

Status of Alien Invasive Trees on the Grassland Plateau in Nyika National Park

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Abstract : Early detection of plant invasions is a necessary prerequisite for effective invasive plant management in protected areas. This study was conducted to determine the distribution and abundance of alien invasive trees in Nyika National Park (NNP). Data on species' presence and abundance were collected from belt transects (n=31) in a 100 square kilometer area on the central plateau. The data were tested for normality using the Shapiro-Wilk test; Mann-Whitney test was carried out to compare frequencies and abundances between the species, and geographical information systems were used for spatial analyses. Results revealed that Black Wattle (*Acacia mearnsii*), Mexican Pine (*Pinus patula*) and Himalayan Raspberry (*Rubus ellipticus*) were the main alien invasive trees on the plateau. *A. mearnsii* was localized in the areas where it was first introduced, whereas *P. patula* and *R. ellipticus* were spread out beyond original points of introduction. *R. ellipticus* occurred as dense, extensive (up to 50 meters) thickets on the margins of forest patches and pine stands, whilst *P. patula* trees were frequent in the valleys, occurring most densely (up to 39 stems per 100 square meters) south-west of Chelinda camp on the central plateau with high variation in tree heights. Additionally, there were no significant differences in abundance between *R. ellipticus* (48) and *P. patula* (48) in the study area ($p > 0.05$) It was concluded that *R. ellipticus* and *P. patula* require more attention as compared to *A. mearnsii*. However, further studies into the invasion ecology of both *P. patula* and *R. ellipticus* on the Nyika plateau are highly recommended so as to assess the threat posed by the species on biodiversity, and recommend appropriate conservation measures in the national park.

Keywords : alien-invasive trees, Himalayan raspberry, Nyika National Park, Mexican pine

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