Genetic relationships among wild and cultivated blackberries (*Rubus caucasicus* L.) based on amplified fragment length polymorphism markers

Guleray Agar

*Department of Biology, Faculty of Science, Ataturk University 25240 Erzurum, Turkey*

(agar252001@yahoo.com)

**Summary**

*Rubus* is accepted as one of the most diverse genera in plant kingdom comprises over 400 species and subdivided into 12 subgenera. However, only a few subgenera of *Rubus* such as raspberries, blackberries, arctic fruits and flowering raspberries have been domesticated and utilized in breeding programs. Turkey is one of the natural habitat centers of the *Rubus* genus and nearly all *Rubus* plants are widely distributed globally as wild in Turkey. The blackberries, as well as various other *Rubus* species with mounding or rambling growth habits, are often called brambles. Little information is available on the genetic diversity of wild-grown blackberries. The objective of this study was to determine the genetic relationships among nine promising (high-yield capacity, free of pest and diseases, better fruit traits) wild blackberry (*Rubus caucasicus* L.) selections and the well-known cultivar, "Chester" by using amplified fragment length polymorphism (AFLP) markers. Genotypes were evaluated with three selective primer-enzyme combinations, producing a total of 223 AFLP fragments with 53% polymorphism ratio. Clustering of genotypes using unweighted pair-group method of arithmetic average (UPGMA) cluster analysis clearly separated groups of wild blackberry genotypes while the variety "Chester" was clustered independently. Wild selections represented a distinct germplasm source on the basis of the estimated genetic distance among them. Genetic diversity data from this study will be helpful in using and exploiting the wild genetic material for breeding purposes as well as for further research.

**Key words:** *Rubus*, genetic diversity, wild material, AFLP, genetic relationships.