

# Supplementary Material

List of arboreal taxa used for the forest cover reconstruction. Betulaceae was set as arboreal south of 70°N.

Abies	Brosimum	Corylus
Acacia	Broussonetia	Cryptomeria
Acer	Bursera	Cunninghamia
Aceraceae	Byrsonima	Cupania
Aesculus	Caesalpinia	Cyclobalanopsis
Aglaia	Callicarpa	Cyclocarya
Ailanthus	Camellia	Dacrydium
Albizia	Canotia	Dendropanax
Aleurites	Capparaceae	Didymopanax
Alfaroa	Carya	Dipterocarpaceae
Alnus	Caryocar	Distylium
Altingia	Caryodendron	Ebenaceae
Amyris	Cassia	Elaeocarpus
Anacardiaceae	Castanea	Engelhardia
Anacardium	Castanopsis	Erythrina
Annona	Casuarina	Eucalyptus
Annonaceae	Catalpa	Eucommiaceae
Antidesma	Cathaya	Eurya
Aphanamixis	Cecropia	Excoecaria
Apodytes	Cedrus	Exostema
Aporosa	Celtis	Fagaceae
Arbutus	Ceratonia	Fagus
Arecaceae	Cercidiphyllum	Fraxinus
Arenga	Chamaecyparis	Genipa
Astronium	Chamaerops	Ginkgo
Betula	Cheirodendron	Gleditsia
Betulaceae	Chrysobalanaceae	Glyptostrobus
Bignoniaceae	Chrysolepis	Gordonia
Bobea	Citrus	Guaiacum
Bombax	Clausena	Guarea
Bravaisia	Clethra	Guazuma

Guettarda	Melia	Pourouma
Gustavia	Meliaceae	Pouteria
Gymnanthes	Meliosma	Pritchardia
Haematoxylum	Metasequoia	Prosopis
Hasseltia	Metopium	Protium
Helicia	Morinda	Prunus
Heliocarpus	Morus	Pseudolarix
Heritiera	Myrica	Pseudotsuga
Hevea	Myricaceae	Ptelea
Hieronyma	Nestegis	Pterocarpus
Hopea	Nothofagus	Pterocarya
Hymenaea	Nyssa	Pteroceltis
Idesia	Nyssaceae	Pygeum
Inga	Olea	Pyrus
Iriarteia	Oleaceae	Quercus
Juglandaceae	Ostrya.Carpinus	Randia
Juglans	Pandanaceae	Rapanea
Keteleeria	Pandanus	Ravenea
Koelreuteria	Parrotia	Reevesia
Lagerstroemia	Peltogyne	Rhizophora
Laguncularia	Phellodendron	Robinia
Larix	Phoenix	Rutaceae
Lauraceae	Phyllostylon	Sabal
Leucaena	Picea	Sabiaceae
Liquidambar	Pinaceae	Sapindaceae
Liriodendron	Pinus	Sapindus
Lithocarpus	Planera	Sapotaceae
Maackia	Platanaceae	Sassafras
Macaranga	Platanus	Schefflera
Maclura	Platycarya	Schima
Mallotus	Platyclusus	Sciadopitys
Malus	Podocarpaceae	Sequoia
Mangifera	Polyscias	Sequoiadendron
Manilkara	Populus	Sideroxylon
Maytenus	Posoqueria	Simaroubaceae

Sloanea	Alangiaceae	Pithecellobium
Sonneratia	Baccaurea	Roupala
Sophora	Camptotheca	Thrinax
Sorbus	Carallia	Abatia
Spondias	Casuarinaceae	Adenantha
Sterculia	Choerospondias	Aextoxicon
Styrax	Cinnamomum	Alchorneopsis
Swartzia	Cleidiocarpon	Aldina
Swietenia	Davidia	Alibertia
Symplocaceae	Endospermum	Ampelocera
Symplocos	Eriobotrya	Anadenantha
Syzygium	Gironniera	Andira
Tapirira	Gymnocladus	Anemopaegma
Taxaceae	Gymnosporia	Aniba
Taxodium	Hemiptelea	Anthodiscus
Taxus	Lepisanthes	Aparisthium
Terminalia	Lumnitzera	Araucaria
Tetracentron	Mespilus	Aspidosperma
Theaceae	Miliusa	Astrocaryum
Theobroma	Pometia	Attalea
Thuja	Rhamnoneuron	Austrocedrus
Thymelaeaceae	Rhodoleia	Azara
Tilia	Schoepfia	Bactris
Tovomita	Tetramelaceae	Balfourodendron
Trachycarpus	Tiliaceae	Billia
Trichilia	Toona	Bocoa
Triplaris	Trochodendraceae	Bombacaceae
Trochodendron	Xanthoceras	Bombacopsis
Tsuga	Argania	Bonnetiaceae
Ulmaceae	Hagenia	Bowdichia
Ulmus	Picconia	Brunellia
Viola	Chrysophyllum	Burseraceae
Zelkova	Hampea	Cabralea
Zygophyllaceae	Hura	Calophyllaceae
Aegiceras	Pachira	Calophyllum

Calycolpus	Elaeagia	Lepidocaryum
Calycophyllum	Elaeoluma	Lithraea
Camptosperma	Embothrium	Luehea
Campomanesia	Endopleura	Mabea
Campsiandra	Eriotheca	Macherium
Carapa	Erisma	Macrolobium
Cariniana	Escalloniaceae	Magonia
Caryocaraceae	Eschweilera	Manicaria
Cassipourea	Esenbeckia	Maquira
Castilla	Euterpe	Margaritaria
Catostemma	Fitzroya	Mauritia
Cavanillesia	Froesiodendron	Mauritiella
Cedrela	Geoffroea	Metrosideros
Ceiba	Gevuina	Metteniusaceae
Centrolobium	Godoya	Micropholis
Ceroxylon	Gomortega	Mouriri
Clusia	Goupia	Muntingia
Cochlospermaceae	Havardia	Myracrodruon
Cochlospermum	Helicostylis	Myrceugenia
Codia	Herrania	Myrcia
Columelliaceae	Hesperomeles	Myristicaceae
Connaraceae	Hippomane	Myrocarpus
Copaifera	Hirtella	Myroxylon
Copernicia	Hydrogaster	Nectandra
Couepia	Hymenobium	Ochroma
Couratari	Iriartella	Ocotea
Crescentia	Iryanthera	Oenocarpus
Crudia	Jacaranda	Ormosia
Cryosophila	Kielmeyera	Panopsis
Cybistax	Lacmellea	Parahancornia
Dacryodes	Laetia	Parkia
Dialium	Lafoensia	Pentaclethra
Dictyocaryum	Lamanonia	Peraceae
Dinizia	Laurelia	Phytelephas
Drimys	Lecythidaceae	Picrodendraceae

Pilgerodendron	Vouacapoua	Carpodetus
Piliostigma	Wettinia	Cerberiopsis
Polylepis	Winteraceae	Charpentiera
Poraqueiba	Xylopia	Cocos
Prumnopitys	Zeyheria	Corymbia
Pseudobombax	Zollernia	Corynocarpus
Pseudolmedia	Agathis	Cupaniopsis
Pseudopanax	Aidia	Dacrycarpus
Pterandra	Alectryon	Daphniphyllum
Pterogyne	Allocauarina	Darlingia
Qualea	Alphitonia	Dillenia
Quararibea	Amoora	Doryphora
Richeria	Angophora	Dysoxylum
Rinorea	Aphananthe	Elaeodendron
Sacoglottis	Araucariaceae	Elattostachys
Saxegothaea	Archidendron	Emmenosperma
Scheelea	Archontophoenix	Flindersia
Schinopsis	Argyrodendron	Ganophyllum
Schizolobium	Arytera	Guioa
Sclerolobium	Ascarina	Gymnostoma
Senefeldera	Atalaya	Hodgkinsonia
Simarouba	Atherosperma	Homalium
Socratea	Athrotaxis	Irvingbaileya
Spirotheca	Austrobuxus	Ixerba
Stemonuraceae	Balanops	Kleinhovia
Stereospermum	Beilschmiedia	Knightia
Syagrus	Bischofia	Lagarostrobos
Symmeria	Brachychiton	Libocedrus
Symphonia	Bridelia	Manoao
Tachigali	Bruguiera	Melicytus
Talisia	Buchanania	Metroxylon
Unonopsis	Callitris	Mida
Vachellia	Calocedrus	Mimusops
Vallea	Camptostemon	Musgravea
Vochysiaceae	Cardwellia	Myristica

Octomeles	Bersama	Faurea
Opiliaceae	Bismarckia	Ficalhoa
Oraniopsis	Blighia	Fleroya
Palaquium	Borassus	Foetidia
Papuacedrus	Boswellia	Funtumia
Parinari	Brachystegia	Gilbertiodendron
Phyllocladus	Burkea	Glenniea
Planchonia	Canarium	Guibourtia
Pleiogynium	Catha	Gyrocarpus
Psydrax	Catunaregam	Haematostaphis
Rhopalostylis	Chytranthus	Harungana
Sphenostemon	Cleistanthus	Hildegardia
Stenocarpus	Cola	Holoptelea
Timonius	Coula	Hylodendron
Xanthostemon	Crateva	Hymenocardia
Xylocarpus	Cryptosepalum	Hymenodictyon
Acanthophoenix	Cussonia	Hymenostegia
Achariaceae	Cylicodiscus	Hyophorbe
Adansonia	Cylicomorpha	Hyphaene
Afraegle	Daniellia	Irvingia
Afzelia	Delonix	Isoberlinia
Alstonia	Detarium	Julbernardia
Amanoa	Dictyosperma	Khaya
Androstachys	Dombeya	Kigelia
Anopyxis	Dracaena	Kirkia
Anthocleista	Dyopsis	Labourdonnaisia
Anthostema	Ekebergia	Lannea
Antiaris	Elaeis	Lasiodiscus
Antrocaryon	Entandrophragma	Leptaulus
Aphania	Eriocoelum	Leucosidea
Azadirachta	Erythroocca	Loesenera
Baikiaea	Erythrophleum	Lophira
Balanites	Euclea	Lovoa
Barbeya	Fagaropsis	Maesopsis
Berlinia	Faidherbia	Majidea

Mansonia	Sorindeia
Maranthes	Spathodea
Markhamia	Spirostachys
Martretia	Tamarindus
Milicia	Teclea
Mitragyna	Tieghemella
Musanga	Treculia
Myrianthus	Trilepisium
Neoboutonia	Triplochiton
Neoshirakia	Trymatococcus
Newtonia	Uapaca
Noronhia	Vitellaria
Occhthocosmus	Xylia
Oldfieldia	Xymalos
Olinia	
Ozoroa	
Panda	
Pappea	
Pausinystalia	
Peltophorum	
Pentadesma	
Pericopsis	
Piptadeniastrum	
Piptostigma	
Psiloxylon	
Ptaeroxylon	
Pycnanthus	
Quassia	
Rothmannia	
Santiria	
Sarcosperma	
Schrebera	
Sclerocarya	
Scorodophloeus	
Shirakiopsis	