

## Supplements

### Supplement A

Table -Origin, source, and GenBank accession numbers of *Kalidium* sequences made for phylogenetic analyses

Accession	Name	Coordinates	Voucher	rITS	trnQ-rps16	rpl32-trnL
B01	<i>Kalidium caspicum</i>	44.106944 N 67.056389 E	AA: 0001993	OQ061486	OQ077105	OQ077120
B03	<i>Kalidium caspicum</i>	45.875278 N 62.139167 E	AA: 0001995	OQ061487	OQ077106	OQ077121
B04	<i>Kalidium caspicum</i>	44.1775 N 78.812778 E	AA: 0001994	OQ061488	OQ077107	OQ077122
B07	<i>Kalidium caspicum</i>	45.848274 N 62.230855 E	AA: 0001992	OQ061489	OQ077108	OQ077123
B08	<i>Kalidium caspicum</i>	44.106111N 67.044444 E	AA: 0001998	OQ061490	OQ077109	OQ077124
B09	<i>Kalidium caspicum</i>	45.103361 N 64.531417 E	AA: 0002000	OQ061491	OQ077110	OQ077125
B10	<i>Kalidium caspicum</i>	44.080028 N 64.701056 E	AA: 0002001	OQ061492	OQ077111	OQ077126
B10.2	<i>Kalidium caspicum</i>	44.080028 N 64.701056 E	AA: 0002001	OQ061493	-	-
B11	<i>Kalidium caspicum</i>	44.109917 N 67.056361 E	AA: 0001999	OQ061494	OQ077112	OQ077127
B11.2	<i>Kalidium caspicum</i>	44.109917 N 67.056361 E	AA: 0001999	OQ061495	-	-
B12	<i>Kalidium caspicum</i>	43.680278 N 80.073333 E	AA: 0002002	OQ061496	OQ077113	OQ077128
B12.2	<i>Kalidium caspicum</i>	43.680278 N 80.073333 E	AA: 0002002	OQ061497	-	-
B14	<i>Kalidium caspicum</i>	43.759444 N 80.228889 E	AA: 0002003	OQ061498	OQ077114	OQ077129
B14.2	<i>Kalidium caspicum</i>	45.875278 N 62.139167 E	AA: 0002003	OQ061499	-	-
B14.3	<i>Kalidium caspicum</i>	45.875278 N 62.139167 E	AA: 0002003	OQ061500	-	-
B02	<i>Kalidium foliatum</i>	44.106944 N 67.056389 E	AA: 0001997	OQ061481	OQ077115	OQ077130
B05	<i>Kalidium foliatum</i>	44.1775 N 78.812778 E	AA: 0001996	OQ061482	OQ077116	OQ077131
B06	<i>Kalidium foliatum</i>	45.848274 N 62.230855 E	AA: 0001991	OQ061483	OQ077117	OQ077132
B13	<i>Kalidium foliatum</i>	43.680278 N 80.073333 E	AA: 0002004	OQ061484	OQ077118	OQ077133
B13.2	<i>Kalidium foliatum</i>	43.680278 N 80.073333 E	AA: 0002004	OQ061485	-	-
B15	<i>Kalidium schrenkianum</i>	43.759444 N 80.228889 E	AA: 0002005	OQ061501	OQ077119	OQ077134
B16	<i>Halocnemum strobilaceum</i>	43.796389 N 67.463611 E	AA: 0002038	OQ062601	OQ077135	OQ077162

B20	<i>Halostachys belangeriana</i>	44.106944 N 67.056389 E	AA: 0002031	OQ062605	OQ077138	OQ077165
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## Supplement B

Table - Sample data from NCBI database (only ITS)

Name	Locality	rITS
<i>Kalidium caspicum</i>	44.215833 N 86.655278 E	KX133017- KX133019
<i>Kalidium caspicum</i>	43.844444 N 90.624444 E	KX133020- KX133022
<i>Kalidium caspicum</i>	43.772500 N 91.721667 E	KX133023- KX133025
<i>Kalidium caspicum</i>	44.120556 N 87.714444 E	KX133026- KX133028
<i>Kalidium cuspidatum</i>	37.777672 N 95.292038 E	DQ340148
<i>Kalidium cuspidatum</i>	42.547884 N 93.981696 E	HM131637
<i>Kalidium cuspidatum</i> var. <i>cuspidatum</i>	36.708333 N 99.045833 E	KX133029-KX133031
<i>Kalidium cuspidatum</i> var. <i>cuspidatum</i>	37.344167 N 104.084722 E	KX133032-KX133034
<i>Kalidium cuspidatum</i> var. <i>cuspidatum</i>	37.669722N 107.515556 E	KX133035-KX133037
<i>Kalidium cuspidatum</i> var. <i>cuspidatum</i>	38.869722 N 106.756389 E	KX133038-KX133040
<i>Kalidium cuspidatum</i> var. <i>cuspidatum</i>	38.872778 N 108.698333 E	KX133041-KX133043
<i>Kalidium cuspidatum</i> var. <i>sinicum</i>	36.025278 N 97.647500 E	KX133044-KX133046
<i>Kalidium cuspidatum</i> var. <i>sinicum</i>	36.463333 N 103.932778 E	KX133047-KX133049
<i>Kalidium cuspidatum</i> var. <i>sinicum</i>	38.308889 N 103.275556 E	KX133050-KX133052
<i>Kalidium cuspidatum</i> var. <i>sinicum</i>	35.851389 N 94.520833 E	KX133053-KX133055
<i>Kalidium cuspidatum</i> var. <i>sinicum</i>	39.128889 N 100.551111 E	KX133056-KX133058
<i>Kalidium foliatum</i>	39.916111 N 105.705000 E	KX133059-KX133061
<i>Kalidium foliatum</i>	38.308889 N 103.275556 E	KX133062-KX133064
<i>Kalidium foliatum</i>	43.772500 N 91.721667 E	KX133065-KX133067
<i>Kalidium foliatum</i>	44.642778 N 83.252778 E	KX133068-KX133070
<i>Kalidium foliatum</i>	44.642778 N 85.268611 E	KX133071-KX133073
<i>Kalidium foliatum</i>	44.023813 N 113.898182 E	AY489238
<i>Kalidium foliatum</i>	47.612650 N 84.954706 E	DQ340150
<i>Kalidium foliatum</i>	46.658874 N 47.805919 E	KU975201
<i>Kalidium foliatum</i>	47.358223 N 47.358223 E	KU975200
<i>Kalidium foliatum</i>	47.189457 N 50.765061 E	AY181874
<i>Kalidium foliatum</i>	47.650950 N 87.775569 E	HM131638
<i>Kalidium gracile</i>	43.635000 N 91.957778 E	KX133074-KX133076
<i>Kalidium gracile</i>	38.853056 N 106.756389 E	KX133077-KX133079
<i>Kalidium gracile</i>	39.155278 N 98.170556 E	KX133080-KX133082
<i>Kalidium gracile</i>	40.845278 N 103.609167 E	KX133083-KX133085
<i>Kalidium gracile</i>	36.449167 N 103.984167 E	KX133086-KX133088
<i>Kalidium gracile</i>	44.755554 N 100.826111 E	DQ340151
<i>Kalidium schrenkianum</i>	41.925556 N 82.854167 E	KX133089-KX133091
<i>Kalidium schrenkianum</i>	42.113056 N 83.146667 E	KX133092-KX133094
<i>Kalidium schrenkianum</i>	41.590556 N 81.335556 E	KX133095-KX133098
<i>Kalidium schrenkianum</i>	45.833052 N 62.202842 E	KU975203

<i>Kalidium wagenitzii</i>	38.366888 N 33.564323 E	DQ340146
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Note - the sample coordinates were taken from the articles

### Supplement C

Matrix of SCoT primer results: SCoT 11 – 1-15; SCoT 12 – 16-33; SCoT 13 – 34-48; SCoT 14 – 49-64; SCoT 21 – 65-91; SCoT 23 – 92-109

#### B01.1\_K\_caspicum

10010001001100010001011000111001011001110010000001101001010000000010100101000000001001001  
11100001101101000000

#### B01.2\_K\_caspicum

1001000100110001000101000011000001000111000000000111000101010000000000100000000001001001  
10100001101000000000

#### B01.3\_K\_caspicum

10010001001100010001010000110000011001110000000001110001010100100000000100000000001001000  
00100001101000000010

#### B02.1\_K\_foliatum

0011000000110101000100000011011001100100001000110111101010110100000000111000010000000011  
01000000111000000010

#### B02.2\_K\_foliatum

00010000001100010001000000110000011011000000000101100001010000100000000111000010000000011  
01000000111000000000

#### B02.3\_K\_foliatum

00010000001100010001000000110000011011000000000101110001010000100001000111000010000000011  
01000000111000000000

#### B03.1\_K\_caspicum

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11100101001010100101

#### B03.2\_K\_caspicum

01001001001100010001010001110000011001111000100001111101000100001010000101001101001000000  
00100001001000100111

#### B03.3\_K\_caspicum

01001001001100010001111001110000011001111001100001111001000100001010000101001101001000000  
00100001001000100111

#### B04.1\_K\_caspicum

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11011000011000000010

#### B04.2\_K\_caspicum

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10000000111000000000

#### B04.3\_K\_caspicum

10010001001100011001011010110001011001001100100001110001000100000010001101000000000001100  
11000100001110000010

#### B05.1\_K\_foliatum

00010000001100010011000000110000011101001000010001111100101101001100000101001010000000001  
10000000010110000010

#### B05.2\_K\_foliatum

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10000000010100000010

#### B05.3\_K\_foliatum

00011000001110100001000000110000011001000000000001100001010000101000000001000001000010001  
00000000011100000010

#### B06.1\_K\_foliatum

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01100001001100001010

#### B06.2\_K\_foliatum

10011000001110111001100001110100011011000000000100100001010000000100000110100010011000011  
01100001001101010010

B06.3\_K\_foliatum

10010000001100010101100001110100011011010000000101111101000110000100000110100010011000001  
01100001001100001011

B07.1\_K\_caspicum

11000001001100010001011001111001011001011011100001111101100100000010100101000000000101000  
01100001001100100111

B07.2\_K\_caspicum

11000001001100010001011001111001011001011011100001111101100100000010100101000000000101000  
01100001001100100111

B07.3\_K\_caspicum

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B08.1\_K\_caspicum

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B08.2\_K\_caspicum

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11100001011100000011

B08.3\_K\_caspicum

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11100001011100000011

B09.1\_K\_caspicum

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B09.2\_K\_caspicum

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B09.3\_K\_caspicum

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11000001101000000010

B10.1\_K\_caspicum

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B10.2\_K\_caspicum

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00000110101000000000

B10.3\_K\_caspicum

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11100001111000000010

B11.1\_K\_caspicum

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B11.2\_K\_caspicum

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11000100001010000000

B11.3\_K\_caspicum

00000001001100110001000000110000011001001000100001110101110100100010100100000010000001000  
11000000001000000000

B12.1\_K\_caspicum

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B12.2\_K\_caspicum

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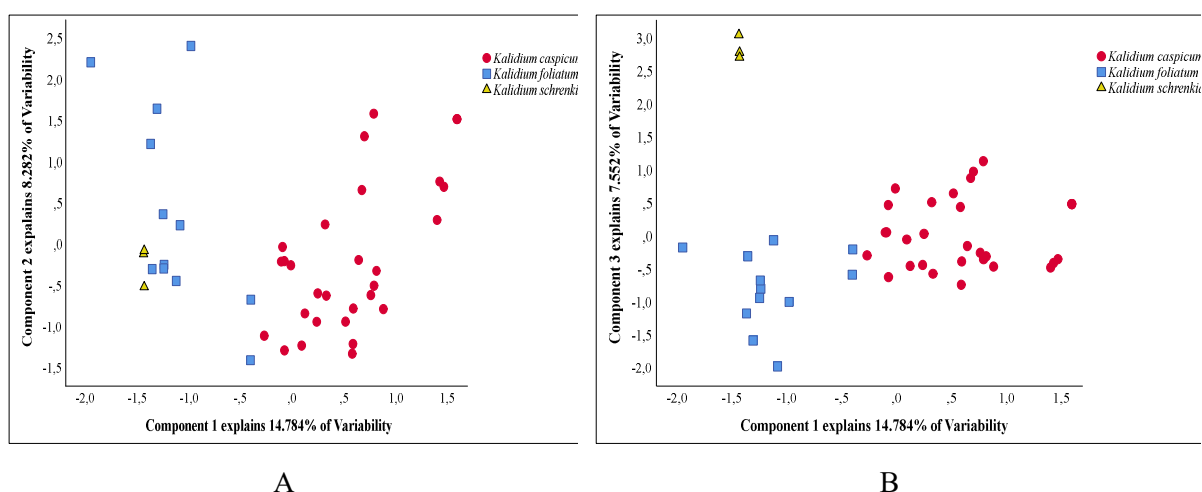
B12.3\_K\_caspicum

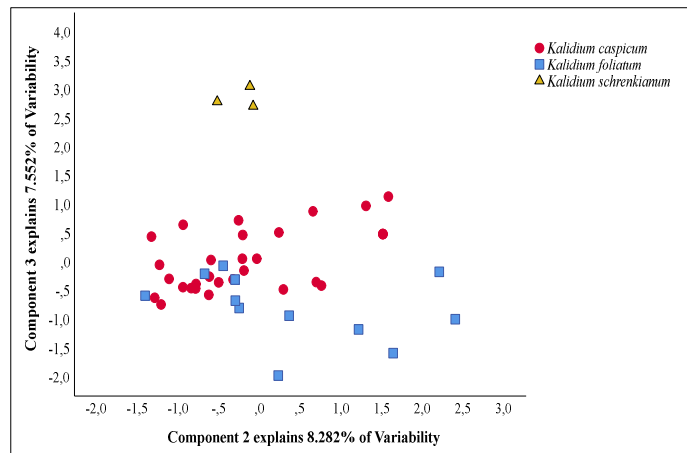
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10100001010100000010

B13.1\_K\_foliatum

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00000001001100000010  
B13.2\_ *K\_foliatum*  
00010000001100000001000000010000011001000000000011101101010000000100000011001010001000010  
00000000001000000000  
B13.3\_ *K\_foliatum*  
0001100000110011000100100011010001100100100000000111101010110000100000010101010001000001  
00000010001000000000  
B14.1\_ *K\_caspicum*  
1011100101000011100101110011000001100111100000000111101010100000010100101000000000001000  
10100001000100000010  
B14.2\_ *K\_caspicum*  
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00100001000100000000  
B14.3\_ *K\_caspicum*  
1011100010010001100101000011000001100100100000000111101010100000000100101000000001001000  
00100001000100000000  
B15.1\_ *K\_schrenkianum*  
10011000101101010001010000110000011001001100000001100001010000011101000101000010011000100  
00000000001001000000  
B15.2\_ *K\_schrenkianum*  
10011000101100010001100000111000011001000100000001100001010000011101000101000010111000100  
00000001001001000000  
B15.3\_ *K\_schrenkianum*  
10011000101100011001010000110000011001001100000001100001000000011101000100100010011000100  
00000000001101000000

**Supplement D.** Interspecific location of the three species in the PCA (SPSS): A – Components 1 and 2;  
B – Components 1 and 3; C – Components 2 and 3



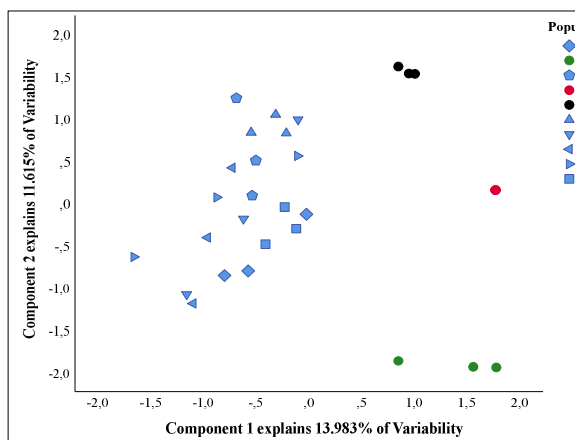


C

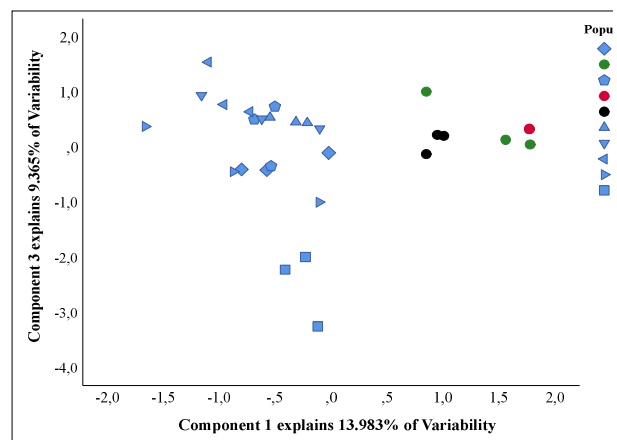


Map of the geographical distribution of the three species of the genus *Kalidium*

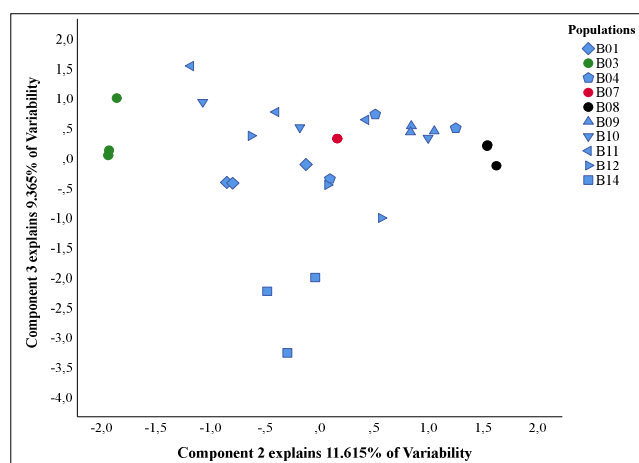
**Supplement E.** Intraspecific location of *Kalidium caspicum* populations in the histogram (SPSS): A – Components 1 and 2; B – Components 1 and 3; C – Components 2 and 3



A



B

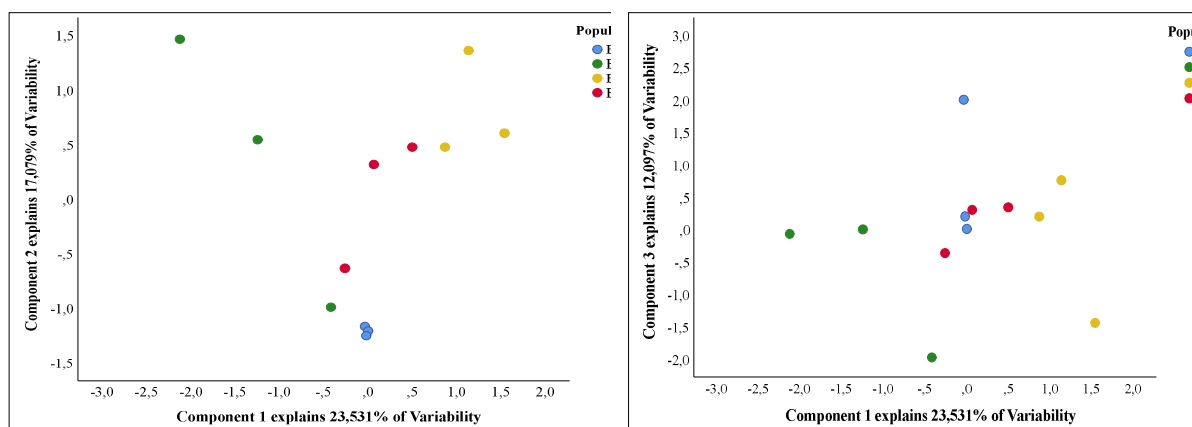


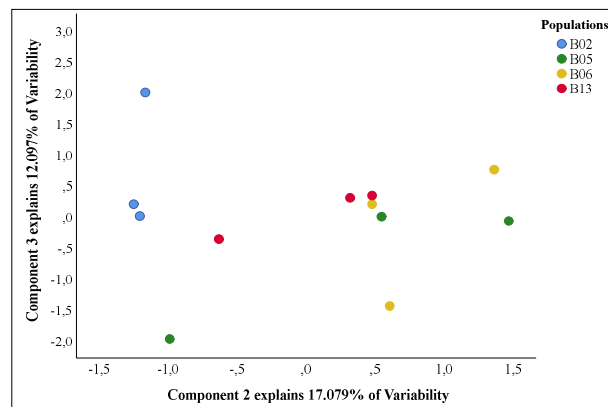
C



Map of the geographical location of *Kalidium caspicum* populations

**Supplement F.** Intraspecific location of *Kalidium foliatum* populations in the histogram (SPSS): A – Components 1 and 2; B – Components 1 and 3; C – Components 2 and 3



**A****B****C**

Map of the geographical location of *Kalidium foliatum* populations