SUPPLEMENTARY MATERIAL

Parameter Estimate

Demographic parameters were drawn with the following distributions: lognormal (mean = 300; SD = 250) for demographic event times of all species and log-normal (mean = 1000; SD = 1000) for current or ancestral effective population sizes. We simulated SSRs using a generalized stepwise- mutation model [1–2] with two parameters: the mean mutation rate (μ_{SSR}) and the mean of the geometric distribution of the probability of being a one-step mutation (P) were drawn, respectively, from Uniform [10^{-5}; 10^{-3}] and Uniform [0.1; 0.3] hyperprior distributions. Each locus was characterized by individual μ_i and P_i values, respectively, drawn from Gamma (mean = mean μ_{SSR}; shape = 2) and Gamma (mean = P; shape = 2) prior distributions. Coalescent modelling was applied to SSR data, using DIYABC version 2.1.0 [3], on the ancestral genetic clusters identified by STRUCTURE. The summary statistics computed for SSR loci were as follows: mean number of alleles, gene diversity [4] and allele size variance. These summary statistics are influenced by demographic changes [2–5]. We simulated 1,000,000 data sets for each scenario. In the 'scenario choice' approach, we estimated posterior probabilities P using a logistic regression method [6] on 1%–5% simulations closest to observed statistics.
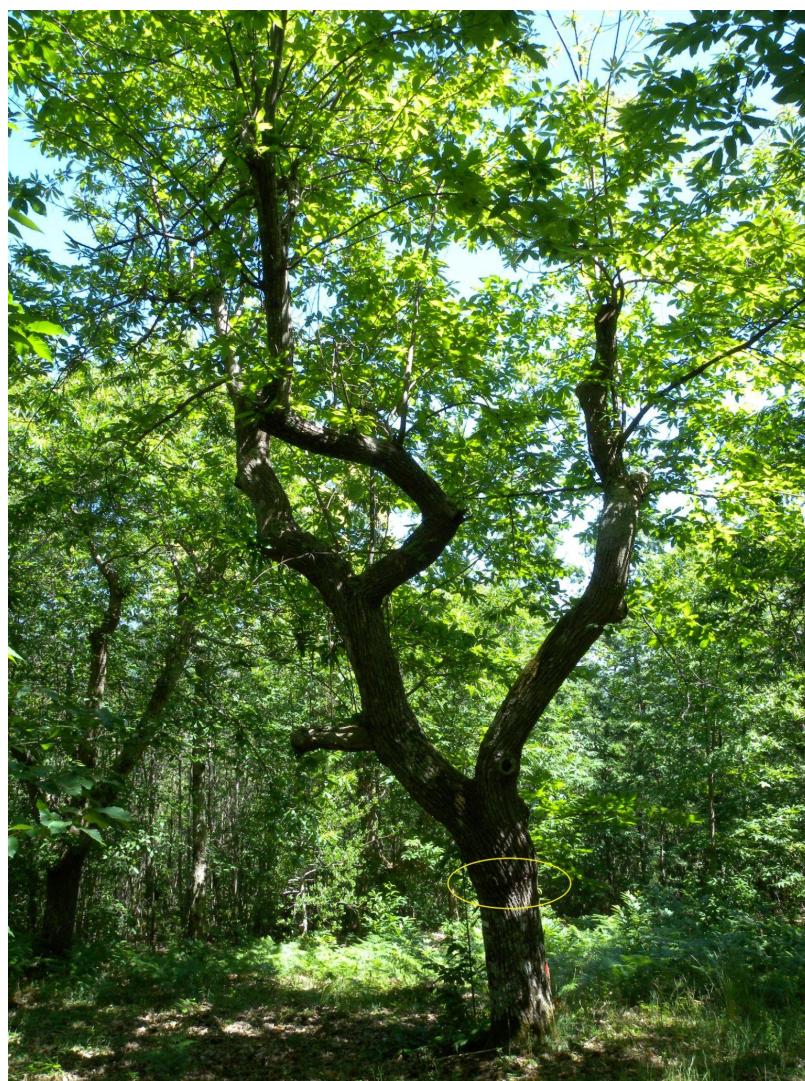
Figure S1. Grafted chestnut tree. The circle highlights the scar where the grafting occurred, roughly one meter above the ground.
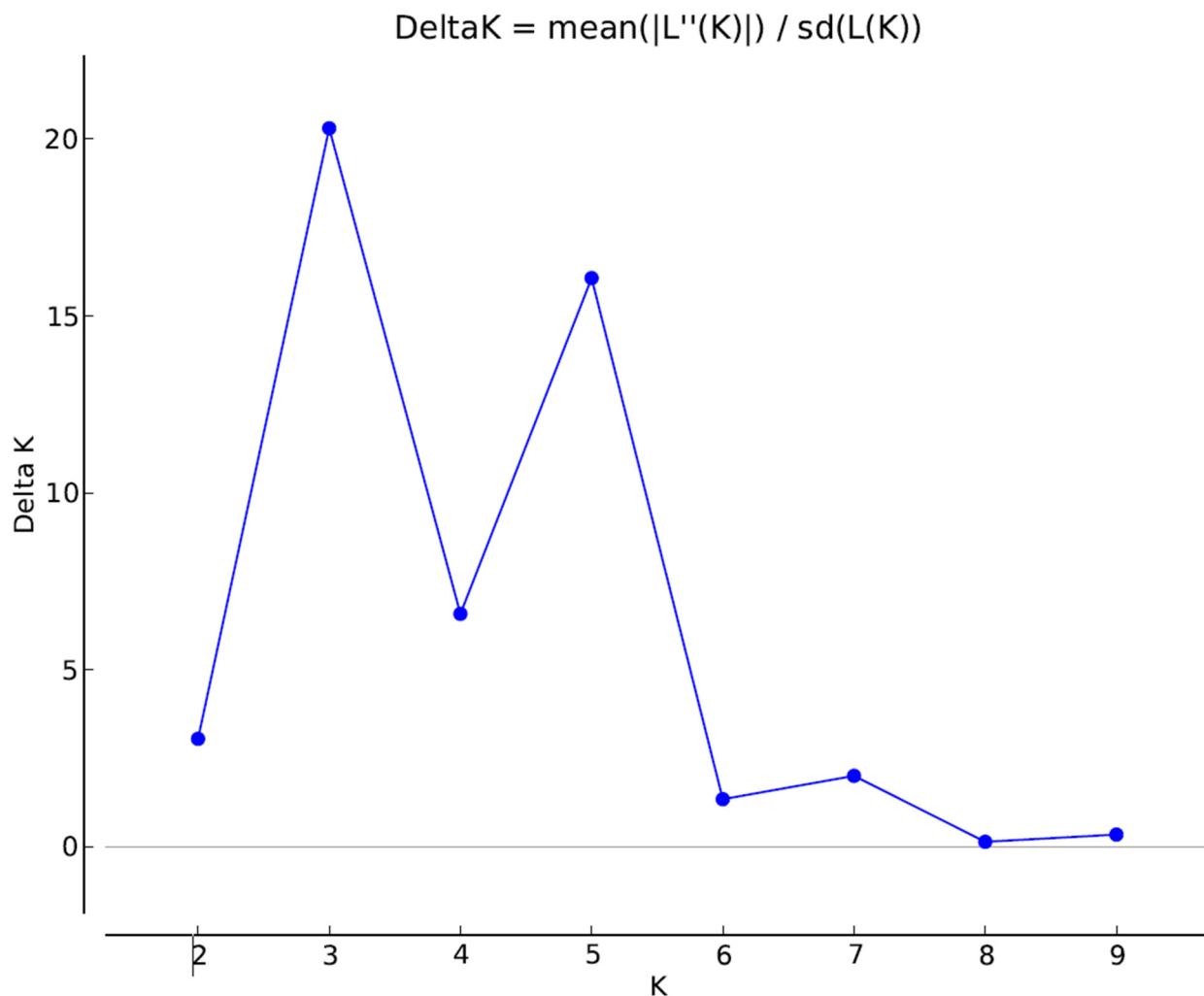
Figure S2. Graphical Δ*K* representation of the estimated probability of data for each K-value from K = 2 to K = 9. Admixture model with LOCPRIOR, 50,000 MCMC iterations and a 10,000 iterations burn-in period.
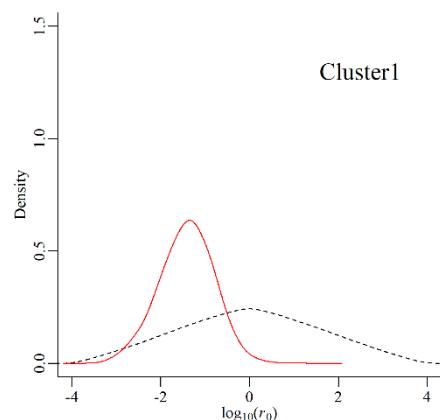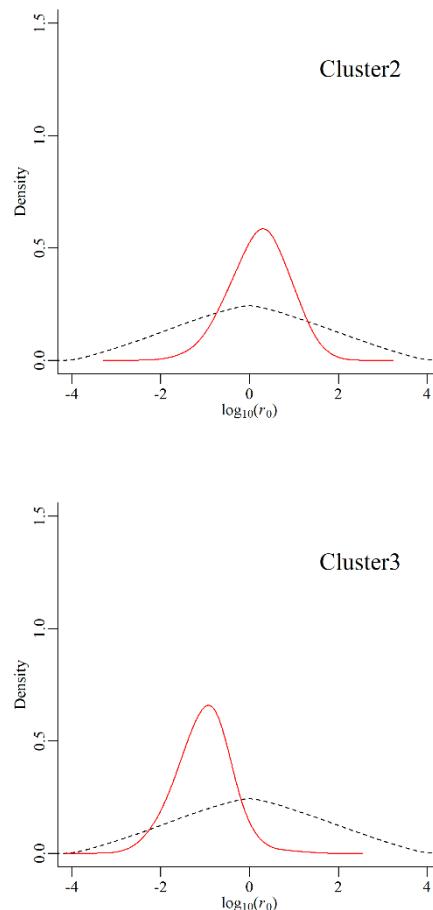
Figure S3. Density distributions obtained by the ABC approach of posterior estimates of the ratio (r_0) of present ($N_0\mu$) and past ($N_1\mu$) diversity population index. Clusters 1, 2 and 3 correspond to the homogeneous genetic clusters obtained by STRUCTURE analysis (see text for details). Dashed lines are prior distributions, the full red lines are posterior distributions.

Table S1. Local names of trees sampled for this work, ordered by area. G = Garfagnana, CM = Colline Metallifere, MA = Monte Amiata.

#ID	G	#ID	CM	#ID	MA
1	Balocca	35	Rossolina_A	76	Luccichente piancastagnaio
2	Bonosora_B	36	Tardiva_A	77	Luccichente
3	Bonosora_D	37	Luccichente_B	78	Luccichente campofiera
4	Bonosora_E	38	Maronessa_B	79	Bellone
5	Bonosora_G	39	Rossolina_B	80	Marrone lorenzo
6	Capannaccia	40	Lombarda_B	81	Marrone podruccio seggiano
7	Capannaccina	41	Marrone del piano_A	82	Marrone amamopoli seggiano
8	Cardaccia_B	42	Bellona_A	83	Marrone
9	Cardaccia_C	43	Domestica_A	84	Marrone di campiglia
10	Cardaccia_D	44	Marrone della madonnina_A	85	Ceciolandis
11	Carpinese_C	45	Bionda_A	86	Bastarda Rossa
12	Carpinese_D	46	Marrone del lago_A	87	Cecio
13	Cesarucca	47	Morella_A	88	Cecio maccherini
14	Insetina	48	Marrone del lago_C	89	Cecio loccasemarchi
15	Lucignana_9d	49	Marrone della madonnina_B	90	Bastarda Rossa pieve di lamula
16	Lucignana_A	50	21	91	Rosso linobetteri
17	Marrone_A	51	Carpinese_A	92	Bastarda rossa pozzi
18	Marrone_D	52	Marrone montegusciani_B	93	Bigione
19	Marrone_F	53	Domestica_C	94	S. Matteo pioli

#ID		#ID		#ID	
20	Mazzangaia	54	Rossolina_C	95	Culobianco_1
21	Mozza	55	Domestica_B	96	Culobianco_2
22	Nerona	56	Marronedicagna_A	97	Domestica abbadia s. salvatore
23	Pelosora	57	Bionda_C	98	Domestica campofiera
24	Pelosorona	58	Carpinese_B	99	Pastinese
25	Pontecosa	59	Carpinese_D	100	Marrone loc. corsini
26	Rossola_A	60	Marrone montegusciani_D	101	Domestico pozzi
27	Rossola_E	61	Pastinese_B	102	Bastarda Rossa podruccio seggiano
28	Rossola_C	62	Marrone montegusciani_C		
29	Rossola_D	63	Marrone di torniella_A		
30	Rossola_B	64	Pastinese_A		
31	Santina_A	65	Incognito		
32	Santina_B	66	Luccichente_A		
33	Santina_C	67	Lombarda_A		
34	Selvana	68	Marrone della madonna_A		
		69	Bionda_B		
		70	Marrone del lago_B		
		71	Bellona_B		
		72	Monumentale san martino		
		73	Marronessa_A		
		74	Carpinese_C		
		75	Morella_B		

Table S2. Local names of trees sampled for this work, ordered by gene cluster of provenance after analysis by STRUCTURE. "Marroni" trees are present in all clusters.

#ID	Cluster 1 (Red in Figure 2)	#ID	Cluster 2 (Green in Figure 2)	#ID	Cluster 3 (Blue in Figure 2)
1	Balocca	42	Bellona_A	50	21
2	Bonosora_B	71	Bellona_B	86	Bastarda Rossa
3	Bonosora_D	93	Bigione	90	Bastarda Rossa pieve di lamula
4	Bonosora_E	45	Bionda_A	102	Bastarda Rossa podruccio seggiano
5	Bonosora_G	69	Bionda_B	92	Bastarda rossa pozzi
6	Capannaccia	57	Bionda_C	79	Bellone
7	Capannaccina	51	Carpinese_A	87	Cecio
8	Cardaccia_B	58	Carpinese_B	89	Cecio loccasemarchi
9	Cardaccia_C	74	Carpinese_C	88	Cecio maccherini
10	Cardaccia_D	59	Carpinese_D	85	Ceciolandis
11	Carpinese_C	95	Culobianco_1	53	Domestica_C
12	Carpinese_D	96	Culobianco_2	67	Lombarda_A
13	Cesarucca	97	Domestica abbadia s. salvatore	83	Marrone
14	Insetina	98	Domestica campofiera	82	Marrone amamopoli seggiano
15	Lucignana_9d	43	Domestica_A	46	Marrone del lago_A
16	Lucignana_A	55	Domestica_B	41	Marrone del piano_A
18	Marrone_D	101	Domestico pozzi	68	Marrone della madonna_A
19	Marrone_F	65	Incognito	49	Marrone della madonnina_B
20	Mazzangaia	40	Lombarda_B	84	Marrone di campiglia
21	Mozza	77	Luccichente	100	Marrone loc. corsini
22	Nerona	78	Luccichente campofiera	80	Marrone lorenzo
23	Pelosora	76	Luccichente piancastagnaio	62	Marrone montegusciani_C
24	Pelosorona	66	Luccichente_A	60	Marrone montegusciani_D
25	Pontecosa	37	Luccichente_B	81	Marrone podruccio seggiano
26	Rossola_A	38	Maronessa_B	17	Marrone_A
27	Rossola_E	70	Marrone del lago_B	56	Marronedicagna_A
28	Rossola_C	48	Marrone del lago_C	91	Rosso linobetteri
29	Rossola_D	44	Marrone della madonnina_A	39	Rossolina_B

30	Rossola_B	63	Marrone di torniella_A
31	Santina_A	52	Marrone montegusciani_B
32	Santina_B	73	Marronessa_A
33	Santina_C	72	Monumentale san martino
34	Selvana	47	Morella_A
		75	Morella_B
		99	Pastinese
		64	Pastinese_A
		61	Pastinese_B
		35	Rossolina_A
		54	Rossolina_C
		94	S. Matteo pioli
		36	Tardiva_A

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