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Poster Abstract – G.18

EX-SITU CONSERVATION OF WILD ALMOND *AMYGDALUS WEBBII* SPACH FROM PUGLIA REGION

RESTA P.*, FANIZZA G.*, DE GIOVANNI C.*, MARCOTRIGGIANO R.*, LOTTI C.**, RICCIARDI L.*

*) Department of Agro–Forest and Environmental Biology and Chemistry, University of Bari, Via Amendola 165/A, 70126 Bari (Italy)
**) Department of Agro–Environmental Science, Chemistry and Plant Protection, University of Foggia, Via Napoli 25, 71100 Foggia (Italy)

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The wild almond *Amygdalus webbii* (Spach) Vierh. (sin. *Prunus webbii* Spach, 2n= 2x= 16) is a close relative of cultivated almond (*A. communis* L.): both belong to the section *Eumygdalus*, of subgenus *Amygdalus* (genus *Prunus, Rosaceae*). *A. webbii* is the only wild relative of almond growing in Italy, and can be found only in Sicily and Apuly, as scattered trees or small populations at the edge of denser maquis formations. Interest in this species rises from both an environmental conservation perspective and its putative role as a pool of genetic diversity for cultivated almond. *A. webbii* can spontaneously hybridize with cultivated almond and it has been speculated that the Apulian almonds derived their distinctive self-compatibility trait by introgression from this wild species. *A. webbii* has also received some attention for its possible use as rootstock. Within the framework of EcoMeMaq project (INTERREG IIIB ARCHIMED), a trans-national initiative geared toward sustainable development of Mediterranean areas, specific objectives for this species are the detection and characterization of natural stands in Puglia region, and the establishment of an *ex-situ* collection.

Up to now, team explorations have focused on the Murgian hills: a few stands of different sizes were found, and their GPS localization is in progress. Nuts were collected from these stands from individual plants. Nuts from the same plant appeared quite uniform in size and shape; the weight distribution of nuts from different plants appeared asymmetrical. Although sample size was actually too small for formal testing, the distribution was compared against the normal distribution by standardization and χ^2 test, and it was rejected at P= 1%. Progressive removal of a few samples with larger nut weight showed a clear trend toward goodness of fit. This preliminary data suggests indeed the prospect of a larger sampling, to test if lack of fit from normal distribution is indeed due to the presence of specimens with exceedingly large nuts. Almonds produce much larger nuts than *A. webbii*, and while findings of wild plants with varying levels of similarity to the cultivated almond has been repeatedly reported, other accounts point also to the occurrence of feral forms which are escapes from cultivation.

Meanwhile, other analyses are being planned on the collected material. To establish sampling parameters of populations, the required sample size for nut weight has been estimated. Over twelve hundred *A. webbii* seedlings are currently being grown in nursery for further characterization, and the amplification of *webbii* SSR loci by means of specific Almond primers is under evaluation. With regard to the *ex-situ* collection, a parcel of the Martucci experimental farm in Valenzano (BA) has been set aside, and is being arranged to suit general public environmental education purposes and germplasm conservation.