

Report

Vascular flora of the Emerald Pool area, Krabi province, southern Thailand

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Abstract: The Emerald Pool is situated in remnant lowland (25-75 m), seasonal, fresh water, swamp forest on limestone bedrock. Primary, evergreen, seasonal, hardwood forest, often with bamboo and frequently degraded, surrounds the swamp forest and extends to 175 m elevation. The bedrock above the swamp forest is sandstone with occasional limestone outcrops and hills. A total of 111 vascular plant families with 420 species were found.

Keywords: Emerald Pool, Krabi flora and vegetation

Introduction

The Emerald Pool (Sra Moragote) is located in Khao Pra-Bahng Krahm Wildlife Sanctuary, Klong Tawm Nua subdistrict, Klong Tawm district, Krabi province at approximately 8°N latitude, 99° E longitude. The area is an ecologically distinct habitat in lowland (25-75 m elevation), fresh water, seasonal, swamp forest on limestone bedrock. There are several hot springs, all less than 40°C on limestone bedrock, in the area—the Emerald Pool being the largest and most intact of them.

Primary, evergreen, seasonal, hardwood + bamboo forest, some of it very degraded, on sandstone bedrock is present adjacent to the swamp forest to the summit of Pan Din Samur (c. 175 m elevation)—the highest point in the research area.

The sanctuary was established in 1993, mainly to protect the last known populations of Gurney's Pitta (*Pitta gurneyi*) in Thailand. This is a ground-living bird that requires intact swamp

forest for survival. My work there started in late September 2005 with several occasional visits since then. The sanctuary includes an area of 156 km² with only *c.* 25 km² of forested land.

Background

During the latter half of the 20th century, southern Thailand was largely deforested and much of the land planted with monocultures of *Hevea brasiliensis* (Kunth) M.A. (Euphorbiaceae, Para rubber, from South America) and *Elaeis guineensis* Jacq. (Palmae, oil palm, native to tropical west Africa)—both economically valuable trees. After regional communist disturbances were resolved in 1983, many people migrated to Klong Tawm Nua Subdistrict where consequent severe forest encroachment caused drastic reduction in Gurney's Pitta populations. Presently, the entire sanctuary is surrounded and dissected by Para rubber and oil palm plantations while forest destruction continues, although at a slower rate than previously.

In an effort to restore primary forest cover to destroyed areas originally inhabited by Gurney's Pitta, the Royal Society for the Protection of Birds (U.K.) contacted the Forest Restoration Research Unit (FORRU), Chiang Mai University, of which I am a member, to properly replant forests there. To effect this, a detailed study of the flora there was required. Collaborative work with FORRU enabled the reforestation project to begin planting in June 2006.

This area is more widely known internationally as Khao Nor Chuchi, a limestone mountain rising to 650 m elevation, a few kilometers to the south-east of the Emerald Pool.

Conservation

Tina Jolliffe (1947-1993), a British conservationist, established the Children's Tropical Forests (U.K.) in 1989. A fund was developed to improve conservation and education in the sanctuary, and a nature trail around the Emerald Pool was established by 1992 [1,2]. Unfortunately, this 2.7- km- long Tina Jolliffe Nature Trail was not maintained or improved. The Tourist Authority of Thailand built a boardwalk in the swamp forest in 1999 which has been maintained. One of my goals during my work there was to produce list of trees along the nature trail, which now includes nearly 100 species.

Geology

The Geological Map of Thailand [3] indicates that the Emerald Pool area consists of Triassic limestone and sandstone (Lampang Group), which was originally formed from deep sea sediment approximately 200 million years ago and later uplifted. Fresh water limestone (tufa) has developed in the swamp forest, often forming extensive, open, barren areas near the Emerald Pool (Photos 1 and 2).



Photo 1. Open, moist to wet tufa above the Emerald Pool with scattered patches of vegetation, including *Eugenia papillosa* Duth. (Myrtaceae), shown here, being abundant.



Photo 2. Open tufa bordering the swamp forest with a drainage channel leading to the Emerald Pool.

Climate

The climate throughout Thailand is seasonal. The provinces bordering Malaysia are the least seasonal and have a dry period of up to 6 weeks, while the northern provinces have a dry period of 4-6 months. As latitude decreases the temperature is less variable resulting in two seasons in the southern provinces, viz. dry and rainy. In northern Thailand there is a wide range of temperature variation which causes three seasons, viz. cool/dry, hot/dry, and rainy.

Krabi province has a distinct dry season from December to March with rains starting in April and peaking in July (Figure 1). The average amount of annual rainfall at Krabi during 1995-2004 ranged from 1796 mm to 2387 mm—mean average of *c.* 2000 mm/year (Figure 2).

Vegetation

Fresh water swamp forest

The fresh water swamp forest is a 2.5-km² remnant area around the Emerald Pool which is mostly undisturbed and has moist to wet soil throughout the year (Photos 3 and 4). In general, the land is flat, densely vegetated, and at *c.* 25-75 m elevation. Marginal areas vary from destroyed, regenerating, or better drained, primary, evergreen, seasonal, hardwood + bamboo forest on limestone and sandstone bedrock with little tufa.

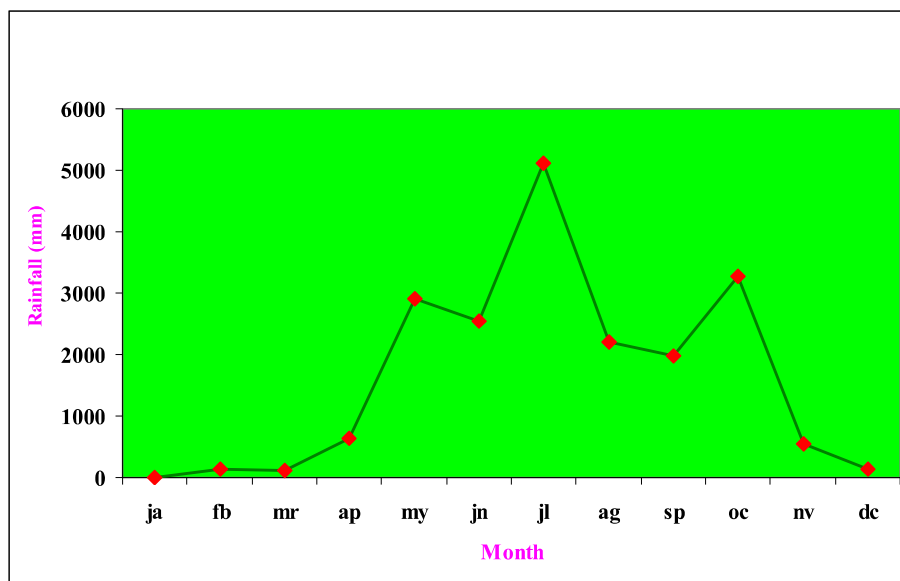


Figure 1. Average monthly rainfall (mm) at Krabi (1995 - 2004) [Source: Krabi Meteorological Station]

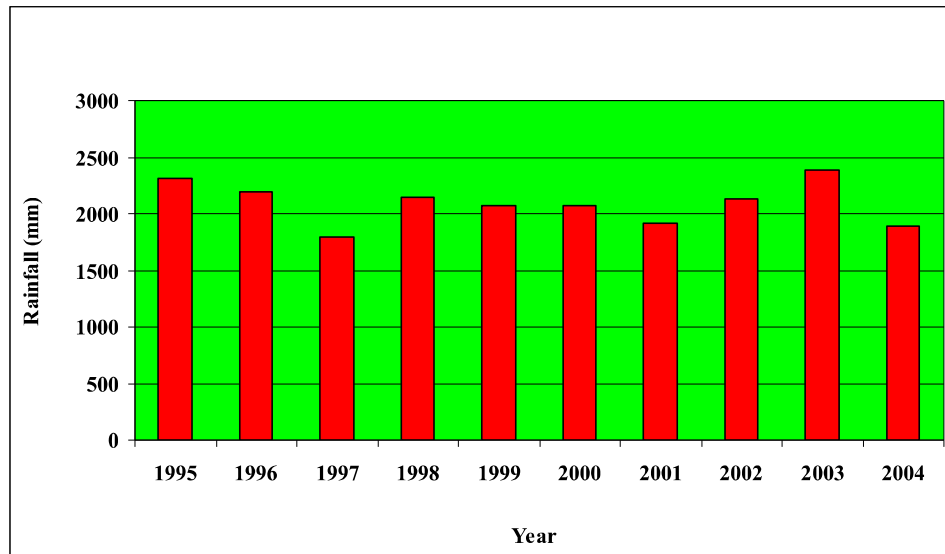


Figure 2. Average annual rainfall (mm) at Krabi (1995 - 2004). Source: Krabi Meteorological Station

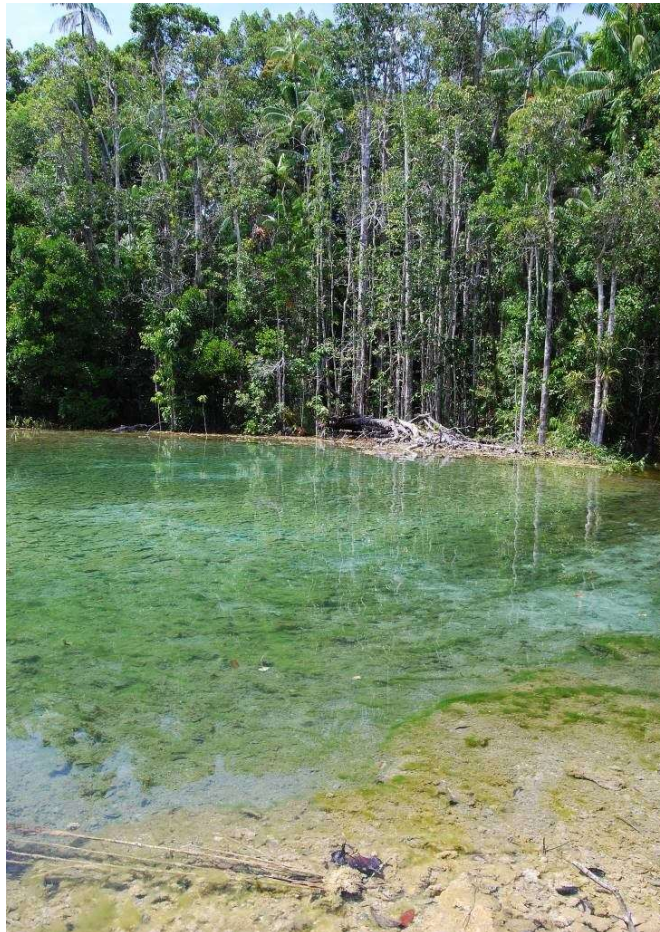


Photo 3. A pool in the swamp forest with calcareous mud and typically warm, blue-green water.



Photo 4. A typical wet area in the swamp forest where the water lacks warmth and pigmentation.

The ground flora consists of many evergreen herbs dominated by *Dracena curtisii* Ridl. (Agavaceae), *Aglaonema oblongifolium* (Roxb.) Schott (Araceae), *Donax cannaeformis* (G. Forst.) K. Sch. (Marantaceae), *Tacca chantrieri* Andre (Taccaceae), *Globba fasciata* Ridl. (Zingiberaceae), and *Freycinetia sumatrana* Hemsl. var. *sumatrana* (Pandanaeae), a creeping vine—all monocots. Dicots are relatively sparse with *Acrotrema costatum* Jack (Dilleniaceae), *Sericocalyx glaucescens* (Nees) Brem. (Acanthaceae), *Adenosoma indiana* (Lour.) Merr. (Scrophulariaceae), and *Thottea tomentosa* (Bl.) Hou (Aristolochiaceae).

Various Palmae are common with *Licuala kunstleri* Becc., *Pinanga maliana* (Mart.) Scheff., and *Salacca wallichiana* Mart., all treelets, and rattans, viz. *Calamus axillaris* Becc., *C. exilis* Griff., *C. javensis* Bl., *C. palustris* Griff. var. *cochinchinensis* Becc., *Daemonorops sabut* Becc., and *Korthalsia laciniosa* (Griff.) Mart.

Bamboos (Gramineae, Bambusoidese) are diverse and abundant in the swamp forest with *Gigantochloa apus* (Schult.) Kurz, *G. wrayi* Gamb., and *Cephalostachyum virgatum* (Munro) Kurz.

Many herbs are restricted to or are more common on tufa substrate, either epilithic or in thin soil. Some common examples are *Argostemma puffii* Srid. and *Ophiorrhiza trichocarpon* Bl. var. *trichocarpon* (both Rubiaceae), *Chirita involucrata* Craib and *Ephitema saxatile* Bl. (both Gesneriaceae)—all dicots. *Rhaphidophora gigantea* (Schott) Ridl. (Araceae) and *Nervilia aragoana* Gaud. (Orchidaceae) are two common monocot representatives. Some pteridophytes found in these places are *Nephrolepis biserrata* (Sw.) Schott (Oleandraceae), *Microsorium scolopendria* (Burm. f.) Copel. (Polypodiaceae), *Stenochlaena palustris* (Burm. f.) Bedd. (Pteridaceae, a vine), and *Schizaea digitata* (L.) Sw. (Schizaeaceae). The ground flora is also replete with seedlings and saplings of woody species.

Treelets and shrubs are well-represented in the swamp forest, most of them being dicots. The most common species are *Ixora diversifolia* Wall. ex Kurz and *Saprosma longicalyx* Craib (both Rubiaceae), *Trevesia valida* Craib (Araliaceae), *Galeria fulva* (Tul.) Miq., *Phyllanthus albidiscus* (Ridl.) A.S., and *P. oxyphyllus* Miq.—the latter three Euphorbiaceae.

Understorey trees are common and include: *Garcinia merguensis* Wight (Guttiferae), *Sterculia guttata* Roxb. (Sterculiaceae), *Stemonurus malaccensis* (Mast.) Sleum. (Icacinaceae), *Saraca indica* L. (Leguminosae, Caesalpinioideae), *Carallia brachiata* (Lour.) Merr. (Rhizophoraceae), *Eugenia muelleri* Miq. and *E. oleina* Wight (Myrtaceae), *Madhuca malaccensis* (Cl.) Lam and *M. motleyana* (de Vr.) Baeh. (Sapotaceae), *Diospyros undulata* Wall. ex G. Don var. *cratericalyx* (Craib) Bakh. and *D. venosa* Wall. ex A. DC. var. *venosa* (Ebenaceae), and *Triadica cochinchinensis* Lour. (Euphorbiaceae).

Canopy trees, 30-40 m tall, are typically dense, often massive, and frequently have buttresses and pneumatophores. Some of the more common representatives are *Dipterocarpus kerrii* King (Dipterocarpaceae), *Canarium patentinervium* Miq. (Burseraceae), *Toona ciliata* M. Roem. (Meliaceae), *Pometia pinnata* J.R. & G. Forst. (Sapindaceae), *Parkia timoriana* (DC.) Merr. (Leguminosae, Mimosoideae), *Duabanga grandiflora* (Roxb. ex DC.) Walp. (Sonneratiaceae), *Eugenia operculata* Roxb. (Myrtaceae), *Horsfieldia brachiata* (King) Warb. (Myristicaceae), and *Ficus variegata* Bl. (Moraceae, Photo 5)

Several tree species found in the swamp forest are also found stunted, but reproductive, in open, wet tufa areas. The most common examples are *Eugenia papillosa* Duth. (Myrtaceae), *Alstonia macrophylla* Wall. ex G. Don (Apocynaceae), and *Raermachera pinnata* (Blanco) Steen. ssp. *acuminata* (Steen.) Steen. (Bignoniaceae). Other plants associated with tufa are *Arundinaria graminifolia* (D. Don) Hochr. (Orchidaceae) and *Lycopodium cernuum* L. (Lycopodiaceae)—herbs; *Psychotria sarmentosa* Val. (Rubiaceae) and *Nepenthes mirabilis* (Lour.) Druce (Nepentheaceae), both vines; and *Ligustrum confusum* Dcne. (Oleaceae), a treelet, shrub, or small tree.

Primary, evergreen, seasonal, hardwood + bamboo forest

This kind of forest facies is found above the swamp forest and mostly on sandstone bedrock above c. 25 m elevation. The flora of these two forest types is generally different mainly because of better drainage in the hardwood + bamboo areas.

The ground flora in this forest type is generally dense and evergreen. Herbs are plentiful with *Hedyotis pachycarpa* Ridl. (Rubiaceae), *Staurogyne merguensis* O.K. (Acanthaceae)—dicots; *Etilingera littoralis* (Kon.) Gise. and *Zingiber zerumbet* (L.) J.E. Sm. var. *zerumbet* (both Zingiberaceae)—monocots. Pteridophytes are represented with *Taenitis blechnoides* (Willd.) Sw. (Parkeriaceae), *Tectatia angulata* (Willd.) C. Chr. (Dryopteridaceae), and *Lygodium flexuosum* (L.) Sw. (Schizaeaceae, a vine). Seedlings and saplings of woody species are abundant.

Treelets and shrubs are numerous with: *Clausnea excavata* Burm. f. var. *excavata* (Rutaceae), *Leea indica* (Burm. f.) Merr. (Leeaceae), *Psychotria curviflora* Wall. (Rubiaceae), *Breynia vitis-ideae* (Burm. f.) C.E.C. Fisch. (Euphorbiaceae) —all dicots; and *Pandanus ovatus* (Gaud.) Kurz (Pandanaaceae) —a monocot.



Photo 5. *Ficus variegata* Bl. (Moraceae) , a canopy tree, along the Tina Jolliffe Nature Trail in the swamp forest. Buttresses and exposed, vertically flattened roots are common in this habitat.

Woody climbers are numerous and include: *Tectaria loureiri* (Fin. & Gagnep.) Pierre ex Craib (Dilleniaceae), *Uvaria cordata* (Dun.) Alst. (Annonaceae), *Entada rheedei* Spreng. (Leguminosae, Mimosoideae), *Aganope thyrsoiflora* (Bth.) Polh. (Leguminosae, Papilionoideae), and *Urceola rosea* (Hk. & Arn.) Midd. (Apocynaceae).

The canopy of primary, evergreen, seasonal, hardwood + bamboo forest is as high as that in the swamp forest, but buttresses are less common and pneumatophores absent. Typical examples include: *Enicosanthum fuscum* (King) A.S. (Annonaceae), *Schima wallichii* (DC.) Korth. (Theaceae), *Irvingia malayana* Oliv. ex Benn. (Irvingiaceae), *Callerya atropurpurea* (Wall.) Schot (Leguminosae, Papilionoideae), *Tetrameles nudiflora* R. Br. ex Benn. (Datisceae, which is deciduous), *Cinnamomum iners* Reinw. ex Bl. and *Litsea grandis* (Wall. ex Nees) Hk. f. (both Lauraceae), *Chaetocarpus castanocarpus* (Roxb.) Thw. (Euphorbiaceae), *Castanopsis schefferiana* Hance and *Lithocarpus falconeri* (Kurz) Rehd. (both Fagaceae).

Bamboos (Gramineae, Bambusoideae) are well-represented with some species also found in the swamp forest. *Dinochloa scandens* (Bl.) O.K., a sprawling species, *Gigantochloa nigrociliata*

(Buse) Kurz, and *Thyrsostachys oliveri* Gamb. are common in this forest type. *Orania sylvicola* (Griff.) H.E. Moore (Palmae), a conspicuous palm tree up to 20 m tall with pinnate leaves and a smooth trunk, is often seen on slopes.

Epiphytes

In addition to a profusion of fungi, algae, lichens, and bryophytes, vascular epiphytes are found in both kinds of forest. The amount of exposure and moisture, not soil or bedrock, determines the abundance and distribution of all epiphytes. Dicot representatives are sparse and include *Dischidia major* (Vahl) Merr. (Asclepiadaceae), *Macrosolen cochinchinensis* (Lour.) Tiegh. and *Scurrula parasitica* L. (both Loranthaceae and hemi-parasitic shrubs). Monocots include several Orchidaceae, e.g. *Cymbidium* sp. (flowers not seen) and *Dendrobium secundum* (Bl.) Lindl. Pteridophytes are most frequently seen with *Davallia divaricata* Bl. (Davalliaceae), *Asplenium nidus* L. var. *nidus* (Aspleniaceae), and Polypodiaceae with *Aglaomorpha coronans* (Wall. ex Mett.) Copel., *Drynaria quercifolia* (L.) J. Sm., and *Microsorium punctatum* (L.) Copel.

Disturbed areas and secondary growth

Primary succession in cleared areas or large gaps in the forest include an initial invasion of herbaceous weeds—all of which are common throughout South-East Asia. Some of the most common species include: *Ageratum conyzoides* L. and *Eupatorium odoratum* L. (both naturalised Compositae), *Phyllanthus urinaria* L. and *P. amarus* Schum. & Thon. (Euphorbiaceae) —dicots. Monocots are very diverse and abundant with many Cyperaceae, e.g. *Cyperis kyllingia* Endl., *C. iria* L., and *Fimbristylis dichotoma* (L.) Vahl ssp. *dichotoma*; and Gramineae, viz. *Imperata cylindrica* (L.) P. Beauv. var. *major* (Nees) C.E. Hubb. ex Hubb. & Vaugh., *Eragrostis pilosa* (L.) P. Beauv., *Cyrtococcum oxyphyllum* (Steud.) Stapf, *Panicum maximum* Jacq., and *Phragmites vallatoria* (Pluk. ex L.) Veldk. *Musa acuminata* Colla ssp. *siamea* Simm. (Musaceae), a wild banana, and *Dicranopteris linearis* (Burm. f.) Underw. var. *linearis* (Gleicheniaceae, a pteridophyte) are also common.

Woody species often develop with the herbaceous weeds and eventually replace them by shading. *Ziziphus oenoplia* (L.) Mill. (Rhamnaceae, a spiny woody climber) and *Melastoma malabathricum* L. ssp. *malabathricum* (Melastomataceae, a treelet) as well as trees are common, viz. *Eurya acuminata* DC. var. *acuminata* (Theaceae), *Microcos paniculata* L. (Tiliaceae), *Callicarpa arborea* Roxb. var. *arborea* and *Vitex quinata* (Lour.) Will. (both Verbenaceae), *Macaranga denticulata* (Bl.) M.A. (Euphorbiaceae), *Trema orientalis* (L.) Bl. (Ulmaceae), and *Ficus hispida* L.f. (Moraceae).

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APPENDIX
Plant Database

1) **Summary of collecting**

Division	Subdivision	Class	Families	Species, etc.
Spermatophyta (seed plants)	Angiospermae	Dicotyledoneae	77	295
		Monocotyledoneae	19	90
	Gymnospermae		1	1
Pteridophyta (fern allies & ferns)			14	34
Total			111	420

2) **List of abbreviations used in the database**

LIFE MODE: gro ground sap saprophyte cul cultivated
int introduced/not native str “strangler” epi epiphyte
nat naturalised wee weed epl epilithic
hemipar hemiparasite

HABIT: t tree s shrub sc scandent
l treelet v vine cr creeping
wc woody climber h herb

APED: a annual pe perennial evergreen
pd perennial deciduous

ABUNDANCE: 0 Probably extirpated
1 Down to a few individuals, in danger of extirpation
2 Rare
3 Medium abundance
4 Common, but not dominant
5 Abundant

HABITAT: evergreen forest egf
evergreen forest with bamboo eg/bb
disturbed areas, roadsides da
secondary growth sg

BEDROCK: gr granite; ls limestone; ss sandstone

FLOWERING FRUITING AND LEAFING MONTHS: ja fb mr ap my jn jl ag sp oc nv de (January – December)

3) **Database proper (p. 12-25)**

SPECIES	FAMILY	LIFE MODE	HABIT	APED	ABUN-DANCE	HABITAT	BED-ROCK	LOW ALT(M)	UPPER ALT(M)	FLOWER_MTH	FRUIT_MTH	LEAF_MTH	FLOWER	FRUIT	Coil_NO.
ANGIOSPERMAE, DICOTYLEDONEAE															
<i>Acrotrema costatum</i> Jack	Dilleniaceae	gro	h	pe	3	eg/bb	ls	50	100	ag-sp		ja-de	y		07-610
<i>Dillenia obovata</i> (Bl.) Hoogl.	Dilleniaceae	gro	t	pe	3	eg/bb	ls	25	75	mr-ap		ja-de	y		06-185
<i>Tetracera loureiri</i> (Fin. & Gagnep.) Pierre ex Craib	Dilleniaceae	gro	wc	pe	3	eg/bb	ls ss	25	125			ja-de			
<i>Magnolia chanpaca</i> (L.) Baill. ex Pierre var. <i>chanpaca</i>	Magnoliaceae	gro	t	pe	2	egf	ss	30	175	ja-fb		ja-de			
<i>Ariabotrys suaveolens</i> (Bl.) Bl.	Annonaceae	gro	wc	pe	3	eg/bb	ls	50	100	ja-fb		ja-de	y		06-42
<i>Desmos dasymachalus</i> (Bl.) Saff. var. <i>dasymaschalus</i>	Annonaceae	gro	l	pe	2	egf eg/bb	ls	25	75		ag	ja-de			
<i>Enicosanthum fuscum</i> (King) A.S.	Annonaceae	gro	t	pe	3	eg/bb	ss	25	50	mr-ap		ja-de	y		06-241
<i>Mezzettia curtisii</i> King	Annonaceae	gro	t	pe	2	eg/bb	ss	25	75		ag-sp	ja-de			07-612
<i>Milusa amplexicaulis</i> Ridl.	Annonaceae	gro	l	pe	2	rocks, cliffs eg/bb	ls	75	100	sp-oc		ja-de			05-551
<i>Orophea malayana</i> Kess.	Annonaceae	gro	t,l	pe	3	eg/bb	ls	25	75	mr-ap		ja-de	y		06-244
<i>Polyalthia jenkinsii</i> (Hk.f.&Th.) Hk.f.&Th.	Annonaceae	gro	t	pe	3	wet areas in eg/bb	ls	25	75			ja-de			
<i>Uyaria cordata</i> (Dun.) Alst.	Annonaceae	gro	wc	pe	3	eg/bb da sg	ls ss	25	150	ag-sp		ja-de			06-570
<i>Archangelisia flava</i> (L.) Merr.	Menispermaceae	gro	wc	pe	3	streams in eg/bb	ls	25	75	sp-oc		ja-de	male		05-495
<i>Pseudavaria macrophylla</i> (Oliv.) Merr. var. <i>macrophylla</i>	Annonaceae	gro	l	pe	3	streams in eg/bb	ls	50	75	ja-fb		ja-de	y		06-22
<i>Pseudavaria rugosa</i> (Bl.) Merr.	Annonaceae	gro	t	pe	3	eg/bb	ls	100	125	ja-fb		ja-de	y		06-50
<i>Epirixanthes elongata</i> Bl.	Polygalaceae	gro sap	h	a	2	wet areas in eg/bb	ls	25	75	mr-ap		mr-jl			
<i>Rinorea sclerocarpa</i> (Berq.) Jacobs	Violaceae	gro	l	pe	2	streams in eg/bb	ls	25	50	sp-mr		ja-de			05-498
<i>Salomonina cantoniensis</i> Lour.	Polygalaceae	gro	h	a	3	da	ls	25	50	ag-oc		my-nv			05-500
<i>Calophyllum soulattri</i> Burm.f.	Guttiferae	gro	t	pe	3	eg/bb	ls	50	100		ja-ap	ja-de		y	06-19
<i>Calophyllum tetrapterum</i> Miq.	Guttiferae	gro	t	pe	3	eg/bb	ls ss	50	100	dc-ja		ja-de	y	y	06-55, 06-201
<i>Cratoxylum cochinchinense</i> (Lour.) Bl.	Guttiferae, Hypericaceae	gro	t	pe	3	da sg	ss	25	100		ag-sp	ja-de			06-590
<i>Cratoxylum formosum</i> (Jack) Dyer	Guttiferae, Hypericaceae	gro	t(l)	pd	3	eg/bb da sg	ls ss	25	100	mr-ap		ap-mr	y		06-240
<i>ssp. pruniflorum</i> (Kurz) Gog.	Guttiferae	gro	t	pe	3	eg/bb	ls	25	75		mr-ap	ja-de		x	06-205
<i>Garcinia hombroniana</i> Pierre	Guttiferae	gro	t	pe	3	streams, wet areas in eg/bb	ls	25	75	mr-ap		ja-de	male	imm	05-542, 06-177
<i>Garcinia merguensis</i> Wight	Guttiferae	gro	t	pe	3	wet areas in eg/bb	ls	25	75			ja-de			
<i>Garcinia rostrata</i> (Hassk.) Miq.	Guttiferae	gro	t	pe	3	egf eg/bb	ss	25	75		ja-jl	ja-de			s-75
<i>Mesua ferrea</i> L.	Guttiferae	gro	t	pe	2	wet areas in eg/bb	ls	25	75			my-fb			
<i>Flacourtia indica</i> (Burm.f.) Merr.	Flacourtiaceae	gro	t(ls)	pd	3	eg/bb	ls	25	75	mr-ap		ja-de	y		06-186
<i>Homalium dasyanthum</i> (Turcz.) Warb.	Flacourtiaceae	gro	t	pe	3	eg/bb da	ls	25	75		ap-my	ja-de	y	y	06-40, 06-219
<i>Scolopia spinosa</i> (Roxb.) Warb.	Flacourtiaceae	gro	t	pe	3	eg/bb	ls	50	100	dc-ja		ja-de	y	y	

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	Thaceae	gro	t	pe	3	da sg	ss	25	225	ag-sp	ja-dc		06-577
<i>Eurya acuminata</i> DC. var. <i>acuminata</i>	Thaceae	gro	t(l)	pe	3	eg/bb	ls	50	100	ja-fb	ja-dc		
<i>Eurya nitida</i> Korth. var. <i>siamensis</i> (Craib) H.Keng	Thaceae	gro	t	pe	3	eg/bb	ls	25	75	mir	ja-dc		Y
<i>Schinus molle</i> (DC.) Korth.	Thaceae	gro	t	pe	3	egf/eg/bb	ss	25	175	ja-fb	ja-dc		s-78
<i>Anisoptera scaphula</i> (Roxb.) Pierre	Dipterocarpaceae	gro	t	pe	2	eg/bb	ls	50	125	ap	ja-dc		Y
<i>Corylobium melanoxylon</i> Pierre	Dipterocarpaceae	gro	t	pe	3	eg/bb	ls	25	75	mm-ap	ja-dc		
<i>Dipterocarpus chevi</i> Pierre ex Lanes.	Dipterocarpaceae	gro	t	pe	3	wet areas in eg/bb	ls	25	75		ja-dc		
<i>Dipterocarpus kerrii</i> King	Dipterocarpaceae	gro	t	pe	3	wet areas in eg/bb	ls	25	75		ja-dc		
<i>Hopea odorata</i> Roxb. var. <i>odorata</i>	Dipterocarpaceae	gro	t	pe	3	wet areas in eg/bb	ls	25	75		ja-dc		
<i>Shorea foxworthii</i> Sym.	Dipterocarpaceae	gro	t	pe	3	wet areas in eg/bb	ls	25	75		ja-dc		
<i>Vatica odorata</i> (Griff.) Sym.	Dipterocarpaceae	gro	t	pe	3	eg/bb	ls	25	75		ja-dc		
<i>Vatica stappiana</i> (King) Sloop.	Dipterocarpaceae	gro	t	pe	3	streams, wet areas in eg/bb	ls	25	75	sp-oc	ja-dc		Y
<i>Hibiscus macrophyllus</i> Roxb. ex Horn.	Malvaceae	gro	t	pe	3	da sg	ls ss	75	150		ja-dc		
<i>Durio griffithii</i> (Mast.) Bakh.	Bombacaceae	gro	t	pe	3	wet areas in eg/bb	ls	25	75		ja-dc		
<i>Leptomychia caudata</i> (Wall. ex D. Don) Burr.	Sterculiaceae	gro	l	pe	2	eg/bb	ls	100	125	ja-fb	ja-dc		Y
<i>Pterocymbium tinctorium</i> (Blanco) Merr.	Sterculiaceae	gro	t	pd	3	wet areas in eg/bb	ls	25	75	mm-ap	ap-fb		
<i>Pterospermum</i> sp.	Sterculiaceae	gro	t	pe	3	egf/eg/bb	ls	25	75		ja-dc		tree 52
<i>Sterculia guttata</i> Roxb.	Sterculiaceae	gro	t	pe	3	streams, wet areas in eg/bb, swamp forest	ls	25	75		ja-dc		tree 81
<i>Grewia acuminata</i> Juse.	Tiliaceae	gro	we	pe	3	da	ls	25	175	ag-sp	ja-dc		07-629
<i>Microcos paniculata</i> L.	Tiliaceae	gro	t(l)	pd	3	wet areas in eg/bb da sg	ls ss	25	75	ag-oc	ja-dc		
<i>Elaeocarpus petiolatus</i> (Jack) Wall. ex Kurz	Elaeocarpaceae	gro	t	pe	3	eg/bb	ls	50	125	ag	ja-dc		Y
<i>Elaeocarpus stipularis</i> Bl.	Elaeocarpaceae	gro	t	pd	3	eg/bb	ls	25	75	oc-nv	ja-dc		imm.
<i>Erythroxylum cuneatum</i> (Miq.) Kurz	Erythroxylaceae	gro	s(t)	pe	2	eg/bb	ls ss	50	125	ja-fb	ja-dc		fortu 290
<i>Atalania monophylla</i> (L.) DC.	Rutaceae	gro	t(l)	pe	3	eg/bb da	ls	25	50	mm-ap	ja-dc		x
<i>Clausena excavata</i> Burm.f. var. <i>excavata</i>	Rutaceae	gro	l(t)	pe (pd)	3	eg/bb da sg	ls ss	25	75	mm-ap	ja-dc		x
<i>Glycosmis pentaphylla</i> (Retz.) DC. var. <i>pentaphylla</i>	Rutaceae	gro	l	pe	3	egf/eg/bb	ss	25	175		ja-dc		
<i>Lavanga scandens</i> (Roxb.) Ham. ex Wright	Rutaceae	gro	we	pe	3	da sg	ss	25	150	ag-sp	ja-dc		06-557
<i>Micromelum falcatum</i> (Lour.) Tana.	Rutaceae	gro	l(s)	pe	3	eg/bb	ls	50	100	dc-fb	ja-dc		Y
<i>Murraya paniculata</i> (L.) Jack	Rutaceae	gro	l	pd	3	rocks in egf/eg/bb	ls ss	25	175		ja-dc		
<i>Tetradium glabrifolium</i> (Champ. ex Bth.) T. Hart.	Rutaceae	gro	t	pe	2	da sg	ss	75	125	ag-sp	ja-dc		06-588
<i>Zanthoxylum rhetsa</i> (Roxb.) DC.	Rutaceae	gro	t	pd	2	eg/bb da sg	ls ss	25	100	mm-ap	ap-fb		male
<i>Eurycoma longifolia</i> Jack	Simarubaceae	gro	l	pd	2	eg/bb	ls ss	50	125		ja-dc		
<i>Irvingia malayana</i> Oliv. ex Benn.	Irvingiaceae	gro	t	pe	3	eg/bb sg	ss	50	150		ja-dc		
<i>Canarium patentinervium</i> Miq.	Burseraceae	gro	t	pe	3	wet areas in eg/bb	ls	25	75	mm-ap	ja-dc		
<i>Gomphandra quadrifida</i> (Bl.) Sleum. var.	Teaciniaceae	gro	l(s)	pe	3	streams in eg/bb	ls	25	75	sp-oc	ja-dc		Y

var. <i>strigosum</i> Mee.	Leguminosae, Papilionoideae	gro	h	pe	3	da sg	ls	50	100	dc-ja	ja-dc	y	06-14
<i>Flemingia stricta</i> Roxb. ex Ait.f.	Leguminosae, Papilionoideae	gro	s	pe	3	da sg	ls	50	100	dc-ja	ja-fb	y	06-3
<i>Pteraria phaseoloides</i> (Roxb.) Bth. var.	Leguminosae, Papilionoideae	gro	v	a(pe)	3	da sg	ls	50	75	dc-nr	fb-ap	y	06-4
<i>Eriobotrya bengalensis</i> (Roxb.) Hk.f. forma <i>bengalensis</i>	Rosaceae	gro	t	pe	3	eg/bb	ls	50	100	dc-ja	ja-dc	y	06-72
<i>Maranthus corymbosa</i> Bl.	Chrysobalanaceae (Rosaceae)	gro	t	pe	3	streams in eg/bb	ls	25	50	mr-ap	ja-dc	y	06-176
<i>Carallia brachiata</i> (Lour.) Merr.	Rhizophoraceae	gro	t	pe	3	streams, wet areas in eg/bb	ls	25	75	fb-nr	ja-dc		
<i>Calycopteryx floribunda</i> (Roxb.) Lmk.	Combretaceae	gro	wc (sc)	pd	3	eg/bb da sg	ls	25	50	mr-ap	my-nr	y	06-196
<i>Combretum latifolium</i> Bl.	Combretaceae	gro	wc	ped	2	streams, wet areas in eg/bb	ls	50	75	ja-fb	ja-dc		
<i>Terminalia citrina</i> (Gaertn.) Roxb. ex Flem.	Combretaceae	gro	t	pe	3	eg/bb	ls	25	75	mr-ap	ja-dc	y	06-178
<i>Eugenia borneensis</i> Miq. var. <i>borneensis</i>	Myrtaceae	gro	t	pe	3	eg/bb	ls	25	75	ap-ny	ja-dc	y	06-224
<i>Eugenia cerasiformis</i> (Bl.) DC.	Myrtaceae	gro	t	pe	3	eg/bb	ls	25	75		ja-dc		
<i>Eugenia claviflora</i> Roxb. var. <i>claviflora</i>	Myrtaceae	gro	t	pe	3	eg/bb	ls	50	100	ja-fb	ja-dc	y	06-73
<i>Eugenia cinnini</i> (L.) Druce	Myrtaceae	gro	t	pe (pd)	2	eg/bb	ls	25	75	mr-ap	ja-dc	y	06-215
<i>Eugenia grandis</i> Wight var. <i>grandis</i>	Myrtaceae	gro	t	pe	3	wet areas in eg/bb	ls	25	75	fb	ja-dc		
<i>Eugenia grata</i> Wight var. <i>grata</i>	Myrtaceae	gro	t	pe	2	eg/bb egf	ls ss	25	225		ja-dc		
<i>Eugenia muelleri</i> Miq.	Myrtaceae	gro	t	pe	3	streams, wet areas in eg/bb	ls	50	75	ag	ja-dc		06-529
<i>Eugenia oleina</i> Wight	Myrtaceae	gro	t	pe	3	streams, wet areas in eg/bb	ls	25	75	sp-oc	ja-dc	y	05-533
<i>Eugenia operculata</i> Roxb.	Myrtaceae	gro	t	pe	3	wet areas in eg/bb	ls	25	125		ja-dc		
<i>Eugenia papillosa</i> Duth.	Myrtaceae	gro	t	pe	4	streams, wet areas in eg/bb	ls	25	100	ja-fb	ja-dc	y	06-49
<i>Eugenia syzygioides</i> (Miq.) Hend.	Myrtaceae	gro	t	pe	3	eg/bb	ls	50	100	ja-fb	ja-dc	y	06-59
<i>Rhodamnia cinerea</i> Jack var. <i>cinerea</i>	Myrtaceae	gro	t	pe	3	eg/bb	ss	75	150	jl-ag	ja-dc		06-585
<i>Rhodomyrtus tomentosa</i> (Ait.) Hassk.	Myrtaceae	gro	l	pe	3	da sg	ls	50	75	dc-fb	ja-dc	y	06-61
<i>Melastoma malabathricum</i> L. ssp. <i>malabathricum</i>	Melastomataceae	gro	l	pe	3	da sg	ls ss	50	100	ja-dc	ja-dc		
<i>Memecylon corticosum</i> Ridl.	Melastomataceae	gro	l	pe	2	rocks in eg/bb	ls	25	175	jl-sp	sp-oc		07-632
<i>Memecylon</i> sp.	Melastomataceae	gro	l	pe	2	eg/bb, swamp forest	ls	25	75		ja-dc		
<i>Lagerstroemia floribunda</i> Jack var. <i>floribunda</i>	Lythraceae	gro	t	pd	3	da sg	ls	25	75	ag-oc	ja-dc	y	05-514
<i>Crypteronia paniculata</i> Bl. var. <i>paniculata</i>	Cyrtoriaceae	gro	t	pe	3	wet areas in eg/bb	ls	25	75		ja-dc		
<i>Duabanga grandiflora</i> (Roxb. ex DC.) Walp.	Sonneratiaceae	gro	t	pe	3	wet areas in eg/bb	ls	25	75	mr	ja-dc		
<i>Adenia penangiana</i> (Wall. ex G. Don) Wilde													
var. <i>parvifolia</i> (Pierre ex Gagnep.) Wilde	Passifloraceae	gro	v	a(pe)	2	streams, wet areas in eg/bb	ls	50	75	mr-ap	mr-dc	male	06-216
<i>Momordica cochinchinensis</i> (Lour.) Spreng.	Cucurbitaceae	gro	wc	pe	2	egf, eg/bb	ls	50	100	ag	ja-dc		
<i>Begonia</i> aff. <i>brandisiana</i> Kurz	Begoniaceae	epi	h	pd	3	rocks in eg/bb	ls	25	175	ag-sp	sp-oc		07-631

<i>Begonia curtisii</i> Ridl.	Begoniaceae	epi	t(h)	pd	2		rocks, cliffs in eg/bb	ls	25	75	ag-oc	oc-nv	my-dc	y	y	05-541
<i>Tetrameles nudiflora</i> R.Br. ex Benn.	Datiaceae	gro	t	pd	3		eg/bb	ls	75	100			my-lb			tree 91
<i>Schefflera</i> sp.	Araliaceae	epi	s	pe	3		streams, wet areas in eg/bb, swamp forest	ls	50	75			ja-dc			
<i>Trevesia valida</i> Craib	Araliaceae	gro	t(l)	pe	3		streams, wet areas in eg/bb	ls	25	75		sp-oc	ja-dc		y	05-553
<i>Aniophephalus chinensis</i> (Lmk.) A. Rich. ex Walp.	Rubiaceae	gro	t	pe	3		da sg	ls	25	75		ag-sp	ja-dc		y	06-561
<i>Argostemma puffii</i> Strid.	Rubiaceae	epi	h	pd	3		rocks, cliffs in eg/bb	ls	25	100		oc-nv	my-dc		y	05-525
<i>Canthium gabrurum</i> Bl.	Rubiaceae	gro	t	pe	3		eg/bb	ls	25	75			ja-dc			
<i>Canthium</i> sp.	Rubiaceae	gro	l	pe	3		egf. eg/bb	ls	25	125			ja-dc			
<i>Fagerlindia fasciculata</i> (Roxb.) Tirv.																
var. <i>parviflora</i> (Gamb.) Wong	Rubiaceae	gro	l	pe	2		eg/bb da	ls	25	50	mr-ap	sp-oc	ja-dc	y	y	06-192, 07-634
<i>Gardenia griffithii</i> Hk. f.	Rubiaceae	gro	t	pe	2		eg/bb	ss	75	175		ag-sp	ja-dc			07-635
<i>Hedyotis pachycarpa</i> Ridl.	Rubiaceae	gro. wec	h	a	3		da sg	ss	50	125	jl-sp	ag-oc	my-dc			06-555
<i>Hedyotis philippensis</i> (Willd.) Merr. ex C.B. Rob.	Rubiaceae	gro	l	pe	2		eg/bb da sg	ls ss	50	100	ag-sp	ja-fb	ja-dc	y	y	06-54, 06-547
<i>Hedyotis wallichii</i> Kurz	Rubiaceae	gro	h	a	3		da	ls	25	75	sp-oc	my-dc	my-dc	y	y	05-538
<i>Hypobathrum racemosum</i> (Roxb.) Kurtz	Rubiaceae	gro	t(l)	pd	3		streams in eg/bb	ls	25	75	sp-oc	oc-nv	ja-dc	y	y	05-497, 05-520
<i>Ixora diversifolia</i> Wall. ex Kurz	Rubiaceae	gro	l	pe	3		streams, wet areas in eg/bb	ls	25	75	ap	sp-oc	ja-dc		y	05-540
<i>Ixora javanica</i> (Bl.) DC.	Rubiaceae	gro	l	pe	3		eg/bb	ls	25	75	mr-sp(ag)		ja-dc	y		06-169
<i>Ixora multibracteata</i> Pear. ex King & Gamb.	Rubiaceae	gro	t, l	pe	3		streams in eg/bb	ls	25	75	mr-ap	sp	ja-dc	y		06-174
<i>Lastianthus kurzii</i> Hk. f. var. <i>kurzii</i>	Rubiaceae	gro	l	pe	2		eg/bb	ss	75	125		ag	ja-dc			06-586
<i>Morinda elliptica</i> (Hk.f.) Ridl.	Rubiaceae	gro	t	pe	3		eg/bb	ls	25	75	mr-oc	oc-nv	ja-dc	y		05-554
<i>Mussaenda polyneura</i> King	Rubiaceae	gro	wc	pe	3		eg/bb da sg	ls	25	75	mr-ap	sp-oc	ja-dc		y	05-534
<i>Mycetia malayana</i> (G. Don) Craib	Rubiaceae	gro	s	pe	2		eg/bb	ls	50	75	ag	sp-oc	ja-dc		y	05-512
<i>Ophiorhiza trichocarpum</i> Bl. var. <i>trichocarpum</i>	Rubiaceae	gro	h	pd	3		wet areas in eg/bb	ls	25	75	ag-mr	oc-ap	ja-dc	y		05-504
<i>Paederia scandens</i> (Lour.) Merr.	Rubiaceae	gro	v	pe	3		eg/bb da	ls ss	50	100		dc-ja	ja-dc		y	06-13
<i>Psychotria angulata</i> Korth.	Rubiaceae	gro	l	pe	3		eg/bb	ls	50	100		ja-fb	ja-dc		y	06-41
<i>Psychotria curviflora</i> Wall.	Rubiaceae	gro	l	pe	3		eg/bb	ls ss	25	125	mr-ap	jl-sp	ja-dc	y	y	06-203, 06-572
<i>Psychotria rhinocerotis</i> Reinw. ex Bl.	Rubiaceae	gro	l	pe	3		wet areas in eg/bb	ls	25	75	mr-ap	ag	ja-dc	x		06-212
<i>Psychotria sarmensisoides</i> Val.	Rubiaceae	gro	v(cr)	pe	3		eg/bb	ls	50	100	mr-ap	dc-ja(ag)	ja-dc	y	y	06-1, 06-207
<i>Psychotria stipulacea</i> Wall. var. <i>stipulacea</i>	Rubiaceae	gro	l	pe	2		eg/bb	ls ss	50	100	ja-fb	ag	ja-dc	y	y	06-36, 06-554
<i>Rennellia speciosa</i> Hk. f.	Rubiaceae	gro	l	pe	2		wet areas in eg/bb	ls ss	25	125		ag-sp	ja-dc			06-545
<i>Rothmannia schoemannii</i> (Teijsm. & Binn.) Tirv.	Rubiaceae	gro	t	pe	3		eg/bb	ss	75	150		ag-sp	ja-dc			06-587
<i>Saprosma longicalyx</i> Craib	Rubiaceae	gro	l	pe	3		wet areas in eg/bb, egf. swamp forest	ls	25	75		ag-sp	ja-dc			06-540
<i>Tarenna</i> sp.	Rubiaceae	gro	l	pe	3		egf. eg/bb, swamp forest	ls	25	75		ag-sp	ja-dc			06-541

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	Rubiaceae	gro	t	pe	2	eg/bb	ls	50	100	ja-fb	ja-dc	y	06-46
<i>Timonius wallichianus</i> (Korth.) Val.													
<i>Elephantopus scaber</i> L. ssp. <i>scaber</i> var. <i>scaber</i>	Compositae	gro	h	pe	3	da sg	ls	50	75	dc-fb	ja-dc	y	06-48
<i>Eupatorium odoratum</i> L.	Compositae	gro nat wee	h	a(pe)	3	eg/bb da sg	ls	50	100	ja-fb	ja-dc		
<i>Mikania cordata</i> (Burm.f.) B.L. Rob. forma <i>undulata</i> Kost.	Compositae	nat (gro wee)	v	a	3	da sg	ls	50	75	ja-fb	ja-dc		
<i>Ardisia crenata</i> Sims var. <i>crenata</i>	Myrsinaceae	gro	l	pe	3	da sg	ls	50	125	dc-ja	ja-dc		
<i>Ardisia quinquegona</i> Bl.	Myrsinaceae	gro	l	pe	3	streams, wet areas in eg/bb	ls	50	75	ja-fb	ja-dc	y	06-24
<i>Ardisia sanguinolenta</i> Bl. var.	Myrsinaceae	gro	t	pe	3	eg/bb	ls	25	75	mm-ap	ja-dc	y	06-246
<i>Maesa ramentacea</i> (Roxb.) A.DC.	Myrsinaceae	gro	t(l)	pe	3	da sg	ls	50	100	ja-fb	ja-dc	y	06-80
<i>Madhuca malaccensis</i> (Cl.) Lam	Sapotaceae	gro	t	pe	3	streams, wet areas in eg/bb	ls	50	100	ja-fb	ja-dc	y	06-34, 06-528
<i>Madhuca motleyana</i> (de Vt.) Baeh.	Sapotaceae	gro	t	pe	3	wet areas in eg/bb	ls	25	75		ja-dc		
<i>Mimusops elengi</i> L.	Sapotaceae	gro	t	pe	2	eg/bb	ls	50	75	in	ja-dc		
<i>Pouteria obovata</i> (R.Br.) Baeh.	Sapotaceae	gro	t	pe	3	streams, wet areas in eg/bb	ls	25	75	mm-ap	ja-dc	y	06-217
<i>Diospyros malabarica</i> (Desr.) Kostel. var. <i>siamensis</i> (Hochr.) Pheng.	Ebenaceae	gro	t	pe	3	eg/bb	ls	25	75	ja-fb	ja-dc		
<i>Diospyros undulata</i> Wall. ex G. Don													
var. <i>cratericahx</i> (Craib) Bakh.	Ebenaceae	gro	t	pe	3	streams, wet areas in eg/bb, egf	ls ss	25	125	sp-nv	ja-dc	y	05-539
<i>Diospyros venosa</i> Wall. ex A. DC. var. <i>venosa</i>	Ebenaceae	gro	t	pe	3	streams, wet areas in eg/bb	ls	25	75	oc-nv	ja-dc	male	05-544
<i>Symplocos celastroides</i> Griff. ex Cl.	Symplocaceae	gro	t	pe	3	eg/bb	ls	25	75	mm-ap	ja-dc	y	06-204
<i>Symplocos cochinchinensis</i> (Lour.) S.Moore ssp. <i>cochinchinensis</i> var. <i>cochinchinensis</i>	Symplocaceae	gro	t	pe	3	wet areas in eg/bb	ls	25	75		ja-dc		
<i>Symplocos cochinchinensis</i> (Lour.) S.Moore ssp. <i>laurina</i> (Retz.) Noot.	Symplocaceae	gro	t	pe	3	eg/bb	ls ss	25	175	sp-oc	ja-dc		07-617
<i>Symplocos sumnita</i> B.H. ex D. Don	Symplocaceae	gro	t(l)	pe	3	eg/bb	ls	25	75	ap-nv	ja-dc	y	06-223
<i>Syrax betongensis</i> Flet.	Styracaceae	gro	t	pe	2	eg/bb	ls	25	175	jl-eg	ja-dc		07-630
<i>Chionanthus calophyllus</i> Bl.	Oleaceae	gro	t	pe	2	egf eg/bb	ss	25	175		ja-dc		s-30
<i>Chionanthus ramiflorus</i> Roxb.	Oleaceae	gro	t	pe	3	eg/bb	ls	25	100		ja-dc		
<i>Jasminum nervosum</i> Lour.	Oleaceae	gro	v	pe	3	eg/bb	ls	25	75	mm-ap	ja-dc	y	06-234
<i>Jasminum rambayense</i> O.K.	Oleaceae	gro	wc	pe	3	ponds in eg/bb sg	ls	25	50	mm-ap	ja-dc		06-194
<i>Ligustrum confusum</i> Dene.	Oleaceae	gro	t(Ls)	pe	3	streams, ponds, wet areas in eg/bb	ls	50	75	oc-nv	ja-dc	y	imm
<i>Aganostma marginata</i> (Roxb.) G. Don	Apocynaceae	gro	wc	pe(pd)	3	eg/bb da sg	ls	25	75	mm-ap	ja-dc	y	06-228
<i>Alstonia macrophylla</i> Wall. ex G. Don	Apocynaceae	gro	t	pe	3	streams, wet areas in eg/bb	ls	25	75	ja-fb	ja-dc	y	06-75
<i>Alstonia scholaris</i> (L.) R. Br.	Apocynaceae	gro	t	pe	3	wet areas in eg/bb	ls	25	75		ja-dc		
<i>Alyxia reinwardtii</i> Bl.	Apocynaceae	gro	wc	pe	3	eg/bb da sg	ls	25	75	ja-fb	ja-dc	y	06-200

<i>Kopsia fruticosa</i> (Ker) A. DC.	Apocynaceae	gro	sh	pe	2	egf	ss	30	75	ja-fb	ag	ja-dc	y	06-188, 06-544
<i>Urceola rosea</i> (Hk. & Arn.) Middl.	Apocynaceae	gro	wc	pe	3	eg/bb da sg	ls ss	25	150	mr-ap	ag	ja-dc	y	06-227
<i>Willughbeia edulis</i> Roxb.	Apocynaceae	gro	wc	pe	3	eg/bb da sg	ls	25	75	mr-ap	mr-ap	ja-dc	y	
<i>Dischidia major</i> (Vahl) Merr.	Asclepiadaceae	epl	cr	pe	3	streams, wet areas in eg/bb	ls	25	75	mr-ap		ja-dc		
<i>Marsdenia tinctoria</i> R. Br.	Asclepiadaceae	gro	v	pe	3	da	ls	25	175	ag-sp		ja-dc		07-628
<i>Streptocaulon juvenes</i> (Lour.) Merr.	Asclepiadaceae	gro	v	pe	3	da sg	ls ss	25	150	mr-ap		ja-dc		06-195
<i>Tylophora tenuis</i> Bl.	Asclepiadaceae	gro	v	pe(a)	3	eg/bb da sg	ls	25	75	mr-ap		ja-dc	y	06-242, 07-608
<i>Fagraea fragrans</i> Roxb.	Loganiaceae	gro	t	pe	3	eg/bb da	ls	25	50	mr-ap	sp-oc	ja-dc	y	
<i>Canscora pentanthera</i> Cl.	Gentianaceae	gro	h	pe	3	streams, wet areas in eg/bb	ls	25	75	sp-ja	ja-fb	ja-dc	y	05-516
<i>Argyrea capitiformis</i> (Poir.) Oost.	Convolvulaceae	gro	v(wc)	pe	3	da sg	ls	50	75	dc-ja		ja-dc	y	06-17
<i>Solanum macradon</i> Wall. ex Nees	Solanaceae	gro	l	pe	2	eg/bb da	ls	50	100	ja-eg	ag-sp	ja-dc		06-534
<i>Adenosma indiana</i> (Lour.) Merr.	Scrophulariaceae	gro	h	a	3	wet areas in eg/bb da sg	ls	50	100	dc-ja	ja-fb	ja-dc	y	06-6
<i>Chirita involucreata</i> Craib	Gesneriaceae	gro	h	a	3	streams, ponds, wet areas in eg/bb	ls	25	75	sp-fb	nv-fb	my-nr	y	05-508
<i>Epithema saxatile</i> Bl.	Gesneriaceae	epl	h	a	3	rocks, cliffs eg/bb	ls	50	100	ag-ja	oc-fb	my-fb	y	05-511
<i>Oroxylum indicum</i> (L.) Kurz	Bignoniaceae	gro	t(l)	pd	3	areas	ls	25	75	mr		ja-dc		
<i>Pajanelia longifolia</i> (Willd.) K. Sch.	Bignoniaceae	gro	t	pd	3	wet areas in eg/bb	ls	25	75			ja-dc		
<i>Radermachera pinnata</i> (Blanco) Steen. ssp. <i>acuminata</i> (Steen.) Steen.	Bignoniaceae	gro	t	pe	3	streams, wet areas in eg/bb	ls	25	75	mr	sp-oc	ja-dc	y	05-531
<i>Andrographis laxiflora</i> (Bl.) Lindau	Acanthaceae	gro	h	a (pe)	3	rocks, streams in eg/bb	ls	50	125	ja-fb	fb-nr	ja-dc	y	06-21
<i>Asystasia gangetica</i> (L.) T. And. ssp. <i>micrantha</i> (Nees) Ense.	Acanthaceae	gro (nat)	h	pe	3	da sg	ls	50	75	dc-nr	fb-ap	ja-dc	y	06-5
<i>Hemigraphis griffithiana</i> (Nees) T. And.	Acanthaceae	gro	h	pe	3	eg/bb	ls	50	75	ja-fb	fb-nr	ja-dc	y	06-29
<i>Hygrophila philomoides</i> Nees	Acanthaceae	gro	h	a	3	wet areas in eg/bb	ls	50	100	dc-ja	ja-fb	my-fb	y	06-47
<i>Justicia vasculosa</i> (Wall. ex Nees) T. And.	Acanthaceae	epl (gro)	s (h) (l)	pd	3	rocks in eg/bb	ls	100	125	ja-nr	fb-ap	ja-dc	y	06-23
<i>Pseuderanthemum graciliflorum</i> (Nees) Ridl.	Acanthaceae	gro	l(h)	pe	3	eg/bb da sg	ls	50	75	dc-nr	fb-ap	ja-dc	y	06-69
<i>Staurogyne merguensis</i> O.K.	Acanthaceae	gro	h	pe	2	eg/bb	ls	25	75	sp-ja		ja-dc	y	05-522
<i>Strobilanthus glaucescens</i> Nees	Acanthaceae	gro	h	pd	3	streams in eg/bb	ls	50	75	dc-ja	ja-fb	ja-dc	y	06-7
<i>Callicarpa arborea</i> Roxb. var. <i>arborea</i>	Verbenaceae	gro	t	pe	3	da sg	ls ss	25	150	ag-oc	sp-oc	ja-dc	y	07-620
<i>Clerodendrum infortunatum</i> L.	Verbenaceae	gro	l(h)	pe	3	eg/bb da	ls	25	50	mr-ap	mr-ap	ja-dc	y	06-180
<i>Clerodendrum paniculatum</i> L.	Verbenaceae	gro	l	pe	2	eg/bb da	ls	50	100	jl-ag		ja-dc		06-539
<i>Premna pyramidata</i> Wall. ex Schau.	Verbenaceae	gro	t	pe	3	da sg	ss	25	150			ja-dc		
<i>Vitex pinnata</i> L.	Verbenaceae	gro	t	pd	3	eg/bb da sg	ls	25	75	sp-ja	ag	ja-dc	y	05-547, 06-582
<i>Vitex quinata</i> (Lour.) Will.	Verbenaceae	gro	t	pe	3	da sg	ls	25	75	sp-oc	sp-oc	ja-dc	y	05-558
<i>Gomphostemma javanicum</i> (Bl.) Bth.	Labiatae	gro	h	pe	2	streams in eg/bb	ls	50	75	ag-ja		ja-dc	y	06-11
<i>Hyptis capitata</i> Jacq.	Labiatae	gro	h	a	3	eg/bb da	ls	50	100	ja-fb	fb-nr	my-fb	y	06-45
<i>Hyptis suaveolens</i> (L.) Poit.	Labiatae	gro	h	a	3	da sg	ss	25	75	jl-sp	sp-oc	my-dc		
<i>Pisonia umbellifera</i> (J.R. & G. Forst.) Seem.	Nyctaginaceae	gro	t	pe	2	streams, ponds, wet areas	ls	50	100	sp-nr	mr-ap	ja-dc	y	05-509, 06-210

<i>Thottea tomentosa</i> (Bl.) Hou	Aristolochiaceae	gro	h	pe	3	in eg/bb eg/bb	ls ss	25	100	jl-ag	ag-spp	ja-dc	y	y	06-542
<i>Nepenthes mirabilis</i> (Lour.) Druce	Nepentheaceae	gro	v	pe	3	streams, ponds,wet areas in eg/bb	ls	25	75	ja-fb	ag-fb	ja-dc		y	05-513
<i>Chloranthus erectus</i> (B.H.) Verd.	Chloranthaceae	gro	h	pe	3	eg/bb	ls	25	75	ja-fb		ja-dc			
<i>Endocomia macrocoma</i> (Miq.) Wilde															
<i>ssp. prainii</i> (King) Wilde	Myristicaceae	gro	t	pe	3	wet areas in eg/bb	ls	25	75			ja-dc			
<i>Horsfieldia brachiata</i> (King) Warb.	Myristicaceae	gro	t	pe	3	wet areas in eg/bb	ls	25	75			ja-dc			
<i>Horsfieldia irya</i> (Gaertn.) Warb.	Myristicaceae	gro	t	pe	3	streams in eg/bb	ls	25	75	mr-ap	ag-spp	ja-dc	male		06-172
<i>Knema andamanica</i> (Warb.) Wilde															
<i>ssp. nicobarica</i> (Warb.) Wilde	Myristicaceae	gro	t	pe	2	eg/bb	ss	25	175	jl-ag		ja-dc			07-616
<i>Cinnamomum iners</i> Reinw ex. Bl.	Lauraceae	gro	t	pe	3	eg/bb	ls	25	75	mr-ap	mr-ap	ja-dc		y	06-173
<i>Dehaasia longipetiolata</i> Kosterm.	Lauraceae	gro	t	pe	3	eg/bb	ls	25	75	mr-ap		ja-dc	y		06-226
<i>Litsea grandis</i> (Wall. ex Nees) Hk.f.	Lauraceae	gro	t	pe	3	eg/bb	ls	25	50	mr-ap		ja-dc	y		06-222
<i>Litsea umbellata</i> (Lour.) Merr. var. <i>umbellata</i>	Lauraceae	gro	l	pe	3	da sg	ls	25	75	ag-oc	sp-nv	ja-dc	male	y	05-524, 06-189
<i>Aquilaria malaccensis</i> Lmk.	Thymelaeaceae	gro	t	pe	3	eg/bb	ls	25	75			ja-dc			
<i>Elytranthe albida</i> (Bl.) Bl.	Loranthaceae	epl	s	pe	2	eg/bb	ls ss	25	175	ag-spp		ja-dc			
<i>Macrosolen cochinchinensis</i> (Lour.) Tiegh.	Loranthaceae	epl hemipar	s	pe	3	eg/bb da streams, ponds,wet areas in eg/bb	ls	25	75		mr-ap	ja-dc		y	06-182
<i>Saurrula parasitica</i> L.	Loranthaceae	epl hemipar	s	pe	3	streams, ponds,wet areas in eg/bb	ls	25	75	ag-oc		ja-dc	y		05-519
<i>Dendrotrophe varians</i> (Bl.) Miq.	Santalaceae	gro	wc	pe	3	streams, wet areas in eg/bb da	ls	25	75	de-fb	fb-nr	ja-dc	y	y	06-32, 06-60
<i>Sclerocarpon pentandrum</i> (Denn.) Mabb.	Santalaceae	gro	t	pe	2	egf/eg/bb	ls	50	75		ag	ja-dc			06-527
<i>Champeretia manillana</i> (Bl.) Merr.	Opiliaceae	gro	l	pe	3	eg/bb da	ls	25	50		mr-ap	ja-dc		y	06-231
<i>Leptonurus sylvestris</i> Bl.	Opiliaceae	gro	l	pe	2	eg/bb	ls	50	100	mr-ap	mr-ap	ja-dc	y	y	06-230
<i>Antidesma ghaesembilla</i> Gaertn.	Euphorbiaceae	gro	t(l)	pe	3	da sg	ls ss	25	150		jl-sp	ja-dc			06-552
<i>Antidesma leucopodium</i> Miq.	Euphorbiaceae	gro	t	pe	3	eg/bb	ls	25	75	mr-ap		ja-dc	female	imm	06-225
<i>Antidesma montanum</i> Bl. var. <i>montanum</i>	Euphorbiaceae	gro	t(l)	pe	3	eg/bb	ls	25	100	mr-ap	ag	ja-dc	male, female	y	m06-171, fm06-237, f006-531
<i>Aporosa aurea</i> Hk.f.	Euphorbiaceae	gro	t	pe	3	eg/bb	ls	50	125	ja-fb		ja-dc	female		06-35
<i>Baccaurea molleyana</i> (M.A.) M. A.	Euphorbiaceae	gro	t	pe	3	egf/eg/bb	ss	25	175		ag-spp	ja-dc			s-24
<i>Balakata baccata</i> (Roxb.) Ess.	Euphorbiaceae	gro	t	pe	3	egf/eg/bb	ss	75	150		jl-ag	ja-dc			
<i>Breynia discigera</i> M.A.	Euphorbiaceae	gro	l	pe	3	da sg	ls ss	25	100	ag-oc		ja-dc			06-584
<i>Breynia vilis-idea</i> (Burm.f.) C.E.C. Fisc.	Euphorbiaceae	gro	l	pe	3	streams, wet areas in eg/bb	ls ss	50	100		ag-ja	ja-dc		y	06-16, 06-551
<i>Bridelia tonnentosa</i> Bl.	Euphorbiaceae	gro, l	t, wc	pe	3	da sg	ss	25	75	sp-ja	de-fb	ja-dc			
<i>Chaetocarpus castanocarpus</i> (Roxb.) Thw.	Euphorbiaceae	gro	t	pe	3	wet areas in eg/bb	ls	25	75		mr-my	ja-dc		imm	06-190
<i>Claoxylon longifolium</i> (Bl.) Endl. ex Hassk.	Euphorbiaceae	gro	l	pe	2	eg/bb	ls	25	75	mr-ap		ja-dc	male		06-245
<i>Croton griffithii</i> Hk.f.	Euphorbiaceae	gro	t, l	pe	3	eg/bb da sg	ls	25	50	fb-nr	mr-ap	ja-dc	male	y	06-191
<i>Elaterospermum tapos</i> Bl.	Euphorbiaceae	gro	t	pe	2	egf/eg/bb	ss	25	175	ag		ja-dc			s-87

<i>Euphorbia antiquorum</i> L.	Euphorbiaceae	epl	l	pd	2	rocks in eg/bb	ls	25	175			ja-fb		
<i>Excoecaria cochinchinensis</i> Lour.														
var. <i>viridilis</i> (Pax & Hoffm.) Merr.	Euphorbiaceae	gro	l	pe	3	streams in eg/bb	ls	25	75	ag-nr	oc-ap	ja-dc	y	05-499
<i>Galearia fulva</i> (Tul.) Miq.	Euphorbiaceae	gro	t, l	pe	3	streams, wet areas in eg/bb	ls	25	75	mr-ap		ja-dc	male	06-198
<i>Glochidion rubrum</i> Bl.	Euphorbiaceae	gro	t(l)	pd (pe)	3	da sg	ls	25	100		ag-fb	ja-dc	y	05-537,06-68
<i>Macaranga denticulata</i> (Bl.) M.A.	Euphorbiaceae	gro	t	pe	3	da sg	ls ss	25	100			ja-dc		
var. <i>tomentosa</i> (Bl.) M.A.	Euphorbiaceae	gro	t	pe	3	da sg	ls ss	25	100	ag-sp	sp-oc	ja-dc	male	07-619,07-622
<i>Mallotus peltatus</i> (Geisel.) M.A.	Euphorbiaceae	gro	l (s,t)	pe	3	eg/bb	ls	25	75	mr-ap		ja-dc	male	06-193
<i>Phyllanthus albidiscus</i> (Ridl.) A.S.	Euphorbiaceae	gro	s	pe	3	eg/bb	ls ss	25	100	ag	ja-fb	ja-dc	male	06-39,06-543
<i>Phyllanthus oxyphyllus</i> Miq.	Euphorbiaceae	gro	l	pe	3	wet areas in egf eg/bb da	ls ss	25	150	ag-sp		ja-dc	male	06-550
<i>Phyllanthus pulcher</i> Wall. ex M.A.	Euphorbiaceae	gro	s	pe	2	streams in eg/bb	ls	25	75	ag-oc		ja-dc		07-621
<i>Phyllanthus reticulatus</i> Poir.	Euphorbiaceae	gro	sc	pe	3	da sg	ss	75	150		ag-sp	ja-dc		06-589
<i>Phyllanthus roseus</i> (Craib & Hutch.) Beille	Euphorbiaceae	gro	l(s)	ped	3	da sg	ls	50	75	dc-ja		ja-dc	y	06-9
<i>Phyllanthus urinaria</i> L.	Euphorbiaceae	gro nat wec	h	a	3	da	ls	25	50	ja-my	ja-my	ja-dc	y	06-187
<i>Sauropus androgynus</i> (L.) Merr.	Euphorbiaceae	gro	l	pe	2	eg/bb	ss	25	75	jn-oc	sp-nv	ja-dc		07-613
<i>Suregada multiflora</i> (A. Juss.) Baill. var. <i>multiflora</i>	Euphorbiaceae	gro	t	pe	3	da sg	ss	50	200			ja-dc		
<i>Triadaca cochinchinensis</i> Lour.	Euphorbiaceae	gro	t	pe	3	wet areas in eg/bb	ls	25	75			ja-dc		
<i>Trema orientalis</i> (L.) Bl.	Ulmaceae	gro	t(l)	pe	3	da sg	ls ss	25	125	jl-ag		ja-dc	male	06-580
<i>Artocarpus dadah</i> Miq.	Moraceae	gro	t	pd	3	eg/bb da	ls	25	75	mr-ap	mr-ap	ja-dc	male	06-218
<i>Artocarpus rigidus</i> Bl.	Moraceae	gro	t	pe	2	egf eg/bb	ss	25	175			ja-dc		s-79
<i>Ficus chartacea</i> (Wall. ex Kurz) Wall. ex King	Moraceae	gro	l	pe	2	da sg	ls	25	75	ag-fb	ag-fb	ja-dc	y	05-536
<i>Ficus</i> (aff. <i>chartacea</i> (Wall. ex Kurz) Wall. ex King)	Moraceae	gro	t	pe	3	eg/bb	ls	25	75			ja-dc		
<i>Ficus concinna</i> (Miq.) Miq.	Moraceae	gro	t(l)	pe	3	streams, wet areas in eg/bb	ls	50	175	jl-sp	ag-oc	ja-dc		07-624
<i>Ficus fistulosa</i> Reinw. ex Bl.	Moraceae	gro	t	pe	3	eg/bb	ls	25	75	mr-my	ap-in	ja-dc	y	06-211
<i>Ficus globosa</i> Bl.	Moraceae	gro	wc	pe	3	streams, ponds, wet areas in eg/bb	ls	25	75	ag-oc	ag-oc	ja-dc	y	05-557
<i>Ficus hirta</i> Vahl	Moraceae	gro	l	pe	3	da sg	ss	25	150			ja-dc		
<i>Ficus hispida</i> L.f.	Moraceae	gro	t(l)	pe	3	da sg	ls ss	25	125	ja-dc	ja-dc	ja-dc		
<i>Ficus microcarpa</i> L.f.	Moraceae	gro epi epl str	t	pe	3	wet areas in eg/bb	ls	25	75			ja-dc		
<i>Ficus pisifera</i> Voigt	Moraceae	gro	l sc	pe	2	streams, wet areas in eg/bb (swamp forest)	ls	25	75	ag-oc	ag-oc	ja-dc	y	05-548
<i>Ficus sundaica</i> Bl.	Moraceae	gro(epl)	t, wc	pe	3	streams, ponds, wet areas in eg/bb	ls	25	75	ag-oc	ag-oc	ja-dc	y	05-560,06-533
<i>Ficus tinctoria</i> Forst. f. ssp. <i>gibbosa</i> (Bl.) Corn. var. <i>gibbosa</i>	Moraceae	gro	t	pe	3	streams, ponds, wet areas in eg/bb	ls	25	75	ag-nr	sp-ap	ja-dc	y	05-507

<i>Ficus variegata</i> Bl.	Moraceae	gro	t	pd	3	wet areas in eg/bb	ls	25	75	ag-nr	ag-sp	ja-dc	y	06-214
<i>Strebilus tilicifolius</i> (Vidal) Corn.	Moraceae	gro	f(t)	pe	3	streams, wet areas in eg/bb	ls	50	125	nr-ap	ja-dc	ja-dc		
<i>Dendrocnide stimulans</i> (L.f.) Chew	Urticaceae	gro	t	pe	3	streams, wet areas in eg/bb	ls	25	75	nr-ap	ja-dc	ja-dc	y	06-209
<i>Pellionia repens</i> (Lour.) Merr.	Urticaceae	gro	er	pe	3	eg/bb	ls	25	175	ag-sp	ja-dc	ja-dc	male	07-633
<i>Poikilospermum suaveolens</i> (Bl.) Merr.	Urticaceae	gro epi	wc	pe	3	wet areas in eg/bb	ls ss	25	125	nr-ap(ag)	ja-dc	ja-dc	male, female	06-208
<i>Morella</i> (Myrica) <i>esculenta</i> (B.-H.) Turm.	Myricaceae	gro	t	pe	3	streams, ponds, wet areas in eg/bb	ls	25	75	oc-nv	ja-dc	ja-dc	male	05-562
<i>Castanopsis schefferiana</i> Hance	Fagaceae	gro	t	pe	3	eg/bb	ls	25	75	oc-nv	ag-sp	ja-dc		06-532
<i>Lithocarpus falconeri</i> (Kurz) Rehd.	Fagaceae	gro	t	pe	3	da sg	ls	50	100	sp-dc	nr-ap	ja-dc	female	06-58,06-181
ANGIOSPERMAE, MONOCOTYLEDONEAE														
<i>Flagellaria indica</i> L.	Flagellariaceae	gro	v	pe	3	streams, ponds, wet areas in eg/bb	ls	25	75	sp-oc	sp-oc	ja-dc		05-517
<i>Xyris indica</i> L.	Xyridaceae	gro	h	a	3	wet areas in eg/bb	ls	50	75	nv-ja	ja-fb	jn-ja	y	06-65
<i>Xyris pauciflora</i> Willd.	Xyridaceae	aqu(gro)	h	pd(a)	3	wet areas in eg/bb	ls	50	75	nv-ja	dc-fb	jn-fb	y	06-66
<i>Eriocaulon glaberrimum</i> Ridl.	Eriocaulaceae	gro	h	a	3	eg/bb	ls	50	75	dc-fb	ja-nr	jn-nr	y	06-71
<i>Eriocaulon truncatum</i> B.-H. ex Mart.	Eriocaulaceae	aqu(gro)	h	a	3	wet areas in eg/bb	ls	50	75	dc-ja	ja-nr	jn-fb	y	06-70
<i>Musa acuminata</i> Colla ssp. <i>siamea</i> Simm.	Musaceae	gro	h	pe	3	da sg	ss	25	125	jl-sp	ag-oc	ja-dc		06-553
<i>Amomum</i> sp.	Zingiberaceae	gro	h	pe	3	egf eg/bb	ls ss	25	225	jl-sp	ag-oc	ja-dc		05-527
<i>Boesenbergia irauensis</i> K. Lar.	Zingiberaceae	gro	h	pe	2	eg/bb	ls	25	75	sp-oc	sp-oc	ja-dc	y	
<i>Costus speciosus</i> (Koen.) J.E. Sm. var.	Zingiberaceae	gro	h	pe	3	streams, wet areas in eg/bb da sg	ls ss	50	75	jl-ag	dc-ja	ja-dc	y	06-15
<i>Curcuma aurantiaca</i> van Zijp	Zingiberaceae	gro	h	pd	2	eg/bb	ss	25	100	ag-sp	oc-nv	nr-ja		
<i>Etilingera littoralis</i> (Kon.) Gise.	Zingiberaceae	gro	h	pe	3	wet areas in eg/bb	ls	25	75	nr-ap	ja-dc	ja-dc		
<i>Globba fasciata</i> Ridl.	Zingiberaceae	gro	h	pe	3	da sg	ls	25	50	ag-oc	oc-nv	ja-dc	y	05-503
<i>Zingiber zerumbet</i> (L.) J.E. Sm.	Zingiberaceae	gro	h	pe	2	eg/bb	ls ss	25	125		ag-sp	ja-dc		
<i>Donax cannaeformis</i> (G. Forst.) K. Sch.	Marantaceae	gro	h	pe	3	wet areas in eg/bb	ls	25	75	nr-ap	ap-in	ja-dc	y	06-199
<i>Peltosanthes ieta</i> Andr. ssp. <i>humilis</i> (Andr.) Jess.	Liliaceae	gro	h	pe	3	streams in eg/bb	ls	50	100		dc-ja	ja-dc	y	06-12
<i>Dracaena curtisii</i> Ridl.	Agavaceae	gro	h	pe	3	streams, wet areas in eg/bb	ls ss	25	75		ag-oc	ja-dc	y	05-521
<i>Dracaena</i> sp.	Agavaceae	gro	t	pe	2	eg/bb	ls ss	25	50		ja-dc	ja-dc		
<i>Molineria latifolia</i> (Dry. ex W.T. Ait.) Herb. ex Kurz	Amaryllidaceae, Hypoxidoidaceae	gro	h	pe	3	eg/bb	ls ss			jl-sp	sp-oc	ja-dc		06-562
<i>Smilax blumei</i> A.DC.	Smilacaceae	gro	v	pe	3	eg/bb da sg	ls	50	100	ja-fb	nr-ap	ja-dc	male	06-28
<i>Aglaonema oblongifolium</i> (Roxb.) Schott	Araceae	gro	h	pd	3	streams, wet areas in eg/bb	ls	25	75	sp-ja	ja-dc	ja-dc	y	05-526
<i>Aglaonema simplex</i> (Bl.) Bl.	Araceae	gro	h	pe	2	eg/bb da	ss	25	175	ag-sp	sp-oc	ja-dc		07-639
<i>Alocasia denudata</i> Engl.	Araceae	gro	h	pe	2	wet areas in eg/bb	ls	50	75	ja-fb	ja-dc	ja-dc	y	06-25

	gro	h	pd	2	rocks in eg/bb egf/eg/bb	ls	50	125	oc-nv	my-dc		my-dc	06-535
<i>Amorphophallus paeoniifolius</i> (Denn.) Nicol.	Araceae	h	pd	2	ls	ls	50	100	ag-sp	my-dc		my-dc	inm
<i>Arisaema roxburghii</i> Kunth	Araceae	h	pd	2	streams, wet areas in eg/bb	ls	50	100	ag-sp	my-dc		my-dc	06-535
<i>Homalomena paludosa</i> Hk.f.	Araceae	h	pe	3	streams, wet areas in eg/bb	ls	25	75	nv-dc	ja-dc	y	ja-dc	05-510
<i>Homalomena nutans</i> Hk. f.	Araceae	h	pe	3	streams in eg/bb	ls	25	150	sp-oc	ja-dc		ja-dc	07-609
<i>Homalomena occulta</i> (Lour.) Schott	Araceae	h	pe	3	egf/eg/bb	ss	25	175	jl-sp	ja-dc		ja-dc	07-636
<i>Rhaphidophora gigantea</i> (Schott) Ridl.	Araceae	v	pe	3	streams, wet areas in eg/bb	ls	25	75	de-nr	ja-dc	y	ja-dc	06-31
<i>Rhaphidophora glauca</i> (Wall.) Schott	Araceae	v(cr)	pe	3	egf/eg/bb	ls ss	25		oc-dc	ja-dc		ja-dc	
<i>Rhaphidophora pearlya</i> (Roxb.) Schott	Araceae	v(cr)	pe	3	eg/bb, swamp forest	ls	50	75		ja-dc		ja-dc	
<i>Typhonium trilobatum</i> (L.) Schott	Araceae	h	pd	3	da	ss	25	75		my-dc		my-dc	
<i>Stemona curtisii</i> Hk.f.	Stemonaceae	v	pe	3	streams in da sg	ls	50	75	ja-nr	ja-dc	y	ja-dc	06-18
<i>Dioscorea oryzetorum</i> Pr. & Burk. var. <i>oryzetorum</i>	Dioscoreaceae	v	pe	3	da/sg	ss	25	75	de-ja	ja-dc		ja-dc	
<i>Calamus axillaris</i> Becc.	Palmae	wc	pe	3	wet areas in eg/bb	ls	25	75		ja-dc		ja-dc	
<i>Calamus exilis</i> Griff.	Palmae	wc	pe	3	wet areas in eg/bb	ls	25	75		ja-dc		ja-dc	
<i>Calamus javensis</i> Bl.	Palmae	wc	pe	3	wet areas in eg/bb	ls	25	75		ja-dc		ja-dc	
<i>Calamus palustris</i> Griff. var. <i>cochinchinensis</i> Becc.	Palmae	wc v	pe	3	wet areas in eg/bb	ls	25	75		ja-dc		ja-dc	
<i>Caryota maxima</i> Bl.	Palmae	t	pe	3	wet areas in eg/bb, egf	ls ss	25	150	mr-sp	ja-dc	y	ja-dc	06-197
<i>Daemonorops sabut</i> Becc.	Palmae	wc	pe	3	wet areas in eg/bb	ls	25	75		ja-dc		ja-dc	
<i>Korthalsia lactinosa</i> (Griff.) Mart.	Palmae	wc	pe	3	wet areas in eg/bb	ls	25	75		ja-dc		ja-dc	
<i>Licuala kunstleri</i> Becc.	Palmae	l	pe	3	streams, wet areas in eg/bb	ls	25	100	ja-fb	ja-dc	y	ja-dc	06-37
<i>Onchosperma tigillarum</i> (Jack) Ridl.	Palmae	t	pe	2	streams in eg/bb	ls	25	75		ja-dc		ja-dc	
<i>Orania sybicola</i> (Griff.) H.E. Moore	Palmae	t	pe	3	egf/eg/bb	ss	50	225		ja-dc		ja-dc	
<i>Pinanga malaitana</i> (Mart.) Scheff.	Palmae	t	pe	3	wet areas in eg/bb	ls	25	75	mr-ap	ja-dc	y	ja-dc	06-233
<i>Salacca wallichiana</i> Mart.	Palmae	l	pe	4	streams, wet areas in eg/bb	ls ss	25	125		ja-dc		ja-dc	
<i>Freycinetia sumatrana</i> Hemsl. var. <i>sumatrana</i>	Pandanaceae	v(cr)	pe	3	streams, wet areas in eg/bb	ls	25	75		ja-dc		ja-dc	
<i>Pandanus (unicornatus</i> St. John)	Pandanaceae	t	pe	2	streams, wet areas in eg/bb	ls	50	75		ja-dc		ja-dc	
<i>Pandanus ovatus</i> (Gaud.) Kurz	Pandanaceae	l(th)	pe	3	eg/bb da sg	ls ss	25	125	mr-ap	ja-dc	y	ja-dc	06-239
<i>Tacca chantrieri</i> Andre	Taccaceae	h	pe	3	streams, wet areas in eg/bb	ls	50	100	ja-nr	ja-dc	y	ja-dc	06-52
<i>Tacca palmata</i> Bl.	Taccaceae	h	pe	3	eg/bb	ls	50	75	fb-sp	ja-dc		ja-dc	
<i>Aphyllorchis pallida</i> Bl.	Orehidaceae	h	pd	2	egf	ss	200	225	ag-sp	leafless		leafless	06-578
<i>Apostasia wallichii</i> R.Br.	Orehidaceae	h	pd	2	streams in eg/bb ponds, wet areas in eg/bb	ls	25	75	sp-oc	ja-dc	y	ja-dc	05-523
<i>Arundina graminifolia</i> (D. Don) Hochr.	Orehidaceae	h	pe	3	streams, wet areas in eg/bb	ls	25	75	ag-ja	ja-dc	y	ja-dc	05-563
<i>Calanthe ceciliae</i> Rehb. f.	Orehidaceae	h	pe	1	wet areas in eg/bb, swamp	ls	75	100	ag	ja-dc		ja-dc	06-536

Var. <i>granulata</i> (Watt) DuRoi.	Gramineae	gro	h	pd(pe)	3	streams in eg/bb da	ls	50	75	nv-dc	ja-fb	ja-dc	y	y	06-10
<i>Otochloa nodosa</i> (Kunth) Dandy	Gramineae	gro	h	pd	3	da	ls	25	50	ja-nv	ja-dc	ap-dc	y	y	05-501
<i>Phragmites vallatoria</i> (Pluk. ex L.) Veldk.	Gramineae	gro	h	pe	3	da sg	ls ss	25	150	ag-oc	ag-oc	ja-dc			
<i>Thysanolaena latifolia</i> (Roxb. ex Horn.) Honda	Gramineae	gro	h	pe	4	da sg	ls ss	25	150	sp-nv	oc-dc	ja-dc			
<i>Cephalostachyum virgatum</i> (Munro) Kurz	Gramineae, Bambusoideae	gro	h	pe	4	streams, ponds,wet areas in eg/bb	ls	25	75	jl-nv	ag-dc	ja-dc	y		05-559
<i>Dinochloa scandens</i> (Bl.) O.K.	Gramineae, Bambusoideae	gro	h	pe	3	eg/bb	ls	25	75		ja-dc	ja-dc			
<i>Gigantochloa apus</i> (Schult.) Kurz	Gramineae, Bambusoideae	gro	s(h)	pe	4	wet areas in eg/bb	ls	25	75		ja-dc	ja-dc			
<i>Gigantochloa nigroclivata</i> (Buse) Kurz	Gramineae, Bambusoideae	gro	h	pe	3	eg/bb	ls ss	25	125	jl-sp	ag-sp	ja-dc	y		06-530, 07-615
<i>Gigantochloa wrayi</i> Gamb.	Gramineae, Bambusoideae	gro	h	pe	3	wet areas in eg/bb	ls	25	75		ja-dc	ja-dc			
<i>Thyrostachys oliveri</i> Gamb.	Gramineae, Bambusoideae	gro cul	s(h)	pe	3	eg/bb	ls	25	75		ja-dc	ja-dc			
GYMNOSEPERMEAE															
<i>Gnetum microcarpum</i> Bl.	Gnetaceae	gro	wc	pe	3	eg/bb	ls	50	100	ja-fb	dc-fb	ja-dc	male		06-30
PTERIDOPHYTA															
<i>Lycopodium cernuum</i> L.	Lycopodiaceae	gro	h	pe	3	wet areas in eg/bb da sg	ls	50	100	mi-ap	ja-dc	ja-dc	y		06-229
<i>Lycopodium phlegmaria</i> L.	Lycopodiaceae	epl	h	pe	2	eg/bb, swamp forest	ls	25	75	ag-oc	ag-oc	ja-dc			
<i>Selaginella repanda</i> (Desv.) Spring	Selaginellaceae	gro epl	h	a	3	da sg	ls ss	25	125	ag-oc	ag-oc	mi-nv	y		05-535, 06-548
<i>Selaginella willdenowii</i> (Desv. ex Poit.) Bak.	Selaginellaceae	gro	v(h)	pe	4	da sg	ls	25	75	ja-dc	ja-dc	ja-dc	y		05-552
<i>Dicranopteris linearis</i> (Burm.f.) Underw. var. <i>linearis</i>	Gleicheniaceae	gro	h	ped	3	eg/bb da sg	ls	50	100	dc-fb	dc-fb	ja-dc	y		06-32
<i>Lygodium flexuosum</i> (L.) Sw.	Schizaeaceae	gro	v	pe	3	da sg	ls ss	25	150		ja-dc	ja-dc			
<i>Lygodium microphyllum</i> (Cav.) R. Br.	Schizaeaceae	gro	v	pe	3	da sg	ls ss	50	100	nv-fb	nv-fb	ja-dc	y		06-78
<i>Lygodium polystachyum</i> Wall. ex Moore	Schizaeaceae	gro	v	pe	3	da sg	ss	25	125	ag-oc	ag-oc	ja-dc			06-579
<i>Schizaea digitata</i> (L.) Sw.	Schizaeaceae	gro	h	pe	2	streams, ponds,wet areas in eg/bb	ls	50	75	ag-nr	ag-nr	ja-dc	y		05-529
<i>Pteridium aquilinum</i> (L.) Kuhn ssp. <i>caudatum</i> (L.)															
Tag. & K. Iw. var. <i>varrabense</i> Dom.	Dennstaedtiaceae	gro wee	h	pe	3	da sg	ss	75	225		ja-dc	ja-dc			
<i>Davallia divaricata</i> Bl.	Davalliaceae	epl	h	pe	3	egf eg/bb	ls ss	25	125	jl-sp	jl-sp	ja-dc			06-583
<i>Nephrolepis biserrata</i> (Sw.) Schott	Oleandraceae	gro	h	pe	3	streams, wet areas in eg/bb	ls	25	75	ja-dc	ja-dc	ja-dc	y		05-550
<i>Adiantum flabellatum</i> L.	Parkeriaceae	gro	h	pe	2	da sg	ss	75	125	ag-sp	ag-sp	ja-dc			06-558
<i>Cheilanthes belangeri</i> (Bory) C. Chr.	Parkeriaceae	gro	h	pd	3	da sg	ss	25	150	jl-sp	jl-sp	my-dc			06-549
<i>Hemionitis arifolia</i> (Burm. f.) Moore	Parkeriaceae	gro	h	pe	2	da sg	ss	25	125	ag-sp	ag-sp	ja-dc			06-556
<i>Taenitis blechnoides</i> (Willd.) Sw.	Parkeriaceae	gro	h	pe	3	egf eg/bb	ss	75	225	ag-oc	ag-oc	ja-dc			06-575
<i>Vaginularia paradoxa</i> (Fee) Mett.	Vittariaceae	epl	h	pe	2	egf	ss	150	225	ag-oc	ag-oc	ja-dc			06-576
<i>Vittaria angustifolia</i> Bl.	Vittariaceae	epl	h	pe	3	da	ss	25	75	ja-dc	ja-dc	ja-dc	sori		07-611
<i>Acrostichum aureum</i> L.	Pteridaceae	gro	h	pe	2	streams, wet areas in eg/bb	ls	25	75		ja-dc	ja-dc			

<i>Pteris ensiformis</i> Burm. f.	Pteridaceae	gro	h	pe	3	swamp forest	ls	25	175	jl-oc	jl-oc	ja-dc	sori		07-627
<i>Pteris vittata</i> L.	Pteridaceae	gro epi epl	h	pe	3	streams, ponds, wet areas in eg/bb	ls	25	75	ja-dc	ja-dc	ja-dc	y	y	05-543
<i>Stenochlaena palustris</i> (Burm. f.) Bedd.	Pteridaceae	gro	v	pe	3	streams, wet areas in eg/bb, swamp forest	ls	25	75			ja-dc			
<i>Asplenium nidus</i> L. var. <i>nidus</i>	Aspleniaceae	epl	h	pe	2	egf eg/bb	ls ss	75	225	jl-oc	jl-oc	ja-dc			
<i>Heterogonium pinnatum</i> (Copel.) Holtt.	Dryopteridaceae	gro	h	pe	2	egf eg/bb	ls	75	100	jl-sp	jl-sp	ja-dc	y		06-537
<i>Tectaria angulata</i> (Willd.) C. Chr.	Dryopteridaceae	gro	h	pe	3	streams in eg/bb rocks in egf	ls ss	50	100	nv-fb	nv-fb	ja-dc	y		06-63
<i>Tectaria maniliensis</i> (Presl) Holtt.	Dryopteridaceae	epl	h	pd	2	eg/bb	ls	75	100	ag-sp	ag-sp	in-dc			06-538
<i>Thelypteris immersa</i> (Bl.) Ching	Thelypteridaceae	gro	h	pe	3	streams, ponds, wet areas in eg/bb	ls	25	75	jl-oc	jl-oc	ja-dc	y	y	05-561
<i>Thelypteris interrupta</i> (Willd.) K. Iw.	Thelypteridaceae	gro	h	pe	3	ponds, wet areas in eg/bb	ss	25	75	jl-fb	jl-fb	ja-dc	sori		07-637
<i>Thelypteris terminans</i> (Hk.) Tag. & K. Iw.	Thelypteridaceae	gro	h	pe	3	streams, wet areas in eg/bb	ls	25	75	ag-oc	ag-oc	ja-dc	y	y	05-515, 06-563
<i>Aglaomorpha coronans</i> (Wall. ex Mett.) Copel.	Polypodiaceae	epl	h	pe	3	egf eg/bb	ls	25	75			ja-dc			
<i>Drynaria querefolia</i> (L.) J. Sm.	Polypodiaceae	epl	h	pe	3	egf eg/bb	ls ss	25	150	jl-oc	jl-oc	ja-dc			06-569
<i>Microsorium punctatum</i> (L.) Copel.	Polypodiaceae	epl	h	pe	3	eg/bb sg	ls ss	25	150	ag-oc	ag-oc	ja-dc			06-568
<i>Microsorium scolopendria</i> (Burm. f.) Copel.	Polypodiaceae	gro	h	pe	3	streams, ponds, wet areas in eg/bb	ls	50	75	ag-nv	ag-nv	ja-dc	y	y	05-506
<i>Platyserium coronarium</i> (Koen.) Desv.	Polypodiaceae	epl	h	pe	2	eg/bb	ls ss	25	175			ja-dc			