

Research Project

Genetic archaeology of Celtic and Roman cattle north of the alps

Project funded by own resources

Project title Genetic archaeology of Celtic and Roman cattle north of the alps

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Organisation / Research unit

Departement Umweltwissenschaften / Archäozoologie (Schibler)

Project start 16.01.2003

Probable end 31.12.2019

Status Completed

This project aims at a detailed genetic characterisation of cattle (*Bos primigenius f. taurus*, *Bos taurus*) populations during Celtic and Roman time using mitochondrial (mtDNA) and nuclear markers (nDNA). Genetic data will be compared to the archaeological knowledge, to results of morphological bone investigations and to isotope analysis.

With the establishment of Roman provinces north of the Alps large social and economical changes occurred. The extent of this cultural impact on domestic animals in Switzerland was demonstrated by an increase in cattle size from late Iron Age onwards and a decrease after Roman occupation in Early Medieval time, a fact observed in other parts of Europe as well. Other potential changes are morphologically invisible. Phenotypic changes can point to shifts in husbandry techniques, to diversification in genetic stock such as through import of cattle, or to both. Based on the bone assemblages excavated at major Swiss archaeological sites, however, the distinction between the causes with morphometrical methods is not possible. We do not know which traits beside size might have been selected for. Morphology also fails in many cases to sex the bones, which would provide information on herd structures and the use of cattle. One alternative is to employ techniques of molecular genetics e.g. ancient DNA (aDNA) analyses and meaningful genetic markers to study cattle history or features.

Financed by

University funds

Other funds

Add publication

Published results

99179, Schlumbaum, A.; Turgay, M.; Schibler, J., Near East mtDNA haplotype variants in Roman cattle from Augusta Raurica, Switzerland, and the Swiss Evolène breed, 0268-9146 ; 1365-2052, Animal Genetics, Publication: JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

49483, Schibler, J.; Schlumbaum, A., Geschichte und wirtschaftliche Bedeutung des Hausrindes (*Bos taurus* L.) in der Schweiz von der Jungsteinzeit bis ins frühe Mittelalter, 0036-7281 ; 1664-2848, Schweizer Archiv für Tierheilkunde : SAT, Publication: JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

99188, Schlumbaum, A.; Stopp, B.; Breuer, G.; Rehazek, A.; Turgay, M.; Blatter, R.; Schibler, J., Combining archaeozoology and molecular genetics: the reason behind the changes in cattle size between

150BC and 700AD in Switzerland, Antiquity, Publication: JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

Add documents

Specify cooperation partners

ID	Kreditinhaber	Kooperationspartner	Institution	Laufzeit - von	Laufzeit - bis
102585	Schlumberg, Angela	Archaeological Services of the Cantons	Archaeological Services of the Cantons	01.08.2008	31.07.2011