

**The Obsidian Industry at Bukit Tengkorak, Sabah, Malaysia**

**Dr. Stephen Chia Ming Soon**

**Centre For Archaeological Research Malaysia  
University of Science Malaysia, 11800, Penang, Malaysia**

**Paper presented at the 16<sup>th</sup> Congress of the  
Indo-Pacific Prehistory Association, Melaka, Malaysia, 1-8 July 1998**

# THE OBSIDIAN INDUSTRY AT BUKIT TENGGORAK, SABAH, MALAYSIA

Stephen Chia

Pusat Penyelidikan Arkeologi Malaysia  
Universiti Sains Malaysia 11800 Penang Malaysia

## INTRODUCTION

In 1994-95, archaeological research was undertaken by a joint Centre for Archaeological Research Malaysia and Muzium Sabah team at Bukit Tengkorak, a Neolithic site in Semporna, Sabah (Figure 1). Geologically, Bukit Tengkorak forms part of the rim of a 2 kilometre-wide volcanic crater, surrounded by numerous isolated hills and mountains, most of them representing sites of extinct volcanoes ranging from Pliocene to Quaternary in age (HD Tjia, personal communication, Kirk 1962, Lee 1970). Two seasons of excavations, over a period of 5 weeks, were carried out at two volcanic outcrops near the summit of Bukit Tengkorak, approximately 600 feet about sea level<sup>1</sup>. A total of 6-one metre trenches (G17, G19, J19, R36, S37, and T38), three in each outcrops, were excavated until the base of the undisturbed cultural deposits, about 150 cm in maximum depth (Figure 2). The excavated area covered about 10% of the total area that can be excavated. The top layer (0-20 cm) of trenches G17, G19, and J19 appeared to be disturbed but the subsequent layers contained undisturbed artefacts which were excavated in arbitrary controlled spits of 5 cm deep per spit or level. More than 6 cubic metres of soil was excavated and sieved through 1 mm and 0.2 mm meshes. A broad range of archaeological materials were recovered and they include large quantities of pottery sherds, chert and agate microliths, obsidian flakes, polished adzes, a bark cloth beater, and some shell or bone artifacts. The abundant food remains, mostly marine mollusks and fish bones (as well as some terrestrial animal bones) is indicative of a maritime-oriented society at Bukit Tengkorak.

Five radiocarbon dates place the site between 4300 BC and possibly 50 BC. All the radiocarbon dates are listed in Table 1. Four of the samples are charcoal and one (Beta-744448) is of *Anadara* shells. The charcoal samples were calibrated with the Stuiver INT93 Cal program (1993). Out of the five samples, one (Beta-744447) is modern, confirming that the top layers (0-20cm) of trench G17 is disturbed. As such, the absolute date for the last use of the site is still unknown but given the absence of metal artifacts, stonewares, and procelain at the top layers, the site is probably abandoned before 2000 BP or around 50 BC<sup>2</sup>. On the basis of the radiocarbon dates, soil stratigraphy, and the temporal distribution of artifact types, three occupational phases: Early Phase (4300-1200 BC); Middle Phase (1200-900 BC); and Late Phase (900-50 BC), were defined at Bukit Tengkorak.

---

<sup>1</sup> Test excavations were done at Bukit Tengkorak in 1987 by Bellwood (1989) & Bellwood & Koon (1989)

<sup>2</sup> Despite the lack of a well-established date for the first use of metal in island Southeast Asia, a date of about 2,000 BP is generally accepted for the arrival of bronze and iron artifacts, particularly in Java, Bali, the Talaud islands, and Sabah (Soejono, 1979; Bronson and Glover, 1984; Bellwood, 1985).