

## ANATOMICAL DESCRIPTION OF HUMAN REMAINS DISCOVERED IN THE PREHISTORICAL SITE OF CUCUTENI CULTURE AT PODURI-DEALUL GHINDARU (BACĂU COUNTY, ROMANIA)

Monica GROZA (ASIMINEI)\*, Georgeta MIU\* and Luminița BEJENARU\*\*

\*Institute of Anthropology – Iasi Branch, Romanian Academy, moni\_ian@yahoo.com;

\*\*Al. I. Cuza University of Iași, Faculty of Biology, Bd. Carol I, 20A, 700505 Iași, Romania, lumib@uaic.ro

**Abstract.** The archaeological investigations, developed along over 27 campaigns at Poduri-Dealul Ghindaru (Bacău County, Romania), have brought to light an important number of faunal remains, among which some human skeletal remains have been identified. The human skeletal remains discussed in the present study (representing about 19 individuals) are classified as belonging to phase A of the Cucuteni culture, dated between 4665-4050 CAL. B.C. Most of the identified bones occur in an extremely fragmented and dispersal state, because of the burial features, the preservation conditions in the soil and the early age of the individuals to whom they belonged. The great number of human remains belonging to children (42.10%), discovered at Poduri-Dealul Ghindaru in the Cucuteni A level, may reflect some special funeral practices: children were probably buried in the proximity of the parent's dwellings or even under the house floor.

**Keywords:** anatomical description, human skeletal remains, Cucuteni A Culture, Poduri-Dealul Ghindaru

**Rezumat. Descrierea anatomică a resturilor scheletice umane descoperite în situl preistoric de cultură Cucuteni de la Poduri-Dealul Ghindaru (județul Bacău, România).** Cercetările arheologice, efectuate în peste 27 campanii la Poduri-Dealul Ghindaru (județul Bacău), au dus la descoperirea unui număr mare de resturi faunistice, printre care au fost identificate și câteva resturi scheletice umane. Resturile scheletice umane (reprezentând circa 19 indivizi), la care se fac referiri în prezenta lucrare, sunt încadrate în faza A a culturii Cucuteni, fiind datate între 4665-4050 CAL. B.C. Cea mai mare parte din ele se află într-o stare de fragmentare și dispersie extremă, din cauza caracteristicilor de înhumare, a condițiilor de păstrare în sol, precum și a vârstei fragede a indivizilor cărora au aparținut. Numărul mare de oseminte aparținând copiilor (42,10%), descoperite la Poduri-Dealul Ghindaru în nivelul Cucuteni A, poate reflecta un anumit rit de înmormântare: probabil, copiii erau înmormântați în apropierea locuințelor sau chiar sub podeaua acestora.

**Cuvinte cheie:** descriere anatomică, resturi scheletice umane, cultura Cucuteni A, Poduri-Dealul Ghindaru

### Introduction

The historical evolution of the human communities in the Neolithic times in our territories has been extremely long (more than 3000 years, *i.e.*, from the VII<sup>th</sup> millennium up to the first centuries of the III<sup>rd</sup> millennium, B.C.) and complicated, especially because of their special geographical position, involving numerous population movements and various cultural influences coming from different directions (Mantu, 1995). For a better understanding of the historical evolution of these communities from one region or another, the archaeologists use the term culture which, in the archaeology field, may refer to two essential, inseparable components: the material culture and the spiritual culture. The historical progress of each Neolithic community, in part occurred along several centuries, sometimes more than one millennium, each one including several phases and stages of development.

The Cucuteni culture is known as one of the most representative for the Romanian Chalcolithic period (end of Neolithic times), being famous mainly for its manifestations of the decorative and figurative art (Dumitrescu, 1963).

Knowledge and thorough study on the aspects of the funeral rites are especially important for the elucidation of the Neolithic epoch, as constituting one of the most important elements for each group of communities, for each culture in part (Necrasov *et al.*, 1990; Mantu *et al.*, 1994). In general, the funeral rites are persisting in one culture or

another from its beginning up to its end, even if, in time, certain elements of the material culture are gradually modified. In the Romanian Neolithic, the communities of the numerous cultures used to practice only one funeral religion – that of inhumation (Comşa, 1982).

The archaeological investigations, performed at Poduri-Dealul Ghindaru (Bacău County, Romania), led to the discovery of numerous faunal remains, as well as some human skeletal remains. Poduri-Dealul Ghindaru is situated on the right side of the Moinesti-Scorţeni-Bacău road, at 55 km distance from the administrative center of the county, Bacău city. On the Dealul Ghindaru point, in the place known as “Among the Brooks”, there occurs an artificial hill of 4.5 m high and 1.2 ha large. The hill is almost triangular in shape, as a result of ground’s sliding, its initial shape being ellipsoidal (Monah *et al.*, 2003). At Poduri, the archaeological excavations began almost 30 years ago. The human remains discussed in the present paper are dated to the phase Cucuteni A, between 4665- 4050 CAL. B.C. (Monah *et al.*, 2003).

### **Materials and Methods**

The human skeletal remains of about 19 individuals represent the material under investigation. Most of the identified remains are in an extremely fragmented and dispersal state, because of the burial features, the preservation conditions in the soil and the early age of the individuals to whom they belonged. We consider that all these human remains have been dislocated from the initial places of deposition.

The study of the osteological material was preceded by washing and removal of soil particles, registration of each piece, followed by its recovery. The biometrical and morphological analyses followed the usual techniques applied in anthropology (Martin & Saller, 1957).

The estimations of the age at death and the sex of the individuals were based on the methods and techniques recommended at the meetings of anthropologist held in Prague (1973) and Sarospatak (1978).

The children’s age was established by considering deciduous (milk) and permanent dentition (Ubelaker, 1978), as well as by measurements of the long bones (Stloukal & Hanakova, 1978). The obliteration degree of the cranial sutures, the modification of the pubic symphysis, the condition of the spongy bone and the stage of tooth wear have been used to estimate the age of teenagers and adults.

As to the sex of the individuals, numerous characteristics have been considered, such as the morphology of the forehead, mandible, and teeth, as well as the shape of the sciatic notch.

### **Results**

#### Individual study of skeletons

Estimation of the skeletons (individuals) has been related to the data concerning the number and laterality of elements, the age and sex, and also the taphonomic processes.

#### Skeleton no. 1

The remains of this skeleton belonged to a child of 1.6-2 years old (*infans I*), with indeterminable sex. The age was established according to the length of the long bones. The post-cranial skeleton includes the right humerus, the left ulna, a fragment of the right radius and a piece from the sacrum bone.

#### Skeleton no. 2

Extremely broken up, this skeleton belongs to a child of 2-2.5 years old (*infans I*), with indeterminable sex. Only the post-cranial skeleton represents it: a left femur, without the upper epiphysis, two fragments of tibia, two incomplete ulnae and a left radius.

Skeleton no. 3

This is represented only by the right horizontal branch of the mandible, where there are: deciduous teeth - canine, first molar, and second molar; the permanent first molar as a non-erupted bud. This skeleton belonged to a child of 3-3.5 years old (*infans I*), with indeterminable sex.

Skeleton no. 4

It belonged to a child of 4-4.5 years old (*infans I*) and indeterminable sex. Only a left fragment of mandible represents the skull. The deciduous tooth remains are the first and second molars, while the first permanent molar is not erupted.

Skeleton no. 5

A fragment of mandible (the left horizontal branch) has been identified, with the first and second deciduous molars. The permanent first molar is not erupted. As post-cranial elements, there are found only the right and left (incomplete) femurs. The age of this child (of indeterminable sex) in the moment of death was of 4.5 years (*infans I* - Fig.1).

Skeleton no. 6

Exclusively a right parietal bone fragment represents it. The fontanel is in closing stage, while the sagittal and coronal sutures are open. The age, around 4-5 years (*infans I*), has been determined based on the thickness of the parietal bone.

Skeleton no. 7

It belonged to a child of about 6 years old (*infans I*), of indeterminable sex. Solely two fragments of the frontal bone are attributed to it.

Skeleton no. 8

It belonged to a child of 5-6 years old (*infans I*), with indeterminable sex. The cranial skeleton is represented by the frontal, (incomplete) right parietal and right temporal bones. The maxillae and the mandible are incomplete, as also the left and right malar bones. The brain pan is dolichocranial.

On each of the two maxillae, the first and second deciduous molars are present, together with the bud of the permanent first molar, the development stage of which permitted to establish the age of the skeleton (5-6 years). The left deciduous canine is also present. The other categories of deciduous teeth from the maxilla, *i.e.*, the incisors on both sides and the canine on the right side are missing (post-mortem) from their bony alveoli. On the right side of the mandible there are present the first and second deciduous molars, the bud of the first permanent molar, while the canine and the two incisors are missing (post-mortem). On the left side, only the first deciduous molar and the bud of the first permanent molar are present. The post-cranial skeleton is represented only by the left tibia and a fragment from the right femur (Fig. 2).

Skeleton no. 9

Represented exclusively by the horizontal branch of the mandible, with an average robustness index, this skeleton belonged to a male child of 12-12.5 years old (*infans II* - Fig. 3). On the left horizontal branch there may be observed the permanent teeth - incisors, canine and the first premolar, while the right branch includes the permanent second molar.

Skeleton no. 10

27 partially burnt cranial fragments have been attributed to an adolescent of 18-20 years old, of indeterminable sex.

Skeleton no. 11

Fragments of the left humerus, left ulna and left coxal represent this skeleton. The skeleton belonged to an adult woman (19-20 years old), the age having been established according to the incomplete ossification of the long bones, as well as according to the ossification of the iliac crest (Fig. 4).

Skeleton no. 12

As cranium elements, we have identified fragments from the left parietal and a fragment from the occipital. The lambdoid suture is open, both on the internal and the external surfaces of the skull. Based on the obliteration extent of the cranial sutures, it was established that this skeleton belonged to a mature person (30-35 years old) of indeterminable sex.

Skeleton no. 13

It belonged to a mature (30-35 years old) person, with indeterminable sex. Only 3 fragments of the cranium are present: a left parietal, a right parietal and an occipital fragment.

Skeleton no. 14

A fragment of the occipital, at the level of which the lambdoid suture is open, represents it. It belonged to a mature person (35-40 years old) of indeterminable sex.

Skeleton no. 15

Only a fragment of the left parietal, at the level of which the coronal and lambdoid sutures are open, has been attributed to this skeleton. It belonged to a mature person (35-40 years old) of indeterminable sex.

Skeleton no. 16

Represented solely by an atlas fragment having belonged to a mature (35-40 years) person of indeterminable sex.

Skeleton no. 17

This skeleton includes only an incomplete, relative gracile mandible, with the horizontal branch of medium height, a slight prominent mental protuberance, less developed gonion points, while the vertical branch is quite large and short. The robustness index of the mandible is very low and the mental protuberance is button-shaped.

Dentition is incomplete, due to the *post-mortem* loss of teeth. There are only the canine and second premolar on the left side, as well as the canine and the first premolar on the right one; the third molar on the right side is not erupted. The stage of tooth wears permitted to establish that this skeleton belonged to a woman of 40-45 years old. The post-cranial elements are the left radius and the left ulna, both of them gracile. The estimated stature is of 159 cm (according to Manouvrier), thus corresponding to a supra-medium size (Fig. 5).

Skeleton no. 18

It is represented by a fragment of mandible (the right horizontal branch) and a diaphysis fragment of the left fibula (Fig. 6). The first molar is in the II-III stage of wear, the second molar in I-II stage of wear, while the third molar is not erupted. According to these data, the skeleton belonged to a mature woman (40 years old). The mandible shows a high robustness index.

Skeleton no. 19

It belonged to a mature woman (40-45 years old). It is represented by the right horizontal branch of the mandible, at the level of which the incisors, the canine, the first premolar, and all the molars are absent (*post-mortem*), while the second premolar is absent *in vivo*, its bony alveolus being in the closing stage. The mandible evidences a button-shaped mental protuberance and a very low robustness index.



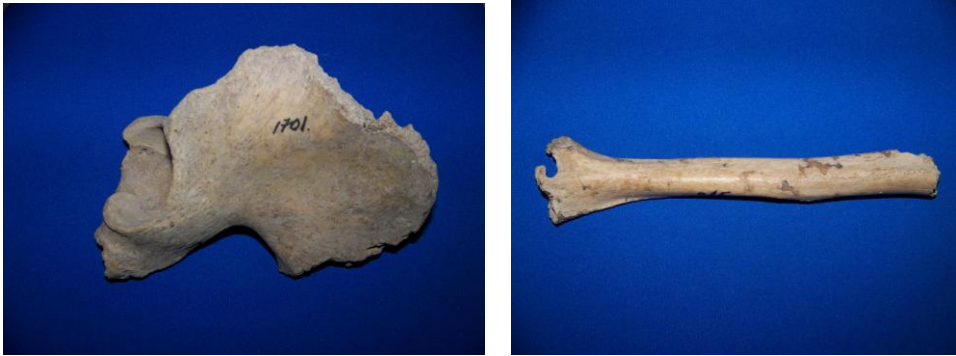
**Figure 1.** Right femur - *Infans I* (4-5 years old), indeterminable sex (Skeleton no. 5).



**Figure 2.** Maxillae and mandible - *Infans I* (5-6 years old), indeterminable sex (Skeleton no. 8).



**Figure 3.** Mandible - *Infans II* (12-12.5 years old), male (Skeleton no. 9).



**Figure 4.** Left coxal and left humerus – *Juvenilis* (19-20 years old), female, (Skeleton no. 11).



**Figure 5.** Mandible and left radius - *Adultus* (40-45 years old), female (Skeleton no. 17).



**Figure 6.** Mandible and left fibula – *Adultus* (about 40 years old), female (Skeleton no. 18).

### Discussion

Considering the anatomical descriptions made above, the skeletal remains under analysis could be attributed as follows: 8 to mature people, 2 to teenagers and 9 to children.

The data listed in Table 1 illustrate the fact that the children skeletons with indeterminable sex represent 42.10% of the total recorded. There have been established 7 children with ages between 1 and 6 years (*infans I*), indeterminable as sex, and 1 male child with the age between 12-12.5 years (*infans II*).

The teenagers registered low frequency, representing only 10.5%. Apart from these, a teenager of 18-19 years old, indeterminable as sex, and a woman of 19-20 years old were also estimated.

In frequency of mature people is higher (around 42%). From the viewpoint of sex, in this category, only 3 skeletons belonging to mature women of 40-45 years old, and 5 mature persons with ages between 30 and 40 years (indeterminable as sex) have been estimated.

**Table 1.** Distribution of individuals according to sex and age.

Age	Sex	Indeterminable		Men		Women		Total	
		N*	%	N	%	N	%	N	%
<i>Infans I</i>	0-7 years	8	42.10	-	-	-	-	8	42.10
<i>Infans II</i>	7-14 years	-	-	1	5.26	-	-	1	5.26
<i>Juvenilis</i>	14-20 years	1	5.26	-	-	1	5.26	2	10.52
<i>Adultus</i>	20-30 years	-	-	-	-	-	-	-	-
<i>Maturus</i>	30-40 years	5	26.31	-	-	-	-	5	26.31
	40-50 years	-	-	-	-	3	15.78	3	15.78
	50-60 years	-	-	-	-	-	-	-	-
<i>Senilis</i>	60-x years	-	-	-	-	-	-	-	-
<b>Total</b>		<b>14</b>	<b>73.67</b>	<b>1</b>	<b>5.26</b>	<b>4</b>	<b>21.04</b>	<b>19</b>	<b>99.97</b>

\*N = number of estimated individuals

The very low percent of child bones (5.10%) in the Neolithic necropole of Cernavodă (Hamangia culture) and the 6.62% remains recorded in the Neolithic necropole of Cernica (Boian culture), comparatively with the values registered in the Bronze Age necropolis, suggests that they did not express the real mortality coefficient, other possible causes being related to different funeral practices in the case of children. It is not out of question that, in the Neolithic, the children were buried not in necropoles, but in the vicinity of the parent's dwellings or even under the house floor, as mentioned the archaeologist E. Comșa (1974). In correlation with these observations, the high number of child remains (42.10%) discovered at Poduri-Dealul Ghindaru (Cucuteni culture) in secondary positions, in habitable areas not in necropolis, could reflect special funeral practices for children.

### Acknowledgments

We wish to thank archaeologists Dr. Dan Monah (Archaeological Institute of Iași) and Dr. Gheorghe Dumitroaia (International Centre of Cucuteni Culture Research, Piatra Neamț) for providing us the skeletal remains they excavated and important data used in this study.

This study was supported by the Romanian research programs CNCSIS, PN II Idei\_2116/2008.

**References**

- Cavaleriu, R., Bejenaru, L., 2009. *Cercetări arheozoologice privind Cultura Cucuteni, faza A*. Editura Universității “Alexandru Ioan Cuza” Iași.
- Comșa, E., 1974. *Istoria comunităților culturii Boian*. Editura Academiei, București.
- Comșa, E., 1982. *Neoliticul din România*. Editura Științifică și Enciclopedică, București.
- Dumitrescu, V., 1963. Originea și evoluția culturii Cucuteni-Tripolie. In *SCIV*, 1: 51-74.
- Mantu, C.M., Botezatu D., Kromer B., 1994. Une tombe double à inhumation de l'établissement de type Cucuteni de Scânteia, Département de Iași, Roumanie. In *Préhistoire Européenne*, 6: 225-241.
- Mantu, C.M., 1995. Câteva considerații privind cronologia absolută a neo-eneoliticului din România. In *SCIVA*, 3-4: 213-235.
- Martin, R., Saller, K. (eds.), 1957. *Lehrbuch der Anthropologie*. Gustav Fischer, Stuttgart.
- Monah, D., Dumitroaia, G., Monah, F., Preoteasa, C., Munteanu, R., Nicola, D., 2003. *Poduri-Dealul Ghindaru. O Troie în subcarpații Moldovei*. Editura Constantin Matasă, Piatra-Neamț.
- Necrasov, O., Cristescu, M., Botezatu D., Miu, G., 1990. Cercetări paleoantropologice privitoare la populațiile de pe teritoriul României. In *Arheologia Moldovei*, XIII: 193-197.
- Stloukal, M., Hanakova, H., 1978. Die Länge der Längsknachen altslavischer Bevölkerungen unterbesonderer Berücksichtigung von Wachstumsfragen. In *Homo*, 26: 53- 69.
- Ubelaker, D.H., 1978. *Human skeletal remains: Excavation, Analysis, Interpretation* (First Edition). Aldine Publishing, Chicago.