

Study of several parameters in *Rosa canina* L. genotypes from native habitats in Romania and the *in vitro* response of this species

Received for publication, November, 1, 2011.
Accepted, May, 15, 2012

Gogu GHIORGHITĂ¹, Diana Elena MAFTEI², Daniela NICUȚĂ²,
Ioan Viorel RAȚI²

¹„Al. I. Cuza” University, Iași, Full member of the Academy of Romanian Scientists,
Splaiul Independenței street, no. 54, Bucharest, Romania, e-mail:
g.ghiorghita43@yahoo.com

²„V. Alecsandri” University, Bacău, Romania

Abstract: The variability of some fruit parameters for 68 dog rose genotypes (belonging to 43 native and one cultivated populations from 38 locations of Romania) was investigated during 2008-2009. Considering the values of the analyzed indices and especially of the fruit fresh biomass and their content in vitamin C, it was ascertained that the genotypes belonging to populations from Cujejd, Cujejd-Ponor, Bicz Chei and Gheorghieni, and the genotypes P2, P10 and P11 from the population of Pietricica Mountain are of perspective for the amelioration of the dog rose. There were isolated some genotypes with a particular plant architecture, different fruit shapes and sizes, fewer prickles on their branches, with the hips uniquely attached to the branches (not in clusters) etc, forms that may be useful in the amelioration program of this species.

The initiation of *in vitro* cultures of dog rose may be achieved using axillary and apical shoot tips, harvested during the summer and inoculated on the hormone-free medium Murashige-Skoog (1962) or on its variants enriched with BAP or with kinetin and NAA. Our preliminary data evinced that the most intense morphogenetic response of the shoots was on the MS medium enriched with BAP (1 mg l⁻¹) and IBA (0.5 mg l⁻¹), a medium variant that enhanced the multiple shooting, the formation of callus at the shoot base, the indirect caulogenesis (via callus) and the rhizogenesis (seldom). The multiple shooting was also stimulated on the hormone-free MS and on the hormone-enriched variants KN, BG, BDG, BGN and BGZ. A critical period for the dog rose micropropagation seems to be the acclimatization of neoplantlets to the septic conditions.

Key words: dog rose, biodiversity, vitamin C, *in vitro* culture

Introduction

Rosa canina L. (the dog rose) is a shrub that is common along the roads, slopes, stubble fields, at the limit of the forests etc., from the sea level to the altitude of

* Anthropological-Biocosmological-Informational Reflections