

Darwin Initiative: Half Year Report

(due 31 October 2007)

Project Ref. No.	14-001
Project Title	Conservation and monitoring of Meso-American orchids
Country(ies)	Costa Rica
UK Organisation	Royal Botanic Gardens, Kew (RBG Kew)
Collaborator(s)	Lankester Botanical Garden (LBG), University of Costa Rica (UCR)
Project Leader	<i>Dr Vincent Savolainen</i>
Report date	31 October 2007
Report No. (HYR 1/2/3/4)	HYR 3
Project website	http://www.jardinbotanicolankester.org/esp/project_a.html

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).

All agreed objectives set in the baseline timetable detailed in the last annual report and project application have been met as follows:

The DNA barcoding library for Mesoamerican orchids has been enhanced, from a matrix of 432 sequences to one comprising 1607 sequences.

Project partners from RBG Kew (Guillaume Gigot and Martyn Powell, along with RBG Kew GIS specialist Steve Bachman) visited Costa Rica to discuss the project with in-country collaborators and work on several components of the project (April 2007).

The databases of LBG were assessed for their viability to provide sufficient data for red list assessments of orchid species; 194 species were identified as being suitable for red listing and of these 190 have had preliminary assessments carried out (including for 84 species from the three project monitoring sites).

A GIS and red listing training course ('GIS and Red List Conservation Assessment') was held in collaboration with Prof. Francisco Aguilar from Laboratorio de Geomaticá, at UCR during April 2007. The course was attended and well received (see Appendix 1) by 15 students from UCR (See: http://www.ucr.ac.cr/mostrar_noticia.php?ID=833).

Results of the project were presented at the Second International Barcoding Conference in Taipei (September 2007), which was attended by Costa Rican project leader Jorge Warner (LBG). The project was also publicised in talks by Diego Bogarín presented at LBG and RBG Kew, and in the publication of the article by project officers in the *Orchid Review* (published in the July 2007 issue).

Eight scientific papers submitted resulting from the work of the project have been either published or submitted (1: Dressler, R.L & D.Bogarín. Submitted. *Elleanthus ligularis*, a name for a relatively common "new" species of *Elleanthus* Sect. *Chloidelyna*. Lankesteriana; 2: Bogarín, D. Submitted. A new *Lycaste* (Orchidaceae: Maxillarieae) from Costa Rica. Lankesteriana; 3: Lahaye, R., M. van der Bank, D. Bogarín, J. Warner, F. Pupulin, G. Gigot, O. Maurin, S. Duthoit, T. Barraclough, V. Savolainen. Submitted. DNA Barcoding the Floras of Biodiversity Hotspots; 4: Pupulin, F. & D. Bogarín. 2007. A second species of *Restrepiella* (Orchidaceae:Pleurothallidinae). *Willdenowia* 37: 323-329; 5: Dressler, R.L. & D. Bogarín. 2007. Two attractive new species of *Sobralia* from Panama. *Orchids* 76 (9): 696-701; 6: Dressler, R.L. & D. Bogarín. 2007. A new and bizarre species in the genus *Condylago*

(Orchidaceae:Pleurothallidinae) from Panama. Harv. Pap. Bot. 12 (1): 1-5; 7: Bogarín, D. & F. Pupulin. 2007. Las orquídeas del Parque Nacional Barra Honda, Guanacaste, Costa Rica. Lankesteriana 7 (1-2): 446-449; 8: Gigot, G., J. Van Alphen-Stahl, D. Bogarín, J. Warner, M.W. Chase & V. Savolainen. 2007. Finding a suitable barcode for Mesoamerican orchids. Lankesteriana 7 (1-2): 200-2003).

The target for 600 samples available for DNA barcoding work in LBG's silica-dried collection has been surpassed (1012 samples in the collection) and 246 of these have been sent to RBG Kew for extraction.

Collection of orchid samples was aided by new collecting permits which were obtained from MINAE (for a period from 16 July 2007 to 15 July 2008). A total of 978 new specimens were collected from 18 field trips (with assistance from UK project partners on two trips during April 2007).

The Coco Island monitoring site was revisited (nine-day trip, April 2007) by the RBG Kew and Costa Rican project officers, in addition to one student from UCR (Jose-Daniel Zuniga). Sampling of the Island's flora was improved with the collection of 577 samples.

Diego Bogarin (LBG) visited RBG Kew for two months (August/September 2007) to work on various aspects of the project and receive further training in molecular biology techniques.

Collaboration with other Costa Rican institutions was enhanced, as Diego Bogarín collaborated with a project called Digital Flora of the La Selva Biological Station, part of the OET (Tropical Studies Organization). He helped with orchid identification and sharing knowledge with the research team of the Project (See: http://sura.ots.ac.cr/local/florula3/fr_colab.php). He was also invited to give a talk about Lankester Garden Projects and the Darwin Initiative Project to 40 students of the course Costa Rican Natural History. This course is for undergraduate students at School of Biology, UCR led by Professor Gerardo Avalos.

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.

None encountered.

Have any of these issues been discussed with the Darwin Secretariat and if so, have changes been made to the original agreement?

N/A, although the Secretariat agreed for some of last's year money to be carry forward this year

Discussed with the DI Secretariat: no/yes, in..... (month/yr)

Changes to the project schedule/workplan: no/yes, in.....(month/yr)

3. Are there any other issues you wish to raise relating to the project or to Darwin's management, monitoring, or financial procedures?

N/A

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.