

## A NOTE CONCERNING A $^{14}\text{C}$ DATING FROM THE *TELL* AT BUCȘANI POD (GIURGIU COUNTY, ROMANIA)

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**Abstract:** Aceasta notă a fost scrisă cu scopul de a aduce unele necesare lămuriri cu privire la o situație arheologică și arheozoologică care a făcut obiectul unui studiu în revista “Cultură și Civilizație la Dunărea de Jos” numărul 22 din 2005 (Bem C., Bălășescu A., 2005, *A few considerations regarding an exceptional archaeological situation. Foundation pit of the settlement or occasional offering?* (Bucșani, Giurgiu county, Romania). Aceste rânduri care poate nu au fost foarte ușor de scris, dar pe care le-am considerat absolut necesare, au pornit din dorința noastră de a pune pe un făgaș normal adevărul arheologic, biologic și istoric.

**Keywords:** zooarheologie, datare C14, ritual.

The purpose of this note is to correct the taxonomic identification and dating of archeozoological material and of the archaeological structure that produced it, reported in a previous study: Bem C., Bălășescu A., 2005, *A few considerations regarding an exceptional archaeological situation. Foundation pit of the settlement or occasional offering?* (Bucșani, Giurgiu county, Romania), *Cultură și Civilizație la Dunărea de Jos* 22, p. 317-336.

A collaboration between the Romanian National Museum of History (National Center for Pluridisciplinary Research) and the Musée National d'Histoire Naturelle, Paris - Centre National de Recherche Scientifique UMR 5187 (Archéozoologie et Histoire des Sociétés) led to the analysis of fossil DNA from animal samples collected in Romania from various archaeological contexts. Among the samples analyzed was a fragment from the diaphysis of a left metacarpus (sample ROBUCA 18) from a skeleton uncovered during excavations at Bucșani (Giurgiu county, Romania) in the structure Cx 57, and identified by one of us (A.B.) as belonging to an aurochs – *Bos primigenius*. However, analysis of the well preserved DNA showed that the bone fragment belonged to domestic (*Bos taurus*), and not to wild cattle.

The same bone sample was  $^{14}\text{C}$  dated as part of the same program of analyses that allowed for investigation of the fossil DNA (Chronobos Programme<sup>1</sup>). The

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radiocarbon date obtained (UB-7277, Queens Belfast University, Northern Ireland, 20 December 2006) indicates that the age of the skeleton is not Eneolithic, but it dates to the final part of the XIX<sup>th</sup> century (<sup>14</sup>C Date: 113±31).

These findings require reconsideration of the Bușani discovery. The <sup>14</sup>C date indicates that the connection between the skeleton and the Gumelnița settlement from the Bușani Pod *tell* is fortuitous. At the time the skeleton was excavated, the characteristics of the deposition pit, the sediments sectioned by the pit, its placing in a clear topographic setting, even the aspect of the bone remains, all indicated association with the uppermost level of the Eneolithic settlement (Bem and Bălășescu 2005, p. 321-322). However, pedogenic homogenization, mentioned by us in the previous article (Bem and Bălășescu, 2005, p. 319), precluded identification of the precise stratigraphic level at which vertical interventions (such as pits, including the “aurochs” pit) were made. The pit was likely dug in a short period of time, in already homogenized sediments and quickly covered; as a result, its margin is impossible to identify. Only in those situations where sediments sectioned by such interventions have maintained more of their initial pedogenetic characteristics can the margins of pits be identified.

We have pointed out on several occasions the importance of the archaeological context, emphasizing that it is the archaeological content which allows for the dating of a stratigraphic level or structure (pit, dwelling, hut, etc.), whereas the biological content (including faunal) does not (Popovici et al. 2002, p. 53; Bălășescu and Radu 2004, p. 37). Also, rapidly evolving fossil DNA analysis techniques have shown that for the period of time encompassing the beginnings of animal domestication, taxonomic identification of faunal remains is delicate when it comes to differentiating the domesticated species from close wild relatives in cattle (*Bos taurus/Bos primigenius*) and pigs (*Sus domesticus/Sus scrofa*).

Such was the situation at Bușani Pod, where the inferred archeological context of the skeletal remains (Eneolithic period, Gumelnița culture, therefore an early age) provided the starting point for the interpretation of the biological material. The Cx 57 skeleton was identified as belonging to wild cattle, with biometrical data pointing to the species *Bos primigenius* (Bem and Bălășescu A 2005, fig. 7 a-f). Had the skull of the animal been found in the same pit, it would have undoubtedly allowed for more accurate taxonomic identification, as domestic cattle, and relative dating (or at least it would have raised some questions), because the morphology of horncores provides better diagnostic characters for taxonomic identification.

The newly interpreted archaeological situation of the cattle skeleton in Cx 57 at Bușani Pod, although disconnected from the Gumelnița settlement, remains nevertheless interesting. The acts, dating from the period of modern history, of killing and beheading an animal in its prime (a male domestic cattle), digging a pit in the area of maximum altitude of the hillock at Bușani Pod and burning of the walls of the pit before depositing inside the “aurochs” skeleton, are intriguing elements to be recorded by ethnographers and historians, and for which we would like to find explanations.

### Radiocarbon date certificate

Laboratory Identification:	UB-7277
Date of Measurement:	2006-12-18
Site:	Bucsani
Sample ID:	ROBUCA18
Material Dated:	Bone (Bos cf. primigenius)
Pretreatment:	Collagen
Submitted by:	Anne Tresset

$^{14}\text{C}$ Date:	$113 \pm 31$
$\delta^{13}\text{C}$ :	-22.0

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