Impacts of Livestock Grazing on Plant Species Composition in Montane Forests on the Northern Slope of Mount Kilimanjaro, Tanzania

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Abstract
The montane forests on Mount Kilimanjaro are part of the ecologically protected area and provide ecosystem services to the local communities on the lower slopes. Despite their ecological value, the montane forests on the northern slope of Mount Kilimanjaro have been affected by increased livestock grazing pressure due to prolonged drought and expansion of agricultural land. We examined the impacts of livestock grazing on plant species composition in the montane forests on the northern slope of Mount Kilimanjaro. The study area was sub-divided into heavily grazed, moderately grazed, lightly grazed and ungrazed sites. A quadrat method was used for field data collection. A total of 115 plant species distributed within 93 genera and 39 families were identified. Moderately grazed and lightly grazed areas had higher plant species diversities than heavily and ungrazed areas. This observation concurs with the intermediate disturbance hypothesis. However, plant species that contributed to high species richness and diversity in grazed areas were mainly grasses, shrubs and herbs. It was concluded that livestock grazing in montane forests on the northern slope of Mount Kilimanjaro has serious impacts on vegetation community composition. Conservation of montane forest habitat and improvement of rangelands on communal land are necessary.

Keywords
Grazing ecology,
Mount Kilimanjaro,
Plant species diversity,
Plant life form,
Tropical montane forest,
Vegetation communities