

WRAP Exams · wrapexams.com

Prelims PYQ, Mains model answers, and copy evaluation. Write to the desk for this paper, a doubt, or the AI waitlist.

ask@wrapexams.com · +91 85951 84903 · wrapexams.com

Q6(a)

Discuss the geographical distribution of Homo erectus. Taking into account its physical features, where does it fit in human evolutionary line?

UPSC Civil Services Mains 2024 · Anthropology GS 1 · 20 marks · Homo erectus

(b) Homo erectus: Africa (Paranthropus), Europe (Homo erectus heidelbergensis), Asia (Homo erectus javanicus, Homo erectus pekinensis).

Core demand of the question

- Map the geographical distribution of Homo erectus sensu lato
- Describe the diagnostic physical features
- Assess its phylogenetic position between early Homo and later humans
- Address taxonomic and Indian-fossil uncertainty critically

Revision summary

Early Homo erectus/ergaster occurs in East Africa by about 1.9 million years ago.

Dmanisi records an early dispersal; Java and Zhoukoudian anchor the Asian record.

Nariokotome Boy shows long legs and a near-modern terrestrial body plan.

The skull is long and low with thick bone, brow torus and occipital torus.

Hathnora's Narmada fossil has disputed taxonomic placement.

African erectus is near the ancestry of later Homo; Asian populations need not be direct modern ancestors.

Introduction

Homo erectus sensu lato was the first hominin with a near-modern body plan to spread widely beyond Africa. From about 1.9 million years ago into the later Pleistocene, its regional fossils show both a coherent adaptive grade and enough variation to generate taxonomic debate.

Body

Distribution

- **Africa preserves early forms often called Homo ergaster:** KNM-ER 3733 and 3883 at Koobi Fora, Olduvai remains, and the approximately 1.5-1.6-million-year-old Nariokotome or Turkana Boy described by **Richard Leakey's** team. **Dmanisi** in Georgia, around 1.8 million years old, records an early small-brained dispersal.

In Asia, **Eugène Dubois's** Trinil **Java Man** established Pithecanthropus erectus; Sangiran and Ngandong extend the Indonesian record. Zhoukoudian "**Peking Man**", associated with **Davidson Black** and **Franz Weidenreich**, represents China, alongside Lantian and Hexian. European Middle Pleistocene fossils are usually classified as H. antecessor or H. heidelbergensis, not secure classic erectus.

- India's **Hathnora** calvarium from the Narmada valley is important but disputed: it has been assigned to *H. erectus*, archaic *H. sapiens* or *H. heidelbergensis*. It should not be presented as taxonomically settled.

Form and evolutionary place

The skull is long and low, with thick vault bones, a continuous supraorbital torus, receding forehead, occipital torus and often a sagittal keel. Cranial capacity commonly spans roughly 600-1,100 cc across time and regions. Teeth and prognathism are reduced from earlier *Homo*. *Nariokotome* shows long legs, modern-like terrestrial bipedal proportions and larger body size.

An Acheulean biface tradition appears early in Africa and western Eurasia, while eastern assemblages are more variable. Fire claims at Zhoukoudian are debated; stronger evidence comes from later sites such as Gesher Benot Ya'akov.

Phylogenetically, African early *erectus*/*ergaster* plausibly follows early *Homo* and contributes to later *H. heidelbergensis* and *H. sapiens*. Asian *erectus* populations are generally treated as long-lived side branches, although multiregionalists such as **Milford Wolpoff** emphasised regional continuity. Mosaic traits and **Dmanisi** variation reject a simple ladder.

Flow diagram

Early *Homo* in Africa -> Early *erectus* or *ergaster*
Early *erectus* or *ergaster* -> **Dmanisi** dispersal
Dmanisi dispersal -> Asian *erectus*: Java and China
Early *erectus* or *ergaster* -> Middle Pleistocene *Homo*
Middle Pleistocene *Homo* -> *Homo sapiens*
Asian *erectus*: Java and China -> Long-lived regional branches

Conclusion

H. erectus occupies a pivotal grade: efficient obligate biped, expanded brain, wider range and more planned technology. It is broadly ancestral near the African root of later *Homo*, but not every Asian *erectus* fossil can be placed on a direct line to living populations.

Facts & figures

Nariokotome Boy

A remarkably complete juvenile early *Homo* skeleton from Kenya, demonstrating modern-like long lower limbs and obligate terrestrial bipedalism.

Dmanisi

Georgian fossils around 1.8 million years old show early dispersal with small brains and substantial variation.

Java Man

Dubois's Trinil finds established the species name *erectus* and the importance of Southeast Asia in human-evolution research.

Hathnora

The Narmada calvarium is India's key Middle Pleistocene hominin fossil, but its species attribution and age remain debated.

WRAP Exams · Write. Read. Analyse. Practice. · <https://wrapexams.com/upsc/mains-answers/anthropology-gs-1/2024/discuss-the-geographical-distribution-of-homo-erectus-taking-into-account-its-physical-features-where-does-it-fit-in-human-evolutionary-line/> · ask@wrapexams.com · wrapexams.com

WRAP Exams