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Archaeozoological Perspective on Neolithic Migrations in Eastern and South-Eastern Romania

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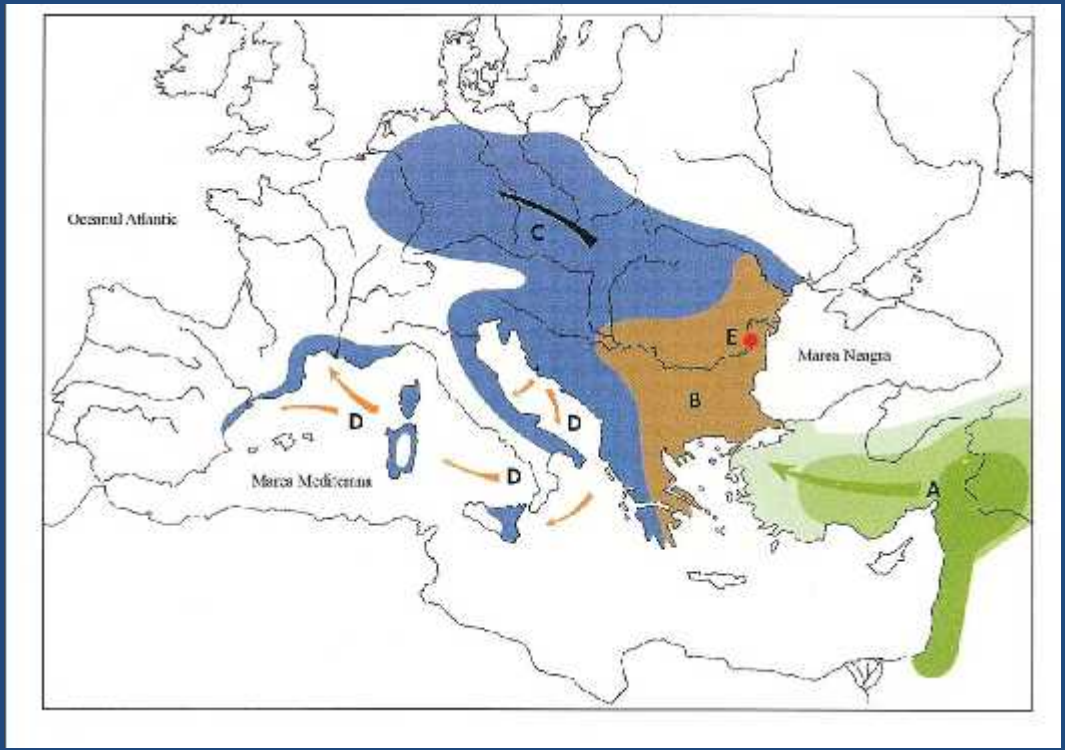
Objectives :

- identification of the animal migrations using elements of the species biogeography;
- distinguish of the morphometric variations on animal populations;
- making evident the genetic variation in animal populations.



Material and Methodology of the research

The present paper is based on published and unpublished archaeozoological data.

Material

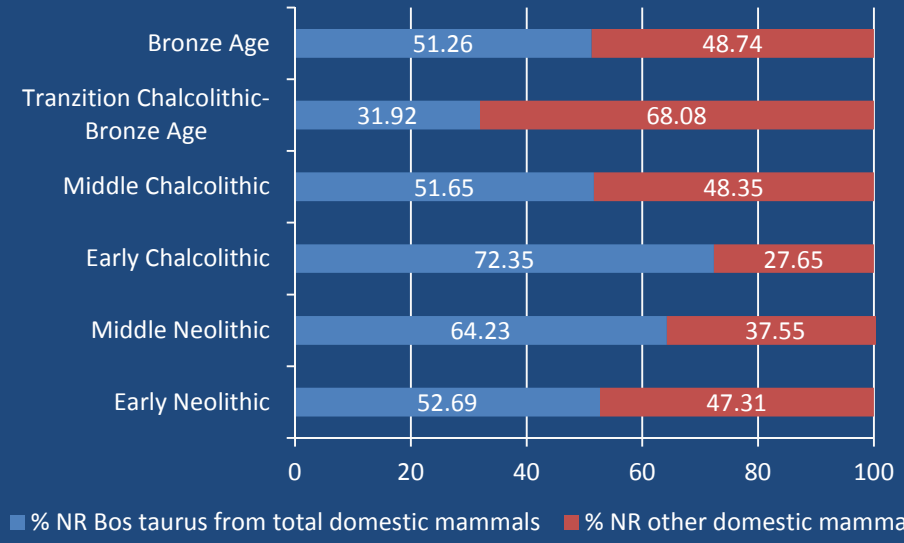
Animal remains found in the archaeological excavations (archaezoological samples) reflecting the use of animal by people as food, raw material in artisan activities or in ritual practices: bones, teeth, antlers, horn cores, shells.

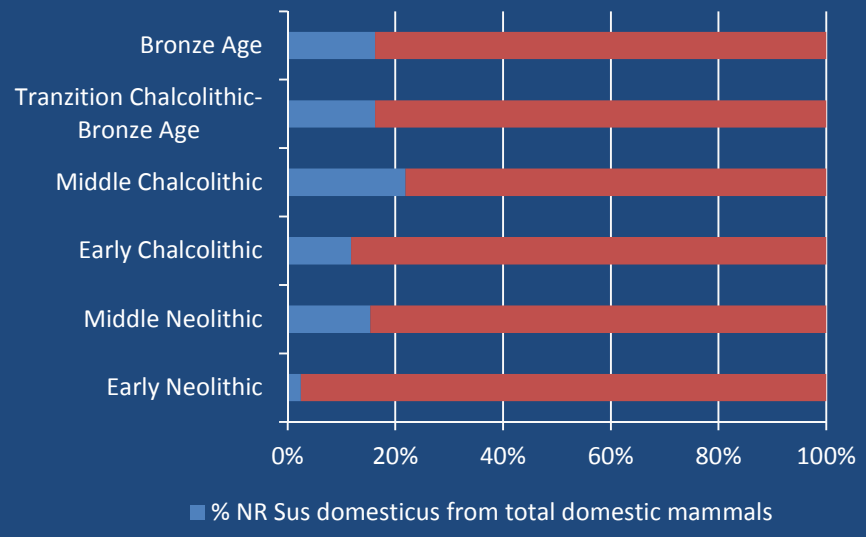
Methodology includes the following main steps: collecting and preparing the archaezoological assemblages, anatomical, taxonomical and taphonomical identification, osteometry, estimation of age and sex, quantification of data, genetic analysis.

Periods	Cultures
Early Neolithic (6000-4500 BC)	Starcevo-Criş
Middle Neolithic (5000-4200 BC)	Linear Pottery Hamangia
Late Neolithic (Chalcolithic) (4500-3500 BC):	Boian Gumelnita Precucuteni Cucuteni Cernavoda

Elements of the species biogeography.

	Starcevo-Cris Culture					
Sites	Valea Lupului		Glavanesti		Pogorasti	
Species	NR	%	NR	%	NR	%
Bos taurus (cattle)	33	54.75	240	80.00	59	62.77
Ovis aries/Capra hircus (sheep/goat)	4	6.55	28	9.33	9	9.57
Sus scrofa domesticus (pig)	1	1.63	6	2.00	3	3.19
Canis familiaris (dog)	-	-	-	-	-	-
Total domestic	38	62.43	274	91.30	71	75.53
Total wild	23	37.67	26	8.64	23	24.46





Elements of the species biogeography.

The *Spondylus* shells were used as raw material in ornament manufacturing; the *Spondylus* artefacts have been identified in the settlement of the Middle and Late Neolithic (Hamangia, Gumelnita, Cernavoda and Cucuteni Cultures).

Elements of the species biogeography.

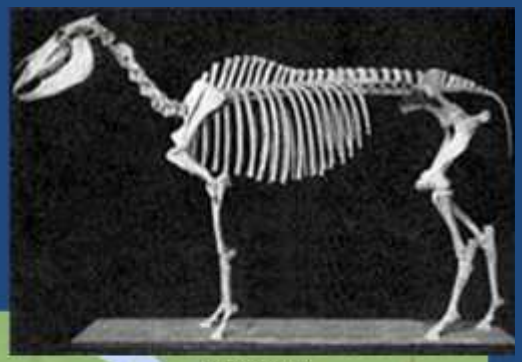
Sparus aurata (dorada) was archaeozoologicaly identified in sites of Hamangia and Gumelnita Cultures.

Elements of the species biogeography.

The remains of *Cervus dama* (fallow deer) are rare, being identified in few samples belonging to Middle and Late Neolithic (Hamangia, Gumelnita and Cucuteni Cultures).

Elements of the species biogeography.

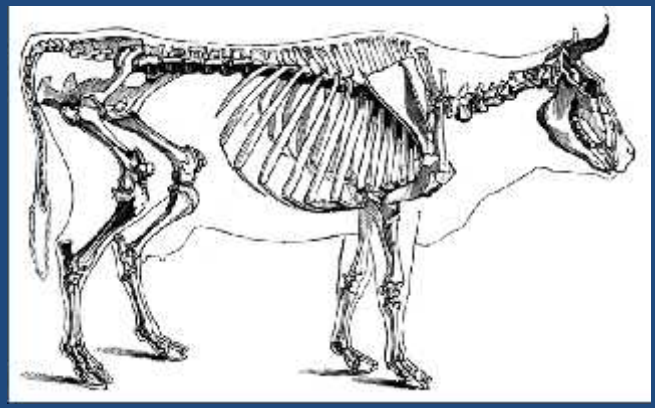
Equus hydruntinus (European wild ass) appear in sites of Hamangia Culture; this species was used as source for food and also as offering in burial rituals.

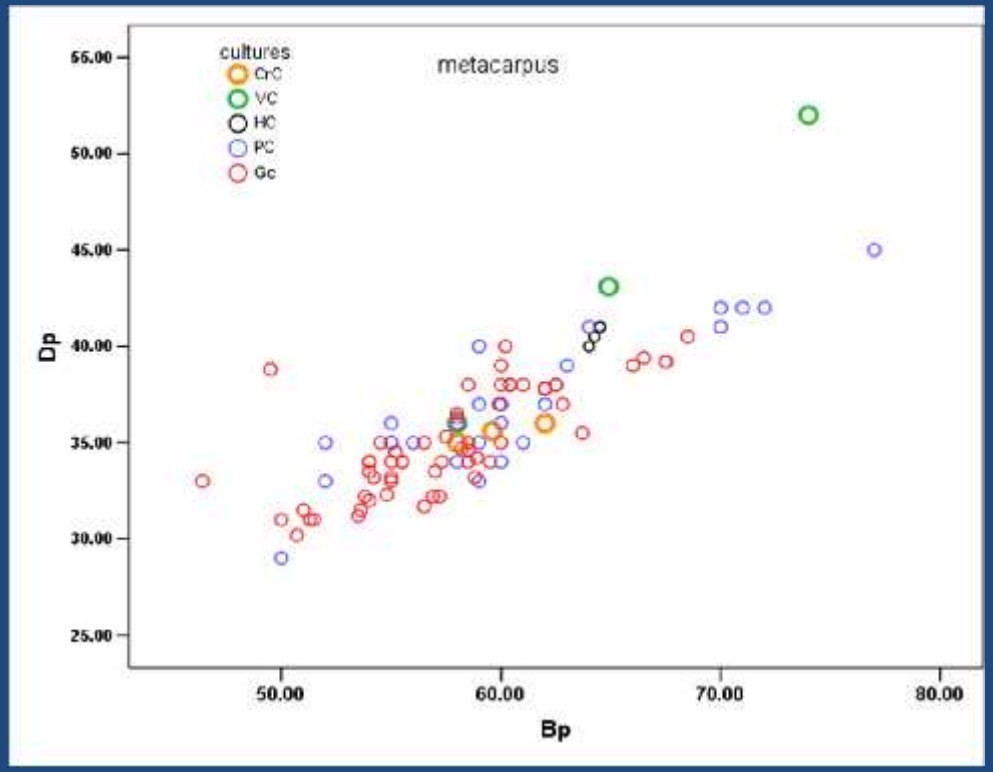


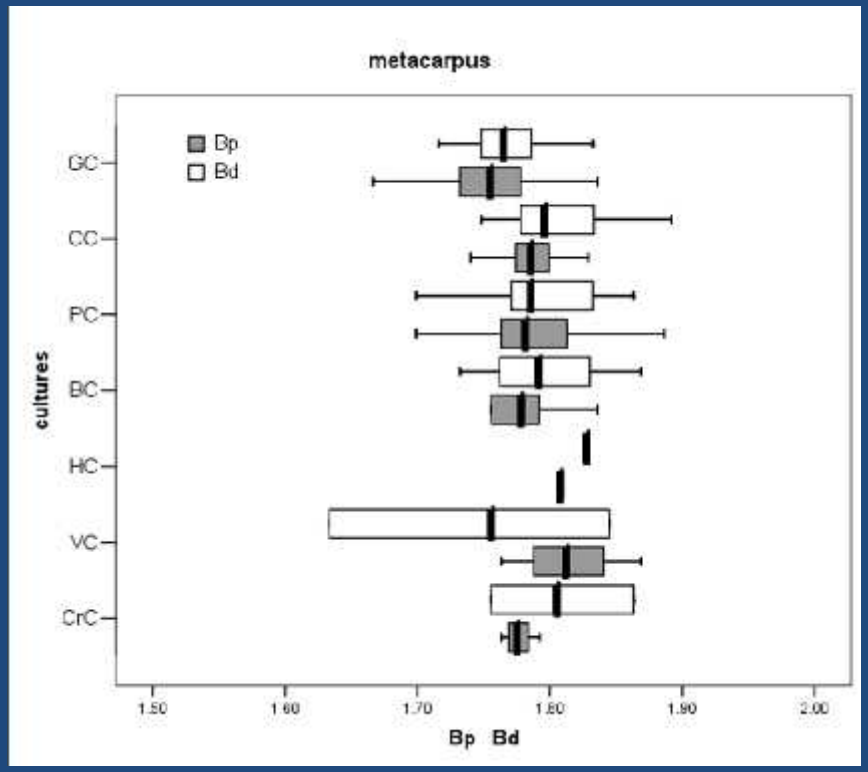
Elements of the species biogeography.

A single remain of lion was identified in the Cernavoda cultural level of the Harsova site.

Morphometric variations in animal populations..







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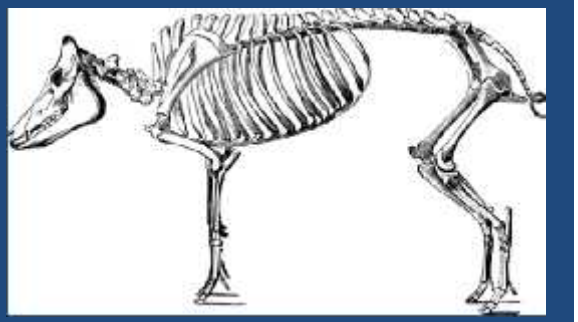
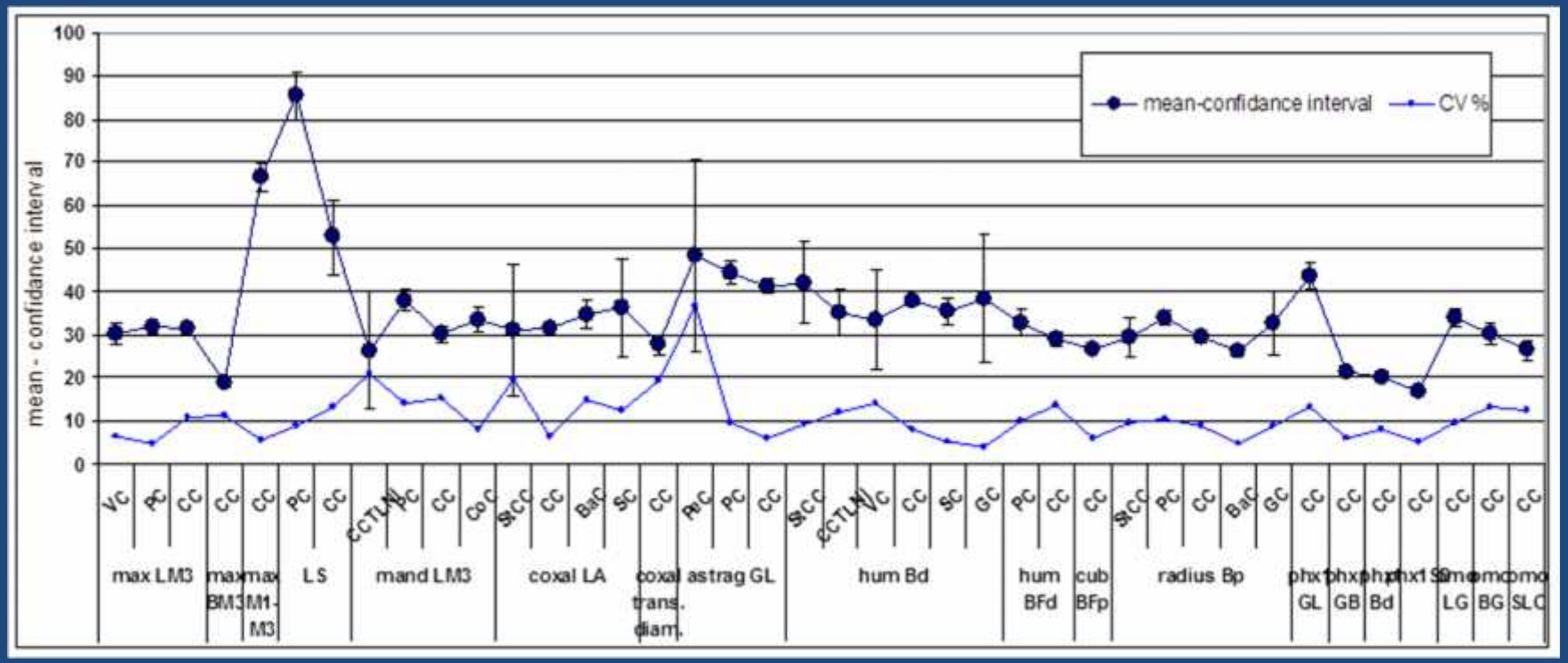
Morphometric variations in animal populations..





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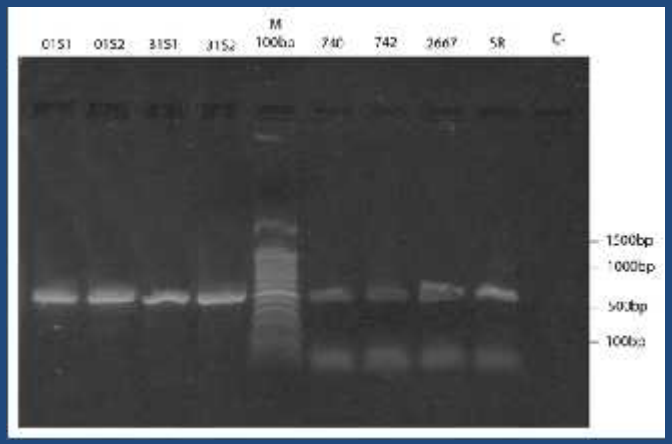
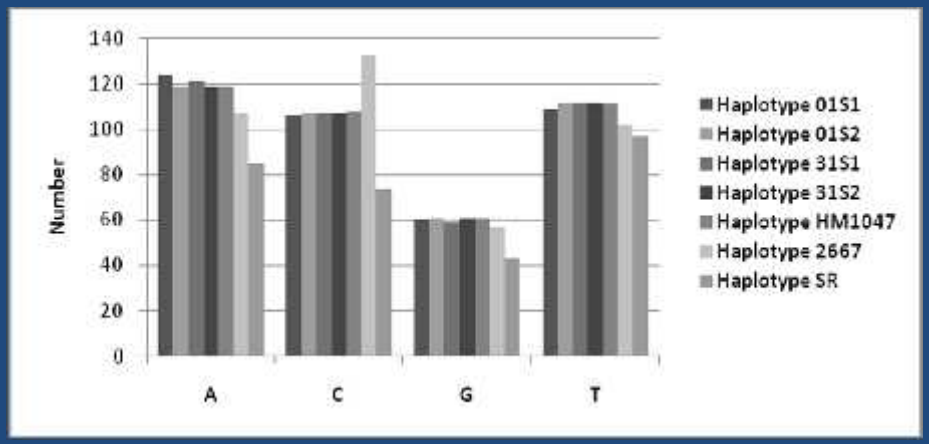
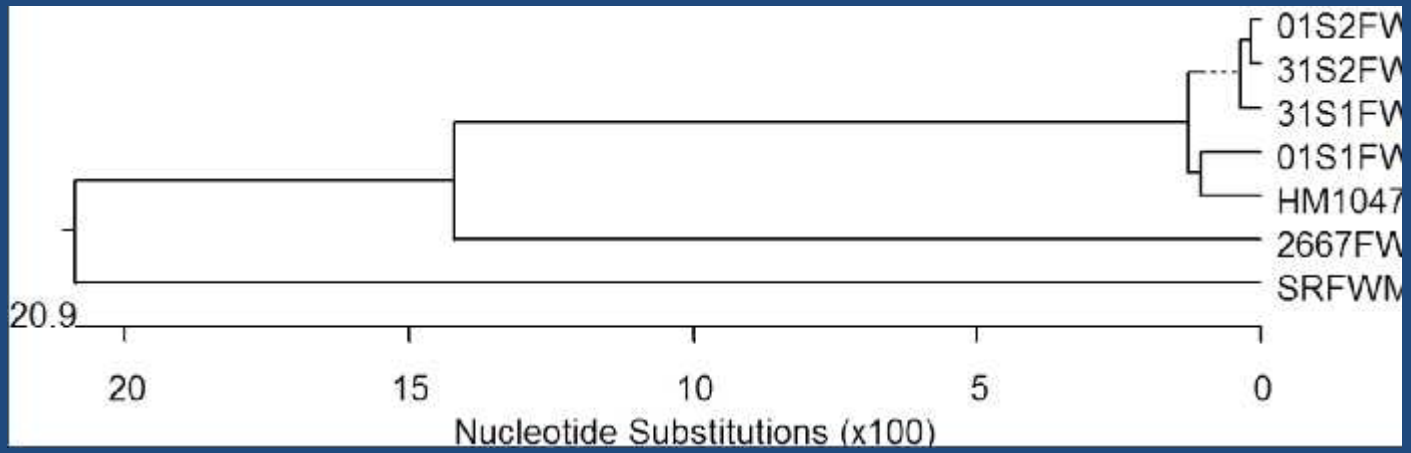
Genetic variation in animal populations.







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Conclusions

The analysis of the migrations of animal and human populations in Neolithic period involves various disciplines including archaeozoology, archaeogenetics – each approach focusing its efforts on the development of their methodology and analytic capacities.

Our results confirm the Neolithic expansion of domestic species such as cattle, pig, sheep/goat; in the light of comigration/coevolution man-animal this expansion of livestock indicates the expansion of Neolithic farmers from east/south-east to west. Several archaeogenetic studies indicate local domestication event in the case of pig.