

# Scientists find genetic evidence for southern origin of modern humans in East Asia

July 27 2005

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Genetic studies have provided evidence for an African origin of East Asian populations, but their prehistoric migration routes in the Asia region remain a long-standing controversy. On the basis of the genetic evidence generated so far, particularly from Y-chromosome data, CAS researchers recently discovered that early modern humans entered the region from its southern part, and then they made a northward migration about 25,000 - 30,000 years ago.

Researchers have been debating on modern human origins for a long time. Some of them, mostly archaeologists, believe that the abundant hominid fossils found in China and in other regions of East Asia show evolutionary continuity, not only in morphological characters, but also in spatial and temporal distributions. This observation implies that the evolution from *Homo erectus* to *Homo sapiens* and then to *Homo sapiens sapiens* (modern man), took place in East Asia as well as in Africa. On the other hand, the Out-of-Africa hypothesis, which suggests that local populations outside Africa were completely replaced by modern humans who originated in Africa, has been supported by extensive genetic evidence and by archaeological findings.

The hypothesis was reinforced in 2001 by a study of Y chromosomal DNA, in which an international consortium including Chinese researchers showed that East Asian populations migrated out of Africa and suggests that little or no interbreeding of *Homo erectus* and *Homo sapiens* occurred after the migration. However, the prehistoric peopling of East Asia by modern humans still remains controversial with respect

to early population migrations, which is highlighted by genetic disparity found by previous genetic studies between the northern and southern populations of the East Asians. Geneticists speculate that the disparity must have something to do with the itinerary covered by the forebears of today's Eastern Asian people in their prehistory migration from the Grand Rift in the East Africa.

A recent study made by a research team headed by Prof. Su Bing from the CAS Kunming Institute of Zoology (KIZ) has shed new light on the issue. As reported in July 14 issue of the American Journal of Human Genetics, the researchers carried out a systematic genetic screening of the 2,332 male individuals sampled as 40 representative populations from East Asia by comparison of Y chromosome's genetic tags. Their study shows that the Y-chromosome haplogroup specific to East Asia is more diverse in southern population than their northern cousins and the southern population is found to have their own specific haplogroups while only part of East Asian specific haplogroups exist in the northern populations.

Based on these findings, the KIZ scientists came to a conclusion that the southern population should be the ancestral while the northern population was its posterity as a result of the former's migration from the south to the north which occurred about 25,000 to 30,000 years ago. In other words, the earliest inhabitants in the Orient had been the southern population originating from east Africa and then they migrated to the north. So the earliest migratory route of modern humans in East Asia should be from south to north.

Source: Chinese Academy of Sciences

Citation: Scientists find genetic evidence for southern origin of modern humans in East Asia

(2005, July 27) retrieved 26 April 2024 from <https://phys.org/news/2005-07-scientists-genetic-evidence-southern-modern.html>

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