

## **Nucleotide Diversity and Bacterial Endosymbionts of the Black Cherry Aphid *Myzus cerasi* (Fabricus, 1775) (Hemiptera: Aphididae) from Turkey**

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**Abstract :** Sequences of mitochondrial cytochrome oxidase I (COI) gene of twenty-five Turkish and one Greek *Myzus cerasi* (Fabricus) (Hemiptera: Aphididae) in populations were collected from *Prunus avium* and *Prunus cerasus*. The partial coding region of COI studied is 605 bp for all the populations, from which 565 nucleotides were conserved, 40 were variable, 37 were singleton, and 3 sites were parsimony-informative. Four haplotypes were identified based on nucleotide substitutions, and the mean of intraspecific divergence was calculated to be 0.3%. Phylogenetic trees were constructed using Maximum Likelihood, Minimum Evolution, Neighbor-joining, and Unweighed Pair Group Method of Arithmetic Averages (UPGMA) and *Myzus persicae* (Sulzer) and *Myzus borealis* Ossiannilsson were included as outgroups. The population of *M. cerasi* from Isparta diverged from the rest of the groups and formed a clade (Haplotype B) with *Myzus borealis*. The rest of the haplotype diversity includes Haplotype A and Haplotype C with individuals characterized as *Myzus cerasi pruniavium* and Haplotype D with *Myzus cerasi cerasi*. *M. cerasi* diverge into two subspecies and it must be reevaluated whether this pest is monophagous or oligophagous in terms of plant type dependence. The obligated endosymbiont *Buchnera aphidicola* was also found during this research, but no facultative symbionts could be found. It is expected further studies will be required for a complete barcoding and diversity of bacterial endosymbionts present.

**Keywords :** bacterial endosymbionts, barcoding, black cherry aphid, nucleotide diversity

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