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Theme Talk

Distribution and Conservation of Endemic Flowering Plants in Sri Lanka

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Abstract

In addition to the numerous known and unknown ecosystem services provided, forests contain a vast diversity of angiosperms generally known as flowering plants. Since the colonial times Sri Lanka's flowering plants have been explored, studied and documented extensively. Compared to the other countries in South Asia, flowering plant diversity in Sri Lanka is remarkably higher due to a multitude of factors. One of the striking features of our angiosperm flora is the high percentage of endemic species. These species are distributed mainly in the Central and South West region of the island. However, there may be more endemic species in the North East and Eastern areas of the country which were not botanized as extensively as the South Western regions. Wijesundara and Perera studied the distribution of endemic species in 5×5 km grids on a map of Sri Lanka and identified nine areas with high endemism based on weighted endemism calculated for each grid. These endemic areas are: Central highlands, South Western Wet Zone, Northern Highlands, Eastern Highlands, Ritigala, Dolu Kanda, Yala, Wilpattu and Jaffna. Within the nine endemic areas, four areas with higher endemism were recognized. Those core endemic areas are Adams Peak, Horton Plains, Sinharaja, Knuckles, and Kandy. Like many other groups of organisms, angiosperms are also threatened by many factors. Out of 863 endemic species listed in the 2020 Red List, 625 are threatened. This is about 72.5% of the total endemic angiosperm species in Sri Lanka. In addition to that 13 out of 18 endemic subspecies and 50 out of 69 endemic varieties are threatened. If all endemic taxa (species, subspecies and varieties) are considered 688 (72.4%) are threatened. The highest concentration of threatened plants have been reported from six endemic areas, i.e., Central Highlands, South Western Wet Zone, Northern Highlands, Eastern Highlands, Ritigala and Dolu Kanda. Threats to these endemic angiosperms may range from direct causes such as habitat loss and environmental pollution to indirect factors such as unavailability of pollinators or dispersal agents. Whatever, the causal factors there may be, the proportion of threatened endemic angiosperm plant species is exceedingly high. Therefore, a serious attention need to be paid without delay by all concerned.