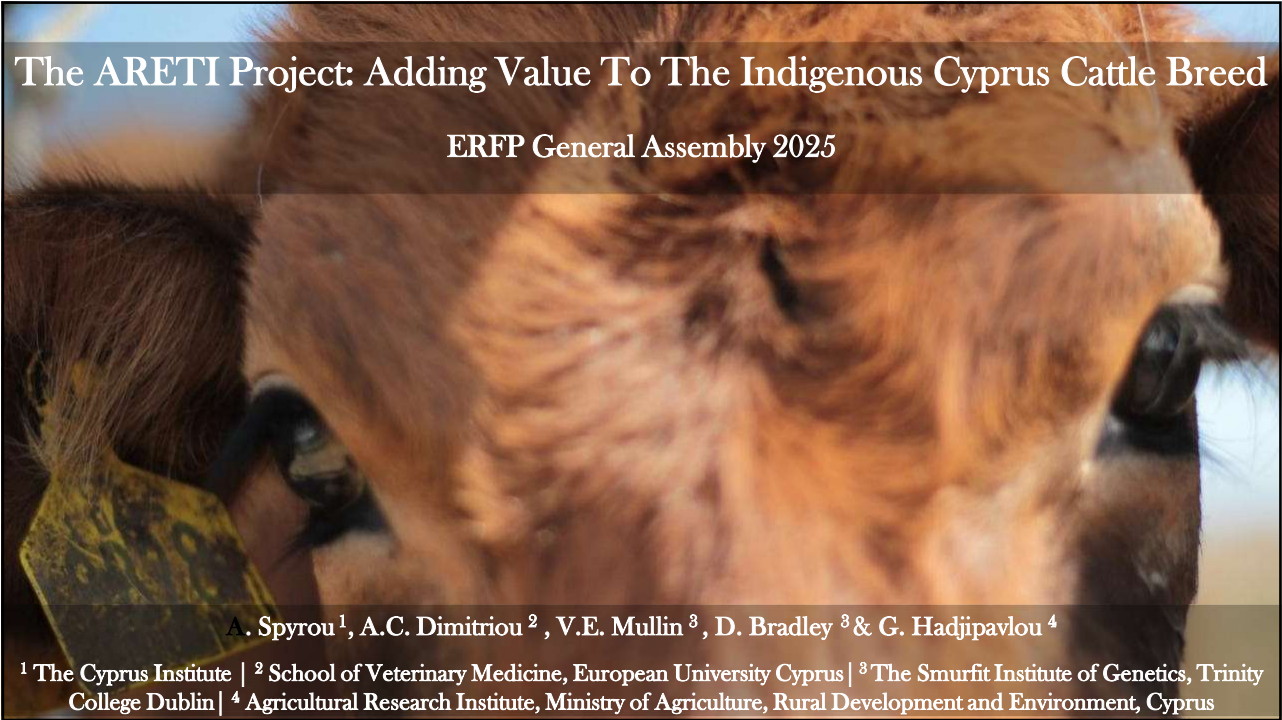


The ARETI Project: Adding Value To The Indigenous Cyprus Cattle Breed

ERFP General Assembly 2025


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Everything started with a hump!



Terracotta figurine of a bull with a hump from Ayia Irini, LCII-III, © Cyprus Museum, Nicosia (Inv. No. 1984/1-21/2)

Terracotta figurine of a bull with a hump from Ayia Irini, LCII-III, © Cyprus Museum, Nicosia (Inv. No. 1984/1-21/1)

Spyrou, A. 2021. From South Asia to the Eastern Mediterranean: the appearance of zebu cattle in the iconography of Bronze Age Cyprus and some consideration for future research. In: Amadio, M. (Ed.). *Archaeology in the smallest realm: micro analyses and methods for the reconstruction of early societies in Cyprus*. Artemide.

2

Animals RESilient in TIme (ARETI):

Unravelling the genetic, economic and cultural history of cattle on the island of Cyprus from prehistoric times to the present

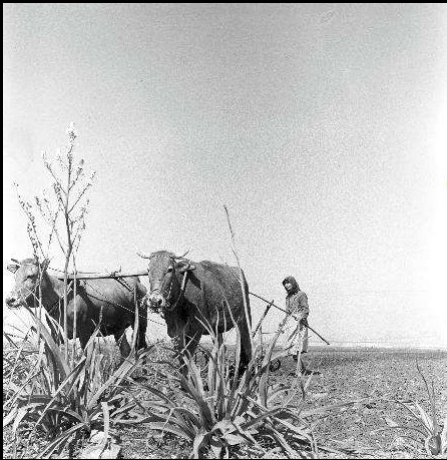


- Six Pillars:
- I) Zooarchaeological work
 - II) Palaeogenomics
 - III) Genetic Characterisation of the Local Cattle breed
 - IV) Archival Research
 - V) Ethnographic work and collection of oral history
 - VI) Public engagement

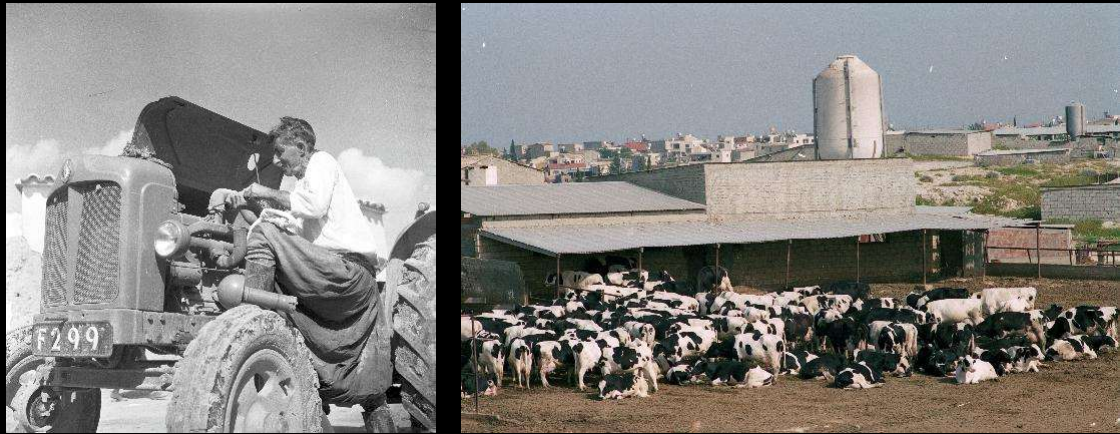


The indigenous cattle breed of Cyprus

and its role in pre-industrial economy and society



Cyprus in the 20th Century: Local and global transformations and the decline of a native breed



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The Local Cattle breed’s current status



- 1965: 27,500 indigenous cattle (Department of Agriculture)
- Today: 1,304 animals (2024 Census)
- 709 breeding females (endangered)

Existing Measures

- The establishment of “The Breeders' Association” (2010)
- Government subsidy programmes (EU CAP 2023-2027)

Current uses

- Ecosystem services, including grazing-based fire prevention
- Small-scale meat production

- **Genetic/Biological:** conservation of a unique gene pool
- **Ecological:** ecosystem services, including **grazing-based fire prevention**
- **Historical-Cultural:** part of Cyprus’s **agro-pastoral heritage**

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1st Pillar: Zooarchaeology

Reconstructing past human-cattle interactions (PPNB-Roman period)



Preliminary Results

- General lack of cut marks and dominance of adult individuals in early and middle Bronze age
- Cut marks and greater presence of younger animals in late Bronze age (urbanization?)

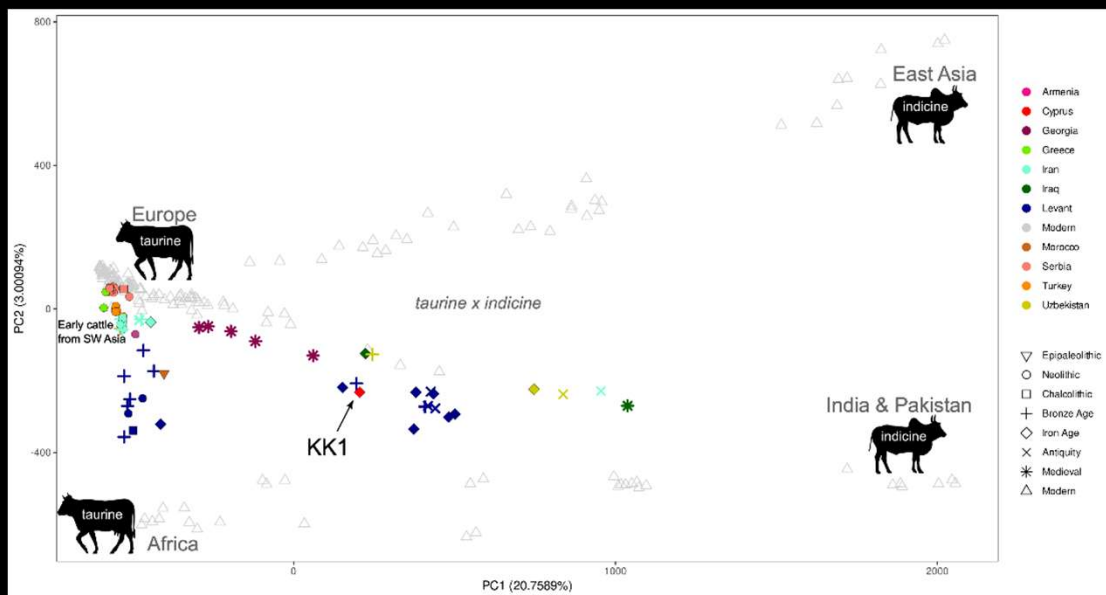
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2nd Pillar: Palaeogenomic Insights

into the ancestry of prehistoric and historic cattle populations

- aDNA isolation and analysis took place at the Smurfit Institute of Genetics, Trinity College Dublin
- Only 1 out of the 16 samples used for this study yielded enough endogenous DNA to allow further investigation
- The sample (KK1) is from a petrous bone of a male individual
- Archaeological context: Kition *Kathari*, Vothros 9A (Area II/ Temple I) (Karageorghis 2004)
- The Early Cypro-archaic Period (8th-7th century BC) is the sample's *Terminus Ante Quem*

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Contextualizing the evidence

- Low recovery of endogenous DNA (only ~6% after quality filtering)

LIMITATIONS

- Small sample size (only 1 out of 16 samples yielded usable aDNA)
- Low recovery of endogenous DNA (only 6% after quality filtering)
- Does not allow to trace the area of origin (or whether hybridisation occurred locally or somewhere else)

SIGNIFICANCE

- Provides the first genetic data for ancient cattle populations on Cyprus
- Supports earlier hypotheses based solely on cattle iconography
- Suggests that, alongside material culture, people were also actively translocating live animals

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Pillar III: Genetic characterization of the breed

~ 90 individuals from 17 farms across Cyprus genotyped using SNP Microarrays (Illumina 777K bovine array)

RESULTS

- The Cyprus Local Cattle Breed of Cyprus is genetically distinct
- No gene flow was detected between the breed and other commercial or neighbouring indigenous breeds
- Two genetic subpopulations identified (Mesaoria plain & Paphos region?)
- Findings reaffirm ethnographic work with elder farmers
- Findings have been submitted for publication in Genetic Resources Journal (August 2025)



Pillar IV: Archival Research



Pillar V: Collection of oral history
and traditional knowledge



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Pillar VI: Encouraging public engagement
and Citizen Science Initiatives



#adoptlocalcow campaign

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“Spaces” for conservation:
A documentary on the Cyprus Local Cattle Breed

