

Supplemental TABLE 1. Origin, source and GenBank accession numbers of *Sedum* sequences and three outgroups used for phylogenetic analyses.

Taxon	Voucher	Accession numbers	References
<i>Sedum actinocarpum</i>	Ito 1749	LC229265	Ito et al. 2017b
	Ito 1732	LC229264	Ito et al. 2017b
<i>Sedum alfredi</i>	Kokubugata 17190	AB930259	Ito et al. 2014a
	WUK415208	FJ919953	Wang and Shu unpublished
<i>Sedum arisanense</i>	Ito 1836	LC229272	Ito et al. 2017b
	Ito 1842	LC229273	Ito et al. 2017b
<i>Sedum baileyi</i>	LBG0064555	FJ919935	Wang and Shu unpublished
<i>Sedum bergeri</i>	Ni et al.	AY352897	Ni et al. unpublished
<i>Sedum boninense</i>	Ito 2371	LC229242	Ito et al. 2017b
<i>Sedum brachyrinchum</i> var. <i>brachyrinchum</i>	Ito 1359	LC229274	Ito et al. 2017b
<i>Sedum bulbiferum</i>	Ito 416	LC229234	Ito et al. 2017b
	130524qz09	KM111165	Xie et al. 2014
<i>Sedum danjoense</i>	Ito 3658	LC260127	Ito et al. 2017b
<i>Sedum emarginatum</i>	130512hs27	KM111145	Xie et al. 2014
<i>Sedum erici-magnusii</i>	Ito 2077	LC229235	Ito et al. 2017b
<i>Sedum erythrospermum</i>	Tsutsumi 1504	AB906473	Ito et al. 2014b
<i>Sedum formosanum</i>	Kokubugata 11775	AB906474	Ito et al. 2014b
	Kokubugata 16768	AB930262	Ito et al. 2017a
	Kokubugata 16772	AB930263	Ito et al. 2017a
	Kokubugata 16712	AB930264	Ito et al. 2017a
	Kokubugata 15602	AB930265	Ito et al. 2017a
	Kokubugata 12224	AB930266	Ito et al. 2017a
	Kokubugata 10726	AB930267	Ito et al. 2017a
	Kokubugata 6132	AB930271	Ito et al. 2017a
	Ito 1921	LC229280	Ito et al. 2017a

<i>Sedum formosanum</i> subsp. <i>miyakojimense</i>	Ito 1115	LC530813	Ito et al. 2020
	Ito 1120	LC530814	Ito et al. 2020
<i>Sedum hakonense</i>	Mayuzumi C00005	AB088625	Mayuzumi and Ohba 2004
<i>Sedum hangzhouense</i>	Ito 2604	LC260130	Ito et al. 2017a
<i>Sedum japonicum</i>	Kokubugata 16749	AB906475	Ito et al. 2014b
<i>Sedum japonicum</i> ssp. <i>uniflorum</i>	Ito 447	LC229241	Ito et al. 2017b
<i>Sedum japonicum</i> var. <i>senanense</i>	Ito 2200	LC229238	Ito et al. 2017a
<i>Sedum japonicum</i> var. <i>oryzifolium</i>	Ito 2285	LC229239	Ito et al. 2017a
<i>Sedum japonicum</i> var. <i>pumilum</i>	Ito 2287	LC229240	Ito et al. 2017b
<i>Sedum jinglanii</i>	DNPC 2873	OQ162326	Huang et al. 2023
<i>Sedum jiulongshanense</i>	Ito 76	LC229243	Ito et al. 2017b
<i>Sedum kiangnanense</i>	CMQ1030	LC229244	Ito et al. 2017b
<i>Sedum lineare</i>	Mayuzumi C00120	AB088623	Mayuzumi and Ohba 2004
<i>Sedum lipingense</i>	ZRB1479	MN150061	Zhang et al. 2019
<i>Sedum lungtsuanense</i>	Ito 3563	LC260131	Ito et al. 2017a
<i>Sedum makinoi</i>	Kokubugata 16730	AB906476	Ito et al. 2014b
<i>Sedum mexicanum</i>	Ito 647	LC229247	Ito et al. 2017b
<i>Sedum microsepalum</i>	Ito 1965	LC229281	Ito et al. 2017a
	Ito 2771	LC229282	Ito et al. 2017a
<i>Sedum morrisonense</i>	Ito 2765	LC229290	Ito et al. 2017b
<i>Sedum morrisonense</i> var. <i>kwanwuense</i>	Ito 2440	LC229293	Ito et al. 2017b
<i>Sedum multicaule</i>	TI9596136	AB088631	Mayuzumi and Ohba 2004
<i>Sedum nagasakianum</i>	Ito 2064	LC229249	Ito et al. 2017b
<i>Sedum nokoense</i>	Kokubugata 10426	AB906478	Ito et al. 2014b
<i>Sedum oligospermum</i>	Ito 74	LC229250	Ito et al. 2017b
<i>Sedum oreades</i>	Rao 090803-03	KF113733	Zhang et al. 2014
<i>Sedum polytrichoides</i>	CMQ1057	LC229251	Ito et al. 2017b
<i>Sedum polytrichoides</i> var. <i>setouchiense</i>	Ito 2298	LC229253	Ito et al. 2017b
<i>Sedum rupifragum</i>	Ito 2070	LC229254	Ito et al. 2017b

<i>Sedum sarmentosum</i>	Ito 978	LC229255	Ito et al. 2017b
<i>Sedum satumense</i>	Ito 2295	LC229256	Ito et al. 2017b
<i>Sedum sekiteiense</i>	Ito 1456	LC229295	Ito et al. 2017a
<i>Sedum simingshanense</i>	Xu 2869	PP464048	this work
	Xu 2867	PP464049	this work
<i>Sedum subtile</i>	Shimizu 1999	AB088622	Mayuzumi and Ohba 2004
	Ito 2259	LC229257	Ito et al. 2017b
<i>Sedum taiwanianum</i>	Ito 2770	LC229297	Ito et al. 2017b
<i>Sedum tetractinum</i>	Ito 3623	LC260135	Ito et al. 2017a
<i>Sedum tianmushanense</i>	Ito 355	LC229261	Ito et al. 2017b
<i>Sedum tosaense</i>	Kokubugata 16726	AB906483	Ito et al. 2014b
<i>Sedum triactina</i>	9596091	AB088629	Mayuzumi and Ohba 2004
<i>Sedum tricarpum</i>	Ito 2269	LC229259	Ito et al. 2017b
<i>Sedum trullipetalum</i>	Miyamoto et al. 9420132	AB088630	Mayuzumi and Ohba 2004
<i>Sedum truncatistigmum</i>	Ito 3254	LC229306	Ito et al. 2017b
<i>Sedum xunvense</i>	Xu 2864	PL010356	Chai et al. 2024
	Xu 2860	PL012036	Chai et al. 2024
<i>Sedum yabeanum</i>	Ito 396	AB906490	Ito et al. 2014b
<i>Sedum zentaro-tashiroi</i>	Ohba 1998	AB088619	Mayuzumi and Ohba 2004
outgroup			
<i>Sedum gracile</i>	ZSS:10 2021 /0	MT336110	Messerschmid et al. 2020
<i>Sedum stefco</i>	ZSS:10 0181 /0	MT336137	Messerschmid et al. 2020
<i>Sedum rubens</i>	E:00764489	MT336133	Messerschmid et al. 2020