

Recent Progress in Research for the *Gigantopithecus* Fossils in South China

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Abstract. The fossil research of the extinct large ape species, *Gigantopithecus*, has greatly progressed recently. The present situation of research in South China is reviewed. The 1950's survey recovered more than one thousand fossil specimens. The number of the specimens, as well as the number of the cave sites yielding them, has now started to rise since 2000, through the effort of Chinese scientists.

Key words: fossil, *Gigantopithecus blacki*, South China.

Fossils of *Gigantopithecus blacki*, a large hominoid species inhabited in south of China through early to middle Pleistocene, have been recognized since 1930's (Weidenreich, 1946). The largest recovery from the deposit was made in 1956–1960 (Woo, 1962), including three mandibles, and much less was found additionally until very recently. Ever since the turn of the century, new generation of Chinese scientists has started to find a number of new cave sites yielding *Gigantopithecus* fossils (Wang *et al.*, 2005, 2007; Wang, 2009; Jin *et al.*, 2009). I have got some opportunity to communicate with two groups of these scientists and visit some of these sites where they continue their field research. Here I briefly introduce the recent progress in the *Gigantopithecus* research in Guangxi, along with the photos of those new fossil sites taken during my recent visits in December, 2009 and November, 2010.

Gigantopithecus is a large hominoid species known only by their dentognathic remains. The better known species, *G. blacki*, is currently known from the cave deposits of South China (Pei & Woo, 1956; Woo, 1962; Zhang *et al.*, 1973, 1975; Xu *et al.*, 1974; Huang *et al.*, 1995; Wang *et al.*, 2005, 2007; Zhao *et al.*, 2006; Wang, 2009; Jin *et al.*, 2009), as well as from a

single site in Vietnam (Ciochon *et al.*, 1996). The chronological age of their existence is assumed to be from early to middle Pleistocene (Huang, 1979; Rink *et al.*, 2008). The second species of the genus, *G. giganteus*, has been established based on the fossil mandible found in Siwalik, India, which is chronologically much older than the later East Asian representative, *G. blacki* (Simons & Ettel, 1970).

Most of the *G. blacki* specimens known to date are isolated teeth, which now count to more than 1000 in number from about 10 cave sites, with three mandibles discovered in Liucheng (Woo, 1962). The exact number of specimens recovered from actual sites (contra pharmacy-derived specimens) is summarized by Wang (2009).

Recently, two groups of Chinese scientists are actively working for finding new sites yielding *Gigantopithecus* fossils. Both of them are successfully adding the number of such sites and fossil specimens (Wang *et al.*, 2005, 2007; Wang, 2009; Jin *et al.*, 2009).

Wang Wei from Guangxi Museum of Nationalities, Nanning, with his colleagues, has been working in the Bubing Basin, western Guangxi Zhuang Autonomous Region, South China. They have reported two cave sites wherein *Gigantopithecus* fossils were found



Fig. 1. Opening of the Mohui cave seen from foot of the hill (left). Inside the cave, a fossil of some monkey tooth was appearing (right).



Fig. 2. A distant view of the hill in which the Chuifeng Cave is situated (middle), just behind a small village (left, close up). The cave is rather narrow and long (right).

through careful excavation (Wang *et al.*, 2005, 2007; Wang, 2009). The first site is the Mohui Cave, located in the southeastern corner of the basin, at ~ 215 m and 65 m above sea and local ground levels, respectively (Fig. 1). From Mohui cave, they found 16 *Gigantopithecus* teeth (Wang *et al.*, 2005, 2007).

The second cave, Chuifeng Cave, is located

at about 800 m southeast of the Mohui Cave. The Chuifeng Cave penetrates the hill at about 77 m above the local valley floor. Wang (2009) collected total 92 *Gigantopithecus* teeth among 1007 mammalian teeth found in the fossiliferous deposit, which filled rather narrow, tunnel-like cave (Fig. 2).

A group of researchers from Institute of



Fig. 3. Boyue mountain is located close to the entrance of the Chongzuo Ecological Park (right). Cave is opening on two sides of the mountain (left).



Fig. 4. Sanhe Cave is located in the Wuming mountain (right), which also accommodates the living monkeys, *Presbytis leucocephalus*. The watch tower is for the observation of those monkeys. The Wuming mountain is in the middle of the Chongzuo Ecological Park (left).

Vertebrate Paleontology and Paleoanthropology (IVPP), Beijing, is working in the suburb of Chongzuo city, Guangxi, in collaboration with the Chongzuo Biodiversity Research Institute of Peking University (PKU) (Jin *et al.*, 2009). The first discovery was made by Pan Wenshi, a professor from PKU, who

researches the endangered living colobine monkey, *Presbytis leucocephalus*, in Chongzuo Ecological Park. Pan found some *Gigantopithecus* fossil specimens from Boyue Cave located inside the Park (Figure 3). The following cooperative investigation led to the discovery of *Gigantopithecus* fossils in Sanhe Cave,

also inside the Park (Fig. 4). The Sanhe Cave is situated at 203 m above sea level, and more than 70 m above the first terrace of the local river. Jin and colleagues found vertebrate fossils of about 100 species, including *Gigantopithecus* and several other primate species (Jin *et al.*, 2009).

Both of these two groups are continuing their effort to find more sites which yield fossils of *Gigantopithecus* and other taxa. The remarkable increase in the number of sites and specimens of *Gigantopithecus* fossils will help elucidating more of the profile of this mysterious giant ape in near future.

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ギガントピテクス化石調査の近年の進捗

河野礼子

南中国を主要な産地とする化石類人猿ギガントピテクスについては、1935年に初めて記述されてから、1950年代の中国科学院による柳城での1000点を超す化石発見が最大規模の発見であった。その後しばらくは標本数の格段の増加はみられなかったが、2000年以降、中国の研究者らによる新たな化石産地の探索が続けられ、成果をあげつつある。筆者は広西チワン族自治区において調査活動をする2つの研究グループの調査地を訪問する機会を得たので、彼らの研究成果について、調査地の写真をまじえて紹介する。