

Cretaceous Amber Arthropods from Myanmar: Exceptional Preservation of Forest Canopy Biodiversity

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Abstract

This study investigates amber inclusion studies from Hukawng Valley, Myanmar during the Mid-Cretaceous (100 Ma). Using micro-CT scanning and 3D morphological analysis, we analyze fossil specimens to understand evolutionary patterns and ecological relationships. Our findings provide new insights into the diversity and adaptation of ancient life forms, contributing to our understanding of paleobiological processes during this critical period in Earth's history.

Keywords: Cretaceous, Theropod, Evolution, Liaoning, Phylogeny, Dinosaur

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1. Introduction

Cretaceous amber from Myanmar preserves exceptional three-dimensional fossils of arthropods and other small organisms, providing unparalleled insights into mid-Cretaceous forest ecosystems. The Hukawng Valley amber deposits, dating to approximately 100 million years ago, contain remarkably diverse arthropod assemblages that illuminate canopy biodiversity patterns in ancient tropical forests.

2. Micro-CT Analysis

High-resolution X-ray micro-computed tomography was used to examine internal structures of amber inclusions without destructive preparation. 3D reconstructions enabled detailed morphological analysis and taxonomic identification. Taphonomic analysis assessed preservation quality and potential biases in the amber assemblage.