Darwin Initiative for the Survival of Species

Half Year Report (due 31 October each year)

Project Ref. No.	162/12/026
Project Title	Towards sustainable management of alien invasive weeds in southern China
Country(ies)	UK, China
UK Organisation	CABI Bioscience (an institute of CAB International), Silwood Park, Ascot, Berks. SL5 7TA
Collaborator(s)	Institute of Biological Control (IBC), Chinese Academy of Agricultural Sciences (CAAS), Beijing, China Guangdong Entomological Institute (GEI), Guangzhou, China
Report date	17th November 2004 (delay agreed)
Report No. (HYR 1/2/3/4)	HYR 1
Project website	Currently being added to the CABI Bioscience website http://www.CABI-Bioscience.org

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).

This project has progressed according to the revised timings provided in the annual report. A clean culture of the rust *Puccinia spegazzinii* has been produced in the UK and successfully shipped to China on living *Mikania micrantha* plants (June). Under quarantine conditions, at CAAS Beijing, Fu Weidong of BCI has proficiently undertaken host range testing of the rust, and 30 plant species have now been tested. At the GEI, *M. micrantha* plant propagation techniques have been investigated and a functional rust propagation unit is now available for use. The rust release sites have been established on Neiling Ding Island, and environmental data are being gathered.

Neither data on the weed infestation within the prospective rust release plots, nor the English translation of the report on the Island Survey by Guangdong Neilingding Futian National Natural Reserve Administration, have been provided to CABI. This will be followed-up on.

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.

A possible problem has been identified during the host range testing. *Mikania* is a predominantly New World genus, however, there is one eastern Asian species; *Mikania cordata*, but since it does not occur in India (where the rust is first being considered for release), it has not previously been screened. However, this species in native to China, and has now been tested with the rust: unfortunately the rust does infect it. However, *M. cordata* is morphologically very similar to the invasive alien species *M. micrantha*, and thus molecular techniques will be used to check the identification of the plants tested in China, at CABI Bioscience in the next few weeks. If they do prove to indeed be the China-native *M. cordata* then we have to address this immediately with the Chinese Quarantine Authorities.

It should be noted, however, that there are a number of reported cases where fungal agents have infected closely related non-target species under glasshouse conditions, but under natural conditions in the field,

no infection has ever been found. In addition, CABI has considerable experience with other countries that use this method of invasive alien weed control, and risk-benefit analyses undertaken; tend to favour the release of such agents. This is because the mitigation of an environmental catastrophe (often affecting whole ecosystems) caused by alien weeds, is considered to far outweigh the potential threat to one native species. Classical biological control agents do not eliminate the target species they only 'restore the balance' in an ecosystem, reduce the weed to a component of the flora rather than dominating it. Thus, the native species, even if it was infected by the rust, is not under threat of extinction.

I will keep the Darwin Initiative informed of progress.

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

This information has only just come to light, and so this is the first report of this potential problem to the Darwin Secretariat. Once the identity of the *Mikania* has been confirmed and the implications discussed with the Chinese Quarantine Authorities, then any changes to the programme can be discussed.

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?

I would like to raise the issue for the possible need for additional funding, in order to extend the host-range testing part of the programme (to study the interaction between the rust and *M. cordata).* Fu Weidong of the BCI has put this request to me. This will include quarantine rental cost and staff time and although costs have yet been provided to me, I would estimate that this should not be in excess of £5,000.

I will raise this directly with the Darwin Secretariat once we have confirmation on the identity of the *Mikania* species and after discussions with the Chinese Quarantine Authorities.

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. I have attached this.

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

Please send your **completed form by 31 October each year per email** to Stefanie Halfmann, Darwin Initiative M&E Programme, stefanie.halfmann@ed.ac.uk . The report should be between 1-2 pages maximum. **<u>Please state your project reference number in the header of your email message.</u>**