurred around AD 265. The analyses also revealed a close association between coffins of the same head style.

Keywords: Dendrochronology; archaeology; teak; log coffins; wiggle matching

Introduction

There is a long history of archaeological activity in Thailand [1, 2, 3]. However, little information is available on the wood which ancient peoples used in their daily lives, and which can now be found as artifacts at archaeological sites. Log coffins are examples of such artifacts, and are indeed the most outstanding remains from the Iron Age. Numerous such coffins made from teak trunks have been discovered in dry caves in the Pang Ma Pha district, Mae Hong Son province [4, 5]. Teak is well known for its wood texture, color, and natural durability against wood-destroying fungi and insects. In subtropical northwest Thailand, teak wood is ring-porous with clear annual rings, thus offering great potential for dendrochronological research [6, 7, 8]. In other areas around the world, dendrochronology has successfully been applied to provide more information than a date for