

Appendix 3. Plants on and in the vicinity of the North Atlantic Land Bridge during the Late Cretaceous and Tertiary. Multiple listing for some taxa may include cf. identifications.

References: 1= Doyle and Hickey, 1976 (mid-Cretaceous, family or generic affinities not implied by etymology of name particularly in the lower (older) zones), Virginia, Maryland, Delaware, possibly New Jersey; 2= McCartan et al., 1990, late Miocene, Maryland Coastal Plain; 3= Tiffney, 1994 (megafossils), Traverse, 1955 (microfossils, generic names only), "...most likely of Early Miocene age" (Tiffney and Traverse, 1994, p. 218), Brandon Lignite, Vermont; 4= Koch, 1963, Paleocene, excluding 'designs' meaning specimens referred (by others) to modern genera but which he believes cannot be identified to an extant family or genus, Greenland; 5= Boyd, 1998a, Early Cretaceous, Greenland; 6= Boyd, 1998b, Early Cretaceous, Greenland; 7= Boyd, 1993, Late Cretaceous, Greenland; 8= Koch, 1972, Paleocene, Greenland; 9= Boyd, 1990, Paleocene, Greenland; 10= Manchester et al., 2009, Paleocene, Greenland; 11= Denk et al., 2011, Cainozoic (15-6 Ma), Iceland; 12= Budantsev and Golovneva, 2009, "The Paleogene flora of Spitsbergen consists of three floristic assemblages of different ages: the early Paleocene Barentsburg flora, the late Paleocene-early Eocene Storvola flora and, probably, the late Eocene Renardodden flora" (p. 183; listed here under Paleocene<sup>1</sup>); 13= McIver and Basinger, 1999, Eureka Sound Group (early Paleocene to middle Eocene; Upper Expedition Formation, early to middle Paleocene; Stand Bay Fm., middle Paleocene; Iceberg Fm., late Paleocene; Buchanan Lake Fm., middle to late Eocene, listed here under Eocene), Ellesmere, Axel Heiberg Islands; 14= Whitlock and Dawson, 1990, Haughton Fm., early Miocene, Devon Island; 15= Collinson and Cleal, 2001a, Palaeocene and Palaeocene-Eocene transition, Great Britain, listed here under Palaeocene; 16= Collinson and Cleal, 2001b, Eocene, Great Britain; 17= Collinson and Cleal, 2001c, Eocene (Bascombe Sand, Heaton Fms.), late Eocene to early Oligocene (Bouldnor Fm.

and Hamstead Member of Bouldnor Fm., listed here under Oligocene), and late Miocene to early Pliocene (Bassington Fm., listed here under Miocene and Pliocene); 18= Thomas and Batten, 2001, Early Cretaceous, Great Britain; 19= Bozukov, 2005, Cretaceous (upper Albian) to middle Miocene; through time; 20. Coiffard et al., 2007, Early Cretaceous (Barremian to Albian), Western Europe, including plants reported by Hill, 1996 (the aquatic angiosperm *Bevalstia pebja*), and mentioned by Ross and Cook, 1995, from the Weald (Early Cretaceous of southern England). w= widespread (i.e., both regions and/or elsewhere). Grímsson et al. (2015) further report pollen of *Eotrigonobalanus* sp., Castaneoideae sp. 1-3 (aff. *Castanea*), *Fagus*, and *Quercus* sp. 1-7 (Fagaceae) from the early Cenozoic of West Greenland.

|       |               |                |
|-------|---------------|----------------|
| Taxon | NE NA,        | Great Britain, |
|       | Greenland,    | W Europe       |
|       | Iceland,      |                |
|       | Arctic Isls., |                |

### Cretaceous

#### Ferns and allied groups

|                                 |            |
|---------------------------------|------------|
| <i>Acrostichopteris nervosa</i> | x (20)     |
| <i>Adiantum eximum</i>          | x (20)     |
| <i>Aspidistes sewardii</i>      | x (18)     |
| <i>Cladophlebis albertsii</i>   | x (18)     |
| <i>C. browniana</i>             | x (18, 20) |
| <i>C. dunkeri</i>               | x (18)     |
| <i>C. longipennis</i>           | x (18)     |

|                                    |            |
|------------------------------------|------------|
| ? <i>Coniopteris</i>               | x (18)     |
| <i>Equisetum burchardtii</i>       | x (18)     |
| <i>E. yokoyamae</i>                | x (18)     |
| <i>E. sp.</i>                      | w          |
| <i>Gleichenites nordenskioldii</i> | x (18, 20) |
| <i>Hausmannia dichotoma</i>        | x (18)     |
| <i>Isöetites choffati</i>          | x (20)     |
| <i>Isöetes</i>                     | w          |
| <i>Laccopteris pulchella</i>       | x (20)     |
| <i>Matonidium goeppertii</i>       | x (18, 20) |
| <i>Onychiopteris psilotoides</i>   | x (18, 20) |
| <i>Pelletixia valdensis</i>        | x (18)     |
| <i>Phlebopteris dunkeri</i>        | x (18, 20) |
| <i>Protopteris</i>                 | x (18)     |
| <i>Pteridoleima spoliatum</i>      | x (20)     |
| <i>Ruffordia goeppertii</i>        | x (18)     |
| <i>Selaginella dawsonii</i>        | x (18)     |
| <i>S. sp.</i>                      | w          |
| <i>Sphenopteris involvens</i>      | x (20)     |
| <i>S. sinualoba</i>                | x (20)     |
| <i>S. tenuifissa</i>               | x (20)     |
| <i>Tempskya schimperi</i>          | x (18)     |
| <i>T. sp.</i>                      | w          |

*Weichselia reticulata* x (18, 20)

Gymnosperms

*Almargemia dentata* x (20)

?*Almargemia* x (18)

?*Baiera* x (18)

*Becklesia anomala* x (18)

*B. sulcata* x (18)

*Bennetticarpus anatoinetteae* x (18)

*B. madamae* x (18)

*B. nataliae* x (18)

*Bennettistemon valdensis* x (18)

*Brachyphyllum cf. macrocarpum* x (7)

*B. obessum* x (18, 20)

*B. punctatum* x (18)

*B. spinosum* x (18)

*Bucklandia anomala* x (18)

*B. florovia* x (18)

*Conites berryi* x (18)

*C. elegans* x (18)

?*Ctenis* x (18)

*C. sp.* w

*Cycadeoidea saxbyana* x (18)

|                                   |       |        |
|-----------------------------------|-------|--------|
| <i>C. sp.</i>                     | w     |        |
| <i>Cycadolepis cedricii</i>       |       | x (18) |
| <i>C. crawleyana</i>              |       | x (18) |
| <i>C. cromwellensis</i>           |       | x (18) |
| <i>C. markii</i>                  |       | x (18) |
| <i>C. shuteana</i>                |       | x (18) |
| <i>C. sp.</i>                     | w     |        |
| <i>Cyprissidium gracile</i>       |       | x (20) |
| <i>Dacrydifolium dentiphillum</i> | x (7) |        |
| ? <i>Dammara macroisperma</i>     | x (7) |        |
| <i>Desmiophyllum latifolium</i>   |       | x (20) |
| <i>Disconus paututensis</i>       | x (7) |        |
| <i>Elatides</i>                   |       | x (18) |
| <i>E. sp.</i>                     | w     |        |
| <i>Elatocladus araucaroides</i>   | x (7) |        |
| <i>E. kockii</i>                  | x (7) |        |
| <i>E. sp.</i>                     | w     |        |
| <i>Frenelopsis hoheneggeri</i>    |       | x (20) |
| ? <i>Ginkgoites</i>               |       | x (18) |
| <i>Glyptodium divaricatum</i>     | x (7) |        |
| <i>Hirmeriella</i>                |       | x (18) |
| <i>Microzamia pautensis</i>       | x (7) |        |
| <i>M. sp.</i>                     | w     |        |

|                                      |          |
|--------------------------------------|----------|
| <i>Moriconia cyclotoxon</i>          | x (7)    |
| <i>Nilssonia schaumburgensis</i>     | x (18)   |
| <i>Otozamites titaniae</i>           | x (18)   |
| <i>O. sp.</i>                        | w        |
| <i>Pachypterus lanceolata</i>        | x (18)   |
| <i>P. sp.</i>                        | w        |
| <i>Pagiophyllum</i>                  | w x (18) |
| <i>Paracycas</i>                     | x (18)   |
| <i>Peltacornus heerii</i>            | x (7)    |
| <i>P. hyperborealis</i>              | x (7)    |
| <i>P. qibber</i>                     | x (7)    |
| <i>P. quadratosquamatus</i>          | x (7)    |
| <i>Phoenicopsis</i>                  | w x (18) |
| <i>Pinites solmsii</i>               | x (20)   |
| <i>Pityites solmsii</i>              | x (18)   |
| <i>Protophyllocladus paututensis</i> | x (7)    |
| <i>Pseudocatenis</i>                 | x (18)   |
| <i>P. sp.</i>                        | w        |
| <i>Pseudocycas articus</i>           | x (6)    |
| <i>P. lesleyae</i>                   | x (18)   |
| <i>P. ravnkloftensis</i>             | x (6)    |
| <i>P. roemeri</i>                    | x (18)   |
| <i>P. saportae</i>                   | x (18)   |

|                                      |          |
|--------------------------------------|----------|
| <i>P. cf. steenstrupii</i>           | x (6)    |
| <i>P. tenuisectus</i>                | x (20)   |
| <i>P. thomasii</i>                   | x (6)    |
| <i>P. speciosus</i>                  | x (6)    |
| ? <i>Pseudocatenaria</i>             | x (7), w |
| <i>Pseudofrenelopsis parceramosa</i> | x (18)   |
| <i>P. sp.</i>                        | w        |
| <i>Pseudotorellia linkii</i>         | x (18)   |
| <i>Pterophyllum brongniartii</i>     | x (18)   |
| <i>P. fontarianum</i>                | x (18)   |
| <i>P. lyellianum</i>                 | x (18)   |
| <i>Ptilophyllum andersonii</i>       | x (7)    |
| <i>P. ashleyi</i>                    | x (18)   |
| <i>P. heerii</i>                     | x (7)    |
| <i>P. marksilveri</i>                | x (18)   |
| <i>P. sibleyae</i>                   | x (18)   |
| <i>P. sirfredii</i>                  | x (18)   |
| <i>P. sirkennethii</i>               | x (18)   |
| <i>Sagenopteris mantellii</i>        | x (18)   |
| <i>S. variabilis</i>                 | x (20)   |
| <i>S. sp.</i>                        | w        |
| <i>Sagittaesquama densinervosa</i>   | x (7)    |
| <i>Sciadopityoides</i>               | x (18)   |

|                                   |            |
|-----------------------------------|------------|
| <i>Sciadopitytes borealis</i>     | x (7)      |
| <i>S. sp.</i>                     | x (18)     |
| <i>Sphenolepis debile</i>         | x (20)     |
| <i>S. kurriana</i>                | x (18, 20) |
| <i>Tetraclinopsis paututensis</i> | x (7)      |
| <i>Torreya</i>                    | x (18)     |
| ? <i>Widdringtonites</i>          | x (7)      |
| <i>Williamsonia bryonyae</i>      | x (18)     |
| <i>W. carruthersii</i>            | x (18)     |
| <i>W. cynthiae</i>                | x (18)     |
| <i>W. margotiana</i>              | x (18)     |
| <i>W. sp.</i>                     | w          |
| <i>Zamites buchianus</i>          | x (20)     |
| <i>Z. carruthersii</i>            | x (18)     |
| <i>Z. corderi</i>                 | x (18)     |
| <i>Z. dowellii</i>                | x (18)     |
| <i>Z. manoniae</i>                | x (18)     |
| <i>Z. nicolae</i>                 | x (18)     |
| <i>Z. notokensis</i>              | x (18)     |
| <i>Z. tatianae</i>                | x (18)     |
| <i>Z. wendyellisae</i>            | x (18)     |
| <i>Z. sp.</i>                     | w          |

Angiosperms

|                                      |        |
|--------------------------------------|--------|
| <i>Acacuaephylum spatulatum</i>      | x (1)  |
| <i>Alismaphyllum victor-masoni</i>   | x (1)  |
| <i>Araliaephylum obtusilobum</i>     | x (1)  |
| <i>Araliopsoides cretacea</i>        | x (1)  |
| <i>Aristolochiaephylum cellulare</i> | x (1)  |
| <i>A. crassinerve</i>                | x (1)  |
| <i>Aspidiophyllum</i>                | x (1)  |
| <i>Bevhalstia pebja</i>              | x (20) |
| <i>Brasienopsis venollusa</i>        | x (20) |
| <i>Celastrophylum acutidens</i>      | x (1)  |
| <i>C. brookense</i>                  | x (1)  |
| <i>C. crenatum</i>                   | x (7)  |
| <i>C. hunteri</i>                    | x (1)  |
| <i>C. latifolium</i>                 | x (1)  |
| <i>C. saliciforme</i>                | x (1)  |
| <i>Ceratophyllum schornii</i>        | x (5)  |
| <i>Choffatia francheti</i>           | x (20) |
| <i>Cinnamomum sezannense</i>         | x (7)  |
| <i>Cissites</i>                      | x (20) |
| <i>Credneria</i>                     | x (7)  |
| ? <i>Dewalquea gronlandica</i>       | x (7)  |
| <i>Diphyllities membranous</i>       | x (7)  |

|   |        |
|---|--------|
| <i>F. eucalyptoides</i>   | x (1)  |
| <i>Ficophyllum</i> ( <i>F. virginensis</i> fide Fontaine, 1889) | x (1)  |
| <i>Hydrocotylophyllum lusitanicum</i>                           | x (20) |
| cf. <i>H. lusitanicum</i>                                       | x (1)  |
| ? <i>Ilex borealis</i>  | x (7)  |
| <i>Liriodendron pfaffina</i>                                    | x (7)  |
| ? <i>L. quercifolium</i>  | x (7)  |
| <i>Macclintokia?</i> <i>cretaceum</i>                           | x (7)  |
| <i>Majanthemophyllum crenatum</i>                               | x (7)  |
| <i>M. lanceolatum</i>   | x (7)  |
| <i>Manhotities</i>  | x (7)  |
| <i>Menispermites potomacensis</i>                               | x (1)  |
| <i>M. ravnkloftensis</i>  | x (5)  |
| <i>M. tenuinervis</i>   | x (1)  |
| <i>M. virginiensis</i>  | x (1)  |
| <i>M.</i> sp.   | x (20) |
| <i>Montsechia vidalii</i>                                       | x (20) |
| <i>Myricompia groenlandica</i>                                  | x (5)  |
| <i>Nymphaeites</i>  | x (20) |
| <i>Panefolium limnophilum</i>                                   | x (5)  |
| <i>Plantaginopsis</i>   | x (1)  |
| <i>Platanophyllum groenlandicum</i>                             | x (5)  |
| <i>P. prenobile</i>   | x (5)  |

|                                     |        |
|-------------------------------------|--------|
| <i>Platanus affinis</i>             | x (7)  |
| <i>P. newberryana</i>               | x (7)  |
| <i>Populophyllum reniforme</i>      | x (1)  |
| <i>Proteaephylloides dentatum</i>   | x (1)  |
| <i>P. reniforme</i>                 | x (1)  |
| <i>Proteophyllum dissectum</i>      | x (20) |
| <i>Protophyllum multinerve</i>      | x (1)  |
| <i>Quercophyllum grossidentatum</i> | x (1)  |
| <i>Q. tenuinerve</i>                | x (1)  |
| <i>Quercus arnicensis</i>           | x (20) |
| <i>Q.? myrtillus</i>                | x (7)  |
| <i>Ranunculus ferrerii</i>          | x (20) |
| <i>Sapindopsis magnifolia</i>       | x (1)  |
| <i>S. ravnkloefensis</i>            | x (5)  |
| <i>Sapotacites retusus</i>          | x (7)  |
| <i>Trilarus sassopsis</i>           | x (5)  |
| <i>Vitiphylloides multifidum</i>    | x (1)  |
| <i>Vitus stantoni</i>               | x (20) |
| <i>Zizyphus groenlandicus</i>       | x (7)  |

Paleocene

Ferns and allied groups

|                              |   |        |
|------------------------------|---|--------|
| <i>Anemia poolensis</i>      | w | x (15) |
| <i>Azolla cf. teschbiana</i> |   | x (15) |

|                                      |           |        |
|--------------------------------------|-----------|--------|
| <i>A. sp.</i>                        | x (13), w |        |
| <i>Dennstaedtia cf. blomstrandia</i> | x (9)     | x (54) |
| <i>Equisetum arcticum</i>            | x (12)    |        |
| <i>E. sp.</i>                        | x (9,13)  | x (15) |
| <i>Cladophlebis groenlandica</i>     | x (4)     |        |
| <i>Coniopteris blomstrandii</i>      | x (12)    |        |
| <i>Erlansonisporites</i>             |           | x (15) |
| <i>Hemitelites torelli</i>           | x (4)     |        |
| <i>Minerisporites glossiferus</i>    |           | x (15) |
| <i>M. mirabilis</i>                  |           | x (15) |
| <i>Onoclea hebridica</i>             | x (12)    | x (15) |
| <i>Osmunda dowkeri</i>               |           | x (15) |
| <i>Osmunda macrophylla</i>           | x (12)    |        |
| <i>Osmunda (spores)</i>              | x (13)    |        |
| <i>Osmundastrum</i>                  | x (12)    |        |
| <i>Salvinia</i>                      |           | x (15) |

### Gymnosperms

|                                |        |        |
|--------------------------------|--------|--------|
| <i>Abies</i>                   | x (13) |        |
| <i>Amentotaxus gladifolia</i>  |        | x (15) |
| <i>Cephalotaxus</i>            | x (9)  |        |
| <i>Cupressoconus macheiryi</i> |        | x (15) |
| <i>Elatocladus campbellii</i>  |        | x (15) |

|                                 |                   |
|---------------------------------|-------------------|
| <i>E. scottii</i>               | x (12)            |
| <i>E. sp.</i>                   | x (9)             |
| <i>Fokienia</i> sp.             | x (9)             |
| <i>Fokiensiopsis catenulata</i> | x (12)            |
| <i>Ginkgo adiantoides</i>       | x (4,9,12)        |
| <i>G. gardneri</i>              | x (15)            |
| <i>G. spitsbergensis</i>        | x (12)            |
| <i>G. sp.</i>                   | x (13)            |
| <i>Glyptostrobus dunoyeri</i>   | x (15)            |
| <i>G. nordenskioldii</i>        | x (12)            |
| <i>G. sp.</i>                   | x (13)            |
| <i>Larix</i>                    | x (13)            |
| <i>Mesocyoparis sabiniana</i>   | x (12)            |
| <i>Metasequoia disticha</i>     | x (12)            |
| <i>M. norbergii</i>             | x (12)            |
| <i>M. occidentalis</i>          | x (4,9,12) x (15) |
| <i>M. sp.</i>                   | x (13)            |
| <i>Picea</i>                    | x (12,13)         |
| <i>Pinus macrocephalus</i>      | x (15)            |
| <i>P. prestitchii</i>           | x (15)            |
| <i>P. sp.</i>                   | x (13)            |
| <i>Pityolepis</i>               | x (12)            |
| <i>Podocarpidites</i>           |                   |

|                                    |        |
|------------------------------------|--------|
| <i>Pseudolarix septentrionalis</i> | x (12) |
| <i>P. sp.</i>                      | x (13) |
| <i>Sequoia brevifolia</i>          | x (12) |
| <i>Sequoia</i>                     | x (13) |
| <i>Taiwania schaeferi</i>          | x (12) |
| <i>Taxodium olrikii</i>            | x (12) |
| cf. <i>Taxodium</i>                | x (13) |
| <i>Thuja chrenswaerdii</i>         | x (12) |
| <i>T. polaris</i>                  | x (13) |
| <i>Torellia rigida</i>             | x (12) |

#### Angiosperms

|                                  |        |
|----------------------------------|--------|
| <i>Acer arcticum</i>             | x (12) |
| <i>Acer</i>                      | x (13) |
| <i>Acornus spitsbergensis</i>    | x (12) |
| <i>A.thulense</i>                | x (12) |
| <i>Aesculus longipendunculus</i> | x (12) |
| <i>Alasia</i>                    | x (12) |
| <i>Alnus inaequale</i>           | x (12) |
| <i>A.sp.</i>                     | x (13) |
| <i>Amelanchites</i> sp.          | x (13) |
| cf. <i>Amicia</i>                | x (4)  |
| <i>Anonaspermum commune</i>      | x (15) |

|                                       |        |
|---------------------------------------|--------|
| <i>Archeampelos</i> sp.               | x (13) |
| <i>Arctoterum</i>                     | x (12) |
| <i>Beringiaphyllum pseudoantiquum</i> | x (12) |
| <i>Betula frigida</i>                 | x (12) |
| <i>B. nansenii</i>                    | x (12) |
| <i>B. spitsbergiana</i>               | x (12) |
| <i>Betula</i>                         | x (13) |
| <i>Camptodromites major</i>           | x (15) |
| <i>C. multinervatus</i>               | x (15) |
| <i>Canticoccus</i>                    | x (15) |
| <i>Caricoidea obovata</i>             | x (15) |
| <i>Carpinus gracilis</i>              | x (12) |
| <i>C. natherstii</i>                  | x (12) |
| <i>Carya</i>                          | x (13) |
| <i>Casboldia microptera</i>           | x (15) |
| <i>Celastrinites septentrionalis</i>  | x (12) |
| <i>Cercidiphyllum arcticum</i>        | x (4)  |
| <i>C. cf. cuneatum</i>                | x (9)  |
| <i>Cercidiphyllum</i>                 | x (13) |
| <i>Cinnamomum</i>                     | x (15) |
| <i>Cleyera? cooperi</i>               | x (15) |
| <i>C.? variable</i>                   | x (15) |
| cf. <i>C.</i> sp.                     | x (15) |

|   |               |
|---|---------------|
| <i>Cocculus cooperi</i>                   | x (15)        |
| <i>C.? serratus</i>                       | x (15)        |
| <i>Comptonia</i>                          | x (13)        |
| <i>Cornus</i>                             | x (12)        |
| <i>Corylites herbridicus</i>              | x (12) x (15) |
| <i>C. starostinii</i>                     | x (12)        |
| cf. <i>Corylites</i>                      | x (13)        |
| <i>Corylopsiphyllum groenlandicum</i>     | x (4)         |
| cf. <i>Corylus jelisejevii</i>            | x (9)         |
| <i>Corylus</i>                            | x (13)        |
| <i>Coryphoicarpus globoides</i>           | x (8)         |
| <i>Coryphoides poulseni</i>               | x (8)         |
| <i>Craigia bronnii</i>                    | x (12)        |
| <i>Craspedodromophyllum acutum</i>        | x (15)        |
| <i>C. malmgrenii</i>                      | x (12)        |
| <i>Crednervia spectabilis</i>             | x (4)         |
| <i>Cupuliferites angmartusuticus</i>      | x (4)         |
| <i>Davidoidea hebridica</i>               | x (15)        |
| <i>Decodon</i>                            | x (15)        |
| <i>Diervilla</i>                          | x (13)        |
| <i>Disanthophyllum longipetiolatum</i>    | x (12)        |
| <i>Dryophyllum</i> cf. <i>subfalcatum</i> | x (4)         |
| ? <i>Durantia</i>                         | x (15)        |

|  |                          |
|--|--------------------------|
| <i>Dyrana flexuosa</i>                 | x (12)                   |
| <i>Ebretia ebretioides</i>             | x (15)                   |
| ? <i>Eomastixia</i>                    | x (15)                   |
| Ericaceae (pollen)                     | x (13)                   |
| <i>Fagopsiphyllum groenlandica</i>     | x (15)                   |
| <i>Fraxinus</i>                        | x (13)                   |
| <i>Grewia</i>                          | x (13)                   |
| <i>Haemanthophyllum nordenskioldii</i> | x (12)                   |
| <i>Hamamelites skilvkensis</i>         | x (12)                   |
| <i>Icacinicarya amygdaloidea</i>       | x (15) <i>I.inornata</i> |
| x (15)                                 |                          |
| <i>Iodes corniculata</i>               | x (15)                   |
| <i>I. multireticulata</i>              | x (15)                   |
| <i>Juglandiphyllites ardtunensis</i>   | x (15)                   |
| <i>J. finlayi</i>                      | x (15)                   |
| <i>Juglandiphyllum denticulatum</i>    | x (4)                    |
| <i>Juglans laurifolia</i>              | x (12)                   |
| <i>Lauraceaephyllum stenolobatus</i>   | x (4) x (15)             |
| <i>Laurocarpum minimum</i>             | x (15)                   |
| <i>Leguminocarpon gardneri</i>         | x (15)                   |
| <i>Limnobiophyllum scutatum</i>        | x (12)                   |
| <i>Limnocarpus cooperi</i>             | x (15)                   |
| <i>L. magnus</i>                       | x (15)                   |

|                                   |                  |
|-----------------------------------|------------------|
| <i>Liquidambar</i>                | x (13)           |
| cf. <i>Liriodendron</i>           | x (4)            |
| ? <i>Litsea bournensis</i>        | x (15)           |
| <i>Macclintockia dentata</i>      | x (4)            |
| <i>M. kanei</i>                   | x (4)            |
| <i>M. lyalli</i>                  | x (4,12)         |
| <i>Magniophyllum</i>              | x (12)           |
| <i>Magnolia angusta</i>           | x (15)           |
| <i>Meliosma cantiensis</i>        | x (15)           |
| <i>M. jenkinsii</i>               | x (15)           |
| <i>Musophyllum groenlandicum</i>  | x (9)            |
| <i>Natsiatum eocenicum</i>        | x (15)           |
| <i>Nelumbo</i> sp.                | x (13)           |
| <i>Nordenskioldia borealis</i>    | x (4,12,13)      |
| <i>Nypa burtinii</i>              | x (16)           |
| <i>Nyssa</i>                      | x (12,13)        |
| <i>Nyssidium arcticum</i>         | x (12,13) x (15) |
| <i>N. ekmanii</i>                 | x (12)           |
| <i>Pachysandra</i>                | x (13)           |
| <i>Palaeanthus hollickii</i>      | x (12)           |
| <i>Palaeocarpinus joffreensis</i> | x (12)           |
| <i>P. laciniata</i>               | x (15)           |
| <i>Palaeococcus lakensis</i>      | x (15)           |

|                                  |          |
|----------------------------------|----------|
| <i>Palaeophytocrene ambigua</i>  | x (15)   |
| <i>Platanites hebridicus</i>     | x (15)   |
| <i>Platanus cf. aceroides</i>    | x (4,9)  |
| <i>P. basicordata</i>            | x (12)   |
| <i>P. schimperi</i>              | x (15)   |
| <i>P. selvogensis</i>            | x (12)   |
| <i>Platimelis atlantica</i>      | x (12)   |
| <i>Platycarya richardsonii</i>   | x (15)   |
| cf. <i>Populus</i>               | x (4)    |
| cf. <i>Prunus</i>                | x (13)   |
| <i>Pseudoprotophyllum</i>        | x (13)   |
| <i>P. pterospermoides</i>        | x (12)   |
| <i>Pterocarya richardsonii</i>   | x (15)   |
| <i>P. sp.</i>                    | x (13)   |
| <i>Quercophyllum furcinervis</i> | x (4)    |
| <i>Q. groenlandicus (-dica)</i>  | x (4,12) |
| <i>Quercus sp.</i>               | x (13)   |
| <i>Rarytkinia quercifolia</i>    | x (12)   |
| <i>Rhamnospermum bilobatum</i>   | x (15)   |
| <i>Rhododendron newburyanum</i>  | x (15)   |
| cf. <i>Rhododendron</i>          | x (4)    |
| <i>Rhus</i>                      | x (13)   |
| <i>Rutaspermum</i>               | x (15)   |

|                                 |        |
|---------------------------------|--------|
| <i>Sabrenia</i>                 | x (15) |
| <i>Smilax</i>                   | x (13) |
| <i>Sapindospermum</i>           | x (15) |
| <i>Sparganium</i>               | x (13) |
| <i>Stratiotes</i>               | x (15) |
| ? <i>Symplocos</i>              | x (15) |
| <i>Tapiscia pustilla</i>        | x (15) |
| <i>Tilia</i>                    | x (13) |
| <i>Tinospora excavata</i>       | x (15) |
| <i>Trapago</i>                  | x (13) |
| cf. <i>Trema</i>                | x (13) |
| <i>Trochodendroides antiqua</i> | x (15) |
| <i>Trochodendroides arctica</i> | x (12) |
| <i>T. crenulata</i>             | x (12) |
| <i>T. curvidens</i>             | x (12) |
| <i>T. heerii</i>                | x (12) |
| <i>T. natherstii</i>            | x (12) |
| <i>T. prestwichii</i>           | x (15) |
| <i>T. retusa</i>                | x (12) |
| <i>T. richardsonii</i>          | x (12) |
| <i>T. sp.</i>                   | x (13) |
| <i>Ulmus ulmifolia</i>          | x (12) |
| <i>U. sp.</i>                   | x (13) |

|                                |        |
|--------------------------------|--------|
| <i>Ushia</i>                   | x (13) |
| cf. <i>Vaccinium</i>           | x (15) |
| <i>Viburnum</i> sp.            | x (13) |
| <i>Vitis magnisperma</i>       | x (15) |
| cf. <i>Vitis olriki</i>        | x (4)  |
| <i>V. pygmaea</i>              | x (15) |
| <i>Wardensheppuya davisii</i>  | x (15) |
| <i>Wetherelliia variabilis</i> | x (15) |
| <i>Zanthoxylon</i>             | x (15) |

#### Eocene

#### Ferns and allied groups

|                     |        |
|---------------------|--------|
| <i>Cryptogramma</i> | x (13) |
| <i>Equisetum</i>    | x (13) |
| <i>Gleichenia</i>   | x (13) |
| <i>Lycopodium</i>   | x (13) |
| <i>Onoclea</i>      | x (13) |
| <i>Osmunda</i>      | x (13) |
| <i>Polypodium</i>   | x (13) |

#### Gymnosperms

|                      |        |
|----------------------|--------|
| <i>Abies</i>         | x (13) |
| <i>Chamaecyparis</i> | x (13) |
| <i>Ginkgo</i>        | x (13) |

|                           |        |
|---------------------------|--------|
| <i>Glyptostrobus</i>      | x (13) |
| <i>Keteleeria</i>         | x (13) |
| <i>Larix altoborealis</i> | x (13) |
| <i>Metasequoia</i>        | x (13) |
| <i>Picea</i>              | x (13) |
| <i>Pinus</i>              | x (13) |
| <i>Pseudolarix</i>        | x (13) |
| <i>Sequoia</i>            | x (13) |
| <i>Taiwania</i>           | x (13) |
| cf. <i>Taxodium</i>       | x (13) |
| <i>Tsuga</i>              | x (13) |

### Angiosperms

|                             |        |
|-----------------------------|--------|
| ? <i>Acanthus</i>           | x (17) |
| <i>Acer</i>                 | x (13) |
| <i>Acronychia ornata</i>    | x (17) |
| <i>Actinidia eocenica</i>   | x (17) |
| <i>Alangium jenkinsii</i>   | x (16) |
| <i>Aldrovanda ovata</i>     | x (17) |
| <i>Aldwickia venablesii</i> | x (16) |
| <i>Alnus</i>                | x (13) |
| <i>Ampelopsis crenulata</i> | x (16) |
| <i>A.monoasteriensis</i>    | x (16) |

|  |        |
|--|--------|
| <i>A. rotundata</i>                    | x (17) |
| <i>A.turneri</i>                       | x (16) |
| <i>Anisopteroxylon ramunculiformis</i> | x (16) |
| <i>Anneslea? costata</i>               | x (17) |
| <i>Anonaspermum anoniforme</i>         | x (16) |
| <i>A. cerebellatum</i>                 | x (16) |
| <i>A. commune</i>                      | x (16) |
| <i>A. complanatum</i>                  | x (16) |
| <i>A. complicatum</i>                  | x (16) |
| <i>A. corrugatum</i>                   | x (16) |
| <i>A. minimum</i>                      | x (16) |
| <i>A. obscurum</i>                     | x (16) |
| <i>A. pulchrum</i>                     | x (16) |
| <i>A. punctatum</i>                    | x (16) |
| <i>A. rotundatum</i>                   | x (16) |
| <i>A. rugosum</i>                      | x (16) |
| <i>A. subcompressum</i>                | x (16) |
| <i>Aquilaria bilocularis</i>           | x (16) |
| <i>Archeampelos acerifolia</i>         | x (13) |
| <i>Ardesia(?) eocenica</i>             | x (16) |
| <i>Beckettia bognorensis</i>           | x (16) |
| <i>B. masticiooides</i>                | x (16) |
| <i>Becktonia hantonensis</i>           | x (17) |

|                                    |        |
|------------------------------------|--------|
| <i>Beilschmiedia bognorensis</i>   | x (16) |
| <i>B. bowerbankii</i>              | x (16) |
| <i>B.? crassicuta</i>              | x (16) |
| <i>B. eocenica</i>                 | x (16) |
| <i>B.? fibrosa</i>                 | x (16) |
| <i>B. gigantea</i>                 | x (16) |
| <i>B. oviformis</i>                | x (16) |
| <i>B. pyriformis</i>               | x (16) |
| <i>Betula</i>                      | x (13) |
| <i>Bognoria venablesii</i>         | x (16) |
| <i>Bowerbankella tiliacoroidea</i> | x (16) |
| <i>Brasenia oblonga</i>            | x (17) |
| <i>B. spinosa</i>                  | x (17) |
| <i>Broussonetia rugosa</i>         | x (17) |
| <i>Bursericarpum aldwickense</i>   | x (16) |
| <i>B. angulatum</i>                | x (16) |
| <i>B. bognorense</i>               | x (16) |
| <i>B. ovale</i>                    | x (16) |
| <i>B. venablesii</i>               | x (16) |
| <i>Calamus daemonorops</i>         | x (17) |
| <i>Canticarpum celastroides</i>    | x (16) |
| <i>Canticarya gracilis</i>         | x (16) |
| <i>C. ovalis</i>                   | x (16) |

|  |        |
|--|--------|
| <i>C. sheppensis</i>                   | x (16) |
| <i>C. ventricosa</i>                   | x (16) |
| <i>Cantisolanum dattroides</i>         | x (16) |
| <i>Cantitilia lobata</i>               | x (16) |
| <i>C. polysperma</i>                   | x (16) |
| <i>Carex colwellensis</i>              | x (17) |
| <i>Caricoidea angulata</i>             | x (17) |
| <i>C. nitens</i>                       | x (17) |
| <i>C. obscura</i>                      | x (17) |
| <i>Carpinus boveyanus</i>              | x (17) |
| <i>Carya</i>                           | x (13) |
| <i>Caryotispermum cantiense</i>        | x (16) |
| <i>Castanea</i>                        | x (13) |
| <i>Cathispermum pulchrum</i>           | x (16) |
| <i>Caxtonia elongata</i>               | x (16) |
| <i>C. glandulosa</i>                   | x (16) |
| <i>C. rutaceiformis</i>                | x (16) |
| <i>Celastrinoxylon ramunculiformis</i> | x (16) |
| <i>Cercidiphyllum</i>                  | x (13) |
| <i>Ceriops cantiensis</i>              | x (16) |
| <i>Chaerospondias sheppensis</i>       | x (16) |
| <i>Chlorophora bicarinata</i>          | x (17) |
| <i>Cinnamomum globulare</i>            | x (16) |

|                                    |        |
|------------------------------------|--------|
| <i>C. grande</i>                   | x (16) |
| <i>C. oblongum</i>                 | x (16) |
| <i>C. ovoideum</i>                 | x (16) |
| <i>Citrispermumm sheppewayense</i> | x (16) |
| <i>Cladiocarya colwellensis</i>    | x (17) |
| <i>C. foveolata</i>                | x (17) |
| <i>C. minima</i>                   | x (17) |
| <i>Clausenisspermum dubium</i>     | x (16) |
| <i>Clethra bantonensis</i>         | x (16) |
| ? <i>Cleyera</i>                   | x (17) |
| <i>Corylopsis(?) bognorensis</i>   | x (16) |
| <i>C.(?) latisperma</i>            | x (16) |
| <i>C. venablesii</i>               | x (16) |
| <i>Corylus</i>                     | x (13) |
| <i>Corypha wilkinsonii</i>         | x (16) |
| <i>Cranmeria trilocularis</i>      | x (16) |
| <i>Crowella globosa</i>            | x (16) |
| <i>Cucurbitospermum cooperi</i>    | x (16) |
| <i>C. equilaterale</i>             | x (16) |
| <i>C. mudense</i>                  | x (17) |
| <i>C. reidii</i>                   | x (17) |
| <i>C. sheppewayense</i>            | x (16) |
| <i>C. triangulare</i>              | x (16) |

|                                     |        |
|-------------------------------------|--------|
| <i>Cupanoides grandis</i>           | x (16) |
| <i>C. tumidus</i>                   | x (16) |
| <i>Davisicarpum gibbosum</i>        | x (16) |
| <i>Decodon vectensis</i>            | x (17) |
| <i>Decaplatyspermum bowerbankii</i> | x (16) |
| <i>Diervilla</i>                    | x (13) |
| <i>Diospyros headonensis</i>        | x (17) |
| <i>Diploclisia auriformis</i>       | x (16) |
| <i>Dracontomelon subglobosum</i>    | x (16) |
| <i>Dunstania ettinghausenii</i>     | x (16) |
| <i>D. glandulosa</i>                | x (17) |
| <i>D. multilocularis</i>            | x (16) |
| <i>Echinocarpus pricus</i>          | x (16) |
| <i>E. sheppeyensis</i>              | x (16) |
| <i>Edenoxylon atkinsoniae</i>       | x (16) |
| <i>Ehretia clausentia</i>           | x (16) |
| <i>Endiandra crassa</i>             | x (16) |
| <i>Engelhardia</i>                  | x (13) |
| <i>Eomastixia rugosa</i>            | x (17) |
| <i>Epacridicarpum colwellense</i>   | x (17) |
| <i>E. headonense</i>                | x (17) |
| <i>E. mudense</i>                   | x (17) |
| <i>Epipremnum</i>                   | x (16) |

|                                  |        |
|----------------------------------|--------|
| Ericaceae                        | x (13) |
| <i>Eohypserpa parsonii</i>       | x (16) |
| <i>Eozanthoxylon glandulosum</i> | x (16) |
| <i>Erythropalum europaeum</i>    | x (16) |
| <i>E. jenkinsii</i>              | x (16) |
| <i>E.(?) striatum</i>            | x (16) |
| <i>E. turbinatum</i>             | x (16) |
| <i>Euphorbiaspermum ambiguum</i> | x (16) |
| <i>E. bognorense</i>             | x (16) |
| <i>E. cooperi</i>                | x (16) |
| <i>E. crassitestum</i>           | x (16) |
| <i>E. eocenicum</i>              | x (16) |
| <i>E. latum</i>                  | x (16) |
| <i>E. obliquum</i>               | x (16) |
| <i>E. obtusum</i>                | x (16) |
| <i>E. subglobulare</i>           | x (16) |
| <i>E. subquadratum</i>           | x (16) |
| <i>E. truncatum</i>              | x (16) |
| <i>E. venablesii</i>             | x (16) |
| <i>Euphorbiotheca minima</i>     | x (16) |
| <i>E. minor</i>                  | x (16) |
| <i>E. obovata</i>                | x (16) |
| <i>E. obscura</i>                | x (16) |

|                                      |        |
|--------------------------------------|--------|
| <i>E. sheppeyensis</i>               | x (16) |
| <i>E.(?) pentalocularis</i>          | x (16) |
| <i>Eurya becktonensis</i>            | x (17) |
| <i>E. dubia</i>                      | x (17) |
| <i>E. mudensis</i>                   | x (17) |
| <i>E. stigmosa</i>                   | x (17) |
| <i>Faboidea crassicutis</i>          | x (16) |
| <i>Fagus</i>                         | x (13) |
| <i>Ficus lucidus</i>                 | x (17) |
| <i>Frangula hordwellensis</i>        | x (17) |
| <i>Fraxinus</i>                      | x (13) |
| <i>Gordonia minima</i>               | x (17) |
| ? <i>Gordonia truncata</i>           | x (17) |
| <i>Grewia minima</i>                 | x (17) |
| <i>Haloragicarya quadrilocularis</i> | x (16) |
| <i>Hantsia glabrata</i>              | x (17) |
| <i>H. pulchra</i>                    | x (17) |
| <i>Hibbertia bognorensis</i>         | x (16) |
| <i>Hightea elliptica</i>             | x (16) |
| <i>H. turgida</i>                    | x (16) |
| <i>Icacinicarya amygdaloidea</i>     | x (16) |
| <i>I.becktonensis</i>                | x (17) |
| <i>I .echinata</i>                   | x (16) |

|                              |        |
|------------------------------|--------|
| <i>I.elegans</i>             | x (16) |
| <i>I.emarginata</i>          | x (16) |
| <i>I.forbesii</i>            | x (16) |
| <i>I.foveolata</i>           | x (16) |
| <i>I.glabra</i>              | x (16) |
| <i>I.jenkinsii</i>           | x (16) |
| <i>I.minima</i>              | x (16) |
| <i>I.mucronata</i>           | x (16) |
| <i>I.nodulifera</i>          | x (16) |
| <i>I.ovalis</i>              | x (16) |
| <i>I.ovoidea</i>             | x (16) |
| <i>I.platycarpa</i>          | x (16) |
| <i>I.reticulata</i>          | x (16) |
| <i>I.rotundata</i>           | x (16) |
| <i>I.transversalis</i>       | x (17) |
| <i>Ilex</i>                  | x (13) |
| <i>Iodes? hordwellensis</i>  | x (17) |
| <i>Iodes corniculata</i>     | x (16) |
| <i>I.eocenica</i>            | x (16) |
| <i>I.multireticulata</i>     | x (16) |
| <i>Jatrorrhiza gilliamii</i> | x (16) |
| <i>Juglandicarya cantia</i>  | x (16) |
| <i>J.cooperi</i>             | x (16) |

|                                   |        |
|-----------------------------------|--------|
| <i>J. crassa</i>                  | x (16) |
| <i>J. depressa</i>                | x (16) |
| <i>J. lubbockii</i>               | x (16) |
| <i>J. minuta</i>                  | x (16) |
| <i>Juglans</i>                    | x (13) |
| <i>Lagenoidea trilocularis</i>    | x (16) |
| <i>Langtonia bisulcata</i>        | x (16) |
| <i>Lannera europaea</i>           | x (16) |
| <i>L. jenkinsii</i>               | x (16) |
| <i>L.(?) subreniformis</i>        | x (16) |
| <i>Leguminocarpon nervosum</i>    | x (16) |
| <i>Leucopogon quadrilocularis</i> | x (16) |
| <i>Limnocarpus forbesii</i>       | x (17) |
| <i>Liquidambar</i>                | x (13) |
| <i>Litsea pyriformis</i>          | x (16) |
| <i>Livistonia atlantica</i>       | x (16) |
| <i>L.(?) minima</i>               | x (16) |
| <i>Lobaticarpum variabile</i>     | x (16) |
| <i>Lonicera</i>                   | x (13) |
| <i>Magnolia angusta</i>           | x (16) |
| <i>M. crassa</i>                  | x (16) |
| <i>M. davisii</i>                 | x (16) |
| <i>M. enormis</i>                 | x (16) |

|                                    |        |
|------------------------------------|--------|
| <i>M. gigantea</i>                 | x (16) |
| <i>M. lata</i>                     | x (16) |
| <i>M. lobata</i>                   | x (16) |
| <i>M. longissima</i>               | x (16) |
| <i>M. oblongata</i>                | x (16) |
| <i>M. pygmaea</i>                  | x (16) |
| <i>M. rugosa</i>                   | x (16) |
| <i>M. subcircularis</i>            | x (16) |
| <i>Mastixia cantiensis</i>         | x (16) |
| <i>M(?) glandulosa</i>             | x (17) |
| <i>M. grandis</i>                  | x (16) |
| <i>M. parva</i>                    | x (16) |
| <i>Mastixicarpum crissum</i>       | x (17) |
| <i>Melicarya variabilis</i>        | x (16) |
| <i>Meliosma cantiensis</i>         | x (16) |
| <i>M. jenkinsii</i>                | x (16) |
| <i>M. sheppeyensis</i>             | x (16) |
| <i>M. sp.</i>                      | x (17) |
| <i>Menispermoxylon</i>             | x (16) |
| <i>Menispermum(?) taylorii</i>     | x (16) |
| <i>Microdiptera parva</i>          | x (17) |
| <i>Microtinomiscium foveolatum</i> | x 16)  |
| <i>Minsterocarpum alatum</i>       | x (16) |

|                                 |                  |
|---------------------------------|------------------|
| <i>Moroidea boveyana</i>        | x (17)           |
| ? <i>Morus</i>                  | x (16)           |
| <i>Myrica boveyana</i>          | x (17)           |
| <i>M. colwellensis</i>          | x (17)           |
| <i>M. sp.</i>                   | x (13)           |
| <i>Natsiatum eocenicum</i>      | x (16,17)        |
| <i>Nordenskioldia borealis</i>  | x (13)           |
| <i>Nymphaea</i>                 | x (17)           |
| <i>Nypa burtinii</i>            | x (16)           |
| <i>Nyssa cooperi</i>            | x (16)           |
| <i>N. oviformis</i>             | x (16)           |
| <i>Nyssa</i>                    | x (13)           |
| <i>Nyssidium arcticum</i>       | x (13) x (16,17) |
| <i>Nyssoidea eocenica</i>       | x (17)           |
| <i>Ochrosella ovalis</i>        | x (16)           |
| <i>Ochrosoidea sheppicensis</i> | x (16)           |
| <i>Olax depressa</i>            | x (16)           |
| <i>Olea headonensis</i>         | x 917)           |
| <i>Omphalodes platycarpa</i>    | x (17)           |
| <i>Oncoba rugosa</i>            | x (17)           |
| <i>O. variabilis</i>            | x (16)           |
| <i>Oncobella polysperma</i>     | x (16)           |
| <i>Oncosperma? anglica</i>      | x (16)           |

|                                     |        |
|-------------------------------------|--------|
| <i>Pachysandra</i>                  | x (13) |
| <i>Pachyspermum quinqueloculare</i> | x (16) |
| <i>Palaealectryon spirale</i>       | x (16) |
| <i>Palaeallophylus minimus</i>      | x (16) |
| <i>P. ovoideus</i>                  | x (16) |
| <i>P. rotundatus</i>                | x (16) |
| <i>Palae euchardium cellular</i>    | x (16) |
| <i>Palaeobruguieria elongata</i>    | x (16) |
| <i>P. alata</i>                     | x (16) |
| <i>Palaeobursera bognorensis</i>    | x (16) |
| <i>P. lakensis</i>                  | x (17) |
| <i>Palaeolythrum bournense</i>      | x (17) |
| <i>Palaeonyssa multilocularis</i>   | x (16) |
| <i>Palaeophytocrene ambigua</i>     | x (16) |
| <i>P. foveolata</i>                 | x (16) |
| <i>Palaeorhodmyrtus subangulata</i> | x (16) |
| <i>Palaeosinomenium obliquatum</i>  | x (17) |
| <i>P. venablesii</i>                | x (16) |
| <i>P. sp.</i>                       | x (17) |
| <i>Palaeovitis paradoxa</i>         | x (16) |
| <i>Palmostpermum cooperi</i>        | x (16) |
| <i>P. davisii</i>                   | x (16) |
| <i>P. elegans</i>                   | x (16) |

|   |        |
|---|--------|
| <i>P. excavatum</i>                                 | x (16) |
| <i>P. minutum</i>                                   | x (16) |
| <i>P. ornatum</i>                                   | x (16) |
| <i>P. ovale</i>                                     | x (16) |
| <i>P. parvum</i>                                    | x (16) |
| <i>P. pulchrum</i>                                  | x (16) |
| <i>P. subglobulare</i>                              | x (16) |
| <i>Paleoactaea bowerbanki</i> (Pigg & Devore, 2005) |        |
| <i>Parabaena bognorensis</i>                        | x (16) |
| <i>Parthenocissus hordwellensis</i>                 | x (17) |
| <i>P. monasteriensis</i>                            | x (16) |
| <i>Pentoperculum minimus</i>                        | x (16) |
| <i>Phellodendron costatum</i>                       | x (17) |
| cf. <i>Planera</i>                                  | x (13) |
| <i>Plataninum decipiens</i>                         | x (16) |
| <i>Platanus</i>                                     | x (13) |
| <i>Platycarya richardsonii</i>                      | x (16) |
| <i>Polycarpella caespitosa</i>                      | x (16) |
| <i>Polyspora truncata</i>                           | x (17) |
| ? <i>Posidonia parisiensis</i>                      | x (16) |
| <i>Potamogeton pygmaeus</i>                         | x (17) |
| <i>Protobarclaya eocenica</i>                       | x (16) |

|                                      |        |
|--------------------------------------|--------|
| <i>Protocommiphora europea</i>       | x (16) |
| <i>Protoravensara sheppelyensis</i>  | x (16) |
| <i>Pseudosclerocarya lentiformis</i> | x (16) |
| <i>P. subalata</i>                   | x (16) |
| <i>Pterocarya</i>                    | x (13) |
| <i>Pterocaryopsis bognorensis</i>    | x (16) |
| <i>P. elliptica</i>                  | x (16) |
| <i>Quercus</i>                       | x (13) |
| <i>Rehderodendron stonei</i>         | x (16) |
| cf. <i>Rhus</i>                      | x (13) |
| <i>Rubus acutiformis</i>             | x (17) |
| <i>R. microspermus</i>               | x (17) |
| <i>R. sp.</i>                        | x (16) |
| <i>Rutaspermum bognorense</i>        | x (16) |
| <i>R. minimum</i>                    | x (16) |
| <i>R. rugosum</i>                    | x (17) |
| <i>Sabal grandisperma</i>            | x (16) |
| <i>S. jenkinsii</i>                  | x (16) |
| <i>Sabrenia chandlerae</i>           | x (17) |
| <i>Salix</i>                         | x (13) |
| <i>Sambucus mudensis</i>             | x (17) |
| <i>S. parvulus</i>                   | x (17) |
| <i>Sapindospermum cooperi</i>        | x (16) |

|                                       |        |
|---------------------------------------|--------|
| <i>S. davisii</i>                     | x (16) |
| <i>S. grande</i>                      | x (16) |
| <i>S. jenkinsii</i>                   | x (16) |
| <i>S. ovoideum</i>                    | x (16) |
| <i>S. revolutum</i>                   | x (16) |
| <i>S. subovatum</i>                   | x (16) |
| <i>S. taylorii</i>                    | x (16) |
| <i>Sapindoxylon guioaooides</i>       | x (16) |
| <i>S. koelreuteroides</i>             | x (16) |
| <i>Sapotocarpum dubium</i>            | x (16) |
| <i>S. latum</i>                       | x (16) |
| <i>S. rotundatum</i>                  | x (16) |
| <i>Sapotispermum shepperryense</i>    | x (16) |
| <i>Sapotoxylon aatkinsoniae</i>       | x (16) |
| <i>Sauraia crassisperma</i>           | x (17) |
| <i>Saxifragispermum spinosissimum</i> | x (16) |
| ? <i>Scirpus</i>                      | x (17) |
| <i>Scleria horwellensis</i>           | x (17) |
| <i>Scleriocarya tribrachteata</i>     | x (17) |
| <i>Serenoa eocenica</i>               | x (16) |
| <i>Shrubsolea jenkinsii</i>           | x (16) |
| <i>Solanispermum reniforme</i>        | x (17) |
| <i>Sparganium</i>                     | x (13) |

|                                   |           |
|-----------------------------------|-----------|
| <i>Sphaeriodes ventricosa</i>     | x (16)    |
| <i>Sphinxia ovalis</i>            | x (16)    |
| <i>Spirematospermum wetzleri</i>  | x (17)    |
| <i>Spondiaecarpon operculatum</i> | x (16)    |
| <i>Spondicarya trilocularis</i>   | x (16)    |
| <i>Steinbauera subglobosa</i>     | x (16,17) |
| <i>Sterculia subovoidea</i>       | x (16)    |
| <i>Stizocarpa communis</i>        | x (16)    |
| <i>S. oviformis</i>               | x (16)    |
| <i>Stratiotes hantonensis</i>     | x (17)    |
| <i>S. headonensis</i>             | x (17)    |
| <i>Styrax elegans</i>             | x (17)    |
| <i>Swida quadrilocularis</i>      | x (17)    |
| <i>Symplocos curvata</i>          | x (16)    |
| <i>S. headonensis</i>             | x (17)    |
| <i>S. quadrilocularis</i>         | x (16)    |
| <i>S. trilocularis</i>            | x (16)    |
| <i>S(?) bognoensis</i>            | x (16)    |
| <i>Talauma wilkinsonii</i>        | x (16)    |
| <i>Tamesicarpum polyspermum</i>   | x (16)    |
| <i>Tapiscia chandleri</i>         | x (16)    |
| <i>T. elongata</i>                | x (16)    |
| <i>T. ornata</i>                  | x (16)    |

|                                   |        |
|-----------------------------------|--------|
| <i>T. pusilla</i>                 | x (16) |
| <i>Tetracera(?) cantiensis</i>    | x (16) |
| <i>T. croftii</i>                 | x (16) |
| <i>T. eocenica</i>                | x (16) |
| <i>T.(?) sheppeyensis</i>         | x (16) |
| <i>Tetrastigma corrugata</i>      | x (16) |
| <i>T. davisii</i>                 | x (16) |
| <i>T.(?) elliotii</i>             | x (16) |
| <i>T. globosa</i>                 | x (16) |
| <i>T. lobata</i>                  | x (17) |
| <i>T. sheppeyensis</i>            | x (16) |
| <i>Thymelaeaspermum bournense</i> | x (17) |
| <i>Tilia</i>                      | x (13) |
| <i>Tinomiscium taylorii</i>       | x (16) |
| <i>Tinomiscoidea scaphiformis</i> | x (16) |
| <i>Tinospora excavata</i>         | x (16) |
| <i>T. rugulosa</i>                | x (16) |
| <i>T. wilkinsonii</i>             | x (16) |
| <i>Toddalia excavata</i>          | x (17) |
| <i>Toddaliospermum ornatum</i>    | x (17) |
| <i>Toona sulcata</i>              | x (16) |
| ? <i>Trachycarpus</i>             | x (16) |
| <i>Tricarpellites communis</i>    | x (16) |

|                                       |        |
|---------------------------------------|--------|
| <i>Trigonobalanus</i>                 | x (13) |
| <i>Trochodendroides</i>               | x (13) |
| <i>Trochodendron(?) paucisseminum</i> | x (16) |
| <i>Typha</i>                          | x (17) |
| <i>Ulmus</i>                          | x (13) |
| <i>Urticicarpum scutellum</i>         | x (16) |
| <i>Ushia</i>                          | x (13) |
| <i>Uvaria ovale</i>                   | x (16) |
| cf. <i>Viburnum</i>                   | x (13) |
| <i>Vitaceoxylon ramunculiformis</i>   | x (16) |
| <i>Vitis arnensis</i>                 | x (16) |
| <i>V. bilobata</i>                    | x (16) |
| <i>V. bognorensis</i>                 | x (16) |
| <i>V. bracknellensis</i>              | x (16) |
| <i>V. elegans</i>                     | x (16) |
| <i>V. excavata</i>                    | x (16) |
| <i>V. longisulcata</i>                | x (16) |
| <i>V. magnisperma</i>                 | x (16) |
| <i>V. obovoidea</i>                   | x (16) |
| <i>V. platyformis</i>                 | x (16) |
| <i>V. pygmaea</i>                     | x (16) |
| <i>V. rectisulcata</i>                | x (16) |
| <i>V. semenlabruscoides</i>           | x (16) |

|                               |        |
|-------------------------------|--------|
| <i>V. subglobosa</i>          | x (16) |
| <i>V. uncinata</i>            | x (17) |
| <i>V. venablesii</i>          | x (16) |
| <i>V. sp.</i>                 | x (17) |
| <i>Wardensheppuya davisii</i> | x (16) |
| <i>Wetherellia variabilis</i> | x (16) |
| <i>Xylocarya trilocularis</i> | x (16) |
| <i>Zanthoxylum compressum</i> | x (17) |
| <i>X. horwellense</i>         | x (17) |

#### Oligocene

#### Ferns and allied groups

#### Gymnosperms

|                              |        |
|------------------------------|--------|
| <i>Pinus fordii</i>          | x (17) |
| <i>Sequoia coultsiae</i>     | x (17) |
| <i>Sequoiadendron fordii</i> | x (17) |

#### Angiosperms

|                               |        |
|-------------------------------|--------|
| <i>Acanthus rugatus</i>       | x (17) |
| ? <i>Actinidia</i>            | x (17) |
| <i>Ajuginucula smithii</i>    | x (17) |
| <i>Aldrovandia intermedia</i> | x (17) |
| <i>Alismaticarpum alatum</i>  | x (17) |

|                               |        |
|-------------------------------|--------|
| <i>Apocynospermum dubium</i>  | x (17) |
| <i>A.elegans</i>              | x (17) |
| <i>A. rostratum</i>           | x (17) |
| <i>A. striatum</i>            | x (17) |
| <i>Asterocarpinus</i>         | x (17) |
| <i>Carex gurnardii</i>        | x (17) |
| ? <i>Caricoidea minima</i>    | x (17) |
| <i>Catalpa rugosa</i>         | x (17) |
| <i>Caricoidea nitens</i>      | x (17) |
| ? <i>C. obscura</i>           | x (17) |
| <i>Clematis vectensis</i>     | x (17) |
| <i>Cladiocarya foveolata</i>  | x (17) |
| ? <i>Costus</i>               | x (17) |
| <i>Daphnogene lanceolatum</i> | x (17) |
| <i>Dipelta europaea</i>       | x (17) |
| <i>Engelhardtia</i>           | x (17) |
| <i>Epipremnites ornata</i>    | x (17) |
| <i>Ficus</i>                  | x (17) |
| <i>Hooleya hermis</i>         | x (17) |
| ? <i>Ilex</i>                 | x (17) |
| <i>Incarvillea pristina</i>   | x (17) |
| <i>Juncus vectensis</i>       | x (17) |
| <i>Limnocarpus forbesii</i>   | x (17) |

|                                  |        |
|----------------------------------|--------|
| <i>L.(?) spinosus</i>            | x (17) |
| <i>Melissa parva</i>             | x (17) |
| <i>Myosurus heterostylus</i>     | x (17) |
| <i>Najas oligocenica</i>         | x (17) |
| <i>Nelumbium buchii</i>          | x (17) |
| <i>Neolitsea</i>                 | x (17) |
| <i>Nymphaea liminis</i>          | x (17) |
| <i>Ottelia britannica</i>        | x (17) |
| <i>Palaeocarya macroptera</i>    | x (17) |
| <i>Palmophyllum</i>              | x (17) |
| <i>Papaver pictum</i>            | x (17) |
| <i>Phyllanthera vextensis</i>    | x (17) |
| <i>Potamogeton pygmaeus</i>      | x (17) |
| <i>P. tenuicarpus</i>            | x (17) |
| <i>Radermachera pulchra</i>      | x (17) |
| <i>Ranunculus ovaliformis</i>    | x (17) |
| <i>Rubus</i>                     | x (17) |
| <i>Sabal major</i>               | x (17) |
| <i>Sabrenia chandlerae</i>       | x (17) |
| <i>Sambucus parvula</i>          | x (17) |
| <i>Sparganium multiloculare</i>  | x (17) |
| <i>Spirematospermum wetzleri</i> | x (17) |
| <i>Stratiotes acuticostatus</i>  | x (17) |

|                                |        |
|--------------------------------|--------|
| <i>S. neglectus</i>            | x (17) |
| <i>S. websteri</i>             | x (17) |
| <i>Tylophora antiqua</i>       | x (17) |
| <i>Typha latissima</i>         | x (17) |
| <i>Zanthoxylum(?) costatum</i> | x (17) |
| <i>Zizyphus paradisicus</i>    | x (17) |

Miocene

Ferns and allied groups

|                                |           |
|--------------------------------|-----------|
| <i>Botrychium</i> type         | x (14)    |
| <i>Equisetum</i>               | x (11)    |
| <i>Isöetes</i>                 | x (2)     |
| <i>Lycopodium, L.</i> type     | x (11,14) |
| <i>Osmunda parschlugiana</i>   | x (11)    |
| <i>O.</i> type                 | x (14)    |
| <i>Polypodium</i>              | x (11)    |
| <i>Selaginella, S.</i> type    | x (2,14)  |
| <i>Thelypteris limbosperma</i> | x (11)    |

Gymnosperms

|                          |        |
|--------------------------|--------|
| <i>Abies alba</i>        | x (17) |
| <i>A. steenstrupiana</i> | x (11) |
| <i>A.</i> sp.            | x (14) |
| <i>Cathaya</i>           | x (11) |

|                                |               |        |
|--------------------------------|---------------|--------|
| <i>Cryptomeria anglica</i>     | x (11)        | x (17) |
| <i>Glyptostrobus europaeus</i> | x (11)        |        |
| <i>G. sp.</i>                  | x (3,11)      |        |
| <i>Larix</i>                   | x (2,11,14)   |        |
| <i>Picea</i>                   | x (11,14)     | x (17) |
| <i>Pinus</i>                   | x (2,3,11,14) | x (17) |
| <i>Pseudotsuga</i>             | x (11)        |        |
| <i>Sciadopitys tertiaria</i>   |               | x (17) |
| <i>Sequoia abietina</i>        | x (11)        |        |
| <i>Taxodium</i>                | x (2)         |        |
| <i>Tsuga</i>                   | x (11,14)     |        |

### Angiosperms

|                            |          |
|----------------------------|----------|
| <i>Acer askelssonii</i>    | x (11)   |
| <i>A. crenatifolium</i>    | x (11)   |
| <i>A. sp.</i>              | x (2,14) |
| <i>Aesculus</i>            | x (11)   |
| <i>Alangium</i>            | x (2,3)  |
| <i>Alchemilla</i>          | x (11)   |
| <i>Alnus cecropiifolia</i> | x (11)   |
| <i>A. gaudinii</i>         | x (11)   |
| <i>A. kefersteinii</i>     | x (11)   |
| <i>A. aff. viridis</i>     | x (11)   |

|                           |             |
|---------------------------|-------------|
| <i>A. sp.</i>             | x (2,14)    |
| <i>Ambrosia</i>           | x (2)       |
| <i>Arctostaphylos</i>     | x (11)      |
| <i>Artemisia</i>          | x (2)       |
| <i>Betula cristata</i>    | x (11)      |
| <i>B. islandica</i>       | x (11)      |
| <i>B. sp.</i>             | x (2,11,14) |
| <i>Caldesia</i>           | x (3)       |
| <i>Carex</i>              | x (11)      |
| <i>Caricoidea</i>         | x (3)       |
| <i>Carpinus</i>           | x (11)      |
| <i>Carpinus/Ostrya</i>    | x (2)       |
| <i>Carya</i>              | x (2,3,14)  |
| <i>Castanea</i>           | x (3, 14)   |
| <i>Celastrus</i>          | x (2)       |
| <i>Ceratophyllum</i>      | x (2,11)    |
| <i>Cercidiphyllum</i>     | x (11)      |
| <i>Cleyera</i>            | x (3)       |
| <i>Comptonia hesperia</i> | x (11)      |
| <i>Cornus</i>             | x (2,11)    |
| <i>Corylus, C. type</i>   | x (3,11,14) |
| cf. <i>Crataegus</i>      | x (11)      |
| <i>Cyclocarya</i>         | x (11)      |

|                                 |               |
|---------------------------------|---------------|
| <i>Cyrilla</i>                  | x (3)         |
| <i>Dryas octopetala</i>         | x (11)        |
| <i>Empetrum nigrum</i>          | x (11)        |
| <i>Engelhardtia</i>             | x (3)         |
| <i>Euodia</i>                   | x (3)         |
| <i>Euonymus</i>                 | x (2)         |
| aff. <i>Euphrasia</i>           | x (11)        |
| <i>Fagus friedrichii</i>        | x (11)        |
| <i>F. guissonii</i>             | x (11)        |
| <i>F. sp.</i>                   | x (2,3,14)    |
| cf. <i>Fraxinus</i>             | x (11,14)     |
| <i>Gleditsia</i>                | x (2)         |
| <i>Gordonia</i>                 | x (3)         |
| <i>Hamamelis?</i>               | x (2)         |
| <i>Ilex</i>                     | x (2,3,14)    |
| <i>Illicium</i>                 | x(3)          |
| <i>Juglans</i>                  | x (2,3,11,14) |
| <i>Jussiaea</i>                 | x (3)         |
| <i>Laurophylllum</i>            | x (11)        |
| <i>Liquidambar</i>              | x (2,3,14)    |
| <i>Liriodendron procaccinii</i> | x (11)        |
| <i>L. sp.</i>                   | x (2)         |
| <i>Lonicera</i>                 | x (11)        |

|                             |             |
|-----------------------------|-------------|
| <i>Lyonia</i> <sup>1</sup>  | x (3)       |
| <i>Macclintockia</i>        | x (19)      |
| <i>Magnolia</i>             | x (3,11)    |
| <i>Manilkara</i>            | x (3)       |
| <i>Melliiodendron</i>       | x (3)       |
| <i>Minusops</i>             | x (3)       |
| <i>Microdiptera</i>         | x (3)       |
| <i>Mneme</i>                | x (2)       |
| <i>Moroidea</i>             | x (3)       |
| <i>Morus</i>                | x (3)       |
| <i>Nuphar</i>               | x (2,11)    |
| <i>Nyssa</i>                | x (2,3)     |
| <i>Ostrya/Carpinus</i>      | x (14)      |
| <i>Parthenocissus</i>       | x (2,3,11)  |
| <i>Persea</i>               | x (3)       |
| <i>Phellodendron</i>        | x (3)       |
| <i>Phragmites</i>           | x (11)      |
| <i>Planera</i>              | x (3)       |
| <i>Platanus leucophylla</i> | x (11)      |
| <i>P.</i> sp.               | x (2)       |
| Poaceae (Gramineae)         | x (3)       |
| <i>Polygonum viviparum</i>  | x (11)      |
| <i>Populus</i>              | x (2,11,14) |

|                                     |               |
|-------------------------------------|---------------|
| <i>Potentilla</i>                   | x (11)        |
| <i>Potomogeton</i>                  | x (2,11)      |
| <i>Prunus</i>                       | x (2)         |
| <i>Ptelea</i>                       | x (2)         |
| <i>Pterocarya</i>                   | x (2,3,11,14) |
| <i>Quercus</i>                      | x (2,3,14)    |
| <i>Ranunculus</i>                   | x (11)        |
| <i>Rhamnus</i>                      | x (3)         |
| <i>Rhododendron</i> <sup>1</sup>    | x (3)         |
| <i>R. aff. ponticum</i>             | x (11)        |
| <i>Rhus</i>                         | x (3)         |
| <i>Rubus</i>                        | x (3)         |
| <i>Salix gruberi</i>                | x (11)        |
| <i>S. herbacea</i>                  | x (11)        |
| <i>S. sp.</i>                       | x (2,11,14)   |
| <i>Sambucus(?)</i>                  | x (2)         |
| <i>Sargentodoxa</i>                 | x (3)         |
| <i>Sassafras ferrettianum</i>       | x (11)        |
| <i>Smilax</i>                       | x (2,11)      |
| <i>Sophora</i>                      | x (2)         |
| <i>Sorbus</i> aff. <i>aucuparia</i> | x (11)        |
| <i>Symplocos</i>                    | x (3)         |
| <i>Tetracentron atlanticum</i>      | x (11)        |

|                                 |                        |
|---------------------------------|------------------------|
| <i>Tilia selardallense</i>      | x (11)                 |
| <i>Tilia</i>                    | x (3)                  |
| <i>Toxicodendron</i>            | x (2)                  |
| <i>Trapa</i>                    | x (2)                  |
| <i>Turpinia</i>                 | x (3)                  |
| <i>Typha</i>                    | x (2)                  |
| <i>Ulmus, U/Zelkova</i>         | x (2,3,11,13,14)       |
| <i>Vaccinium cf. uliginosum</i> | x (11)                 |
| <i>Vaccinium</i> sp.            | x (3 <sup>1</sup> ,11) |
| <i>Valerriana</i>               | x (11)                 |
| <i>Vitis</i>                    | x (2,3)                |
| <i>Zanthoxylum</i>              | x (3)                  |
| <i>Zelkova</i> -type            | x (2)                  |

### Pliocene

#### Ferns and allied groups

|                     |        |
|---------------------|--------|
| <i>Huperzia</i>     | x (11) |
| <i>Lycopodiella</i> | x (11) |
| <i>Lycopodium</i>   | x (11) |
| <i>Osmunda</i>      | x (11) |
| <i>Selaginella</i>  | x (11) |

#### Gymnosperms

|                   |        |
|-------------------|--------|
| <i>Abies alba</i> | x (17) |
|-------------------|--------|

|                              |        |        |
|------------------------------|--------|--------|
| <i>A.sp</i>                  | x (11) |        |
| <i>Cathaya</i>               | x (11) |        |
| <i>Cryptomeria anglica</i>   |        | x (17) |
| <i>Ephedra</i>               | x (11) |        |
| <i>Picea</i>                 | x (11) | x (17) |
| <i>Pinus</i>                 | x (11) | x (17) |
| <i>Sciadopitys tertiaria</i> |        | x (17) |
| <i>S. sp.</i>                | x (11) |        |
| <i>Tsuga</i>                 | x (11) |        |

#### Angiosperms

|                             |        |  |
|-----------------------------|--------|--|
| <i>Acer</i>                 | x (11) |  |
| <i>Alnus</i>                | x (11) |  |
| <i>Anemone</i>              | x (11) |  |
| <i>Artemisia</i>            | x (11) |  |
| <i>Betula</i>               | x (11) |  |
| <i>Campanula</i>            | x (11) |  |
| <i>Carpinus</i>             | x (11) |  |
| <i>Carya</i>                | x (11) |  |
| aff. <i>Cedrellospermum</i> | x (11) |  |
| <i>Cercidiphyllum</i>       | x (11) |  |
| <i>Chenopodiaceae</i>       | x (11) |  |
| <i>Cirsium</i>              | x (11) |  |

|                           |        |
|---------------------------|--------|
| <i>Corylus</i>            | x (11) |
| <i>Crataegus</i>          | x (11) |
| <i>Decodon</i>            | x (11) |
| <i>Epilobium</i>          | x (11) |
| <i>Euphorbia</i>          | x (11) |
| <i>Fagus friedrichii</i>  | x (11) |
| <i>Filipendula</i>        | x (11) |
| <i>Fragaria</i>           | x (11) |
| <i>Galium</i>             | x (11) |
| <i>Ilex</i>               | x (11) |
| <i>Kobresia</i>           | x (11) |
| <i>Lemna</i>              | x (11) |
| <i>Lonicera</i>           | x (11) |
| <i>Menyanthes</i>         | x (11) |
| <i>Mercurialis</i>        | x (11) |
| <i>Myrica</i>             | x (11) |
| <i>Myriophyllum</i>       | x (11) |
| <i>Nuphar</i>             | x (11) |
| <i>Parthenocissus</i>     | x (11) |
| <i>Persicaria</i>         | x (11) |
| <i>Plantago coronopus</i> | x (11) |
| <i>P. lanceolata</i>      | x (11) |
| <i>Platanus</i>           | x (11) |

|                                |        |
|--------------------------------|--------|
| Poaceae/Gramineae              | x (11) |
| <i>Polygonum aviculare</i>     | x (11) |
| <i>P. viviparum</i>            | x (11) |
| <i>Potentilla</i>              | x (11) |
| <i>Pterocarya</i>              | x (11) |
| <i>Quercus</i>                 | x (11) |
| <i>Ranunculus</i>              | x (11) |
| <i>Rhododendron</i>            | x (11) |
| <i>Rubus</i>                   | x (11) |
| <i>Salix</i>                   | x (11) |
| <i>Sanguisorba</i>             | x (11) |
| <i>Saxifraga</i>               | x (11) |
| <i>Sparganium</i>              | x (11) |
| <i>Tetracentron atlanticum</i> | x (11) |
| <i>Thalictrum</i>              | x (11) |
| <i>Tilia</i>                   | x (11) |
| <i>Trigonobalanopsis</i>       | x (11) |
| <i>Ulmus</i>                   | x (11) |
| aff. <i>Valeriana</i>          | x (11) |
| <i>Viburnum</i>                | x (11) |
| <i>Viscum</i>                  | x (11) |

Footnotes

<sup>1</sup>The oldest occurrences of some taxa (e.g., *Glyptostrobus*, *Taxodium*, *Picea*) belong to strata cited as “probably” late Eocene.

<sup>2</sup>Pollen distinguishable from other Ericaceae?

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