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SUPPLEMENTAL MATERIALS

Table S1. List of the chestnut varieties included in this study, coming from Chestnut Biodiversity Repository Fields located in Piedmont, Tuscany, Emilia-Romagna, and Campania, and commercial orchards in Lombardy, Trentino-Alto Adige, Marche, and Sardinia.

Chestnut varieties	Chestnut species	Sample Origin	Research Institution /commercial orchard
Marrone di Comunanza	<i>Castanea sativa</i>	MARCHE	Commercial orchard
Insita site 1	<i>Castanea sativa</i>	MARCHE	Commercial orchard
Marrone rugoso di Acquasanta Terme	<i>Castanea sativa</i>	MARCHE	Commercial orchard
Marrone gentile di Acquasanta Terme site 1	<i>Castanea sativa</i>	MARCHE	Commercial orchard
Marrone delle Piagge	<i>Castanea sativa</i>	MARCHE	Commercial orchard
Marroncino dell'ascensione site 1	<i>Castanea sativa</i>	MARCHE	Commercial orchard
Marrone classico di Acquasanta Terme	<i>Castanea sativa</i>	MARCHE	Commercial orchard
Castagna di Val di Castro site 1	<i>Castanea sativa</i>	MARCHE	Commercial orchard
Marroncino dell'Ascensione site2	<i>Castanea sativa</i>	MARCHE	Commercial orchard
Marrone gentile di Acquasanta Terme site 2	<i>Castanea sativa</i>	MARCHE	Commercial orchard
Insita site 2	<i>Castanea sativa</i>	MARCHE	Commercial orchard
Pallante	<i>Castanea sativa</i>	MARCHE	Commercial orchard
Marrone della Sibilla di Montemonaco	<i>Castanea sativa</i>	MARCHE	Commercial orchard
Castagna di Val di Castro site 2	<i>Castanea sativa</i>	MARCHE	Commercial orchard
Castagna bionda di Lunano	<i>Castanea sativa</i>	MARCHE	Commercial orchard
Marrone di Limonta – 1001	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Marrone di Limonta – 1007	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Agostana - 2211	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Agostana - 2230	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Agostana - 2233	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Marronessa - 2338	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Marronessa - 2339	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Marronessa - 2340	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Unknown - 2412	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Rossera - 2414	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Rossera - 2415	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Piata - 2417	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Enset de Piaz - 2450	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Settembrana - 2452	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Verdala - 2695	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Unknown - 2896	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Unknown - 2697	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Marrone scuro - 2710	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Topia - 2747	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Barucana - 2750	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Donegai - 3029	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Bonela - 3039	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Catot - 3365	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Catot - 3366	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Marrone - 3367	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Catot - 3368	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Longone - 3369	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard

(Continued)

Table S1. (Continued).

Chestnut varieties	Chestnut species	Sample Origin	Research Institution /commercial orchard
Marrone di Perledo - 3407	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Marrone di Perledo - 3412	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Marrone di Perledo - 3414	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Marrone di Perledo - 3419	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Marrone di Perledo - 3422	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Patriarca - 3595	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Bunela - 4712	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Galdana - 2442	<i>Castanea sativa</i>	LOMBARDY	Commercial orchard
Centa S. Nicolo'	<i>Castanea sativa</i>	TRENTINO	Commercial orchard
Castione	<i>Castanea sativa</i>	TRENTINO	Commercial orchard
Roncegno	<i>Castanea sativa</i>	TRENTINO	Commercial orchard
Drena	<i>Castanea sativa</i>	TRENTINO	Commercial orchard
Loccheddu - LOCG2	<i>Castanea sativa</i>	SARDINIA	Commercial orchard
Migheli Urru - MURG	<i>Castanea sativa</i>	SARDINIA	Commercial orchard
Ildubba - ILDP	<i>Castanea sativa</i>	SARDINIA	Commercial orchard
Barrile - BARV	<i>Castanea sativa</i>	SARDINIA	Commercial orchard
Craeddu - CRAV	<i>Castanea sativa</i>	SARDINIA	Commercial orchard
Santu Giuanni - ARI3	<i>Castanea sativa</i>	SARDINIA	Commercial orchard
Salvana	<i>Castanea sativa</i>	TUSCANY	CSDC Marradi (FI) Chestnut Repository
Marrone di Loiano	<i>Castanea sativa</i>	TUSCANY	CSDC Marradi (FI) Chestnut Repository
Marron buono di Marradi	<i>Castanea sativa</i>	TUSCANY	CSDC Marradi (FI) Chestnut Repository
Verdole	<i>Castanea sativa</i>	CAMPANIA	CREA OFA Caserta Chestnut Repository
Marrone di Scala	<i>Castanea sativa</i>	CAMPANIA	CREA OFA Caserta Chestnut Repository
Santimango	<i>Castanea sativa</i>	CAMPANIA	CREA OFA Caserta Chestnut Repository
San Pietro	<i>Castanea sativa</i>	CAMPANIA	CREA OFA Caserta Chestnut Repository
Olefarella	<i>Castanea sativa</i>	CAMPANIA	CREA OFA Caserta Chestnut Repository
Lucente	<i>Castanea sativa</i>	CAMPANIA	CREA OFA Caserta Chestnut Repository
Tempestiva	<i>Castanea sativa</i>	CAMPANIA	CREA OFA Caserta Chestnut Repository
Napoletana	<i>Castanea sativa</i>	CAMPANIA	CREA OFA Caserta Chestnut Repository
Marrone di Zocca - UNIBO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	UNIBO Chestnut Repository
Svizzera - UNIBO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	UNIBO Chestnut Repository
Pastinese - UNIBO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	UNIBO Chestnut Repository
Ceppa - UNIBO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	UNIBO Chestnut Repository
Sborga' site 1 - UNIBO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	UNIBO Chestnut Repository
Marrone di Castel del Rio - UNIBO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	UNIBO Chestnut Repository
Pelosa - UNIBO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	UNIBO Chestnut Repository
Bovalghe - UNIBO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	UNIBO Chestnut Repository
Pastanese - UNIBO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	UNIBO Chestnut Repository
Sborga' site 2- UNIBO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	UNIBO Chestnut Repository
Pastinese - MO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	Modena Chestnut Consortium
Ceppa - MO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	Modena Chestnut Consortium
Marrone di Zocca - MO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	Modena Chestnut Consortium
Carrarese - MO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	Modena Chestnut Consortium
Tosca/Garfagnana - MO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	Modena Chestnut Consortium
Madonna - MO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	Modena Chestnut Consortium
Loglia - MO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	Modena Chestnut Consortium
Biancherina - MO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	Modena Chestnut Consortium
Svizzero - MO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	Modena Chestnut Consortium
Pilistella - MO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	Modena Chestnut Consortium

(Continued)

Table S1. (Continued).

Chestnut varieties	Chestnut species	Sample Origin	Research Institution /commercial orchard
Loiola - MO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	Modena Chestnut Consortium
Lisanese - MO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	Modena Chestnut Consortium
Salvane - MO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	Modena Chestnut Consortium
Bovalghe - MO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	Modena Chestnut Consortium
Pelosa - MO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	Modena Chestnut Consortium
Molana - MO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	Modena Chestnut Consortium
Montemarano - MO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	Modena Chestnut Consortium
Castel del Rio - MO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	Modena Chestnut Consortium
Garron Rosso - MO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	Modena Chestnut Consortium
Marron Buono - MO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	Modena Chestnut Consortium
Castagna - MO	<i>Castanea sativa</i>	EMILIA-ROMAGNA	Modena Chestnut Consortium
Castagna della Madonna	<i>Castanea sativa</i>	PIEDMONT	UNITO – Chestnut R&D Center Piedmont
Colossal	<i>C. sativa x C. crenata</i>	PIEDMONT	UNITO – Chestnut R&D Center Piedmont
Marsol	<i>C. sativa x C. crenata</i>	PIEDMONT	UNITO – Chestnut R&D Center Piedmont
Marlhac	<i>Castanea sativa</i>	PIEDMONT	UNITO – Chestnut R&D Center Piedmont
Maridonne	<i>Castanea sativa</i>	PIEDMONT	UNITO – Chestnut R&D Center Piedmont
Ishyzuki precoce	<i>C. crenata</i>	PIEDMONT	UNITO – Chestnut R&D Center Piedmont
Ishyzuki tardiva	<i>C. crenata</i>	PIEDMONT	UNITO – Chestnut R&D Center Piedmont
Tsukuba	<i>C. crenata</i>	PIEDMONT	UNITO – Chestnut R&D Center Piedmont
Precoce Migoule	<i>C. sativa x C. crenata</i>	PIEDMONT	UNITO – Chestnut R&D Center Piedmont
Bouche de Betizac	<i>C. sativa x C. crenata</i>	PIEDMONT	UNITO – Chestnut R&D Center Piedmont
Laguepie	<i>Castanea sativa</i>	PIEDMONT	UNITO – Chestnut R&D Center Piedmont
Marrubia	<i>Castanea sativa</i>	PIEDMONT	UNITO – Chestnut R&D Center Piedmont
Marrone di Susa	<i>Castanea sativa</i>	PIEDMONT	UNITO – Chestnut R&D Center Piedmont
Marrone di Chiusa Pesio	<i>Castanea sativa</i>	PIEDMONT	UNITO – Chestnut R&D Center Piedmont
Marrone di Viterbo	<i>Castanea sativa</i>	PIEDMONT	UNITO – Chestnut R&D Center Piedmont

Table S2. Necrotic length recorded during the pathogenicity test on chestnut cuttings, incubated at 23°C (±1°C) for 30 days after inoculation. PD-ST30 was the reference strain for Gc-haplotype A, PD-ST55 was the reference strain for Gc-haplotype B.

Gnomoniopsis isolates ID	Gc-haplotype	Necrotic length (cm) ± (SD)
GC_San Pietro	A	1.37 ± 0.12
GC_Barrile-BARV	A	1.60 ± 0.26
GC_Castel del Rio-MO	A	1.40 ± 0.46
GC_Castagna di Val di Castro-SITE 1	A	3.80 ± 1.90
GC_Castagna bionda di Lunano	A	4.97 ± 1.07
PD-ST30	A (ref)	1.40 ± 0.17
GC_Marrone di Viterbo	B	2.20 ± 0.35
GC_Santu Giuanni-ARI3	B	2.55 ± 0.07
GC_Rossera-2414	B	3.07 ± 0.78
GC_Precoce Migoule	B	1.97 ± 0.90
GC_Marrone di Chiusa Pesio	B	2.63 ± 0.23
GC_Marrone scuro-2710	B	4.30 ± 2.83
GC_Patriarca-3595	B	3.77 ± 0.38
GC_Tosca/Garfagnana	B	6.73 ± 0.97
GC_Pilistella	B	1.53 ± 0.35
GC_Bouche de Betizac	B	2.00 ± 0.44
GC_Marrone di Perledo-3419	B	1.47 ± 0.40
PD-ST55	B (ref)	1.57 ± 0.45
Negative control		0.3 ± 0.3

Table S3. Necrotic area recorded during the pathogenicity test on chestnut fruits, incubated at 23°C ($\pm 1^\circ\text{C}$) for 30 days after inoculation. PD-ST30 was the reference strain for Gc-haplotype A, PD-ST55 was the reference strain for Gc-haplotype B.

<i>Gnomoniopsis</i> isolates ID	Gc-haplotype	Necrotic Area (cm ²) \pm (SD)
GC_San Pietro	A	6.43 \pm 5.78
GC_Barrile-BARV	A	5.80 \pm 6.73
GC_Castel del Rio-MO	A	3.77 \pm 5.89
GC_Castagna di Val di Castro-SITE 1	A	4.73 \pm 3.19
GC_Castagna bionda di Lunano	A	7.15 \pm 6.26
PD-ST30	A (ref)	5.73 \pm 4.14
GC_Marrone di Viterbo	B	5.41 \pm 4.93
GC_Santu Giuanni-ARI3	B	11.21 \pm 5.97
GC_Rossera-2414	B	8.19 \pm 6.65
GC_Precoce Migoule	B	0.84 \pm 0.63
GC_Marrone di Chiusa Pesio	B	6.03 \pm 4.78
GC_Marrone scuro-2710	B	5.41 \pm 8.19
GC_Patriarca-3595	B	5.02 \pm 2.67
GC_Tosca/Garfagnana	B	4.93 \pm 6.17
GC_Pilistella	B	4.28 \pm 2.97
GC_Bouche de Betizac	B	1.02 \pm 0.2
GC_Marrone di Perledo-3419	B	4.64 \pm 5.09
PD-ST55	B (ref)	7.42 \pm 3.42
Negative control		0.3 \pm 0.1

Table S4. Necrotic area recorded during the pathogenicity test on chestnut seedlings in different water regimes (WR_A, WR_B), incubated at 26°C ($\pm 1^\circ\text{C}$) for 30 days after inoculation. PD-ST30 was the reference strain for Gc-haplotype A, PD-ST55 was the reference strain for Gc-haplotype B.

Chestnut varieties	Gc-haplotype	WR_A	WR_B
		(150 mL/week)	(150 mL/month)
		Necrotic Length (cm) \pm SD	Necrotic Length (cm) \pm SD
GC_San Pietro	A	1.53 \pm 0.15	1.80 \pm 0.26
GC_Barrile-BARV	A	3.50 \pm 0.50	5.97 \pm 0.29
GC_Castel del Rio-MO	A	3.27 \pm 0.12	5.57 \pm 0.31
GC_Castagna di Val di Castro-SITE 1	A	5.60 \pm 1.28	6.63 \pm 0.42
GC_Castagna bionda di Lunano	A	3.83 \pm 0.90	6.40 \pm 0.26
PD-ST30	A (ref)	3.67 \pm 0.29	2.33 \pm 0.15
GC_Santu Giuanni-ARI3	B	1.37 \pm 0.21	2.47 \pm 0.15
GC_Rossera-2414	B	3.77 \pm 0.75	4.43 \pm 1.10
GC_Precoce Migoule	B	6.07 \pm 0.90	2.87 \pm 0.64
GC_Marrone di Chiusa Pesio	B	3.87 \pm 0.47	5.00 \pm 0.98
GC_Marrone scuro-2710	B	3.03 \pm 1.31	2.10 \pm 0.53
GC_Patriarca-3595	B	2.07 \pm 0.64	3.10 \pm 0.66
GC_Tosca/Garfagnana	B	3.07 \pm 0.67	6.60 \pm 1.13
GC_Pilistella	B	1.50 \pm 0.10	1.90 \pm 0.50
GC_Bouche de Betizac	B	2.23 \pm 0.75	2.23 \pm 0.38
GC_Marrone di Perledo-3419	B	7.33 \pm 0.50	2.97 \pm 0.45
PD-ST55	B (ref)	4.17 \pm 0.65	2.67 \pm 0.15
Negative control		0.3 \pm 0.1	0.3 \pm 0.1