

TABLE S1 The locality list with age correlation and GFRI values used for GFRI analysis in Figure 2

Name	MN-Unit	Latitude	Longitude	Number of Taxa used	Raup-Crick Index
Anwil	MN07	47.37	7.83	9	0.0075
Can Feliu	MN07	41.5	-2.13	8	0.15
Castell de Barbera	MN07	41.52	2.14	21	0.0325
Escobosa	MN07	41.2	0.7	7	0.4075
Hostalets de Pierola Inferior	MN07	41.2	0.5	24	0.0375
La Grive St. Alban	MN07	44	0	50	0
Poudenas-Cayron	MN07	44.05	0.21	9	0.245
Przeworno 2	MN07	50.7	17.2	7	0.1175
Saint-Gaudens (Valentine)	MN07	43.1	0.71	7	0.4425
Sant Quirze	MN07	41.52	2.08	23	0.02
Saricay	MN07	37.33	27.79	7	0.17
Sofca	MN07	39.64	30.17	18	0.355
Steinheim	MN07	48.7	10.05	28	0

Yeni Eskihsar 1	MN07	37.31	28.07	7	0.695
Akin	MN09	38.4	30.32	7	0.97
Alkcaköy (1-6)	MN09	38.57	29.1	15	0.2975
Atavaska	MN09	47	28.8	9	0.77
Ballestar	MN09	40.4	0.11	15	0.1825
Bou Hanifia	MN09	35.3	-0.1	11	0.145
Buzhor 1	MN09	46.56	28.16	14	0.4
Can Ponsic	MN09	41.2	0.7	21	0.22
Can Ponsic I	MN09	41.53	2.07	29	0.405
Charmoille	MN09	47.43	7.21	14	0.355
El Firal	MN09	42.36	1.45	14	0.2025
Eldari I	MN09	41.3	45.7	17	0.9975
Eppelsheim	MN09	49.72	8.97	30	0.13
Esme Akçaköy	MN09	38.4	28.96	12	0.9125
Esselborn	MN09	49.7	8.1	10	0.435
Gau-Weinheim	MN09	49.84	8.04	7	0.4275

Götzensdorf	MN09	48	16.58	11	0.145
Hostalets de Pierola Superior	MN09	41.2	0.5	15	0.04
Höwenegg	MN09	47.7	8.7	8	0.8025
Kalfa	MN09	46.54	29.23	20	0.3575
Los Valles de Fuentidueña	MN09	41	-4.2	19	0.0525
Massenhausen	MN09	48.4	11.8	12	0.155
Middle Sinap	MN09	40.56	32.7	16	0.825
Nombrevilla	MN09	41.07	-1.21	10	0.4175
Pentalophos 1 (PNT)	MN09	41	23	17	0.96
Rudabánya	MN09	48.71	20.63	28	0.3575
Sant Miquel de Taudell	MN10	41.55	1.98	14	1
Santiga	MN09	41.2	0.5	13	0.225
Subsol de Sabadell	MN09	41.33	2.07	14	0.795
Udabno I	MN10	41.31	45.23	12	0.995
Varnitsa	MN09	47.2	28.9	9	0.4925
Wartenberg	MN09	48.4	11.98	8	0.11

Wissberg	MN09	49.85	8.02	17	0.0725
Vösendorf	MN09	48.1	16.31	8	0.9475
Can Llobateres I	MN10	41.2	0.7	43	0.2175
Can Purull	MN10	41.55	1.97	21	0.995
Grossulovo	MN10	47.35	30	7	0.995
Gülpinar	MN10	39.53	26.11	12	1
La Roma 2	MN10	40.66	-1.01	11	0.9825
La Tarumba I	MN10	41.55	1.97	14	0.5925
Montredon	MN10	44.4	3.36	14	0.99
Poksheshty	MN10	47.24	28.68	13	0.9825
Ravin de la Pluie (RPL)	MN10	41	22.95	14	0.9925
Ravin des Zouaves 1	MN10	41	22.95	8	0.9475
Respopeny	MN10	47.45	28.36	7	0.98
Sinap 12	MN10	40.56	32.7	19	0.62
Soblay	MN10	45.1	5.5	8	0.8775
Terrassa	MN10	41.56	2	21	0.9875

Xirochori 1 (XIR)	MN10	41	23	9	0.7775
Yulafli (CY)	MN10	41.2	27.82	12	0.9625
Bala Yaylaköy	MN11	39.74	33.08	10	0.9925
Corakyerler	MN11	40.6	33.63	9	0.9775
Crevillente 2	MN11	38.4	-0.5	14	1
Csakvar	MN11	47.4	18.5	21	0.1875
Djebel Krechem el Artsouma	MN11	34	9	9	0.4875
Dorn Dürkheim 1	MN11	49.77	8.26	35	0.88
Garkin	MN11	38.41	30.31	18	0.9975
Injana	MN11	34.33	44.66	15	0.8675
Kalimanci 1	MN11	42.5	23.1	11	0.9975
Karacahasan	MN11	39.86	33.24	17	0.9925
Kayadibi	MN11	37.21	30.8	14	0.77
Kemiklitepe D	MN11	37.5	29	10	0.955
Kocherinovo 2	MN11	42.03	23.08	7	0.9775
Kujalnitskij liman	MN11	46.5	30.8	7	0.99

Küçükçekmece	MN11	40.98	28.76	20	0.99
Lower Maragheh	MN11	38	46	9	0.9925
Nikiti 1 (NKT)	MN11	40	23.5	15	0.9975
Piera	MN11	41.2	0.5	13	0.99
Puente Minero	MN11	40.36	-1.08	16	0.9925
Pyrgos Vassilissis	MN11	38.01	23.73	7	1
Ravin des Zouaves 5	MN11	41	22.95	21	1
Strumyani 2	MN11	42.83	23.1	10	1
Akgedik-Bayir	MN12	37.25	28.25	11	1
Akkasdagi	MN12	38.49	33.64	26	1
Baltavar	MN12	47	17	16	0.9975
Baynunah	MN12	24.16	52.56	13	0.68
Belka	MN12	50.81	28.18	14	0.9975
Cerro de la Garita	MN12	40.38	-1.08	27	1
Chimishlija (Cimislia)	MN12	46.5	28.8	23	0.9975
Chobruchi (Tchobroutchi)	MN12	46.6	29.7	18	1

Chomateres	MN12	38.08	23.88	12	1
Cobanpinar (Sinap 42)	MN12	40.21	32.53	14	0.8975
Concud	MN12	40.4	-1.13	20	1
Crevillente 15	MN12	38.25	-0.8	10	0.9975
Duzyayla	MN12	39.92	37.31	9	1
Gorna Susica	MN12	41.83	23.08	7	0.9675
Grebeniki	MN12	46.88	29.81	21	1
Gura-Galben	MN12	46.42	28.42	9	0.715
Gusinyy perelyot	MN12	50.25	67.83	22	0.5375
Hadjidimovo-1	MN12	41.5	23.83	27	1
Halmyropotamos (HAL)	MN12	38.5	24.2	20	1
Kalimanci 2	MN12	42.5	23.1	19	1
Kavakdere (Turolian)	MN12	40.24	32.56	7	0.3875
Kefraya	MN12	33.75	35.75	10	1
Kemiklitepe 1,2	MN12	38.39	29.14	21	1
Kemiklitepe A-B	MN12	37.5	29	15	1

Kerassia 4	MN12	38.5	23	15	1
Kizilören	MN12	37.85	32.1	9	0.9925
Los Aljezares	MN12	37.75	-0.85	8	0.99
Los Mansuetos	MN12	40.35	-1.11	24	1
Mahmutgazi	MN12	38.02	29.4	11	0.9825
Middle-Upper Maragheh	MN12	38	46	40	1
Molayan	MN12	34.31	69.41	16	1
Monte Bamboli	MN12	43.2	10.7	7	0.1725
Mt. Luberon	MN12	43.7	5.4	8	0.99
Mytilinii 1A	MN12	37.75	26.96	17	1
Novaja Emetovka	MN12	46.65	30.6	17	1
Novo-Elizavetovka	MN12	47	31	17	1
Perivolaki	MN12	38.41	23.5	24	1
Pikermi	MN12	38.01	23.99	46	1
Pinaryaka	MN12	41.19	32.49	10	0.995
Prochoma	MN12	41	22.93	15	1



Ravin Ar.	MN12	38.41	23.48	8	0.9875
Ravin X	MN12	38.4	23.48	14	1
Salihpasalar	MN12	37.25	28.27	16	1
Serefköy	MN12	37.36	28.22	12	1
Sinap 26	MN12	40.56	32.64	13	0.8675
Sor	MN12	39.27	67.65	11	0.8075
Thermopigi	MN12	41.28	23.36	18	1
Tudorovo	MN12	46.26	30.03	8	1
Vathylakkos 3 (VAT)	MN12	41	23	21	1
Arquillo 1	MN13	40.4	-1.1	18	1
Baccinello V3	MN13	42.7	11.1	13	0.4325
Brisighella	MN13	44.5	11.6	12	0.8975
Casino	MN13	43.5	11.2	7	0.1475
Dytiko 1 (DTK)	MN13	41	23	18	1
El Arquillo 1	MN13	40.35	-1.05	20	1
Gravitelli	MN13	38.2	15.5	10	1

Las Casiones	MN13	40.43	-1.11	19	0.9975
Maramena	MN13	41.29	23.81	16	0.9875
Milagros	MN13	41.35	-3.41	9	0.995
Polgardi	MN13	47	18.3	15	0.99
Samos Main Bone Beds	MN12	37.5	26.87	47	1
Sandikli Kinik	MN13	38.56	30.13	15	1
Taraklia	MN13	46.5	29	27	1
Titov Veles	MN13	41.71	21.77	10	1
Toros-Menalla (TM-266)	MN13	16.24	16.25	16	0.11
Venta del Moro	MN13	39.4	-0.4	22	0.7525
Alcoy	MN14	38.6	-0.5	10	0.0425
Aramis	MN14	10.28	40.27	18	0.0375
As Duma	MN14	11.15	40.31	15	0.04
Awash 4,5	MN14	10.3	40.25	22	0.0575
Awash 7	MN14	10.5	40.65	43	0
Beresti	MN14	46.05	27.53	7	0.395

Dorkovo	MN14	42.03	24.13	8	0.3225
Fonelas	MN14	37.25	-3.1	13	0.0275
Kolle	MN14	16.33	19	14	0.005
Kossom Bougoudi	MN14	16.33	18.66	17	0.0225
Kosyakino	MN14	43.9	46.67	14	0.3525
La Gloria	MN14	40.23	-5.48	7	0.695
La Gloria 4	MN14	40.38	-1.06	10	0.3925
Montpellier	MN14	43.6	3.89	21	0.195
Sahabi	MN14	30.08	20.75	29	0.3575
Trévoux	MN14	45.93	4.76	7	0.15
Calta 2	MN15	40.23	32.54	14	0.2
Capeni	MN15	46.01	25.55	14	0.0575
Costa S. Giacomo	MN15	42	14.41	11	0.1375
Csarnota 2	MN15	45.89	18.21	12	0.035
Ivanovce	MN15	48.2	17.9	8	0.295
Kos	MN15	36.89	27.28	8	0.115

La Calera	MN15	39.31	-5.15	11	0.32
Layna	MN15	41.05	-2.19	11	0.16
Malushteni	MN15	46.13	28.08	12	0.0275
Megalo Emvolon (MEV)	MN15	40.3	22.45	9	0.0725
Montopoli	MN15	43.5	11	10	0.2
Muselievo	MN15	43.3	24.4	10	0.2125
Odessa Catacombs	MN15	46.5	30.8	16	0.0125
Perpignan	MN15	42.68	2.88	23	0.0675
Stavropol-Kavkazskij	MN15	45	42.1	10	0.67
Weze 1	MN15	50.08	18.78	11	0.3925
Wölfersheim	MN15	50.4	8.85	11	0.12