Genetic diversity in high-mountain *Thymus* species in Bulgaria revealed by ISSR genetic markers

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Abstract

High mountain populations of the plant species possess particular interest from both evolutionary and conservation points of view. The mode of distribution, limited gene flow and severe environmental conditions act as evolutionary forces shaping the level and distribution of genetic diversity within and among populations. The paper reports results of a study on four populations of *Thymus praecox* aggr., including the taxa *T. vandasii* and *T. jankae*. Two populations are located in Rila Mts (Belmeken dam and Yastrebets), one – in Pirin (Vihren hut) and one – in the Rhodopes (Perelik hut). Eleven inter simple sequence repeat (ISSR) markers were applied to document the genetic diversity within and among populations. The level and distribution of the diversity correspond to the values reported in other studies on the species of the genus Thymus and other species with similar life-history characteristics. The populations from Rila and Pirin were genetically closer to each other, while the population from the Rhodopes was the most differentiated. The results are discussed in the light of the conservation and sustainable use of the species resources.

Keywords

population differentiation, conservation of genetic resources, environment

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Presented at

International Conference on DNA barcoding and Biodiversity, 25-27 May 2022, Sofia Bulgaria

Acknowledgements

The authors thank the financial support provided by the Ministry of Education and Science of Bulgaria under the National Program “European Scientific Networks”, project BULCode, Agreement No Д01-271/02.10.2020, and the National Research Programme "Healthy Foods for a Strong Bio-Economy and Quality of Life" approved by DCM No. 577/17.08.2018.

Conflicts of interest

Authors declare no conflict of interest.