



Early Hominid Fossil

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Ramapithecus - Introduction

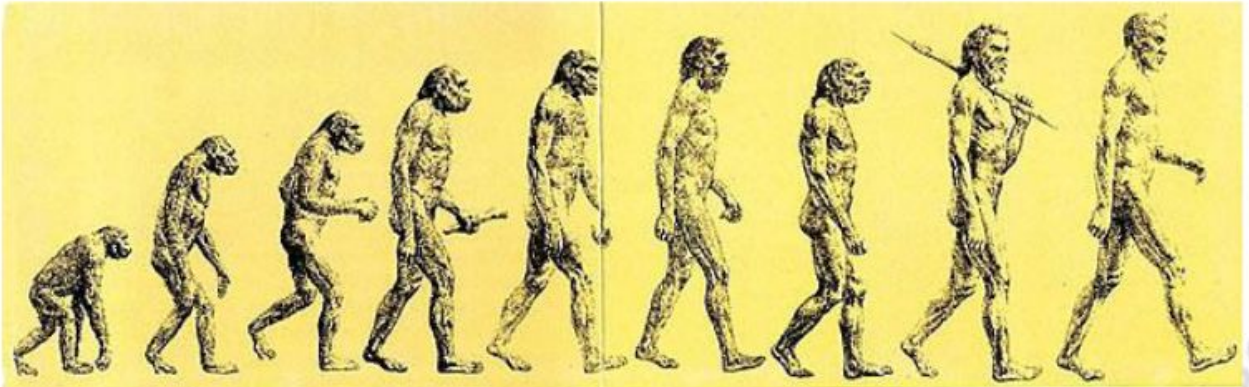
- It is accepted by many scholars to be the first true hominid.
- Ramapithecus dates back to the period between 14-10 million years ago.
- The fossils of Ramapithecus (Primarily teeth and jaw) come from two areas:
 - The Siwalik Hills in India and Fort Ternan in Kenya.
- Hominid features of Ramapithecus include
 - reduced and vertically implanted incisors, and canines,
 - little or no diastema,
 - flattened and thick enamelled premolars and molars adapted for heavy chewing and processing of heavy food stuffs.

RAMAPITHECUS FOSSIL DISCOVERY SITES WITH DISCOVERERS

Genus and species	Year and Discoverers	Fossils Discovery Sites
<i>Ramapithecus punjabicus</i> <i>Ramapithecus brevisrostris</i>	1932 & 1934 G.E. Lewis	Siwalik Hills, India.
<i>Kenyapithecus wicker</i>	1961 & 1962 L.S. B. Leakey	Fort Ternan, Kenya.
<i>Graicopithecus freyburgi</i>	1972 Bruno Von Freyburg	Athens, Greece.
<i>Sivapithecus alpani</i>	1973 & 1974 Ibrahim Tekkaya	Candir, Turkey.
<i>Rudapithecus hungaricus</i>	1977 & 1979 Miklos Kretzoil	Rudabanya, Hungary.
<i>Ramapithecus</i>	D. pilbeam and co-worker	Pakistan

Ramapithecus - Anatomical Characteristics

- Facial profile of Ramapithecus is orthognathus
 - the face nearly vertical with straight jawed with the front of the head or skull is perpendicular in consequence of the shortness of the jaws.
- Vertical placement of incisors and canines.
- Canines are not projected and they possess very narrow spaces.
- It has canine fossa or depression.
- Little or no *diastema*(gap between two teeth) was found.
- The molars possess the Y-5 cusp pattern as in Dryopithecus.
- The size of the third molar is reduced as compared to the first and second molar.
- Inside the lower jaw of Ramapithecus shelf-like ridges are present.
- There is a presence of large inferior torus on mandible
- Ramapithecus possesses rounded dental arcade.
- Like humans, the palate of the Ramapithecus is arched



DRYOPITHECUS
(14-8 million years)

RAMAPITHECUS
(12-8 million years)

AUSTRALOPITHECUS
(4 million years)

ADVANCED AUSTRALOPITHECUS
(2 million years)

HOMO ERECTUS
(1.8-0.3 million years)

EARLY HOMO SAPIENS
(400,000-100,000 years)

NEANDERTHAL MAN
(150,000-30,000 years)

CRO-MAGNON MAN
(130,000-60,000 years)

MODERN MAN
(40,000 years to present)

IMPORTANT STAGES IN EVOLUTION OF MAN

Australopithecus

- The word Australopithecus means 'southern apes'.
- Different sites of South Africa like Sterkfontein, Taung, Kromdraai and from East Africa like Olduvai, Laetoli and lake Turkana.
- Around 4 million years or might be even before.
- The members of this group were biped with reduced teeth size, especially the canine.
- Earliest varieties: *sahelanthropus tchadensis*, *orrorin*, *ardipithecus*.
- Later varieties:
 - Australopithecus afarensis, Australopithecus africanus (gracile forms)
 - Australopithecus robustus and boisei (robust forms)

Australopithecus

- *Sahelanthropus* came around 6-7 million years ago.
- *Orrorion* around 6 million years ago.
- *Ardipithecus* 4.4-4.8 million years ago.
- Gracile forms of *Australopithecus* (*afarensis*, *africanus*, *garhi*) between 4.2-2.0 million years ago.
- *Kenyanthropus* around 3.5 million years ago.
- *Paranthropus* (both robust and boisie) between 2.6 and 1.0 million years ago.
- ***It is believed that one of the species of the gracile forms of Australopithecus evolved into genus homo, though the robust forms appeared later than the gracile forms.***

Homo

- Enlarged brain case compared to Australopithecines.
- Less projecting and flatter face.
- Reduced teeth and jaw size.
- Larger body and more efficient striding.
- Depend more on tools and technology for food gathering, processing instead of their bodies.
- Shifted to a more animal based diet.

Fossil record of Homo habilis

- In 1891 Eugene Dubois found Partial skull in Java
- Named it Pithecanthropus erectus.
- Louis and Mary Leakey 1960 in Tanzania Homo Habilis
 - 2 million years old.
 - Cranial capacity 631 cc.
 - Named, Homo habilis, meaning 'handy man or skilled man'



Fossil record of Homo habilis

- Richard Leakey team discovered a more intact skull in Kenya 1970s.
 - 1.9 million year old.
 - Specimen KNM-ER 1470 in National museum of Kenya.
 - Large cranial capacity of 775 cc.
 - Homo rudolfensis



Physical Features : Skull and Teeth

- Skull of early Homo became more rounded.
- Extension of brain size.
- Forehead became slightly visible.
- The face is less projecting and reduced in size with smaller and arched brow ridge compared to Australopithecines.
- The foramen magnum was located in the centre of the skull base indicating bipedalism.
- The average cranial capacity about 630 cc which is larger than Australopithecines.
- Smaller jaw with more rounded dental arcade than those of Australopithecines.
- Teeth became smaller but the incisors were still large.
- feature of teeth suggest that they were depending more on stone tools and technologies for getting food

Physical Features : Post Cranial

- Body size is small and similar to Australopithecines(about four feet height).
- The leg and foot bones indicate that they were definitely bipedal.
- The arms were relatively long suggesting that they retained some climbing ability.
- Fingers have slightly curved bones.
- The proportion of finger bones suggests that they have the ability for precision grip.

Food Habits of Homo Habilis
