

Supplemental Data for:

Zdunić G, Maul E, Hančević K, Leko M, Butorac L, Mucalo A, Radić T, Šimon S, Budić-Leto I, Žulj Mihaljević M and Maletić E. 2017. Genetic diversity of wild grapevine [*Vitis vinifera* L. subsp. *sylvestris* (Gmel.) Hegi] in the eastern Adriatic region. *Am J Enol Vitic* 68:252-257. doi: 10.5344/ajev.2016.16072.

Supplemental Table 1 List of grapevine samples included in this study.

Sample name	Country of origin	Collecting site	Status/main use
GZ1	Croatia	Gizdavac	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
GZ2	Croatia	Gizdavac	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
GZ3	Croatia	Gizdavac	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
IM1	Croatia	Imotski	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
IM2	Croatia	Imotski	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
IM3	Croatia	Imotski	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
IM4	Croatia	Imotski	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
IM5	Croatia	Imotski	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
IM6	Croatia	Imotski	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
IM7	Croatia	Imotski	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
IM8	Croatia	Imotski	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
IM9	Croatia	Imotski	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
IM10	Croatia	Imotski	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
IM11	Croatia	Imotski	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
NE1	Bosnia and Herzegovina	Neretva	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
NE2	Bosnia and Herzegovina	Neretva	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
NE3	Bosnia and Herzegovina	Neretva	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
NE4	Bosnia and Herzegovina	Neretva	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
NE5	Bosnia and Herzegovina	Neretva	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
NE6	Bosnia and Herzegovina	Neretva	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
NE7	Bosnia and Herzegovina	Neretva	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
NE8	Bosnia and Herzegovina	Neretva	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
NE9	Bosnia and Herzegovina	Neretva	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
NE10	Bosnia and Herzegovina	Neretva	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
NE11	Bosnia and Herzegovina	Neretva	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
NE12	Bosnia and Herzegovina	Neretva	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
NE13	Bosnia and Herzegovina	Neretva	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
NE14	Bosnia and Herzegovina	Neretva	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
NE15	Bosnia and Herzegovina	Neretva	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
NE16	Bosnia and Herzegovina	Neretva	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
NE17	Bosnia and Herzegovina	Neretva	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
NE18	Bosnia and Herzegovina	Neretva	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
NE19	Bosnia and Herzegovina	Neretva	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
NE20	Bosnia and Herzegovina	Neretva	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
PK1	Croatia	Paklenica	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
PK2	Croatia	Paklenica	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
PK3	Croatia	Paklenica	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
PK4	Croatia	Paklenica	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
PK5	Croatia	Paklenica	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
PK6	Croatia	Paklenica	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
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PK11	Croatia	Paklenica	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
PK12	Croatia	Paklenica	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
PK13	Croatia	Paklenica	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
PK14	Croatia	Paklenica	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
PK15	Croatia	Paklenica	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
PK16	Croatia	Paklenica	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
PK17	Croatia	Paklenica	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
PK18	Croatia	Paklenica	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
PK19	Croatia	Paklenica	wild (<i>V. v.</i> subsp. <i>sylvestris</i>)
Heunisch schwarz	Austria	JKI collection ^a	cultivated (<i>V. v.</i> subsp. <i>vinifera</i>)
Zilavka	Bosnia and Herzegovina	JKI collection	cultivated (<i>V. v.</i> subsp. <i>vinifera</i>)
Blatina	Bosnia and Herzegovina	JKI collection	cultivated (<i>V. v.</i> subsp. <i>vinifera</i>)
Vugava	Croatia	JKI collection	cultivated (<i>V. v.</i> subsp. <i>vinifera</i>)
Ruderusa	Croatia	JKI collection	cultivated (<i>V. v.</i> subsp. <i>vinifera</i>)
Dobricic	Croatia	JKI collection	cultivated (<i>V. v.</i> subsp. <i>vinifera</i>)
Plavac mali	Croatia	JKI collection	cultivated (<i>V. v.</i> subsp. <i>vinifera</i>)

(continued on page 2)

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Supplemental Table 1 (continued) List of grapevine samples included in this study.

Sample name	Country of origin	Collecting site	Status/main use
Nincusa	Croatia	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Malvasia Istriana	Croatia	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Ljutac	Croatia	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Lasina	Croatia	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Kurtelaska	Croatia	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Kadarun	Croatia	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Zlahtina	Croatia	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Mekuja bijela	Croatia	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Sauvignon blanc	France	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Saint Laurent	France	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Chenin blanc	France	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Altesse	France	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Manseng petit blanc	France	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Tauberschwartz	Germany	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Gelbhoelzer blau	Germany	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Affenthaler	Germany	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Riesling weiss	Germany	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Elbling rot	Germany	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Primitivo	Italy	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Mostosa	Italy	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Vranac	Montenegro	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Raeuschling weiss	Switzerland	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Malanstraube	Switzerland	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Arvine petite	Switzerland	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Amigne	Switzerland	JKI collection	cultivated (<i>V.v.</i> subsp. <i>vinifera</i>)
Paulsen 1045		JKI collection	Rootstock
Richter 110		JKI collection	Rootstock
Richter 99		JKI collection	Rootstock
Riparia grand glabre		JKI collection	Rootstock
Paulsen 1447		JKI collection	Rootstock
Selektion Oppenheim 5		JKI collection	Rootstock
Rupestris du Lot		JKI collection	Rootstock

^aJKI Institut für Rebenzüchtung Geilweilerhof grapevine germplasm collection (DEU098), Germany.

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Supplemental Table 2 Genetic parameters for 21 SSR loci in 92 grape accessions.				
Locus	No. of alleles	He^a	Ho^a	PIC^a
ZAG62	9	0.772	0.717	0.735
ZAG79	11	0.730	0.674	0.706
VVIV67	21	0.897	0.778	0.883
VVIN16	5	0.720	0.584	0.665
VVIP60	10	0.833	0.707	0.806
VVMD25	9	0.801	0.750	0.768
VVIN73	6	0.461	0.391	0.438
VVMD5	12	0.847	0.736	0.824
VVIB01	8	0.705	0.556	0.651
VVMD24	9	0.751	0.593	0.717
VVMD32	14	0.817	0.714	0.793
VVMD27	13	0.718	0.630	0.689
VVIQ52	4	0.617	0.460	0.551
VVS2	13	0.837	0.837	0.815
VVIV37	13	0.813	0.663	0.786
VMC4F3.1	15	0.769	0.567	0.733
VMC1B11	12	0.820	0.703	0.792
VVMD21	11	0.605	0.410	0.574
VVMD28	15	0.795	0.611	0.773
VVIP31	14	0.865	0.815	0.846
VVMD7	15	0.849	0.837	0.828
Range	4–21	0.461–0.897	0.391–0.837	0.438–0.883
Mean	11.4	0.763	0.654	0.732
Total	239			

^aHe: expected heterozygosity; Ho: observed heterozygosity; and PIC: polymorphic information content.

Supplemental Data for:

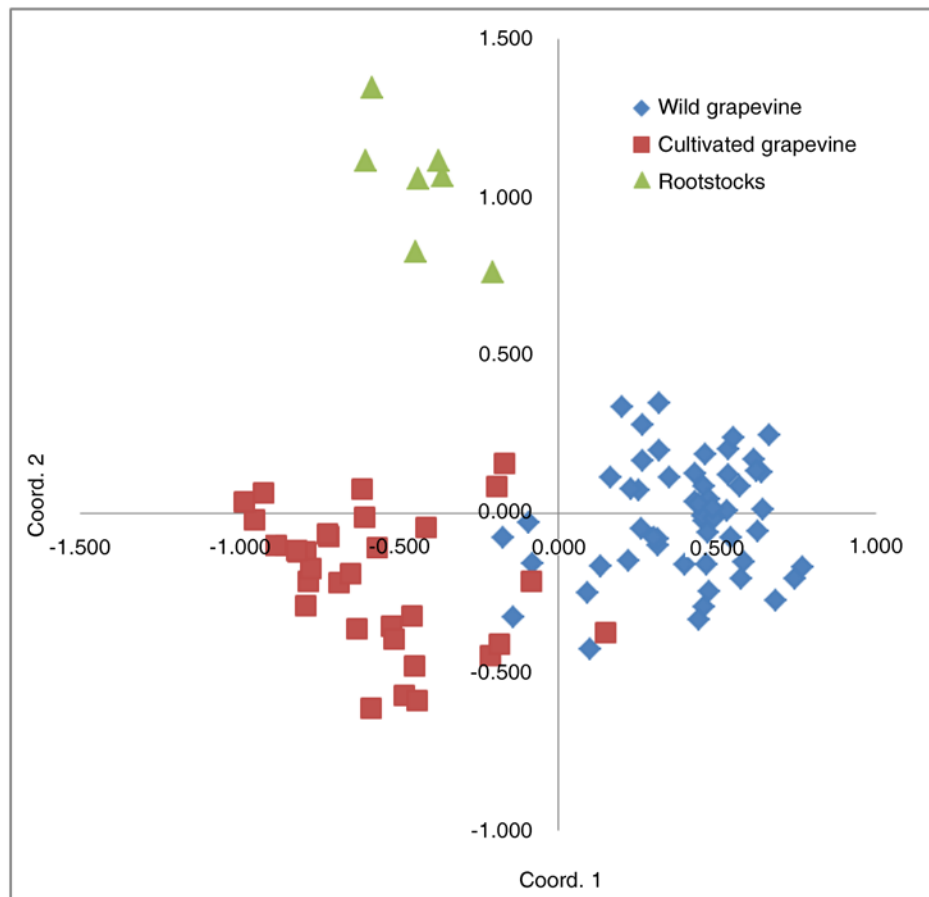
Zdunić G, Maul E, Hančević K, Leko M, Butorac L, Mucalo A, Radić T, Šimon S, Budić-Leto I, Žulj Mihaljević M and Maletić E. 2017. Genetic diversity of wild grapevine [*Vitis vinifera* L. subsp. *sylvestris* (Gmel.) Hegi] in the eastern Adriatic region. *Am J Enol Vitic* 68:252-257. doi: 10.5344/ajev.2016.16072.

Supplemental Table 3 List of private alleles with their frequencies (in brackets) identified by comparing 21 SSR markers in three sample groups: wild grapevines, cultivated grapevines, and rootstocks.

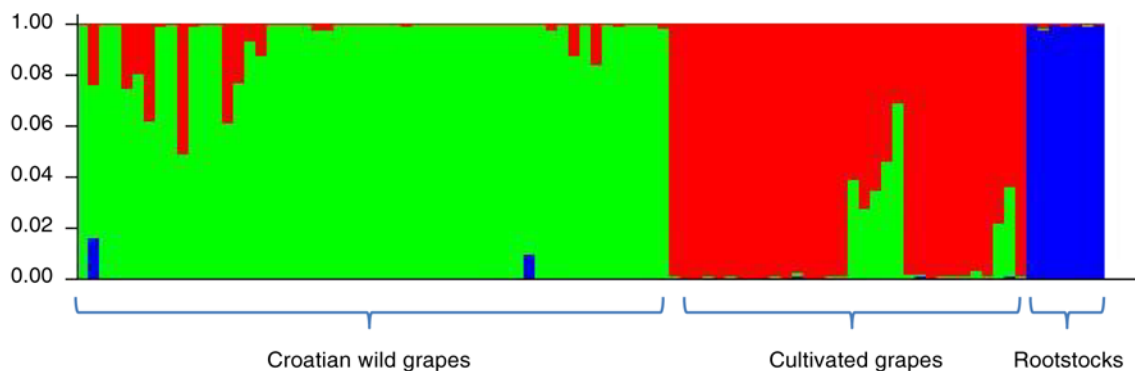
Locus	Wild	Cultivated	Rootstock
Zag62	202 (0.019)		210 (0.071), 214 (0.286)
Zag79		237 (0.141), 239 (0.031), 249 (0.078), 257 (0.031)	263(0.214)
VVIV67	359 (0.245), 361 (0.217), 367 (0.085), 377 (0.038)	262 (0.016), 358 (0.250), 360 (0.031), 362 (0.094), 365 (0.297), 366 (0.047), 368 (0.047), 376 (0.047)	329 (0.100), 345 (0.200), 347 (0.100), 348 (0.400), 355 (0.100)
VVIN16			173 (0.400)
VVIP60	314 (0.019), 316 (0.208)		308 (0.357), 310 (0.500)
VVMD25	273 (0.009)		247 (0.143)
VVIN73	260 (0.113)		
VVMD5	232 (0.010)	248 (0.047)	268 (0.214), 270 (0.214)
VVIB01	293 (0.010)	307 (0.031)	285 (0.214), 287 (0.071)
VVMD24		214 (0.156)	200 (0.143), 202 (0.071)
VVMD32	247 (0.019)	274 (0.016)	235 (0.083), 237 (0.083), 254 (0.167), 260 (0.667)
VVMD27		176 (0.031), 195 (0.063)	198 (0.071), 200 (0.071), 204 (0.214), 206 (0.143), 208 (0.214), 212 (0.071)
VVIQ52	80 (0.040)		
VVS2	141 (0.085), 157 (0.009)	135 (0.031), 153 (0.016)	
VVIV37	152 (0.009), 166 (0.038)	168 (0.141), 174 (0.078), 176 (0.016)	146 (0.286)
VMC4F3.1	163 (0.010), 173 (0.010)	165 (0.226), 167 (0.016), 182 (0.032), 188 (0.097)	186 (0.286), 187 (0.143), 212 (0.143), 232 (0.286), 242 (0.143)
VMC1B11		179 (0.032)	193 (0.143)
VVMD21	231 (0.028), 251 (0.028), 252 (0.019), 253 (0.009)	257 (0.053)	221 (0.417), 229 (0.583)
VVMD28		218 (0.031), 258 (0.172), 278 (0.016)	216 (0.071), 220 (0.286), 232 (0.071), 242 (0.143), 252 (0.143)
VVIP31	195 (0.085)	175 (0.016), 179 (0.063)	197 (0.143), 203 (0.071), 209 (0.143)
VVMD7	238 (0.038), 256 (0.028)	243 (0.063), 245 (0.016), 255 (0.016)	231 (0.143), 265 (0.071)

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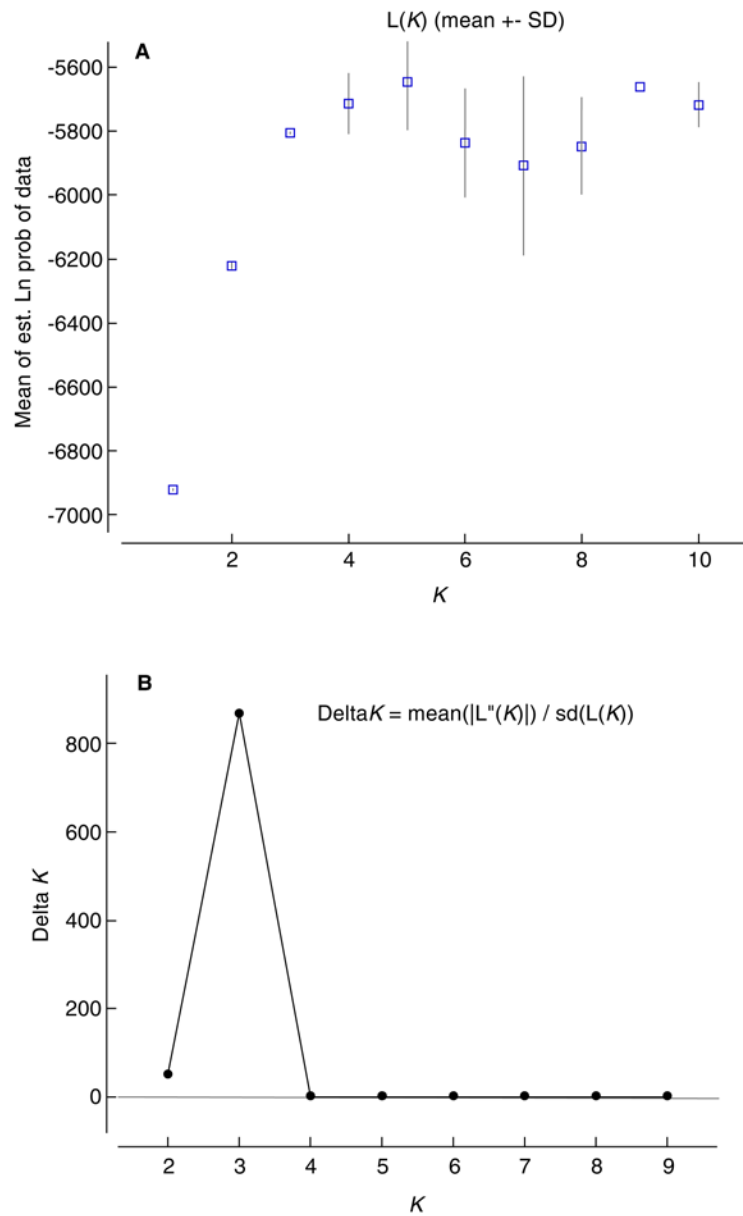
Supplemental Figure 1 Principal coordinate analysis of 53 accessions of wild grapevine, 32 cultivars of *V. vinifera* subsp. *vinifera*, and seven rootstocks based on 21 SSR loci.



Supplemental Figure 2 Graphical presentation of the population structure of 92 grapevine accessions. Each accession is represented by a single vertical bar divided into *K* color segments representing its proportions in the three inferred genetic clusters using STRUCTURE software. Accessions were grouped into populations, and the population name is given below each group of accessions.

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Supplemental Figure 3 Bayesian assignment analysis (A) plot of mean likelihood $L(K)$ and variance per K value exploited by STRUCTURE software on a data set of 92 individuals based on 21 SSR loci. (B) The optimal number of K that best fit the data set is three.