Report DAVIS EXPEDITION FUND

REPORT ON EXPEDITION/PROJECT

Expedition/Project Title: Systematics of the family Vitaceae in Thailand: a molecular and morphological approach

Travel Dates: 23rd of February – 6th of May

Location: Thailand

Group Members: Anna Trias Blasi and Caroline Byrne

Aims: The main aims in the proposed fieldtrip were:

- to collect herbarium specimens.
- to collect silica-gel samples for DNA analysis and further phylogenetic studies.
- to visit 5 herbaria and gather information from herbaria that do not loan specimens.
- to acquire a first-hand knowledge of the vegetation and geography of Thailand.
- to acquire field experience and improve collecting techniques.
- to make contacts with Thai scientists.

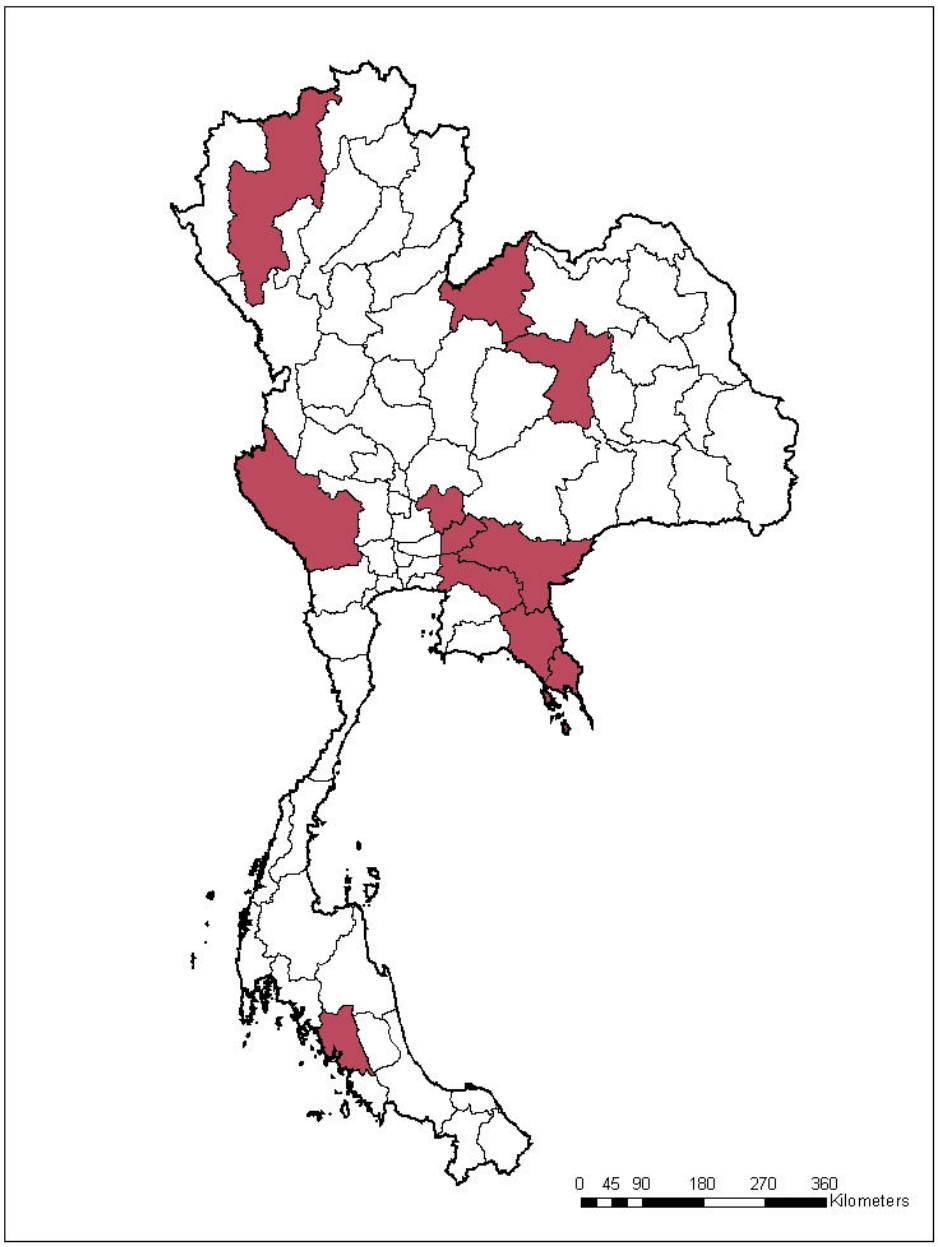
OUTCOME

The proposed fieldtrip took place between the 23rd of February and the 6th of May in 2007. With a duration of aproximately 10 weeks it combined both fieldwork and herbarium work. In total 11 National Parks, 3 Wildlife Sanctuaries, 4 Botanic Gardens, 2 Arboreta (Table 1) and 7 Herbaria (Table 3) were visited.

Table 1. National Parks, Wildlife Sanctuaries, Botanic Gardens and Arboreta visited during the fieldtrip

National Parks	
North East	Phu Wiang
	Phu Taga
	Phu Rua
North	Doi Inthanon
Center	Khao Yai
South West	Erawan
	Thong Pa Phum
	Sai Yok
South East	Namtok Khlong Kaeo
	Mo Ko Chang
	Khao Laem Ya – Mo Ko Samet
Wildlife Sanctuaries	
Peninsula	Khao Banthat
South East	Khao Ang Ruenai
	Khao Soi Dao
Botanic Gardens and Arboreta	
Northern	Queen Sirikit Botanical Garden
	Huai Kaeo Arboretum
Peninsula	Thung Khai Botanical Garden
	Khao Chong Botanical Garden
South East	Khao Hin Son Botanical Garden
	Khao Chakan Arboretum

Map of the collecting areas in Thailand



The map above shows the various collecting areas visited during this fieldtrip. A total of 10 provinces were visited belonging to the 6 existing floristic regions in Thailand.

Herbarium specimens and DNA sample collection
A total of 54 Vitaceae specimens were collected during this expedition. DNA samples stored in silica-gel were also collected when possible for each herbarium specimen collected.

The herbarium specimes were collected using two different techniques depending on the infrastructure available. When drying facilities were available, the specimens were pressed and stored in an oven for 2-3 days until totally dry. When unavailable, the alcohol method was used. This method was new to me since in the past I had always collected using the drying method. The alcohol method consists of soaking the collections in alcohol until an oven can be used to dry them using the drying method. This method has clear disadvantages and was avoided unless vital. The main disavantages are the blackening of the samples and also the degradation of the DNA in the samples which makes them unavailable for further DNA studies unless additional DNA samples were collected.

Table 2 summarises the amount of samples collected using the two described methods.

Table 2. Collection type

Dried collections	Alcohol collections
44	10

Herbarium work
A very important part of this trip was to look at Thai collections from several herbaria, especially those of the herbaria that do not lend specimens. In the initial plan we proposed to visit 5 different herbaria across the country (detailed in Table 3). All of those were visited as well as two additional ones (Table 3). Over 900 specimens were examined in the different herbaria detailed.

Table 3. Herbaria and specimens

Herbaria proposed	Herbaria visited	Specimens examined
BKF	**BKF**	361
BK	**BK**	351
KKU	**KKU**	10
CMU	**CMU**	20
PSU	**PSU**	88
-	**QBG**	81
-	**Thung Khai**	-

Further loans were requested where a limited time was available or where relevant specimens were selected for further examination in TCD. This include BKF and PSU. In the case of CMU even though not enough time was available and no loans can be granted due to budget constraints, alternate measures to ship the specimens to Dublin have been devised.

Vegetation
We had the opportunity to collect in several areas representing different types of forests (Table 4).

Table 4. Forests types collected in in Thailand

Type of forest
Dry evergreen
Moist evergreen
Hill evergreen
Lowland evergreen
Dry mixed deciduous
Dry dipterocarp
Bamboo forest
Peat swamp
Grasslands

New contacts
The cooperation of local scientists and botanical staff during this fieldtrip has been crucial due to the vast array of localities visited. The overall plan was designed in Trinity College Dublin with the help of Prof. John A.N. Parnell and two fellow Thai Ph.D. students (Mr. Sarawood Sunkaew and Ms. Atchara Teerawatananon). After this first draft, the schedule was modified on-site in BKF together with Dr. Kongkanda Chayamarit, Director of the Forest Herbarium in Bangkok. She has been our main contact and has given acces to all the facilities available in the different areas visited.
In the various areas around Thailand we were provided with guides and infrastructure by the local institutions, such a Universities, Botanic Garden and Arboreta (details in Table 5).

Table 5. Contacts

Area	Contact	Institute
Bangkok	Dr. Rachun Pooma	BKF
	Dr. Somran Suddee	BKF
	Ms. Walaiporn Wisawachaiwat	BKF
	Dr. Pramote Triboun	BK
NE	Prof. Pranom Chantaranothai	Khon Kaen University
	several staff and students	Khon Kaen University
N	Mr. Pien	Huai Kaeo Arboretum
PEN	Dr. Voradol Chamchumroon	BKF and Thung Khai Botanic Garden
	Asst. Prof. Kitichate Sridith	Prince of Songkla University
SE	Mr. Phongsak Phonsena	BKF and Khao Hin Son Botanic Garden
	several staff and students	Khao Hin Son Botanic Garden
Additional	Prof. Christian Puff	University of Vienna

Additional activities
During the stay in Thailand we also attended a 1-week long training course on the databasing program BRHAMS. At the end of the course a certificate of proficiency was obtained.

Outputs

The data collected during this fieldtrip is not only critical to the overall outcome of my PhD thesis, but it also fundamental in the production of an account of the Vitaceae for the Flora of Thailand project. It is also intended to immediately submit a brief report of the collecting trip for publication in the Thai Forest Bulletin. Other articles might be published at a later date. Your collaboration in the project has been essential and will be acknowledged in all the publications.