

Darwin Initiative: Half Year Report

(due 31 October 2007)

Project Ref. No.	14-008
Project Title	Darwin Initiative Centre for Bat conservation in China
Country(ies)	China
UK Organisation	School of Biological Sciences, University of Bristol
Collaborator(s)	Professor Shuyi Zhang, Chinese Academy of Sciences (Beijing) and East China Normal University (Shanghai)
Project Leader	Professor Gareth Jones
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Project website	http://www.bio.bris.ac.uk/research/bats/China%20bats/index.htm

1. Outline progress over the last 6 months (April – September) against the agreed baseline timetable for the project (if your project has started less than 6 months ago, please report on the period since start up).

Since April we have had two more papers published or accepted in refereed scientific journals: individuals involved in the Darwin grant are highlighted in bold.

ROSSITER, S.J., BENDA, P., DIETZ, C., **ZHANG, S. & JONES, G.** 2007. Rangewide phylogeography in the greater horseshoe bat inferred from microsatellites: implications for population history, taxonomy and conservation. *Molecular Ecology*. doi: 10.1111/j.1365-294X.2007.03546.x (early online publication).

This paper uses nuclear DNA evidence (microsatellites) to show the extent of genetic variation across the worldwide range of greater horseshoe bats. We show deep genetic splits within China and between Europe and China are indicative of cryptic taxonomic divisions which need further investigation – i.e. the Chinese bats may represent one or more cryptic species that are genetically distinct from European bats.

ZHANG, J., HAN, N., **JONES, G.**, LIN, L., **ZHANG, J.**, ZHU, G, HUANG, D. & **ZHANG, S.** 2007. A new species of *Barbastella* (Chiroptera: Vespertilionidae) from north China. *Journal of mammalogy*, in press.

This study describes a new bat species in the genus *Barbastella* – and this bat was captured for the first time around the Darwin Research and Education Centres. The paper will be notable for describing a new mammal species that is currently only known from China, and Professor Shuyi Zhang (SZ) has entered negotiations with the Director of Xiayunling District into protecting the habitat around the known roost site. An application to develop a reserve around the roost site will be submitted once the paper describing the new species is published in December. If successful, this will be the first nature reserve for bats in China. Jinshuo Zhang (JZ) is preparing a press release describing the study.

In addition, Li Gang's (LG) training in molecular biology has resulted in him being author on a high-profile paper on evolutionary biology (a gene associated with language in humans shows rapid evolution in echolocating bats) that received widespread media attention, including coverage by *Science*. LG now has published enough papers in international scientific journals to earn a PhD from the Chinese Academy of Sciences.

LI, G., WANG, J., ROSSITER, S.J., **JONES, G.** & **ZHANG, S.** 2007. Accelerated *FoxP2* evolution in echolocating bats. PLoS ONE 2(9): e900. doi:10.1371/journal.pone.0000900.

This brings the total number of papers accepted under this grant so far to 7.

In May Professor Gareth Jones (GJ) attended the First South East Asian Bat Research Conference in Phuket, Thailand and gave a presentation on 'Bat research and conservation in China: recent developments under the Darwin Initiative' to over 120 delegates. GJ also led two workshops on bat echolocation call analysis, and established links with Neil Furey (University of Aberdeen) to work on taxonomy of South-East Asian bats. GJ has also established links with the Prince of Songkla University (PSU), Thailand that has resulted in a Memorandum of Understanding being signed between PSU and the University of Bristol's faculty of Science, and hopes to initiate collaborative research this academic year.

In September GJ visited Professor Shuyi Zhang at the Chinese Academy of Science in Beijing and in his new laboratory at East China Normal University, Shanghai. GJ met with 10 PhD students to provide advice on their PhD projects. These include ongoing studies on population differentiation in *Rhinolophus macrotis* and *R. affinis*, conservation genetics of bamboo bats, and taxonomy of Chinese bats. GJ, SZ and LG are also preparing a paper on genetics of Chinese horseshoe bats showing that bats spread to Japan, and later recolonised east China where they have mixed with a slightly smaller form that emits echolocation calls of higher frequency.

A Chinese article on work done under the Darwin Initiative grant was published in volume 5 of the magazine Chinese Nature (July 2007), written by JZ.

The Darwin Initiative Centre for Bat Research has continued to host research students over the summer.

2. Give details of any notable problems or unexpected developments that the project has encountered over the last 6 months. Explain what impact these could have on the project and whether the changes will affect the budget and timetable of project activities.

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

Discussed with the DI Secretariat: no/yes, in..... (month/yr)

Changes to the project schedule/workplan: no/yes, in.....(month/yr)

3. Are there any other issues you wish to raise relating to the project or to Darwin's management, monitoring, or financial procedures? No

If you were asked to provide a response to this year's annual report review with your next half year report, please attach your response to this document.

Please note: Any planned modifications to your project schedule/workplan or budget should not be discussed in this report but raised with the Darwin Secretariat directly.

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