



BOOK OF ABSTRACTS

First Legume Society Conference
2013: A Legume Odyssey

9-11 May 2013, Novi Sad, Serbia

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Book of Abstracts

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International Legume Society
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Getting the message out: grow, use, feed and eat legumes

Genetic diversity of the autochthonous *Phaseolus* bean germplasm originating from five South east European countries

Vladimir Meglič¹, Barbara Pipan¹, Jelka Šuštar Vozlič¹, Marko Maras¹, Vida Todorović², Mirjana Vasić³, Suzana Kratovalieva⁴, Afrodita Ibusoska⁴, Zdravko Matotan⁵, Tihomir Čupić⁶

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Genetic differentiation of 167 *Phaseolus vulgaris* L. accessions originating from five South east European countries was performed using 13 SSR markers. Analysis included 21 accessions from Bosnia and Herzegovina, 15 accessions from Croatia, 73 accessions from Macedonia, 38 accessions from Serbia and 20 accessions from Slovenia. Calculated mean number of alleles per locus was 9.8. The average polymorphic information content over all loci reached value of 0.710 where the most informative locus was GATS91 (0.926). These results showed that selected set of SSR markers are highly informative and applicable for studies of genetic diversity within germplasm collected in the five South east European countries, which was also confirmed with the calculated value of probability of identity (1.831×10^{-14}). High mean value of expected heterozygosity (0.731) and Shannon's information index (1.486) reflects high genetic diversity within accessions from five countries, where accessions from Macedonia are genetically the most uniform, due to 17 completely identical accessions included. Analysis of molecular variance showed only 8 % genetic variability among accessions of *P. vulgaris* from different countries which indicates their common origin. These results were also confirmed by principal coordinates analysis where first three coordinates explains cumulatively 77% of genetic variability. Based on genetic distance, UPGMA clustering method and Bayesian clustering analysis, the accessions from five countries are generally divided into four genetic groups.

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In the rich world of global agriculture, diverse legumes can play key roles to develop environment-friendly production, supplying humans and animals with the products of high nutritional value.

The Legume Society was initiated in 2011 with two primary missions. One of them was to treasure the rich legume research tradition of the European Association for Grain Legume Research (AEP), with emphasis on carrying out its the triennial legume-devoted conferences. Another one is to fulfill a long-term strategy of linking together the research on all legumes worldwide, from grain and forage legumes pharmaceutical and ornamental ones and from the Old World to the Americas.

We do anticipate that the First Legume Society Conference will be a unique and genuine contribution to our common goals: to promote the legume research and all its benefits into all spheres of the society, linking science with stakeholders and decision-makers, and to demonstrate how an efficient, useful and firm network of the legume researchers of the world is possible and sustainable.

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