

Darwin Initiative Annual Report

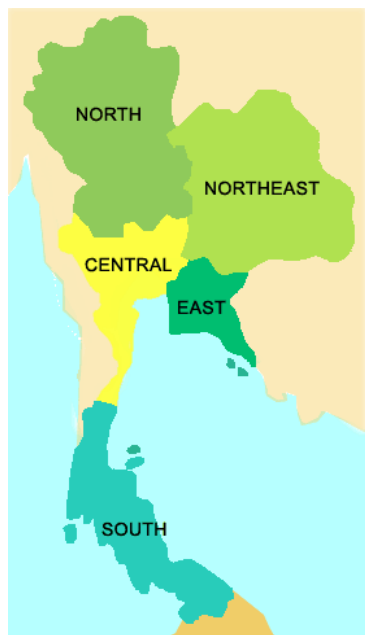
Darwin Project Information

Project Ref Number	13-026
Project Title	Field Guide to the Forest Trees of Southern Thailand
Country(ies)	Thailand
UK Contract Holder Institution	Royal Botanic Gardens, Kew
UK Partner Institution(s)	
Host country Partner Institution(s)	The Forest Herbarium Bangkok, Thailand
Darwin Grant Value	£53755
Start/End dates of Project	1/1/2005–31/12/2007
Reporting period (1 Apr 200x to 31 Mar 200y) and annual report number (1,2,3..)	1 Apr 2006–31 March 2007; report number 3
Project Leader Name	T. Utteridge, K. Chayamarit, S. Gardner, P. Sidisunthorn
Project website	http://www.darwin.gov.uk/projects/details/13026.html http://www.kew.org/science/directory/projects/FieldGuideTreesSThai.html
Author(s), date	T. Utteridge, S. Gardner, P. Sidisunthorn; April 2007

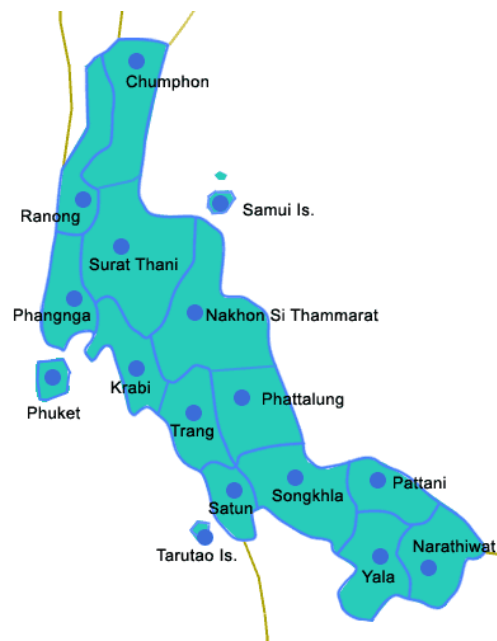
1. Project Background

The project is based in Southern Thailand (a geo-political region, see maps below, which includes the provinces of Krabi, Chumphon, Trang, Nakhon Si Thammarat, Narathiwat, Pattani, Phang Nga, Phatthalung, Phuket, Yala, Ranong, Songkhla, Satun and Surat Thani). This area has a diversity of habitats from mangroves and coastal vegetation to tropical rain forests, that represent probably the highest tree diversity in Thailand. To date, only the partially completed, and English-language technical publication the Flora of Thailand is available for identifying trees in the region. This Darwin project will produce user-friendly, non-technical, but scientifically rigorous identification guide that will enable a larger audience to identify forest biodiversity, which currently does not exist for Southern Thailand. It is envisaged that the guide will be useful for Peninsular Malaysia and will complement the forthcoming 'The Flora of Peninsular Malaysia' project which has recently begun in Kuala Lumpur in 2006.

The project was initiated after the enthusiastic response to the publication of the Field Guide to Forest Trees of Northern Thailand in 2000. The guide is being used by a wide range of groups including foresters, natural resource managers, ethnobotany projects, landscape architects, horticulturalists, amateur naturalists and tourists as well as by professional botanists and as a textbook by university students. The guide has also been used by conservation projects in Laos, Vietnam and Cambodia.



Map showing the regional divisions of Thailand.



Detail of the Southern region.

2. Project Partnerships

Project partnerships: The project workers based in Southern Thailand, Simon Gardner and Pindar Sidisunthorn, visited RBG, Kew in June and July 2006 (in association with their annual leave) and discussed project progress during that period in particular naming priorities and financial aspects of the project for the final year. After they returned to Thailand they moved to Penang in the north of Peninsular Malaysia during August 2006 which will be their base for writing up the Field Guide.

As for the previous reporting year Dr. Kongkanda Chayamarit (Director of the Office of the Forest Herbarium) has been in close contact with the project team in Southern Thailand, and BKF has been organising the packaging and distribution of the specimens from Southern Thailand to Kew, Leiden and other European institutions. The partnership between RBG Kew and BKF is still very strong with several visits to BKF by T. Utteridge during 2006 and early 2007 before and after fieldwork, meetings etc. in the region. The two annual courses have been received very well and both institutes would like to continue them after the Darwin project, funding permitting. The courses have helped BKF to build capacity for enhancing the identification and monitoring forest biodiversity, especially as the courses have taught staff not only undertaking taxonomic work but also field based conservation in National Parks. The courses include a large amount of printed materials which have been deposited at BKF for use by staff in the future.

The project partnerships are still very good, though there have been several periods of communication difficulties which have coincided with field trips by the team in Southern Thailand and by Tim Utteridge spending long periods of time in Malaysia, Papua New Guinea and Vietnam during 2006-2007 for RBG Kew duties. E-mail contact with the project team can be intermittent.

Other Collaborations: As in 2005-2006, this project has collaborated with the Darwin Initiative project run at RBG Kew 'Assessing and Conserving Plant Diversity in Commercially Managed Tropical Rainforests, Sabah' (Ref 14016), especially through the exchange of training protocols as both projects have run similar plant identification courses. Tim Utteridge has participated in the plant identification course run in Sabah, and Rogier de Kok, project leader on the Sabah project, participated in the 2006 and 2007 Bangkok identification courses. As in 2005-2006, the project has received further copies of the interactive key written during the Papuan Plant Diversity Project (Ref 10018); and these were distributed to trainees on the plant identification/IUCN techniques course during training on how to use a key. The project has also consulted with Kew project members of 'Conservation of Plant Diversity in Western Cameroon' (Ref 8038) in regard to IUCN training materials for the recent course. The project has continued to use links with other botanical institutes for naming the specimens both within Thailand and internationally, including: Forest Herbarium Bangkok, Khon Kaen University (Thailand), Peninsular Botanical Garden (Thailand); Royal Botanic Garden, Edinburgh, University of Bergen (Norway), Botanische Staatssammlung München, and the Nationaal Herbarium Nederland (Leiden Branch).

The project does not have a link with the CBD focal point.

3. Project progress

3.1 Progress in carrying out project activities

[Please note this was granted funding in mid-November 2004 to start on 1st January 2005; thus the timetable has shifted by 9 months from the Stage 2 application.]

Main tasks completed during April 2006 to March 2007 were as detailed in the Half year report and these are primarily specimen processing and starting the production of a draft the field guide. The emphasis of the project has moved from being fieldwork based and collecting large numbers of specimens with photographs and illustrations made at the time of collection, to being one involving processing specimens, photographs, literature, taxonomic problems, naming specimens and writing up species descriptions.

Specimen processing has resulted in all the specimens collected in the field being processed in southern Thailand and sent out (except for the field trip in Oct. 2006 which was sent over Christmas time). In addition to the October trip, two further fieldwork trips have been undertaken early in 2007 to fill in knowledge gaps for trees that flower during that part of the year. BKF has forwarded all the specimens to Kew from the previous fieldwork, and as in October 2006 the specimen number collecting sequence is now up to 2757. All of the collection numbers have a minimum of two specimens (duplicates) for each number, thus the actual number of specimens deposited in botanical institutions is now about 5500. Additional specimen processing has included sorting to family, allocation of all families for specimen identification duties (mostly through botanists at BKF though several will be co-ordinated through Kew). BKF has also sent three boxes of specimens to Leiden for naming by experts there.

Production of the field guide: This involves writing draft accounts for the book, data management, and specimen identification. A key part of the field guide is the accurate identification of the specimens, once this is done the draft pages are written up. The number of species from the region to be treated in the book will probably be around 1100–1300 as approx. 2700 specimens of which 1100 are now determined to species level, representing c.680 species (c.30% total expected). If all specimens collected by the project managed to be determined, which is very difficult, then c.1700 species altogether would be found (c.75% of the total calculated from the literature, however, a more realistic figure will be within 1100-1300 species identified at the end of the project. To date 209 draft specimen accounts have been compiled (baseline timetable: 200 are to be done by Jan. 2006, a further 300 by Jan. 2007), but unfortunately the additional 300 reports have yet to be sent to Kew for verification. Taxonomic

verification of duplicate species names, synonyms etc. has continued at Kew where resources are more readily available, as well as photocopying and sending out large amount of references for the project from the library at Kew which are difficult to obtain in Southern Thailand, this is ongoing and has resulted in about 70 journal articles (including some very long taxonomic treatments) being sent out for the project.

Drawing on the success of the 2005 training course, the training week planned for 2006 in IUCN conservation was expanded to include a large element of plant identification and was called the 'Darwin Initiative Tropical Plant Identification and Introduction to IUCN Course'. This was discussed and finalised during a visit by Tim Utteridge to the Forest Herbarium with Kongkanda Chayamarit and Rachun Pooma. Kongkanda Chayamarit - the project's co-ordinator in the host country and is Director of the Office of the Forest Herbarium, and Rachun Pooma who is the Head of the Herbarium and was more closely involved with the running of the course in 2006. As for the 2005 course, Kongkanda and Rachun were able to suggest the best training methodology for the trainees on the course (as 2005, course participants were selected by BKF as detailed in the original Stage 2 application). The course was held from 20th November to 24th November 2006. There were a total of 20 trainees from the National Park, Wildlife and Plant Conservation Department (DNP) including several field-based members of the DNP selected for their roles in contributing to the conservation in National Parks. Several permanent members of staff from the Forest Herbarium contributed to the course especially during practical identification sessions. Details of the course, as well as the 2005 course, can be found on the following websites, (the Darwin logo is prominently displayed at the top of the page):

<http://www.dnp.go.th/Botany/Image/events/Darwin2006/main.html>

http://www.dnp.go.th/Botany/Image/events/Darwin%20course/ident_course.htm

Most of the outputs have been carried out in the manner planned, but the final stage of the project will be crucial in the production of the book, as this will involve the compilation of all the individual outputs. Naming of specimens is output that is causing most problems as it draws on professional botanists outside the project who have their own project and are doing the naming in kind. If a botanist is busy or unable to spend time on naming then the naming can be slowed up.

3.2 Progress towards Project Outputs

The project's outputs are the book, photographs, fieldwork specimens collected, specimens named, and training partners. Progress in all of these outputs, except for the book treatments, have been going well. All photographs have been processed by the end of January, all fieldwork has been done and finished including three extra small trips ending in April 2007, all specimens have been sent out except for the last field trip, specimens are being named and training has gone very well. The book treatments will follow very soon once the other outputs are finished. Overall progress is good.

There have been no assumption changes in the outputs, and original output level assumptions still hold true.

3.3 Standard Output Measures

Table 1 Project Standard Output Measures

Code No.	Description	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	TOTAL
6A	Training courses	0	35 (Thai)	20 (Thai)		
6B	Training weeks		2	1		
8	Kew staff	0	7	4		
12A	Databases	2				
13A	Specimens	1800	950	xxxx		
15C	Kew Scientist	1	1			
20	Laptop	£860				
20	CD-roms		£60	£60		
23	Toyota (Japan)	£32150				
	Kew Staff time	£1881	£7520	£7520		
	TOBU fund		£2000	£2000		

No publications have been published this year.

3.4 Progress towards the project purpose and outcomes

Outcomes is to enhance conservation of the forest trees of Southern Thailand, once the guide is published then this outcome will start to be realised, and original purpose level assumptions still hold true, and the original indicators are still adequate to measure outcomes.

3.5 Progress towards impact on biodiversity, sustainable use or equitable sharing of biodiversity benefits

This project was not asked to develop a project specific final goal statement or to measure indicators of biodiversity impact, and it is difficult to report on progress towards these. As stated in the section above, once the guide is published then positive biodiversity impacts will start to be seen, but this will occur after the completion of the project.

4. Monitoring, evaluation and lessons

This year the project has been monitored and evaluated through the specimens received at BKF and then sent to Kew, the successful completion of the identification/IUCN course (monitored through a family identification test in the last day and several IUCN case studies to work through), and the number of identifications (compiled on the project database by the project team in Southern Thailand/Malaysia - the project database is not held in Kew).

Lessons learnt this year have included that the specimen identification is very important for the project and more time will be spent on co-ordinating this especially at Kew.

5. Actions taken in response to previous reviews (if applicable)

The last project review suggested that more work could be directed toward the actual, physical conservation of the forest trees of Southern Thailand. In response to this suggestion the project was developed to "enhance the identification and monitoring of Thailand's forest biodiversity to enable better in-situ conservation of this resource...produce a Field Guide will enable conservation workers and other stakeholders to identify the majority of trees which they are likely to encounter in Southern Thailand...generate accurately named herbarium specimens...train students and staff from partner institutions to apply IUCN conservation assessments." (from the Stage 2 application). Thus, the project's aims were to enhance conservation through the use of a Field Guide and the training weeks rather than undertake in-situ conservation programmes of species threatened with extinction. However, the specimens generated by the project will allow IUCN assessments to be drawn up (and through GIS techniques these can be later improved), and in addition the training in IUCN methodology will allow workers to direct conservation of Southern Thailand's forest biodiversity. Participants during the 'Darwin Initiative Tropical Plant Identification and Introduction to IUCN Course' held in 2006, included several field-based members of the National Park, Wildlife and Plant Conservation Department (DNP), were very interested in implementing the IUCN categories. It was apparent from the training week that most, if not all, of the participants had not been exposed in any great detail to the IUCN methodology and it is hoped that the training week will result in greater understanding of conservation needs for the trees in Southern Thailand.

6. Other comments on progress not covered elsewhere

The design of the project has not been enhanced over the last year in any great way. Specimens have been sent directly to different botanical institutions from BKF as this is quicker than sending them to Kew for onward forwarding. Difficulties include the naming of specimens because we have tried to use the family experts to name the specimens, however they can sometimes be too busy. To overcome this the project will have to use different botanists to name the specimens, and if time allow Tim Utteridge at Kew will have to name groups that he has no experience of, but there is great amounts of expertise at Kew, but perhaps not in the botany of Thailand that will be able to help. The project does not face any particular risks.

7. Sustainability

Within Thailand, the project's profile is currently limited to the botanical and ecological communities, and outside of these communities little has been to promote the project. An exit strategy is not currently in place because of the output is a book and project outputs such as specimens, naming, literature searches etc. are not likely to continue through this specific project. However, because of the relationship between BKF and Kew these activities will continue, for example, specimen collection is one of the activities that BKF actively undertake and duplicates are sent to Kew and other botanical institutions. The outputs generated from the Southern Trees project will aid in the targeting of collection activities in Southern Thailand in the future and will allow species to be named and any conservation action for them to be considered. The annual identification courses, especially with the IUCN element was very well-received and BKF and Kew would like to keep these going, and funding sources are being considered.

8. Dissemination

Not many dissemination activities in the host country have occurred during the year, much of the project time this year has been spent writing up, cataloguing, naming, getting references etc. for the book. The courses have been placed on the BKF website (see link above), with many photographs etc. Further dissemination activities will occur once the book has been published.

9. Project Expenditure

Please expand and complete Table 3.

Table 2 Project expenditure during the reporting period (Defra Financial Year 01 April to 31 arch)

Annex 1 Report of progress and achievements against Logical Framework for Financial Year: 2006/07

Project summary	Measurable Indicators	Progress and Achievements April 2006 - March 2007	Actions required/planned for next period
<p>Goal: <i>To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but constrained in resources to achieve</i></p> <p><i>The conservation of biological diversity,</i></p> <p><i>The sustainable use of its components, and</i></p> <p><i>The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</i></p>		<p><i>(report on any contribution towards positive impact on biodiversity or positive changes in the conditions of human communities associated with biodiversity eg steps towards sustainable use or equitable sharing of costs or benefits)</i></p>	<p><i>(do not fill not applicable)</i></p>
<p>Purpose</p> <p>To enhance the conservation of the forest biodiversity of Southern Thailand through the production of a tool for improved identification and monitoring of forest tree species.</p> <p>Improved capacity to collect and study botanical diversity.</p>	<p>Ability to identify the trees of Southern Thailand enhanced.</p> <p>Species of high priority for conservation identified using IUCN categories.</p> <p>New knowledge of the trees of Southern Thailand generated and shared.</p>	<p><i>All photographs of the collections made during fieldwork have been scanned, databased etc.</i></p> <p><i>Plant identification and IUCN course run in Bangkok</i></p>	<p>Key actions will be the continued identification of the specimens in the next period and continuing to write these up into the format for the book.</p>
<p>Output 1. Field Guide to the Trees of Southern Thailand.</p>	<p>Field guide to 1000 species published</p>	<p>Progress is good, and the indicator is appropriate. Problems with progress are the naming of some difficult plant groups such as Rubiaceae.</p>	
<p>Activity 1.1 Collecting and distributing specimens</p>		<p>Additional fieldwork has been undertaken, all specimens from previous fieldwork have been distributed.</p>	

Activity 1.2 Naming specimens		1100 specimen collections named to species by botanical experts. All Euphorbiaceae (one of the biggest families) named.
Output 2. Field work, photographs and illustrations of species made, specimen collection and taxonomic verification undertaken.	Critically named specimens deposited in partner's herbaria; training in collection and preparation of herbarium specimens undertaken.	As for the previous section progress is good and the indicator is still appropriate.
Activity 2.1. Specimen collections and taxonomic verification, see Activity 1.2.		see Activity 1.2. Taxonomic verification is ongoing at Kew including literature searches for synonyms and missing literature. All specimens received at BKF and processed to Kew or Leiden.
Activity 2.2. Photographs and illustrations made		All photographs have been processed for the collections up to January 2007, all illustrations have been made at the time of collection, though may need formatting for the final publication.
Output 3. Conservation status of forest tree species assessed; partners trained in assigning IUCN categories.	IUCN categories produced.	The training course went well, but progress in the IUCN assessments for the individual trees will be undertaken later in 2007.
Activity 3.1 IUCN training course		Completed in November 2007.
Activity 3.2. Trees assessed for IUCN		This will be done when the final specimen verifications are in place.

Annex 2 Project's full current logframe

Please see end of document as the formatting of this document (from the original download) would not allow the table to be pasted into here.

Checklist for submission

	Check
Is the report less than 5MB? If so, please email to Darwin-Projects@ectf-ed.org.uk putting the project number in the Subject line.	y
Is your report more than 5MB? If so, please advise Darwin-Projects@ectf-ed.org.uk that the report will be send by post on CD, putting the project number in the Subject line.	n
Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number.	n
Have you completed the Project Expenditure table?	y
Do not include claim forms or communications for Defra with this report.	

Project summary	Measurable indicators	Means of verification	Important assumptions
<p>Goal:</p> <p>To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve</p> <ul style="list-style-type: none"> the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources 			
<p>Purpose</p> <p>To enhance the conservation of the forest biodiversity of Southern Thailand through the production of a tool for improved identification and monitoring of forest tree species.</p> <p>Improved capacity to collect and study botanical diversity.</p>	<p>Ability to identify the trees of Southern Thailand enhanced.</p> <p>Species of high priority for conservation identified using IUCN categories.</p> <p>New knowledge of the trees of Southern Thailand generated and shared.</p>	<p>Field guide published.</p> <p>Conservation status of species assessed and published, and distributed to relevant agencies.</p> <p>Herbarium specimen holdings increased at institutions; new photographs, illustrations, scientific information published.</p>	<p>Easier identification of biodiversity components allows conservation workers to better conserve Southern Thailand's forest biodiversity.</p> <p>IUCN ratings convey information to direct conservation needs.</p> <p>Critically named herbarium specimens are a valuable conservation reference resource.</p>
<p>Outputs</p> <p>Field guide to the Forest Trees of Southern Thailand.</p> <p>Field work, photographs and illustrations of species made, specimen collection and taxonomic verification undertaken.</p> <p>Conservation status of forest tree species assessed; partners trained in assigning IUCN categories.</p>	<p>Field guide to 1000 species published.</p> <p>Critically named specimens deposited in partner's herbaria; training in collection and preparation of herbarium specimens undertaken.</p> <p>IUCN categories produced.</p>	<p>Field guide peer reviewed; field guide distributed; copies of all publications sent to Darwin Initiative.</p> <p>Fieldwork reports; database produced of collections made; determinations distributed to partners; training attendance records and quality specimens received in herbaria.</p> <p>Participant attendance records; forest tree species IUCN ratings published in the field guide.</p>	<p>Partners & fieldworkers interested in using a field guide; publishers interested and available.</p> <p>Scientifically rigorous taxonomic work presented in a user-friendly manner, together with named herbarium specimens make identification easier for non-specialists.</p> <p>Interested parties use IUCN ratings as an internationally recognised standard.</p>
<p>Activities</p>	<p>Activity Milestones (Summary of Project Implementation Timetable)</p>		

<i>Publications.</i>	<i>Yr. 1: Publication format discussed and agreed upon (October 2004); initial species reports written and reviewed (c. 200 species). Yr. 2: Species reports continued (c. 300 species); page proofs generated and agreed upon (March 2006). Yr. 3 Final species reports written; proofs sent to reviewers; and field guide ready for publication (May 2007).</i>
<i>Fieldwork programme.</i>	<i>Yr. 1: Field protocols, dates and survey area agreed (June 2004); surveys carried out (144 days). Yr. 2: second phase of surveys (144 days). Yr. 3: Final phase of surveys (72 days).</i>
<i>Training.</i>	<i>Yr. 1 Training in specimen collection and processing (October 2004). Yr. 2: Training in taxonomic, identification and herbarium methodology (September 2005). Yr. 3: IUCN conservation workshop (May 2006).</i>