

Supplementary Table 3 – Results from the evolutionary model analysis for chromosome number and genome size with Log-Likelihood (Log-Lk) and AIC scores for each of the nine models. The analysis were repeated seven times for different combinations of taxa. Most likely models are highlighted in bold.

Taxa	Chromosome number analysis			Genome size analysis		
	Model	Log-Lk	AIC	Model	Log-Lk	AIC
<i>Allioideae</i>	Brownian	-577.49	1158.99	Brownian	-473.66	951.32
	Motion			Motion		
	OU	-489.35	984.70	OU	-448.79	903.59
	Early-Burst	-577.49	1160.99	Early-Burst	-473.66	953.32
	Trend	-565.74	1137.49	Trend	-466.27	938.54
	White	-491.29	986.57	White	-462.11	928.29
	Kappa	-516.95	1039.91	Kappa	-460.00	926;01
	Lambda	-485.61	977.23	Lambda	-447.12	900.24
	Delta	-555.90	1117.81	Delta	-460.74	927.47
<i>Allieae</i>	Brownian	-464.78	933.56	Brownian	-382.72	769.47
	Motion			Motion		
	OU	-388.59	783.18	OU	-359.99	725.99
	Early-Burst	-464.78	935.56	Early-Burst	-382.73	771.47
	Trend	-453.56	913.12	Trend	-375.38	756.75
	White	-390.08	784.16	White	-369.11	742.21
	Kappa	-417.22	840.43	Kappa	-367.25	740.50
	Lambda	-389.06	784.12	Lambda	-354.11	714.21
	Delta	-444.50	894.99	Delta	-370.12	746.24
<i>Allium 1</i>	Brownian	-83.53	171.06	Brownian	-58.48	120.97
	Motion			Motion		
	OU	-67.27	140.54	OU	-53.62	113.23
	Early-Burst	-83.53	173.06	Early-Burst	-58.48	122.97
	Trend	-80.90	167.80	Trend	-57.09	120.18
	White	-67.27	138.54	White	-54.19	112.38
	Kappa	-71.55	149.09	Kappa	-56.53	119.05
	Lambda	-67.27	140.54	Lambda	-54.19	114.38
	Delta	-78.97	163.95	Delta	-56.18	118.37
<i>Allium 2</i>	Brownian	-126.05	256.11	Brownian	-167.54	339.09
	Motion			Motion		
	OU	-108.64	223.28	OU	-148.12	302.24
	Early-Burst	-126.06	258.11	Early-Burst	-167.54	341.09
	Trend	-122.02	250.03	Trend	-163.39	332.77
	White	-108.64	221.29	White	-148.12	300.24
	Kappa	-120.13	246.26	Kappa	-154.82	315.64
	Lambda	-108.64	223.29	Lambda	-148.12	302.24
	Delta	-119.04	244.08	Delta	-160.26	326.51
<i>Allium 3</i>	Brownian	-221.71	447.42	Brownian	-154.14	312.29
	Motion			Motion		
	OU	-193.32	392.65	OU	-145.58	297.16
	Early-Burst	-221.71	449.42	Early-Burst	-154.14	314.29
	Trend	-216.15	438.30	Trend	-151.08	308.16
	White	-193.52	393.04	White	-146.90	287.80
	Kappa	-208.73	423.46	Kappa	-151.62	309.24
	Lambda	-194.52	395.03	Lambda	-146.90	299.80
	Delta	-211.99	429.98	Delta	-149.10	304.20
<i>Gilliesieae</i>	Brownian	-99.87	203.74	Brownian	-82.31	168.63
	Motion			Motion		
	OU	-87.17	180.33	OU	-80.06	166.12
	Early-Burst	-99.87	205.74	Early-Burst	-82.31	170.63
	Trend	-96.87	199.75	Trend	-80.91	167.82
	White	-87.15	178.30	White	-82.57	169.15
	Kappa	-89.39	184.78	Kappa	-82.02	170.03
	Lambda	-85.95	177.89	Lambda	-80.82	167.64
	Delta	-94.75	195.50	Delta	-80.27	166.54
<i>Tulbaghieae</i>	Brownian	528.91	-1053.82	Brownian	-	-
	Motion			Motion		
	OU	555.43	-1104.85	OU	-	-
	Early-Burst	557.70	-1109.39	Early-Burst	-	-
	Trend	555.40	-1104.80	Trend	-	-
	White	553.98	-1103.95	White	-	-
	Kappa	555.40	-1104.80	Kappa	-	-
	Lambda	555.40	-1104.80	Lambda	-	-
	Delta	573.42	-1140.84	Delta	-	-