

# Fontes Archaeologici Posnanienses, vol. 44

## *Spis treści*

### STUDIA

MARCIN MACIEJEWSKI

- Z badań nad osadnictwem społeczności związanych z kulturą łużycką  
w północnej Wielkopolsce ..... 5  
On research into the settlement of communities connected with the Lusatian culture  
in northern Wielkopolska ..... 8

ANDRZEJ M. WYRWA

- Stan badań nad przemianami osadniczo - kulturowymi w Zbąszyniu  
i jego najbliższej okolicy ..... 17  
The state of research on settlement and cultural transformations in Zbąszyń  
and nearest vicinity ..... 40

### MATERIAŁY

ANDRZEJ KRZYSZOWSKI

- Wielokulturowa osada w Lipnicy (stan. 21), w powiecie szamotulskim ..... 63  
Multicultural settlement in Lipnica (site 21), Szamotuły district ..... 92

DOMINIK NOWAKOWSKI

- Wczesnośredniowieczny zespół osadniczy w Sławie (stan. 21), pow. wschowski,  
w świetle badań archeologicznych 2004 roku ..... 129  
An early mediaeval settlement complex in Sława (site 21), Wschowa district,  
archaeological research of 2004 ..... 135

ANDRZEJ M. WYRWA

- Klasztor pocysterski w Łądzie nad Wartą.  
Zarys historii budowy, stan badań archeologiczno - architektonicznych i wstępne wyniki  
sondażowych badań wykopaliskowych w 2006 roku (stan. L11 - wirydarz) ..... 143  
Post Cistercian monastery in Łąd on the Warta.  
An outline of the history of the construction, the state of archaeological -  
- architectural research and preliminary results of survey excavation  
research (site L11 - the cloister-garth) ..... 158

EWA PAWLAK, PAWEŁ PAWLAK, JACEK KABACIŃSKI, IWONA SOBKOWIAK-TABAKA,

LECH CZERNIAK, DANUTA PRINKE, PATRYCJA SILSKA, HENRYK MACHAJEWSKI,

ARTUR REWEKANT, ANDRZEJ SIKORSKI

- Kijewo, stanowisko 4, pow. średzki.  
Materiały do badań nad osadnictwem pradziejowym i wczesnośredniowiecznym ..... 185  
Kijewo, site 4, Środa Wielkopolska district.  
Materials for studies into prehistorical and early mediaeval settlement ..... 242

## VARIA

PIOTR A. OLSZEWSKI

Gwizdek rogowy z Latkowa, pow. Inowrocław, woj. kujawsko - pomorskie ..... 343

The antler whistle from Latkowo, Inowrocław district,

Kujawy - Pomorze voivodship.....345

LESZEK BABIŃSKI

Konserwacja mokrego drewna wykopaliskowego.

Metody stabilizacji wymiarowej..... 353

Conservation of waterlogged archaeological wood.

Methods of dimensional stabilisation .....367

Marcin Maciejewski

## On research into the settlement of communities connected with the Lusatian culture in northern Wielkopolska

### Summary

The application of the Thiessen polygon method presented in the article tries to define the tendencies for settlement location by communities connected with the Lusatian culture in northern Wielkopolska. It was decided that the fundamental elements of the settlement grid are cemeteries (Table 1, Fig.1) and the polygons were delineated following their location (Fig.2). The estimate of their regularity and value of the polygon's area formed the basis for defining settlement centres: on the Warta river, within which there were further chartered zones with settlement concentration in the vicinity of Oborniki Wielkopolskie, Wronki, Ostroróg and Stary Zatom, and two smaller centres located on the Noteć river between Wieleń and Czarnków, with a decided concentration in the area of Rosko, Ciszkowo and the vicinity of Ujście. In order to confirm the thesis about the relationship between the area of the polygon with settlement congestion, the ratio of the Thiessen polygon area to the number of the settlements there found was applied to some polygons from the concentrations near Rosko and Ciszkowo (Fig. 3; the best recognised area within the analysis). The results (Table 2) of this correlation show that the smaller the value of the indicator, the more intensive the settlement in the given polygon, thus confirming the general premises of the method. The conclusions present the possibilities and confines of the method applied both in a particular case and in an overall aspect.

Andrzej M. Wyrwa

## The state of research on settlement and cultural transformations in Zbąszyn and its nearest vicinity

### Summary

Zbąszyn is a medium-size town in central-western part of Wielkopolska, on the border of historical Wielkopolska with Ziemia Lubuska and at the boundary of the Wielkopolska and Lubuskie voivodships. It is situated at a latitude of 52° 15' degrees north and a longitude of 15° 55' degrees east. It was located in Obniżenie Obrzańskie (Bruzda Zbąszyńska) on the Obra river next to the north-eastern bank of Lake Zbąszyńskie (also known as Lake Błędno) – Figs 1 and 2.

The present paper demonstrates the state of research on the settlement and cultural changes in Zbąszyn and its vicinity (up till ca 2007). It includes archaeological investigations and loose finds obtained from that territory in various periods (since the 19<sup>th</sup> century). According to the present knowledge, the settlement in the area can be registered for the late Palaeolithic till the early Middle Ages, up to the modern times (Figs 7, 8-37). The examination conducted allows to state that the vicinity of Zbąszyn is characterised by a very long continuity of settlement, starting in the late Palaeolithic, and since the Roman period unbroken by more serious disruptions. The area constitutes a very rich region abundant in archaeological sites, which attests to its attractiveness for various communities in prehistory and in historical times. Of particular importance for the history of the microregion were the recorded early mediaeval fortified settlements – Przyprostynia and Zbąszyn (Figs 16 and 18-20) and the motte-and-bailey small fort in Nądnia (Figs 15 and 23-25), significant settlement centres that in the 13<sup>th</sup> century gave rise to an urban settlement – Zbąszyn (Fig. 16).

## Multicultural settlement in Lipnica (site 21), Szamotuły district

### Summary

The excavation work covered an area of 2660 square metres (Fig.2:1). 111 stationary objects, 2558 fragments of vessel pottery and other sources were discovered, all representing three cultural and chronological horizons: “band”, “Lusatian” and “Pomeranian” (Fig.2:2).

**1. Incised band pottery culture.** The period is represented by 13 stationary objects, 440 fragments of pottery, 17 lumps of pugging, 33 flint artefacts, a stone object and a fragment of a clay figurine. Stationary objects include 8 pits and postholes. Two of the pits (nos 22 and 23) may be possibly qualified as dwellings.

The pottery is a chronologically “early” complex of the culture. The first group of the pottery, so-called delicate work, makes up 70.7% (311 sherds) of the whole collection, and the set of vessels is limited to two forms: globular goblets (Figs.7:1,5; 8:2,4; 10:8; 11:1-3,8) and bowls (Figs.8:5,7; 11:7). The rough work pottery includes 129 fragments (29.3% of the collection) and is represented by globular goblets (Figs. 9; 10:8; 11:6,8-9), bowls (Fig.10:2,5) and possibly amphorae (Fig.10:7). The percentage of ornamented pottery sherds stands at 27.9%. A note convoluted motif with note pits predominates (Fig.7:1-2,10; 10:1; 11:3-5), followed by a decoration with the angle motif (Figs 7:5-6,9; 8:2; 11:1-2), then fingernail motifs (Figs 8:4,6; 9; 10:8; 11:6,8), notched edges (Fig.10:2,5), filled-in band decoration (Fig.9) and plastic knobs (Figs 8:8; 9; 10:4; 11:9-10).

Among 33 flints (16 specimens were found in the objects) two specimens were made of Jurassic material and the remaining ones of erratic Baltic flint. The inventory includes obliquen, 2 cores, luszczen, blade (7 specimens) and half-worked flake material (9 specimens); the set also includes tools: 2 end-scrapers and 2 truncations (Fig.6:5-6). The single stone object (granite) probably served as a smoother. The few animal bones include the remains of cattle and pig.

Fragments of a clay painted anthropomorphic figurine (two separate lower limbs), discovered in object no. 25 (Fig.4:1-2), are of considerable cognitive value. The artefact realistically represents a human figure (Fig.12) with reconstructed size at ca 20-30 cm (Fig.13). It might have originally functioned as an early Neolithic idol or a toy. Contrastive analysis allows us to state that the find is closer to the figural conventions “obligatory” in the central European ecumene of band cultures (Lower Silesia, Germany), but the fact it was painted seems to indicate that the specimen might reflect impulses from the south-eastern centres of the band cycle (Ukraine, Moravia).

The analysed collection of the culture’s sources (mainly on the basis of pottery vessels) qualifies for the II stage known as “note” (to its “younger” section), but with visible elements of the Sarka style (eg Fig.11:2,4).

**2. Lusatian culture.** This is a one-stage construction settlement including 93 stationary objects, 1828 pottery fragments, 448 pieces of pugging, lumps of raw amber, a fragment of a stone object and small groupings of animal bones and charcoal. Of greatest value is the assemblage of a dwelling construction (a dugout) and the group of 23 pits of various functions concentrated around it (Fig.15). This interesting assemblage is probably the remains of a single settlement unit (a family?). The pottery from the settlement is represented by 8 types of vessels: vases or possibly amphorae (Fig.21:4,8,9), bowls (Figs 21:1-3; 22:1-2), beakers (Fig.22:3-5), scoops (Fig.21:5,7), plates (Fig.21:1-11), pots (Figs 22:6,10-11; 23:1-9), strainer-like vessels (Fig.22:8), lids? (Fig.22:12). The participation of decorated fragments in the assemblage is only 2.4% (43 fragments).

The remaining sources of the culture are: 448 pieces of pugging including specimens with imprints of drance or rounded poles with levelling finger impressions (Fig.24:1-8), animal bones (cattle, sheep/goat, horse) and 2 lumps of raw amber (with total weight of 2.7 g) discovered in two pits of the culture. Basing on the vessel pottery analysis, the chronology of the sources of the Lusatian culture was established as the older Hallstatt period (HaC), which roughly corresponds to the years 700-550 B.C.

**3. Pomeranian culture.** The sources from this period consist of 2 settlement objects, 289 fragments of pottery, a small grouping of animal bones and 69 lumps of pugging. The stationary objects include a dugout (Fig.26:1) and a cellar-pit (Fig.26:2). The vessel forms include dome-shaped vessels (Figs 27:1?; 28:2; 27:3; 28:3-4), vase-shaped vessels (Fig.28:1), bowls (Fig.27:2,4-7,9) and pitchers (Fig.27:8). Among the scarce animal bones cattle and sheep/goat bones were recognised.

The diagnostic features of the “Pomeranian” pottery in the assemblage are the following: the presence of vessels-domes with smoothed neck (or without an isolated neck), “egg-shaped” vessels-

domes with totally roughened surfaces and smooth rims, “S-shaped” and conical bowls, thickenings of the rims, presence of filled-in pseudo-handles and plastic trims. The type of decoration in the form of a row of small pits below the rim and notched edges can be dated, in my opinion, back to the “Lusatian” circle and I link them with the oldest materials of the Pomeranian culture (T. Dąbrowska 1977; S. Czopek 1992). On this basis the chronology of Pomeranian materials at the site is contained between the HaD2 and LtB periods, in my view with a decided inclination towards LtB materials, which in terms of relative chronology corresponds with the period between ca 450 B.C. and ca 250 B.C.

## An early mediaeval settlement complex in Sława (site 21), Wschowa district archaeological research of 2004

### Summary

The archaeological research of 2004 at the 21 site in Sława was a continuation of work started in 2003 and was of a similar salvage nature. The projected excavation work mainly aimed at explaining the function of stone constructions discovered within a number of appraisal trenches from 2003 (specifying the location and chronology known from the archival data of the fortified settlement). In order to meet the research targets, two trenches referring to the location of the said appraisals were laid out (II/2004, III/2004) in the field. Remains of fort reinforcements were discovered in the trenches (south-western sections of the embankment and the moat) that covered the south-eastern area of the site. Dating of the site in Sława was based on the information provided by mobile artefacts discovered during the 1998 and 2003 investigations. Since the so-called precise dating references were absent, the chronology of the site was defined on the basis of vessel pottery analysis. Thus, following the most recent mandatory literature of the subject, we accepted the dating of the complexes with the Torn type pottery, with the chronology of the site dated for the second half of the 9<sup>th</sup> century – the third quarter of the 10<sup>th</sup> century, and with pottery of somewhat more advanced technology (including the wholly lathed one), ornamented with a plastic rib dated to the 9<sup>th</sup>/10<sup>th</sup> – 10<sup>th</sup> century. The excavations in 2004 yielded several samples of wood from the embankment and the fascine of the moat, which were later subjected to dendrological and dendrochronological analyses (Table). The obtained dates allow to settle the time of the fort construction for the last quarter of the 9<sup>th</sup> century, which corresponds with the chronology of a number of fortified settlements in south-western Wielkopolska. Numerous sherds found in the embankment fill-in, part of which appear to have laid in the secondary deposit, indicate that when the fort was being constructed some part of the older settlement stopped functioning and was destroyed as moats and embankments were built. The layout of the settlement next to the fort might have been changed as well. In terms of relative chronology the fort appears to be a settlement younger than the fortified settlements functioning so far (younger phases). The dating of the oldest phase of the expanding early mediaeval development there cannot be unambiguously dated. Considering the similarity of pottery material in the fort and the neighbouring settlement, it seems that its origins go back to about half of the 9<sup>th</sup> century. The early mediaeval complex in Sława stopped functioning at the end of the 10<sup>th</sup> century, and terminus ante quem possibly indicates the time when the Piast fortified settlement in Głogów was being erected in ca 989 (-6/+9). The traces of burnt stuff in the embankment and the fills of the moat seem to indicate that the Sława fort suffered the same fate as other tribal fortified settlements of the Tornow-Klenica type and in the same vein stopped functioning after the destruction caused by a conquest.

The most important result of the archaeological research carried out in Sława, site 21, is certainly the discovery of the remains of a fortified settlement, or fort, known from the archival sources of the place. The discovery of slag helped to complete our knowledge about the economic activities of its inhabitants. A number of major questions, such as the size of the fort and its inside constructions that might declare the function it had once performed, remain insoluble. Only further archaeological studies can provide the answer.

## Post Cistercian monastery in Łąd on the Warta.

An outline of the history of the construction, the state of archaeologico-architectural research and preliminary results of survey excavation research (site L11 – the cloister-garth)

### Summary

The present paper shows briefly selected issues connected with the now familiar facts referring to the construction history of the Cistercian abbey in Łąd on the Warta river (Figs 1-3), one of the oldest Cistercian abbeys in Polish territories founded in the second half of the 12<sup>th</sup> century (Wyrwa 1999b, 2005b, 2007). Drawing on written and iconographic sources (Figs 4-11), architectural inventories (Figs 18-20) and scarce archaeological examinations (Figs 16-17) we present successive stages of construction and expansion of the church and monastery in Łąd. The results of preliminary archaeological survey research within the monastery garth conducted in 2006 (Figs 21-40) by Prof. A.M. Wyrwa in collaboration with T. Kasproicz are also presented. The findings made during the excavations include a rainwater outflow duct - object "A" (Figs 26-30), remains of cobblestones lining the garth (Figs 25-26) and a fragment of a stone construction - object "B" – which was most probably part of an abutment of the lavabo building, which adjoined the northern wall of the cloister of the southern wing of the monastery (Figs 27, 31-33). At the present stage of the investigation (the area available for research is too small) it can be stated that object "A" – "the rainwater outflow duct" – was probably constructed during the last alteration to the monastery (ca 1720; generally in the first third of the 18<sup>th</sup> century?), while object "B" could be a fragment of the oldest architectural construction discovered so far, possibly dating prior to the 16<sup>th</sup> century (?). The trench with brick rubble is the youngest and should be dated to the 20<sup>th</sup> century – ca 1919 or even as late as the period of the object's restoration in the 20s of the last century. The youngest fragments of porcelain and earthenware with Russian marks (Fig. 40) were found in the lower parts of the 4<sup>th</sup> and 3<sup>rd</sup> layers of the brick rubble. Mediaeval material in the area under investigation is very scarce. The obtained results will form the basis for a comprehensive project of interdisciplinary archaeologico-architectural studies of the object.



Ewa Pawlak, Paweł Pawlak, Jacek Kabaciński, Iwona Sobkowiak-Tabaka, Lech Czerniak, Danuta Prinke, Patrycja Silska, Henryk Machajewski, Artur Rewekant, Andrzej Sikorski

## Kijewo, site 4, Środa Wielkopolska district Materials for studies into prehistorical and early Mediaeval settlement

### Summary

The paper is a product of work performed on the results of excavations carried out in 2004 and 2005 on site 4 in Kijew, gmina Środa Wielkopolska. The monograph is a joint publication of ten authors. It contains seven main parts which include a discussion of consecutive stages of settlement in the area under examination, supplemented with specialist analyses the results of which are presented in separate annexes – an anthropological analysis of human remains discovered and the remains of fabrics in one of the graves. Below we present the titles of particular parts of the paper and the annexes, naming their authors.

The research covered the area of 2.13 hectares situated on the southern slope of the Moskawa river valley, and revealed remains of settlement dating from the late Palaeolithic till the early Middle Ages.

The oldest materials (worked on by Jacek Kabaciński and Iwona Sobkowiak-Tabaka) are 87 flints registered within 2 concentrations connected with the late Palaeolithic Sviderian culture (a technocomplex with tanged points), (Figs 4-7). 26 flints from two objects – C6 and C8 – have a much later Neolithic chronology (stroked band pottery culture), while 26, lacking characteristic typological features, cannot be referred to a particular cultural unit (on the basis of production technology it was roughly dated to the Neolithic – the early Bronze Age).

Three objects – C6, C7 and C8 – are linked to the late Band Pottery Culture, located in the south-eastern part of the site (written by Lech Czerniak). It is highly probable that the pits indicate the presence of one homestead and that they were dug up at the same time. Altogether 466 pottery fragments were recorded (Figs 8-12) and they permit the dating of the assemblage to the close of the I phase of LBPC.

The late Neolithic (described by Danuta Prinke) is represented by one object – A101 – connected with the Funnel Beaker Culture and a small collection of 32 sherds of the same culture (Fig. 13), 3 fragments of Globular Amphorae Culture and 3 of the Corded Pottery Culture; also 5 sherds that possibly belong to the late Neolithic. The observation of the scattering of FBC pottery, dated to the turn of the III and IV phases (after the systematics of that culture's development in Kujawy) seems to indicate the presence of two concentrations in the southern, higher placed part of the site. It might be possible that the Corded Pottery Culture human settlements are connected with several objects (A30, A42-A43, A45-A48, A114-A119), forming one complex, possibly of a dwelling character.

The early Bronze Age (after Patrycja Silska) might be indicated by 2 pits of small size, of indefinite function –A9 and A95 (Figs 14:1; 5) and 15 pieces of pottery (Figs 14:2-4, 6-7). The assemblage of the sherds allows to date the elements mentioned to the turn of the I and II period of the Bronze Age.

The most numerous group are objects belonging to the Lusatian-Pomeranian archaeological horizon (described by Ewa and Paweł Pawlak). Settlement remains, which contain 75 objects (including 6 pits of a possibly dwelling function), 11 furnaces, 5 hearths, were distributed over the whole recognised area. The fills of the objects and the surfaces of the trenches yielded a collection of 1115 vessel sherds, fragments of two ornaments made of bronze and 2 fragments of furnace nozzles (Figs 16-26). Only objects B35, D4, and D25 can be more or less unreservedly linked with the Lusatian culture settlement and dated to the 3<sup>rd</sup> or perhaps 4<sup>th</sup> stage of the Bronze Age; 17 objects represent the settlement of the Pomeranian culture dated to the later stages of HaD and the early pre-Roman period. As for the remaining artefacts, an unambiguous cultural affiliation is not possible, though the authors would link them to the 'Pomeranian stage' of the area's settlement.

The Roman period (written by Henryk Machajewski) includes a settlement and a cemetery located in the northern part of the site (Figs 27-44). These are the remains of a Przeworsk culture settlement. The settlement was founded at the beginning of the B1 phase of the early Roman period, abandoned at the beginning of the younger phase of the Roman period. The cemetery, which contains only 9 graves, started at the developed B2 phase of the early Roman period and stopped functioning at the younger phase of the Roman period. A skeletal grave with "Sarmatian type" clasps from the C1a phase and a burial of a woman with a child furnished with elements of weaponry are worth noticing.

The early mediaeval settlement (described by Ewa and Paweł Pawlak) is represented by 8 objects discovered only in the eastern part of the plot. They were registered in considerable scattering, usually as single items, and in only one case in a concentration (remains of an enclosure). The pottery material (Figs 45-52) allowed to date the settlement to the end of the 7<sup>th</sup> and the end of the 8<sup>th</sup> centuries.

Piotr A. Olszewski

The antler whistle from Latkowo,  
Inowrocław district,  
Kujawy-Pomorze voivodship

Summary

The collections of the Archaeological Department of the Regional Museum in Bydgoszcz hold a whistle made of a beam or the antler crown of a deer, found in Latkowo near Inowrocław in Kujawy-Pomorze voivodship (Fig.1). The artefact has never been published before and information concerning it might be of considerable significance to archaeomusical studies.

The whistle found its way to the Bydgoszcz museum in 1909 and was inventoried in the still extant well-preserved archival inventory book (Figs 2 and 3). It was acquired as a gift by the Bydgoszcz Historical Society for the Noteć District which functioned in the Prussian partition and since 1881 collected and inventoried mainly archaeological artefacts. The collection formed the beginning of the present collection of the Bydgoszcz Regional Museum.

Historically and ethnographically the place of discovery is situated in the northern part of Kujawy, and in physico-geographical terms - in Równina Inowrocławska. The existing length of the artefact measured along the convex curve of the antlers is 25.6 cm (Fig.4) and its state of preservation can be described as "medium". There are many cracks, part of the surface is chipped off and the tip of the horn is broken off. Half of the part of the antlers around the inlet opening of the instrument is chipped off as well. The length of the diagonal notch directed to the air inlet that constitutes its inlet opening and the length of the inner piercing tapering towards the inside (Figs 5 and 6) are 3 cm. The piercing is increased by 2 – 3 mm in its hind exposed length.

On the inner side of the horn curve, at the 1/3 - 1/2 of the length (ca 4 cm) there is a visible attrition up to 0.4 cm deep, brown in colour (Fig. 7). The traces suggest that the whistle was carried shoved away in a leather belt and was used for a long time.

After the typology suggested by E. M. von Hornbostel and C. Sachs, the Latkowo instrument belongs to mouth aerophones, meaning wind instruments, and the way of producing the sound ascribes it to mouth blast aerophones.

Absence of archaeological context for the whistle does not allow a closer chronology and cultural taxonomy. The oldest analogies to our specimen (Fig.1) refer to the Bronze Age, and its youngest dating reaches back to the Middle Ages,

It can be assumed that the whistle discovered in Latkowo functioned first of all as a pastoral tool used for communicating between shepherds or for guiding the shepherd's dog.

# Conservation of archaeological excavation wood Methods of dimensional stabilisation

## Summary

Waterlogged archaeological wood, dug up during excavations, quickly dries up, shrinks and cracks. Its conservation is a prolonged and multi-stage process. The main task, decisive for the success of the enterprise, is to limit deformations and the ensuing consequences. Before the drying process is begun, the wood must undergo modification. It consists in replacing part of the water which fills the walls and centres of cells with an appropriate chemical compound. The selection of a proper impregnant and the optimal amount of the absorbed substance will prevent the dimensions and shape of the conserved object from undergoing dramatic changes. The formation of cracks and deformations which contribute to the destruction of the objects is curbed. The significance of dimensional stabilisation in the overall conservation process has caused it to be often called a method of archaeological wood conservation.

Over the 150 years of documented explorations of waterlogged archaeological sites, many methods of archaeological wood conservation have developed. Although some of the applied impregnants which stabilise and enforce the wood tissue have lost their importance, many museums still hold artefacts they had preserved. For this reason anyone involved in preservation and conservation of archaeological wood must be familiar with both the latest substances and conservational techniques and with the older ways of protecting artefacts.

The paper presents a survey of the most important methods of dimensional stabilisation of waterlogged archaeological wood used in the 20<sup>th</sup> century. The methods of wood conservation are discussed in chronological order. The survey begins with a presentation of the oldest conservational procedures which used alum (aluminium potassium sulphate) and linseed oil. The development of chemical industry after the Second World War allowed an introduction of a number of methods connected with the use of various natural and synthetic resins. The article discusses the alcohol-ether-dammar resin method, acetone-rosin method, polymerisation of polyester resin (Nucléart method) and the use of melamine-formaldehyde resins (Arigal C, Lyofix DML). Yet most attention is paid to the various aspects of the use of polyethylene glycols (PEG) which in many respects still remain irreplaceable. Successive stages of research into the use of polyglycols is exemplified by concrete cases of specific archaeological objects. The paper points out the possibilities of exploiting polymers with different molecular weight, the applied methods of wood impregnation and the methods of drying – freeze-drying in particular. The next group of methods include a discussion of the use of saccharose and sugar alcohols (mannitol, lactitol).

The discussion of particular methods of wood conservation indicates their good and bad points and the related conservational subject-matter – the use of biocides included. The new trends of research into dimensional stabilisation of wood are shown (e.g. alcoxysilane polymers, supercritical carbon dioxide drying). The text refers to numerous bibliographical source items. Comparative studies of the conservational methods presented, and selected examples of research and archaeological wood conservation in Poland are also discussed.

## *Autorzy*

**dr inż. Leszek Babiński**

*Muzeum Archeologiczne w Biskupinie*  
Biskupin 17  
88-410 Gąsawa

**prof. dr hab. Lech Czerniak**

*Zakład Archeologii, Instytut Historii Uniwersytetu Gdańskiego*  
ul. Grunwaldzka 238A  
80-952 Gdańsk

**dr Jacek Kabaciński**

*Instytut Archeologii i Etnologii PAN, Oddział w Poznaniu*  
ul. Rubież 46  
61-612 Poznań  
e-mail: [jacek.kabacinski@iaepan.poznan.pl](mailto:jacek.kabacinski@iaepan.poznan.pl)

**mgr Andrzej Krzyszowski**

*Muzeum Archeologiczne w Poznaniu*  
ul. Wodna 27  
61-781 Poznań  
e-mail: [akrys@man.poznan.pl](mailto:akrys@man.poznan.pl)

**dr Henryk Machajewski**

*Instytut Prahistorii UAM w Poznaniu*  
ul. Św. Marcin 78  
60-809 Poznań  
e-mail: [henmach@amu.edu.pl](mailto:henmach@amu.edu.pl)

**mgr Marcin Maciejewski**

*Instytut Prahistorii UAM*  
ul. Św. Marcin 78  
61-809 Poznań  
e-mail: [maciejewski.archaeologist@gmail.com](mailto:maciejewski.archaeologist@gmail.com)

**dr Dominik Nowakowski**

*Instytut Archeologii i Etnologii PAN, Oddział Wrocław*  
ul. Więzienna 6  
50-118 Wrocław

**mgr Piotr A. Olszewski**

*Muzeum Okręgowe im. L. Wyczółkowskiego w Bydgoszczy, Dział Archeologii*  
ul. Gdańska 4  
85-006 Bydgoszcz.

**mgr Ewa Pawlak**

*Pracownia Archeologiczno-Konserwatorska*  
ul. Woźna 12  
61-781 Poznań  
e-mail: [p.pawlak@poczta.onet.pl](mailto:p.pawlak@poczta.onet.pl)

**mgr Paweł Pawlak**

*Pracownia Archeologiczno-Konserwatorska*

ul. Langiewicza 19/1

61-502 Poznań

e-mail: [pawlak.pawel@poczta.onet.pl](mailto:pawlak.pawel@poczta.onet.pl)

**mgr Danuta Prinke**

*Muzeum Archeologiczne w Poznaniu*

ul. Wodna 27

61-781 Poznań

e-mail: [prinked@man.poznan.pl](mailto:prinked@man.poznan.pl)

**dr Artur Rewekant**

*Collegium Biologicum UAM w Poznaniu*

ul. Umultowska 89

61-614 Poznań

e-mail: [rewekant@amu.edu.pl](mailto:rewekant@amu.edu.pl)

**mgr Andrzej Sikorski**

*Instytut Prahistorii UAM w Poznaniu*

ul. Św. Marcin 78

60-809 Poznań

e-mail: [ands@amu.edu.pl](mailto:ands@amu.edu.pl)

**mgr Patrycja Silska**

*Muzeum Archeologiczne w Poznaniu*

ul. Wodna 27

61-781 Poznań

e-mail: [silska@man.poznan.pl](mailto:silska@man.poznan.pl)

**mgr Iwona Sobkowiak-Tabaka**

*Instytut Archeologii i Etnologii PAN, Oddział w Poznaniu*

ul. Rubież 46

61-612 Poznań

e-mail: [iwona.sobkowiak@iaepan.poznan.pl](mailto:iwona.sobkowiak@iaepan.poznan.pl)

**prof. dr hab. Andrzej M. Wyrwa**

*Instytut Historii Uniwersytetu im. Adama Mickiewicza w Poznaniu – Ekspedycja Archeologiczna „Łekno”*

ul. Św. Marcin 78

61-809 Poznań

e-mail: [lekno@amu.edu.pl](mailto:lekno@amu.edu.pl)