

Supplementary Materials

Table S1. Genomic variables studied: Species, Genbank accession number, clade, genome length (GL), GC content (%GC), non-coding DNA (%NC), gene number (GN), number of protein-coding genes (NPG), number of repeated sequences (NRS) and repeated sequences total length (RSL).

Species	Genbank	Clade	GL	%GC	%NC	GN	NPG	NRS	RSL
<i>Rickettsia prowazekii</i>	NC_000963	Bacteria	1111523	29	25	888	835	-	-
<i>Reclinomonas americana</i>	NC_001823	Excavata	69034	26	20	97	67	-	-
<i>Glaucozystis nostochinearum</i>	NC_015117	Glaucophyta	34087	25	26	62	34	6	136
<i>Cyanophora paradoxa</i>	HQ849544	Glaucophyta	51557	26	34	77	44	117	6965
<i>Cyanidioschyzon merolae</i>	NC_000887	Rhodophyta	32211	27	24	62	34	9	233
<i>Porphyra purpurea</i>	NC_002007	Rhodophyta	36753	33	30	57	31	24	1055
<i>Chondrus crispus</i>	NC_001677	Rhodophyta	25836	27	29	57	29	12	400
<i>Gracilariopsis andersonii</i>	NC014772	Rhodophyta	27036	27	33	47	27	8	214
<i>Ostreococcus tauri</i>	NC_008290	Prasinophyta	44237	38	32	78	43	8	9948
<i>Nephroselmis olivacea</i>	NC_008239	Prasinophyta	45223	32	38	70	40	12	298
<i>Micromonas</i> sp.	NC_012643	Prasinophyta	47425	34	39	79	39	11	12482
<i>Pycnococcus provasolii</i>	NC_013935	Prasinophyta	24321	37	36	36	18	12	487
<i>Oltmannsiellopsis viridis</i>	NC_008256	Basal Chlorophyta	56761	33	47	63	36	514	16853
<i>Pseudendoclonium akinetum</i>	NC_005926	Basal Chlorophyta	95880	39	51	94	72	4386	154212
<i>Prototheca wickerhamii</i>	NC_001613	Basal Chlorophyta	55328	25	48	63	36	272	9050
<i>Helicosporidium</i> sp.	GQ339576	Basal Chlorophyta	37454	26	23	54	26	38	993
<i>Scenedesmus obliquus</i>	NC_002254	Chlorophyceae	42781	36	62	53	20	2524	89372
<i>Pedinomonas minor</i>	NC_000892	Basal Chlorophyta	25137	22	59	23	11	624	47999
<i>Polytomella</i> sp.	NC_013472	Chlorophyceae	13004	41	42	19	7	5	2501
<i>Polytomella capuana</i>	NC_010357	Chlorophyceae	12998	57	39	21	7	13	2165
<i>Chlamydomonas eugametos</i>	NC_001872	Chlorophyceae	22897	34	46	20	14	102	4040
<i>Chlamydomonas reinhardtii</i>	NC_001638	Chlorophyceae	15758	45	42	25	8	7	1056
<i>Dunaliella salina</i>	NC_012930	Chlorophyceae	28331	34	67	21	9	247	15401
<i>Mesostigma viride</i>	NC_008240	Basal Streptophyta	42424	32	35	70	41	6	151
<i>Chlorokybus atmophyticus</i>	NC_009630	Basal Streptophyta	201763	39	77	89	58	4293	126489
<i>Chaetosphaeridium globosum</i>	NC_004118	Basal Streptophyta	56574	34	45	77	46	13	557
<i>Chara vulgaris</i>	NC_005255	Charophyceae	67737	40	42	76	46	53	165
<i>Nitella hyalina</i>	NC_017598	Charophyceae	80192	38	42	77	43	39	1126
<i>Marchantia polymorpha</i>	NC_001660	Basal Embryophyta	186609	42	67	110	76	534	15900
<i>Pleurozia purpurea</i>	NC_013444	Basal Embryophyta	168526	45	75	101	69	493	13876

<i>Megaceros aenigmaticus</i>	NC_012651	Basal Embryophyta	184908	46	86	80	48	341	19022
<i>Phaeoceros laevis</i>	NC_013765	Basal Embryophyta	209482	44	89	73	38	134	5669
<i>Physcomitrella patens</i>	NC_007945	Basal Embryophyta	105340	40	67	69	42	145	3531
<i>Cycas taitungensis</i>	NC_010303	Spermatophyta	414903	46	92	70	39	101315	4210184
<i>Zea perennis</i>	NC_008331	Spermatophyta	570354	43	95	59	32	1311	102398
<i>Carica papaya</i>	NC_012116	Spermatophyta	476890	45	93	61	39	416	25220
<i>Silene latifolia</i>	NC_014487	Spermatophyta	253413	42	89	48	30	376	32474

Table S2. Presence of mitochondrial genes (1). Number of genes/species and number of studied species/gene are given

[illegible]

[illegible]

NA D10	Respir ation and oxidati ve phosp horyla tion	M tb s	H	3	4	1		1			1	1
NA D11	Respir ation and oxidati ve phosp horyla tion	M tb s	H	3	3	1	1	1				
YEJ W	Protei n import and matur ation	M tb s	Q	3	3	1	1	1				
ORF 103	Poo	P o o P	S	6	3			1		1	1	
ORF 109	Poo	P o o P	S	6	3				1	1	1	
ORF 110	Poo	P o o P	S	6	3			1		1	1	
ORF 137	Poo	P o o P	S	6	3		1			1	1	
ORF 61	Poo	P o o P	S	6	3		1			1		1
ORF 760	Poo	P o o P	S	6	3			1	1		1	
ORF 101	Poo	P o o	S	6	2				1			1

[illegible]

[illegible]

TR NA- CYS	Transf er RNAs	R N A	T r a n s l a t e d	5	3 3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
TR NA- GL U	Transf er RNAs	R N A	T r a n s l a t e d	5	3 3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
TR NA- TRP	Transf er RNAs	R N A	T r a n s l a t e d	5	3 3	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1		1	1	1		1	1	1	1	1	1
TR NA- HIS	Transf er RNAs	R N A	T r a n s l a t e d	5	3 2	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
TR NA- PR O	Transf er RNAs	R N A	T r a n s l a t e d	5	3 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
TR NA- TYR	Transf er RNAs	R N A	T r a n s l a t e d	5	3 2	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
TR NA- PH E	Transf er RNAs	R N A	T r a n s l a t e d	5	3 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	
TR NA- ASP	Transf er RNAs	R N A	T r a n s l a t e d	5	3 0	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	
TR NA- LEU	Transf er RNAs	R N A	T r a n s l a t e d	5	3 0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	
TR NA- AS N	Transf er RNAs	R N A	T r a n s l a t e d	5	2 9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1	1	1	1	1	1	1	1	1	1	1	
TR NA- GLY	Transf er RNAs	R N A	T r a n s l a t e d	5	2 9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1		1	1	1	1	1	1	1	

[illegible]

M t b s r R N A t R N A P o o	2 1	2 5	1 3	1 9	2 0	1 7	1 8	1 8	1 9	1 0	2 1	2 1	2 0	2 0	2 1	1 9	2 0	1 9	1 8	2 0	1 9	1 9	2 0	1 8	1 5	2 1	1 9	2 2	1 7	1 9	1 8	1 8	1 1	1 1	1 3	7	7	7	7	7
	2	1	0	1	1	1	2	0	2	1	1	1	1	1	3	2	3	3	3	3	3	3	3	3	0	1	1	3	0	1	1	2	0	0	$\frac{1}{0}$	$\frac{1}{2}$	9	0	1	
	2 1	1 9	2 0	2 0	1 9	1 4	1 9	1 9	1 9	1 9	2 0	2 0	2 0	2 0	1 9	2 0	1 6	1 7	1 9	1 8	1 3	1 5	9	1 4	1 5	2 0	2 0	2 0	1 9	2 0	2 0	8	$\frac{1}{9}$	3	1	3	3	1		
	0	1	0	4	5	1	4	1	1	2	7	4	4	5	0	$\frac{1}{2}$	9	5	1	1	0	0	0	0	0	0	3	0	8	2	1	1	0	2	0	0	1	2	0	

Table S3. GC content in the ribosomal subunits (RSU) from the 100 species of Streptophyta used in the analysis at each subunit. List of species used to estimate the phylogeny of each ribosomal subunit.

<u>RSU</u>	<u>Clade</u>	<u>Species</u>	<u>%GC</u>
mtssu	Angiosperms	<i>Ascarina_rubricauli</i>	52.05
mtssu	Gymnosperms	<i>Abies_homolepis</i>	51.83
mtssu	Angiosperms	<i>Acorus_calamus</i>	52.65
mtssu	Monilophyta	<i>Adiantum_pedatum</i>	47.84
mtssu	Angiosperms	<i>Alisma_plantago-aqua</i>	51.81
mtssu	Angiosperms	<i>Amborella_trichopoda</i>	51.19
mtssu	Monilophyta	<i>Angiopteris_lygodifo</i>	48.03
mtssu	Angiosperms	<i>Aristolochia_macrophy</i>	51.14
mtssu	Angiosperms	<i>Artemisia_annua</i>	48.26
mtssu	Angiosperms	<i>Asarum_canadense</i>	51.29
mtssu	Angiosperms	<i>Asparagus_officinali</i>	52.04
mtssu	Monilophyta	<i>Asplenium_nidus</i>	49.02
mtssu	Angiosperms	<i>Austrobaileya_scand</i>	51.63
mtssu	Monilophyta	<i>Azolla_pinnata</i>	48.96
mtssu	Angiosperms	<i>Berberis_bealei</i>	52.25
mtssu	Angiosperms	<i>Beta_vulgaris</i>	51.49
mtssu	Monilophyta	<i>Botrychium_dissectum</i>	48.16
mtssu	Angiosperms	<i>Brasenia_schreberi</i>	52.00
mtssu	Angiosperms	<i>Brassica_rapa</i>	51.36
mtssu	Angiosperms	<i>Buxus_sp</i>	51.63
mtssu	Marchantiophyta	<i>Calypogeia_muelleria</i>	47.90
mtssu	Angiosperms	<i>Canella_winterana</i>	51.55
mtssu	Angiosperms	<i>Carica_papaya</i>	51.07
mtssu	Angiosperms	<i>Ceratophyllum_demers</i>	52.15
mtssu	Coleochaetophyta	<i>Chaetosphaeridium_gl</i>	45.24
mtssu	Charophyta	<i>Chara_sp</i>	49.20
mtssu	Charophyta	<i>Chara_vulgaris</i>	50.11
mtssu	Angiosperms	<i>Citrullus_lanatus</i>	51.96
mtssu	Angiosperms	<i>Crossosoma_bigelovii</i>	51.27
mtssu	Gymnosperms	<i>Cycas_revoluta</i>	49.85
mtssu	Gymnosperms	<i>Cycas_taitungensis</i>	50.56
mtssu	Angiosperms	<i>Cytinus_ruber</i>	52.08
mtssu	Angiosperms	<i>Digitalis_purpurea</i>	52.49
mtssu	Gymnosperms	<i>Dioon_edule</i>	51.16
mtssu	Angiosperms	<i>Dioscorea_sp</i>	51.94
mtssu	Lycopodiophyta	<i>Diphasiastrum_digita</i>	49.09
mtssu	Monilophyta	<i>Diplazium_pycnocarpo</i>	48.87
mtssu	Angiosperms	<i>Doryphora_sassafras</i>	51.64
mtssu	Monilophyta	<i>Equisetum_arvense</i>	48.00
mtssu	Angiosperms	<i>Erodium_chrysanthum</i>	51.20
mtssu	Angiosperms	<i>Euptelea_polyandra</i>	51.69
mtssu	Angiosperms	<i>Geranium_himalayense</i>	50.95
mtssu	Gymnosperms	<i>Ginkgo_biloba</i>	50.80
mtssu	Angiosperms	<i>Grevillea_robusta</i>	51.83
mtssu	Angiosperms	<i>Hedyosmum_arborescen</i>	51.56
mtssu	Angiosperms	<i>Helosis_cayennensis</i>	52.04
mtssu	Lycopodiophyta	<i>Huperzia_lucidula</i>	49.09
mtssu	Lycopodiophyta	<i>Isoetes_engelmanii</i>	49.70
mtssu	Lycopodiophyta	<i>Isoetes_histrix</i>	49.85
mtssu	Lycopodiophyta	<i>Isoetes_taiwanensis</i>	49.27
mtssu	Angiosperms	<i>Lactuca_sativa</i>	51.17
mtssu	Angiosperms	<i>Liriodendron_tulipif</i>	51.28

mtssu	Angiosperms	<i>Magnolia_grandiflora</i>	51.49
mtssu	Marchantiophyta	<i>Marchantia_plymorpha</i>	47.39
mtssu	Angiosperms	<i>Medicago_truncatula</i>	51.06
mtssu	Anthocerotophyta	<i>Megaceros_tosanus</i>	46.42
mtssu	Mesostigmatophyta	<i>Mesostigma_viride</i>	48.65
mtssu	Angiosperms	<i>Monsonia_emarginata</i>	51.01
mtssu	Gymnosperms	<i>Nageia_nagi</i>	52.05
mtssu	Angiosperms	<i>Nelumbo_nucifera</i>	51.69
mtssu	Angiosperms	<i>Nicotiana_tabacum</i>	51.56
mtssu	Charophyta	<i>Nitella_hyalina</i>	47.85
mtssu	Anthocerotophyta	<i>Nothoceros_aenigmati</i>	45.81
mtssu	Anthocerotophyta	<i>Notothylas_orbicular</i>	46.07
mtssu	Angiosperms	<i>Nymphaea_sp</i>	51.89
mtssu	Monilophyta	<i>Ophioglossum_vulgatu</i>	49.60
mtssu	Angiosperms	<i>Oryza_sativa</i>	44.41
mtssu	Angiosperms	<i>Panax_ginseng</i>	51.54
mtssu	Angiosperms	<i>Petrophile_canescens</i>	51.83
mtssu	Anthocerotophyta	<i>Phaeoceros_laevis</i>	46.97
mtssu	Monilophyta	<i>Phegopteris_hexagono</i>	49.11
mtssu	Bryophyta	<i>Physcomitrella_paten</i>	46.68
mtssu	Gymnosperms	<i>Pinus_sp</i>	51.53
mtssu	Gymnosperms	<i>Pinus_strobus</i>	50.82
mtssu	Angiosperms	<i>Platanus_occidentali</i>	51.83
mtssu	Marchantiophyta	<i>Pleurozia_purpurea</i>	47.83
mtssu	Gymnosperms	<i>Podocarpus_costarice</i>	51.85
mtssu	Angiosperms	<i>Podophyllum_peltatum</i>	50.99
mtssu	Monilophyta	<i>Polypodium_aureum</i>	48.31
mtssu	Gymnosperms	<i>Pseudotsuga_menziesi</i>	49.99
mtssu	Angiosperms	<i>Riccinus_communis</i>	51.72
mtssu	Angiosperms	<i>Sambucus_canadensis</i>	51.56
mtssu	Angiosperms	<i>Saruma_henryi</i>	51.33
mtssu	Angiosperms	<i>Schisandra_sphenanth</i>	51.64
mtssu	Angiosperms	<i>Silene_latifolia</i>	52.90
mtssu	Angiosperms	<i>Solanum_tuberosum</i>	49.85
mtssu	Angiosperms	<i>Spathiphyllum_wallis</i>	51.28
mtssu	Bryophyta	<i>Sphagnum_palustris</i>	46.84
mtssu	Bryophyta	<i>Syntrichia_ruralis</i>	47.32
mtssu	Bryophyta	<i>Takakia_lepidozioide</i>	48.14
mtssu	Angiosperms	<i>Tasmannia_insipida</i>	51.82
mtssu	Angiosperms	<i>Theobroma_cacao</i>	51.14
mtssu	Angiosperms	<i>Thottea_tomentosa</i>	50.85
mtssu	Angiosperms	<i>Tofieldia_calyculata</i>	51.29
mtssu	Angiosperms	<i>Triticum_aestivum</i>	51.69
mtssu	Angiosperms	<i>Vigna_radiata</i>	51.60
mtssu	Angiosperms	<i>Xanthosoma_mafaffa</i>	51.10
mtssu	Gymnosperms	<i>Zamia_integrifolia</i>	50.89
mtssu	Angiosperms	<i>Zea_luxurians</i>	51.82
mtssu	Klebsormidiophyta	<i>Chlorokybus_atmophyt</i>	49.16
mtlsu	Angiosperms	<i>Akebia_quinata</i>	59.31
mtlsu	Angiosperms	<i>Alisma_plantago-aqua</i>	54.95
mtlsu	Angiosperms	<i>Amborella_trichopoda</i>	58.86
mtlsu	Angiosperms	<i>Annona_muricata</i>	55.11
mtlsu	Anthocerotophyta	<i>Anthoceros_agrestis</i>	51.81
mtlsu	Angiosperms	<i>Atherosperma_moschat</i>	54.87
mtlsu	Bryophyta	<i>Atrichum_angustatum</i>	53.87
mtlsu	Marchantiophyta	<i>Bazzania_trilobata</i>	54.17

mtlsu	Marchantiophyta	<i>Blasia_pusilla</i>	53.62
mtlsu	Angiosperms	<i>Brasenia_schreberi</i>	53.59
mtlsu	Bryophyta	<i>Buxbaumia_aphylla</i>	53.87
mtlsu	Angiosperms	<i>Buxus_sempervirens</i>	56.95
mtlsu	Angiosperms	<i>Cabomba_sp</i>	54.35
mtlsu	Gymnosperms	<i>Cedrus_deodara</i>	56.16
mtlsu	Bryophyta	<i>Ceratodon_purpureus</i>	53.73
mtlsu	Angiosperms	<i>Ceratophyllum_demers</i>	53.71
mtlsu	Coleochaetophyta	<i>Chaetosphaeridium_gl</i>	51.40
mtlsu	Charophyta	<i>Chara_vulgaris</i>	54.72
mtlsu	Klebsormidiophyta	<i>Chlorokybus_atmophyt</i>	55.10
mtlsu	Marchantiophyta	<i>Conocephalum_conicum</i>	53.64
mtlsu	Angiosperms	<i>Croomia_pauciflora</i>	57.33
mtlsu	Gymnosperms	<i>Cycas_revoluta</i>	54.64
mtlsu	Gymnosperms	<i>Cycas_taitungensis</i>	54.19
mtlsu	Monilophyta	<i>Danaea_elliptica</i>	54.61
mtlsu	Angiosperms	<i>Degeneria_vitiensis</i>	54.82
mtlsu	Anthocerotophyta	<i>Dendroceros_granulat</i>	52.97
mtlsu	Bryophyta	<i>Dicranum_scoparium</i>	53.84
mtlsu	Angiosperms	<i>Didymeles_perrieri</i>	54.46
mtlsu	Bryophyta	<i>Diphyscium_foliosum</i>	54.19
mtlsu	Angiosperms	<i>Drimys_winteri</i>	56.15
mtlsu	Marchantiophyta	<i>Dumortiera_hirsuta</i>	53.75
mtlsu	Monilophyta	<i>Equisetum_hyemale</i>	54.55
mtlsu	Bryophyta	<i>Fissidens_dubius</i>	53.99
mtlsu	Bryophyta	<i>Fontinalis_antipyret</i>	54.06
mtlsu	Marchantiophyta	<i>Frullania_dilatata</i>	53.80
mtlsu	Gymnosperms	<i>Ginkgo_biloba</i>	54.37
mtlsu	Angiosperms	<i>Grevillea_robusta</i>	56.15
mtlsu	Angiosperms	<i>Hortonia_floribunda</i>	55.42
mtlsu	Angiosperms	<i>Houttuynia_cordata</i>	55.85
mtlsu	Bryophyta	<i>Hypnum_imponens</i>	54.32
mtlsu	Angiosperms	<i>Idiospermum_australi</i>	54.63
mtlsu	Lycopodiophyta	<i>Isoetes_malinvernian</i>	54.93
mtlsu	Angiosperms	<i>Kadsura_japonica</i>	54.69
mtlsu	Klebsormidiophyta	<i>Klebsormidium_flacci</i>	53.91
mtlsu	Marchantiophyta	<i>Leiomylia_anomala</i>	54.27
mtlsu	Marchantiophyta	<i>Lejeunea_cavifolia</i>	54.62
mtlsu	Marchantiophyta	<i>Lepidogyna_hodgsonia</i>	54.18
mtlsu	Angiosperms	<i>Liriodendron_chinens</i>	55.56
mtlsu	Marchantiophyta	<i>Lophocolea_heterophy</i>	54.30
mtlsu	Marchantiophyta	<i>Lophozia_gillmani</i>	54.61
mtlsu	Marchantiophyta	<i>Lunularia_cruciata</i>	53.90
mtlsu	Angiosperms	<i>Magnolia_tripetala</i>	55.56
mtlsu	Monilophyta	<i>Marattia_attenuata</i>	54.65
mtlsu	Marchantiophyta	<i>Marchantia_polymorph</i>	53.80
mtlsu	Marchantiophyta	<i>Marsupella_emarginat</i>	54.41
mtlsu	Angiosperms	<i>Medicago_truncatula</i>	55.30
mtlsu	Mesostigmatophyta	<i>Mesostigma_viride</i>	55.26
mtlsu	Angiosperms	<i>Myristica_fragrans</i>	56.36
mtlsu	Charophyta	<i>Nitella_hyalina</i>	54.94
mtlsu	Anthocerotophyta	<i>Nothoceros_aenigmati</i>	53.04
mtlsu	Anthocerotophyta	<i>Notothylas_breutelii</i>	52.69
mtlsu	Marchantiophyta	<i>Nowellia_curvifolia</i>	54.27
mtlsu	Marchantiophyta	<i>Odontoschisma_denuda</i>	54.22
mtlsu	Angiosperms	<i>Oenothera_berteroana</i>	54.75

mtlsu	Monilophyta	<i>Ophioglossum lusitan</i>	55.43
mtlsu	Marchantiophyta	<i>Pallavicinia lyellii</i>	54.51
mtlsu	Marchantiophyta	<i>Pellia epiphylla</i>	54.50
mtlsu	Anthocerotophyta	<i>Phaeoceros carolinia</i>	52.69
mtlsu	Anthocerotophyta	<i>Phaeoceros laevis</i>	52.86
mtlsu	Gymnosperms	<i>Phyllocladus aspleni</i>	55.50
mtlsu	Bryophyta	<i>Physcomitrella paten</i>	54.22
mtlsu	Angiosperms	<i>Piper betle</i>	57.84
mtlsu	Marchantiophyta	<i>Plagiochila porelloii</i>	52.49
mtlsu	Angiosperms	<i>Platanus occidentali</i>	57.53
mtlsu	Angiosperms	<i>Pleea tenuifolia</i>	57.38
mtlsu	Marchantiophyta	<i>Pleurozia purpurea</i>	54.47
mtlsu	Gymnosperms	<i>Podocarpus macrophyl</i>	55.89
mtlsu	Bryophyta	<i>Polytrichum juniperi</i>	53.46
mtlsu	Marchantiophyta	<i>Porella pinnata</i>	54.07
mtlsu	Marchantiophyta	<i>Ptilidium pulcherrim</i>	54.08
mtlsu	Marchantiophyta	<i>Radula complanata</i>	53.59
mtlsu	Marchantiophyta	<i>Reboulia hemisphaeri</i>	54.00
mtlsu	Marchantiophyta	<i>Riccia sorocarpa</i>	53.70
mtlsu	Marchantiophyta	<i>Ricciocarpos natans</i>	53.70
mtlsu	Angiosperms	<i>Saruma henryi</i>	55.28
mtlsu	Angiosperms	<i>Saururus cernuus</i>	55.64
mtlsu	Marchantiophyta	<i>Scapania nemorea</i>	54.02
mtlsu	Angiosperms	<i>Schisandra sphenanth</i>	54.71
mtlsu	Marchantiophyta	<i>Solenostoma hyalinum</i>	54.04
mtlsu	Angiosperms	<i>Spathiphyllum wallis</i>	54.28
mtlsu	Marchantiophyta	<i>Sphaerocarpos donnel</i>	54.00
mtlsu	Bryophyta	<i>Sphagnum capillifoli</i>	51.84
mtlsu	Bryophyta	<i>Sphagnum recurvum</i>	52.60
mtlsu	Gymnosperms	<i>Stangeria eripus</i>	54.49
mtlsu	Marchantiophyta	<i>Symphyogyna circinat</i>	55.07
mtlsu	Bryophyta	<i>Takia ceratophylla</i>	52.97
mtlsu	Marchantiophyta	<i>Targionia hypophylla</i>	53.72
mtlsu	Bryophyta	<i>Tetraphis pellucida</i>	53.91
mtlsu	Gymnosperms	<i>Zamia integrifolia</i>	54.29
mtlsu	Gymnosperms	<i>Araucaria araucana</i>	56.57
nssu	Angiosperms	<i>Akebia quinata</i>	60.78
nssu	Angiosperms	<i>Alisma plantago-aqua</i>	60.58
nssu	Angiosperms	<i>Amborella trichopoda</i>	64.02
nssu	Monilophyta	<i>Anemia phyllitidis</i>	58.97
nssu	Anthocerotophyta	<i>Anthoceros agrestis</i>	57.85
nssu	Angiosperms	<i>Areca triandra</i>	63.32
nssu	Angiosperms	<i>Asparagus officinali</i>	61.03
nssu	Monilophyta	<i>Asplenium australasi</i>	60.46
nssu	Angiosperms	<i>Austrobaileya scande</i>	60.53
nssu	Monilophyta	<i>Azolla filiculoides</i>	59.32
nssu	Zygnematophyta	<i>Bambusina borneri</i>	58.06
nssu	Marchantiophyta	<i>Bazzania trilobata</i>	61.75
nssu	Marchantiophyta	<i>Blasia pusilla</i>	60.62
nssu	Monilophyta	<i>Blechnum occidentale</i>	59.59
nssu	Angiosperms	<i>Brachypodium distach</i>	58.80
nssu	Angiosperms	<i>Brasenia schreberi</i>	61.69
nssu	Bryophyta	<i>Buxbaumia aphylla</i>	58.88
nssu	Monilophyta	<i>Calochlaena dubia</i>	60.18
nssu	Angiosperms	<i>Carludovica palmata</i>	62.47
nssu	Gymnosperms	<i>Cedrus deodara</i>	59.18

nssu	Angiosperms	<i>Ceratophyllum_echina</i>	60.48
nssu	Coleochaetophyta	<i>Chaetosphaeridium_gl</i>	58.29
nssu	Charophyta	<i>Chara_braunii</i>	59.10
nssu	Charophyta	<i>Chara_fibrosa</i>	58.71
nssu	Klebsormidiophyta	<i>Chlorokybus_atmophyt</i>	56.64
nssu	Zygnematophyta	<i>Closterium_acerosum</i>	56.99
nssu	Coleochaetophyta	<i>Coleochaete_conchata</i>	56.34
nssu	Coleochaetophyta	<i>Coleochaete_nitellar</i>	55.70
nssu	Marchantiophyta	<i>Conocephalum_conicum</i>	62.46
nssu	Angiosperms	<i>Corydalis_saxicola</i>	61.11
nssu	Angiosperms	<i>Croomia_pauciflora</i>	61.31
nssu	Gymnosperms	<i>Cycas_taitungensis</i>	57.78
nssu	Zygnematophyta	<i>Cylindrocystis_brebi</i>	55.48
nssu	Monilophyta	<i>Danaea_elliptica</i>	61.35
nssu	Zygnematophyta	<i>Desmidium_grevillei</i>	56.82
nssu	Monilophyta	<i>Dicksonia_antarctica</i>	59.62
nssu	Bryophyta	<i>Dicranum_scoparium</i>	60.48
nssu	Angiosperms	<i>Digitalis_purpurea</i>	61.06
nssu	Angiosperms	<i>Dioscorea_alata</i>	62.95
nssu	Bryophyta	<i>Diphyscium_foliosum</i>	58.51
nssu	Monilophyta	<i>Dryopteris_wallichia</i>	59.64
nssu	Gymnosperms	<i>Ephedra_fragilis</i>	59.23
nssu	Monilophyta	<i>Equisetum_arvense</i>	59.49
nssu	Bryophyta	<i>Fissidens_taxifolius</i>	60.15
nssu	Zygnematophyta	<i>Genicularia_spirotae</i>	53.83
nssu	Gymnosperms	<i>Ginkgo_biloba</i>	61.75
nssu	Gymnosperms	<i>Gnetum_indicum</i>	60.14
nssu	Zygnematophyta	<i>Gonatozygon_aculeatu</i>	53.96
nssu	Angiosperms	<i>Grevillea_robusta</i>	59.75
nssu	Zygnematophyta	<i>Haplotaenium_minutum</i>	56.14
nssu	Klebsormidiophyta	<i>Hormidiella_attenuat</i>	59.53
nssu	Angiosperms	<i>Hortonia_floribunda</i>	62.70
nssu	Lycopodiophyta	<i>Huperzia_taxifolia</i>	59.30
nssu	Bryophyta	<i>Hypnum_cupressiforme</i>	59.73
nssu	Klebsormidiophyta	<i>Interfilum_paradoxum</i>	58.90
nssu	Klebsormidiophyta	<i>Klebsormidium_flacci</i>	58.78
nssu	Angiosperms	<i>Lactuca_sativa</i>	59.54
nssu	Charophyta	<i>Lamprothamnium_macro</i>	59.12
nssu	Charophyta	<i>Lychnothamnus_barbat</i>	59.94
nssu	Lycopodiophyta	<i>Lycopodiella_inundat</i>	60.53
nssu	Lycopodiophyta	<i>Lycopodium_clavatum</i>	59.83
nssu	Angiosperms	<i>Magnolia_tripetala</i>	61.46
nssu	Marchantiophyta	<i>Marchantia_polymorph</i>	62.91
nssu	Angiosperms	<i>Medicago_truncatula</i>	59.90
nssu	Mesostigmatophyta	<i>Mesostigma_viride</i>	60.58
nssu	Charophyta	<i>Nitella_hyalina</i>	62.25
nssu	Charophyta	<i>Nitellopsis_obtusa</i>	58.99
nssu	Anthocerotophyta	<i>Nothoceros_giganteus</i>	58.22
nssu	Anthocerotophyta	<i>Notothylas_breutelii</i>	58.39
nssu	Marchantiophyta	<i>Nowellia_curvifolia</i>	60.27
nssu	Marchantiophyta	<i>Odontoschisma_denuda</i>	60.73
nssu	Angiosperms	<i>Oenothera_macrocarpa</i>	58.43
nssu	Marchantiophyta	<i>Pallavicinia_lyellii</i>	61.65
nssu	Angiosperms	<i>Panax_ginseng</i>	59.56
nssu	Marchantiophyta	<i>Pellia_epiphylla</i>	59.27
nssu	Anthocerotophyta	<i>Phaeoceros_laevis</i>	58.99

nssu	Anthocerotophyta	<i>Phymatoceros_phymato</i>	59.14
nssu	Bryophyta	<i>Physcomitrella_paten</i>	58.67
nssu	Gymnosperms	<i>Pinus_wallichiana</i>	59.66
nssu	Marchantiophyta	<i>Plagiochila_adiantoi</i>	62.63
nssu	Marchantiophyta	<i>Pleurozia_purpurea</i>	53.97
nssu	Bryophyta	<i>Polytrichum_juniperi</i>	60.09
nssu	Marchantiophyta	<i>Ptilidium_pulcherrim</i>	62.12
nssu	Marchantiophyta	<i>Reboulia_hemisphaeri</i>	63.50
nssu	Marchantiophyta	<i>Riccia_fluitans</i>	63.87
nssu	Angiosperms	<i>Ricinus_communis</i>	61.10
nssu	Angiosperms	<i>Saruma_henryi</i>	59.23
nssu	Marchantiophyta	<i>Scapania_nemorea</i>	61.38
nssu	Marchantiophyta	<i>Solenostoma_hyalinum</i>	62.25
nssu	Marchantiophyta	<i>Sphaerocarpos_donnel</i>	62.27
nssu	Bryophyta	<i>Sphagnum_palustre</i>	62.23
nssu	Bryophyta	<i>Takakia_ceratophylla</i>	59.14
nssu	Gymnosperms	<i>Taxus_cuspidata</i>	59.44
nssu	Bryophyta	<i>Tetraphis_pellucida</i>	59.18
nssu	Angiosperms	<i>Tofieldia_calyculata</i>	61.41
nssu	Charophyta	<i>Tolypella_nidifica</i>	62.22
nssu	Angiosperms	<i>Vanilla_africana</i>	60.63
nssu	Gymnosperms	<i>Zamia_pumila</i>	61.29
nssu	Angiosperms	<i>Zea_mays</i>	61.65
nssu	Gymnosperms	<i>Araucaria_araucana</i>	60.41
cpssu	Monilophyta	<i>Adiantum_capillus-ve</i>	65.83
cpssu	Angiosperms	<i>Alisma_plantago-aqua</i>	63.53
cpssu	Angiosperms	<i>Amaranthus_tubercula</i>	64.94
cpssu	Angiosperms	<i>Amborella_trichopoda</i>	64.53
cpssu	Monilophyta	<i>Anemia_phyllitidis</i>	65.32
cpssu	Monilophyta	<i>Angiopteris_evecta</i>	64.84
cpssu	Anthocerotophyta	<i>Anthoceros_formosae</i>	63.07
cpssu	Monilophyta	<i>Asplenium_nidus</i>	64.81
cpssu	Bryophyta	<i>Atrichum_angustatum</i>	62.81
cpssu	Angiosperms	<i>Austrobaileya_scande</i>	64.29
cpssu	Monilophyta	<i>Azolla_sp</i>	67.57
cpssu	Marchantiophyta	<i>Bazzania_trilobata</i>	58.00
cpssu	Marchantiophyta	<i>Blasia_pusilla</i>	58.09
cpssu	Monilophyta	<i>Blechnum_gibbum</i>	66.26
cpssu	Monilophyta	<i>Botrychium_biternatu</i>	65.94
cpssu	Bryophyta	<i>Buxbaumia_aphylla</i>	62.66
cpssu	Angiosperms	<i>Buxus_sempervirens</i>	65.04
cpssu	Angiosperms	<i>Cabomba_sp</i>	64.74
cpssu	Gymnosperms	<i>Cedrus_deodara</i>	64.58
cpssu	Angiosperms	<i>Ceratophyllum_demers</i>	64.26
cpssu	Monilophyta	<i>Ceratopteris_sp</i>	64.28
cpssu	Charophyta	<i>Chara_corallina</i>	58.42
cpssu	Charophyta	<i>Chara_sp</i>	58.49
cpssu	Charophyta	<i>Chara_vulgaris</i>	58.67
cpssu	Klebsormidiophyta	<i>Chlorokybus_atmophyt</i>	61.42
cpssu	Monilophyta	<i>Cibotium_glaucum</i>	66.48
cpssu	Angiosperms	<i>Citrus_sinensis</i>	65.42
cpssu	Coleochaetophyta	<i>Coleochaete_nitellar</i>	59.05
cpssu	Coleochaetophyta	<i>Coleochaete_orbicula</i>	59.53
cpssu	Coleochaetophyta	<i>Coleochaete_scutata</i>	59.11
cpssu	Gymnosperms	<i>Cycas_taitungensis</i>	65.18
cpssu	Monilophyta	<i>Davallia_fejeensis</i>	65.17

cpssu	Angiosperms	<i>Dicentra_sp2</i>	64.67
cpssu	Bryophyta	<i>Dicranum_scoparium</i>	61.91
cpssu	Angiosperms	<i>Dioscorea_elephantip</i>	63.83
cpssu	Lycopodiophyta	<i>Diphasiastrum_digita</i>	63.95
cpssu	Bryophyta	<i>Diphyscium_foliosum</i>	62.65
cpssu	Angiosperms	<i>Drimys_granadensis</i>	64.39
cpssu	Monilophyta	<i>Dryopteris_wallichia</i>	66.14
cpssu	Klebsormidiophyta	<i>Entransia_fimbriata</i>	57.28
cpssu	Monilophyta	<i>Equisetum_arvense</i>	65.79
cpssu	Monilophyta	<i>Equisetum_hyemale</i>	65.79
cpssu	Bryophyta	<i>Fissidens_dubius</i>	62.15
cpssu	Marchantiophyta	<i>Frullania_dilatata</i>	58.16
cpssu	Gymnosperms	<i>Ginkgo_biloba</i>	65.24
cpssu	Angiosperms	<i>Glechoma_hederacea</i>	65.84
cpssu	Gymnosperms	<i>Gnetum_parvifolium</i>	59.59
cpssu	Lycopodiophyta	<i>Huperzia_lucidula</i>	63.77
cpssu	Bryophyta	<i>Hypnum_imponens</i>	61.73
cpssu	Lycopodiophyta	<i>Isoetes_flaccida</i>	66.66
cpssu	Angiosperms	<i>Lactuca_sativa</i>	63.86
cpssu	Marchantiophyta	<i>Leiomylia_anomala</i>	56.65
cpssu	Marchantiophyta	<i>Lepidogyna_hodgsonia</i>	59.67
cpssu	Angiosperms	<i>Liriodendron_tulipif</i>	64.42
cpssu	Marchantiophyta	<i>Lophozia_gillmani</i>	56.64
cpssu	Marchantiophyta	<i>Marchantia_polymorph</i>	58.25
cpssu	Marchantiophyta	<i>Marsupella_emarginat</i>	57.99
cpssu	Angiosperms	<i>Medicago_truncatula</i>	61.88
cpssu	Mesostigmatophyta	<i>Mesostigma_viride</i>	58.81
cpssu	Zygnematophyta	<i>Mesotaenium_caldario</i>	53.68
cpssu	Angiosperms	<i>Myristica_yunnanensi</i>	63.95
cpssu	Angiosperms	<i>Nandina_domestica</i>	64.96
cpssu	Angiosperms	<i>Nelumbo_nucifera</i>	64.95
cpssu	Marchantiophyta	<i>Nowellia_cuviofolia</i>	57.12
cpssu	Marchantiophyta	<i>Odontoschisma_denuda</i>	57.53
cpssu	Angiosperms	<i>Oenothera_bienni</i>	65.24
cpssu	Angiosperms	<i>Panax_ginseng</i>	65.17
cpssu	Marchantiophyta	<i>Pellia_epiphylla</i>	59.43
cpssu	Anthocerotophyta	<i>Phaeoceros_laevis</i>	63.81
cpssu	Angiosperms	<i>Phoenix_dactylifera</i>	64.82
cpssu	Bryophyta	<i>Physcomitrella_paten</i>	62.69
cpssu	Gymnosperms	<i>Pinus_pinaster</i>	64.03
cpssu	Angiosperms	<i>Piper_nigrum</i>	64.39
cpssu	Marchantiophyta	<i>Plagiochila_porelloi</i>	58.32
cpssu	Gymnosperms	<i>Podocarpus_macrophyll</i>	59.70
cpssu	Bryophyta	<i>Polytrichum_commune</i>	63.46
cpssu	Marchantiophyta	<i>Ptilidium_pulcherrim</i>	60.56
cpssu	Marchantiophyta	<i>Radula_complanata</i>	56.90
cpssu	Marchantiophyta	<i>Reboulia_hemisphaeri</i>	58.52
cpssu	Marchantiophyta	<i>Riccia_sorocarpa</i>	59.00
cpssu	Marchantiophyta	<i>Ricciocarpos_natans</i>	59.14
cpssu	Marchantiophyta	<i>Scapania_nemorea</i>	58.50
cpssu	Angiosperms	<i>Schisandra_sphenanth</i>	64.17
cpssu	Lycopodiophyta	<i>Selaginella_uncinata</i>	68.86
cpssu	Angiosperms	<i>Silene_latifolia</i>	64.93
cpssu	Marchantiophyta	<i>Solenostoma_hyalinum</i>	57.80
cpssu	Angiosperms	<i>Spathiphyllum_wallis</i>	63.61
cpssu	Bryophyta	<i>Sphagnum_capillifoli</i>	65.79

cpssu	Bryophyta	<i>Sphagnum_palustre</i>	65.40
cpssu	Zygnematophyta	<i>Spirogyra_maxima</i>	55.77
cpssu	Gymnosperms	<i>Stangeria_eriopus</i>	65.18
cpssu	Marchantiophyta	<i>Symphyogyna_circinat</i>	60.74
cpssu	Marchantiophyta	<i>Targionia_hypophylla</i>	58.99
cpssu	Gymnosperms	<i>Taxus_cuspidata</i>	55.43
cpssu	Bryophyta	<i>Tetraphis_pellucida</i>	63.23
cpssu	Angiosperms	<i>Tofieldia_calyculata</i>	64.42
cpssu	Gymnosperms	<i>Welwitschia_mirabili</i>	60.13
cpssu	Gymnosperms	<i>Zamia_integrifolia</i>	64.23
cpssu	Gymnosperms	<i>Araucaria_araucana</i>	61.32
cpssu	Angiosperms	<i>Platanus_occidentali</i>	63.73
cplsu	Gymnosperms	<i>Abies_homolepis</i>	59.84
cplsu	Zygnematophyta	<i>Actinotaenium_crucif</i>	58.32
cplsu	Monilophyta	<i>Alsophila_spinulosa</i>	59.02
cplsu	Angiosperms	<i>Amborella_trichopoda</i>	60.76
cplsu	Monilophyta	<i>Anemia_phyllitidis</i>	59.13
cplsu	Marchantiophyta	<i>Aneura_mirabilis</i>	57.71
cplsu	Monilophyta	<i>Angiopteris_evecta</i>	58.00
cplsu	Anthocerotophyta	<i>Anthoceros_formosae</i>	57.14
cplsu	Monilophyta	<i>Asplenium_nidus</i>	58.91
cplsu	Bryophyta	<i>Atrichum_angustatum</i>	56.65
cplsu	Angiosperms	<i>Austrobaileya_scande</i>	60.80
cplsu	Monilophyta	<i>Azolla_sp</i>	59.59
cplsu	Zygnematophyta	<i>Bambusina_borreri</i>	56.43
cplsu	Marchantiophyta	<i>Bazzania_trilobata</i>	56.44
cplsu	Marchantiophyta	<i>Blasia_pusilla</i>	55.46
cplsu	Monilophyta	<i>Blechnum_gibbum</i>	60.18
cplsu	Monilophyta	<i>Botrychium_dissectum</i>	59.47
cplsu	Angiosperms	<i>Brachypodium_distach</i>	60.24
cplsu	Bryophyta	<i>Buxbaumia_aphylla</i>	55.31
cplsu	Angiosperms	<i>Buxus_sempervirens</i>	60.91
cplsu	Angiosperms	<i>Cabomba_sp</i>	60.84
cplsu	Gymnosperms	<i>Cedrus_deodara</i>	59.83
cplsu	Angiosperms	<i>Ceratophyllum_demers</i>	61.44
cplsu	Coleochaetophyta	<i>Chaetosphaeridium_gl</i>	54.82
cplsu	Charophyta	<i>Chara_contraria</i>	53.28
cplsu	Charophyta	<i>Chara_corallina</i>	52.99
cplsu	Charophyta	<i>Chara_vulgaris</i>	53.28
cplsu	Monilophyta	<i>Cibotium_sp</i>	58.53
cplsu	Angiosperms	<i>Citrus_sinensis</i>	60.89
cplsu	Coleochaetophyta	<i>Coleochaete_nitellar</i>	47.74
cplsu	Coleochaetophyta	<i>Coleochaete_orbicula</i>	47.84
cplsu	Marchantiophyta	<i>Conocephalum_conicum</i>	55.53
cplsu	Angiosperms	<i>Conopholis_americana</i>	56.63
cplsu	Zygnematophyta	<i>Cosmarium_botrytis</i>	56.63
cplsu	Zygnematophyta	<i>Cosmarium_sinostegos</i>	57.70
cplsu	Gymnosperms	<i>Cycas_taitungensis</i>	60.26
cplsu	Zygnematophyta	<i>Cylindrocystis_brebi</i>	49.27
cplsu	Monilophyta	<i>Danaea_elliptica</i>	57.61
cplsu	Monilophyta	<i>Davallia_fejeensis</i>	60.45
cplsu	Anthocerotophyta	<i>Dendroceros_granulat</i>	57.49
cplsu	Bryophyta	<i>Dicranum_scoparium</i>	56.24
cplsu	Angiosperms	<i>Dioscorea_alata</i>	60.99
cplsu	Bryophyta	<i>Diphyscium_foliosum</i>	56.31
cplsu	Monilophyta	<i>Dryopteris_wallichia</i>	58.64

cplsu	Klebsormidiophyta	<i>Entransia_fimbriata</i>	53.14
cplsu	Gymnosperms	<i>Ephedra_equisetina</i>	56.79
cplsu	Monilophyta	<i>Equisetum_arvense</i>	57.90
cplsu	Monilophyta	<i>Equisetum_hyemale</i>	58.17
cplsu	Bryophyta	<i>Fissidens_dubius</i>	55.30
cplsu	Marchantiophyta	<i>Frullania_dilatata</i>	56.00
cplsu	Gymnosperms	<i>Ginkgo_biloba</i>	59.99
cplsu	Zygnematophyta	<i>Gonatozygon_brebisso</i>	53.37
cplsu	Bryophyta	<i>Hypnum_imponens</i>	55.76
cplsu	Lycopodiophyta	<i>Isoetes_flaccida</i>	60.79
cplsu	Angiosperms	<i>Lactuca_sativa</i>	60.22
cplsu	Marchantiophyta	<i>Leiomylia_anomala</i>	56.11
cplsu	Marchantiophyta	<i>Lejeunea_cavifolia</i>	54.95
cplsu	Angiosperms	<i>Liriodendron_tulipif</i>	60.94
cplsu	Marchantiophyta	<i>Marchantia_polymorph</i>	55.41
cplsu	Marchantiophyta	<i>Marsupella_emarginat</i>	55.29
cplsu	Angiosperms	<i>Medicago_truncatula</i>	58.69
cplsu	Anthocerotophyta	<i>Megaceros_tosanus</i>	58.18
cplsu	Mesostigmatophyta	<i>Mesostigma_viride</i>	55.79
cplsu	Zygnematophyta	<i>Mesotaenium_braunii</i>	60.36
cplsu	Marchantiophyta	<i>Metzgeria_conjugata</i>	56.32
cplsu	Zygnematophyta	<i>Micrasterias_thomasi</i>	58.31
cplsu	Charophyta	<i>Nitella_sp</i>	51.90
cplsu	Anthocerotophyta	<i>Notothylas_breutelii</i>	57.87
cplsu	Angiosperms	<i>Oenothera_biennis</i>	60.85
cplsu	Angiosperms	<i>Panax_ginseng</i>	60.92
cplsu	Marchantiophyta	<i>Pellia_neesiana</i>	57.91
cplsu	Anthocerotophyta	<i>Phaeoceros_carolinia</i>	57.76
cplsu	Angiosperms	<i>Phoenix_dactylifera</i>	60.46
cplsu	Gymnosperms	<i>Pinus_koraiensis</i>	59.37
cplsu	Angiosperms	<i>Piper_betle</i>	60.79
cplsu	Marchantiophyta	<i>Plagiochila_porelloi</i>	55.65
cplsu	Angiosperms	<i>Platanus_occidentali</i>	61.06
cplsu	Gymnosperms	<i>Podocarpus_macrophyll</i>	57.22
cplsu	Bryophyta	<i>Polytrichum_juniperi</i>	56.36
cplsu	Marchantiophyta	<i>Reboulia_hemisphaeri</i>	55.56
cplsu	Marchantiophyta	<i>Riccia_sorocarpa</i>	55.64
cplsu	Marchantiophyta	<i>Ricciocarpos_natans</i>	56.06
cplsu	Angiosperms	<i>Ricinus_communis</i>	56.97
cplsu	Marchantiophyta	<i>Scapania_nemorea</i>	55.59
cplsu	Lycopodiophyta	<i>Selaginella_moellend</i>	61.77
cplsu	Lycopodiophyta	<i>Selaginella_uncinata</i>	62.92
cplsu	Marchantiophyta	<i>Sphaerocarpos_donnell</i>	55.34
cplsu	Bryophyta	<i>Sphagnum_palustre</i>	58.60
cplsu	Bryophyta	<i>Sphagnum_rubellum</i>	58.46
cplsu	Angiosperms	<i>Spinacia_oleracea</i>	59.63
cplsu	Gymnosperms	<i>Stangeria_eriopus</i>	60.02
cplsu	Zygnematophyta	<i>Staurostrum_lunatum</i>	59.29
cplsu	Zygnematophyta	<i>Staurodesmus_converg</i>	58.45
cplsu	Bryophyta	<i>Takakia_lepidozioide</i>	58.84
cplsu	Bryophyta	<i>Tetraphis_pellucida</i>	57.31
cplsu	Angiosperms	<i>Tofieldia_calyculata</i>	60.86
cplsu	Angiosperms	<i>Yucca_schidigera</i>	60.39
cplsu	Angiosperms	<i>Zea_mays</i>	59.75
cplsu	Klebsormidiophyta	<i>Chlorokybus_atmophyt</i>	56.38
cplsu	Klebsormidiophyta	<i>Klebsormidium_flacci</i>	60.60

Figure S1. Linear regression (1.dashed lines), Phylogenetic Generalized Least Squares (PGLS) method (1. continuous lines) and “crunch” method (2) for the relationships between genomic variables, with all species (black), excluding the species of Chlorophyta (red) and excluding the species of Streptophyta (green): (A) The effect of the log transformed number of repeated sequences (NRS), on non-coding genome (%NC); (B) Effect of %NC on log transformed Genome length (GL); (C) Effect of log(NRS) on GC content (%GC); (D) Effect of %NC on %GC; (E) Effect of the number of protein-coding genes (NPG) on the log(GL).

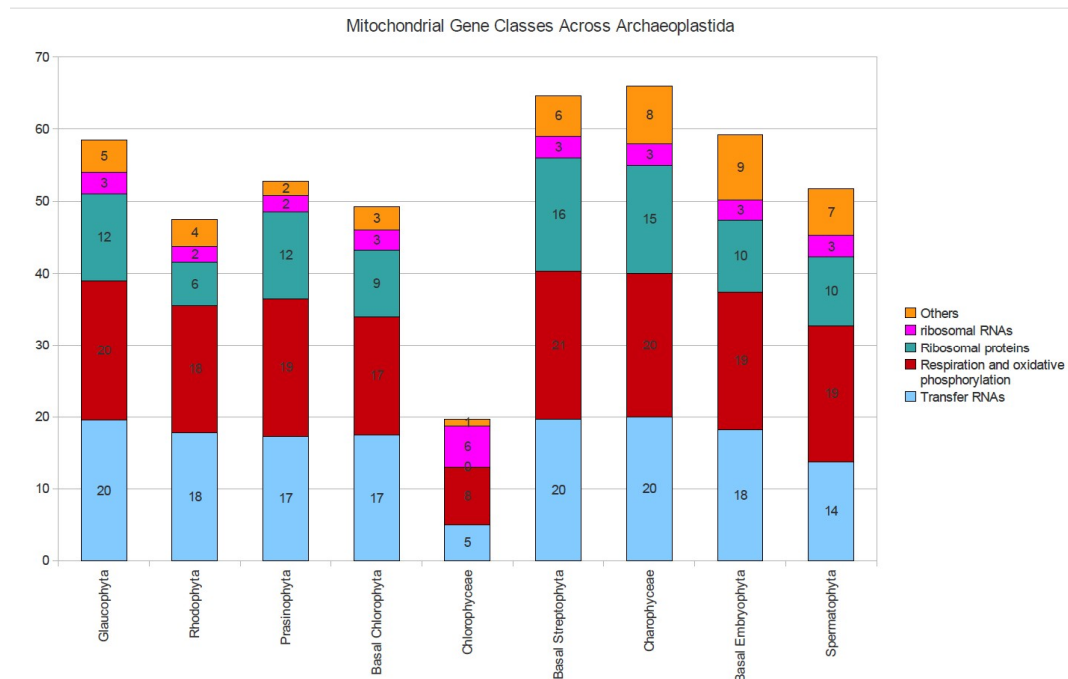
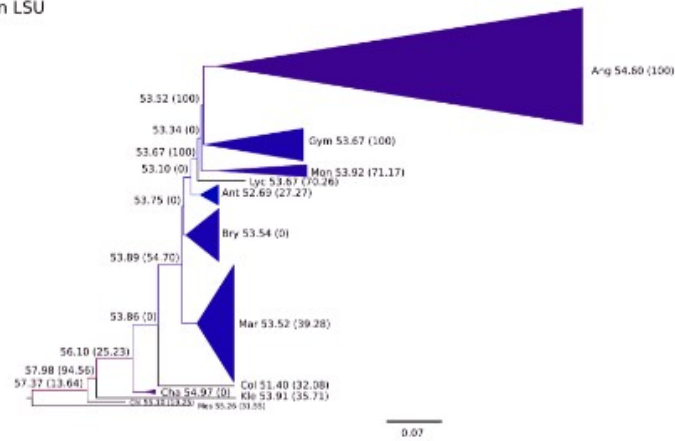


Figure S2. Mitochondrial gene classes across Archaeplastida. Average gene number for each function in each clade.

Mitochondrion LSU



Chloroplast LSU

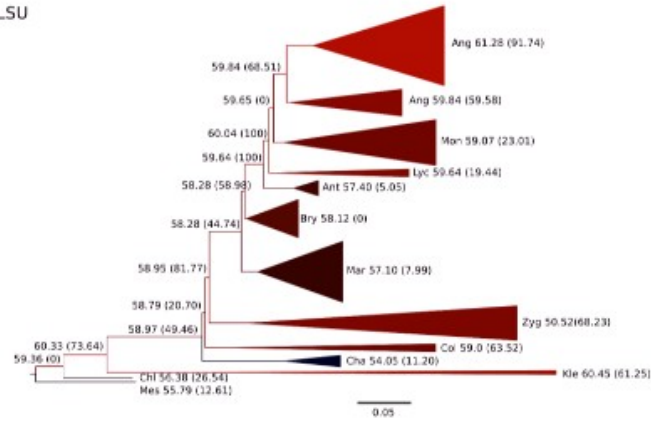


Figure S3. Evolution of GC content and GC* across the phylogeny of Streptophyta: A) Mitochondrial ribosomal LSU; B) Plastidial ribosomal LSU. Values correspond to ancestral GC content at nodes, or GC* (equilibrium GC content) in parentheses. Colors in terminal branches represent average GC content (blue: lowest GC content; red: highest GC content). The color scale is relative to the data set in each tree and is not directly comparable between them. List of species and GC content at terminal branches of each ribosomal subunit is available in Supplementary Table S3.