

Table S1. Normality statistics of characteristics (characteristic codes – Table 2) for data, means of individuals (MI) and logarithms (log), of varieties and regions (Table 1): p – probability of Shapiro-Wilk’s test; s – skewness; k – kurtosis; S No- number of population with normally distributed characteristic.

		CL	CW	CTh	SL	SW	LN	ST	CD	CL/ CD	CW/CT h	CL/ SL	CD/ SW	CD/ ST	SL/ SW	LN/ ST
P No		24	20	20	20	24	4	18	22	24	5	16	10	18	18	16
all data	p	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	s	0.35	0.25	0.30	0.12	0.20	0.22	0.10	0.25	0.46	1.36	0.75	0.72	0.65	0.86	0.68
	k	0.39	-0.24	-0.19	0.75	0.05	0.06	-0.16	-0.23	0.20	3.04	1.30	0.31	0.88	1.03	1.28
all MI	p	0.007	0.437	0.003	0.001	0.021	0.066	0.007	0.020	0.000	0.000	0.023	0.000	0.001	0.000	0.007
	s	0.32	0.23	0.30	0.38	0.29	0.10	0.24	0.25	0.49	0.91	0.29	0.37	0.35	0.47	0.28
	k	0.29	-0.27	-0.28	0.67	0.27	-0.22	-0.37	-0.27	0.49	1.39	-0.03	-0.49	-0.15	-0.06	-0.13
log all MI	p	0.531	0.425	0.391	0.189	0.582	0.001	0.179	0.483	0.310	0.000	0.841	0.005	0.595	0.053	0.077
	s	0.01	-0.10	-0.03	0.06	-0.09	-0.30	0.01	-0.07	0.19	0.74	0.07	0.03	-0.05	0.19	-0.19
	k	-0.02	-0.32	-0.36	0.50	0.07	-0.21	-0.44	-0.32	0.06	0.88	-0.16	-0.60	-0.32	-0.35	-0.24
<i>sabina</i> MI	p	0.053	0.008	0.006	0.039	0.367	0.297	0.198	0.004	0.016	0.000	0.009	0.000	0.012	0.000	0.002
	s	0.28	0.16	0.22	0.26	0.13	0.03	0.19	0.16	0.43	1.12	0.32	0.61	0.23	0.44	0.44
	k	0.02	-0.66	-0.59	0.83	-0.03	-0.11	-0.09	-0.67	0.44	2.20	-0.35	-0.10	-0.45	-0.28	0.11
<i>balkanensis</i> MI	p	0.025	0.008	0.001	0.560	0.008	0.314	0.241	0.002	0.725	0.038	0.273	0.566	0.000	0.947	0.141
	s	0.40	0.41	0.48	0.28	0.68	-0.01	-0.20	0.48	0.16	0.57	0.30	0.16	0.95	0.15	0.31
	k	1.19	-0.51	-0.64	0.37	0.99	-0.61	-0.36	-0.60	-0.08	0.39	-0.40	-0.79	0.90	-0.11	-0.44
Alps MI	p	0.003	0.029	0.059	0.276	0.065	0.001	0.028	0.022	0.426	0.000	0.218	0.002	0.079	0.018	0.006
	s	0.38	0.33	0.34	-0.18	0.15	0.64	0.57	0.30	0.30	0.88	0.25	0.58	0.21	0.37	0.61
	k	-0.05	-0.58	-0.42	0.49	-0.44	0.98	1.00	-0.66	0.32	1.01	-0.17	-0.25	-0.63	-0.54	0.49
Apennines MI	p	0.075	0.808	0.475	0.490	0.982	0.205	0.098	0.755	0.202	0.637	0.588	0.242	0.783	0.926	0.632
	s	-0.81	-0.43	0.08	0.85	-0.01	-0.58	-0.08	0.06	0.84	0.10	-0.91	0.92	0.44	0.29	0.46
	k	-0.54	-0.26	-1.01	0.29	0.42	-1.04	-1.88	-1.20	-0.02	-1.23	1.03	0.43	-0.80	-0.35	-0.65
Balkans MI	p	0.216	0.002	0.000	0.714	0.072	0.703	0.504	0.001	0.486	0.004	0.452	0.018	0.182	0.765	0.332
	s	0.46	0.55	0.56	-0.08	0.56	0.13	-0.09	0.59	0.26	0.84	0.00	0.38	0.48	0.24	0.28
	k	0.49	-0.59	-0.76	-0.12	0.64	-0.38	-0.55	-0.69	-0.28	0.70	-0.76	-0.78	0.03	0.57	-0.47
Carpathians MI	p	0.525	0.833	0.916	0.007	0.939	0.611	0.074	0.863	0.607	0.002	0.661	0.013	0.404	0.171	0.008
	s	-0.05	0.21	-0.04	0.94	-0.05	0.28	-0.47	0.09	0.20	1.06	-0.20	0.52	0.08	0.40	0.84
	k	-0.19	-0.05	-0.06	1.07	-0.27	-0.02	-0.25	-0.07	-0.47	1.11	0.16	-0.64	-0.81	-0.52	0.26
Iberian P. MI	p	0.478	0.004	0.001	0.006	0.267	0.152	0.160	0.002	0.052	0.056	0.014	0.000	0.001	0.031	0.031
	s	0.04	0.24	0.29	0.65	0.27	0.24	-0.16	0.26	0.48	0.48	0.34	0.69	0.58	0.43	0.48
	k	-0.46	-0.87	-0.89	0.58	-0.22	-0.44	0.64	-0.88	0.47	0.40	-0.60	0.00	-0.14	-0.25	0.16
Tian Shan MI	p	0.220	0.600	0.480	0.430	0.426	0.385	0.944	0.716	0.812	0.972	0.290	0.879	0.555	0.919	0.271
	s	-0.27	0.50	0.42	-0.20	0.00	-0.03	-0.10	0.46	0.38	0.27	0.69	-0.12	0.06	-0.01	-0.02
	k	-0.87	-0.04	0.43	-0.89	-1.07	-1.00	-0.19	0.54	-0.11	-0.05	0.25	-0.61	-0.84	-0.10	-1.17

Table S2. Mean values (M) and coefficient of variations (CV) of characteristics (codes as in Table 2) for all populations (acronyms -Table 1).

		CL	CW	CTh	SN	SL	SW	LN	ST	CD	CL/ CD	CW/ CTh	CL/ SL	CD/ SW	CD/ ST	SL/ SW	LN/ ST
AU1	M	5.72	5.66	4.77	2.12	4.15	3.15	17.60	0.79	5.21	1.11	1.19	1.39	1.69	6.64	1.33	22.36
	CV	8.63	9.10	8.61	30.23	9.07	10.68	20.72	5.50	8.66	11.70	4.00	6.91	12.40	8.32	4.90	19.25
AU2	M	5.94	6.12	5.16	2.30	4.31	3.16	15.00	0.80	5.64	1.06	1.19	1.38	1.82	7.20	1.39	19.20
	CV	5.96	5.95	7.29	22.73	6.93	10.42	14.48	6.67	6.17	6.18	4.73	5.72	11.13	8.57	9.90	18.42
AU3	M	6.15	6.91	5.93	2.59	4.22	2.98	15.04	0.79	6.42	0.97	1.17	1.46	2.20	8.22	1.44	19.38
	CV	7.40	10.08	9.38	23.45	6.13	10.42	15.66	5.32	9.00	8.33	8.17	5.17	14.30	9.29	12.29	16.07
AU4	M	6.22	6.61	5.88	2.37	4.28	3.17	16.30	0.81	6.24	1.00	1.13	1.46	2.00	7.78	1.37	20.33
	CV	6.79	7.80	7.70	21.26	6.34	8.85	15.50	6.72	7.44	6.92	4.46	6.17	11.43	8.76	7.66	14.92
BG	M	6.62	6.85	6.04	1.81	4.95	3.79	17.64	0.95	6.45	1.04	1.14	1.34	1.73	6.87	1.33	18.73
	CV	9.75	12.55	13.12	30.23	7.82	7.78	12.58	8.55	12.47	9.68	6.10	7.22	8.31	15.83	9.88	10.01
CRI	M	5.44	5.15	4.55	1.80	3.93	2.88	18.80	0.84	4.85	1.13	1.14	1.40	1.74	5.90	1.39	22.58
	CV	9.18	11.35	12.35	34.40	11.96	18.66	13.29	7.50	11.61	7.12	4.59	7.99	15.64	12.59	8.74	14.53
CRO	M	6.55	6.51	5.97	2.40	4.98	3.50	16.22	0.91	6.24	1.06	1.09	1.32	1.83	6.87	1.46	17.94
	CV	7.25	9.84	10.46	16.91	6.46	10.94	13.03	5.25	9.99	7.21	3.60	6.44	12.26	8.59	10.93	14.39
GR	M	6.95	7.82	6.94	2.89	4.80	3.56	18.71	1.00	7.38	0.95	1.13	1.45	2.15	7.43	1.40	18.94
	CV	9.37	7.64	6.95	19.09	6.84	15.63	8.74	4.12	7.22	8.67	2.42	5.18	14.03	8.30	13.48	10.48
IT1	M	5.94	5.79	5.19	2.26	4.37	3.24	18.94	0.86	5.49	1.09	1.12	1.36	1.74	6.46	1.37	22.32
	CV	5.65	6.34	6.10	17.47	4.91	9.01	14.49	7.15	5.94	7.08	3.96	5.63	11.68	9.33	9.01	15.93
IT2	M	6.55	7.10	6.12	2.13	4.49	3.53	20.00	0.84	6.61	0.99	1.17	1.46	1.90	8.04	1.28	24.10
	CV	6.13	5.84	9.57	17.32	5.50	5.28	6.73	9.15	7.37	3.96	5.73	8.84	6.04	12.26	7.53	10.64
IT3	M	6.71	7.00	6.39	2.00	4.31	3.41	17.37	0.85	6.70	1.01	1.10	1.56	1.98	8.05	1.28	21.04
	CV	3.22	11.21	8.80	23.80	4.62	5.49	18.65	10.06	9.62	7.32	6.73	4.32	11.56	16.73	5.60	24.82
KYR1	M	6.18	6.91	5.88	2.21	4.50	3.39	17.65	0.75	6.40	0.97	1.18	1.38	1.92	8.58	1.35	23.80
	CV	6.20	5.50	5.84	24.74	4.86	12.16	8.94	6.67	4.77	4.09	6.36	8.12	12.11	10.48	12.44	8.25
KYR2	M	6.71	7.39	6.50	2.85	4.41	3.30	14.41	0.76	6.99	0.97	1.16	1.54	2.18	9.45	1.37	19.84
	CV	5.75	8.49	8.76	26.42	7.97	8.83	14.92	8.98	7.90	5.94	3.72	9.05	8.84	9.43	5.89	22.79
KYR3	M	6.51	6.83	5.90	2.24	4.58	2.97	15.22	0.78	6.37	1.03	1.16	1.42	2.18	8.30	1.56	19.94
	CV	10.24	8.68	9.49	17.90	7.16	12.83	11.83	3.63	8.62	6.04	5.65	10.28	10.32	8.67	7.44	12.96
NM1	M	6.30	6.43	5.68	2.67	4.55	3.02	17.89	0.81	6.06	1.05	1.13	1.38	2.07	7.58	1.56	22.44
	CV	8.03	8.73	9.26	19.59	4.81	15.39	9.22	6.27	8.62	8.99	5.21	5.04	12.44	10.76	14.87	13.27
NM2	M	5.80	6.09	5.40	2.63	4.45	3.18	18.73	0.88	5.74	1.02	1.13	1.31	1.86	6.61	1.43	21.60
	CV	9.01	9.00	8.74	19.92	7.54	12.31	10.09	6.10	8.43	9.18	5.74	7.36	11.34	10.29	9.88	11.48
RO1	M	6.16	6.56	6.01	1.71	4.44	3.60	14.49	1.01	6.29	0.99	1.09	1.39	1.77	6.26	1.25	14.48
	CV	8.84	9.17	8.22	25.15	4.03	10.37	13.67	5.49	8.57	8.26	3.14	8.18	9.38	8.09	13.35	14.24
RO2	M	6.69	7.37	6.56	2.73	4.65	3.42	15.35	0.98	6.97	0.97	1.13	1.44	2.10	7.16	1.40	15.73
	CV	10.41	11.47	11.23	32.48	5.92	12.32	11.37	4.88	11.06	7.49	5.53	7.71	16.08	12.62	13.14	11.21
RO3	M	6.22	6.41	5.75	2.41	4.66	3.32	16.54	0.85	6.08	1.03	1.12	1.34	1.88	7.25	1.44	19.70
	CV	12.09	10.80	12.18	30.14	5.92	12.40	12.24	5.88	11.23	6.55	5.28	11.22	14.08	14.01	11.26	13.93
SP1	M	6.48	6.78	5.89	2.47	4.49	3.30	19.79	0.82	6.34	1.03	1.15	1.45	1.97	7.92	1.39	24.79
	CV	7.78	7.26	8.11	20.91	9.31	11.57	10.76	7.68	7.47	8.54	3.51	4.18	13.54	11.02	9.29	13.86
SP2	M	6.55	6.46	5.84	1.83	4.22	3.32	19.74	0.84	6.15	1.07	1.11	1.56	1.89	7.43	1.29	24.08
	CV	5.92	9.05	8.13	22.51	4.59	8.20	8.75	6.34	8.43	4.59	3.73	4.48	13.65	10.88	10.07	12.29
SP3	M	6.51	6.36	5.76	1.52	4.40	3.37	19.31	0.89	6.06	1.09	1.11	1.49	1.82	6.89	1.33	21.93
	CV	8.41	12.70	11.65	22.19	7.26	10.31	10.60	4.26	12.11	8.04	3.14	8.14	10.49	13.30	10.84	12.91
SP4	M	6.97	7.13	6.34	2.08	4.77	3.79	18.80	0.87	6.73	1.04	1.13	1.47	1.84	8.04	1.29	22.05
	CV	5.29	6.71	4.80	34.06	4.61	11.32	9.55	7.59	5.68	4.94	3.20	4.73	15.69	13.80	9.28	13.77
SP5	M	5.49	5.26	4.69	1.59	4.26	3.43	18.32	0.92	4.97	1.11	1.12	1.29	1.47	5.47	1.25	20.10
	CV	6.30	7.93	6.58	20.24	5.80	6.82	11.35	5.75	7.15	7.24	3.34	5.42	8.39	9.27	6.86	11.79
SP6	M	5.51	5.59	4.98	1.88	4.14	3.21	19.57	0.90	5.28	1.05	1.12	1.34	1.67	5.95	1.31	22.13
	CV	9.24	11.46	11.16	24.63	4.86	9.34	10.92	6.04	11.24	8.41	2.72	6.82	14.10	15.59	8.52	15.39
SP7	M	6.29	5.46	4.93	1.49	4.52	3.56	18.85	0.88	5.19	1.22	1.11	1.40	1.49	5.95	1.29	21.63
	CV	6.08	7.52	6.93	24.03	6.53	9.43	11.62	4.20	7.09	7.46	2.93	5.67	10.75	9.70	8.24	13.06
SW	M	5.90	5.97	5.24	2.27	4.44	3.25	16.53	0.82	5.60	1.06	1.14	1.34	1.79	6.98	1.40	20.63
	CV	3.81	8.37	7.62	17.27	7.19	13.01	10.72	5.76	7.81	6.15	3.85	5.86	15.86	10.91	12.63	14.06
TU	M	6.56	6.68	5.91	2.82	4.92	3.15	17.65	0.95	6.29	1.05	1.13	1.34	2.04	6.70	1.59	18.92
	CV	8.41	6.80	7.97	17.90	8.17	10.47	13.33	5.50	7.22	5.94	2.95	4.95	8.86	8.48	8.44	16.55

Table S3. Results of two-factor nested mixed analysis of variance between populations and regions, for characters meeting assumptions.

		df	MS	F	p
CW	region	7	0.0573	1.9536	0.1134
	population	20	0.0306	19.7798	0.0000*
SL	region	7	0.0246	5.0131	0.0020*
	population	20	0.0051	5.9196	0.0000*
SW	region	7	0.0218	2.4184	0.0565
	population	20	0.0093	4.0806	0.0000*
ST	region	7	0.0506	5.6937	0.0010*
	population	20	0.0092	13.0240	0.0000*
CL/CD	region	7	0.0215	2.3397	0.0639
	population	20	0.0095	9.1697	0.0000*
CD/ST	region	7	0.0702	1.7514	0.1534
	population	20	0.0418	18.8089	0.0000*
LN/ST	region	7	0.1179	4.7723	0.0026*
	population	20	0.0257	6.6892	0.0000*