

Table SM1. Concentrations of macro and micro nutrients in the aboveground tissue of *S. album* in the three plots of 2018. Data within the same row that does not share a letter differ significantly. Means  $\pm$  SE, n=3. Blank cells means data missing.

2018		S1	S2	S3	S4
<i>% DW</i>					
N	Elnaryd	1.5 $\pm$ 0.1 b	3.0 $\pm$ 0.2 a	3.2 $\pm$ 0.2 a	3.1 $\pm$ 0.2 a
	Lagan	1.2 $\pm$ 0.0 b	2.5 $\pm$ 0.2 a	2.9 $\pm$ 0.2 a	2.1 $\pm$ 0.4 ab
	Tutaryd	1.1 $\pm$ 0.1 c	3.7 $\pm$ 0.3 a	2.8 $\pm$ 0.2 ab	2.3 $\pm$ 0.4 bc
P	Elnaryd	0.18 $\pm$ 0.02 b	0.24 $\pm$ 0.01 a	0.19 $\pm$ 0.01 ab	0.20 $\pm$ 0.00 ab
	Lagan	0.35 $\pm$ 0.01 a	0.34 $\pm$ 0.02 a	0.29 $\pm$ 0.01 ab	0.24 $\pm$ 0.02 b
	Tutaryd	0.44 $\pm$ 0.02 a	0.37 $\pm$ 0.02 b	0.27 $\pm$ 0.01 c	0.32 $\pm$ 0.00 bc
K	Elnaryd	1.3 $\pm$ 0.1 b	1.8 $\pm$ 0.1 a	2.1 $\pm$ 0.1 a	2.0 $\pm$ 0.1 a
	Lagan	1.3 $\pm$ 0.1 b	2.0 $\pm$ 0.1 a	2.4 $\pm$ 0.2 a	2.0 $\pm$ 0.1 a
	Tutaryd	2.0 $\pm$ 0.0 b	2.5 $\pm$ 0.2 a	2.6 $\pm$ 0.0 a	2.7 $\pm$ 0.1 a
Mg	Elnaryd	0.26 $\pm$ 0.02 b	0.36 $\pm$ 0.01 a	0.39 $\pm$ 0.02 a	0.43 $\pm$ 0.01 a
	Lagan	0.24 $\pm$ 0.02 b	0.45 $\pm$ 0.06 a	0.31 $\pm$ 0.02 ab	0.30 $\pm$ 0.03 ab
	Tutaryd	0.36 $\pm$ 0.02 b	0.57 $\pm$ 0.06 a	0.52 $\pm$ 0.01 ab	0.51 $\pm$ 0.04 ab
Ca	Elnaryd	2.5 $\pm$ 0.1 c	3.5 $\pm$ 0.1 b	4.3 $\pm$ 0.1 a	4.1 $\pm$ 0.1 a
	Lagan	2.3 $\pm$ 0.0 c	3.6 $\pm$ 0.1 b	4.6 $\pm$ 0.1 a	4.0 $\pm$ 0.1 b
	Tutaryd	2.2 $\pm$ 0.1 b	3.1 $\pm$ 0.3 a	2.8 $\pm$ 0.0 <sup>2</sup> ab	2.5 $\pm$ 0.1 ab
S	Elnaryd	0.18 $\pm$ 0.01 b	0.27 $\pm$ 0.01 a	0.27 $\pm$ 0.01 a	0.27 $\pm$ 0.01 a
	Lagan	0.17 $\pm$ 0.01 b	0.28 $\pm$ 0.01 a	0.35 $\pm$ 0.03 a	0.26 $\pm$ 0.03 ab
	Tutaryd	0.20 $\pm$ 0.00 b	0.26 $\pm$ 0.01 ab	0.32 $\pm$ 0.02 a	0.29 $\pm$ 0.03 a
Na	Elnaryd	0.018 $\pm$ 0.001 b	0.031 $\pm$ 0.004 b		0.053 $\pm$ 0.006 a
	Lagan	0.021 $\pm$ 0.001 a	0.045 $\pm$ 0.009 a		0.022 $\pm$ 0.002 a
	Tutaryd	0.015 $\pm$ 0.001 <sup>1</sup> a	0.038 $\pm$ 0.013 a		0.020 $\pm$ 0.001 a
<i><math>\mu\text{g g}^{-1}</math> DW</i>					
Mn	Elnaryd	44 $\pm$ 3 c	88 $\pm$ 10 bc	100 $\pm$ 10 ab	140 $\pm$ 20 a
	Lagan	85 $\pm$ 10 ab	130 $\pm$ 10 a	75 $\pm$ 5 b	92 $\pm$ 9 ab
	Tutaryd	62 $\pm$ 4 c	120 $\pm$ 10 ab	76 $\pm$ 6 bc	130 $\pm$ 10 a
B	Elnaryd	12 $\pm$ 1 c	14 $\pm$ 1 bc	18 $\pm$ 1 a	17 $\pm$ 1 ab
	Lagan	12 $\pm$ 1 b	15 $\pm$ 0 b	22 $\pm$ 0 a	22 $\pm$ 2 a
	Tutaryd	14 $\pm$ 0 c	19 $\pm$ 1 bc	23 $\pm$ 1 ab	25 $\pm$ 1 a
Cu	Elnaryd	5.8 $\pm$ 0.2 b	9.5 $\pm$ 0.5 ab	9.5 $\pm$ 0.7 ab	13 $\pm$ 2 a
	Lagan	7.8 $\pm$ 0.5 a	15 $\pm$ 4 a	7.7 $\pm$ 0.6 a	14 $\pm$ 1 a
	Tutaryd	8.4 $\pm$ 0.2 b	14 $\pm$ 2 a	9.1 $\pm$ 0.3 b	12 $\pm$ 0 ab
Fe	Elnaryd	1100 $\pm$ 100 c	2600 $\pm$ 300 bc	3200 $\pm$ 200 ab	4300 $\pm$ 600 a
	Lagan	2100 $\pm$ 200 ab	4700 $\pm$ 1100 a	1400 $\pm$ 200 b	2100 $\pm$ 400 ab
	Tutaryd	1100 $\pm$ 100 b	3900 $\pm$ 1100 a	1200 $\pm$ 100 b	2900 $\pm$ 400 ab
Zn	Elnaryd	17 $\pm$ 1 a	22 $\pm$ 2 a	20 $\pm$ 0 a	22 $\pm$ 2 a
	Lagan	14 $\pm$ 1 a	22 $\pm$ 1 a	17 $\pm$ 1 a	22 $\pm$ 4 a
	Tutaryd	20 $\pm$ 0 b	25 $\pm$ 1 ab	25 $\pm$ 1 ab	27 $\pm$ 2 a
Mo	Elnaryd	1.1 $\pm$ 0.0 a	1.1 $\pm$ 0.0 a	1.0 $\pm$ 0.0 a	1.1 $\pm$ 0.0 a
	Lagan	2.3 $\pm$ 0.1 ab	2.5 $\pm$ 0.2 a	2.1 $\pm$ 0.2 ab	1.6 $\pm$ 0.2 b
	Tutaryd	1.5 $\pm$ 0.3 a	1.1 $\pm$ 0.1 ab	1.1 $\pm$ 0.0 ab	0.79 $\pm$ 0.08 b
Al	Elnaryd	1100 $\pm$ 100 b	2200 $\pm$ 100 ab	2100 $\pm$ 200 ab	3100 $\pm$ 500 a
	Lagan	1900 $\pm$ 200 ab	3300 $\pm$ 700 a	1100 $\pm$ 100 b	1800 $\pm$ 200 ab
	Tutaryd	990 $\pm$ 70 ab	2900 $\pm$ 800 a	830 $\pm$ 100 b	1800 $\pm$ 300 ab

Table SM2. Total removal ( $\text{g m}^{-2}$ ) of N, P and K in the cut parts at sampling occasion 3, and the total uptake of these elements during the whole study period. The latter was calculated as the difference between the mean content at S4 and S1 for Elnaryd and Lagan, whereas for Tutaryd it was calculated as the sum of that difference and the content in cut parts, since this was the only plot where the cut parts were actually removed.

	2018	Cut parts (S3)	Uptake (S1-S4)
N	Elnaryd	$0.48 \pm 0.09$ a	4.2
	Lagan	$0.85 \pm 0.23$ a	4.3
	Tutaryd	$0.52 \pm 0.21$ a	5.1
P	Elnaryd	$0.029 \pm 0.005$ a	0.25
	Lagan	$0.080 \pm 0.020$ a	0.40
	Tutaryd	$0.050 \pm 0.020$ a	0.61
K	Elnaryd	$0.28 \pm 0.06$ a	2.6
	Lagan	$0.61 \pm 0.17$ a	4.1
	Tutaryd	$0.43 \pm 0.17$ a	5.7

Table SM3. Concentrations of macro and micronutrients in the aboveground tissue of *S. album* in UF, PK, PKS, at the two sampling occasions (S1, S2) of 2019. Data within the same row that does not share a letter differ significantly. UF=unfertilised, PK=PK-fertiliser, PKS=PK-fertiliser + polyethylene shade net. Means  $\pm$  SE, n=3.

	2019	UF	PK	PKS
<i>% DW</i>				
N	S1	1.2 $\pm$ 0.1 b	2.0 $\pm$ 0.2 ab	2.3 $\pm$ 0.3 a
	S2	0.85 $\pm$ 0.02 b	1.7 $\pm$ 0.2 a	2.1 $\pm$ 0.2 a
P	S1	0.24 $\pm$ 0.01 b	0.34 $\pm$ 0.02 a	0.39 $\pm$ 0.01 a
	S2	0.23 $\pm$ 0.00 b	0.34 $\pm$ 0.01 a	0.38 $\pm$ 0.03 a
K	S1	1.1 $\pm$ 0.0 b	1.4 $\pm$ 0.1 b	1.9 $\pm$ 0.2 a
	S2	1.1 $\pm$ 0.0 c	2.0 $\pm$ 0.1 b	2.4 $\pm$ 0.1 a
Mg	S1	0.35 $\pm$ 0.02 a	0.31 $\pm$ 0.01 a	0.35 $\pm$ 0.01 a
	S2	0.26 $\pm$ 0.01 b	0.36 $\pm$ 0.00 a	0.37 $\pm$ 0.02 a
Ca	S1	1.7 $\pm$ 0.0 a	1.6 $\pm$ 0.0 a	1.6 $\pm$ 0.1 a
	S2	2.2 $\pm$ 0.1 a	1.9 $\pm$ 0.0 b	2.2 $\pm$ 0.0 a
S	S1	0.15 $\pm$ 0.01 b	0.20 $\pm$ 0.01 a	0.21 $\pm$ 0.01 a
	S2	0.15 $\pm$ 0.01 b	0.25 $\pm$ 0.01 a	0.24 $\pm$ 0.02 a
Na	S1	0.11 $\pm$ 0.03 a	0.030 $\pm$ 0.001 a	0.030 $\pm$ 0.002 a
	S2	0.033 $\pm$ 0.000 a	0.027 $\pm$ 0.001 a	0.031 $\pm$ 0.005 a
<i><math>\mu\text{g g}^{-1}</math> DW</i>				
Mn	S1	92 $\pm$ 16 a	97 $\pm$ 9 a	200 $\pm$ 60 a
	S2	30 $\pm$ 1 b	94 $\pm$ 12 a	130 $\pm$ 20 a
B	S1	13 $\pm$ 1 b	15 $\pm$ 1 ab	17 $\pm$ 1 a
	S2	17 $\pm$ 1 b	26 $\pm$ 1 a	25 $\pm$ 1 a
Cu	S1	12 $\pm$ 1 a	12 $\pm$ 2 a	16 $\pm$ 3 a
	S2	59 $\pm$ 4 a	32 $\pm$ 21 a	37 $\pm$ 22 a
Fe	S1	2900 $\pm$ 400 a	1400 $\pm$ 200 a	2200 $\pm$ 600 a
	S2	610 $\pm$ 50 a	670 $\pm$ 230 a	730 $\pm$ 210 a
Zn	S1	39 $\pm$ 4 a	26 $\pm$ 3 a	36 $\pm$ 1 a
	S2	29 $\pm$ 1 a	25 $\pm$ 3 a	39 $\pm$ 7 a
Mo	S1	3.1 $\pm$ 0.4 a	2.2 $\pm$ 0.2 ab	1.7 $\pm$ 0.3 b
	S2	2.4 $\pm$ 0.1 a	1.4 $\pm$ 0.3 b	1.9 $\pm$ 0.1 ab
Al	S1	3400 $\pm$ 600 a	890 $\pm$ 130 b	1400 $\pm$ 300 b
	S2	520 $\pm$ 20 a	390 $\pm$ 150 a	550 $\pm$ 200 a

Table SM4. Macro, micro and trace element concentrations reported for several cultivated Crassuleaceae species within the genera *Hylothelephium*, *Phedimus*, *Prometheum* and *Sedum*. The three former genera were previously included in *Sedum*.

% of DW	N	P	K	Ca	Mg	S	Na
<i>H. sieboldii</i> <sup>1</sup>	4.5	0.84	3.6	5.8	0.46	0.46	0.053
<i>H. spectabile</i> <sup>1</sup>	0.87-4.1	0.29-0.69	1.3-3.2	1.4-2.7	0.24-0.67	0.16-0.32	0.013-0.021
<i>H. spec. x tel.</i> <sup>1</sup>	1.8-2.5	0.29-0.43	1.8-3.0	2.8-3.1	0.43-0.45	0.12-0.31	0.021-0.022
<i>P. hybridus</i> <sup>2</sup>		0.24-0.65	2.0-2.5	1.1-2.0	0.60-0.86		
<i>P. kamtsch.</i> <sup>1</sup>	3.5	0.47	1.8	1.8	0.62	0.38	0.015
<i>P. kamtsch.</i> <sup>3</sup>	0.83		2.2	1.6	0.25		0.37
<i>P. spurius</i> <sup>2</sup>		0.32-0.40	2.5-3.0	1.3-1.9	0.61-0.77		
<i>Pr. pilosum</i> <sup>4</sup>	2.9	0.48	3.3	3.4	0.52	0.22	0.0097
<i>S. album</i> <sup>2</sup>		0.51-0.57	3.4-3.6	1.7-2.4	0.65-0.98		
<i>S. album</i> <sup>5</sup>	1.1-3.7	0.18-0.44	1.3-2.7	2.2-4.6	0.24-0.57	0.18-0.35	0.015-0.053
<i>S. album</i> <sup>6</sup>	0.85-2.3	0.23-0.39	1.1-2.4	1.6-2.2	0.26-0.37	0.15-0.25	0.027-0.11
<i>S. reflexum</i> <sup>2</sup>		0.19-0.55	2.2-3.3	1.6-2.4	0.47-1.1		
<i>S. reflexum</i> <sup>4</sup>	3.7	0.51	5.0	25	0.52	0.55	0.012
<i>S. samentosum</i> <sup>4</sup>	4.1	0.71	4.9	2.1	0.62	0.50	0.027
<i>S. sexangulare</i> <sup>2</sup>		0.23-0.57	2.0-3.9	0.70-1.7	0.40-0.95		
<i>Sedum/Phedimus</i> <sup>7</sup>	1.3-2.1	0.41-0.46	1.6-2.4				
<i>Sedum/Phedimus</i> <sup>8</sup>	2.8-3.9	0.25-0.42	1.4-2.5				
<i>Sedum acre</i> <sup>9</sup>	1.15-1.96	0.19-0.48	1.25-1.76	1.69-2.53	0.13-0.25	0.22-0.32	
µg g <sup>-1</sup> DW	Al	Fe	Mn	Cu	Zn	B	Mo
<i>H. sieboldii</i> <sup>1</sup>	140	51	78	13	120	31	0.76
<i>H. spectabile</i> <sup>1</sup>	38-120	58-69	53-69	6-10	47-120	19-27	0.12-0.30
<i>H. spec. x tel.</i> <sup>1</sup>	9-120	33-200	51-94	6-9	51-94	24-31	0.12-1.6
<i>P. hybridus</i> <sup>2</sup>							
<i>P. kamtsch.</i> <sup>1</sup>	57	110	140	15	120	28	0.32
<i>P. spurius</i> <sup>2</sup>		64-80	86-96	7.3-8.0	93-130	11-18	
<i>Pr. pilosum</i> <sup>4</sup>	100	72	100	10	78	18	0.63
<i>S. album</i> <sup>2</sup>		83-100	130-260	16-25	88-130	12-22	
<i>S. album</i> <sup>5</sup>	1100-3300	1100-4700	44-140	5.8-15	14-27	12-25	0.79-2.5
<i>S. album</i> <sup>6</sup>	390-3400	610-2900	30-200	12-59	25-39	13-26	1.4-3.1
<i>S. reflexum</i> <sup>2</sup>		54-70	40-120	12-19	49-120	9.5-29	
<i>S. reflexum</i> <sup>4</sup>	24	95	27	16	180	42	0.28
<i>S. samentosum</i> <sup>4</sup>	60	220	100	18	190	27	0.12
<i>S. sexangulare</i> <sup>2</sup>		97-120	52-110	9.1-20	54-140	11-21	

<sup>1</sup>Mills & Benton Jones (1996): 30-40 mature leaves from new growth, summer, container production nursery

<sup>2</sup>Zheng & Clark (2013): aboveground tissue, greenhouse

<sup>3</sup>Moritani et al. (2017): leaves, greenhouse

<sup>4</sup>Mills & Benton Jones (1996): 35 2-3" terminal cuttings, summer, container production nursery

<sup>5</sup>Present study 2018

<sup>6</sup>Present study 2019

<sup>7</sup>Emilsson et al. (2007): Prefabricated vegetation mats containing *Sedum* and *Phedimus* spp. , plant material from 0.40×0.60 m<sup>2</sup> plastic trays, greenhouse

<sup>8</sup>Emilsson et al. (2007): *S. album*, *S. acre*, *P. spurius* established from cuttings, plant material from 0.40×0.60 m<sup>2</sup> plastic trays, greenhouse

<sup>9</sup>Krawczyk et al. (2021): plant material from 1.20x0.80 m<sup>2</sup> containers containing 10 cm of different waste-based growing substrates