

Appendix S5 Estimates of standardized mean lineage ages

Table S5a Estimates of mean lineage ages (MLA) for the species pools of habitat types of Dutch Angiosperms (mean pairwise distances among species divided by 2). The tree with unresolved polytomies was used for these analyses. MLArnd are mean values of 999 random draws from a null distribution of a species pool for each habitat type (see Methods for details). MLAsd are values of standard deviation around MLArnd. Standardised MLA (*stMLA*) are calculated as $(MLA - MLArnd)/MLAsd$. All values significant at $P < 0.05$ are in bold.

	Habitat type	N taxa	MLA	MLArnd
01	Free floating duckweeds	103	130.7	125.2
02	Submerged communities in brackish waters	23	119.5	125.1
03	Sublittoral and eulittoral zones of temperate seas	6	110.5	125.5
04	Submerged stonewort swards	129	128.6	125.2
05	Floating or submerged rooted plants in fresh waters	197	128.8	125.3
06	Soakways and shallow, fluctuating standing waters	259	127.9	125.2
07	Spring vegetation of weakly basic waters	187	125.1	125.3
08	Swamps and fens	378	127.0	125.3
09	Small sedges on wet to moist soils	392	125.0	125.3
10	Mires developing on mesotrophic peats	87	128.4	125.3
11	Bog vegetation of deep, wet peats	200	124.5	125.3
12	Strongly trampled vegetation in moist places	489	123.6	125.2
13	Stonecrop communities of weathered calcareous rocks	154	120.3	125.3
14	Swards on sandy soils	539	122.3	125.3
15	Chalk grasslands	209	121.5	125.3
16	Meadows and pastures of well-drained soils	616	124.7	125.3
17	Fringe communities	282	122.1	125.2
18	Woodland margin and ride vegetation in drier situations	296	123.3	125.2
19	Unfertilized mat-grass pastures at lower elevations	286	122.9	125.2
20	Heathlands	260	123.2	125.3
21	Communities of crevices of sunny wells	217	120.3	125.3
22	Salt-marsh and strandlines sometimes mixed with sand	174	120.1	125.3
23	Pioneer vegetation of coastal foredunes	186	120.4	125.3

24	Perennial cord grasses on intertidal mud and sand	208	123.2	125.2
25	Annual succulent halophytes, periodically flooded	54	117.7	125.3
26	Inundated and inland salt marsh ephemerals	278	123.8	125.3
27	Ephemerals on bare or disturbed salt-marsh mud and sand	232	122.8	125.3
28	Therophytes on bare, periodically flooded ground	457	125.1	125.3
29	Heavily nutrient-loaded ruderal habitats	364	124.9	125.2
30	Arable weed communities	375	120.2	125.3
31	Xero-mesophilous ruderals on nutrient-rich soils	596	121.9	125.3
32	Tall-herb vegetation on moist fertile soils and peats	379	124.8	125.3
33	Sunny and semi-shaded margins and clearings of woods	453	122.9	125.3
34	Herbaceous forest-clearing communities on poor soils	272	122.7	125.3
35	Bramble underscrub of woodland edges and clearings	174	115.0	125.3
36	Willow scrub and woodland of mires	319	125.4	125.2
37	Hedges and scrub of mesotrophic, base-rich soils	479	123.1	125.3
38	Woodland of river shoals and terraces	394	123.7	125.3
39	Woodlands of swamps, fens and wet pastures	264	125.7	125.3
40	Birch-dominated swampy woodlands	257	125.3	125.3
41	Pine and juniper woodland communities of acid soils	221	121.1	125.3
42	Acidophilous oak, birch, or beech forests	219	121.7	125.3
43	Broadleaved woodlands on lime-rich and neutral mull soils	504	125.7	125.3

Table S5b Average estimates of mean lineage ages (MLA) for habitat types from 100 trees of the Dutch Angiosperms with randomly resolved polytomies (see Appendix S3 for details). MLA and MLArnd are mean values across the 100 trees for observed and random mean lineage ages, respectively, determined for each habitat type and each tree (see Methods for details). Standardised MLA (*stMLA*) are calculated as in Table S5a. All values significant at $P < 0.05$ are in bold. Note the general similarity with values in Table S5a and that significance of all values from that table was confirmed in these analyses.

SP	Habitat types	N taxa	MLA	MLArnd	<i>stMLA</i>
01	Free floating duckweeds	103	129.9	125.1	4.618
02	Submerged communities in brackish waters	23	118.4	125.1	-1.964
03	Sublittoral and eulittoral zones of temperate seas	6	109.3	124.9	-2.016
04	Submerged stonewort swards	129	127.9	125.1	3.239
05	Floating or submerged rooted plants in fresh waters	197	128.5	125.1	4.417
06	Soakways and shallow, fluctuating standing waters	259	127.8	125.1	3.868
07	Spring vegetation of weakly basic waters	187	124.7	125.1	-0.15
08	Swamps and fens	378	127.5	125.1	3.249
09	Small sedges on wet to moist soils	392	125.6	125.1	-0.359
10	Mires developing on mesotrophic peats	87	127.5	125.1	2.385
11	Bog vegetation of deep, wet peats	200	124.1	125.1	-0.943
12	Strongly trampled vegetation in moist places	489	124.7	125.1	-3.726
13	Stonecrop communities of weathered calcareous rocks	154	119.7	125.0	-5.252
14	Swards on sandy soils	539	123.6	125.1	-7.205
15	Chalk grasslands	209	121.1	125.1	-4.798
16	Meadows and pastures of well-drained soils	616	126.4	125.1	-1.436
17	Fringe communities	282	122.1	125.1	-4.905
18	Woodland margin and ride vegetation in drier situations	296	123.4	125.1	-3.107
19	Unfertilized mat-grass pastures at lower elevations	286	123.0	125.1	-3.617
20	Heathlands	260	123.1	125.1	-2.954
21	Communities of crevices of sunny wells	217	120.0	125.1	-6.426
22	Salt-marsh and strandlines sometimes mixed with sand	174	119.6	125.0	-5.769
23	Pioneer vegetation of coastal foredunes	186	120.0	125.1	-5.708
24	Perennial cord grasses on intertidal mud and sand	208	122.8	125.1	-2.636
25	Annual succulent halophytes, periodically flooded	54	116.7	125.0	-4.322
26	Inundated and inland salt marsh ephemerals	278	123.9	125.1	-2.111
27	Ephemerals on bare or disturbed salt-marsh mud and sand	232	122.6	125.1	-3.242
28	Therophytes on bare, periodically flooded ground	457	126.0	125.1	-0.329
29	Heavily nutrient-loaded ruderal habitats	364	125.3	125.1	-0.736

30	Arable weed communities	375	120.6	125.1	-9.559
31	Xero-mesophilous ruderals on nutrient-rich soils	596	123.5	125.1	-8.956
32	Tall-herb vegetation on moist fertile soils and peats	379	125.2	125.1	-0.962
33	Sunny and semi-shaded margins and clearings of woods	453	123.7	125.1	-5.165
34	Herbaceous forest-clearing communities on poor soils	272	122.6	125.1	-3.91
35	Bramble underscrub of woodland edges and clearings	174	114.5	125.0	-11.661
36	Willow scrub and woodland of mires	319	125.6	125.1	0.175
37	Hedges and scrub of mesotrophic, base-rich soils	479	124.1	125.1	-4.945
38	Woodland of river shoals and terraces	394	124.2	125.1	-3.121
39	Woodlands of swamps, fens and wet pastures	264	125.6	125.1	0.624
40	Birch-dominated swampy woodlands	257	125.1	125.1	-0.006
41	Pine and juniper woodland communities of acid soils	221	120.9	125.1	-5.336
42	Acidophilous oak, birch, or beech forests	219	121.5	125.1	-4.59
43	Broadleaved woodlands on lime-rich and neutral mull soils	504	126.8	125.1	1.1