

Strategic Reintroduction Profile of *Alphonsea hortensis* (Annonaceae), a Plant Species Extinct in the Wild

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One effective way of conserving plants is through reintroduction. The main objective of this study was to reintroduce *Alphonsea hortensis*, a tree species extinct in the wild, to its original locations. Nineteen bioclimatic variables were analysed using MaxEnt software to predict the sites before starting the reintroduction. This study was designed as four phases. The first was to find its past locations using herbarium specimens. Then develop a map with suitable locations using MaxEnt. Pre-plantation trials were done to determine the growth rate in different microhabitats (open, shade, partial shade). Finally, top and deep soil sample from forest reserves within the selected areas were checked for nutrients. These values were compared to Royal Botanical Gardens, Peradeniya soil by using One Way ANOVA pair wise comparison of Dunnett model at significant level $\alpha = 0.05$. Among the predicted soil properties were much similar in Molkawa and the location at RBG. Both striata soil pH and P, conductivity, Na, K in surface soil, were not significantly different between these two localities. In all locations, percentage of Ca and deep soil percentage of K were significantly different ($p < 0.05$). The growth rate was highest in partial shade, medium in open and lower in shady environments. This suggests that reintroducing *A. hortensis* has to be done in partially shady localities and Molkawa in the southwestern region of Sri Lanka could be recommended as a site for reintroduction. This criteria used for the reintroduction could be used in the future conservation of other plants enhancing benefits of ex-situ conservation.

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