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Distribution of Endemic Flowering Plants in Sri Lanka and Their Conservation

Introduction

Sri Lanka is renowned for its plant diversity. In terms of the diversity of "flowering plants", or angiosperms (enclosed seeds), Sri Lanka has a unique place among other South Asian countries. The important factor is that a higher percentage of these angiosperms are endemic to Sri Lanka. These endemic plant species are mainly distributed in the central and southwest regions of the country. However, there is the possibility of finding new endemic plant species in the northeast and eastern areas where no proper exploration has yet been conducted. Knowledge of these flowering plants' distribution and conservation status is more important for their conservation and sustainable management.

Distribution of Endemic Species

A comprehensive study on the distribution of flowering plants that are endemic to Sri Lanka was done with **Mrs. Dakshini Perera** of the Ministry of Environment and mapped their distribution in 5 x 5 km of land plots in 2016. This study identified nine areas rich in endemic species through their distribution: the central highlands, southwest wet zone, northern highlands, eastern highlands, Ritigala, Dolukanda, Yala, Wilpattu and Jaffna. Among these areas, five areas rich in endemic plant species have been identified as Sri Pada, Horton Plains, Sinharaja, Dumbura (Knuckles) and Kandy. These regions can be considered significant and vital areas for endemic flowering plants, and special attention should be focused on their conservation.

Conservation Status

Even though endemic angiosperm plants have immense diversity, most species have faced threats. As per the 2020 National Red Data List, out of 863 endemic angiosperm species, 625 (72.5%) are listed as threatened species. Further, 13 subspecies of 18 subspecies and 69 varieties of 50 are endangered among the listed endemic subspecies and varieties. When considering all types of endemics (species, sub-species, and varieties), 688 (72.4%) of them are threatened. Most threatened species are concentrated in six prevalent areas in the central highlands, the southwest wet zone, Northern highlands the eastern highlands, Ritigala and Dolukanda.

Threats for Endemic Angiosperm Plants

Several threats that face endemic flowering plants in Sri Lanka have been identified. Direct issues like habitat loss and environmental pollution pose considerable risks for these species; the destruction of forest cover and conversion of lands for agriculture or development purposes, as well as illegal logging, resulting in deterioration & loss of habitats. Indirect factors like the lack of pollen carriers or dispersing agents can also affect the successful reproduction and existence of these plants. Changes in temperature and different rainfall patterns due to climate change can make these threats worse.



environmental stability. High percentages of these endemic species are concentrated in specific zones. However, there is a necessity for expeditious projects for the conservation of threatened endemic plants.

This conservation process for endemic angiosperms encounters a number of direct and indirect threats, including habitat loss, environmental pollution, interference in pollination and dispersal processes, and climate change.

Efforts for conservation

Urgent and integrated strategies are required for the conservation and protection of threatened endemic plant species, considering their high percentage. Conservation measures should focus on implementing strict laws and regulations against the destruction of forests and promoting sustainable land use. Establishing protected areas, national reserves, and nature reserves within the areas where inherited species sanctuaries could be provided for these plants. Not only that, but these conservation initiatives require collaboration between public institutions, research institutions, botanical gardens, and communities in the particular area for effective implementation of conservation plans and to certify the participation of local stakeholders. Conservation of endemic flowering plants in Sri Lanka is important to protect the country's biodiversity and

Towards Economic Development

Through the conservation and protection of endemic flowering plants, Sri Lanka can protect its natural heritage, promote the conservation of biodiversity, and sustain the environmental stability of its ecological systems. Further, ecotourism can be promoted by identifying the significance of plant species and contributing to sustainable development through the export of local floral cultivations.

Immediate actions are needed for the conservation of flowering plants endemic to Sri Lanka, and the collective efforts of all the stakeholders are also important.

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