

1 **Supplementary Materials**

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**Table S1.** List of natural chestnut populations living in the proximity of large old trees used for the genetic analysis. (Mattioni et al.2017).

Country	Region	Sampling site	ID	Latitude	Longitude
Italy	Sicily	Madonie	IT01	37.8300	14.0900
Italy	Calabria	Sila Piccola	IT02	39.0500	16.7200
Italy	Lazio	Monte Cimini	IT05	42.4100	12.1900
Italy	Tuscany	Mugello	IT06	43.9700	11.5700

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**Table 2.** Microsatellite Genotypes observed in each large old chestnut trees.

ID	Traditional name	n° Genotypes observed
1	"Nave"	1
2	"Cento Cavalli"	1
3	"Castagno Vespa"	1
4		1
5		1
6	"Castagno Ruossa"	1
7		1
8		1
9		1
10		1
11		1
12		1
13		1
14		1

15	1
16	1
17	1
18	2
19	1
20	1
21	1
22	2
23	1
24	1
25	1
26	1
27	1
28	1
29	1
30	1
31	2
32	2
33	1
34	1
35	1
36	1
37	2
38	1
39	1
40	1
41	1
42	1
43	1*
44	2*
45	2*
46	2*

47		1
48		1
49		1*
50		1*
51		1
52		1*
53		2*
54		2*
55		2
56		2*
57		1
58		1
59		1
60		2*
61		1
62		2
63		1
64		1
65		1
66	<i>"Miraglia"</i>	1
67		1
68		1
69		1
70		2**
71		1**
72		2**
73	<i>"Roggio"</i>	1
74		2+
75	<i>"Prato Maleta"</i>	2+
76		2++
77		2++
78		2+

79		1
80	<i>"Prato Fosco"</i>	1++
81	<i>"Volpiglione"</i>	2++
82		1
83		2
84	<i>"Marchi"</i>	1
85		2§
86		2§
87		1
88		2§
89		2§
90		2§
91		1
92		2
93		2§
94		2§
95		1§
96		2§
97		1
98		2
99		1§

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\* indicates same canopy genotype; \*\* indicates same canopy genotype; + indicates same canopy genotype; ++ indicates same canopy genotype; § indicates same canopy genotype

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**Table S3.** Genetic diversity values large old trees and natural populations living in the proximity. Na = number of alleles, Ne = effective number of allele; He = expected heterozygosity; uHe = unbiased heterozygosity;

Mean values								
Population	Large old trees Sicily	Natural pop. IT01	Large old trees Calabria	Natural pop IT02	Large old trees lazio-Umbria	Natural pop IT05	Large old trees Tuscany	Natural pop IT06
Na	6.600	7.400	<b>9.600</b>	7.800	8.800	9.000	<b>11.800</b>	8.200
Na Freq. >= 5%	5.200	5.200	6.200	4.200	6.600	4.200	4.200	6.000
Ne	4.744	4.513	4.551	3.667	5.785	4.286	5.024	5.567
I	1.592	1.618	1.777	1.521	1.841	1.642	1.879	1.826
No. Private Alleles	0.200	0.200	<b>1.200</b>	0.200	<b>0.000</b>	0.600	<b>1.000</b>	0.000
No. LComm Alleles (<=25%)	1.000	0.800	<b>1.200</b>	0.800	1.200	0.600	<b>1.200</b>	1.200
No. LComm Alleles (<=50%)	2.400	3.000	3.400	2.600	3.400	2.600	3.600	3.000
He	0.735	0.724	0.767	0.698	0.793	0.720	0.776	0.804
uHe	0.764	0.738	0.780	0.712	0.814	0.736	0.785	0.826

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**Table S4.** Sample use for Chloroplast DNA sequence analyses and haplotypes observed.

Haplotype	ID	Type of tree	Sampling site	Region	Country
H1	1	Ancient tree	Etna	Sicily	Italy
	2	Ancient tree	Etna	Sicily	Italy
	3	Ancient tree	Etna	Sicily	Italy
	13	Ancient tree	Madonie	Sicily	Italy
	40	Ancient tree	Parrano	Umbria	Italy
	55	Ancient tree	Spoletto	Umbria	Italy
	61	Ancient tree	Mugello	Tuscany	Italy
	63	Ancient tree	Mugello	Tuscany	Italy
	84	Ancient tree	Garfagnana	Tuscany	Italy
	87	Ancient tree	Garfagnana	Tuscany	Italy
	94	Ancient tree	Garfagnana	Tuscany	Italy
	102	Ancient tree	Villar del Pedroso	Extremadura	Spain
	103	Ancient tree	Guadalupe	Extremadura	Spain
	IT01	One tree from natural pop.	Madonie	Sicily	Italy
IT02	One tree from natural pop.	Sila Piccola	Calabria	Italy	
IT06	One tree from natural pop	Mugello	Tuscany	Italy	
IT05	One tree from natural pop.	Monti Cimini	Lazio	Italy	
TR03	One tree from natural pop	Hopa	Artivin	Turkey	
TR11	Two trees from natural pop	Bursa	Bursa	Turkey	
H2	39	Ancient tree	La Canala	Lazio	Italy
	42	Ancient tree	Narni	Umbria	Italy
	51	Ancient tree	Spoletto	Umbria	Italy
	56	Ancient tree	Spoletto	Umbria	Italy
	100	Ancient tree	Tempio Pausania	Sardinia	Italy
	IT05	One tree from natural pop.	Monti Cimini	Lazio	Italy
	IT06	One tree from natural pop	Mugello	Tuscany	Italy
	IT01	One tree from natural pop.	Madonie	Sicily	Italy

	IT02	Three trees from natural pop.	Sila Piccola	Calabria	Italy
	TR11	Two trees from natural pop	Bursa	Bursa	Turkey
H3	101	One tree from natural pop	Tempio Pausania	Sardinia	Italy
	TR03	One tree from natural pop	Hopa	Artivin	Turkey
	IT01	One tree from natural pop.	Madonie	Sicily	Italy
H4	16	Ancient tree	Aspromonte	Calabria	Italy
	IT01	One tree from natural pop.	Madonie	Sicily	Italy
H5	14	Ancient tree	Aspromonte	Calabria	Italy
H6	32	Ancient tree	Sila	Calabria	Italy
H7	TR03	One tree from natural pop	Hopa	Artivin	Turkey
H8	IT05	One tree from natural pop	Monti Cimini	Lazio	Italy
H9	22	Ancient tree	Sila	Calabria	Italy
	36	Ancient tree	Pollino	Calabria	Italy
	47	Ancient tree	Stroncone	Umbria	Italy
	66	Ancient tree	Mugello	Tuscany	Italy
H10	6	Ancient tree	Etna	Sicily	Italy