C. R. Palevol 13 (2014) 109–120

Contents lists available at ScienceDirect

Comptes Rendus Palevol

www.sciencedirect.com

Human palaeontology and prehistory

New evidence of old stone tools from the Mekong terraces, Cambodia

Nouvelle preuve de la présence d'une industrie lithique ancienne sur les terrasses du Mékong au Cambodge

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ARTICLE INFO

Article history:
Received 7 April 2013
Accepted after revision 11 September 2013
Available online 24 November 2013

Presented by Yves Coppens

Keywords:
Southeast Asia
Prehistory
Cobble tools
Ancient Palaeolithic

Mots clés :
Asie du Sud-Est
Préhistoire
Galets
Paléolithique ancien

ABSTRACT

The study of prehistoric sites with lithic remains indicates that the occupation of continental Asia, notably India and China, seems to have taken place earlier than previously thought. However, this Early Pleistocene human dispersal out of Africa remains debatable for the Southeast of Asia, in spite of the discovery of original lithic assemblages on the Mekong terraces dated to the very beginning of the Middle Pleistocene in the centre of Cambodia, by Saurin and Carbonnel in the 1960–1970s. Although this fundamental lithic material has become a reference, it has not been subjected to renewed study of these artefacts over the past decades, and it is thus not possible, for the moment, to attribute it with certainty to a particular culture. In this paper, we present an analysis of the raw materials and a techno-typological study of a similar series of prehistoric tools gathered by one of us in order to bring to light new elements concerning the first Palaeolithic occupation of this region of the world.

RÉSUMÉ

D'après l'étude des sites préhistoriques qui ont livré des outils lithiques, le peuplement de l'Asie semble être plus ancien que ce qui était précédemment admis, du moins en Inde ou en Chine. Ce peuplement ancien reste, cependant, une question en suspens pour le Sud-est asiatique continental, alors que des hommes fossiles et outils lithiques anciens sont présents en Indonésie à une période très reculée. La découverte d'assemblages lithiques originaux par Saurin et Carbonnel dans les années 1960–1970 sur les terrasses du Mékong au centre du Cambodge, datées du début du Pléistocène, a servi de point de référence sans que ce matériel lithique ne soit réétudié depuis. En l'absence d'étude complète de ce matériel,

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1631-0683/$ – see front matter
http://dx.doi.org/10.1016/j.crpv.2013.09.006

il n'est pas permis de conclure définitivement sur sa nature ou son faciès culturel. Nous présentons ici une analyse des matières premières et une étude techno-fonctionnelle d'une série d'outils préhistoriques, trouvée par l'un d'entre nous (R.M.) dans le même contexte que celui décrit par Saurin, afin d'apporter de nouveaux éléments de réflexion quant aux premiers peuplements de cette région du monde.

1. Introduction

In Cambodia, the long tradition of archaeological research instigated by French expeditions in the 19th century in continental Southeast Asia (Cartailhac, 1877, 1879; Finot, 1928; Jammes, 1894; Mansuy, 1902; Noulet, 1879) was interrupted by the tragic events of the 1970s. Keen interest in the conservation, restoration and architectural research on pre-Angkor and Angkor era monuments had long since eclipsed archaeological research on prehistory. Since 2009, with the renewal of excavations in the Laang Spean prehistoric cave, discovered in 1965 by C. and R. Mourer (1970, 1973) and Mourer et al. (1970), prehistory is at the forefront in Cambodia once again (Forestier et al., 2012; Zeitoun et al., 2012). Cambodia is located at the southern border of present day continental Asia, and with respect to the Indonesian island arc, corresponds to an emerged portion of "Sundaland", which intermittently linked this region to the present Indonesian island arc in a vast continental platform during the Pleistocene (Voris, 2000). It is extremely likely that very early traces of human activity are present in Cambodia, like those found in India (Pappu et al., 2011) and China (Boëda and Hou, 2011; Gao et al., 2005; Hou and Zhao, 2010; Hou et al., 2000; Huamei et al., 2008; Wanpo et al., 1995; Zhu et al., 2001, 2003), and in Indonesia on Java, or further west on Flores Island (Bartstra, 1976; Huffman, 2001; Jacob and Curtis, 1971; Larick et al., 2001; Morwood et al., 1998; Sémah, 2001; Sémah et al., 1992; Simanjuntak and Forestier, 2008; Swisher et al., 1994) (Fig. 1).

Geological prospecting on the Mekong terraces in Cambodia by E. Saurin and J.-P. Carbonnel in the 1960–1970s brought to light important elements of very early human activity. Their fieldwork resulted in the discovery of several prehistoric localities with cobble tools, over a stretch of about one hundred kilometers between Stung Treng and Kratie: Chhep, Sre Russey on the right bank of the Mekong, Sre Sbau, Kantuot and Khsim on the left bank in Kratie province (Carbonnel, 1972; Saurin, 1963a, 1966). One of us (R.M.) collected lithic artefacts in the same areas between 1964 and 1969. In spite of renewed prehistoric research by Cambodian students, directed by G. Albrecht until recent years (Albrecht and Moser, 1996), no other discoveries have been made since then, apart from a knapped tool in silicified wood, which is mentioned in an introduction to Cambodian prehistory (Forestier et al., 2012).

The prehistoric locality of Sre Sbau is cited more often than others in the literature. This site is located on one of the four main Quaternary terraces of the Mekong, with a first estimated age of 0.78 Ma, which further reinforces the interest in a detailed description of this lithic material. The site was accurately recorded by E. Saurin, near the milepost 312, 1 km north of Sre Sbau on the N13 road (Saurin, 1963b) but the material collected by Saurin was not found in the collections and has thus not been studied since the 1960s. However the tools from the same stratigraphic context at Sre Sbau, collected by R. and C. Mourer, was deposited in the Phnom Penh National Museum in 1972. This collection, including artefacts from four different localities (Thalaborivat, Sre Sbau, Chhlong and Kratie), in the centre of Cambodia is studied in this paper (Fig. 2).

2. The oldest lithic tools in Mainland Southeast Asia

Lower and Middle Pleistocene sites have been recorded in Southeast continental Asia from Myanmar to Vietnam and from Thailand to Malaysia. It is therefore not surprising to find such sites in Cambodia. However, many of these lithic assemblages from open-air sites remain ill-defined, from both stratigraphic and technological viewpoints: several local names were initially assigned to them although they do not present any particular typo-technological traits. In this way, in Myanmar, the Anyathian industry has been defined in the Irrawaddy valley (Chakrabarti, 1997). The Early Anyathian is thus described in three geographically distinct phases. The earliest and oldest issued from lateritic Magwe deposits and Chaunket deposits east of Sale. In the second phase, the artefacts are associated with a ferruginous encrustation at Nyang-U, whereas the third phase comes from pebble formations from Magwe, Minbu, Yenangyaung, Chauk, Bagan and Pakokku (Fig. 1). These objects have been described as hand adzes, choppers, chopping-tools and scrapers. Silicified wood makes up 84% of the raw materials and has become a guiding raw material for the recognition of ancient industries in Asia, along with silicified tuff and pebbles (Movius, 1943).

In Thailand, the Fingnoian industry is named after the Fing Noi river (Van Heekeren, 1948; Van Heekeren and Knuth, 1967), in the West of the country (Fig. 1). Of the six surface finds collected by Van Heekeren during his detention by the Japanese army, only three remain, described by Movius (1948) as chopper core-tools, shaped by unifacial transversal flake removals. During surface prospecting in northern Thailand, Sorensen (1976) described a Lannathian industry, mainly comprising choppers, and partly shaped in silicified wood. In Lampang province, still in northern Thailand, several localities yielded lithic material attributed to a very Early Palaeolithic culture. In this way, Suchit Pitragool initially gathered six lithic artefacts in the Kao Pah Nam locality, which later inspired Sorensen (1976) to carry out prospecting south of Mae Tha, where more than 250 artefacts were collected (Sorensen, 2001). However, no illustrations or accurate locality information exist for these finds. Renewed prospecting in this region