

## **The potential impact of *Apis mellifera caucasica* after selection, breeding and rearing of Caucasian queen bees in Artvin and Ardahan (Turkey)**

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*Apis mellifera caucasica* is one of the most suitable subspecies in the cold climates and this favorable subspecies has a distribution on the North east corner of Turkey bordering to Georgia. Honeybee genetic resources are under the threat genetic pollution due to high degrees of hybridization. The preservation of the subspecies diversity within its geographic boundaries are extremely important. *Apis mellifera caucasica* in Camili after scientific work proven to be keeping its original status due to geographic restriction to the the inaccessible geography. There is one other ecotype as well in close proximity (Ardahan-Posof) and this ecotype was also under consideration for similar purposes like rearing queens, selection of better stocks and production of favorable hybrids for different beekeeping purposes. These two honey bee ecotypes of Caucasus subspecies are favorable for their high productivity and thus scientific research have been continued since 1998. Different techniques such as morphometry, allozymes, mtDNA and microsatellites were applied to the mountain ecotype and will be applied to the high plain ecotype as well. Current research is composed of geometric morphometrics in order to find out the similarities and differences of both caucasus ecotypes. Subsequently the colonies will be selected for breeding purposes during queen production. This projects has different steps and the first one is going to be the education of the local beekeepers in Ardahan-Posof and following the selection of other favorable charactersitics of the Ardahan-Posof ecotype such as hygienic behavior, aggressiveness, disease resistance, and high honey yield and also compare the results with the Artvin-Camili ecotype.