



The contribution of mollusc shells to the reconstruction of environment at the Early Medieval stronghold of Pszczew (Poland)



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ABSTRACT

The Early Medieval stronghold that existed in Pszczew (western Poland) from the 8th to 12th century was located on the shore of Lake Pszczewskie. During archaeological excavations conducted in 2010, systematic sediment samples were taken for malacological analysis to enhance our understanding of the environment in the vicinity of the site during its occupation.

Forty taxa found in the samples included remains of land snails and freshwater molluscs. The most abundant among land snails were species characteristic of open and humid habitats, frequently found on the banks of various water bodies. Among freshwater molluscs, species characteristic of shallow and overgrown reservoirs and typical of permanent and stagnant water bodies predominate. Malacological analysis revealed minor changes in local hydrological conditions during the Early Medieval period. From the end of the 8th century until the first half of the 10th century, the area was definitely wet and marshy. Gradual disappearance of freshwater species in favor of land snails characteristic of humid habitats, beginning in the second half of the 10th century, indicate that the area was gradually drying out. Since the 11th century, the environment in the vicinity of the site was not influenced by larger changes. The taxa identified in the sediment profile indicated limited differences between the present-day and Medieval environments.

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1. Introduction

Natural accumulations of mollusc shells in natural and cultural layers of archaeological sites are a useful tool for reconstruction of past climatic and environmental conditions. Malacological analysis is primarily based on species identification, ecological requirements, and interpretation in stratigraphic sequence. In archaeological studies, it may contribute to the understanding of local environment around the site and its change over time (e.g. Alexandrowicz, 1987; Classen, 1998; Bar-Yosef Mayer, 2005; Davies, 2008; Alexandrowicz and Alexandrowicz, 2011). Settlement in prehistory was frequently located close to sources of water, in the Early Medieval period on the naturally defensive areas usually marshy, slightly elevated, and hard to access. This location caused problems in case of seasonal floods and human responses to such events variously according to local environmental settings (Stupnicka et al., 2006). Malacological studies at the site of Pszczew reveal changing hydrological conditions. Due to the lack

of paleoenvironmental studies in the region, only the site and its vicinity are discussed in this manuscript.

Pszczew Site 2 is situated in western Poland, in the basin of the lower Odra river (Fig. 1). The stronghold was built on a swampy peninsula located in the south-eastern part of Lake Pszczewskie (Fig. 2). Remains of a medieval stronghold were discovered in 1956. The first archaeological excavations were conducted by E. Dąbrowski in 1956–1960 (Dąbrowski, 1998). In 2003, a sondage was carried out at the site by M. Kara to collect samples of wood for dendrochronological analysis (Kara and Krąpiec, 2005). In 2010, and 2011, M. Kara (in cooperation with B. Banach, T. Kasprówsz and M. Przybył) conducted renewed excavations at the site to verify stratigraphy, chronology and function of the stronghold (Kara and Banach, 2012). The stronghold was a central point of the local territorial neighbouring community dating to the Early Medieval period, or possibly several communities of this kind. In the literature, the site is described as the remnants of a tribal stronghold taken over by the Piasts in the 10th century, the area of which was overlaid by a skeletal cemetery in the 13th century. The excavations carried out within the peninsula revealed the remains of wooden constructions and contemporary traces of human activity dating from 8th/9th to the 11th century. It is assumed that

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Fig. 1. Location of Pszczew, Poland.



Fig. 2. Pszczew site 2 and 2a with location of trenches (aerial photo taken by W. Rączkowski).

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