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THE NIAH CAVE PROJECT: THE FOURTH (2003) SEASON OF FIELDWORK

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ABSTRACT

The paper describes the preliminary results of the fourth (2003) campaign of fieldwork by the Niah Cave Project. The principal focus of the geomorphological work, in concert with detailed studies of the Harrison's excavation archive prior to the field season, was on correlating the stratigraphies established by the project with the spit sequences of the Harrison's excavations in the West Mouth. This work was completed in detail for the Hell Trench, and at a more general level for the large area of sediment removed by the earlier excavators from within and in front (south) of the rock shelter, the so-called 'frequentation' or 'habitation' zone, identified as correlating with our late Pleistocene/early Holocene Unit 4. Further studies were undertaken of the interior guano, both for palaeoenvironmental analysis and also of its geotechnical properties to inform understanding of the environmental conditions in which a major guano mudflow (Unit 3) impacted on the West Mouth archaeological zone c.38-42,000 BP. The archaeological programme concentrated on three major tasks: the excavation of a deep sounding in the Hell Trench to establish when human activity began in the cave; further excavations in the 'NeoUthic' cemetery zone to establish dateable sequences of burials, and to investigate the sediments underlying the burials; and investigations of the nature and scale of the remaining archaeology in other cave mouths (Lobang Angus, Gan Kira, and Kain Hitam) along with the production of accurate topographic surveys of these entrances. The first part of this programme found enigmatic evidence of human presence prior to the main sequence of (seasonal?) visits to the West Mouth that dates to the time of the deposition of the Deep Skull c.43,000 BP and immediately beforehand (the sequence reported in SMJ 2002). The new evidence remains to be dated. The cemetery excavations found a complex sequence of intercutting burials, with clear evidence for zoning of burial types, overlying guano in which were cut large round intercutting pits very similar to those found in previous seasons in Area B (the area between the cemetery and the Hell Trench) that have been dated to c.29,000 BP.

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by

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ABSTRACT

The paper describes the preliminary results of the fourth (2003) campaign of fieldwork by the Niah Cave Project. The principal focus of the geomorphological work, in concert with detailed studies of the Harrissons' excavation archive prior to the field season, was on correlating the stratigraphies established by the project with the spit sequences of the Harrissons' excavations in the West Mouth. This work was completed in detail for the Hell Trench, and at a more general level for the large area of sediment removed by the earlier excavators from within and in front (south) of the rock shelter, the so-called 'frequentation' or 'habitation' zone, identified as correlating with our late Pleistocene/early Holocene Unit 4. Further studies were undertaken of the interior guano, both for palaeoenvironmental analysis and also of its geotechnical properties to inform understanding of the environmental conditions in which a major guano mudflow (Unit 3) impacted on the West Mouth archaeological zone c.38-42,000 BP. The archaeological programme concentrated on three major tasks: the excavation of a deep sounding in the Hell Trench to establish when human activity began in the cave; further excavations in the 'Neolithic' cemetery zone to establish dateable sequences of burials, and to investigate the sediments underlying the burials; and investigations of the nature and scale of the remaining archaeology in other cave mouths (Lobang Angus, Gan Kira, and Kain Hitam) along with the production of accurate topographic surveys of these entrances. The first part of

this programme found enigmatic evidence of human presence prior to the main sequence of (seasonal?) visits to the West Mouth that dates to the time of the deposition of the Deep Skull $\approx 43,000$ BP and immediately beforehand (the sequence reported in *SMJ* 2002). The new evidence remains to be dated. The cemetery excavations found a complex sequence of intercutting burials, with clear evidence for zoning of burial types, overlying guano in which were cut large round intercutting pits very similar to those found in previous seasons in Area B (the area between the cemetery and the Hell Trench) that have been dated to $\approx 29,000$ BP. The earlier excavations in Lobang Angus removed most of the archaeological deposits, but sufficient deposits remain to indicate its active use by humans probably from the late Pleistocene and through much of the Holocene (no absolute dates are yet available). The investigations of the Gan Kira and Kain Hitam cave entrances found that virtually all sediments of archaeological interest have probably been removed.

INTRODUCTION (GB)

This report describes the preliminary results of the final season of the planned four seasons of fieldwork of the Niah Cave Project. The excavations conducted by Tom and Barbara Harrisson in the 1950s and 1960s brought the Niah Caves to world attention, particularly their discovery in the West Mouth of the so-called Deep Skull, at $\approx 40,000$ BP the earliest modern human in Southeast Asia (T. Harrisson, 1958; 1970). The excavations here and in other entrances also found evidence for the subsequent use of the caves by later Pleistocene and early Holocene foragers and by Neolithic people for burying their dead. However, there have always been uncertainties about the Niah cultural sequence and its chronology because the excavations were never published in final comprehensive form. Subsequent investigations by Zuraina Majid added important ^{14}C dates and new data, but were unable to resolve these uncertainties (Zuraina Majid, 1982). The Niah Cave Project was developed in this context, as a programme of field and laboratory study by an inter-disciplinary team of archaeologists and environmental scientists to clarify the stratigraphies, cultural sequences, and chronologies of the human utilization of the caves. The project has

three principal objectives: (1) to clarify the nature and chronology of the cave stratigraphies and of the human use of the caves; (2) to establish the climatic and environmental contexts in which the human uses of the caves were situated; and (3) to link the newly established sequence with the substantial archive of material from the earlier excavations so as to provide a modern analytical framework for the earlier discoveries.

The first three seasons of fieldwork reported previously in this *Journal* (Barker *et al.*, 2000, 2001, 2002a) have succeeded in confirming the broad antiquity of the Deep Skull, ascribing it to contexts dated securely to c.43-44,000 BP. In 2002 we also found clear evidence for sporadic visits to the cave before this, though how much earlier was not clear (Barker *et al.*, 2002a). The cave was then used by foragers from at least 27,000 BP to the early Holocene c.9,000 BP. The evidence for their activities included enigmatic pits and post-holes, together with a rich array of food refuse: charred parenchymatous plant tissues and starch grains of plants such as yams and sago; charred nut and fruit fragments; molluscs; and bone fragments of large and small mammals, birds, bats, and fish. Initial isotope studies of a deep guano stratigraphy in the interior of the West Mouth behind the archaeological zone indicated a much more open and drier landscape around the caves in the later Pleistocene than the modern dipterocarp rainforest (M. Bird, *pers. comm.*), findings that correlate with the presence of montane species in the faunal remains excavated by the Harrissons (Cranbrook, 2000: 78). In combination, the subsistence and environmental data suggest that the anatomically modern humans who colonised this part of Borneo in the late Pleistocene were practising effective foraging strategies that exploited a variety of landscapes (Barker *et al.*, 2002b).

The project's small-scale investigations of part of the Neolithic cemetery have revealed an unexpectedly complex sequence of funerary activity. Stable isotope studies of the bone chemistry of the human skeletons buried in the West Mouth suggest that the Neolithic people were consuming plant food in more open environments than their terminal Pleistocene forbears (Krigbaum, 2001), but in other respects our subsistence data indicate that they were living as foragers, not farmers as the Austronesian model of agricultural dispersal would predict

(Bellwood, 1991, 1996). Post-Neolithic deposits in the interior of the West Mouth behind the cemetery zone have yielded evidence for birds-nesting activities in recent centuries.

The objectives of the fourth season of fieldwork were specified as follows:

1. to complete the geomorphological studies of the Pleistocene and Holocene sediments within the archaeological zone (the fenced archaeological reserve) in the West Mouth (Fig. 1) and to correlate the resulting stratigraphies wherever possible with the Harrison excavation units;
2. to complete the investigation of the interior cave sediments upslope from the archaeological reserve, given their importance ascertained by our previous fieldwork both for understanding the formation of the sediments of the archaeological zone and as a deep record of climatic and environmental change; this programme was to include both sampling for palaeoclimatic analysis and also geotechnical studies to provide understanding of the particular conditions likely to have caused the massive guano slide into the West Mouth archaeological zone defined in our geomorphological studies as Unit 3;
3. to excavate a deep sounding in the Hell Trench below the HP6 baulk excavated in 2002, which contained evidence of human activity contemporary with, and probably prior to, the deposition of the Deep Skull, to attempt to establish when modern humans first arrived at the site;
4. to conduct further small-scale excavations within the area of the Neolithic cemetery (Area C) to elucidate the burial sequence in more detail and to obtain well-sealed groups of grave material so as to gain better understanding of the chronology and character of Neolithic funerary activity, and also to explore the sediments beneath the cemetery to attempt both to tie the burials in stratigraphically with the sediments further towards the cave mouth;

5. to complete the sampling of the Pleistocene and Holocene sediments within the archaeological reserve for the extraction of macroscopic and microscopic faunal and botanical remains (microfauna, starch and pollen grains, phytoliths, and so on) and charcoal and other organic samples for ^{14}C dating;
6. to investigate, record, and sample the Harrison stratigraphies exposed in the Lobang Angus and Gan Kira entrances and the Kain Hitam 'Painted Cave' on the eastern side of the cave complex;
7. to locate all the archaeological and geomorphological investigations within accurate topographic plans;
8. to continue the study of the present-day cave environment and surrounding landscape to aid understanding of the taphonomic processes forming and transforming the archaeological sediments and the faunal and floral remains contained within them;
9. to continue the collection of modern comparative specimens to aid the analysis of the archaeological faunal and floral material; and finally
10. to complete the preliminary study of the archaeological materials collected in the four seasons of fieldwork.

CAVE SURVEY (PD, FM)

Survey in 2000 and 2001 concentrated on the digital recording of the locations of old and new archaeological baulks and sections within the West Mouth archaeological reserve, and in 2003 on the production of a general topographic map of the West Mouth (Barker *et al.*, 2002: Fig. 1). As in the previous seasons, survey work in 2003 was undertaken using a LEICA Topcon 705 total station. X, Y, and Z coordinates based upon relative site grids established at the various areas of interest were recorded for points set at intervals to give a complete coverage of the topography of the cave floors (averaging every 1.5-2 m²). The points were subsequently processed within ARCVIEW GIS to produce digital

terrain models and contour plans of the area. In addition to the general topography, all features of note (both natural and cultural) were mapped in four entrances of the Niah Cave complex.

The first operation consisted of extending the topographic survey of the West Mouth to the end of the guano mound in the upper reaches of its northern chamber. Two main boulders identified as part of an ancient mudslide were mapped, together with a transect across the guano mound and the locations of guano samples taken from the exposed faces of recent illicitly-dug pits. The pits were also mapped to aid the monitoring of damage by any further illicit guano digging. A slope transect was also created of the external part of the West Mouth. Within the archaeological reserve, the original extent of the late Pleistocene and early Holocene anthropogenic deposits classified by the project as Unit 4, most of which were removed by the earlier excavators, was mapped in a 3-D recording exercise using the surviving plinths of this unit under the rock shelter and east of the Hell Trench.

The second operation was the survey of the topography of the Lobang Angus, including the locations of 37 large boulders and two pillars, which were digitized in AUTOCAD and overlaid on the map. The boulders and pillars were recorded because a number of these can be easily identified on the plans and photographs of the original excavations by the Harrissons, thus providing a useful link between the past and present investigations. The recording of the archaeology consisted of plotting the baulks of the excavated trenches from the original excavations, together with the baulk sections cleaned and examined this season. The red line painted by the Harrissons to mark the surface of the deposits before the original excavations were undertaken was also digitized, imported into GIS, and plotted on the map.

The steep topography of the mouth of Gan Kira cave was also surveyed, along with the three still-exposed archaeological trenches from the earlier excavations and our own test-pits, the Harrissons' red paint line marking the original pre-excavation surface, major boulders and exposed areas of bedrock.