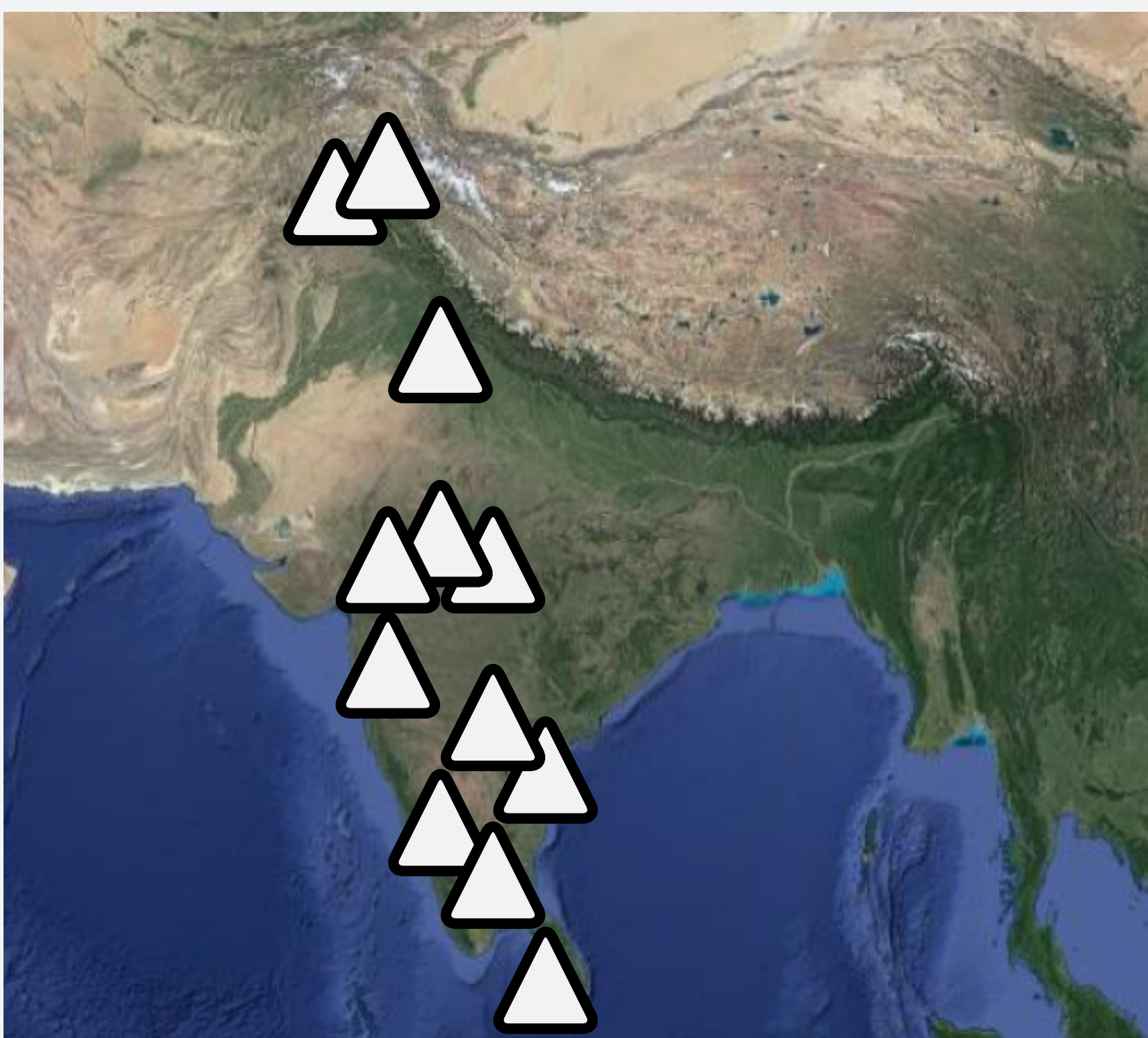


Deep History Sites of the Indian Subcontinent



SCHE

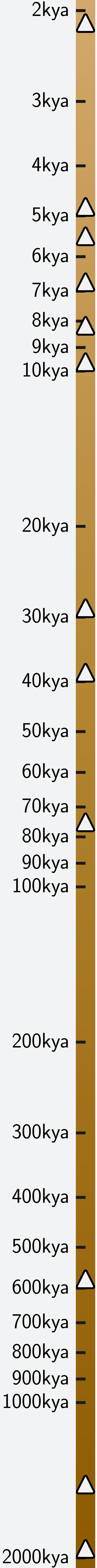
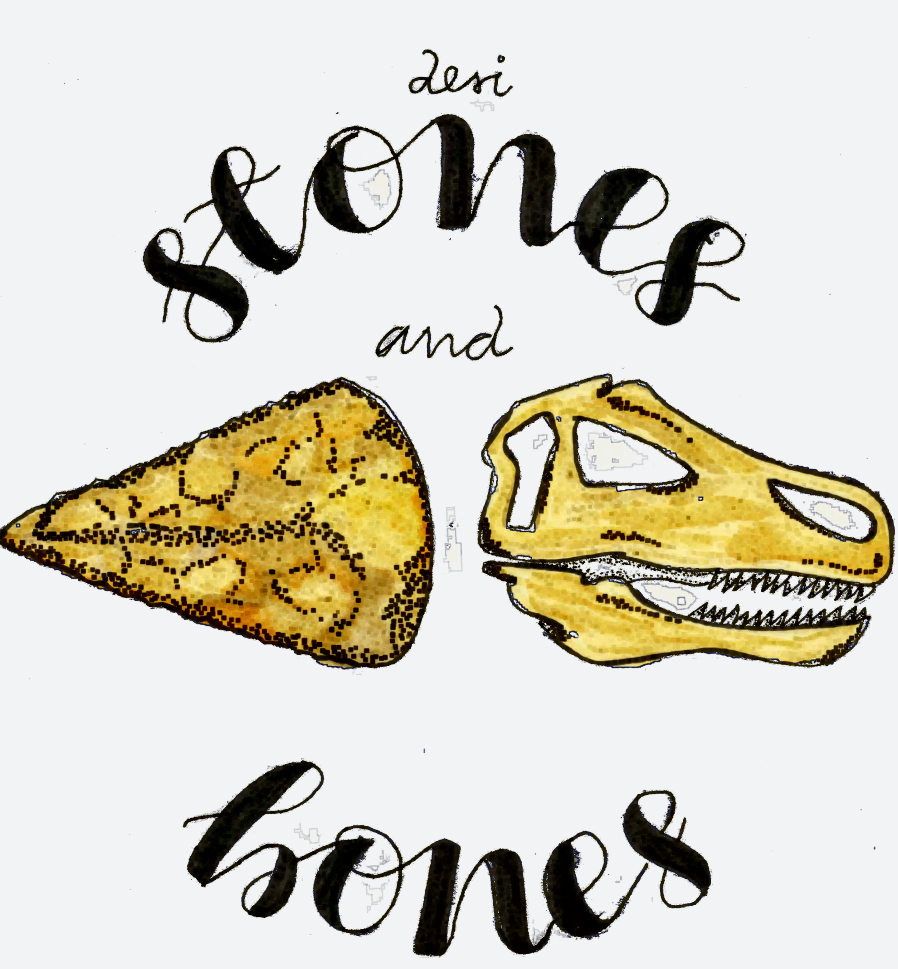
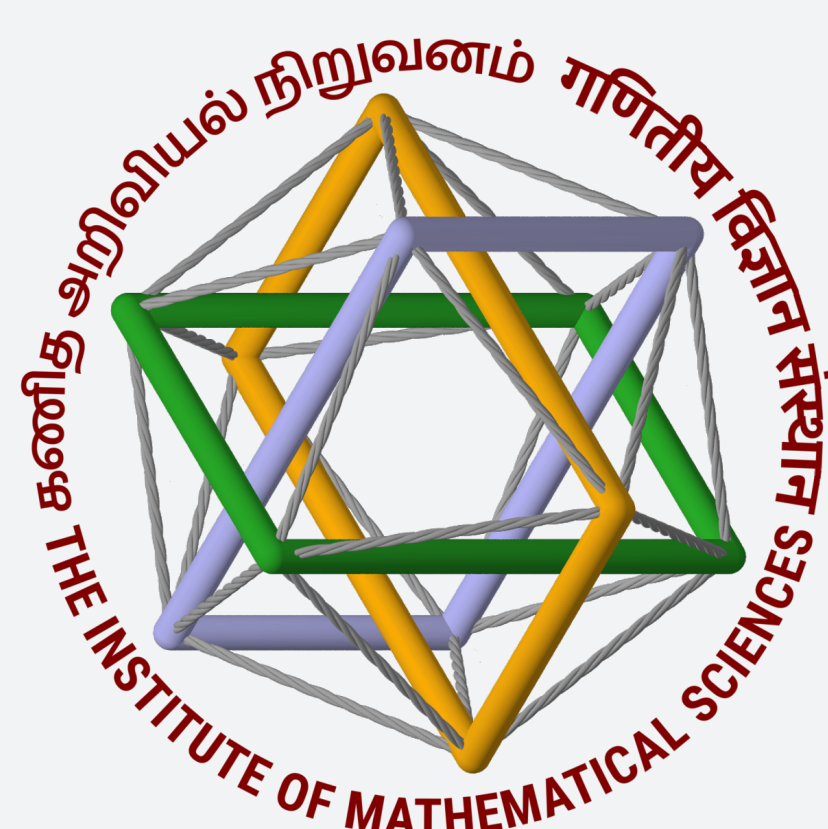
A truly **interdisciplinary approach**, at the conjunction of **anthropology, science, technology and mathematics**, is currently uncovering how **humans and their ancestors migrated** to inhabit the globe. In the Indian Subcontinent, this has come into particular focus with recent **archaeological** excavations at sites in India including **Attirambakkam (1,500,000 years ago)** in Tamil Nadu and **Rakhigarhi (4,500 years ago)** in Haryana. While there is evidence of two waves of migrations out of Africa: one of ***Homo erectus* about 2 million years ago** and another of a ***Homo sapiens* ancestor about 300,000 years ago**, the exact details of these are still being unearthed and analysed at various sites.

Data in this field comes from a range of sources from **chiselled simple rock tools** from Pabbi Hills (2,000,000 years ago) in Pakistan to **one of the oldest docks in the world** at Lothal (5,000 years ago) in India. In between, there is evidence of **livelihoods, engineering, art and culture**. **Fossils** from the Narmada valley (600,000 years ago) in India and **human burial sites** in the caves in Sri Lanka (30,000 years ago) have been a rich resource for anthropologists to understand how our early ancestors lived. Most recently, DNA recovered from a skeleton at Rakhigarhi (Haryana, India) led to **the first sequenced genome of early inhabitants of the subcontinent** and is helping researchers understand details of ancient human migrations.

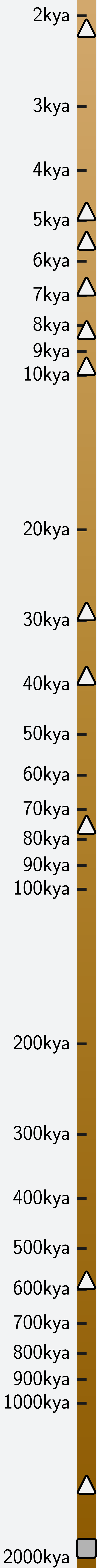
The research highlighted here is the result of the work of large teams: from the people who **physically excavate sites** to **geologists** who study how the earth is shaped; **chemists** and **physicists** who study how to date artefacts; **molecular biologists** who study evolution; **anthropologists** who study how our ancestors lived and **mathematicians** who model these phenomena; all of them contributing towards uncovering the mysteries and trying to provide answers about our human existence.

Legend

- kya = 1000 years ago
- △ artefact ages
- *this* artefact age
- ▮ times of activity of *this* site

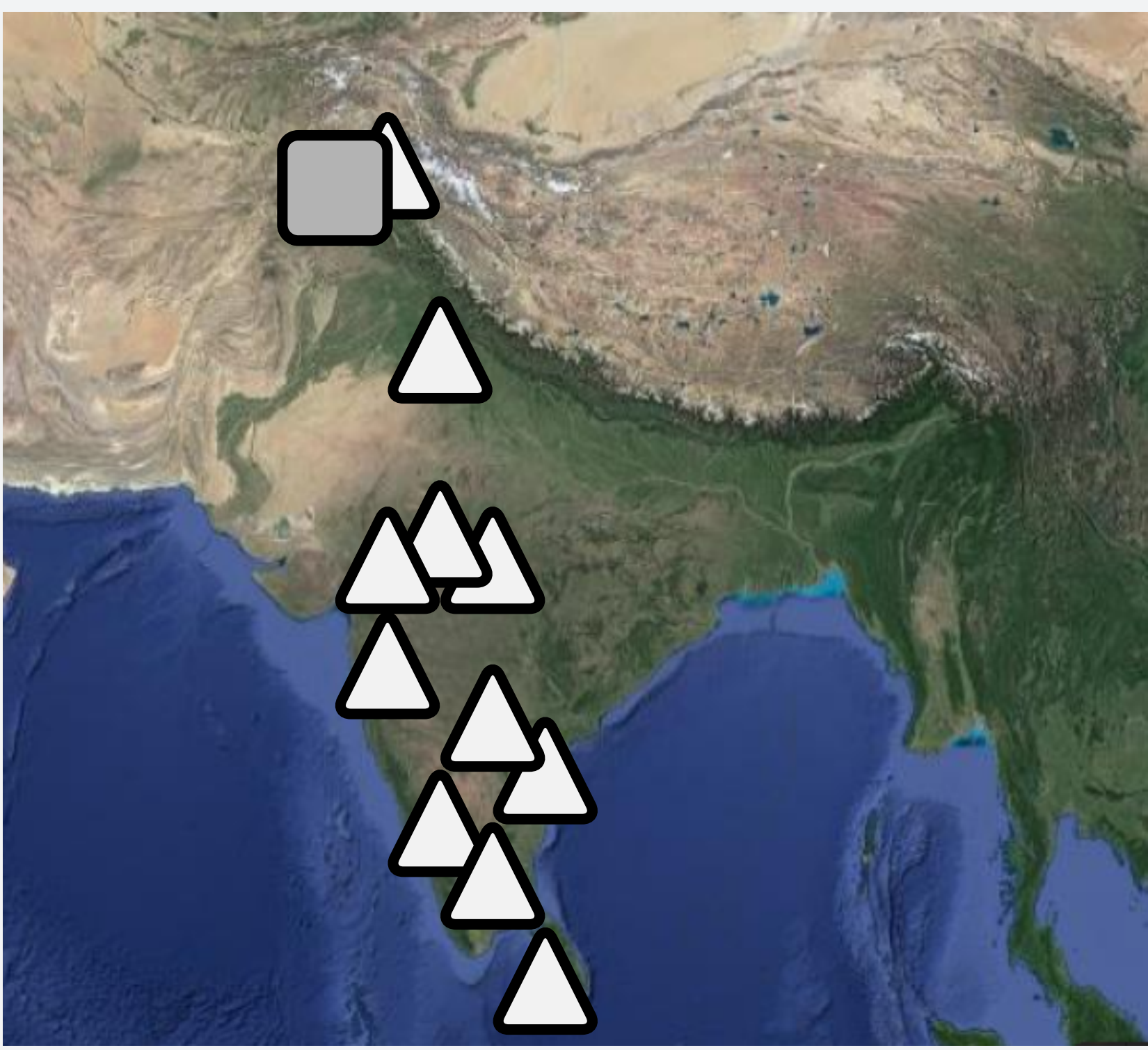


Deep History Sites of the Indian Subcontinent

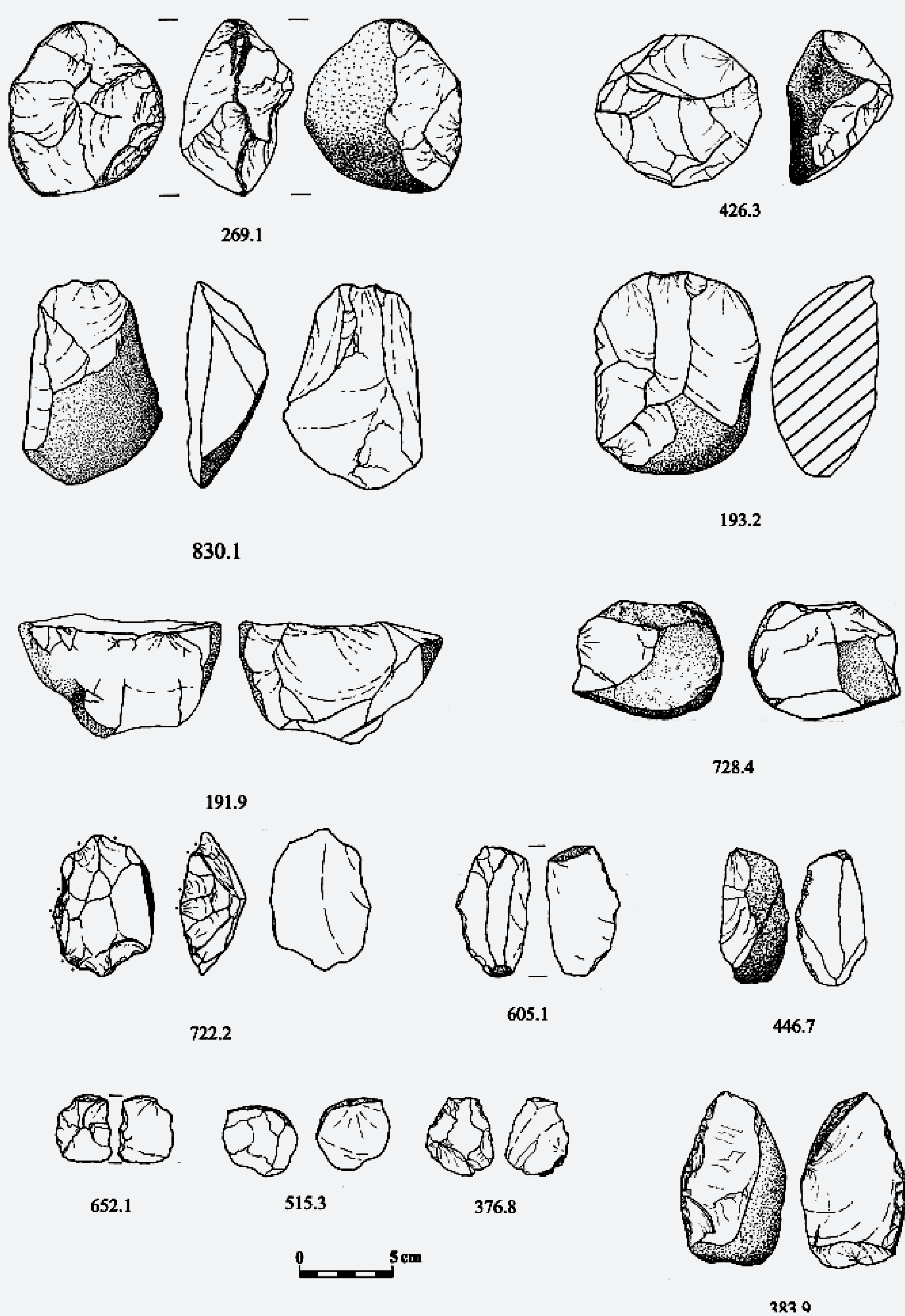


Chiselled Stone Flakes

Pabbi Hills, Pakistan
2, 000, 000 years ago



In the early 1980s, scientists were exploring the rocky loose soils in the **Pabbi hills** close to Islamabad for fossils and artefacts.



Hurcombe, L.M., 2004.

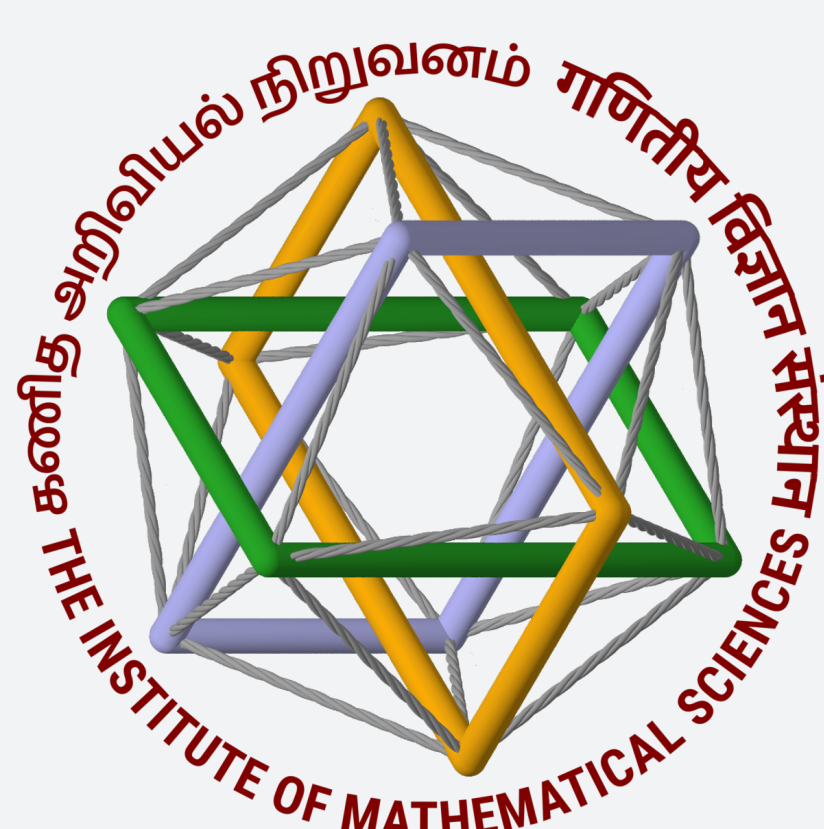
During one such exploration, the researchers found some **chiselled pieces of stone** stuck in a layer of soil they were raking. In total, they found 607 pieces of flaked stone that were simple, rudimentary artefacts. The shape and cuts of the stone suggest that they had been deliberately knocked for a certain contour.

The age of an artefact is often estimated by the depth at which it is found. However, the loose rocks and soil of the Pabbi Hills landscape do not lend themselves easily to this type of dating. But the stony layer in which these tools were found was about **2 million years old**, suggesting that this was also the age of the stone tools.

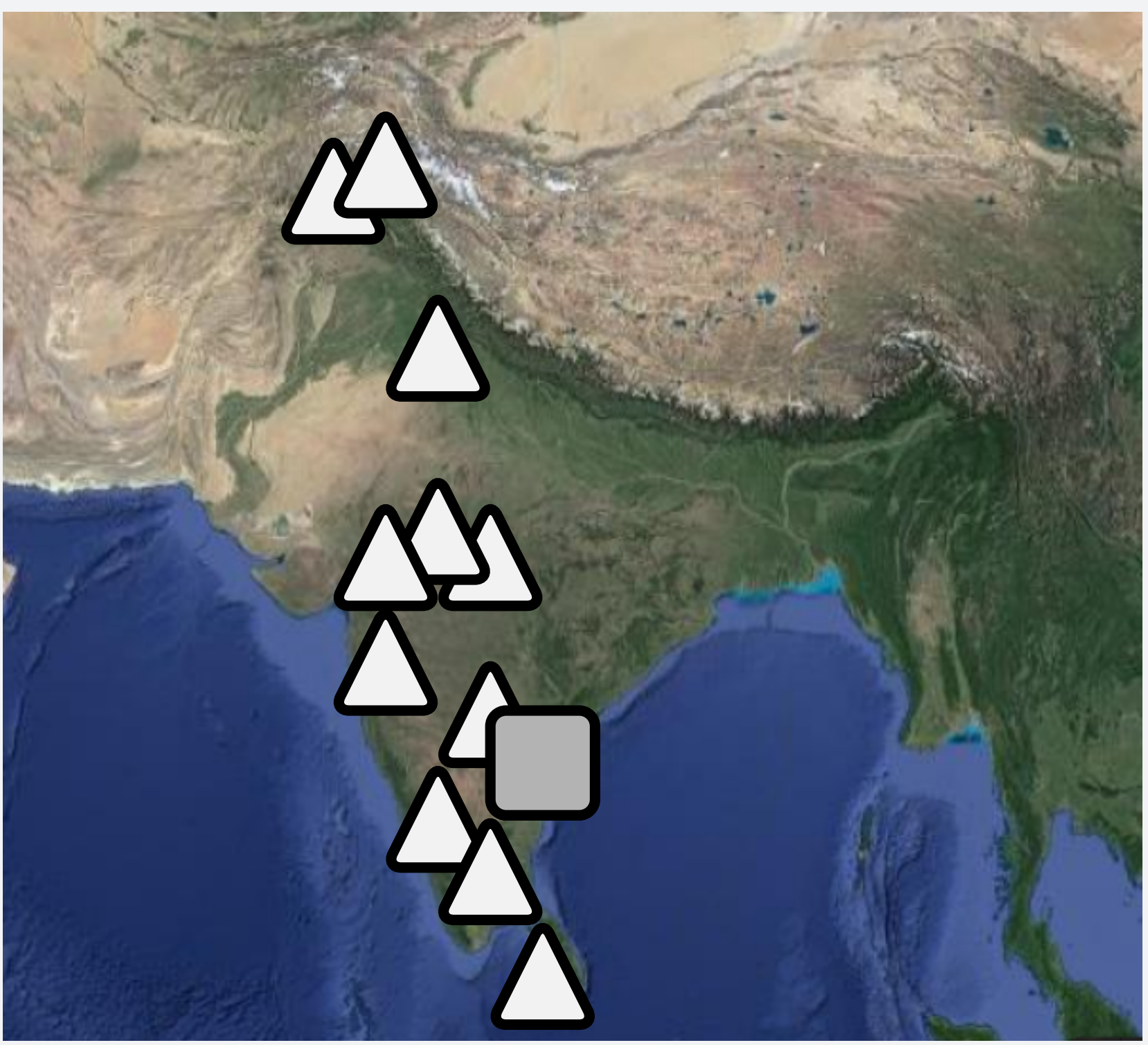
These finds shed light on the vast expanse that our **early hominid ancestors** occupied. Their geographical cover probably extended **from the grasslands of east Africa to similar landscapes across the subcontinent**.

Legend

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Deep History Sites of the Indian Subcontinent



Hominid Stone Tools

Attirampakkam, Tamil Nadu, India
1,500,000 – 100,000 years ago

Some of **India's first prehistoric stone tools** were discovered in Attirampakkam over 150 years ago.



SCHE

About two decades ago, a team of archaeologists started exploring Attirampakkam, a site located along a river near Chennai.

As sand and gravel were scooped out, they discovered a layer containing **old stone age tools** from the lower palaeolithic period.



Anupama Chandrasekaran

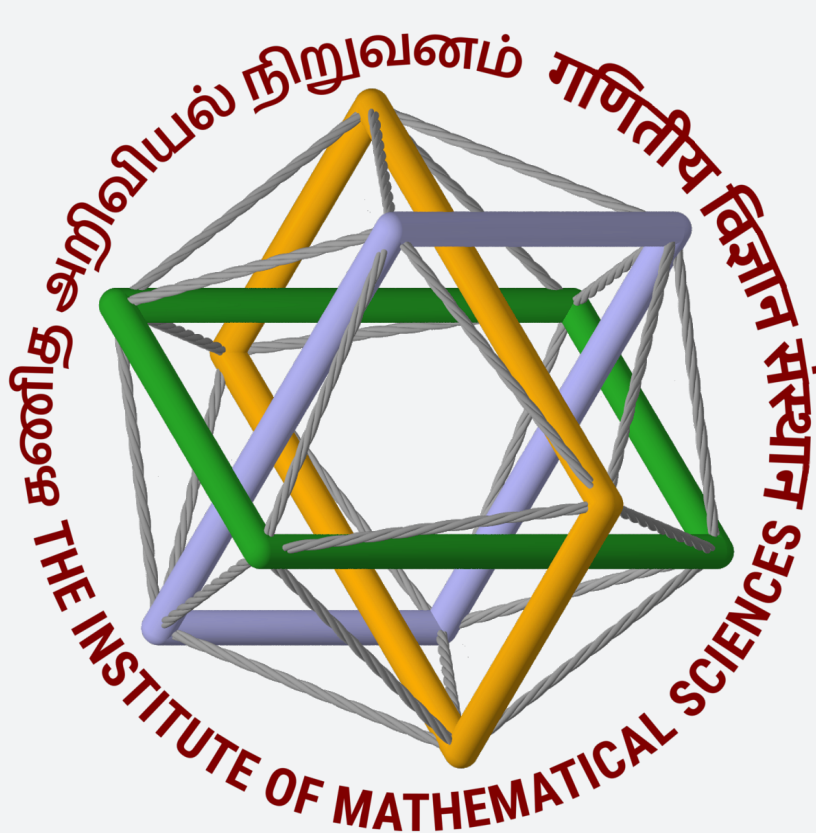
Based on a method called luminescence dating, involving a measure of how long artefacts have not been exposed to light, they estimated that the tools were **1.5 million years old**.

Until these studies, archaeologists had assumed that early humans existed in India 600,000 years ago. This new evidence suggests that *Homo erectus* – our tool-making ancestors, with bodies similar to modern humans – migrated to India from east Africa **more than a million years ago**.

The Attirampakkam site is on the Kosasthalaiyar river, north-west of Chennai. Archaeological teams are still working on finding and dating more artefacts. Being the site of sensitive active scientific research, it is not open to the public at this time.

Legend

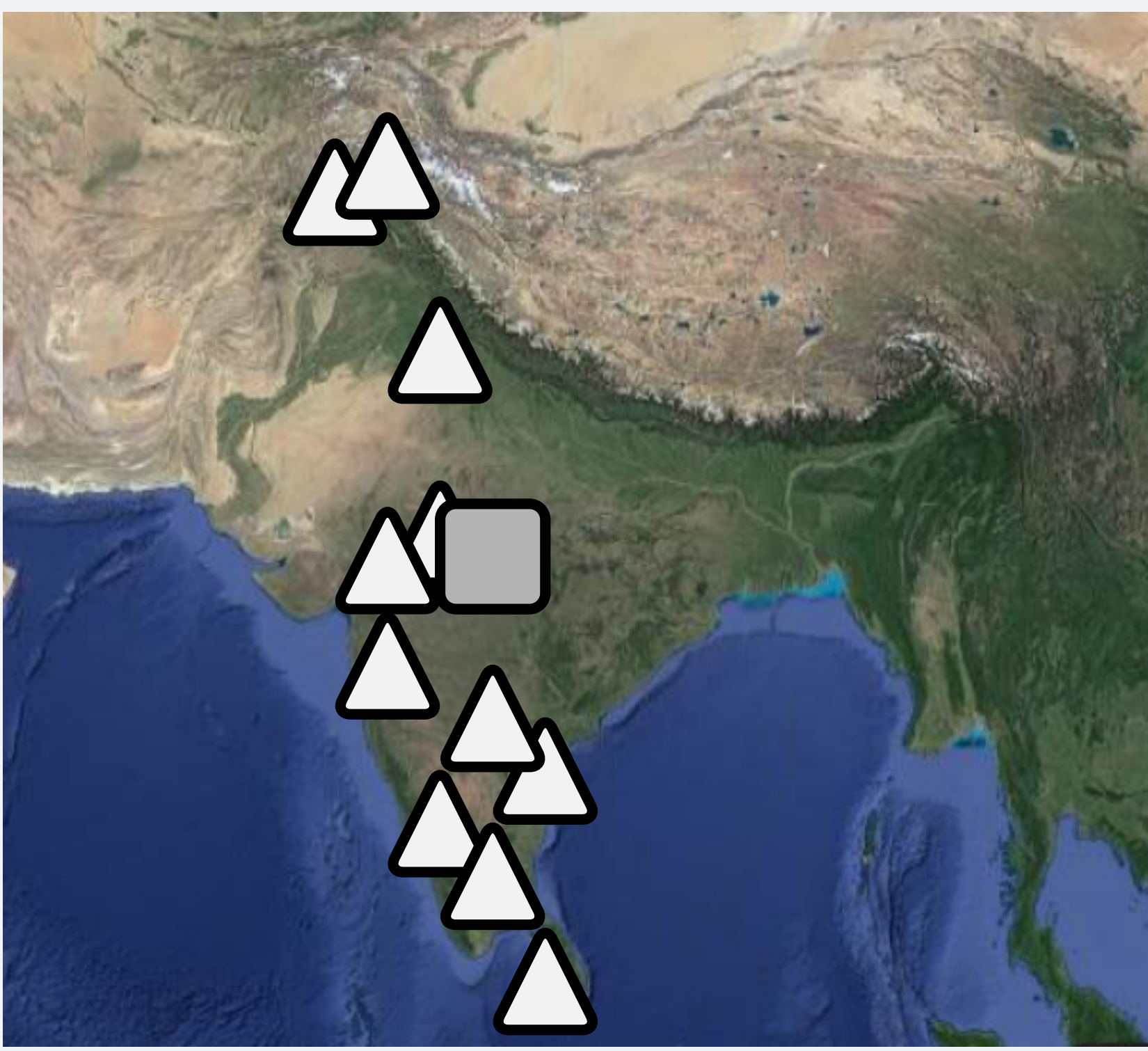
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Deep History Sites of the Indian Subcontinent

Narmada Human

Hathnora, Madhya Pradesh, India
1, 800, 000 — 200, 000 years ago

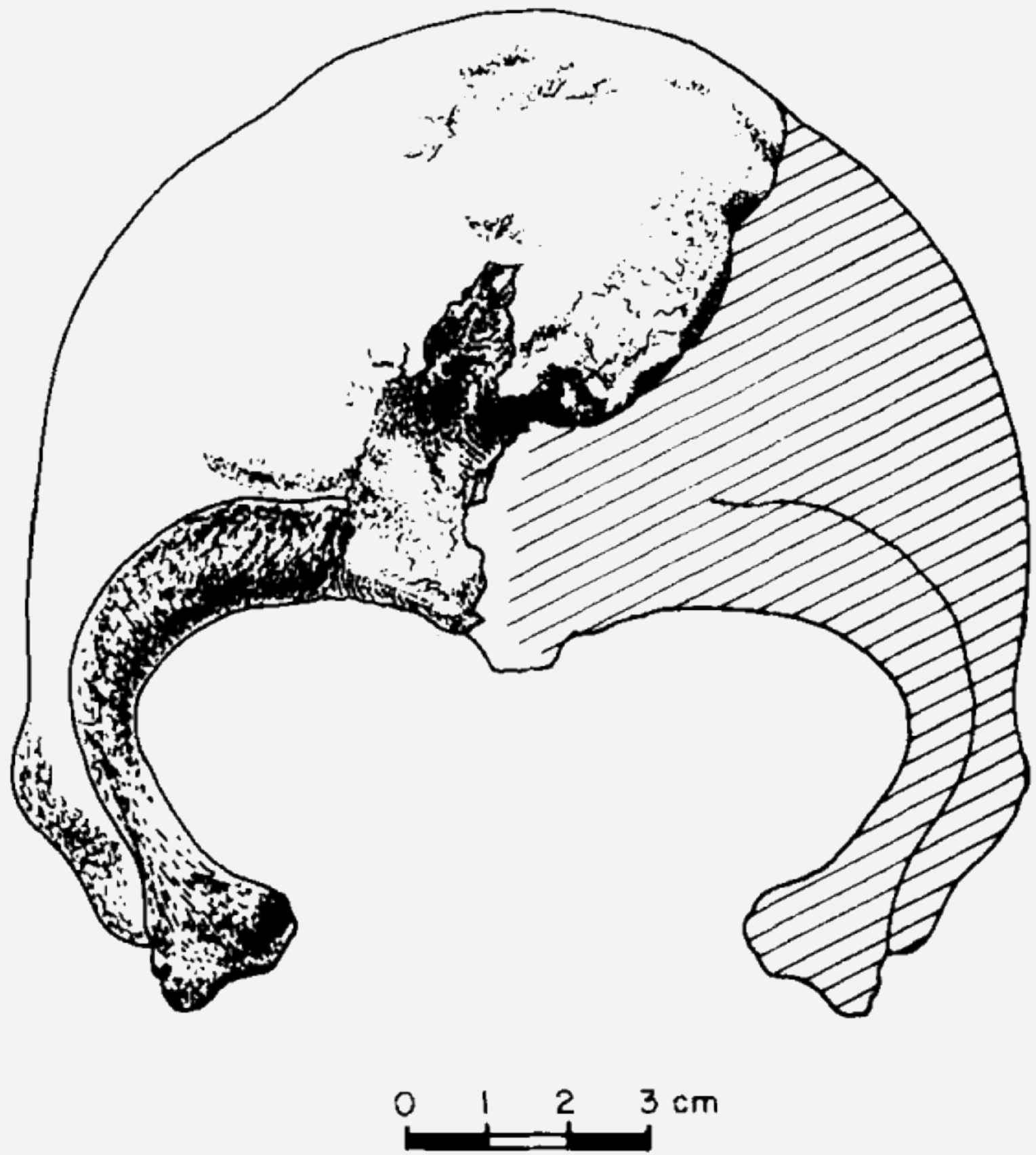


In 1982 in Madhya Pradesh, a geologist found a curved piece of bone stuck in a rock. After hours of careful chiselling, a kidney-shaped portion of a skull emerged. It belonged to an **ancient human**, the first significant hominid fossil to be found in India. Based on animal skeletons found in its geological proximity it was dated to **600 – 700 thousand years ago**.

Scientists found the skull likely to have been a young woman's. These remains of a **female archaic human** perhaps belong to a descendant of *Homo erectus* that lived in the subcontinent from 2 million to 200,000 years ago.



GSI



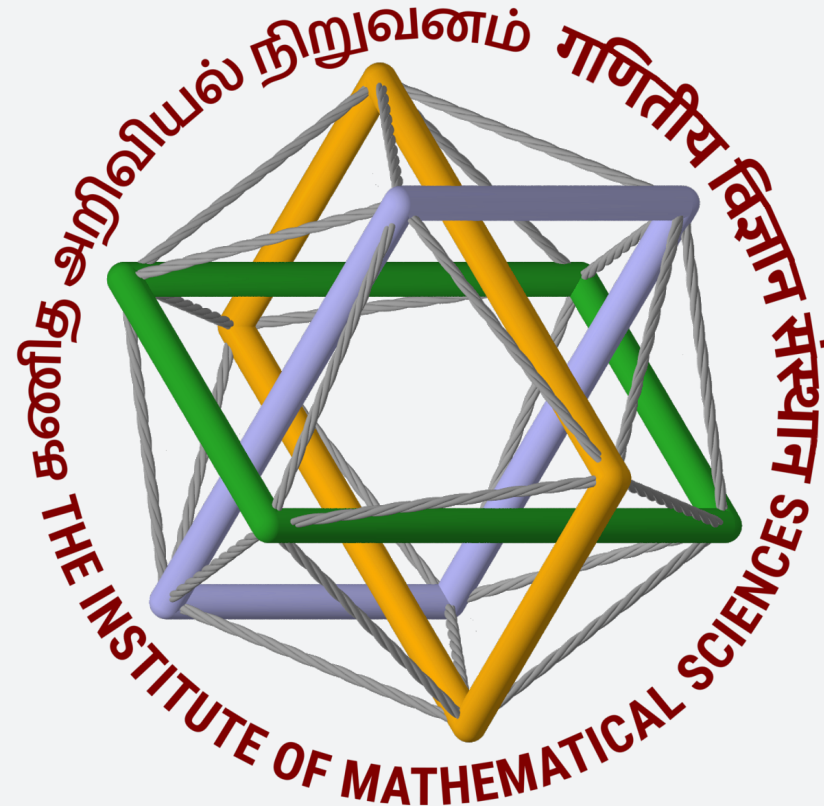
Kennedy, K.A.R., et. al., 1991

By comparing morphological features of the skull to other Asian skulls from the same period, some scientists have suggested that the Narmada Human may have been an intermediate between Asian *Homo erectus* and early *Homo sapiens*.

*The Narmada Human is the **most ancient hominid fossil found in India** to date and is housed at the Geological Survey of India Regional Museum, Nagpur, Maharashtra, India.*

Legend

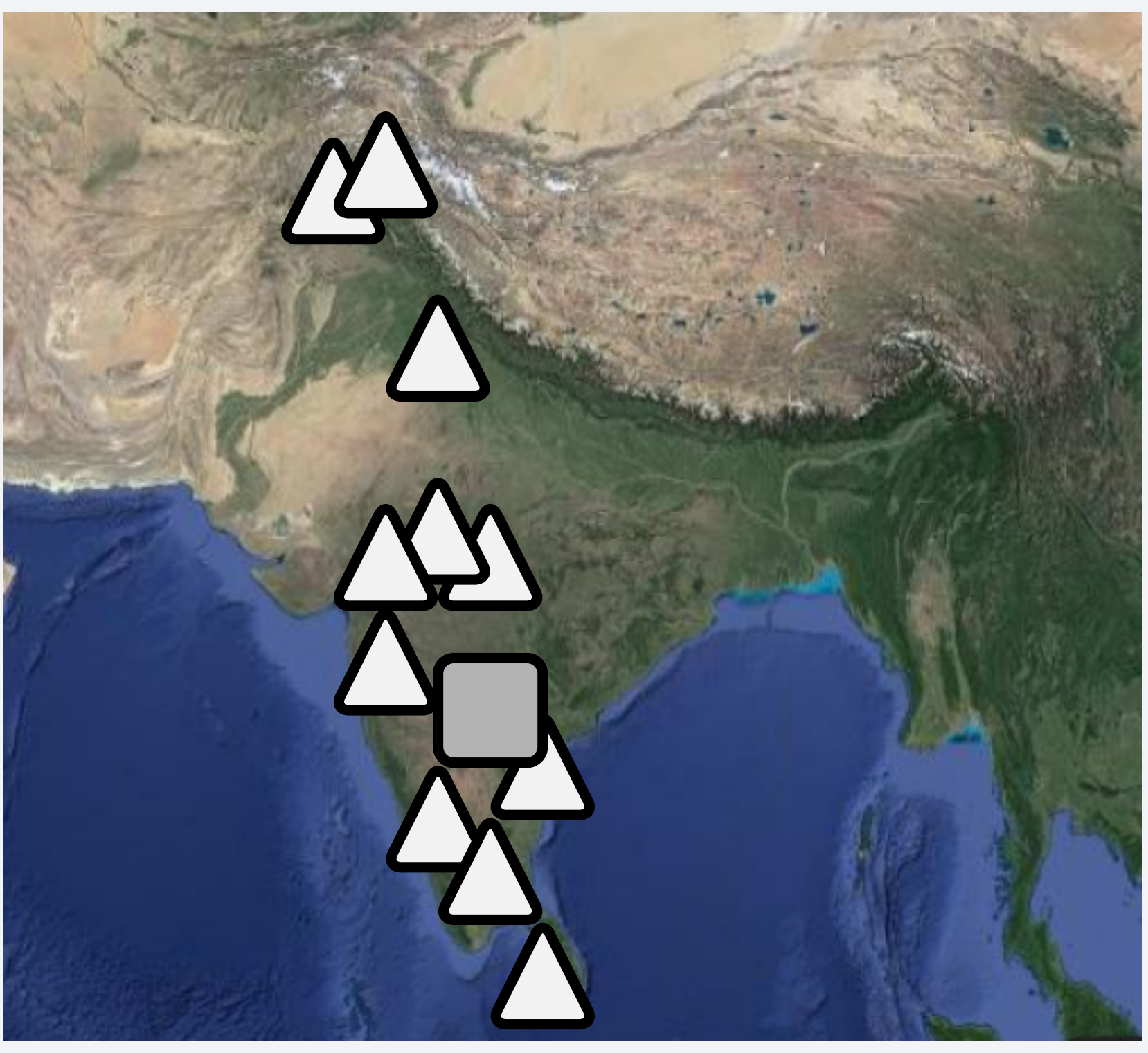
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Deep History Sites of the Indian Subcontinent

Homo sapiens survive the Toba volcano

Jwalapuram, Andhra Pradesh, India
75,000 years ago



Jwalapuram gets its name from ash deposits found here from a **75,000-year-old Toba volcanic eruption in Indonesia** that spewed ash for over a decade stoking a volcanic winter on earth. The volcano took 10,000 years to cool down.



Ravi Korisettar

In 2007, archaeologists started an excavation in Jwalapuram. As the team dug deeper, they found tools even below the ash deposits.

The stone artefacts found here are similar to **tools made by modern humans** or *Homo sapiens* in Africa around the same period.



Ravi Korisettar

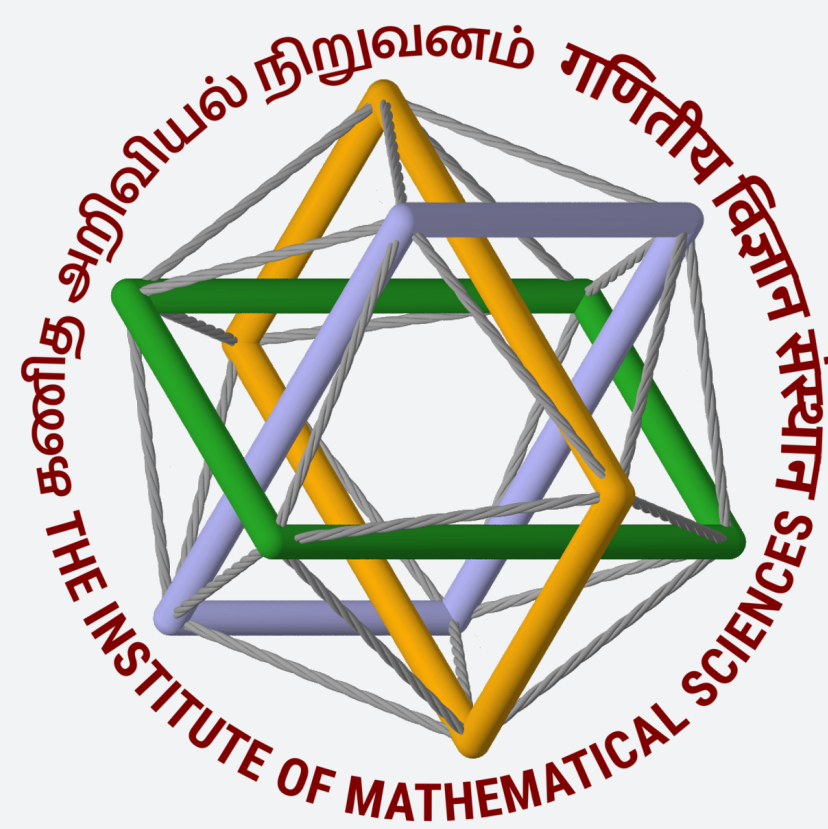
It suggested that Jwalapuram may be one of the **earliest known settlements of *Homo sapiens* outside of Africa**.

Interestingly, stone tools were found in layers **both below and above the ash**, indicating that the valley's inhabitants managed to survive through the devastation caused by the volcano.

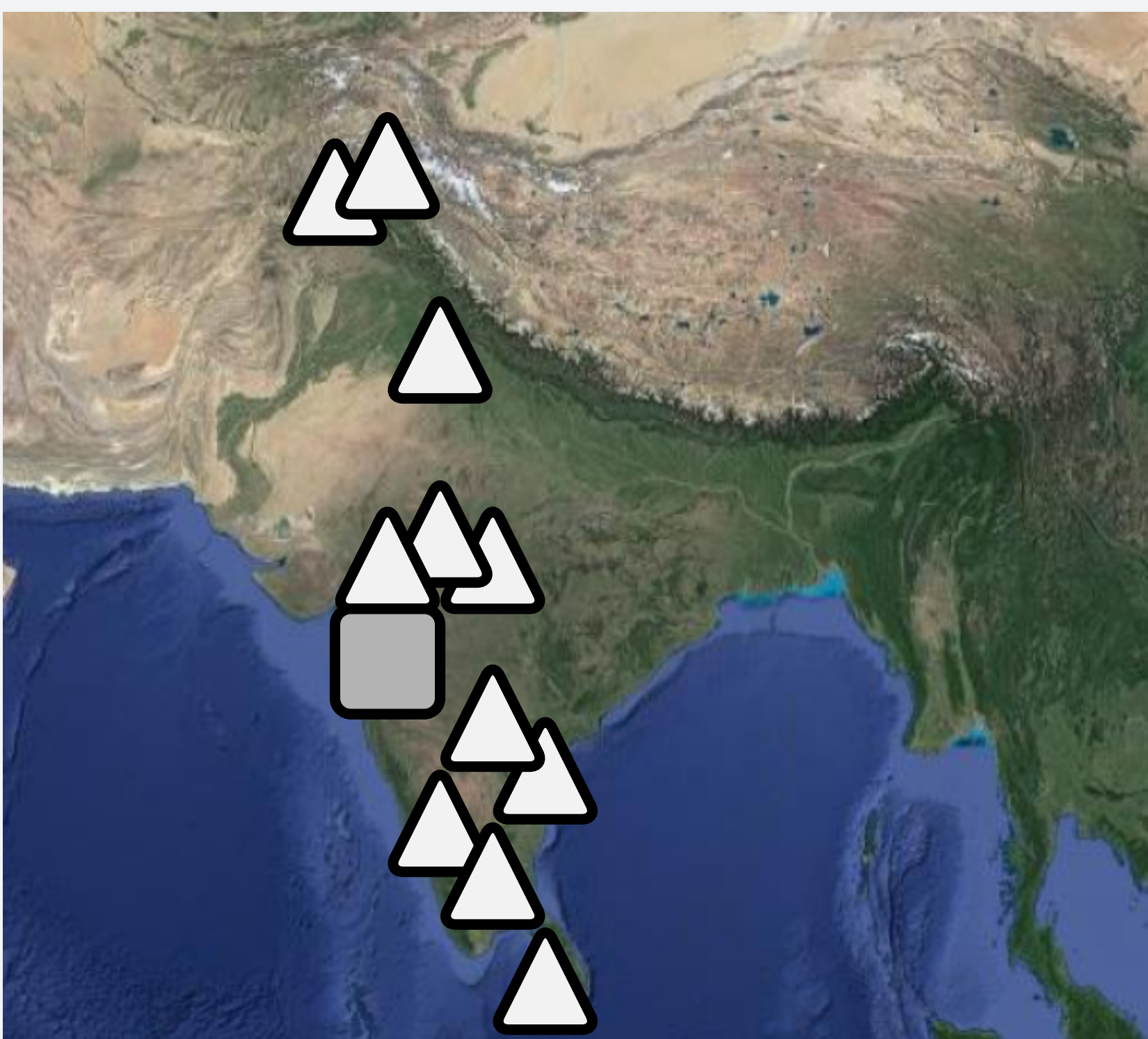
Many of the artefacts from Jwalapuram are part of a developing resource center of Archeological Pre-History in Ballari, Karnataka, India.

Legend

- kya = 1000 years ago
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- ▮ times of activity of *this* site



Deep History Sites of the Indian Subcontinent



Petroglyphs

Ratnagiri, Maharashtra, India
40,000 – 10,000 years ago

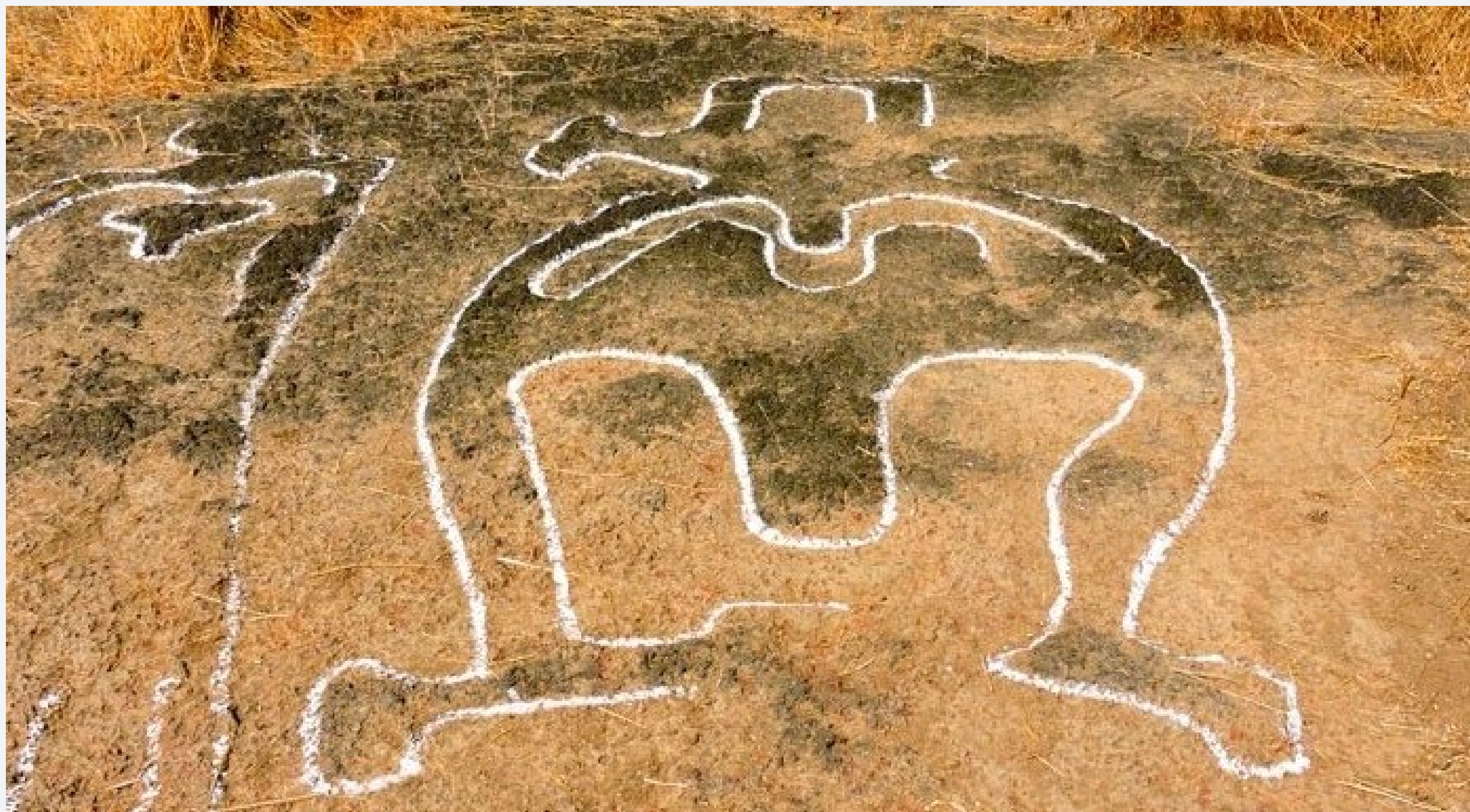
In the past 8 years, Mumbai-based amateur archaeologists on their weekend trips have been unearthing something extraordinary: **stone carvings or petroglyphs**.



Anupama Chandrasekaran

This prehistoric art etched on horizontal stones in hills around Ratnagiri is probably **10,000 - 40,000 years old**.

Nearly 1,200 ancient etchings of **animal and human forms with abstract patterns** have been discovered in a range of sizes.



Ratnagiri Tourism

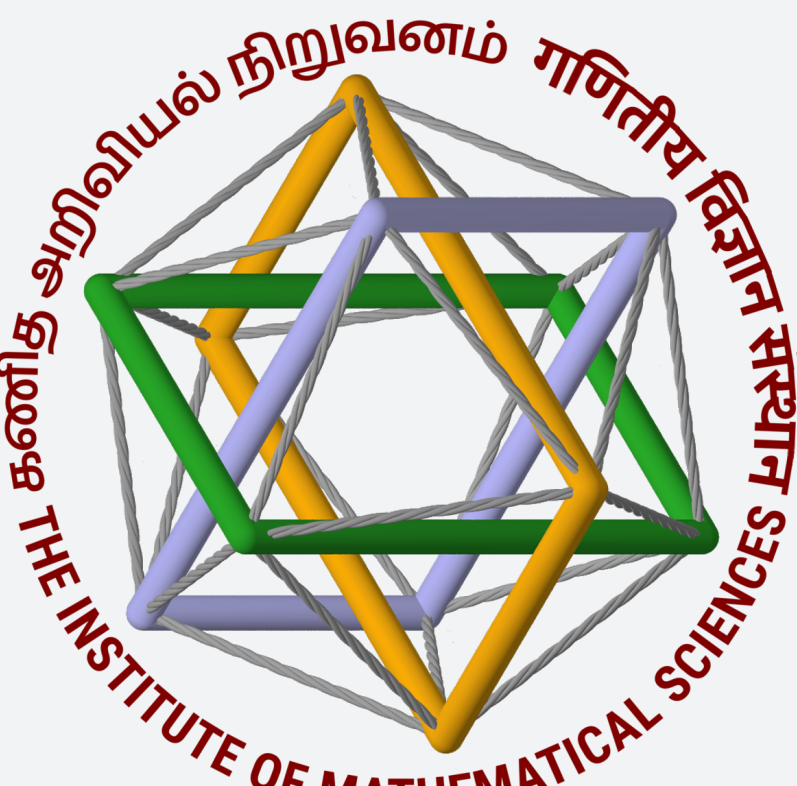


Anupama Chandrasekaran

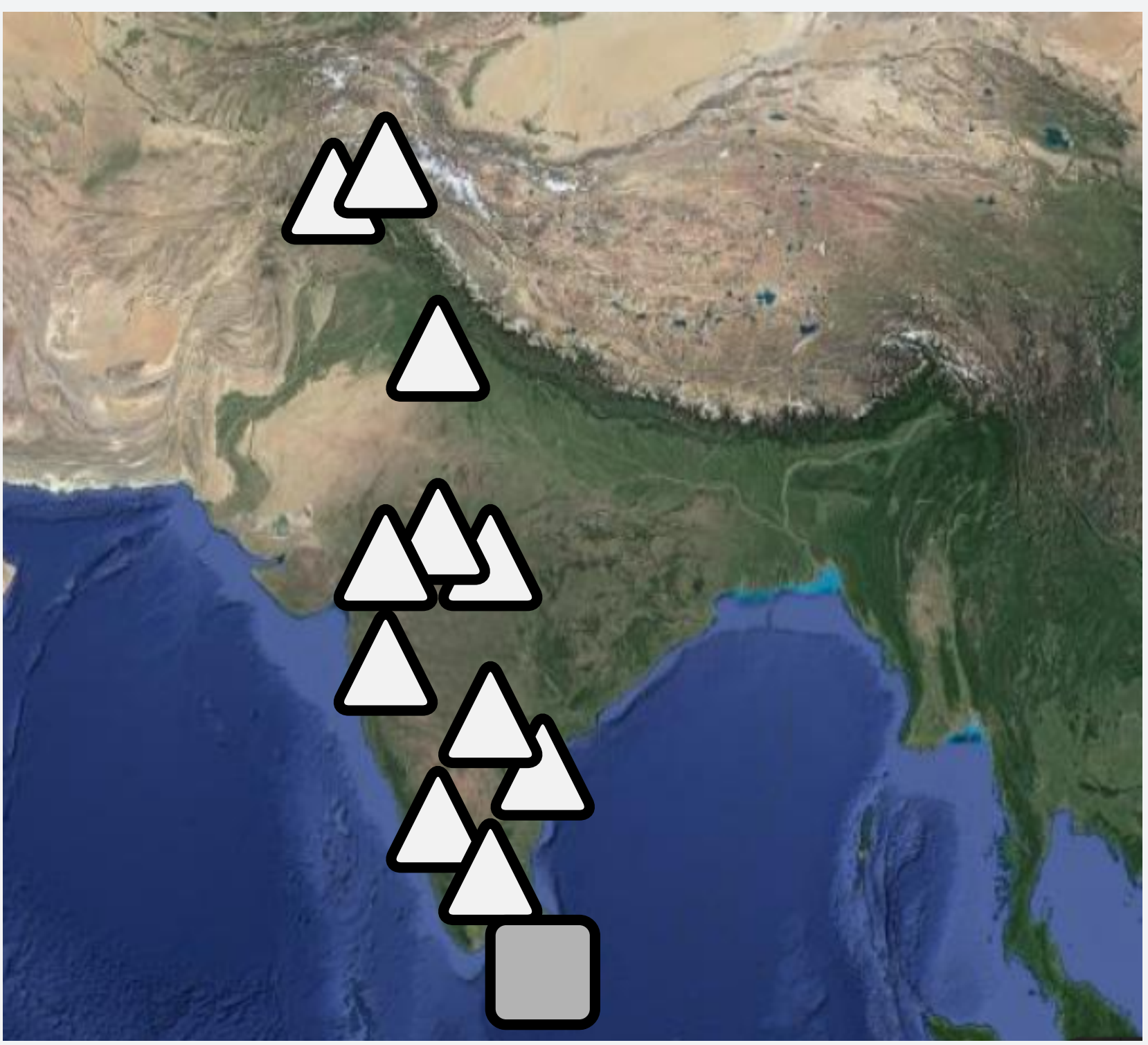
The engravings that have been identified around the town of Ratnagiri are in the process of being marked and preserved.

Legend

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Deep History Sites of the Indian Subcontinent



Balangoda Human

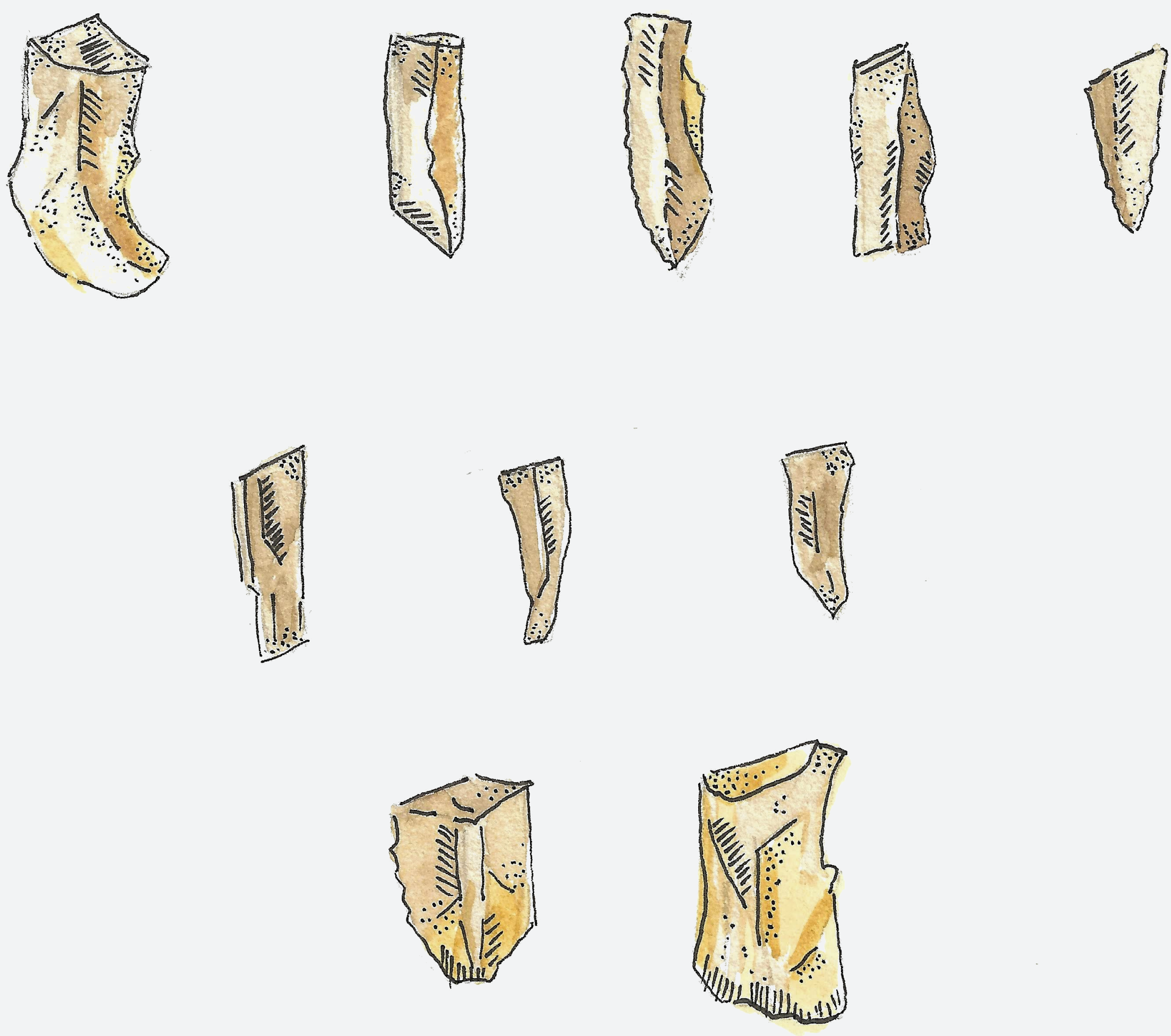
Fa Hien Cave, Sri Lanka
30,000 – 16,000 years ago

There are clusters of caves around Sri Lanka that provide proof of **30,000 year old prehistoric settlements** on the island.

Archaeological digs in the 1980s at the Fa Hien Cave found a **complete skeleton** of a strong-boned, flat-nosed modern human with heavy jaws and big teeth. This was the **‘Balangoda man’** who stood 5 ft 7 tall.



archeology.lk



Anupama Chandrasekaran

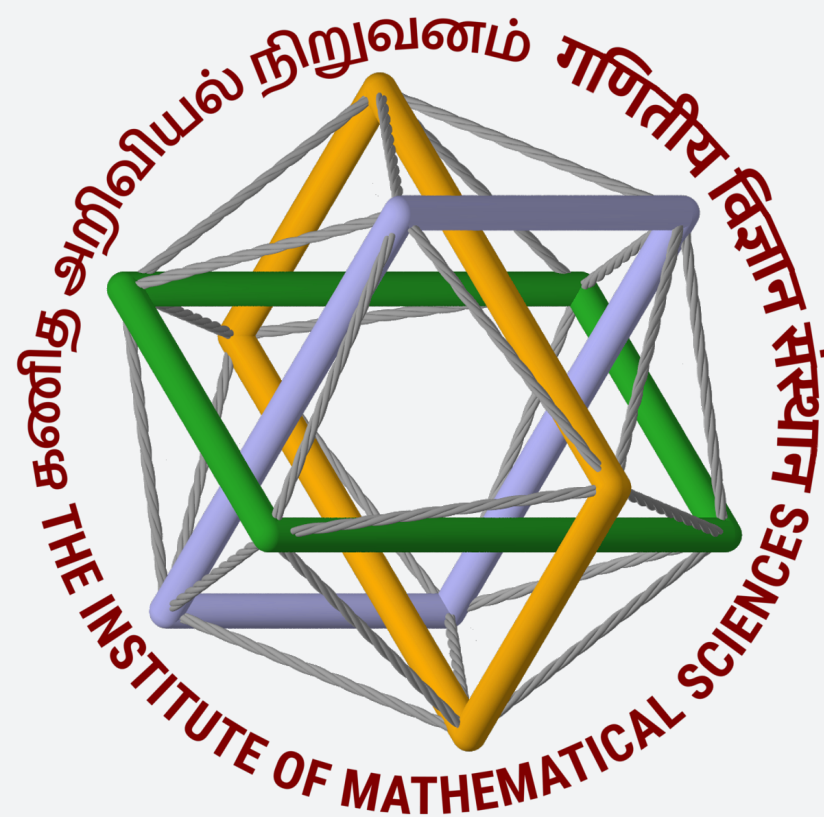
Along with the skeletal remains, scientists also discovered **tiny stone tools** or microliths, larger artefacts made of elephant bone and daggers chiselled from *Sambar Deer* antlers.

There is evidence to suggest that these **early *Homo sapiens* knew how to make fire** and probably used these tools to **hunt small animals**.

Important human remains from this period were also discovered in Batadombalena and Belilena Caves which are open to the public.

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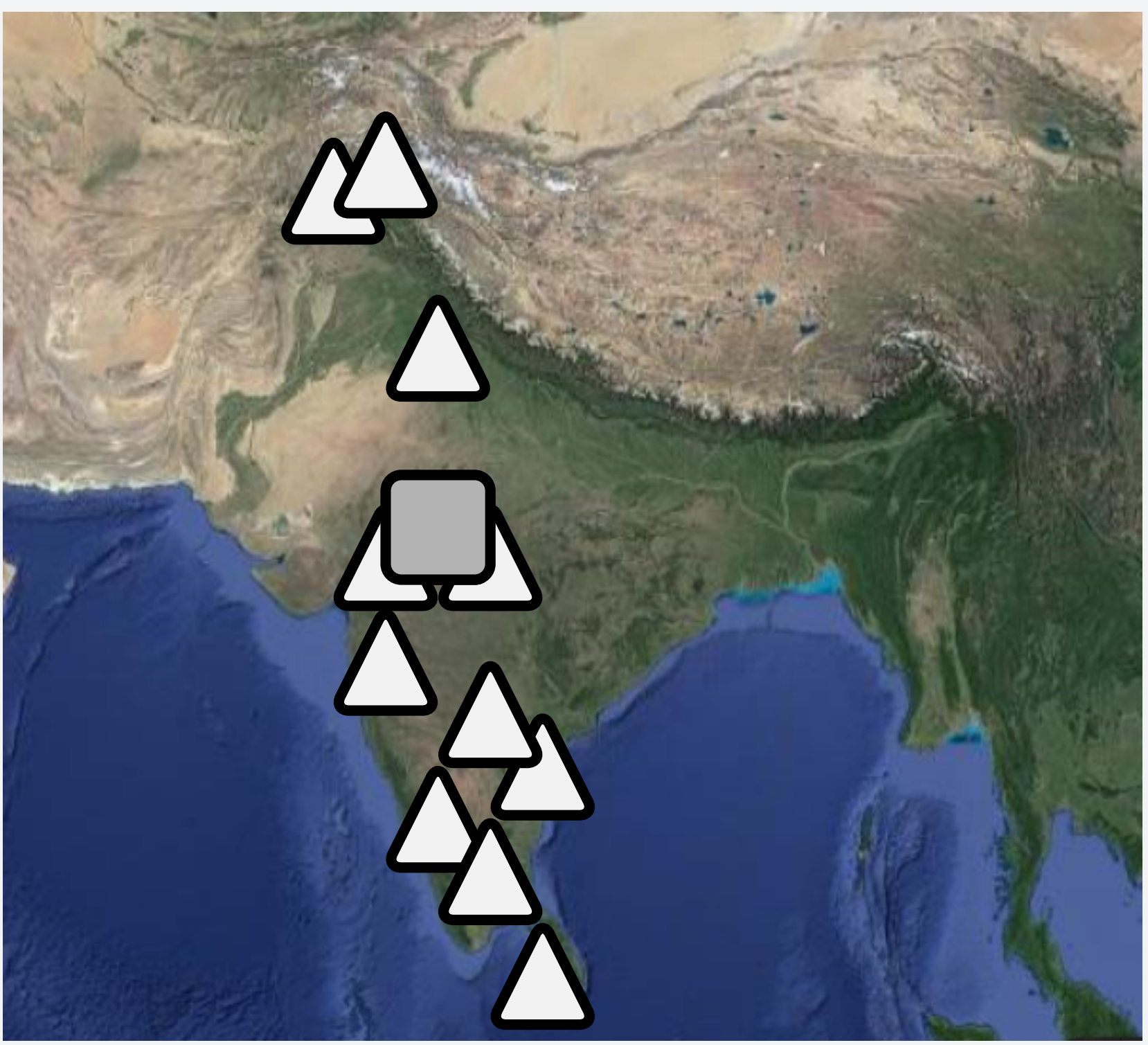
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Deep History Sites of the Indian Subcontinent

Ancient rock art

Bhojpur, Madhya Pradesh, India
10, 000 – 2, 000 years ago



Ravi Korisettar

An ancient residential complex of **700 rock shelters** was discovered more than half a century ago in the foothills of the Vindhyas.

The **Bhimbetka rock shelters** probably have the largest collection of **prehistoric drawings** in India. Besides rock paintings found in 133 shelters, **stone tools** from the palaeolithic age have also been unearthed.

The rock walls bear small **paintings of animals and humans** from **10,000 years ago**.



Ravi Korisettar

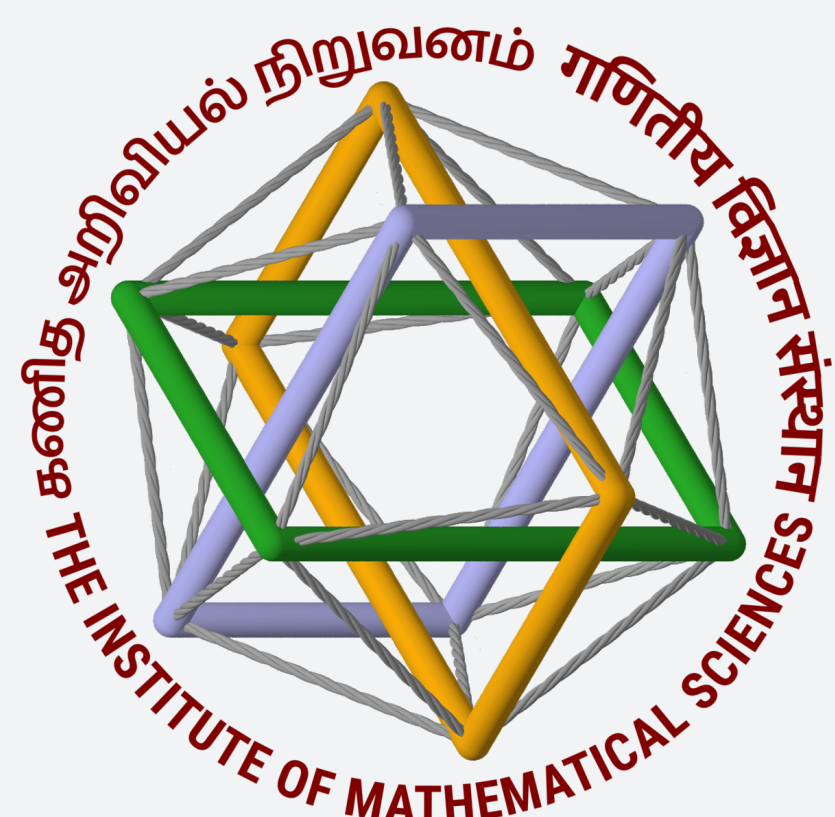


The site saw waves of settlements: **relatively recent depictions of agriculture from the Bronze age** as well as even more recent medieval era depictions of myths and stories also feature on the cave walls.

Bhimbetka rock shelters is a UNESCO World Heritage site near Bhopal, Madhya Pradesh, India and open to the public.

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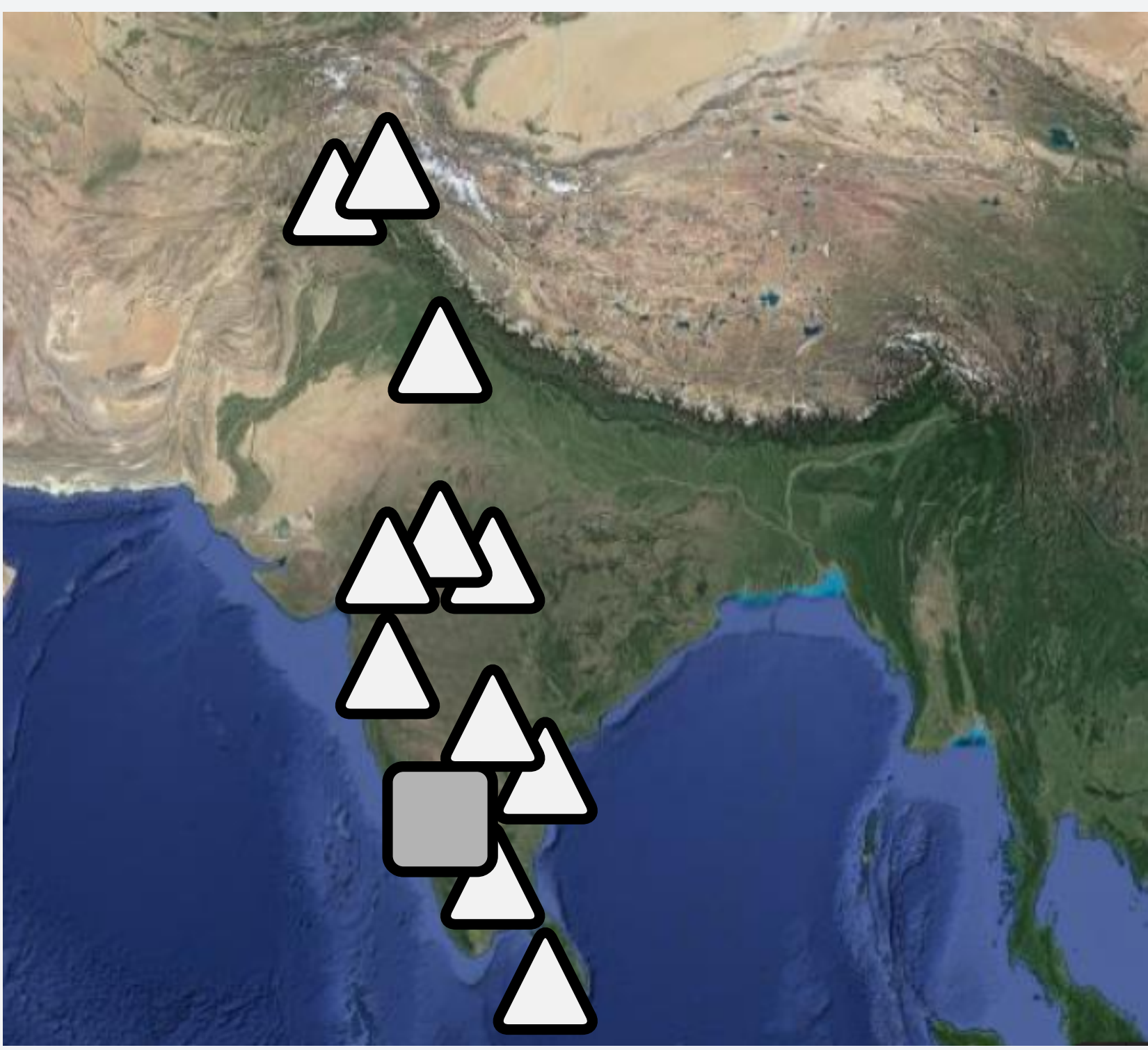
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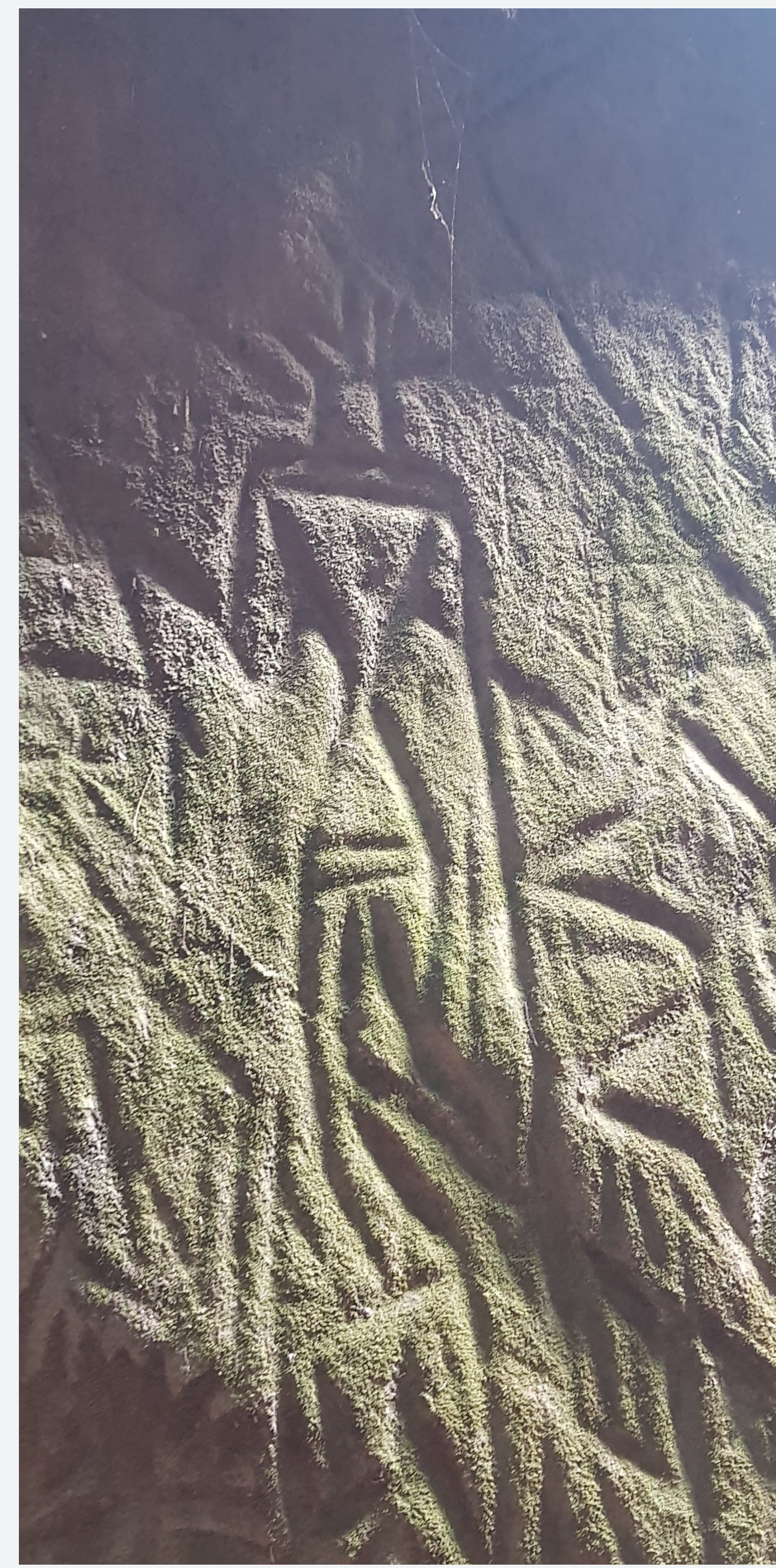
Deep History Sites of the Indian Subcontinent

Cave Engravings

Nenmeni, Kerala, India
7,000 – 2,000 years ago



Edakkal Caves, at 1,200m in the Western Ghats, seems to have been a **campsite and lookout** for ancient humans. These caverns were recognized for their anthropological importance in the late 1800s.



The oldest engravings are about 7,000 years old and include **human figures, animals and other symbols.**

Varuni P.

High rock shelters like these were probably convenient vantage points for **ancient hunter-gatherers.**

These clefts housed many neolithic artists who **engraved** these images into the rock faces that surround this shelter. A few engravings appear to date from later times.

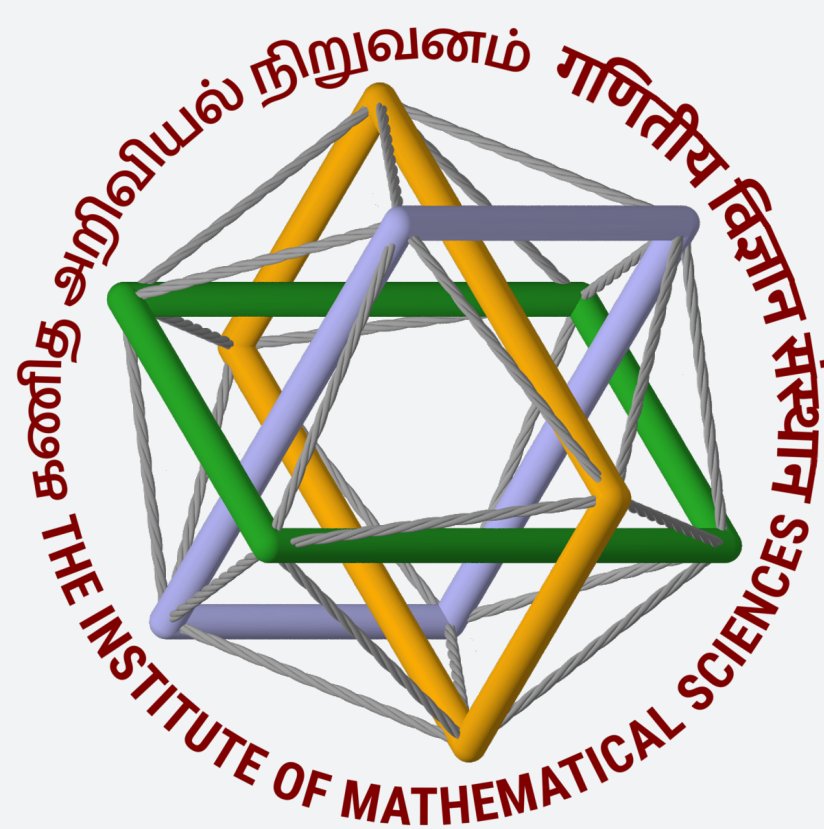


Ariel Huber

Edakkal Caves is open to the public and is a popular tourist destination in Wayanad district, Kerala, India.

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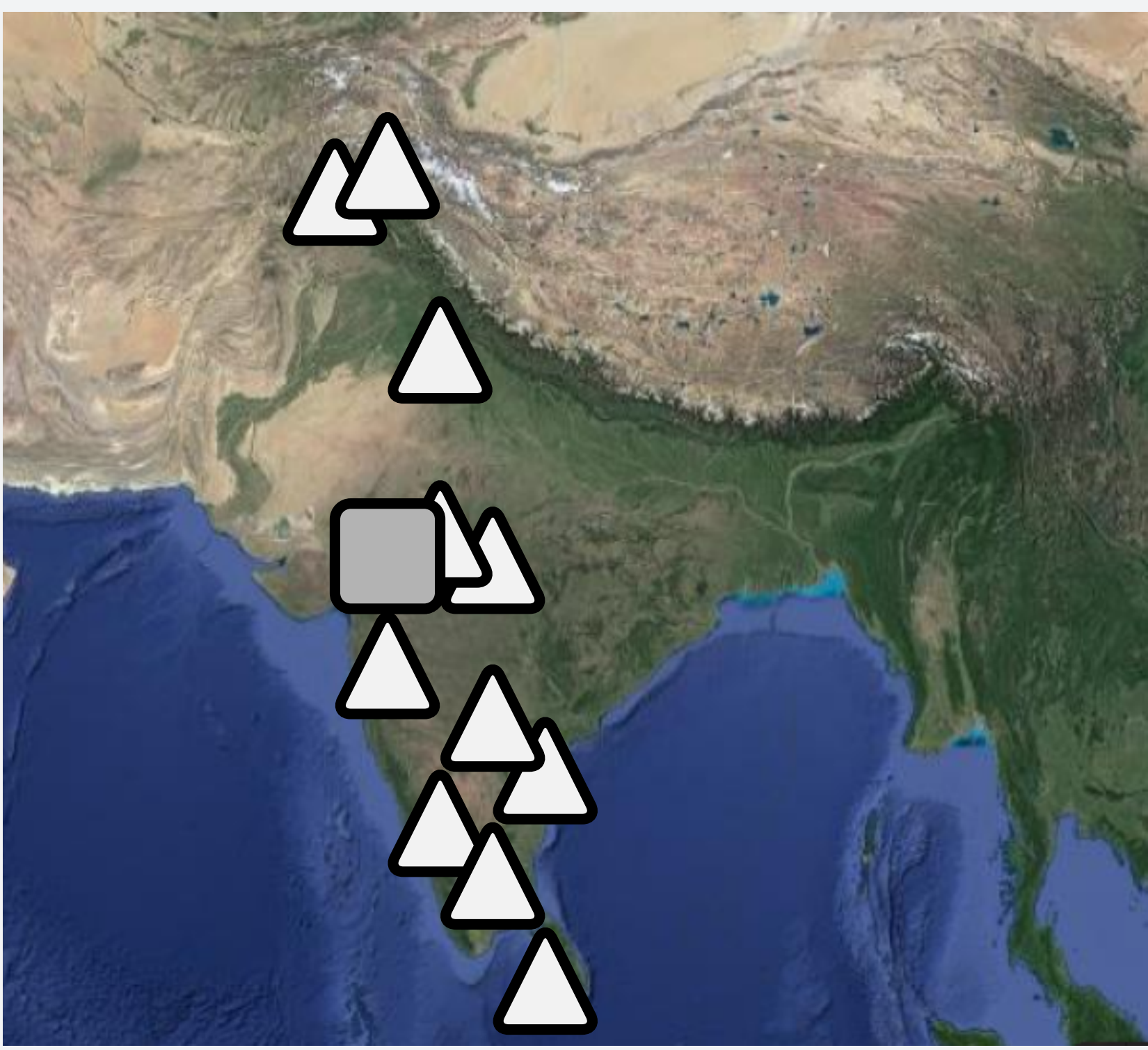
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Deep History Sites of the Indian Subcontinent

Ancient Dock

Lothal, Gujarat, India
5,700 – 4,000 years ago



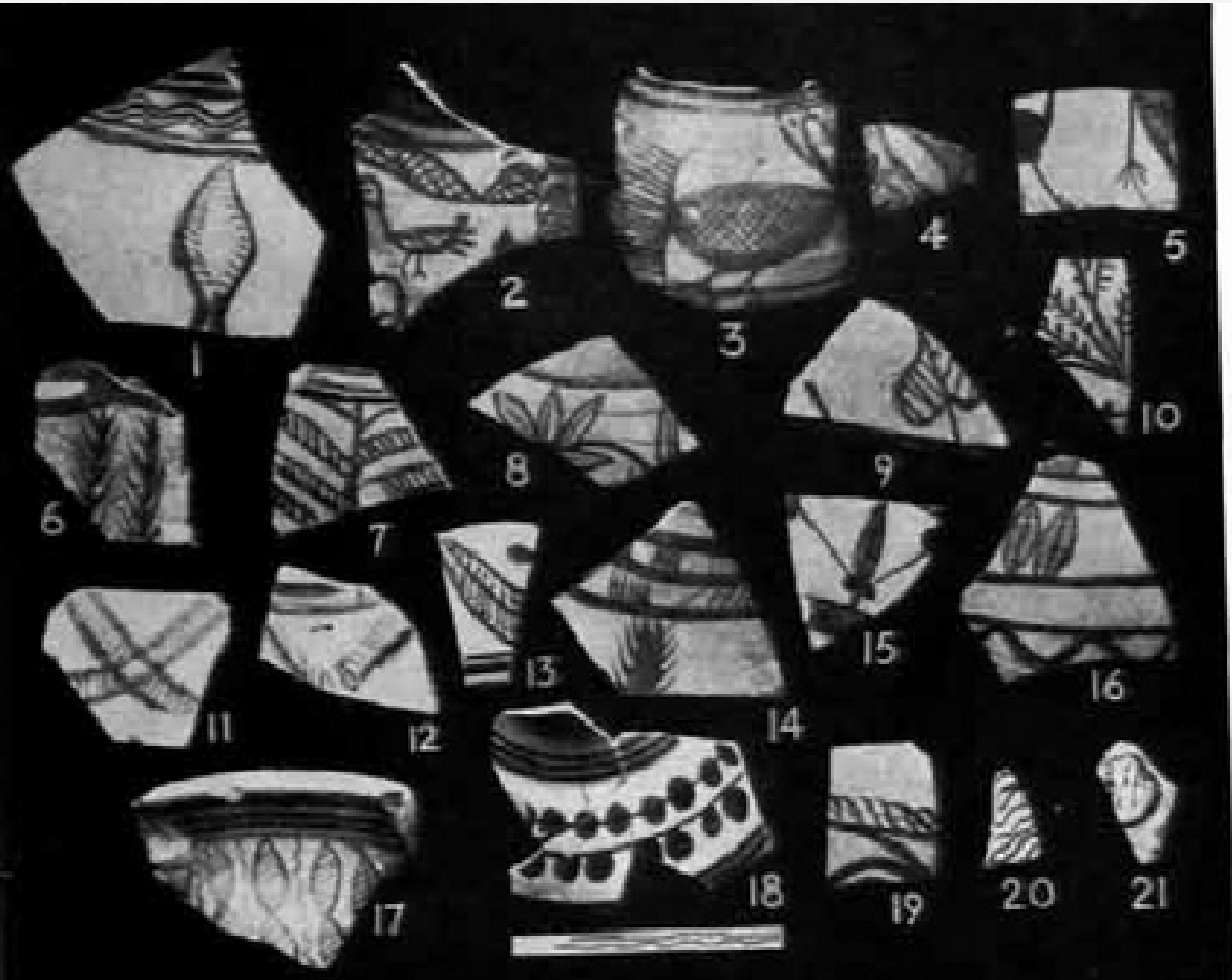
Villages surrounding the site seemed to have a sense of an ancient civilisation existing in this spot, which is where the name Lothal – **mound of the dead** – came from. The site was excavated in the 1950s to reveal a **trading port** that sourced gems and copper **from Mohenjo-daro and Harappa** and dispersed them to inland settlements.



wikimedia commons

Lothal is unique in that it may have had **one of the oldest docks in the world**.

The excavations unearthed a **planned city** with sophisticated drainage systems and an impressive collection of **painted pottery** that was typical of later Indus Valley Civilization sites.



ASI Review, 1956-57

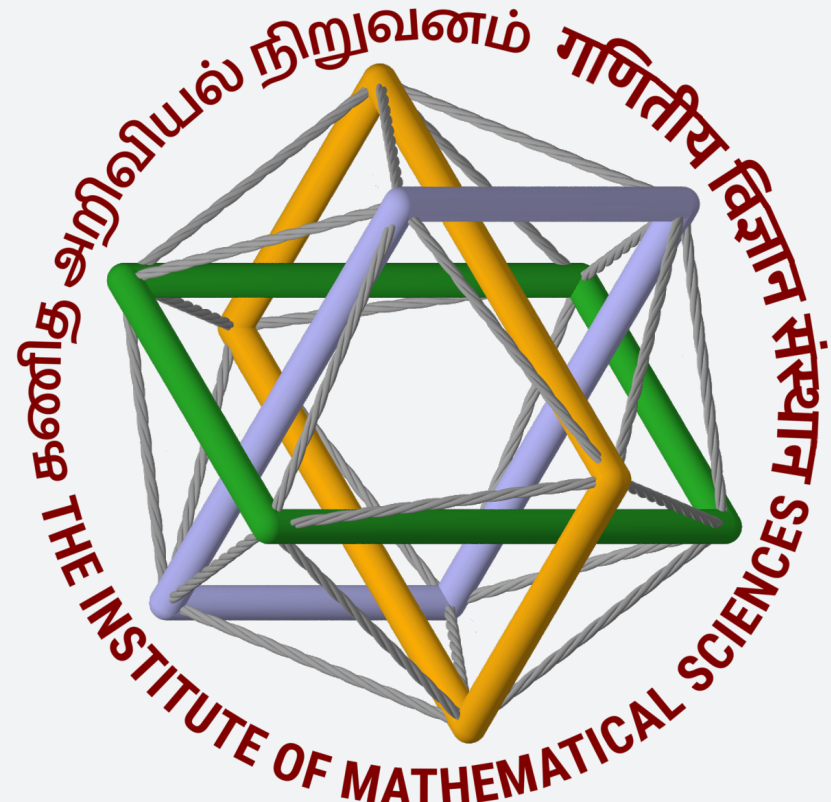
Lothal's trade connections stretched far and wide as is evident from **Persian circular button seals** found on the site.

The town was probably decimated by natural calamities around 4,000 years ago.

Lothal is near Ahmedabad, Gujarat, India and is open to the public. An on site museum displays the various artefacts that were excavated from the site.

Legend

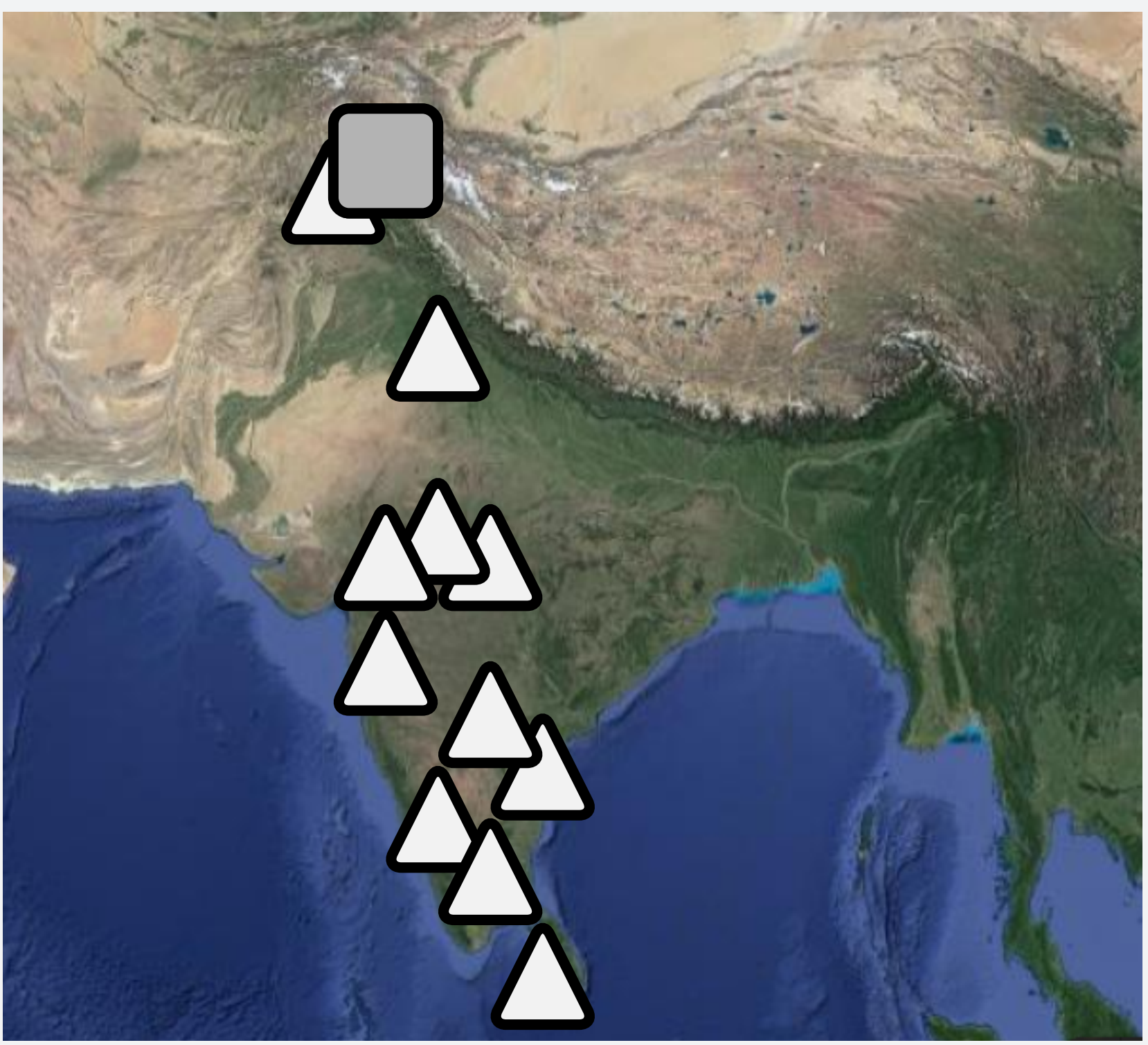
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Deep History Sites of the Indian Subcontinent

Neolithic Dwellings

Burzahom, Jammu and Kashmir, India
5,000 – 3,000 years ago



This site in Kashmir, excavated in the 1960s, offered insights into **neolithic dwelling structures and food habits.**

ASI

The site dates back to about **5,000 years ago** and has evidence of early architecture in the form of **dwelling pits** that evolved into **mud structures** and then transitioned into **mud-brick constructions**. The name Burzahom refers to Birch, a tree that was used for roofs in this ancient settlement.

Knitting and weaving artefacts carved out of bone as well as cotton and wool fibre are evidence of **ancient textile crafts.**

Archaeologists also found **several human burial sites**, sometimes along with animal skeletal remains including **one with 5 wild dogs.**

Implements discovered on this site suggest a **hunting community that also engaged in agriculture.** Pottery, stone and bone tools found at the site reveal **connections to Central Asia and peninsular India.**

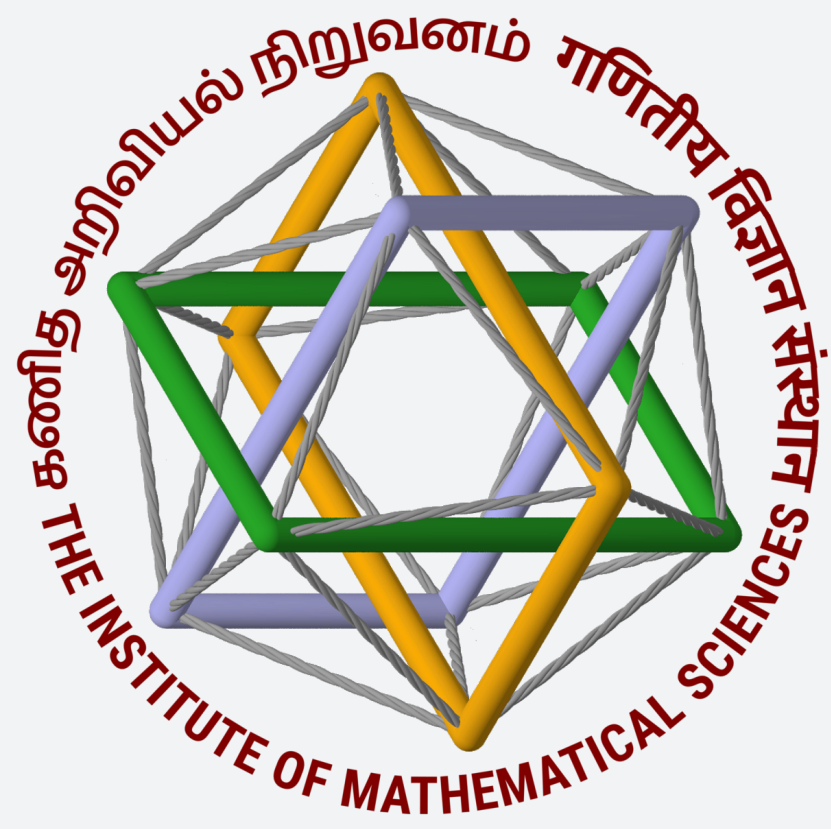


National Museum, New Delhi

Burzahom is near Srinagar, Jammu and Kashmir, India and the site is open to the public. Some artefacts from this site are housed in various National museums including those in New Delhi, Kolkata and Srinagar.

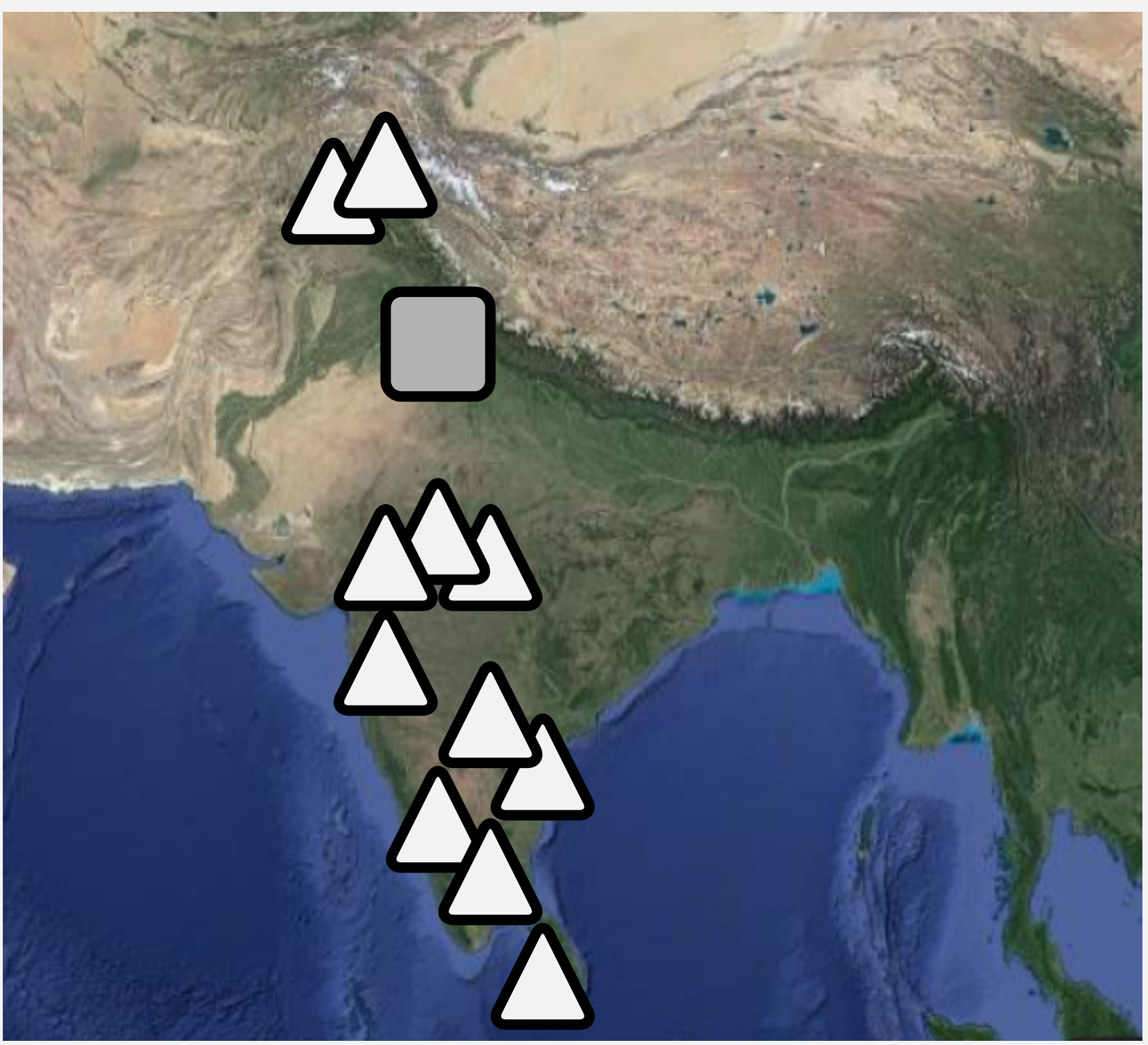
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Deep History Sites of the Indian Subcontinent

Ancient DNA Rakhigarhi, Haryana, India 4,500 – 2,000 years ago



Excavations near Rakhigarhi reveal a **planned city with drainage systems**, similar to other well known Indus Valley sites. Artefacts like **pottery, terracotta statues and utensils** have been unearthed. Dating these has indicated that the site is up to **4,500 years old**.



Niraj Rai

An important recent find is a **burial site with 11 skeletons**. One skeleton yielded DNA that led to the **first ancient sequenced genome** in the subcontinent.



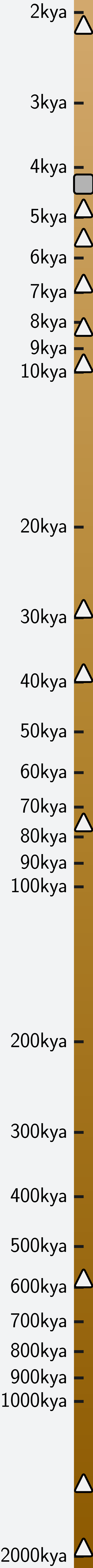
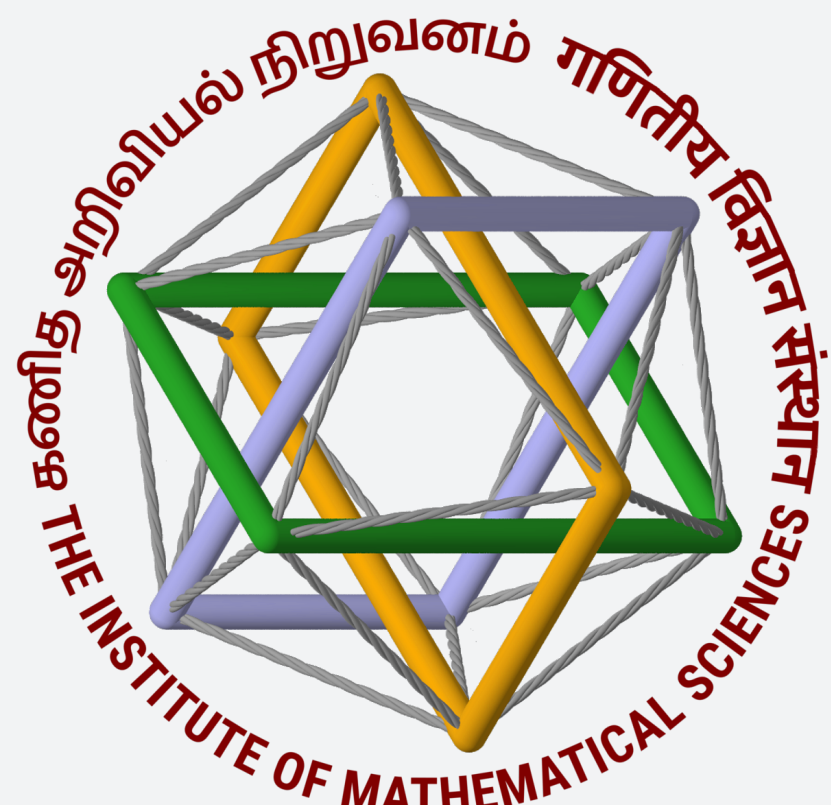
Vagheesh Narasimhan

This genome contains markers suggesting **common ancestry with hunter-gatherers of ancient Iran and Turkmenistan**, but lacks later steppe-pastoralist or Iranian farmer markers that are widespread in today's Indian population.

The Rakhigarhi archaeological site is part of active, scientifically sensitive research into human migrations and is not open to the public.

Legend

- kya = 1000 years ago
- △ artefact ages
- *this* artefact age
- ▮ times of activity of *this* site



Deep History Sites of the Indian Subcontinent

2kya

3kya

4kya

5kya

6kya

7kya

8kya

9kya

10kya

20kya

30kya

40kya

50kya

60kya

70kya

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90kya

100kya

200kya

300kya

400kya

500kya

600kya

700kya

800kya

900kya

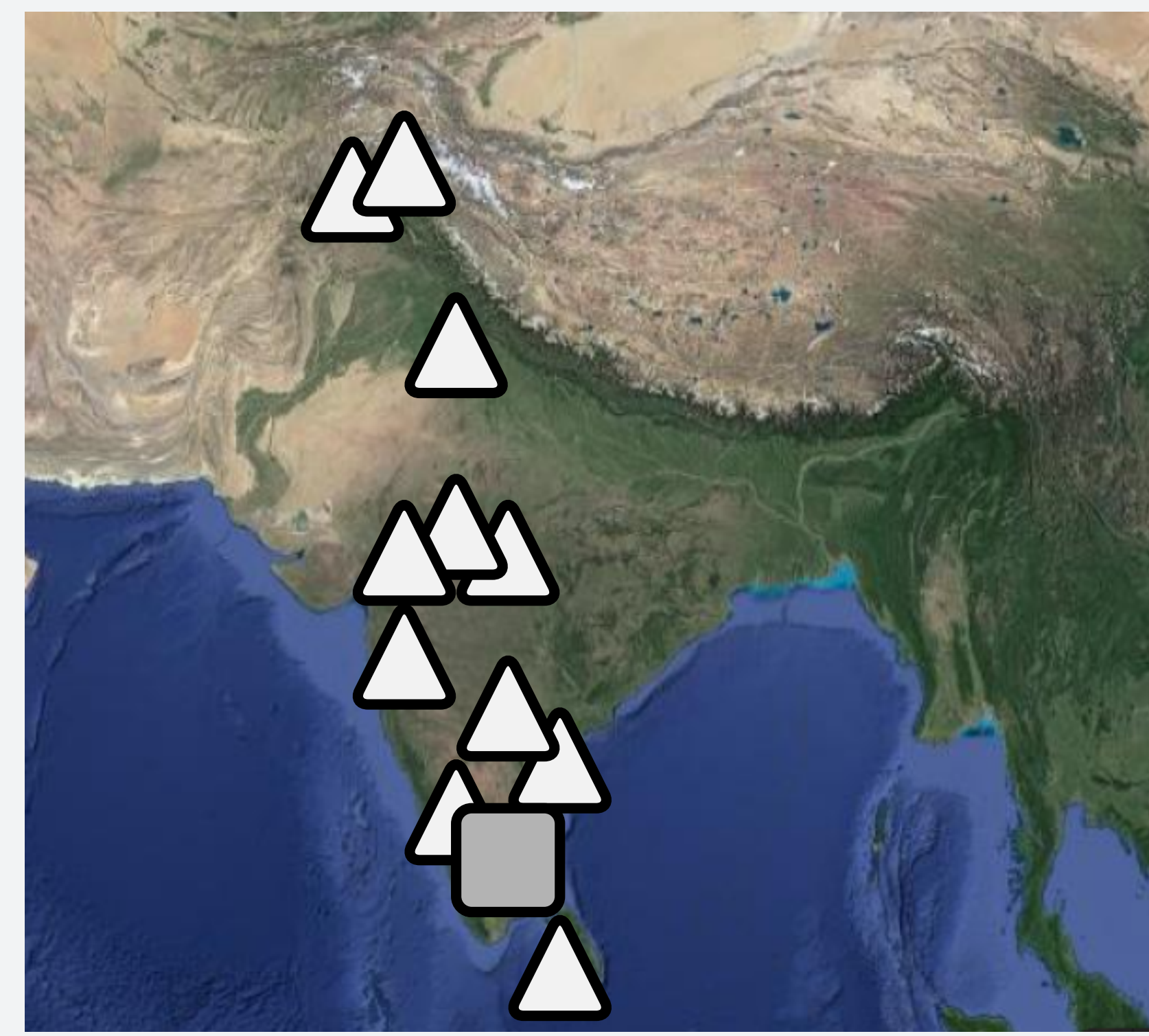
1000kya

2000kya

An Industrial Centre

Keezhadi, Tamil Nadu, India

2, 200 – 1, 500 years ago



In 2013, in a few sites outside Madurai, archaeologists found artefacts that were more than **2,000 years old**.



Varuni P.

At Keezhadi researchers found an **urban centre** of a kind that existed in the Indus Valley civilization but was otherwise unknown in the subcontinent.

The site included terracotta ring wells, roofing tiles and grooves for rain water suggesting the city had developed sophisticated engineering techniques.

Iron and copper objects, figurines, precious stones, gold coins and jewellery have been unearthed.

Painted ceramic objects in various colours and forms were also found.



Keeladi, TN Govt Publication



Keeladi, TN Govt Publication

Red carnelian beads found at the site tell a story of **trade with Rome** where the semi-precious stones came from.

The range of artefacts found at Keezhadi seem to suggest that there was an **industrial early history city**, part of a large settlement in South India. Some of these artefacts suggest that these settlements have cultural connections to the **Sangam period**.

The Keezhadi excavation concluded in 2019. Many of the artefacts have been curated into an exhibition that is on display at the World Tamil Sangam in Madurai, Tamil Nadu, India.

Legend

kya = 1000 years ago

△ artefact ages

■ *this* artefact age

▬ times of activity of *this* site

