

Table S7

Clade/node	Plastid data (this study)	Mitochondrial data (this study)	Mennes et al. (2013) data, mycoheterotrophs excluded (this study)	Mennes et al. (2013) ¹	Magallón et al. (2015) ²	Givnish et al. (2018) ³	Other studies
monocots							
Stem	150 (146–152)	146 (132–152)	n/a	n/a	136 (135–137)	136 (135–137)	–
Crown	148 (143–152)	n/a	135 (134–138)	135 (134–138)	133 (132–135)	132 (131–134)	–
ACORALES							
Stem	148 (143–152)	n/a	135 (134–138)	135 (134–138)	133 (132–135)	132 (131–134)	–
Crown	n/a	n/a	23 (6–51)	23 (4–52)	n/a	0.2 (0.005–0.7)	–
ALISMATALES							
Stem	139 (131–146)	123 (106–150)	130 (116–137)	130 (116–137)	131 (129–133)	130 (129–132)	–
Crown	n/a	n/a	116 (95–133)	118 (90–134)	129 (127–131)	124 (121–126)	–
PETROSAVIALES							
Stem	118 (109–129)	105 (89–135)	120 (107–131)	122 (108–133)	124 (118–128)	127 (126–128)	–
Crown	n/a	n/a	n/a ⁴	41 (8–96)	98 (52–121)	67 (51–82)	–
DIOSCOREALES							
Stem	106 (98–117)	84 (70–109)	106 (90–121)	110 (96–123)	110 (97–122)	123 (120–126)	–
Crown	97 (88–108)	n/a	91 (70–110)	101 (85–116)	95 (75–110)	119 (115–123)	–
PANDANALES							
Stem	106 (98–117)	84 (70–109)	106 (90–121)	110 (96–123)	110 (97–122)	123 (120–126)	131 (93–175) ⁵

Crown	93 (85–104)	71 (58–94)	62 (38–90)	91 (69–110)	72 (53–100)	93 (86–102)	101 (91–118) ⁵
Velloziaceae							
Stem	93 (85–104)	71 (58–94)	62 (38–90)	91 (69–110)	72 (53–100)	93 (86–102)	101 (91–118) ⁵
Crown	51 (44–58)	34 (27–47)	31 (10–57)	37 (9–75)	49 (24–76)	n/a	74 (52–97) ⁵
Stemonaceae							
Stem	81 (69–90)	64 (52–86)	43 (25–64)	46 (24–74)	54 (49–89)	76 (68–83)	–
Crown	65 (53–75)	46 (37–61)	27 (11–47)	27 (9–53)	n/a	50 (44–56)	–
Triuridaceae							
Stem	n/a	n/a	n/a	84 (62–103)	n/a	75 (68–82)	–
Crown	n/a	n/a	n/a	69 (50–90)	n/a	n/a	–
Pandanaceae							
Stem	61 (53–71)	56 (49–74)	37 (22–56)	38 (20–64)	n/a	44 (38–50)	85 (79–133) ⁶
Crown	35 (23–51)	26 (20–35)	n/a	n/a	n/a	30 (26–35)	65 (42–98) ⁶
Cyclanthaceae							
Stem	61 (53–71)	56 (49–74)	37 (22–56)	38 (20–64)	54 (49–89)	44 (38–50)	85 (79–133) ⁶
Crown	49 (47–55)	49 (47–54)	22 (10–36)	21 (9–37)	n/a	18 (13–22)	45 (45–72) ⁶
LILIALES							
Stem	110 (102–121)	86 (70–111)	107 (97–119)	109 (97–121)	117 (110–123)	126 (124–127)	–
Crown	96 (87–106)	n/a	n/a	n/a	97 (81–115)	111 (106–115)	–
ASPARAGALES							
Stem	109 (101–120)	86 (70–111)	104 (95–115)	104 (94–116)	115 (107–121)	126 (124–127)	–
Crown	104 (95–115)	n/a	94 (93–96)	94 (93–96)	109 (99–118)	116 (111–121)	–
DASYPOGONALES							
Stem	100 (92–111)	n/a	93 (84–104)	93 (84–105)	108 (101–117)	119 (114–124)	–
Crown	40 (26–57)	n/a	n/a	n/a	n/a	34 (28–38)	–

ARECALES

Stem	100 (92–111)	n/a	90 (90–93)	90 (90–93)	98 (84–112)	119 (114–124)	–
Crown	90 (86–95)	n/a	n/a	n/a	49 (32–75)	85 (84–85)	–

COMMELINALES

Stem	71 (60–91)	n/a	84 (83–85)	84 (83–85)	80 (77–97)	114 (110–117)	–
Crown	63 (45–84)	n/a	74 (52–84)	72 (47–84)	69 (51–89)	110 (106–114)	–

ZINGIBERALES

Stem	71 (60–91)	n/a	84 (83–85)	84 (83–85)	80 (77–97)	114 (110–117)	–
Crown	34 (26–44)	n/a	53 (33–74)	51 (30–75)	58 (42–76)	83 (83–84)	–

POALES

Stem	101 (93–112)	n/a	93 (84–104)	93 (84–105)	107 (100–116)	124 (122–125)	–
Crown	68 (54–84)	n/a	87 (79–97)	87 (78–98)	101 (94–110)	120 (119–121)	–

¹Mennes et al. (2013): median ages and 95% HPD intervals from analyses implemented in BEAST using a UCLN model.

²Magallón et al. (2015): median ages and 95% HPD intervals from analyses implemented in BEAST using a UCLN model.

³Givnish et al. (2018): mean ages and 95% HPD intervals from analyses implemented in BEAST using a UCLN model.

⁴There was no Petrosaviales crown node in our re-analyses of the Mennes et al. (2013) data set as this order included only one photosynthetic and one mycoheterotrophic taxon in the original matrix.

⁵Alcantara et al. (2018): ages and 95% HPD intervals from analyses implemented in BEAST using a UCLN model.

⁶Gallaher et al. (2015): ages and 95% HPD intervals from analyses implemented in BEAST using a UCLN model and two fossil calibrations. The age for the Pandanaceae crown node represents the median estimate; the Cyclanthaceae-Pandanaceae stem node and Cyclanthaceae crown node were constrained by fossils and the ages for these nodes represent the peak of the 95% HPD interval.