

Dr. Horia Ion Ciugudean
Muzeul National al Unirii
Str. Mihai Viteazu 12-14
Alba Iulia, Romania
horiaion2001@yahoo.com

An Evaluation of the Environmental Impact Assessment Report for the Rosia Montana Project with an Emphasis on Archeological and Cultural Patrimony Issues

THE BASELINE STUDY ON THE NATIONAL CULTURAL PATRIMONY has been written by STANTEC CONSULTING, a company which is not officially accredited to do research on the evaluation and conservation of the cultural patrimony – mobile and immobile - in Romania. This fact casts serious concerns about the validity of much of information in the report or the assessments made therein. The latter contains incomplete or inaccurate information as well as subjective and biased appraisals that have a negative impact on an accurate reading of the significance of the cultural patrimony in Rosia Montana in the national and global contexts. Therefore, the references to the pre-roman period, in the introductory chapter (vol 6, p. 7) do not include information about the prehistoric discoveries made in the village's surrounding areas, thus creating the false impression that such marks do not exist there.

It is also stated, in a tendentious manner, that researches have not produced evidence about the presence of the Dacians in Rosia Montana although in the archeological site's file, card # 9 about the Orlea Massive very old mining works are identified close to the surface, out of which a wooden post has been dated, using the C14 method, in the interval 50 BC-80 AD (volume 6, annex 1, p. 222), so belonging precisely to the Dacian age. Other data collected from the Carnic Massive, using the radio-carbon method that are also indicative of the Dacian age (3rd century BC- 1st century AD) are negatively commented in chapter 4. 9 of the Assessment Report (p. 22) although they have been published and were commented upon by the French archeological mining team in the first volume of the Alburnus Maior series. The subchapter on the cultural landscape is written with the clear intention to minimize the value of the Rosia Montana area. For that

reason false data was inserted such as the statement that the Carnic Massive has been mined in an open pit since the 1970s and hence has been damaged to a large extent (vol. 6, p. 15). There isn't actually a correct description of the cultural landscape in Rosia, the respective subchapter being overloaded with data about secondary subjects (climate, geology, jobs, local and regional economy etc.), the true potential being left outside the analysis.

The BASELINE STUDY underlines the fact that large areas that will be impacted by the project have not been archeologically explored, this being particularly the case of the Corna Valley, the village of Corna where the map of the archeological sites for the interval 2000-2005 (vol 6., pl. 4) indicates the almost complete absence of such sites in the south-eastern side where the Carnic waste dump is to be located (vol. 6, pl. 6). According to the present legislation (Law 462/2003), it is illegal to impact, through a project, an area that has not undergone any preceding archeological exploration.

The BASELINE STUDY bares evidence of grave gaps in the research of archeological structures from Rosia Montana (section 5.3.1.). Although four habitat areas have been identified (Hop Gauri, Habad, Taul Tapului and Carpeni) none of them has been comprehensively researched. This fact makes the study unable to offer a precise image about the spatial organization of the ancient mining habitat and its relation with the sacred areas (necropolis and/or temples). Starting from the fact that not less than seven funeral areas have been identified, it is clear that the archeological exploration has not been able to locate all the Roman habitat areas in the region that will be impacted by the mining project. Furthermore, no architectural military structure has been identified although their presence is recorded on the stamped bricks (vol. 6, p. 78). Just as incomplete and imprecise is the information about the infrastructure. The Roman vicinal roads were surveyed only at two points (Hop and Habad), the route of which was not tracked on the ground and reconstructed just as the course of the main road from Alburnus Maior to Ampelum (Zlatna) has not even been identified. It must be underlined the insufficient/improper localization and research of the ore processing areas. In the site's files and cards are only briefly mentioned two possible structures with this particular purpose, at Jig-Piciorag and Tarina (cards # 7 and 8, volume 6, p. 215 and

218). Such structures should have occupied vast areas in the proximity of the gold ore extraction sites but it is clear that their research has been entirely neglected. The serious omissions mentioned above are evidence of the fact that the BASELINE STUDY is incomplete in regards to several essential aspects that concern the identification of the archeological sites in Rosia Montana. **This is due to the flawed management of the archeological project and the non-compliance with the standard for best practice in archeological research.**

A seriously disconcerting aspect is represented by the fact that in the case of the ancient and medieval mining patrimony from Rosia Montana, the BASELINE STUDY ON THE NATIONAL CULTURAL PATRIMONY concedes to the lack of research for large areas to be included in the perimeter of the future pits. Consequently, the fact is acknowledged that the Orlea Massive area has been only partially researched, for this site such research being planned to for the interval 2007-2008 (vol. 6, p. 43.). The same aspect is mentioned once more in chapter 4.9. of the Assessment Report, where the fact that the vision about the underground mining patrimony from the Orlea, Tarina, Costi Carpeni "**is incomplete**" (p. 22) is acknowledged. This admittance is nevertheless not sanctioned by the restrictive implications that an incomplete research is bound by, in as far as the legal provisions on the patrimony go, i.e. the inexistence of an archeological discharge certificate, according to the law 462/ 2004. Because such research could lead to the uncovering of immobile cultural patrimony vestiges of exceptional value it is completely illegal to include this area into the perimeter of a future open mine.

The research of ancient mining works in the Carnic Massive has lead to the uncovering of 7 km of ancient galleries and patrimony elements with unique value like the roman exploration gallery with 125 steps, judged to be an "impressive mining work" by the BASELINE STUDY (vol. 6, p. 87). However, such elements have not been included in the protected area which proves that the project titleholder has not considered the correct application of the possible-variants-principle, and a subsequent change of location (i.e. of the open mine) to allow for "in situ" conservation.

Even though the BASELINE STUDY ON THE NATIONAL CULTURAL PATRIMONY claims to be based on a research methodology in accordance with current best practices (vol. 6, p. 36), it can be easily observed that research in the Cetate, Carnic and Jig Massifs has not been able to delineate the mining works from the medieval period (from the interval 1100-1500 AD), although they are included in the chronology of the mine works established by the French team (BASELINE STUDY, vol. 6, p. 82) and confirmed by documentary sources. All the site cards on underground archeological research (vol. 6, cards # 3,4,5,7 and 9) and the summaries (vol. 6, p. 80) only make references to two historical periods, the Roman and the modern (17th to the 19th century AD), overlooking the identification of works from the medieval period (11th to the 16th century AD).

Because it is stated that 70 km of galleries have been researched and mapped (vol. 6, p. 80) it follows that this is the case of an obvious and serious shortcoming in the capacity to correctly diagnose and interpret the phases of exploitation and not of an insufficient/inadequate volume of visited galleries. **This deficiency is indicative of the fact that best practices have not been applied throughout the entire underground archeological research which has failed to identify the medieval underground works.**

Another serious shortcoming of the Baseline Study is the complete absence of research and consequently of information about the modern industrial patrimony, particularly the hydro-technical arrays (artificial lakes, channels) and the location of the over 1000 stamps from the Rosia and Corna valleys. There is only one paragraph that mentions this issue in the totally inappropriate context of the natural landscape (vol. 6, p. 15). Any specific information is however absent from the section on the industrial patrimony which is only concerned with the presentation of underground mining works and the artifacts in the RosiaMin Museum (vol. 6, subchapters 5.4. and 5.5.). **It is therefore clear that in the Baseline Study not all the locations or the characteristics of the archeological, historical or culturally significant sites that can be impacted by the project are mentioned and described. Furthermore, the ancient, medieval and modern open-air mine works have been completely ignored.**

The most subjective and biased part of the Baseline Study is the section on the placing of the archeological patrimony from Rosia Montana in the national and international context. Tendentiously, the study puts across the idea that the mining patrimony from Rosia Montana is common and similar to that in many other ancient mining sites from across the Roman empire (vol. 6, subchapter 5.5.2.2., p. 104). The study attempts to defend this false thesis by presenting a long list of mining sites from Romania in which, however, were never made epigraphic discoveries comparable to those in Rosia Montana (wax slates, the tens of epigraphic monuments). Furthermore, none of those sites has been attested with a proper name as is the case for Alburnus Maior. Similarly, the study presents, lists with ancient mines from Europe and the north-east of Africa, without making a distinction between underground mines (much more rare) and surface mines (the majority) or between those positively documented and those only presumed to exist. An objective examination of that list, with all its inconsistencies allows one to note the fact that out of the tens of sites enumerated there, only three or four (Las Medulas, Vipasca, Uru-Montana, Dolaucothi) are comparable to Rosia Montana in the complexity of the mining technique used and the associated infrastructure. To support its overtly biased conclusions the Study repeatedly makes reference to Lucia Marinescu's 2002 study, in fact the Study's supreme basis of argumentation which is, at this point in time, only a manuscript which has not yet been published and consequently cannot be read. Given these circumstances, the recurring quoting from this manuscript and its inclusion in the bibliography (vol. 6, p. 116) is abusive, with the validity of the data taken from that study not verifiable.

The **REPORT ON THE ENVIRONMENTAL IMPACT ASSESSMENT STUDY** evaluates, in chapter 4.9 the impact on the cultural patrimony. The first critical remark here is about the superficiality with which the impact on the cultural landscape is discussed (3.1.). The primary effects on civil and ecclesiastic architecture in Rosia Montana and Corna are only partly described or illustrated (3.2-3.3). A negative impact which has not been sufficiently analyzed and more specifically, quantified is the effect of the shockwave from explosions in the quarries and the vibrations produced by the heavy-duty-trucks-traffic on the protected monuments and sites. Although it is

acknowledged only as a potential impact, in reality this is a primary effect whose destructive consequences on the immobile cultural patrimony have not undergone a quantitative or qualitative assessment.

Reduction measures for this effect include only the cost of repairs although the impact of the explosion and the traffic will be directly experienced in the so-called “protected areas”, a fact which will probably lead to the complete destruction of some of the monuments and sites. Clear and precise measures that could diminish, if only partially, the effects of the vibrations on the historical monuments are not identified.

The description of the impact on the archeological patrimony and in particular, on the industrial mining patrimony does not fully and correctly present the implications of the legal courts’ decision to suspend the Archeological Discharge Certificate for the Carnic Massive. The uphold of the court sentence annulling this certificate will determine the exclusion of this perimeter from the project area, an alternative which the authors of the EIA Report have not considered. This fact raises important question marks about the independence and objectivity of this study.

A major negative impact on the ancient mining patrimony from Rosia Montana which is addressed with much superficiality concerns the destruction of the Roman galleries from the RosiaMin Museum. This fact prompts one to infer that the seriousness of this effect has been purposefully undisclosed. The Roman galleries from the Orlea Massive which are open to the public are classified as historical monuments (cod LMI AB-I-m-A-00065.02). Consequently, based on their legal status they are protected and can not be included in the perimeter of a future open mine, their destruction being an illegal act (art. 9 and 10 Law 422/2001). In the report the terms that refer to the future of these galleries are inappropriate, e.g. “direct impacting”, “impingement” (section 3, p. 30), the correct ones being “destruction” in the case of a historical monument because of the criminal consequences this action incurs. There is no legal basis for the proposed mitigation measures, the construction of replicas and/or virtual simulations. The law (422/2001, art. 21) makes no reference to any such mitigation measures for historical

monuments. These alternatives are consequently not acceptable from a legal standpoint.

The mitigation of the destruction of the 7 km respectively 1.5 km of Roman mine galleries from the Carnic and Orlea Massives, through their inclusion in the future mines, is not possible if the alternative is to set up new galleries. This is the case particularly because no clear alternative is mentioned. Two possible locations are suggested, Catalina Monulesti and Paru Carpeni (p. 44-45).

The **CULTURAL PATRIMONY MANAGEMENT PLAN** mentions the creation of a Foundation which would administer the cultural patrimony throughout the project years (vol. 33, Management Plans, p. 20-22). With this plan, RMGC seeks, in fact, to transfer its legal responsibilities on the protection, conservation and restoration of archeological monuments and sites from the project area. Although the company alleges that in this manner the independent management of the cultural management would be guaranteed. Nevertheless the funds for creation of this Foundation would be in their entirety RMGC subsidies which will subsequently also cover the Foundation's running costs. Consequently, the Foundation will be in fact financially dependent on RMGC and thus directly controlled by and influenced by it.

A fact of grave concern about the Cultural Patrimony Management Plan is revealed in the open letter sent by Virgil Apostol and Stefan Balici, architects, executive director and director of S.C. OPUS-ATELIER DE ARHITECTURA to the Environment and Water Management Ministry on 12 August 2006. This company wrote, under a contract with S.C. Rosia Montana Gold Corporation S.A. a "Cultural Patrimony Management Plan for the Historical Center of the Rosia Montana Village".

The authors of this letter show that "*Report on the Environmental Impact Assessment Study for the Rosia Montana Mining Project*, RMGC has submitted, the most important conclusions of the *Cultural Patrimony Management Plan for the Historical Center of the Rosia Montana Village*, written by OPUS, are missing, incomplete or have been used in a context different from the original one. Consequently, OPUS does not take up the

conclusions about the management of the cultural patrimony of the historical center of Rosia Montana as they have been presented in the *Report on the Environmental Impact Assessment Study* for the mining project in Rosia Montana which has been offered by RMGC to the Ministry for the Environment and Water Management.

Based on the facts presented in the open letter written by the management of OPUS it follows that RMGC has distorted the original management plan designed by this company, a practice which could be replicated in other parts of the documentation submitted for the consideration of the Ministry for the Environment and Water Management. In fact, just as it was stated at the beginning of our critical observations, in the Baseline Study there also are obvious omissions and distortions, of the opinions experts who worked on the studies had, which serve exclusively the private interests of the company.

Alba Iulia, 18.07. 2006

Archeology expert
Dr. Horia Ion Ciugudean

CURRICULUM VITAE

NAME: HORIA ION CIUGUDEAN
CURRENT POSITION: senior researcher in archaeology
ADDRESS: Muzeul National al Unirii
Str. Mihai Viteazu 12-14
Alba Iulia, Romania
Tel: 0040-(0)258-813300;
Fax: 0040-(0)258-811853
horiaion2001@yahoo.com

EDUCATION:

1997 Ph. D., Archaeology, Institute of Thracology, Bucharest;
1979 postgraduate courses in the conservation of archaeological heritage, Minister of Culture, Bucharest;
1977 M.A., History (Archaeology), Faculty of History, University of Cluj-Napoca.

LANGUAGES:

English (speaking, reading and writing)
French (Reading and speaking)
German (Introductory Level)

RESEARCH INTERESTS:

Topical: Archaeology (Prehistoric and Historic);
Cultural heritage Conservation;
Landscape and Experimental archaeology
Regional: Romania, South-East Europe.

GRANTS:

1997 - 2000. - RELINK grant, New Europe College, Bucharest, 1997-2000;
1996. Soros Foundation for an Open Society Grant, Hungary, October 1996;
1992. Grant of Römisch-Germanischen Kommission des Deutschen Archäologische Instituts; Frankfurt/Main, Germany, 15.10-15.11.1992;
1992. Research Support Grant of Central European University – Prague, 1992;
1981. Grant of Centro Camuno di Studi Preistorici. Capo di Ponte, Italy, 01-31.08.1981.

ARCHAEOLOGICAL FIELD EXPERIENCE:

2002 - 2004 Director of the excavations of the Early Bronze Age site at Almasu Mare, Romania;
1999 – 2003 Director of the excavations of the prehistoric site at Ampoita, Romania;
1999 – 2000 Co-director (with Sabin A. Luca) of joint University of Sibiu/Museum of Alba Iulia excavations at Aiud, Romania;
1998 – 1999 Co-director (with Beatrice Cauuet) of joint University of Toulouse/Museum of Alba Iulia excavations at the ancient mining site in the Pianu valley, Romania;
1994 - 1997 Director of the excavations of the prehistoric site at Metes, Romania;
1993 - 1996 Director of the excavations of the Early Bronze Age site at Livezile, Romania;
1992 Co-director (with Haskel Greenfield) of the joint University of Manitoba/Museum of Alba Iulia survey and excavations of Neolithic sites in the Ampoi valley (i.e. Presaca Ampoiului, cave: Sura de Piatră), Romania;

1991-1993 Director of the excavations of the Eneolithic/Early Bronze Age site at Poiana Ampoiului, Romania;

1990 Director of the excavations of the Early Bronze Age barrow at Telna, Romania;

1990 Excavations at Mosorin, Yugoslavia, directed by Prof. Bernhard Hänsel (University of Berlin). Crew member;

1989 Excavations at Tartaria, Romania, directed by Prof. Iuliu Paul (University of Sibiu). Crew member;

1984-1986 Co-director (with Ioana Hica-Cîmpeanu) of the joint Museum of Alba Iulia/Museum of Cluj excavations of the prehistoric and Early Middle Age site at Uioara de Jos, Romania;

1979 – 1988; Director of the excavations of the Early Bronze Age cemetery at Ampoita, Romania;

1981- 1982 Co-director (with Gheorghe Anghel) of the excavations of the Early Middle Age cemetery at Blandiana, Romania;

1981 – 1985 Area supervisor of the joint Institute of Archaeology Cluj/Museum of Alba Iulia excavations at Alba Iulia, Romania, directed by Prof. Stefan Pascu (Institute of Archaeology Cluj);

1978 – 1987 Area supervisor of the joint excavations of the Institute of Archaeology Cluj/Museum of Alba Iulia at the Iron Age hillfort of Teleac, directed by Dr. Valentin Vasilev;

1973 – 1977 Excavations at Cheile Valisoarei, Romania, directed by Dr. Nicolae Vlassa (Museum of Cluj). Crew member.

ARCHAEOLOGICAL REPORTS PRESENTED AT PROFESSIONAL CONFERENCES (ABSTRACTS PUBLISHED):

2004. Almasu Mare, com. Amasu Mare, jud. Alba. Punct: La Cruce. In: *Cronica cercetărilor arheologice din România. Campania 2004, Bucuresti 2004*, 42;

2003. Alma^u Mare, com. Amasu Mare, jud. Alba. Punct: La Cruce. In: *Cronica cercetărilor arheologice din România. Campania 2003, Bucuresti 2003*, 39;

2003. Ampoita, com. Metes, jud. Alba, punct: La Pietri. In: *Cronica cercetărilor arheologice din România. Campania 2002, Bucuresti 2003*, 40.

2002. Almasu Mare, jud. Alba, punct: La Cruce. In: *Cronica cercetărilor arheologice. Campania 2001, Bucuresti 2002*, 39.

2002. Ampoita, com. Metes, jud. Alba, punct: La Pietri. In: *Cronica cercetărilor arheologice din România. Campania 2001, Bucuresti 2002*, 39-41.

2001. Aiud, jud. Alba, punctul: Cetățuia. In: *Cronica cercetărilor arheologice din România. Campania 2000, Bucuresti 2001*, 24-25.

2001. Ampoita, com. Metes, jud. Alba, punct: La Pietri. In: *Cronica cercetărilor arheologice din România. Campania 2000, Bucuresti 2001*, 30;

2000. Ampoita, com. Metes, jud. Alba. In: *Cronica cercetărilor arheologice din România. Campania 1999, Bucuresti 2000*, 14-15.

2000. Aiud, jud. Alba, punctul: Cetățuia. In: *Cronica cercetărilor arheologice din România. Campania 1999, Bucuresti 2000*, 8-9.

1999. Hăpria- "Capu Dosului", jud. Alba. In: *Cronica cercetărilor arheologice din România. Campania 1998, Bucuresti 1999*, 52.

1998. Metes – "La Pesteră", jud. Alba. In: *Cronica cercetărilor arheologice din România. Campania 1997, Bucuresti 1998*, 43.

1997. Livezile – "Baia", jud. Alba. In: *Cronica cercetărilor arheologice din România. Campania 1996. , Comisia Națională de Arheologie. Bucuresti 1997*, 34

1997. Metes – "piatra Pesterii", jud. Alba. In: *Cronica cercetărilor arheologice din România. Campania 1996. Bucuresti 1997*, p 36.

1993. Necropola feudal-timpurie. de la Blandiana, jud. Alba. In: *Materiale si cercetări arheologice*, XVII/2,1993,361-364, (în colaborare).

1983. Cercetări în asezarea fortificată de la Teleac (jud. Alba). In: *Materiale si Cercetari Arheologice* 15,1983,p.155-158, (în colaborare).

1979. Săpăturile arheologice de la Ghirbom (campania 1978). In: *Materiale si Cercetări Arheologice* 13,1979,257-261.

INVITED PUBLIC LECTURES IN EUROPEAN UNIVERSITIES:

2002. The Early Bronze Age in Transylvania, " Eötvös Lorand" University of Budapest, 8. 04. 2002;

2002. Chronological and Cultural Relations between the Aegean and the Transylvanian Early Bronze Age". Institute for Prehistory, University of Heidelberg, Germany, (June 7, 2002);

1989. The Hallstatt Hillfort from Teleac - Romania; chronological and cultural connections, " Freie Universität" of Berlin, (Dec. 12, 1989);

1988. Neue Forschungen zum Beginn der Frühbronzezeit in Siebenbürgen" University of München, Germany, (Dec. 7, 1988);

1988. Unknown Tumuli of the Early Bronze Age in Western Transylvania; "Freie Universität" of Berlin, Germany, (Dec. 1, 1988);

PARTICIPATION WITH PAPERS/POSTERS IN INTERNATIONAL CONFERENCES/SYMPOSIA:

2000. First European Conference on Voluntary Organisations in the Field of Cultural Heritage, Oslo, Norway, 21-24. 09. 2000;

1999. International Symposium "Instrumentum": "Die Rolle des Handwerks und seiner Produkte in vorschriftshistorischen und schriftshistorischen Gesellschaften im Vergleich", Berlin, Germany, 3-6.12.1999;

1998. International Symposium "Der Nordkarpatische Raum in der Spätbronzezeit", Baia Mare, 7-10.10.1998;

1998. The VIIIth Symposium of the "Walled - Town Friendship Circle", Piran, Slovenia, 21-24.09.1998;

1997. International Symposium "The Early and Middle Bronze Age in the Carpathian Basin", Alba Iulia, Romania, 24-28.09.1997;

1996. The VIIth International Congress of Thracology, Mangalia, Romania ,22-29.05.1996;

1996. The International Archaeological Conference on the Hallstatt culture, Szazhalombatta, Hungary, 03-07. 10.1996;

1995. International Symposium "Early Bronze Age Settlement Patterns in the Balkans", Karlovo, Bulgaria, 04-08.06.1995;

1994. The Ist International Symposium of the European Association of Archaeologists, Ljubljana, Slovenia, 02-05.09.1994;

1994. International Conference " The Identity of Bronze Age Europe", London, United Kingdom, 27-29.10.1994;

1994. International Symposium "The Bronze Age in Central and Eastern Europe", Durham, United Kingdom, 31.10.1994;

1993. International Symposium "The Early Hallstatt Period (1200-700 B.C.) in South-East Europe", Alba Iulia, Romania, 10-12.06.1993;

1991. The XIIth Congress of the International Union of Prehistoric and Protohistoric Sciences, Bratislava, Slovakia, 01-07.09.1991;

1991. International Symposium "Bronze Age in South-East Europe between 1900 and 1200 B.C." Szolnok, Hungary, 23-27.09.1991;

1986. The World Archaeological Congress, Southampton, United Kingdom, 01-07.09.1986;

1979. International Symposium Valcamonica III: "The intellectual Expressions of Prehistoric Man: Art and Religion", Ponte di Legno, Italy, 28.07.-03.08.1979.

TEACHING EXPERIENCE (UNDERGRADUATE AND GRADUATE):

1991-1995: associate professor at the University of Alba Iulia, Romania (courses in European Prehistory, Ancient History of Near East, Conservation of Archaeological Materials);

1997 – 2002: associate professor at the University of Sibiu, Romania (courses of European Prehistory, courses and seminars of Archaeology, courses and seminars of Archaeological Conservation, courses of Museology);

2004 - : associate professor at the University of Sibiu, Romania (courses and seminars on The Iron Age civilization in the Carpathian Basin);

PUBLICATIONS

BOOKS/MONOGRAPHS:

2000. Eneoliticul final pe teritoriul Transilvaniei si al Banatului: cultura Cotofeni. Timisoara;

1997. Cercetări privind epoca bronzului si prima vârstă a fierului în Transilvania. Alba Iulia;

1996. Epoca timpurie a bronzului în centrul si sud-vestul Transilvaniei. Bucuresti.

BOOKS IN CO-AUTHORSHIP:

2005. Cercetări arheologice în peștera Cauce Sibiu.

1995. Repertoriul arheologic al județului Alba, (with. V. Moga), Alba Iulia.

1991. Civilizatia dacică timpurie în aria intracarpatică a României. Contributii arheologice: Asezarea fortificată de la Teleac, (with V. Vasiliev, I. Al. Aldea), Cluj-Napoca;

BOOKS CO-EDITED:

2000. Army and Urban Development in the Danubian Provinces of the Roman Empire (edited by H. Ciugudean and V. Moga). Bibliotheca Mvsei Apvlensis XV, Alba Iulia;

1998. The Early and Middle Bronze Age in the Carpathian Basin (edited by H. Ciugudean and F. Gogâltan), Bibliotheca Mvsei Apvlensis VIII, Alba Iulia;

1994. The Early Hallstatt Period (1200-700 B.C.) in South-Eastern Europe (edited by H. Ciugudean and N. Boroffka), Bibliotheca Mvsei Apvlensis I, Alba Iulia.

CONTRIBUTIONS:

1999. Betrachtungen zum Ende der Wietenberg-Kultur. *Transsilvanica. Archäologische Untersuchungen zur Älteren Geschichte des Südöstlichen Mitteleuropa* (hrgs. Von Nikolaus Boroffka und Tudor Soroceanu). Internationale Archäologie. Bd. 7, Verlag Marie Leidorf GmbH – Rahden/Westf, 107-131;

1997. L' insediamento fortificato di Teleac. *I Daci* (a cura di Grigore Arbore Popescu), Electa, Milano, 40-43.

1995. Der dritte hallstattzeitliche Depotfund von Vintu de Jos, Kr. Alba, Siebenbürgen. In: *Bronzefunde aus Rumänien* (bearbeit und redigiert von T. Soroceanu), PAS, bd.10, Berlin,213-224;

1986. Animal depictions on the territory of Romania from the Neolithic to the Iron Age. In: *Cultural Attitudes to Animals Including Birds, Fish and Invertebrates*, Vol.3. Final Papers of the World Archaeological Congress, 1-7 Sept. 1986, Southampton, England, Allen & Unwin;

1983. Funeral and magic practices in the necropolises of the Cotofeni culture. In: *The intellectual expressions of the prehistoric man: art and religion. Acts of the Valcamonica Symposium'79*, Milano, 169-176.