

Two bio-geographic hotspots in India yield two new plant species

An aerial stem-parasitic flowering plant species *Dendrophthoe longensis* was from Long Islands of middle Andamans, whereas a small herb *Petrocosmea arunachalense* was discovered from a cave from West Kameng district of Arunachal Pradesh

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SHIV SAHAY SINGH



A team led by scientist Lal Ji Singh, discovered aerial stem-parasitic flowering plant species *Dendrophthoe longensis* from the Long Islands of middle Andamans. | Photo Credit: Special Arrangement

Indian botanists and researchers have discovered two new species of plants from two bio-geographic hotspots of the country the Andaman and Nicobar islands and Arunachal Pradesh.

While a team led by scientist Lal Ji Singh, discovered aerial stem-parasitic flowering plant species *Dendrophthoe longensis* from the Long Islands of middle Andamans the other discovery by a team led by scientist Krishna Chowlu, is a new herbaceous plant species from Arunachal Pradesh



The species *Dendrophthoe longensis* is from the family Mistletoe. | Photo Credit: Special Arrangement

The aerial stem-parasitic flowering plant species *Dendrophthoe longensis* was found on the specific host plant - Mango, *Mangifera indica* in the edge of evergreen forests, low land areas of tropical forests. The species is from the family Mistletoe - a group of hemi-parasitic flowering plants which exhibit a suite of remarkable adaptations associated with the hemi-parasitic habitat.

“The species is sparsely scattered and confined to a few localities of Long Island. Its distribution was recorded only from Sigmendera, Lalaji Bay and near the forest guest house of Long Island. Larvae bore into entire plant parts (young shoots, leaves, inflorescence, flowers, young fruits) causing severe damage and leading to death of this hemi-parasitic mistletoe species,” said Dr. Singh, who is head of Andaman and Nicobar Regional Centre of Botanical Survey of India.

Conservation status of the new species is assessed as “Endangered” based on the IUCN categories and criteria (IUCN, 2020). Indian *Dendrophthoe* are represented by nine species among which four are from Andaman and Nicobar Islands of which two species are endemic to the region.

“Aerial stem-parasitic flowering mistletoe plants are under great pressure due to destruction of natural habitat and other anthropogenic activities especially timber harvesting of host tree species, developmental works which are causing population declines worldwide,” Dr. Singh added. The details of the discovery have been published in an International Journal of Botanical Taxonomy and Geobotany.

The other discovery *Petrocosmea arunachalense* is also from a remote but bio-geographic hot spot - Mandla region of the West Kameng district in Arunachal Pradesh. “It is a very very small herb and the researchers located it inside a cave indicating that the species requires less sunlight This newly discovered species *Petrocosmea arunachalense* is a significant addition to the plant family Gesneriaceae,” Dr. Chowlu said.

A team led by scientist Krishna Chowlu discovered a new herbaceous plant species from Arunachal Pradesh. | Photo Credit: Special Arrangement

The species is completely white with purple blotch and the plant has a hairy texture, she added. The other researchers involved in the discovery are Akshath Shenoy and Ajit Ray from the Arunachal Pradesh Regional Centre, Itanagar of the Botanical Survey of India. The detailed findings of this research have been documented in a research article published in the latest issue of the Nordic Journal of Botany.

The *Petrocosmea arunachalense* species is completely white with purple blotch and the plant has a hairy texture. | Photo Credit: Special Arrangement

Highlighting the uniqueness and importance of the find, the researchers said that *Petrocosmea arunachalense* is only the second known species from the genus *Petrocosmea* in India. The discovery underscores the rich biodiversity harboured in the Arunachal Pradesh region, known for its diverse and often unexplored flora.

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