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Title

The genetic variability of honey bees from the Southern Balkan Peninsula, based on alloenzymic data

Author(s)

Evgeniya Ivanova, Maria Bouga, Teodora Staykova, Mica Mladenovic, Sladjan Rasic, Leonidas Charistos, Fani Hatjina and Plamen Petrov

Abstract

The genetic variability of honey bee populations, representing *Apis mellifera macedonica, Apis mellifera cecropia* and *Apis mellifera carnica*subspecies from the Balkan Peninsula countries of Bulgaria, Greece, Serbia and Montenegro, was studied using alloenzymic analysis of six enzyme systems (MDH-1, ME, EST-3, ALP, PGM and HK) corresponding to 6 loci. All loci were found to be polymorphic in most of the populations studied. The observed heterozygosity was found to range from 0.161 to 0.276. Allele frequencies of all loci were used to estimate Nei's (1972) genetic distance, which was found to range between 0.001 and 0.101 among the populations studied. UPGMA and neighbour-joining phylogenetic trees obtained by genetic distance matrix methods show that the honey bee populations from Bulgaria and Greece were clustered together, as were those from Serbia and Montenegro.

Keywords

honey bee, alloenzymes, genetic variability, Balkan Peninsula