国立科博専報，(48), pp. 201–205, 2012 年 3 月 28 日
Mem. Natl. Mus. Nat. Sci., Tokyo, (48), pp. 201–205, March 28, 2012

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

Reiko T. Kono

Department of Anthropology, National Museum of Nature and Science,
4–1–1 Amakubo, Tsukuba, Ibaraki 305–0005, Japan
E-mail: rtkono@kahaku.go.jp

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.

Acknowledgements

I wish to thank the following individuals in various ways: Jin Changzhu, Wang Wei, Zhang Yingqi, Wang Yuan, Pan Wenshi, Qin Dagon, Masanaru Takai, Takeshi Nishimura, Daisuke Kubo, and Gen Suwa. This study was conducted under the project entitled "Biodiversity inventory in the Western Pacific region" of the National Museum of Nature and Science. This project was supported in part by Grants-in-Aids for Scientific Research (19770215, 22770242) by the Japan Society for the Promotion of Science.

References

Ciochon, R. L., V. T. Long, R. Larick, L. González, R. Grün, J. de Vos, C. Yonge, L. Taylor, H. Yoshida & M. Reagan, 1996. Dated co-occurrence of *Homo erectus* and *Gigantopithecus* from Tham Khuyen cave, Vietnam. *Proceedings of the National Academy of Science, U.S.A.*, 93: 3016–3020.

Huang, W., 1979. On the age of the cave-faunas of south China. *Vertebrata PalAsiatica*, 17: 327–343.

Huang, W., R. Ciochon, Y. Gu, R. Larick, Q. Fang, H. Schwarcz, C. Yonge, J. de Vos & W. Rink, 1995. Early *Homo* and associated artefacts from Asia. *Nature*, 378: 275–278.

Jin, C., D. Qin, W. Pan, Z. Tang, J. Liu, Y. Wang, C. Deng, Y. Zhang, W. Dong & H. Tong, 2009. A newly discovered *Gigantopithecus* fauna from Sanhe Cave, Chongzuo, Guangxi, South China. *Chinese Science Bulletin*, 54: 788–797.

Pei, W. & J. Woo, 1956. New materials of *Gigantopithecus* teeth from south China. *Acta Palaeontologica Sinica*, 4: 477–490.

Rink, W. J., W. Wang, D. Bekken & H. L. Jones, 2008. Geochronology of *Ailuropoda-Stegodon* fauna and *Gigantopithecus* in Guangxi Province, southern China. *Quaternary Research*, 69: 377–387.

Simons, E. L. & P. C. Ettel, 1970. *Gigantopithecus*. *Scientific American*, 222: 76–85.

Wang, W., 2009. New discoveries of *Gigantopithecus blacki* teeth from Chuifeng Cave in the Bubing Basin, Guangxi, south China. *Journal of Human Evolution*, 57: 229–240.

Wang, W., R. Potts, Y. Hou, Y. Chen, H. Wu, B. Yuan & W. Huang, 2005. Early Pleistocene hominid teeth recovered in Mohui cave in Bubing Basin, Guangxi, South China. *Chinese Science Bulletin*, 50: 2777–2782.

Wang, W., R. Potts, B. Yuan, W. Huang, H. Chen, R. L. Edwards & P. Ditchfield, 2007. Sequence of mammalian fossils, including hominoid teeth, from the Bubing Basin caves, South China. *Journal of Human Evolution*, 52: 370–379.

Weidenreich, F., 1945. Giant early man from Java and South China. *Anthropological Papers of American Museum of Naturaly History*, 40: 1–134.

Woo, J., 1962. The mandibles and dentition of *Gigantopithecus*. *Palaeontologica Sinica*, 11: 1–94.

Xu, C., K. Han & L. Wang, 1974. *Gigantopithecus* fossils and associated fauna from west Hupei. *Vertebrata PalAsiatica*, 12: 293–309.

Zhang, Y., M. Wu & J. Liu, 1973. *Gigantopithecus* teeth discovered in Wuming, Kwangsi. *Chinese Science Bulletin*, 18: 130–133.

Zhang, Y., L. Wang, X. Dong & W. Chen, 1975. Discovery of a *Gigantopithecus* tooth from Bama district in Kwangsi. *Vertebrata PalAsiatica*, 13: 148–153.

Zhao, L., H. Tong, C. Xu, Z. Yuan & H. Cai, 2006. New discovery of *Gigantopithecus blacki* tooth fossil from Bijie, Guizhou and its significance. *Quaternary Science*, 26: 548–554.

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．