

Table EV1. Species used for the analyses clasified by clade.

early diverging angiosperms	eudicots	ferns	gymnosperms
Annona montana	Acanthus hungaricus	Actiniopteris semiflabellata	Araucaria
Chloranthus	Acanthus spinosus	Adiantum hispidulum	Araucaria bidwillii
Drimys winteri	Acer platanoides	Angiopteris	Bowenia serrulata
Illicium anisatum	Achillea millefolium	Angiopteris evecta	Chamaecyparis thyoides
Laurus nobilis	Aconitum carmichaelii	Asplenium adiantoides	Cycas revoluta
Magnolia denudata	Adromischus	Asplenium lancifolium	Encephalartos transvenosus
Magnolia lotungensis	Alliaria petiolata	Asplenium vieillardii	Ginkgo biloba
Peperomia	Alternanthera dentata	Bolbitis	Gnetum montanum
	Amaranthus caudatus	Bolbitis lonchophora	Lepidozamia peroffskyana
	Amaranthus hybridus	Ceratopteris thalictroides	Microcycas calocoma
	Anchusa officinalis	Cyrtomium falcatum	Picea abies
	Anemone canadensis	Davallia fejeensis	Picea glauca
	Anthemis arvensis	Davallia solida	Podocarpus macrophyllus
	Ardisia crispa	Davallia subsolida	Taxodium distichum
	Astragalus falcatus	Dicksonia antarctica	Taxus canadensis
	Bellis perennis	Diplazium plantaginifolium	Tsuga canadensis
	Bergenia purpurascens	Doodia media	Widdringtonia nodiflora
	Berkheya purpurea	Elaphoglossum	Zamia furfuracea
	Berkheya radula	Goniopteris	Zamia pumila
	Beta trigyna	Helminthostachys zeylanica	Zamia skinneri
	Beta vulgaris	Lecanopteris sinuosa	
	Borago officinalis	Lygodium japonicum	
	Bougainvillea	Lygodium microphyllum	
	Brugmansia suaveolens	Marattia attenuata	
	Bupleurum fruticosum	Microsorium pteropus	
	Bursera schlechtendalii	Nephrolepis	
	Callicarpa japonica	Niphidium crassifolium	
	Calotropis gigantea	Osmunda banksiifolia	
	Calystegia sepium	Pellaea paradoxa	
	Campanula fenestrellata	Pellaea viridis	
	Campanula poscharskyana	Phanerophlebia	
	Capsella bursa-pastoris	Phlebodium aureum	

Capsicum annuum	Platynerium andinum
Cardamine flexuosa	Platynerium elephantotis
Carica papaya	Polypodium
Cassia spectabilis	Pteris ensiformis
Cataranthus roseus	Rumohra adiantiformis
Catha edulis	Sphaeropteris cooperi
Catharanthus roseus	Stenochlaena palustris
Ceiba pentandra	Tectaria
Centaurea cineraria	Tectaria pseudosinuata
Centaurea cyanus	Todea barbara
Centranthus ruber	
Cephalaria flava	
Ceratostigma plumbaginoides	
Ceratostigma willmottianum	
Cerinth minor	
Ceropegia sandersonii	
Chenopodium bonus-henricus	
Choisya ternata	
Cinnamomum camphora	
Cissus quadrangularis	
Cissus tiliacea	
Citrus limon	
Clerodendrum thomsoniae	
Cordia nitida	
Crassula	
Crataegus monogyna	
Cuphea ignea	
Dahlia pinnata	
Dillenia indica	
Dodonaea viscosa	
Dorycnium rectum	

Epiphyllum
Ercilla spicata
Eryngium agavifolium
Eryngium bourgatii
Erysimum scoparium
Erythrina standleyana
Euphorbia flanaganii
Euphorbia mellifera
Euphorbia pulcherrima
Fagraea berteroana
Forsythia suspensa
Fraxinus excelsior
Fuchsia magellanica
Fuchsia triphylla
Fuschia Mrs Popple
Galanthus nivalis
Galium odoratum
Galium rubioides
Geranium pusillum
Geum triflorum
Globularia punctata
Globularia trichosantha
Grevillea flexuosa
Guaiacum officinale
Haloragis erecta
Hedera nepalensis
Heimia myrtifolia
Helleborus orientalis
Helminthotheca echioides
Hiptage benghalensis
Homalocladium platycladum

Hypericum patulum
Hypericum perforatum
Ilex aquifolium
Ilex paraguariensis
Impatiens balsamina
Impatiens repens
Ipomea tricolor
Jacquemontia tamnifolia
Jasione heldreichii
Jasminum fruticans
Jasminum humile
Justicia guttata
Lactuca sativa
Lamium orvala
Lamium purpureum
Leucanthemum vulgare
Linaria vulgaris
Lithocarpus henryi
Lonicera quinquelocularis
Macleania insignis
Malva sylvestris
Medicago sativa
Mentha x piperita
Mespilus germanica
Mimosa pudica
Montinia caryophyllacea
Murraya koenigii
Mussaenda glabra
Myrrhis odorata
Nemophila menziesii
Nicotiana tabacum

Nyctanthes arbor-tritis
Oenothera glazioviana
Oenothera stricta
Othonna capensis
Oxalis latifolia
Oxalis triangularis
Oxalis valdiviensis
Oxyria digyna
Paeonia tenuifolia
Papaver rhoeas
Passiflora
Passiflora edulis
Pastinaca sativa
Pelargonium carnosum
Penstemon
Persicaria polystachya
Persicaria weyrichii
Physalis organifolia
Plantago afra
Poliothyrsis sinensis
Polygonum affine
Populus tremula x tremuloides
Potentilla reptans
Prunus spinosa
Psephellus simplicicaulis
Psidium guajava
Rauvolfia verticillata
Rhus potaninii
Ribes sanguineum
Rosa x damascena
Rubia tinctorum

Rumex acetosella
Rumex scutatus
Sambucus nigra
Saxifraga canaliculata
Saxifraga hostii
Scabiosa olgae
Scorzonera hispanica
Scrophularia canina
Scrophularia heterophylla
Securigera varia
Senna didymobotrya
Silene latifolia
Sisymbrium austriacum
Solanum nigrum
Stachys macrantha
Strobilanthes wallichii
Succisella inflexa
Symphytum caucasicum
Symphytum grandiflorum
Symphytum orientale
Syringa
Syringa vulgaris
Tabernaemontana divaricata
Taraxacum officinale
Tecoma stans
Thunbergia mysorensis
Tilia cordata
Torrenia asiatica
Trifolium pannonicum
Ulex europaeus
Valeriana phu

Verbena bonariensis
Veronica gentianoides
Veronica missurica
Veronica persica
Veronica petraea
Veronica rakaiensis
Viola odorata

Miocene species	monocots
Araliaceae-Pseudopanax	Acorus gramineus
Atherospermatacea-Laurelia otagoensis	Agapanthus praecox
Elaeocarpaceae-Cunoniaceae	Agave sisalana
Lauraceae-Cryptocarya maarensis	Albuca bracteata
Lauraceae-Cryptocarya sp	Aloe
Lauraceae-Cryptocarya taieriensis	Alpinia zerumbet
Lauraceae-Endiandra	Alstroemeria aurea
Lauraceae-Litsea calicarioides	Amaryllis belladonna
Meliaceae-Dysoxylum	Amorphophallus titanum
Myrtaceae	Avena strigosa
Primulaceae-Myrsine	Calibanus hookeri
Ripogonaceae-Ripogonum	Carex morrowii
Unknown-Morphotype O	Carludovica palmata
	Clivia miniata
	Crocus sativus
	Crocus vernus
	Cymbidium
	Danae racemosa
	Danthonia californica
	Dioscorea bulbifera
	Dioscorea mexicana
	Eichhornia crassipes
	Eriachne
	Eustrephus latifolius
	Freycinetia
	Haworthia retusa
	Hemerocallis fulva
	Hordeum vulgare
	Hydrocleys nymphoides
	Iris
	Iris albicans
	Iris japonica

Kniphofia caulescens

Leucojum aestivum

Oryza sativa

Pandanus tectorius

Rohdea japonica

Ruscus aculeatus

Ruscus hypoglossum

Sabal minor

Setaria italica

Smilax bona-nox

Sorghum bicolor

Sternbergia lutea

Stichoneuron caudatum

Tradescantia virginiana

Tricyrtis hirta

Triraphis

Yucca gloriosa

Zea mays

