

# DARWIN INITIATIVE FOR THE SURVIVAL OF SPECIES: APPLICATION FOR GRANT FOR ROUND 10 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. Although you may reproduce this sheet in a reasonable font, you should not expand it beyond an A4 sheet (leaving the allocated space for DEFRA comments to be made) as additional information will not be taken into account.

## 1. Name and address of organisation

<b>Harrison Institute</b>
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## 2. Principals in project

Details	Project leader	Other UK personnel (if working more than 50% of their time on project)	Main project partner or co-ordinator in host country
<b>Surname</b>	Bates	Mackie	Daw Tin Nwe
<b>Forename(s)</b>	Paul Jeremy James	Iain	
<b>Post held</b>	Director	Wildlife Consultant	Head of Department
<b>Institution (if different to above)</b>			Yangon University
<b>Department</b>			Zoology
<b>Telephone</b>			
<b>Fax</b>			
<b>Email</b>			

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

## 3. Project title (not exceeding 10 words)

<b>Biodiversity assessment of limestone karst dependent bats in Myanmar (Burma)</b>
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## 4. Abstract of study (in no more than 750 characters)

<p>This research and training initiative aims to promote the conservation of biodiversity in Myanmar by</p> <ul style="list-style-type: none"> <li>* surveying bats in the limestone karst areas of Myanmar</li> <li>* training Myanmar postgraduate students at Yangon (Rangoon) University in research and survey techniques</li> <li>* establishing a national database of cave bats and identifying 'key' sites for conservation; data will be disseminated to the Forest Department, national and international scientific community and relevant IUCN Working Groups</li> <li>* strengthening links between the research and conservation community of Myanmar and the international bat and limestone karst community</li> <li>* drawing up a National Action Plan for cave bats and a Management Plan for 'key' limestone karst sites</li> <li>* carrying out an education programme at 'key' sites, encouraging the sustainable utilisation of bats and bat products (eg guano).</li> </ul>
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**5. Timing. Give the proposed starting date and duration of the project.**

June, 2002 for 3 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**

To carry out research of international quality in applied systematics, with particular reference to mammals and especially bats.  
To be a UK centre of excellence in biodiversity studies, with particular reference to the Old World tropics.  
To be a world leader in the training of UK and overseas students in the systematics of tropical bats.  
To provide expertise and databases of international quality to promote the conservation of mammals and particularly bats.

**Activities**

field surveys - particularly in the Old World tropics - most recently in Sri Lanka, Djibouti, Ethiopia, Vietnam and Myanmar  
training and academic supervision of UK and overseas postgraduate students - 3 students to PhD level (2 UK, 1 Sri Lanka)  
provide a conservation database for the scientific community through its collection of 30,000 mammal specimens (Recent and fossil) - database currently contributing to projects conducted in USA, UAE, Germany, France, Poland, India, Myanmar, Cambodia, Vietnam, Zimbabwe  
systematic research of mammals by own staff - particularly in Southern and Southeast Asia  
publications - books (2 major taxonomic monographs in last 10 years), CD-Rom (published in 2000), scientific papers (over 260)  
organising, promoting and taking part in international conferences and workshops in systematics, taxonomy and conservation (including Ethiopian biodiversity conference in February 2000, Addis Ababa University).

**Achievements**

Harrison Institute is an internationally recognised systematic research centre, which participates in a range of biodiversity projects throughout the Old World tropics, particularly in Southern and Southeast Asia. Its staff are regularly invited to contribute to international meetings (most recently in India and Malaysia). They also co-ordinate and run training workshops, both field and laboratory based (India, Vietnam, Myanmar). The Institute is in the forefront of the systematic research of bats with recent programmes in India and Sri Lanka (1992-97), Ethiopia and Djibouti (1998-99), Vietnam and Cambodia (1998-2000) and Myanmar (1999- ). The Harrison Institute is a UK charity (No. 268830, registered in 1971) and a Registered Scientific Institution, whose zoological collections are recognised as being of national and international importance. Its CITES number is GB010. It is a NERC listed 'Academic Analogue' (one of 18 UK institutions).

Key publications include two monographs: The Mammals of Arabia (1992) and Bats of the Indian Subcontinent (book 1997; CD-Rom 2000). Staff have contributed definitive papers on the small mammals of Europe, Asia and Africa and most recently on the bats of Myanmar, Cambodia and Vietnam. Two staff have achieved PhDs whilst working for the Harrison Institute.

**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.**

Zoology Department, Yangon University: host institution whose responsibilities will include liaising with the Ministry of Education; selecting Zoology Department staff and postgraduate students to participate in the joint project; providing laboratory based facilities and organising support in the field; promoting the project within Myanmar and encouraging participation by other local academic institutions.

Wildlife Conservation Society (WCS) is the most active conservation NGO currently working in Myanmar. It already has a close relationship with Yangon University staff and students and has considerable experience of working on successful conservation projects in Myanmar (mostly concerned with habitat protection and charismatic species). It also has an advisory role to the Nature and Wildlife Conservation Division (NWCD) of the Forestry Department. The Darwin project will work closely with WCS to ensure that project data and recommendations are disseminated for the greatest conservation benefit within Myanmar, and that the Action and Management Plans are designed in a format that has the greatest impact with NWCD.

The IUCN Southeast Asia Working Group on Cave and Karst Protection is one of the key international end users of the Darwin data. We will therefore work closely with the group to develop databases and protocols that are compatible with those used elsewhere in the region.

## PROJECT DETAILS

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

The project seeks to train students and academic staff in current field techniques to assess biodiversity using Chiroptera as the model species group. Bats are keystone species which act as an early warning system indicating loss of biodiversity and damage to ecosystems. The four main goals of the project are:

- 1: to raise the status of bat conservation in Myanmar: currently 92 species from 10 families are recorded from Myanmar; with 5 species and one family added since 1999 (Bates et al., 2001. Acta Chiropterologica 3[1]: 33-41.)
- 2: to assist in the conservation of globally threatened limestone dependent bat taxa (including the IUCN List 1 bumble-bee bat - *Craseonycteris thonglongyai*)
- 3: to promote the conservation of limestone karst caves and their associated biodiversity
- 4: to increase capacity within Myanmar's scientific institutions

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

A new project, which has developed from 3 years of collaborative biodiversity research and conservation projects between the Harrison Institute and Yangon University.

### 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?

- \* Through discussions (and subsequent research projects) with Prof. Daw Tin Nwe, Zoology Department, Yangon University who requested technical assistance from the Harrison Institute to increase capacity in the biodiversity sciences.
- \* Through discussions at the IUCN Asia Pacific Forum on Karst Ecosystems and World Heritage (May, 2001) which identified as a priority scientific research of the karst areas of Myanmar. (Paul Bates was an invited contributor)
- \* Through the IUCN Global Status Survey and Conservation Action Plan of Microchiropteran bats (2001) which identified Myanmar as a priority area for further research.

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

The project meets the objectives of the Protection of Wildlife and Wild Plants and Conservation of Natural Areas Law, 1994. Most particularly Objectives E, D and B.

- \* Objective E: 'to contribute towards works of natural scientific research'
- \* Objective D: 'protecting wildlife in danger of extinction and the habitats thereof'
- \* Objective B: 'to implement the policy of conserving natural areas' with an objective of increasing the extent of protected areas from 1.3% of total land area to 5%, with the ultimate goal of 10% (in line with other SE Asian countries).

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

This project will assist Myanmar to fulfil its obligation to the Convention in the following ways:

The bat surveys will help fulfil the obligation to Article 7 (identification and monitoring) - 'identify components of biological diversity important for conservation'. The training of staff and students of Yangon University in biodiversity monitoring techniques will help fulfil the obligation to Article 12 (research and training) - 'promote and encourage research which contributes to the conservation and sustainable use of biological diversity' and 'establish and maintain programmes for scientific and technical education and training in measures for the identification, conservation and sustainable use of biological diversity.'

Data and recommendations on priority species and limestone karst localities will contribute to fulfilling the obligation to Article 8 (in situ conservation) - 'establish areas where special measures need to be taken to conserve biological diversity'.

The education and public awareness programme will contribute to Article 13 (public education and awareness) - promote and encourage understanding of the importance of the conservation of biological diversity.

**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?**

This proposal is a Darwin project because:

It is assisting a country rich in biodiversity but poor in resources. It is also timely as it will involve supporting a group of senior scientists in Myanmar who wish to demonstrate the advantages to their country's science of collaborative links with UK scientific institutions.

Its focus on training and field work will help promote a greater interest in the biodiversity sciences amongst present and future Myanmar zoology students. In this way it will become a flagship programme for these zoology students, giving hope and a reason to continue with zoological studies.

The proposal will draw on extensive British postdoctoral expertise (Bates and Mackie) in the field of research and conservation of southern and S-E Asian biodiversity.

Extensive collaboration with local institutions in Myanmar is an integral part of the project, including an extensive element of training and institutional capacity building.

All 12 students involved in the project will be referred to as Darwin trainees and the Darwin Initiative will be acknowledged in all scientific publications. All outputs, such as the species action plan, guides, reports and presentations will carry the Darwin logo.

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

<b>PROJECT OUTPUTS</b>		
Year/Month (starting April)	Output Number (see standard output measures)	Description (include numbers of people involved, numbers of publications printed or produced and days/weeks where applicable)
June, 2002- March, 2003	14B x 3 16A 14A x 3  8 x 20 weeks 13B 2 12A x 2 9	training at Harr. Inst. & attend conference on Myanmar biod. Kent Uni. publish newsletter setting out objectives of project workshops on project design; Asia Pacific limestone karst; bat survey techniques and the acoustic identification of bats field surveys to i. Mandalay, ii. Mogok and iii. Kalaw districts contribute voucher specimens to Yangon Univ. bat reference collection train 4 Zoology Dept students (Yangon Univ) in all aspects of project establish bat database (for limestone karst caves); bat acoustics database prepare Management Plans for 'key' cave sites
April, 2003- March, 2004	outputs similar in to above but in addition, 10 x1 11B x 1 7	write field key to cave bats publication of results of first surveys prepare handouts for Buddhist monks and tour guides to 'popular' caves
April, 2004- March, 2005	outputs similar to above: + 10 9 x 2 20 11B x 4	write and publish Myanmar bat identification guide prepare National Action Plan for Cave bats and Management Plans hand over scientific equipment to Zoology Dept for longterm monitoring 4 papers submitted to peer reviewed journals

<b>Key Milestones</b>	
Year/Month (starting April)	Description (include travel dates, drafts and other processes that support the delivery of outputs)
14-18 July, 2002	Present project and discuss objectives and outputs at international conference 'Protected areas, conservation, and people: case studies from Myanmar', organised by Smithsonian Institution at the Annual meeting of the Society for Conservation Biology at University of Kent (Bates, K. Mie Mie and K M Swe). Training at Harrison Institute begins in June.
October, 2002	UK and Yangon Univ scientific team to launch project with Prof. Elery Hamilton-Smith, Chair of IUCN Asia Pacific Forum on Karst Ecosystems and representatives of Wildlife Conservation Society and Nature and Conservation Division, the Forest Department.
October, 2002, 2003 & 2004	Annual series of workshops at Yangon University - open to Darwin trainees, and other relevant postgrads from Yangon, Mandalay and regional universities.
November, 2002	Field surveys to commence, format of data bases and management plans to be designed.
March, 2003, 2004 and 2005	Review of year's outputs (training, academic, databases, publications) - seminar with the key end users, including senior Yangon Univ staff, and delegates from IUCN, Forest Department, and WCS.
November, 2003 and 2004	Submit drafts for discussion of National Action Plans and Managements Plans to Forest Department, IUCN Working Groups (Karst Protection), IUCN Specialist Group (Chiroptera), Forest Department and WCS.
March, 2005	Ensure all publications (scientific papers and action plans) are ready for final submission.

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

<p>WCS (Wildlife Conservation Society, New York) are concerned with protected areas management, training of protected area staff, park development, evaluation of new and existing protected areas and species conservation.</p> <p>Smithsonian Institution (Virginia, USA) has for a number of years worked on conservation issues, particularly those relating to the endemic Thamin deer in Kyatthin National Park.</p> <p>David Shepherd Conservation Foundation is primarily concerned with supporting park staff and tiger conservation in Alaungdaw Kathapa National Park. Dr John Sale, biodiversity consultant for The Third World Academy of Sciences, is concerned with promoting seminars on biodiversity conservation.</p>
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**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.**

Training Activity	Dates	Who will participate, how many will participate and for how long?
<p>MSc (training in a range of biodiversity study techniques relevant to project - field and laboratory based).</p> <p>Worshops at Zoology Depts, Yangon Univ. and Mandalay Univ - take place throughout the 3 year period</p> <p>Zoological collections management</p> <p>Effectiveness will be assessed in terms of academic success, ability to carry out tasks in the field and laboratory and ability to produce data and publications of international standard.</p>	<p>June 2002, June 2003, June 2004</p> <p>Oct. 2002, Oct 2003, Oct 2004</p> <p>July, 2002</p>	<p>4 Darwin trainees, annually (12 over 3 years)</p> <p>Open to the 12 Darwin trainees and all other relevant postgraduate students from Yangon, Mandalay and regional universities (at least 3 workshops annually)</p> <p>1 Darwin trainee, at Harrison Institute (3 months)</p> <p>Those trained will be required to help others with their respective universities. The system of transfers between universities will ensure that new techniques will be available to a range of regional universities.</p>

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

Outcomes will be monitored by the

- \* submission of MSc theses
- \* publications of reports and journal papers

Destinations will be monitored by maintaining our close links with Yangon and Mandalay Universities.

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

We will train Myanmar zoologists to continue the work initiated during the project. Through its capacity building, the Darwin will foster further links between Yangon University and a range of international NGOs and scientists and therefore promote further studies and conservations initiatives, which will be funded by a range of grant-giving bodies.

The Darwin project is distinctive and self contained with clearly defined objectives and outputs. However, it is part of a wider programme that has been developed by the Harrison Institute and Yangon Univ since 1999 and now includes individuals from the following institutions:

- \* Chiroptera Conservation Information Network of South Asia - incorporating Myanmar bat data into publications and including Myanmar representatives in forthcoming meetings.
- \* RSPB International (sabbatical projects) and WCMC (in a private capacity) - conducting baseline bird surveys in limestone karst habitats
- \* World Pheasant Association - assessing the potential for conducting baseline surveys
- \* IUCN/WCPA Working Group on Cave and Karst Protection - opening a policy of dialogue with Yangon University and Forestry Department and visiting limestone karst sites of national and international importance.

## 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 subject to review during regular month-long visits by Paul Bates to Myanmar who will monitor the activities and outputs as included in Sections 13 and 15. Staff will provide monthly written reports of progress. Regular contact will be maintained between Paul Bates and personnel in Myanmar by e-mail.

A system of regular contact is already in place between Paul Bates and Prof. Daw Tin Nwe, with a proven track record, including the signing of a Memorandum of Understanding (June, 2000); a successful 3 month staff study visit by lecturer Dr Si Si Hla Bu to the Harrison Institute (July-September, 2000); five successful joint field surveys to western, central and southeastern Myanmar (1999-2002); two publications of the results of the field surveys in peer-reviewed international journals; a successful joint application to the 100% Fund (Fauna and Flora International) (Oct. 2000); production of a 40 page booklet on Myanmar's wildlife to raise awareness both in-country and abroad of conservation issues.

Value for money is assured through the low unit costs for training Darwin trainees in Myanmar; the tight financial control of Harrison Institute and the reputation and experience of the Harrison Institute in running successful international projects.

Results will be disseminated through international journals and conferences and through IUCN limestone workshops and associated publications.

The views of clients/customers will be sought through regular contact with Yangon and Mandalay Universities, the Nature and Conservation Division and Forest Department and their advisors WCS (Wildlife Conservation Society) and other NGOs, such as the Smithsonian Institute.

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

<b>Project summary</b>	<b>Measurable indicators</b>	<b>Means of verification</b>	<b>Important assumptions</b>
<p><b>Goal</b></p> <p><i>To assist countries rich in biodiversity but poor in resources with the conservation of biological diversity and implementation of the Biodiversity Convention</i></p>		<p>long term monitoring of bat populations in limestone karst habitats</p>	<p>wildlife conservation remains a priority of the Myanmar government</p>
<p><b>Purpose</b></p> <p>To ensure that Myanmar fulfils its potential in conserving limestone karst dependent bat species, including globally threatened taxa</p> <p>there are 92 bat species recorded from Myanmar, including endangered limestone dependent taxa, such as <i>Craseonycteris thonglongyai</i></p>	<p>that bats and limestone karst habitats are given equal status within the Protection of Wildlife and Natural Areas law as other 'priority' species and habitats (such as large mammals and forest habitats).</p> <p>Darwin trainees continue to promote bat conservation based on authoritative scientific research</p>	<p>the conservation of karst ecosystems is included as an objective of the National Commission for Environmental Affairs and is included in the Protection of Wildlife and Natural Areas Law; karst ecosystem conservation is included in the proposals of the Nature and Wildlife Conservation Division of the Forest Department</p>	<p>Forest Department continues to work with Yangon Univ on assessing conservation priorities</p>
<p><b>Outputs</b></p> <p>A national database of bats from limestone karst areas - for national and international circulation</p> <p>Action Plan for cave bats and management plans for key karst areas</p> <p>A core of Myanmar graduates trained in biodiversity survey work</p> <p>Identification key for Myanmar bats</p>	<p>Publication of databases and dissemination of action plans.</p> <p>Graduation of MSc trainees.</p>	<p>Incorporation of database and management plan recommendations in the publications of the Asia-Pacific forum on Karst Ecosystems .</p> <p>Incorporation of data into future IUCN Chiroptera action plans</p>	<p>Forest Department accept recommendation of Action Plans.</p>
<p><b>Activities</b></p> <p>Survey of cave dependent bats in limestone karst areas of Myanmar.</p> <p>Train Myanmar students in research and survey techniques.</p> <p>Carry out programme of environmental education.</p> <p>Write key and booklet to Myanmar bat species.</p>	<p>Finance:</p> <p>Year 1: £42677</p> <p>Year 2: £39958</p> <p>Year 3: £37750</p> <p>Time of UK and Myanmar personnel and Darwin trainees.</p>	<p>Expenditure will be verified by detailed financial accounts.</p> <p>Time will be verified by monthly reports from Yangon Univ.</p> <p>Annual reports will detail field survey results.</p> <p>Publications will be prepared.</p>	<p>Field work can be carried out (previous experience since 1999 shows that this is the case)</p> <p>Trainees will be available (already known)</p>