



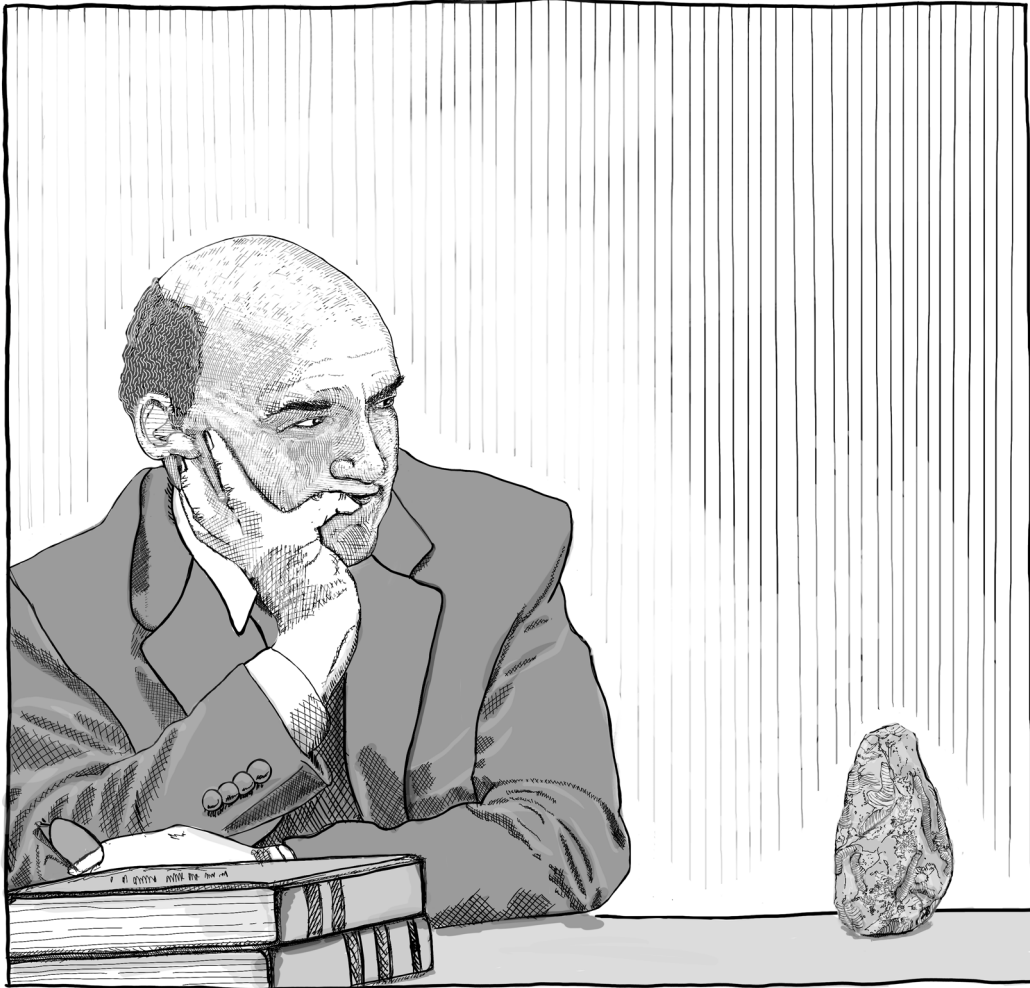
**66**

**Śląskie  
Sprawozdania  
Archeologiczne**

**Uniwersytet Wrocławski  
Instytut Archeologii**







*The present volume is dedicated in its entirety to  
Professor Jan Michał Burdukiewicz, our esteemed Colleague and Teacher,  
on the 50th anniversary of his entry into the archaeological profession.*

**66**

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## Stone slabs from Hamburgian settlement at Mirkowice, western Poland

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### **Abstract:**

The paper presents stone slabs made of red sandstone recorded at the Mirkowice site related with the Hamburgian settlement. The similar artefacts are known from different Hamburgian sites, such as Oldeholtwolde and Olbrachcice. The paper presents a set of six stone slabs and discusses their potential function. The morphology of stones is very similar in all sites, as well as process of their production – splitting into thin flat slabs outside the camps. The hypothetical function of stone artefacts is varied. At Oldeholtwolde site, the basic area of use was the preparation of food. Stone slabs were used as “table stones” or element of fireplace. In Olbrachcice, on the other hand, stone artefacts should be associated with economic activities conducted inside or close to the dwelling structure. The spatial distribution indicates that slabs from Mirkowice are related with peripheral area of encampment, outside the main activity area, close to the knapping spot.

**Key words:** Late Palaeolithic, Hamburgian culture, stone slabs, sandstone

### **Introduction**

Encampments of Late Palaeolithic hunter-gatherer groups associated with the Hamburgian settlement are very rare on the Central European Plain. Their remains are most often discovered as several smaller or larger flint concentrations. Elements other than residues of flint processing are recorded sporadically. This phenomenon significantly limits the possibilities of settlement analyses, reconstruction of internal spatial organization and identification of settlement structures. One type of the archeological evidence often found

at Late Palaeolithic as well as Upper Paleolithic sites, allowing the identification of permanent settlement structures, are stone elements (Bartik et al. 2020). At several sites related with the Hamburgian culture, they occur in the characteristic form of flat stone slabs. The aim of this article is to present a set of stone artefacts of this type that were discovered during excavations at the site at Mirkowice and to indicate their potential functions.

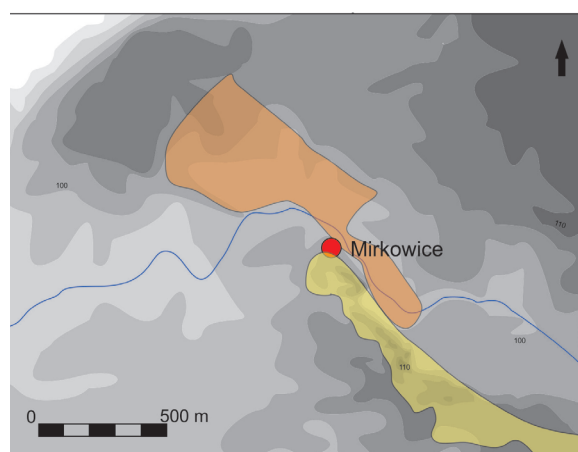
## The site at Mirkowice

The site no. 33 at Mirkowice is located in western Poland within the Gniezno Lake District, north eastern part of Wielkopolska Region (Fig.1). The site was registered during surface prospection in 1992, first as a Neolithic settlement. After few seasons of excavation, the Late Palaeolithic materials related to the Hamburgian culture were identified as well (Chłodnicki, Kabaciński 1997). The Palaeolithic settlement is located in the northern part of the long dune adjacent to the glacial trough currently filled with biogenic and mineral deposits (Kabaciński et al. 1999).

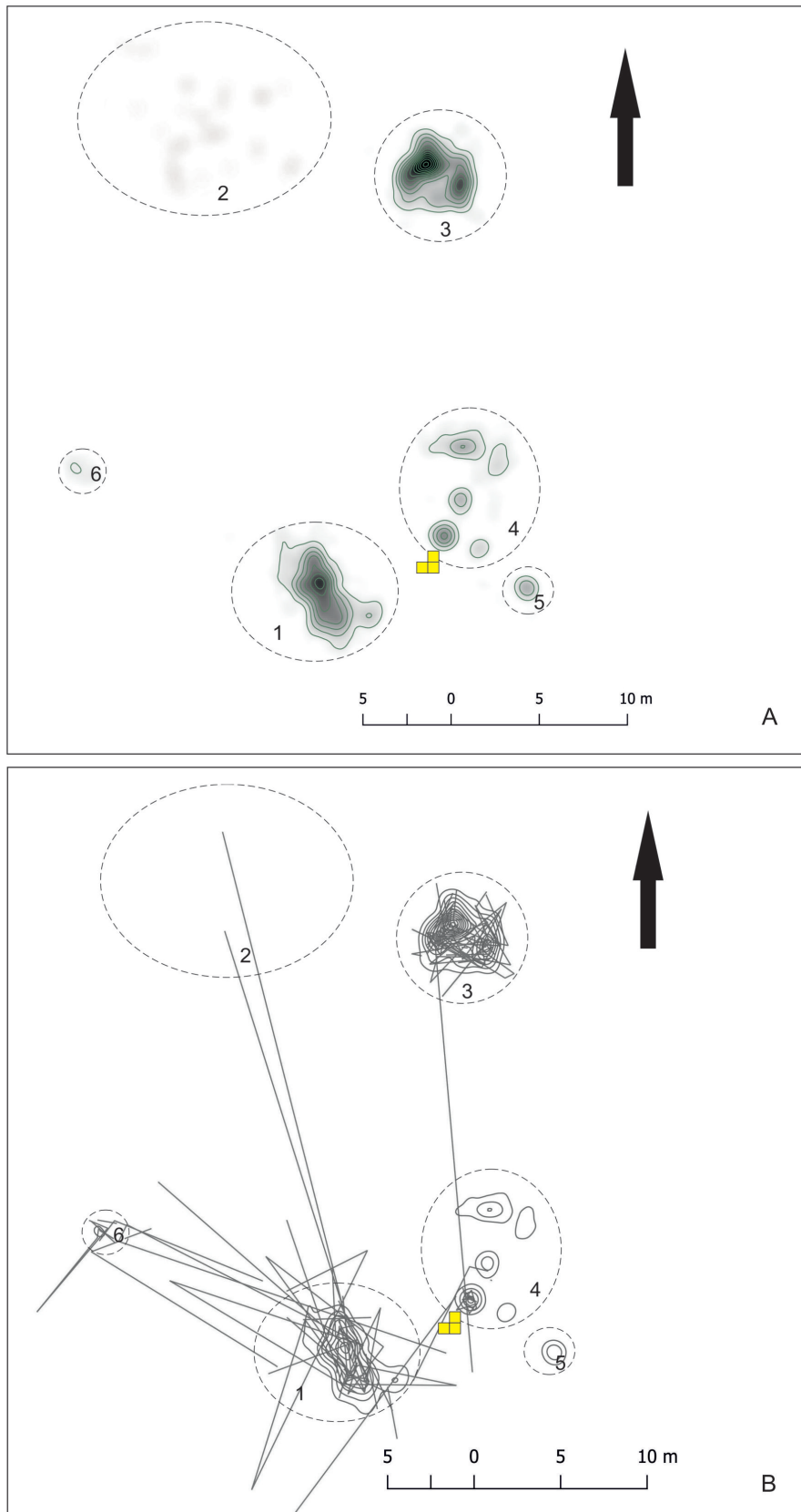
The settlement consists of several concentrations of flint material (Fig. 2A). Within the largest one, concentration 1, a hearth made of several hammer stones as well as one flat stone slab was recorded. Stone artefacts were arranged in a circular shape surrounding the remains of burnt bones and burnt flints. The fireplace contains small fragments of burnt bones of a polar hare and various species of fish, namely pike and cyprinids (Kabaciński et al. 1999). The set of consumed species indicates the spring-summer period as the time of stay of the Hamburgian groups (Kabaciński, Sobkowiak-Tabaka 2009). Dating the bones of a polar hare allowed to determine the absolute age of the Late Palaeolithic settlement at the site. The radiocarbon date (ca. 14,300 cal BP – date made in Groningen Laboratory – Kabaciński, Schild 2005) places the settlement in the first warm phase of Late Glacial (GI-1e) (Housley et al. 2014).

As can be seen from the distribution of flint tools and refittings, concentration 1 was the central area of activity, where various activities were carried out related to the processing of raw materials such as bone, wood and hide, as well as repairing and replacing the flint points and the production of flint tools. There was most likely also dwelling structure in the southern part of concentration (Mugaj 2020).

In addition to the main area of activity at the site, there are smaller satellite clusters of flints located both in the eastern (concentration 4 and 5) and the western part (concentration 6) of the site. Concentration 4 consists of several small clusters from which the most dense is an isolated knapping spot, associated with the processing of a single nodule of Baltic erratic flint, most likely performed by one person. Based on the analysis of the level of technological skills, the refitting was determined to be the result of the knapping actions of an individual with low technical competences – a younger person (Mugaj 2015). Concentration 6 is the secondary place of deposition of chunks and waste material.



**Fig. 1.** Location of the Mirkowice site (red dot) with marked range of dune ridge (yellow) and biogenic deposits within the glacial trough (orange).



**Fig. 2.** Localization of slab stones (yellow squares) plotted on the lithic density map with marked approximate range of concentrations (A) and distribution of refittings (B).

In the northern part, approximately 20 meters from concentration 1, two further flint concentrations are located. The first is an area of scattered flint material consisting mainly of tools. Two refittings indicate the connection of this area with the main central area around a hearth. The second cluster is an isolated concentration of numerous lithics related primarily to intensive flint processing. Use-wear analyses also indicate numerous types of activities undertaken in this place: hide processing, butchering, as well as wood working and plant processing (Kabaciński et al. in prep.). The density of flint materials and the limited area of their occurrence suggest a barrier effect in the form of some dwelling structure. The almost complete lack of refitting connections with other concentrations suggests that this cluster may be the result of a separate settlement episode (Mugaj 2020; Fig. 2B).

## Stone slabs from Mirkowice

### Morphology

The subject of the analysis is the concentration of flat stone slabs made of red fine-crystalline sandstone. The raw material was probably obtained from secondary depositional sites such as erosional cuts or the edges of river valleys, although the nearest location of such raw material is not known. A total of six large stone slabs were recorded at the site. Almost all of them, except one, are refittings of smaller elements. Apart from the six slabs, smaller fragments with a total of 18 pieces, although certainly related to the remaining stone structures, were not conjoined with the larger pieces. The items are flat plates, elongated and angular in shape. The dimensions of the stones reach a maximum of almost 30 cm in length and 20 cm in width, smaller slabs are several cm long and about 10 cm wide (Tab. 1, Figs. 3-5). Their thickness is relatively uniform, the lowest value is 1.5 cm and the largest is 2.5 cm. Macroscopic observations indicate the slabs may have been

part of larger formations that were split into flat pieces along natural layering. This may be evidenced by the nature of the surface of the stones: one side of the slabs is clearly weathered and smooth, so it was a primary surface subjected to erosion processes related to glacial transport, the other side is irregular, with sharp bends and a distinct grain size - it is a fresh surface, probably shaped by secondary splitting intentionally. Some of the plates show traces of edge regularization in the form of an edge rounding. Only one slab bears traces indicating contact with fire. No other traces indicating impact, pounding or grinding were registered.

### Spatial distribution

All stone slabs were recorded within trench 2/99 in an area of three square meters (nos. 86, 95, 96 – Fig. 2) located east of concentration 1, which, together with the hearth located there, was the central area of the settlement. The stone slabs occur in a peripheral part of the camp, where much lower density of flint artefacts was recorded, although not completely isolated. Right next to the area where the stone slabs are located, concentration 4 was registered related with processing of a single nodule. What is important to mention, all of the slabs were intentionally brought to the camp as the site is located on the dune.

### Discussion

Stone elements were found at several sites related to the Hamburgian settlement. Stones were most often interpreted as elements of residential structures. They were intended to be loads on tent coverings or tension ropes. Therefore their most often circular dispersion determined the range of a potential dwelling structure. Although, the methodology of relatively random selection of stones intended to be elements of a residential building has been also criticized (Burdukiewicz 1987), it was applied on a number of Hamburgian sites. In

## STONE SLABS FROM HAMBURGIAN SETTLEMENT AT MIRKOWICE, WESTERN POLAND

this way the residential buildings at Teltwish, Borneck, Heber and Deimern were distinguished (Rust 1958; Tromnau 1975). In the case of the Borneck site, the double row of stones suggest an internal additional wall of the tent.

Stone elements were also associated with the dwelling structure at the site at Schalkholz. In the case of this camp, however, the stones were not elements holding the tent covering, but lined the ground, creating a kind of floor of the dwelling object (Tromnau 1974). While the morphology of the stones from the sites mentioned previously is not known, the stone structure from Schalkholz consisted of flat sandstone slabs similar to the forms discovered at the Mirkowice site.

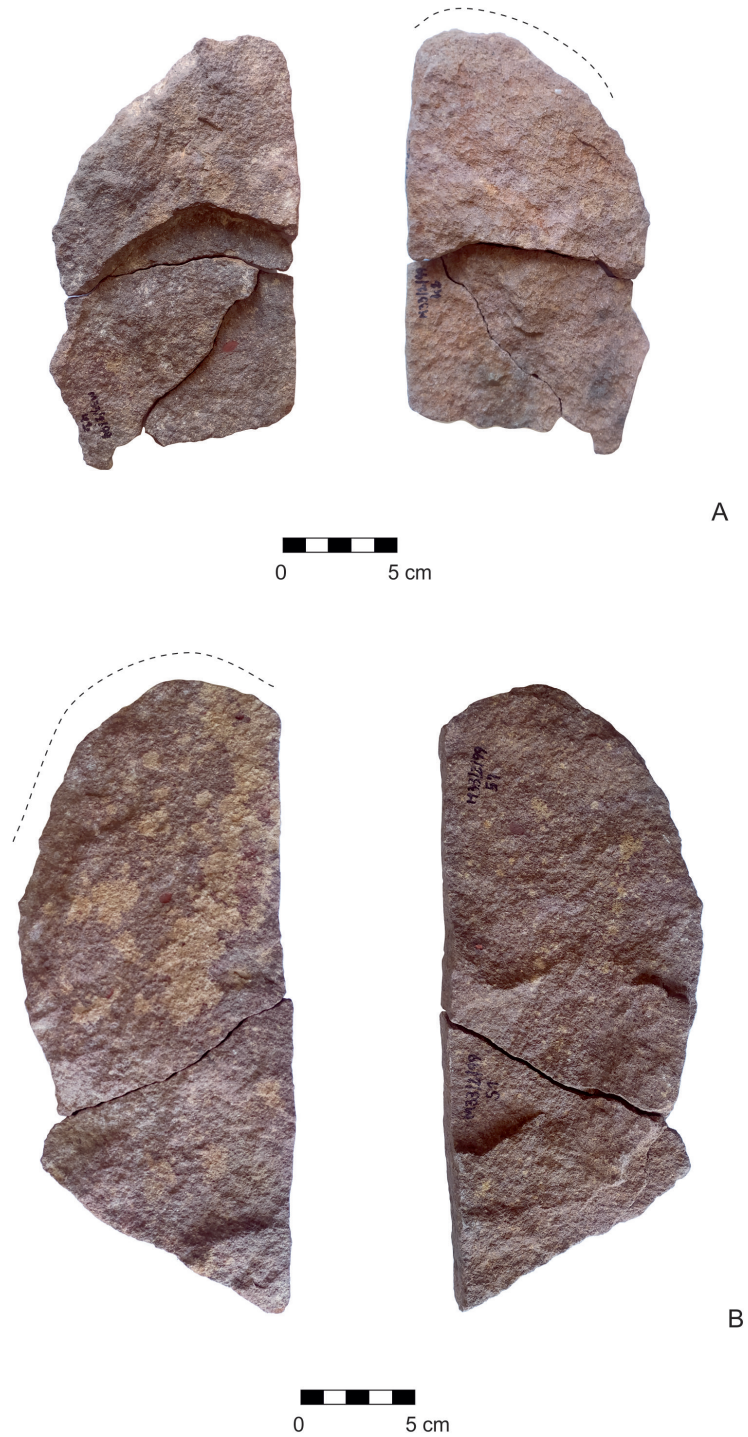
Analogous flat stones were recorded at two other Hamburgian sites: Oldeholtwolde and Olbrachcice. The Oldeholtwolde site, related to the younger horizon of the Hamburgian settlement, is a camp interpreted as a short-term stay of a small group, whose activities focused around a fire located in an open space (Johansen, Stapert 2004). The stone inventory consists of over a thousand items in total, and in the context of the finds from Mirkowice, an interesting one is a set of 27 flat stone slabs from the red Dala sandstone (Stapert 1984). The dimensions of the reconstructed

slabs range from 8 to 38 cm in length, with an average thickness of approximately 2 cm (Stapert et al. 1986). The slabs were most likely intentionally split along the natural sandstone layers by the inhabitants of the camp. The slabs were processed probably in the place where they were extracted.

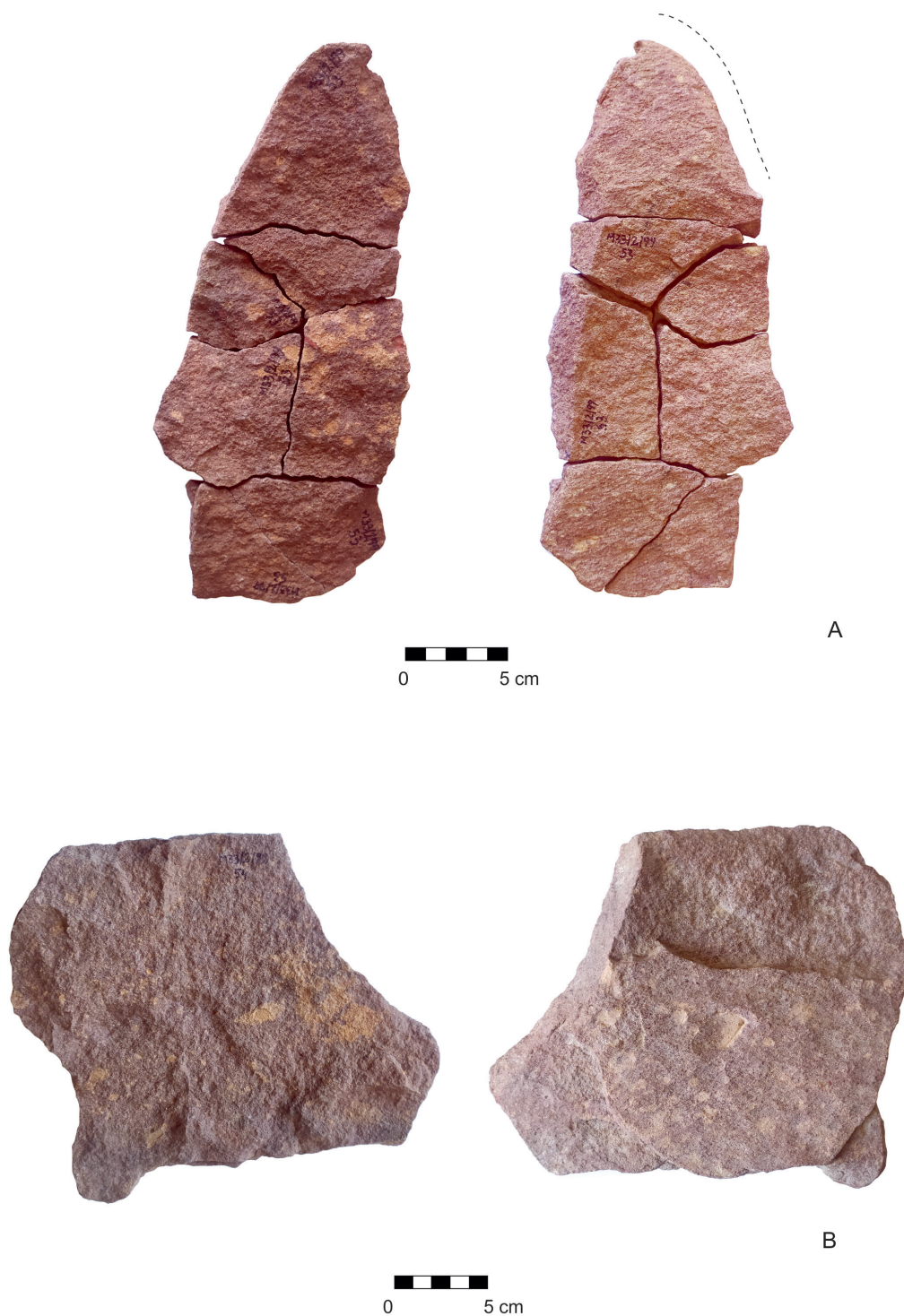
At Oldeholtwolde, the fireplace was located in the center of the lithic concentration. In its middle part, there was a pit lined with stone slabs, fragments of slabs were also found around the central pit. The stones in the pit showed traces of burning, in the form of dark spots. Smaller, completely burnt fragments were probably split off from larger pieces by heating. The entire structure is interpreted as a fireplace in which stone slabs were heated and then used to roast pieces of meat or fish on the stone surface. The numerous slabs placed around the central pit were discarded from previous use of the fireplace. However, not all slabs show signs of burnout or overheating. The researchers of the site, D. Stapert and L. Johansen, suggest that it could have been a stock prepared for later activities, or it could have served as a “table stones”, i.e. plates on which meat was prepared, eaten, or other activities that did not require direct heating of the stones were performed (Johansen, Stapert 2004).

**Tab. 1.** General attributes of concentration of sandstone slab stones from Mirkowice site.

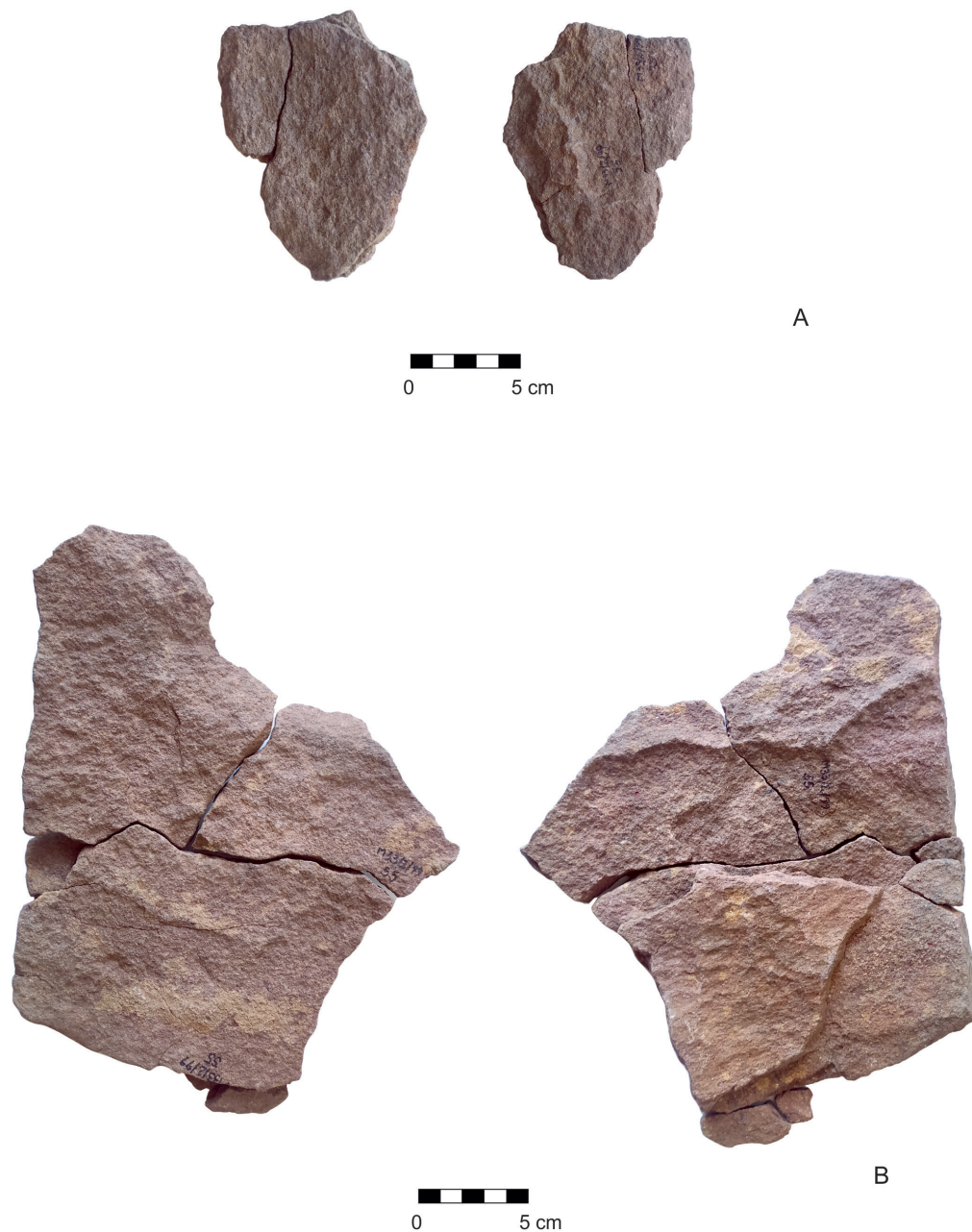
No.	Inv. no.	Refitted pieces	Other pieces	Total amount	Length (mm)	Width (mm)	Thickness (mm)	Remarks
1	2/99/42	3		3	191	107	17	prepared edge, burnt spot
2	2/99/51	2		2	263	114	25	prepared edge
3	2/99/53	8	11	19	285	135	25	prepared edge
4	2/99/54	1	4	4	243	208	23	–
5	2/99/55	2	3	5	126	98	21	–
6	2/99/55	7		7	275	207	22	–



**Fig. 3.** Mirkowice site 33, A: slab stone 1, prepared edge marked with dotted line. Note the traces of fire marked with circle; B: slab stone 2, prepared edge marked with dotted line.



**Fig. 4.** Mirkowice site 33, A: slab stone 3, prepared edge marked with dotted line; B: slab stone 4.



**Fig. 5.** Mirkowice site 33, A: slab stone 5; B: slab stone 6.

Stone slabs also occur outside the main concentration of Oldeholtwolde, at a slightly further distance from the central hearth. These slabs, as suggested by site researchers, were not related to a fireplace, but had different functions. They could have been auxiliary stones under which tools were hidden (in this position they were found at the site) or related to other economic activities (for example hide processing) that

was most often performed outside the main area of the camp. The supporting evidence of such activities is known from ethnological research among Inuit tribes: an arrangement of stones originally holding the drying and then processed skin (Binford 1983).

A similar find of flat stone slabs made of sandstone was recorded at the site at Olbrachcice. The Hamburgian camp located in the Kopanica valley consists of

two concentrations of flint artefacts (Burdukiewicz 1976, 1980). In the centre of the larger concentration, numerous fragments of sandstone slabs were found, which were refitted into larger elements (Burdukiewicz 1980; Czerwińska, Burdukiewicz 1983). The slabs were made by splitting along frost cracks into flat elements about 2 cm thick. In addition, some of the stones show traces of additional edges regularization (Burdukiewicz 1987). The arrangement of slabs is not related to the construction of the dwelling structure, but, as J. M. Burdukiewicz points out, the network of refitting lines enables to define its potential approximate range. The function of the stone slabs is not specified, while their location in the central part of the main flint cluster indicates a connection with this area of economic activity (Burdukiewicz 1987).

## Conclusion

Stone slabs from Mirkowice find close analogies in at least two other Hamburgian sites: Oldeholtwolde and Olbrachcice. Stone artefacts from these places have very similar morphological features to the specimens described here. Their dimensions generally range from 20-30 cm in length. They are artefacts made by splitting larger stone blocks into flat, approximately two-centimeter thick slabs. This similarity indicates that the use of this type of items can be treated as a repeatable phenomenon, the behaviour typical of Hamburgian communities.

Despite these similarities, it seems that the function of the sandstone slabs could have been very different at each site. In the case of the Oldeholtwolde site, the basic area of use was the preparation of food – the stones were used both as elements of the fireplace for thermal processing of meat and fish on the heated surface of the plates, and outside the fire as an auxiliary table stones for other activities – for example cutting and eating. At Olbrachcice, on the other hand, stone artefacts should be associated with unknown econo-

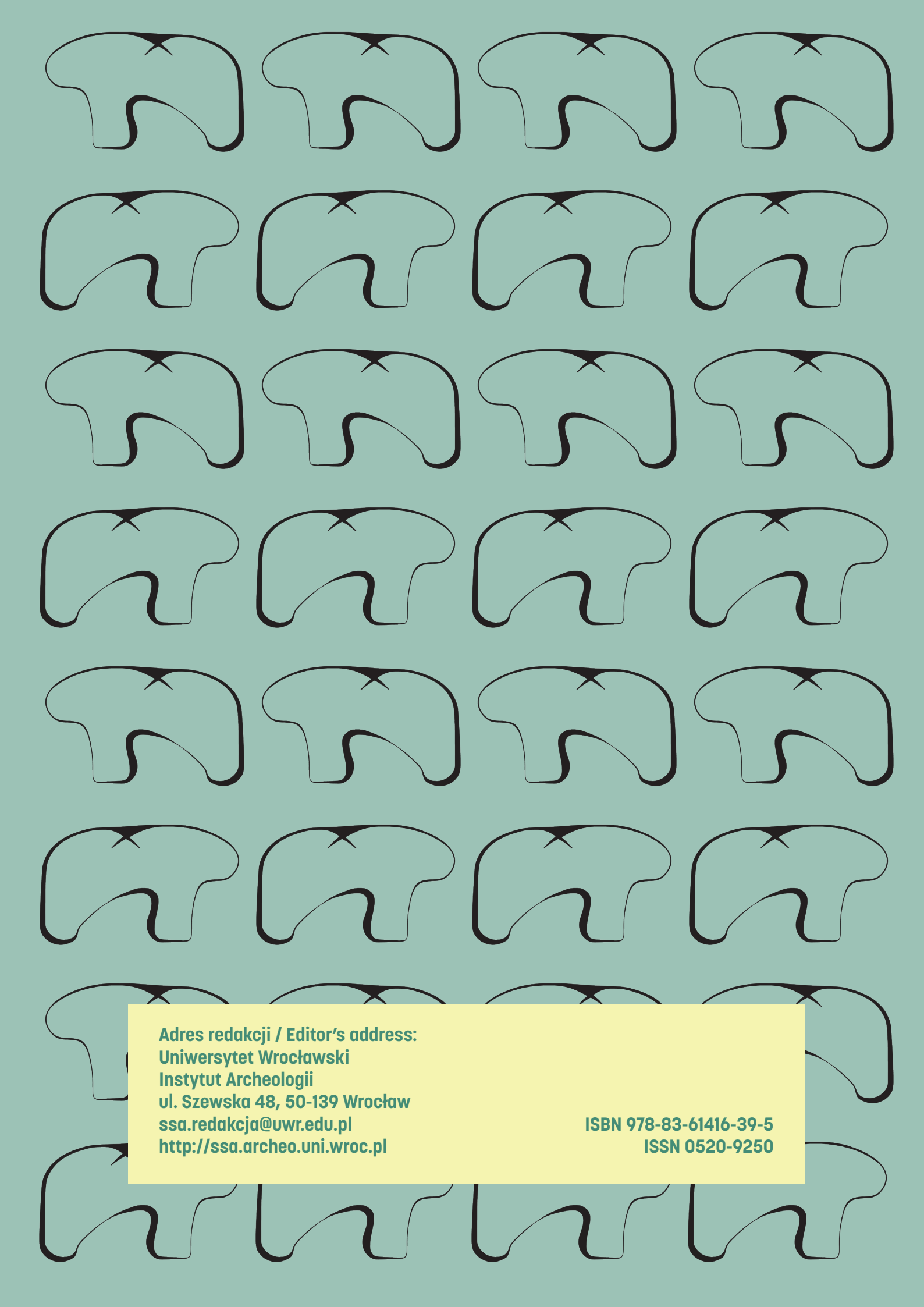
mic activities performed within the dwelling structure.

In the case of Mirkowice site, none of the above interpretations are confirmed. The stone slabs are not severely burned and were not located near the fireplace, perhaps with one exception (Fig. 4). They also do not define the dwelling structure. The model of the spatial organization of the settlement at Mirkowice, reconstructed on the basis of the distribution of individual tools and flint refittings, indicates that the slabs were located outside the hypothetical residential structure, in a relatively empty space, which was not an area of intense economic activity. The slabs were placed directly next to the knapping spot – processing of a single nodule by a person with low technical skills, probably young person. The stone slabs can therefore be associated with these or other activities taking place in a peripheral area outside the main area of the encampment, although their direct purpose remains so far undetermined.

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