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ARCHAEOBOTANICAL DATA FROM VILLA RUSTICA AT OARDA-BULZA (ALBA COUNTY). THE 2019 CAMPAIGN*

Beatrice Ciută[1], Mariana Egri[2]

Abstract. *The article is discussing the macrobotanical remains which have been identified in soil samples taken from different archaeological contexts associated with the Roman villa rustica at Oarda-Bulza, Alba County, during the 2019 campaign. This is the first major agricultural estate from Roman Dacia which has been systematically investigated using an interdisciplinary approach, the primary aim being to shed light on the interplay between particular forms of production, cultural consumption, community formation, and the integration into a number of provincial and imperial networks. The analysis of this first set of macrobotanical remains is offering relevant data regarding the agricultural and consumption practices of the inhabitants who once lived on a very fertile area from the hinterland of Apulum, the most important conurbation from Roman Dacia.*

Keywords: *Roman agricultural practices, diet, macrobotanical remains, villa rustica, Roman Dacia*

Introduction

The article is discussing the macrobotanical remains which have been identified in soil samples taken from different archaeological contexts associated with the Roman *villa rustica* at Oarda-Bulza, Alba County, during the 2019 campaign. This is the first major agricultural estate from Roman Dacia which has been systematically investigated using an interdisciplinary approach, the aim being to shed light on the interplay between particular forms of production, cultural consumption, community formation, and the integration into a number of provincial and imperial networks of interaction that had social, economic and cultural relevance[3].

Until recently, the rural sites of Roman Dacia and the associated social, economic and cultural practices have attracted far less attention from historians and archaeologists[4] than the

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[3] These investigations are part of the *Apulum Roman Villa Project* which is co-financed by the SSHRC Canada, the Romanian Ministry of Culture, and Alba County Council through the MNUAI. See further RUSTOIU ET AL. 2020a; 2020b; 2021; McCARTY ET AL. forthcoming.

[4] Leaving aside the brief preventive excavation reports, there are some notable exceptions, e.g. OLTEAN 2007; OLTEAN/HANSON 2007; GUDEA 2008; SIMION ET AL. 2014; BÂLTÂC ET AL. 2016; BARBU ET AL. 2019. On the other hand, POPA 2002 remains just an incomplete repertoire of rural sites in Roman Transylvania which contains several errors. One unpublished doctoral dissertation (DUMITRESCU 2018) includes a consistent chapter focusing on the typology of rural villas investigated in Roman Dacia. Lastly, a project exploring the rural environment close to the northern provincial borders has also been developed recently (http://hiphi.ubbcluj.ro/Rural_Dacia/home.html; accessed 28.10.2021).

military or urban sites, despite the fact that agriculture accounted for the majority of economic activity of all Roman provinces and most of the population got involved in one way or another in agricultural-related activities[5]. Among the province's rural sites, villas were more often excavated or at least surveyed though they were usually treated as largely static markers of the imposition of Roman culture in the countryside[6]. This assumption was mostly based on the similarities between the layout of farms and villas from Dacia and those from other, primarily western, Roman provinces, and the uncritical use of ancient written accounts about landowning, provincial power dynamics, and social status.

However, a number of recent studies have shown that rural communities often created different localized structures of practice and power, and different identity constructs that largely responded to existing local conditions[7]. At the same time, various individuals and social groups from the countryside engaged in different ways with the outside world, developing specific means of interaction that depended on a range of factors, e.g. location, social, juridical or economic status, internal organization of the community, local and provincial demographic structure and so on. From this point of view, larger agricultural estates must have functioned as focal points for a number of local communities with whom they interacted in many ways through time. Accordingly, the discussion regarding their appearance and functioning in the Roman provincial countryside needs to go beyond previous simplifying assumptions and explore the commonalities and differences in the social, economic and cultural practices which defined the lifestyle, structure and organization of these particular communities and their impact on the local and provincial networks of interaction.

One way to achieve this objective is through a comprehensive, context-based, interdisciplinary investigation that takes into consideration several categories of archaeological, historical, topographic and environmental evidence. This is the approach that has been used in the case of the *villa rustica* from Oarda-Bulza, a typical example of a large agricultural estate functioning in the surroundings of a major urban centre. From the methodological perspective, aerial, geophysical and field surveys have been conducted before systematic archaeological excavations have started, aiming to understand the general layout and practices, and the communities occupying the site.

The site

The Oarda-Bulza site is located at ca. 2 km south-west of the modern village of Oarda de Sus, south of the *Colonia Aurelia Apulensis* (Partoş neighbourhood of modern Alba Iulia) (Fig. 1). The Roman agricultural estate occupies a higher, large terrace rising on the right side of the confluence of the Bulza stream with the Sebeş River, in turn a tributary of the Mureş River, which was the main waterway connecting Dacia with northern Italy through Moesia Superior and southern Pannonia. The Mureş valley and its tributaries also offered some of the richest alluvial soils in Dacia[8], making it a prime territory for agricultural exploitation from the Neolithic until today. An earlier small-scale field survey on the left side of the Bulza stream, at Oarda-Cutina[9], as well as the more extensive field surveys conducted in 2018 and 2020 on the location of the *villa* discovered significant quantities of Bronze and Iron Age pottery, and stone and metal artefacts suggesting the presence of settlement activity in the area prior to Roman conquest.[10]

[5] BOWMAN/WILSON 2013, 8.
[6] E.g. MITROFAN 1998; POPA 2002; GUDEA 2008.
[7] E.g. TAYLOR 2013; ROYMANS ET AL. 2020.
[8] URDEA ET AL. 2012.
[9] RUSTOIU 2000; RUSTOIU/RUSTOIU 2000.
[10] RUSTOIU ET AL. 2020b.

The existence of a *villa rustica* on this site was first mentioned by Ioana Oltean and Bill Hanson during their July 2000 aerial campaign, which allowed a tentative plan of the site to be drawn.[11] While they have noted the size of the estate (about one ha) and its multiple buildings and complex planimetry, they have not offered any interpretations regarding the possible functions of the various structures.

Subsequent aerial campaigns re-surveyed the Oarda-Bulza site in 2012–2013 and 2016 (Fig. 2).[12] While many of the features that Oltean and Hanson observed were still clearly visible, others also appeared, and some of the features that they reconstructed could not be confirmed. More details of these structures and their positioning have been further revealed following a series of geophysical investigations organized in 2018 (Fig. 3)[13]. It is now clear that the estate consisted of multiple buildings and enclosures, while the overlap of many structures that are aligned on slightly different axes suggests multiple phases of construction and rebuilding. Therefore the site is offering a clear potential for understanding the diachronic dimension of the development of large agricultural estates of the *villa rustica* type in Roman Dacia.

Following an extensive grid-based geo-referenced field survey organized in the summer of 2018, which produced a significant amount of preliminary data about the general chronology of the site, the patterns of consumption of its occupants, and the ways that various structures could have been used, the systematic excavation of the site has started in 2019. Methodologically, this is using the geo-referenced single context recording of all archaeological and environmental evidence. This first campaign of excavations has targeted the south-eastern corner of the main building, conventionally named A, as well as the north-western area of the large annex conventionally named B. In the case of the main building A, archaeological investigations have unearthed a room with an apse having a raised floor, which probably served as a *triclinium*, as well as three other rooms, a part of the eastern outer courtyard and some of the enclosure ditch (Fig. 4). The macrobotanical remains discussed in this article come from contexts belonging to this area of the site.

Methodology

A rigorous strategy of excavation, sampling and analysis has been developed by the team in order to recover as much information as possible about the diet and agricultural practices of the inhabitants of Oarda-Bulza estate. This is including the systematic retrieval of soil samples for archaeobotanical, palynological and micromorphological analyses, and of the faunal and charcoal remains from all archaeological contexts. Further data will be obtained by analysing the organic remains retrieved from various containers or tools and installations. The results of these investigations will be combined with those obtained through the contextual analysis of the recovered artefacts in order to reconstruct, as much as possible, the patterns associated with the culinary and convivial practices of different categories of inhabitants, as well as the nature of the agricultural activities taking place on site.

For the identification of macrobotanical remains, the first step has involved the retrieval of ca. 10 L of soil from each archaeological context, the exact location of each sample being geo-referenced using a dGPS. In some cases in which the contexts were quite large or/and thick, one example being the enclosure ditch, more than one soil sample has been collected in order to understand the processes that contributed to the formation of the respective contexts and the associated human activities. Each sample has been packed in a clean plastic bag and labelled before being geo-referenced and registered in the site's database. The soil samples retrieved for

[11] HANSON/OLTEAN 2003, 109–114.

[12] CZAJLIK ET AL. 2014 and unpublished data courtesy of Sándor Berecki.

[13] RUSTOIU ET AL. 2020a, 256; 2020b, 95; McCARTY ET AL. forthcoming.

macrobotanical analyses have always been paired with palynological and micromorphological samples taken from the same context and position. This will allow a systematic comparison of the results obtained through different analytical methods.

All soil samples for macrobotanical analyses have been processed using a water flotation barrel whose design is similar to the so-called Ankara machine. The samples have been washed under running water using three different sieves having 2mm, 1mm and 0.5mm meshes. The plant macrofossils have been sorted under a magnifying lamp and identified using a binocular microscope, both by comparison with a modern reference collection and with the aid of relevant identification literature[14].

Thirteen soils samples have been retrieved from the main building A, but only seven samples contained charred macrobotanical remains, mostly belonging to the *Cerealia* family (229 seeds). Seven other identified seeds belong to other species. However, in some cases the precise species could not be determined due to the poor preservation of the remains (see Table 1). This is the description of the identified macrobotanical remains:

Cerealia:
Cerealia unidentified: 13 caryopses and 136 caryopses fragments;
Triticum sp. unidentified: 36 caryopses;
Triticum monococcum: 10 caryopses;
Triticum spelta: 7 caryopses;
Triticum aestivum/durum/turgidum: 10 caryopses;
Panicum miliaceum: 3 caryopses;
Secale cereale: 1 caryopsis;
Avena sativa: 1 caryopsis.

Leguminosae:
Lens culinaris/esculenta: 1 cotyledon seed;
Vicia ervilia: 1 seed.

Wild fruit:
Rubus sp: 1 seed.

Rudero-segetal:
Chenopodium album: 2 seeds;
Chenopodium berliandieri: 1 seed;
Spergula arvensis: 1 seed;
Galium aparine: 1 seed;
Fallopia convolvulus: 1 seed.

Contextual analysis

Three soil samples, **P43**, **P47** and **P54**, come from context **[1035]** which is the fill of the enclosure ditch belonging to the phase I of the main building A. The ditch was filled up and levelled before the building was enlarged to the east with the construction of the south-eastern apse sometime in the last third of the 2nd century AD. Sample **P43** has been taken from the top fill of the ditch, just outside the northern side of the apse's foundation. It contained a significant number of cereal grains, one *Rubus* sp seed and a small fragment of an unidentified stalk. The presence of the wild fruit seed, perhaps from a blackberry, and the stalk could suggest that a

[14] The plant nomenclature follows *Flora României* (SĂVULESCU 1952, I-XIII) and also ZOHARY ET AL. 2012.

hedgerow containing blackberry shrubs once existed along the ditch. Sample **P47** has been taken from the lower fill of the ditch, where several artefacts have also been found, indicating that the soft brown soil was more likely the result of a gradual accumulation of dirt and garbage before the ditch was filled up. The identified macrobotanical remains consists of cereals, including some millet, and some seeds belonging to weeds commonly associated with cereal cultivation. Lastly, sample **P54** has been taken from the bottom of the ditch. It contained some cereal grains, one seed each of lentil and bitter vetch, which were both widely consumed legumes during the Roman times, and an unidentified stalk fragment. The macrobotanical remains associated with the enclosure ditch can be most likely the result of crops processing and storage in the close vicinity, both inside the building, in a room which contained numerous fragments of ceramic storage vessels, amphorae and *mortaria*, and in the outer courtyard which was perhaps used as a threshing area.

Another soil sample, **P48**, comes from context **[1038]** which is related to the construction of the apse, being taken from the south-eastern outer side of its foundation. The sample contained only some cereal grains.

Soil sample **P31** comes from another context **[1017]** related to the apse foundation, being taken from the southern outer side. Based on the stratigraphy, the context is however not related to the construction phase, but to the period in which the apse was actually used. The sample though again contained only cereal grains and seeds of some weeds commonly associated with cereal cultivation.

On the other hand, soil sample **P63** comes from a context **[1050]** that was part of the accumulation of demolition debris related to the last phase of the main building A from around the middle of the 3rd century AD. The sample contained just a few cereal grains and one weed seed.

Concluding remarks

It has to be noted that the great majority of the macrobotanical remains recovered from soil samples taken during the 2019 archaeological campaign from the main building A consists of cereal grains, mostly *Triticum monococcum, Triticum spelta, Triticum aestivum/durum/turgidum* and *Panicum miliaceum*, while *Secale cereale* and *Avena sativa* seem to be occasional occurrences. Their presence most likely indicates the staple crops which the inhabitants must have consumed regularly. At least some of these cereals were most likely cultivated on the estate; this hypothesis will be confirmed (or infirmed) by future archaeobotanical and palynological investigations on site. The samples' contents also indicate that these crops were frequently contaminated with common weeds, like Galium, Chenopodium, and Spergula sp.

Regarding the consumption practices, hulled wheat and millet were mainly used for the preparation of porridges and flatbreads[15]. Both types of grains are well adapted to cooler climatic conditions, but their yield is lower in comparison with the free-threshing wheat, a crop whose importance increased during the Roman imperial period[16].

The consumption of two types of legumes, lentil and bitter vetch, are also attested on site, though the latter was considered an inferior food which was only eaten in times of famine or by the poor[17]. On the other hand, Pliny the Elder (HN 18.103) writes that bitter vetch meal was sometimes used to leaven bread dough, and the same author also lists its supposed medicinal properties (HN 20.264). At the same time, lentil was one of the staple crops

[15] WILKINS/HILL 2006, 110.
[16] WILKINS/HILL 2006, 112.
[17] FLINT-HAMILTON 1999, 378–379.

in the Mediterranean region and was also regularly included in the food rations of the Roman soldiers[18].

Lastly, the single fruit seed identified so far belongs to a wild species, perhaps blackberry. Such fruits could have been gathered for consumption from the wild, though the seed could have also come from a hedgerow bordering the enclosure ditch.

The macrobotanical remains identified in the first set of soil samples from the main building of the *villa rustica* at Oarda-Bulza are providing a first glimpse of the diet and agricultural practices of the inhabitants. More soil samples have been collected during the subsequent archaeological campaigns, not only from the main building, but also from the annexes, and their analysis will surely provide more information. Together with the results of future palynological, anthracological, micromorphological and biochemical analyses, these will enable us to offer a more detailed reconstruction of the aforementioned practices.

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Table 1. Species identified in soil samples retrieved from archaeological contexts belonging to the main building A.

Species	**P31 [1017]**	**P43 [1035]**	**P47 [1035]**	**P54 [1035]**	**P48 [1038]**	**P63 [1050]**	**Total**
Cerealia family							
Cerealia	42 frg	27 frg	59 frg	11 grains	6 frg	2 frg/2 grains	13 grains/ 136 frg
Triticum sp. unidentified	9	23		1	3		36 grains
Triticum monococcum		5	5				10 grains
Triticum spelta		2	5				7 grains
Triticum aestivum/durum/ turgidum		3	6	1			10 grains
Panicum miliaceum			3				3 grains
Secale cereale			1				1 grain
Avena sativa		1					1 grain
Leguminosae							
Lens culinaris/esculenta				1			1 seed
Vicia ervilia				1			1 seed
Wild fruit							
Rubus sp		1					1 seed
Rudero-segetal			1 unid				
Chenopodium album	1		1				2 seeds
Chenopodium berliandieri							1 seed
Spergula arvensis	1						1 seed
Galium aparine	1						1 seed
Fallopia convolvulus						1	1 seed

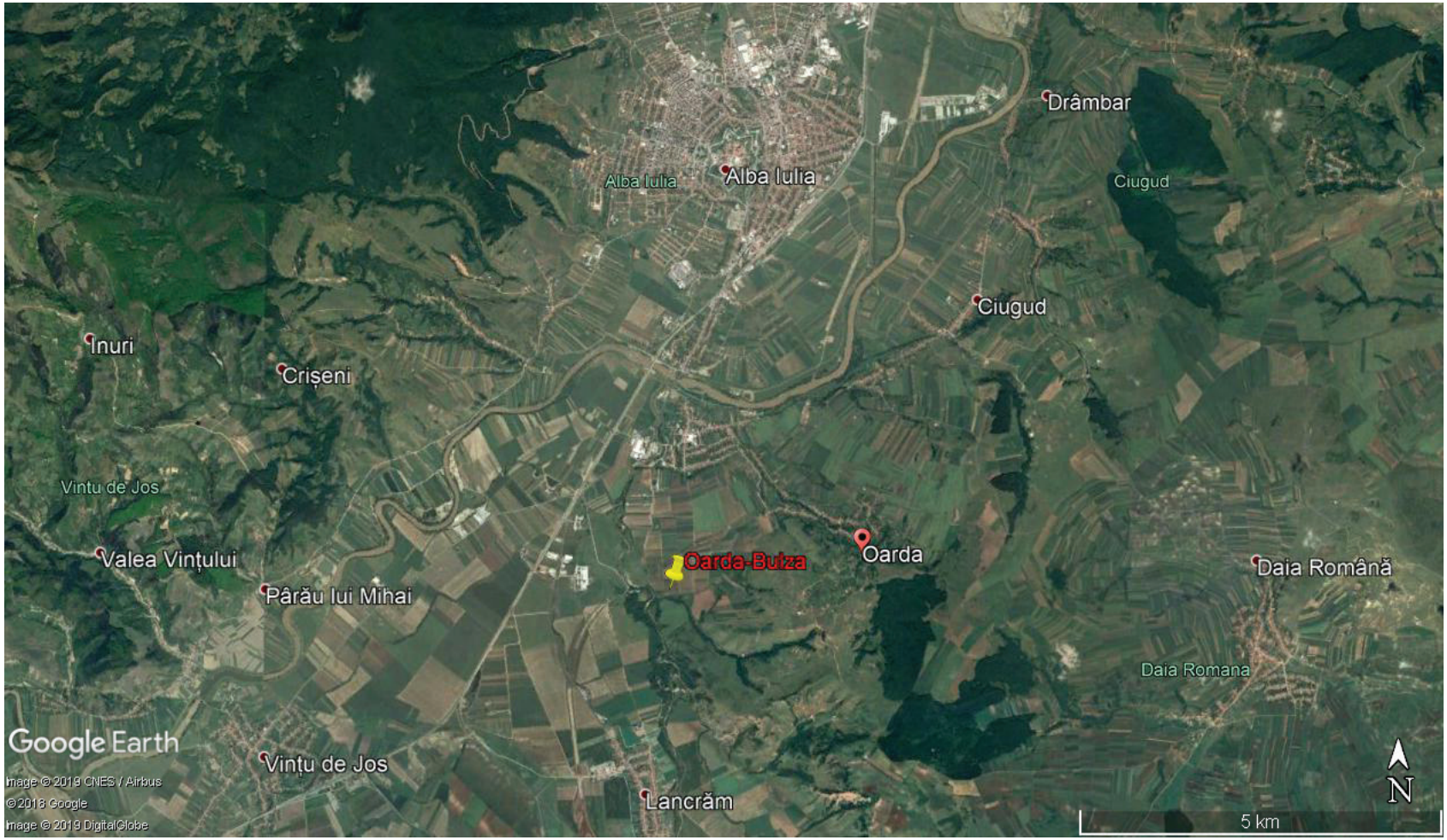

Fig. 1. Location of the site at Oarda-Bulza (basemap Google Earth under licence CNES/Airbus).

Fig. 2. Aerial photo of the site at Oarda-Bulza (photo Z. Czajlik, July 2013).

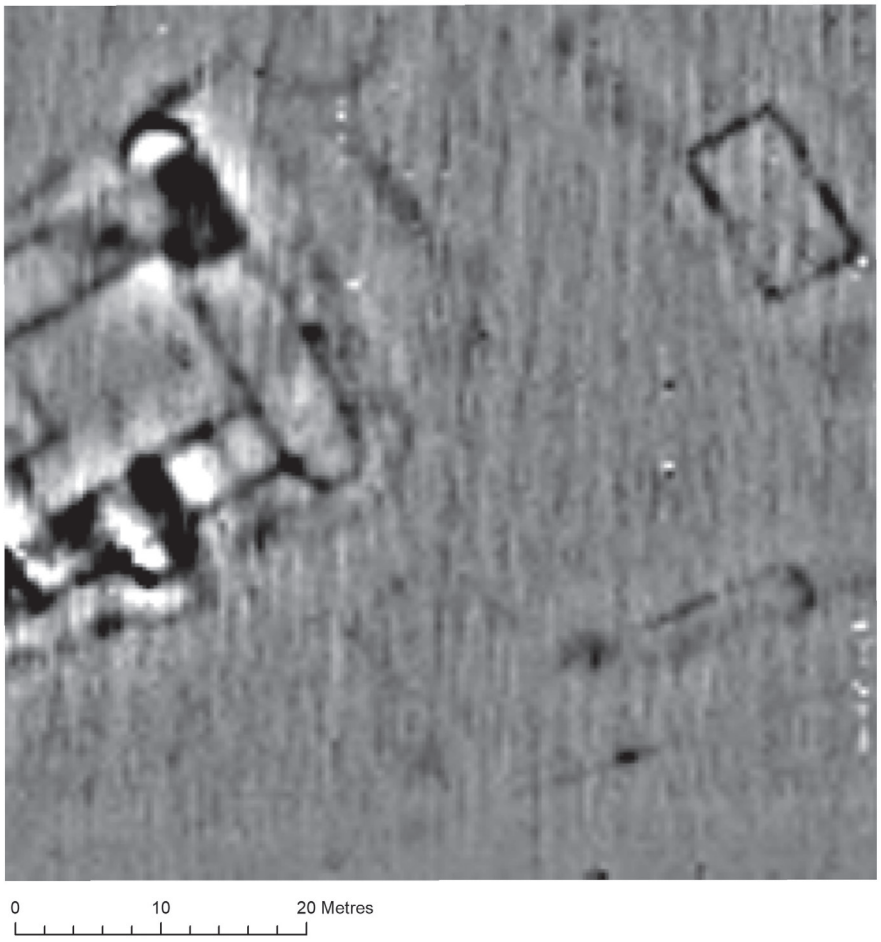

Fig. 3. Resistivity survey of the site (image Alex Turner, courtesy of Ian Haynes, Apulum Hinterland Project).

Fig. 4. Photogrammetry of the area A excavated in 2019, with the apse foundation and some of the enclosure ditch (image ARVP).

ABBREVIATIONS THAT CAN NOT BE FOUND IN BERICHT DER RÖMISCH-GERMANISCHE KOMMISSION

Abhandlungen der Königlichen Akademie der Wissenschaften zu Berlin	= AKAWB
Acta Classica Universitatis Scientiarum Debrecensis, Debrecen	= ACD
Acta Ethnographica Academiae Scientiarum Hungaricae (Budapesta)	= Acta Ethnogr Acad Scien Hungaricae
Analele Academiei Române. Memoriile secţiunii istorice	= An. Acad. Române. Mem. Sec. Istor.
Analele Banatului (Timişoara)	= An. Banatului
Analele Dobrogei (Constanţa)	= An. Dobrogei
Muzeului Judeţean Vaslui (Vaslui)	= Acta Moldaviae Meridionalis
Muzeul "Vasile Pârvan" (Bârlad)	= Acta Musei Tutovensis
Analele Universităţii Bucureşti	= An. Univ. Bucureşti
Analele Universităţii Iaşi	= An. Univ. Iaşi
Analele Universităţii „Dimitrie Cantemir" (Constanţa)	= An. Univ. Constanţa
Annales: économies, sociétés, civilisations (Paris)	= Ann. Écon. Soc. Civil.
Arheologia Moldovei, Institutul de Arheologie (Iaşi)	= ArhMold
Arkheologiya, Natsional'na akademiya nauk Ukraini. Institut Arkheologii (Kyiv)	= Arkheologiya
Annales Universitatis Apulensis (Alba Iulia)	= AUA
Annali di scienze religiose, Milano	= Annali di scienze religiose
Anuarul Institutului pentru Studii Politice, de Apărare şi Istorie Militară	= Anu. Instit. Stud. Pol. Apăr. şi Istor. Milit.
Archaeologisch-epigraphische Mitteilungen aus Österreich (-Ungarn), Wien	= AEM
Archiv des Vereines für Siebenbürgische Landeskunde, Hermannstadt – Kronstadt (Sibiu – Braşov)	= AVSL
Archaeologia Baltica Polonia = Peregrinatio Gotica (Łódz)	= Arh Baltica
Arheologia Medievală (Iaşi)	= Arh. Medievală
Antigüedad, religiones y sociedades, Huelva	= ARYS
Az alsófehérmegyei történelmi régészeti és természettudomány évkönyve (Alba Iulia)	= AlsóTermÉvkönyve
Balcanica Posnanensia. Acta et Studia. Czasopismo wydawane przez UAM w Poznaniu	= Balcanica Posnaniensia
Buletinul cercurilor ştiinţifice studenţeşti (Alba Iulia)	= BCŞS Alba Iulia
Buletinul Monumentelor Istorice (Bucureşti)	= BMI
Instrumentum Bulletin du Groupe de travail européen	= Bull Instrumentum

sur l´artisanat et les productions manufacturées dans l´Antiquité (Montagnac)	
Bulletin antieke beschaving Annual Papers on Classical Archaeology	= BABesch
Bulletin de l´Institut historique belge de Rome (Rome)	= BullInst Hist Belge (Rome)
Cahiers du Centre Gustave Glotz, Sorbonne (Paris)	= Cahiers Centre Gustave Glotz
Complexul Muzeal „Iulian Antonescu" (Bacău)	= Carpica
Cercetări arheologice, Muzeul Naţional de Istorie a României (Bucureşti)	= Cercetări Arheologice
Muzeul Municipiului Bucureşti (Bucureşti)	= Cercetări arheologice în Bucureşti
Classical Philology (Chicago)	= Class. Philol.
Cronica Cercetărilor Arheologice din România (Bucureşti)	= CCA
Cronica Numismatică şi Arheologică (Bucureşti)	= Cron. Numis. Arh.
Dacia. Recherches et découvertes archéologiques en	= Dacia
Roumanie, Bucureşti, I-XII (1924–1928); Nouvelle Série: Revue d'archéologie et d'histoire ancienne (Bucureşti)	
Muzeului de Istorie Galati	= Danubius
Dialogues d´Histoire Ancienne, París-Besançon	= DHA
Dicţionarul limbii romîne moderne (Bucureşti 1958)	= DRLM
Documenta Romaniae Historica (Bucureşti)	= DRH
Les Dossiers d'archeologie, París	= DossPar
Ethnic and Racial Studies (London)	= Ethnic and Racial Studies
Ephemeris Napocensis, Institutul de Arheologie şi Istoria Artei, Cluj-Napoca	= EphemNap
File de Istorie = Revista Bistriţei (Bistriţa)	= FI (Rev. Bistriţei)
Muzeul judeţean Ilfov (Bucureşti)	= File de Istorie
Greek-English Lexicon (Oxford 1966)	= Greek-English 1966
Harvard Studies in Classical Philology	= Harvard Stud. Class. Studia Philol.
A Herman Ottó Muzeum Évkönyve (Miskolc)	= HOMÉ
Hrvatski arheološki godišnjak (Zagreb)	= Hrv. Arh. God.
Historica. Historia Antigua (Salamanca)	= Stud. Hist. Hist. Antigua
Il Mar Nero Annali di archeologia e storia (Roma)	= Il Mar Nero
Izvestija Russkogo Arheologičeskogo Instituta v Konstantinopole	= Izv. Ross. Arch. Inst. Konstantinopole
Jahreshefte des Österreichischen Archäologischen Instituts in Wien	= ÖJh
Journal of Ancient History and Archaeology, Institute of Archaeology and History of Art Cluj-Napoca	= JAHA
Jósa András Múzeum Évkönyve (Nyíregyháza)	= JAMÉ
Journal of Indo-European Studies (Washington DC)	= JIES
Journal of the Society for Ancient Numismatists	= Journal Soc. Ancient Numism.
Könyv és könyvtár, Budapest	= Könyv és könyvtár
Labeo Rassegna di Diritto Romano (Napoli)	= Labeo
Lateinisch-Deutsch Schulwörterbuch (Leipzig 1891)	= Lateinisch-Deutsch 1891
Lateinisch-Deutsch Handwörterbuch (Hannover-Leipzig 1918)	= Lateinisch-Deutsch 1918

Litua. Studii şi comunicări. Muzeul Judeţean Gorj, Târgu Jiu	= Litua
M. M. Roxan, P. Holder, Roman Military Diplomas, London	= RMD
Materialy po arkheologii, istorii i etnografii Tavrii. Krymskoe otdelenie Instituta vostokovedeniya NAN Ukrainy (Simferopol')	= MAIET
Muzeul Municipiului Bucureşti	= Materiale de Istorie şi Muzeografie
Materiale şi Cercetări Arheologice (serie nouă) (Bucureşti)	= MCA (S.N.)
Mélanges de l´École roumaine en France (Paris)	= Mél École roumaine en France
Mélanges de l´Univ St Ioseph (Beiruth)	= Mél Univ St Ioseph (Beiruth)
Mémoires de la Société Historique et Archéologique de Langres (Langres)	= Mém Soc Hist et Arch Langres
Memoria antiquitatis Acta Musei Petrodavensis Revista Muzeului arheologic (Piatra Neamţ)	= Memoria Antiquitatis
Monumenta Germaniae Historica (München)	= MGH
Mousaios Anuarul muzeului judeţean Buzău	= Mousaios
A Nyíregyházi Jósa András Múzeum Évkönyve (Nyíregyháza)	= Josa Andras Múz Évk
Muzeul National de Istorie a României (Bucureşti)	= Muzeul Naţional
Norba Revista de arte, geografía e historia (Cáceres)	= Norba
Numismatische Zeitschrift	= NZ
O Arqueólogo Portugués, Lisboa	= Arque. Portugués
Opţiuni istoriografice, Iaşi	= Opţiuni istoriografice
Orientalia Lovaniensia Periodica, Lovaina (Leuven)	= OLP
Ostraka Rivista di antichità (Napoli)	= Ostraka
Institute of Archaeology of the Czech Academy of Sciences (Prague)	= Památky Archeologické
Patrimonium Apulense, Alba Iulia	= Patrim. Apulense
Rossijskaya Arkheologiya. Institut arkheologii Rossijskoj akademii nauk (Moskva).	= RA
Rad Muzeja Vojvodine (Novi Sad)	= Rad Muz. Voj.
RepArAb Repertoriul arheologic al judeţului Alba, Alba Iulia, 1995 [= Bibliotheca Musei Apulensis, II]	= RepArAb
Res Antiquae (Bruxelles)	= Res Antiquae
Revista de etnografie şi folclor (Bucureşti)	= Rev Etnogr şi Folclor
Revista Bistriţei	= Rev. Bistriţei
Muzeul Municipiului Bucureşti	= Revista de Cercetări Arheologice şi Numismatice
Muzeul Naţional de Etnografie şi Istorie Naturală a Moldovei (Chişinău)	= Revistă de Etnografie, Ştiinţele Naturii şi Muzeologie
Revista de Istorie (Bucureşti)	= Rev. de Istor.
Revista Facultăţilor de teologie din Patriarhia Română (Bucureşti)	= Stud Teologice
Revista Muzeelor, Bucureşti	= Rev. Muzeelor
Revue archéologique de l'Est et du Centre-Est (Paris)	= RAEst
Revue des Études Sud-Est Européennes (Bucharest)	= Rev. Études SE Européennes

Revue Historique (Paris)	= Rev. Historique
Revue Historique du Sud-Est Européen (Bucharest)	= RHSEE
Revista Storica dell'Antichita (Roma)	= Riv. Stor. Antichita
Strabon (Iaşi)	= Strabon
Studia Archaeologica, Roma	= StArch
Studia Antiqua et Archaeologica (Iaşi)	= SAA
Studii şi Cercetări de Istorie veche şi Arheologie, Institutul de Arheologie "Vasile Pârvan" (Bucureşti)	= SCIV(A)
Slovenská Archeologia. Archeologický ústav SAV (Nitra)	= SlovArch
Stratum plus, Vysshaya Antropologicheskaya Shkola (Chişinău)	= Stratum plus
Studia Universitatis „Babeş-Bolyai", seria Historia, Cluj-Napoca	= Stud. Historia UBB
Studia historica. Historia Antigua (Salamanca)	= Stud.Hist. Histor. Antig.
Studia Thracologica (Bucureşti)	= Stud. Thracologica
Studii şi Comunicări Câmpulung	= Stud. Com. Câmpulung
Studium, Debrecen	= Studium
Symposia Thracologica (Bucureşti)	= Symp. Thracologica
Transactions and Proceedings of the American Philological Association, Atlanta	= TAPA
Transsilvania. Ein Beiblatt zum Siebenbürger Boten, Hermannstadt (Sibiu)	= TranssilvBB
Uniwersytet Im Adama Mickiewicza w Poznaniu, Seria Historia (Poznań)	= Uniw Adama Mickiewicza Poznan
Vestigia. Beiträge zur Alten Geschichte (München)	= Vestigia
Arkheologicheskij muzej-zapovednik "Tanais" (Rostov na Donu)	= Vestnik Tanaisa
Państwowe Muzeum Archeologiczne w Warszawie (Warszawa)	= Wiadomości Archeologiczne
Zeitschrift des Deutschen Palästina-Vereins	= ZDPV
Zeitschrift für Geschichte	= Zeitschr. Gesch.

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H. DAICOVICIU, Dacia de la Burebista la cucerirea romană (Cluj-Napoca 1972).

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FINK 1958, 107–110.

R. O. FINK, Hunt's pridianum: British Museum Papyrus 2851, Journal of Roman Studies 48, 1958, 102–116.

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VÁGÓ/BÓNA 1976

E. B. VÁGÓ/I. BÓNA, Die Gräberfelder von Intercisa (Budapest 1976).

Articles published in conference proceedings or thematic volumes:

DVORSKI 1996, 217–220

T. DVORSKI, Archaeological Investigations on Limes Alutanus in 1980–1984 (Dacia Inferior – Malvensis). In: P. Petrovič (ed.), Roman Limes on the Middle and Lower Danube (Belgrade 1996), 215–222.

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