

# Cycad Conservation: *Zamia encephalartoides* in Colombia

*Zamia encephalartoides* is a cycad native to a network of deep, dry canyons carved into the Eastern Andes of Colombia by the Chicamocha River. The hot, dry, rocky and open landscape where it grows is quite different from that of other Colombian *Zamia*, which typically grow in humid forests.

With tough, leathery leaves and large, colorful cones, *Zamia encephalartoides* is remarkably adapted to this arid environment and superficially resembles *Encephalartos*, an African genus that typically grows in similar dry, open environments. In fact, the name, “*Zamia encephalartoides*” means “Encephalartos-like *Zamia*”.

This unique cycad species was described by Dennis Stevenson only a decade ago, and has not been studied extensively. The tropical dry forest ecosystem in which it occurs is one of the most fragmented, degraded and poorly understood ecosystems in Colombia—expanding agriculture and other human activities are rapidly reducing the number of known plants.

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*Zamia encephalartoides*

Leadership Programme, Dr. Cristina Lopez-Gallego and Alvaro Idárraga of the Universidad de Antioquia (Medellín, Colombia) along with Michael Calonje of MBC have started a project that aims to better understand the distribution, abundance and conservation status of this cycad.

The project involves locating and mapping native *Zamia encephalartoides* populations in order to determine the full geographical distribution of the species, as well as gathering data on plant survival, growth and reproductive rates from two of the largest populations in order to estimate their viability. Current mapping technology, with high-resolution satellite imagery and GIS software obtained through a ESRI Botanic

Garden grant, enables the team to visualize the cycad's distribution in terms of slope, aspect, and elevation. These data will be used by the team to provide a detailed assessment of the conservation status, for the IUCN Cycad Specialist Group's Red List of Threatened Species.

Besides gathering information about wild populations, the team will conserve *Zamia encephalartoides* in *ex situ* collections to support an ongoing reintroduction program led by the local “Eloy Valenzuela” Botanical Garden (Floridablanca, Santander). Furthermore, the project will provide an action plan for conservation including potential management strategies to address known threats to this species.

We hope that results of this study will increase our knowledge of this poorly known species, and will benefit conservation by increasing its numbers in cultivation and in the wild and by providing useful recommendations to local conservation authorities.



Cristina Lopez-Gallego and Claudia Calonje with *Zamia encephalartoides* in habitat



Tobacco being grown around existing *Zamia encephalartoides*

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