

VEGETATION IN THE SEEPHANDON WETLAND, LAO PDR

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ABSTRACT

The Seephandon Wetland in southern Laos has an area of c. 60 km². The Mekong River flows through this area in which the river divides into an intricate complex of sandbars, islands, channels, rapids, and waterfalls. The monsoon climate there causes distinct dry and rainy seasons which directly affect the amount and levels of the water in the river. Although the vegetation in the area has been severely degraded by colonial exploitation plus a high human population, four basic vegetational groups are present, viz. mixed evergreen + deciduous seasonal hardwood forest, deciduous dipterocarp-oak, seasonal forest, which includes savanna facies; deciduous secondary growth, and the wetland vegetation which has seven categories.

A total of 131 vascular plant families with 731 species, etc. were found in the wetland area. Details concerning the habit, habitat, abundance, as well as flowering, fruiting, and leafing phenologies are provided for each taxon.

INTRODUCTION

The Seephandon (= Siphandone) Wetland is located mainly in Khong District and partly in Mounlapamok District, Champasak Province, southern Laos (Figure 1). The wetland is an integral part of the Mekong River starting from the northern part of Don (island) San at 14°18' north latitude, 105°44' east longitude, south to 13°54' north latitude, 106°06' east longitude. It includes an area of c. 60 km². The western and southern boundaries are Cambodia while the eastern border is 1–2 km east of the east bank of the Mekong River (Figure 2). The Seephandon (Lao = 4000 islands) area is characterized by a complex of channels, rapids, and waterfalls with numerous sandbars and islands, many of which are submerged during the rainy season (May–October) (BAIRD, 1996).

The project area includes over 60,000 people who exploit the abundant fisheries resources of the Mekong River and mostly flat islands for extensive rice cultivation (ROBERTS, 1993; ROBERTS & BAIRD, 1995; ALTOBELL ET AL., 1998). It is located between 718 and 760 km from the mouth of the Mekong River. The highest points are Pu (mountain) Louang-Pu Khong at 239 m on Khong Island in the northern part of the study area and a hill c. 150 m high at the southern tip of Khon Island at the southern tip of the research area. Lowland elevations range from c. 75 cm on the plains of Khong Island to c. 60 m in the southern part of the area. A major fault and now a waterfall line (Khone Falls) extends from NNN to SSE in the southern part of the region at c. 13°51'N. This is an important physical feature which has resulted in various complex hydrological and biological factors which have made this place so unique. Seasonal variations in water level in the Mekong River range from 3–8 m with a minimum flow of 1060 m³/second to 46,000 m³/second (ALTOBELL ET AL., 1998).

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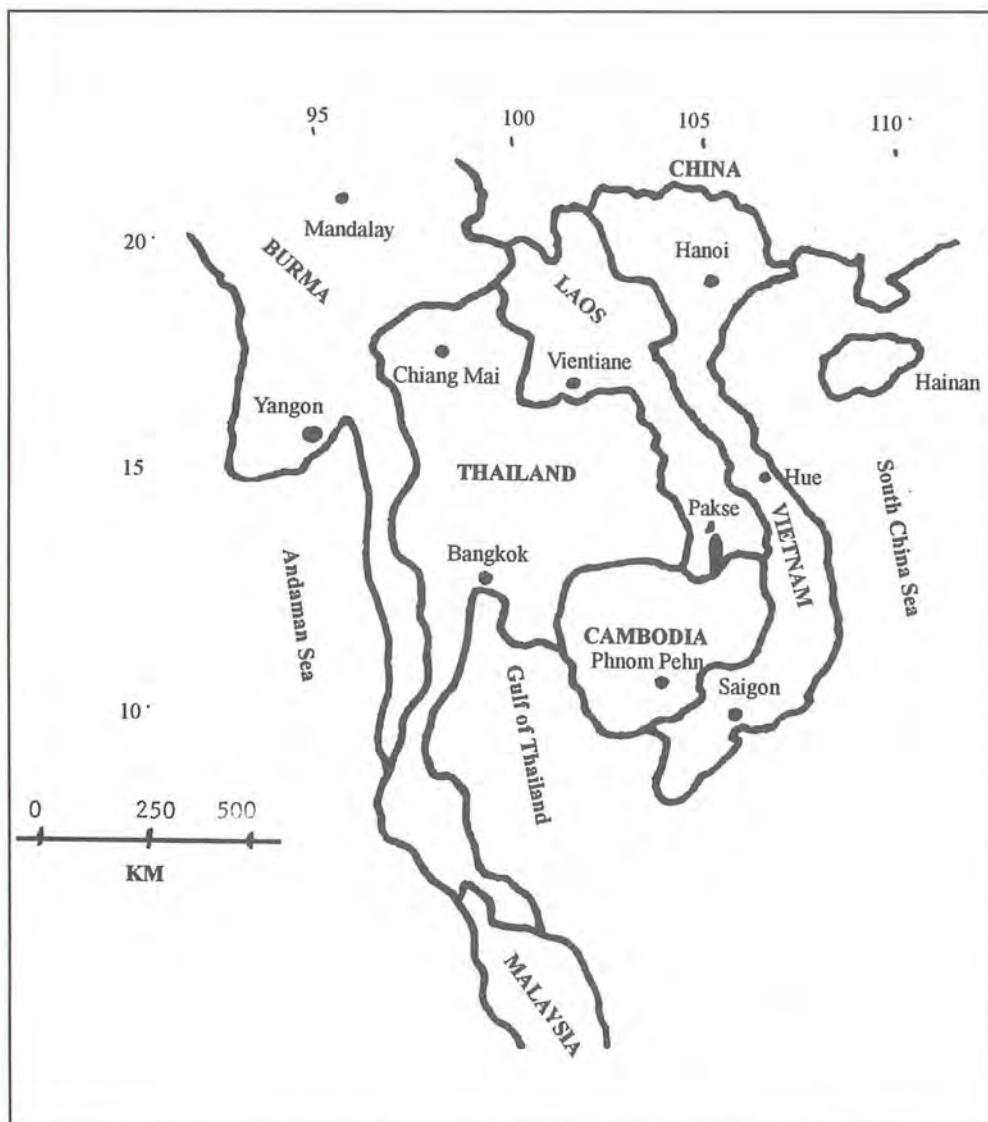


Figure 1. Southeast Asia indicating the Seephandon Wetland below Pakse in southern Laos.

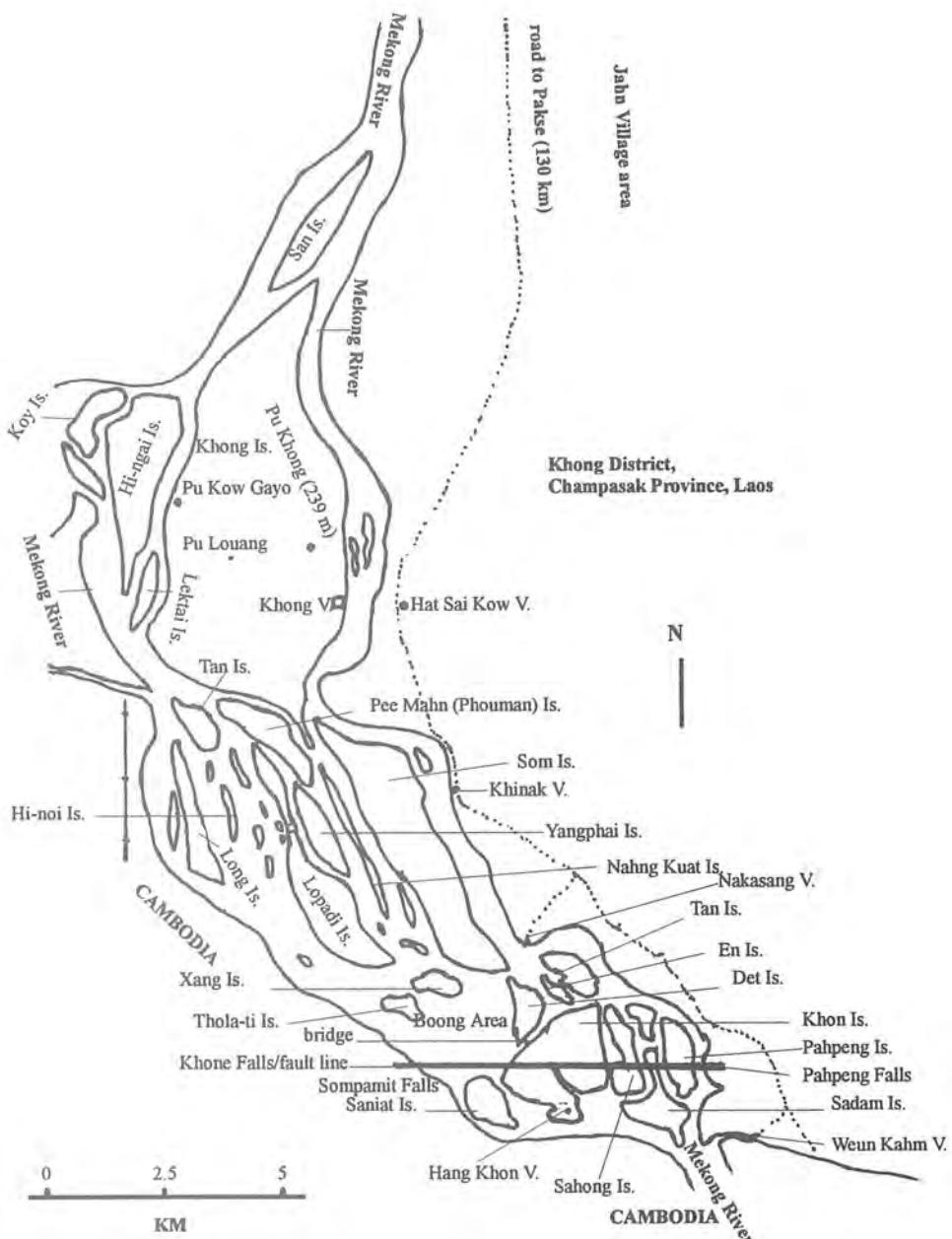


Figure 2. Details of the Seephandon Wetland showing the major islands and general flow pattern of the Mekong River. The Khone Falls/fault line is indicated in the lower part of the map.

There is evidence of an ancient civilization on Khon island where the remains of a Buddhist temple is found on the top the hill on the southern part of the Island. This temple must be hundreds of years old and would indicate that a town of some permanency and size was in the area to support the temple. Large scale exploitation of the natural resources in the area was done by French colonialists from the latter part of last century until 1941 when the Japanese took over up to 1945. The French built a narrow gauge railway from the southern tip of Khon Island north through the middle of the island to the NW side, over a bridge to Det Island, where it linked with a pier on the east side of the island. Since river transport was blocked by the fault line/falls, this system was constructed to facilitate commerce between the upper and lower parts of the river. The path of the railway, remains of two small steam engines, two piers, and the bridge are still present. The impact of settlement plus massive French exploitation in the region have resulted in the presently devastated condition of the forest.

Field Research

I have visited the project area four times during the following periods:

1. October 1997—end of the rainy season, Mekong River water level high;
2. Late January—early February 1998—dry season, river level falling;
3. Late April—early May 1998—driest and hottest time of the year, river level lowest; and
4. Mid-September 1998—peak of the rainy season, river level high.

Specimens have been collected with the initial material kept at CMU Herbarium and duplicates at the Biology Department, National University of Lao (Vientiane), Rijksherbarium, Leiden (Netherlands), and Harvard University Herbaria (USA).

Climate

The climate in southern Laos is monsoonal with two distinct seasons, *viz.* rainy and dry. The rainy season is from late May–October, followed by a cool, dry period from November–February, and a hot, dry season during March–early May (Figures 3 and 4). The average amount of annual rainfall on Khong Island during 1979–1997 was 1753 mm with peaks of nearly 350 mm in August and September. Records indicate that the amount of rainfall in Champasak Province has declined since 1980. Rainfall for Ubon Ratchathani (city), which is c. 140 km NW of Khong Island, is apparently slightly less than at the study area (Figure 4). The average amount of rainfall in Ubon Ratchathani (city) can be summarized as:

1951–1980	1587.6 mm
1981–1990	1609.0 mm
1990–1995	1467.4 mm
total average	1554.6 mm

A possible reason for rainfall there being slightly less than in southern Laos is the fact that the forests of NE Thailand, including Ubon Ratchathani, have been completely destroyed. The presence of the Mekong River and much of the original forest cover in southern Laos certainly contrasts greatly with the situation on the Thai side.

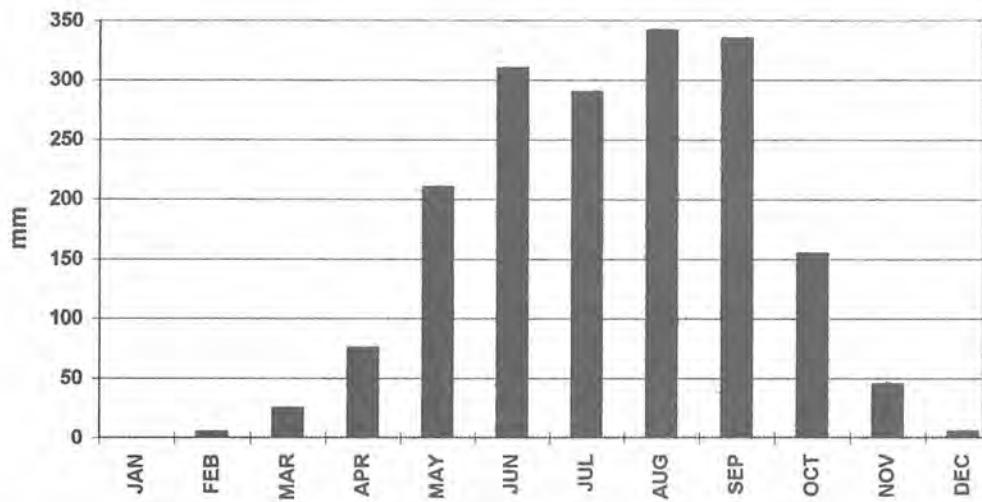


Figure 3. Average total monthly rainfall in Khong, Khong Island; 1979–1997. Source: Meteorology and Hydrology Department, Pakse.

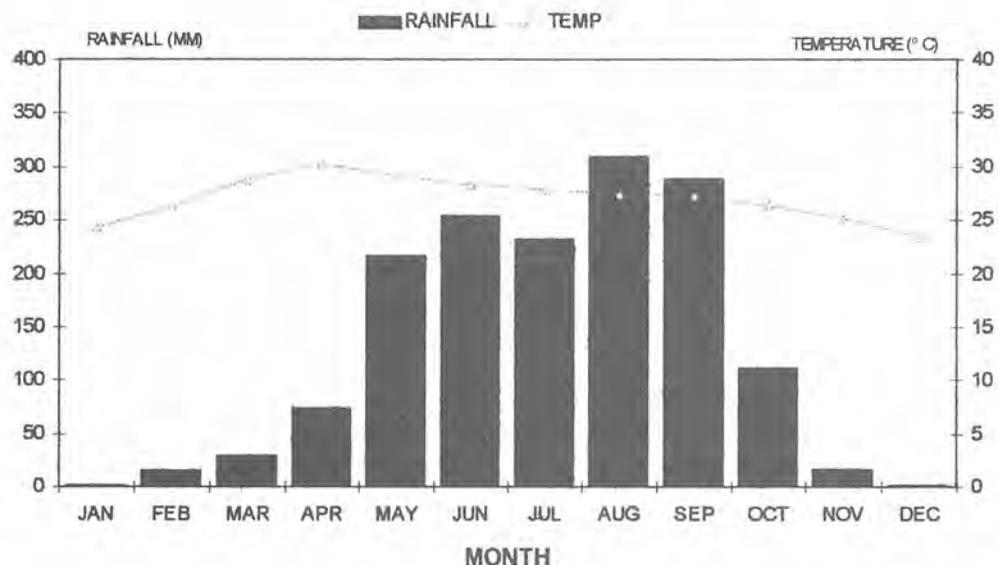


Figure 4. Average monthly rainfall and temperature at Ubon Ratchathani (city), 1951–1995.

- Sources:
1. Land Use Planning of Ubon Ratchathani Province. 1998. Land Use Planning Division, Land Development Department, Ministry of Agriculture and Cooperatives, (1951–1980).
 2. Statistical Reports of the Northeastern Region. 1993, National Statistical Office, Office of the Prime Minister; 10–11, 16–17 (1981–1990).
 3. *Idem*. 2.1995. 226–227, 232–233 (1991–1995).

Unfortunately, temperature data is lacking for the Pakse–Seephandon area. The closest area to the study site which has accurate temperature date is Ubon Ratchathani (city). The maximum average temperature at Ubon Ratchathani is 32.4°C with April at 35.9 °C being the hottest month. December and January are the coolest months with an average temperature of 23.6°C

Geology

A detailed survey on the geology and geomorphology of the study area was conducted in April 1998 (BRAMBATI & CARULLI, 1999). The bedrock in the area includes vulcanites which are aligned in an E-W direction and quartz sandstones. Ancient extrusive volcanic activity in the area is reported to have occurred in the Lower and Middle Triassic Period (200–225 million years ago). The volcanic rocks found on Khong Island and the nearby mainland range from rhyolitic to rhyodacitic. The sandstones, which are often interbedded with shale and chert, are found south of the vulcanite zone, *i.e.* from Khinak to the southern-most part of the project area, including the falls line. This sandstone was formed in the Middle Mesozoic Era (*c.* 135–150 million years ago). Quarternary (up to *c.* 2 million years old) deposits of laterite, alluvial sand, rock drifts (fragments of the bedrock), and clays/silts are also found. The laterite, which erodes as rounded, brown pellets up to *c.* 10 mm diameter, is found in several places on the mainland. The soil on the lowlands, mostly cultivated, plains are typically sandy and acidic with a pH ranging from 3.8 to 5.5. All of these rock types are found above the major Sompamit–Pah Peng fault line, while only sandstone, shale, and chert are found below it. The bedrock has had no effect on the vegetation in the area, that is MXF and DOF (see below) are found on all rock types there.

Mixed Evergreen + Deciduous, Seasonal Hardwood Forest (MXF)

A MXF was the original forest in most of the area without riverine (fluvial) vegetation. Remnants of this MXF are now scattered throughout the area and range from being more evergreen to more deciduous in composition. Centuries of cutting and burning have left some MXF areas so degraded that they merge with other forest facies and village/ cultivated areas. This can be vividly seen on several hills on Khong and Khon Islands as well as on the Cambodian mainland during January–May when the deciduous components of the MXF are either leafless or with new leaves. This provides a distinct contrast with the evergreen members of this association. The most intact lowland remnants of MXF are found on the northern part of Khong Island, east side of Sahong Island, and the southern parts of Xang and Thola-ti Islands. MXF areas have the highest canopy, densest understorey and ground flora, richest soil, and are shadier and cooler than surrounding areas. Some tall evergreen trees in the MXF are: *Pterospermum diversifolium* Bl. (Sterculiaceae), *Sandoricum koetjape* (Burm. f.) Merr. (Meliaceae), *Dipterocarpus alatus* Roxb. ex G. Don and *Hopea ferrea* Pierre ex Lanes. (both Dipterocarpaceae), *Homalium tomentosum* (Vent.) Bth. (Flacourtiaceae) *Irvingia malayana* Oliv. ex Benn. (Irvingiaceae), *Knema conferta* (King) Warb. (Myristicaceae), *Calophyllum inophyllum* L. (Guttiferae), *Lepisanthes tetraphylla* (Vahl) Radlk. (Sapindaceae), *Carallia brachiata* (Lour.) Merr. (Rhizophoraceae), and *Diospyros bejaudii* Lec. and *D. malabarica* (Desr.) Kostel. var. *siamensis* (Hochr.) Pheng. (Ebenaceae). Deciduous members include: *Anogeissus acuminata* (Roxb. ex DC.) Guill. & Perr. (Combreraceae), *Chukrasia tabularis* A. Juss. (Meliaceae), *Terminalia*

mucronata Craib & Hutch. (Combretaceae), *Tetrameles nudiflora* R. Br. ex Benn. (Datiscaceae), and *Pterocarpus macrocarpus* Kurz (Leguminosae, Papilionoideae).

Evergreen woody climbers are: *Uvaria cordata* (Dun.) Alst., *U. dac* Pierre ex Fin. & Gagnep., *U. fauviana* Pierre ex Fin. & Gagnep. (all Annonaceae), *Erycibe subspicata* Wall. ex G. Don (Convolvulaceae), *Rourea minor* (Gaertn.) Leenh. ssp. *minor* (Connaraceae), *Myxopyrum smilacifolium* (Wall.) Bl. ssp. *confertum* (Kerr) Kiew (Oleaceae), *Ancistrocladus tectorius* (Lour.) Merr. (Ancistrocladaceae), and the rattan *Calamus Viminalis* Willd (Palmae). Some evergreen vines are: *Piper retrofractum* Vahl, *P. sylvaticum* Roxb. (Piperaceae), and *Rhaphidophora peepla* (Roxb.) Schott (Araceae). Most of the understorey is evergreen with *Glycomis parva* Craib (Rutaceae), *Memecylon amplexicaule* Roxb., *M. edule* Roxb. var. *edule* (Melastomataceae), *Rhodamnia cinerea* Jack (Myrtaceae); *Ixora finlaysoniana* Wall. ex G. Don, *I. nigricans* Wight & Arn. var. *nigricans*, and *Diplospora viridiflora* DC. (all Rubiaceae); *Lepisanthes fruticosa* (Roxb.) Leenh. (Sapindaceae), and *Pseudederanthemum latifolium* (Vahl) B. Han. (Acanthaceae) as common examples. *Desmos velutinus* (Hance) Ast (Annonaceae), *Eurycoma longifolia* Jack (Simaroubaceae), and *Clerodendron godefroyi* O.K. (Verbenaceae) are some deciduous representatives.

Marginal sandy and rocky areas between the MXF and the high water level of the river include some species which distinguish this habitat. *Quassia harmandiana* (Pierre) Noot. (Simaroubaceae), an evergreen tree; *Sampantaea amentiflora* (A.S.) A.S. (Euphorbiaceae), an evergreen treelet; and *Mallotus thorelii* Gagnep. (Euphorbiaceae), a deciduous shrub, are typical representatives.

The ground flora is diverse and includes both evergreen and deciduous members. Some evergreen species are: *Hedyotis nodiflora* Wall. ex G. Don (Rubiaceae), *Begonia yunnanensis* Lev. (Begoniaceae), *Gomphostemma lucidum* Wall. ex Bth. (Labiatae) and the ferns *Bolbitis hookeriana* K. Iw. (Lomariopsidaceae) and *Tectaria impressa* (Fee) Holtt. (Dryopteridaceae). Deciduous perennial herbs include: *Boesenbergia rotunda* (L.) Mansf., *Curcuma longa* L., *Globba schomburgkii* Hk.f. var. *schomburgkii*, *G. thorelii* Gagnep., *Kaempferia harmandii* Gagnep., and *Zingiber zerumbet* (L.) J.E. Sm. (all Zingiberaceae), *Alocasia odora* C. Koch and *Typhonium roxburghii* Schott (both Araceae), and *Habenaria trichosantha* Lindl. (Orchidaceae). The ferns *Adiantum philippense* L. and *A. zollingeri* Mett. ex Kuhn (Parkeriaceae), and fern ally *Selaginella repanda* (Desv.) Spr. (Selaginellaceae) are also present. *Aeginetia indica* Roxb. (Orobanchaceae), a leafless root parasite, is also found in shaded MXF places.

Deciduous Dipterocarp–Oak, Seasonal Hardwood Forest (DOF)

Severe degradation or destruction of MXF areas has resulted in the development of DOF which is a secondary, fire-climax facies which differs considerably from MXF. DOF areas are open, have thin and rocky soil, and survive burning during the dry season (January–May). This kind of forest is dominated by several members of Dipterocarpaceae, viz. *Dipterocarpus obtusifolius* Teijsm. ex Miq. var. *obtusifolius*, *D. intricatus* Dyer, *D. tuberculatus* Roxb. var. *tuberculatus*, *Shorea obtusa* Wall. ex Bl., and *S. siamensis* Miq. var. *siamensis*. The oak component, *Quercus kerrii* Craib var. *kerrii* (Fagaceae) is now rare due to exploitation. The DOF is typically leafless from about January to April and lacks bamboo. Other common, but not dominant, deciduous trees there are: *Cratoxylum formosum* (Jack) Dyer ssp. *pruniflorum* (Kurz) Gog. and *C. maingayi* Dyer (Guttiferae,

Hypericeae), *Terminalia alata* Hey. ex Roth, *T. chebula* Retz. var. *chebula*, *T. corticosa* Pierre ex Gagnep., and *T. mucronata* Craib & Hutch. (Combretaceae), *Xylia xylocarpa* (Roxb.) Taub. var. *kerrii* (Craib & Hutch.) Niels. (Leguminosae, Mimosoideae), *Sindora siamensis* Teysm. ex Miq. var. *siamensis* (Leguminosae, Caesalpinoideae); *Vitex limoniifolia* Wall. ex Kurz and *V. peduncularis* Wall. ex Schauer (Verbenaceae), *Spondias pinnata* (L.f.) Kurz (Anacardiaceae), *Schleichera oleosa* (Lour.) Oken (Sapindaceae); *Haldina cordifolia* (Roxb.) Ridsd., *Gardenia sootepensis* Hutch., and *Morinda tomentosa* Hey. ex Roth (all Rubiaceae), *Bombax anceps* Pierre var. *anceps* (Bombacaceae), *Diopyros ehretoides* Wall. ex G. Don (Ebenaceae), *Tristaniopsis burmanica* (Griff.) Wils. & Wat. var. *rufescens* (Hance) Parn. & Lug. (Myrtaceae), *Strychnos nux-vomica* (Loganiaceae), and *Careya arborea* Roxb. (Lecythidaceae). There are a few evergreen trees in the DOF, viz. *Mammea siamensis* (Miq.) T. And. (Guttiferae), *Wendlandia tinctoria* (Roxb.) DC. ssp. *orientalis* Cowan (Rubiaceae), and an occasional *Irvingia malayana* Oliv. ex Benn. (Irvingiaceae). *Irvingia* and *Pterocarpus macrocarpus* Kurz (Leguminosae, Papilionoideae), a deciduous tree, are often also found in MXF.

Aporusa villosa (Lindl.) Baill. (Euphorbiaceae), *Gardenia obtusifolia* Roxb. ex Kurz and *Catunaregam tomentosa* (Bl. ex DC.) Tirv. (both Rubiaceae), *Indigofera wightii* Grah. ex Wight & Arn. and *Lespedeza henryi* Schindl. (both Leguminosae, Papilionoideae), *Buchanania glabra* Wall. ex Hk. f. (Anacardiaceae), and an occasional *Gardenia cambodiana* Pierre ex Pit. (Rubiaceae) are some deciduous understorey species. *Memecylon scutellatum* (Lour.) Naud. (Melastomataceae), an evergreen shrub or treelet and *Phoenix loureiri* Kunth var. *loureiri* (Palmae), an evergreen herb, as well as *Epicycas siamensis* (Miq.) de Laub. (Cycadaceae), a very distinctive treelet, are also common. *Aganosma marginata* (Roxb.) D. Don (Apocynaceae), a deciduous woody climber and *Holarrhena curtisii* King & Gamb. (Apocynaceae), a deciduous shrub, are frequently seen. *Erianchne triseta* Nees ex Steud. (Gramineae) dominates many areas and also readily burns along with *Apluda mutica* L. (Gramineae), which is less common.

Although the woody flora in DOF is similar throughout the wetland, there are distinct differences in the ground flora which are based on exposure and drainage factors. Hills with DOF, such as Pu Kouang and Pu Khong on Khong Island, as well as those on the mainland east of Khong Island, have more rocky, i.e. eroded, soil, better drainage, and sparse ground flora in comparison to the DOF in the Jahn-Khinak Villages area on the mainland. These areas have mostly flat terrain, thicker soil, denser ground flora, and are flooded during the latter part of the rainy season (September–October). This kind of area can be considered a savanna (Figure 5). Due to habitat destruction and rice cultivation, savannas are either absent or very small and degraded on the islands. The differences in well-drained and seasonally flooded habitats are manifest with the ground flora, many species of which are either more abundant in or only found in savanna areas. These species are best seen in September–October when they are flowering. Some annual representatives in savanna are: *Polygala brachystachya* DC. (Polygalaceae), *Drosera indica* L. (Droseraceae), *Mitrasacme erophila* Leenh. ssp. *erophila* (Loganiaceae), *Centranthera cochinchinensis* (Lour.) Merr. var. *cochinchinensis* and var. *lutea* (Hara) Yama., *Lindernia viscosa* (Horn.) Bold., and *Torenia benthamiana* Hance (all Scrophulariaceae); *Fimbristylis schoenoides* (Retz.) Vahl, *Scleria neesii* Kunth, and *Rhynchospora rubra* (Lour.) Mak. (all Cyperaceae); *Coelachne perpusilla* (Arn. ex Steud.) Thw. and *Eremochloa ciliaris* (L.) Merr. (both Gramineae).



Figure 5. Deciduous dipterocarp-oak (savanna) forest on the mainland near Hinhong Village, 2 February 1998. Intentional fires were being set at this time. These areas are flooded during the latter part of the rainy season, *i.e.* September–October. Photo: G. Daconto.



Figure 6. Collapsing sandy embankments are a recent and increasing problem on many islands. Destruction of marginal vegetation is the main cause for this phenomenon which can be alleviated by planting of bamboo and native tree species in susceptible areas. SE side of Khong Island, 12 September 1998.



Figure 7. Kai Kum Zone, just above Sompamit Falls, is dominated by *Phyllanthus jullienii* Beille (Euphorbiaceae). The area is submerged from July–November and exposed from December–May. Photo: G. Daconto, 4 February 1998.



Figure 8. *Acacia-Anogeissus* zone, on Nu Island, below Sompamit Falls. During the dry season (December–May), when the river level is low, *Anogeissus rivularis* (Gagnep.) Lec. (Combretaceae) (photo) and *Acacia harmandiana* (Pierre) Gagnep. (Leguminosae, Mimosoideae) are exposed, while also flowering and fruiting. The trees are submerged during the rainy season and have typically current-bent crowns. Photo: G. Daconto, 8 February 1998.

Deciduous perennials are also common with: *Abelmoschus moschatus* Medic. ssp. *tuberosus* (Span.) Bors. and *Decaschiata harmandii* Pierre (both Malvaceae), *Trigonostemon reidioides* (Kurz) Craib (Euphorbiaceae), *Murdannia scapiflora* (Roxb.) Roy. (Commelinaceae), *Hypoxis aurea* Lour. (Amaryllidaceae); *Habenaria apetala* Gagnep., *H. rumphii* (Brogn.) Lindl., *Liparis acutissima* Rchb. f., and *Peristylus densus* (Lindl.) Sant. & Kapad. (all Orchidaceae); *Fimbristylis disticha* Boeck., *F. globulosa* (Retz.) Kunth, *Scleria levis* Retz., *S. psilorrhiza* Cl. (all Cyperaceae); *Eriachne trisetoides* Nees ex Steud. and *Mnesithea laevis* (Retz.) Kunth var. *laevis* (both Gramineae). *Aeginetia indica* Roxb. (Orobanchaceae), noted above as being present in MXF, also grows in wet savanna areas.

The herbaceous ground flora in rocky, well-drained DOF is mostly perennial, deciduous, and as in savanna areas is barren in the hot-dry season. Some common examples of deciduous perennials are: *Aphaenandra uniflora* (Wall. ex G. Don) Brem. (Rubiaceae), *Barleria strigosa* Willd. (Acanthaceae), *Amorphophallus parvulus* Gagnep. (Araceae), *Habenaria dentata* (Sw.) Schltr. (Orchidaceae), *Scleria levis* Retz. and *S. lithosperma* (L.) Sw. var. *linearis* Bth. (Cyperaceae), *Arundinella setosa* Trin. var. *setosa* (Gramineae), and *Oleandra undulata* (Willd.) Ching (Oleandraceae). *Thunbergia similis* Craib (Acanthaceae) and *Lygodium flexuosum* (L.) Sw. (Schizaeaceae), both deciduous vines, are also common. Annual herbs include: *Sonerila erecta* Jack (Melastomataceae), *Borreria brachystemma* (R. Br. ex Bth.) Val. (Rubiaceae), *Thorelia montana* Gagnep. (Compositae), *Torenia violacea* (Aza. ex Blanco) Penn. (Scrophulariaceae), *Digitaria siamensis* Henr. and *Sporobolus harmandii* Henr. (both Gramineae). *Cassytha filiformis* L. (Lauraceae), a leafless, hemi-parasitic, autotrophic, epiphytic vine is also found throughout the year on undergrowth. *Curcuma zedoaria* (Berg.) Rosc., *Stahlianthus thorelii* Gagnep. (both Zingiberaceae), *Murdannia loureiri* (Hance) Rao & Kam. (Commelinaceae), *Amorphophallus koratensis* Gagnep. and *Pseudodracontium lacourii* (Linden & Andre) N.E. Br. (both Araceae), and *Crinum wattii* Baker (Amaryllidaceae), all deciduous, perennial, ground herbs which flower when leafless in April–May, are common in DOF. *Geodorum attenuatum* Griff., *G. recurvum* (Roxb.) Alst. (Orchidaceae), and *Stemona burkillii* Prain (Stemonaceae), a vine; also flower during this time with very immature leaves. *Curcuma gracillima* Gagnep., *Globba schomburgkii* Hk. f. var. *schomburgkii*, and *G. thorelii* Gagnep. (all Zingiberaceae) are deciduous, perennial, ground herbs which flower from August to October while having leaves.

There is also another DOF habitat which is found on exposed rhyolite bedrock with patches of thin soil, especially in depressions, which only has herbaceous ground flora. The Pu Kow Gayo area on the west side of Khong Island is the best place to see this very exposed habitat which is completely dry and barren in the hot-dry season and green in the rainy season—especially September–October. Some of the species found in this kind of bedrock habitat are either sparse or absent in savanna areas are: *Polycarpaea corymbosa* (L.) Lmk. (Caryophyllaceae), *Hedyotis gracilipes* (Craib) Fuku. var. *gracilipes* and *H. tetrangularis* (Korth.) Walp. (Rubiaceae), *Heliotropium strigosum* Willd. (Boraginaceae), *Psilotrichum ferrugineum* (Roxb.) Moq.-Tand. (Amaranthaceae), and *Fimbristylis obtusa* (Cl.) Ridl. (Cyperaceae)—all annuals. Some deciduous perennial representatives are: *Leptochloa malabarica* (L.) Veldk. (Gramineae) and *Cheilanthes belangeri* (Bory.) C. Chr. (Parkeriaceae). *Salomonia cantoniensis* Lour. var. *cantoniensis* (Polygalaceae), *Zornia gibbosa* Span. (Leguminosae, Papilionoideae), and *Rhynchospora rubra* (Lour.) Mak. (Cyperaceae) are some annual herbs which are more common in bedrock areas than in

savanna. *Utricularia minutissima* Vahl (Lentibulariaceae), *Burmannia coelestis* D. Don (Burmanniaceae), annuals, and *Hypoxis aurea* Lour. (Amaryllidaceae), a perennial herb, are found approximately equally in both habitats.

Secondary Growth (SG)

Since the area has had a long history of forest destruction there are various stages of degradation which are present in the form of secondary growth. As noted above, DOF is a kind of secondary growth, but differs from other SG associations in that it is fire-climax. The species found in SG differ from those found in MXF and DOF, however, in many places a clear distinction between these forest types is vague due to merging of forest facies. Most SG species are deciduous and grow in open, single-canopied places, while none of them can be considered dominant. Typical SG trees are: *Cratoxylum formosum* (Jack) Dyer spp. *pruniflorum* (Kurz) Gog. (Guttiferae, Hypericeae), *Casearia grewiifolia* Vent. var. *grewiifolia* (Flacourtiaceae), *Ziziphus nummularia* (Burm. f.) Wight & Arn. (Rhamnaceae), *Microcos paniculata* L. (Tiliaceae), *Bauhinia malabarica* Roxb. (Leguminosae, Caesalpinoideae), *Dalbergia nigrescens* Kurz var. *nigrescens* (Leguminosae, Papilionoideae), *Alangium salvifolium* (L.f.) Wang. ssp. *hexapetalum* (Lmk.) Wang. (Alangiaceae), *Feronia limonia* (L.) Swing. (Rutaceae), and *Streblus asper* Lour. var. *asper* (Moraceae), which is evergreen. Typically SG areas have many spiny or thorny woody climbers and scandent species, e.g. *Capparis micracantha* DC. (Capparaceae), *Ziziphus cambodiana* Pierre var. *cambodiana* and *Z. oenoplia* Mill. var. *oenoplia* (Rhamnaceae), *Harrisonia perforata* (Blanco) Merr. (Simaroubaceae), *Acacia megaladena* Desv var. *megaladena* (Leguminosae, Mimosoideae), and *Caesalpinia hymenocarpa* (Prain) Hatt. (Leguminosae, Caesalpinoideae). Inermous, deciduous, woody climbers and scandent species include: *Olax scandens* Roxb. (Olaceae), *Calycopteris floribunda* (Roxb.) Lmk. (Combretaceae), and *Congea tomentosa* Roxb. var. *tomentosa* (Verbenaceae). *Bridelia tomentosa* Bl. (Euphorbiaceae), a deciduous, inermous woody climber or tree, is also common. The robust grass *Thysanolaena latifolia* (Roxb. ex Horn.) Honda (Gramineae) often forms dense thickets along with deciduous shrubs, e.g. *Helicteres hirsuta* Lour. (Sterculiaceae), *Colona auriculata* (Desf.) Craib (Tiliaceae), and the evergreen *Memecylon scutellatum* (Lour.) Naud. (Melastomataceae). Common vines include: *Cayratia trifolia* (L.) Dom. var. *trifolia* (Vitaceae), *Bauhinia penicilliloba* Pierre ex Gagnep. (Leguminosae, Caesalpinoideae), *Abrus precatorius* L. (Leguminosae, Papilionoideae), *Dioscorea bulbifera* L. and *D. glabra* Roxb. var. *glabra* (Dioscoreaceae). Secondary growth herbs, many of which are also weeds, are: *Eupatorium odoratum* L. (Compositae), *Hyptis suaveolens* (L.) Poit. (Labiatae), *Crotalaria verrucosa* L. (Leguminosae, Papilionoideae), *Costus speciosus* (Koen.) J.E. Sm. (Zingiberaceae), and *Amorphophallus paeoniifolius* (Denn.) Nichol. (Araceae). *Cissus modeccoides* Pl. var. *modeccoides*, *C. quadrangularis* L. (Vitaceae), and *Smilax extensa* Wall. ex A. DC. (Smilacaceae) are some examples of vines.

Weeds, that is more ephemeral (*i.e.* annual) herbs, include some species which are typically found in rice fields and ditches which can be seen when these places are wet. These include: *Dopatrium acutifolium* Bon. (Scrophulariaceae), *Utricularia bifida* L. var. *bifida* and *U. minutissima* Vahl (Lentibulariaceae), *Eriocaulon quinquangulare* L. (Eriocaulaceae), *Burmannia coelestis* L. (Burmanniaceae), *Cyperus compactus* Retz., *C. iria* L., *Fimbristylis globulosa* (Retz.) Kunth, and *F. miliacea* (L.) Vahl (all Cyperaceae).

Grangea maderaspatana (L.) Poir., *Sphaeranthus indicus* L. (both Compositae), and *Ammannia baccifera* L. (Lythraceae) are some species which flower and fruit when the fields are dry.

Some weeds found in sandy, often seasonally inundated areas, are: *Spilanthes paniculata* Wall. ex DC. (Compositae), *Glinus lotoides* L. (Aizoaceae), *Polycarpon prostratum* (Forssk.) Asch. & Schw. (Caryophyllaceae), *Polygonum plebeium* R. Br. (Polygonaceae), *Cyperus pygmaeus* Rottb. (Cyperaceae); *Digitaria bicornis* (L.) Roem. & Schult., *Eragrostis amabilis* (L.) Nees, and *Eleusine indica* (L.) Gaertn. (all Gramineae).

Oryza sativa L. (Gramineae), sticky rice, is the most common crop grown while home gardens have a variety of vegetables, spices, and fruits. Some of these plants are: *Anethum graveolens* L. (Umbelliferae, dill), *Brassica chinensis* L. (Cruciferae, Chinese cabbage), *Capsicum annuum* L. (Solanaceae, chili), *Citrullus lanatus* (Thunb.) Matu. & Nak. (Cucurbitaceae, water melon), *Ipomoea aquatica* Forsk. (Convolvulaceae, water morning glory), *Lypopersicon lycopersicum* (L.) Karst. (Solanaceae, tomato), *Nicotiana tabacum* L. (Solanaceae, tobacco), and *Solanum melongena* L. (Solanaceae, egg plant).

Cultivated fruit trees include: *Annona squamosa* L. (Annonaceae, custard apple), *Cocos nucifera* L. (Palmae, coconut), *Mangifera indica* L. (Anacardiaceae, mango), *Tamarindus indica* L. (Leguminosae, Caesalpinoideae; tamarind), and *Chrysophyllum cainito* L. (Sapotaceae, star apple). Bamboos (Gramineae, Bambusoideae) are also commonly planted for their general construction utility, edible shoots, and ornamental value. These include: *Bambusa bambos* (L.) Voss. ex Vilm., *B. vulgaris* Schrad. ex Wend. var. *striata* (Lodd. ex Penny) Gamb., *Dendrocalamus longispinus* Kurz, and *Thyrsostachys oliveri* Gamb. *Samanea saman* (Jacq.) Merr. (Leguminosae, Mimosoideae; rain tree) and *Ceiba pentandra* (L.) Gaertn. (Bombacaceae, kapok), and to a lesser and more recent extent *Tectona grandis* L. f. (Verbenaceae, teak) are also commonly seen.

In recent years there has been a notable and alarming increase in erosion and collapse of sandy embankments along the shores of many islands (Figure 6). This is a direct result of deforestation, grazing, and expansion of village and agricultural areas along the sandy margins of the islands. Remedial measures include conservation of embankment vegetation plus planting of bamboo and various native trees in these areas.

Epiphytes and Epiliths

Vascular epiphytes are common, especially on older trees, and include evergreen, hemi-parasitic shrubs, viz. *Helixanthera pulchra* (DC.) Dans., *Macrosolen lowii* (King) Tiegh., and *Scurrula parasitica* L. (all Loranthaceae); deciduous ferns: *Davallia denticulata* (Burm. f.) Mett. ex Kuhn (Davalliaceae) and *Drynaria quercifolia* (L.) J. Sm. (Polypodiaceae), and *Pyrrosia adnascens* (Sw.) Ching (Polypodiaceae) which has fronds which dry and shrivel during the dry season and become succulent and green again when it rains.

Due to extensive exploitation for cultivation and habitat destruction, epiphytic Orchidaceae are generally sparse. Some examples are: *Cymbidium bicolor* Lindl., *Dendrobium venustum* Teijsm. & Binn., and *Smitinandia micrantha* (Lindl.) Holtt.

Vascular epiliths are also found in the study area, although they are not as common as epiphytes, and are found in places lacking water. Several ferns have been observed to grow on rocks, e.g. *Adiantum zollingeri* Mett. ex Kuhn (Parkeriaceae), a deciduous species

which is also a geophyte; while *Drynaria bonii* C. Chr., which is deciduous, and *Pyrrosia stigmosa* (Sw.) Ching (both Polypodiaceae), being evergreen, are more commonly epilithic than epiphytic.

Wetland Area

Seasonal fluctuations in the level of the Mekong River and tributary streams have resulted in a distinct riparian vegetation with a predominance of rheophytic and amphibious plants. Seven categories of habitats can be distinguished which are based on river flow, bedrock conditions, and substrate. The entire area is submerged under c. 3–8 m of fast flowing, turbid water from about August–November and is exposed from about January–May, the time when many species flower and fruit. The bedrock is rugged sandstone with some interbedded shale.

1. Sand Bars

The sandy banks of the islands and sand bars have within the past 5–10 years, become infested with *Mimosa pigra* L. (Leguminosae, Mimosoideae), a deciduous shrub from tropical America which forms dense, thorny growth. This species is rapidly expanding at the expense of native vegetation and is also extremely difficult to eradicate.

Marginal, mostly amphibious, trees include *Crateva magna* (Lour.) DC. (Capparaceae), *Combretum quadrangulare* Kurz (Combretaceae), and *Salix tetrasperma* Roxb. (Salicaceae), which has been over-exploited. *Saccharum spontaneum* L. and *Phragmites vallatoria* (Pluk. ex L.) Veldk. (both Gramineae) are large, vigorous grasses found in sandy areas. *Homonoia riparia* Lour. (Euphorbiaceae), a common amphibious shrub, and *Oxystelma esculentum* (L.f.) R. Br. (Asclepiadaceae), a vine, are also found in this habitat. Weeds and home gardens are common on the exposed banks from about January to June.

2. Boong Area

Shallow, rocky places with permanent river flow are characterised by having dense tufts or small islands of vegetation on sandstone bedrock where there is a general absence of sand. The vegetation here is rheophytic and most of its components are not found in other places in the wetland. This area is locally known as *boong* and is restricted to an area north of the fault line and south of Thola-ti Island. *Telectadium edule* H. Baill. (Asclepiadaceae) dominates, while *Homonoia riparia* Lour. (Euphorbiaceae), *Rotula aquatica* Lour. (Boraginaceae), and *Xanthoneea parvifolia* (O.K.) Craib var. *salicifolia* (Pierre ex Pit.) Craib (Rubiaceae), all shrubs, are also common. The fern *Meniscium proliferum* (Retz.) Sw. (Thelypteridaceae) and *Lophopogon intermedius* A. Camus (Gramineae), a grass, are also found here.

3. Kai Kum Zone

Gohk kai kum is the Lao name for *Phyllanthus jullienii* Beille (Euphorbiaceae), a shrub, which is the dominant species in the region below the “*boong*” area and above the falls (Figure 7). This place is flat, rugged sandstone bedrock which is completely exposed from December to May. There are channels through the bedrock and patches of sand in some places. Amphibious herbs such as *Hygrophila incana* Nees (Acanthaceae) and delicate *Cryptocoryne tonkinensis* Gagnep. (Araceae) are also present.

4. *Acacia-Anogeissus* Zone

This is a unique area below the falls which is the deepest zone of submergence in the wetland. It is dominated by two species of current-bent, deciduous trees up to 10 m tall, viz. *Anogeissus rivularis* (Gagnep.) Lec. (Combretaceae) and *Acacia harmandiana* (Pierre) Gagnep. (Leguminosae, Mimosoideae) which grow on seasonally dry, sandy and rocky places (Figure 8). *Homonoia riparia* Lour. (Euphorbiaceae) is found in amphibious places there.

5. Channels

I have included this as a distinct wetland zone since some of the species found in these places seem to be most common in this habitat. Channels include shallow to dry, seasonally flooded, rocky (sandstone) and sandy riverine areas with scattered shrubs and treelets, mostly 1–2.5 m tall. *Morinda pandurifolia* O.K. var. *oblonga* (Pit.) Craib (Rubiaceae), *Eugenia mekongensis* Gagnep. (Myrtaceae), *Gymnosporia (Maytenus) mekongensis* Pierre (Celastraceae), and *Blachia cotoneaster* Gagnep. (Euphorbiaceae) are common here. *Vincetoxicopsis harmandii* Cost. (Asclepiadaceae), a tufted herb, is also present. *Fimbristylis aestivalis* (Retz.) Vahl var. *aestivalis* and *F. brunnea* Cl. (Cyperaceae) are common, deciduous, perennial, ground herbs found in both the *Acacia-Anogeissus* zone and in channels. Most of the woody plants in this habitat have also been bent by river flow.

6. Seasonal Streams

Some of the larger islands, e.g. Khong and Khon, have seasonally dry drainage streams while true seasonal streams are found on the mainland. These places have rocky beds and sometimes have isolated pools where aquatic plants, e.g. *Hydrilla verticillata* (L.f.) Roy. (Hydrocharitaceae) grow. The vegetation is mostly degraded MXF without riverine facies.

7. Aquatics

Several species of perennial herbs requiring a constantly wet environment are found in the area. Floating aquatics include *Eichhornia crassipes* (Mart.) Solms (Pontederiaceae), an introduced species which often covers ponds and stagnant water bodies in other places. This plant is uncommon in the Mekong River since it is washed away each year during the rainy season. *Ipomoea aquatica* Forsk. (Convolvulaceae), an amphibious vine, is cultivated for its edible vegetation both on sand banks and on the surface of the water nearby.

Nymphaea nouchali Burm. f. (Nymphaeaceae) and *Nymphoides indica* (L.) O.K. (Gentianaceae/Menyanthaceae) root in substrate while their leaves and flowers float. Submerged aquatics rooting in mud include: *Hydrilla verticillata* (L.f.) Roy. and *Ottelia alismoides* (L.) Pers. (both Hydrocharitaceae), *Potamogeton crispus* L. var. *crispus* (Potamogetonaceae), and *Ceratophyllum demersum* L. (Ceratophyllaceae). These species appear to be floating when the water level is low. *Utricularia aurea* Lour. (Lentibulariaceae), *Lemna perpusila* Torr. (Lemnaceae), both floaters; and several species rooting in the bottom of ponds and wet ditches, e.g. *Cyanotis axillaris* (L.) D. Don (Commelinaceae), *Monochoria vaginalis* (Burm. f.) Presl (Pontederiaceae), and *Typhonium flagelliforme* (Lodd.) Bl. (Araceae) are other aquatic herbs found in mostly seasonally dry areas away from the Mekong River. *Hydrocera triflora* (L.) Wight & Arn. (Balsaminaceae) and *Hydrolea zeylanica* (L.) Vahl (Hydrophyllaceae) are annual herbs found in savanna areas which root

in mud in both amphibious and aquatic habitats. There is also a filamentous green alga which is very dense in the Mekong River during February–March, but is absent by April–May.

Marsilea quadrifolia L. (Marseliaceae), an amphibious fern rooting in sandy substrate, is often completely exposed when the river is low. The entire plant is edible, however I have not seen it cultivated.

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Appendix 1. List of vascular plant species, *etc.* found in the Seephandon Wetland area. Voucher specimens for all species, *etc.* are deposited in the CMU Herbarium with duplicates in the Herbarium, Department of Biology, National University of Lao, Vientiane; and the Rijksherbarium, Leiden, Netherlands. The families are arranged in a modified Bentham & Hooker system, which is based on flower morphology.

LIST OF ABBREVIATIONS

Habit	t	tree	Substrate	gv	gravel
	l	treelet		rk	bedrock
	s	shrub		sa	sand
	h	herb		st	silt/mud
	v	vine			
	wc	woody climber	Bedrock	ry	rhyolite
	sc	scandent		sh	shale
	cr	creeping		ss	sandstone
Phenology	a	annual	Month	ja	January
	pe	perennial evergreen		fb	February
	pd	perennial deciduous		mr	March
	ped	perennial evergreen-deciduous		ap	April
				my	May
Life mode	aqu	aquatic		jn	June
	cul	cultivated		jl	July
	epi	epiphyte		ag	August
	epl	epilithic		sp	September
	gro	ground		oc	October
	hemipar	hemiparasite		nv	November
	int	introduced, not native		dc	December
	nat	naturalized, not native	Habitat	cult	cultivated area
	par	parasite		da	disturbed areas,
	rhe	rheophyte			overgrown places
	str	strangler		dof	deciduous
	wee	weed			dipterocarp-oak forest
Abundance	0	probably extirpated		mxf	mixed evergreen
	1	down to a few individuals, in danger of extirpation			+ deciduous, seasonal forest
	2	rare		pon	ponds
	3	medium abundance		rvf	riverine flood zone
	4	common, but not dominant		rvs	riverine backshore
	5	abundant		sg	secondary growth
				str	streams
				wa	wet areas

FAMILY	SPECIES	HABIT	PHENO-LOGY	ABUND-ANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Angiospermae, Dicotyledoneae											
Dilleniaceae	<i>Dillenia hookeri</i> Pierre	s	pd	3	gro	dof		ry ss	fb-sp	my-oc	jl-mr
	<i>Dillenia ovata</i> Wall. ex Hk. f. & Th.	t	pd	3	gro	mxf		ry	ja-fb	mr-ap	ja-dc
	<i>Dillenia pentagyna</i> Roxb.	t	pd	3	gro	dof		ss	ap-my	jn-jl	jn-dc
	<i>Tetracerá lourieri</i> (Fin. & Gagnep.) Pierre ex Craib	sc	pe	3	gro	da sg		ry ss	ap-my (sp)	jn-jl	ja-dc
Annonaceae	<i>Annona squamosa</i> L.	l	pd	3	gro cul int	cult		ry	ap-my	sp-oc	my-mr
	<i>Anomianthus dulcis</i> (Dun.) Sinclair	wc	pd	3	gro	da sg mxf		ss ry	ap-my	ag-oc	ap-ja
	<i>Artobotrys intermedius</i> Hassk.	wc	pe	3	gro	mxf		sh ss	fb-mr	mr-ap	ja-dc
	<i>Cananga latifolia</i> (Hk. f. & Th.) Fin. & Gagnep.	t	pd	3	gro nat	sa be		ss	my-jn	sp-oc	ap-dc
	<i>Cyathostemma micrantha</i> (Hk. f. & Th.) Sinclair	s sc	pd	3	gro	da sg mxf	sa	sh ss ry	ap-my	sp-oc	ap-ja
	<i>Desmos velutinus</i> (Hance) Ast	l	pd	3	gro	mxf		ry	ap-my	sp-oc	ap-ja
	<i>Ellipelopsis cherrevensis</i> (Pierre ex Fin. & Gagnep.) R.E. Fr.	s	pd	2	gro	dof		ry	my-jn	sp-oc	my-fb
	<i>Miliusa cuneata</i> Craib	t (l, s)	pd	3	gro	da sg		ss	ap-my	ap-my	ap-dc
	<i>Polyalthia erecta</i> (Pierre) Fin. & Gagnep. var. <i>erecta</i>	s	pd	3	gro	da sg		sh ss	ag-oc	oc-dc	my-fb
	<i>Polyalthia modesta</i> (Pierre) Fin. & Gagnep.	s	pd	3	gro rhe	streams in	sa rk	ss	dc	mr-ap	nv-jn
	<i>Polyalthia</i> sp.	l	pe	3	gro	mxf		sh ss	?	sp-oc	ja-dc
	<i>Polyalthia</i> sp.	s	pe	3	gro	mxf		sh ss	?	sp-oc	ja-dc
	<i>Uvaria cordata</i> (Dun.) Alst.	wc	pe	3	gro	mxf		sh ss ry	jl-sp	sp-nv	ja-dc
	<i>Uvaria dac</i> Pierre ex Fin. & Gagnep.	wc	pe	3	gro	mxf		sh ss ry	my-jn	sp-oc	ja-dc
	<i>Uvaria fauvéiana</i> Pierre ex Fin. & Gagnep.	wc	pe	2	gro	mxf		sh ss	mr-ap	sp-oc	ja-dc
	<i>Uvaria pierrei</i> Fin. & Gagnep.	s	pe	2	gro	mxf da sg		ry	ap-my	sp-oc	ja-dc
	<i>Uvaria rufa</i> Bl.	wc	pd	3	gro	mxf		sh ss ry	my-jn	sp-oc	my-fb
Menispermaceae	<i>Cyclea barbata</i> Miers	v	pd	3	gro	da sg mxf		sh ss ry	sp-oc	nv-dc	ja-dc
	<i>Limacia scandens</i> Lour.	v	pe	3	gro	da sg		ss	my-jn	sp-oc	ja-dc
	<i>Stephania venosa</i> (Bl.) Spreng.	v	pd	3	gro	mxf da sg		sh ss ry	jn-jl	ag-sp	my-ja
	<i>Tiliacora triandra</i> (Colebr.) Diels	wc (v)	pd	3	gro	da sg mxf		ry ss	dc-fb	sp-oc	jn-ap
	<i>Tinospora ? siamensis</i> For.	v	pe	3	gro	da sg		ss	?	?	jn-ja
	<i>Tinospora crispa</i> (L.) Hk. f. & Thoms.	v	pd	3	gro	mxf da sg		ss	fb-mr	my-jn	jn-ja

FAMILY	SPECIES	HABIT	PHENO-LOGY	ABUND-ANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Ceratophyllaceae	<i>Ceratophyllum demersum</i> L.	h	pe	4	aqu rvf	streams in	sa rk	sh ss	?	?	ja-dc
Nymphaeaceae	<i>Nelumbo nucifera</i> Gaertn.	h	pd	3	aqu cul int	ponds in		sh ss ry	jl-oc	sp-nv	jn-ja
	<i>Nymphaea nochiali</i> Burm. f.	h	pd	3	aqu	ponds in		sh ss ry	jl-oc	sp-nv	jn-ja
Capparaceae	<i>Capparis micracantha</i> DC. ssp. <i>micracantha</i>	sc	pd	3	gro mxf	da sg rvs	sa	sh ss	sp-fb	ap-jn	my-fb
	<i>Cleome gynandra</i> L.	h	a	3	gro wee	da sg	sa	ss	ja-dc	ja-dc	ja-dc
	<i>Cleome viscosa</i> L.	h	a	3	gro wee	da sg	sa	ss	ja-dc	ja-dc	ja-dc
	<i>Crateva magna</i> (Lour.) DC.	t	pd	4	gro rvf	streams in	rk st sa	sh ss	sp-ap	sp-jn	my-dc
Moringaceae	<i>Moringa oleifera</i> Lmk.	t	pd	3	gro cul int	da sg		sh ss	sp-nv	ag-sp	my-dc
Polygalaceae	<i>Polygala brachystachya</i> DC.	h	a	3	gro in dof	wet areas		sh ss ry	ag-oc	sp-nv	jn-dc
	<i>Salomonia cantoniensis</i> Lour. var. <i>cantoniensis</i>	h	a	3	gro in da cult	wet areas	sa ry	sh ss	sp-nv	oc-dc	my-dc
	<i>Xanthophyllum lanceatum</i> (Miq.) J.J. Sm.	t	pe	3	gro mxf rvs			ss	mr-ap	jl-ag	ja-dc
Caryophyllaceae	<i>Polycarpaea corymbosa</i> (L.) Lmk.	h	a	3	gro dof	rocks in	rk	ry	ag-oc	sp-nv	jn-dc
	<i>Polycarpon prostratum</i> (Forsk.) Arch & Sch	h	a	3	gro wee	3	sa	sh ss	nv-dc	dc-mr	nv-ji
Portulacaceae	<i>Portulaca oleracea</i> L.	h	a	3	gro wee	r vf	sa	sh ss	ap-my	ja-fb	nv-ji
	<i>Trianthema portulacastrum</i> L.	h	a	3	gro cul int	da sg		sh ss ry	ag-nv	sp-dc	my-dc
Guttiferae	<i>Calophyllum retusum</i> Wall. ex Pl. & Tr.	s	pe	3	gro mxf da			ry	jl-ag	ap-my	ja-dc
	<i>Cratoxylum formosum</i> (Jack) Dyer ssp. <i>pruniflorum</i> (Kurz) Gog.	t (l)	pd	3	gro	da sg		ry ss	mr-my	jl-sp	mr-dc
	<i>Cratoxylum maingayi</i> Dyer	t	pd	3	gro	dof da sg		ss ry	ap-my	sp-nv	my-dc
	<i>Garcinia cowa</i> Roxb.	t	pd	3	gro	r vs	sa	ss	ap-my	mr-ap	ap-fb
	<i>Mammea siamensis</i> (Miq.) T. And.	t	pe	3	gro	mxf da sg		ry ss sh	ja-fb	ap-my	ja-dc
	<i>Casearia grewiifolia</i> Vent. var. <i>grewiifolia</i>	t	pd	3	gro	da sg rvs		ry sh ss	ap	ap-my	ap-fb

FAMILY	SPECIES	HABIT	PHENO-LOGY	ABUND-ANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Dipterocarpaceae	<i>Flacourzia indica</i> (Burm. f.) Merr.	t (l,s)	pd	3	gro	da sg		ss ry	mr-my	sp-oc	ap-dc
	<i>Homalium tomentosum</i> (Vent.) Bth.	t	pe	2	gro	mxsf da sg		sh ss	ag-oc	jl-sp	ja-dc
	<i>Hydnocarpus anhelminthica</i> Pierre ex Lanes.	t	pe	3	gro	mxsf rvs	sa gv	ss	mr-ap	ap-my	ja-dc
	<i>Dipterocarpus alatus</i> Roxb. ex G Don	t	pe	3	gro	mxsf rvs		ss ry	ja-fb	ap-my	ja-dc
	<i>Dipterocarpus intricatus</i> Dyer	t	pd	4	gro	dof		ry sh ss	nv-dc	fb-mr	jn-nr
	<i>Dipterocarpus obtusifolius</i> Teijsm. ex Miq. var. <i>obtusifolius</i>	t	pd	4	gro	dof		ry sh ss	oc-dc	dc-fb	my-fb
	<i>Dipterocarpus tuberculatus</i> Roxb. var. <i>tuberculatus</i>	t	pd	4	gro	dof		ry sh ss	mr-ap	ap-my	ap-fb
	<i>Hopea ferrea</i> Pierre ex Lanes.	t	pe	2	gro	mxsf		ry	jl-sp	fb-mr	ja-dc
	<i>Shorea obtusa</i> Wall. ex Bl.	t	pd	4	gro	dof		ry sh ss	mr-my	ap-jn	ap-fb
Ancistrocladaceae	<i>Shorea siamensis</i> Miq. var. <i>siamensis</i>	t	pd	4	gro	dof		ry sh ss	ja-fb	mr-ap	fb-nv
	<i>Ancistrocladus tectorius</i> (Lour.) Merr.	sc s	pe	3	gro	mxsf		sh ss	ap-my	jn-jl	ja-dc
	<i>Ancistrocladus wallichii</i> Pl.	l (s)	pe	2	gro	wet areas in mxsf		ss	ap-my	jn-jl	ja-dc
Cochlospermaceae	<i>Cochlospermum religiosum</i> (L.) Alst.	l	ped	3	gro cul int	da cult		ry	ja-fb	mr-ap	my-dc
Malvaceae	<i>Abelmoschus moschatus</i> Medic. ssp. <i>moschatus</i> var. <i>moschatus</i>	h	a	3	gro	da sg		sh ss ry	ag-oc	oc-nv	my-dc
	<i>Abelmoschus moschatus</i> Medic. ssp. <i>tuberosus</i> (Span.) Borss.	h	pd	3	gro	dof		sh ss ry	ag-oc	oc-nv	my-dc
	<i>Decaschistia harmandii</i> Pierre	h	pd	2	gro	dof		ry ss	ap-sp	jn-oc	ap-dc
	<i>Hibiscus glanduliferus</i> Craib	l	pd	3	gro	da sg		sh ss ry	ag-oc	nv-dc	my-ja
	<i>Sida rhombifolia</i> L. ssp. <i>rhombifolia</i>	h	ped	4	gro wee	da sg		sh ss ry	ag-oc	nv-dc	ja-dc
Bombacaceae	<i>Urena lobata</i> L. ssp. <i>lobata</i> var. <i>lobata</i>	h	pe	3	gro wee	da sg cult		ss	sp-ja	oc-fb	ja-dc
	<i>Bombax anceps</i> Pierre var. <i>anceps</i>	t	pd	3	gro	da sg dof		ry sh ss	dc-fb	mr-ap	my-nv
	<i>Bombax ceiba</i> L.	t	pd	3	gro	da sg		ry sh ss	ja-fb	mr-ap	my-nv
	<i>Ceiba pentandra</i> (L.) Gaertn.	t	pd	3	gro cul int	cult		ry sh ss	fb-ap	fb-ap	my-nv
Sterculiaceae	<i>Byttneria aspera</i> Colebr.	wc	pe	2	gro	mxsf		sh ss	jn-jl	dc-ja	ja-dc
	<i>Byttneria echinata</i> Wall. ex Kurz	wc	pe	3	gro	mxsf da sg		ry	jn-jl	sp-oc	ja-dc
	<i>Helicteres hirsuta</i> Lour.	s	pd	3	gro	da sg mxsf		ry sh ss	sp-oc	ja-fb	my-dc
	<i>Helicteres lanceolata</i> A. DC. var. <i>lanceolata</i>	l (h)	pd	4	gro	dof sg da		ry sh	sp- nv	ja-fb	my-dc
	<i>Melochia corchorifolia</i> L.	h	a	3	gro wee	da sg cult		sh ss ry	sp- nv	nv-dc	my-dc
	<i>Pterospermum diversifolium</i> Bl.	t	pe	3	gro	mxsf rvs		ss	ap-sp	sp-oc	ja-dc
	<i>Pterospermum grande</i> Craib	t	pd	3	gro	mxsf da sg		ry sh ss	ja-mr	dc-fb	my-fb

FAMILY	SPECIES	HABIT	PHENOLOGY	ABUNDANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Tiliaceae	<i>Pterospermum semisagittatum</i> Ham. ex Roxb.	l	pd	3	gro	mxf		sh ss ry	mr-ap	ag-oc	my-mr
	<i>Sterculia urena</i> Roxb. var. <i>thorelii</i> (Pierre) Pheng.	t	pd	3	gro	mxf rvs		ry sh ss	oc-nv	ja-fb	ap-oc
	<i>Waltheria americana</i> L.	h	a	3	gro wee	da sg cult		sh ss ry	ag-oc	oc-dc	my-dc
	<i>Berrya mollis</i> Wall. ex Kurz	t	pd	3	gro	da sg		sh ss	ap-my	sp-nv	my-dc
	<i>Brownlowia emarginata</i> Pierre	t	pe	3	gro	mxf rvs		ss	ap-my	sp-oc	ja-dc
	<i>Colona auriculata</i> (Desf.) Craib	s	pd	4	gro	da sg dof		ry sh ss	ag-oc	oc-ja	my-ja
	<i>Colona floribunda</i> (Kurz) Craib	t	pd	3	gro	da sg		sh ss ry	sp-nv	dc-ja	jn-fb
	<i>Corchorus aestuans</i> L.	h	a	3	gro wee	da sg cult		sh ss ry	ag-nv	oc-dc	my-dc
	<i>Grewia eriocarpa</i> Juss.	t (l)	pd	3	gro	da sg		ss ry	ap-jn	ag-oc	my-fb
	<i>Grewia hirsuta</i> Vahl	l (wc,s)	pd	3	gro	dof		sh ss ry	jl-sp	oc-dc	my-dc
Erythroxylaceae	<i>Erythroxylum cambodianum</i> Pierre	l	pe	2	gro	mxf		sh ss ry	ap-my	sp-nv	my-dc
Oxalidaceae	<i>Averrhoa carambola</i> L.	t	pe	3	gro cul int	cult		ss	ap-my	nv-dc	ja-dc
Balsaminaceae	<i>Biophytum sensitivum</i> (L.) DC.	h	a	3	gro wee	da sg cult		sh ss ry	jl-nv	ag-dc	my-dc
	<i>Hydrocera triflora</i> (L.) Wight & Arn.	h	a	2	aqu gro	wet areas	st	sh ss ry	ag-oc	oc-nv	my-dc
Rutaceae	<i>Acronychia pedunculata</i> (L.) Miq.	t	pe	3	gro	mxf		sh ss ry	jl-sp	nv-dc	ja-dc
	<i>Aegle marmelos</i> (L.) Corr.	t	pd	3	gro	da sg rvs		ry ss	ap-my	sp-oc	ap-dc
	<i>Atalantia monophylla</i> (L.) DC.	t (l)	pe	2	gro	mxf da sg		ry	oc-dc	my-jl	ja-dc
	<i>Clausena excavata</i> Burm. f. var. <i>excavata</i>	l (t)	pd	3	gro	da sg		ry sh ss	ap-nv	sp-dc	ap-dc
	<i>Euodia simplicifolia</i> Ridl.	h	pd	2	gro	dof		ss	ap-my	jl-ag	ap-nv
	<i>Feronia limonia</i> (L.) Swing.	t	pd	3	gro	sg da		ry sh ss	ja-fb	sp-nv	my-ja
	<i>Glycosmis parva</i> Craib	s	pe	3	gro	mxf		ss ry	mr-my	ap-jn	ja-dc
	<i>Glycosmis pentaphylla</i> (Retz.) DC. var. <i>pentaphylla</i>	l (s)	pe	3	gro	sg		ry sh ss	sp-ap	ja-my	ja-dc
	<i>Micromelum</i> sp.	h	pd	3	gro	dof		ss	ap-my	?	ap-dc
	<i>Murraya paniculata</i> (L.) Jack	t (l)	pe	3	gro	mxf		sh ss	ap-my	sp-oc	ja-dc
	<i>Zanthoxylum rhetsa</i> (Roxb.) DC.	t	pe	2	gro	mxf		sh ss	my-jn	sp-oc	ja-dc
	<i>Brucea javanica</i> (L.) Merr.	l	pd	3	gro	dof da sg		ry ss	ag-sp	sp-nv	my-dc

FAMILY	SPECIES	HABIT	PHENO-LOGY	ABUND-ANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Irvingiaceae	<i>Eurycoma longifolia</i> Jack	l	pd	3	gro	mxsf		ry ss	mr-ap	my-jn	my-fb
	<i>Harrisonia perforata</i> (Blanco) Merr.	wc sc	pd	3	gro	da sg		ry sh ss	ap-my	sp-oc	ap-fb
	<i>Quassia harmandiana</i> (Pierre) Noot.	t	pe	3	gro	mxsf rvf rvs	sa gv	sh ss	ap-my	jn-jl	ja-dc
Ochnaceae	<i>Irvingia malayana</i> Oliv. ex Benn.	t	pe	3	gro	dof mxsf		ry ss	ap-jn	sp-oc	ja-dc
Burseraceae	<i>Gomphlia serrata</i> (Gaertn.) Kanis	l	pd	3	gro	da sg mxsf		ry	nv-ja	fb-mr	my-mr
	<i>Ochna integerrima</i> (Lour.) Merr.	t (l)	pd	2	gro	dof		ry ss	ja-my	mr-ap	fb-nv
	<i>Canarium subulatum</i> Guill.	t	pd	3	gro	dof da sg		ss ry	ap-my	my-jl	ap-dc
Meliaceae	<i>Aglaia malaccensis</i> (Ridl.) Pann.	t	pe	3	gro cul int	cult		ry	sp-oc	mr-ap	ja-dc
	<i>Aglaia odorata</i> Lour.	l	pe	3	gro	rocks in mxsf rvs	sa gv	sh ss	oc nv	ap-my	ja-dc
	<i>Aphanamixis polystachya</i> (Wall.) R. Parker	t	pe	3	gro	mxsf		ry	ag-sp	mr-ap	ja-dc
Olacaceae	<i>Azadirachta indica</i> A. Juss.	t	pd	3	gro cul int	cult		ss	fb-jn	my-jl	fb-dc
	<i>Chukrasia tabularis</i> A. Juss.	t	pd	2	gro	mxsf		ry	ap-my	ag-oc	ap-ja
	<i>Sandoricum koetjape</i> (Burn. f.) Merr.	t	pe	3	gro	mxsf		ss	mr	ap-my	ja-dc
	<i>Turraea pubescens</i> Hell.	l (s)	pd	3	gro	mxsf da		ss	ap-my	?	my-dc
	<i>Walsura pinnata</i> Hassk.	t	pe	3	gro	mxsf rvs	sa gv	ry ss	ap-my	ag-sp	ja-dc
	<i>Walsura robusta</i> Roxb.	t	pe	3	gro	mxsf rvs	gv	ss	ap-my	ag-sp	ja-dc
	<i>Olax scandens</i> Roxb.	wc	pe	3	gro	da sg		ry ss	ja-jn	mr-sp	ja-dc
	<i>Olax</i> sp.	wc	pd	3	gro	mxsf da		ry	?	ja-fb	my-mr
Celastraceae	<i>Euonymus similis</i> Craib	t (l)	pe	3	gro	streams in mxsf		sh ss	my-jl	ag-sp	ja-dc
Rhamnaceae	<i>Maytenus (Gymnosporia) mekongensis</i> Pierre	l (s)	pd	3	gro rhe	rvf	sa gv rk	sh ss	ja-fb	fb-mr	nv-jl
	<i>Maytenus</i> sp.	l	pd	3	gro	mxsf		sh ss	?	sp-nv	my-dc
	<i>Salacia chinensis</i> L.	l (s, sc)	pe	3	gro	mxsf da		ry	ja-mr	ap-jn	ja-dc
	<i>Colubrina pubescens</i> Kurz	l (scandent)	pd	3		mxsf da sg		sh ss	sp- nv	dc-fb	my-dc
	<i>Ventilago denticulata</i> Willd.	wc	pd	2	gro	mxsf rvs		ss	oc nv	fb-mr	my-mr
	<i>Ziziphus cambodiana</i> Pierre var. <i>cambodiana</i>	sc	pd	3	gro	da sg		sh ss	ap-my	sp-nv	ap-dc
	<i>Ziziphus nummularia</i> (Burm. f.) Wight & Arn.	l	pe	3	gro	da sg		ry ss	ap-oc	nv-ja	ja-dc
Vitaceae	<i>Ziziphus oenoplia</i> (L.) Mill. var. <i>oenoplia</i>	wc sc	pd	4	gro	da sg		sh ss	sp- nv	dc-ja	my-fb
	<i>Ampelocissus marinii</i> Planch.	v	pd	3	gro	mxsf da sg		ss	mr-my	sp-oc	ap-dc

FAMILY	SPECIES	HABIT	PHENO-LOGY	ABUND-ANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Leeaceae	<i>Cayratia roxburghii</i> (Wight & Arn.) Gagnep.	wc	pd	2	gro	da sg		ss	ap-my	jl-sp	my-dc
	<i>Cayratia trifolia</i> (L.) Dom. var. <i>trifolia</i>	v	pd	3	gro	da sg in rvs mxsf		sh ss	ap-my	jl-sp	ja-dc
	<i>Cissus adnata</i> Roxb.	wc	pd	3	gro	mxsf da sg		ss ry	jl-sp	sp-nv	my-dc
	<i>Cissus discolor</i> Bl. var. <i>discolor</i>	v	pe	3	gro	da sg dof		ry sh ss	sp-nv	oc-dc	ja-dc
	<i>Cissus hastata</i> Miq.	v	a pe	3	gro	dof		sh ss ry	ag-nv	oc-dc	my-dc
	<i>Cissus modeccoides</i> Pl. var. <i>modeccoides</i>	v	pe	3	gro	da sg		sh ss	sp-nv	nv-dc	ja-dc
	<i>Cissus quadrangularis</i> L.	v	pe	3	gro	da sg		sh ss	sp-nv	nv-dc	ja-dc
	<i>Leea indica</i> (Burm. f.) Merr.	h (s)	pe	3	gro	da sg		sh ss ry	jl-oc	sp-nv	ja-dc
	<i>Cardiospermum halicacabum</i> L. var. <i>halicacabum</i>	v	pd	3	gro wee	da sg		ss	sp-oc	ja-fb	jn-fb
	<i>Dimocarpus longan</i> Lour. ssp. <i>longan</i> var. <i>longan</i>	t	pe	2	gro cul int	cult		sh ss ry	mr-ap	ag-sp	ja-dc
Sapindaceae	<i>Lepisanthes fruticosa</i> (Roxb.) Leenah.	l	pe	3		mxsf		sh ss	ja-fb	fb-mr	ja-dc
	<i>Lepisanthes senegalensis</i> (Poir.) Leenah.	l	pe	3	gro	rocks in mxsf rvs	gv rk	sh ss	ja-fb	fb-mr	ja-dc
	<i>Lepisanthes tetraphylla</i> (Vahl) Radlk.	t	pe	3	gro	mxsf		sh ss	ja-fb	fb-mr	ja-dc
	<i>Schleichera oleosa</i> (Lour.) Oken	t	pd	3	gro	dof		ry ss	ja-mr	my-jn	mr-dc
	<i>Buchanania glabra</i> Wall. ex Hk. f.	t (l)	pd	3	gro	dof		ry ss	nv-dc	ja-fb	my-mr
	<i>Buchanania lanzae</i> Spreng.	t	pd	3	gro	dof		ss ry	ja-mr	mr-my	my-mr
	<i>Lannea coromandelica</i> (Houtt.) Merr.	t	pd	3	gro	dof da sg		ss ry	ja-mr	ap-my	my-dc
	<i>Mangifera campnosperma</i> Pierre	t	pe	3	gro	mxsf da	sa	ss	ap-my	mr-ap	ja-dc
	<i>Mangifera indica</i> L.	t	pe	3	gro cul	cult		ry sh ss	fb-mr	jl-ag	ja-dc
	<i>Semecarpus cochinchinensis</i> Engl.	t	pe	2	gro	mxsf		sh ss ry	dc-mr	mr-my	ja-dc
Connaraceae	<i>Spondias pinnata</i> (L. f.) Kurz	t	pd	3	gro	dof		ry ss	ja-mr	dc-mr	my-dc
	<i>Connarus cochinchinensis</i> (Baill.) Pierre	s wc sc	pe	3	gro	rvs mxsf	sa	ry sh ss	ap-my	sp-my	ja-dc
	<i>Rourea minor</i> (Gaertn.) Leenah. ssp. <i>minor</i>	wc	pe	3	gro	mxsf		ry	sp-nv	ja-mr	ja-dc
Leguminosae, Mimosoideae	<i>Acacia harmandiana</i> (Pierre) Gagnep.	t	pd	4	gro rhe	rvf	sa gy rk	ss	fb-ap	dc-ja	nv-jl
	<i>Acacia leucophloea</i> (Roxb.) Willd.	l	pd	3	gro	da sg		ry	ag-sp	ap-my	my-ja
	<i>Acacia megaladena</i> Desv. var. <i>indo-chinensis</i> I. Neils.	wc	pd	3	gro	da sg		ss ry	ap-my	oc-nv	mr-dc

FAMILY	SPECIES	HABIT	PHENO-LOGY	ABUND-ANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Leguminosae, Caesalpinoideae	<i>Acacia megaladena</i> Desv. var. <i>megaladena</i>	wc	pd	3	gro	da sg		sh ss	sp- nv	fb-mr	my-fb
	<i>Albizia lebbeck</i> (L.) Bth.	t	pd	3	gro	da sg rvs	sa	sh ss	sp- nv	ap-my	ja-dc
	<i>Albizia procera</i> (Roxb.) Bth.	t	pe	2	gro	da sg rvs		ry	ag-sp	mr-ap	ja-dc
	<i>Entada glandulosa</i> Pierre ex Gagnep.	v	a	2	gro	da sg		sh ss	jn-ag	sp-oc	my-dc
	<i>Mimosa diplosticha</i> C. Wright ex Sauv. var. <i>diplosticha</i>	h	a	3	nat wee	da sg cult		sh ss ry	sp- nv	nv-ja	my-ja
	<i>Mimosa pigra</i> L.	l	pe	5	gro int	da sg rvf	sa	ry sh ss	ja-dc	ja-dc	ja-dc
	<i>Mimosa pudica</i> L. var. <i>unijuga</i> (Duch. & Walp.) Griseb.	h	"a, pe"	3	gro int	da sg cult		sh ss ry	ag-oc	nv-dc	ja-dc
	<i>Samanea saman</i> (Jacq.) Merr.	t	pd	3	int cul gro	cult		ry sh ss	ap-my	fb-mr	my-mr
	<i>Xylolobus xylocarpa</i> (Roxb.) Taub. var. <i>kerrii</i> (Craib & Hutch.) Niels.	t	pd	3	gro	dof		ry sh ss	ja-fb	oc-nv	mr-dc
	<i>Bauhinia glauca</i> (Wall. ex Bth.) Bth. ssp. <i>tenuiflora</i>	wc	pd	3	gro	da sg		sh ss	sp- nv	ja-fb	jn-fb
	(Watt ex Cl.) K. & S. S. Lar.										
	<i>Bauhinia malabarica</i> Roxb.	t	pd	3	gro	da sg dof		sh ss	oc nv	ja-fb	my-ja
	<i>Bauhinia penicilliflora</i> Pierre ex Gagnep.	v	pd	3	gro	da sg		ry	sp- nv	ag-oc	my-dc
	<i>Caesalpinia hymenocarpa</i> (Prain) Hatt.	wc sc	pd	3	gro	da sg		ry sh ss	sp- nv		my-fb
	<i>Caesalpinia mimosoides</i> Lmk.	wc v sc	pd	3	gro	da sg		sh ss	dc-mr	fb-ap	my-mr
	<i>Cassia fistula</i> L.	t	pd	3	gro	dof da sg		ss ry	fb-mr	nv-ja	my-fb
	<i>Cassia grandis</i> L. f.	t	pd	3	gro cul int	da cult		ss ry	ap-my	fb-mr	mr-dc
	<i>Chamaecrista mimosoides</i> (L.) Greene	h	a	4	gro wee	da sg cult		sh ss ry	oc-dc	ja-fb	jn-fb
	<i>Leucaena leucocephala</i> (Lmk.) De Wit	t (l)	pe	3	cul gro int	da sg cult		sh ss ry	ag-sp	nv-dc	ja-dc
					nat						
	<i>Peltorphorum dasyrhachis</i> (Miq.) Kurz var. <i>dasyrhachis</i>	t	pd	3	gro cul	da sg		ss ry	mr-ap	ja-ap	mr-dc
	<i>Senna tora</i> (L.) Roxb.	h	a	4	gro wee	da sg cult		sh ss ry	sp-oc	nv-dc	my-dc
	<i>Sindora siamensis</i> Teysm. ex Miq. var. <i>siamensis</i>	t	pd	3	gro	dof mxsf		ry ss	ap-jn	nv-dc	ap-fb
	<i>Tamarindus indica</i> L.	t	pe	3	gro cul nat	cult		ry sh ss	my-jn	sp-oc	ja-dc
					int						
Leguminosae, Papilionoideae	<i>Abrus precatorius</i> L. ssp. <i>precatorius</i>	v	a	3	gro	da sg		sh ss	sp- nv	ja-fb	ap-ja

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	<i>Aganope (Derris) thyrsiflora</i> (Bth.) Polh.	wc	pe	3	gro	mxf rvs	sa	sh ss	jl-ag	oc-dc	ja-dc
	<i>Alysicarpus vaginalis</i> (L.) A. DC.	h cr	a	3	gro wee	da sg cult		sh ss ry	ag-oc	oc-dc	my-dc
	<i>Butea monosperma</i> (Lmk.) Taub.	t	pd	3	gro	da sg cult		ry sh ss	ja-fb	jn-jl	my-fb
	<i>Cajanus scarabaeoides</i> (L.) du P.-T. var. <i>scarabaeoides</i>	v	pe	2	gro nat	da sg		sh ss	sp-oc	nv-dc	ja-dc
	<i>Calopogonium mucunoides</i> Desv.	v	a	3	gro wee	da sg		sh ss	sp-nv	ja-fb	my-fb
	<i>Clitoria mariana</i> L.	v	pd	3	gro	dof		sh ss ry	ag-oc	nv-dc	my-dc
	<i>Crotalaria pallida</i> Ait.	l (h)	ape	3	gro wee	da sg		ry sh ss	ja-dc	ja-dc	ja-dc
	<i>Crotalaria verrucosa</i> L.	h	a	3	gro	da sg		sh ss	sp-nv	ja-fb	my-dc
	<i>Dalbergia nigrescens</i> Kurz var. <i>nigrescens</i>	t	pd	3	gro	da sg		sh ss	mr-ap	sp-nv	my-dc
	<i>Derris scandens</i> (Roxb.) Bth.	wc (s)	pe	3	gro	mxf da	ry sa gv	sh ss	ag-sp	oc-dc	ja-dc
	<i>Desmodium biarticulatum</i> (L.) Muell.	h	a	3	gro	da in dof		ss	ag-sp	sp-oc	my-dc
	<i>Desmodium pulchellum</i> (L.) Bth.	l (s)	pd	3	gro	dof		ry	sp-oc	dc-ja	my-fb
	<i>Desmodium triangulare</i> (Retz.) Merr.	l (s)	pd	3	gro	da sg		ss	oc nv	ja-fb	my-fb
	<i>Desmodium triflorum</i> (L.) DC.	h cr	pe	3	gro wee	da sg		ss ry	oc-dc	dc-fb	ja-dc
	<i>Desmodium vestitum</i> (Bth.) ex Bak.	l (s)	pd	3	gro	dof		ss	oc nv	ja-fb	my-fb
	<i>Dolichos</i> sp.	v	a	3	gro	da sg rvs	sa	ss	dc-fb	fb-mr	jn-mr
	<i>Eriosema chinense</i> Vog.	h	pd	3	gro	dof		sh ss ry	my-jn	ag-sp	ap-dc
	<i>Flemingia strobilifera</i> (L.) R. Br. ex Ait. f. var. <i>strobilifera</i>	l	pd	3	gro	da sg		ss	oc nv	ja-fb	jn-fb
	<i>Indigofera galegoidea</i> DC.	s	pd	3	gro	da sg		sh ss	sp-nv	dc-ja	my-dc
	<i>Indigofera wightii</i> Grah. ex Wight & Arn.	l (s)	pd	3	gro	dof		ry	jl-ag	oc-nv	my-ja
	<i>Lespediza henryi</i> Schindl.	l	pd	4	gro	dof da	gv rk	ry sh ss	oc nv	ja-fb	my-ja
	<i>Millettia pubinervis</i> Kurz	t	pd	3	gro	dof da sg		ss	mr-ap	dc-fb	my-fb
	<i>Mucuna pruriens</i> (L.) DC. var. <i>utilis</i> (Wall. ex Wight) Bak. ex Burck h	a	a	2	gro	rvt rvs	sa	ss	ja-fb	nv-dc	nv-jl
	<i>Pterocarpus macrocarpus</i> Kurz	t	pd	2	gro	mxf		ry sh ss	mr-ap	sp-ja	my-fb
	<i>Pueraria phaseoloides</i> (Roxb.) Bth. var. <i>phaseoloides</i>	v	a	3	gro	da sg		sh	sp-nv	dc-ja	my-dc
	<i>Sesbania grandiflora</i> (L.) Poir.	l	pd	3	gro cul	cult		ry sh ss	ja-dc	ja-dc	my-fb
	<i>Sesbania javanica</i> Miq.	h	a	3	aqu gro	pound in	st	ss	ag-oc	nv-dc	my-dc

FAMILY	SPECIES	HABIT	PHENOLOGY	ABUNDANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Rosaceae	<i>Spatholobus parviflorus</i> (Roxb.) O.K.	wc	pd	3	gro	dof		sh ss ry	jl-ag	sp-nv	my-fb
	<i>Stylosanthes sundaica</i> Taub.	h	a	3	gro	da in dof		ry	sp-fb	mv-mr	jn-mr
	<i>Tephrosia kerrii</i> Drum. & Craib	l (h)	pd	2	gro	dof		ss ry	sp-oc	dc-ja	jn-ja
	<i>Tephrosia purpurea</i> (L.) Pers. ssp. <i>purpurea</i>	h	pe	3	gro	da sg cult		sh ss ry	ag-sp	dc-ja	ja-dc
	<i>Uraria crinita</i> (L.) Desv. ex DC.	l (h)	pd	3	gro	da sg		sh ss	ag-oc	oc-dc	my-dc
	<i>Uraria lagopodioides</i> (L.) Desv. ex DC.	l (h)	pd	3	gro wee	da sg		sh ss ry	ag-oc	oc-dc	my-dc
	<i>Vigna unguiculata</i> (L.) Walp. ssp. <i>sesquipedalis</i> (L.) Verd.	v	a	3	gro cul int	cult rvs	sa	ss	ja-dc	ja-dc	ja-dc
	<i>Vigna vexillata</i> (L.) A. Rich. var. <i>angustifolia</i> (Schum. & Thonn.) Baker	v	a	3	gro	da sg		sh	sp-nv	nv-ja	my-fb
	<i>Zornia gibbosa</i> Span.	h	a	3	gro wee	dof	rk	ss ry	ag-oc	sp-nv	my-dc
	<i>Eriobotrya bengalensis</i> (Roxb.) Hk. f. forma <i>bengalensis</i>	t	pe	2	gro	mxsf		ss	fb-mr	ap-my	ja-dc
Droseraceae	<i>Parinari anamensis</i> Hance	t	pe	3	gro	dof mxsf		ry sh ss	ja-ap	nv-my	ja-dc
	<i>Drosera burmannii</i> Vahl	h	a	2	car gro	wet areas		ss	jl-ag	ag-sp	jn-dc
Rhizophoraceae Combretaceae	<i>Drosera indica</i> L.	h	a	2	car gro	wet areas		ss	ag-sp	sp-oc	jn-dc
	<i>Carallia brachiata</i> (Lour.) Merr.	t	pe	3	gro	mxsf rvs		ry sh ss	dc-ja	my-jn	ja-dc
	<i>Anogeissus acuminata</i> (Roxb. ex DC.) Guill. & Perr.	t	pd	3	gro	da sg		ry sh ss	ja-mr	ap-my	ap-fb
	<i>Anogeissus rivularis</i> (Gagnep.) Lec.	t	pd	4	gro rhe	streams	sa gv rk	sh ss	nv-dc	ja-fb	nv-jl
	<i>Calycopteris floribunda</i> (Roxb.) Lmk.	wc sc	pd	3	gro	da sg		ry sh ss	ja-fb	my-jn	my-fb
	<i>Combretum latifolium</i> Bl.	wc	pd	3	gro	mxsf		sh ss	dc-fb	my-jn	ap-fb
	<i>Combretum quadangulare</i> Kurz	t	ped	3	gro	da sg rvf	sa gv	ry sh ss	ap-my	oc-fb	my-fb
	<i>Combretum trifoliatum</i> Vent.	s wc sc	pd	3	gro rhe	streams	sa st	ry sh ss	ja-ap	jn-jl	nv-jl
	<i>Terminalia alata</i> Hey. ex Roth	t	pd	3	gro	dof		ry sh ss	my-jn	oc-nv	my-fb
	<i>Terminalia chebula</i> Retz. var. <i>chebula</i>	t	pd	3	gro	dof		ry sh ss	mr-ap	oc-dc	ap-ja
Annonaceae	<i>Terminalia corticosa</i> Pierre ex Gagnep.	t	pd	3	gro	dof		ss ry	my-jn	ag-oc	my-dc
	<i>Terminalia harmandii</i> Gagnep.	t	pd	3	gro	dof		ss ry	my-jn	ag-sp	my-dc
	<i>Terminalia mucronata</i> Craib & Hutch.	t	pd	3	gro	dof		ry sh ss	ja-fb	oc-dc	mr-dc

FAMILY	SPECIES	HABIT	PHENOLOGY	ABUNDANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Myrtaceae	<i>Eucalyptus rufida</i> Endl.	t	pe	2	gro cul int	da cult		ry	ag-oc	nv-dc	ja-dc
	<i>Eugenia cumini</i> (L.) Druce	t (l)	pd	3	gro	dof da		ss ry	ja-fb	ap-my	ap-fb
	<i>Eugenia grandis</i> Wight var. <i>grandis</i>	t	pe	3	gro	mxf da		ry	ja-fb	jl-ag	ja-dc
	<i>Eugenia grata</i> Wight var. <i>grata</i>	t	pe	3	gro	mxf da		ry sh ss	ja-fb	jn-jl	ja-dc
	<i>Eugenia mekongensis</i> Gagnep.	s	pd	3	gro rhe	streams	sa gv rk	sh ss	ja-fb	mr-my	nv-jl
	<i>Eugenia thorelii</i> Gagnep.	t	pe	3	gro	mxf da		ry	ap-sp	?	ja-dc
	<i>Psidium guajava</i> L.	l	pe	3	gro cul int	da cult		ss ry	mr-ap	ag-oc	ja-dc
	<i>Rhodamnia cinerea</i> Jack	l (s)	pe	3	gro	mxf		ry	my-jn	sp-oc	ja-dc
	<i>Tristaniopsis burmanica</i> (Griff.) Wils. & Wat. var. <i>rufescens</i> (Hance) Parn. & Lug.	t (l)	pd	3	gro	dof		ry sh ss	ja-mr	mr-ap	ap-fb
Lecythidaceae	<i>Barringtonia acutangula</i> (L.) Gaertn.	t (l)	pd	3	gro rhe	streams	sa gv rk	sh ss	ja-fb	ag-sp	nv-jl
Melastomataceae	<i>Careya arborea</i> Roxb.	t	pd	3	gro	dof		ry sh ss	mr-ap	my-jn	my-fb
	<i>Melastoma sanguineum</i> Sims var. <i>sanguineum</i>	s	pe	3	gro	da sg		ss ry	sp-oc	nv-dc	ja-dc
	<i>Memecylon amplexicaule</i> Roxb.	l	pe	3	gro	mxf		ry sh ss	fb-mr	sp-nv	ja-dc
	<i>Memecylon edule</i> Roxb. var. <i>edule</i>	l	pe	3	gro	mxf	gv rk	ry sh ss	ja-fb	sp-ja	ja-dc
	<i>Memecylon scutellatum</i> (Lour.) Naud.	l (s)	pe	3	gro	dof da sg		ry sh ss	ap-my	sp-fb	ja-dc
	<i>Osbeckia chinensis</i> L. var. <i>chinensis</i>	h	a	3	gro	da sg		ry	oc-ja	dc-fb	jn-fb
Lythraceae	<i>Sonerila erecta</i> Jack	h	a	3	gro	dof		ry	sp-nv	oc-dc	my-dc
	<i>Ammannia baccifera</i> L.	h	a	3	gro wee	rvf	st sa	ry sh ss	jl-fb	sp-mr	ag-mr
	<i>Lagerstroemia calyculata</i> Kurz	t	pd	3	gro	mxf		ss ry	jl-ag	sp-oc	my-dc
	<i>Lagerstroemia cochinchinensis</i> Pierre var. <i>ovalifolia</i> Furt. & Mont.	t	pd	3	gro	mxf da	gv rk	ss	jl-sp	fb-ap	ap-ja
	<i>Lagerstroemia floribunda</i> Jack var. <i>floribunda</i>	t	pd	3	gro	da sg		ry sh ss	sp-nv	dc-mr	ap-dc
	<i>Lagerstroemia loddonii</i> Teysm. & Binn.	t	pd	3	gro	da		sh ss	ja-fb	ag-oc	my-fb
	<i>Lagerstroemia tomentosa</i> Presl	t	pd	3	gro	da sg		ry sh ss	ap-my	ag-oc	ap-fb
Crypterionaceae	<i>Crypteronia paniculata</i> Bl.	t	pe	3	gro	mxf		ss	dc-ja	mr-ap	ja-dc
	<i>Ludwigia adscendens</i> (L.) Hara	h	a	3	aqu wee	ponds wet areas in da sg cult	st sa	ss ry	ja-dc	ja-dc	ja-dc

FAMILY	SPECIES	HABIT	PHENO- LOGY	ABUND- ANCE	LIFE MODE	HABITAT	SUBST- RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Passifloraceae	<i>Ludwigia hyssopifolia</i> (G. Don) Exell	h	a	3	often aqu gro wee	da rvf	st sa	ss ry	ja-dc	ja-dc	ja-dc
	<i>Adenia heterophylla</i> (Bl.) Kds. ssp. <i>heterophylla</i> var. <i>heterophylla</i>	v	pe	3	gro	da sg		ss	ja-mr	ap-my	ja-dc
	<i>Passiflora foetida</i> L.	v	pe	3	nat gro wee int	da cult		ss	mr-oc	ap-nv	ja-dc
Cucurbitaceae	<i>Coccinia grandis</i> (L.) Voigt	v	a	3	gro	da		ss	jl-oc	nv-fb	ja-dc
	<i>Gymnopetalum chinense</i> (Lour.) Merr.	v	a	3	gro	da sg		ss ry	ag-oc	oc-nv	my-dc
	<i>Luffa cylindrica</i> (L.) M.J. Roem.	v	a	3	gro wee	da sg rvf		sh ss	dc-fb	mr-ap	nv-jl
Begoniaceae	<i>Trichosanthes tricuspidata</i> Lour.	v	a	3	gro	da sg		ss	jn-ag	sp-oc	my-dc
	<i>Begonia yunnanensis</i> Lev.	h	pd	3	gro epi epl	mxf		ry sh ss	ag-nv	oc-dc	my-dc
	<i>Tetrameles nudiflora</i> R. Br. ex Benn.	t	pd	3	gro	mxf		ss	mr-ap	ap-my	my-ja
Aizoaceae	<i>Glinus lotoides</i> L.	h	a	3	gro wee	da sg rvf	sa	ry sh ss	nv-my	dc-mr	nv-jl
	<i>Glinus oppositifolius</i> (L.) A. DC.	h	a	3	gro wee	da sg rvf	sa	ry sh ss	nv-my	dc-jn	ap-jl
	<i>Anethum graveolens</i> L.	h	a	3	cul int	cult rvf	sa	ss	dc-mr	ap-my	nv-my
Umbelliferae	<i>Hydrocotyle sibthorpioides</i> Lmk.	h cr	a	2	gro wee	da rvf	sa	ss	fb-mr	ap-my	nv-jn
	<i>Alangium salvifolium</i> (L.f.) Wang. ssp. <i>hexapetalum</i> (Lmk.) Wang.	t	pd	3	gro	da sg		ry ss	ja-mr	ap-jn	my-fb
	<i>Aphaenandra uniflora</i> (Wall. ex G. Don) Brem.	h cr	pd	3	gro	dof		ss ry	jn-ag	sp-oc	my-dc
Rubiaceae	<i>Borreria brachystema</i> (R. Br. ex Bth.) Valet.	h	a	3	gro	dof		ry	ag-sp	sp-oc	jn-dc
	<i>Borreria repens</i> DC.	h	a	3	gro wee	da sg cult		ss ry	ag-oc	sp-nv	my-dc
	<i>Canthium umbellatum</i> Wight	l	pe	3	gro	streams in		ss ry	mr-my	jl-ag	ja-dc
	<i>Catunaregam spathulifolia</i> Tirv.	l	pd	3	gro	dof		ss ry	ap-jn	sp-nv	my-dc
	<i>Catunaregam tomentosa</i> (Bl. ex DC.) Tirv.	t l, s	pd	3	gro	dof da sg		ry	ap-my	sp-nv	ap-dc
	<i>Coptosapelta flavescens</i> Korth. (var. <i>flavescens</i>)	wc	pe	2	gro	mxf		ss	ag-sp	?	ja-dc
	<i>Dentella repens</i> (L.) J.R. & G. Forst.	h	a	3	gro wee	da sg rvf	sa	ry sh ss	nv-jn	dc-jl	nv-jn
	<i>Dioecrescis (Gardenia) erythroclada</i> (Kurz) Tirv.	l	pd	2	gro	dof		ss ry	ap-my	fb-ap	my-ja
	<i>Diplospora viridiflora</i> DC.	s	pe	3	gro	streams in	sa rk	sh ss	ja-ap	ap-my	ja-dc
						mxf rvs					

VEGETATION IN THE SEEPHANDON WETLAND, LAO PDR

FAMILY	SPECIES	HABIT	PHENOLOGY	ABUNDANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
	<i>Gardenia cambodiana</i> Pierre ex Pit.	s	pd	3	gro	dof da sg		ry ss	mr	sp-nv	ap-dc
	<i>Gardenia obtusifolia</i> Roxb. ex Kurz	l	pd	3	gro	dof		ry sh ss	ja-fb	oc-nv	my-dc
	<i>Gardenia sootepensis</i> Hutch.	t	pd	3	gro	dof mxf		ry sh ss	ap-my	dc-fb	my-mr
	<i>Haldina cordifolia</i> (Roxb.) Rids.	t	pd	3	gro	dof mxf		ry sh ss	ap-my	dc-fb	ap-fb
	<i>Hedyotis coronaria</i> (Kurz) Craib	h	pd	3	gro	da sg		sh ss	sp-nv	nv-ja	jn-dc
	<i>Hedyotis corymbosa</i> (L.) Lmk.	h	a	3	wee gro	da cult		sh ss ry	jl-oc	ag-nv	my-dc
	<i>Hedyotis gracilipes</i> (Craib) Fuku. var. <i>gracilipes</i>	h	a	3	gro	dof	rk	ry	ag-sp	sp-oc	jn-dc
	<i>Hedyotis nodiflora</i> Wall. ex G. Don	h	a	3	gro	mxf		ry	sp-nv	nv-ja	my-dc
	<i>Hedyotis ovatifolia</i> Cav.	h	a	3	gro	dof		ss ry	ag-oc	sp-nv	jn-dc
	<i>Hedyotis pruinosa</i> Wight & Arn.	s	pe	2	gro	mxf rvs	gv	sh	sp-nv	nv-dc	ja-dc
	<i>Hedyotis tetrangularis</i> (Korth.) Walp.	h	a	3	gro	dof		ry	sp-nv	oc-dc	my-dc
	<i>Ixora cibdela</i> Craib var. <i>cibdela</i>	l (s)	pe	3	gro	dof mxf		ry sh ss	ja-mr	sp-nv	ja-dc
	<i>Ixora finlaysoniana</i> Wall. ex G. Don	l (s)	pe	3	gro	mxf		sh ss	mr-my	sp-nv	ja-dc
	<i>Ixora javanica</i> (Bl.) DC. var. <i>javanica</i>	s	pe	3	gro	mxf		ry sh ss	dc-fb	fb-ap	ja-dc
	<i>Ixora nigricans</i> Wight & Arn. var. <i>nigricans</i>	l (s)	pe	3	gro	mxf		sh ss	mr-my	sp-nv	ja-dc
	<i>Ixora</i> sp.	l	pe	2	gro	mxf		sh ss	?	sp-nv	ja-dc
	<i>Kailarsenia godefroyana</i> (O.K.) Tirv.	l	pd	3	gro	dof da sg		ss	ja-fb	?	my-dc
	<i>Knoxia brachycarpa</i> R. Br. ex HK. f.	h	pd	2	gro	dof		ss ry	ag-oc	oc-nv	my-dc
	<i>Mitragyna rotundifolia</i> (Roxb.) O.K.	t	pd	3	gro	dof da sg		ss ry	ap-my	jl-ag	mr-dc
	<i>Morinda pandurifolia</i> O.K. var. <i>oblonga</i> (Pit.) Craib	s	pd	3	gro rhe	streams in rvf mxf	sa gv rk	ss	ja-fb	my-jn	nv-jl
	<i>Morinda tomentosa</i> Hey. ex Roth	t	pd	3	gro	dof		ry sh ss	ap-my	jl-sp	my-fb
	<i>Nauclera orientalis</i> (L.) L.	t	pe	3	gro	mxf rvs		ss	mr-ap	ag-oc	ja-dc
	<i>Ophiorrhiza hispidula</i> Wall. ex G. Don var. <i>hispidula</i>	h	a	3	gro	da sg mxf		sh ss	sp-nv	nv-dc	my-dc
	<i>Oxyceros longiflora</i> (Lmk.) Yama.	sc	pe	3	gro	da sg		sh ss	ap-my	sp-nv	ja-dc
	<i>Paederia linearis</i> Hk. f	v	a	3	gro	da sg		ry sh ss	ja-fb	mr-ap	my-dc
	<i>Paederia pallida</i> Craib	v	a	3	gro	da sg		sh ss	sp-nv	my-jn	my-dc
	<i>Pavetta fruticosa</i> Craib	s	pd	3	gro	dof		ry ss	ap-my	sp-nv	my-fb
	<i>Pavetta indica</i> L.	t (l)	pe	3	gro	mxf da sg		sh ss	mr-my	sp-nv	ja-dc
	<i>Prismatomeris tetrandra</i> (Roxb.) K. Sch. ssp. <i>tetrandra</i>	l (s)	pe	2	gro	streams in dof mxf		ss ry	my-ag	sp-nv	ja-dc

FAMILY	SPECIES	HABIT	PHENOLOGY	ABUNDANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Compositae	<i>Rothmannia wittii</i> (Craib) Brem.	t (l)	pd	3	gro	dof da sg		ry	ap-my	sp-nv	my-dc
	<i>Vangueria (Meyna) spinosa</i> Roxb.	l sc	pd	3		da sg		ss	my-jn	ag-sp	my-dc
	<i>Wendlandia tinctoria</i> (Roxb.) DC. ssp. <i>orientalis</i> Cowan	t (l)	pe	3	gro	dof		ry sh ss	nv-dc	ja-fb	ja-dc
	<i>Xantonnea parvifolia</i> (O.K.) Craib var. <i>salicifolia</i> (Pierre ex Pit.) Craib	s	pd	3	gro rhe	streams in rvf	gv rk	ss	ja-my	ap-jn	nv-jl
	<i>Ageratum conyzoides</i> L.	h	a	3	gro wee	cult rvf	st sa	ry sh ss	oc-mr	mv-mr	my-fb
	<i>Blumea napifolia</i> DC.	h	a	3	gro wee	da sg cult	st	ss	ja-mr	fb-ap	sp-ap
	<i>Eupatorium odoratum</i> L.	h	pd	3	gro nat	da sg cult		ry sh ss	nv-ja	dc-fb	jn-fb
	<i>Grangea maderaspatana</i> (L.) Poir.	h	a	3	gro wee	da sg cult	st	ry sh ss	nv-fb	dc-mr	jl-mr
	<i>Sphaeranthus indicus</i> L.	h	a	3	gro nat wee	cult	st	ry sh ss	dc-fb	ja-mr	jl-mr
	<i>Spilanthes paniculata</i> Wall. ex DC.	h	a	3	gro wee	cult rvf	sa	ry sh ss	nv-fb	dc-mr	nv-jn
Campanulaceae	<i>Synedrella nodiflora</i> (L.) Gaertn.	h	a	3	gro wee	da cult		ss ry	jn-dc	jl-ja	my-ja
	<i>Thorelia montana</i> Gagnep.	h	a	2	gro	dof		ry	sp-oc	oc-nv	my-dc
	<i>Vernonia cinerea</i> (L.) Less. var. <i>cinerea</i>	h	a	3	wee gro	da cult rvf	sa	sh ss ry	ja-dc	ja-dc	ja-dc
	<i>Lobelia alsinoides</i> Lmk.	h	a	3	gro	wet areas in da sg cult		sh ss	sp- nv	oc-dc	my-dc
Myrsinaceae	<i>Ardisia amherstiana</i> A. DC. var. <i>amherstiana</i>	l	pe	3	gro	mxfrvs	sa	ry sh ss	ja-fb	my-jn	ja-dc
Sapotaceae	<i>Ardisia helferiiana</i> Kurz	l	pe	3	gro	mxfr		ry	sp-oc	ja-fb	ja-dc
Ebenaceae	<i>Chrysophyllum cainito</i> L.	t	pe	3	gro cul int	cult		ry sh ss	sp-oc	mr-ap	ja-dc
	<i>Palaquium</i> aff. <i>poilanei</i> Lec.	t (l)	pe	2	gro	mxfr		ry	?	ja-fb	ja-dc
Symplocaceae	<i>Diospyros beaudouinii</i> Lec.	t (l)	pe	3	gro	mxfr		ss ry	jl-ag	ag-oc	ja-dc
	<i>Diospyros ehretioides</i> Wall. ex G. Don	t	pd	3	gro	dof		ss ry	mr-ap	sp-oc	my-fb
	<i>Diospyros filipendula</i> Pierre ex Pit.	s	pe	2	gro	mxfr		ry sh ss	?	fb-mr	ja-dc
	<i>Diospyros malabarica</i> (Desr.) Kostel. var. <i>siamensis</i> (Hochr.) Pheng.	t	pe	3	gro	mxfrvs		sh ss	mr-my	ja-fb	ja-dc
	<i>Diospyros montana</i> Roxb.	t	pd	3	gro	mxfr da sg		ss ry	mr-ap	ag-oc	mr-dc
	<i>Diospyros</i> sp.	t	pe	2	gro	mxfrvs	sa gv	sh ss	?	sp-nv	ja-dc
	<i>Symplocos racemosa</i> Roxb.	t (l)	pd	3	gro	dof		ry sh ss	nv-ja	mr-ap	jn-ap

FAMILY	SPECIES	HABIT	PHENOLOGY	ABUNDANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Oleaceae	<i>Chionanthus ramiflorus</i> Roxb.	t	pe	3	gro	mxsf		ss ry	ja-fb	nv-dc	ja-dc
	<i>Jasminum annamense</i> Wern. ssp. <i>annamense</i>	wc v	pe	3	gro	da sg		sh ss	ja-mr	jn-jl	ja-dc
	<i>Jasminum nervosum</i> Lour.	v	pe	3	gro	mxsf		ry ss	ap-my	jl-ag	ja-dc
	<i>Jasminum scandens</i> (Retz.) Vahl	wc v	pe	3	gro	da sg in mxsf		ry	ja-fb	jn-jl	ja-dc
Apocynaceae	<i>Myxopyrum smilacifolium</i> (Wall.) Bl. ssp. <i>confertum</i> (Kerr) Kiew	wc	pe	2	gro	mxsf		sh ss	mr-ap	oc-nv	ja-dc
	<i>Aganonerion polymorphum</i> Pierre ex Spire	v	pe	3	gro	da sg		sh ss	sp-nv	?	ja-dc
	<i>Aganosma marginata</i> (Roxb.) G. Don	wc	pd	3	gro	dof		ry sh ss	ja-my	dc-fb	my-fb
	<i>Alstonia scholaris</i> (L.) R. Br. var. <i>scholaris</i>	t	pd	2	gro	mxsf		ss	oc-dc	fb-ap	ap-fb
	<i>Holarrhena curtissii</i> King & Gamb.	s	pd	3	gro	da sg dof		ry sh ss	fb-jn	sp-fb	my-dc
	<i>Hunteria zeylanica</i> (Retz.) Gard. ex Thw.	1(s)	pe	2	gro	da		sh	sp-oc	ag-sp	ja-dc
	<i>Ichnocarpus frutescens</i> (L.) W. T. Ait.	wc (v)	pe	3	gro	da sg		ry	sp-nv	jn-ag	ja-dc
	<i>Strophanthus caudatus</i> (L.) Kurz	wc	pd	2	gro	da sg in mxsf		ry	ja-fb	dc-fb	my-fb
Asclepiadaceae	<i>Thevetia peruviana</i> (Pers.) K.Sch.	l	pe	3	gro cul int	cult		ss ry	ja-dc	ja-dc	ja-dc
	<i>Urceola minutiflora</i> (Pierre) D. J. Midd.	wc	pd	3	gro	da sg in mxsf		ss	sp-oc	ja-fb	my-fb
	<i>Wrightia arborea</i> (Dennst.) Mabb.	t	pd	4	gro	da sg		ss	my-jn	ag-sp	my-ja
	<i>Calotropis gigantea</i> (Willd.) Dry. ex W. T. Ait.	s	pe	3	gro cul	cult		ss ry	ja-dc	ja-dc	ja-dc
	<i>Dischidia</i> sp.	h	pe	2	epi	da sg		ss	?	?	ja-dc
	<i>Drega volubitis</i> (L.f.) Benth. ex Hk. f.	v	pd	3	gro	da sg		ss	my-jn	sp-oc	ap-dc
	<i>Heterostemma</i> aff. <i>grandiflorum</i> Cost.	v	a	2	gro	da sg in mxsf		sh ss	my-jn	sp-oc	my-dc
	<i>Hoya kerrii</i> Craib	v (cr)	pe	3	epi	dof		ss ry	my-jl	ag-sp	ja-dc
	<i>Hoya nummularioides</i> Cost.	v cr	pe	2	epi	dof		ry	ag-sp	?	ja-dc
	<i>Myriopteron extensum</i> (Wight) K. Sch.	v	a	3	gro	da sg		sh ss	sp-nv	ja-fb	my-dc
	<i>Oxystelma esculentum</i> (L. f.) R. Br.	v	pe	3	gro	wet areas in da sg rvf		sh ss	sp-ja	fb-mr	ja-dc
	<i>Raphistemma pulchellum</i> (Roxb.) Wall.	v (h)	pd	2	gro	da sg		sh ss	sp-nv	mr-ap	my-dc
	<i>Rhipistemma hooperianum</i> (Bl.) DCne.	v	a	2	gro	da sg		sh ss	sp-nv	mr-ap	my-dc

FAMILY	SPECIES	HABIT	PHENOLOGY	ABUNDANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Loganiaceae	<i>Streptocaulon juventas</i> (Lour.) Merr.	v	pe	3	gro	da sg	ry rk	sh ss	ag -fb	nv-ap	ja-dc
	<i>Teletiadium edule</i> H. Baill.	s	pd	5	gro rhe	rvf		ss	ja-fb	dc-fb	nv-jl
	<i>Toxocarpus villosus</i> (Bl.) Dcne.	v	pe	3	gro	da sg in mxsf		sh ss	sp- nv	mr-ap	ja-dc
	<i>Tylophora indica</i> (Burm. f.) Merr.	v	a	2	gro	da sg		sh ss	sp- nv	mr-ap	my-dc
	<i>Vincetoxicopsis harmandii</i> Cost.	h	pe	3	gro	rocks in rvs rvf	rk sa	sh ss	oc-ja	ja-mr	ja-dc
	<i>Zygostelma benthamii</i> Baill.	v	pe	3	gro	da sg		ss ry	sp- nv	?	ja-dc
	<i>Buddleja asiatica</i> Lour.	l	ped	3	gro	da sg rvf	sa	ss	oc-dc	dc-fb	my-mr
	<i>Fagraea fragrans</i> Roxb.	t	pe	3	gro	mxsf		ss ry	ap-my	oc-nv	ja-dc
	<i>Mitrasacme erophila</i> Leenb. ssp. <i>erophila</i>	h	a	3	gro	wet areas		ss ry	ag-sp	sp-oc	jn-dc
Gentianaceae	<i>Strychnos nux-vomica</i> L.	t (l)	pd	3	gro	da sg		ry sh ss	mr-ap	sp-nv	my-dc
	<i>Strychnos rupicola</i> Pierre ex Dop	sc	pd	3	gro	dof da sg		ry	ap-my	sp-nv	my-dc
	<i>Nymphoides indica</i> (L.) O.K.	h	ped	3	aqu gro	ponds streams in rvf	sa st	ss ry	ag-oc	sp-nv	ja-dc
Hydrophyllaceae	<i>Hydrolea zeylanica</i> (L.) Vahl	h	a	3	gro	wet areas	st	ss ry	ag-oc	oc-nv	my-dc
Boraginaceae	<i>Coldenia procumbens</i> L.	h	a	3	gro wee	da cult	sa st	ry sh ss	sp-dc	dc-fb	jl-fb
	<i>Cordia dichotoma</i> Forst. f.	t	pd	2	gro	rvs	sa	sh ss	sp-nv	oc-nv	my-fb
	<i>Heliotropium indicum</i> L.	h	a	3	gro wee	da cult	st	ry sh ss	ja-dc	ja-dc	ja-dc
	<i>Heliotropium strigosum</i> Willd.	h	a	3	gro	dof	rk	ry	ag-sp	sp-oc	jn-dc
	<i>Rotula aquatica</i> Lour.	s	pd	4	gro rhe	streams	gv rk	ss	dc-fb	fb-ap	nv-jl
Convolvulaceae	<i>Aniseia martinicensis</i> (Jacq.) Choisy	v	a	3	gro	da sg in dof		ss ry	ag-oc	nv-dc	my-dc
	<i>Argyreia obtecta</i> (Choisy) Cl.	v (wc)	pd	3	gro	da sg rvf	sa gv	sh ss	jn-jl	sp-nv	my-fb
	<i>Erycibe subspicata</i> Wall. ex G. Don	wc	pe	3	gro	mxsf		ss ry	sp-nv	fb-mr	ja-dc
	<i>Evolvulus alsinoides</i> (L.) L. var. <i>hirsutus</i> (Lmk.) Oost.	h cr	pe	2	wee gro	da sg in dof		ss	jl-oc	oc-dc	ja-dc
	<i>Ipomoea aquatica</i> Forsk.	v (cr)	pe	3	gro cul aqu	wet areas in cult rvf	sa	ss ry	mr-my (sp)	ap-jn	ja-dc

FAMILY	SPECIES	HABIT	PHENO-LOGY	ABUND-ANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Solanaceae	<i>Ipomoea mauritiana</i> Jacq.	v	a	3	gro	da sg		ss sh ry	ag-oc	nv-dc	my-dc
	<i>Ipomoea nil</i> (L.) Roth var. <i>nil</i>	v	a	3	gro	da sg		ss ry	nv-ja	dc-fb	jn-fb
	<i>Ipomoea quamoclit</i> L. var. <i>quamoclit</i>	v	a	3	gro cul int	da sg cult		ss ry	ag-oc	nv-dc	my-dc
	<i>Jacquemontia paniculata</i> (Burm. f.) Hall. f. var. <i>paniculata</i>	v	a	3	gro	da sg		ry sh ss	sp-dc	ja-fb	jn-fb
	<i>Merremia hederacea</i> (Burm. f.) Hall. f.	v	a	3	gro	streams wet areas	sa gv	sh ss	sp- nv	dc-ja	my-dc
	<i>Merremia vitifolia</i> (Burm. f.) Hall. f.	v	pe	3	gro wee	da sg	st sa	ss ry	ja-fb	mr-my	ja-dc
	<i>Operculina turpethum</i> (L.) Manso	v	a	3	gro	da sg		ry	nv-fb	ja-fb	my-fb
	<i>Datura stramonium</i> L.	s	pd	3	gro cul int the	rvf	sa	ss	dc-fb	ja-mr	nv-jl
	<i>Nicotiana tabacum</i> L.	h	a	3	gro cul int	cult	sa	ss	ja-dc	ja-dc	ja-dc
	<i>Physalis angulata</i> L.	h	a	3	gro wee	cult rvf	sa	ss	nv-fb	ja-mr	nv-jl
Scrophulariaceae	<i>Adenosma</i> sp.	h	a	3	gro	wet areas	rk	ss ry	ag-oc	oc-nv	jn-dc
	<i>Bacopa floribunda</i> (R. Br.) Wett.	h	a	3	gro wee	wet areas	st	ss ry	ag-oc	sp-nv	jn-dc
	<i>Centranthera cochinchinensis</i> (Lour.) Merr. ssp. <i>cochinchinensis</i>	h	a	3	gro	wet areas	st	ss ry	ag-oc	sp-nv	my-dc
	<i>Centranthera cochinchinensis</i> (Lour.) Merr. ssp. <i>lutea</i> . (Hara) Yama.	h	a	3	gro	wet areas	st	ss ry	ag-oc	sp-nv	my-dc
	<i>Centranthera tranquebarica</i> (Spreng.) Merr.	h	a	3	gro	wet areas	st	ss ry	ag-oc	sp-nv	my-dc
	<i>Dopatrium acutifolium</i> Bon.	h	a	4	aqu gro	wet areas	st	ss ry	ag-oc	sp-nv	my-dc
	<i>Limnophila erecta</i> Bth.	h	a	3	gro	wet areas	st	ss ry	ag-oc	sp-nv	my-dc
	<i>Limnophila geoffrayi</i> Bon.	h	a	3	gro cul	cult	sa	ss	dc-fb	ja-mr	nv-my
	<i>Lindenbergia philippensis</i> (Cham.) Bth.	h	apd	3	gro wee	cult rvf	sa	sh ss	dc-fb	ja-mr	nv-jl

FAMILY	SPECIES	HABIT	PHENO- LOGY	ABUND- ANCE	LIFE MODE	HABITAT	SUBST- RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Orobanchaceae	<i>Lindernia antipoda</i> (L.) Alst.	h	a	3	gro wee	cult rvf	sa	ry sh ss	nv-mr	dc-ap	nv-jn
	<i>Lindernia crustacea</i> (L.) F. Muell. var. <i>crustacea</i>	h	a	3	gro wee	cult rvf	sa	sh ss	nv-fb	dc-mr	nv-jn
	<i>Lindernia viscosa</i> (Horn.) Bold.	h	a	3	gro	wet areas in dof	st	ss ry	ag-oc	sp-nv	my-dc
	<i>Mazus pumilus</i> (Burm. f.) Steen. var. <i>Pumilus</i>	h	a	2	gro wee	cult rvf	sa	sh ss	dc-fb	ja-mr	nv-my
	<i>Scoparia dulcis</i> L.	h	a	3	gro nat wee	cult rvf	sa st	ry sh ss	ja-dc	ja-dc	ja-dc
	<i>Stemodia verticillata</i> (Mill.) Bold.	h	a	2	gro	cult rvf	sa	sh ss	nv-fb	dc-mr	nv-my
	<i>Torenia benthamiana</i> Hance	h	a	3	gro	wet areas in dof	st	ss ry	ag-oc	sp-nv	my-dc
	<i>Torenia flava</i> B.-H. ex Bth.	h	a	3	gro	dof		ss ry	ag-oc	sp-nv	jn-dc
	<i>Torenia violacea</i> (Aza. ex Blanco) Penn.	h	a	3	gro	dof sg		ry sh ss	sp-nv	nv-dc	my-dc
	<i>Verbascum chinensis</i> (L.) Sant.	h	a	3	gro wee	cult rvf	sa	sh ss	dc-fb	ja-mr	nv-my
Lentibulariaceae	<i>Aeginetia indica</i> Roxb.	h	pd	3	par gro	dof mxsf		ry sh ss	sp-oc	oc-nv	none
	<i>Utricularia aurea</i> Lour.	h	a	2	aqu	ponds	st	sh ss	jl-ag	sp-oc	jn-dc
Gesneriaceae	<i>Utricularia bifida</i> L. var. <i>bifida</i>	h	a	4	gro	wet areas in da sg cult		ry sh ss	sp-nv	oc-dc	jl-dc
	<i>Utricularia minutissima</i> Vahl	h	a	4	gro	wet areas in da sg cult		ry sh ss	sp-nv	oc-dc	jl-dc
	<i>Boea bonii</i> Pell.	h	pd	2	gro	mxsf		ss ry	my-jn	sp-nv	my-ja
Bignoniacae	<i>Markhamia stipulata</i> (Wall.) Seem. ex K. Sch. var. <i>stipulata</i>	t	pd	3	gro	mxsf da sg		ss ry	sp-fb	sp-mr	ap-fb
Acanthaceae	<i>Millingtonia hortensis</i> L. f.	t	pd	3	gro cul int	cult		ry ss	ap-sp	oc-nv	ap-dc
	<i>Oroxylum indicum</i> (L.) Kurz	t (l)	pd	3	gro	da sg cult		ry sh ss	sp-oc	ja-mr	ap-dc
	<i>Sesamum orientale</i> L.	h	a	3	gro cul int	da cult		ss ry	ag-oc	nv-dc	my-dc
	<i>Stereospermum neuranthum</i> Kurz	t	pd	3	gro	da sg dof		ss ry	my-jn	sp-nv	my-fb
	<i>Barleria strigosa</i> Willd.	h	pd	3	gro	dof		ss ry	sp-nv	nv-dc	jn-dc
	<i>Clinacanthus nutans</i> (Burm. f.) Lindau	h v	pe	3	gro	da sg	sa	sh ss	ja-fb	mr-ap	ja-dc
	<i>Hygrophila incana</i> Nees	h	pd	3	gro rhe	streams in rvf	sa rk	ss	ja-fb	mr-ap	nv-jl

FAMILY	SPECIES	HABIT	PHENO-LOGY	ABUND-ANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Verbenaceae	<i>Lepidagathis incurva</i> Ham. ex D. Don	h	pe	2	gro	dof		ry	sp-nv	nv-dc	my-dc
	<i>Nelsonia canescens</i> (Lmk.) Spr.	h	pd	3	gro wee	da cult		ry sh ss	ja-fb	fb-ap	my-fb
	<i>Perilepta siamensis</i> (Cl.) Brem.	h	pd	2	gro	dof mxf		ss	nv-ja	fb-mr	jl-mr
	<i>Pseuderanthemum couderci</i> R. Ben.	h	pd	3	gro	da sg		sh ss	dc-fb	fb-mr	jl-fb
	<i>Pseuderanthemum latifolium</i> (Vahl) B. Han.	l (s, h)	pe	3	gro	mxf da sg		sh ss	sp-oc	dc-ja	my-dc
	<i>Ruellia tuberosa</i> L.	h	pd	3	gro wee	da cult	ry	ss	sp-oc	oc-nv	my-dc
	<i>Rungia parviflora</i> Nees var. <i>parviflora</i>	h	a	3	gro	da sg cult		ry sh ss	oc-fb	mv-mr	jn-mr
	<i>Thunbergia similis</i> Craib	v	ped	3	gro	dof da sg		ry sh ss	sp-nv	nv-dc	my-dc
	<i>Callicarpa cana</i> L. var. <i>cana</i>	s	pd	3	gro	da sg		sh ss	my-jn	sp-nv	my-dc
	<i>Clerodendrum godeffroyi</i> O.K.	s	pd	4	gro	da sg mxf		ry sh ss	sp-nv	dc-ja	my-dc
	<i>Clerodendrum paniculatum</i> L.	l (h)	pd	2	gro	da sg		ss ry	ag-oc	nv-dc	my-dc
	<i>Clerodendrum serratum</i> (L.) Moon var. <i>wallichii</i> Cl.	l (s)	pd	3	gro	wet areas		ss ry	jl-sp	sp-nv	my-dc
						in dof					
	<i>Congea tomentosa</i> Roxb. var. <i>tomentosa</i>	wc sc	pd	3	gro	da sg		ry sh ss	ja-mr	mr-ap	ap-fb
	<i>Gmelina philippensis</i> Cham.	sc	pe	3	gro	wet areas		ry	mr-ap	mr-my	ja-dc
Labiatae						in da sg					
	<i>Phyla nodiflora</i> (L.) Greene	h	a	3	gro wee	cult rvf	sa	ry sh ss	dc-my	ja-jn	nv-jl
	<i>Premna flavescentia</i> Ham. ex Cl. var. <i>flavescentia</i>	wc sc	pd	3	gro	rvs	sa gv	ry sh	sp-ap	sp-oc	my-dc
	<i>Premna herbacea</i> Roxb.	s (h)	pd	3	gro	dof		ss ry	ap-jn	jn-ag	ap-dc
	<i>Premna nana</i> Coll. & Hemsl.	s (h)	pd	3	gro	dof		ss ry	ap-my	jn-jl	ap-dc
	<i>Tectona grandis</i> L. f.	t	pd	3	gro cul int	da sg cult		ry sh ss	jl-oc	nv-ja	my-fb
	<i>Vitex canescens</i> Kurz	t	pd	3	gro	da sg		ss	mr-my	my-jn	ap-dc
	<i>Vitex limoniifolia</i> Wall. ex Kurz	t	pd	3	gro	dof da sg		ry sh ss	jl-sp	oc-dc	ap-fb
	<i>Vitex peduncularis</i> Wall. ex Schauer	t	pd	3	gro	dof		ry sh ss	ap-my	my-jl	ap-dc
	<i>Vitex trifolia</i> L. var. <i>trifolia</i>	s	pe	3	gro cul int	cult		ss	ap-my	jl-ag	ja-dc
	<i>Acrocephalus indicus</i> (Burm. f.) O.K.	h	a	2	gro	dof		ry	sp-nv	oc-dc	my-dc
	<i>Basilicum polystachyon</i> (L.) Moen.	h	a	2	gro wee	cult rvf	sa	sh ss	dc-fb	fb-mr	nv-my
	<i>Geniosporum coloratum</i> (D. Don) O.K.	h	pd	3	gro	dof		ss ry	ap-jn	jn-jl	ap-dc
	<i>Gomphostemma lucidum</i> Wall. ex Bth.	h	pe	3	gro	mxf		sh ss	sp-nv	dc-ja	ja-dc
	<i>Hyptis suaveolens</i> (L.) Poit.	h	a	3	gro wee	da sg		sh ss	sp-nv	oc-dc	my-dc

FAMILY	SPECIES	HABIT	PHENO- LOGY	ABUND- ANCE	LIFE MODE	HABITAT	SUBST- RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Nyctaginaceae	<i>Leucas zeylanica</i> (L.) R. Br.	h	a	3	gro wee	da cult		ss ry	ag-oc	sp-nv	jn-dc
	<i>Salvia plebeia</i> R. Br.	h	a	3	gro	da sg rvf	sa	ss	ap-my	my-jn	nv-jn
	<i>Boerhavia diffusa</i> L.	h	a	3	gro nat wee	da		ss ry	jl-nv	sp-dc	my-dc
Basellaceae	<i>Basella alba</i> L.	v	a	3	cul	cult		ss ry	ja-dc	ja-dc	ja-dc
Chenopodiaceae	<i>Chenopodium ambrosioides</i> L.	h	a	3	gro wee	cult rvf	sa	sh ss	dc-my	fb-jn	nv-jl
	<i>Chenopodium ficifolium</i> Sm.	h	a	3	gro wee	cult rvf	sa	sh ss	dc-my	fb-jn	nv-jl
Amaranthaceae	<i>Aerva sanguinolenta</i> (L.) Bl.	h	pe	3	gro	da sg		ry sh ss	ja-mr	fb-ap	jn-ap
	<i>Alternanthera sessilis</i> (L.) DC. var. <i>sessilis</i>	h	a	3	gro wee	cult rvf	sa	sh ss	nv-ap	dc-my	nv-jl
	<i>Amaranthus spinosus</i> L.	h	a	3	gro nat wee	da sg rvf	st sa	ss ry	ja-dc	ja-dc	ja-dc
	<i>Amaranthus viridis</i> L.	h	a	3	gro wee	da sg rvf	st sa	ss ry	ja-dc	ja-dc	ja-dc
Polygonaceae	<i>Psilotrichum ferrugineum</i> (Roxb.) Moq.-Tand	h	a	3	gro	dof	rk	ss ry	ag-oc	sp-nv	my-dc
	<i>Polygonum flaccidum</i> Meissn.	h	a	3	gro rhe	streams in rvf	sa	ss	dc-mr	ja-ap	nv-jl
	<i>Polygonum persicaria</i> L.	h	a ped	3	aqu	ponds wet areas in dof mxsf rvf	st sa	ss ry	ag-fb	sp-mr	ja-dc
Aristolochiaceae	<i>Polygonum plebeium</i> R. Br.	h	a	3	gro wee	cult rvf	sa	sh ss	nv-mr	dc-ap	nv-jl
	<i>Rumex dentatus</i> L.	h	a	3	gro wee	da sg rvf	sa	ss	ja-fb	mr-my	nv-my
	<i>Aristolochia pothieri</i> Pierre ex Lec.	v	a	3	gro	da sg mxsf		sh ss	sp-nv	ja-fb	my-dc
Piperaceae	<i>Peperomia pellucida</i> (L.) H.B.K.	h	a	3	nat gro	da in mxsf		ss ry	jl-nv	ag-dc	my-dc
	<i>Piper retrofractum</i> Vahl	v (h, cr)	pe	3	gro	mxsf		ss ry	ag-oc	oc-dc	ja-dc
	<i>Piper aff. retrofractum</i> Vahl	v cr	pe	2	gro	mxsf		sh ss	?	sp-nv	ja-dc
	<i>Piper aff. sarmentosum</i> Roxb. ex Hunt.	v (cr)	pe	3	gro	mxsf		ry	ag-oc	?	ja-dc
	<i>Piper sylvaticum</i> Roxb.	h cr	pe	3	gro	da sg in mxsf		ss	ag-oc	?	ja-dc
Myristicaceae	<i>Horsfieldia thorelii</i> Lec.	t	pe	2	gro	mxsf		sh ss ry	sp-nv	ap-jn	ja-dc
	<i>Knema conferta</i> (King) Warb.	t	pe	3	gro	mxsf		sh ss	sp-nv	ap-my	ja-dc
Lauraceae	<i>Cassytha filiformis</i> L.	v	pe	3	epi	dof da sg hemipar		ry ss	sp-nv	oc-ja	none

VEGETATION IN THE SEEPHANDON WETLAND, LAO PDR

FAMILY	SPECIES	HABIT	PHENOLOGY	ABUNDANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Hernandiaceae	<i>Litsea glutinosa</i> (Lour.) C.B. Rob. var. <i>glutinosa</i>	t	pd	3	gro	da sg		ry	ag-sp	nv-dc	my-ja
	<i>Litsea monopetala</i> (Roxb.) Pers.	t	pd	3	gro	mx fd sg		ss	ap-my	ag-sp	jn-ap
	<i>Illigera thorelii</i> Gagnep.	wc (v)	pd	3	gro	da sg		ry sh ss	sp-nv	oc-fb	my-dc
	<i>Enkleia siamensis</i> (Kurz) Nev.	sc	pd	3	gro	dof		ry ss	oc-dc	ja-fb	jn-mr
Thymelaeaceae	<i>Helixanthera pulchra</i> (DC.) Dans.	s	pe	3	epi par	mx f		ss ry	mr-my	my-jn	ja-dc
	<i>Macrosolen lowii</i> (King) Tiegh.	s	pe	3	hemipar	da sg		ry	sp-nv	ja-mr	ja-dc
Loranthaceae	<i>Scurrula parasitica</i> L.	s	pe	3	epi	da sg		sh ss	sp-nv	ja-mr	ja-dc
					hemipar						
Santalaceae	<i>Henslowia frutescens</i> Bth.	v	pe	2	gro	mx f		ry	ja-fb	?	ja-dc
	<i>Scleropyrum wallichianum</i> (A. DC.) Arn. var. <i>mekongensis</i> (Gagnep.) H. Lec.	wc	pe	3	gro	mxt da sg		sh ss	ja-fb	jn-ag	ja-dc
Opiliaceae	<i>Cansjera rheedii</i> J.F. Gmel.	wc	pe	3	gro	mx f		ry	oc-dc	mr-ap	my-mr
	<i>Acalypha australis</i> L.	h	a	3	gro wee	cult rvf	sa	sh ss	dc ja fb	ja-mr	nv-jn
Euphorbiaceae	<i>Acalypha siamensis</i> Oliv. ex Gage	s	pe	2	gro	mx f		ss	ap-my	?	ja-dc
	<i>Alchornea trewioides</i> (Bth.) M.-A.	s	pd	3	gro	da sg	st	ry	ap-my	sp-oc	my-dc
	<i>Antidesma acidum</i> Retz.	l	pd	3	gro	dof da sg		ry sh ss	ap-my	sp-nv	my-dc
	<i>Aporusa sicifolia</i> Baill.	l	pe	3	gro	mx f da		ry	sp-oc	ap-my	ja-dc
	<i>Aporusa villosa</i> (Lindl.) Baill.	t (l)	pd	3	gro	dof		ry sh ss	ja-mr	ap-my	ap-fb
	<i>Baliospermum montanum</i> (Willd.) M.-A.	s (h)	pd	3	gro	da		ss ry	nv-fb	ja-ap	jn-mr
	<i>Blachia cotoneaster</i> Gagnep.	l (s)	pd	4	gro rhe	rvf	sa gv rk	ss	ja-fb	fb-mr	nv-jl
	<i>Breynia fruticosa</i> (L.) Hk. f.	l	pd	3	gro	da in mx f		ry	ja-fb	ag-oc	ap-fb
	<i>Breynia vitis-ideae</i> (Burm. f.) C.E.C. Fisc.	l	pd	3	gro	da sg		ry sh ss	jl-sp	sp-nv	my-dc
	<i>Bridelia harmandii</i> Gagnep.	s	pd	2	gro	dof		ss	ag-oc	nv-ja	my-dc
	<i>Bridelia retusa</i> (L.) A. Juss.	t	pd	3	gro	dof		ss ry	jl-ag	sp-oc	my-dc
	<i>Bridelia tomentosa</i> Bl.	t (l) wc	pd	3	gro	sg be		sh ss	ag-fb	ja-mr	my-fb
	<i>Cleidion spiciflorum</i> (Burm. f.) Merr.	t	pe	2	gro	mx f		ss	ja-fb	jn-jl	ja-dc
	<i>Croton crassifolius</i> Geisel.	h	pd	3	gro	dof		ry	dc ja fb	fb-mr	jn-mr
	<i>Croton bonplandianus</i> Baill.	h	a	3	gro wee	cult rvf	sa	sh ss	dc-mr	ja-mr (sp)	nv-jl
	<i>Euphorbia bifida</i> Hk. & Arn.	h	a	3	gro wee	wet areas in dof da cult		ss ry	ag-oc	sp-nv	my-dc

FAMILY	SPECIES	HABIT	PHENO- LOGY	ABUND- ANCE	LIFE MODE	HABITAT	SUBST- RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
	<i>Euphorbia hirta</i> L.	h	a	3	gro wee nat int	da cult	ss sh ry	ja-dc	ja-dc	ja-dc	
	<i>Euphorbia serpens</i> Kunth	h	a	3	gro wee	cult rvf	sa	ss	dc-mr	ja-ap	nv-jl
	<i>Euphorbia thymifolia</i> L.	h	a	3	gro wee	da cult	sa	ry	oc-mr	nv-ap	jl-ap
	<i>Homonoia riparia</i> Lour.	s	pd	4	rhe gro, often amphibious	rvf	sa gv	sh ss	ja-fb	jn-ag	oc-jl
	<i>Hura crepitans</i> L.	t	pe	3	gro cul int	cult		ss	ap-jn	ag-sp	ja-dc
	<i>Hymenocardia punctata</i> Wall. ex Lindl.	l (s)	pd	3	gro	da sg		ry	ap-my	ag-sp	my-dc
	<i>Jatropha curcas</i> L.	l (s)	pe	3	gro cul int	da cult		ss ry	ja-dc	ja-dc	ja-dc
	<i>Jatropha gossypiifolia</i> L.	s (h)	pe	2	gro int nat	da		ss	ja-dc	ja-dc	ja-dc
	<i>Leptopus australis</i> (Zoll. & Mor.) Poj.	s	pd	3	gro	dof		ss	ag-oc	nv-ja	my-dc
	<i>Mallotus cochinchinensis</i> Lour.	l (s)	pe	3	gro	mxr rvs		sh ss	sp-nv	ap-nv	ja-dc
	<i>Mallotus cuneatus</i> Ridl.	l (s)	pd	3	gro	da sg		sh	sp-nv	oc-dc	my-dc
	<i>Mallotus glabriusculus</i> (Kurz) Pax & Hoffm.	s	pe	3	gro	mxr		sh ss	sp-nv	oc-dc	my-dc
	<i>Mallotus philippensis</i> (Lmk.) M.-A.	t	pe	3	gro	mxr da		sh ss	jl-sp	sp-oc	ja-dc
	<i>Mallotus thorelii</i> Gagnep.	s	pd	3	gro	mxr rvs	gv rk	ss	ap-my	jl-ag	my-dc
	<i>Pantadenia adenantha</i> Gagnep.	s	pd	3	gro	mxr		ry sh ss	ap-nv	?	ap-dc
	<i>Phyllanthus acidus</i> (L.) Skeels	l	pd	3	cul gro int	cult		ss ry	dc-ja	sp-oc	my-ja
	<i>Phyllanthus amarus</i> Schum. & Thonn.	h	a	3	gro nat wee	da cult rvf	st sa	ry sh ss	nv-mr	dc-ap	nv-jl
	<i>Phyllanthus emblica</i> L.	t (l)	pd	3	gro	dof		ss ry	fb-mr	sp-dc	mr-ja
	<i>Phyllanthus jullienii</i> Beille	s (h)	ped	5	gro	rocks in	gv sa	sh ss	sp-my	ja-jn	ag-mr
	<i>Phyllanthus pulcher</i> Wall. ex M.-A.	h	pd	3	gro	da sg rvs	gv rk	sh ss	sp-nv	nv-dc	my-dc
	<i>Phyllanthus reticulatus</i> Poir.	l (s,wc,sc)	pd	4	gro	da sg rvs	sa	sh ss	jl-ag	sp-nv	my-dc
	<i>Phyllanthus taxodiifolius</i> Beille	h	pd	2	gro	dof da sg		ry	jl-ag	sp-nv	my-dc
	<i>Phyllanthus urinaria</i> L.	h	a	3	gro nat wee	da cult		sh ss ry	ja-dc	ja-dc	ja-dc
	<i>Phyllanthus virgatus</i> Forst. f.	h	a	3	gro	dof		ss ry	jl-nv	ag-dc	my-dc
	<i>Riccinus communis</i> L.	h	pe	3	gro cul int	da cult		ss	ja-dc	ja-dc	ja-dc
	<i>Sampontaea amentiflora</i> (A.S.) A.S.	l (s)	pe	3	gro	rocks in	gv rk	sh	oc-my	mr-jn	ja-dc
						mxr rvs					

FAMILY	SPECIES	HABIT	PHENOLOGY	ABUNDANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Moraceae	<i>Sauropolis androgynus</i> (L.) Merr.	l	pd	3	gro	da sg		sh ss	sp-nv	oc-dc	my-dc
	<i>Sauropolis heteroblastus</i> A.S.	s	ped	2	gro rhe	mxrf rvf rvs		sh ss	?	sp-nv	ja-dc
	<i>Thyrsanthera suborbicularis</i> Pierre ex Gagnep.	h	pd	3	gro	dof		ss ry	ap-my	?	my-dc
	<i>Trewia nudiflora</i> L.	t	pd	3	gro	da sg		ry ss	ap-my	oc-fb	jn-fb
	<i>Trigonostemon quocensis</i> Gagnep.	s	pe	3	gro	mxrf		sh ss	sp-nv	oc-dc	ja-dc
	<i>Trigonostemon reidioides</i> (Kurz) Craib	h	pd	4	gro	dof		ss	dc ja fb	ja-mr	jn-mr
	<i>Artocarpus</i> sp.	t	pd	3	gro	mxrf		sh ss	?	?	my-dc
	<i>Broussonetia papyrifera</i> (L.) Vent.	t (l)	pd	3	often cul	da sg		sh ss ry	sp-nv	jn-jl	my-fb
					gro						
	<i>Ficus altissima</i> Bl.	t	pe	3	gro str epi	mxrf da		ss	ap-sp	ap-sp	ja-dc
	<i>Ficus benjamina</i> L. var. <i>benjamina</i>	t (l)	pe	3	epi, epl str	mxrf		ss ry	ja-mr	ja-mr	ja-dc
	<i>Ficus curtipes</i> Corn.	t	pe	2	epi gro str	da sg		sh ss	sp-nv	oc-dc	ja-dc
	<i>Ficus heterophylla</i> L. f. var. <i>heterophylla</i>	wc sc (h)	pe	3	epi gro	da sg rvf		sh ss	nv-mr	dc-ap	nv-jl
	<i>Ficus hirta</i> Vahl var. <i>hirta</i>	l	pe	3	gro	da sg		sh ss ry	ja-dc	ja-dc	ja-dc
Urticaceae	<i>Ficus hispida</i> L. f. var. <i>hispida</i>	t (l)	pe	3	gro	da sg		sh ss ry	ja-dc	ja-dc	ja-dc
	<i>Ficus pisocarpa</i> Bl.	t	pe	3	gro epl str	mxrf da		ss	ap-jn	ap-jn	ja-dc
	<i>Ficus racemosa</i> L. var. <i>racemosa</i>	t	pd	3	gro	rvs	sa gv	ry sh ss	ja-dc	ja-dc	oc-ag
	<i>Ficus religiosa</i> L.	t	pd	3	gro cul epi int str	cult		ss	jn-ag	jn-ag	ja-dc
	<i>Ficus rumphii</i> Bl.	t	pd	3	gro epi	da rvf rvs	rk	ss	ap-my	ap-my	ap-dc
					epl str						
	<i>Ficus superba</i> (Miq.) Miq. var. <i>japonica</i> Miq.	t	pd	3	gro epi str	mxrf		ry	nv-dc	nv-dc	ap-dc
	<i>Morus australis</i> L.	t (l)	pd	3	gro cul int	cult		ss	mr-ap	my-jn	ap-dc
	<i>Streblus asper</i> Lour. var. <i>asper</i>	t (l)	pe	4	gro	da sg		ry sh ss	ja-mr	dc-fb	ja-dc
Cannabidaceae	<i>Laportea interrupta</i> (L.) Chew	h	a	3	gro, less often epl	da sg	st	sh ss ry	jn-nv	ag-dc	my-dc
	<i>Pouzolzia zeylanica</i> (L.) Benn.	h	a	3	gro	da sg	st	sh ss ry	jl-oc	sp-nv	my-dc
	<i>Cannabis sativa</i> L.	h	a	3	gro cul int	cult	sa	ss	fb-jn	mr-jn	fb-jn
	<i>Quercus kerrii</i> Craib var. <i>kerrii</i>	t	pd	2	gro	dof		ry sh ss	ap-jn	ag-sp	my-fb
Salicaceae	<i>Salix tetrasperma</i> Roxb.	t	pd	3	gro rhe	rvf		sh ss	nv-dc	dc-ja	nv-jl

FAMILY	SPECIES	HABIT	PHENO-LOGY	ABUND-ANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Angiospermae, Monocotyledoneae Hydrocharitaceae	<i>Hydrilla verticillata</i> (L. f.) Roy.	h	pe	3	aqu gro	ponds in rvf dof	sa gv	sh ss	"sp-oc, dc-fb"	?	ja-dc
	<i>Ottelia alismoides</i> (L.) Pers.	h	pd	3	aqu gro	ponds in dof	st	ss ry	ag-oc	sp-nv	my-dc
Potamogetonaceae	<i>Potamogeton crispus</i> L. var. <i>crispus</i>	h	pe	4	aqu	streams in rvf	sa rk	sh ss	?	?	ja-dc
Commelinaceae	<i>Belosynapsis ciliata</i> (Bl.) R. Rao	h	a	2	gro	da sg in mxf		ss	ag-oc	sp-nv	my-dc
	<i>Commelina benghalensis</i> L.	h	pe	3	gro wee	da cult	ry	sh ss	jn-nv	jl-dc	ja-dc
	<i>Commelina diffusa</i> Burm. f.	h	pe	3	gro wee	da cult		sh ss ry	jn-nv	jl-dc	ja-dc
	<i>Cyanotis axillaris</i> (L.) D. Don	h	a	3	aqu gro	ponds in dof	st	sh ss ry	jl-oc	ag-nv	my-dc
	<i>Cyanotis cristata</i> (L.) D. Don	h	a pd	3	gro epl epi	rocks in dof	rk	ry	jn-nv	jl-dc	my-dc
	<i>Murdannia gigantea</i> (Vahl) Bruck.	h	pd	2	gro	wet areas in dof	st	ss	ag-oc	sp-nv	jn-dc
	<i>Murdannia lourieri</i> (Hance) Rao & Kam.	h	pd	4	gro	dof		ss ry	ap-sp	jn-oc	my-dc
	<i>Murdannia nudiflora</i> (L.) Bren.	h	ped	3	aqu gro	da cult		sh ss ry	jn-nv	jl-dc	my-dc
	<i>Murdannia scapiflora</i> (Roxb.) Roy.	h	pd	3	gro	wet areas in dof		ss ry	jl-oc	ag-nv	my-dc
Eriocaulaceae	<i>Eriocaulon quinquangulare</i> L.	h	a	4	gro	wet areas in da sg cult		ry sh ss	sp-nv	sp-nv	jn-dc
Zingiberaceae	<i>Alpinia malaccensis</i> (Burm. f.) Rosc.	h	pe	2	gro	da in mxf		sh ss	ap-my	sp-nv	ja-dc
	<i>Boesenbergia rotunda</i> (L.) Mansf.	h	pd	3	gro	mxf		ry sh ss	sp-nv	oc-dc	my-dc
	<i>Costus speciosus</i> (Koeh.) J.E. Sm.	h	pd	3	gro epl	dof da		sh ss ry	ag-sp	nv-dc	my-dc
	<i>Curcuma gracillima</i> Gagnep.	h	pd	3	gro	dof		ss ry	ag-oc	oc-nv	my-dc
	<i>Curcuma longa</i> L.	h	pd	3	gro	mxf		ss ry	jn-jl	sp-oc	my-dc

FAMILY	SPECIES	HABIT	PHENO-LOGY	ABUND-ANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Marantaceae	<i>Curcuma zedoaria</i> (Berg.) Rosc.	h	pd	4	gro	dof		ss ry	ap-my	jn-jl	jn-dc
	<i>Curcuma</i> sp.	h	pd	4	gro	dof		ss ry	ap-my	jn-jl	jn-dc
	<i>Globba schomburgkii</i> Hk. f. var. <i>schomburgkii</i>	h	pd	4	gro epi	dof mxsf		sh ss ry	ag-oc	oc-nv	my-de
	<i>Globba thorelli</i> Gagnep.	h	pd	4	gro	mxsf		sh ss ry	ag-oc	oc-nv	my-de
	<i>Kaempferia harmandii</i> Gagnep.	h	pd	3	gro	mxsf		sh ss ry	ag-oc	oc-nv	my-de
	<i>Kaempferia roscoiana</i> Wall.	h	pd	2	gro	mxsf		ss	jl-ag	ag-sp	my-de
	<i>Stahlianthus thorelli</i> Gagnep.	h	pd	4	gro	dof		ss ry	ap-my	jn-jl	jn-dc
	<i>Zingiber pellitum</i> Gagnep.	h	pd	3	gro	dof		sh ss	ag-sp	sp-nv	my-de
	<i>Zingiber zerumbet</i> (L.) J.E. Sm.	h	pd	3	gro	mxsf		sh ss ry	jl-ag	sp-oc	my-de
	<i>Halopegia blumei</i> (Koern.) K. Sch.	h	pd	3	gro cul	cult		ss	jl-ag	ag-sp	my-de
Liliaceae	<i>Schumannianthus dichotomus</i> (Roxb.) Gagnep.	h	pe	3	gro	cult		ss	jl-ag	sp-oc	ja-dc
Amaryllidaceae	<i>Gloriosa superba</i> L.	v	pd	2	gro	da		ss ry	ag-sp	oc-nv	my-de
	<i>Peliosanthes tetra</i> Andr. ssp. <i>humilis</i> (Andr.) Jess.	h	pe	3	gro	mxsf		ss	ap-my	sp-oc	ja-dc
Pontederiaceae	<i>Crinum wattii</i> Baker	h	pd	3	gro	dof		ss ry	ap-my	jl-ag	my-de
	<i>Hypoxis aurea</i> Lour.	h	pd	3	gro	dof		ss ry	ap-sp	jn-oc	my-de
	<i>Eichhornia crassipes</i> (Mart.) Solms	h	pe	2	aqu int wee	streams		ss ry	jl-dc	?	ja-dc
Smilacaceae	<i>Monochoria vaginalis</i> (Burm. f.) Presl	h	a	3	aqu gro	ponds	st	sh ss ry	jl-oc	sp-nv	my-de
	<i>Smilax extensa</i> Wall. ex A. DC.	v	pe	3	gro	da sg		ry sh ss	jn-jl	sp-nv	ja-dc
Araceae	<i>Smilax verticalis</i> Gagnep.	v	pd	3	gro	dof		ss ry	ap-my	jl-sp	my-de
	<i>Aglaonema simplex</i> (Bl.) Bl.	h	pe	3	gro	mxsf		ss ry	ap-my	sp-oc	ja-dc
	<i>Alocasia macrorhizos</i> (L.) G. Don	h	pe	3	gro cul	cult		sh ss ry	ja-dc	ja-dc	ja-dc
	<i>Alocasia odora</i> C. Koch	h	pd	3	gro	mxsf		sh ss ry	ag-sp	?	my-de
	<i>Amorphophallus koratensis</i> Gagnep.	h	pd	3	gro	dof		ss ry	ap-my	jl-ag	jn-dc
	<i>Amorphophallus laoticus</i> Hett.	h	pd	2	gro	mxsf da		ss	ap-my	jl-ag	jn-dc
	<i>Amorphophallus paeoniifolius</i> (Denn.) Nichol.	h	pd	3	gro	da		sh ss ry	my-jn	nv-ja	my-de
	<i>Amorphophallus parvulus</i> Gagnep.	h	pd	3	gro	dof		ry	jl-ag	oc-nv	jl-nv
	<i>Arisaema</i> sp.	h	pd	3	gro	dof		ry	?	sp-nv	jl-nv
	<i>Colocasia esculenta</i> (L.) Schott	h	pe	3	aqu gro	ponds	st	ss ry	my-oc	sp-dc	ja-dc
						wet areas in dof					

FAMILY	SPECIES	HABIT	PHENOLOGY	ABUNDANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Lemnaceae	<i>Colocasia fallax</i> Schott	h	pd	2	epi	mx f		ss	ag-sp	oc-nv	jn-dc
	<i>Cryptocoryne tonkinensis</i> Gagnep.	h	pd	4	gro rhe	rvf	sa gv rk	sh ss	fb-mr	?	nv-jl
	<i>Pseudodracontium lacourii</i> (Linden ex Andre) N.E. Br.	h	pd	3	gro	dof		ss	ap-my	ag-sp	jn-dc
	<i>Rhaphidophora peepula</i> (Roxb.) Schott	v cr	pe	3	gro	mx f		ss ry	jl-sp	sp-nv	ja-dc
	<i>Typhonium flagelliforme</i> (Lodd.) Bl.	h	pd	3	aqu gro	ponds	st	ss ry	ag-oc	oc-nv	my-dc
	<i>Typhonium roxburghii</i> Schott	h	pd	2	gro	da in mx f		ss	ag-sp	nv-dc	my-dc
	<i>Lemna perpusilla</i> Torr.	h	pe	5	aqu	ponds in		ss ry	?	?	ja-dc
	<i>Stemona burkillii</i> Prain	v	pd	3	gro	dof		ss ry	ap-my	jn-jl	my-dc
	<i>Dioscorea alata</i> L.	v	pd	3	gro	da		sh ss ry	nv-ja	fb-ap	my-ja
	<i>Dioscorea arachidna</i> Prain & Burk. var. <i>arachidna</i>	v	pd	3	gro	dof da sg		ry sh ss	sp- nv	dc-fb	jn-fb
Stemonaceae	<i>Dioscorea bulbifera</i> L.	v	pd	3	gro	da sg		ry sh ss	sp- nv	dc-fb	jn-dc
	<i>Dioscorea glabra</i> Roxb. var. <i>glabra</i>	v	pd	3	gro	da sg		ry sh ss	sp- nv	dc-fb	jn-dc
	<i>Dioscorea hispida</i> Denn.	v	pd	3	gro	dof da sg		ss ry	my-jn	sp-oc	jn-dc
	<i>Dioscorea oryzetorum</i> Pr. & Burk. var. <i>oryzetorum</i>	v	pd	3	gro	da sg		ry sh ss	sp- nv	nv-dc	my-dc
	<i>Borassus flabellifer</i> L.	t	pe	3	gro	cult		ry sh ss	jn-jl	ap-my	ja-dc
	<i>Calamus viminalis</i> Willd.	wc v	pe	2	gro	mx f		sh ss	sp- nv	ap-my	ja-dc
	<i>Caryota mitis</i> Lour.	t (l)	pe	2	gro	mx f		ry ss	jn-jl	nv-ja	ja-dc
	<i>Cocos nucifera</i> L.	t	pe	3	gro cul	cult		ry sh ss	ja-dc	ja-dc	ja-dc
	<i>Phoenix loureiri</i> Kunth var. <i>loureiri</i>	l (h)	pe	3	gro	dof		ry ss	ja-mr	my-jn	ja-dc
	<i>Apostasia wallichii</i> R. Br.	h	pe	2	gro	mx f		ss ry	jl-ag	sp-oc	ja-dc
Dioscoreaceae	<i>Burmannia coelestis</i> D. Don	h	a	3	gro	wet areas		ry sh ss	sp- nv	oc-dc	jn-dc
	<i>Aerides falcata</i> Lindl.	h	pe	2	epi	mx f		ss ry	my-jn	ag-oc	ja-dc
	<i>Cymbidium bicolor</i> Lindl.	h	pe	2	epi	da sg mx f		ry ss	mr-ap	fb-ap	ja-dc
	<i>Dendrobium delacourii</i> Guill.	h	pd	2	epi	dof		ry	sp-oc	?	my-dc
	<i>Dendrobium venustum</i> Teijsm. & Binn.	h	pd	2	epi	da sg rvs		ss	ap-my	jl-ag	ap-dc

FAMILY	SPECIES	HABIT	PHENO-LOGY	ABUND-ANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Cyperaceae	<i>Eulophia graminea</i> Lindl.	h	pd	2	gro	da sg 2 dof da in mxsf		sh ss ss ry	ja-fb ap-my	?	jl-dc
	<i>Geodorum attenuatum</i> Griff.	h	pd	3	gro	dof		ss ry	ap-my	?	my-dc
	<i>Geodorum recurvum</i> (Roxb.) Alst.	h	pd	3	gro	wet areas in dof		ss ry	ap-my	?	my-dc
	<i>Habenaria apetala</i> Gagnep.	h	pd	3	gro			ss ry	ag-oc	nv-dc	my-dc
	<i>Habenaria dentata</i> (Sw.) Schltr.	h	pd	2	gro	dof		ry	sp-oc	?	jn-dc
	<i>Habenaria rumphii</i> (Brong.) Lindl.	h	pd	3	gro	wet areas in dof		ss ry	ag-oc	nv-dc	my-dc
	<i>Habenaria trichosantha</i> Lindl.	h	pd	2	gro	mxsf		sh ss	sp-oc	?	jn-dc
	<i>Liparis acutissima</i> Rchb. f.	h	pd	3	gro	wet areas in dof		ss ry	ag-oc	nv-dc	my-dc
	<i>Nervilia aragoana</i> Gaud.	h	pd	2	gro	mxsf		sh ss	ap-my	?	my-dc
	<i>Nervilia plicata</i> (Andr.) Schltr.	h	pd	2	gro	mxsf		sh ss	ap-my	?	jl-dc
	<i>Pecteilis susannae</i> (L.) Raf.	h	pd	2	gro	wet areas in dof		ss ry	ag-oc	?	my-dc
	<i>Peristylus densus</i> (Lindl.) Sant. & Kapad.	h	pd	3	gro	wet areas in dof		ss ry	ag-oc	nv-dc	my-dc
	<i>Pomatocalpa spicata</i> Breda	h	pe	2	epi	streams in dof mxsf		ss ry	mr-my	ag-oc	ja-dc
	<i>Smitinandia micrantha</i> (Lindl.) Holtt.	h	pe	2	epi	mxsf rvs		ss	mr-my	my-jl	ja-dc
	<i>Vanda denisoniana</i> Bens. & Rchb. f.	h	pe	2	epi	mxsf		ss ry	mr-ap	ag-oc	ja-dc
	<i>Cyperus babakan</i> Steud.	h	a	3	gro wee	wet areas in da cult		ss ry	ag-oc	sp-nv	my-dc
	<i>Cyperus compactus</i> Retz.	h	a	3	gro	wet areas in dof da cult		sh ss ry	jl-nv	ag-dc	my-dc
	<i>Cyperus iria</i> L.	h	a, pe	3	gro wee	wet areas in dof da cult		sh ss ry	jl-nv	ag-dc	my-dc

FAMILY	SPECIES	HABIT	PHENO-LOGY	ABUND-ANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
	<i>Cyperus laxus</i> Lmk. var. <i>laxus</i>	h	pe	3	gro	da sg		ss ry	ja-dc	ja-dc	ja-dc
	<i>Cyperus leucocephalus</i> Retz.	h	pd	3	gro	rvs	gv rk	sh ss	my-nv	jn-nv	my-fb
	<i>Cyperus michelianus</i> (L.) Link ssp. <i>pygmaeus</i> (Rottb.) Asch. & Graebn.	h	a	3	gro wee	cult rvf	sa	sh ss	nv-mr	dc-ap	nv-jl
	<i>Cyperus rotundus</i> L. ssp. <i>rotundus</i>	h	ped	3	wee gro rhe	sg cult		sh ss ry	jl-nv	ag-dc	ja-dc
	<i>Fimbristylis aestivalis</i> (Retz.) Vahl var. <i>aestivalis</i>	h	pd	4	gro wee	da rvf	sa	ss ry	ap-jn	my-jl	ap-dc
	<i>Fimbristylis aphylla</i> Zoll. ex Steud.	h	pe	3	gro	wet areas		ss ry	ag-nv	sp-dc	my-dc
	<i>Fimbristylis bisumbellata</i> (Forssk.) Bub.	h	a	3	gro wee	rvf	sa	sh ss	nv-mr	dc-ap	nv-jl
	<i>Fimbristylis dichotoma</i> (L.) Vahl ssp. <i>dichotoma</i>	h	a	3	wee gro	da cult		sh ss ry	jl-nv	ag-dc	my-dc
	<i>Fimbristylis dipsacea</i> (Rottb.) Cl.	h	a	3	gro wee	rvf	sa	sh ss	nv-ap	dc-my	nv-jl
	<i>Fimbristylis disticha</i> Boeck.	h	a	3	gro	wet areas		ss ry	ag-nv	sp-dc	my-dc
	<i>Fimbristylis fuscooides</i> Cl.	h	pd	3	gro	dof		ss ry	ap-jn	jn-ag	ap-dc
	<i>Fimbristylis jucunda</i> (Cl.) Kern	h	pd	4	gro	da rvf	sa gv rk	ss ry	ap-jn	jn-ag	ap-dc
	<i>Fimbristylis miliacea</i> (L.) Vahl	h	pe	3	gro wee	wet areas		ss ry	ag-nv	sp-dc	my-dc
	<i>Fimbristylis obtusa</i> (Cl.) Ridl.	h	a	3	gro	dof	rk	ss ry	ag-nv	sp-dc	my-dc
	<i>Fimbristylis schoenoides</i> (Retz.) Vahl	h	pd	3	gro	wet areas		ss ry	ag-nv	sp-dc	my-dc
	<i>Rhynchospora rubra</i> (Lour.) Mak.	h	a	3	gro	in dof		ss ry	ag-nv	sp-dc	my-dc
	<i>Scirpus grossus</i> L. f.	h	pe	3	aqu gro	ponds wet	st	ss ry	ag-nv	sp-dc	ja-dc
	<i>Scleria levis</i> Retz.	h	pd	3	gro	areas in dof		ss ry	ag-nv	sp-dc	my-dc
	<i>Scleria lithosperma</i> (L.) Sw. var. <i>linearis</i> Bth.	h	pd	3	gro	wet areas		ry	ag-nv	sp-dc	my-dc
	<i>Scleria neesii</i> Kunth	h	a	3	gro	in dof		ss ry	ag-nv	sp-dc	my-dc
	<i>Scleria psilorrhiza</i> Cl.	h	pd	3	gro	wet areas		ss ry	ag-nv	sp-dc	my-dc

FAMILY	SPECIES	HABIT	PHENOLOGY	ABUNDANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Gramineae	<i>Apluda mutica</i> L.	h	capd	3	gro	dof		ry sh ss	nv-ja	dc-fb	jn-fb
	<i>Arundinella setosa</i> Trin. var. <i>setosa</i>	h	pd	3	gro	dof		ry	ag-oc	sp-nv	jn-dc
	<i>Bothriochloa bladhii</i> (Retz.) S.T. Blake	h	a	3	gro wee	da		ss ry	ag-nv	sp-dc	my-dc
	<i>Brachiaria setigera</i> (Retz.) C.E. Hubb.	h	a	3	gro wee	rvf		sh ss	dc-mr	ja-ap	nv-jn
	<i>Chrysopogon aciculatus</i> (Retz.) Trin.	h	ped	4	gro wee	da		sh ss ry	sp-nv	oc-dc	ja-dc
	<i>Coelachne perpusilla</i> (Arn. ex Steud.) Thw.	h	a	3	gro	wet areas in dof		ss ry	ag-nv	sp-dc	my-dc
	<i>Cynodon dactylon</i> (L.) Pers.	h	ape	3	gro wee	da sg rvf	sa	ss ry	ja-dc	ja-dc	ja-dc
	<i>Dactyloctenium aegyptium</i> (L.) P. Beauv.	h	ped	3	gro wee	da		sh ss ry	sp-nv	oc-dc	ja-dc
	<i>Digitaria bicornis</i> (L.) Roem. & Schult.	h	a	3	gro wee	cult rvf	sa	sh ss	nv-ap	dc-my	nv-jl
	<i>Digitaria siamensis</i> Henr.	h	a	3	gro	dof		ry	ag-oc	sp-nv	my-dc
	<i>Echinochloa colona</i> (L.) Link	h	ape	3	gro wee	da sg rvf	sa	ss ry	ja-dc	ja-dc	ja-dc
	<i>Eleusine indica</i> (L.) Gaertn.	h	ape	3	gro wee	da sg rvf	sa		ja-dc	ja-dc	ja-dc
	<i>Eragrostis amabilis</i> (L.) Nees	h	a or pe	3	gro wee	da sg rvf	sa	ss ry	ap-nv	my-dc	mr-dc
	<i>Eragrostis luzonensis</i> Steud.	h	a	3	gro wee	da		sh ss ry	ag-nv	sp-dc	my-dc
	<i>Eragrostis pilosa</i> (L.) P. Beauv.	h	a	3	gro wee	cult rvf	sa	sh ss	nv-ap	dc-my	nv-jl
	<i>Eremochloa ciliaris</i> (L.) Merr.	h	a	4	gro	wet areas in dof		ss ry	ag-nv	sp-dc	my-dc
	<i>Eriachne trisetia</i> Nees ex Steud.	h	pd	5	gro	dof		sh ss	nv-ja	dc-fb	jn-fb
	<i>Leptochloa chinensis</i> (L.) Nees	h	a	3	gro wee	cult rvf	sa	sh ss	nv-ap	dc-my	nv-jl
	<i>Leptochloa malabarica</i> (L.) Veldk.	h	pd	3	gro	rocks in dof	rk	ry	ag-oc	sp-nv	my-dc
	<i>Lophopogon intermedius</i> A. Camus	h	pd	3	gro rhe	rvf	gv rk	ss	dc ja fb	ja-mr	nv-jl
	<i>Mnesitheia laevis</i> (Retz.) Kunth var. <i>laevis</i>	h	pd	3	gro	wet areas in dof		ss ry	ag-oc	sp-nv	my-dc
	<i>Oryza sativa</i> L.	h	a	5	gro wee	da sg cult		ry	mr-oc	(my) nv-dc	fb-dc
	<i>Ottochloa nodosa</i> (Kunth) Dandy	h	a	3	gro	dof mxf		ss ry	ag-oc	sp-nv	my-dc
	<i>Paspalum orbiculare</i> Forst.	h	pd	3	gro wee	wet areas in dof		ss ry	ag-oc	sp-nv	my-dc
	<i>Phragmites vallatoria</i> (Pluk. ex L.) Veldk.	h	pe	4	gro wee	mxf da sg cult rvf	sa	sh ss	nv-mr	dc-ap	nv-jl

FAMILY	SPECIES	HABIT	PHENO-LOGY	ABUND-ANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
Gramineae, Bambusoideae	<i>Saccharum spontaneum</i> L.	h	pd	4	gro wee	cult rvf	sa	sh ss	nv-ap	dc-my	nv-jl
	<i>Sacciolepis indica</i> (L.) A. Chase	h	a	3	gro wee	wet areas in dof cult		ss ry	ag-oc	sp-nv	my-dc
	<i>Setaria parviflora</i> (Poir.) Kerg.	h	a	3	gro wee	da cult		ss ry	ag-oc	sp-nv	my-dc
	<i>Sorghummekongense</i> (A. Camus) A. Camus	h	ape	3	gro wee	da sg rvf	sa	ss	ap-jl	my-ag	ja-dc
	<i>Sporobolus diander</i> (Retz.) P. Beauv.	h	ped	3	gro wee	da		ss ry	ag-nv	sp-dc	ja-dc
	<i>Sporobolus harmandii</i> Henr.	h	a	3	gro	wet areas in dof		ss ry	ag-oc	sp-nv	my-dc
	<i>Thysanolaena latifolia</i> (Roxb. ex Horn.) Honda	h	pe	4	gro wee	da sg		ry sh ss	ag-oc	sp-nv	ja-dc
	<i>Bambusa bambos</i> (L.) Voss. ex Vilm.	h	pe	4	gro cul	da sg		ry sh ss	fb-mr	mr-ap	ja-dc
	<i>Bambusa vulgaris</i> Schrad. ex Wend. var. <i>striata</i> (Lodd. ex Penny) Gamb.	s (h)	pe	3	gro cul	da sg cult		ry sh ss	dc-ja	ja-fb	ja-dc
	<i>Dendrocalamus longispathus</i> Kurz	h	pe	3	gro cul	da sg cult		ry sh ss			ja-dc
Gymnospermae, Cycadatae Cycadaceae	<i>Gigantochloa albo-ciliata</i> (Munro) Kurz	s (h)	pe	3	gro	da sg		sh ss	ja-fb	fb-mr	ja-dc
	<i>Thyrostachys oliveri</i> Gamb.	s (h)	pe	3	gro cul	da sg cult		ss	ja-fb	fb-mr	ja-dc
	<i>Cycas pectinata</i> B.H.	l	pe	2	gro	mxf		sh ss	nv-dc	ja-fb	ja-dc
Pteridophyta	<i>Epicycas siamensis</i> (Miq.) de Laub.	h	pd	3	gro	dof		ss ry	mr-my	mr-my	mr-dc
	<i>Selaginella repanda</i> (Desv.) Spr.	h	a	3	gro epl	mxf		ry sh ss	sp-nv	sp-nv	jn-dc
	<i>Schizaeaceae</i>	v	pd	3	gro	dof sg		ry sh ss	jl-dc	jl-dc	my-dc
	<i>Lygodium flexuosum</i> (L.) Sw.										
	<i>Davalliacae</i>	h cr	pd	3	epi	mxf		sh ss	sp-nv	sp-nv	jn-dc
	<i>Davallia denticulata</i> (Burm. f.) Mett. ex Kuhn										
	<i>Oleandraceae</i>	h	pd	3	epi epl gro	dof		ry	sp-nv	sp-nv	jn-nv
	<i>Oleandra undulata</i> (Willd.) Ching										
	<i>Parkeriaceae</i>	h	pd	3	gro epl	dof mxf		ry sh ss	sp-nv	sp-nv	my-nv
	<i>Adiantum philippense</i> L.										
	<i>Adiantum zollingeri</i> Mett. ex Kuhn	h	pd	3	gro epl	dof mxf		ry sh ss	sp-nv	sp-nv	my-nv
	<i>Ceratopteris thalictroides</i> (L.) Brongn.	h	a	2	gro	ponds wet areas in dof		ss ry	ag-nv	ag-nv	jn-nv

FAMILY	SPECIES	HABIT	PHENOLOGY	ABUNDANCE	LIFE MODE	HABITAT	SUBST-RATE	BEDROCK	FLOWER MTH	FRUIT MTH	LEAF MTH
	<i>Cheilanthes belangeri</i> (Bory) C. Chr. <i>Cheilanthes chusana</i> Hk.	h h	pd pd	3 3	gro gro	rocks in do wet areas in mxf da sg	rk	ry ss ry	ag-nv ag-nv	ag-nv ag-nv	jn-nv jn-nv
Pteridaceae	<i>Doryopteris ludens</i> (Wall. ex Hk.) J. Sm.	h	pe	2	gro or epl	mxf		ry	ja-dc	ja-dc	ja-dc
Lomariopsidaceae	<i>Pteris heteromorpha</i> Fee	h	pe	2	gro	mxf		ss	ja-dc	ja-dc	ja-dc
Dryopteridaceae	<i>Bolbitis hookeriana</i> K. Iw.	h	pe	3	gro	mxf		sh ss	sp-my	sp-my	ja-dc
	<i>Dryopteris cochleata</i> (D. Don) C. Chr.	h	pd	2	gro	mxf		ry	oc-dc	oc-dc	my-dc
Thelypteridaceae	<i>Tectaria impressa</i> (Fee) Holtt.	h	pe	3	gro	mxf		sh ss	ja-dc	ja-dc	ja-dc
	<i>Meniscium proliferum</i> (Retz.) Sw.	h	pd	3	gro rhe	streams in rvf		ss	dc-ap	dc-ap	nv-jl
Athyriaceae	<i>Anisocampium cumingianum</i> Presl	h	pd	2	gro	da sg in mxf		ss	ag-nv	ag-nv	my-nv
Polypodiaceae	<i>Drynaria bonii</i> C. Chr.	h	pd	2	epl less often epi	dof mxf		ss ry	jn-dc	jn-dc	my-dc
	<i>Drynaria quercifolia</i> (L.) J. Sm.	h	pd	3	epi epl	da sg mxf		sh ss	sp-nv	sp-nv	jn-dc
	<i>Pyrrosia adnascens</i> (Sw.) Ching	h cr	pe	3	epi	da sg		sh ss	sp-nv	sp-nv	ja-dc
	<i>Pyrrosia longifolia</i> (Burm. f.) Mort.	h	pe	3	epi	dof mxf		ss ry	ja-dc	ja-dc	ja-dc
	<i>Pyrrosia stigmosa</i> (Sw.) Ching	h	pe	3	epi epl	dof mxf		ss ry	ap - dc	ap - dc	ja-dc
Marsileaceae	<i>Marsilea quadrifolia</i> L.	h	pd	3	aqu gro rhe	streams ponds in rvf	sa	ss	ja-mr	ja-mr	nv-ag

Summary of collecting results:

Division	Subdivision	Class	Family	Species, etc.
Spermatophyta (seed plants)	Angiospermae (flowering plants)	Dicotyledoneae	99	550
		Monocotyledoneae	20	157
	Gymnospermae (cone plants)	Cycadatae	1	2
Pteridophyta (fern allies & ferns)			12	22
		total	131	731

