Palm Community along Environmental Gradients from Wallaba to Swamp Forests at Pakuri

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Palms (*Arecaceae*), characteristic of tropical and sub-tropical regions across the world, are among the oldest monocotyledonous flowering plants, and are important components to the functioning of forest ecosystems. Palm fruits constitute an important food stock for animals, and the animals in turn contribute to their dispersion. Some palm species also offer habitats for many animals. Although palms are widely cultivated in Guyana and play a pivotal role in forest ecosystems, their status is largely unknown. The aim of this research was to document the palm species community along one transect from the Wallaba to the Swamp Forest of Pakuri Lands, which is a predominantly forested area. The specific objectives were to: identify the palm species in a transect from the Wallaba to the Swamp Forest; determine the relative importance of each palm species found based on a calculation using the relative abundance, relative frequency, and relative basal area; analyse whether nitrogen and organic matter in the soils were variables related to the relative importance of the palm species in the communities; and examine the uses of the inventoried species. A 2.5 km transect was established in the Wallaba forest, with 13 plots of size 20 m x 50 m. Plot centres were 100 m apart for the first ten, with the last three situated 500 m apart. The palm species inventoried in the Wallaba Forest were *Astrocaryum vulgare*, *Mauritia flexuosa*, *Jessenia bataua*, *Euterpe precatoria*, *Geonoma baculifera*, *Maximiliana maripa* and two species of *Bactris*. The most important species was the *Jessenia bataua* (Turu). Nitrogen and organic carbon appeared to differentiate the three groups of palm communities. A literature analysis revealed that these species are economically and ecological significant; particularly as sources of medicine, craft produce, income, and food. This research serves as a baseline for assessment of Pakuri's palm community status, which can support further analysis for sustainable forest management.

Keywords: *Arecaceae*; relative abundance; species richness