

Cycas debaoensis International Conservation Project

-TCS Grant Proposal

ABSTRACT

An expedition to China is scheduled for May 2008 to develop the *Cycas debaoensis* conservation project. *Cycas debaoensis* is a critically endangered cycad species endemic to the vicinity of Debao County, Guangxi Province, China. This expedition will undertake a population study of this cycad and census the fauna and flora associated with it. We propose an educational program based on the scientific studies produced by the expedition. Financial support is requested from TCS for computers for the village school near this rare cycad, and technical support is requested from TCS to build a web-based educational program that allows school children in the project to share their experiences with school children in other parts of the world.

INTRODUCTION

Cycads are an ancient group of plants with high priority in conservation from both a scientific and a biodiversity perspective (Norstog and Price 1997). They are threatened globally with extinction due to human activities including agriculture, mining, and the ornamental plant trade. Various conservation approaches have been tried with cycads, but with limited success and many species continue to decline (Donaldson 2003). A major shortcoming of conservation projects with cycads has been the lack of education and motivation of people living near wild cycad populations. Without the intimate participation of local people, any conservation project, despite it being technically well-conceived, is doomed in the long run. What is needed is a model for conservation that successfully educates and motivates people sharing living space with cycads. This grant proposal is an invitation to The Cycad Society to help build such a conservation model. The Society can play a crucial role in fostering a conservation ethic in people living near wild cycads.

MATERIALS AND METHODS

The study system

In 1997, a unique cycad, *Cycas debaoensis*, was discovered in Guangxi Province, China (Zhong and Chen 1997). Subsequent study has shown that this species has a limited distribution in four small populations in western Guangxi and one small population in eastern Yunnan Province (Xie *et al.* 2005). This species has exceptional potential as an ornamental plant because its leaflets are divided up to four times, making the plant attractive to horticulturalists and collectors (Holtzman 2007). Within one year of its discovery by science, this species was severely reduced in numbers in the wild by plant collectors. About 75% of the original population at the type locality of Fuping was removed from the wild to meet the market demand for the plant (Ma *et al.* 2003).

The conservation project

In 1999, project managers Liu Nian (China) and William Tang (USA) initiated an international conservation project in Fuping village, which centered on the needs of the local people as well as *Cycas debaoensis* (Tang 2006, Tang *et al.* 2004). This plan focused on education of the local people as well as the scientific study of the plant. With the addition of Anders Lindstrom (Thailand) to the management team in 2001 this project made significant strides in building a schoolhouse and initiating education in conservation of the village children. This project has attracted the attention of the China Forestry Dept., at both the local and national level, and

decline in the wild population of the cycad has halted. It has become clear that the next step in this project is to consolidate and make permanent these gains in conservation by providing an integrated education program in conservation for the village children.

Objectives for 2008

The conservation project for *Cycas debaoensis* has several objectives for 2008:

1) Organize a visit of an international group of scientists to the Fuping population of *Cycas debaoensis* for the purpose of building a database on the flora, fauna and ecosystem and on pollination and life history of the cycad. This visit is hosted jointly by the Cycad Society of China and Zhongkai Agritechnical College and is scheduled for May 15-29. Each participant will give a 20-minute talk at Zhongkai College on cycad conservation. The international group will design and initiate a biological survey at Fuping. See Appendix I for a list of people who have made a commitment to this trip and their area of expertise. See Appendix II for the itinerary. **The Cycad Society is invited to send a participant to this expedition, either by choosing a participant already on this list or by sending an additional participant.**

2) Buy computers for village schoolchildren: The local school at Fuping was officially renamed “The Debao Cycad School” in 2005 in response to our international conservation efforts. The school has no computers and the teachers have requested the donation of computers to help the children learn how to use modern technology.

3) Build education curriculum: With the contribution of computers, teachers and students at Fuping will have access to computer-based educational materials. We invite The Cycad Society to help design and build an educational program.

A) Computer website: The participants of this expedition will share their findings and photos with TCS and invite TCS to help build an educational DVD and website about *Cycas debaoensis*. The educational materials will be provided in English and Chinese, so that they will be accessible to teachers and schoolchildren in many countries.

B) Invite classrooms in various countries to participate in the *Cycas debaoensis* project. Members of The Cycad Society affiliated with schools are invited to use the website for school projects. With this website, students in Chinese- and English-speaking countries, can learn about the project and contact the local students living near *Cycas debaoensis*. Students can use information from the DVD and website to write school reports and communicate with each other. Through this correspondence with foreign students, the local children will gain pride in their special plant and themselves.*

AMOUNT OF FUNDING AND GENERAL BREAKDOWN OF EXPENDITURES

Through a fund raising event Board Member Maurice Levin has raised **\$2,172** specifically for the *Cycas debaoensis* project. Levin and the project managers request this **donation to be made through The Cycad Society** to help engage the Society in this project. The project managers are not requesting for any more funds than what Levin has already pledged. A breakdown of how this money will be spent is given in the table below.

* Another low cost/high impact contribution that The Cycad Society can make: produce pencils with the logo “The Cycad Society” for distribution to school children in Fuping. Small gestures like this have a tremendous impact on the minds of poor children living in remote areas, where foreigners are rarely seen.

ITEM	Quantity	Estimated cost
Computers + software	3-4 (to be purchased locally in China)	\$1600
Local field guides (for 5 survey teams)	5 guides for 6 days	\$150
Survey supplies -spray paint -batteries for headlamps, walkie talkies, GPS, etc. -other supplies	-20 cans -50 batteries	\$50
Preparation of unfinished schoolhouse for habitation of expedition team	9 doors, 18 windows, and installation	\$350
Pens (gifts for school kids and teachers – optional expense)	200	\$85
Construction of website: software + other expenses	1	Any remaining funds

HOW THE PROJECT FITS THE INTERESTS OF TCS

The objectives of cycad conservation and education in this project are also the fundamental goals of TCS. Not only will the villagers benefit from the education provided by this project, the members of TCS will have the opportunity to learn about cycad conservation and see how their donations are being used. Children of TCS members also can benefit from the educational program that will be built on the work of this expedition. At a deeper level, the project aims to achieve lasting conservation by reaching local people, as well as TCS members, at a profound level. Past experiences gained during the *Cycas debaoensis* project in China and others in Mexico have revealed that one of the most powerful motivating forces for conservation is the pride gained by local people knowing that they possess a unique plant, which confers upon them a valuable and special identity. This identity becomes part of the culture and becomes a permanent force for conservation. By achieving these goals, this project may serve as a model for conservation in other parts of the world where education is held in high esteem.

LITERATURE CITED

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