

Public Abstract

First Name:Trang

Middle Name:Thi Thu

Last Name:Tran

Adviser's First Name:Mark

Adviser's Last Name:Cowell

Co-Adviser's First Name:Cuizhen

Co-Adviser's Last Name:Wang

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Title:SPATIAL DISTRIBUTION AND HISTORICAL DYNAMICS OF THREATENED CONIFERS OF THE DALAT PLATEAU, VIETNAM

The Dalat Plateau is one of the biodiversity hotspots in Vietnam. It is considered to be one of five centers of plant diversity and one of three endemic bird areas in the country. Almost half of the conifer species known to occur in Vietnam are found in this area. Among the 14 species of conifers found here, six have been evaluated in the 2004 IUCN Global Red List of Threatened Species: *Pinus krempfii* (VU B1+2c), *Pinus dalatensis* (VU B1+2c), *Pinus latteri* (NT), *Fokienia hodginsii* (NT), *Calocedrus macrolepis* (VU B1 + 2b), and *Cephalotaxus mannii* (VU A1d). *Pinus krempfii* and *Pinus dalatensis* are endemic and rare species in this area. However, due to the remoteness of the mountains where these conifers grow, there is very limited information on the ecology, habitat, distribution, population characteristics or historical disturbances for these species. This research examines aspects of conifer biogeography in a national park to determine the distributions of populations and their relationship to topography, size class structure, and disturbances between the 1970s and 2000s. A combination of field work, remote sensing and GIS are used to determine these patterns.

Analyses were conducted at spatial scales ranging from individual stands to the full landscape of Bidoup-Nui Ba National Park, in which 36 genera and 21 families were identified. Among the seven conifer species sampled, three are classified as threatened. Of the nine general land cover types in the study area, these conifer species occurred in the mixed forest and the coniferous forests, from 1,000 and 2,200 m asl. Results show that the stand structures for these conifer species are unimodal and decreasing. Age-class distribution of *Pinus krempfii* showed its population to be the oldest. The study suggests that the decreasing number of these threatened conifers and their old age stands are vulnerable.