How can molecular studies contribute to the conservation studies of native Daglic sheep breed of Turkey?

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Turkish native sheep breeds (22) are very near to earliest sheep domestication center(s). They might be harboring invaluable genes. Sheep from Europe through Asia exhibited three commonly observed and three relatively rare haplogroups (HPGs A-F). HPGB is the predominant one in Europe whereas; HPGA and HPGC are also observed in high frequencies in Asia. Based on their distribution in Turkey it can be said that HPGB was the earliest HPG in Anatolia and HPGA entered from the east, HPGC entered from the southeast of Anatolia. Microsatellite data supports this proposal. Hence, there are groups of sheep breeds having different evolutionary histories. An Anatolian native breed, Dağlıç, harboring mostly HPGB but also highly divergent sequences of HPGD and HPGE seems to be the representative of the earliest sheep of Anatolia and extent of the ancestral European sheep. However, it is under severe threat of extinction. It has been part of in-situ conservation studies with 200 individuals in three flocks. We would like to explore possibility of contributing to these studies by following genetic diversity within conserved individuals. Especially, we would like to explore the possible employment of Structure in purging or recruiting sheep individuals in relation to these three flocks.

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