

NORTHEAST INDIA THROWS UP ASIA'S OLDEST BAMBOO FOSSILS

Relevant for: Geography | Topic: Physiography of India including Geology

The scientists came across the fossils on their digs in north-east India. | Photo Credit: [Gaurav Srivastava](#)

Northeast India, a bamboo hotspot, has thrown up several bamboo fossils. One of them at around 28 million years old, is the oldest Asian bamboo fossil ever unearthed.

Scientists from institutes including Lucknow's Birbal Sahni Institute of Palaeosciences came across the fossils on their digs in northeast India. At Assam's Makum Coalfield, they came across three culm (bamboo stem) fossils, one almost a metre long. At the Subansiri Formation of Doimara in Arunachal Pradesh, the team also came across two bamboo leaf fossils.

The team compared these culm and leaf fossils to extant bamboo species at the bamboo garden in China's Xishuangbanna Tropical Botanical Garden and samples at the Botanical Survey of India (Kolkata). The leaf fossils belong to two different bamboos, *Bambusium doimaraense* and *B. arunachalense* (named after where they were unearthed from), approximately 10 million years old (dating to the age of the sandstone deposits, in the late Miocene-Pliocene).

The culm fossils have been named new species too: *Bambusiculmus tirapensis* and *Bambusiculmus makumensis*. These are around 28 million years old and date to the late Oligocene period. According to the scientists who published their work in the *Review of Palaeobotany and Palynology*, the culm fossils are the earliest evidence of bamboos in Asia (so far, bamboo fossils from Asia date back only to the Neogene (3 to 23 million years ago)).

These fossil finds raise two important points, according to lead author Gaurav Srivastava (Birbal Sahni Institute). "The earliest bamboos in Asia probably originated in eastern Gondwana, which comprises India too," he says. "Independent molecular studies also suggest this. This is not surprising because northeast is a centre of diversity for bamboos, as is nearby southern China."

Secondly, based on vegetation reconstruction and climate prediction studies, ancient bamboos probably evolved during a warm and humid period, he adds. "However, they seem to have adapted over the years and modern bamboos are found in both warm and cold climates now," he says.

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