

CEPF SMALL GRANT FINAL PROJECT COMPLETION REPORT

Organization Legal Name:	Harrison Institute
Project Title:	Increasing in-country capacity and regional co-operation to promote bat conservation in Cambodia with particular reference to <i>Otomops wroughtoni</i>
Date of Report:	25 July, 2011
Report Author and Contact Information	Paul Bates pjbbates2@hotmail.com

CEPF Region: Indochina Region

Strategic Direction: Strategy 1 with respect to *Otomops wroughtoni*

Grant Amount: \$20,000

Project Dates: October, 2009 – May, 2011

Implementation Partners for this Project (please explain the level of involvement for each partner):

Harrison Institute:

- Together with Fauna & Flora International, Cambodia (FFI), helped facilitate the networking of Royal University of Phnom Penh (RUPP) staff and students into international collaborative partnerships:
 - By co-hosting with RUPP and FFI, a workshop, entitled '*Increasing in-country capacity and regional co-operation to promote bat conservation in Cambodia, with particular reference to Otomops wroughtoni*' at RUPP (October, 2009); this workshop included:
 - postgraduate students from RUPP
 - bat research delegates from Cambodia, Hungary, Ireland, Lao PDR, Thailand, UK, and Vietnam
 - delegates representing the conservation communities of Birdlife, Conservation International (CI), FFI, and Wildlife Conservation Society (WCS)
 - a delegate representing the Forestry Ministry of the Government of Cambodia.
 - By co-organising with Prince of Songkla University (PSU), Thailand (see below) an international bird workshop to which RUPP student Mr Ith Saveng and Dr Neil Furey (FFI, Cambodia) took part.
- Co-supervising (together with FFI and PSU) and providing taxonomic literature resources for one Cambodian PhD student – Mr Ith Saveng
- Co-sponsoring a study visit to the UK (to the Harrison Institute/Natural History Museum London) and to Hungary (Hungarian Natural History Museum) for Mr Ith Saveng (April, 2011)
- By providing a profile of Mr Ith Saveng on the Harrison Institute website <http://www.harrison-institute.org/research/IthSaveng.html> and a listing of Mr Ith Saveng and other members of the RUPP biodiversity team on its Taxonomic

Network website at http://www.harrison-institute.org/afro_asian/network_members.html

- Collaborating in the writing of two publications, published/to be published in international journals, and two conference presentations (see below)
- By raising additional funds from the Darwin Initiative, UK to cover additional costs of the programme.

Royal University of Phnom Penh (RUPP):

- Provided staff and students for training in bat research methods, including:
 - Mr Ith Saveng – PhD student, [currently undertaking his PhD at the Prince of Songkla University, Hat Yai, Thailand]
 - Mr Phauk Sophany – MSc [completed] – *The utility of bat (ultrasound) detector in identifying bat species: a case study at Phnom Lulen National Park, Cambodia.*
 - Mr Penn Sarith – MSc [completed] - *The effects of forest disturbance on the species richness and abundance of bat assemblages at Phnom Kulen National Park, Cambodia.*
 - Ms Chi Dany – BSc [completed] – *Roost selection and population counts of P. lylei in Phnom Penh, Cambodia.*
- Provided one staff/student, Mr Ith Saveng, to take part in a training workshop in Malaysia (April, 2010) which provided:
 - skills development in techniques for the ecological study of bats
 - further opportunities to develop an international scientific network of collaborators
- Collaborated in the writing of three publications for international scientific journals:
 - Ith, S., P. Soisook, S. Bumrungsri, T. Kingston, S.J. Puechmaille, M.J. Struebig, Si Si Hla Bu, V.D. Thong, N.M. Furey, N.M. Thomas, and P.J.J. Bates. 2011. A taxonomic review of *Rhinolophus coelophyllus* Peters 1867 and *R. shameli* Tate 1943 (Chiroptera: Rhinolophidae) in continental Southeast Asia. *Acta Chiropterologica*, 13(1): 33-40.
(this paper was written in collaboration with Prince of Songkla University, Thailand, Texas Tech University, USA, University College Dublin, Ireland, University of London, UK, Hinthada University, Myanmar, FFI Cambodia, Harrison Institute, UK).
 - Csorba, G., T.S. Nguyen, I. Saveng, N. Furey (in press) Revealing cryptic bat diversity: three new *Murina* and redescription of *M. tubinaris* from Southeast Asia. *Journal of Mammalogy* (in press)
(in this paper RUPP was part of a team led by the Hungarian Natural History Museum and FFI, Cambodia).
 - Kingsada, P., B. Douangboubpha, S. Ith, N. Furey, P. Soisook, S. Bumrungsri, C. Satasook, V.D. Thong, G. Csorba, D. Harrison, M. Pearch, P. Bates, N. Thomas. A checklist of bats from Cambodia, including the first record of the intermediate horseshoe bat *Rhinolophus affinis* (Chiroptera: Rhinolophidae), with additional information from Thailand and Vietnam. *Cambodian Journal of Natural History* 2011(1): 49-59 (this paper was written in collaboration with the National University of Laos, Prince of Songkla University, Thailand, FFI, Cambodia, Institute of Ecology and

Biodiversity Research, Vietnam, Hungarian Natural History Museum, and the Harrison Institute, UK).

- Collaborated in the writing of two papers presented at the ‘2nd Southeast Asian Bat Conference’ in Indonesia, June 2011:
 - Bates, P.J., Satasook, C., Bumrungsri, S., Soisook, P., Douangboubpha, B., Ith, S., Furey, N.M., Aung, M.M., Vu, T. D., Kingston, T., Pearch, M.J., Thomas, N.M. 2011. Enhancing taxonomic capacity to underpin biodiversity conservation in Southeast Asia.
 - Furey, N.M., Ith, S., Bates, P.J., Csorba, G. 2011. Cambodian bat research: past and present.

Fauna & Flora International (Cambodia) (FFI):

- Dr Neil Furey of FFI co-ordinated the CEPF project in Cambodia. Amongst a wider range of activities:
- He facilitated and took part in a series of field surveys:
 - Phnom Tbeng and Kulen Promtep, Preah Vihear Province (October/November, 2009)
 - Veun Sai, Ratanakiri Province (February and August, 2010)
 - Preah Vihear (February-March, 2011)
- He contributed to three scientific papers (for listing, see above) and co-wrote as senior author three detailed reports on field surveys:
 - *Interim report on bat research at Veun Sai District, Ratanakiri Province, Cambodia* – Furey and Csorba, March, 2010.
 - *Bat (Order Chiroptera) [fauna of Veun Sai District]* – Furey, Ith, Phauk, Gorfol and Csorba, December 2010
 - *Summary report on bat studies in the Preah Vihear Protected Forest (PVPF), Cambodia* – Furey and Csorba, February-March, 2011
- He supervised students from RUPP (for details see above)
 - Mr Ith Saveng – PhD student
 - Mr Phauk Sophany – MSc student
 - Mr Penn Sarith – MSc student
 - Ms Chi Dany – BSc student
- He helped raise additional funds for the programme from the Darwin Initiative, UK and J.D. and C.D. MacArthur Foundation, USA.

Hungarian Natural History Museum:

- Dr Gabor Csorba
 - took part and supervised the training of students during three field surveys (for listing see above)
 - undertook taxonomic research and co-wrote three scientific papers, including senior authorship (see above)
 - co-wrote three reports (see above)
 - hosted a study visit of Mr Ith Saveng to the Hungarian Natural History Museum in April, 2011.

Prince of Songkla University, Thailand (PSU):

- Hosted Cambodian student, Mr Ith Saveng, for his PhD study, which he undertaken with fellows students from Thailand and Lao PDR as part of the PSU Bat Research Unit.
- Hosted an international bird workshop in October, 2010, which included Mr Ith Saveng, together with Dr Neil Furey, as delegates. This further increased exposure of the Cambodian biodiversity research community to the international scientific community.

Conservation Impacts

Please explain/describe how your project has contributed to the implementation of the CEPF ecosystem profile.

It did not prove possible to locate the target species, Wroughton's wrinkle-lipped bat *Otomops wroughtoni*. However, this is considered to be a difficult task since:

- *O. wroughtoni* is nocturnal, high flying and can only be detected by its echolocation call at relatively short range (approx. 100 metres maximum)
- the only previous record in Cambodia was of an injured bat collected by hand in open forest; the diurnal roost of the bat in Cambodia is not known
- *O. wroughtoni* is elusive, its total worldwide range, as currently understood, includes one locality in Cambodia and two localities in India.

However in order to maximize the outputs of the project, from its inception, resources were split between three objectives:

- trying to rediscover the target species, *O. wroughtoni*
- determining which other bat species (and other taxa, such as reptiles) of conservation interest resided in northern Cambodia
- building capacity in Cambodian bat research.

We believe that although the project did not rediscover the target species, it did contribute greatly to the other two objectives. As outlined above:

- A voucher specimen belonging to one new taxon was discovered in the field research programme, namely:
 - *Murina* sp. (currently in press) from Veun Sai District and Preah Vihear Protected Forest
- A rich bat fauna was found in Veun Sai District. Of the 18 species, seven are of special interest, either representing new species to science or first records for Cambodia.
- A rich bat fauna was also found in Preah Vihear Protected Forest. Twenty-seven species were found within the protected area and two additional species in land surrounding the forest. Of the 14 species of Vespertilionidae (evening bats), at least nine were of special interest.

Please summarize the overall results/impact of your project against the expected results detailed in the approved proposal.

The project achieved all its outputs as outlined in the proposal, with the exception of providing further information on *Otomops wroughtoni*. In several cases, it achieved more than was originally anticipated, namely:

- One staff member (Mr Ith Saveng) and three students (not 'one' as included in the proposal) were trained in a wide range of techniques in bat research
- RUPP, through the project and associated projects by FFI and the Harrison Institute has become an integral part of a network of regional and international bat researchers in SE Asia (a process that is now being repeated in other taxa such as birds and reptiles)
- Information (especially literature) about Cambodia's bats has been repatriated from western institutions to RUPP
- Through the work of FFI Cambodia and the two workshops, one in RUPP and the other in PSU, Thailand, there is a closer relationship between the academic and conservation communities in Cambodia
- Two reports (not one as originally proposed) and three publications (with more to come) published/in press in international journals
- The profile of bats in Cambodia was raised amongst conservationists, civil servants and researchers.

Please provide the following information where relevant:

Hectares Protected: Not relevant

Species Conserved: Not relevant

Corridors Created: Not relevant

Describe the success or challenges of the project toward achieving its short-term and long-term impact objectives.

The short-term objective of gathering additional data about the status of *Otomops wroughtoni* in Cambodia was not achieved.

The longer-term objective of increasing capacity in the biodiversity sciences within the university/scientific community of Cambodia, with particular reference to RUPP was most successful.

Thanks to the project and all the collaborators, most particularly RUPP and FFI, Cambodia is now an integral part of the bat research community in SE Asia. This networking with other scientists, both within the region and further afield in Europe and North America, augurs well for future bat research and conservation projects within the country. Furthermore, the other projects working on different aspects of biodiversity (for example birds and reptiles) are now developing, partly as a result of the CEPF project.

Were there any unexpected impacts (positive or negative)?

There were no unexpected negative impacts. The positive aspects included the opportunity to involve the Cambodian scientific community in a range of international initiatives and projects.

Lessons Learned

Describe any lessons learned during the design and implementation of the project, as well as any related to organizational development and capacity building. Consider lessons that would inform projects designed or implemented by your organization or others, as well as lessons that might be considered by the global conservation community.

Project Design Process: (aspects of the project design that contributed to its success/shortcomings)

It is probably unrealistic to focus a study on ‘re-discovering’ an extremely rare, high-flying bat, that only emerges at dusk, for which there is no information about its roost or even whether it is a resident of Cambodia (perhaps the first record was of a migrant?), and that is only known from two other localities in the world (both in India).

To make a positive identification of the population would require finding a roost (but there are no caves in the target area) or being within 100 metres (in the dark) of another individual and recording the echolocation call – even then, positive identification is not possible without capturing an individual (which again is very difficult in view of their high-flying feeding strategy).

In future, we would recommend for bats focusing on a community of species rather than one particular species for research purposes.

Project Implementation: (aspects of the project execution that contributed to its success/shortcomings)

Otomops wroughtoni made an excellent ‘flagship’ for the project but we believe it was also the correct decision to invest much of the time, money and other resources in in-country capacity building within the scientific community and in determining what other priority bat species were present in northern Cambodia. Both of these latter aspects were highly achievable and will lead to long-term benefits for biodiversity research and conservation in Cambodia.

Other lessons learned relevant to conservation community:

Cambodia has much to offer in terms of the conservation of a rich and varied bat fauna.

ADDITIONAL FUNDING

Provide details of any additional donors who supported this project and any funding secured for the project as a result of the CEPF grant or success of the project.

Donor	Type of Funding*	Amount	Notes
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Darwin (Harrison Institute)	C	£189,895 for 2010-2013	Funding for Cambodia, Thailand and Lao taxonomic bat research
Darwin (FFI)	C	\$210,000 for 2009-2011	Funding for university capacity building in Cambodia
MacArthur Fund	C	\$400,000 for 2009-2012	Funding for university capacity building in Cambodia

****Additional funding should be reported using the following categories:***

- A** *Project co-financing (Other donors contribute to the direct costs of this CEPF project)*
- B** *Grantee and Partner leveraging (Other donors contribute to your organization or a partner organization as a direct result of successes with this CEPF project.)*
- C** *Regional/Portfolio leveraging (Other donors make large investments in a region because of CEPF investment or successes related to this project.)*

Sustainability/Replicability

Summarize the success or challenge in achieving planned sustainability or replicability of project components or results.

The project will be sustainable because all the principal partners in the project are committed to further strengthening scientific capacity in Cambodia and in undertaking further biodiversity research, not just in bats but in a wide range of taxa.

Summarize any unplanned sustainability or replicability achieved.

We are extremely pleased that partly through the bat project we have initiated interest in the study of birds in Cambodia and assisted with the study of reptiles.

Safeguard Policy Assessment

Provide a summary of the implementation of any required action toward the environmental and social safeguard policies within the project.

There is no particular external action required to safeguard the success of the project. Rather, it is dependent on the combined actions of the principal partners in continuing to support in-country capacity building.

Performance Tracking Report Addendum

CEPF Global Targets

(Enter Grant Term)

Provide a numerical amount and brief description of the results achieved by your grant.
Please respond to only those questions that are relevant to your project.

Project Results	Is this question relevant?	If yes, provide your numerical response for results achieved during the annual period.	Provide your numerical response for project from inception of CEPF support to date.	Describe the principal results achieved from July 1, 2010 to June 30, 2011. (Attach annexes if necessary)
1. Did your project strengthen management of a protected area guided by a sustainable management plan? Please indicate number of hectares improved.	no			Please also include name of the protected area(s). If more than one, please include the number of hectares strengthened for each one.
2. How many hectares of new and/or expanded protected areas did your project help establish through a legal declaration or community agreement?	no			Please also include name of the protected area. If more than one, please include the number of hectares strengthened for each one.
3. Did your project strengthen biodiversity conservation and/or natural resources management inside a key biodiversity area identified in the CEPF ecosystem profile? If so, please indicate how many hectares.	no			
4. Did your project effectively introduce or strengthen biodiversity conservation in management practices outside protected areas? If so, please indicate how many hectares.	no			
5. If your project promotes the sustainable use of natural resources, how many local communities accrued tangible socioeconomic benefits? Please complete Table 1 below.	no			

If you answered yes to question 5, please complete the following table.

Additional Comments/Recommendations

The project showed that collaborative commitment to developing skills in local scientists has a highly beneficial effect on biodiversity research within SE Asia. Greater knowledge of a wider range of biodiversity within Cambodia should enable conservation initiatives to be targeted at a variety of faunal and floral elements and habitat types.

Information Sharing and CEPF Policy

CEPF is committed to transparent operations and to helping civil society groups share experiences, lessons learned, and results. Final project completion reports are made available on our Web site, www.cepf.net, and publicized in our newsletter and other communications.

Please include your full contact details below:

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