

Supplemental file 4 Accessions of cultivated and wild species examined in this study

	Country ²	VIR accession number	Morphological phenetic analysis	SSR cluster analysis	SSR diversity analysis	Cophenet ic analysis	Chromosome Number ³
Cultivated species ¹							
adg	Ecuador	1688	X	X	X	X	48
adg	Columbia	1690	X	X	X	X	48
adg	Ecuador	1697	X	X	X	X	48
adg	Columbia	1699	X	X	X	X	48
adg	Peru	1706	X	X	X	X	48
adg	Peru	1714	X		X		48
adg	Bolivia	1717	X	X	X	X	48
adg	Ecuador	1731	X	X	X	X	48
adg	Peru	1741	X	X	X	X	48
adg	Peru	1742	X	X	X	X	48
adg	Peru	1746	X	X	X	X	48
adg	Columbia	1751	X	X	X	X	48
adg	Peru	1752	X	X	X	X	48
adg	Peru	1763	X	X	X	X	48
adg	Peru	1764	X	X	X	X	48
adg	Peru	1770	X	X	X	X	48

adg	Peru	1775	X	X	X	X	48
adg	Columbia	1789	X	X	X	X	48
adg	Peru	1793	X	X	X	X	48
adg	Bolivia	1796	X	X	X	X	48
adg	Bolivia	1803	X	X	X	X	48
adg	Bolivia	1804	X	X	X	X	48
adg	Peru	1819	X	X	X	X	48
adg	Peru	3041	X	X	X	X	48
adg	Argentina	3154	X	X	X	X	48
adg	Argentina	3172	X	X	X	X	48
adg	Argentina	3231	X	X	X	X	48
adg	Argentina	3240	X	X	X	X	48
adg		3624	X	X	X	X	48
adg	Bolivia	4615	X	X	X	X	48
adg	Peru	4617	X	X	X	X	48
adg	Bolivia	4634	X	X	X	X	48
adg	Argentina	4793	X	X	X	X	48
adg	Peru	5606	X	X	X	X	48
adg	Peru	8201	X	X	X	X	48
adg	Columbia	8264	X	X	X	X	48
adg	Peru	8931	X	X	X	X	48
adg	Peru	9002	X	X	X	X	48
adg	Peru	9571	X	X	X	X	48

adg	Argentina	12643	X	X	X	X	48
adg	Peru	12892	X		X		48
adg	Peru	13028	X	X	X	X	48
adg	Peru	13111	X	X	X	X	48
adg	Argentina	1726	X	X	X	X	48
adg	Peru	1771	X	X	X	X	48
adg	Peru	1774	X	X	X	X	48
ajh	Bolivia	7367	X	X	X	X	24
ajh	Bolivia	9832	X	X	X	X	24
ajh	Bolivia	9911	X	X	X	X	24
ajh	Bolivia	9910	X	X	X	X	24
ajh	Bolivia	9900	X	X	X	X	24
cha	Peru	24673	X	X	X	X	36
cha	Peru	24674	X	X	X	X	36
cha	Peru	24675	X	X	X	X	36
cha	Peru	24676	X	X	X	X	36
cha	Peru	24677	X	X	X	X	36
cha	Peru	24678	X	X	X	X	36
cha	Peru	24679	X	X	X	X	36
cha	Peru	24680	X	X	X	X	36
cha	Peru	24681	X	X	X	X	36
cha	Peru	24682	X	X	X	X	36
cha	Peru	24683	X	X	X	X	36

cha	Peru	24684	X	X	X	X	36
cha	Peru	24685	X	X	X	X	36
cha	Peru	24686	X	X	X	X	36
cha	Peru	24687	X	X	X	X	36
cha	Peru	24688	X	X	X	X	36
cha	Peru	24689	X	X	X	X	36
cha	Peru	24690	X	X	X	X	36
cha	Peru	24691	X		X		36
cha	Peru	24692	X	X	X	X	36
cha	Bolivia	24693	X	X	X	X	36
cha	Peru	24695	X	X	X	X	36
cha	Peru	24696	X	X	X	X	36
cha	Peru	24697	X	X	X	X	36
cha	Peru	24698	X	X	X	X	36
cha	Ecuador	25000	X	X	X	X	36
cur	Peru	13384	X	X	X	X	60
cur	Peru	13398	X	X	X	X	60
cur	Bolivia	25012	X	X	X	X	60
cur	Bolivia	25016	X	X	X	X	60
cur	Bolivia	25017	X	X	X	X	60
cur	Peru	25018	X	X	X	X	60
cur	Venezuela	25022	X	X	X	X	60
cur	Argentina	25023	X	X	X	X	60

cur	Venezuela	25028	X	X	X	X	60
cur	Bolivia	25030	X	X	X	X	60
cur	Peru	25032	X	X	X	X	60
gon	Peru	1667	X	X	X	X	24
gon	Peru	3558	X	X	X	X	24
gon	Peru	6510	X	X	X	X	24
gon	Peru	8859	X		X		24
gon	Peru	8860	X	X	X	X	24
gon	Peru	8863	X	X	X	X	24
gon	Peru	8865	X	X	X	X	24
gon	Peru	8868	X	X	X	X	24
gon	Peru	8869	X	X	X	X	24
gon	Peru	8873	X	X	X	X	24
gon	Peru	8877	X	X	X	X	24
gon	Peru	8880	X	X	X	X	24
gon	Peru	8890	X	X	X	X	24
gon	Peru	8892	X	X	X	X	24
gon	Peru	8903	X	X	X	X	24
gon	Peru	8929	X	X	X	X	24
gon	Peru	8935	X	X	X	X	24
gon	Peru	8938	X	X	X	X	24
gon	Peru	8944	X	X	X	X	24
gon	Peru	8991	X	X	X	X	24

gon	Peru	9039	X	X	X	X	24
gon	Peru	9250	X	X	X	X	24
gon	Peru	9252	X	X	X	X	24
gon		9253	X	X	X	X	24
gon	Peru	9255	X	X	X	X	24
gon	Bolivia	9922	X	X	X	X	24
gon	Peru	12677	X	X	X	X	24
gon	Peru	12687	X	X	X	X	24
gon	Peru	12768	X	X	X	X	24
gon	Peru	12785	X		X		24
gon	Peru	12925	X	X	X	X	24
gon	Peru	14892	X	X	X	X	24
gon	Peru	17652	X	X	X	X	24
gon	Peru	8852	X	X	X	X	24
gon	Peru	8855	X	X	X	X	24
gon	Peru	8858	X	X	X	X	24
gon	Peru	8874	X	X	X	X	24
gon	Peru	8875	X	X	X	X	24
juz	Peru	25009	X	X	X	X	36
juz	Peru	25011	X	X	X	X	36
juz	Bolivia	25013	X	X	X	X	36
juz	Peru	25014	X	X	X	X	36
juz	Peru	25015	X	X	X	X	36

juz	Peru	25019	X	X	X	X	36
juz	Peru	25020	X	X	X	X	36
juz	Peru	25021	X	X	X	X	36
juz	Bolivia	25025	X	X	X	X	36
juz	Bolivia	25026	X	X	X	X	36
juz	Peru	25027	X	X	X	X	36
juz	Bolivia	25029	X	X	X	X	36
juz	Argentina	25031	X	X	X	X	36
phu	Ecuador	1678	X	X	X	X	24
phu	Bolivia	5642	X	X	X	X	24
phu	Columbia	5962	X	X	X	X	24
phu	Columbia	5966	X	X	X	X	24
phu	Bolivia	8271	X	X	X	X	24
phu	Columbia	9333	X	X	X	X	24
phu	Peru	9378	X	X	X	X	24
phu	Columbia	9393	X	X	X	X	24
phu	Columbia	9397	X	X	X	X	24
phu	Ecuador	9420	X	X	X	X	24
phu	Columbia	9533	X	X	X	X	24
phu	Bolivia	9835	X	X	X	X	24
phu	Bolivia	9836	X	X	X	X	24
phu	Peru	11291	X	X	X	X	24
phu	Peru	12789	X	X	X	X	24

phu	Columbia	15843	X	X	X	X	24
phu	Columbia	15845	X	X	X	X	24
phu	Columbia	15921	X	X	X	X	24
phu	Peru	16527	X	X	X	X	24
phu	Peru	16528	X	X	X	X	24
phu	Peru	16530	X	X	X	X	24
phu	Peru	16531	X	X	X	X	24
phu	Peru	16535	X	X	X	X	24
phu	Peru	16537	X	X	X	X	24
phu	Peru	16538	X	X	X	X	24
phu	Columbia	17458	X	X	X	X	24
phu	Columbia	17649	X	X	X	X	24
phu	Columbia	21561	X	X	X	X	24
phu	Columbia	21564	X	X	X	X	24
phu	Columbia	21569	X	X	X	X	24
phu	Columbia	22210	X	X	X	X	24
phu	Columbia	22215	X	X	X	X	24
phu	Columbia	22221	X	X	X	X	24
phu	Columbia	22229	X				24
phu	Columbia	22218	X	X	X	X	24
phu	Columbia	22226	X	X	X	X	24
phu	Bolivia	99	X	X	X	X	24
phu	Bolivia	1815	X	X	X	X	24

phu	Bolivia	1817	X	X	X	X	24
phu	Bolivia	9945	X	X	X	X	24
stn	Peru	1664	X	X	X	X	24
stn		3637	X	X	X	X	24
stn		3640	X	X	X	X	24
stn	Peru	8969	X	X	X	X	24
stn	Bolivia	9303	X		X		24
stn	Bolivia	9889	X	X	X	X	24
stn	Bolivia	9906	X				24
stn	Bolivia	10433	X	X	X	X	24
stn	Peru	11020	X	X	X	X	24
stn	Peru	11023	X	X	X	X	24
stn	Peru	12782	X		X		24
stn	Peru	12788	X		X		24
stn	Peru	14790	X	X	X	X	24
stn	Peru	16596	X	X	X	X	24
stn	Bolivia	16597	X	X	X	X	24
stn	Bolivia	16911	X	X	X	X	24
stn	Bolivia	17483	X	X	X	X	24
stn	Bolivia	17486	X	X	X	X	24
stn	Bolivia	17986	X	X	X	X	24
stn	Bolivia	10194	X	X	X	X	24
stn	Peru	11053	X	X	X	X	24

stn	Peru	11090	X	X	X	X	24
stn	Peru	7037	X	X	X	X	24
stn		7126	X	X	X	X	24
stn	Peru	9048	X	X	X	X	24
tub	Chile	3385	X	X	X	X	48
tub	Chile	3400	X	X	X	X	48
tub	Chile	3414	X	X	X	X	48
tub	Chile	3446	X	X	X	X	48
tub	Chile	3456	X	X	X	X	48
tub	Chile	3484	X	X	X	X	48
tub	Chile	3488	X	X	X	X	48
tub	Chile	7523	X	X	X	X	48
tub	Chile	7528	X	X	X	X	48
tub	Chile	7529	X	X	X	X	48
tub	Chile	7530	X	X	X	X	48
tub	Chile	7535	X	X	X	X	48
tub	Chile	7539	X	X	X	X	48
tub	Chile	7540	X	X	X	X	48
tub	Chile	7543	X	X	X	X	48
tub	Chile	7550	X	X	X	X	48
tub	Chile	7568	X	X	X	X	48
tub	Chile	7573	X	X	X	X	48
tub	Chile	7576	X	X	X	X	48

tub	Chile	7580	X	X	X	X	48
tub	Chile	7583	X	X	X	X	48
tub	Chile	7586	X	X	X	X	48
tub	Chile	7589	X	X	X	X	48
tub	Chile	7599	X	X	X	X	48
tub	Chile	10648	X	X	X	X	48
tub	Chile	3407	X	X	X	X	48
tub	Argentina	24602	X	X	X	X	48
tub	Chile	2095	X	X	X	X	48
tub	Chile	2117	X	X	X	X	48
tub	Chile	2083	X	X	X	X	48
tub	Chile	2084	X		X		48
tub	Chile	1673	X	X	X	X	48
tub	Chile	2148	X	X	X	X	48

Wild species

acl	Argentina	11446	X	X	X		48
acl	Bolivia	21228	X	X	X		48
acl	Argentina	23005	X	X	X		48
acl	Bolivia	17901		X	X		48
acl	Bolivia	9786		X	X		48
acl	Argentina	23004		X	X		48
acl	Peru	21506		X	X		48

acl	Argentina	19952		X	X	48
acl	Bolivia	9814		X	X	48
acl	Bolivia	18002		X	X	48
alb	Peru	9168			X	72
brc	Bolivia	21755	X	X	X	24
brc	Bolivia	22675	X	X	X	24
buk	Peru	18477	X	X	X	24
can	Peru	19054	X	X	X	24
can	Peru	23049	X	X	X	24
grl	Argentina	12396	X	X	X	24
grl	Argentina	12403	X	X	X	24
grl	Argentina	12416	X	X	X	24
grl	Argentina	11446	X	X	X	
vid	Argentina	22754	X	X	X	24
vid	Argentina	22954	X	X	X	24
vid	Argentina	22961	X	X	X	24
hdl	Bolivia	20023	X	X	X	24
hdl	Bolivia	20160	X	X	X	24
hdl	Bolivia	20162	X	X	X	24
hdl	Bolivia	20415	X	X	X	24
hdl	Bolivia	20723	X	X	X	24
hdl	Bolivia	21410	X	X	X	24
lph	Bolivia	5387	X	X	X	24

lph	Bolivia	5762	X	X	X	24
lph	Bolivia	20732	X	X	X	24
meg	Argentina	12550	X	X	X	24
mlt	Peru	2885	X	X	X	24
mlt	Peru	4289	X	X	X	24
mlt	Peru	9730	X	X	X	24
mlt	Peru	21518	X	X	X	24
mlt	Peru	23475	X	X	X	24
opl	Bolivia	16674	X	X	X	24
opl	Bolivia	21756	X	X	X	24
spl	Peru	7665	X	X	X	24
spl	Bolivia	9798	X	X	X	24
spl	Bolivia	9808	X	X	X	24
spl	Bolivia	11282	X	X	X	24
spl	Bolivia	12204	X		X	24
spl	Bolivia	19343	X	X	X	24
spl	Bolivia	19344	X		X	24
spl	Bolivia	20096	X	X	X	24
spl	Bolivia	20700	X	X	X	24
spg	Argentina	4439	X	X	X	24
spg	Argentina	11422	X		X	24
spg	Argentina	11975	X		X	24
spg	Argentina	12601	X	X	X	24

spg	Argentina	12603	X	X	X	24
spg	Argentina	12619	X	X	X	24
spg	Argentina	12629	X	X	X	24
spg	Peru	12688	X	X	X	24
spg	Argentina	22631	X	X	X	24
spg	Argentina	23061	X	X	X	24
tor	Bolivia	19212	X		X	24
vrn	Argentina	10554	X	X	X	24
vrn	Argentina	12666	X		X	24
Total		300	292	281	297	222

1. The three-letter species codes follow Spooner and Hijmans (2001): acl, *S. acaule* Bitter; adg, *S. tuberosum* L. subsp. *andigenum* (Juz. and Bukasov) Hawkes; ajh, *S. ajanhuiri* Juz. and Bukasov; alb, *S. albicans* (Ochoa) Ochoa; brc, *S. brevicaulis* Bitter; buk, *S. bukasovii* Juz.; can, *S. canasense* Hawkes; cha, *S. chaucha* Juz. and Bukasov; cur, *S. curtilobum* Juz. and Bukasov; gon, *S. stenotomum* Juz. and Bukasov subsp. *goniocalyx* (Juz. and Bukasov) Hawkes; grl, *S. gourlayi* Hawkes; hdl, *S. hondelmannii* Hawkes and Hjert.; juz, *S. juzepczukii* Juz. and Bukasov; lph, *S. leptophyes* Bitter; meg, *S. megistacrolobum* Bitter; mlt, *S. multidissectum* Hawkes; opl, *S. oplocense* Hawkes; phu, *S. phureja* Juz. and Bukasov; spl, *S. sparsipilum* (Bitter) Juz. and Bukasov; spg, *S. spegazzinii* Bitter; stn, *S. stenotomum* subsp. *stenotomum*; tor, *S. toralapanum* Cárdenas and Hawkes; tub, *S. tuberosum* L. subsp. *tuberosum*; vid, *S. gourlayi* subsp. *vidaurrei* (Cárdenas) Hawkes and Hjert.; vrn, *S. vernei* Bitter and Wittm.

2. A few collections have unknown locality.

3. These chromosome counts are determined from this study and in some cases differ from those in the genebank as explained in the text. Each accession in this study is represented by one selected genotype. This subset is currently transferred into in vitro conditions. You

can find soon the correspondence between the "VIR' accession numbers" of selected genotypes (Supplemental file 4) and "VIR' in vitro sample number" on the weblink: <http://www.vir.nw.ru/biot>