MITOCHONDRIAL DNA (mtDNA) HAPLOGROUP COMPOSITIONS OF THREE NATIVE TURKISH SHEEP BREEDS AND THEIR IMPLICATIONS ON THE CONSERVATION STUDIES

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ABSTRACT

Sheep domestication is believed to have occurred at least by three separate events in different domestication centers. Archeological studies indicated that Turkey might be harboring the earliest one and is close to the other suggested centers. Studies involving some of the Turkish sheep breeds revealed that they possess high genetic diversity, indicating their prime importance in conservation studies. Yet, which one(s) must be conserved? Studies on the evolutionary history of breeds may help to resolve different causes of high diversity in Turkish breeds and thereby help to construct sound conservation strategies for native sheep breeds in Turkey. In this line, in the present study, composition of sheep mtDNA haplotypes indicating different domestication events, among three native breeds, as a part of a national project (TUBITAK/0271), was determined and results were evaluated comparatively with those available from the literature.

RESULTS

The two different haplogroups observed by one Gökçeada individual or presence of unidentifiable patterns in the results of genetic studies might have prime importance in conservation studies. Yet, native Turkish sheep breeds are under threat (Longworth, 2005). Furthermore, domestic sheep spread from Turkey to Europe. (Clutton-Brock, 1981) During this spread genetic information must be lost. Some of these might be of great importance and still existing in native Turkish sheep breeds.

DISCUSSION AND CONCLUSIONS

Sheep domestication is believed to have occurred at least by three separate events in different domestication centers. Archeological studies indicated that Turkey might be harboring the earliest one and is close to the other suggested centers. Studies involving some of the Turkish sheep breeds revealed that they possess high genetic diversity, indicating their prime importance in conservation studies. Yet, which one(s) must be conserved? Studies on the evolutionary history of breeds may help to resolve different causes of high diversity in Turkish breeds and thereby help to construct sound conservation strategies for native sheep breeds in Turkey. In this line, in the present study, composition of sheep mtDNA haplotypes indicating different domestication events, among three native breeds, as a part of a national project (TUBITAK/0271), was determined and results were evaluated comparatively with those available from the literature.

REFERENCES

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