

Darwin Initiative: Half Year Report

(due 31 October 2007)

Project Ref. No.	15-013
Project Title	Biodiversity and sustainable development of butterfly production (Lepidoptera) in Guyana
Country(ies)	UK and Guyana
UK Organisation	University of Warwick
Collaborator(s)	Iwokrama International Centre for Rain Forest Conservation and Development, Natural History Museum, Kew Gardens, Matthews Payne and Bond LLP, The University of Guyana
Project Leader	<i>Dr Doreen Winstanley</i>
Report date	<i>October 31st 2007</i>
Report No. (HYR 1/2/3/4)	<i>2007/1</i>
Project website	<i>www.guyanabutterflies.com</i>

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).

This report will address progress towards the five outputs:

1. Butterfly diversity knowledge
2. Butterfly farming (scientific)
3. Butterfly farming (economic)
4. Business community development
5. Capacity building
6. Dissemination

1. Butterfly biodiversity knowledge

Monthly butterfly collections from the six selected 1km trails, using netting, were started in November 2006; however more comprehensive monthly butterfly surveys, using both netting and baited traps to catch butterflies, were started later, in July 2007. Monthly collections will continue until July 2008, so that the seasonality of different species of butterflies can be recorded for the Iwokrama forest and the North Rupununi district, for the first time. This will inform butterfly farming and ecotourism. Approximately 2000 specimens were brought into the UK (with EPA approval), in July, in the rainy season, because the butterflies were deteriorating and the MSc student responsible for the butterfly biodiversity survey had resigned. These will be identified in the UK. Butterflies from the nine different families have been collected. The MSc student (Ms Kaslyn Holden) was replaced by Ms Gyanpriya Maharaj (Priya), in August and she has made excellent progress, having set and dried nearly 500 specimens. Volunteers from the University are being organised at the CSBD to help with the large number of butterflies that need to be set and dried. All the butterflies collected have been given a unique number and have been entered on the database, together with details of capture location, date, and weather conditions. The butterfly collections from the project have been organised into months in which

they were collected. Problems occur due to the high humidity in Guyana which causes unprocessed butterfly specimens to deteriorate rapidly. Further training will be given on butterfly identification in December 2007 when the UK team visits. This is necessary to reinforce previous training for the whole team and to help Priya, who missed the earlier workshops. A comprehensive collection of butterfly books has been purchased to aid identification of unfamiliar species. These will be left in the CSBD in Guyana when the project is completed. Further help will be given on the next visit to identify the butterflies collected. Preparation and identification of the butterfly specimens is time consuming and there are potential problems relating to lack of suitable storage cabinets for the butterflies. This collection will deteriorate without suitable storage.

An appraisal of the existing butterfly collections in the CSBD at the University of Guyana was carried out by Neil Naish, from Warwick, in July 2007. The Guyanese butterfly collections of Fratello are held at the Smithsonian Institute and the catalogue in Guyana is not complete. Ms Carol Kelloff may provide the missing information (kelloffc@si.edu).

2. Butterfly farming scientific

It is important to identify the host plant for some of the different species of Morpho species identified in the area, since these have a high value on the market. The team is engaging the local people to help with this task. Experiments will be carried out using the host plants that have been indicated by local people. We anticipate that many leguminous hosts are being used by the different Morpho species so far identified along with Bamboo for others. Heliconius species have been recognised as having great potential and most have been identified including Passiflora host-plants. This group of butterflies has great potential for creating revenue and with short lifecycles provides the opportunity for more intensive training. Planting on the butterfly house site has been carried out and will be developed on each visit.

Pupae have been reared for several butterflies, from egg to imago, on plants in the garden at the butterfly farm. Cameras are extremely valuable for recording stages in the life cycle. Detailed experiments will be conducted in the near future to determine host plants and rear the marketable species on the farm. This will be possible now that the community surveys have been completed.

3. Butterfly farming economic

It is difficult for the team to maintain the garden on the site of the butterfly farm at Fairview because the butterfly surveys and the community surveys can take up to 15 days per month. Therefore, staff (a couple, Oldaf Bowen and his wife) from Fairview has been employed by the project to manage the garden at the butterfly farm and to keep it weed free. In addition, trainee rangers have volunteered their help. The team have worked hard to progress the farm. A range of butterfly host plants have been planted in the garden, including three species of Passiflora (*P. coccinia*, *P. foetida*, *P. auriculata* and *Passiflora sp* (batwing type) (for Heliconids), Cassia (for Sulphurs), *Piper nigra* for *P. thoas*. Citrus and Lantana (nectar source) have also been planted and Musa plants are on site. The frame of the butterfly house is complete and insect proof netting and clear plastic corrugated roofing are required to cover the structure before farming can commence. These will be purchased from Brazil in December, when the UK team visit. Currently, a well is being dug on the farm for irrigation. The butterfly farm at Fairview will become the training centre for interested communities. This will be important since we are informed that the people of the North Rupununi "learn by doing". We have identified Surama (half savannah and half forest) with experience in the honey project and ecotourism and Aranaputa (savannah), in conjunction with Bina Hill Institute and the Wetland project as other potential sites. However, it will not be possible to establish many significant farms in this project due to cost and resources but we intend to introduce communities to local pupae production by introducing the technique of netting branches of established trees and whole plants for pupa production, probably with the help of the wildlife clubs.

4. Business/community development

Regular contact is maintained with Dr Alorna Sankar, the head of the Wildlife Division, regarding the acquisition a butterfly export license for the business and there were no major objections at their last Board meeting. We keep her updated with progress regarding the development of the butterfly farm. Apparently, there are no specific laws regarding butterflies. The only closely related document that is being used is the Species Protection Regulation, 1996, but this deals with the export of wild caught animals for export in the wildlife/pet trade. The authorities have asked for assistance in understanding of the farmed butterfly trade. As a result many related policies are being studied by both the authorities and the project to develop an understanding that will guide the project on a legal basis.

In the recent visits to the different communities support was expressed for using the butterfly farm at Fairview as a butterfly training centre. They are interested in this project becoming a reality.

Sixteen communities come under the NRDDDB and ten of these were surveyed in August and September, the remaining six will be surveyed in October. The two surveys, to determine the knowledge, interest and impact of the butterfly farming project in the communities were targeted at adults and children, respectively. The regular visits to the communities have allowed good relationships to develop. The villages nearest the butterfly survey sites have frequent interactions with the team.

The team attended the NRDDDB board meeting on August 24th 2007 to update members. Presentations were made to members from the communities by the two rangers Arnold Jacobus and Ryan Roberts and the two community representatives, Verly Jacobus and Delano Davis at the Iwokrama Field Station on July 8th 2007. It was well presented and all spoke and contributed to question time. All were positive and felt part of the project. The project was generally well received, only Rupertee was not interested on this occasion

Promotion of the butterfly project has been very effective involving different media e.g. radio, television, bulletins and social gatherings. Neil Naish and the two MSc students presented the project on TV in Guyana. A presentation on the butterfly project was prepared for broadcasting on Radio Paiwomak for the end of September. The project had a presence at this year Amerindian Heritage celebrations at Annai, in September.

5. Capacity building

As mentioned previously the structure of the butterfly house is in place but requires an insect proof covering and a plastic roof. This is in progress. In the near future there will be more time to focus on butterfly rearing and host plant propagation.

Training

The training workshops for the team have become protracted since it is apparent that it is better to repeat and develop sessions e.g. butterfly identification and butterfly farming. Training is a continuous process and is reinforced by the UK team on each visit. It was not possible to do the insect disease workshop in July since Doreen Winstanley was unfit to travel; however further training was carried out by Neil Naish on butterfly farming and identification. A replacement MSc student involved in butterfly biodiversity started in August and has therefore missed the training workshops. Relevant training will be repeated for all the team during the UK partners next visit to Guyana in December. We will spend time at CSBD organising specimens and helping in butterfly identification. All the workshops will be completed by December 2007.

GIS training, using ArcView, was provided for the team. It will be possible to record specific locations where species of butterflies are found and link this information to local habitat/forest types. This is a valuable tool, which could be valuable to the butterfly survey and conservation.

The team has completed two out of the three Radio Paiwomak training sessions and a third session is scheduled for October 17th to 19th.

6. Dissemination

The project website has made progress and photographs, reports and information are being added. There are delays in the logframe timetable due to the late start of the team and a replacement MSc student and amendments have been made to reflect this. The handbooks are embryonic and development of the handbooks will be given a high priority.

As described earlier the project has been promoted widely at the community level and recently at National level. This is important for the success of the project.

Butterfly farming demonstrations for interested communities will take place at the butterfly farm. However, members of the team will promote pupae farming in the communities using netted branches in the first instance.

The wildlife clubs have been pivotal as a vehicle for educating the communities about butterflies and publicising the project. Verly Jacobus, a team member, is involved in the wildlife clubs and has regular contact with the younger members of the communities.

An article was published in the Wetland bulletin in September.

The UK team maintain regular contact with the in-country partners on each visit and the MSc students are seconded from the Iwokrama International Centre and the University of Guyana, respectively. We will visit the Ministry of Amerindian Affairs in December, our first visit. We will also attend the NRDDDB Board meeting and revisit the British High Commission on our next meeting. We will take the two MSc students to visit Kew Gardens and the Natural History Museum when they visit in March 2008. Contact has been made with both organisations and will visit the butterfly collection belonging to the NHM. We intend inviting a botanist from Kew gardens to accompany us on our next visit.

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 MSc student Kaslyn Holden involved in butterfly biodiversity resigned from the team due to personal circumstances. She was replaced in August by Gyranpriya Maharaj (Priya) a lecturer from the University of Guyana. This has resulted in a backlog of butterfly specimens for processing at the CSBD, however this is being addressed but it will take time to deal with the backlog. The MSc student will finish her MSc in October 2009, which means that the student will not be funded by Darwin from November 2008. However, the butterfly surveys will be completed and her research can be continued at the University.

Neil Naish has left the University and will be given a contract to continue his vital contribution to the project. All future visits to the rainforest have been planned in agreement with his new employer. There will be no budget or timetable changes.

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

These issues have been discussed with the Darwin Secretariat. No changes have been made to the original agreement.

Discussed with the DI Secretariat: yes, in...Nov/2007

Changes to the project schedule/workplan: yes, in...Oct/2007

3. Are there any other issues you wish to raise relating to the project or to Darwin's

management, monitoring, or financial procedures?

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 email** to Eilidh Young, Darwin Initiative M&E Programme at Darwin-Projects@ectf-ed.org.uk . The report should be between 1-2 pages maximum. **Please state your project reference number in the header of your email message eg Subject: 14-075 Darwin Half Year Report**