



INTERDISCIPLINARIA ARCHAEOLOGICA NATURAL SCIENCES IN ARCHAEOLOGY

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1. Introduction

The main role of the Institute of Archaeology of the Czech Academy of Science, Brno (AIB) is to perform scientific research into the prehistory and early history of Moravia and Czech Silesia, predominantly based on the archaeological sources acquired through systematic research, rescue surveys and conservation, as well as reconstructions of archaeological finds. Through its work, the AIB helps to raise the level of knowledge and education and to ensure that the results of scientific research can be used in practice. It collates, processes and builds upon scientific information, publishes works (monographs, journal, anthologies *etc.*), provides scientific appraisals, statements and recommendations. It organizes scientific meetings, conferences and seminars

including international gatherings. It carries out these tasks both independently and also in collaboration with universities and other scientific and specialised institutions.

2. Centre for Research into the Palaeolithic and Palaeoethnology

This centre focuses its interest mainly on the area of Dolní Věstonice, Pavlov and Milovice which comprise a set of internally structured hunters' settlements, unique throughout the whole Europe, reporting about a wide range of activities during the Palaeolithic. Complex analysis of these sites is a task for interdisciplinary and international teams. The aim is to create an image of the first anatomically modern

Figure 1. Pavlov VI during the 2007 excavation season.





Figure 2. Segments organized into their original form of a composite dagger (site Marefy, Vyškov district).

population in Europe, its way of life, hunting habits and seasonality. Apart of this settlement cluster also other regions and periods are being investigated such as Early Upper Palaeolithic settlement of Brno region, the Gravettian

Figure 3. Excavation at Hradisko near Mušov during the 2009 season produced the discovery of the foundations of a Roman military hospital (*valetudinarium*).



occupation around the middle stream of the Morava River of the Mesolithic occupation of the northern Bohemia.

3. Department for Moravia-Silesia Prehistory

This department focuses on the issue of the prehistoric settlement of Moravia and Czech Silesia, particularly on the questions of the Eneolithic, the Bronze Age and the Hallstatt period. Some of the most important excavations in recent years include a barrow graveyard from the Early and Middle Bronze Age in Borotice, which is the first investigated graveyard of the Věteřov group in Moravia, a multicultural site in Moravská Nová Ves – Hrušky, where the Únětice, Věteřov and Roman Age settlements as well as a prehistoric graveyard were excavated or a rondel with a double ditch dated back to the Věteřov culture in Šumice. Theoretical research is also linked to the issue of the development of the Eneolithic and the Bronze Age, recently the Eneolithic stone chipped industry in Moravia has been analysed. In addition to the classical chipped industry, flint axes are also subject of current study.

4. Centre for Research into the Roman Period and the Migration Period

This centre focuses on archaeological, cultural, historical and ethnic problems of Roman times and Migration period. It researches contacts between Moravia and the Roman Empire (1st–4th Century A.D.) and the changes in the early medieval Europe (5th–7th century A.D.). Main interest of this research centre is focused on the Roman buildings in southern Moravia, particularly in the Mušov castell in the Mikulov Region, where excavations have revealed remnants of Roman architecture, so far unique in the Czech Republic.

This indicates Roman efforts to annex of southern Moravia and make it part of the empire. The centre also studies the complex question of the settlement continuity and discontinuity after the demise of the ancient world. This international matter is researched in cooperation with natural science and with use of anthropological methods (isotope analyses, DNA analysis). The results of this research give a new insight into the culture and history of the times prior the arrival of the Slavs.

5. Centre for Slavonic and Mediaeval Archaeology

The research project of the hillfort at Mikulčice – Valy (9th Century) is one of the largest and most important of its kind in Europe. Some of the most prominent discoveries include the foundation of stone buildings (churches and palace), as well as an extensive and lavish burial site, wooden bridges and thousands of features and items. The results of this excavation have influenced scientific view of Great Moravia. In the contrary to former large-scale excavations, recent probes and prospections, documentation and analytical methods are used to specify and verify the results of previous research. The main tasks are publishing the results of fifty-five years of excavations in Mikulčice, as well as new field works at the site, organizing scientific meetings and editing of series of publications devoted to the Mikulčice site and to the research of the Early Medieval Period in general. Other project of this centre is excavation of the Chotěbuz-Podobora hill-fort in Czech Silesia with Hallstatt time (9th–5th Century B.C.) and Early Medieval (8th–11th Century A.D.) settlements. This excavation resulted among many scientific publications in the construction of an archaeological open-air museum. This hill-fort is the only site which has been intensively researched for more than 30 years in northern Moravia and Czech Silesia. The first find of the skeletal remains of a greyhound in the Czech Republic was found



Figure 4. Gold double-layered decorative button decorated with granulation from the Mikulčice basilica.

here. The mtDNA analysis proved its relationship to the modern English greyhound (2005).

6. Archaeological prospecting department

Work of this department focuses is focused on the area of remote surveying, emphasising aerial prospection, as well as the use of metal detectors in selected locations. The oblique scanning from a low flying aircraft is used particularly in

Figure 5. Skeleton graveyard of unknown date recorded during aerial scanning at Nová Ves near Pohorelice (Brno-venkov district).



the Vyškov Gate and the river basins of the Svratka, Jihlava and Dyje south of Brno and to a lesser extent to document the middle reaches of the Morava, the Odra and the Opava region. Major successes have been achieved when surveying skeleton graveyards. Particular attention was devoted to a comparison of the predictive potential of aerial images provided by the map servers. A second dominant research area is the detection of metal artifacts with metal detectors. This method has been used to monitor the Roman camps in southern Moravia or settlements from Roman period in southern Moravia and in the Opava region. The most significant activity of detector prospecting is the systematic survey at the Vínoslav hill-fort near Slezské Rudoltice in Czech Silesia.

7. Selected publications of the Archaeological Institute in Brno

- ŠKRDLA, P. 2005: The Upper Paleolithic on the Middle Course of the Morava River. *Dolní Věstonice Studies*, Archaeological Institute, Brno.
- SVOBODA, J. A. (ed.) 2005: Pavlov I – Southeast : a Window into the Gravettian Lifestyles. *Dolní Věstonice Studies*, Archaeological Institute, Brno.
- SVOBODA, J. A. (ed.) 2008: Petřkovice : on Shouldered Points and Female Figurines. *Dolní Věstonice Studies*, Archaeological Institute, Brno.
- ŠÍDA, P. *et al.* 2009: The Gravettian of Bohemia. *Dolní Věstonice Studies*, Archaeological Institute, Brno.
- DROBERJAR, E., KOMORÓCZY, B., VACHŮTOVÁ, D. (eds.) 2008: *Barbarská sídliště. Files of the Archaeological Institute in Brno*, Archaeological Institute, Brno.
- PROCHÁZKA, R. 2009: Vývoj opevňovací techniky na Moravě a v českém Slezsku v raném středověku. *Files of the Archaeological Institute in Brno*, Archaeological Institute, Brno.
- Internationall Tagungen in Mikulčice – series publishing papers from the international conferences about Early Medieval Period in Mikulčice.
- Studien zum Burgwall von Mikulčice – series publishing monographs concerning research of the Early Medieval Period in Central Europe.
- Přehled výzkumů Journal – annually edited peer-reviewed journal giving an insight into Moravian archaeology

Books and journals can be ordered via e-mail: infor@iabno.cz



Miriam Nývltová Fišáková in the Novosibirsk Museum.

Miriam Nývltová Fišáková – a scientific profile

RNDr. Miriam Nývltová Fišáková, PhD. – Osteologist, since 2000 employed at the Institute of Archaeology of Czech Academy of Sciences, Brno.

She studied geology focussing on the vertebrate palaeontology at the Faculty of Science, Charles University in Prague in 1993–1998. In 2005 she defended her doctoral thesis (Ph.D.) “Osteometrical and functional analysis and evolution of autopodia of the genus Homo” at the Department of Geology and Palaeontology, Faculty of Science, Charles University in Prague. At the Institute of

Archaeology in Brno she specialises in zooarcheology and palaeontology of large mammals, including humans. She applies a range of bioarchaeological research methods on Pleistocene and Holocene osteological material originating from archaeological sites. Besides the basic research of osteological material she studies seasonality of deaths of animals and humans through the analysis of dental cement increments (e.g., to detect seasonal or perennial residence of Late Palaeolithic hunters at selected sites of Central Europe, the time of death of women from the Neolithic mining shafts in the Krumlov Forest, etc.). Using analysis of carbon ($^{13}\text{C}/^{12}\text{C}$), nitrogen ($^{15}\text{N}/^{14}\text{N}$) and strontium ($^{87}\text{Sr}/^{86}\text{Sr}$) isotopic ratios in bones she examines migrations, nutrition and natural environments of animals or humans (e.g., migration of reindeers and mammoths in MIS3 and MIS2, origin of the greyhound from the Chotěbuz-Podobora fortress, nutrition and the origin of women from the Neolithic mining shafts in the Krumlov Forest, etc.). She also specialises in applications of multielemental analyses to the osteological material, as appropriate methods for obtaining additional information in addition to isotopic analyses. She cooperates on the processing of geochemical and chemical analyses with laboratories of the Czech Geological Survey, Prague; University of Wisconsin and University of Bergen. The multielemental analyses are carried out in cooperation with the Institute of Analytical Chemistry, Faculty of Science, Masaryk University in Brno.

Selection of the most important studies of Miriam Nývltová Fišáková during the last 3 years:

- NÝVLTOVÁ FIŠÁKOVÁ, M. 2009: Mammals as the prey of the Gravettian hunters. In: Šída, P. (ed.): *The Gravettian of Bohemia*. Dolnověstonické studie, 17, 38–43, Brno.
- NÝVLTOVÁ FIŠÁKOVÁ, M. 2009: Sezonality gravettského sídliště v Milovicích podle analýz přírůstku zubního cementu. In: Oliva, M. (ed.): *Sídliště mamutiho lidu u Milovic pod Pálavou*. Anthropos. Studies in Anthropology, Palaeoethnology, Palaeontology and Quaternary Geology, 27(N.S. 19), 126–130, Brno.
- NÝVLTOVÁ FIŠÁKOVÁ, M. 2010: Local elite from Chotěbuz-Podobora (Czech Republic) from zooarcheological and archeological point of perspectives. VIAS, 03/2010, 31–38, Vienna.
- NÝVLTOVÁ FIŠÁKOVÁ, M. 2011: Seasonality of Gravettian sites in the Middle Danube Region and adjoining areas of Central Europe, *Quaternary International*. doi:10.1016/j.quaint.2011.08.017

