REINDEER EXPLOITATION IN THE UPPER PALAEOLITHIC SITE OF BUDA, EASTERN ROMANIA. EVIDENCE FROM OLDER AND NEWER EXCAVATIONS

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Abstract: The Upper Palaeolithic site from Buda (Bacău County) has been known since 1952 for the large amount of animal bones discovered alongside Gravettian tools. The revision of the osteological material from the old excavations (1958–1960), as well as the study of newly discovered specimens excavated in the 2012–2014 field seasons was carried out. The faunal material is dominated by long bone epiphyses and elements of the distal limbs, suggesting that the site functioned, for a short period, as a butchery site where the steppe bison and reindeer carcasses were dismembered, long bones were cracked for marrow extraction and then the skeletal elements that presented no interest were abandoned. Based on the population structure and reindeer antler development, we estimate that the hunting expeditions took place at the beginning of the cold season.

Cuvinte-cheie: arheozoologie, ren, sezonalitate, Gravetian, sit pentru tranșare

Rezumat: Situl de la Buda, jud. Bacău, a fost cunoscut încă din 1952, însă primele săpături arheologice au avut loc între anii 1958–1960, când au fost prelevate, alături de materialul litic gravetian, numeroase resturi osoase. O mică parte dintre acestea au fost studiate și publicate în acea vreme. După 60 de ani, noi săpături au fost efectuate în perioada 2012–2014, fiind descoperite noi materiale în contexte similare celor din vechile cercetări. Vom prezenta o imagine de ansamblu a modului de exploatare a renului, specie secundară ca abundență, dominant fiind bizonul de stepă. Studiul arheozoologic al resturilor osoase de ren prelevate din săpăturile vechi și recente, arată, ca și în cazul bizonului, predominanța elementelor scheletului apendicular. Toate indiciile sugerează că situl a funcționat ca loc pentru tranșarea primară a animalelor, acțiune urmată de abandonarea părților scheletice care nu mai prezentau interes pentru vânătorii paleolitici. Pe baza structurii populației și a ciclului de dezvoltare a coarnelor de ren, estimăm că vânătoarea a avut loc în sezonului rece, foarte probabil la începutul acestuia.

INTRODUCTION

Reindeer, Rangifer tarandus (Linnaeus, 1758), also called caribou in North America, is a Holarctic cervid species widespread in circumpolar areas, with habitats ranging from Boreal forests to grassland tundras (Gunn 2016). The oldest occurrence of the species is from the Middle Pleistocene of Süssenborn (Kahlke 1969), timing confirmed by other subsequent reports from the Middle Pleistocene of Germany, France, England and Spain (for a review, see van Kolfschoten et alii 2011). Reindeer remains are common occurrences in the late Pleistocene European fossil assemblages (Kahlke 1999; Kurtén 2007; Croitor 2018a) becoming widespread and abundant, during the Last Glacial, occurring across most of Europe either as part of natural assemblages, or, very often, as part of anthropic accumulation formed as a result of intense hunting (e.g.: Kahlke 1999; Weinstock 2002; Lorenzen et alii 2011; Piskorska, Stefaniak 2014; Piskorska et alii 2015: Croitor 2018b)

Reindeer remains were reported in natural assemblages from several late Pleistocene sites of Romania (e.g., from the Vârghiş Gorges – Orghidan, Dumitrescu 1962–1963; Sîndominic – Samson, Rădulescu 1969; Bordu Mare Cave – Păunescu, Abbassi 1996; Bursucilor Cave – Terzea

2001), but generally as part of faunal lists, with no descriptions, illustrations, or dimensions of specimens assigned to this taxon. More detailed information is given in zooarchaeological studies and preliminary reports, mostly from the Middle and Upper Palaeolithic of Eastern Romania: Ripiceni and Mitoc (Moroşan 1938), Bistricioara — *Lutărie* (Bolomey 1966); Poiana Cireşului, by far the richest in reindeer remains (Cârciumaru *et alii* 2007—2008, Dumitrașcu 2008), Lespezi — *Lutărie* (Bolomey 1989), Buda — *Dealul Viilor* (Bolomey 1961; Necrasov, Bulai-Știrbu 1972); whereas the only reindeer material described from Dobrogea is the one from La Adam Cave (Dumitrescu *et alii* 1962—1963).

ARCHAEOLOGICAL BACKGROUND

The site of Buda – *Dealul Viilor* (in short: Buda) is located at the top of the hill called "Dealul Viilor", northwest from the village of Buda (Blăgești Commune, Bacău County), Eastern Romania (Fig. 1). The Palaeolithic stone tools excavated in two separated intervals (1958–1962 and 2012–2014) were assigned to the Gravettian typology (Nicolăescu-Plopșor *et alii* 1961; Căpitanu *et alii* 1962; Căpătanu 1967; Tuffreau *et alii* 2018). They were accompanied by numerous faunal remains in a 0.4 m thick

cultural layer, named Level I by Nicolăescu-Plopșor *et alii* 1961 or Level C by Tuffreau *et alii* 2018.

In the first reports, the authors considered that the bone agglomerations were associated with some kind of ritual, intended to bring good luck to the hunters (Nicolăescu-Plopșor *et alii* 1961; Căpitanu *et alii* 1962). Anyway, the theory was not encouraged by the authors of the faunal studies, who regarded the fossil assemblage in a more functional perspective (Bolomey 1961; Necrasov, Bulai-Ştirbu 1972).

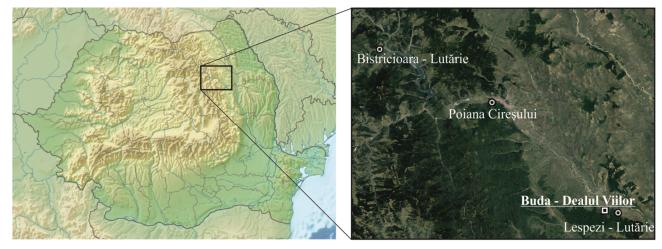


Figure 1. Map of Romania showing the location of the Palaeolithic sites from Bistrița Valley where reindeer faunal remains were found.

Charcoal and bone fragments of this, apparently, single-event layer, were radiocarbon dated around 23,810±190 years BC by Păunescu (1998), age confirmed by recent analyses: 25,575 +257/-238 and 25,650 +256/-223 calibrated BP (Tuffreau *et alii* 2018). The lithic material was found alongside a large number of bone fragments, many of which are intentionally broken and exhibit cut marks on their surface, as well as burning traces.

The faunal material was first assigned to aurochs and reindeer by Paul-Bolomey (1961), but later, Bolomey (1966), mentions that some of the bones are comparable to those of steppe bison. Further excavations produced more specimens, most of which were attributed to large bovids (most probably bison), followed by reindeer, with horse and red deer as extremely rare occurrences (Necrasov, Bulai-Ştirbu 1972). More recently, Dumitraşcu and Vasile (2018), following a revision of the faunal material from both the old and the new excavations, concluded that virtually all determinable bovid specimens can be attributed to the steppe bison (*Bison priscus*).

MATERIAL AND METHODS

During the first excavations in Buda, in 1958, an amount of 339 identifiable faunal remains was discovered. The bones were attributed to *Bos primigenius* and *Rangifer* sp. The reindeer remains are describes as: several upper and lower jaw fragments, two tibial fragments, one cubonavicular bone, four calcanei, an astragalus, a distal metacarpal, and four primary phalanges. The minimum number of individuals is estimated to four, two of them young individuals (the M₃

is not fully erupted) (Paul-Bolomey 1961).

The following excavations have led to the discovery of more osteological material (NR = 1020; 900 remains could be specifically identified). Here is the authors description of the reindeer remains: a skull fragment that seems to exhibit butchery marks to extract the brain, isolated teeth, fragments from the mandible, axis, distal scapula, distal humerus, distal radius, pelvis (cotyloid region), femur, tibia and metapodials, and some complete elements: astragali, calcanei, phalanges I and II. The minimum number of individuals is estimated to 6–7 individuals, aged between 2 to 8–10 years (Necrasov, Bulai-Ştirbu 1972).

In a scientific article from 1989 about the faunal remains from Lespezi, Alexandra Bolomey mentions in a footnote that the number of identified specimens from Buda was much higher, more than 1600, but, unfortunately, the assemblage was divided between the research centres from Iaşi and Bucharest. As a consequence, the published results were partial and biased. The author considers that a detailed analysis of the entire assemblage could produce more data about the butchery techniques, differential preservation and much more (Bolomey 1989).

The recent excavations (2012–2014) carried out by the "Vasile Pârvan" Institute of Archaeology in collaboration with Lille 1 University – Science and Technology, within the frame of the Archaeological Mission "The Palaeolithic of Romania" have revealed approximately 600 faunal remains. The majority belong to steppe bison, with very few exceptions represented by reindeer (6.43%). As body parts distribution, for both species, elements from the appendicular skeleton are the most abundant: long bone extremities, carpal and tarsal bones, and phalanges (Fig. 2).

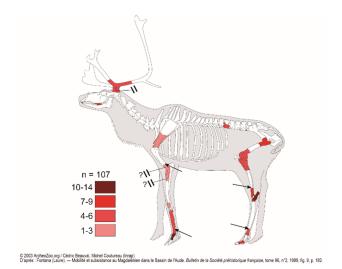


Figure 2. Skeletal elements representation for reindeer.

The small bones are usually complete, but the long, marrow-bearing bones are systematically broken, frequently with clear impact points (Fig. 3 and 4). In two situations, elements in anatomical connection were identified: a bovid distal metapodial with all the phalanges, and a reindeer distal tibia articulated with the astragalus (Fig. 5, 6 and 7). At least three bone fragments with burning traces were also recovered. No carnivore tooth marks were identified.

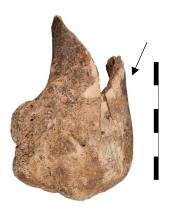


Figure 3. Reindeer distal humerus with impact point. Lateral view.



Figure 4. Reindeer distal humerus with impact point. Lateral view.



Figure 5. Articulated reindeer tibia and astragalus. Dorsal view.



Figure 6. Articulated reindeer tibia and astragalus. Plantar view.



Figure 7. Articulated reindeer tibia and astragalus. Medial view.

The remains that could not be recognized exactly as anatomical elements consist in fractured long bone pieces and very small fragments recovered from sieving. They too can be attributed to large bovid and reindeer, regarding their size class.

For this paper we have studied the reindeer remains from the old excavations that were kept in the storehouse of the "Vasile Pârvan" Institute of Archaeology from Bucharest (most of the specimens) and the National History Museum of Romania, Bucharest, as well as the

material that was recently excavated (2012–2014). We have also identified in the archaeological storehouse of the "Iulian Antonescu" Museum Complex in Bacău 21 faunal specimens (19 bison and two reindeer remains) from the old excavations carried out in the 1960's. Two of these remains are male reindeer antler fragments with evidence of fresh fractures. Given that all specimens, from old and new researches, originate in the same context, we considered them as a single assemblage (Table 1).

Species	NISP (Paul-Bolomey 1961)	NISP (Necrasov, Bulai-Ştirbu 1972)	NISP new excavations (2012–2014)	NISP (Dumitrașcu, Vasile 2018 and the present paper)
Bos/Bison	313	797	160	1229
Rangifer tarandus	26	97	11	139
Equus sp.		5		
Cervus elaphus		1		
Total NISP	339	900	171	1183
Indeterminates	Not mentioned	120	429	700
Total NR	339	1020	600	1883

Table 1. Number of identified specimens from Buda, according to older and recent publications. Alexandra Bolomey mentions that the number of identified specimens from Buda was more than 1600 (Bolomey, 1989). The last column includes the specimens accessible for the present study (from the new excavations and partially from the old excavations).

Element	Left	Right	Indet.	Total
Antlers	1	2	4	7
Upper teeth	6	11		17
Lower teeth	3	10		13
Vertebrae			4 (1)	4
Scapula	1	1		2
Humerus distal	1	2		3
Radius proximal	3	1		4
Radius distal	1 (1)			1
Scaphoid	2			2
Metacarpal complete	1			1
Metacarpal proximal		1		1
Metacarpal distal	1		1	2
Femur proximal	2	2 (1)	3 (1)	7
Femur diaphysis	1			1
Femur distal		1	4 (1)	5
Tibia proximal	1 (1)	3		4
Tibia diaphysis			1	1
Tibia distal	3	6		9
Tarsal			1	1
Astragalus	4	5		9
Calcaneus	5	7		12
Cubonavicular	1	1		2
Metatarsal diaphysis			1	1
Metatarsal distal	2	2		4
Metapodial unfused condyles			3 (3)	3
Phalanx 1			14	14
Phalanx 2			8	8
Phalanx 3			1	1
Total				139

Table 2. Reindeer remains available for the present study (old and recent excavations). The number in parentheses shows how many elements has unfused epiphyses.

The material, consisting in 139 specimens, was assigned to *Rangifer tarandus* based on antler, dental, and postcranial bone morphology and size, determined anatomically, and measured according to the methodology

described by von den Driesch (1976), using a 0.01 mm precision digital calliper (Table 2 and the biometry appendix). According to the most abundant element, the left calcaneus, we estimated a minimum number of seven individuals. Four of them are adults (according to some very worn upper teeth there is also at least one old individual) and three are subadults (the unfused elements are morphologically almost as big as the adults). As in the case of the bison, very young individuals are missing from the assemblage, and this was not caused by differential conservation.

BODY PARTS REPRESENTATION AND BONE MODIFICATIONS

As body parts distribution, for reindeer, same as for bison, limb bones and mostly distal limb elements are the most abundant (Fig. 2).

The bone assemblage shows a high fragmentation degree, mainly because of the butchery activities and less caused by post-depositional taphonomic processes (Fig. 8).

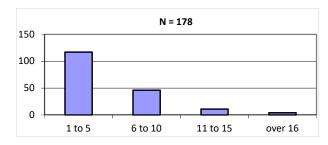


Figure 8. Degree of bone fragmentation from the 2014 excavation (steppe bison and reindeer). Measurements in cm.

The small bones are usually complete (phalanges, carpal, tarsal and sesamoid bones), but the long, marrow-bearing bones are systematically broken (humerus, radius, femur, tibia and metapodials), frequently with evident impact points. Only one complete long bone is present in the assemblage, a left metacarpal (Fig. 9 and 10).



Figure 9. Reindeer complete left metacarpal. Dorsal view.



Figure 10. Reindeer complete left metacarpal. Palmar or volar view.

The bone surface is generally affected by chemical corrosion and root etching; thus, it is very difficult to distinguish potential cut marks. However, disarticulation cut marks were nonetheless recorded on several elements (distal humerus, proximal radius). No carnivore damage was yet identified. Bone fragments with burning traces are also present.

Besides the typical butchery marks, there are some special modifications identified on two reindeer antlers,

one from a female, the other one from a male. In the first case, the female antler is attached to the skull, and deep grooves are made at the base, with the intention to detach the beam (Fig. 11). In the second case we deal with a shed antler, with a slightly concave base, which is typical for males (Fig. 12-16). The shed antler could have been found in the area and recovered by the hunters for tool making. Unfortunately, the beam was fractured after the recovery from the site, and we could not find the missing piece (distal part). Anyway, the most interesting part is still present. The beam shows characteristic green breakage at the ramification of the first tines, indicating that the antler was still fresh when it was found and modified. The base seems to have been retouched, in order to obtain a smoother surface. The remaining beam, with no tines and its concave base, could very well be utilised as a hammer, and probably a tool like this was used to break the reindeer and bison long bones for the marrow. Other reindeer antler fragments also have marks of human intervention, but this activity can be better described by specialists in worked animal hard tissue.



Figure 11. Female reindeer antler with cut marks.



Figure 12. Male reindeer male shed antler. Medial view.



Figure 13. Male reindeer shed antler. Lateral view.

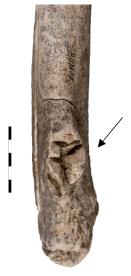


Figure 14. Male reindeer shed antler. Detail of the fresh fracture of the second tine.



Figure 15. Male reindeer shed antler. Detail of the base and the fresh fracture of the first tine.



Figure 16. Male reindeer shed antler. Detail of the base.

THE SEASON OF REINDEER HUNTING

The premise in estimating the season of death for the reindeers from Buda is that the hunt was nonselective, so the individuals that form the fossil assemblage reflect the structure of the living reindeer population (or group) that was present at that time in the area.

The few teeth present in the assemblage cannot be used as an indicator of the moment of death, since they all come from adult and very old animals (some of the molars are extremely worn). The lack of new born or very young individuals (the unfused specimens in the assemblage are as big as the fused ones) is an indicator that the hunting did not take place in spring, when calves are born, nor in summer.

We can relate though to the antlers, which are a good seasonal indicator. Except for the antler fragments, we have identified two female skull remains with antlers attached, and one shed antler, from a male.

Present day male reindeers shed their antlers at the beginning of the cold season, between the second half of November and the first half of December. Females have a different period of shedding, at the beginning of summer, between the second half of May and the first half of July.

If we consider the fact that there are no calves or very young individuals and the fact that females had their antlers still attached, we can place the hunting event somewhere in the cold season. Furthermore, if we accept that the male antler was recently shed and collected from the same area, we can reduce the time interval to the beginning of the cold season, when also the winter migration was taking place.

Among the reindeer bones from the old excavations, there is a neurocranium with the pedicle, so the antler was shed recently. The pedicle circumference indicates a male over five years old. Since males lose their antlers in autumn and begin to grow again in spring, it results that the animal was hunted during the winter (December to March) (Necrasov, Bulai-Ştirbu 1972). We have to

mention that we have not seen the specimens described by Necrasov and Bulai-Ştirbu and we don't know where they are stored.

A similar period of hunting was estimated for the steppe bison from Buda, the dominant species of the assemblage.

There are other two sites from Bistriţa Valley, which are also rich in animal bones, with occupation levels slightly younger than Buda and considered to be seasonal settlements for the cold season.

The levels from Lespezi were dated between 17.620+/-320 BP (Bln-805) - level II and 18.020+/-350 BP (Bln-808) — level V (Păunescu 1998). The main species within the assemblage are reindeer (57%) and horse (29%), followed by bovids (8%), large cervids (Alces/Megaceros) (5%) and rare fragments from other species (Coelodonta antiquitatis, Mammuthus primigenius, Alces alces, Canis lupus, Gulo gulo, Lepus sp., Castor fiber, Marmota sp.). The period of the occupation was estimated to the cold season (Bolomey 1989).

Level II from Poiana Cireșului, was dated to approximately 20.000 uncal. BP (Cârciumaru et alii 2007–2008). The assemblage is dominated by reindeer (97% as NISP); the rest is represented by Bos/Bison, Equus sp., Cervus elaphus and Vulpes/Alopex. The hunting is estimated to have taken place at the beginning of the cold season and the site is considered to be a settlement for the winter (Cârciumaru et alii 2007–2008; Dumitrașcu 2008).

Even though the three sites are not quite contemporary, we can envisage a similar pattern of behaviour towards large herd ungulates. At all three sites there is indication of nonselective massive hunting taking place in the cold season, probably related to the migratory comportment of these species. The provisions acquired during the autumn/winter migrations could sustain the human group through the winter, when also local, non-migratory animals were hunted, but not in the same amount as reindeer, steppe bison, and horse.

CONCLUSIONS

In the Gravettian site from Buda, the reindeer is inferior as number of identified specimens to the steppe bison. There were identified mainly elements of the appendicular skeleton. The long bones have signs of impact, being broken for marrow extraction. Cut marks from disjointing, skinning, etc. are rare, mainly because the bone surface is partially degraded by corrosion and plant roots and the marks were deleted. There is evidence of antler use for tool making, either from female antlers attached to the skull, or from male shed antlers collected from the surrounding area. The hunting is estimated to have happened at the beginning of the cold season.

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BIOMETRY APPENDIX

All measurements were taken according to von den Driesch (1976)

Upper teeth					
Tooth	Side	L	В		
Pm ⁴	L	15.46	14.57		
M^3	R	21.48	14.63		
M^3	R	21.41	13.52		
M ³	R	20.26	14.35		

Scapula					
SLC	GLP	LG	BG		
31.63	45.22	37.02	29.70		
31.64	40.29	34.82	27.57		

Humerus			
Bd	BT		
45.72			
42.95	44.25		
49.34	49.03		

Femur				
Вр	DC	Bd		
70.61	29.43			
	30.60			
	30.38			
	27.29			
	30.54			
		59.76		

Calcaneus					
GL	GB				
93.79	-				
-	29.64				
100.83	31.80				
-	32.16				
94.10	30.19				
93.87	-				
99.01	30.87				
96.11	32.27				
100.56	31.98				

Radius			
Вр	BFp		
47.74	44.91		
44.94	43.34		
47.83	45.70		

Tibia					
Вр	Bd	Dd			
59.05					
66.16					
64.43					
	41.74	33.93			
	42.16	32.31			
	43.96	33.42			
	-	29.87			
	39.94	30.92			
	41.84	32.67			
	38.08	28.29			

Astragalus						
GLI	GLm	DI	Dm	Bd		
46.73	43.48	25.27	26.64	29.00		
47.08	43.05	25.17	25.91	29.21		
43.63	40.06	23.18	21.53	26.69		
				30.20		
47.23	44.32	26.18	27.82	29.40		
45.43	41.76	24.70	28.27	28.99		
48.21	45.31	25.91	27.44	30.22		
46.59	42.96	25.00	27.02	29.50		

Metapodials							
GL	Вр	Dp	SD	DD	Bd	Dd	
192.21	32.61	25.23	18.40	13.55	38.39	20.65	Metacarpal
	33.81	25.30					Metacarpal
					40.22	22.44	Metacarpal
					45.92	25.15	Metatarsal
					44.37	23.34	Metatarsal
					43.38	21.89	Metatarsal
					44.72	23.18	Metatarsal

ABREVIERI / ABRÉVIATIONS / ABBREVIATIONS

AAC – Acta Archaeologica Carpatica, Kraków

AAS - Archaeological and Anthropological Sciences

ACMI – Anuarul Comisiunii Monumentelor Istorice, București

ActaArchHung – Acta Archaeologica Academiae Scientiarum Hungaricae, Budapest

ActaMB - Brukenthal. Acta Musei, Sibiu

ActaMM (Brno) - Acta Musei Moraviae, Scientiae Sociales, Brno

ActaMN - Acta Musei Napocensis, Cluj

ActaMP - Acta Musei Porolissensis, Zalău

ActaTS – Acta Terrae Septemcastrensis, Universitatea Lucian Blaga, Sibiu

AHB - The Ancient History Bulletin (digital version only: http://ancienthistorybulletin.org/)

AIGR - Anuarul Institutului Geologic al României, București

AISC - Anuarul Institutului de Studii Clasice, Cluj-Napoca

AJPA - American Journal of Physical Anthropology

Alba Regia – Alba Regia. Annales Musei Stephani regis, Székesferhérvár

Aluta – Aluta. Revista Muzeului Național Secuiesc Sfântu Gheorghe

l'Anthropologie (Paris) – l'Anthropologie, Paris

AnB - Analele Banatului, Muzeul Banatului, Timişoara

AnUA-SH – Annales Universitatis Apulensis, Series Historica, Alba Iulia

AnuCDC - Analele Universitătii Crestine "Dimitrie Cantemir", Bucuresti

AnUVT – Annales d'Université "Valahia" Târgoviște, Section d'Archéologie et d'Histoire

Antiquity - Antiquity. A Review of World Archaeology, Durham, UK

AO - Arhivele Olteniei, Craiova

Apulum - Acta Musei Apulensis. Muzeul Național al Unirii, Alba Iulia

ARA – Annuaire Roumain d'Anthropologie

ArchBulg - Archaeologia Bulgarica, Sofia

Archért – Archaeológiai Értesítő, Budapest

ArheologijaSSSR – Arheologija SSSR. Svod Archeologičeskih Istočnikov, Moscova

ArchHist - Archeologia Historica, Brno

Argesis - Argesis. Muzeul Județean Argeș. Pitești

ArhMold – Arheologia Moldovei, Iaşi

BA – Biblioteca de Arheologie, București

BAI – Bibliotheca Archaeologica Iassiensis, Iași

BARIntSer - British Archaeological Reports. International Series, Oxford

Be-JA - Bulgarian e-Journal of Archaeology

BHAUT – Bibliotheca Historica et Archaeologica Universitatis Timisiensis, Timișoara

BiblEphemNap – Bibliotheca Ephemeris Napocensis, Cluj-Napoca

BiblMemAnt – Bibliotheca Memoriae Antiquitatis, Piatra Neamt

BiblMusAp - Bibliotheca Musei Apulensis, Alba Iulia

BiblThrac - Bibliotheca Thracologica, București

BMJT - Buletinul Muzeului Județean Teleorman, Alexandria

BSNR - Buletinul Societății Numismatice Române, București

București.MIM – Materiale de Istorie și Muzeografie, București

CAB – Cercetări arheologice în București

CAJ – Cambridge Archaeological Journal

Carpica – Carpica. Complexul Muzeal "Iulian Antonescu" Bacău, Bacău

CCA – Cronica Cercetărilor Arheologice din România, București

CCDJ – Cultură și Civilizație la Dunărea de Jos, Călărași

CMNH-SA - Catalogi Musei Nationalis Hungarici, Series Archaeologica, Budapest

CN - Cercetări numismatice, București

CsSzMÉ – Csíki Székely Múzeum Évkönyve, Miercurea Ciuc

Dacia – Dacia (Nouvelle Série). Revue d'archéologie et d'histoire ancienne. Académie Roumaine. Institut d'archéologie « V. Pârvan », Bucarest

DolgCluj – Dolgozatok az Erdélyi Nemzeti Múzeum Érem- és Régiségtárából, Kolozsvar

EJA - European Journal of Archaeology

EphemNap – Ephemeris Napocensis. Academia Română, Institutul de Arheologie și Istoria Artei, Cluj-Napoca

ERAUL – Études et Recherches archéologiques de l'Université de Liège

EurAnt – Eurasia Antiqua. Deutsche Archäologisches Institut, Berlin

FolArch – Folia Archaeologica, Budapest

IJO - International Journal of Osteoarchaeology

Janat - Journal of Anatomy

JAS – Journal of Archaeological Science

JDAI. AA – Jahrbuch des Deutschen Archäologischen Instituts, Archäologischer Anzeiger, Berlin

JFS - Journal of Forensic Sciences

JHE - Journal of Human Evolution

JMC - Journal of Material Culture, University College London

KVHAA Konferenser – Kungl. Vitterbets Historie och Antikvitets Akademien Konferenser, Stockholm

LJPS - Leiden Journal of Pottery Studies, Leiden University

Lucr.Inst.Speol./ Trav.Inst.Spéol. – Lucrările Institutului "Emil Racoviță", București / Travaux de l'Institut de Spéologie « Emile Racovita », Bucarest

MAA – Monumenta Avarorum Archaeologica

Marisia – Marisia. Studii şi materiale. Arheologie – Istorie – Etnografie. Târgu Mureş

MCA – Materiale și Cercetări Arheologice, București

MEFR - Mélanges de l'Ecole française de Rome

MEFRM – Mélanges de l'Ecole française de Rome. Moyen Âge

MFMÉ-StudArch – A Móra Ferenc Múzeum Évkönyve, Szeged

MIA – Materialy i issledovanija po arheologii SSSR, Moscova-Leningrad (St. Petersburg)

Mousaios - Mousaios. Buletinul Ştiinţific al Muzeului Judeţean Buzău

MuzNaţ - Muzeul Naţional, Bucureşti

Oltenia – Oltenia. Studii și Comunicări, Craiova

PA – Patrimonium Apulense, Alba Iulia

PBF - Prähistorische Bronzefunde, Stuttgart

Peuce – Peuce, Studii și cercetări de istorie și arheologie, Institutul de Cercetări Eco-Muzeale, Tulcea

PhTRS – Philosophical Transactions of the Royal Society

Pontica – Pontica. Studii şi materiale de istorie, arheologie şi muzeografie, Muzeul de Istorie Naţională şi Arheologie Constanţa Probleme Küstenforsch. süd. Nordseegebiet – Probleme der Küstenforschung im südlichen Nordseegebiet, Oldenburg Quartär – International Yearbook for Ice Age and Stone Age Research

Quaternaire – Quaternaire. Revue de l'Association Française pour l'Étude du Quaternaire, Paris

Quaternary International - Quaternary International. The Journal of the International Union for Quaternary Research

Radiocarbon - An International Journal of Cosmogenic Isotope Research, Cambridge

RAN – Revue archéologique de Narbonnaise, Montpellier

REL – Revue des Études Latines, Paris

RevMuz - Revista Muzeelor, Bucureşti

RMM.MIA – Revista Muzeelor și Monumentelor, seria Monumente Istorice și de Artă, București

RossArh – Rossijskaya Arheologiya. Institut arheologii Rossijskoj akademii nauk, Moskva

Sargetia - Sargetia, Buletinul Muzeului județean Hunedoara, Deva

SCA - Studii și Cercetări de Antropologie, București

SCIA – Studii și Cercetări de Istoria Artei

SCIV(A) - Studii și Cercetări de Istorie Veche (și Arheologie), București

SCN - Studii și Cercetări de Numismatică, București

SP – Studii de Preistorie, București

SlovArch – Slovenská Archeológia, Nitra

SovArch - Sovetskaja Arheologija, Moscova

StCl - Studii Clasice, București

SympThrac - Symposia Thracologica

Terra Sebus – Terra Sebus. Acta Musei Sabesiensis, Anuarul Muzeului Municipal "Ioan Raica", Sebeş

Ziridava - Ziridava. Studia Archaeologica, Arad

ZPE – Zeitschrift für Papyrologie und Epigraphik, Köln