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Dr. Dharam C. Attri
Sushma Devi

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Microenvironments, Microhabitats, Microreserves: Rooms of Hope for Conservation in Climate Change Persistence

V. L. Trivedi[1], Dharam C. Attri[1,2] and M. C. Nautiyal[1]

Abstract

Environmental and topographic factors varies greatly along with the distribution range of a species; such local micro-environmental microhabitats provide various comforts to the inhabitants. Such micro-environments mainly varies from average environmental circumstances experienced by other individuals of the same species within a broad geographical area. In the present scenario where the problems like changing climate and anthropogenic disturbances continuously pushing flora and fauna in the path of extinction, these microrefugia may become saver of the many species facing the extinction risk either in the local and global picture. The conservation approaches focused on these micro-environments may play a significant role in the conservation strategies of an individual species. These local micro-environments influence the phenotypic plasticity, patterns of genetic variation, physiology, reproductive behavior, population persistence of the species due to the disparity in topography, nutrient levels, water availability, light regimes, etc. Variations in the micro-environment could protect the local population of a plant species from the adverse impact of climate change by modifying the physiology and biotic interaction among the species, including the community dynamics. In this chapter, we assessed the role of those micro-spaces on the conservation of plant species in the special context of climate change.

[1] High Altitude Plant Physiology Research Centre (HAPPRC), HNB. Garhwal University (A Central University) Srinagar Garhwal, Uttarakhand.

[2] G.B. Pant National Institute of Himalayan Environment, Kosi-Katarmal, Almora, Uttarakhand.

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