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SPECIAL ISSUE JULY WEEK 1



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Special Issue

July (Week 1)

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All about China's Dragon Man

(Source: [Indian Express](#))



Context: *Researchers from China have claimed to have found an ancient human skull that could belong to an altogether new species of humans.*

Details:

- The researchers have published their findings in the journal 'The Innovation', in which they note that the cranium (the portion that encloses the brain) could be over 146,000 years old.
- The skull was found in the Songhua river in north-east China's Harbin city.
- Separately, news came in this week from researchers working in Israel, who said they had identified a previously unknown kind of ancient human called "Nesher Ramla Homo" that co-existed with Homo sapiens nearly 100,000 years ago when several species of humans co-existed in Asia, Europe and Africa.
- These include Homo sapiens, the Neanderthals, and the Denisovans.
- Homo sapiens, the species to which all existing humans belong, evolved in Africa nearly 300,000 years ago as a result of some dramatic climate change events.
- Neanderthals (Homo neanderthalensis) are believed to be the closest extinct human relatives and lived about 400,000-40,000 years ago in Europe and southwestern to central Asia.
- The findings from the site in Israel that has been dated to 140,000-120,000 years ago, have been published in the journal 'Science'.
- These researchers note that this archaic Homo population had mastered the use of technology that until recently was linked only to Homo sapiens or Neanderthals.
- Members of the species Nesher Ramla Homo could hunt small and large game, they used wood for fuel, cooked and roasted meat, and maintained fires.
- These findings are important because they provide evidence that there were cultural interactions between different human lineages.

How many species of humans are there?

- Modern humans are the only human species that exist in the world today. While the exact number of human species is a matter of debate, most scientists believe that there are at least 21 of them.
- As per the Smithsonian National Museum of Natural History, there are over 21 human species. These are:
 - Sahelanthropus tchadensis is believed to be the oldest member of the human family tree. According to the Smithsonian National Museum of Natural History, this species lived about 7-6 million years ago somewhere around present day Chad in Africa. Researchers only have cranial material as evidence that this species existed, from which they have deciphered that it had both



ape-like and human-like features and was bipedal, an ability that may have increased its chances of survival.

- *Orrorin tugenensis* lived about 6.2-5.8 million years ago in Eastern Africa. As per the Smithsonian Museum, this species is the oldest early human on the family tree and members from this species were approximately the size of a chimpanzee.
- *Ardipithecus kadabba* lived 5.8-5.2 million years ago, in Eastern Africa. They were bipedal, and are believed to have had a body size similar to that of modern chimpanzees.
- *Ardipithecus ramidus* lived about 4.4 million years ago in Eastern Africa, and was first reported in 1994. It is not clear if this species was bipedal.
- *Australopithecus anamensis* lived about 4.2-3.8 million years ago. A skull belonging to this species was discovered in Ethiopia in 2016 at a palaeontological site. Two studies published in 2019 analysed this skull and determined that it was older than Lucy, the name for another specimen belonging to the species *Australopithecus afarensis*, which was previously thought to be the oldest ancestor of modern humans. The new research also indicated that the two species (Lucy and her ancestors) co-existed for at least 100,000 years.
- *Australopithecus afarensis* (members from Lucy's species) existed 3.85-2.95 million years ago in Africa. Paleontologists have discovered remains from over 300 individuals belonging to this species over the years.
- *Kenyanthropus platyops* lived about 3.5 million years ago in Kenya. The Smithsonian Museum notes that the species inhabited Africa at the same time as Lucy's species did, which could mean that there is a closer branch to modern humans than Lucy's on the evolutionary tree.
- *Australopithecus africanus* lived about 3.3-2.1 million years ago in Southern Africa. This species had a combination of human and ape-like features.
- *Paranthropus aethiopicus* lived about 2.7-2.3 million years ago in Eastern Africa and members of this species are defined by their strongly protruding face, large teeth, and a powerful jaw.
- *Australopithecus garhi* lived about 2.5 million years ago in Eastern Africa, and is characterised by their long, powerful arms. The Smithsonian museum notes that the arms could mean the longer strides needed during bipedal walking.
- *Paranthropus boisei* lived about 2.3-1.2 million years ago in Eastern Africa, and were characterised by a skull that was specialised for heavy chewing.
- *Paranthropus robustus* lived about 1.8-1.2 million years ago in Southern Africa and were characterised by their wide, deep-dished faces.
- *Australopithecus sediba* lived about 1.9 million years ago in Southern Africa. Members of this species had facial features similar to the later specimens of *Homo*.
- *Homo habilis* lived about 2.4-1.4 million years ago in Eastern and Southern Africa, and is one of the earliest members of the genus *Homo*. Members of this species still retained some of the ape-like features, however.
- *Homo erectus* lived about 1.89 million-110,000 years ago, in Northern, Eastern, and Southern Africa and Western and East Asia. 'Turkana Boy' is the most complete fossil belonging to this species and is dated to be around 1.6 million years old.
- *Homo floresiensis* lived around 100,000-50,000 years ago, in Asia. One of the most recently discovered early human species has been nicknamed the "Hobbit". Specimens have so far only been found on an Indonesian island.
- *Homo heidelbergensis* lived about 700,000-200,000 years ago in Europe, some parts of Asia and Africa. As per the Smithsonian museum, this was the first early human species to live in colder climes.
- *Homo neanderthalensis* lived about 400,000-40,000 years ago, and co-existed with *Homo sapiens* for a few thousand years. They lived in Europe and in southwestern and central Asia.
- *Homo sapiens* evolved about 300,000 years ago, and are found worldwide.

Where does the "Dragon Man" fit in?



- The cranium found in China has been dubbed the “Dragaon Man” or Homo longi, a name that has been derived from the Long Jiang or Dragon river in the Heilongjiang province of China where the city of Harbin is located.
- The skull was reportedly discovered back in 1933, when a bridge was built over the Songhua river. For thousands of years, the skull remained buried in sediments.
- The UK’s Natural History Museum notes that because of the distinctive shape of the skull, which was found almost complete, some members of the team have suggested that it be declared a part of a new species of the genus Homo.
- Significantly, the size of the skull, which has a considerable brain capacity, is comparable to that of modern humans and Neanderthals.
- Modern humans are considered to have very large brains. While sizes can vary between populations and males and females, the average capacity of a human brain is about 1,300 cubic centimetres, and it can weigh anywhere between 1,300-1,400 grams. In comparison, a cat’s brain weighs just about 30 grams.

Why is this discovery being considered significant?

- For one, it brings new knowledge about the evolution of Homo sapiens — which is to say that if the “Dragon Man” is indeed a new species, it might help to bridge the gaps between our ancient ancestors called Homo erectus and us.
- This knowledge is important because there is very little consensus in the scientific community about how different human species are related, and which species are our immediate ancestors.
- Some palaeontologists believe Homo heidelbergensis to be our immediate ancestors. This species was discovered in 1908, and lived about 700,000 to 200,000 years ago in Europe and possibly China and some parts of Africa.
- There are some other unanswered questions as well — such as whether there was interbreeding among different human species. For instance, it is believed that Neanderthals contributed nearly 1-4 per cent of DNA in non-African modern humans.
- The Natural History Museum also notes that interbreeding with ancient humans allowed Homo sapiens to acquire genes that improved their chances of survival, and that some of these genes are present in modern humans even today.
- For instance, some of the DNA inherited from Neanderthals is believed to be involved in boosting immunity.