

ESTABLISHMENT OF A XYLARIUM

K.M.Bhat

K.V. Bhat



KERALA FOREST RESEARCH INSTITUTE
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8. Index to Species Represented

Abies amabilis (Dougl.) Forbes
Abies balsamea (L.) Mill.
Abies firma Sieb. et Zucc.
Abies grandis (Dougl. ex D. Don) Lindl.
Abies smithii Flous
Acacia implexa Bent. in Book.
Acer davidii Franch
Acer macrophyllum Pursh
Acer mono Maxim.
Acer negundo L.
Acer platanoides L.
Acer pseudoplatanus L.
Acer rubrum L.
Acer saccharinum L.
Acer saccharum Marsh.
Ackama paniculata (F. Muell) Engt
Actinodaphne longifolia Nakai
Aesculus hippocastanum L.
Aglaia anamalayana (Bedd.) Kosterm.
Aglaia sp.
Ailanthus altissima Swingle
Ailanthus triphysa (Dennst) Alston
Albizia chinensis (Osb.) Merr.
(Syn. *A. atipulata* Boiv).
Albizia falcataria (L.) Fosb.
Albizia kalkora Prain
Albizia odoratissima (L.f.) Benth.
Albizia procera (Roxb.) Benth.
Alexa sp.
Alniphyllum fortunei Perk.
Alnus glutinosa (L.) Gaertn.
Alnus hirsuta Turcz.
Alnus japonica Steud.
Alnus rubra Bong. (*Alnus oregona* Nutt.)
Alnus sp.
Alstonia macrophylla Wall.
Alatonia scholaris (L.) R.Br.
Anacardium ap.
Anacardium occidentale L.
Anacolosia densiflora Bedd.
Aniba canellila Mez
Anisoptera seaphula (*A. glabra*)
Anisoptera thurifera (Blanco) Blume
Anogeissus latifolia (DC.) Wall. ex Guill. & Perr.
Anthocephalus chinensis (Lamk.) Rich. ex Walp.
Antiaris africana Engl.
Antiaris toxicaria (Pers.) Lesch
Aphananthe aspera Planch.
Araucaria cunninghamii Ait. ex D. Don
Argyrodendron actinophyllum C. Moore
(Syn. *Tarrietia actinophylla* C. Moore)
Artocarpus chaplasha Roxb.

Artocarpus heterophyllus Lamk
 Artocarpus hirsutus Lamk
 Artocarpus lakoocha Sensu Gamble
 Astronium lecointei Ducke le-Cointei
 Aucoumea Klaineana Pierre
 Avicennia officinalis L.
 Baccaurea courtallensis (Wt.) M-A.
 Backhouaia sciadophora F.Muell.
 Bagassa sp.
 Beilschmiedia obtusifolia F.Muel.ex Meissn
 Bertholletia excelsa Berg.
 Betula alleghaniensis Britton
 Betula corylofolia Regel et Maxim.
 Betula ermani Cham.
 Betula grossa Sieb. et Zucc.
 Betula papyrifera Marsh.
 Betula pendula Roth.
 Betula platyphylla Sukat.
 Betula verrucosa Ehrh.
 Bischofia Javanica Bl.
 Bombax ceiba L.
 Bowdichia nitida Spruce, ex Bt nth.
 Bruguiera gymnorhiza (L.) Savi.
 Butea monosperma (Lamk.) Taub.
 Buxus sempervirens L.
 Cadrus deodara (Roxb.) G.Don
 Calamus gamblei Becc.
 Calamus hookerianus Becc.
 Calamus metzianus Becc.
 Calamus pseudotenuis Becc.
 Calamus rotang Linn.
 Calamus sp.
 Calamus thwaitesii Becc.
 Calamus travancoricus Bedd.
 Callitris glauca R.Br.ex R.T. Bak.et H.G.Sm
 Callitris sp.
 Calocedrus decurrens (Torr.) Florin
 Calophyllum kajewskii A.C. Sm.
 Calophyllum brasiliense var. rekoii
 Calophyllum elatum Bedd.
 Calophyllum obliquineryium Merr.
 Calophyllum polyanthum Wall.ex Choise
 Cambeya africana Pierre
 Canarium resiniferum Brace.
 Canarium schweinfurthii Engl.
 Canarium strictum Roxb.
 Carallia brachiata (Lour.)Merr.
 Carpinus betulus L.
 Carpinus japonica Blume
 Carya sp.
 Caryocar villosum Pers.
 Casatanta sativa Mill.
 Cassia nodosaa Ham.
 Castanea crenata Sieb. et Zucc.
 Castanopsis carlesii Hay.

Castanopsis cuspidata Gchott.
 Castanopsis sclerophylla Schottky
 Caauarina equisetifolia Forst.
 Casuarina luehmannii Ait.
 Casuarina torulosa Alt.
 Catalpa bignonioides walt
 Catalpa speciosa Warder, ex Engelm
 Cedrela mexicana Roem.
 Cedrus atlantica (Endl.) Manetti ex Carr.
 Ceiba pentandra (L.) Gaertn.
 Celtis philippensis Blanco var wightii (Planch.) Soep.
 Celtis sinensis Pers.
 Cercihiphyllum japonicum Sieb. et Zucc.
 Chamaecyparis lawsoniana (A.Murr.) Parl.
 Chamaecyparis nootkatensis (D. Don) Spach
 Chamaecyparia obtusa Sieb. et Zucc.
 Chamaecyparia pisifera (Sieb.et Zucc.) Endl.
 Chosenia macroepis Kom.
 Chosenia macrolepis Komarov.
 Chrysophyllum sp.
 Chukrasia tabularis A. Juss.
 Cinnamomum camphora Sieb.
 Cinnamomum cecidodaphne Meissn.
 Cinnamomum porrectum Kastern.
 Clarisi racemosa Ruiz. & Pav.
 Clerodendron mandarinorum Dfels.
 Copaifera salikounda Heck.
 Cordia sp.
 Cornus controversa Hemsl.
 Crataegus monogyna Jacq.
 Crataegus x lavalleyi Herincq ex Lavalley
 Cryotinerua haoibuca (L.f.)/D.Don
 Cryptomeria japonica D.Don
 Cullenia exarillata Robyns
 Cunninghamia konishii Hayata
 Cunninghamia lanceolata (Lamb.) Hook.f.
 Cupania anacardioides A.Rich.Gert.
 Cupresaus funebris Endl.
 Cyathocalyx zeylanica Champ.ex Hk.F & Th.
 Dalbergia hupeana Hance
 Dalbergia latifolia Roxb.
 Dalbergia paniculata Roxb.
 Daphniphyllum glaucescens M.-A.
 Dendopanax chevalierl Merr.
 Dendrobenthamia capitata Hutch.
 Derris pinnata
 (Syn. Pongamia glabra Vent.)
 Detarium senegalense Gmel.
 Dialium sp.
 Didelottia letouzeyi Pellegr.
 Dillenia indica Linn.
 Dillenia pentagyna Roxb.
 Dinizia excelsa Ducke.
 Diospyros bourdillonii Brand.
 Diospyros ebenum Koenig

Diospyros microphylla Bedd.
Diospyros sp.
Diospyros sylvatica Roxb.
Diploglottis cunnighamii Hook.f.
Dipterocarpus grandiflorus Blanco.
Dipterocarpus indicus Badd.
Dipterocarpus sp.
Dipterocarpus turbinatus Gaertn.f.
Dracontomelon dao (Blanco) Merr. & Rolfe
Duabanga grandiflora Ham.
Dysoxylum fraseranum Benth.
Dysoxylum malabaricum Bedd.
Dysoxylum rufum Benth,
Dysoxylum sp.
Elaeocarpus chinensis Hook.f.
Elaeocarpus eumundi F.M.Bailey
Elaeocarpus tuberculatus Roxb.
Embothrium wickhamii Hill & F.Muell.
Endopleura uchi (Nuber) Cuatrec.
Entandrophragma cyfindricum Sprague
Entandrophragma sp.
Enterlobium sp.
Eperua bijuga Mart.ex Benth.
Erythrina variegata Linn.Diss.Herb.Amb.
Eschweilera sp.
Eucalyptus delegratensis R.T. Bak.
Eucalyptus caniliculata Maiden
Eucalyptus deanei Maiden
Eucalyptus grandis w. Hill ex Maiden
Eucalyptus gummifera (Gaertn.) Hochr.
Eucalyptus maculata Hook.
Eucalyptus microcorys F. Muell
Eucalyptus muellerana Howitt
Eucalyptus paniculata Sm.
Eucalyptus pilularis Sm.
Eucalyptus resinifera Sm.
Eucalyptus saligna Sm.
Eucalyptus sieberii L. Johnson
Eucalyptus viminalis Labill.
Eucryphia billardi Spach
Euodia lunu-ankenda (Gaertn.) Merr.
Excoecaria agallocha L.
Fagara budrunga Roxb.
(Syn. *Zanthoxylum budranga* Roxb.DC)
Fagus crenata Blume
Fagus grandiflora Ehrh.
Fagus sylvatica L.
Flacourtia sg.
Frangula alnus Mill..
Fraxinus americana L.
Fraxinus excelsior L.
Fraxinus nigra Marsh.
Fraxinus spaethiana Lingelsh
Gardenia coronaria Ham.
Garuga pinnata Roxb.

Geissois benthamii F. Muell.
 Ginkgo biloba Linn.
 Gleditsia triacanthos L.
 Glochidion zeylanicum A.Juss.
 Gmelina arborea Roxb.
 Gonystylus macrophyllus Airy
 Goupia glabra Aubl.
 Grewia tiliifolia Vahl
 Grewillea robusta A. cunn. ex R. Br.
 Guarea cedrata Pellegr.
 Guibourtia arnoldiana J. Loonard
 Gurapa guianensis Aubl.Pl.Gui
 Haldina cordifolia (Roxb.) Rtdsd.
 Hedera helix L.
 Heritiera fomes Buch.
 Heritiera papilio Bedd.
 Heritiera simplicifolia Kosterm.
 Hevea braziliensis Muell.Arg.
 Hippophae rhamnoides L.
 Holigarna arnottiana Kk.F.
 Hopea odorata Roxb.
 Hopea parviflora Bedd.
 Hopea racophloea Dyer
 Hovenia dulcis Thunb.
 Hydnocarpus pentandra (Buch.-Ham.) Oken
 Hydrangea petiolaris Seb. et Zucc.
 Hymenae sp.
 Hymenolobium petraeum Ducke
 Ilex aquifolium L.
 Ilex godajam Colebr.
 Ixora notoniana Wall.
 Juglans cinerea L.
 Juglans mandshurica Maxim.
 Juglans nigra L.
 Juglans regia L.
 Juniperus communis L.
 Juniperus virginiana L.
 Knema attenuata (Hook.f.& Thomas)Werb.
 Laburnum anagyroides Medik.
 Lagerstroemia speciosa Pers.
 Lagerstroemia microcarpa Wight
 Lannea coromandelica (Houtt.) Merr.
 Lannea sp.
 Larix decidua Hill.
 Larix griffithiana Hort.ex Carr.
 Larix kaempferi (Lamb.) Carr.
 Larix laricina (Du Roi) K. Koch
 Larix occidentalis Nutt.
 Larix olgensis Henry.f.
 Lecythis pisonis (Mars)S.A.Mori & G.T.Prance
 Liquidambar formosana Hance
 Liriodendron tulipifera L.
 Lithocarpus glaber Nakai.
 Litsea elongata Hook.f.
 Litsea monopetala Pers.Syn.

Litsea reticulata Benth. & Hook.f. ex F.Muell
Lonchocarpus sp.
Lophopetalum fimbriatum Wight
Lophopetalum wightianum Arn.
Macaranga peltata (Roxb.) M-A.
Machilus bombycina King
Madhuca nerifolia (Moon) H.J.Lam.
Magnolia denudata Oesr.
Magnolia obovata Thunb.
Malus sylvestris Mill.
Mangifera altissima Blanco
Mangifera indica L.
Manilkara sp.
Mansonia altissima A. Chev.
Melia azedarach Linn.
Melia dubia Cav.
Meliosma kirkii Hemsl & Wils.
Mesua ferrea Auct.non Linn.
Michelia champaca L.
Miliusa roxburghiana Hook.f. & Th.
Myrica gale L.
Myrica rubra S & Z.
Myrica rubra Sieb. et Zucc.
Neolamackia cadamba Bosser
(Syn. *Anthocephalus cadamba* Miq.)
Neolitsea aciculata Koidz.
Neonauclea purpurea (Roxb.) Merr.
Nyssa sinensis Oliv.
Ochroma pyramidale (Cav.ex Lamk.) Urban
Ocotea sp.
Olea paniculata Roxb.Hort.Beng.
Orites excelsa R.Br.
Ormosia semicastrata Hance
Ostrya japonica Sarg.
Otonophelium stipulaceum (Bedd.) Radik.
Owenia cepiodora F.Muell.
Padus serotina Borkh.
Palaquium ellipticum (Dlazz.)Engl.
Palaquium polyanthum Benth.
(Syn. *Dichopsis polyantha* Benth.)
Palaquium tenuipetiolatum Merr.
Parkia javanica (Lam.) Merr.
Parkia pendula Benth.
Parkia sp.
Pasania edulis Makino
Paulownia tomentosa Steud.
Persea macrantha (Nees) Kosterm.
(Syn. *Machilus macrantha* Nees)
Phellodendron amurense Rupr.
Phoebe sheareri Gamble
Photinia davidsoniae R & W.
Photinia glabra Maxim.
Phyllanthus ferdianandi var. *supra-axillaris*
Phylloeladus asplenifolius (Labill) Hook.F.
Picea abies (L.) Karst.

Picea amonica Willk.
Picea brachytyla Pritz.
Picea glauca (Moench) Voss
Picea glehni Masters
Picea jezoensis Carr.
Picea koraiensis Nakai
Picea sitchensis (Bong.) Carr.
Pinus armandi Franch
Pinus banksiana Lamb.
Pinus bungeana Zucc.ex Endl.
Pinus caribaea E.Murray
Pinus contorta Dougl.
Pinus densiflora Sieb. et Zucc.
Pinus insularis Endl.
Pinus nigra Arnold
Pinus ponderosa Laws.
Pinus radiata D.Don
Pinus resinosa Ait.
Pinus sibirica Rupr.
Pinus strobus L.
Pinus sylvestris L.
Pinus tabulaeformis Carr.
Piptadenia sp.
Pithecolobium pruriacum Benth.
Platanus acerifolia L.
Platanus occidentalis L.
Podocarpus neriifolius Dow
Podocarpus philippinensis Foxw.
Polyalthia cerasoides (Roxb.) Benth
Polyalthia fragrans (Dalz.) Bedd.
Populus balsamifera L.
Populus lasiocarpa Oliv.
Populus maximowiczii Henry
Populus nigra Linn.
Populus tremula L.
Populus tremuloides Michx.
Populus trichocarpa Torr. & Gray
Populus x canadensis Moench. cv.
Protium serratum Engl.
(Syn. *Bursera serrata* Colebr.)
Prunus avium L.
Prunus domestica L.
Prunus jamasakura Sieb. ex Koidz.
Prunus padus L.
Prunus serotina Ehrh.
Prunus vaniotii Levl.
Pseudotsuga menziesii (Mirb.) Franco
Psychotria sp.
Pterocarpus marsupium Roxb.
Pterospermum celebicum Miq.
Pterospermum reticulatum Wight & Arn.
Pterygota alata R.Br. (*Sterculia alata* Roxb.)
Pycnanthus angolensis Exell.
Pyrus communis L. var. *sativa* (DC.) DC. cv.
Pyrus ussuriensis Maxim.

Quercus acuta Thunb.
Quercus acutissima Carr.
Quercus alba L.
Quercus gilva Blume
Quercus mongolica Fischer
Quercus petraea (Mattuschka) Liebl.
Quercus rubra L.
Quercus variabilis Bl.
Quintinia sieberi A. DC Monog. Camp.
Rhodammia argentina Benth.
Rhodognaphlon brevicuspe Roberty
Robinia pseudoacacia Oswald.
Sageraea dalzellii Bedd.
Salix alba L.
Samanea saman (Jacq.) Merr.
Sambucus nigra L.
Schima superba Gardn. & Champ.
Schima wallichii Choisy.
Schizolobium sp.
Schleichera oleosa (Lour.) Oken.
Sciadopitys verticillata Sieb. et Zucc.
Scolopia brownii F. Muell. Fragm.
Serialbizia acle (Blanco) Kostern.
Shiia sp.
Shorea almon Foxw.
Shorea contorta Vid
Shorea palosapia (Blanco) Merr.
Shorea polita Vid.
Shorea robusta Gaertn. f.
Sideroxylon pohlmanianum Benth. & Hook.
Sindoropsis Detestui J. Leonard
Siphonodon australis Benth.
Sloanea sinensis Hemsl.
Sophora japonica L.
Sorbus alnifolia C. Koch
Sorbus amurensis Kochne
Spondias pinnata (L. f.) Kurz
Stenocarpus sinuatus Endl.
Sterculia sp.
Sterculia rhinopetala K. Schum.
Sterculia villosa Roxb.
Stereospermum chelonoides (L. f.) DC.
Stereospermum sp.
Strychnos nux-vomica L.
Strombosia ceylanica Gardn.
Styrax suberifolia Rook. f. et Am.
Swietenia macrophylla King
Swintonia floribunda Griff.
Symplocos stellaris Brand.
Synaedrys amygdalifolia Hayata
Syringa vulgaris L.
Syzygium cumini (Linn.) Skeels
Syzygium gardneri Thw.
Syzygium sp.
Tabebuia sp.

Taiwania cryptomerioides Hay.
Tarrietia utilis Sprague.
Taxus baccata L.
Taxus cuspidata Sieb. et Zucc.
Tectona grandis L.f.
Terminalia bellirica (Gaertn.)Roxb.
Terminalia chebula Retz.
Terminalia crenulata Roth
Terminalia ivorensis A.Chev.
Terminalia macrocarpa Decne.
Terminalia paniculata Roth
Terminalia sp.
Terminalia superba Engl. W. Diels
Terminalia tomentosa W & A.
Terminalia travancoriensis Wt.& Am.
Ternstroemia megacarpa Herr.
Ternstroemia sp.
Tetraberlinia bifliata Harms..
Tetrameles nudiflora R.Br.
Thuja occidentalis L.
Thuja plicata Donn
Thuja standishii Carr.
Thujopsis dolabrata Sieb. et Zucc.
Tieghemella heckelii Pierre
Tilia americana L.
Tilia cordata Mill.
Tilia mandshurica Rupr. & Max.
Tilia miqueliana Maxim.
Tilia sp.
Tilia x euchlora K. Koch
Toisusu urbaniana Kimura
Toona calantas Merr. Merr.
Toona ciliata Roem.
Torreya nucifera Sieb. et Zucc.
Trewia nudiflora Bedd.
Triplochiton soleroxylon K. Schum.
Tristania conferta R. Br.
Trochodendron aralioides Sieb. et Zucc.
Tsuga canadensis (L.) Carr.
Tsuga formosana Hay.
Tsuga heterophylla (Raf.) Sarg.
Ulmus davidiana Planch.
Ulmus foliacea Gilib.
Ulmus glabra Bud.
Ulmus minor Mell. cv.
Ulmus rubra Michx.f.
Vaccinium bracteatum Thunb.
Vateria indica L.
Vitex altissima L.
Vitex lignum-vitae A.Cunn.ex Schan.
Vitis vinifera L.
Xanthophyllum ecelsum (Blume) Miq.
Xylia xylocarpa (Roxb.) Taub.
Ziziphus talanai (Blanco) Merr.

ABSTRACT

The aim of this project was to provide basic information on a variety of timbers, required by wood anatomists/technologists and others to whom wood is a research or study medium. The specific objectives were to: (a) establish and maintain an identified collection of wood specimens and (b) prepare and maintain authentic microscope studies of the wood specimens collected from Kerala.

The total number of wood specimens collected as on 31 December 1989 is 567, of which 113 are Kerala timbers representing 68 genera with 94 species. The rest are from ten foreign countries. Microscope slides are also maintained for Kerala timbers to serve the purpose of reference in wood structural studies.

1. Introduction

The need to maintain a Wood Collection (Xylarium) in the Institute was recognized at the time of establishing the Division of Wood Science. A Xylarium meets the requirements of wood anatomists/technologists, foresters and others to whom wood is a research or study medium and helps in the identification of wood, which provides a basis for solving problems in different fields including engineering, archaeology, anthropology and forensic science.

At present, there are 134 institutions in the list of wood collection centres of the world, and the Forest Research Institute (FRI) Dehra Dun, which represents India, has about 15,000 specimens representing 1,600 genera (Stern. 1988). The largest collection in the world is probably maintained in the Forest Products Laboratory, Madison, USA with 98,635 specimens representing about 2,700 genera. As it is practically not possible for FRI, Dehra Dun to render consultancy service to the wood users throughout the country within reasonable time limits, it was considered necessary to establish a Xylarium in KFRI and the present project was therefore taken up in 1982.

2. Objectives

The specific objectives are to:

- (a) establish and maintain an identified collection of wood specimens,
- (b) support the wood specimens with herbarium vouchers wherever possible

and

(c) prepare and maintain authentic microscope slides of the wood specimens collected from

3. Methodology

The following criteria were used in collecting the wood specimens from the field.

- Identify and select sound trees
- Collect wood specimens when the tree is in flower
- Give the same identification number to wood and herbarium specimens.
- As far as possible, cut wood specimens from the main bole with at least 60% of heartwood, when distinct.

Because of the ban on tree felling since early 1980s it was not possible to cut trees of desired species. However, every effort was made to collect timber billets from the selective felling coups of Kerala forests but these trees mostly did not provide herbarium material. In addition, wood specimens were obtained from different countries on exchange basis.

The standard microtechnique procedure was followed to prepare microscope slides. Blocks of about 1 cm³ were prepared from samples of different species for sectioning on the sliding microtome after softening the tissues. Sections of about 15 um thickness were cut in transverse, tangential and radial planes. The sections were stained with safranin and fast green and permanent slides were made.

4. Project Accomplishments

The total number of specimens collected, as on 31 December 1989 is 567 of which 113 are Kerala timbers and the rest represent timbers from 10 foreign countries (Table 1). In the Collection, 68 genera with 94 species are represented from Kerala.

Table 1. Number of specimens of different categories maintained in the Xylarium (as on 31 December 1989)

.....	
Genera represented from Kerala	68
Species represented from Kerala	94
Total number of specimens representing Kerala timbers (including canes)	113
Wood specimens from abroad	
Australia	56
Bangladesh	52
Brazil	27
Canada	40
China	55
GDR	50
Japan	50
Netherlands	54
Philippines	30
U.K.	32

Total	454
Total number of specimens	567
.....	

List of species collected from Kerala with their origin and the availability of microscope slides is given in the following section. This is followed by the wood specimens representing 10 different countries, grouped family-wise or the easy reference of taxonomists. To know quickly whether a particular species is available in the Collection an index to species is provided at the end of the report.

5. Reference

Stern, W.L. 1988. Index Xylariorum. 3. Institutional Wood Collections of the World. IAWA Bull. n.s. 9(3):203-252.

6. List of Timber Specimens Collected from Kerala

Identification No. (1)	Species (2)	Origin/ Locality (3)	Availability of microscope slide (4)

Dicotyledonae			
Anacardiaceae			
-	<i>Anacardium occidentale</i> L.	Nilambur	+
005019	<i>Holigarna arnottiana</i> Hk.F.	Kummati	
006076	<i>H. arnottiana</i> Hk.F.	(Sholayar) Aramba	+
-	<i>Lannea coromandelica</i> (Houtt.) Merr.	-	+
005043	<i>Lannea</i> sp.	Potta	+
005088	<i>Mangifera indica</i> L.	(Wadakkancherry) Aramba	+
-	<i>M. indica</i> L.	(Achenkovil) Peechi	
Annonaceae			
005054	<i>Cyathocalyx zeylanica</i> champ.ex Hk.f.& Th.	Chimmony Dam	+
005035	<i>Polyalthia cerasoidea</i> (Roxb.) Benth	Potta	+
005015	<i>P. fragrans</i> (Dals.) Bedd.	(Wadakkancherry) Kummati	+
005074	<i>Sageraea dalrelli</i> Bedd.	(Sholayar) Aramba	+
		(Achenkovil)	
Apocynaceae			
005097	<i>Alstonia scholaris</i> (L.) R.Br.	Aramba (Achenkovil)	+
Betulaceae.			
005101	<i>Alnus</i> sp.	Mankulam (Munnar)	
Bignonaceae			
005047	<i>Stereospermum chelonoides</i> (L.f.) DC.	Talippadam	+
005039	<i>Stereospermum</i> sp.	(Nenmara) Potta	
		(Wadakkancherry)	
Bombacaceae			
005062	<i>Bombax ceiba</i> L.	Aramba (Achenkovil)	+
005001	<i>Cullenia exarillata</i> Robyns	Sholayar	+
-	<i>Ochroma pyramidale</i> (Cav.ex Lamk.) Urban		+

(1)	(2)	(3)	(4)
	Burseraceae		
006006	Canarium strictum Roxb.	Chandanathode (Sholayar)	
006029 005066	Canarium strictum Roxb.	Walayar	+
	Celastraceae		
006064	Lophopetalum wightianum Arn.	Aramba	+
	Combretaceae		
	Anogeissus latifolia (DC.)Wall.ex Guill.& Perr.	-	+
006037	Terminalia bellirica (Gaertn.)Roxb.	Potta (Wadakkancherry)	+
006051	T. crenulata Roth	Thalipaadam (Nemmara)	+
006038	T. paniculata Roth	Potta (Wadakkancherry)	+
005046		Thalippadam (Nemmara)	
005069	T. travancoriensis Wt.& Arn.	Aramba (Achenkovil)	+
	Datisceae		
005073	Tetrameles nudiflora R.Br.	Aramba Peechi	+
	Dilleniaceae		
005036	Dillenia pentagyna Wt.	Potta (Wadakkancherry)	+
	Dipterocarpaceae		
005018	Dipterocarpus indicus Bedd.	Kummati (Sholayar)	+
005067	Dipterocarpus sp.	Aramba (Achenkovil)	
005063	Hopea parviflora Bedd.	Aramba (Achenkovil)	+
005032	Hopea racophloea Dyer	Walayar	
005002	Vateria indica L.	Kummati (Sholayar)	
006017		Chandanthoda (Sholayar)	+
	Ebenaceae		
005084	Diospyros bourdillonii Brand.	Aramba (Achenkovil)	+
005081	D. ebenum Koenig	-	+
754	D. microphylla Bedd.	Walayar	+
005028	D. microphylla Bedd.	Aramba	+

(1)	(2)	(3)	(4)
005080 758	Diospyros sp. D. sylvatica Roxb.	- Aramba (Achenkovil)	
Elaeocarpaceae			
006075	Elaeocarpus tuberculatus Roxb.	Aramba (Achenkovil)	
Euphorbiaceae			
005061	Baccaurea courtallensis (Wt.) II-A.	Aramba (Achenkovil)	+
005031	Bischofia javanica Bl.	-	
005087	Glochidion zeylanicum A.Juss.	Aramba (Achenkovil)	+
005013	Hevea brasiliensis Muell.Arg. Macaranga peltata (Roxb. M-A.	Pullangode, Nilmbur Sholayar Peechi	+
Flacourtiaceae			
005088	Flaucortia courtallensis	Aramba	+
005023	Hydnocarpus pentandra (Buch. -HAM) Oken	Walayar	+
Guttiferæ			
005012	Calophyllum elatum Bedd.	Sholayar	+
005098	Mesua ferrea Auct. non Linn.	Aramba (Achenkovil)	+
Lauraceae			
005096	Persea macrantha (Nees) Kosterm. (Machilus macrantha Nees)	Aramba (Achenkovil)	+
006016		Kummati (Sholayar)	+
Leguminosae			
-	Albizia odoratissima (L.f.) Benth.	Wadakancherry	+
-	Bauhinia malabarica (Roxb.)	Befith	+
40	Dalbergia latifolia Roxb. D. paniculata Roxb.	Peechi Thalippadam (Nemmara)	+
005049	Pterocarpus marsupium Roxb.		+
005042	Xylia xylocarpa (Roxb.) Taub.	Potta (Wadakancherry)	+
005050	„ „	Thalippadam (Nemmara)	
Loganiaceae			
	Strychnos nux-vomica L.	Peechi	+

(1)	(2)	(3)	(4)
Lythraceae			
005040	<i>Lagerstroemia microcarpa</i> Wight	Sholayar	+
005045	" "	Thalippadam (Nemmara)	
Meliaceae			
005098	<i>Aglaiia anamalayana</i> (Bedd.) Kosterm.	Aramba(Achankovil)	+
005011	<i>Aglaiia</i> sp.	Sholayar	+
005005	<i>Dysoxylum malabaricum</i> Bedd.	Sholayar	+
005079	<i>Dysoxylum</i> sp.	Aramba	
005008	<i>Toona Ciliata</i> Roemer	Sholayar	+
Moraceae.			
005027	<i>Antiaris toxicaria</i> (Pers.) Lesch	Walayar	+
005082	<i>Artocarpus heterophyllus</i> Lamk	Aramba(Achenkovil)	+
005092	<i>A. hirsutua</i> Lamk		+
005078	<i>A. lakoocha</i> Sensu Gamble		+
Myristicaceae			
	<i>Knema attenuata</i> (Hook.f. & Thomas)Werb.	-	+
Myrtaceae			
005070	<i>Syzygium cumini</i> (Linn.) Skeels	Aramba (Achenkovil)	+
005056	<i>S. gardneri</i> Thw.	Nedumpoil (Kannoth)	+
005085	<i>Syzygium</i> sp.	Aramba (Achenkovil)	+
Olacaceae			
005071	<i>Anacolosia densiflora</i> Bedd.	Aramba (Achenkovil)	+
005093	<i>Strombosia ceylanica</i> Gardn.	Aramba (Achenkovil)	+
Rhizophoraceae			
005068	<i>Carallia brachiata</i> (Lour.)Merr.	Aramba (Achenkovil)	+
Rubiaceae			
	(Syn. <i>Anthocephalus</i> Cadamba Hip.)		
005022	<i>Haldina ccrdifolia</i> (Roxb.) Ridsd.	Potta (Wadnkkancherry)	+
005044	" "		+
005048	" "	Thalipadam (Nemmara)	
005086	<i>Ixora notoniana</i> wall.	Aramba	+
005004	<i>Neolamackia cadamba</i> Bosser	Sholayar	+
005026	<i>Neonauclea purpurea</i> (Roxb.) Herr.	Walayar	+

(1)	(2)	(3)	(4)
Rutaceae			
005003	<i>Euodia lunu-aukenda</i> (Gaertn.) Merr.	Sholayar	+
Sapindaceae			
006094	<i>Otonephelium stipulaceum</i>	Aruba (Achenkovil)	+
006058	<i>Schleichera oleosa</i> (Lour.) Oken	Kolappa (Kannoth)	+
005083	" "	Aramba (Achenkovil)	
Sapotaceae			
005065	<i>Madhuca nerifolia</i> (Moon) B.J.Lam.	Aramba (Achenkovil)	+
005010	<i>Palaquium ellipticum</i> (Dlas.) Engl.	Chandanthod (Sholayar)	+
006021	" "	Kumatti (Sholayar)	
Simaroubaceae			
005102	<i>Ailanthus triphysa</i> (Dennst) Alston	Aramba (Achenkovil)	+
Sterculiaceae			
005060	<i>Heritiera papilio</i> Bedd.	Aramba (Achenkovil)	+
	<i>Pterospermum reticulatum</i> Wight & Arn.	Peechi	+
005033	<i>Pterygota alata</i> (Roxb.) B.Br.	Walayar	+
Tiliaceae			
006053	<i>Grewia tiliifolia</i> Vahl	Thalippadam (Nemmara)	+
Ulmaceae			
005095	<i>Celtis philippensis</i> Blanco var. <i>wightii</i> (Planch.) Soep.	Aramba (Achenkovil)	+
Verbenaceae			
005034	<i>Tectona grandis</i> L. f.	Potta (Wadakkancherry)	+
006062	" "	Thalippadam (Nemmara)	
653			
006025	<i>Vltex altissima</i> L.		

(1)	(2)	(3)	(4)
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Monocotyledonae

Calamoidae

-	Calamus gamblei Becc.	Nelliampathy	+
-	C. hookerianus Becc.	"	+
-	C. metzianus Becc.	Pattakarimbu	+
-		(Nilambur)	
-	C. pseudotenuis Becc.	Peermed	+
-	C. rotang Linn.	Quilon	+
-	Calamus sp.	Achenkovil	+
-	C. travancoricus Bedd.	Aryankavu	+
-	C. thwaitesii Becc.	Achenkovil	+

7. Wood Specimens from other Countries:

Australia

Araucariaceae

Araucaria cunninghamii Ait. ex D. Don

Bignoniaceae

Catalpa speciosa Warder, ex Engelm

Casuarinaceae

C. luehmannii Ait.

Casuarina torulosa Ait.

Cunoniaceae

Ackama paniculata (F. Muell) Engt

Geissois benthamii F. Muell.

Quintinia sieberi A DC Monog. Camp.

Cupressaceae

Callitris glauca R.Br. ex R.T. Bak. et H.G.Sm.

Elaeocarpaceae

Elaeocarpus eumundi F.M. Bailey

Euphorbiaceae

Phyllanthus ferdinandivar. supra-axillaris Muell. Arg.

Flacourtiaceae

Scolopia brownii F. Muell. Fragm.

Lauraceae

Beilschmiedia obtusifolia F. Muel. ex Meissn

Litsea reticulata Benth. & Hook. f. ex F. Muell

Meliaceae

Dysoxylum fraseranum Benth.

D. rufum Benth.

Owenia cepiodora F. Muell.

Mimosaceae

Acacia implexa Benth. in Hook.

Pithecolobium pruinatum Benth Hook.

Myrtaceae

Backhousia sciadophora F. Muell.
Eucalyptus caniliculata Maiden
E. deanei Maiden
E. delegratensis R.T. Bak.
E. prandis W. Bill ex Maiden
E. gummifera (Gaertn.) Bochr.
E. maculata Book.
B. microcorys F. Muell
E. muellerana Howitt
E. paniculata Sm.
E. pilularis Sm.
E. resinifera Sm.
E. saligna Sm.
E. sieberii L. Johnson
E. viminalis Labill.
Eucryphia billardiery Spach
Rhodamnia argentina Benth.
Sideroxylon pohllmanianun Benth. & Hook.
Tristania conferta R. Br.

Oleaceae

Olea paniculata Roxb.Hort. Beng.

Proteaceae

Embothrium wickhamii Hill & F.Muell.
Grewillea robusta A. cunn. ex R. Br.
Orites excelsa R.Br.
Stenocarpus sinuatus Endl.

Rubiaceae

Psychotria sp.

Sapindaceae

Cupania anacardioides A.Rich.Sert.
Diploglottis cunnighamii Hook.f.in Benth.& Hook.

SAPOTACEAE

Siphonodon australis Benth.

Sterculiaceae

Argyrodendron actinophyllum C. Moore
(Syn.Tarrietia actinophylla C. Moore)

Verbenaceae

Vitex lignum-vitae A.Cunn.ex Schan.

Bangladesh

Anacardiaceae

Spondias pinnata (L.f.) Kurz
Swintonia floribunda Grift.

Annonaceae

Miliusa roxburghiana Hook.f. & Th.

Apocynaceae

Alstonia scholaris (L.) R.Br.

Aquifoliaceae

Ilex godajam Colebr.

Bombacaceae

Bombax ceiba L.

Sabiaceae

Meliosma kirkii Hemsl & Wils.

Salicaceae

Chosenia macroepis Kom.

Sterculiaceae

Pterygota alata (Roxb.) R.Br.
Pycnanthu Phellodendron amurense Rupr.

Styracaceae

Alniphyllum fortunei Perk.
Styrax suberifolia Hook.f.et Arn.

Symplocaceae

Symplocos stellaris Brand.

Theaceae

Schima superba Gardn. & Champ.
Ternstroemia krangtungensis

Tiliaceae

Tilia mandshurica Rupr. & Max.
T. miqueliana Maxim.

Ulmaceae

Ulmus davidiana Planch,

Vacciniaceae

Vaccinium bracteatum Thunb.

Verbenaceae

Clerodendron mandarinorum

Brazil

Anacardiaceae

Anacardium sp.
Astrtonium le-cointei Ducke

Bignoniaceae

Tabebuia sp.

Bombacaceae

Ceiba pentandra (L.) Gaertn.

Boraginaceae

Cordia sp.

Caryocarpaceae

Caryocarpa villosa Pers.

Goupiaceae

Goupia glabra Aubl.

Houmiriaceae

Endopleura uchi (Huber) Cuatrec.

Lauraceae

Aniba canellila Mez.

Ocotea sp.

Lecythidaceae

Bertholletia excelsa Berq.

Eschweilera sp.

Lecythis pisonis (Hers) S.A. Mori & G.T. Prance

Leguminosae

Alexa sp.

Bowdichia nitida Spruce ex Benth.

Dinizia excelasa Ducks

Eperua bijuga Mart.ex Benth.

Hymenae sp.

Hymenolobium petraeum Ducke

Parkia pendula Benth.

Parkia sp.

Piptadenia sp.

Meliaceae

Gurapa guianensis Aubl. Pl.Gui

Moraceae

Bagassa sp.

Clarisi racemosa Ruiz.& Pav.

Sapotaceae

Hanilkara sp.

Sterculiaceae

Sterculia sp.

Canada

Aceraceae

Acer macrophyllum Pursh
A. negundo L.
A. rubrum L.
A. saccharum Marsh.

Betulaceae

Alnus rubra Bong. (Syn. *A. oregona* Nutt.)
Betula papyfera Marsh.
B. alleghaniensis Britton

Cupressaceae

Chamaecyparis nootkatensis (D. Don) Spach
Juniperus virginiana L.
Thuja occidentalis L.
T. plicata Donn

Fagaceae

Fagus grandiflora Ehrh.
Quercus alba L.
Q. rubra L.

Juglandaceae

Carya Nutt.
Juglans cinerea L.
J. nigra L.

Oleaceae

Fraxinus americana L.
F. nigra Marsh.

Pinaceae

Abies amabilis (Dougl.) Forbes
A. balsamea (L.) Mill.
Larix laricina (Du Roi) K. Koch
L. occidentalis Nutt.
Picea sitchensis (Bong.) Carr.
P. glauca (Moench) Voss
Pinus banksiana Lamb.
P. contorta Dougl.
P. ponderosa Laws.
P. resinosa Ait.
P. strobus L.
Pseudotsuga menziesii (Mirb.) Franco
Tsuga canadensis (L.) Carr.
T. heterophylla (Raf.) Sarg.

Platanaceae

Platanus occidentalis L.

Rosaceae

Prunus serotina Ehrh.

Salicaceae

Populus tremuloides Michx.
Populus trichocarpa Torr. & Gray
Salix L.

Tiliaceae

Tilia americana L.

Ulmaceae

Ulmus L.

China

Aceraceae

Acer davidii Franch
A. mono Maxim.

Araliaceae

Dendopanax chevalieri Merr.

Cornaceae

Cornus controversa Hemsl.
Dendrobenthamia capitata Hutch.
Nyssa sinensis Oliv.

Cupressaceae

Cupressus funebris Endl.

Elaeocarpaceae

Elaeocarpus chinensis Hook.f.

Euphorbiaceae

Daphniphyllum glaucescens Bl.Olgensis

Fabaceae

Dalbergia hupeana Eance
Ormosia semicastrata Hance

Fagaceae

Castanopsis carlesli Hay.
C. sclerophylla Schottky
Lithocarpus glaber Nakai.
Quercus variabilis Bl.

Gonystylaceae

Hippophae rhamnoides L.

Hamamelidaceae

Liquidambar formosana Hance

Juglandaceae

Juglans mandshurica Maxim.
J. regia L.

Lauraceae

Cinnamomum porrectum Kastern.
Litsea elongata Hook.f.
Phoebe sheareri Gamble

Magnoliaceae

Magnolia denudata Oesr.

Mimosaceae

Albizia kalkora Prain.

Myricaceae

Myrica rubra S. & Z.

Pinaceae

Abies smithii Flous
Larix griffithiana Hort.ex Carr.
L. olgensis Henry.f.
Picea brachytyla Pritz.
P. jezoensis Carr.
P. koraiensis Nakai
Pinus armandi Franch
P. bungeana Zucc.ex Endl.
P. sylvestris L.
P. tabulaeformis Carr.

Rhamnacea

Bovenia dulcis Thunb.

Rosaceae

Photinia davidsoniae R. & W.
P. glabra Maxim.
Prunus vaniotii Levl.
Pyrus ussuriensis Maxim.
Sloanea sinensis Hemsl.
Sorbus amurensis Kochne

Rutaceae

Phellodendron amurense Rupr.

Sabiaceae

Meliosma kirkii Hemsl & Wils.

Salicaceae

Chosenia macroepis Kom.

Styraceae

Alniphyllum fortunei Perk.
Styrax suberifolia Hook.f.et Arn.

Symplocaceae

Symplocos stellaris Brand.

Theaceae

Schima superba Gardn. & Champ.
Ternstroemia sp.

Tiliaceae

Tilia mandshurica Rupr. & Max.
T. miqueliana Maxim.

Ulmaceae

Ulmus davidiana Planch.

Vacciniaceae

Vaccinium bracteatum Thunb.

Verbenaceae

Clerodendron mandarinorum Dfels.

Germany

Aceraceae

Acer platanoides L.
A. saccharinum L.

Betulaceae

Alnus glutinosa Gaertn.
Betula verrucosa Wrh.

Bombacaceae

Rhodognaphlon brevicuspe Roberty

Burseraceae

Aucoumea Klaineana Pierre
Canarium schweinfurthii Engl.

Caesalpinaceae

Copaifera salikounda fieck.
Detarium senegalense Gmel.
Didelottia letouzeyi Pellegr.
Gleditsia triacanthos L.
Guibourtia arnoldiana J. Leonard
Sindoropsis Detestui J. Leonard
Tetraberlinia bifliata Harms.

Clusiaceae

Calophyllum Kajewskii A.C. Sm.

Combretaceae

Terminalia superba Engl. W. Diels

Fabaceae

Sophora japonica L.

Fagaceae

Fagus silvatica L.
Quercus alba L.
Q. rubra L.

Meliaceae

Chukrasia tabularis A. Juss.
Entandrophragma cylindricum Sprague
Guarea cedrata Pellegr.

Moraceae

Antiaris africana Bnpl.

Myristicaceae

Pycnanthus angolensis Exell.

Oleaceae

Fraxinus excelsior L.

Pinaceae

Larix decidua Hill.

Picea abies Karst.

P. amara Willk.

Pinus sibirica Rupr.

P. silvestris L.

Pseudotsuga mensiesii Franco

Platanaceae

Platanus acerifolia L.

Rosaceae

Padus serotina Borkh.

Prunus domestica L.

Saliaceae

Populus lasiocarpa Oliv.

P. tremula L.

Salix alba L.

Sapotaceae

Cambeya africana Pierre

Tieghemella heckelii Pierre

Simaroubaceae

Ailanthus altissima Swingle

Sterculiaceae

Heritiera simplicifolia Kosterm.

Mansonia altissima A. Chev.

Sterculia rhinopetala K. Schum.

Triplochiton solcroxylon K. Schum.

Taxaceae

Taxus baccata L.

Tiliaceae

Tilia cordata Mill.

Ulmaceae

Ulmus glabra Hud.

U. rubra

Japan

Betulaceae

Alnus japonica Steud.
A. hirsuta Turcz.
Betula corylofolia Regel et Maxim.
B. ermani Cham.
B. grossa Sieb. et Zucc
B. platyphylla Sukat.
Carpinus japonica Blume
Ostrya japonica Sarg.

Cercidiphyllaceae

Cercidiphyllum japonicum Sieb. et Zucc

Cupressaceae

Chamaecyparis obtusa Sieb. et Zucc
Thuja standishii Carr.
Thujopsis dolabrata Sieb. et Zucc.

Fagaceae

Castanea crenata Sieb. et Zucc.
Castanopsis cuspidata Schott.
Fagus crenata Blume
Pasania edulis Makino
Quercus acuta Thunb.
Q. acutissima Carr.
Q. gilva Blume
Q. mongolica Fischer
Shiia sp.
Synaedrys amygdalifolia Hayata

Ginkgoaceae

Ginkgo biloba Linn.

Lauraceae

Actinodaphne longifolia Nakai
Cinnamomum camphora Sieb.
Neolitsea aciculata Koidz.

Magnoliaceae

Magnolia obovata Thunb.

Myricaceae

Myrica rubra Sieb. et Zucc.

Oleaceae

Fraxinus spaethiana Lingelsh

Pinaceae

Abies firma Sieb. et Zucc.

Picea glehni Hasters

P. jezoensis Carr.

Pinus densiflora Sieb. et Zucc.

Tsuga formosana Hay.

Rosaceae

Prunus jamasakura Sieb. ex Koidz.

Sorbuaalnifolia C. Koch

Salicaceae

Chosenia macrolepis Komarov.

Populus maximowiczii Henry

P. nigra Linn.

Toisusu urbaniana Kimura

Sciadopityaceae

Sciadopitys verticillata Sieb. et Zucc.

Scrophulariaceae

Paulownia tomentosa Steud.

Taxaceae

Taxus cuspidata Sieb. et Zucc.

Torreya nucifera Sieb. et Zucc.

Taxodiaceae

Crytomeria japonica D. Don

Cunninghamia konishii Hayata

Taiwania cryptomerioides Hay.

Trochodendraceae

Trochodendron aralioides Sieb. et Zucc

Ulmaceae

Aphananthe aspera Planch.

Celtis sinensis Pers.

Ulmus davidiana Planch.

Aceraceae

Acer negundo L.
A. pseudoplatanus L.

Aquifoliaceae

Ilex aquifolium L.

Araliaceae

Hedera helix L.

Betulaceae

Betula pendula Roth.
Carpinus betulus L.

Bignoniaceae

Catalpa bignonioides Walt

Buxus sempervirens L.

Caesalpiniaceae

Gleditsia triacanthus L.

Caprifoliaceae

Sambucus nigra L.

Cupressaceae

Calocedrus decurrens (Torr.) Florin
Chamaecyparis lawsoniana (A.Murr.) Parl
C. pisifera (Sieb. et Zucc.) Endl.

Fagaceae

Castanea sativa Mill.
Fagus sylvatica L.
Quercus petraea (Hattuschka) Liebl.
Q. rubra L.

Hippocastanaceae

Aesculus hippocastanum L.

Hydrangeaceae

Hydrangea petiolaris Seb. et Zucc.

Juglandaceae

Juglans nigra L.

Magnoliaceae

Liriodendron tulipifera L.

Myricaceae

Myrica gale L.

Oleaceae

Fraxinus excelsior L.

Syringa vulgaris L.

Papilionaceae

Laburnum anagyroides Medik.

Robinia pseudoacacia L.

Pinaceae

Abies grandis (Dougl. ex D. Don) Lindl.

Cedrus atlantica (Endl.) Manetti ex Carr.

Juniperus communis L.

Larix decidua Mill.

L. kaempferi (Lamb.) Carr.

Picea abies (L.) Karst.

Pinus nigra Arnold ssp. *nigra*

P. strobus L.

P. sylvestris L.

Pseudotsuga menziesii (Mirb.) Franco

Taxus baccata L.

Tsuga heterophylla (raf.) Sarg.

Rhamnaceae

Frangula alnus Mill.

Rosaceae

Crataegus x lavalleyi Herincq ex Lavalley

C. monogyna Jacq.

Malus sylvestris Mill.

Prunus avium (L.) L.

P. padus L.

P. serotina Ehrh.

Pyrus communis L. var. *sativa* (DC.) DC. cv.

Rutaceae

Phellodendron amurense Rupr.

Salicaceae

Populus x canadensis Hoench. cv.
Salix alba L.

Simaroubaiceae

Alnus glutinosa (L.) Gaertn.

Taxaceae

Cryptomeria japonica (L.f.)/D. Don

Tiliaceae

Tilia x euchlora K. Koch

Ulmaceae

Ulmus minor Mell. cv.

Vitaceae

Vitis vinifera L.

Philippines

Anacardiaceae

Dracontomelon dao (Blanco) Herr. & Rolfe
Mangifera altissima Blanco

Apocynaceae

Alstonia macrophylla Wall.

Combretaceae

Terminalia macrocarpa Dacne.

Dipterocarpaceae

Anisoptera thurifera (Blanco) Blume
Dipterocarpus grandiflorus Blanco.
Shorea almon Foxw.
S. contorta Vid
S. palosapia (Blanco) Merr.
S. polita Vid.

Guttiferae

Calophyllum obliquineryium Merr.

Leguminosae

Albizia falcataria (L.) Fosb.
A. procera (Roxb.) Benth.
Parkia javanica (Lam.) Merr.
Samanea saman (Jacq.) Merr.
Serialbizia acle (Blanco) Kostern.

Meliaceae

Melia dubia Cav.
Toona calantas Herr. Herr.

Pinaceae

Pinus insularis Endl.

Podocarpaceae

Podocarpus philippinensis Foxw.

Polgalaceae

Xanthophyllum ecelsum (Blume) Miq

Rhamnaceae

Ziziphus talanai (Blanco) Merr.

Rubiaceae

Anthocephalus chinensis (Lamk.)Rich. ex. Wa

Sapotaceae

Palaquium tenuigetiolatum Merr.

Sterculiaceae

Pterospermum celebicum Miq.

Theaceae

Ternstroemia megacarpa Merr.

Thymeleaceae

Gonystylus macrophyllus Airy

Verbenaceae

Gmelina arborea Roxb.

Tectona grandis L.f.

Anacardiaceae

Dialium sp.

Clusiaceae

Calophyllum brasiliense var. rekoi

Combretaceae

Terminalia ivorensis A. Chev.

Terminalia sp.

Connaraceae

Lonchocarpus sp.

Cupressaceae

Callitris sp.

Cunninghamia lanceolata (Lamb) Hook.f.

Juniperus virginiana L.

Dipterocarpaceae

Hopea odorata Roxb.

Fagaceae

Fagus sylvatica L.

Hippocastanaceae

Aesculus hippocastanm Linn.

Juglandaceae

Juglans regia L.

Leguminosae

Schizolobium sp.

Meliaceae

Cedrela mexicana Roem.

Entandrophragma sp.

Melia azedarach Linn.

Mimosaceae

Enterlobium sp.

Papilionaceae

Robinia pseudoacacia Oswald

Pinaceae

Cedrus deodara (Roxb.) G. Don

Picea sitchensis E. Murray

Pinus caribaea E. Murray

P. sylvestris L.

Salicaceae

Populus balsamifera L.

Sapotaceae

Chrysophyllum sp.

Scrophulariaceae

Paulownia tomentosa Steud.

Sterculiaceae

Tarrietia utilis Sprague.

Taxodiaceae

Cryptomeria japonica (L.f.) D. Don

Tiliaceae

Tilia sp.

Ulmaceae

Ulmus foliacea Gilib.

Ulmus sp.

Verbenaceae

Vitex lignum-vitae A. Cunn. ex Schan.