

CNCS project PN-II-ID-PCE-2011-3-0857 No. 216/5.10.2011  
The Archaeology of the Ancient and Medieval Danube Delta:  
Modelling Environmental and Historical Change

## SYNTHETIC REPORT

2011

Project Manager,  
Prof. Dr. Octavian Bounegru

For the 2011 single stage of the project were provided two major objectives:

**Objective 1. Composition of a database on ancient and medieval settlements deltaic area**

### Activities provided

Developing a corpus of literary sources, epigraphic and map the boundaries and organization of settlements.

### Results

Methodological investigations undertaken during the first months of the project followed completion of ground support bibliographic information of a literary analysis, epigraphic and mapping were conducted both on the ground by a few trips in the area Delta (Tulcea, Murighiol - Halmyris, Jurilovca - Argamum, Histria) and through the short internships documentation in scientific institutions in the field.

Thus, we conducted several field trips in North Delta area (Prof. Dr. Gh. Romanescu, Lect. Dr. C. Stoleriu) and in the Razim-Sinoe (Prof. Dr. O. Bounegru) Information at our disposal so far.

Were taken two short documentaries internships at specialized institutions in Vienna and Munich, as follows:

O. Bounegru, Kommission für Geschichte und Epigraphik des Deutschen Archäologischen Institut, Munich, invitation: Prof. Dr. Ch Schuler; objective: to complete the epigraphic and literary information on the spatial organization of territories in the Greek colonies and post-Roman time. It was established collaboration between the Department of Ancient History and Archaeology of the University "Al. I. Cuza University of Iasi and the above mentioned institute, which will materialize both through punctual joint research (O. Bounegru, Ch. Schuler) and through the providing documentation periods the respective institution for young researchers (Dr. Iulia Dumitrache).

Gh. Romanescu Österreichisches Archäologisches Institut, Vienna, Prof. Dr. invitation Friedrich Krinzing; objective: comparative research on territorial organization of cities Greek and Roman, in terms of geomorphology: Efes-Histria-Argamum). Institute that offered short internships for young researchers documentary project members (Dr. I. Dumitrache, Dr. R. Brigand, PhD. A. Busila).

It was revised and completed the list of rural settlements in the Delta and South Delta area, and their location as far as literary and epigraphic sources allow.

## **Objective 2. Assessment of the relationship continuity - discontinuity of the boundaries of the deltaic space in Antiquity and the Middle Ages**

### **Activities provided**

The reconstitution of the deltaic Area in Antiquity and the Middle Ages, in the context of gradual establishment of anthropogenic structures, is the first and most important step project.

Were identified and analyzed historical sources have required the realities of the anthropogenic deltaic area in Antiquity and the Middle Ages: Ancient and medieval literary sources, epigraphic sources, cartographic sources, archaeological sources. Regarding the latter category have been identified to Greco-Roman and Byzantine Romanian more rural settlements, cemeteries, aqueducts, port installations (Histria, Argamum, Murighiol - Halmyris for roman time, and Vadu, Enisala churches, Nufaru - Prislav to the Byzantine and Medieval time.

### **Results**

For 123 settlements have been identified the ancient habitation points, sanctuaries, cemeteries, fortified settlements, farms and aqueducts of Histria territory and in the southern delta of the Ages: Archaic and Classical Greek, Hellenistic, and Byzantine Time. An important aspect regarding the situation in the southern delta habitat in Hellenistic era and Roman, on which we focused, look analysis contextualized one of the most important ancient source (epigraphic) on the borders of a Milesian colony, Histria. It is the inscription Histria Chorothesia of Laberius Maximus) which set the terrkries tria route during the Trajan. Reviewing this document epigraphic targeting a holistic approach to the whole issue on the spatial organization of Histria territory in Greco-Romanian, and post-Romanian and exploitation resources in this area. It should be noted that this document epigraphic analyzed in the broader context of toponymy and ancient hydronimy of the west coast of the Black Sea.

Reconstitution of physical-geographical framework in antiquity and the Middle ages.

Another aspect of our research aimed at further targeted and dynamic geomorphology and peri-delta in the Greek, Roman and Byzantine time. A first evaluation of this process was conducted in the context of port location Histria. Recent geomorphological findings (Gh. Romanescu, C. Stoleriu, R. Brigand, I. Dumitrache, A. Busila) are complemented by research aerophotogrammetrical research. We found that it is a small bay Black Sea at that time where he could work with the highest probability, portcity or, anyway, one of the roadstead Histria. The same research even confirmed the existence of a natural fairway green local server, which provides the connection between large and This golf and could be entering the gates. This configuration approach Histria natural harbor of "Port of Lions" from Miletus. The discovery remember to do a fundamental step towards a knowledge topography port important Milesian colony of Western Black Sea basin.

In the period October to December 2011 were made and documentation activities Drafting of three conferences that will be held in Venice (May 2012), Vienna (June 2012) and Berlin (August 2012), as follows:

- *Brutal Anthropic alluvial Transport Processes and Interventions on the Romanian Littoral of the Danube Delta* (Gh. Romanescu, O. Bounegru).
- *From the Greek Antiquity to the Middle Ages - a Possible incursion in the universe of the Danube Delta* (Gh. Romanescu, O. Bounegru).
- *Aristotle und die Histrias Territorium. Eine interdisciplinary Anfahren.* (O. Bounegru).

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## SYNTHETIC REPORT

2012

Project Manager,  
Prof. Dr. Octavian Bounegru

For the 2012 single stage of the project were provided three main objectives

**Objective 1. Composition of a database on ancient and medieval settlements deltaic area**

### **Activities provided**

Developing a corpus of literary sources, epigraphic and map the boundaries and organization of settlements.

### **Results**

Reconstitution delta area in antiquity and the Middle Ages, in the context of titration of anthropogenic structures, is the first and most important step project. Were identified and analyzed historical sources have required the realities anthropogenic deltaic area in Antiquity and the Middle Ages: Ancient and medieval literary sources, epigraphic sources, cartographic sources, archaeological sources. As regards the latter category, have been identified to Greco-Roman and Roman-Byzantine several villages, cemeteries, aqueducts, port installations (Histria, Argamum, Murighiol - Halmyris for Roman times, Vadu, Enisala, Nufăru - Prislav, Byzantine era Medieval).

**Objective 2. Determining the potential territory: detailed analysis of the morphology of the territory. Dobrogea and potential habitation**

### **Activities provided**

- Setting up a database on GPS measurements human habitat resources.

### **Results**

Were identified more than 100 ancient settlements, housing points, sanctuaries, necropolis, fortified settlements, farms and aqueducts in south-deltaic space of eras: Archaic and classical Greek, Hellenistic, Roman and Byzantine. This also traces of the ancient port Histria. All these human remains were recorded in the GPS system mapped on maps Specific (1: 50,000) and photographed. Also registered planimetric distribution of sources water, wood and ropland near ancient settlements. Were thus created foundations for the development

of an integrated model regarding the relationship between the distribution configuration human habitat in the Greco-Roman and Byzantine sources of raw materials around settlements.

### **Objective 3. Establishing similarities and differences in historical context identical at European or Mediterranean basin**

#### **Activities provided**

- Highlighting the similarities and differences between the mouths of great rivers adjacent habitats Mediterranean were colonized in ancient and medieval periods.
- Creating a model regarding the dynamics of alluvial and distribution human settlements in the area of the Danube Delta.

#### **Results obtained**

Assuming historical and archaeological, literary sources confirmed Greek including Aristotle, that the territory of Greek and Roman cities had to have various sources of raw materials, location Halmyris cities, Orgame / Argamum, Histria, near the mouth of the Danube was favored by natural factors: excellent conditions port planning an installation, an area inside the territory, favorable to agriculture, and hills, excellent sources of water, limestone quarries (Babadag), copper (Mina from Altin-Tepe), clay, wood, limestone. Have been identified, many similarities regarding this process in southern Italy (known as *Magna Graecia*), in the Rhone delta or delta Dniester (Olbia). Making geological drilling shallow area Beibugeac corridor, was arm river or sea strait between the mainland and the legendary island land Peuce (current spur of Dunavățul) was a highlight of the project. depth Maximum drilling was 19 m. In the four sampling points touched foundation limestone. Follow the detailed analysis of sediment (grain size, mineral origin etc.) and C14 dating. It aims to reconstitute the geological corridor and highlighting Beibugeac importance played it in practice waterborne commerce.

**Documentation stages** and international institutions working in the field Members of the project (Octavian Bounegru, Gheorghe Romanescu, Florin Topoleanu, Adriana Bounegru, Ana Maria Bușilă) received research internships and documentation several universities and archaeological Greece, Austria and Germany. Thus, it should be emphasized effective and beneficial cooperation established with Professor Stelios Andreou, head of archeology at the University of Thessaloniki Aristotle, a known specialist in the field of landscape archeology egean space. Research and Internships.

Another important university center where more members of the team have conducted research and documentation activities is the University of Vienna, Institute of Epigraphy and Papyrology, led by Professor Fritz Mitthof. Here, team members could gather numerous information, and epigraphic nature Papyrology yes, the toponymy and topography ancient western Black Sea, from the perspective of Greek and Latin inscriptions. Following excellent scientific relations with specialists from the Institute mentioned, Ana Maria Bușilă, Adriana Bounegru and project manager were nominaizai to participate in a project Austro-Romanian relation (Wien University and the University of Iași) to a history of archeology in Romania

(1850-1918). The project is entitled: *Materialsammlung und zur –auswertung Geschichte der heimatlichen, patriotisch-nationalen Archäologie bzw. "vaterländischen Alttertumskunde "Moldavien und Dobrudscha.*

Communications sustained international congresses and symposia:

Octavian Bounegru

*Hegesagoras, fils de Monimos, nauarchos autokrator d'Histria et la guerre entre Apollonia Pontica et Messembria* (Ile s. av.), DEGUWA. In Poseidons Reich XVII, Stralsund, März-April 2012.

*Emporoi nauclères et dans les ports de la Méditerranée Oriental. Structure et image publique des comercants et des Armateurs*, Internationales Epigraphisches Kongress, Berlin, 28 to 30 August 2012.

*Sigilées Orientales: Real spécifiques terminology et archéologique. Le cas de Pergame*: IIIrd Nieborów workshop "Late Hellenistic to Mediaeval Fine wares of the Aegean Coast of Anatolia - Their production, imitation and use." 30th November - 2nd December 2012 Nieborów, Poland.

Gheorghe Romanescu

Gh. Romanescu Method to Assess the Extreme Hydrological Events in the Danube River Delta: Air and Water. Components of the Environment Conference. 23 to 24 March 2012, Cluj Napoca. <http://aerapa.conference.ubbcluj.ro>. Gh. Romanescu, *Alluvial Transport Processes and Interventions on the brutal Anthropolittoral of the Danube Delta*: Coastal and estuarine ECSA 50 and Shalf Science Conference. Today's science for tomorrow's Management 2012, 3-7 June 2012, Venice, Italy, by Elsevier, [www.estuarinecoastalconference.com](http://www.estuarinecoastalconference.com).

Gh. Romanescu, *The dynamics and the typology of the lacustrine landscape in the Danube Delta*: International Journal of Arts & Sciences. Multidisciplinary conferences in the "study abroad "format. Florence Multidisciplinary Conference, June 19-22, 2012. [www.international.org/florence.html](http://www.international.org/florence.html). Gh. Romanescu,

O. Bounegru, *Limnoarchaeology problematics in the light of new scientific discoveries*: International Conference "Water Resources and Wetlands", 14-16 September 2012 Tulcea.

Gh. Romanescu, M. Blackbird, *Flood Hazard Assesment Using satellite images and elevation Fortuna model for Sontea-lacustrine complex, Danube Delta*: International Conference "Water Resources and Wetlands", 14-16 September 2012, Tulcea. Gh. Romanescu, C. Stoleriu, *Water qualitative parameters of river Limans Located in the south-west of Dobrogea*: International Conference "Water Resources and Wetlands" 14-16 September 2012 Tulcea. Conference supported the university and academic institutions abroad

**Publications**

O. Bounegru, *Studies on the Black Sea and Aegean Economy*, ed. II, Iasi 2012, 189 p.

G. Romanescu, *Geoarchaeology of the ancient and medieval Danube Delta Modeling Environment and historical changes. A review*, Quaternary International (2012) Doi: 10.1016 / j.quaint.2012.07.008. Impact Factor: 2.00. The relative influence score: 1.10607 (in press).

G. Romanescu Bounegru O., V. Efros *From Greek antiquity to the middle ages: a Possible incursion special interest tourism year in the Danube delta*, WIT Transactions on Ecology and the Environment, 161: 355-367. Doi: 10.2495 / ST120291. Publication type: Conferences

In 2012 single stage research project two project members have supported, That taught doctoral Thesis. Ana Maria Bușilă, PhD under the Supervision of the project manager, Benefit from documentation on the Athens Archaeological Institute, has supported the Thesis entitled *Typology and functionality Levantine coast Seaports in Hellenistic and Roman periods* (September 2012) obtained *summa cum laude*.

Adriana Bounegru, PhD under the Supervision of Prof. Dr. George Vlad Nistor, Bucharest Faculty of History, taught and Thesis entitled *Libanius of AntiochIV Ccentury p. Chr.*

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2013

Project Manager,  
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For reasons of financial support, the three objectives of the project proposed for the stage in 2013 were carried out at a rate of about 50%.

### **Objective 1. Paleoenvironmental restitution and the relationships with human activities**

After analyzing the environmental impact of space environment on human communities deltaic and lagoon (Razim- system Golovița-Sinoe) provided some constants and variables. Placing of human communities, starting with archaic Greek era and even in medieval times Early (VII-IX century) took into account microzones resources and geographical areas. One constant over which the team of researchers who are part of this project will return last year of the project is bi-univocal relationship between man and nature. On the other hand, variables of this approach concern the diversity of human communities relationship with the environment.

### **Objective 2. Assessing the alteration of the anthropic space across a diachronic sequence.**

One of the main elements of historical and environmental interest, in light of diachronic, is one that highlights the degree more or less pronounced, from one era to another, the disruptive influence of human activities on the environment. One issue on which will insist in the last year of the project the development of certain areas Desertification of the area analyzed phenomenon due mainly uncontrolled deforestation. In this respect, will follow this process in a broader context in Greek colonization Sea area Black, especially in Miletus colonies, as was Histria or Argamum.

### **Objective 3. Correlation of archeological, historical, cartography, geology, geomorphological, climatic, hydrological, biogeographical and soil.**



It aims editing of individual sections of each project and then collating all the data obtained in the drafting of the final archaeological monograph which will cover the entire project development and adjacent scientific results.

### 2013 results breakdown

#### Publications

##### Volumes

1. Bounegru O., Mercator. *Studien zur antiken Wirtschaft im Pontosgebiet und der Ägäis*, Parthenon Verlag, Kaiserslautern, 2013, ISBN: 978-3942994-06-4.

##### ISI Articles

1. Romanescu G. 2013. *Geoarchaeology of the ancient and medieval Danube Delta: Modeling environmental and historical changes. A review*. Quaternary International, 293:231-244. Doi:10.1016/j.quaint.2012.07.008. Impact Factor: 2,00. SRI: 1,10607.
2. Romanescu G. 2013. *Alluvial Transport Processes and the Impact of Anthropogenic Intervention on the Romanian Littoral of the Danube delta*. Ocean&Coastal Management, 73:31-43. Doi:10.1016/j.ocecoaman.2012.11.010. Impact Factor: 1,333. SRI: 1,14100.

##### Articles

1. Romanescu G., Purice C. 2013. *The sector of fluvial limans in the southwest of Dobruja – genesis, morphographic and morphometric features*. Air and water. Components of the environment, Presa Universitară Clujeană, 47-54.

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## SYNTHETIC REPORT

2014

Project Manager,  
Prof. Dr. Octavian Bounegru

### Objective 1. Paleoenvironmental restitution and the relationships with human activities

#### Activities set:

- The identification of the paleo-soils and the environment from the rural area for the investigated periods;
- Underwater surveying.

#### Achieved results

The methodological inquiries conducted aimed to complete the bibliographic support of the investigated theme and were carried out both on the field and also through several field trips to the southern area of the deltaic space (Sinoe, Histria and Casimcea valley), as well as through research stages at various scientific institutions. Thus, we carried out several field investigations in the southern Delta area (Prof. Dr Romanescu, Prof. Dr Bounegru), completing the information we had to that point. In order to study the historical and geomorphological phenomena concerning the hinterlands of the Greek cities in the Pontic-Aegean area, we conducted two research stages in Istanbul and Marburg, as follows:

- Adriana Bounegru: *Seminar für Alte Geschichte und Epigraphik*, Marburg, Germany, invitation from Prof. Dr H.-J. Drexhage.
- Adriana Bounegru: *Deutsche Archäologische Institut*, Istanbul, invitation from Prof. Dr M. Bachman.

#### Considerations

The general research direction that we followed for the year 2014 was one which intertwined methods and principles pertaining to limnoarchaeology. It is a well-known fact that this domain is a border discipline between geography and biology, made up of two branches. One belongs to geography (physical limnology) in the sense that it studies the depression, its means of formation, the physical-chemical characteristics and the water dynamics, and the other belongs to biology (biological limnology) in the way that it studies the flora and fauna of the still waters (biohydrocenosis). Due to this context, our approach aimed to develop a new

holistic viewpoint over the human habitat from the neighboring area of the deltaic and lagoony complex of the Danube Delta.

## Objective 2. Assessing the alteration of the anthropic space across a diachronic sequence.

### Activities set:

- Establishing the transportation routes and the manners of navigation during Antiquity and the Middle Ages.

### Achieved results

The list of rural settlements in the deltaic and southern-deltaic and their location has been revised and completed, as far as the literary and epigraphic sources allow.

## 2014 results breakdown

### ISI articles

1. Romanescu G. 2014. The catchment area of the Milesian colony of Histria, within the Razim-Sinoie lagoon complex (Romania): hydro-geomorphologic, economic and geopolitical implications. *Area*, 46(3):320-327. Doi: 10.1111/area.12093. Impact factor: 1,685 (2014). **SRI: 1,383**.
2. Romanescu G., Stoleriu C. 2014. Anthropogenic interventions and hydrological-risk phenomena in the fluvial-maritime delta of the Danube (Romania). *Ocean&Coastal Management*, 102:123-130. Doi:10.1016/j.ocecoaman.2014.09.007. Impact Factor: 1,747 (2014). **SRI: 1,113**.

### Articles in CNCS-ranked journals

1. Octavian Bounegru, *Ploia platypegia. Militärischer Nachschub zu Wasser in spätrömischer Zeit*, Skyllis, 2011, apărut 30.02. 2014, p. 21-24.
2. Octavian Bounegru, *Le commerce en Mediterranee Orientale. Le temoignagne du Philostrate*, Il Mar Nero, 2011, apărut 30.02. 2014, p. 117-125.

### Participations

1. Conferința națională anuală a Societății de Geografie din România, Tulcea, 29 mai-1 iunie 2014 (Romanescu G., Bounegru O., Stoleriu C., Mișu-Pintilie A., Nicu C., Enea A., Stan O.). <http://www.isjtl.edu.ro/>, [www.geo-sgr.ro](http://www.geo-sgr.ro/).- Un model de sedimentare în climat semiarid: culoarul Beibugeac din Dobrogea de Nord (Romania).
2. A IX-a ediție a simpozionului internațional Mediul Actual & Dezvoltare Durabilă, Iași 6-8 iunie 2014 (Mierlă M., Romanescu G.). [http://www.pesd.ro](http://www.pesd.ro/).- Flood risk map for Fluvial Delta of Danube River.
3. 17th Joint Geomorphological Meeting in Liege, Belgium from June 30th to July 3th 2014. The geomorphology of natural hazards: mapping, analysis and prevention (Romanescu G., Stoleriu C.). Abstract. <http://www.17th-jgm-liege2014.org/>.- Anthropogenic interventions and the flood risk in the Danube Delta. Case study – the Crisan-Caraorman channel and the Rosu-Rosulet lacustrine complex.

4. 12<sup>th</sup> Annual International Conference on History & Archaeology: From Ancient to Modern, 28-31 July 2014, Athens, Greece (Romanescu G., Bounegru O., Stoleriu C., Mihiu-Pintilie A., Nicu C., Enea A., Stan O.). Abstract. <http://www.atiner.gr/history.htm>.- The ancient legendary island of PEUCE – myth or reality?
5. 12<sup>th</sup> Annual International Conference on History & Archaeology: From Ancient to Modern, 28-31 July 2014, Athens, Greece (Romanescu G., Bounegru O., Stoleriu C., Mihiu-Pintilie A., Nicu C., Enea A., Stan O.). <http://www.atiner.gr/history.htm>.- Roundtable Discussion on the Vision of the Ancient Civilization in Modern Culture.
6. DELTAS AND WETLANDS, „*Environmental aspects and available scientific tools for Black Sea Basin protection*”, 15-17 September 2014, Tulcea, Romania. Mierla (M.), Romanescu (Ghe.), Assessment of hydrological risk to flood for Patlageanca locality, Danube Delta (abstract).
7. Octavian Bounegru, *Romanisierung der ländlichen Bevölkerung in Skythia Minor (2.-3. Jh. n. Chr.)* – Institut für Altertumskunde und Epigraphik, Universität Wien (martie 2014); invitație: Prof. Dr. F. Mitthof.
8. Octavian Bounegru, *Die wirtschaftliche Krise im Osten des römischen Reichs*, in cadrul colocviului *Krise und Untergang als historisches Phänomen*, Iași, 2-4 iunie 2014.
9. Octavian Bounegru, *Über die cives Romani consistentes von Scythia Minor*, in cadrul colocviului *Die Barbaren Roms. Inklusion, Exklusion und Identität im Römischen Reich und im Barbaricum (1-3. Jht. n. Chr.)*, Iași, 24-27 septembrie 2014.