

DARWIN INITIATIVE FOR THE SURVIVAL OF SPECIES : APPLICATION FOR GRANT FOR ROUND 9 COMPETITION

Please read the accompanying Guidance Note before completing this form. Give a full answer to each section; applications will be considered on the basis of information submitted on this form. Applicants are asked not to use the form supplied to cross refer to information in separate documents except where this is invited on the form. The space provided indicates the level of detail required but you may provide additional information on a separate sheet if necessary. Copies of this form are available on disk or by e-mail on request. You are asked also to complete the summary sheet attached at the end of this form. Although you may reproduce this sheet in a reasonable font, you should not expand it beyond an A4 sheet (leaving the allocated space for DETR comments to be made) as additional information will not be taken into account.

1. Name and address of organisation

UNIVERSITY OF SUSSEX, FALMER, BRIGHTON, EAST SUSSEX BN1 9QG, UK

2. Principals in project

Details	Project leader	Other UK personnel (if working more than 50% on project)	Main project partner or co-ordinator in host country
Surname	Stewart	Wilson	Novotny
Forename(s)	Alan J. A.	Michael R.	Vojtech
Post held	Lecturer in Invertebrate Ecology	Head of Entomology	Director
Institution (if different to the above)		National Museums & Galleries of Wales, Cardiff.	Parataxonomist Training Center, Madang, PNG
Department	School of Biological Sciences	Biodiversity & Systematic Biology	---
Telephone			
Fax			
Email			

Please provide a one page CV for each of these named individuals.

3. Project title (not exceeding 10 words)

DEVELOPING LOCAL CAPACITY FOR BIODIVERSITY SURVEYS IN PAPUA NEW GUINEA

4. Abstract of study (in no more than 750 characters)

A team of parataxonomists will be trained to (1) design and implement biodiversity surveys, (2) process and evaluate plant and insect samples, (3) produce high quality biological specimens, (4) document the specimens by digital photography, and (5) summarise the information in electronic databases, field guides, technical reports, education leaflets for grassroots landowners and www pages. Six remote areas will be surveyed, generating important data and specimens significantly expanding the national insect collection. The parataxonomists will become a fully localised source of expertise on biodiversity surveys, producing data and material for (inter)national nature conservation and sustainable forest use projects and national collections. Six parataxonomists will benefit from four weeks of expert training in the UK.

5. Timing. Give the proposed starting date and duration of the project.

June 2001, for three years

6. Describe briefly the aims, activities and achievements of your organisation. (Please note that this should describe your unit, institute or department within a university.)

Aims

The mission of the University of Sussex is to advance learning and knowledge through teaching and research, in an innovative, interdisciplinary and international environment, and in a manner which meets the needs of the individuals and the society which it serves. The School of Biological Sciences seeks to integrate study and internationally-recognised research across all branches of biology, in an interdisciplinary manner that is free from the constraints of traditional boundaries between disciplines such as botany and zoology.

Activities

Teaching activities within the School span the complete range of biological sciences, from biology and biochemistry to psychology and at all scales of investigation from the molecular and cellular levels through to those of whole organisms, populations and communities. In addition to variations on degrees in Biology, the School also runs a very successful undergraduate programme in Ecology and Conservation with an average of 25 entrants per year. The School provides an exceptional environment for research with an impressive range of interests and expertise. Those most relevant here include a large team of whole-organism biologists (currently 11 faculty and over 30 postgraduate students), with interests in ecology, conservation, behaviour, evolution, systematics, physiology and genetics, studying organismal groupings as diverse as plants, invertebrates, mammals and birds. Strong emphasis is placed on collaboration across different biological disciplines and internationally, with most faculty having joint projects with overseas partners.

Achievements

The School of Biological Sciences has been rated amongst the top UK universities for its excellence in both teaching and research. The School received the top grading (5) in the last two Research Assessment Exercises (RAE) and the University as a whole was placed amongst the top twelve in the UK. The School is internationally recognised for the quality of its research, reflected in its ability to attract large scale funding (see section 21). The most recent Quality Assurance Agency (QAA) review of teaching in biology awarded 22 points out of a maximum of 24, reflecting the excellence of teaching in a well-resourced and supportive environment.

7. Has your organisation received funding under the Initiative before? If so, please give details.

No.

8. Which overseas institutions, if any, will be involved in the project? Please explain the responsibilities of these institutions.

The Parataxonomist Training Center (PTC) in Madang (PNG) is a non-profit organisation devoted to (i) training Papua New Guineans as parataxonomists, (ii) facilitating their collaboration with various biological research projects in Papua New Guinea, and (iii) developing their educational and nature conservation programmes, targeting grassroots audiences. The Center has a staff of eight parataxonomists and several associated researchers, national and expatriate, serve as advisers and trainers. The Center will be the main facility at which the training of parataxonomists will be organised, as well as the logistical base for conducting field surveys. It will be the main beneficiary of the project as it will receive training and organisational help to make the parataxonomist team fully qualified to conduct biodiversity surveys on its own, and support itself by providing this service on the existing market for biodiversity research in PNG.

The National Agriculture Research Institute (Port Moresby) houses the best insect collection in PNG and will be the recipient of the insect material and also receive assistance and training in the curation of this material. The National Forestry Institute houses the national herbarium and will be the recipient of plant material. PTC parataxonomists also will be trained at this institute in the curation and identification of plant specimens. Bulolo Forestry College of the University of Technology and the University of PNG will each provide one undergraduate student for training in biodiversity surveys.

The PTC shall liaise with other PNG organisations participating in the project as it has already established collaboration with all of them and senior personnel from these institutions serve on the PTC Board of Advisors. The PTC will bear the main responsibility for the logistics and the promotion of the project within PNG. See <http://www.entu.cas.cz/png/index.html> for more information on the PTC.

PROJECT DETAILS

9. Define the purpose (main objective) of the project in line with the logical framework.

The project aims to transform biodiversity surveys from an overseas-driven to a local activity, relying on local experts with access to national biological collections who can establish rapport with both local grassroots landowners and international research communities. The project will create such a localised team of experts - parataxonomists, who will be able to conduct surveys of insect and plant biodiversity in PNG, provide high quality research data and material and, in collaboration with researchers, explore protocols for insect diversity surveys in rain forests. Once trained and equipped, this team will become financially independent, providing paid assistance to local landowners, environmental and government organisations and research teams. Parataxonomists will function as an ideal link between grassroots villagers, who own 97% of rainforests in PNG, and researchers and other professionals. They will educate the landowners on the implications of forest conservation vs. logging in an accessible form, including materials in the local language (Tok Pisin). The project team will survey 6 remote areas, generating important plant and insect data and specimens, significantly expanding the national insect collection. This will create baseline data and material for future surveys by the parataxonomists. The project will build on existing experience of the Parataxonomist Training Center, which will be further developed, localised and put on a financially sustainable basis.

10. Is this a new project or the continuation of an existing one?

A new project.

11. What is the evidence for a demand or need for the work? How is the project related to conservation priorities in the host country(ies)? How would the project assist the host country with its obligations under the Biodiversity Convention?

How was the work identified?

The focus on locally-based capacity for biological surveys and in-country insect collections is the result of 6 years of field experience in PNG by Vojtech Novotny and numerous discussions with the local research institutes, universities, and environmental non-government organisations. Locally available survey teams, which would be able to interact both with local people and with research professionals, both national and overseas, would greatly facilitate biodiversity research in PNG and also focus it on the genuine needs of the country. The survey situation is particularly inadequate for insects, due to the lack of a national insect collection. The existing national collections of plants and vertebrates demonstrably played a crucial role in biodiversity studies of these taxa. Expanding the existing insect collection at the National Agriculture Res. Inst. through a locally sustainable programme of surveys by parataxonomists is the best way of invigorating entomological research in PNG.

How is the project related to conservation priorities in the host country?

PNG contains 5-8% of the world's biodiversity, including at least 20,000 species of plants (70% of them endemic) and a large, but unknown number of insect species. It has been designated as one of the three major tropical wilderness areas of the world, as with >34 million hectares of tropical forests, PNG ranks 9th among the most forested tropical countries. PNG is also an extremely inaccessible country with large areas first opened to the outside world only 50 years ago. Enormous tracts of forest remain biologically virtually unexplored. PNG Conservation Needs Assessment (1993) identified poor knowledge of the country's biota as a major obstacle to designing sound conservation strategies. Although 70% of the original forests of PNG are still intact, they are coming under increasing pressure due to population increase, the increasing aspirations of the people to material development, and increasing demand for PNG timber as exploitable forests in neighbouring Malaysia and Indonesia diminish. Clearly, only a part of the existing forests in PNG could be saved, and identifying those which are most valuable is currently the top conservation priority, at a time when the PNG government is considering granting major logging concessions and village landowners are considering their options for future development of their forests.

How will the project assist the host country meet its obligations under the Biodiversity Convention?

The project will have multiple beneficial effects in promoting forest conservation in PNG as it will (1) collect data on biodiversity in unexplored areas of PNG, on which conservation decisions could be based, (2) test the efficiency of various survey methods for mapping insect diversity, (3) substantially expand and invigorate the most important insect collection in the country, setting the stage for designating it the national collection and developing a national policy for deposition and management of insect material, thus stimulating in-country entomological exploration, (4) educate in accessible ways local village landowners (who are crucial in forest conservation or exploitation decisions) on their options for future forest use, using parataxonomists who come from such village communities, (5) practically demonstrate the value of the intact forests to village landowners by conducting surveys on their land, generating employment for local people, (6) provide new biodiversity information to the government (the Department of Environment and Conservation) and other PNG organisations, using well established contacts with them. In the PNG social and legal system, where local landowners play a crucial role, the parataxonomists, coming from local communities while receiving research training, are ideally suited to communicate conservation issues to the villagers, unlike university graduates, who are usually removed from village life and its concerns.

12 In what ways can this project be considered a Darwin project? How does the project relate to the Darwin principles? How would the project be advertised as a Darwin project and in what ways would the Darwin name and logo be used?

PNG is a country exceptionally rich in biodiversity and poor in resources. Our project is aimed at the conservation of biological diversity by developing a unique programme of locally sustainable biodiversity surveys by parataxonomists, drawing on untapped human resources and traditional knowledge of the natural world available in local village communities and combining it with British-based research expertise in ecology and entomology. The project is highly collaborative, relying on established ties between the University of Sussex and the Parataxonomist Training Center, which in turn collaborates with local communities, as well as key environmental organisations, universities and government institutions in PNG. The project will initiate an important programme of biodiversity surveys, which will be sustained beyond the duration of the DI funding and thus will have lasting impact on the local ability to monitor and conserve biodiversity. The educational activities of the parataxonomists will also raise awareness of the worth of rain forests and their sustainable use in local land-owning communities, which play a crucial role in future decisions on forest preservation. The research part of the project will result in significant improvement of baseline information on biodiversity data in PNG and will refine field protocols for insect diversity surveys. The excellence of the research and training is guaranteed by the publication record of senior personnel in leading journals (Proc. R. Soc., Biol. J. Linn. Soc., Ecol. Entomol., J. Ecol., Oikos, Oecologia, etc.). The project, by combining educational, research and conservation aspects and focusing on training local parataxonomists, rather than being limited to academic communities, does not fit into standard research and conservation funding programmes. DI is therefore a unique opportunity to develop such an integrated programme. The PTC and other PNG organisations are prepared to contribute staff time and use of their infrastructure in order to ensure the success of the project. By training and equipping a team of parataxonomists, the project will provide major assistance and capacity expansion for a distinct but unorthodox organisation, which has been very successful over the last 3 years (as evidenced by their record of environmental and research publications, as well as successful assistance to several research and conservation programmes). The parataxonomist programme represents a unique combination of research with local involvement, engaging landowners and local communities in conserving biodiversity through environmental education. The DI will be promoted and its logo used in all project outputs, including insect collections, publications and www pages, and on all DI equipment, including a vehicle.

13. Set out the proposed timetable for the work, including the programme's measurable outputs using the attached list of output measures.

- Jun-Aug 2001: establishment of the parataxonomist team from 8 existing and 5 new trainees, setting-up the project equipment, introductory training of parataxonomists in biology, nature conservation and computer literacy.
- Sep-Dec 2002: advanced training of parataxonomists and students in methodology of biological surveys, insect and plant collecting, preservation and labelling techniques, basic insect and plant identifications, digital photography and computer-assisted creation of environmental education materials in print and on the internet
- Jan 2002: 1st biodiversity survey (Madang Prov., lowland rain forest) with parataxonomists and students: setting-up a logistic base in the landowner's village, training local villagers as field assistants, collecting information on traditional plant taxonomy, quantitative plant and insect collections (plant plots; insect light-, malaise- and pitfall-traps and hand-collecting of insects from selected plant species) and environmental education programme for local landowners and village schools.
- Feb-Apr 2002: sorting, mounting and preliminary classification of plant and insect material from the 1st survey, digitally photographing and databasing the specimens, creation of educational materials based on the survey, preliminary data analysis and posting the results on the Internet
- May-Aug 2002: 2nd biodiversity survey and processing of the material (Enga Prov., montane rain forest)
- Sep-Dec 2002: 3rd biodiversity survey and processing of the material (Gulf Prov., lowland rain forest)
- Jan-Apr 2003: 4th biodiversity survey and processing of the material (Simbu Prov., montane rain forest)
- May-Aug 2003: 5th biodiversity survey and processing of the material (Southern Highlands Prov., montane rain forest)
- Sep-Dec 2003: 6th biodiversity survey and processing of the material (West Sepik Prov., lowland rain forest)
- Jan-Mar 2004: the integration and final analysis of all survey data, finalising specimen databases and their www publication, finalising electronic and written products based on the survey data
- Apr-May 2004: finalising deposits of insect and plant material in national collections, writing research papers, transition of the parataxonomist team from DI funding to fund-raising through provision of services on the biodiversity market.

Training will continue throughout the project; printed products will be finished in years 2-3, collections and databases in year 3.

Outputs: ●4A: 2, 4B: 40. Two B.Sc. students (Papua New Guineans) will each receive 20 weeks of training and guidance for their dissertation projects (2001-2); ●5: 13. Each of the 13 parataxonomists (all Papua New Guineans) will be trained for 3 years in PNG; 6 of them will receive 4 weeks of training in UK (2001-4). ●6A: 30, 6B: 60. 30 grassroots landowners (PNG) from 6 villages will receive 2-week instruction on environmental issues and forest conservation, organised in their villages (2002-4) ●7: 15 (each in English & Tok Pisin): 8 sets of education leaflets for schools and grassroots villagers will be created by parataxonomists assisted by researchers, addressing (1) plant life in the forests, (2) animals of the forests, (3) forest ecology, (4) sustainable forest use, (5) industrial logging and its consequences, (6) social and environmental aspects of various routes to development, (7) village forests in the context of PNG and PNG in the world, (8) traditional knowledge and scientific study of the natural world; 7 manuals on biodiversity research methods will be created by researchers assisted by parataxonomists: (1) methods of insect diversity surveys, (2) methods of plant diversity surveys, (3) methods of collecting, preservation,

documentation and curation of insect specimens, (4) ditto for plant specimens, (5) data analysis and report writing from biodiversity surveys, (6) digital photography and image processing of biological specimens, (7) web page design and on-line presentation of biodiversity data (2002-4) ●8: 18 weeks. ●10: 1. Pictorial guides for the villagers will be produced from each of the 6 biodiversity surveys, combined finally into one comprehensive guide, available in print and on the Internet (2004) ●11A&B: 6. The papers on biodiversity survey methods, insect and plant community data from the surveys, and taxonomic and faunistic analysis of selected taxa; at least 3 of them in leading research journals of the field (2004) ●12A: 1. A custom-built Access database for recording and analysis of data from biodiversity surveys, containing data from the 6 surveys completed by the project (>20,000 specimen records), will be donated to the PTC (2004) ●13A: 2. A reference collection of plants and insects (>1,000 species combined) will be established during the biodiversity surveys and donated to the PTC (2002-4) ●13B: 2. The largest insect collection in PNG will be significantly extended and enhanced (>10,000 mounted, labelled and databased specimens will be provided); some botanical specimens will also be provided to the national herbarium (2004) ●14B: 3-4. The Papua New Guineans will present DI results at the New Guinea Biological Society conference in Jayapura (2003) and at the Int. Congress of Entomology in Cairns (2004); the British researchers will have 2 presentations ●15A: 8. The project will be featured in PNG national newspapers (Post-Courier, Wantok, the Independent), magazines (Paradise Magazine) and newsletters (Diwai, NG Biodiversity Digest) (2002-4). ●15C&D: Annual local and national press releases planned in UK. ●16 & 17: 0. Existing newsletters and information networks in PNG are sufficient ●18A&C: 0. National TV has a limited coverage and impact in PNG. ●19A: 2, ●19C: 8. Local Tok Pisin radio programmes for grassroots audience, e.g. in the "Bus na Graun" (Forest and Land) series. National features in English are also planned (2002-4). ●20: 30,000. The physical assets handed to the PTC include a 4WD car, a laptop computer, and a stereomicroscope. These assets are necessary for the parataxonomist team to remain active and financially self-supporting after the DI project has ceased. ●21: 1. The team of parataxonomists formed as a result of DI will be based at the existing organisation (PTC), but as a new unit, which will independently continue its activity beyond the DI project. ●22: 6. Each location of the DI biodiversity survey will have a base established in the landowners' village, local people trained as assistants, and the survey repeated every 5 years by the parataxonomists, thus providing long-term diversity data ●23: 43,125. This is contribution in kind by the PTC, particularly for volunteer work on the project by the PTC staff and trainees.

14. Do you know of any other individual/organisation carrying out similar work? Give the details of the work, explaining the similarities and differences.

In PNG, the parataxonomist programme at PTC is unique. The only comparable programmes are those being developed in Costa Rica (InBIO and ALAS projects). There was also a DI-sponsored project in Guyana (Brown, Basset & Hammond at CABI; <http://www.bishopmuseum.org/bishop/natsci/guyana/>) which relied on parataxonomists. Other biological survey programmes in PNG rely heavily on expatriate expertise and have usually had a short life span. The PTC programmes represent the only long-term in-country research activity in entomology focused on rainforest biodiversity, rather than on insect pests.

15. Will the project include training and development? Please indicate how many trainees will be involved, from which countries and what will be the criteria for selection. How will you measure the effectiveness of the training and will those trained then be able to train others? Where appropriate give the length of any training course.

Eight parataxonomists from PTC will receive intensive training so that they will be able to train other parataxonomists; an additional 5 trainees will be recruited and trained as parataxonomists. The training of all 13 persons will be continuous for 3 years, primarily by engaging them in biological surveys, processing of biological specimens, analysis and publication of results, under the supervision of researchers. Six parataxonomists (two each year) will visit the UK for 4 weeks of advanced training, split between training in ecological sampling and laboratory techniques at Sussex and taxonomy and collection management at Cardiff. Two B.Sc. students will be supervised in PNG for their diploma thesis, each for 20 weeks. All trainees will be Papua New Guineans. Parataxonomists for training will be recruited among young school leavers (grade 6-12) from villages in various parts of PNG. There is a large pool of highly motivated and capable young people in PNG villages, who do not have access to expensive higher education. This pool of talent will be tapped for recruiting new parataxonomists using competitive interviews. The progress and performance of parataxonomists and students will be informally monitored daily by researchers resident at PTC and formally reviewed quarterly. Their ability to perform specific tasks and possession of specific skills will be evaluated, such as the ability to design, plan, organise and carry out an insect/plant biodiversity survey, sort samples and identify them to major taxa, mount and document biological specimens, create written reports and www pages describing the results, and work with word processors, spreadsheets, databases, image processing and web-design software. Surveys carried out for other organisations will be evaluated by these organisations and their feedback will be carefully studied.

16. How will trainee outcomes/destinations be monitored after the end of the training?

The Parataxonomist Training Center will maintain contact with the Project Leader of the DI project and report on their activities and performance, as well as on all parataxonomists and students leaving PTC for other positions. The activity of the parataxonomist team established during the DI project will also be regularly reported on its own www site. Individual parataxonomists will be encouraged to report on their activities and achievements after the completion of the project.

17. How is the work of the project expected to continue after the end of grant period? A clear exit strategy must be included.

The project is designed specifically in order to initiate long-term, sustained activity in PNG, financially independent after the three years of the DI seed funding and initial training. The project will establish a team of parataxonomists as an independent unit, fully capable of independent work and generating financial support needed for its sustained activity. The expertise and equipment (particularly the 4WD vehicle, computer and microscope equipment) provided by the DI project are crucial to establish the parataxonomist team as a functional unit, which could provide biodiversity surveys as a paid service to a variety of customers. This biodiversity market in PNG includes landowner communities, local and international environmental organisations (e.g. Conservation Melanesia, World Wildlife Fund, The Nature Conservation, Conservation International), development projects sponsored by the European Union, Australian Aid, United Nations and other aid agencies, restoration programmes by mining and other industrial companies (e.g. re-vegetation of the Misima Mine), as well as research projects by various, often overseas, universities. Even the very limited current resources of the PTC have already attracted interest from the Conservation Melanesia, WWF, EU, Canadian High Commission and several overseas research projects. We are confident that the DI parataxonomist team will be competitive and capture an important share of the biodiversity market, ensuring its long-term survival. This outcome would increase the intensity of biodiversity surveys in PNG and, even more importantly, substantially increase the proportion of such surveys done by local experts, with resulting material and data deposited and used in PNG.

MONITORING AND EVALUATION

18. Describe how progress on the project would be monitored and evaluated in terms of achieving its aims and objectives, both during the lifetime of the project and at its conclusion. How would you ensure that it achieves value for money? What arrangements will be made for disseminating results? If applicable, how would you seek the views of clients/customers?

The project will be closely monitored by the Project Leader and the two PNG-based leaders, V. Novotny and L. Balun. At any time during the project, at least one of these persons will be present on-site, ensuring high standards of training. The progress will be evaluated once a year at a meeting of senior personnel and parataxonomists in PNG. Rigorous criteria in selection and high standards for training and work by parataxonomists will be set. Persons unable to progress in training and achieve high performance will be replaced by more promising personnel from the large pool of capable and highly motivated young people which exists in PNG. The ultimate test of the success of the DI project will be the performance of the DI parataxonomist team, viz. its ability to conduct high quality biodiversity surveys and thus attract and satisfy enough customers for its sustained activity and financial survival. Results of the project will be disseminated among several target audiences, viz. local landowner communities in PNG, national and international environmental organisations, and the international research community, with particular attention to UK researchers. This will be achieved by educational materials in Tok Pisin and English, research papers, newspaper articles, radio programmes, and also by extensive use of the internet, where the PTC will establish its own domain and further develop existing www pages. The DI team will promote not only its results, but also the idea of parataxonomists as a novel and highly efficient approach to the study of biodiversity in tropical countries. Since attracting and satisfying customers will be crucial for the long-term survival of the DI parataxonomist team, great attention will be given to advertising its services and soliciting comments from customers. The PTC has already moved in this direction by placing advertisements in some professional bulletins (printed and web-based). Research and environmental institutions active in PNG will also be targeted individually. Feedback from the existing customers (WWF, Harvard University, La Trobe University, Smithsonian Institution, etc.) has been solicited and is reported on the PTC web site.

19. Logical framework. Please enter the details of your project onto the matrix using the note at Annex B of the Guidance Note.

Project summary	Measurable indicators	Means of verification	Important assumptions
<p>Goal Increase the intensity of biodiversity surveys in unexplored rain forests of Papua New Guinea which are threatened by logging and increase the relevance of these surveys for conservation decisions, particularly the decisions made by local village landowners, who own a majority of PNG forests.</p>	<p>The extent and detail of biodiversity information on species-rich plant and animal taxa available for main forest areas in PNG; conservation vs. logging decisions by local communities exposed to environmental education and similar decisions by government bodies for areas with known biodiversity information.</p>	<p>Biodiversity maps and research publications; case studies, field reports and published information on conservation decisions by local communities; national statistics on logging concessions and information on governmental policies and laws on logging in biodiversity hotspots; reports by environmental organisations</p>	<p>Biodiversity information and environmental education can influence conservation decisions by local communities and the government; sustainable forest use can, at least under certain circumstances and in certain social situations, compete with industrial logging in satisfying the development aspirations of the local communities</p>
<p>Purpose Transform biodiversity surveys from an overseas-driven to a local activity, relying on local teams with sufficient expertise, equipment and access to biological collections, which can establish rapport with both local grassroots landowner and international research communities</p>	<p>The intensity of biodiversity surveys in various parts of PNG and the role and share of local experts in the planning and implementation of these surveys; the flow of biological specimens to national vs. overseas collections; the role of local experts in data reporting, evaluation and interpretation.</p>	<p>Survey reports and research publications; statistics on research activities by the National Research Institute; statistics on holdings in the national biological collections; publications on biodiversity issues authored by local experts and their activity in environmental discussions (in the press, on the internet, etc.).</p>	<p>Local experts are more sensitive to country needs and have a better understanding of the local social, economic and environmental situation so that they can collect and use biodiversity information for conservation more efficiently than overseas experts. Local experts can attain a sufficient level of expertise in research.</p>
<p>Outputs Establish a fully equipped team of parataxonomists, trained for and experienced in biodiversity surveys including building of biological collections and data analysis, which can collaborate with researchers as well as with local villagers, thus capable of providing survey data both to the scientific community and resource owners.</p>	<p>Biodiversity surveys accomplished by the parataxonomist team; biological specimens and research information generated by these surveys; flow of specimens to national collections resulting from these surveys; village educational programmes successfully completed by the parataxonomists.</p>	<p>Products created by the parataxonomists: museum-quality biological specimens, electronic specimen databases, internet pages, biodiversity reports, papers, posters and oral presentations, educational leaflets, radio features, environmental lectures to the public and schools.</p>	<p>Parataxonomists are better biodiversity surveyors than university graduates who tend to pursue administrative careers in towns and are thus unavailable for fieldwork and also become too removed from concerns of village landowners. There is a sufficient demand for biodiversity surveys to sustain a parataxonomist team.</p>
<p>Activities Recruit and train parataxonomists in computer use, field survey methods and logistics, curation and databasing of biological specimens, data analysis and creation of educational materials; provide them with field experience; expose them to researchers; provide with baseline databases, collections, and equipment.</p>	<p>Every senior parataxonomist is able to: train others to his level of expertise; organise and lead a survey team; organise complex logistics and solve various emergencies in remote areas; interact with local landowners as well as with overseas researchers; communicate survey results to both these communities. All 6 planned surveys are successfully completed.</p>	<p>Reports on the progress of individual parataxonomists and the whole team during the training sessions in PNG and UK and during the biodiversity surveys no. 1-6.</p>	<p>There is a pool of highly dedicated and capable school leavers in PNG villages with extensive traditional knowledge of the natural world, who could be trained as fully qualified biodiversity surveyors (parataxonomists); the DI senior personnel are able to accomplish such training.</p>