

**Supplementary Table S1.** Genome size data for 185 *Brassicaceae* species.

Genome size data for 185 species of *Brassicaceae* either estimated for the present work or taken from the literature. Chromosome counts taken from the literature are marked by an asterisk. Source of genome size data are indicated by capital letters (A-X) in the table.

Supplementary material 01

Genus	Species	Authority	Intraspecific taxon	Synonym	Tribe	2n	1C DNA amount (pg)	Source	Taxa used in analysis of GS evolution
<i>Aethionema</i>	<i>grandiflorum</i>	Boiss. & Hohen.			Aethionemeae	24*	0.71	A	x
<i>Aethionema</i>	<i>schistosum</i>	Boiss. & Kotschy			Aethionemeae	48	0.71	A	x
<i>Alliaria</i>	<i>petiolata</i>	(Bieb.) Cavara & Grande			Thlaspeidae	14*, 42*	1.90	K	x
<i>Alyssum</i>	<i>saxatile</i>	L.			Alysseae	16	0.65	A	
<i>Arabidopsis</i>	<i>arenosa</i>	(L.) Lawalrée			Camelineae	16	0.20	A	x
<i>Arabidopsis</i>	<i>arenosa</i>	(L.) Lawalrée			Camelineae	32	0.39	A	
<i>Arabidopsis</i>	<i>cebennensis</i>	(DC.) O'Kane & Al-Shehbaz			Camelineae	16	0.29	A	x
<i>Arabidopsis</i>	<i>halleri</i>	(L.) O'Kane & Al-Shehbaz			Camelineae	16	0.24	A	x
<i>Arabidopsis</i>	<i>lyrata</i>	(L.) O'Kane & Al-Shehbaz	ssp. <i>lyrata</i>		Camelineae	16	0.25	A	x
<i>Arabidopsis</i>	<i>lyrata</i>	(L.) O'Kane & Al-Shehbaz	ssp. <i>petraea</i>		Camelineae	32	0.45	D	x
<i>Arabidopsis</i>	<i>lyrata</i>	(L.) O'Kane & Al-Shehbaz	ssp. <i>kawasakiana</i>		Camelineae	32	0.55	D	x
<i>Arabidopsis</i>	<i>neglecta</i>	(Schult.) O'Kane & Al-Shehbaz			Camelineae	16	0.20	A	x
<i>Arabidopsis</i>	<i>neglecta</i>	(Schult.) O'Kane & Al-Shehbaz			Camelineae	32	0.40	A	
<i>Arabidopsis</i>	<i>suecica</i>	Norrh.			Camelineae	26	0.35	A	
<i>Arabidopsis</i>	<i>thaliana</i>	(L.) Heynh.	Columbia		Camelineae	10	0.16	U	x
<i>Arabis</i>	<i>alpina</i>	L.			Arabideae	16	0.38	A	x
<i>Arabis</i>	<i>cenisia</i>	Reut.			Arabideae	16	0.31	A	
<i>Arabis</i>	<i>hirsuta</i>	(L.) Scop.			Arabideae	32	0.69	B	x
<i>Arabis</i>	<i>procurrens</i>	Waldst. & Kit.			Arabideae	16*, 32*	0.36	A	x
<i>Arabis</i>	<i>scopoliana</i>	Boiss.			Arabideae	?	1.46	A	
<i>Arabis</i>	<i>tibetica</i>	Hook.f. & Thomson			Arabideae	16	0.33	A	
<i>Armoracia</i>	<i>lapatifolia</i>	Gilib.			Cardamineae	32	1.30	M	
<i>Aubrieta</i>	<i>deltoidea</i>	(L.) DC.			Arabideae	16	0.42	A	x
<i>Berteroa</i>	<i>incana</i>	(L.) DC.			Alysseae	16	0.71	A	x
<i>Biscutella</i>	<i>auriculata</i>	L.			Currently unclear	16	0.69	A	x
<i>Biscutella</i>	<i>didyma</i>	L.			Currently unclear	16	0.79	G	x
<i>Biscutella</i>	<i>laevigata</i>	L.			Currently unclear	18	0.94		x
<i>Boechera</i>	<i>hoelbellii</i>	Hornem.			Boechereae	14*, 21*	0.24	A	x
<i>Boechera</i>	<i>stricta</i>	(Graham) Al-Shehbaz			Boechereae	14*, 21*	0.24	A	x
<i>Bornmuellera</i>	<i>typhaea</i>	Hauskn.			Currently unclear	16	1.09	H	
<i>Boreava</i>	<i>orientalis</i>	Jaub. & Spach			Isatideae	14	0.37	A	x
<i>Brassica</i>	<i>carinata</i>	L.			Brassiceae	34	1.31	B	
<i>Brassica</i>	<i>hirta</i>	Moench			Brassiceae	24	0.50	O	
<i>Brassica</i>	<i>juncea</i>	(L.) Czern.			Brassiceae	36	1.09	B	x
<i>Brassica</i>	<i>napus</i>	L.			Brassiceae	38	1.15	B	
<i>Brassica</i>	<i>nigra</i>	(L.) Koch			Brassiceae	16	0.65	B	x
<i>Brassica</i>	<i>oleracea</i>	L.			Brassiceae	18	0.71	B	x
<i>Brassica</i>	<i>rapa</i>	L.			Brassiceae	20	0.54	B	x
<i>Brassica</i>	<i>tournefortii</i>	Gouan			Brassiceae	20	0.60	R	

Genus	Species	Authority	Intraspecific taxon	Synonym	Tribe	2n	1C DNA amount (pg)	Source	Taxa used in analysis of GS evolution
<i>Bunias</i>	<i>erucago</i>	L.			Anchonieae	14	2.07	A	
<i>Bunias</i>	<i>orientalis</i>	L.			Anchonieae	14	2.43	A	x
<i>Cakile</i>	<i>maritima</i>	Scop.			Brassicaceae	18	0.68	A	x
<i>Calepina</i>	<i>irregularis</i>				Currently unclear	14	0.21	A	x
<i>Capsella</i>	<i>bursa-pastoris</i>	(L.) Medic.			Camelineae	32	0.40	A	x
<i>Capsella</i>	<i>rubella</i>	Reut.			Camelineae	16	0.22	A	x
<i>Cardamine</i>	<i>amara</i>	L.			Cardamineae	16	0.24	V	x
<i>Cardamine</i>	<i>asarifolia</i>	L.			Cardamineae	48	1.34	I	
<i>Cardamine</i>	<i>flexuosa</i>	With.			Cardamineae	32	0.90	N	x
<i>Cardamine</i>	<i>hirsuta</i>	L.			Cardamineae	16*	0.20	B	x
<i>Cardamine</i>	<i>impatiens</i>	L.			Cardamineae	16	0.21	B	
<i>Cardamine</i>	<i>pratensis</i>	L.			Cardamineae	?	1.70	X	x
<i>Carrichtera</i>	<i>annua</i>	(L.) DC.			Brassicaceae	16	0.67	A	x
<i>Caulanthus</i>	<i>amplexicaulis</i>	S. Watson	var. <i>barbarae</i>		Schizopetaleae	28	0.38	B	x
<i>Caulanthus</i>	<i>heterophyllus</i>	(Nutt.) Payson	var. <i>heterophyllus</i>		Schizopetaleae	28	0.70	B	x
<i>Caulanthus</i>	<i>heterophyllus</i>	(Nutt.) Payson	var. <i>pseudosimulans</i>		Schizopetaleae	28	0.69	B	x
<i>Cheiranthus</i>	<i>cheiri</i>	L.			Currently unclear	14	0.26	A	x
<i>Chorisporea</i>	<i>tenella</i>	(Pall.) DC.			Chorisporeae	14	0.35	A	x
<i>Christolea</i>	<i>crassifolia</i>	Cambess.			Currently unclear	14	1.41	A	
<i>Chrysochamela</i>	<i>velutina</i>	(DC.) Boiss.			Currently unclear	22*	0.35	A	x
<i>Cochlearia</i>	<i>danica</i>	L.			Cochlearieae	(33*), 42*	0.70	A	x
<i>Cochlearia</i>	<i>officinalis</i>	L.			Cochlearieae	32	0.75	A	
<i>Cochlearia</i>	<i>pyrenaica</i>	DC.			Cochlearieae	12	0.40	S	x
<i>Cochlearia</i>	<i>sempervivum</i>	Boiss. & Balansa			Nocceaeae	?	0.33	G	
<i>Conringia</i>	<i>planisiliqua</i>	Fisch. & C.A.Mey.			Brassicaceae	16	0.23	A	x
<i>Crambe</i>	<i>arborea</i>	Webb ex Christ	var. <i>indivisa</i>		Brassicaceae	30	0.93	C	
<i>Crambe</i>	<i>laevigata</i>	DC. Ex Christ			Brassicaceae	c. 30	0.95	C	
<i>Crambe</i>	<i>scaberrima</i>	Webb ex Bramw.			Brassicaceae	c. 30	0.92	C	
<i>Crambe</i>	<i>strigosa</i>	L.Her.			Brassicaceae	30	0.99	C	
<i>Crucihimalaya</i>	<i>himalaica</i>	(Edgeworth) Al-Shehbaz, O'Kane & R. A. Price			Camelineae	16	0.32	B	
<i>Crucihimalaya</i>	<i>mollissima</i>	(C.A. Mey.) Al-Shehbaz, O'Kane & R.A. Price			Camelineae	32	0.54	A	x
<i>Crucihimalaya</i>	<i>wallichii</i>	(Hook.f. & Thomson) Al-Shehbaz, O'Kane & R.A. Price			Camelineae	16	0.30	A	x
<i>Degenia</i>	<i>velebitica</i>	(Degen) Hayek			Alysseae	16	1.27	A	x
<i>Descurainia</i>	<i>bourgeauana</i>	(Fourn.) O.E.Schulz			Descurainieae	14	0.20	A	x
<i>Descurainia</i>	<i>gilva</i>	Svent.			Descurainieae	14	0.22	A	x
<i>Descurainia</i>	<i>gonzalesii</i>	Svent.			Descurainieae	14	0.23	C	
<i>Descurainia</i>	<i>lemsii</i>	Bramw.			Descurainieae	14	0.22	C	
<i>Descurainia</i>	<i>millefolia</i>	(Jacq.) Webb & Berth.			Descurainieae	14	0.22	C	
<i>Desideria</i>	<i>linearis</i>	(N. Busch) Al-Shehbaz		<i>Desideria incana</i>	Euclidieae	14	1.38	A	x
<i>Diplotaxis</i>	<i>erucoides</i>	(L.) DC.			Brassicaceae	14	0.51	A	x

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<i>Diplotaxis</i>	<i>siifolia</i>	Kunze			Brassicaceae	20	0.56	A	x
<i>Draba</i>	<i>altaica</i>	(C.A.Mey.) Bunge			Arabideae	18	0.31	A	
<i>Draba</i>	<i>doerfleri</i>	Wettst.		<i>Schivereckia podolica</i>	Arabideae	16	0.52	A	x
<i>Draba</i>	<i>fladnizensis</i>	Wulfen			Arabideae	16	0.29	F	
<i>Draba</i>	<i>glomerata</i>	Royle			Arabideae	?	0.40	A	x
<i>Draba</i>	<i>lactea</i>	Adams			Arabideae	32	0.58	F	
<i>Draba</i>	<i>lactea</i>	Adams			Arabideae	48	0.96	F	
<i>Draba</i>	<i>lanceolata</i>	Royle			Arabideae	32*	0.65	A	x
<i>Draba</i>	<i>lonchocarpa</i>	Rydb.			Arabideae	16	0.31	F	x
<i>Draba</i>	<i>nemorosa</i>	L.			Arabideae	16	0.24	B	x
<i>Draba</i>	<i>nivalis</i>	Nilj.			Arabideae	16	0.29	F	x
<i>Draba</i>	<i>palanderiana</i>	Kjellm.			Arabideae	16	0.29	F	
<i>Draba</i>	<i>subcapitata</i>	Simmons			Arabideae	16	0.25	F	
<i>Draba</i>	<i>verna</i>	Besser		<i>Erophila verna</i>	Arabideae	34*,36*,52*	0.40	A	x
<i>Eruca</i>	<i>sativa</i>	Mill.			Brassicaceae	22	0.67	A	x
<i>Erysimum</i>	<i>bicolor</i>	(Hornem.) DC.			Camelineae	28	0.58	C	
<i>Erysimum</i>	<i>bicolor</i>	(Hornem.) DC.			Camelineae	42	0.76	A	
<i>Erysimum</i>	<i>cheiranthoides</i>	L.			Camelineae	46-48	0.83	A	
<i>Erysimum</i>	<i>scoparium</i>	(Brouss. Ex Willd.) Wettst.			Camelineae	28	0.54	C	x
<i>Euclidium</i>	<i>syriacum</i>	(L.) R.Br.			Euclidieae	14	0.27	A	x
<i>Fibigia</i>	<i>clypeata</i>	Medik.			Alysseae	16	1.25	A	x
<i>Fibigia</i>	<i>eriocarpa</i>	Boiss.			Alysseae	16	1.29	A	
<i>Guillenia</i>	<i>lasiophylla</i>	(Hook. & Arn.) Greene			Schizopetaleae	28	0.38	B	x
<i>Hedinia</i>	<i>tibetica</i>	(Thomson) Ostenf.		<i>Smelowskia tibetica</i>	Smelowskieae	24	0.46	A	x
<i>Heliophila</i>	<i>amplexicaulis</i>	L.f.			Heliophileae	20-22	0.38	A	
<i>Heliophila</i>	<i>coronopifolia</i>	L.			Heliophileae	20	0.43	A	x
<i>Hirschfeldia</i>	<i>incana</i>	(L.) Lagr.-Fossat			Brassicaceae	16	0.52	A	x
<i>Homungia</i>	<i>petraea</i>	Rchb.			Descurainieae	12	0.17	A	x
<i>Homungia</i>	<i>procumbens</i>	(L.) Hayek			Descurainieae	12*	0.21	A	x
<i>Iberis</i>	<i>gibraltarica</i>	L.		<i>Iberis amara</i>	Iberideae	14	0.57	A	x
<i>Iberis</i>	<i>sempervirens</i>	L.			Iberideae	22*	0.56	A	
<i>Ionopsidium</i>	<i>savianum</i>	(Caruel) Ball ex Arcang.		<i>Ionopsidium acaule</i> , <i>I. nrolonni</i> <i>I. abulense</i>	Cochlearieae	32	1.40	R	x
<i>Isatis</i>	<i>tinctoria</i>	L.			Isatideae	28	0.58	A	x
<i>Kerneria</i>	<i>saxatilis</i>	(L.) Reichb.			Currently unclear	16*	0.20	A	x
<i>Lepidium</i>	<i>apetalum</i>	Willd.			Lepideae	32*	0.37	A	
<i>Lepidium</i>	<i>latifolium</i>	L.			Lepideae	40	1.04	A	
<i>Lepidium</i>	<i>sativum</i>	L.			Lepideae	24	0.58	B	x
<i>Lepidium</i>	<i>virginicum</i>	L.			Lepideae	32	0.33	B	x
<i>Lobularia</i>	<i>canariensis</i>	(Webb) Borgen	<i>ssp. palmensis</i>		Alysseae	22	0.56	C	
<i>Lobularia</i>	<i>libyaca</i>	Meisn.			Alysseae	22	0.53	A	x

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<i>Lunaria</i>	<i>biennis</i>	Moench		<i>Lunaria annua</i>	Currently unclear		1.85	W	
<i>Malcolmia</i>	<i>africana</i>	(L.) R.Br.			Euclidieae	28	0.40	A	
<i>Malcolmia</i>	<i>flexuosa</i>	Sibth. & Sm.			Euclidieae	16	0.26	A	
<i>Malcolmia</i>	<i>nana</i>	(DC.) Boiss.			Euclidieae	26	0.23	A	
<i>Matthiola</i>	<i>chorassanica</i>	Bunge			Anchonieae	12	1.72	A	x
<i>Matthiola</i>	<i>fruticulosa</i>	Maire			Anchonieae	12	1.60	A	
<i>Matthiola</i>	<i>incana</i>	(L.) R.Br.			Anchonieae	14	2.11	A	x
<i>Matthiola</i>	<i>maderensis</i>	Lowe			Anchonieae	14	2.29	A	x
<i>Matthiola</i>	<i>sinuata</i>	R.Br.			Anchonieae	14	2.25	A	
<i>Microthlaspi</i>	<i>perfoliatum</i>	(L.) F.K. Meyer		<i>Thlaspi perfoliatum</i>	Noccaeeae	14	0.31	H	x
<i>Moricandia</i>	<i>arvensis</i>	(L.) DC.			Brassicaceae	28	0.65	A	x
<i>Myagrum</i>	<i>perfoliatum</i>	L.			Isatideae	14	0.29	A	
<i>Nasturtium</i>	<i>officinale</i>	W.T. Aiton			Cardamineae	32*	0.70	P	x
<i>Neotorularia</i>	<i>humilis</i>	(C.A. Mey.) Hedge & J. Léonard		<i>Braya humilis</i>	Euclidieae	28*, 42*, 56*	1.05	A	x
<i>Neslia</i>	<i>paniculata</i>	(L.) Desv.			Camelineae	14	0.20	A	x
<i>Noccaea</i>	<i>alpestris</i>	(Jacq.) Kuerquelen		<i>Thlaspi alpestre</i>	Noccaeeae	14	0.24	A	
<i>Noccaea</i>	<i>montanum</i>	L.	var. <i>montanum</i>	<i>Thlaspi montanum</i>	Noccaeeae	14	0.30	H	x
<i>Noccaea</i>	<i>tymphaea</i>	(Hauskn.) F.K. Meyer		<i>Thlaspi tymphaeum</i>	Noccaeeae	14	0.32	H	
<i>Noccaea</i>	<i>tymphaea</i>	(Hauskn.) F.K. Meyer		<i>Thlaspi tymphaeum</i>	Noccaeeae	28	0.66	H	
<i>Olimarabidopsis</i>	<i>cabulica</i>	(Hook.f. & Thomson) Al-Shehbaz, O'Kane & R.A. Price			Camelineae	48*	0.53	A	x
<i>Olimarabidopsis</i>	<i>korshinskii</i>			<i>Arabidopsis korshynskyi</i>	Camelineae	-	0.25	T	x
<i>Olimarabidopsis</i>	<i>pumila</i>	(Stephan) Al-Shehbaz, O'Kane & R.A. Price			Camelineae	32	0.35	A	
<i>Pachycladon</i>	<i>exilis</i>	(Heenan) Heenan & A.D. Mitch.			Camelineae	20	0.44	A	
<i>Pachycladon</i>	<i>fastigiata</i>	(Hook.f.) Heenan & A.D. Mitch.			Camelineae	20	0.51	A	x
<i>Pachycladon</i>	<i>novae-zelandiae</i>	(Hook.f.) Hook.f.			Camelineae	20	0.55	A	
<i>Parrya</i>	<i>nudicaulis</i>	(L.) Regel			Anchonieae	14	1.08	A	x
<i>Peltaria</i>	<i>emarginata</i>	(Boiss.) Hauskn.			Thlaspidiae	14	0.96	A	
<i>Peltaria</i>	<i>alliacea</i>	Jacq.			Thlaspidiae	14*	0.31	A	x
<i>Physaria</i>	<i>arctica</i>	(Wormsk. ex Hornem) S.Watson		<i>Lesquerella arctica</i>	Physarieae	16	0.69	A	
<i>Physaria</i>	<i>bellii</i>	G.A. Mulligan			Physarieae	8	2.34	A	
<i>Physaria</i>	<i>didymocarpa</i>	(Hook.) A.Gray			Physarieae	56	2.23	A	x
<i>Physaria</i>	<i>gracilis</i>	(Hook.) O'Kane & Al-Shehbaz			Physarieae	12	0.26	A	
<i>Physaria</i>	<i>ovalifolia</i>	(Rydb.) O'Kane & Al-Shehbaz			Physarieae	12	0.43	A	
<i>Pritzelago</i>	<i>alpina</i>	(L.) Kuntze			Descurainieae	12	0.19	A	x
<i>Pseudosempervivum</i>	<i>aucheri</i>	(Boiss.) Pobed.		<i>Cochlearia aucheri</i>	Noccaeeae	?	0.30	G	x
<i>Pseudoturritis</i>	<i>turrita</i>	(L.) Al-Shehbaz		<i>Arabis turrita</i>	Arabideae	16	0.38	A	x
<i>Psychine</i>	<i>stylosa</i>	Desf.			Brassicaceae	30	0.51	A	x
<i>Ptilotrichum</i>	<i>canescens</i>	(DC.) C.A. Mey.		<i>Alyssum canescens</i>	Alysseae	?	2.26	A	x
<i>Ptilotrichum</i>	<i>spinosum</i>	Boiss.		<i>Hormatophylla spinosa</i>	Arabideae	32	0.63	A	
<i>Raphanus</i>	<i>sativus</i>	L.			Brassicaceae	18	0.53	A	x

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<i>Rorippa</i>	<i>palustris</i>	(L.) Besser			Cardamineae	32	0.54	A	x
<i>Sinapidendron</i>	<i>frutescens</i>	Lowe			Brassicaceae	20	0.56	A	x
<i>Sinapis</i>	<i>alba</i>	L.			Brassicaceae	24	0.57	B	x
<i>Sinapis</i>	<i>arvensis</i>	L.			Brassicaceae	18	0.40	O	x
<i>Sisymbrella</i>	<i>dentata</i>	(L.) O.E. Schulz			Currently unclear	32	0.36	A	
<i>Sisymbrium</i>	<i>austriacum</i>	Jacq.			Sisymbrieae	14	0.36	A	x
<i>Sisymbrium</i>	<i>irio</i>	L.			Sisymbrieae	28	0.53	B	x
<i>Sisymbrium</i>	<i>officinale</i>	L.			Sisymbrieae	14	0.24	A	x
<i>Sphaerocardamum</i>	<i>compressum</i>	(Rollins) Rollins			Halimolobodeae	16	0.18	J	x
<i>Sphaerocardamum</i>	<i>divaricatum</i>	(Rollins) Rollins			Halimolobodeae	16	0.17	J	x
<i>Sphaerocardamum</i>	<i>fruticulosum</i>	(Rollins) Rollins			Halimolobodeae	16	0.16	J	x
<i>Sphaerocardamum</i>	<i>macropetalum</i>	(Rollins) Rollins			Halimolobodeae	16	0.18	J	x
<i>Sphaerocardamum</i>	<i>macrum</i>	(Standl.) Rollins			Halimolobodeae	16	0.16	J	x
<i>Sphaerocardamum</i>	<i>nesliiforme</i>	S. Schauer			Halimolobodeae	16	0.16	J	x
<i>Sphaerocardamum</i>	<i>ramosum</i>	Rollins			Halimolobodeae	16	0.17	J	x
<i>Sphaerocardamum</i>	<i>stellatum</i>	(S. Watson) Rollins			Halimolobodeae	16	0.15	J	x
<i>Streptanthus</i>	<i>polygaloides</i>	A.Gray			Schizopetaleae	28	0.69	H	
<i>Syrenia</i>	<i>cuspidata</i>	(M. Bieb.) Rchb.			Currently unclear	?	0.42	A	x
<i>Tauscheria</i>	<i>lasiocarpa</i>	Fisch. ex DC.			Isatideae	14	0.32	A	x
<i>Teesdalia</i>	<i>nudicaulis</i>	(L.) R.Br.			Iberideae	36	0.61	A	x
<i>Tetracme</i>	<i>pamirica</i>	Vass.		<i>Tetracme quadricornis</i>	Euclidieae	28*	1.69	A	x
<i>Thellungiella</i>	<i>sp.</i>				Eutremeae	14	0.32	A	
<i>Thlaspi</i>	<i>arvense</i>	L.			Thlaspideae	14	0.52	A	x
<i>Thlaspi</i>	<i>caerulescens</i>	J. Presl & C. Presl			Noccaeae	14	0.34	G	
<i>Thlaspi</i>	<i>ceratocarpum</i>	(Pall.) Murray			Thlaspideae	14	0.43	A	
<i>Thlaspi</i>	<i>goesingense</i>	Halácsy			Noccaeae	56	1.00	G	
<i>Thlaspi</i>	<i>oxyceras</i>	(Boiss.) Hedge			Currently unclear	?	0.33	G	
<i>Thlaspi</i>	<i>rosulare</i>	Boiss. & Balansa			Currently unclear	?	0.32	G	
<i>Thlaspi</i>	<i>violascens</i>	Schott & Kotschy			Noccaeae	?	0.31	G	
<i>Turritis</i>	<i>glabra</i>	(L.) Bernh.		<i>Arabis glabra</i>	Camelineae	12	0.24	A	x
<i>Vella</i>	<i>spinosa</i>	Boiss.			Brassicaceae	34	0.85	A	x

Source of genome size data used in the analysis:

- A. This paper
- B. **Johnston JS, Pepper AE, Hall AE, Chen ZJ, Hodnett G, Drabek J, Lopez R, Price HJ. 2005.** Evolution of genome size in Brassicaceae. *Annals of Botany* **95**: 229-235.
- C. **Suda J, Kyncl T, Freiova R. 2003.** Nuclear DNA amounts in Macaronesian angiosperms. *Annals of Botany* **92**: 153-164.
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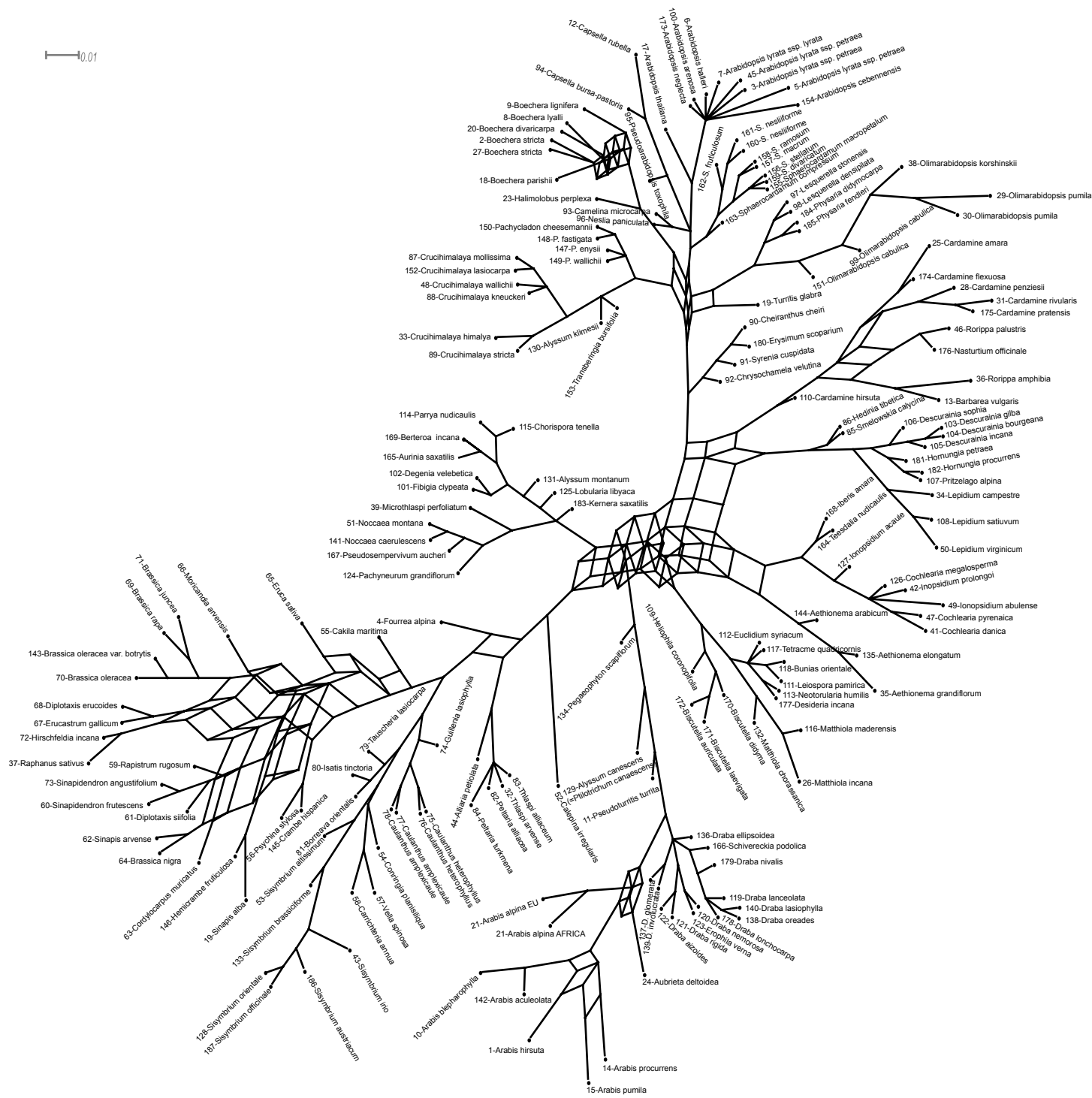
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**Supplementary Figure S1.** SuperNetwork of relationships in *Brassicaceae*

Five strict consensus trees (*adh*, *chs*, *matK*, *trnLF*, ITS; input file: supplementary table S3, Supplementary Material online) were used to calculate a SuperNetwork using the Z-closure option in Splitstree version 4beta26 with the following assumptions: splitstransform = EqualAngle; SplisPostProcess filter = dimension value = 4) (Huson and Bryant, 2006; for further details see Koch et al., 2007). The resulting SuperNetwork combines weighted splits from the single trees. Branch lengths were weighted using information from partial splits in the source trees. However, because bracket notations have been provided without branch length, each tree contributed equally to each branch length. To minimize conflicting phylogenetic signals we used the option COLLAPSE SPLITS. This final supertree has been redrawn and translated into bracket notation, which served as input format for the following steps (see supplementary fig. S2, Supplementary Material online). The arabic number followed by species names correspond to numbers given in supplementary table S3 (translated taxon labels).



**Supplementary Figure S2.** Tribal assignment of all species used in SuperNetwork analysis. Tribal affiliation of taxa under study using bracket notation after collapsing all splits (as seen in supplementary fig. S1, Supplementary Material online) according to Al-Shehbaz et al. (2006). Branch length is not correlated with genetic distances. Major evolutionary lineages (lineages I-III) as revealed by a plastid gene are indicated according to Beilstein et al. (2006). The groups 1-8 as defined in this study are indicated, too.

