

Abstract

THE VEGETATION OF LITTLE TOBAGO, REPUBLIC OF TRINIDAD AND TOBAGO, WEST INDIES

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The vegetation of Little Tobago Island was surveyed systematically using 82 sites across a 100 x 100m grid. At each site, tree, ground flora and epiphyte data were collected. Wind speeds, aerial salt-spray, soil depth, slope, aspect and altitude were also measured. Soil samples were collected and analysed for mineral ion levels, soil conductivity, texture and pH. The floristic composition, physiognomy and vertical structure of the island's vegetation were determined. Cluster analysis, ordination techniques and regression analysis were used to determine vegetation groups on the island and describe the influence of the environmental variables on the vegetation.

A total of 116 species were found. The aroid *Anthurium jenmanii* had the highest relative coverage value in the ground flora. It was also the most frequently occurring epiphyte. *Coccothrinax barbadensis* had the highest importance value in the tree flora followed by *Bambusa vulgaris*, *Pisonia fragrans*, *Bursera*

simaruba, *Coccoloba venosa* and *Diospyros inconstans*. Exotic species, namely, fruit trees, ornamentals and weeds were found on the island, mostly limited to the area around the Nature Centre, within the garden plots and along the trails. These exotics do not appear to be extending beyond these disturbed areas, but another exotic *Bambusa vulgaris*, was found within the natural vegetation at some sites. *B vulgaris* had high relative coverage values at these sites.

With the exception of the vegetation at sites in the agricultural plots and sites on the seashore, there do not appear to be discrete vegetation groups on Little Tobago. Plant distribution seems to be related to abiotic variables, such as, soil conductivity, aerial salt-spray, wind speed, mineral ions and soil depth. Canopy closure, soil pH, soil moisture content, slope and altitude may also be influencing factors.

Plants like *Coccothrinax barbadensis* and *P. fragrans* are rare locally and regionally, as is the forest type on the island, i.e., Deciduous Seasonal Forest. The island's vegetation is relatively well protected, for Little Tobago is a wildlife sanctuary. However, exotic species such as *B. vulgaris* constitute a major threat. It is recommended that the plant species be culled and that the presence of this exotic and others be monitored.

Keywords: Little Tobago; Biodiversity Survey; Island Ecology; Exotic Species; Deciduous Seasonal Forest.