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## Effects of genotype and environmental conditions on grapevine (*Vitis vinifera* L.) shoot morphology

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Table S 1

Component matrix of the four main Principal Component functions

Parameter	Principal component			
	1	2	3	4
Leaf area	0.929	-0.325	0.066	-0.068
Stem diameter	0.386	0.437	-0.159	-0.685
Stem length	0.869	0.257	-0.085	0.381
Petiole diameter	0.809	-0.039	0.230	-0.440
Petiole length	0.564	0.204	0.729	0.183
Stem length/Stem diameter ratio	0.604	0.005	-0.024	0.717
Stem area	0.883	0.420	-0.122	-0.019
Petiole length/Petiole diameter ratio	-0.183	0.228	0.496	0.609
Petiole area	0.798	0.100	0.558	-0.175
Total area	0.955	-0.248	0.068	-0.070
Leaf area %	0.086	-0.989	0.015	0.009
Stem area %	0.065	0.948	-0.290	0.028
Petiole area %	-0.416	0.539	0.680	-0.098
Leaf area/Stem area ratio	-0.054	-0.931	0.242	-0.062
Leaf area/Petiole area ratio	0.366	-0.630	-0.626	0.143
Stem area/Petiole area ratio	0.361	0.463	-0.776	0.142

Table S 2

Relative contribute of the experimental factors and their interactions to the total variance observed in the tested parameters

Parameter	Relative contribute to the total variance							Error
	Site	Cultivar	Internode	Site * Cultivar	Site * Internode	Cultivar * Internode	Site * Cultivar * Internode	
Leaf area	14.38	52.80	23.87	5.93	1.58	0.62	0.41	0.42
Stem diameter	38.17	27.86	18.75	13.13	0.40	0.52	0.20	0.98
Stem length	33.38	21.37	37.35	2.55	3.33	1.13	0.54	0.35
Petiole diameter	2.89	74.02	11.96	8.28	0.31	1.45	0.39	0.69
Petiole length	53.81	14.62	20.86	7.15	1.43	0.47	0.82	0.83
Stem length/Stem diameter ratio	38.51	11.27	43.96	0.94	3.58	1.04	0.41	0.29
Stem area	26.39	38.11	21.02	8.76	3.23	1.14	0.61	0.74
Petiole length/Petiole diameter ratio	63.65	27.54	2.33	3.77	0.83	0.66	0.57	0.65
Petiole area	15.91	46.79	23.33	10.86	0.86	0.71	0.67	0.87
Total area	11.98	53.58	25.11	6.28	1.68	0.56	0.40	0.43
Leaf area %	71.00	16.20	2.39	4.95	0.87	2.86	0.95	0.79
Stem area %	60.21	21.44	1.18	8.27	2.08	4.42	1.35	1.04
Petiole area %	67.06	17.28	3.96	7.49	2.65	0.44	0.55	0.57
Leaf area/Stem area ratio	66.69	17.39	0.09	7.64	2.32	3.44	1.58	0.84
Leaf area/Petiole area ratio	72.73	12.33	5.18	5.13	3.04	0.52	0.48	0.58
Stem area/Petiole area ratio	27.20	30.70	2.84	18.82	12.81	4.54	1.67	1.41

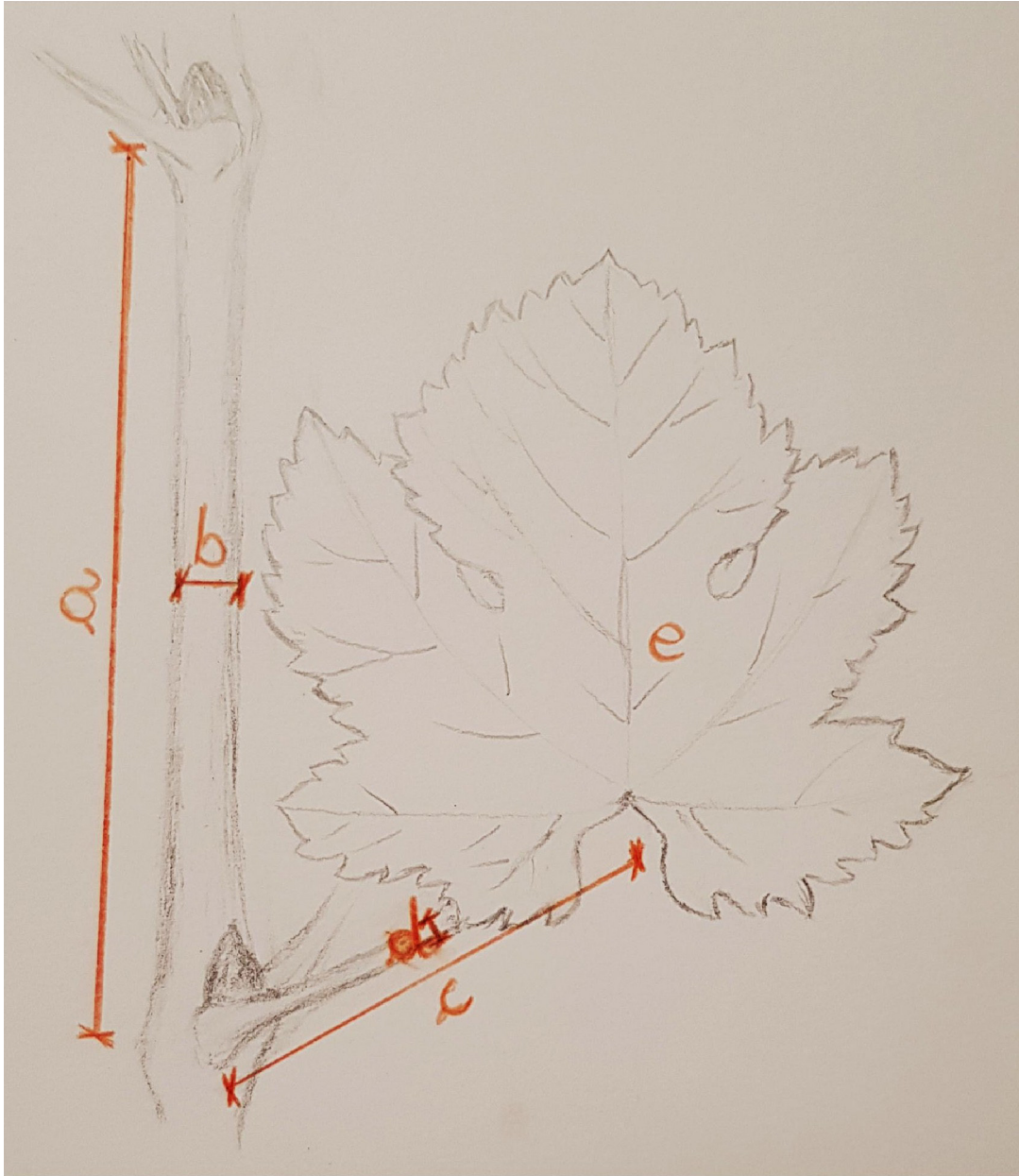


Fig. S1: Scheme of the measurements of the phytomers. **a)** stem length; **b)** stem diameter; **c)** petiole length; **d)** petiole diameter; **e)** leaf area.

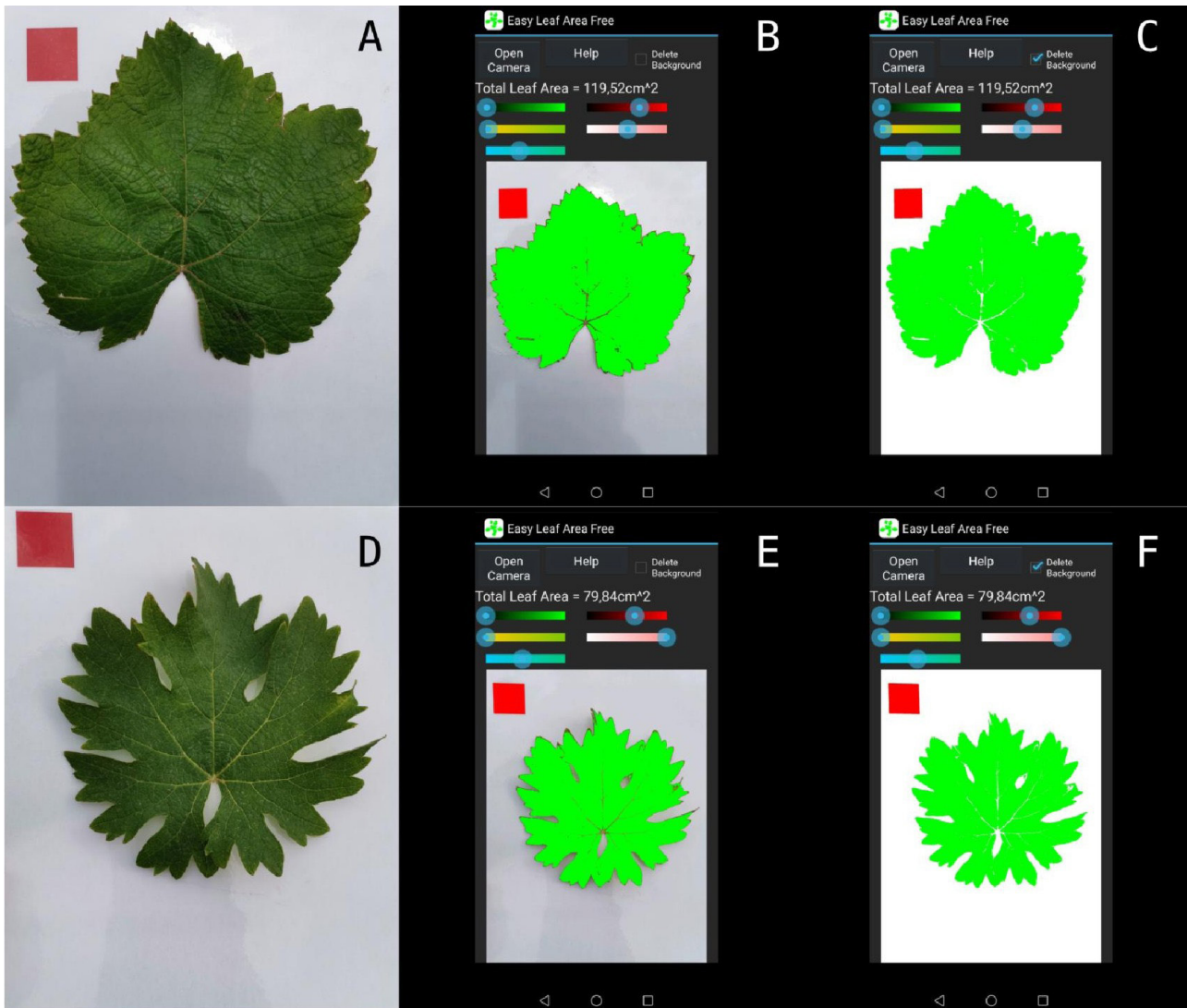


Fig. S2: Examples of the Easy Leaf Area Free App. A, D) Original photo of the grapevine leaf. B, E) Recognition of the green (leaf) and red (scale) areas. C, F) Removal of original photo background. The red square has an area of 4 cm<sup>2</sup>, and is used by the app to calculate the leaf area.

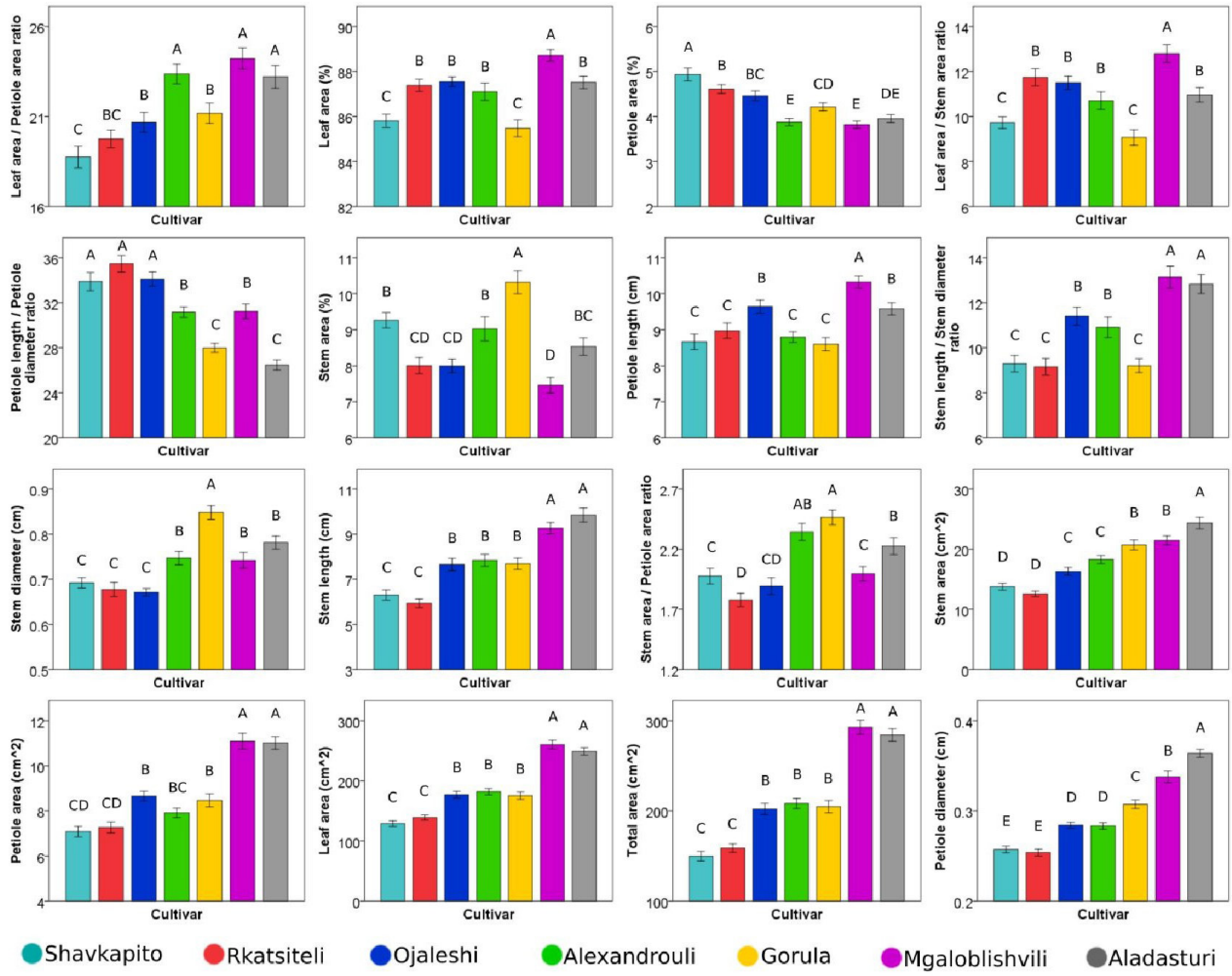


Fig. S3: Means ± standard errors of the measured parameters grouped by cultivars. Bars are colored by cultivar according to the legend. Different letters above the bars indicate significantly different means (Duncan's Post-hoc test,  $p = 0.05$ ).

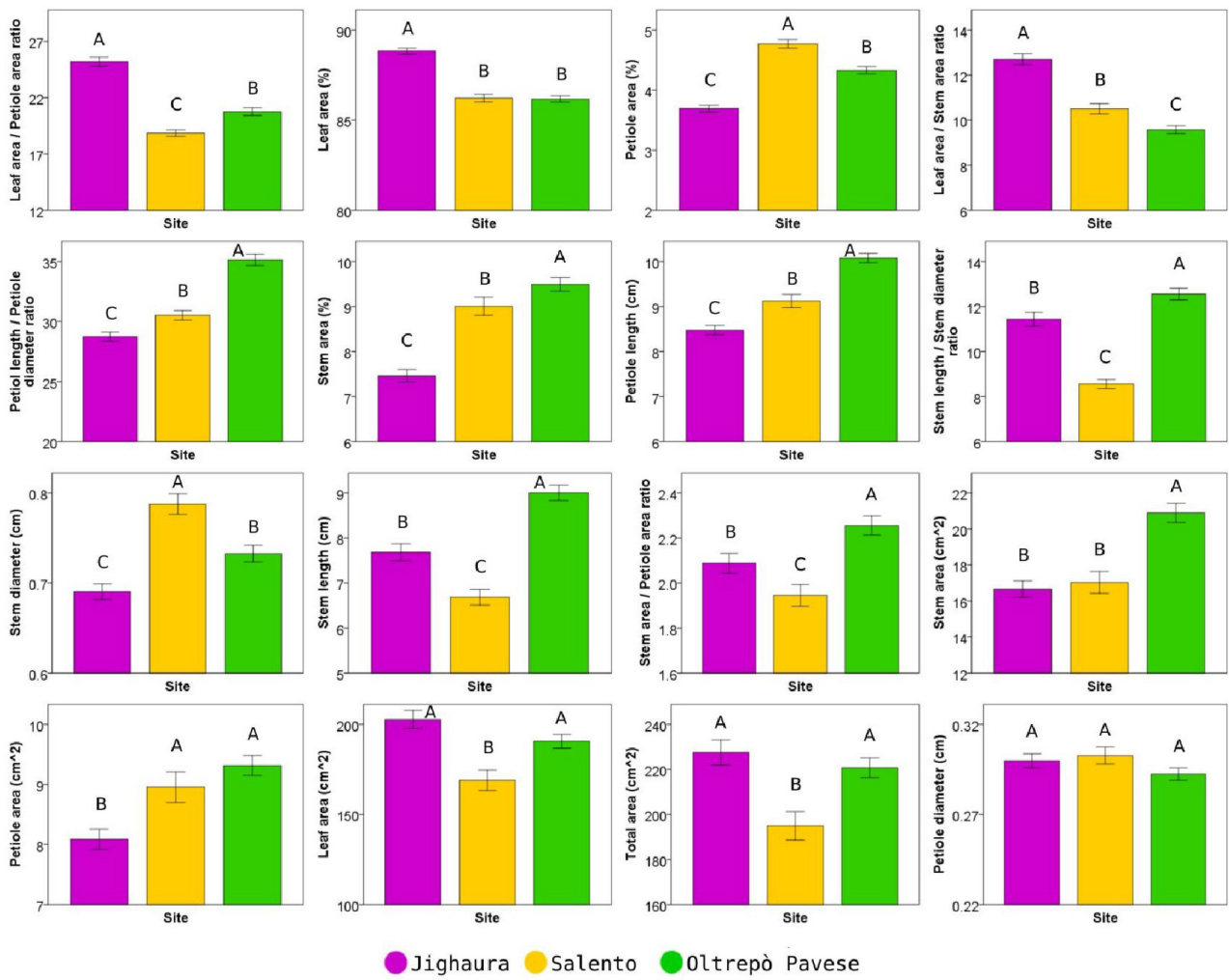


Fig. S4: Means ± standard errors of the measured parameters grouped by experimental site. Bars are colored by experimental site according to the legend. Different letters above the bars indicate significantly different means (Duncan's Post-hoc test,  $p = 0.05$ ).



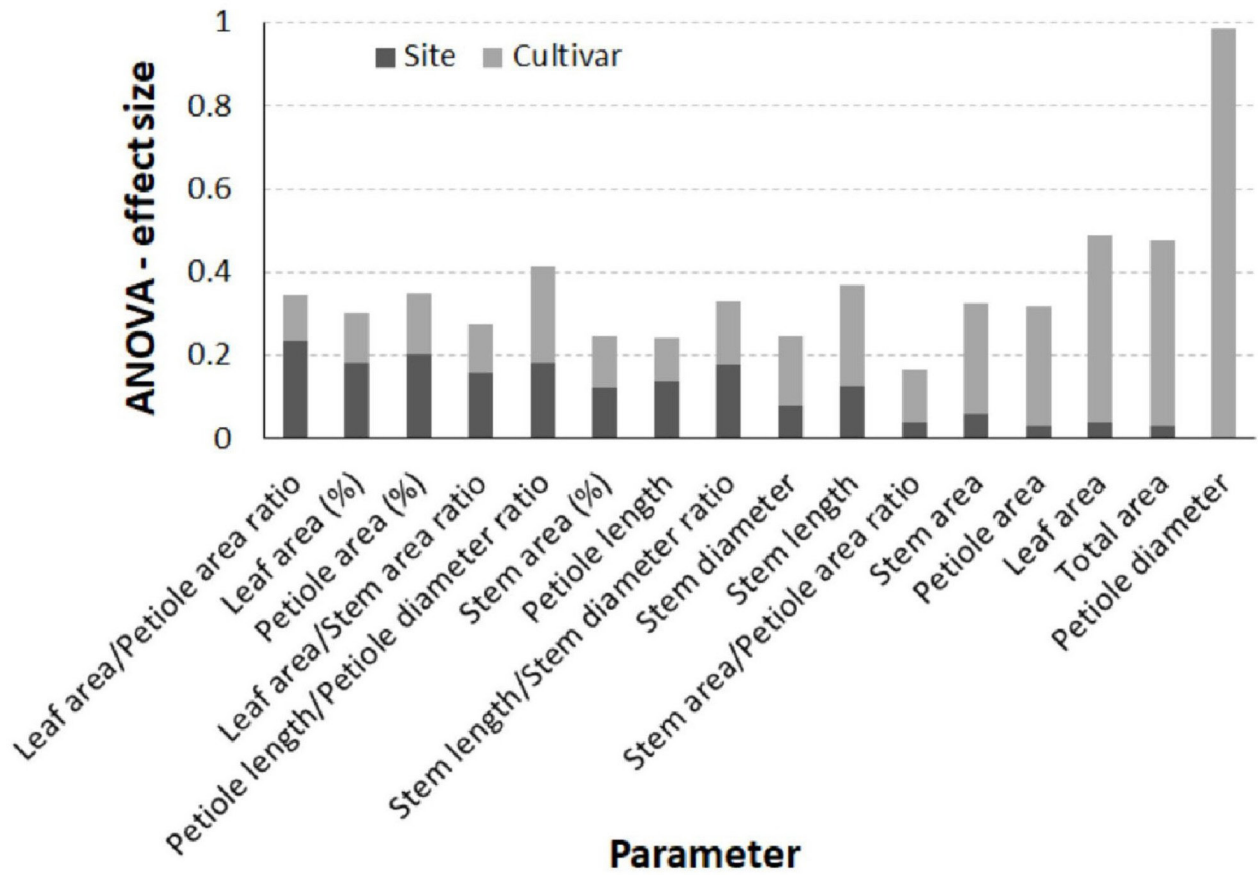


Fig. S5: ANOVA – effect sizes of the factors "site" and "cultivar". Pearson correlation is indirect and significant (see text).