Settimana della Biodiversità Pugliese

Agricoltura Alimentazione e Ambiente

17-21 MAGGIO 2021

ELENCO PUBBLICAZIONI BIODIVERSITÀ OLIVO RE.GER.O.P.

PROGETTO Re.Ger.O.P.

mipaaf ministero delle politiche agricole alimentari e forestali

REGIONE PUGLIA ASSESSORATO AGRICOLTURA

UNIVERSITÀ DEGLI STUDI DI BARI ALDO MORO
Dipartimento di Scienze Agro-Ambientali e Territoriali - DISAAT

MIAZZI, M.M., DI RIENZO, V., MASCIO, I., MONTEMURRO, C., SION, S., SABETTA, W., VIVALDI, G., CAMPOSEO, S., CAPONIO, F., SQUEO, G., DIFONZO, G., LOCONSOLE, G., BOTTALICO, G., VENERIT P., MONTILON, V., SAPONARI, A., ALTAMURA, G., MITA, G., PETRONTINO, A., FUCILLI, V., BOZZO, *Re.Ger.O.P.: An Integrated Project for the Recovery of Ancient and Rare Olive Germplasm. (2020) Frontie in Plant Science,* 11, art. no. 73. DOI: 10.3389/fpls.2020.00073

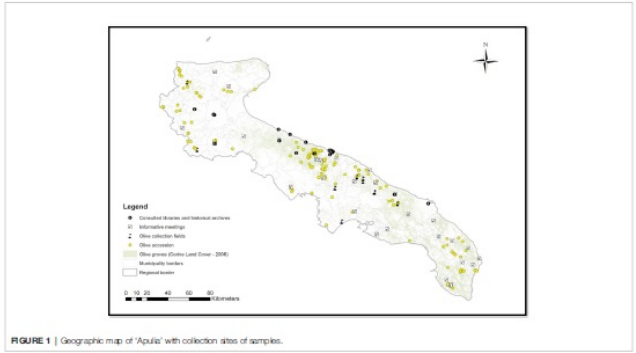


FIGURE 1 | Geographic map of 'Apulia' with collection sites of samples.

SION, S., TARANTO, F., MONTEMURRO, C., MANGINI, G., CAMPOSEO, S., FALCO, V., GALLO, A., MITA, G., DEBBABI, O.S., AMAR, F.B., PAVAN, S., ROSETI, V., MIAZZI, M.M. *Genetic characterization of apulian olive germplasm as potential source in new breeding programs. (2019) Plants,* 8 (8), art. no. 268. DOI: 10.3390/plants8080268

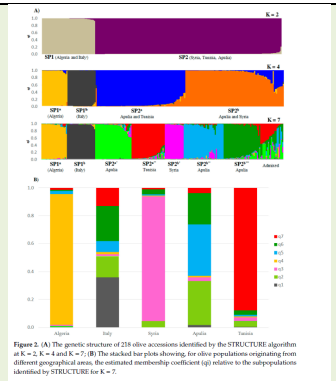


Figure 2. (A) The genetic structure of 258 olive accessions identified by the STRUCTURE algorithm at K = 2, K = 4 and K = 7; (B) The stacked bar plots showing, for olive populations originating from different geographical areas, the estimated membership coefficient (qi) relative to the subpopulations identified by STRUCTURE for K = 7.

MONTEMURRO, C., DAMBRUOSO, G., BOTTALICO, G., SABETTA, W. *Self-incompatibility assessment of some italian olive genotypes (Olea europaea L.) and cross-derived seedling selection by ssr markers on seed endosperms. (2019) Frontiers in Plant Science*, 10, art. no. 451, pp. 1-13. DOI: 10.3389/fpls.2019.004

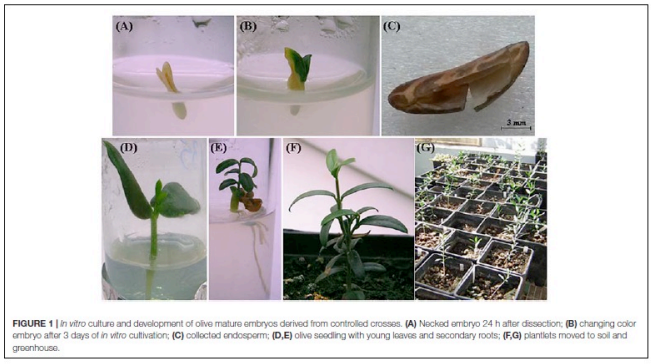


FIGURE 1 | *In vitro* culture and development of olive mature embryos derived from controlled crosses. **(A)** Necked embryo 24 h after dissection; **(B)** changing color embryo after 3 days of *in vitro* cultivation; **(C)** collected endosperm; **(D,E)** olive seedling with young leaves and secondary roots; **(F,G)** plantlets moved to soil and greenhouse.

D'AGOSTINO, N., TARANTO, F., CAMPOSEO, S., MANGINI, G., FANELLI, V., GADALETA, S., MIAZZI, M.M., PAVAN, S., DI RIENZO, V., SABETTA, W., LOMBARDO, L., ZELASCO, S., PERRI, E., LOTTI, C., CIANI, E., MONTEMURRO, *C. GBS-derived SNP catalogue unveiled wide genetic variability and geographical relationships of Italian olive cultivars (2018) Scientific Reports,* 8 (1), art. no. 15877. DOI: 10.1038/s41598-018-34207-y

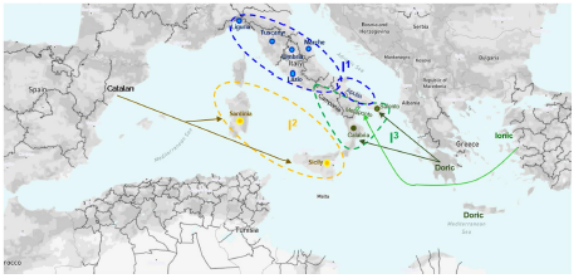


Figure 6. Geographical distribution on Italian territory of three main gene pools we identified via GBS-derived SNP markers in the olive germplasm collection under study. The blue circles (I_1) encloses all the Italiote cultivars with admixed ancestry. Inside the yellow circle (I_2) all the cultivars with Catalan origin are placed. Finally, inside the green circle (I_3) are most of the cultivars of Magno-Greek origin split into varieties from Ionic (dark green stars) and Doric (light green stars) area of influence.

DI RIENZO, V., MIAZZI, M.M., FANELLI, V., SABETTA, W., MONTEMURRO, C. *The preservation and characterization of Apulian olive germplasm biodiversity. (2018) Acta Horticulturae,* 1199, pp. 1-6. DOI: 10.17660/ActaHortic.2018.1199.1

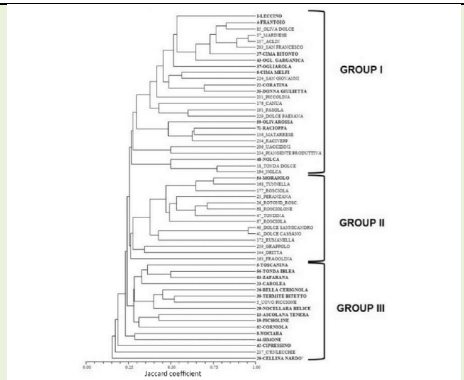


Figure 1. Unweighted pair-group method with arithmetic means (UPGMA) dendrogram obtained from SSR data for 56 olive genotypes. Italian cultivars are shown in bold; Apulian genotypes are in regular type.

TARANTO, F., D'AGOSTINO, N., PAVAN, S., FANELLI, V., DI RIENZO, V., SABETTA, W., MIAZZI, M.M., ZELASCO, S., PERRI, E., MONTEMURRO, C. *Single nucleotide polymorphism (SNP) diversity in an olive germplasm collection (2018) Acta Horticulturae,* 1199, pp. 27-31. DOI: 10.17660/ActaHortic.2018.1199.5

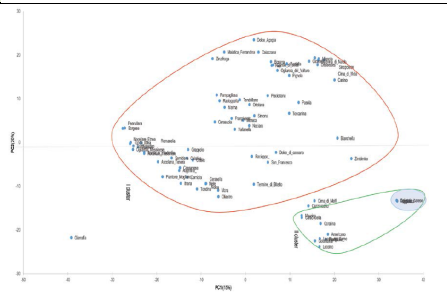
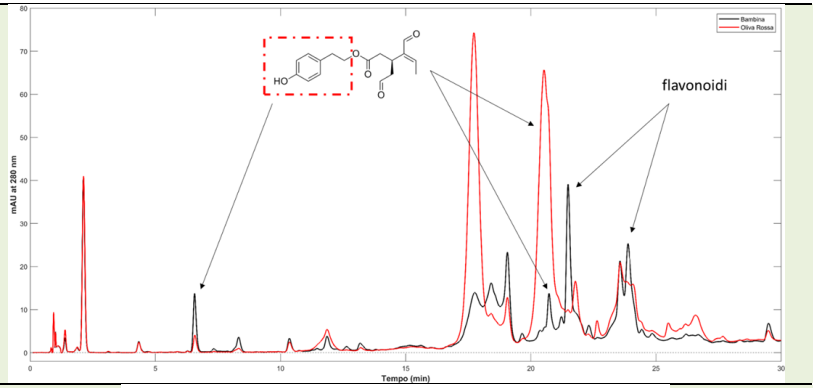


Figure 2. Principal component analysis (PCA) plot showing the first two components of the olive germplasm collection analyzed using 37,192 SNPs. The two main clusters are highlighted in red (I) and green (II). 'Taggiasca', 'Frantoio' and 'Ogliarola barese' are highlighted in blue. 'Giarraffa' grouped alone.

SQUEO, G., SILLETTI, R., MANGINI, G., SUMMO, C., & CAPONIO, F. (2021). *The Potential of Apulian Olive Biodiversity: The Case of Oliva Rossa Virgin Olive Oil. Foods,* 10(2), 369.

SQUEO, G., DIFONZO, G., SILLETTI, R., PARADISO, V. M., SUMMO, C., PASQUALONE, A., & CAPONIO, F. (2019). Cv. Bambina, una varietà minore pugliese: profilo di maturazione, composizione delle drupe e caratterizzazione chimica dell'olio vergine. Riv. Ital. Sostanze Grasse 2019, 96, 143–149.



DI RIENZO, V., SION, S., TARANTO, F., D'AGOSTINO, N., MONTEMURRO, C., FANELLI, V., SABETTA, W., BOUCHEFFA, S., TAMENDJARI, A., PASQUALONE, A., ZAMMIT-MANGION, M., MIAZZI, M.M. *Genetic flow among olive populations within the Mediterranean basin* (2018) PeerJ, 2018 (7), art. no. e5260. DOI: 10.7717/peerj.5260

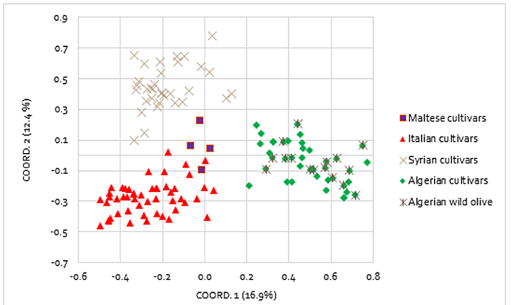


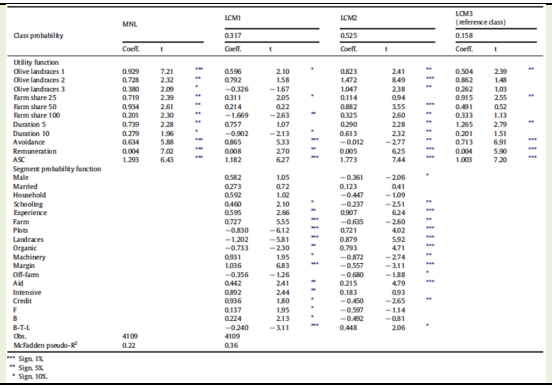
Figure 1 **Principal coordinates analysis (PCoA).** Differentiation among 128 Mediterranean olive accessions based on nine polymorphic SSR markers. Full-size DOI: 10.7717/peerj.5260/fig-1

SARDARO, R., BOZZO, F., PETRONTINO, A., FUCILLI, V. *Community preferences in support of a conservation programme for olive landraces in the Mediterranean area (2018) Acta Horticulturae,* 1199, pp. 183-188. DOI: 10.17660/ActaHortic.2018.1199.30

Class probability	LCM1 (0.412)		LCM2 (0.363)		LCM3 (reference class) (0.225)	
	Coeff.	t	Coeff.	t	Coeff.	t
Utility function						
1000 Farmers	-0.686	-1.02	0.227	0.77	1.107	6.09***
2000 Farmers	1.762	9.51***	-0.464	-2.15*	-0.559	-3.22**
Landscape	1.681	11.83***	0.592	2.94**	0.692	2.16*
Research	1.384	3.86**	0.390	2.10*	0.420	1.08
Future generations	2.036	2.98**	0.441	0.43	0.810	2.10*
Contribute	-0.019	-6.70***	-0.053	-3.03**	-0.020	-3.30**
ASC	1.971	15.82***	-1.082	-2.91**	1.053	4.12**
Segment probability function						
Male	0.282	0.66	0.427	0.07		
Age	0.304	0.32	0.690	0.38		
Married	0.072	1.13	0.155	1.31		
Schooling	0.515	3.18**	0.423	0.93		
Income	0.009	3.43**	0.003	2.39*		
Household	0.173	0.57	0.031	0.82		
Residence	0.774	9.58***	0.491	3.13**		
Commune	-0.832	-0.14	-0.337	-2.84**		
Owner	-0.495	-2.19*	0.529	2.91**		
Member	-0.610	-2.90**	0.620	2.00*		
Forebear	-0.713	-2.33*	0.851	5.86***		
Products	0.852	4.90***	0.730	0.41		
Farm holidays	0.528	3.41**	0.051	0.30		
F	-0.412	-1.13	0.831	2.18*		
B	0.592	3.19**	0.644	2.70**		
Br-T-L	0.381	2.53*	0.718	2.96**		
Observations	4566					
McFadden pseudo-R^2	0.30					

Significance: ***, 1%; **, 5%; *, 10%.

SARDARO, R., GIRONE, S., ACCIANI, C., BOZZO, F., PETRONTINO, A., FUCILLI, V. *Agro-biodiversity of Mediterranean crops: farmers' preferences in support of a conservation programme for olive landraces. (2016) Biological Conservation*, 201, pp. 210-219. DOI: 10.1016/j.biocon.2016.06.033.



Class probability	MNL			LCM1 0.317			LCM2 0.525			LCM3 (reference class) 0.158		
	Coeff.	t		Coeff.	t		Coeff.	t		Coeff.	t	
Utility function												
Olive landraces 1	0.929	7.21	***	0.596	2.10	*	0.823	2.41	**	0.504	2.39	**
Olive landraces 2	0.728	2.32	**	0.792	1.58		1.472	8.49	***	0.862	1.48	
Olive landraces 3	0.380	2.09	*	−0.326	−1.67		1.047	2.38	**	0.262	1.03	
Farm share 25	0.719	2.39	**	0.311	2.05	*	0.114	0.94		0.915	2.55	**
Farm share 50	0.934	2.61	**	0.214	0.22		0.882	3.55	***	0.491	0.52	
Farm share 100	0.201	2.30	**	−1.669	−2.63	**	0.325	2.60	**	0.333	1.13	
Duration 5	0.739	2.28	**	0.757	1.07		0.290	2.28	**	1.265	2.79	**
Duration 10	0.279	1.96	*	−0.902	−2.13	*	0.613	2.32	**	0.201	1.51	
Avoidance	0.634	5.88	***	0.865	5.33	***	−0.012	−2.77	**	0.713	6.91	***
Remuneration	0.004	7.02	***	0.008	2.70	**	0.005	6.25	***	0.004	5.90	***
ASC	1.293	6.43	***	1.182	6.27	***	1.773	7.44	***	1.003	7.20	***
Segment probability function												
Male				0.582	1.05		−0.361	−2.06	*			
Married				0.273	0.72		0.123	0.41				
Household				0.592	1.02		−0.447	−1.09				
Schooling				0.460	2.10	*	−0.237	−2.51	**			
Experience				0.595	2.66	**	0.907	6.24	***			
Farm				0.727	5.55	***	−0.635	−2.60	**			
Plots				−0.830	−6.12	***	0.721	4.02	***			
Landraces				−1.202	−5.81	***	0.879	5.92	***			
Organic				−0.733	−2.30	**	0.793	4.71	***			
Machinery				0.891	1.95	*	−0.872	−2.74	**			
Margin				1.036	6.83	***	−0.557	−3.11	***			
Off-farm				−0.356	−1.26		−0.680	−1.88	*			
Aid				0.442	2.41	**	0.215	4.79	***			
Intensive				0.892	2.44	**	0.183	0.93				
Credit				0.936	1.80	*	−0.450	−2.65	**			
F				0.137	1.95	*	−0.597	−1.14				
B				0.224	2.13	*	−0.492	−0.81				
B-T-L				−0.240	−3.11	***	0.448	2.06	*			
Obs.	4109			4109								
McFadden pseudo-R^2	0.22			0.36								

*** Sign. 1%.
** Sign. 5%.
* Sign. 10%.