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Effect of soil nutrient status on the invasion of *Prosopis juliflora* and *Opuntia dillenii* at Bundala National Park

Prosopis juliflora and *Opuntia dillenii* have invaded the thorn scrub forests in the southern dry forests of Sri Lanka. This study was conducted to identify soil nutrient status that may have influence the successful invasion of the two alien species.

Soil pH and macronutrients including nitrogen, phosphorus, potassium, calcium, magnesium & sodium were examined in four 40 m diameter circular plots at Bundala National Park. Foliar nutrient contents were estimated in the selected dominant species and in two invasive species to find out nutrient absorption relationships.

Results showed that the concentrations of potassium, calcium, magnesium and sodium in the soils of pure invasive plant stands are significantly higher than that of natural forest soil (Pooled t test: $p < 0$, <0.004, <0, <0 respectively). Studied invasive species had high contents of potassium and calcium in their foliage when they grew in places where the alkali cation concentrations were high. No differences were observed in the pH, nitrogen, and phosphorus contents of different soils and they may not affect the successful invasion of two alien species.

The invasion of *P. julifloa* and *O. dillenii* in the study area is strongly influenced by the concentration of alkali cations in the soil and these species can absorb and store high potassium and calcium concentrations when they grow on soils where potassium and calcium concentrations are high. It may be one reason for their adaptation to grow successfully in such habitats.