

**POPULATION STRUCTURE AND HUMAN UTILIZATION OF THE  
CYCAD (*ENCEPHALARTOS WHITELOCKII*) ALONG RIVER  
MPANGA, WESTERN UGANDA**

BY

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## ABSTRACT

Cycads are listed in the IUCN Red list of threatened plants. They were abundant about 600 million years ago, but wild populations are now highly localized. Cycad species *Encephalartos whitelockii* (P.J.H. Hurter) exists in a forest gorge along River Mpanga in western Uganda where human population is high and land use practices are unregulated, thus raising fear about its future. This study examined the population structure and utilization of *E.whitelockii* so as to recommend appropriate conservation measures. Specifically, the study assessed the population structure and regeneration capacity of *E.whitelockii*, the relative abundance and diversity of indigenous tree species associated with *E.whitelockii*, local utilization patterns and opportunities for conservation. Stratified random sampling was used to collect ecological data in 33 transects and 165 sample plots covering a total area of 16.5 ha. Structured questionnaires were used to interview 60 randomly selected respondents on utilization and conservation strategies of the cycads. Additional information on utilization was gathered through focused group discussions. The results show that the population of *E.whitelockii* consisted of more juveniles than adults. *E.whitelockii* was most abundant on the lower hill slopes and grew closely to *Combretum molle* and *Acacia hockii*. Most respondents (25%) retained more than 20 cycad plants in their gardens, while 19 % lived less than 50 meters from the nearest cycad. Over 78% of the respondents reported that *E. whitelockii* seeds were collected for various uses and this posed a serious threat to its regeneration. Other parts used were leaves, stems and roots reported by 42%, 43% and 25 % of the respondents respectively. In order to conserve the species it is recommended that the entire habitat of *E.whitelockii* should be gazetted into a protected area; on-farm conservation, propagation and ecotourism should be encouraged among the frontline communities. Further research should be conducted on the phenology and reproductive biology of *E.whitelockii*. The local communities should develop bye laws on land use practices aimed at protecting Cycads from seed poachers.