

## Poster

### **Ethnoecological gradients and patches for the conservation of useful trees at Mt. Kasigau, Kenya**

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**Introduction.** Biodiversity conservation at Mt. Kasigau, an isolated mountain in the "Afrotropical hot spot," relies on understanding how plants are distributed across a complex landscape and integrated into local livelihoods.

**Objectives.** This study focuses on the ethnoecology of large trees and asks: (1) how does resource ecology change with altitude; and (2) can resource patches be identified that localize plant use by the Kasigau Taita?

**Methods.** I worked with the East African Herbarium and local informants to record the composition, structure, and use of trees >10 cm dbh in 55(0.01 ha) plots across bushland, montane woodland, and evergreen forest, and in 15 home and farm sites.

**Results.** From a record of 152 wild and 23 non-native trees in the sample areas, highest richness (>20 species) occurs in montane woodland and some homes and farms, highest densities in woodland and cloud forest (>500/ha), and highest basal areas in evergreen forest (>60 m<sup>2</sup>/ha). Nearly 70% of the trees in the forest plots had uses for food (42 species), fodder (36), construction (55), technology (61), remedy (40), fuel (47) or services (18), ranging from 100% in the bushland to 0% in evergreen forest. Sums of uses correlate mostly with species richness along the altitudinal gradient, especially for food ( $r=0.73$ ) and construction ( $r=0.72$ ), but these sums also vary within vegetation zones.

**Conclusion.** Useful trees are abundant and should be conserved at the mountain's base. Additionally, the study identifies patches where useful trees are clustered that can also guide collaborative conservation planning around the mountain.

Keywords: Eastern Arc mountains, forest ecology, ethnobotany

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