

A preliminary study of the status of Australian *Acacia* spread into dry forest habitats in Sri Lanka

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Australian *Acacia* invasions are affecting ecosystems across the globe, but until recently, reports of such invasions in Sri Lanka were scarce. *Acacia auriculiformis* A.Cunn. ex Benth. was introduced to the island in the mid-1980's as a nitrogen-fixing, fast-growing tree species. Although *A. auriculiformis* has been listed among plant species that threaten the ecosystems of Mayotte, French Guiana and Zanzibar, their invasiveness has not been studied in Sri Lanka. This study investigated natural spread of *A. auriculiformis* into dry forest in the Nuwaragala forest reserve (7°24'20.67"N 81°34'10.96"E) under different disturbance levels: less, moderately and highly disturbed. Naturally regenerated *A. auriculiformis* (>1 cm dbh) density in these habitats was quantified using the stratified random sampling method (quadrat sizes 10 m × 20 m), canopy openness was determined using a convex spherical densitometer, and log transformed data were statistically analysed using ANOVA test. *Acacia auriculiformis* tree density was significantly higher in highly disturbed forest than in the other two disturbance levels (P < 0.05). Less disturbed forests were not affected by *A. auriculiformis* spread and it was shown that canopy openness plays a key role in regenerating *A. auriculiformis* seedlings under the forest canopy. Highly disturbed forest has a high number of deciduous tree species compared to the other two disturbance levels. *A. auriculiformis* is well adapted to local conditions and will adversely affect fire prone, highly disturbed, dry forest vegetation in the Nuwaragala area if not managed immediately. In order to conserve the distinctiveness of dry forest ecosystems in Sri Lanka, a proper management plan for control of this woody invader is necessary.

Key words: Nuwaragala forest, dry forest, *Acacia auriculiformis*