

THE VEGETATION OF CUCPHUONG NATIONAL PARK, VIETNAM

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ABSTRACT

Cucphuong National Park, situated about 120 km south from Hanoi, northern Vietnam, is the first National Park of Vietnam. It occupies approximately 22,220 hectares. The flora is rich containing 1,924 species in 990 genera and 229 families. It is characterised by the following: Fabaceae, Euphorbiaceae, Rubiaceae, Asteraceae, Lauraceae, Moraceae, Anacardiaceae, Combretaceae and Juglandaceae. The dominant genera of the flora are of *Shorea*, *Terminalia*, *Dracontomelum*, *Cinnamomum*, *Hirtiera*, *Anamocarya*, *Tetrameles*. The life-forms of the flora are diverse and shown the following: SB = 60.44 Ph + 9.77 Ch + 11.57 H + 7.82 Cr. + 10.29 Th, in which Ph = 13.37 MM + 13.32 Mi + 10.08 Na + 11.42 Lp + 11.37 Ep + 0.67 Pp + 0.33 Hp.

RESUMEN

El Parque Nacional de Cucphuong, situado unos 120 km al sur de Hanoi, Vietnam del Norte, es el primer Parque Nacional de Vietnam. Ocupa aproximadamente 22,220 hectáreas. La flora es rica, ya que contiene 1,924 especies pertenecientes a 990 géneros y 229 familias. Se caracteriza por las siguientes: Fabaceae, Euphorbiaceae, Rubiaceae, Asteraceae, Lauraceae, Moraceae, Anacardiaceae, Combretaceae y Juglandaceae. Los géneros dominantes de la flora son *Shorea*, *Terminalia*, *Dracontomelum*, *Cinnamomum*, *Hirtiera*, *Anamocarya*, *Tetrameles*. Las formas vitales de la flora son diversas y muestran lo siguiente: SB = 60.44 Ph + 9.77 Ch + 11.57 H + 7.82 Cr. + 10.29 Th, donde Ph = 13.37 MM + 13.32 Mi + 10.08 Na + 11.42 Lp + 11.37 Ep + 0.67 Pp + 0.33 Hp.

INTRODUCTION

Cucphuong is situated about 120 km south of Hanoi on the boundary intersection of three provinces Hoabinh, Ninhbinh and Thanhhoa, with longitudes from 105°24'E to 105°44'E and latitudes from 20°14'N to 20°24'N (Fig. 1). It was classified for the first time as a primary forest area in 1960 and declared the first National Park of Vietnam in 1962 by the Vietnam Government. It occupies approximately 22,220 hectares and includes a part of a limestone belt running from northwest Vietnam to the seashore in Ninhbinh Province. Geographical and topographical conditions are complex and thus the flora and fauna are also of great diversity.

Topography

Cucphuong is situated on karst limestone mountains with many caves,



FIG. 1. Cucphuong National Park.

including Hang Dang or Dong Nguoi Xua (the cave of Primitive man) in which human archeological remains dated to 7,000 years ago have been found. In some caves, the mountains serve as natural walls to protect its diverse flora and fauna. The highest point is 650 m.

One large valley is oriented in a northwest-southeast direction. Many other small valleys, separated from one another, contain many interesting features of natural history.

Climate

Cucphuong has a monsoon, tropical climate with an average annual temperature during the year of 24.7°C, with a minimum 16.6°C, and a maximum 39°C. The average rainfall is 2,157 mm, with an average humidity of 90%.

Soil

The Cucphuong soil is derived from limestone, with schist, argillite and quartz. There are different kinds of soil varying from the foot to the top of the limestone mountains including Rensin red greiss-yellow, red-yellow, black, margalite-ferralite yellow. On the non-limestone mountains, there are several types of soil, such as ferralite yellow and ferralite yellow-red. In general, the soil of Cucphuong is of a light texture, and is generally moist because of its rather favourable character of imbibition.

Streams and water regimes

Song Buoi River is the only river passing through the northwest part of Cucphuong, and many streamlets occur in the summer. The streamlets dry up in the winter due to the shortage of rainfall in Cucphuong.

DIVERSITY OF FLORA

On the basis of collected specimens—which are deposited in the Cucphuong herbarium (CP) and on the basis of local floras (Anonymous 1971; Aubreville 1960–1994; Do Tat Loi 1991, Chan et al. 1995; Lecomte 1907–1951; Thin 1987, 1992; Pocs 1965; Trung 1978; Vu Nguyen 1987)—1,924 species in 990 genera and 229 families of higher plants have been identified and arranged according to Takhtajan's system (Takhtajan 1966, 1969). The major groups (7 divisions) are listed in Table 1.

All representatives of higher plant divisions are present in the Cucphuong forest. As expected, the most diverse and profuse division is Angiospermae. Gymnospermae are poorly represented with three species; *Podocarpus fleuryi* (Podocarpaceae) is a relict of the Tertiary era. Its pollen record shows that it grew in this area in the Tertiary period (Colani 1920; Trinh Danh 1985, 1986). It is fairly common on the slopes of the limestone hills. Equisetophyta is represented only by one species of *Equisetum*. Bryophyta have been well studied is the most complete for any park in Vietnam, with 125 species in 70 genera of 31 families (Pocs 1965b). This group also shows the relatively primary character of the forest area. Polypodiophyta is rather diverse, with 127 species in 56 genera of 27 families. Some relict genera are also present here such as *Cyathea* (Fig. 2), *Angiopteris*, *Archangiopteris* and *Cibotium*. Table 2 lists the most common genera and the number of species for the Cucphuong flora.

The Angiospermae is the most diverse, especially the class Dicotyledones (Table 1). The numbers of species in selected families are noted: Fabaceae (107 sp.), Euphorbiaceae (101), Rubiaceae (78), Asteraceae (64), Lauraceae (54), with Moraceae, Anacardiaceae, Combretaceae, and Juglandaceae, following. Some families have a small number of species but may be quite dominant, such as Sterculiaceae, and Dipterocarpaceae. Species of *Heritiera* (Sterculiaceae) are seen everywhere in the forest, the leaves often conspicuous with silver white undersides. In the Dipterocarpaceae, *Shorea chinensis* is common. These trees have straight unbranched trunks to 65 m high and 1.5 m diameter. *Terminalia myriocarpa* (Combretaceae) (Fig. 3) has trunks to 45 m high and 5.5 m diameter. *Tetrameles nudiflora* (Datisaceae) (Fig. 4) has a straight trunks, 45 m high and 5.5 m diameter. *Cinnamomum balansae* (Lauraceae, called "Vu huong") has trunks of fragrant wood, 48 m high and 2.5 m diameter. *Dracontomelum duperreanum* (Anacardiaceae) is well-known for its huge buttresses.

TABLE 1. The flora of the Cucphuong National Park is diverse, for a small area with about 0.7% of the total for Vietnam, yet the number of plant species reaches almost 25% of the total species reported for the country.

Taxon	Number		
	Species	Genera	Families
Bryophyta	125	70	31
Psilotophyta	1	1	1
Lycopodiophyta	9	2	2
Equisetophyta	1	1	1
Polypodiophyta	127	56	27
Gymnospermae	3	3	3
Angiospermae			
Dicotyledones	1,281	674	134
Monocotyledones	377	183	30

There are many lianas growing upwards by attaching themselves to the forest trees including *Gnetum* sp. (Gnetaceae). Of the Angiospermae, there are lianas in Sterculiaceae (2 sp.), Fabaceae (3 sp.), and Apocynaceae (1 sp.). *Entada phaseoides* (Fabaceae) with stems 10–20 m long and 20–25 cm in diameter (Fig. 5), *Bauhinia scandens* with stems 10 m long and 10–15 cm in diameter, and *Acacia pennata* (Fabaceae) are very common. There are seven species of *Ficus* (Moraceae), some of *Schefflera* (Araliaceae), and *Fagraea* (Loganiaceae) strangling and twining around neighbouring trees (Table 3), that start life as epiphytes and whose roots grow down, interlacing around their support. Eventually the host dies as it is shaded out, leaving the strangler supporting itself.

Various species of shade-loving epiphytes include *Psilotum nudum*, *Lycopodium carinatum*, *Mecodium exsertum*, *Lomariopsis spectabilis*, *Lemmaphyllum microphyllum* var. *obovatum*, *Leptochilus laciniatus* var. *simplex*, *Loxogramme lankokiensis*, *Vittaria* (7 spp.), *Ficus pumila* and *Aglaonema* sp.

Light-loving epiphytes on branches of high trees include such orchids as *Aerides odoratum*, *Cirrhopetalum siamense*, *Cymbidium aloifolium*, *Dendrobium* spp., *Luisia teretifolia*, *Oberonia*, *Rhynchostylis gigantea*, *Sarcanthus* spp., *Thrixspermum centipeda*, and *Vanda* species. Also, there are *Anadendron latifolium*, *Pothos* spp., and *Rhaphidophora* spp. (Araceae); and *Drynaria fortunei* (Polypodiaceae), as well as many species of lichens and mosses.

At ground level very few plants occur except those which obtain nutrients from decaying plant matter such as *Balanophora* (Balanophoraceae) (3 sp.) and other parasitic species living on the roots of other plants.

Some others are semiparasitic living on the branches of other plants as *Viscum* (Viscaceae) living on *Liquidambar formosana*; *Viscum* and *Loranthus* spp. (Loranthaceae), and on other plants such as *Averrhoa carambola*, *Ficus* sp., and *Citrus* spp. A great number of species with lovely flowers and leaf



FIG. 2. *Cyathea contaminans* (Cyatheaceae).

shapes are *Paris chinensis*, *P. hainanensis* (Trilliaceae) (Fig. 6), *Amorphophallus paeonifolia* (Fig. 7), *A. rivieri*, *A. tonkinensis*, *Arisaema balansae* (Araceae), *Angiopteris repandula* (Marattiaceae), *Milletia ichthyochtona*, *Saraca dives* (Fabaceae), *Firmiana colorata* (Sterculiaceae), *Aerides odoratum*, *Dendrobium lindleyi*, *D. superbum*, *Vanda teres*, *Paphiopedilum appletonianum*, *P. delenatii*, *Haemaria discolor* (Orchidaceae), *Tacca chantrieri* (Taccaceae). Some plants are cauliflorous such as *Baccaurea ramiflora*, *Meliantha suavis*, *Ficus* spp., and *Dimerocarpus brennieri*.

STRUCTURE OF FLORA

The Cucphuong flora is characterized by the stamps of the tertiary era flora of North Vietnam and South China (Trung 1978). It includes

TABLE 2. The most common genera with number of species for the Cucphuong National Park.

Genus	Spp.	Genus	Spp.
Pteridophytes		<i>Blumea</i>	9
<i>Selaginella</i>	7	<i>Callicarpa</i>	9
<i>Tectaria</i>	7	<i>Justicia</i>	9
<i>Colysis</i>	8	<i>Mallotus</i>	9
<i>Lygodium</i>	8	<i>Antidesma</i>	10
<i>Asplenium</i>	9	<i>Carex</i>	10
<i>Pteris</i>	9	<i>Clerodendrum</i>	10
<i>Cyclosorus</i>	10	<i>Beilschmiedia</i>	11
Spermatophytes		<i>Dendrobium</i>	11
<i>Croton</i>	8	<i>Litsea</i>	12
<i>Eragrostis</i>	8	<i>Polygonum</i>	12
<i>Phyllanthus</i>	8	<i>Cyperus</i>	13
<i>Schefflera</i>	8	<i>Desmodium</i>	13
<i>Callicarpa</i>	8	<i>Syzygium</i>	14
<i>Cinnamomum</i>	9	<i>Ardisia</i>	15
<i>Fimbristylis</i>	9	<i>Ficus</i>	38

many species of Fagaceae, Fabaceae, Lauraceae, Juglandaceae, Altingiaceae, Ebenaceae, Annonaceae, Sterculaceae, Meliaceae, Sapindaceae, Magnoliaceae, and Anacardiaceae, and most species of Gymnospermae. Fossil evidence also affirms that earlier plants similar to the present species, such as *Cinnamomum balansae*, *Heritiera macrophylla*, *Celtis sinensis*, *Liquidambar formosana*, *Saraca dives*, and *Amoora gigantea* occurred in this area (Colani 1920; Trinh 1985, 1986).

Cucphuong is a place where many different floras overlap (Pocs 1965a, 1965b) because it is the meeting point of mountain ranges from the Himalaya running northwest-southeast, from South China running north-south, and from South Vietnam running north-south.

The flora Malesiana elements are characterized by species linked to a hot and humid climate derived from Borneo (Trung 1978). These elements entered Vietnam in the Tertiary Era (Trung 1978, Danh 1986) and include species of Dipterocarpaceae. Although the number of species is low, the number of individuals is relatively great.

The Himalayan element of the flora is characterised by temperate species from Yunnan, Quichau and Himalaya including numbers of Fagaceae, Aceraceae, Oleaceae, Ulmaceae, Hippocastanaceae, Trilliaceae, and Juglandaceae.

The Indo-Burmese element of the flora is characterised by deciduous species like *Terminalia myriocarpa*, *Combretum* spp., *Anogeissus acuminata* (Combretaceae), *Lagerstroemia corniculata* (Lythraceae), *Bombax malabaricum* (Bombacaceae), *Tetrameles nudiflora* (Datiscaceae), and *Sapindus saponaria* (Sapindaceae).



FIG. 3. *Terminalia myriocarpa* (Combretaceae) with trunks to 45 m high and 5.5 m in diameter.



FIG. 4. *Tetrameles nudiflora* (Datiscaceae) with straight trunks, 45 m high and 5.5m in diameter.



FIG. 5. *Entada phaseoides* (Fabaceae) with stems 10–20 m long and 20–25 cm in diameter.

TABLE 3. Lianas and strangling epiphytes of the Cucphuong forest.

<i>Ficus annulata</i>	<i>Ficus pilosa</i>
<i>Ficus benamina</i>	<i>Ficus religiosa</i>
<i>Ficus glaberrima</i>	<i>Ficus retusa</i>
<i>Ficus gibbosa</i>	<i>Schefflera glomerulata</i>
<i>Ficus lacor</i>	<i>Fagraea obovata</i>
<i>Ficus obtusifolia</i>	

DISTRIBUTION OF THE CUCPHUONG FLORA

Plant groups are divided on the basis of types of the topography and the soil.

Plants on the summits of limestone mountains

On summits from 300–560 m altitude with sharp hard rocks and with black renzin soil, the humidity is low and the evaporation rate is high. The diversity of plants include 65 common species such as *Cycas balansae*, *Cinnamomum validinerve*, *Neolitsea zeylanica*, *Illicium griffithii*, *Quercus* sp., *Platycarya strobilacea*, *Eriobotrya benghalensis*, *E. japonica*, *E. sp.*, *Tirpitzia chinensis*, *Schefflera pes-avis*, *Calophyllum balansae*, *C. bonii*, *Dracaena cambodiana*, *Diospyros mun*, *Mitrephora calcarea*, *Diospyros* sp., *Xerospermum tonkinensis*, *Canthium dicoccum*, *Sinosideroxylon racemosum*, *Murraya koenigii*, *M. paniculata*, *Jasminum lanceolarium*, *J. longisetum*, *Trigonostemon bonianus*, *Drypetes perreticulatus*, *Paphiopedilum appletonianum*, *P. delenatii*, and *Dendrobium dentatum*.

Plants on slopes of limestone mountains

Plants growing on the slopes include some 200 species, of which there are 14 species of Pteridophytes, two species of Gymnospermae, and 184 species of Angiospermae. The common tree species include *Streblus ilicifolius*, *Dimerocarpus brennieri*, *Teonongia tonkinensis*, *Heritiera macrophylla*, *H. cucphuongensis*, *Pterospermum truncolobatum*, *P. heterophyllum*, and *Ficus gibbosa*. Many species of understory shrubs and herbs have large thin leaves, providing a large light-absorbing surface, notably species of Pteridophytes, Euphorbiaceae, Rubiaceae, Urticaceae, and Araceae.

Plants in the valleys

In valleys between limestone walls the humidity is high. The soil is of macgalis ferralit brown-yellow. The flora here includes 1,219 species belonging to Bryophyta, Pteridophyta and Angiospermae. Many tree species have straight unbranched trunks, or have buttresses or stilt roots providing additional support. Their glabrous leaves have drip tips probably to prevent water accumulating after rain. Examples are *Tetrameles nudiflora*, *Shorea chinensis*, *Terminalia myriocarpa*, *Anogeissus acuminata*, *Cinnamomum balansae*, *Pometia pinnata*, *Erythrophloeum fordii*, *Dracontomelum duperreanum*, and *Vatica harmandiana*.



FIG. 6. *Paris chinensis* (Trilliaceae).



FIG. 7. *Amorphophallus paeoniifolia* (Araceae).

Plants on non-limestone soil

This group has 440 species especially in the following genera: *Machilus*, *Phoebe*, *Litsea*, *Cinnamomum* (Lauraceae), *Aglaia*, *Amoora*, *Chisocheton*, *Dysoxylum*, *Heynea* (Meliaceae), *Castanopsis*, *Lithocarpus* (Fagaceae), *Elaeocarpus* (Elaeocarpaceae), *Macaranga*, *Endospermum*, *Bischofia*, and *Sapium* (Euphorbiaceae).

The distribution of plants in Cucphuong is interesting. The number of species decreases from the valley to the top of the mountains. The greatest number of Pteridophyte species occurs chiefly in the valleys and under the canopy of the forest.

DIVERSITY OF LIFE-FORMS

Life-forms are an ecological characteristic of every flora. Spectrum of the life-forms is truly a reflective mirror of ecological conditions as well as a primary or secondary character of the flora in the studied region, and also provides information on conservation and suitable use of the plant resources. On the basis of the classification categories of Raunkiaer (1934), the spectrum of the life-forms of the Cucphuong flora was established including five main groups as follows (Table 4, Fig. 8):

1. Phanerophytes (Ph).—This group includes 1,175 species in 151 families making up 60.44% of the total flora (Fig. 8). This dominant group includes seven subgroups.

1.1. Mega- and Meso-phanerophytes (MM).—This includes 260 large woody species taller than 8 m (13.37% of the total flora) (Fig. 9). The species-rich families are Lauraceae (37 sp.), Euphorbiaceae (22 sp.), and Moraceae (20 sp.). The high proportion of species belongs to the following families: Bignoniaceae 6/6 species, Buseraceae 6/6, Elaeocarpaceae 8/9, Fagaceae 10/12. Some large size species include *Shorea chinensis* (Dipterocarpaceae), *Tetrameles nudiflora* (Datisceae), *Terminalia myriocarpa* (Combretaceae), *Elaeocarpus* (Elaeocarpaceae), *Dracontomelum duperreanum* (Anacardiaceae), and *Cinnamomum balansae* (Lauraceae).

1.2. Microphanerophytes (Mi).—This includes 257 short woody species (2–8 m) (13.32% of the total flora) (Fig. 9). The species-rich families are Euphorbiaceae (15 sp.) and Annonaceae (14 sp.).

1.3. Nanophanerophytes (Na).—This includes 196 species in 46 families (10.08% of the total flora) (Fig. 9). The species-rich families are Rubiaceae (24 sp.), Myrsinaceae (20 sp.), Acanthaceae (19 sp.), Fabaceae (18 sp.), and Euphorbiaceae (17 sp.).

1.4. Lianphanerophytes (Lp).—This includes 222 species in 40 families (about 11.42% of the total flora) (Fig. 9). The species-rich families are Fabaceae (33 sp.) and Rubiaceae (18 sp.). This group is characteristic of

TABLE 4. Life-forms of Cucphuong flora.

Life-form	Number of species	Rate
1. Phanerophytes (Ph)	1175	60.44
1.1. Mega-Mesophanerophytes (MM)	260	13.37
1.2. Microphanerophytes (Mi)	257	13.32
1.3. Nanophanerophytes (Na)	196	10.08
1.4. Lianphanerophytes (Lp)	222	11.42
1.5. Epiphyte-phanerophytes (Ep)	221	11.37
1.6. Hemi- and Parasite-phanerophytes (Pp)	13	0.67
1.7. Herb phanerophytes (Hp)	6	0.33
2. Chamaephytes (Ch)	190	9.77
3. Hemicryptophytes (H)	225	11.57
4. Cryptophytes (Cr)	152	7.82
5. Therophytes (Th)	200	10.29

tropical forest especially woody liannas as *Entada*, *Acacia*, *Bauhinia*, *Strychnos*, *Melodinus*, and *Tetrastigma*.

1.5. Epiphyte-phanerophytes (Ep).—This includes 221 species in 35 families going up to 11.37% of the total flora (Fig. 9). The species-rich families are Orchidaceae (48 sp.), Araceae (10 sp.).

1.6. Hemiparasite- and Parasite-phanerophytes (Pp).—This include 13 species in four families and makes up about 0.67% of the total flora (Fig. 9).

1.7. Herb-phanerophytes (Hp).—This includes six species or about 0.33% of the total flora (Fig. 9).

2. Chamaephytes (Ch).—This group includes 190 species in 54 families (9.77% of the total flora) (Fig. 8). The species-rich families are Asteraceae (26 sp.), Fabaceae (24 sp.), Euphorbiaceae (14 sp.) and Acanthaceae (13 sp.).

3. Hemicryptophytes (H).—This group includes 225 species in 46 families or 11.57% of the total flora (Fig. 8). The species-rich families are Poaceae (36 sp.), Orchidaceae (15 sp.), Thelipteridaceae (14 sp.) and Cyperaceae (14 sp.).

4. Cryptophytes (Cr).—This group includes 152 species in 42 families constituting 7.82% of the total flora (Fig. 8). The species-rich families are Orchidaceae (25 sp.), Convallariaceae (20 sp.), Zingiberaceae (14 sp.) and Cyperaceae (11 sp.).

5. Theophytes (Th).—This group is characteristic for grassland patches next to human activities or along swamps. It consist of 200 species in 41 families (10.29% of the total flora) (Fig. 8). The greatest number of species are chiefly in the Poaceae (35 sp.), Cyperaceae (27) and Asteraceae (26); they are light-loving.

In short, the spectrum of the life-forms of the Cucphuong flora is shown: SB (Spectrum of Biology) = 60.44 Ph + 9.77 Ch + 11.57 H + 7.82 Cr +

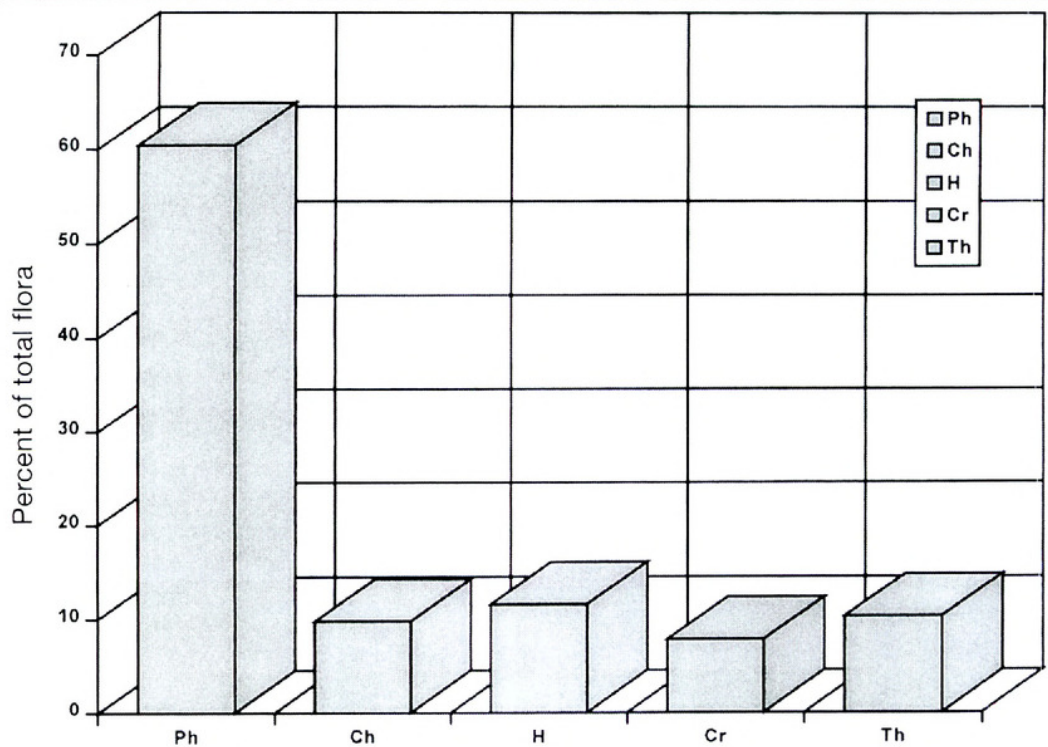


FIG. 8: Spectrum of main life-form groups of Cucphuong flora.

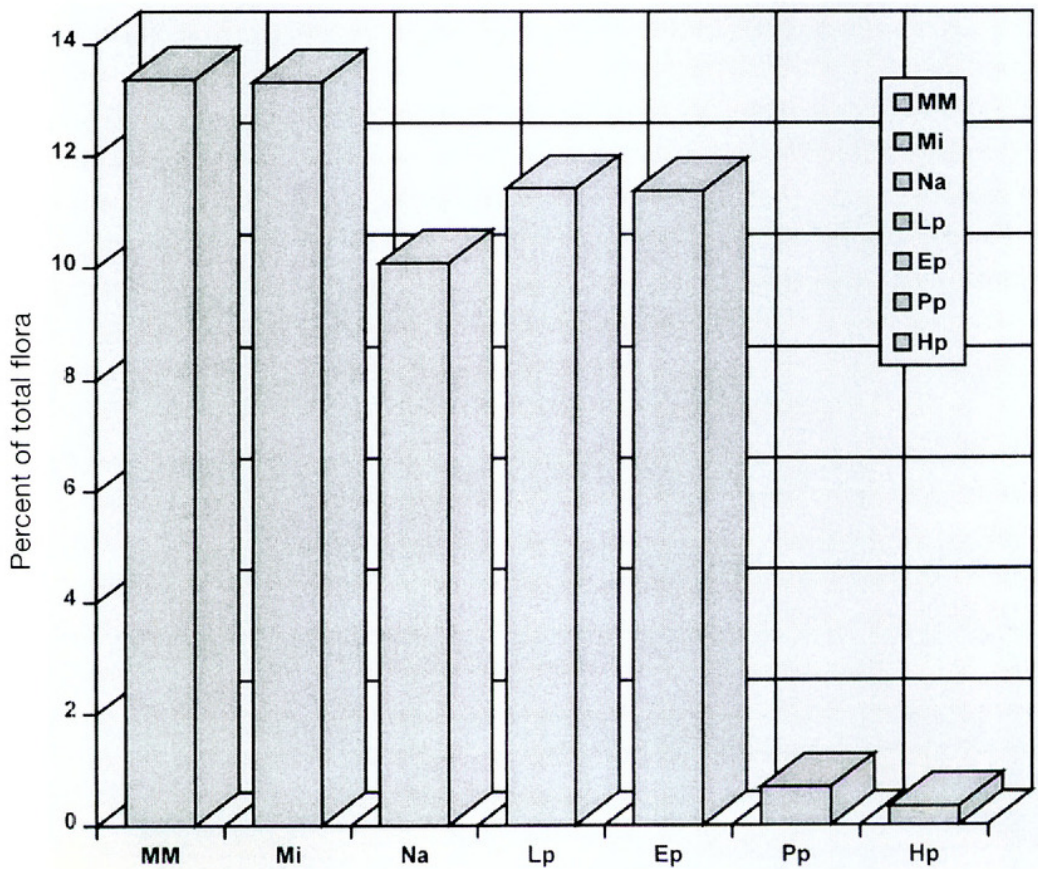


FIG. 9: Spectrum of subgroups of phanerophytes life-form of Cucphuong flora.

10.29 Th, in which Ph = 13.37 MM + 13.32 Mi + 10.08 Na + 11.42 Lp + 11.37 Ep + 0.67 Pp + 0.33 Hp.

If making comparison with the spectra of life-forms from North Vietnam (Pocs 1965a) and from Lamson, Luongson, Hoabinh (Le Tran Chan, Phan Ke Loc, Nguyen Nghia Thin, Nong Van Tiep, 1994) where is near the Cucphuong National Park but destroyed seriously by human activities (Figs. 1, 2) it is clear that the Cucphuong flora is much more primary than the North in general and the Lamson flora in particular. This is shown by high rate of Phanerophytes group and low of Chamaephytes, Hemicryptophytes and Cryptophytes.

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APPENDIX

CHECKLIST OF SPECIES FOUND IN THE CUCPHUONG NATIONAL PARK

Format: Distribution and soil type follows: V—Valleys, SL—Slopes of limestone mountains, SUM—Summits of limestone mountains, NL—Non-limestone soil.

Life-forms: Ph—Phanerophytes including MM—Mega-or Meso-phanerophytes, Mi—Microphanerophytes, Nan—Nanophanerophytes, Lp—Liana-phanerophytes, Ep—Epiphyte—phanerophytes, Pp—Parasite or Hemiparasite-phanerophytes, Hp—Herb-phanerophytes; Ch—Chamaephytes; H—Hemicryptophytes; Cr—Cryptophytes; Th—Theophytes.

BRYOPHYTA

ANTHOCEROPSIDA

ANTHOCROTACEAE

Anthoceros miyabenus Steph., V

MARCHANTIOPSIDA

FRULLANIACEAE

Frullania grandipula Lindenb., V

Frullania moniliata (Reinw. Blume & Nees)
Nees, V

LEJEUNEACEAE

Aphanolejeunea proboscoidea Goeb., V

Cheilolejeunea meyeniana (Steph.) Kach. &
Schust., V

Cololejeunea appressa Bx., V

Cololejeunea bichiana Tixier, V

Cololejeunea crysanthemii Tixier, V

Cololejeunea dankianensis Tixier, V

Cololejeunea floccosa (L. & L.) Steph., V

Cololejeunea formosana Miz., V

Cololejeunea grushvitzkiana Pocs, V

Cololejeunea haskarliana (Gott.) Bx., V

Cololejeunea karstenii Steph., V

Cololejeunea lanciloba Steph., V

Cololejeunea ninbinbiana Tixier, V

Cololejeunea nymanii Steph., V

Cololejeunea trammimbiana Tixier, V

Colura acutifolia Ast., V

Colura ari Steph., V

Lejeunea flava (Sw.) Nees, V

Leptolejeunea balansae Steph., V

Leptolejeunea subacuta Steph., V

Leptolejeunea vitrea (Nees) Steph., V

Lopholejeunea vietnamica Tixier, V

LOPHOCOLEACEAE*Heterocyphus argutus* (Nees) Schiffn., V**MARCHANTACEAE***Marchantia palmata* Nees, V**PLAGIOCHILACEAE***Plagiochila acanthophylla* Gott., V*Plagiochila fissifolia* Steph., V*Plagiochila fordiana* Steph., V*Plagiochila subplanata* Inoue H., V**RADULACEAE***Radula acuminata* Steph., V**BRYOPSIDA****AMBLYSTEGIACEAE***Sciaraniopsis bonianum* (Besch.) Tixier, V**BARTRAMIACEAE***Philonotis revoluta* Bosch & Lacout., V**BRANCHYTHERIDIACEAE***Cirriphyllum oxyrrhynchum* (Doz. & Molk.) M. Fleisch., V*Rhynchostegium aciculum* (Broth. & Par.) M. Fleisch., V*Rhynchostegium colebicum* (Lacout.) Jaeg., V*Rhynchostegium vagans* (Harv.) Jaeg., V**BRYACEAE***Bryum ambiguum* Duby., V**CALYMPERACEAE***Syrrophodon larmitani* M. Fleisch., V**DALTONIACEAE***Cyatophorella tonkinensis* (Broth. & Par.) Broth., V**DICRANACEAE***Dicranella eustegia* (C. Muell.) Bosch & Lacout., V*Holomitrium griffithianum* Mitt., V*Leucoloma molle* (C. Muell.) Mitt., V*Leucophanes candidum* (Hornsch.) Lindl., V*Trematodon longicollis* Michx., V**ENTODONTACEAE***Erythrodontium flarascens* (Hook.) Bosch & Lacout., V*Erythrodontium julaceum* (Hook.) Par., V*Tetrachyphyllum inflexum* (Harv.) Gepp., V**FABRONIACEAE***Campylodontium flavaschochs* (Hook.) Bosch & Lacout., V**FISSIDENTACEAE***Fissidens bolianus* Doz. & Hook., V*Fissidens incertus* Ther., V*Fissidens nobilis* Griff., V*Fissidens sylvaticus* Griff., V*Fissidens sollingeri* Montg., V**FUNARIACEAE***Physcomitrium repandum* (Griff.) Mitt., V**HOOKERIACEAE***Callicestella papillata* Mitt., V*Distichophyllum nigricaulis* Doz. & Molk., V*Hypopterigium apiculatum* Thwait. & Mitt., V*Hypopterigium aristatum* Bosch & Lacout., V*Hypopterigium tenellum* C. Muell., V*Hypopterigium vriesii* Bosch & Lacout., V*Lopodium trichocladon* (Bosch & Lacout.) M. Fleisch., V**HYPNACEAE***Ectropothecium chamissonis* (Hernsch.) Jaeg., V*Ectropothecium monumentorum* (Duby.) Jaeg., V*Isopterygium chlorophyllum* Bosch, V*Isopterygium lignicola* (Mitt.) Jaeg., V*Isopterygium pobliaecarpum* (Sull. & Leag.) Jaeg., V*Taxiphyllum taxirameum* (Mitt.) M. Fleisch., V*Vesicularia reticulata* (Doz. & Molk.) Broth., V*Vesicularia tonkinensis* (Bosch) Broth., V**METEORIACEAE***Aerobryidium filamentosum* (Hook.) M. Fleisch., V*Aerobryopsis deflexa* Broth. & Par., V*Aerobryopsis longissima* (Doz. & Holk.) M. Fleisch., V*Floribundaria pseudofloribunda* M. Fleisch., V*Meteoriopsis buehneri* (Brid.) M. Fleisch., V*Meteoriopsis squarrosa* (Hook.) M. Fleisch., V**MNIACEAE***Plagionium rostratum* (Schrad.) Kop. T., V*Plagionium succulentum* (Schard.) Kop. T., V**NECKERACEAE***Calyptothecium wrightii* Mitt., V*Himantocladium plumula* (Nees) M. Fleisch., V*Homaliodelphus targionianus* (Mitt.) Dix., V*Homaliodendron exiguum* (Bosch & Lacout.) M. Fleisch., V*Homaliodendron flabellatum* (Dicks.) M. Fleisch., V*Homaliodendron microdendron* (Bont.) M. Fleisch., V*Homaliodendron scalpellifolium* (Mitt.) M. Fleisch., V*Neckeropsis montieri* (Broth. & Par.) M. Fleisch., V*Neckeropsis lepianeana* (Hpe ex C. Muell.) Toun., V

Neckeropsis semperiana (Mont.) M. Fleisch., V
Pinnatella alopecuroides (Hook.) M. Fleisch., V
Pinnatella ambigua (Lacout.) M. Fleisch., V
Pinnatella donghamensis Besch., V
Pinnatella kuhliana (Lacout.) M. Fleisch., V
Pinnatella microptera (C. Muell.) M. Fleisch., V

ORTHOTRICHACEAE

Macromitrium gymnostorum Sull. & Lesq., V
Macromitrium nepalense (H. & G.) Schwaegr., V

PHYLLOGONIACEAE

Horikawaea nitida Nog., V

POTTIACEAE

Hydrogonium pseudochenbergi (M. Fleisch.) Chen., V
Hymenocytium involuta (Hook.) Jaeg., V
Hyophyla involuta (Hook.) Jaeg., V
Pseudosymblypharis papillesula (Curd. & Their.) Broth., V
Trichostomum involutum Broth., V
Trichostomum perivolutum Tixier, V
Weisia longidens Card., V

PTEROBRYACEAE

Garovaglia crispata Tixier, V
Garovaglia powellii Besch., V

RACOPILACEAE

Racopilum schmidii (C. Muell.) Mitt., V

SEMATOPHYLLACEAE

Acanthodadium pocsii Tixier, V
Acanthorrhynchium papillatum (Harv.) M. Fleisch., V
Glossadelphus bontanii (Broth. & Far.) Broth., V
Sematophyllum subhumile (C. M.) M. Fleisch., V
Taxithelium instratum (Brid.) Broth., V
Taxithelium isooladium (Lacout.) Reh. & Card., V

TRACHYPODIACEAE

Diaphanodon blanius (Harv.) M. Fleisch., V
Pseudosporidontopsis horrida (Card.) M. Fleisch., V

THUIDIACEAE

Anomodon tonkinensis Besch., V
Claopodium aciculatum (Broth.) Broth., V
Claopodium assurgens (Sull. & Lesq.) Card., V
Haplocladium minutifolium Their., V
Haplocladium sublanceum (Mitt.) Broth., V
Haplobytenium pseudotriste (C. Muell.) Broth., V
Herpetineuron tocaeae (Sull. & Lesq.) Ren. & Card., V
Pelekium velatum Mitt., V
Thuidium bonianum Besch., V

Thuidium cymbifolium (Dz. & Molk.) Bosch & Lacout., V

Thuidium meyenianum (Hpe.) Bosch & Lacout., V

Thuidium tamaricellum (Mitt.) Bosch & Lacout., V

PSILOTOPHYTA

PSILOTACEAE

Psilotum nudum (L.) Griseb. (*P. triquetrum* Sw.), SL, Ep

LYCOPODIOPHYTA

LYCOPODIACEAE

Lycopodium carinatum Desv., SUM, Ep
Lycopodium cernuum L., NL, H

SELAGINELLACEAE

Selaginella biformis A. Br. ex Kuhn, V, H
Selaginella decipiens Warb., V, H
Selaginella intermedia (Blume) Spring, V, H
Selaginella pubescens (Wall.) Spring, V, H
Selaginella siamensis Hieron., V, H
Selaginella tamariscina (Beauv.) Spring, V, H
Selaginella wallichii (Hook. & Griev.) Spring, V, H

EQUISETOPHYTA

EQUISETACEAE

Equisetum ramocissimum Desf., NL, Cr
 ssp. *debile* (Roxb.) Hauke (*E. debile* Roxb.)

POLYPODIOPHYTA

ADIANTACEAE

Adiantum caudatum L., SL, H
Adiantum flabellulatum L., V, H
Cheilanthes tenuifolia (Burm.) Sw., V, Th

ASPLENIACEAE

Asplenium antrophyoides Christ, V, H
Asplenium belangeri (Bory) Kze, SL, H
Asplenium grevillei Wall., SL, H
Asplenium aff. grevillei Wall., SL, H
Asplenium griffithianum Hook., NL, H
Asplenium nidus L., NL, Ep
Asplenium pseudolaserpitiifolium Ching, V, Ep
Asplenium saxicola Ros., SL, H
Asplenium unilaterale Lam., V, H

AZOLLACEAE

Azolla imbricata (Roxb.) Nakai, NL, Th

BLECHNACEAE

Blechnum orientale L., NL, Ch
Stenochlaena palustris (Burm.) Bedd., NL, Ch

CYATHEACEAE*Cyathea podophylla* Cop., V, N*Cyathea* aff. *contaminans* (Wall.) Cop., V, Mi**DAVALLIACEAE***Arthropteris obliterated* (R. Br.) J. Sm., V, H*Davallia formosana* Hay., V, H (*Davallia divaricata* Blume) var. *orientalis* Tard.-Blot & C. Ch.*Humata repens* (L.f.) Diels, SUM, Ep*Nephrolepis cordifolia* (L.) Presl, SL, H*Nephrolepis falcata* (Cav.) G. Ch., V, H**DENNSTAEDTIACEAE***Lindsaea orbiculata* (Lam.) Mett. ex. Kuhn, SL, H*Microlepia bokeriana* (Wall.) Fresl, V, H*Microlepia marginata* (Houtt.) C. Chr., V, H*Microlepia speluncae* (L.) Moore, V, H*Microlepia speluncae* (L.) Moore var. *bancei* C. Chr. & Tard.-Blot, V, H*Schizoloma ensifolium* (Sw.) J. Sm., SL, H*Schizoloma heterophyllum* (Dry.) J. Sm., SL, Cr*Stenoloma chusanum* Ching, V, Cr**DICKSONIACEAE***Cibotium barometz* (L.) J. Sm., V, Ch**DRYOPTERIDACEAE***Ctenitopsis* sp., V, H*Cyclopeltis* aff. *crenata* (Fee) C. Chr., V, Cr*Hemigramma decurrens* (Hook.) Cop., V, H*Quercifilix zeylanica* (Houtt.) Cop., NL, H*Tectaria decurrens* (Presl) Cop., V, H*Tectaria devexa* Cop., V, H*Tectaria leuana* Cop., V, H*Tectaria quinquefida* Ching, V, H*Tectaria simonsii* (Bedd.) Ching, V, H*Tectaria subtriphylla* (Hook. & Arn.) Cop., NL, H*Tectaria variolosa* (Wall.) C. Chr., V, H**GLEICHENIACEAE***Dicranopteris linearis* (Burm. f.) Underw., NL, Cr (*Gleichenia linearis* Clarke)**GRAMMITIDACEAE***Prosaptia* aff. *urceolaris* Cop. var. *intermedia* (Ching) Ching, SL, H**HYMENOPHYLLACEAE***Crepidomanes bipunctatum* (Poir.) Cop., V, H (*Trichomanes bipunctatum* Poir.)*Mecodium exsertum* (Wall.) Cop., V, Ep (*Hymenophyllum exsertum* Wall.)*Microgonium beccarianum* (Cesati) Cop., SL, Ep (*Trichomanes motleyi* v. d. B.)*Vandenboschia auriculata* (Blume) Cop., SL, Ep (*Trichomanes auriculatum* Blume)*Vandenboschia cystosciroides* (Christ) Ching, SL, Ep (*Trichomanes cystosciroides* G. Christ)**LOMARIOPSIDACEAE***Bolbitis heteroclita* (Presl) Ching, NL, Ch*Lomariopsis spectabilis* Mett., NL, Ep**MARATTIACEAE***Angiopteris* aff. *repandula* de Vriese, V, H*Archangiopteris* sp., V, H**MARSILEACEAE***Marsilea minuta* L., NL, Cr*Marsilea aquatilis* L., NL, Cr**OPHIOGLOSSACEAE***Helminthostachys zeylanica* (L.) Hook., NL, Cr**PARKERIACEAE***Ceratopteris thalictroides* Brongn., NL, Th**POLYPODIACEAE***Colysis bonii* Ching, V, Ch*Colysis digitata* (Bak.) Ching f. *digitata*, V, Ep f. *annamensis* C. Chr. & Tard. Blot*Colysis dissimilata* Ching, V, Ch*Colysis pothifolia* (D. Don) Presl, V, Ep (*Colysis elliptica* Ching var. *pothifolia* Ching)*Colysis wrightii* Ching, V, Ep*Colysis* sp1., V, Ep*Colysis* sp2., V, Ep*Drynaria fortunei* (Kuntze) J. Sm., SL, Ep*Lemmaphyllum microphyllum* Presl var. *obovatum* (Harr.) C. Chr., NL, Ep*Leptochilus laciniatus* Ching var. *simplex* Ching, V, Ep*Loxogramme lankokiensis* C. Chr., V, Ep*Microsorium dilatatum* (Bedd.) Sledge, V, Ch (*M. bancei* (Bak.) Ching)*Microsorium steerei* Ching, V, Ch*Neocheiropteris phyllomanes* (Christ) Ching, SL, Ch*Phymatosorus longissima* (Moore) J. Sm., V, Ch*Phymatosorus* sp., SL, Ch*Pseudodrynaria coronans* (Wall.) Ching, V, Ep (*Aglaomorpha coronans* Cop.)*Pyrrhosia adnascens* (Sw.) Ching, V, Ep*Pyrrhosia flocculosa* Ching, SL, Ch*Pyrrhosia lingua* (Thunb.) Farwell, SL, Ch*Pyrrhosia tonkinensis* (Gies.) Ching, V, Ep**PTERIDACEAE***Pteridium aquilinum* Kuhn, NL, Ch*Pteris cadieri* Christ, NL, H*Pteris dissitifolia* Bak., NL, H (*P. semipinnata* L. var. *dissitifolia* Tard.-Blot & C. Chr.)*Pteris ensiformis* Burm., SL, H*Pteris fenotii* Christ, SL, H*Pteris grevilleana* Wall., SL, H

Pteris kbasyana Hier., V, H
Pteris longipes D. Don, V, H
Pteris oshimensis Hier., V, H
Pteris semipinnata L., V, H

SALVINIACEAE

Salvinia cucullata Hoffm., NL, Th
Salvinia natans (L.) All., NL, Th

SCHIZAEACEAE

Lygodium conforme C. Chr., V, Cr
Lygodium flexuosum (L.) Sw., NL, Cr
Lygodium flexuosum (L.) Sw. var. *alata* Clarke,
 NL, Cr
Lygodium japonicum (Thunb.) Sw., NL, Cr
Lygodium microstachyum Desv., NL, Cr
Lygodium polystachyum Wall., NL, Cr
Lygodium scandens (L.) Sw., NL, Cr
Lygodium subareolatum Christ, NL, Ch

THELYPTERIDACEAE

Abacopteris cuspidatus Ching, NL, H (*Cyclosorus
 cuspidatus* Tard.-Blot)
Abacopteris simplex (Hook.) Ching, NL, H
 (*Cyclosorus triphyllus* Tard.-Blot var. *simplex*
 Hook.)
Abacopteris triphylla (Sw.) Ching, NL, H
 (*Cyclosorus triphyllus* Tard.-Blot)
Abacopteris urophylla Ching, NL, H (*Cyclosorus
 urophylla* Tard.-Blot)
Cyclosorus balansae C. Chr. & Tard.-Blot, V, H
Cyclosorus clausenii Ching, V, H
Cyclosorus papilio Tard.-Blot, V, H
Cyclosorus parasiticus (L.) Farwell., V, H
Cyclosorus proliferus Tard.-Blot, V, H
Cyclosorus sphenolobos Tard.-Blot, V, H
Cyclosorus truncatus Ito, V, H
Cyclosorus unitus Ching, V, H
Cyclosorus sp1., V, H
Cyclosorus sp2., V, H
Thelypteris singaiaensis Ching, V, H
Thelypteris tonkinensis Ching, V, H

VITTARIACEAE

Antrophyum callifolium Blume, V, Ep
Antrophyum coriaceum Wall., V, Ep
Antrophyum sp., V, Ep
Vittaria elongata Sw., V, Ep var. *merrillii* C. Chr.
 & Tard.-Blot var. *zosterifolia* C. Chr. & Tard.-
 Bot
Vittaria flexuosa Fee, V, Ep
Vittaria hainanensis C. Chr., V, Ep

WOODSIACEAE

Callipteris esculenta (Retz.) J. Sm., V, H
Diplazium sp., V, H
Diplazium donianum (Mett.) Tard.-Blot, V, H

Diplazium maximum C. Chr., V, Ch
Diplazium pinnatifido-pinnatum Moore, V, H
Diplazium sp., V, H

PINOPHYTA

CYCADACEAE

Cycas balansae Warb., SL, Na

GNETACEAE

Gnetum montanum Mgf., SL, Lp

PODOCARPACEAE

Podocarpus fleuryi Hickel, SL, MM

MAGNOLIOPHYTA

MAGNOLIOPSIDA

ACANTHACEAE

Barleria lupulina Lindl.-Gaidk., V, Na
Codonacanthus pauciflorus (Nees) Nees, V, Ch
Dicliptera chinensis (L.) Nees, V, Th
Eranthemum nervosum Roem., V, Ch
Hygrophila angustifolia R. Br., V, Ch
Hygrophila phlomoides Nees, V, Ch
Justicia equitans R. Ben., V, Ch
Justicia gendarusa R. Ben., NL, Na
Justicia pauperula R. Ben., NL, Na
Justicia procumbens L., NL, Ch
Justicia vagabunda R. Ben., V, Ch
Justicia ventricosa Wall., V, Na
Justicia sp1., V, Ch
Justicia sp2., V, Ch
Justicia sp3., V, Na
Peristrophe roxburghiana (Schult.) Brem., NL,
 Ch (*P. tinctoria* Nees)
Phlogacanthus colaniae R. Ben., NL, Na
Phlogacanthus curvislorus Nees, V, Na
Phlogacanthus sp., V, Na
Pseuderanthemum crenulatum Lindl., V, Na
Pseuderanthemum palatiferum Radlk., V, Na
Pseuderanthemum poilanei R. Ben., V, Na
Pseuderanthemum tonkinensis R. Ben., V, Na
Rhinacanthus calcaratus Nees, V, Na
Rhinacanthus communis Nees, NL, Na
Ruellia flagelliformis Roxb., NL, H
Ruellia repens L., V, Ch
Rungia tonkinensis R. Ben., V, Ch
Rungia sp., V, Ch
Sphinetacanthus sp., V, Na
Strobilanthes acrocephalus T. Anders., V, H
Strobilanthes brunnescens R. Ben., V, Na
Strobilanthes dalzielii (Smith.) R. Ben. var.
inaequalis R. Ben., V, Na
Strobilanthes lilacinus Clarke, V, Na
Strobilanthes multangurus R. Ben., V, Na

- Thunbergia eberhardtii* R. Ben., V, Lp
Thunbergia grandiflora Roxb. var. *cordifolia* R.
 Ben., V, Lp

ACERACEAE

- Acer decandrum* Merr., V, MM
Acer oblongum Wall., V, Mi
Acer tonkinensis Lecomte, SL, Mi
Acer sp., SL, Mi

ACTINIDIACEAE

- Saurauia tristyla* DC., NL, Mi

ALANGIACEAE

- Alangium barbatum* (R.Br.) Baill. var. *decipens*
 (Evrard) Tardieu-Blot, V, Mi (*A. decipiens*
 Evrard)
Alangium chinensis (Lour.) Rehd., V, MM
Alangium kurzii Craib, V, MM
Alangium salvifolium (L.f.) Wang., SL, Lp

AMARANTHACEAE

- Achyranthes aspera* L., V, H
Achyranthes bidentata Bl., V, H
Alternanthera sessilis (L.) R. Br. ex Roem., NL,
 Th
Amaranthus spinosus L., NL, Th
Celosia argentea L., NL, Th
Celosia argentea L. var. *cristata* Moq., NL, Th
 (*Celosia cristata* Miq.)
Cyathula prostrata (L.) Blume, NL, Ch
Deeringia amaranthoides (Lam.) Merr., V, Lp

ANACARDIACEAE

- Dracontomelum duperreanum* Pierre, V, MM
Drymicarpus racemosus Hook., V, Mi
Mangifera foetida Lour., V, MM
Pegia sarmentosa (H. Lec.) Hand.-Maz., V, Lp
 (*Phlebociton sarmentosum* H. Lec.)
Pistacia cucphuongensis Dai, SUM, Mi
Pistacia weinmanifolia Poiss. ex Franch. var.
symplex Wu & Ifang., SUM, Mi
Rhus chinensis Muller, V, Mi (*Rhus semialata*
 Murr.)
Choerospondias axillaris (Roxb.) Burtt. & Hill,
 V, MM
Spondias lakonensis Pierre, V, MM
Spondias pinnata (L.f.) Kurz, V, MM (*S.*
mangifera Will.)
Toxicodendron rhesoides (Craib) Tard., V, Mi
Toxicodendron succedanea (L.) Moldenke, V, Mi

ANNONACEAE

- Alphonsea boniana* Finet & Gagnep., SL, MM
Alphonsea squamosa Finet & Gagnep., SL, MM
Alphonsea tonkinensis Aug. DC., SL, Mi
Alphonsea sp., SL, Mi
Annona reticulata L., NL, Mi
Annona squamosa L., V, Mi

- Artabotrys vinbensis* Ast., NL, Lp
Dasydaschalos rostratum Merr. & Chun. var.
glaucum (Merr. & Chun) Ban, NL, Mi (*D.*
glaucum Merr. & Chun)
Dasydaschalos sp., NL, Mi
Desmos cambodius (Pierre) Ast., NL, Mi
Desmos cochinchinensis Lour., NL, Lp
Desmos dubius Hook., NL, Lp
Desmos latifolium Hook., NL, Lp
Goniobalanus tamirensis Pierre, NL, Na
Fissistigma glaucescens (Hance) Merr., NL, Lp
Fissistigma latifolium Hook., NL, Lp
Fissistigma maclurei Merr., NL, Lp
Fissistigma poilanei (Ast.) Tsiang & Li, NL, Lp
 (*Melodorum poilanei* Ast.)
Fissistigma schefferi Pierre, NL, Lp
Miliusa balansae Finet & Gagnep., NL, Mi
Miliusa campanulata Pierre, NL, Mi
Miliusa filipes Merr., NL, Mi
Miliusa mollis Pierre, NL, Mi
Mitrephora calcarea Diels, V, MM
Mitrephora maingayi Hook., V, Mi
Mitrephora pallens Ast., V, Mi
Mitrephora trimetra Craib, V, Mi
Polyalthia consanguinea Merr., V, MM
Polyalthia laui Merr., V, MM
Uvaria boniana Finet & Gagnep., V, Lp
Uvaria cordata (Dun.) Wall. ex Alston, V, Lp
 (*U. macrophylla* Roxb.)
Uvaria tonkinensis Finet & Gagnep., V, Lp

APIACEAE (UMBELLIFERAE)

- Centella asiatica* (L.) Urb., NL, H
Cnidium monnieri (L.) Cuss., NL, Th
Eryngium foetidum L., NL, H
Hydrocotyle javanica Thunb., V, H
Hydrocotyle sibthorpioides Lam., V, H

APOCYNACEAE

- Alstonia scholaris* (L.) R. Br., SL, MM
Alyxia divaricata Pitard, SL, Lp
Beaumontia grandiflora Wall., SL, Lp
Chonemorpha eriostylis Pitard var. *baviensis*
 Pitard, SL, Lp
Cirbera manghas L., NL, MM
Ecdysanthera rosea Hook., SUM, Lp
Ervatamia bonii (Pitard) Pichon, V, Na
 (*Tabernaemontana bonii* Pitard)
Ervatamia bovina (Lour.) Markgr., V, Na (*T.*
tonkinensis Pitard, *T. repensis* Pierre ex Pitard)
Holarrhena antidysenterica (Roxb. & Flem.)
 A.DC., V, MM
Holarrhena similis Craib., NL, Mi
Kitabalia macrophylla (Pierre) Woodson, V, Mi
Kitabalia microphylla (Pitard) Woodson, SL, Mi
Kopsia tonkinensis Pitard, SL, Na
Melodinus annamensis Pitard, SL, Lp

Melodinus erianthus Pitard, SL, Lp
Melodinus tonkinensis Pitard, SL, Lp
Plumeria acutifolia Poir., SUM, Mi
Parsonia spiralis Wall., SUM, Lp
Pottsia cantonensis Hook., SL, Lp
Pottsia laxiflora (Blume) Kuntze, SL, Lp
Rauwolfia cambodiana Pierre ex Pitard, V, Mi
Rhynchodia capusii Pierre, V, Lp
Spirolobium cambodianum Baill., SUM, Lp
Strophanthus divaricatus (Lour.) Hook. & Arn.,
 NL, Mi (*S. divergens* Grah.)
Wrightia annamensis Dub. & Eberh., NL, Mi
Wrightia laevis Hook.f., SUM, Mi (*W. balansae*
 Pitard)
Wrightia sikkimensis Gamble, SUM, Mi (*W.*
stellata Pitard)
Wrightia tomentosa (Roxb.) Roem. & Schult.,
 SUM, Mi
Wrightia reynandii (Jum.) Pitard, SL, Lp

AQUIFOLIACEAE

Ilex cinerea Champ., V, Ch
Ilex memecylifolia Champ., V, Mi
Ilex purpurea Hassk. var. *nervosa* Loesn., V, MM
Ilex rotunda Thunb., V, MM

ARALIACEAE

Aralia armata (Wall. ex G. Don) Seem., NL,
 Lp
Aralia chinensis L., NL, Mi
Aralia thomsonii C.B. Clark var. *thomsonii*, SL,
 Ch var. *petiolulosa* Ha
Aralia vietnamensis Ha, SL, Na
Brassaiopsis glomerulata (Blume) Regel., SL, Mi
Brassaiopsis bainla (Ham.) Seem., SL, Na
Brassaiopsis varianalis Shang, V, Na
Heteropanax fragran (Roxb.) Seem., SL, MM
Macropanax oreophilus Miq., SL, Mi
Schefflera globulifera Grushv. & Skvorts., SL, Na
Schefflera glomerulata Li, SL, Na
Schefflera leucantha R. Vig., SL, Lp
Schefflera nitidifolia Harm., SL, Na
Schefflera octophylla (Lour.) Harm., NL, Mi
Schefflera petelotii Merr., SL, Mi
Schefflera pes-avis R. Vig., SUM, Na
Schefflera tonkinensis R. Vig., SL, Na
Trevesia sphaerocarpa Grushv., V, Mi

ARISTOLOCHIACEAE

Aristolochia aff. *dongnaiensis* Pierre, V, Lp
Aristolochia sp1., V, Lp
Aristolochia sp2., V, Lp
Aristolochia sp3., V, Lp

ASCLEPIADACEAE

Asclepias curassavica L., NL, Ch
Congronema sp., V, Lp
Cryptolepis buehananii Roem. & Sch., V, Lp

Cynanchum corymbosum Wright., V, Lp
Dischidia acuminata Cost., SL, Ep
Dischidia alboflava Cost., SL, Ep
Dischidia sp., SL, Ep
Dregea sp., V, Ch
Gymnema latifolia Wall., SL, Ch
Hoya bonii Cost., SL, Ep
Hoya multiflora Blume, SL, Ep
Hoya villosa Cost., SL, Ep
Hoya sp., SL, Ep
Marsdenia balansae Cost., SL, Ch
Marsdenia tinctoria Br., SL, Ch
Marsdenia urceolata Decne., SL, Ch
Myriopteris sp., SL, Ch
Oxystalma esculentum Br., SL, Ch
Secamone bonii Cost., SL, Ch
Streptocaulon griffithii Hook., NL, Ch
Telosma cordata (Burm. f.) Merr., NL, Ch
Toxocarpus griffithii Decne, NL, Lp
Toxocarpus bossensii Schlechter, NL, Lp
Toxocarpus villosus Decne., NL, Lp
Toxocarpus villosus Decne., var. *brevistylis* Cost.,
 NL, Lp

ASTERACEAE

Adenostemma viscosum Forst., V, Ch
Ageratum conyzoides L., V, Th
Artemisia carviflora Wall., NL, Th
Artemisia vulgaris L., NL, Ch
Aster trinervius Roxb., NL, Th
Bidens bipinnata L., NL, Th
Bidens pilosa L., NL, Th
Blumea balsamifera (L.) DC., V, Ch
Blumea glomerata DC., NL, Ch
Blumea hieracifolia DC., NL, Ch
Blumea hongkongensis Vaniot, NL, Ch
Blumea laciniata (Roxb.) DC., NL, Ch
Blumea lanceolaria (Roxb.) Druce, V, Ch (*B.*
myriocephala DC.)
Blumea procera DC., NL, Ch
Blumea pubigera Merr., NL, Ch (*B. chinensis* (L.)
 DC.
Blumea sp., NL, Ch
Capasium abrotanoides L., NL, Ch
Chromolaena nodiflorum (DC.) Sch.-Bip., V, Ch
Chromolaena odoratum (L.) King & Robinson,
 NL, Ch
Chromolaena revesii (Wall.) Sch.-Bip., V, Ch
Cnicus chinensis Maxim., NL, Ch
Cnicus japonicus Maxim., NL, Ch
Conyza viscidula Wall., NL, Lp
Cotula anthemoides Lour., NL, Ch
Crassocephalum crepidioides (Benth.) S. Moore,
 NL, Th
Crepis bonii Gagnep., NL, Th
Crepis japonica Benth., NL, Th

- Dicrocephala latifolia* (Lam.) DC., NL, Th
Eclipta alba Hassk., V, Th
Elephantopus bodinieri Gagnep., V, Ch
Elephantopus scaber L., V, H
Emilia sonchifolia DC., V, Th
Endydra fluctuans Lour., NL, H
Erigeron canadense L., NL, Th
Gnaphalium indicum L., NL, Th
Gnaphalium luteo-album L., NL, Th
Grangea maderaspatana Poir., NL, Th
Gynura procumbens (Lour.) Merr., NL, Cr (G. *sarmentosa* DC.)
Gynura pseudochina DC., NL, Cr
Gynura sp., NL, Cr
Hemistepta lyrata Bunge, NL, Th
Inula lappa DC., NL, Th
Lactuca indica L., NL, Th
Parthenium hysterophorus L., V, Th
Pluchea indica Less., NL, H
Rhynchospermum verticillatum Reinw., NL, Ch
Senecio scandens D. Don, NL, Ch
Senecio sp., V, Ch
Siegesbeckia orientalis L., NL, Th
Sphaeranthus africanus L., NL, Ch
Spilanthes acmella L., NL, Th
Synedrella nodiflora Gaertn., V, Th
Thespis tonkinensis Gagnep., V, Th
Tridax procumbens L., NL, Th
Vernonia andersoni Clarke, NL, Ch
Vernonia arborea Ham., NL, MM
Vernonia cinerea Less., NL, Th
Vernonia divergens Benth., NL, Ch
Vernonia patula Merr., NL, Th
Vernonia thorelii Gagnep., NL, Ch
Vernonia tonkinensis Gagnep., NL, Ch
Xanthium strumarium L., NL, Th
Wedelia calendulacea Less., NL, Ch
Wedelia urticaefolia DC., NL, Ch
- BALANOPHORACEAE**
Balanophora fungosa Forst. & Forst. f., V, Pp
 (B. *pierrei* H. Lec.)
Balanophora sp., V, Pp
- BALSAMINACEAE**
Impatiens bonii Hook.f., V, Ch
Impatiens chinensis L., V, Th
Impatiens claviger Hook.f., V, Ch
Impatiens aff. *verrucifer* Hook.f., V, Ch
- BASELLACEAE**
Basella rubra L., NL, Ch
- BEGONIACEAE**
Begonia sp1., V, Ch
Begonia sp2., V, Ch
Begonia sp3., V, Ch
Begonia sp4., V, Ch
Begonia sp5., V, Ch
- BIGNONIACEAE**
Fernandoa collignonii (Dop) Steen., V, MM
 (Spathodeopsis *collignonii* Dop)
Fernandoa sp., V, MM
Markhamia stipulata Soem., V, MM
Oroxylon indicum (L.) Vent., V, MM
Radermachera boniana Dop, V, MM
Radermachera ignea (Kurz) Steen., V, MM
 (Mayodendron *igneum* Kurz)
- BIXACEAE**
Bixa orellana L., NL, Mi
- BOMBACACEAE**
Gossampinus malabaricum (DC.) Merr., V, MM
- BORAGINACEAE**
Bothriospermum tenellum Fisch., V, Th
Cordia grandis Roxb., NL, Mi
Carmone microphylla (Lam.) Don, V, Na
Ebretia hanceana Hemsl., NL, Lp
Ebretia acuminata R. Br., V, Mi
Heliotropium indicum L., NL, Th
Tournefortia sarmentosa Lam., V, Lp
- BRASSICACEAE**
Cardamine hirsuta L. var. *silvatica* Link., NL, H
Rorippa indica (L.) Hiern., NL, Cr
Rorippa nasturtium-aquaticum (L.) Hayek., NL, Th
- BUDDLEJACEAE**
Buddleja asiatica Lour., NL, Na
- BURSERACEAE**
Bursera tonkinensis Guill., SL, MM
Canarium album Raeusch., SL, MM
Canarium subulatum Guill., SL, MM (C. *vittatistipulatum* Guill.)
Canarium tonkinense Engl., SL, MM
Canarium tramdenum Dai & Jakovl., SL, MM
Garuga pinnata Roxb., SL, MM
- BUXACEAE**
Buxus wallichiana Baill., SUM, Ch
- CAMPANULACEAE**
Codonopsis celebica (Blume) Thuan, V, Cr
Codonopsis javanica (Blume) Hook.f., V, Cr
Lobelia chinensis Lour., V, Ch
Pratia begonifolia Lindl., V, Cr
- CAPPARACEAE**
Capparis viburnifolia Gagnep., V, Lp
Capparis viminea Hook., V, Na
Capparis sp1., V, Lp
Capparis sp2., V, Lp

Capparis sp3., V, Lp
Cleome gynandra L., NL, Th
Cleome pentaphylla DC., NL, Th
Cleome sp., NL, Th
Crataeva magna (Lour.) DC., V, MM
Stixis ovata (Korth.) Hall. f., V, Lp

CAPRIFOLIACEAE

Lonicera dasystyla Rehder, V, Lp
Sambucus javanica Reinw. ex Blume, V, Na
Viburnum lutescens Blume, V, Mi (V. *colebrookianum* Wall.)
Viburnum sp., V, Na

CARDIOPTERIDACEAE

Cardiopteris lobata Wall., V, Ch

CARICACEAE

Carica papaya L., V, PhH

CARYOPHYLLACEAE

Drymaria cordata Willd., V, Th
Malachium aquaticum Fries, NL, Ch

CECROPIACEAE

Poikilospermum suaveolens (Blume) Merr., V, Lp
(Conocephalus tonkinensis O. Renner)

CELASTRACEAE

Celastrus gemata Loesw., V, Lp
Celastrus bindsii Benth. & Hook., V, Lp
Celastrus orbiculata Merr., V, Lp
Celastrus tonkinensis Pitard, V, Lp
Celastrus sp., V, Lp
Euonymus nitratus Pierre, SUM, Mi
Euonymus aff. *nitidus* Benth., SUM, Mi
Euonymus sp., SUM, Mi
Glyptopetalum gracilipes Pierre, SUM, Na
Glyptopetalum tonkinense Pitard, SL, Na
Hippocratea indica Willd., SL, Lp
Hippocratea sp., SL, Lp

CERATOPHYLLACEAE

Ceratophyllum demersum L., NL, Cr

CHENOPODIACEAE

Chenopodium album L., NL, Th
Chenopodium ambrosioides L., NL, Th

CHLORANTHACEAE

Chloranthus brachystachys Blume, V, Na
Sarcandra glabra (Thunb.) Nakai, V, Na

CLUSIACEAE

Callophyllum balansae Pitard, SUM, MM
Callophyllum bonii Pitard, SUM, MM
Callophyllum tonkinensis Pitard, SL, Mi
Cratoxylon cochinchinensis (Lour.) Blume, NL, Mi (*Cratoxylon polyanthum* Korth.)
Cratoxylon formosum (Jack.) Dyer, NL, Mi

ssp. *prunifolium* (Kurz) Gagnep. (*Cratoxylon prunifolium* Dyer.)

Cratoxylon sp., NL, Mi

Garcinia cowa Roxb., V, MM

Garcinia sp1., V, MM

Garcinia sp2., SL, Mi

Hypericum japonicum Thunb., NL, Th

Hypericum sampsonii Hance, NL, Ch

COMBRETACEAE

Anogeissus acuminata (DC.) Guill. & Perr., V, MM (*Anogeissus tonkinensis* Gagnep.)

Combretum latifolium Blume, V, Lp (*Combretum extensum* Roxb.)

Combretum punctatum Blume, V, Lp ssp. *squamosum* (G. Don) Exell. (*Combretum squamosum* Roxb.)

Quisqualis indica L., V, Lp

Terminalia myriocarpa Heurck & Muell., V, MM

CONNARACEAE

Cnestis palala (Lour.) Merr. ssp. *palala* Vidal, NL, Lp

Connarus paniculatus Roxb. var. *paniculatus*, NL, Lp f. *tonkinensis* Vidal

Rourea minor (Gaerth.) Leenh., NL, Lp ssp. *monadelphae* (Roxb.) Vidal

CONVOLVULACEAE

Argyrea capitata (Vahl) Choisy, NL, Lp

Argyrea obtusifolia Lour., NL, Lp

Argyrea pierreana Boiss., NL, Lp

Argyrea sp., NL, Lp

Cuscuta hygrophilae Pearson, NL, Pp

Erycibe boniana Gagnep., V, Ch

Erycibe crassiuscula Gagnep., NL, Ch

Evolvulus sublobata (L.f.) Kuntze, NL, Th

Hexittia sublobata (L.f.) Kuntze, NL, Th (*H. bicolor* Wight)

Ipomoea cairica (L.) Sweet, NL, Lp (*Ipomoea pulchella* Roth)

Ipomoea pes-tigridis L., NL, Lp

Ipomoea pileata Roxb., NL, Lp

Ipomoea sp1., NL, Lp

Ipomoea sp2., NL, Lp

Jacquemontia paniculata (Burm.f.) Hallier f., NL, Lp (*Convolvulus parviflorus* Vahl)

Lepistemon binectariferum (Wall.) Kuntze, NL, Th

Merremia bederacea (Burm.f.) Hallier f., NL, Lp (*Ipomoea chryseides* Ker-Gawl.)

Merremia petaloides (Choisy) Burm.f., NL, Lp (*Ipomoea petaloidea* Choisy)

Merremia vitifolia (Burm.f.) Hallier f., NL, Th (*Ipomoea vitifolia* Sweet)

Neuropeltis maingayi Peter ex Oost., NL, Ch (*Neuropeltis racemosa* Wall.)

Operculina turpethum (L.) S.Manso, NL, Lp
(*Ipomoea turpethum* R. Br.)

CRASSULACEAE

Bryophyllum calycinum Salisb., SUM, Ch

CUCURBITACEAE

Gomphogyne bonii Gagnep., V, Th
Gymnopetalum cochinchinensis (Lour.) Kurz, V, Th
Gymnopetalum integrifolium (Roxb.) Kurz, V, Th
(*Gymnopetalum monoicum* Gagnep.)
Gynostemma pentaphylla (Thunb.) Makino, V, Th
(*Gynostemma pedata* Blume)
Gynostemma sp., V, Th
Hodgsonia macrocarpa (Blume) Cogn., V, Ch
Mukia maderaspatana (L.) Roem., V, Th
(*Melothria maderaspatana* Cogn.)
Momordica cochinchinensis (Lour.) Spreng., V, Ch
Sobena heterophylla Lour., V, Th (*Melothria heterophylla* Cogn.)
Tbladiantha cordifolia (Blume) Cogn., V, Ch
(*Tbladiantha calcarata* Clarke)
Tbladiantha siamensis Craib, V, Ch (*Momordica tonkinensis* Gagnep.)
Trichosanthes ovigera Blume, V, Th (*T. himalensis* Clarke)
Trichosanthes lepinians Cogn., V, Th
Trichosanthes rubriflos Cayla, V, Th
Trichosanthes tricuspidata Blume, V, Th
Trichosanthes sp., NL, Th
Zebneria indica (Lour.) Kurandron, NL, Th
(*Melothria indica* Lour.)
Zebneria maysorensis (Wight & Arn.) Arn., NL, Th
(*Melothria perpusilla* Cogn.)

DATISCAEAE

Tetrameles nudiflora R.Br., V, MM

DILLENIACEAE

Dillenia aurea Sw., V, MM
Dillenia pentagyna Roxb., V, MM
Dillenia turbinata Finet & Gagnep., V, MM (*D. heterosepala* Finet & Gagnep.)
Tetracera scandens (L.) Merr., NL, Lp

DIPTEROCARPACEAE

Hopea bongaiensis Tard. Blot, SUM, MM
Hopea umbellifera Gagnep., V, MM
Shorea chinensis (Wang Hsie) Zhu Hua, V, MM
(*Shorea assamica* Dyer ssp. *assamica*)
Vatica cinerea King, V, MM (*V. harmandiana* Pierre)

EBENACEAE

Diospyros bonii H. Lec., SL, MM
Diospyros eriantha Champ., SL, Mi
Diospyros mun H. Lec., SUM, MM

Diospyros pilosella H. Lec., V, Mi
Diospyros sp1., V, MM
Diospyros sp2., V, MM
Diospyros sp3., V, MM

ELAEAGNACEAE

Elaeagnus bonii H. Lec., SL, Lp
Elaeagnus conferta Roxb. var. *balansae* Serv., SL, Lp

ELAEOCARPACEAE

Elaeocarpus apiculatus Gagnep., V, MM
Elaeocarpus decurvatus Diels, V, MM
Elaeocarpus dubius A. DC., V, MM
Elaeocarpus grandiflorus Smith, SL, MM
Elaeocarpus laoticus Gagnep., V, MM
Elaeocarpus stapfianus Gagnep., V, MM
Elaeocarpus sylvestris Poir., V, MM
Elaeocarpus viguieri Gagnep., V, Mi
Sloanea signa K. Schum., V, MM

ESCALLONIACEAE

Itea chinensis Gagnep., NL, MM
Itea cochinchinensis (Pierre) Gagnep., NL, Mi

EUPHORBIACEAE

Acalypha australis L., NL, Th
Acalypha lanceolata Willd., NL, Mi
Acalypha welkesiana Muell.-Arg., NL, Mi
Actephila excelsa Muell.-Arg., V, Mi
Actephila subsessilis Gagnep., V, Mi
Alchornea rugosa Muell.-Arg., NL, Mi
Alchornea tiliifolia Muell.-Arg., NL, Mi
Aleurites moluccana (L.) Willd., V, MM
Antidesma ambigum Pax & Hoffm., V, Mi
Antidesma fordii Hemsl., V, MM (*Antidesma yunnanense* Pax & Hoffm.)
Antidesma ghaesambilla Gaertn., V, Mi
Antidesma bairanensis Merr., V, Mi
Antidesma montanum Blume, V, Mi
Antidesma poilanei Gagnep., V, Mi
Antidesma tonkinensis Gagnep., V, Mi
Antidesma sp1., V, Mi
Antidesma sp2., V, Mi
Antidesma sp3., V, Mi
Aporosa dioica (Roxb.) Muell.-Arg., V, MM
Aporosa sphaerosperma Gagnep., V, Mi
Aporosa sp., V, Mi
Baccaurea ramiflora Lour., V, MM (*Baccaurea sapida* Muell.-Arg.)
Baliospermum montanum (Willd.) Muell. Arg., V, Na
Bischofia javanica Blume, V, MM
Breynia augustifolia Hook.f., NL, Na
Breynia fruticosa Hook., NL, Na
Breynia indochinensis Beille, NL, Na
Breynia sp., NL, Na

- Bridella penangiana* Hook.f., V, MM
Bridelia monoica (Lour.) Merr., V, Mi (B. *tomentosa* Blume)
Bridelia poilanei Gagnep., V, Mi
Bridelia pierrei Gagnep., V, Mi
Cenestemon tonkinensis Gagnep., SL, Ch
Claoxylon indicum (Reiwn. ex Blume) Hassk., V, Mi
Cleidion brevipedunculatum Pax & Hoffm., SL, MM
Cleidion bracteosum Gagnep., SL, Mi
Cleistanthus myrianthus Kurz, SL, Mi
Croton bonianus Gagnep., SUM, Mi
Croton eberhardtii Gagnep., SUM, Mi
Croton joufra Roxb., SL, MM
Croton latsonensis Gagnep., SUM, Na
Croton tiglium L., V, Mi
Croton sp1., SL, Mi
Croton sp2., SL, Mi
Croton sp3., SL, Mi
Deutzianthus tonkinensis Gagnep., NL, MM
Drypetes perreticula Gagnep., SUM, MM
Drypetes salicifolia Gagnep., SUM, MM
Endospermum chinense Benth., V, MM
Euphorbia birta L., NL, Th
Euphorbia hypericifolia L., NL, Th
Euphorbia pulcherrima Willd., NL, Na
Euphorbia thymifolia Burm., NL, Th
Euphorbia sp1., NL, Ch
Euphorbia sp2., NL, Ch
Excoecaria cochinchinensis (Lour.) Kuntze, V, Na
Glochidion gamblei Hook., V, Mi
Glochidion eriocarpum Champ., NL, Na
Glochidion hirsutum Muell.- Arg., NL, MM
Glochidion manogynum Hook., NL, Mi
Glochidion zeylanicum A. Juss., NL, Mi
Glochidion sp., NL, Na
Hura crepitans L., NL, MM
Jatropha curcas L., NL, Na
Macaranga denticulata (Blume) Muell.- Arg., NL, MM
Macaranga sp., NL, Mi
Mallotus apelta Muell.- Arg., NL, Mi
Mallotus barbatus Muell.- Arg., NL, Mi
Mallotus cuneatus Ridley, NL, Na
Mallotus bookerianus Muell.- Arg., V, MM
Mallotus lanceolatus (Gagnep.) Airy Shaw., SL, Na
Mallotus macrostachyus (Miq.) Muell.- Arg., SL, Mi
Mallotus paniculatus (Lam.) Muell.- Arg., NL, Mi (M. *cochinchinensis* Lour.)
Mallotus philippinensis (Lam.) Muell.- Arg., SL, Mi
Mallotus sp., V, Mi
Microdesmis casaeriaefolia Planch., NL, MM
Phyllanthus emblica L., V, Mi
Phyllanthus niruri L., NL, Th
Phyllanthus poilanei Beille., SL, Mi
Phyllanthus pseudoreticulatus Thin, NL, Na
Phyllanthus reticulatus Poir., NL, Lp
Phyllanthus simplex Retz., NL, Th
Phyllanthus urinaria L., NL, Th
Phyllanthus sp1., NL, Th
Phyllanthus sp2., NL, Th
Ricinus communis L., NL, Mi
Sapium discolor (Champ.) Muell.-Arg., NL, Mi
Sapium indicum Willd., V, MM
Sapium sebiferum Roxb., V, MM
Sauropus androgynus (L.) Merr., SL, MM
Sauropus macranthus Hassk., SL, Mi
Sauropus naichuanensis Thin. V. Na
Sauropus spectabilis Miq., SL, Na
Sauropus racemosus Beille., V, Mi
Strophoblachia glandulosa Pax & Hoffm., SL, Mi
Sumbaviopsis albicans J.J. Sm. var. *disperma* Gagnep., SL, Mi
Trigonostemon bonianus Gagnep., NL, Ch
Trigonostemon eberhardtii Gagnep., SL, Mi
Trigonostemon flavidus Gagnep., SL, Mi
Trigonostemon stellaris (Gagnep.) Airy Shaw, V, Mi
Vernicia montana Lour., V, Mi
- FABACEAE**
- Acacia confusa* Merr., NL, MM
Acacia intsia (L.) Willd., NL, Lp
Acacia pennata (L.) Willd., V, Lp
Adenanthera pavonina L., V, MM (A. *microsperma* Teysm. & Binn.)
Aeschynomene indica L., NL, H
Albizia kalkora Prain, NL, Mi
Albizia lebbek (L.) Benth., SUM, MM
Albizia lucidior (Steud.) I. Nielsen, V, MM (A. *lucida* Benth.)
Albizia sp1., V, MM
Albizia sp2., V, MM
Albizia sp3., V, Mi
Alysicarpus vaginalis (L.) DC., SUM, Ch ssp. *cucphuongensis* Khoi
Archidendron clypearia (Jacks.) I. Nielsen, SL, MM (Pithecellobium *clypearia* Benth.)
Archidendron sp1., V, MM
Archidendron sp2., V, Mi
Atylosia scarabaeoides (L.) Benth., NL, Lp
Bauhinia championii (Benth.) Benth., SL, Na (B. *lecomtei* Gagnep.)
Bauhinia touranensis Gagnep., V, Lp
Bauhinia viridescens Desv., SL, Na
Bauhinia sp1., SL, Lp

Bauhinia sp2., SL, Lp
Bourgingia callicarpa Champ., V, Lp
Cajanus cajan (L.) Millsp., NL, Na (*C. indicus* Spreng.)
Caesalpinia culculata Roxb., V, Lp (*Mezoneuron cucullatum* Wight. & Arn.)
Caesalpinia latisiliqua (Cav.) Hattinko, V, Lp (*Mezoneuron balansae* Prain)
Caesalpinia minax Hance, V, Lp
Caesalpinia nuga Ait., SL, Lp
Caesalpinia sappan L., V, MM
Canavalia cathartica Du Petit-Thouars, V, Lp (*C. turgida* Grah. ex Gray)
Canavalia ensiformis (L.) DC., V, Lp
Cassia birsuta L., NL, Th
Cassia mimosoides L., NL, Ch
Cassia occidentalis L., NL, Ch
Cassia tora L., NL, Th
Crotalaria albida Heyne, NL, H
Crotalaria ferruginea Grah., NL, Ch
Crotalaria juncea L., NL, Na
Crotalaria linifolia L.f. var. *linifolia*, NL, Th var. *angustifolia* Gagnep.
Crotalaria sessiliflora L., NL, Ch
Crotalaria striata DC., NL, Na (*M. mucronata* Desv.)
Crotalaria verrucosa L., NL, Na
Dalbergia balansae Prain, V, MM
Dalbergia lanceolaria L.f., V, MM
Dalbergia rimosa Roxb., V, Na
Delonix regia Raf., NL, MM (*Poinciana regia* Bojer ex DC.)
Derris albo-rubra Hemsley, SL, Na
Derris elliptica Benth., SL, Lp
Derris tonkinensis Gagnep., SL, Lp
Derris wallichiana Prain, SL, Lp
Derris sp., SL, Na
Desmodium cephalotes Wall., NL, Na
Desmodium elegans (Lour.) Benth., NL, Ch
Desmodium gangeticum (Lour.) DC., NL, Ch
Desmodium gyrans DC., NL, Ch
Desmodium gyroides DC., NL, Na
Desmodium heterocarpum (L.) DC., NL, Lp
Desmodium heterophyllum (Willd.) DC., NL, Ch
Desmodium lasiocarpum (P. Beauv.) DC., NL, Ch
Desmodium latifolium DC. var. *virgatum* Miq., NL, Na
Desmodium laxiflorum DC., NL, Ch
Desmodium polycarpum (Lam.) DC., NL, Ch
Desmodium pulchellum (L.) Benth., NL, Ch
Desmodium triquetrum (L.) DC., NL, Ch
Dolichos sp., NL, Th
Entada phaseoloides (L.) Merr., V, Lp (*E. tonkinensis* Gagnep.)
Erythrina stricta Roxb., V, MM

Erythrophloeum fordii Oliv., V, MM
Flemingia congesta Roxb., NL, Na
Galactia longipes Gagnep., V, Lp (*G. mouretii* Gagnep.)
Gleditschia pachycarpa Bala, V, MM
Indigofera galegoides DC., V, Na
Indigofera birsuta L., V, Ch
Indigofera trifoliata L., NL, Ch
Indigofera sp., NL, Mi
Lepedeza sericea Miq., SUM, Na
Leucaena leucocephala (Lam.) De Wit, NL, Mi (*L. glauca* (Willd.) Benth.)
Milletia aff. *dielsiana* Harms ex Diels, SL, Lp
Milletia ichthyochtona Drake, SL, MM
Milletia pachyloba Drake, NL, Lp
Milletia pulchra Kurz, NL, Na
Milletia sp1., V, MM
Milletia sp2., V, Mi
Milletia sp3., V, Lp
Mimosa invisa Mart.ex Colla, V, Ch
Mimosa pudica L., V, Ch
Mucuna hainanensis Hayta, V, Lp
Ormosia bainanensis Gagnep., SL, MM
Ormosia tonkinensis Gagnep., SL, Mi
Peltophorum dasyrrhachis (Miq.) Kurz var. *tonkinensis* (Pierre) K. & S.S. Larsen, V, MM (*P. tonkinense* Gagnep.)
Pterolobium microphyllum Miq., V, Lp (*P. platypterum* Gagnep.)
Saraca dives Pierre, V, Mi
Psophocarpus tetragonolobus (L.) DC., NL, Th
Pueraria thomsonii Benth., NL, Lp
Pueraria montana (Lour.) Merr., NL, Lp (*P. tonkinensis* Gagnep.)
Sesbania sp., NL, Ch
Smitia sensitiva Ait., V, Ch
Tephrosia aff. *kerrii* Drumm. & Craib, NL, Na
Tephrosia purpurea (L.) Pers, NL, Ch
Uraria crinita (L.) Desv., NL, Ch
Uraria lagopoides DC., NL, H
Uraria macrostachya Wall., NL, Ch
Uraria rufescens (DC.) Schindl., NL, H (*U. hamosa* Wall.)
Vigna radiata (L.) Wilczek var. *sublobata* (Roxb.) Verdcourt, NL, Lp (*Phaseolus sublobatus* Roxb.)
Vigna umbellata (Thunb.) Ohwi & Ohashi, NL, Lp (*Phaseolus calcaratus* Roxb.)
Vigna sp1., NL, Lp
Vigna sp2., NL, Lp

FAGACEAE

Castanopsis indica A.DC., V, MM
Castanopsis lecontei Hickel & A. Camus, V, MM
Castanopsis symmetricupulata Luong, SL, MM

- Lithocarpus areca* Hickel & A. Camus, SL, MM
Lithocarpus cornens (Lour.) Rehd., V, MM
Lithocarpus pseudosundaica Hickel & A. Camus, NL, Mi
Lithocarpus aff. *stenopus* Hickel & A. Camus, NL, MM
Lithocarpus aff. *thomsonii* Hickel & A. Camus, SL, MM
Lithocarpus sp1., SL, MM
Lithocarpus sp2., SUM, MM
Quercus aff. *dussaudii* Hickel & A. Camus, SUM, MM
Quercus sp., SUM, Mi

FLACOURTIACEAE

- Casearia sequilateralis* Merr., V, Mi
Flacourtia balansae Gagnep., V, Mi
Flacourtia ratmonchii L'Herit., V, MM
Homanium paniculiflorum How & Ko, V, Mi
Homalium sp., V, Mi
Hydnocarpus bairnanensis (Merr.) Sleum., V, MM
Hydnocarpus kurzii (King) Warb., V, MM ssp. *australis* Sleum.
Taractogenos sp., V, MM
Scolopia chinensis Clos., V, Na

GENTIANACEAE

- Exacum tetragonum* Roxb., V, Ch
Fagraea ceilanica Thunb., V, Lp (*F. obovata* Wall.)

GESNERIACEAE

- Boea martini* Lévl., SL, Na
Boea umbellata Drake, SL, Ch
Chirita balansae Drake, SL, H
Chirita bamoea R. Br., SL, Ch
Chlamydofoea sinensis (Oliv.) Stapf, var. *macrophylla*, SL, Ch
Didymecarpus sp., V, Ch
Didissandra aspera Drake, V, Na
Didissandra sp., V, Ch
Rhynchosyris parviflorum Blume, V, Ch

HAMAMELIDACEAE

- Liquidambar formosana* Hance, NL, MM

HERNANDIACEAE

- Illigera celebica* Miq., V, Lp (*I. platyandra* Dunn.)
Illigera rhodantha Hance var. *rhodantha*, V, Lp
 var. *dunniana* (Levl.) Kubitzki (*Illigera glandulosa* Gagnep.)

HIPPOCASTANACEAE

- Aesculus assamica* F. Griff., NL, Mi

HYDRANGEACEAE

- Dichroa hirsuta* Gagnep., V, Na

HYDROPHYLLACEAE

- Hydrolea zeylanica* Vahl, V, Th

ICACINACEAE

- Gomphandra oppositifolia* Pierre, V, Na
Iodes cirrhosa Turcz, V, H (*I. ovalis* Blume)
Iodes sp., V, H
Nothapodytes pittosporoides (Oliv.) Sleum., V, Mi
Nothapodytes sp., V, Mi

ILliciACEAE

- Illicium griffithii* Hook. var. *cambodianum* Finet & Gagnep., SUM, MM

JUGLANDACEAE

- Annamocarya chinensis* Dode, V, MM
Engelhardtia spicata Blume, V, MM
Platycarya strobilacea Sieb. & Zucc., SUM, MM
Pterocarya tonkinensis Dode, V, MM

LAMIACEAE

- Ajuga decumbens* Thunb., V, Ch
Alisomoles indica (L.) Kuntze, V, Th (*A. ovata* R. Br.)
Gomphostemma leptodon Dunn, V, Ch
Gomphostemma lucidum Wall. & Benth., V, Ch
Leonurus artemisia (Lour.) S.Y.Hu, NL, Ch (*L. heterophyllus* Sw.)
Leucas mollissima Wall. ex Benth., V, Ch
Leucas zeylanica (L.) R. Br., NL, Ch
Mentha arvensis L., NL, H
Mentha aquatica L., NL, H
Microtoena insuavis (Hance) Dunn, NL, Th
Mosla cavaleriei Levl., V, Th
Ocimum basilicum L., NL, Th
Ocimum sanctum L., NL, Th
Orthosiphon thymiflorus (Roth) Slecsiin, V, Ch (*O. tomentosus* Benth.)
Parablennia javanica (Blume) Prain, V, Ch (*P. rugosa* Prain)
Perilla frutescens (L.) Britt., NL, Th
Plectranthus ternifolius D. Don, NL, Na
Pogostemon auricularius (L.) Hassk., V, Th
Salvia plebeia R. Br., V, Th
Salvia splendens Ker. Gawl., NL, Th
Stachys oblongifolia Wall. ex Benth., V, H
Tenacium viscidum Blume, V, H (*T. stoloniferum* Roxb.)

LAURACEAE

- Actinodaphne pilosa* (Lour.) Merr., V, MM
Beilschmiedia aff. *erythroploia* Hayata, V, MM
Beilschmiedia fordii Dunn., V, MM
Beilschmiedia ferruginea H. Liu, V, MM
Beilschmiedia laevis Allen, V, MM
Beilschmiedia obovalifolia Lecomte, V, MM
Beilschmiedia robusta Allen, V, MM

Beilschmiedia roxburghiana Nees, V, MM
Beilschmiedia sp1., SL, MM
Beilschmiedia sp2., V, MM
Beilschmiedia sp3., V, MM
Beilschmiedia sp4., V, MM
Caryodaphnopsis aff. *baviensis* (Lecomte) Airy Shaw, V, MM (*Nothaphoebe* aff. *baviensis* Lecomte)
Caryodaphnopsis tonkinensis (Lecomte) Airy Shaw, V, MM (*Nothaphoebe tonkinensis* Lecomte)
Cassytha filiformis L., NL, Pp
Cinnamomum balansae Lecomte, V, MM
Cinnamomum bejolghota (Buch.- Ham.) Sweet, V, MM (*C. obtusifolium* Nees)
Cinnamomum bonii Lecomte, V, MM
Cinnamomum cambodianum Lecomte, SL, MM
Cinnamomum camphora Sieb., NL, MM
Cinnamomum curvifolium (Lour.) Kosterm., V, MM (*C. albiflorum* Nees)
Cinnamomum polyadelphum (Lour.) Kosterm., V, MM (*C. litseaefolium* Thw.)
Cinnamomum tetragonum A. Chev., V, MM
Cinnamomum validinerve Hance, V, MM
Cryptocarya impressa Miq., V, MM
Cryptocarya lenticellata Lecomte, V, MM
Cryptocarya oblongifolia Blume, V, MM
Cryptocarya sp., V, MM
Lindera balansae Lecomte, V, MM
Lindera polyantha Boerl., V, MM
Lindera tonkinensis Lecomte, V, Mi
Litsea baviensis Lecomte, V, Na
Litsea cubeba Pers., SL, Mi
Litsea glutinosa (Lour.) L. Rob., SL, Mi
Litsea befferi Hook., V, Na
Litsea mollifolia Chun., V, Mi (*L. mollis* Hemsl.)
Litsea monopetala Roxb., V, MM
Litsea panamonja (Nees) Hook.f., V, Mi
Litsea rotundifolia Hemsl., V, Na
Litsea umbellata (Lour.) Merr., V, Mi (*L. amara* Blume)
Litsea verticillata Hance, V, MM
Litsea sp1., V, Mi
Litsea sp2., V, Na
Machilus bombycina King, V, Mi
Machilus bairanensis Merr., V, MM
Machilus odoratissima Nees, V, MM
Machilus platycarpa Chun, V, Mi
Machilus thunbergii Sieb. & Zucc., V, MM
Machilus sp., V, MM
Neocinnamomum caudatum (Nees), V, Mi (*N. poilanei* H.Liu)
Neocinnamomum delavayi (Lecomte) H.Liu, V, Na (*N. parvifolium* (Lecomte) H.Liu)
Neocinnamomum lecomtei H.Liu, V, Mi

Neolitsea zeylanica Merr., V, Mi
Phoebe tavogana (Meissn.) Hook.f., V, MM (*P. cuneata* Blume)

LECYNTHIDACEAE

Barringtonia eberhardtii Gagnep., V, MM
Barringtonia edaphocarpa Gagnep., V, Mi

LEEACEAE

Leea guineensis G. Don, V, Na (*L. acuminata* Wall.)

LINACEAE

Tirpitzia chinensis (Hemsl.) Hall., SL, Mi

LOGANIACEAE

Strychnos wallichiana Steud.ex DC., V, Lp (*S. gauthierana* Pierre)

LORANTHACEAE

Elytranthe ampullacea G. Don, V, Pp
Loranthus adpressus Lecomte, V, Pp
Loranthus pentandrus L., V, Pp
Loranthus ferrugineus Roxb., V, Pp
Loranthus scurrulla L., V, Pp
Taxillus chinensis (DC.) Dans., V, Pp
Taxillus stipitatus (Stapf.) Dans., V, Pp

LYTHRACEAE

Ammaria auriculata Willd. var. *arenaria* Kochne, NL, Ch
Ammaria baccifera L., NL, Th
Duabanga grandiflora (Roxb. ex DC.) Walp., V, MM
Lagerstroemia corniculata Gagnep., SL, Mi
Rotala rotundifolia Kochne., NL, H

MAGNOLIACEAE

Magnolia eriostepta Dandy, SL, Mi
Manglietia conifera Dandy, V, MM
Michelia balansae Dandy, V, MM
Michelia chapaensis Dandy, SL, Mi

MALPIGHIACEAE

Aspidopteria aff. *glabrifolia* J. Ar., V, Lp
Aspidopteris obcordata Hemsl., V, Lp
Hiptage boniana P. Dop, V, Lp
Hiptage benghalensis (L.) Kurz, V, Lp
Hiptage sp., V, Lp

MALVACEAE

Abutilon indicum G. Don, NL, Ch
Hibiscus abelmoschus L., V, Na
Hibiscus mutabilis L., NL, Na
Hibiscus rosa-sinensis L., NL, Mi
Kydia calycina Roxb., V, MM
Sida acuta Burm., V, Na
Sida rhombifolia L., V, Na
Urena lobata L., V, Na

MELASTOMATACEAE

- Blastus cochinchinensis* Lour., V, Na
Blastus multiflorus (Cogn.) Guill., V, Na
Melastoma candidum D. Don, NL, Na
Melastoma normale D. Don, NL, Ch
Melastoma sanguineum Sims, V, Na (*M. decemfidum* Roxb.)
Melastoma trungi Pocs. & Tiep, V, Na
Osbeckia truncata D. Don, V, H

MELIACEAE

- Aglaiia gigantea* (Pierre) Pellegr., V, MM
Aglaiia odorata Lour., V, Mi
Aglaiia tetrapetala Pierre, V, MM
Amoora aphanamixis Roem. & Schult., V, Mi
 (*Aglaiia aphanamixis* Pellegr. var. *frutescens* C. DC.)
Amoora aff. *cucullata* Roxb., V, MM
Amoora sp., V, Mi
Chisocheton globosus Pierre, V, MM
Chisocheton paniculatus Hiern., V, MM
Chukrasia tabularis A. Juss., V, MM
Cipadessa fruticosa Blume, V, Mi
Dysoxylon binectariferum Hook.f., V, MM
Dysoxylon cauliflorum Hiern., V, MM
Dysoxylon aff. *cochinchinensis* Pierre, V, MM
Heynia trijuga Roxb., V, MM
Melia azedarach L., V, MM
Toona sureni (Blume) Moore, V, MM
Walsura bonii Pellegr., V, MM

MENISPERMACEAE

- Cissampelos pareira* L., V, Lp
Cyclea tonkinensis Gagnep., V, Lp
Cocculus laurifolius DC., V, Ch
Diploclisia macrocarpa Miers, V, Lp
Fibraurea recisa Pierre, V, Lp
Parabaena sagittata Miers, V, Ch
Tinomiscum tonkinensis Gagnep., V, Lp
Stephania bernandifolia Spreng., V, Lp
Stephania rotunda Lour., SL, Cr

MORACEAE

- Antiaris toxicaria* Leschen., V, MM
Artocarpus heterophyllus Lam., NL, MM
Artocarpus parva Gagnep., V, Mi
Artocarpus petelotii Gagnep., V, MM
Artocarpus tonkinensis A. Chev., V, MM
Broussonetia kazinoki Sieb., V, Ch
Broussonetia papyrifera Vent., V, Mi
Maclura cochinchinensis (Lour.) Corner, V, Lp
 (*Cudrania cochinchinensis* Lour., *C. javanensis* Trecul)
Dimerocarpus brennieri Gagnep., V, MM
Ficus altissima Blume, SL, MM
Ficus annulata Blume, SL, MM

- Ficus auricula* Lour., V, Mi (*F. roxburghii* Wall.)
Ficus benjamina L., SL, MM
Ficus callosa Willd., SL, MM
Ficus callophyllodes Blume, V, MM
Ficus capillipes Gagnep., V, Mi
Ficus chaffansjoni Lev., V, Lp
Ficus cunia Hamilt., V, Mi
Ficus curtipes Corner., V, MM
Ficus dumosa King, V, Na
Ficus fistulosa Reinw. ex Blume, V, MM (*F. barlandii* Benth.)
Ficus fulva Reinw. ex Blume var. *fulva*, V, Mi
 var. *minor* King.
Ficus gibbosa Blume, V, MM
Ficus glaberrima Blume, V, Mi
Ficus glandulifera Wall., V, Mi
Ficus heterophylla L., V, Na
Ficus hirta Vahl, NL, Na
Ficus hispida L., V, Mi
Ficus lacor Hamilt., V, MM (*F. infectoria* Roxb.)
Ficus laevis Blume, V, Lp
Ficus lamponga Miq., V, Mi (*F. balansae* Gagnep.)
Ficus leckensis Drake, V, Na
Ficus nervosa Heyne, V, MM
Ficus obscura Blume, V, Mi
Ficus pilosa Reinw., V, MM
Ficus pumila L., V, Lp
Ficus racemosa L., V, MM (*F. glomerata* L. var. *chittagonta* King)
Ficus religiosa L., NL, MM
Ficus retusa L., V, MM
Ficus rostrata Lam., V, Na
Ficus sagittata Vahl, V, Lp (*F. ramentacea* Roxb.)
Ficus sikkimensis Miq., V, Lp
Ficus sum Gagnep., V, Mi
Ficus superba Miq., V, MM
Ficus variegata Blume, V, Mi
Ficus sp1., V, Lp
Ficus sp2., V, MM
Malaisia scandens (Lour.) Planch., V, Ch (*M. tortuosa* Blume var. *scandens* Bur.)
Morus alba L., NL, Mi
Streblus asper Lour., NL, Mi
Streblus ilicifolia (Kurz) Corner, SL, Na
 (*Txotrophis ilicifolia* (Kurz) Vidal)
Streblus taxoides (Heyne) Kurz, SL, Na
 (*Phyllochlamys tridentata* Gagnep.)
Taxotrophis macrophylla (Blume) Merr., SL, Mi
Streblus tonkinensis (Eberh. & Dub.) Corner SL, Mi
 (*Teonongia tonkinensis* Stapf.)

MYRISTICACEAE

- Horsfieldia prainii* Warbg., V, MM
Horsfieldia tonkinensis Lecomte, V, MM

- Knema conferta* (King) Warbg., V, MM
Knema globularia (Lam.) Warb., V, MM
 (K. *corticosa* Lour.)

MYRSINACEAE

- Ardisia maculosa* Mez, V, Na
Ardisia gigantifolia Stapf., V, Na
Ardisia quinquegona Blume, V, Na
Ardisia ramondiaeformis Pitard, V, Na
Ardisia silvestri Pitard, V, Na
Ardisia tonkinensis A. DC., V, Na
Ardisia sp1., V, Na
Ardisia sp2., V, Na
Ardisia sp3., V, Na
Ardisia sp4., V, Na
Ardisia sp5., V, Na
Ardisia sp6., V, Na
Ardisia sp7., V, Na
Ardisia sp8., V, Na
Ardisia sp9., V, Na
Embelia laeta L., NL, Lp
Embelia oblongifolia Hemsl., SL, Lp
Embelia ribes Burm., NL, Lp
Embelia scandens Mez, SUM, Lp
Embelia sp1., V, Lp
Embelia sp2., V, Lp
Maesa balansae Mez, V, Na
Maesa indica (Roxb.) A.DC., V, Na
Maesa japonica (Thunb.) Mez, V, Na
Maesa striata Mez var. *opaca* Pitard, V, Na
Masea tenera Mez, V, Na
Maesa tomentella Mez, V, Na
Maesa tonkinensis Mez var. *tonkinensis*, V, Na
 var. *bonii* Pitard

MYRTACEAE

- Decaspermum paniculatum* Kurz, V, Mi
Psidium guajava L., V, Mi
Rhodomyrtus tomentosa Wight, NL, Na
Syzygium baviense (Gagnep.) Merr. & Perry, V,
 Mi (*Eugenia baviensis* Gagnep.)
Syzygium chlorantha (Duthie) Merr. & Perry, V,
 Mi (*Eugenia chlorantha* Duthie)
Syzygium eburneum (Gagnep.) Merr. & Perry,
 V, Na (*Eugenia eburnea* Gagnep., *Eugenia*
eburnianum Merr. & Perry)
Syzygium jambos (L.) Ast., NL, Mi (*Eugenia*
jambos L.)
Syzygium malayanum (Gagnep.) Merr. & Perry,
 V, Mi (*Eugenia malayana* Gagnep.)
Syzygium mekongense (Gagnep.) Merr. & Perry,
 V, Mi (*Eugenia mekongense* Gagnep.)
Syzygium samarangense (Blume) Merr. & Perry,
 NL, Mi (*Syzygium javanica* Lam.)
Syzygium ternifolium (Roxb.) Merr. & Perry, V,
 Mi (*Syzygium formosa* Wall. var. *ternifolia*
 Gagnep.)

- Syzygium tonkinense* (Gagnep.) Merr. & Perry,
 V, MM (*Eugenia tonkinensis* Gagnep.)
Syzygium zimmermannii (Warb.) Merr. & Perry,
 V, Na (*Eugenia jimerani* Warb.)
Syzygium sp1., V, MM
Syzygium sp2., V, MM
Syzygium sp3., V, Mi

OLACACEAE

- Erythropalum scandens* Blume, V, Lp

OLEACEAE

- Jasminum adenophyllum* Wall., V, Lp
Jasminum lanceolarium Roxb., SUM, Lp
Jasminum longisetum Gagnep., V, Lp
Jasminum microcalyx Hance, V, Lp
Jasminum subtriplinerne Blume, V, Na
Jasminum undulatum Ker-Gawl., V, Lp

ONAGRACEAE

- Ludwigia adnascens* (L.) Hara, NL, H (*Jussiaea*
repens L.)
Ludwigia prostrata Roxb., NL, H (*Jussiaea*
prostrata (Roxb.) Lév.
Ludwigia octovalis (Jacq.) Raven ssp. *sessiliflora*
 (Michx.) Raven., NL, Th (*Jussiaea suffruticosa*
 L.)

OPILIACEAE

- Lepionurus sylvestris* Blume, SL, Na
Meliantha suavis Pierre, SL, Mi

OXALIDACEAE

- Averrhoa carambola* L., NL, Mi
Biophytum sensitivum DC., NL, H
Oxalis corniculata L., NL, H

PASSIFLORACEAE

- Adania chevalieri* Gagnep., V, Ch
Passiflora foetida L., NL, Ch
Passiflora siamica Craib, V, Ch (*P. octandra*
 Gagnep.)

PEDALIACEAE

- Sesamum orientale* L., NL, Th

PENTHORACEAE

- Penthorum sedoides* L., NL, H

PIPERACEAE

- Peperomia leptostachya* Hook. & Arn., V, H
Piper betle L., NL, Ch
Piper bonii DC., V, Ch
Piper gymnostachyum DC., V, Ch
Piper hainanense Hemsl., V, H
Piper lappaceum DC., V, Ch
Piper lolot DC., V, Ch
Piper longum L., V, Ch
Piper pendulipanicum C. DC., V, Ch
Piper retrofractum Vahl, V, Ch

PITTOSPORACEAE

Pittosporum tonkinensis Gagnep., V, Mi

PLANTAGINACEAE

Plantago major L., NL, Cr

PLUMBAGINACEAE

Plumbago zeylanica L., NL, Ch

POLYGALACEAE

Polygala glomerata Lour., V, Na

Polygala tonkinensis Chodat, V, Na

POLYGONACEAE

Eragrostis cymosum (Trev.) Meisn., V, Ch

Polygonum barbatum L., NL, H

Polygonum chinense L., NL, H

Polygonum donii Meisn., V, Th

Polygonum flaccidum Roxb., V, H

Polygonum hydropiper L., V, H

Polygonum lapathifolium Ait., V, Th

Polygonum minus Huds., NL, H (*P. posumbu* Wall.)

Polygonum odoratum Lour., NL, Th

Polygonum orientale L., V, Th

Polygonum perfoliatum L., V, H

Polygonum plebejum R.Br., V, H

Polygonum tinctorium Lour., V, Th

Rumex wallichii Meisn., NL, Th

PORTULACACEAE

Portulaca oleracea L., NL, Th

PRIMULACEAE

Androsace saxifragifolia Bge., V, Th

Lysimachia candida Lindl., V, Ch

Lysimachia sp1., V, Ch

Lysimachia sp2., V, Ch

Lysimachia sp3., V, Ch

Lysimachia sp4., V, Ch

PROTEACEAE

Helicia cochinchinensis Lour., V, Mi

Helicia aff. *erratica* Hook., V, Mi

Heliciopsis lobata (Merr.) Skum., V, Mi

RANUNCULACEAE

Clematis armandi Fanch., V, Lp

Clematis meyniana Walp., V, Ch

Clematis smilacifolia Walp., V, Ch

Clematis umbellifera Gagnep., V, Lp

Clematis uncinata Champ., V, Lp

Ranunculus japonicus Langsd., V, Ch

Ranunculus scleratus L., V, Th

RHAMNACEAE

Berchemia lineata DC., NL, Lp

Chaydaia tonkinensis Pitard, V, Mi

Gouania leptostachya DC., V, Lp

Rhamnus tonkinensis Pitard, V, Na

Sageretia theezans Brongn., NL, Lp

Ventilago calyculata Tul. var. *macrantha* Pitard, V, Lp

Ventilago leiocarpa Benth., V, Lp

Ventilago pauciflora Pitard, V, Lp

Zizyphus mauritiana Lam., V, Na

Zizyphus oenoplia Mill., V, Mi

Zizyphus sp., V, MM

RHIZOPHORACEAE

Carallia brachiata (Lour.) Merr., V, MM (*C. lucida* Roxb.)

Carallia lancaefolia Roxb., V, Mi

ROSACEAE

Duchesnea indica (Andr.) Focke, V, Ch

Eriobotrya bengalensis (Roxb.) Hook.f., V, MM

Eriobotrya japonica (Thunb.) Lindl., V, MM

Fragaria indica L., V, H

Persica vulgaris Mill., V, Mi

Photinia benthamiana Hance, V, Mi

Prunus mume Sieb. & Zucc. V, Mi

Prunus salicina Lindl., V, Mi

Prunus zippeliana Miq., V, MM (*P. macrophylla* Sieb. & Zucc.)

Pygeum sp1., SL, MM

Pygeum sp2., SL, MM

Pyrus sp., SUM, MM

Raphiolepis indica (L.) Lindl. ex Ker, V, Na

Rosa cymosa Tratt., NL, Na (*R. microcarpa* Lindl.)

Rubus alcaefolius Poir., V, Lp

Rubus cochinchinensis Tratt., V, Lp

Rubus leucanthus Hance, V, Lp

Rubus triphyllus Thunb., V, Ch

RUBIACEAE

Adina piluliflora (Lam.) Franch. ex Drake, V, Mi

(*A. globiflora* Salisb. var. *tonkinensis* Pitard)

Aidia cochinchinensis Lour., S, UM, Mi

Anthocephalus indicus A. Rich. var. *macrophylla* Pierre, V, MM

Canthium dicoccum (Gaertn.) Tinn. & Binn, SUM, MM

Canthium sp., V, Na

Cephalanthus sp., V, Ch

Chasalia curviflora (Wall. ex Roxb.) Thw., V, Na

Diplospora sp., V, MM

Duperrea pavettaefolia Pitard, V, Na

Gardenia coronaria Ham., V, Na

Gardenia florida L., V, H

Geophila reniformis G. Don, V, Th

Hedyotis capitellata Wall. ex G. Don, V, MM

Hedyotis corymbosa (L.) Lam., NL, Na

Hedyotis multiglomerata (Pitard) Tran, V, Na

Hymenodyction excelsum Wall. var. *velutinum* Pierre., V, MM

Ixora diversifolia Wall. var. *flexilis* Pitard, V, Na
Ixora finlaysonian Wall., V, Mi
Ixora henryi Lev., V, Na
Ixora sp1., V, Na
Ixora sp2., V, Na
Lasianthus andamanicus Hook., V, Mi
Lasianthus cyanocarpus Jack., V, Na
Lasianthus wallichii Wight, V, Mi
Lasianthus sp1., V, Na
Lasianthus sp2., V, Na
Lasianthus sp3., NL, Na
Morinda umbellata L. var. *tonkinensis* Pitard, V,

Lp

Morinda villosa Hook., V, Lp
Morinda sp., V, Lp
Mussaenda cambodiana Pierre, V, Lp
Mussaenda debiscens Craib, V, Mi
Mussaenda sp1., V, Lp
Mussaenda sp2., V, Lp
Mycetia longifolia Kuntze, V, Na
Myrioneuron tonkinensis Pitard, V, Na
Myrioneuron sp., V, Th
Nauclea sp., V, MM
Neonauclea sessilifolia (Roxb.) Merr., V, MM
 (Adina sessiliflora Hook.)
Oldenlandia sp1., V, Th
Oldenlandia sp2., V, Ch
Oldenlandia sp3., V, Ch
Oldenlandia sp4., V, Ch
Ophiorrhiza annamica Pitard, V, Th
Ophiorrhiza aff. *baviensis* Drake, V, Ch
Ophiorrhiza aff. *tristis* Drake, V, Th
Ophiorrhiza sp1., V, Ch
Ophiorrhiza sp2., V, Th
Paederia scandens (Lour.) Merr. var. *tomentosa*
 (Blume) Hand.-Mazz., V, Lp
Paederia sp1., V, Th
Paederia sp2., V, Th
Pavetta indica L. var. *indica* Hook., V, Na
Psychotria baviensis Pitard, V, Ch
Psychotria rubra (Lour.) Poir., V, Na
Psychotria sp1., V, Na
Psychotria sp2., V, Na
Psychotria sp3., V, Na
Psychotria sp4., V, Na
Randia acuminatissima Merr., V, MM
Randia spinosa (Thunb.) Poir., V, Na
Randia stenantha Drake, SUM, Na
Randia sp1., V, Mi
Randia sp2., V, Mi
Silvianthus bracteatus Hook., V, Na
Tarenna attenuata (Voight) Hutch., V, Na
Tarenna collinsae Craib, V, Na
Tarenna quosensis Pierre & Pitard, V, Na
Tarenna vanpruckii Craib, V, Na

Tarenna sp1., V, Na
Tarenna sp2., V, Na
Tarenna sp3., V, Na
Uncaria macrophylla Wall., V, Lp
Uncaria sessilifructus Roxb., V, Lp
Uncaria tonkinensis Havil., V, Lp
Urophyllum sp., V, Na
Xantonea quosensis Pierre, V, Mi
Xantonea sp., V, Mi
Wendlandia glabrata DC., V, Mi
Wendlandia paniculata DC., V, Mi

RUTACEAE

Acronychia pedunculata Roxb., V, MM
Atalantia guillauminii Swingle, SL, Mi
Atalantia monophylla Correa, V, Mi (A.
roxburghiana Hook.)
Atalantia roxburghiana Hook.f., V, Mi
Citrus lemon (L.) Burm. f., V, Na
Citrus maxima (Burm. f.) Merr., V, Mi (C.
grandis Osbeck)
Citrus sinensis Osbeck, V, Mi
Clausena dunniana Levl., V, Mi
Clausena excavata Burm., SL, Mi
Clausena harmandiana Pierre ex Guill., V, Mi
Clausena laevis Drake, V, Na
Clausena lansium Skeels, V, Mi (*Clausena wampi*
 (Blanco) Oliv.)
Euodia fraxinifolia (Benth.) Hook., SL, MM
*Euodia lept*a (Spreng.) Merr., V, Mi (*E. triphylla*
 DC.)
Euodia meliaefolia Benth., V, Mi
Glycosmis citrifolia Lindl., V, Mi
Glycosmis aff. *craibii* Tanaka, V, Mi
Glycosmis pentaphylla Correa, V, Mi
Glycosmis petelotii Guill., V, Mi
Glycosmis puberula Lindl. ex Wall., V, Mi
Glycosmis aff. *trichanthera* Guill., V, Mi
Glycosmis winitii Craib, V, Mi
Micromelum falcatum Tanaka, V, Mi
Micromelum hirsutum Oliv., V, Mi
Murraya koenigii (L.) Spreng., SUM, Mi
Murraya paniculata (L.) Jack, SUM, Mi
Zanthoxylum avicenniae (Lam.) DC., SUM, Mi
Zanthoxylum collinsae Craib, V, Lp
Zanthoxylum nitidum DC., V, Lp
Zanthoxylum scabrum Guill., V, Lp

SABIACEAE

Meliosma harmandiana Pierre, V, Mi
Meliosma thorelli Lecomte, V, MM

SAPINDACEAE

Allophylus brachystachys Radlk., V, Mi
Allophylus caudatus Radlk., V, Mi
Allophylus racemosus (L.) Radlk., V, Mi

Boniodendron parviflorum (Lecomte) Gagnep., V, Mi

Cardiospermum halicacabum L., V, Th

Dimocarpus longan (Lour.) Steud., NL, Mi

Euphoria fragifera Gagnep., V, MM

Lepisanthes rubiginosa (Roxb.) Leenh., V, Mi
(*Erioglossum edule* Blume)

Litchi chinensis Radlk., V, MM

Miscobarpus oppositifolius (Lour.) Merr., V, MM
(*M. sundaicus* Blume)

Nephelium chryseum Blume, SL, Mi

Pavieasia annamensis Pierre, V, Mi

Pometia pinnata J. & G. Forst., V, MM

Pometia sp., V, MM

Sapindus saponaria Lour., V, MM (*S. mukorossi* Gaertn.)

Xerospermum donaiense Gagnep., V, MM

Zollingeria sp., SUM, Mi

SAPOTACEAE

Sarcosperma kachinense (King & Prain) Exell, V, Mi

Sideroxylon sp., SL, Na

Sinosideroxylon racemosum (Pierre ex Dubard) Aubr., SL, MM (*Sideroxylon racemosum* Lecomte)

SAURURACEAE

Gymnotheca chinensis Decne., V, H

Houttuynia cordata Thunb., V, Ch

Saururus chinensis Baill., V, Cr

SCROPHULARIACEAE

Bacopa floribunda (R.Br.) Wetts., V, Ch
(*Herpestis moniera* H.B.K.)

Limnophila sessiliflora Blume, NL, H

Lindernia antipoda (L.) Alston, NL, Th
(*Bonnaya veronicifolia* Spreng.)

Lindernia pedunculata Benth. var. *erecta* Bonati, NL, Ch

Mazus sp., NL, Th

Picria fel-terrae Lour., V, Th (*Curanga amara* Juss.)

Torenia finetiana Bonati, V, Ch

Torenia tonkinensis Bonati, V, Ch

Veronica anagallis L., V, H

SIMAROUBACEAE

Ailanthus triphysa (Dennst.) Alston, NL, MM
(*Ailanthus malabarica* DC.)

Brucea tonkinensis (Lecomte) Gagnep., V, Mi
(*B. mollis* Wall. var. *tonkinensis* Lecomte)

Picrasma sp., V, MM

SOLANACEAE

Datura suaveolens Humb. & Bonpl., V, Th
(*D. fastuosa* L. var. *alba*)

Physalis angulata L. var. *villosa* Bonati, V, Th
Solanum biflorum Lour., V, Na

Solanum procumbens Lour., V, Lp (*S. bairanense* Hance)

Solanum indicum L., V, Na

Solanum nigrum L., NL, Th

Solanum torvum Swartz, NL, Na

Solanum verbascifolium L., V, Mi

Solanum xanthocarpum Schrad., V, Ch

STAPHYLEACEAE

Turpinia cochinchinensis Merr., V, Mi

Turpinia nepalensis Wall., V, Mi

Turpinia pomifera DC., V, MM

Turpinia sp1., V, Mi

Turpinia sp2., V, Mi

STERCULIACEAE

Abroma augusta L., V, Na

Byttneria apera Colebr., V, Lp

Byttneria echinata Wall., V, Lp

Eriolaena candollei Wall., V, MM

Firmania colorata R. Br., V, MM

Firmania platanifolia L., V, MM

Helicteres angustifolia L., NL, Na

Helicteres hirsuta Lour., NL, Na

Helicteres isora L., NL, Na

Helicteres lanceolata DC., NL, Na

Helicteres viscida Blume, NL, Na

Heritiera macrophylla Wall., SL, MM

Heritiera sp. nov, SUM, MM

Melochia corchorifolia L., NL, Ch

Pterospermum heterophyllum Hance, SUM, MM

Pterospermum lancaefolium Roxb., SL, MM

Pterospermum megalocarpum Tard., SL, MM

Pterospermum truncatolobatum Gagnep., SUM, MM

Pterospermum venustum Craib, SL, MM

Sterculia coccinea Roxb., V, MM

Sterculia hyposticta Miq., V, Na

Sterculia lanceolata Cav., V, Mi

Sterculia lissophylla Pierre, V, MM

Sterculia parviflora L., V, MM

Sterculia radicans Gagnep., V, Na

Sterculia tonkinensis Gagnep., V, Mi

STYRACACEAE

Styrax tonkinensis Pierre, SL, MM

SYMPLOCACEAE

Symplocos chinensis Desv. ex Merr., V, Na

Symplocos cochinchinensis Lour., V, MM

THEACEAE

Camellia caudata Wall., V, Mi

Camellia flava (Pitard) Sealy, V, Mi

Camellia tonkinensis (Pitard) Cohen-Stucort, V, Mi

Eurya trichocarpa Korth., V, Mi

THYMELEACEAE

Wikstroemia indica (L.) C. A. Mey., SUM, Mi

TILIACEAE

Colona poilanei Gagnep., V, MM

Corchorus acutangulus Lam., NL, Th

Grewia bilamellata Gagnep., SL, Mi

Grewia hirsuta Vahl, SL, Na

Grewia tomentosa Juss., SL, Mi

Grewia microcos L., NL, Mi

Triumphetta bartramia L., NL, Na (*T. rhomboidea* Jacq.)

Triumphetta pseudocana Sprag. & Craib, NL, Na (*T. tomentosa* Bojer.)

ULMACEAE

Celtis orientalis Thunb., SL, MM

Celtis sp., SUM, Mi

Gironniera subaequalis Planch., V, MM

Trema orientalis (L.) Blume, V, MM

URTICACEAE

Boehmeria holosericea Blume, V, Ch

Boehmeria nivea (L.) Gaudich., V, Na

Boehmeria nivea (L.) Gaudich. var. *tenacissima* (Gaudich.) Miq., V, Na

Boehmeria macrophylla Hornem., V, Mi (*B. platyphylla* Don)

Boehmeria tonkinensis Gagnep., V, Ch

Boehmeria sp., V, Na

Debregeisia squamata King, V, Na

Dendrochnide urentissima (Gagnep.) Chew, V, Mi (*Laportea urentissima* Gagnep.)

Elatostema balansae Gagnep., V, Ch

Elatostema eurhynchum Miq., V, Ch

Elatostema rupestre Wedd., V, Ch

Laportea sp., V, Th

Pellionia repens Lour., V, H (*Pellionia daveauana* N. E. Br.)

Pellionia sp1., V, H

Pellionia sp2., V, H

Petelotiella sp., V, H

Pilea alongensis Gagnep., V, Ch

Pilea boniana Gagnep., V, Ch

Pilea peltata Hance, V, Ch

Pilea peploides (Gaudich.) Hook., V, Ch

Pilea petelotii Gagnep., V, H

Pouzolzia birta Hassk., V, H

Pouzolzia indica Gaudich., V, Ch

Pouzolzia pentandra Benn., V, Ch

Pouzolzia sanguinea (Blume) Merr., V, Ch (*P. viminea* Wedd.)

Procris sp., V, Ch

Villebrunea boniana Gagnep., V, Na

Villebrunea integrifolia Gaudich., V, Mi

Villebrunea frutescens Blume, V, Na

Villebrunea frutescens Blume var. *nivea* Gagnep., V, Na

VERBENACEAE

Callicarpa aborea Roxb., V, Mi

Callicarpa candicans (Burm. f.) Hochr., V, Na (*C. cana* L.)

Callicarpa dichotoma (Lour.) Reausch. var. *simatodenticulata* P. Do, V, Na

Callicarpa albida Blume, V, Mi (*C. longifolia* Lam.)

Callicarpa loureiri Hook. & Arn., V, Na

Callicarpa macrophylla Vahl, V, Na

Callicarpa nudiflora Hook. & Arn., V, Na (*C. revesii* Wall.)

Callicarpa rubella Lindl., NL, Mi

Callicarpa sp., SL, Mi

Clerodendrum calamitosum L., V, Mi

Clerodendrum colebrookianum Walp., V, Na

Clerodendrum cyrtophyllum Turcz., V, Na

Clerodendrum gaudichaudii P.Dop, V, Na

Clerodendrum kaempferi (Jacq.) Sieb. Ex Hassk., V, Na

Clerodendrum lecomtei P. Dop, V, Mi

Clerodendrum philippinum Schauer var. *simplex* Wu & Ifang., V, Na

Clerodendrum serratum (L.) Moon., V, Na

Clerodendrum tonkinensis P.Dop, V, Na

Clerodendron vampukii Craib, V, Mi

Congea tomentosa Roxb., NL, Lp

Duranta plumieri Jacq., NL, Na

Gmelina lacomtei P. Dop, V, MM

Lantana camara L., V, Na

Phyla nodiflora (L.) Greene, NL, Ch

Premna chevalieri P. Dop, V, Na

Premna corymbosa (Burm.f.) Rottl., V, Na

Premna flavescens Ham., V, Lp

Premna fulva Craib, V, Na

Premna stenobotrys Merr., V, Na

Stachytarphyta jamaicensis (L.) Vahl, V, Th

Verbena officinalis L., V, Ch

Vitex negundo L., SL, Mi

Vitex quinata Williams, SL, MM

Vitex stylosa P. Dop, SL, Mi

Vitex sumatrana Miq. var. *urocolata* King, SL, MM

Vitex tripinnata (Lour.) Merr., SL, Mi (*V. leptobotrys* Hall.)

VIOLACEAE

Viola inconspicua Blume, V, Ch

VISCACEAE

Viscum articulatum Burm., SUM, Pp

Viscum articulatum Burm. var. *balansae* Lecomte, SUM, Pp

Viscum orientale Willd., SUM, Pp

VITACEAE

Ampelopsis brevipedunculata Koehne, V, Lp
Cayratia tenuifolia Gagnep., V, Ch
Cayratia sp1., V, Ch
Cayratia sp2., V, Ch
Cissus modeccoides Planch. var. *subintegra*
 Gagnep., NL, Lp
Cissus subtetragona Planch., V, Lp
Parthenocissus landuk Gagnep., V, Ch
Tetrastigma pachyphyllum (Hemsl.) Chun., V, Lp
Tetrastigma retinervium Planch., V, Lp
Tetrastigma tonkinensis Gagnep., V, Lp
Tetrastigma sp1., V, Lp
Tetrastigma sp2., V, Lp
Vitis pentagona Diels & Gills, V, Ch

LILIOPSIDA

ALISMACEAE

Sagittaria sagittifolia L., NL, Cr

AMARYLLIDACEAE

Crinum asiaticum L., NL, Cr
Crinum ensifolium Roxb., NL, Cr

ARACEAE

Acorus gramineus Soland., V, Cr
Aglaonema modestum Schott ex Engl., V, H (A.
siamense Engl.)
Alocasia macrorrhiza Schott, V, H
Amorphophallus paeoniifolius (Denst.) Nicols.
 var. *campanulatus* (Roxb.) Sivad., V, Cr (A.
campanulatus Roxb.)
Amorphophallus cirrifer Stapf., V, Cr
Amorphophallus tonkinensis Engl., V, Cr
Anadendron latifolium Hook., V, Ep
Arisaema balansae Engl., V, Th
Colocasia indica Hassk., V, Cr
Homalomena occulta (Lour.) Schott, V, H
Lasia spinosa (L.) Thw., V, Cr
Lasia sp., V, Cr
Pothos gigantipes S. Buchet, V, Ep
Pothos kerrii S. Buchet, V, Ep
Pothos repens (Lour.) Druce, V, Ep
Pothos scandens L., V, Ep
Pothos yunnanensis Engl., V, Ep
Raphidophora bonii Engl., V, Ep
Raphidophora decursiva (Roxb.) Schott, V, Ep
Raphidophora hookeri Schott, V, Ep
Typhonium divaricatum (L.) Decne., V, Cr
Typhonium trilobatum Schott, V, Cr

ARECACEAE (PALMAE)

Areca catechu L., NL, MM
Arenga pinnata (Wurmb) Merr., SL, Mi
Calamus platycanthus Warb., NL, Lp

Calamus pseudoscutellaris Conrard, NL, Lp
Calamus rudentum Lour., NL, Lp
Calamus tetradactylus Hance, NL, Lp
Caryota bacsonensis Mag., SL, MM
Caryota mitis Lour., V, Na
Caryota monostachya Becc., V, Ch
Caryota sympetala Gagnep., V, Mi
Licuala bracteata Gagnep., V, Ch
Licuala fatua Becc., V, Ch
Licuala tonkinensis Becc., V, Ch
Livistona saribus (Lour.) Merr. & Chev., V, MM
 (L. *cochinchinensis* Mart.)
Pinanga baviensis Becc., V, Ch
Rhapis micrantha Becc., SL, Ch
Rhapis laosensis Becc., SL, Na
Rhapis sp., SL, Ch
Salacca edulis Reinw., V, Mi (*Zalacca*
wallichiana Mart.)
Wallichia gracilis Becc., V, Na

ASPHODELACEAE

Chlorophytum laxum R. Br., V, Cr
Chlorophytum orchidastrum Lindl., V, Th

ASTELIACEAE

Cordyline fruticosa (L.) A.Chev., V, Na (C.
terminalis Kunth var. *ferrea* Bak.)

BURMANIACEAE

Burmanna coelestis G. Don, V, Cr

CANNACEAE

Canna edulis L., SL, Cr
Canna hybrida Hort., NL, Cr
Canna indica L., NL, Cr

COMMELINACEAE

Aneilema nudiflorum (L.) Wall., V, H
Aneilema medicum (Lour.) Kost., V, H (A.
loureirii Hance)
Commelina benghalensis L., V, H
Commelina diffusa Burm. f., V, H (C. *nudiflora*
 L.)
Commelina paludosa Blume, V, H (C. *obliqua*
 Hance)
Floscopa glabratus (Kunth) Hassk., V, H
Floscopa scandens Lour., V, Th
Floscopa sp., V, H
Forrestia glabratus (Hassk.) Hassk., V, H
Polia thyrsiflora (Blume) Endl., V, Cr
Rhaco spathacea (Sm.) Stearn., SL, Cr (S. *dis-*
color Hance)
Streptolirion sp., V, H
Zebrina pendula Schinzl., V, H

CONVALLARIACEAE

Aspidistra tonkinensis (Gagnep.) Wang & Lang,
 V, Cr (*Collania tonkinensis* Gagnep.)
Aspidistra typica Baill., V, Cr

Aspidistra sp1., V, Cr
Aspidistra sp2., V, Cr
Disporopsis longifolia Craib, V, Cr
Disporum angustifolium Roxb., V, Cr
Disporum calcaratum D. Don var. *rubrifolium* Gagnep., V, Cr
Disporum cantonense (Lour.) Merr., V, Ch
Liriope spicata Lour., V, Cr
Neolourya pierrei Rodr., V, Cr
Neolourya wabari Rodr., V, Cr
Ophiopogon dracaenoides Hook.f., V, Ch
Ophiopogon japonicus (L.f.) Ker-Gawl., V, Cr
Ophiopogon latifolius Rodr., V, Ch
Ophiopogon longifolius Decne., V, Cr
Ophiopogon reptans Hook.f., V, Cr
Peliosanthes labroyana Pierre ex Rodr., V, H
Peliosanthes macrophylla Wall.ex Bak., V, Cr
Peliosanthes serrulata Rodr., V, Cr
Peliosanthes teta Andr., V, Cr
Polygonatum tonkinensis Gagnep., V, Cr
Tupistra tonkinensis Baill., SL, H

COSTACEAE

Costus speciosus (Koenig) Sm., V, Cr
Costus tonkinensis Gagnep., V, Cr

CYPERACEAE

Carex brunnea Thunb., SL, Th
Carex cryptostachys Brongn., SUM, H
Carex indica L., SUM, H
Carex leucociflora Bunge, SL, Cr
Carex maubertiana Boot., SUM, H
Carex trongii Khoi, SL, H
Carex sp1., V, H
Carex sp2., SU, H
Carex sp3., SM, H
Carex sp4., V, H
Cyperus compressus L., V, H
Cyperus cuspidatus K. B. K., V, Th
Cyperus difformis L., V, Th
Cyperus diffusus Vahl var. *diffusus*, V, H var. *latifolius* L. K. Dai
Cyperus digitatus Roxb., V, Th
Cyperus distans L.f., V, Th
Cyperus haspan L., V, H
Cyperus imbricatus Retz., V, Th (*C. radiatus* Vahl)
Cyperus iria L., V, Th
Cyperus nutans Vahl var. *eleusinoides* (Kunth) Haines, V, Th
Cyperus pilosus (L.) Vahl, V, H
Cyperus rotundus L., V, Cr
Cyperus tenuispica Steud., V, Th
Cyperus zollingeri Steud., V, H
Eleocharis atropurpurea (Retz.) Presl, V, Th (*Eleocharis atropurpurea* (Retz.) Presl)
Eleocharia geniculata (L.) Roem & Schult., V,

Th (*H. caribaca* (Rottb.) Blatke, *H. capitata* R.Br.)
Fimbristylis complanata (Retz.) Link, V, Th
Fimbristylis dichotoma (L.) Vahl, V, Th
Fimbristylis diphylla Vahl var. *diphylla*, V, Th var. *pluristriata* Clarke
Fimbristylis miliacea (L.) Vahl, V, Th
Fimbristylis monostachya (L.) Hassk., NL, Th
Fimbristylis pauciflora R.Br., NL, Th
Fimbristylis quinquangularis (Vahl) Kunth, NL, Th
Fimbristylis squarrosa Vahl, NL, Th
Fimbristylis thomsonii Bockl., NL, Th
Fimbristylis umbellata Rottb., NL, Cr
Fuirena ciliatis (L.) Roxb., NL, Th (*F. glomerata* Lam.)
Heleocharis congesta D. Don, V, Th
Hypolytrum nemorum (Vahl) Spreng., V, Cr (*H. latifolium* L. C. Rich.)
Kyllinga brevifolia Rottb., NL, H
K. monocephala Rottb., NL, H
Mapania macrocephala K. Schum. & Warb., V, Cr
Mariscus compastus (Retz.) Druce, V, Th (*Sphaecomariscus microcephalus* E.G.Camus)
Mariscus umbellatus Vahl, V, Cr
Pycnus flavidus Retz., var. *flavidus*, NL, Cr (*P. globosus* (All.) Reichb.) var. *strictus* Clarke
Pycnus nilagiricus Steud., NL, Cr
Rhynchospora rubra (Lour.) Makino, NL, Th (*Rhynchospora wallichiana* Kunth)
Scleria juncoides Roxb., NL, Cr
Scleria mucronatus L., NL, Cr
Scleria radula Hance, NL, Cr
Scleria supinus L., NL, Cr
Scleria tessellata Willd., NL, Cr

DIOSCOREACEAE

Dioscorea alata L., NL, Cr
Dioscorea glabra Roxb., SL, Cr
Dioscorea hamiltonii Hook., V, Cr
Dioscorea nummularia Lam., V, Cr (*D. pyrifolia* Kunth)
Dioscorea pentaphylla L., V, Cr
Dioscorea persimilis Prain & Burk., SL, Cr

DRACAENACEAE

Dracaena angustifolia Roxb., V, Mi
Dracaena cambodiana Pierre & Gagnep., SUM, Mi

ERIOCAULACEAE

Eriocaulon intermedium Koern., NL, Cr

HYPOXIDACEAE

Curculigo annamitica Gagnep., V, Cr
Curculigo gracilis Wall., V, Cr
Hypoxis sp., V, Cr

IRIDACEAE

Belamcanda chinensis (L.) DC., NL, Cr

JUNCACEAE

Juncus prismatocarpus R. Br., NL, Th

MARANTACEAE

Phrynium capitatum Willd., V, Cr

Phrynium dispernum Gagnep., V, Cr

Phrynium thorelii Gagnep., V, Cr

Stachyphrynium sp., V, Cr

MUSACEAE

Musa itinerans Chessman, V, H

Musa uranoscopus Lour. (*M. coccinea* Andr.), V, H

ORCHIDACEAE

Acampe rigida (Smith) P.P. Hunt, SL, Ep

Aerides odoratum Lour., SL, Ep

Anaphora liparioides Gagnep., V, H

Appendicula cornuta Blume, V, Ep

Arundina chinensis Blume, NL, H

Arundina graminifolia D. Don, NL, H

Bulbophyllum concinnum Hook. f., SL, Ep

Bulbophyllum delitescens Hance, SL, H

Bulbophyllum lepidum (Blume) Smith, SUM, Ep

(*Cirrhopetalum siamese* Rolfe ex Donie)

Bulbophyllum nigrescens Rolfe, V, H

Bulbophyllum stenobullon Par. & Reichb.f., V, H

Bulbophyllum taeniophyllum Par. & Reichb.f., SL, H

Bulbophyllum xylophyllum Par. & Reichb.f., SL, H

Calanthe angusta Lindl., V, H

Calanthe alismifolia Lindl., V, Cr

Calanthe herbacea Lindl., V, Cr

Calanthe triplicata (Willem.) Ames, V, Cr (*C. veratrifolia* R.Br.)

Cleisostema aspersum (Reichb.f.) Garay, V, Ep

Cleisostema striatum (Reichb.f.) Garay, V, Ep

Coelogyne fimbriata Lindl., V, Ep

Coelogyne nitida Hook., V, Ep

Coelogyne brachyptera Reichb.f., SL, Ep (*C. parishii* Auct. non Hook.f.)

Corymbokis veratrifolia (Reinw.) Blume, V, Ch

Cymbidium aloifolium (L.) Sw., V, Ep

Cymbidium lancifolium Hook.f., V, Ep

Dendrobium acinaciforme Roxb., V, Ep

Dendrobium crumenatum Sw., V, Ep

Dendrobium dentatum Seidenf., SUM, Ep (*D. tenellum* auct. non Lindl.)

Dendrobium lindleyi Steud. (*D. aggregatum* Roxb.), V, Ep

Dendrobium gibsonii Lindl., V, Ep

Dendrobium bercoglobum Reichb.f. (*D. poilanei* Guill.), V, Ep

Dendrobium moschatum Sw., SL, Ep

Dendrobium nobile Lindl., SL, Ep

Dendrobium oxyphyllum Gagnep., SL, Ep

Dendrobium podagraria Hook. f., V, Ep

Dendrobium superbum Reichb.f. var. *delacurii* Gagnep. & Guill., V, Ep

Dendropogon aducum Hook.f., V, H

Dendropogon wardianum Warner, V, H

Desmotrichum poilanei Gagnep., SUM, Ep

Eria arneri Reichb.f., SL, Ep

Eria coronaria (Lindl.) Reichb.f., SL, Ep

Eria globulifera Seidenf., V, Ep

Eria petelotii Gagnep., SUM, Ep

Erithrodies blumei (Lindl.) Schlecht, V, Ep

Erithrodies chinensis (Rolfe) Schltr., SUM, Ep

Galeola javanica Benth., V, Th

Galeola nudifolia Lour. (*G. hydra* Reichb.f.), NL, Lp

Gastrobilus obliquus (Lindl.) Kuntze, V, Ep

Goodyera fumata Thw., V, H

Goodyera hispida Lindl., V, H

Goodyera procera (Ker-Gawl.) Hook., V, H

Goodyera soliosa (Lindl.) Benth. ex Clark, SUM, H

Haemaria sp., V, H

Hetaria rubens (Lindl.) Benth. ex Hook.f., V, Cr

Kingidium deliciosum (Reichb.f.) Sweet., V, Ep (*K. decumbens* (Griff.) Rolfe)

Liparis cordigera Hook.f. var. *argentopunctata* (Aver.) Aver., V, Ep

Liparis distans Clark., V, Ep

Liparis latilabris Rolfe, V, Ep

Liparis manii Reichb.f., V, Ep

Liparis nervosa (Thunb.) Lindl., V, Ep

Ludisia discolor (Ker-Gawl.) Reichb.f., V, Cr (*Haemaria discolor* (Ker-Gawl.) Lindl.)

Luisia morsei Rolfe, V, Ep

Malaxis acuminata D. Don, V, Ep

Malleola insectifera (J.J. Sm.) J.J. Sm. & Schlecht., V, Ep

Neogyna sp., V, Ep

Neuwiedia singapureana (Baker) Rolfe, V, Cr (*N. balansae* Baill.)

Oberonia ensiformis (J.E. Sm.) Lindl., SL, Ep

Oberonia longibracteata Lindl., V, Ep

Oberonia myosurus (Foster) Lindl., V, Ep

Oberonia pachyphylla King & Pantl., V, Ep

Paphiopedilum appletonianum Rolfe, SUM, Cr

Paphiopedilum delenatii Guill., SUM, Cr

Pelatatheria insectifera (Reichb.f.) Ridl., SL

Phajus tankervilleae (Banks ex L'Her.) Blum, NL, Cr

Phalaenopsis gibbosa Sweet, V, Ep

Phalaenopsis lobbii (Reichb.f.) Sweet, V, Ep

Phalaenopsis parishii Reichb.f., V, Ep

Pholidota rubra Lindl., V, Cr

Pholidota yunnanensis Rolfe, V, Cr

Phreatia secunda (Blume) Lindl., V, Cr

Physurus sp., V, Cr
Pogonia flabelliformis Lindl., NL, Cr
Renanthera coccinea Lour., SL, Ep
Robiquetia suceisa (Lindl.) Seidenf., V
Sarcanthus krempfii Guill., V, Ep
Sarcanthus sp., V, Ep
Spiranthes sinensis (Pers) Ames (*S. australis* Lindl.), NL, Cr
Sunipia andersonii (King & Pantl.) P.F. Hunt., SUM, Ep (*Ione purpurata* Braid)
Thrispermum carnosum (Ridl.) Schlectht., V, Ep
Thrispermum centipeda Lour., SL, Ep
Trichotosia curculigoides Lindl., SL, Ep
Trichotosia pulvinata (Lindl.) Kraezl., V, Ep
Vanda concolor Blume, V, Ep
Vanda doritoides Guill., SL, Ep
Vanda teres Lindl., SL, Ep
Vanda vininea Guill., SL, Ep
Vanilla annamica Gagnep., SUM, Ep
Vrydagzynea albida (Blume) Blume, V, Ep
Zeuxine nervosa (Wall.) Lindl. Benth. ex Clark, SL, Ep
Zeuxine vietnamica Aver., SL, Ep

PANDANACEAE

Pandanus odoratissimus L.f. (*P. loureiri* Gaudich.), V, Mi
Pandanus tonkinensis Martelli, V, Na

PHORMIACEAE

Dianella ensifolia DC., NL, H

POACEAE (GRAMINEAE)

Acroceras munroanum (Bal.) Henr., V, H (*A. crassiapiculatum* (Merr.) Alston)
Apluda mutica L. (*A. varia* Hack.), NL, H
Arthraxon ciliaris P. Beauv., NL, H (*A. hispidus* (Thunb.) Makino)
Arundinella bengalensis (Spreng.) Druce, V, H
Arundinella nepalensis Trin. (*A. hispida* Hack.), NL, H
Botriochloa glabra (Roxb.) A. Camus, NL, H (*Andropogon glabra* Roxb., *Amphilophia glabra* (Roxb.) Stapf)
Capillipedium cinctum (Steud.) A. Camus, NL, H
Centotheca lappacea (L.) Desv., V, H
Chrysopogon aciculatus (Retz.) Trin., NL, H
Coix lachryma-jobi L. var. *ma-yuen* (Romanet) Stapf, V, Th
Cynodon dactylon Pers., NL, H
Cyrtococcum oxyphyllum (Steud.) Stapf, V, H (*C. pilipes* (Nees & Arn.) A. Camus)
Cyrtococcum patens (L.) A. Camus, V, H
Dactyloctenium aegyptium (L.) Willd., NL, Th (*D. aegyptiacum* Willd.)
Dendrocalamus giganteus Munro, V, PhH

Dendrocalamus longifibriatus Gamble, V, PhH
Dendrocalamus membranaceus Munro, V, PhH
Digitaria timorensis (Kunth) Bal., NL, Th (*D. propinqua* Gaudich.)
Digitaria violascens Link, NL, Th
Echinochloa colona (L.) Link, NL, Th
Echinochloa crusgalli (L.) P. Beauv., NL, Th
Echinochloa frumentacea (Roxb.) Link, NL, Th (*E. crusgalli* (L.) P. Beauv. var. *frumentaceum* Trin.)
Eleusine indica (L.) Gaertn., V, Th
Eragrostis geniculata Nees, NL, H
Eragrostis interrupta P. Beauv., NL, Th
Eragrostis nigra Nees ex Steud., NL, Ch
Eragrostis pilosa (L.) P. Beauv., NL, Th var. *pilosa* var. *imberbis* Franch.
Eragrostis stenophylla Hochst. ex Miq., NL, Th
Eragrostis unioides (Retz.) Nees ex Steud., NL, Th
Eragrostis zeylanica Nees & Mey., NL, H (*E. elongata* auct. non Jacq.)
Eulalia phaeotrix (Hack.) Kuntze, var. *phaeotrix*, NL, Cr
Hackelochloa granularis (L.) Kuntze, NL, Th (*Manisuris granularis* (L.) L.f.)
Hemarthria compressa (L.f.) R. Br., NL, H
Hymenachne polymorpha Bal., NL, H (*Sacciolepis polymorpha* (Bal.) A. Chase)
Imperata cylindrica (L.) P. Beauv., NL, Cr
Isachne globosa (Thunb.) Kuntze, NL, H
Isachne miliacea Roth, NL, H (*I. polygonoides* auct. non Doll.)
Ischaemum rangacharianum C.E.C. Fischer, NL, H (*I. aristatum* auct. non L.)
Ischaemum rugosum Salisb. var. *segetum* (Trin.) Hack., NL, Th
Leersia hexandra Sw., NL, Th
Leptochloa panicea (Retz.) Ohwi., V, Th (*Leptochloa filiformis* auct. non P. Beauv.)
Lophatherum gracile Brongn., NL, H
Microstegium ciliatum (Trin.) A. Camus, V, Th
Microstegium vagans (Nees) Merr., NL, Th
Miscanthus floridulus (Labill.) Warb., NL, Cr ex K. Schum. & Lauterb. (*M. japonicus* Anderss.)
Narenga porphyrocoma (Hance ex Trimen) Bor., NL, H (*Saccharum narenga* Wall.)
Neobouzeana dulloo A. Camus, NL, PhH
Neyraudia arundinacea (L.) Herr. var. *zollingeri* (Buse) Herr., NL, H (*Arundo madagascariensis* Kunth var. *zollingeri* A. Camus)
Oplismenus compositus (L.) P. Beauv. var. *compositus*, NL, H
Oplismenus compositus (L.) P. Beauv. var. *owtani* (Honda) Nguyen, NL, H

Panicum bisulcatum Thunb., NL, Ch (*P. acroanthum* Steud.)
Panicum brevifolium L., NL, H
Panicum incomitum Trin., NL, H
Panicum luzoniense C. Presl, NL, Th
Paspalum conjugatum Berg., NL, Th
Paspalum longifolium Roxb., NL, H
Paspalum orbiculare Forst., NL, Ch
Paspalum scrobiculatum L., NL, H
Paspalum alopecuroides (L.) Spreng., NL, H (*P. compressum* R. Br.)
Pennisetum purpureum K. Schum., V, Th
Phragmites communis Trin., V, H (*P. vulgaris* Trin.)
Pogonatherum crinitum (Thunb.) Kunth, NL, H
Polytoca digitata (L.f.) Druce, V, Th (*P. heteroclita* (Roxb.) Koord.)
Pseudochinolaena polystachya (H.B.K.) Stapf, NL, Th
Rottboellia exaltata L.f., V, Th
Saccharum arundinaceum Retz., V, H
Saccharum spontaneum L., NL, Ch
Sacciolepis indica (L.) A. Chase, NL, Th
Schizachyrium brevifolium (Sw.) Nees ex Buse, NL, Th
Sclerachne punctata R. Br., NL, Th
Setaria glauca (L.) P. Beauv., V, Th (*S. lutescens* (Weig.) P. T. Hubb.)
Setaria palmifolia (Koen.) Stapf, H
Setaria sphacelata (Schum.) Stapf & C.E. Hubb., NL, H
 ex M. B. Mess (*S. aurea* Hochst. ex A. Braun)
Setaria verticillata (L.) P. Beauv., V, Th
Sinocalamus latiflorus (Munro) McClure, NL, PhH (*Dendrocalamus latiflorus* Munro)
Sorghum nitidum (Vahl) Pers. var. *nitidum*, NL, H (*S. serratum* (Thunb.) Stapf var. *nitidum* A. Camus)
Sorghum propinquum (Kunth) Hitchc., NL, H (*S. affine* (J. Presl) A. Camus),
Sporobolus indicus (L.) R. Br., NL, H
Stenotaphrum holferi Munro, NL, H
Themeda villosa (Poir.) Dur.ex Jacks, NL, Ch
Thysanotena maxima (Roxb.) Kuntze, NL, H

Urochloa paspaloides J. Presl ex Presl, NL, Th (*Brachiaria ambigua* (Trin.) A. Camus),
Urochloa reptans (L.) Stapf, NL, Th

PONTEDERIACEAE

Eichornia crassipes (Maret.) Solms, NL, H
Monochoria vaginalis (Burm.f.) Presl, NL, Cr

SMILACACEAE

Smilax baubinioides Kunth, V, Cr
Smilax bracteata Presl, V, Cr (*S. stenopetala* A. Gray)
Smilax lancaefolia Roxb., V, Cr
Smilax ovalifolia Roxb., V, Cr (*S. macrophylla* Roxb.)
Smilax perfoliata Lour., V, Cr
Smilax riparia A. DC., V, Cr

STEMONACEAE

Stemona saxorum Gagnep., V, Cr
Stemona tuberosa Lour., V, Cr

TACCACEAE

Tacca plantaginea (Hance) Drenth, V, Th (*Schizocapsa plantaginea* Hance)
Tacca integrifolia Ker-Gawl. V, Cr (*T. laevis* Roxb.)
Tacca chantrieri Andr., V, Cr (*T. paxiana* Limpr.)

TRILLIACEAE

Paris chinensis Franch., V, Cr
Paris hainanensis Merr., V, Cr

ZINGIBERACEAE

Alpinia nutans Rosc., V, Cr
Alpinia chinensis (Retz.) Rosc., V, Cr
Alpinia tonkinensis Gagnep., V, Cr
Anomum biflorum Jack, V, Cr
Anomum ovoideum Pierre ex Gagnep., V, Cr
Anomum thyrsoides Gagnep., V, Cr
Anomum vespertilio Gagnep., V, Cr
Curcuma elata Roxb., V, Cr
Curcuma stenochila Gagnep., V, Cr
Kaempferia rotunda L., V, Cr
Zingiber cassumunar Roxb., V, Cr
Zingiber monophyllum Gagnep., V, Cr
Zingiber rubens Roxb., V, Cr
Zingiber zerumbet (L.) J.E. Sm., V, Cr

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