Phylogenetic analysis of mitochondrial DNA in the East Adriatic goats

Ivana Drzaic, Dinko Novosel, Ino Curik, Vlatka Cubric-Curik
University of Zagreb, Faculty of Agriculture
Goat domestication routes

Adopted by S.Naderi
Mitochondrial DNA
Material and methods

• 25 Croatian spotted goats
• 65% of the breeding area
• 1435 heads (HPA, 2017) under selection
Material and methods

- 660 bp D-loop fragment
- Goat, ancient goat and sheep sequences from Genbank
Results
Median–joining tree of Croatian Spotted Goat

- Farm 1
- Farm 2
- Farm 3
- Farm 4
- Farm 5
- Farm 6
- Farm 7
- Outgroup C. Falconeri
Haplogroup determination

- Croatian Spotted Goat
- Haplogroup A
- Haplogroup B
- Haplogroup C
- Haplogroup D
- Haplogroup F
- Haplogroup G
Median–joining network

Croatia

- Albania
- Greece
- Switzerland
- Italy
- Egypt
- Romania
- Spain
- Austria
- Outgroup C. Falconeri
Calibrated phylogenetic tree

A haplogroup

B haplogroup
C haplogroup
D haplogroup
G haplogroup
F haplogroup
Principal component analysis

Albania
- Capore
- Hasi
- Liqenasi
- Mati
- Croatian Spotted
- Baladi
- Greek
- Skopelos
- Arbi
- Camoscata Alpina
- Derivata di Siria
- Argetata dell' Etna
- Girgentana
- Maltese
- Orobica
- Sarda
- Valdostana
- Grigia Molsana
- Pinzgauer
- Tauernpied
- Romanian
- Spanish
- Verata
- Alpina
- St. Gallen Botted
- Peacock
- Grison Striped

Croatia

Greece

Italy

Austria

Romania

Spain

Switzerland
Conclusion

Croatian Spotted goat

• has preserved high genetic diversity
• has high heterogenic origin
• is closest to Albanian, Greece and Italian goats by mtDNA
• has low phylogeographic structure characteristic to all goats

Thank you for your attention!