

**Indigenous uses, population density, and conservation of threatened medicinal plants in protected areas of the Indian Himalayas**

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**Abstract**

For 10 years I monitored the population density of threatened medicinal plant species in seven protected areas in the Indian Himalayas. I also documented the indigenous uses of threatened medicinal plants through interviews with 138 herbal healers (83 Tibetan healers and 55 Ayurvedic healers) residing in the buffer zone villages of these protected areas. To assess the population status of threatened medicinal plant species, I sampled the 10 major habitat types in the protected areas. In all, I found 60 threatened medicinal plant species during the study period, of which 54 species occurred in the sampling plots. Twenty-two percent of threatened medicinal plant species were critically endangered, 16% were endangered, and 27% were vulnerable. Thirty-two threatened medicinal plant species were endemic to the Himalayan region. The density of threatened medicinal plant species varied with protected areas. The Valley of Flowers protected area had the highest number of threatened medicinal plant species. The "moist" habitat type was richest in these species among all 10 habitat types sampled. *Arnebia euchroma* and *Ephedra gerardiana* were the most common threatened medicinal plant species. The indigenous groups of healers used these threatened species in curing about 45 different ailments. Based on my findings, I believe that to ensure the long-term sustainability of threatened medicinal plants, medicinal-plant conservation areas should be established.

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**Notes to readers**

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