In this study, a total of 142 different accessions of Secale cereale were investigated including landraces and improved varieties of cultivated rye, wild, and weedy forms of Secale cereale, Secale vavilovii, Secale strictum, and Secale sylvestre from different eco-geographical areas with a concentrated focus on Turkey and Fertile Crescent (Fig. 1).

Material and Methods

**Sample Collection**

In this study, a total of 142 different accessions of Secale cereale were investigated including landraces and improved varieties of cultivated rye, wild, and weedy forms of Secale cereale (accessed 18 October 2009). Dr. A. Drummond A, Khush, G. S., Stebbins, G. L., 1961. Cytogenetic and evolutionary studies in Secale. I. Some new data on the ancestry of S. cereale. American Journal of Botany, 48: 723-730.

**Acknowledgements:** The authors would like to thank Emna Chennane and Emek Ceylan for their help with the statistical analyses.


The carried out with chloroplastic SNP and nuclear SSRs revealed that these markers are not sufficient to resolve phylogenetic relationships among all accessions included in the study. Evolutionary history of genus Secale has to be studied in detail using other markers like nuclear SNPs and iPBS markers. The lack of any structure according to the nuclear microsatellite data is probably due to the permanence of ancestral genotypes and/or intensive introgression between species.