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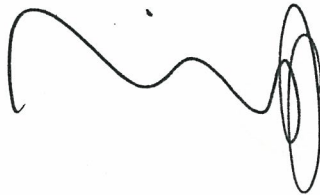
**EARLY HUMAN OCCUPATION OF
THE EAST KALIMANTAN RAINFOREST
(THE UPPER BIRANG RIVER REGION,
BERAU)**

By: Karina Arifin

A thesis submitted for the degree of Doctor of Philosophy of
The Australian National University

June 2004

This thesis is based on my fieldwork conducted in the Upper Birang River,
Berau, East Kalimantan in 1998. Except where otherwise acknowledged the
work reported here is the result of my own research

A handwritten signature in black ink, consisting of a series of loops and a wavy line.

Karina Arifin

for Melati

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ABSTRACT

The research reported upon in this thesis attempts to demonstrate, in an eastern Borneo context, that the hypothesis that "hunter-gatherers could never have lived in tropical rainforest without direct or indirect access to cultivated foods" is not persuasive. It aims to explain how hunter-gatherers in the tropical rainforest of East Kalimantan survived and exploited their environments before the arrival of farming.

The research area is located on the upper Birang River, in the Berau Region, East Kalimantan. Excavation was conducted in three sites in a limestone massif in rainforest near the upper Birang River: Liang Gobel, Lubang Payau, and Kimanis.

Liang Gobel is the smallest of the three sites and has only a shallow and disturbed deposit (30 cm deep). This rock shelter seems to have been occupied only for a short visit or as a night camp. Lubang Payau shows that the main activities of the occupants were consuming fresh water shellfish (*Brotia* sp.) and terrestrial animals. Although human bones were excavated from this site, no distinct burials were found. Kimanis is the biggest rock shelter and has revealed the densest and deepest occupational deposit (3 m deep). It is a complex multi-functional site that has been occupied since the late Pleistocene. It was not only used for habitation, but also for burial.

The nature of the occupation of the Upper Birang Sites from the late Pleistocene through into the Holocene reveals both continuity and change. In general, the Upper Birang Sites show similar characteristics with other cave sites in Borneo, such as the Niah Caves in Sarawak. They were intensively occupied during the terminal Pleistocene, and less intensively in the earlier part of the Holocene.

In general, lithic technology did not change between the Pleistocene and Holocene periods. The tools were mostly unmodified flakes used opportunistically for immediate activities on site. Compared to other sites in Borneo, the Upper Birang sites yielded quite simple lithic implements. Bone and shell tools were found only in the Holocene layers. The great majority of marine shell tools and ornaments are typically Holocene artefacts.

In terms of faunal remains, the Upper Birang inhabitants seemed to be versatile hunters throughout the sequence, with monkeys and pigs dominating all assemblages. The habitats of the hunted animals indicate that the hunter gatherers of the Upper Birang exploited various niches in the tropical rainforest, including primary, secondary and riverine forests, as well as caves, swamps, rivers, and possibly open areas in either lowland or hilly environments. The wide foraging area of the Upper Birang inhabitants is also reflected in the pottery, which appears to have come from different farming communities.

The possibility of rainforest habitation by people living independently of farmers is clearly shown in the archaeological deposits from the Upper Birang sites. The ethnographic record also shows that the Upper Birang area is not a food-poor environment for hunter-gatherers, especially in terms of starchy foods. Therefore, there should be no doubt that tropical rainforest often could sustain small groups of hunter-gatherers living independently of farmers.

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