

## **Fossilized Leaves Discovered in Assam**

## **Prelims: Current events of National Importance**

## Why in news?

Recently, 24-million-year-old fossilized leaves were found in Assam's Makum Coalfield, which revealed insights into ancient plant life and ecosystems.

• **Discovery of fossils** – The study was led by scientists from the **Birbal Sahni Institute of Palaeosciences (BSIP)**, Lucknow which is an autonomous body under the **Department of Science and Technology**.

The team used herbarium comparisons, cluster analysis, and CLAMP (Climate Leaf Analysis Multivariate Program) to reconstruct the past environment.

- **Plant species identified -** Fossils were identified as the **oldest known record of the Nothopegia genus**, which no longer exists in Northeast India today.
- **Modern comparison** They are closely related to modern Nothopegia species found in the **Western Ghats**, located thousands of kilometres away.
- **Dating period** The fossils date back to the **late Oligocene epoch (24-23 million years ago)**, a period of significant climatic and geological change.
- Ancient climatic conditions Ancient Northeast India had a warm and humid climate, suitable for tropical species like Nothopegia similar to today's Western Ghats.
- **Geological impact** The **rise of the Himalayas** due to tectonic movements drastically changed Northeast India's climate, making it **inhospitable** for tropical plants which led to the disappearance of species.
- **Species migration** Nothopegia disappeared from Assam but survived in the Western Ghats, a climatically stable region that became its refuge.
- **Ecological significance** This shows how **climate and geological forces** can force species to **migrate or vanish**, affecting biodiversity over long periods.
- It also depicts that current climate change is much faster and human-driven, unlike slow ancient shifts.
- It also emphasizes the need to protect biodiversity hotspots like the Western Ghats, which act as climate refuges for ancient and rare species.

## Reference

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