

# Darwin Initiative

## Half Year Report (due 31 October each year)

**PLEASE NOTE: Due to the increased number of reports expected in 2005, we will not be able to confirm receipt of reports but will contact you individually should any questions arise**

<b>Project Ref. No.</b>	162/12/012
<b>Project Title</b>	Xate palms ( <i>Chamaedorea</i> spp.) in Belize: conservation and sustainable management
<b>Country(ies)</b>	Belize
<b>UK Organisation</b>	The Natural History Museum
<b>Collaborator(s)</b>	Belize Forestry Department; Belize Botanic Gardens
<b>Report date</b>	13 <sup>th</sup> October 2005
<b>Report No. (HYR 1/2/3/4)</b>	3
<b>Project website</b>	

**1. Outline progress over the last 6 months (April – September) against the agreed baseline timetable for the project (if your project has started less than 6 months ago, please report on the period since start up).**

The last six months have seen many advances in the work programme, and the project is continuing to meet its many objectives on schedule.

- Two training outputs were scheduled to be completed during the current recording period. These comprised a cultivation manual to *Chamaedorea*, and a sustainable use poster. The manual has been completed. The poster has been designed and will be printed before the end of October. A web link to the manual can be found at: [http://www.belizebotanic.org/xate\\_manual.pdf](http://www.belizebotanic.org/xate_manual.pdf) The Belize Botanic Garden and the Ya'axche' Conservation Trust jointly produced this publication.
- 2005/2006 sees a continuation of the training, education and fieldwork programmes. Since April 2005, fieldwork has been completed in three more forest reserves – Freshwater Creek, Sittie River and the Colombia forest Reserve, with an additional assessment of the Bladen Nature Reserve. This only leaves one more reserve to be surveyed. This will take place in December 2005. Fieldwork has involved the training of local NGO and community groups, with approximately 60 people days being spent in the field since April 2005. A training workshop for teachers, using xate as a model for sustainable use of non-timber forest products is planned for November 2005.
- Resampling of the permanent xate plots in the Chiquibul Forest Reserve will take place in November 2005 (Holly Porter Morgan), and again in December 2005 (Nick Wicks).
- One of the highlights of this reporting period will be a xate project workshop due to be held in Belize on the 27<sup>th</sup> and 28<sup>th</sup> October 2005. This will bring together over 30 people from Belizean government departments, NGOs and the private sector to discuss the ecology, conservation and management of xate in Belize. It will be an extremely important event and will ensure that the findings of the project are incorporated into forestry policy. This is an additional project output, but will be one of the most significant of this reporting year.

- The Belize Botanic Garden has been busy with xate education and horticultural activities. Since April 2005 over 200 primary school children have been introduced to xate via the BBG's education programme, and a xate display has been presented at the National Agriculture Show. In June and July an agricultural intern (Josue Ramos) was based at the BBG and given training in xate cultivation. In addition, the demonstration plots have been maintained, with a labourer (Ortensio Mai) hired to assist with this. In July, Lloyd Chan of the BBG visited the Union Maya Itza xate plantation in Guatemala, together with a group of Belizean farmers and representatives from a number of societies including Itzamna, ACICAFOC, Bullet Tree (Amigos del Pilar) and Santa Familia, San Antonio farmers co-op and the Ministry of Agriculture, including chief Agriculture officer Eugene Wight. In September, the BBG received a request from the Ministry of Agriculture to assist in setting up a xate demonstration plot at Central Farm. The BBG donated 3000 *C. oblongata* and 4000 *C. elegans* seedlings to this new initiative.
- Our new project partner in the south of Belize (the Ya'axche' Conservation Trust) has also been active since April 2005, the work of the last few months focusing on developing their xate nursery which currently contains 50,000 xate seedlings. This nursery will play an important role in planned agricultural extension initiatives and education programmes in Toledo district later this year.
- Since April, Kimo Jolly has continued visiting secondary schools in Cayo District, giving talks on xate, and facilitating fieldwork trips into the forest for students. In addition, 15 students from Eden Highschool were taken to the Chiquibul Forest for a five day field excursion and 60 students from three classes at St Ignatius Highschool were given a xate powerpoint presentation, in advance of two one day field trips to Las Cuevas scheduled for the end of October. Kimo has also lectured on xate to 20 ecology students from the University of Belize (12<sup>th</sup> October) and is organising a fieldtrip for them in November.
- GIS training for this period has also been completed, with two members of the Belizean Forestry Department (Ivis Chan and Percival Cho) visiting the NHM in June where they worked with Dr. Malcolm Penn, the NHM's GIS specialist.
- In terms of NHM staff time spent in Belize, by the end of this six month reporting period, three weeks will have been spent in-country. The period May – September is usually avoided for fieldwork due to the Belizean rainy season. However, field time will rise to 10 weeks by mid December. This is the formal amount specified by the project. However, it is likely that this will further increase in the New Year with an extra two trips planned by NHM staff.
- The molecular work on *Chamaedorea* genetics has continued in the laboratory of the NHM, working on the samples collected in Belize earlier this year. A number of different protocols have been tested, and although initially good AFLP results were obtained, subsequent results have been disappointing. In an attempt to break the laboratory impasse it has been decided to outsource the analysis of AFLPs to New Mexico (**see next section**).
- Scientifically, the research is already beginning to generate peer-reviewed publications. The first project publication outlining a molecular phylogeny of *Chamaedorea* was submitted in the last reporting period. This has now been accepted for publication by the journal *Molecular Phylogenetics and Evolution*. In addition, a paper reviewing the xate industry and making an economic assessment of the xate resource in the region of the Greater Maya Mountains of Belize was submitted to the journal *Economic Botany* in September 2005. It is anticipated that one further paper will be submitted during this reporting year.

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**2. Give details of any notable problems or unexpected developments that the project has encountered over the last 6 months. Explain what impact these could have on the project and whether the changes will affect the budget and timetable of project activities.**

The only unexpected problem has been the failure to establish a successful AFLP protocol at the NHM laboratory (**see above**). In order to ensure that the molecular objectives of the project are achieved, Christine Baker of the NMSU lab has agreed to generate AFLP data from roughly 100 samples of fishtail. Christine has already completed an AFLP study where she investigated the species boundary between *Chamaedorea tepejilote* and *C. alternans*. She has also been teaching other students AFLP in her laboratory. She will begin work in November 2005 and it will be known by Christmas whether this will be successful. However, the project is still on schedule, as the completion of genetic analyses is not scheduled for completion until 2006. The outsourcing of the laboratory work will have no impact on the budget.

<b>Have any of these issues been discussed with the Darwin Secretariat and if so, have changes been made to the original agreement?</b>	
N/A	
<b>Discussed with the DI Secretariat:</b>	N/A
<b>Changes to the project schedule/workplan:</b>	No

<b>Are there any other issues you wish to raise relating to the project or to Darwin's management, monitoring, or financial procedures?</b>
No

**If you were asked to provide a response to this year's annual report review with your next half year report, please attach your response to this document.**

**Please note: Any planned modifications to your project schedule/workplan or budget should not be discussed in this report but raised with the Darwin Secretariat directly.**

Please send your **completed form by 31 October each year per email** to Stefanie Halfmann, Darwin Initiative M&E Programme, [stefanie.halfmann@ed.ac.uk](mailto:stefanie.halfmann@ed.ac.uk). The report should be between 1-2 pages maximum. **Please state your project reference number in the header of your email message.**