

# LARGE-SCALE BURNING OF GRASSLANDS DETRIMENTAL TO INVERTEBRATES: STUDY

Relevant for: Environment | Topic: Environmental Conservation, Sustainable Development, and EIA

A researcher, left, collecting grasshoppers from the burned areas of Eravikulam National Park.

A recent study on “prescribed burning” of large tracts of grassland for the conservation of threatened ungulates in the Eravikulam National Park (ENP), a biodiversity hotspot in the Western Ghats, reveals that such burning is detrimental to endemic invertebrates, including grasshoppers.

Grasshoppers are sensitive to grasslands management and an indicator of grasslands quality, health and restoration success.

“As grasshoppers represent a major faunal component of grasslands, effects of fire on them can be easily studied in grassland habitats,” Dhaneesh Bhaskar, researcher, Kerala Forest Research Institute (KFRI), said.

“The endemic and wingless creatures are sensitive to environmental change and exhibit a high extinction risk. Hence, their response to fire management is of high interest,” Mr. Dhaneesh, who is also a member of the IUCN Grasshopper Specialist Group, said.

Traditionally, the grasslands of the park are managed by prescribed “cold” burning (cold season burning) with the help of the local tribal community, P. S. Easa, former director, KFRI said.

Burning is practised on 90 sq. km. of the park by dividing it into 50 hectare grids to ensure palatable fodder for the Nilgiri tahr and has been practised since the British colonial time, Dr. Easa, a member of the team said. However, the impact of burning of Nilgiri tahr habitats on other biota has never been documented, he added.

The recovery plan for the animal stresses the need for systematic monitoring of the impact of fire on its habitats in the ENP.

Since the target of the management is to improve the status of mammal species, the impact on other groups, especially invertebrates, has been neglected, Mr. Dhaneesh said

Though prescribed burning was experimentally introduced in the Parambikulam Tiger Reserve (PKMTR) recently, another habitat of the Nilgiri tahr, it was practised on a smaller scale (10 m. x 10 m.).

There are 130 species of grasshoppers reported in Kerala, of which 54 species were found in PKMTR and 18 species were found in the ENP, he said. It is suspected that prescribed burning in the park for the past many decades is a major cause for the decline of grasshoppers, he said.

The study suggested that the interval of burning should be extended to more than five years, and the area of burning should be made only in small plots of 25 m. X 25 m. or 50 m. X 50 m., with unburned adjacent areas between plots.

The findings have been published in a recent edition of *Biodiversity and Conservation* (Springer Nature), an international journal.

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