

# Darwin Initiative for the Survival of Species

## Half Year Report Form

<b>Project Title</b>	Developing local capacity for biodiversity surveys in Papua New Guinea
<b>Country</b>	Papua New Guinea
<b>Organisation</b>	University of Sussex and Parataxonomist Training Centre (PTC), Madang, PNG
<b>Project Ref. No.</b>	162 / 10 / 030
<b>Report date</b>	30 October 2003

### **1. Outline progress over the last 6 months 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 main progress milestones of this reporting year were: (i) continued training of parataxonomists (the project's main objective) in PNG as well as overseas, including two parataxonomists trained at three UK institutions and briefly also at research institutions in three other countries, (ii) continued MSc. research training for a PNG student from University of Technology resident at PTC, (iii) completion of one biodiversity survey, (iv) attendance by parataxonomists at one national and two international conferences, giving oral presentations and posters, (v) development of a village ecotourism project, (vi) further development of a village-based field research station lead by a parataxonomist, and (vii) grassroots education, including the completion of a number of educational leaflets in Tok Pisin and English. Details on each of these are provided below:

#### **(i) Training of parataxonomists in PNG and overseas**

Training of the parataxonomist team continued at PTC led by Dr Vojtech Novotny. The training has also benefited from long-term stays at PTC by PNG and overseas M.Sc. and Ph.D. students (Darren Bito, Rapo Pokon, Gregory Setliff - entomology and Daniel Stancik - botany) who assisted in training and helped to create an intellectually stimulating environment at PTC.

The second of the three planned overseas training visits was successfully completed. Two parataxonomists, John Auga and Richard Kutil, visited three academic institutions in the UK:

- (a) University of Sussex, hosted by Dr Alan Stewart. The parataxonomists were introduced to a variety of field ecological techniques and UK habitats, including temperate deciduous forest as a comparison to tropical forest. Day visits were made to the Natural History Museum in London where they were able to see and discuss the work done by insect taxonomists specialising in Lepidoptera, Hymenoptera and Coleoptera. At Sussex University, they were given training in various laboratory techniques including insect mounting techniques and examination of specimens using a Scanning Electron Microscope.
- (b) National Museums & Galleries of Wales, Cardiff, hosted by Dr Mike Wilson. The parataxonomists were given an introduction to the museum's insect collections and taxonomic facilities (including photomicroscopy, morphometric analysis and freeze drying). They were also given training in taxonomic and curatorial techniques and were able to see how a major national museum operates. They visited a number of local habitat types, including montane environments, and were able to see a variety of

agricultural systems.

- (c) Royal Botanic Garden and Herbarium, Kew, hosted by Drs Tim Utteridge, Simon Owens and Rogier de Kok. The parataxonomists were given an introduction to the systematics and phylogeny of key plant groups and training in botanical curation techniques. They were shown the experimental work done by Kew and given the opportunity to discuss issues associated with particular plant taxa found in PNG.

Furthermore, other overseas collaborators with PTC invited the two trainees (as well as another PTC parataxonomist, Brus Isua) to visit their institutions where they obtained additional training. These visits, funded from non-Darwin sources, represent significant added value to the Darwin-sponsored training in the UK and were made possible by the Darwin programme. Their programme included visits to:

- (a) Smithsonian Tropical Research Institute, Panama, hosted by Dr Yves Basset. The parataxonomists visited the canopy crane facility at Port Sherman and were taught insect collecting methods using the crane. Furthermore, this was their first experience of tropical environments outside New Guinea and it provided an opportunity to visit a Neotropical forest.
- (b) Department of Plant Biology and the Bell Museum of Natural History at the University of Minnesota, St. Paul, USA, hosted by Dr. George Weiblen. The parataxonomists visited plant collections and molecular biology laboratories, where they sequenced plant material previously collected in PNG by them and were taught the general rationale of phylogenetic studies using molecular data. They also visited the Bell Museum exhibit on PNG plants.
- (c) Institute of Entomology of the Czech Academy of Sciences and the University of South Bohemia, Ceske Budejovice, Czech Republic, hosted by Dr. Vojtech Novotny, Prof. Jan Leps and postgraduate students Lukas Cizek, Milan Janda and Jiri Hulcr with whom they had worked in PNG in the past. The parataxonomists visited several nature reserves demonstrating Central-European ecosystems. They completed botanical surveys of permanent plots as a training exercise that provided them with a comparison to analogous plots in PNG. They also took part in an introductory biology field course organised by the University of South Bohemia for undergraduate biology students. Also, visits to several farms informed them about European agricultural methods.

## **(ii) Student training**

Mr. Rapo Pokon, a graduate student from the University of Technology, Lae, PNG, continued his M.Sc. research, based at PTC as a Darwin-sponsored in-house student; Lawong Balun (University of Technology, Lae) and Vojtech Novotny serve as his co-supervisors, with John Mukiu (University of Technology, Lae) as the principal supervisor. His research on diversity in root-feeding chrysomelid beetles has progressed well and he was able to report on his results so far at the 5th New Guinea Biological Conference (see below). He also gave a mid-study seminar on his results at the University of Technology, which was well attended and well received.

## **(iii) Biological surveys**

Our programme of light-trap surveys continued with an additional survey on Misima Island (Milne Bay Province, PNG). This survey was the last of a series of three surveys in this particularly interesting area. We originally planned only one survey in each major geographical area of PNG. However, we decided to modify this programme as the Misima surveys presented an unique opportunity to compare moth communities in three contrasting habitats: primary

forest, secondary re-growth after traditional slash-and-burn agriculture and artificially revegetated areas after gold mining. The survey conducted in this reporting period provided 6,000 mounted and spread moth specimens.

#### **(iv) Scientific conferences**

**5<sup>th</sup> New Guinea Biological Conference, "Conservation through Education and Research", Goroka University, Goroka, Papua New Guinea, 23-25 August 2003:** Three parataxonomists (Joseph Kua, Borenke Kaupa, and Martin Mogia) as well as M.Sc. student Rapo Pokon participated. They presented their own research in the form of three oral presentations and one poster:

Kua, J., Kaupa, B., Nimai, K., Eresula, L., Auga, J., Boen, W., Isua, B., Kutil, R., Manaono, M., Manumbor, M., Molem, K., Mogia, M. & Tamtia, E. (2003) Caterpillars feeding on *Piper aduncum* (Piperaceae), an alien tree in Papua New Guinea, at high and low elevations. (oral presentation).

Mogia, M., Andreas, M., Hulcr, J. & Setliff, G. P. (2003) Host specificity of bark beetles (Curculionidae: Scolytinae and Platypodinae) in lowland rainforests of Papua New Guinea. (oral presentation).

Pokon, R. & Setliff, G. (2003) Host specificity of leaf beetle larvae (Chrysomelidae) feeding on the roots of trees in the lowland rainforest in Madang, Papua New Guinea. (oral presentation).

**"Biotic Interactions in the Tropics", Conference organised by the Association for Tropical Biology and Conservation and the British Ecological Society, Aberdeen, UK, 7-11 July 2003:** One parataxonomist (John Auga) and two Project Leaders (Alan Stewart and Vojtech Novotny) participated (Richard Kutil was unable to attend due to illness). John Auga presented a poster:

Auga, J., Kutil, R. & Isua, B. (2003) Host specificity of cerambycid beetles (Cerambycidae) and fruit flies (Tephritidae) in a lowland rainforest in Papua New Guinea.

**Royal Entomological Society Symposium on "Insect Evolutionary Ecology" and National Meeting, Reading, UK, 27-31 July 2003:** Two parataxonomists (John Auga and Richard Kutil) and the Project Leader (Alan Stewart) participated. The poster Auga *et al.* (see above) was presented.

#### **(v) Village ecotourism project**

We have further developed the Jeolmanu Waterfall eco-tourism project in Ohu Village (Madang Province, approximately 15 km from PTC) that was initiated last year. The tourist track through the rainforest to local waterfalls was sufficiently advanced by the local village landowners to be launched officially as one of the Madang tourist attractions. The launching ceremony was attended by many visitors from neighbouring villages, local and overseas tourists and the national press. It was accompanied by traditional dancing and deemed to have been a significant success.

#### **(vi) Village-based field station**

As a part of the parataxonomist training, we have further developed a village field station, lead by senior PTC parataxonomist Brus Isua. A new research project on insect host specificity was

initiated there that includes training of two laboratory assistants by B. Isua. Furthermore, a public display for environmental leaflets was built next to the laboratory building that will serve to inform both local villagers and tourists on the laboratory's activities.

### **(vii) Environmental education**

The PTC parataxonomists continued their programme of developing educational leaflets; 21 were written in Tok Pisin or English:

Andreas, M. (2003) Binatang em spesol. (Protect insects)

Andreas, M. (2003) Orchids: Lukim wanem spesol long lukautim bus? (Orchids: something to protect in the forest)

Andreas, M. (2003) Tuna tin fish factory in Madang: Yu laikim wanem kain developmen? (Tuna fish factory in Madang: What kind of development do you like?)

Boen, W. (2003) Butterfly Farming Manual. 15 pp

Boen, W. (2003) Wildlife facing extinction in PNG.

Kutil, R. (2003) Yu save holim tumbana pasin bilong yu yet o nogat? (Do you keep your traditions?)

Kutil, R. (2003) Jayapura town life.

Kutil, R. (2003) Bai yu kisim pis olsem o nogat? (How will you fish in the future?)

Kutil, R. & Auga, J. (2003) Traditional life style in Papua New Guinea. 10 pp.

Manumbor, M. (2003) Kapul bilong diwai o bilong graun? (Small rainforest mammals)

Manumbor, M. (2003) Namba bilong trausel i go down (Turtles are disappearing)

Manumbor, M. (2003) Unique biological richness in Papua New Guinea

Manumbor, M. (2003) Lip i kisim hamas de? (How long does it take for a leaf to grow?)

Mogia, M. (2003) Wanem binatang save kaikai diwai i dai (What insects kill trees?)

Mogia, M. (2003) Labelling insect specimens.

Mogia, M. (2003) Traditional ways of cooking food in PNG.

Mogia, M. (2003) Vegetation types on Mt. Giluwe.

Mogia, M. (2003) Some bark beetles of Madang, Papua New Guinea.

Mogia, M. (2003) Methods of collecting insects.

Mogia, M. (2003) Lukautim bus, graun, wara na olgeta ol animols. (Protecting forest, water and fauna)

Mogia, M. (2003) Kalsa em wanem samtink? (What is the meaning of the traditional culture?)

## **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 effect the budget and timetable of project activities. Have any of these issues been discussed with the Department and if so, have changes been made to the original agreement?**

The initial problems with obtaining visas for UK personnel visiting PNG, referred to in previous reports, have now been resolved. Both Dr Alan Stewart and Dr Mike Wilson have research visas covering the duration of the rest of the project.

The work programme for this half year has progressed according to schedule, with all planned outputs achieved. There are no significant current problems, nor do we envisage any future problems that would affect the successful completion of the project.

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

**Reviews of annual reports:**

I have been expecting, and have requested, feedback on our annual reports. For example, I highlighted in our October 2002 half annual report the fact that no feedback on our previous reports had been received. I raised this matter with a member of ECTF at the recent Darwin Seminar in London on 22<sup>nd</sup> October 2003. ECTF were apparently unaware that I had not received either of these reviews; had I not mentioned it at the Darwin Seminar, that state of affairs would presumably have persisted.

I received copies of the reviews of both our first and second annual reports on 28<sup>th</sup> October. A number of useful and insightful comments and requests for clarification were made in both reports, to which I will be responding in due course. However, I was alarmed to see that the second review made a point of highlighting the fact that "a number of questions ... were posed in the last project review but remain unanswered" and that "no subsequent clarification has been provided (but) the concerns are still real".

As I did not receive the review of our first annual report, I was unable to provide responses to these comments. I have received an assurance from ECTF that my lack of response so far to either review will not be misconstrued as non-cooperation with the project review process. However, with only ten months of the project left to run, there may be limited scope for making some of the adjustments suggested by the reviewers. Again, I trust that this will be taken into consideration when the project is reviewed after its completion.

Please send your **completed form by 31 October each year per email** to Stefanie Halfmann, Darwin Initiative M&E Project Manager, Email: [stefanie.halfmann@ed.ac.uk](mailto:stefanie.halfmann@ed.ac.uk)