

Table S1. Fossil taxa used for calibration of the phylogeny.

S#	Fossil taxa	Period	Minimum Age Constraint (Ma)	Reference
1	<i>Acmopyle florinii</i>	Late Paleocene	57	Hill and Carpenter, 1991
2	<i>Nageia hainanensis</i>	Eocene	50	Liu et al., 2015
3	<i>Podocarpus witherdenensis</i>	Eocene	37.2	Hill and Carpenter, 1991
4	<i>Dacrycarpus puertae</i>	Eocene	60	Wilf et al., 2012
5	<i>Dacrydium rhomboideum</i>	Oligocene-Miocene	28.4	Cookson and pike, 1953; Blackburn, 1985
6	<i>Falcatifolium eocenica</i>	Middle Eocene	37.2	Hill and Scriven, 1999
7	<i>Pherosphaera microfolius</i>	Oligocene-Miocene	28.4	Wells and Hill, 1989
8	<i>Microcachrys novaezelandiae</i>	Oligocene-Miocene	28.4	Carpenter et al., 2011
9	<i>Halocarpus highstedii</i>	Oligocene-Miocene	28.4	Jordan et al., 2011
10	<i>Lagarostrobos marginatus</i>	Oligocene	34	Wells and Hill, 1989
11	<i>Manoao colensoi</i>	Oligocene	35	Carpenter, 1991
12	<i>Prumnopitys opihensis</i>	Cretaceous/Eocene	60	Pole, 1997
13	<i>Lepidothamnus</i>	Middle Cretaceous	120	Peter, 1985
14	<i>Phyllocladus annulatus</i>	Oligocene	33	Hill, 1989
15	<i>Retrophyllum oxyphyllum</i>	Eocene	50	Wilf, 2020
16	<i>Sundacarpus anglica</i>	Eocene	48.6	Page, 2019
17	<i>Austrohamia minuta</i>	Lower Jurassic	160	Bodnar and Escapa, 2016
18	<i>Agathis vittata</i>	Eocene	55	Hill et al., 2008
19	<i>Araucaria</i>	Early Jurassic	190	Axsmith et al., 2008
20	Podocarp	Permian	255	Blomenkemper et al., 2018



Figure S1. *Phyllocladus aspleniifolius* (with phylloclades) found in rainforest Tasmania.



Figure S2. Leaf dimorphism in *Dacrycarpus dacrydioides*.