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**Early medieval island-type lake dwellings in north-western Poland:
Western Slavonic crannogs?**

Abstract. In many regions of Europe there are so-called lake-dwellings, which were described in 1890 by Robert Munro, and have a close spatial and functional relation with inland water systems and seas. Settlements of this type are also known from the area of north-western Poland, where the landscape is dominated by lakes. Characteristic among them are early medieval settlements entirely occupying small islands located within lake basins (Parsęcko, Żółte and Mysłibórz in Pomerania – Pomorze; Nowy Dworek, Chycina and Lubniewice in Lubusz Land – ziemia lubuska). In their external appearance, they resemble British crannogs, especially in their size, the anthropogenic structure of the islands, wooden quays, piers and bridge crossings connecting the islands with the nearby mainland. An important feature of the islands where such structures are sited is their characteristic location – directly on the long-distance routes, in the settlement border zone, in the vicinity of the main watersheds of Lubusz Land and Pomerania. They were also part of local settlement clusters, which often included contemporary defensive settlements. They were central places, especially important from the point of view of the identity of local territorial communities. Their functions should be considered not only in the social and political dimension, but probably also in the mythical and sacral one.

Keywords: lake-dwellings, island, crannogs, Early Middle Ages, Western Slavdom.

Lake-dwellings fully or partially sited within inland water bodies are known from both prehistory and the early Middle Ages. The overriding criterion for identifying such settlements is the physiographic location of their buildings, which by definition would have been waterside. They occur in many regions of Europe, at very different times and places, as demonstrated by the British researcher Robert Munro in his monographic study ‘The Lake-dwellings of Europe’ (1890). As a rule, all are defined as such, regardless of whether they occur on anthropogenically transformed or natural lake islands, or directly on the shores of water bodies, usually at points of morphologically favourable terrain. In addition,

the structural details of the preserved buildings, the depth they occur in the lake and their spatial relationship with the land (which is often controversial due to changes in hydrological conditions and unclear stratigraphical contexts) are usually of no importance in classifying them in to this very broad category, which in fact includes various settlement types. The origins of their study date to the 1850s are commonly associated with the Swiss researcher Ferdinand Keller and his publications, especially the monograph 'The lake dwellings of Switzerland and other parts of Europe' (1866). His main proposal was that stilt houses, i.e. wooden platforms supported on deep-foundation pile structures and surrounded by water, existed in prehistory (Keller 1854). Later research work on this group of settlements showed that some settlements may, however, have been built in the lake shore zone and were only periodically flooded (Reinert 1932) or were entirely on solid ground on land (Paret 1942). The earlier dispute on this issue, commonly known as the Pfahlbauproblem, is now much in the past, as researchers realised some time ago that in cases of settlements established immediately lakeside, various construction modifications were employed and each case requires detailed research that takes into account the reconstruction of local environmental conditions, including, above all, hydrographic regimes, which undergo change due to human impacts and natural influences (Menotti 2012, p. 9).

Relatively early in this research archaeological sites from the early Middle Ages that should be associated with the outer reaches of the Piast rule in the north-western Slavonic region were identified (Fig. 1). One of the first settlements included in this category was discovered in 1863 in Parsęcko on Lake Parsęckie (Ger. Parsanzig) in Pomerania on the border of the former Greater Polish-Pomeranian (wielkopolsko-pomorskie) in what was then Germany. Drainage works being carried out around a small island (0.20–0.25 ha) about 250 m from the shore in the southern part of the lake, exposed the remains of log buildings supported, as originally reported, on deep-pile foundations, and interpreted as the remains of several tens of dwellings (Fig. 2). This place was connected by a bridge to a neighbouring island, which in turn was connected to the mainland by another bridge crossing directly to the lake shore. In addition, around one side of the island, the remains of a palisade were exposed. Based on the presence of numerous potsherds, known as the Burgwälle-type in the latter half of the 19th century (and other cultural artefacts) the chronology of the site was then correctly assigned to the early Middle Ages. Due to the very good state of preservation of the construction material, it was, at the time, a unique discovery that was quickly published by a local expert in antiquity, W. F. Kasiski (1869; 1974), who conducted research at this site. The site became one of the best-documented examples of northern European lake-dwelling settlements (Virchow 1869; Munro 1890), while also being a point of reference for comparative studies on other such sites discovered in the north-western Slavonic region. From the outset, however, this discovery aroused a great deal of controversy as part of the



Fig. 1. Map of Poland showing the island sites referred to in the text (edited by W. Ochotny)

discussion relating to the *Pfahlbauproblem*. It mainly concerned the nature of the buildings. The discoverer himself characterised it initially as the remains of a typical stilt-house settlement, referring to the Swiss discoveries that at that time were driving a feverish search for this type of settlement in Europe (Kasiski 1869). Later, he modified his view, perhaps under the influence of a distinguished researcher of Pomerania, Rudolf Virchow, and interpreted the site as a coastal settlement sited in the shallow water zone of the lake (Kasiski 1881). A similar opinion on this discovery was expressed by R. Virchow, who concluded that the log construction rested directly on the lake bottom in the littoral zone (Virchow 1869). However, Julius Kohte and Otto Doppelfeld had a different view, believing that the structures were the remains of houses that had only periodically been in contact with the water (Kohte 1926; Doppelfeld 1936, p. 36). An outlying opinion on this matter was expressed by Kazimierz Siuchniński, who based on the results of a survey he

of this unique place. In the 1980s, most importantly, the remains of wooden piers were uncovered that lead to an encircling system of box structures and the remnants of a post construction building on the most exposed point of the island (Gackowski 1993; Gackowski, Jabłoński 1993). Research work in the 21st century, on the other hand, resulted in the discovery of stone paving and the construction details of a bridge, the dendrochronological analyses of which refined the dating of this settlement to the 1050s and 1070s (Chudziak *et al.* 2007; *Człowiek* 2020a, p. 179).

It was not the only island discovered in the 19th century in Pomerania to feature wooden structures similar to those in Parsęcko. At almost the same time (1857), pile structures lying in the depths of Lake Myśliborskie in Myślibórz were found (Ger. Soldiner). They were discovered in circumstances similar to those in Parsęcko, as the lowering of the water table by 7–8 feet resulted in them appearing immediately next to a small island (of 0.1 ha) 130 m from the shore. In this case, a wooden structure in the form of piles of about 200 cm in average length had probably constituted a regular structure protruding from one side of the island into the lake (Virchow 1869, p. 407; Kamiński 1873, p. 108). In total, about 300 piles were identified and in their vicinity there were numerous finds including early medieval pottery. Unfortunately, no documentary sketches are known that would allow more detailed conclusions to be drawn about the spatial arrangement of the piles. Additionally, soon after its discovery the site was largely destroyed by local fishermen (Kamiński 1873). This did not prevent researchers from developing various explanations for the nature of the discovered buildings, of the type of interpretation proposed by Władysław Łęga, who believed that ‘the piles were used to secure huts, not as their foundations; the huts were built as in Prośnicko [Parsęcko – W. Ch.] on a block construction that extended to the lake bed’ (Łęga 1930, p. 573).

The nature of the other lake-dwelling settlements discovered in Pomerania in the latter 19th century differed significantly from these two classic island sites. Near the island in Byszyno (Ger. Boissin) on Lake Byszyńskie, three rows of oak piles were uncovered near a small islet, along an ‘embankment’ connecting the island with the mainland (Virchow 1872, pp. 5–6). The purpose of this structure is unclear and it may have been associated with an elongated headland, rather than with construction on the island itself as in the settlements identified at that time in Lubiatowo Pyrzycki (Ger. Lübtow) and Dobra Nowogardzka (Ger. Daber) (Virchow 1869). This last site is of particular significance to the history of research on Pomeranian settlements, because, as in Parsęcko, after the lake was drained, well-preserved and, more importantly, well-documented block-constructed wooden caissons additionally reinforced with piles were recorded there. They were initially built directly on the ground and served to stabilise the marshy ground, probably creating a wharf of sorts or a support for a building. They occurred along sections

of the lake shore on either side of a long peninsula on which there was an early medieval stronghold (Fig. 3) (von Diest 1904, table 2).

Outside of Pomerania, the only certain island site of the early Middle Ages that relates to Parsęcko and Myślibórz was found in 1871 in Stare Gorzycko (Ger. Alt-Görtzig) on Lake Wielki in north-western Greater Poland (Wielkopolska) (Virchow 1871, p. 105)¹. This place was discovered in circumstances similar to those of the Pomeranian sites described above. A drop in the lake level of more than 3 m exposed piles encircling a small island (of 0.16 ha) in the south of the lake. The ‘black’ piles were arranged regularly in several rows and had a diameter of about 20–25 cm (Witt 1872, pp. 175–177). Unfortunately, in this case too, no drawn documentation has survived that would allow for a detailed description of this structure that, according to Virchow, were related to the structures previously discovered in Parsęcko and Dobra Nowogardzka (Witt 1872, p. 177). An inspection of the site in the 1960s could not confirm the type of shore side structures present. The high water level in the lake obscured the coastal zone, and the lake’s gradual eutrophication led to its overgrowing, meaning that the research was concentrated on the island itself. The excavations carried out at that time nonetheless allowed the chronology of the use of the island to be determined (8th–9th century and the late Middle Ages; Jasnosz 1970). This was confirmed in 2018, although the underwater investigations of the lake bottom in the immediate vicinity of the island, during which no wooden structures were found, were of little practical benefit (Weinkauff 2019).

It was almost 150 years before the next discovery of an island-type settlement – in Parsęcko. In 2003, wooden structures were uncovered around the small (0.3 ha) island on the lake in the village of Żółte, on Lake Zarańskie, in the Drawskie Lakeland that relate to the structures previously recognised in Pomerania (Figs. 4–6). The island was also situated in an area bordering Greater Poland and Pomerania, about 52 km south-west of Parsęcko as the crow flies. The island itself was known to archaeologists as early as the late 19th century, when the German researcher Adolf Stubenrauch carried out excavations on the remains of an early medieval stronghold and an outlying settlement on a nearby peninsula (*Wczesnośredniowieczne grodziska* 2019, Fig. 15.5). A sketch of the site made at the time includes the island and indicates that the water level may have been

¹ However, there is no certainty as to the chronology of the piles around the fortified island in Jankowo on Lake Pakoski that was discovered at the end of the 19th century (Hensel 1953, pp. 187–192). Heavy damage to the local natural environment currently makes this site impossible to verify. However, there are many indications that, in contrast to Stare Gorzycko island in Jankowo where the remains of a Lusatian culture settlement are located, it is related to other island settlements of this type in eastern Greater Poland and Pałuki (Biskupin, Izdebnó, Czeszewo), as well as in Kuyavia (Kujawy; Kruszwica) and Chełmno Land (ziemia chełmińska; Grodno). At all these sites, which are usually of a relatively large area of at least 1 ha, traces of use in the early Middle Ages were confirmed, though no remains of construction such as pile structures directly related to the aquatic environment have been documented.



Fig. 4. Żółte Island on Zarańskie Lake, Pomerania. Planigraphy of structures: end of 9th to 1st half of 10th centuries (after *The Island* 2014)

water level. This was counteracted by the fascine being covered with stones, and in the 11th century it was covered with a layer of clay from a nearby peninsula. At that time, the island was also extended (phase 2) by constructing an encircling wharf around it that was adjoined by piers supported on oak piles that were dated dendrochronologically to the AD 1040s to 1080s. At that time, the island was connected to the mainland by a bridge (in the AD 1060s) and its surface was almost entirely covered with a paving of crushed stone. To-date, no clear traces of dwellings or utility buildings around the island have been discovered, although individual

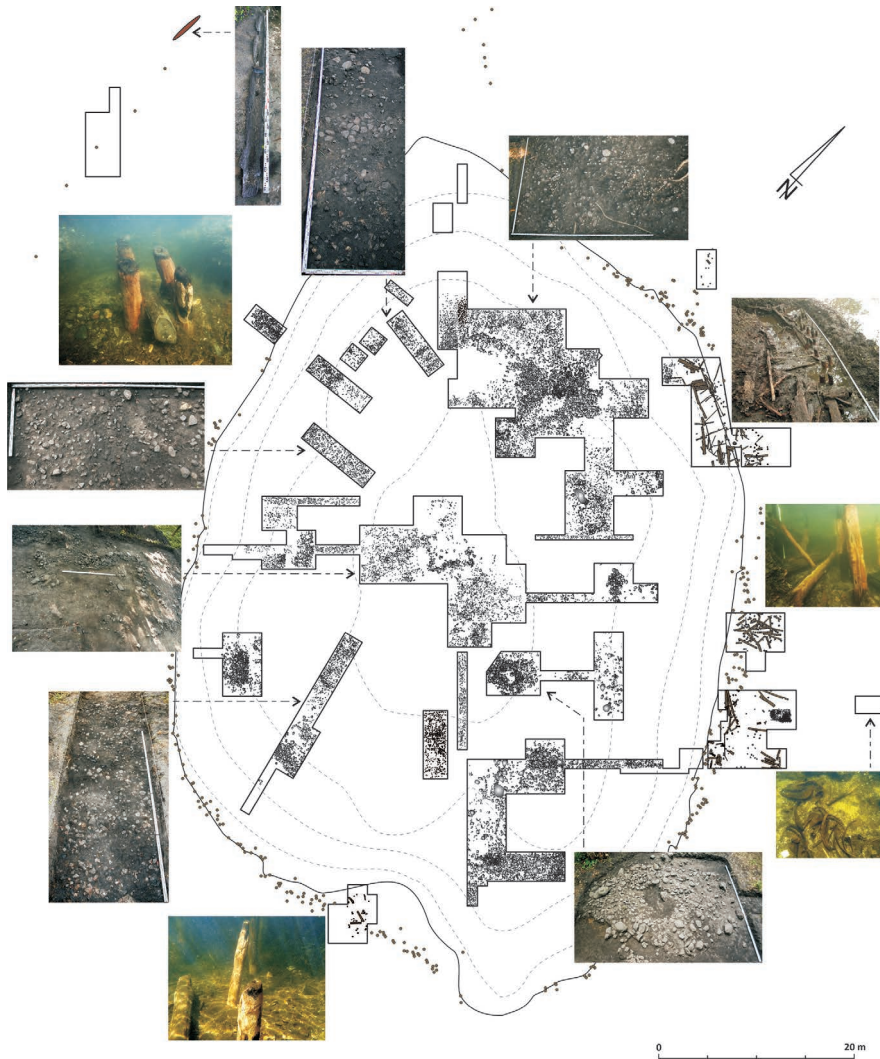


Fig. 5. Żółte Island on Zarańskie Lake, Pomerania. Planigraphy of structures: 2nd-4th quarters of 11th century (after *The Island* 2014)

large stones on the banks may indicate the existence of buildings built on stone foundations. Remains of such buildings were found in the central part of the island, in the form of a rectangular building measuring 4×4.3 m. The exposed remains of the structures were accompanied by plentiful finds, including both artefacts and ecofacts. They include, besides an abundance of potsherds, luxury items such as militaria, jewellery, coins, merchant's utensils and wooden accessories decorated in a manner typical of the insular-Scandinavian ornamentation of the Pomeranian

school (Duczko 2000, p. 29). Furthermore, this site has been subjected to numerous palaeo-environmental analyses, including geomorphological, palaeohydrological, dendrological, palynological and archaeobotanical analyses. The overall results of these studies, which were undertaken as part of a monograph, may now provide a point of reference for studies on lake-dwelling settlements in the Western Slavonic region (*The Island* 2014).

The discovery of the settlement on island in Lake Zarańskie gave rise to further searches for such sites. Three more island settlements were located and pre-examined during a systematic research campaign to inventory underwater sites in Poland Archeologiczne Zdjęcie Polski – AZP (Polish Archaeological Record). They were all relatively close to each other in Lubusz Land, on the periphery of a settlement macroregion associated with a main settlement centre in Międzyrzecz². The remains of the first were found in 2011 on Lake Paklicko Wielkie (Nowy Dworek, site 27). Around a small island of barely 0.01 ha, protruding just above the water level about 130 m from the lake's eastern shore, numerous oak piles were discovered that were initially interpreted as the remains of piers surrounding the island and a bridge connecting it the eastern shore (Figs. 7, 8) (Chudziak *et al.* 2016). Excavations carried out in the following years on the island and under the water revealed complex cultural layers about 1.5 m thick, as well as numerous remains of wooden structures within it, the analysis of which was used to identify two main stages of the island's exploitation. These were precisely dated dendrochronologically to the years AD 799–965, with a hiatus covering the end of the 9th century and the first quarter of the 10th (*Człowiek* 2020b). In addition, a third and youngest stage of the island's use was identified, dating from the 11th century to the first half of the 12th, but the extreme drying out of the layers meant that the wood associated with this settlement layer was not preserved.

The oldest phase of exploitation of the island comes from the lowest layer (8), from the wood of a structure whose function cannot be determined beyond the observation that it was of a log construction of pine beams accompanied by a few oak piles. Exploration was limited in scope by the immersion in water, which in turn limited the insight that could be gained into the remains of this structure, which lay directly on the gyttja. This stage was also associated with the remains of a wooden wharf structure discovered in underwater trenches in various parts of the island's littoral zone, indicating that the water level was very low at that time (as much as about 2 m lower than present). On the other hand, the second stage of the island's use was related to more elevated structural wood levels creating a kind of platform that artificially raised the island in response to the rising water level in the lake. The bottom layers (4–7) of this structure were made of various types of wood with

² All three island sites were studied as part of the National Programme for the Development of Humanities research project 'Człowiek na Pograniczu' ('Man on the Border'), with the results published as part of a multi-volume series under the same title (*Człowiek* 2020a; 2020b; 2020c).

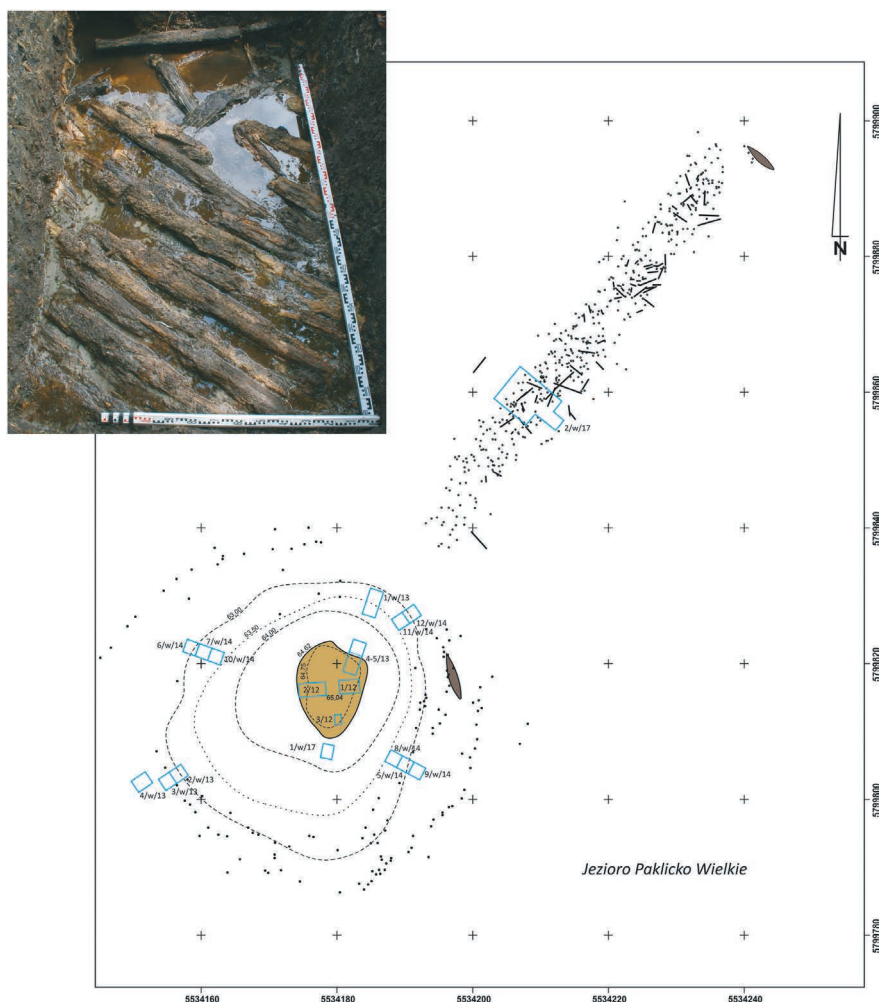


Fig. 7. Nowy Dworek Island on Paklicko Wielkie Lake, Lubusz Land. Planigraphy of wooden Islandstructures (after *Człowiek 2020a*)

a predominance of oak elements in no particular pattern. Most components were not debarked and had the characteristics of non-processed branches, although there were also single, re-used wooden elements, probably from an earlier construction related to the first stage of the island's use. The whole structure was a scaffold of sorts further stabilised with individual piles that constituted the foundation for the usable levels of the island, which was probably covered in wooden decks across its entire area during this period (levels 1–3). At least two such levels were identified corresponding to different stages of settlement. Within the lower one, which was characterised by a regular arrangement of wooden components – mainly

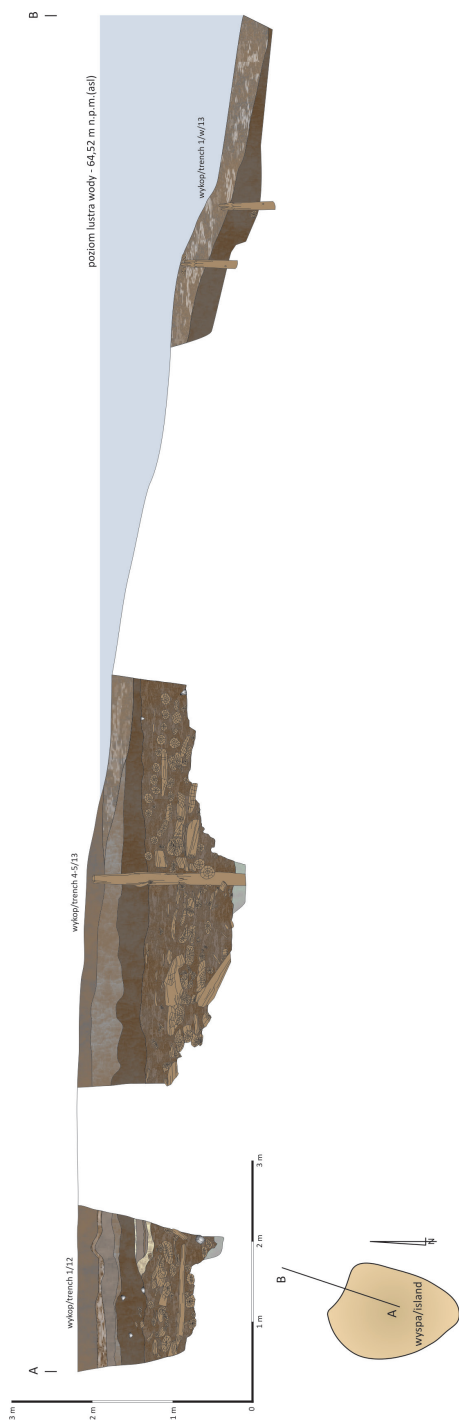


Fig. 8. Nowy Dworek Island on Paklicko Wielkie Lake, Lubusz Land. Cross-section of the island (after *Człowiek 2020b*)

pinewood beams and shingles, there were local clusters of partially charred stones that were the remains of hearths (phase IIa). Directly above these structures, a regular arrangement of pine logs, and a settlement layer lying above that, were also exposed, as well as the corner of a log frame building reinforced with single piles (phase IIb). This stage of the island's use is also related to over a hundred oak piles around the island, which are the remains of load-bearing elements of platforms of about 10–15 m wide that significantly increased the usable area of the island (to a diameter of 40–50 m). The first two stages of the island's use are also associated with the remains of the dendrochronologically dated wooden bridge connecting it to the mainland. It was at least 80 m long, and its bridgeheads were about 15–20 m from the current shoreline. The analysis of the layout of 390 of the bridge's vertical load-bearing elements and of construction details of the remains of its roadway established that it was erected using a post and yoke-beam structure in an arrangement most typical of early medieval bridges of the Western Slavonic region (Szulca 2008).

Another site in the category in question was found on Długie Lake, just 16 km north of Nowy Dworek (Chycina, site 19; Figs. 9, 10). In 2011, excavations on a small (0.23 ha) island, about 80 m from the shore, that currently rises slightly above the water level revealed numerous pile structures in the depths of the lake (Chudziak *et al.* 2016). The basic core of the island consisted of anthropogenic layers about 2 m thick, the earliest of which were from the early Iron Age (sands, peat, organic matter). Most, however, were deposited in the early Middle Ages. Analysis of the cultural layers and cultural objects (mainly pottery) identified three main stages of this place's use in the period from the latter half of the 8th century to the end of the 11th, with a hiatus from the first half to early in the second half of the tenth century. The oldest phase is assigned to wood and stone structures of a wharf on the western shore of the island with a fragment of bridgehead surface (phase Ia) and remains of a charred pier (phase Ib). They were classified into two sub-phases because of their different stratigraphical positions. The set of cultural layers that were related to the oldest settlement stage found in this part of the island indicates that the island was initially much smaller. The older sub-phase (Ia), meanwhile, should probably be associated with the settlement layer discovered in the middle of the island below the level of the shingles that deck the interior of the island and a layer of mulch above (phase Ib). The early medieval strata appeared in this place directly on the early Iron Age cultural layer, the bottom of which is now about 1.5 metres below the present-day lake surface. It can be assumed that in the early Middle Ages the island was already connected to the lake shore, as evidenced by the dendrochronological date (AD 825) from the bridge structure.

The remnants of the younger stage of island use in Chycina (phase II) are the settlement layers and the synchronous remains of the wide pier/platform that is exposed only on the west of the island (AD 971). It was probably also then that

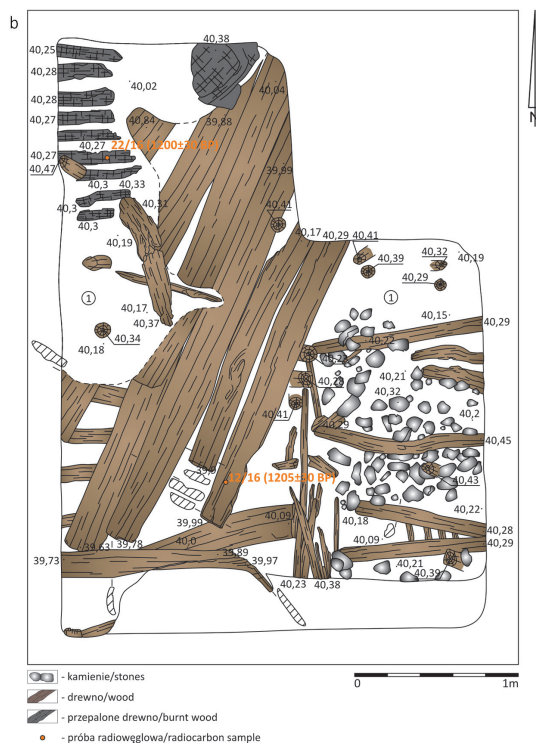
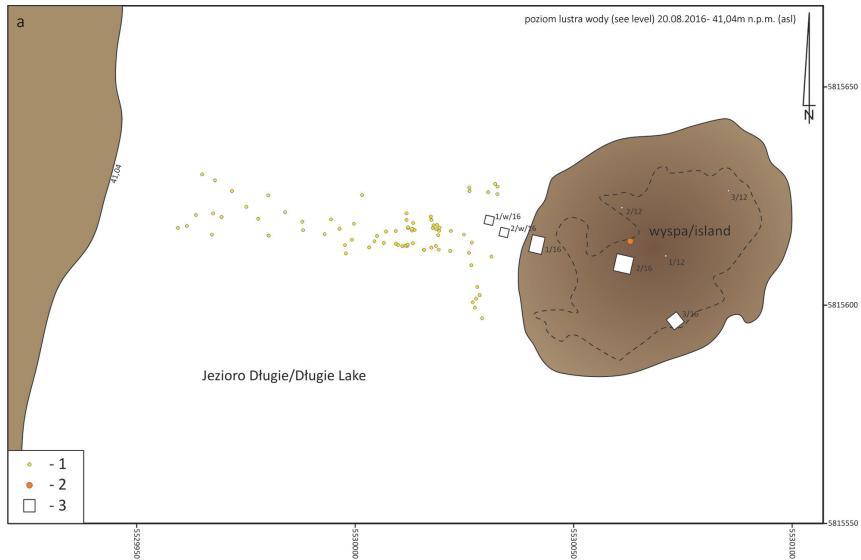


Fig. 9. Chycina Island on Długie Lake, Lubusz Land. Planigraphy of wooden structures (after Człowiek 2020b)

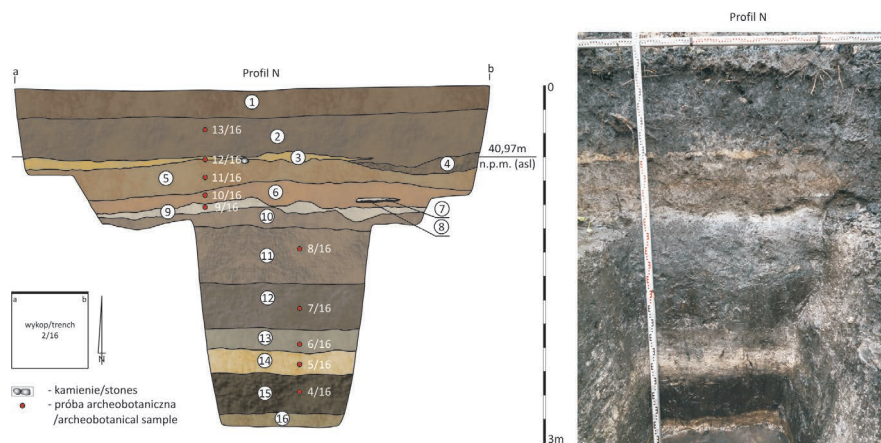


Fig. 10. Chycina Island on Długie Lake, Lubusz Land. Cross-section of the island (after Człowiek 2020b)

the old wharf was covered with a layer of mulch, extending the shoreline of the island outwards. The same period also accounts for the remains of the bridge crossing (AD 965–980) and most of the objects discovered in its vicinity (militaria, tools, pottery). From the youngest stage of the site's use, only dried-out cultural layers were discovered (phase III). However, no components of wooden structures related to this time horizon were found, and its dating to the 11th century was based purely on the analysis of pottery and radiocarbon data.

There is also a site of this type in Lake Lubiąż, less than 15 km north-west of the island in Chycina (Lubniewice, site 10; Fig. 11). In 2000, during the Archeologiczne Zdjęcie Polski (Polish Archaeological Record), a small islet (0.16 ha) in the south of the lake was defined as a 'pile-dwelling' based on the presence of numerous piles on its shore (archive of Wojewódzki Urząd Ochrony Zabytków – Provincial Monument Coservator – in Zielona Góra; Chudziak *et al.* 2016). This hypothesis turned out to be unjustified, however, it was overturned by the results of excavations conducted in 2013. As in Chycina, the main part of the island was formed by early medieval anthropogenic layers of about 1.4–1.6 m thick, mainly in the east part of the island (mainly sand, peat, organic matter). Analysis of the cultural layers and finds revealed four stages of the use of this place, extending from probably the fourth quarter of the 8th century to the end of the 11th with a hiatus in the second to third quarters of the 10th century. The oldest stage (phase Ia) was associated with a layer containing island wharves in the form of wooden half-hull structures, and numerous piles on the outer side that were probably the remains of piers. In their immediate vicinity, numerous horizontal elements were discovered in an irregular arrangement, mainly shingles and beams from an indeterminate island structure (from after AD 870). They were overlain by a layer of lake sands, constituting the border between

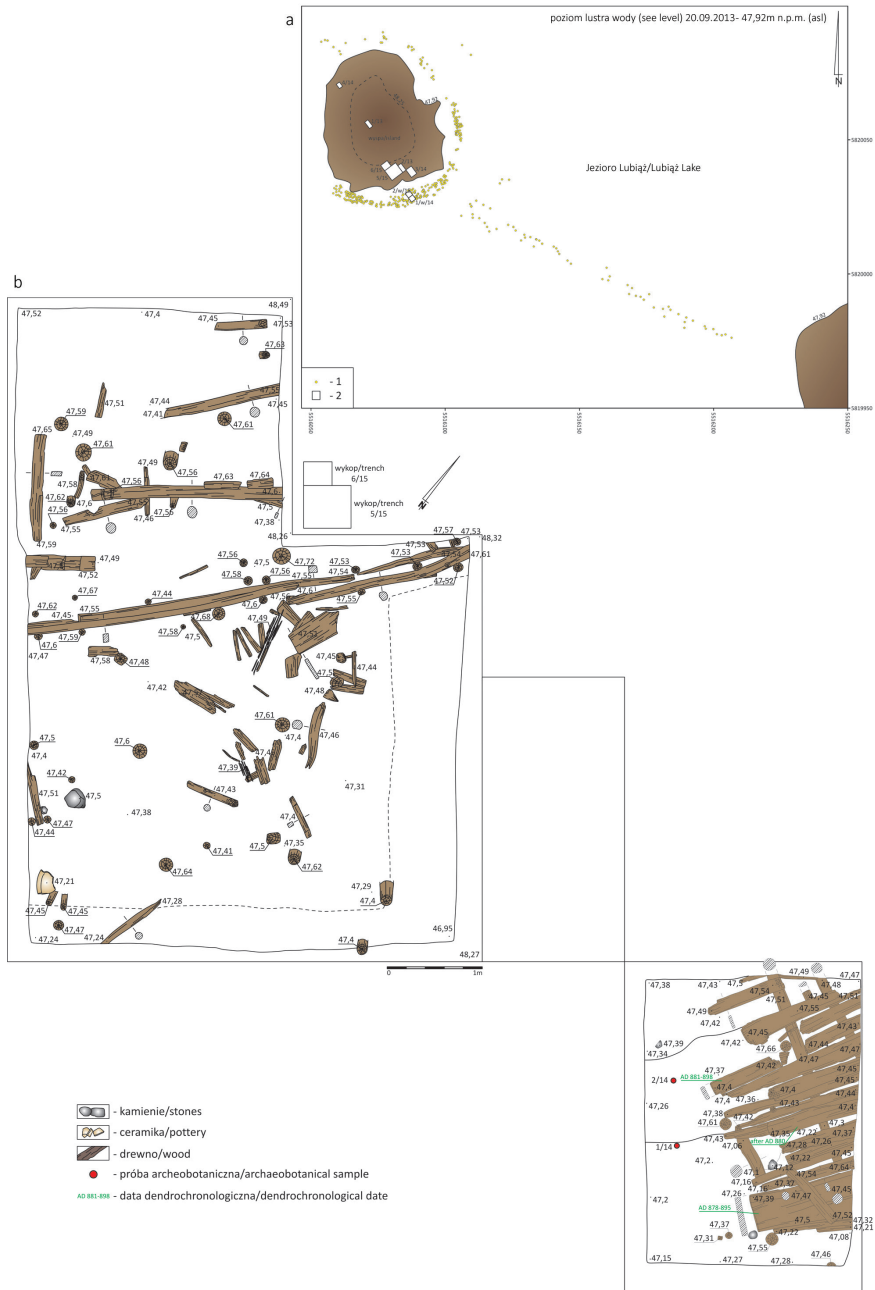


Fig. 11. Lubniewice Island on Lubiąż Lake, Lubusz Land. Planigraphy of wooden structures (after *Człowiek* 2020b)

the sediments belonging to the two different settlement levels. The younger of them (phase Ib) was related to a fragment of a shingle-decked roadway discovered in the bridgehead zone (AD 895, AD 898). This is also contemporary with the construction of the encircling roadway piers (AD 896) whose remains were recorded as piles around almost the entire circumference of the island. These platforms were also functioning later, when the island surface was clad with stone paving (phase Ic). The youngest tree-ring date obtained so far indicates that the platforms were again repaired in the year AD 915. As with the islands in Nowy Dworek and Chycina, one more near-surface cultural layers (phase II) representing the youngest stage of this place's use was identified. Unfortunately, the drying out of these layers has meant that any potentially related wooden structures have not survived, and this settlement level was dated to the fourth quarter of the 10th to the 11th century based mainly on pottery.

Between the island and the eastern shore of Lake Lubiąż, meanwhile, the remnants of a bridge were discovered. A total of 63 pine piles of less than twenty centimetres in diameter were recorded in a section about 105 m long and about 6 m wide. Their heavily degraded peaks protrude just a few centimetres above the compacted minerogenic bottom sediments. Unfortunately, the complete absence of wooden elements associated with the main span of the bridge means no conclusions can be drawn as to the structure's type. Radiocarbon analysis indicates that the bridge was in operation throughout the island's use as a settlement, as evidenced by numerous items dated to that time that were discovered in the area of the crossing (militaria, tools, pottery, balance-scale weights etc.).

The list of known islands of the type in question in the Western Slavonic region east of the Odra River is thus not long. It totals seven sites grouped in north-western Poland – three in Pomerania (Mysłibórz, Parsecko, Żółte), the same number in Lubusz Land (Chycina, Lubniewice, Nowy Dworek) and one in north-western Greater Poland (Stare Gorzycko). It is possible that in the future the list will need to be augmented with the former island in Pszczew, on Lake Pszczewskie (now St Catherine's peninsula), 11 km south-west of Stare Gorzycko, which has some similarities with the discussed sites, especially in the oldest horizon of its development³. Features these islands have in common, in terms of their physiographic characteristics specifically, include: the smallness of the land area, which usually does not exceed 0.2–0.3 ha; their only slight original elevation above the water level

³ At this site, a section of a transverse rampart built in two phases as a sandwich structure and then rebuilt as a box structure, the log building and the fragment of log-paved roadway dating back to the C to E phases of the early Middle Ages were discovered. During underwater research in the 21st century, numerous wooden structures were found around the peninsula, running 7–15 m offshore, and consisting mainly of oak piles interpreted as the remains of bridges or ramparts. Dendrochronological analyses date them to the years AD 795 and AD 1091 (Chudziak *et al.* 2011, p. 184). Palaeo-environmental studies carried out on this site have proven this place to have been an island in the older phases of the early Middle Ages (Kurzawska, Kara 2015).

(up to 2 m); and their relative proximity to the nearest shore (up to 100 m; Fig. 12). These sites are also characterised by the remains of shore side buildings in the form of wooden or wood-and-stone wharves with accompanying piers and bridges. This last feature may be an indicator of the special importance of the islands, which should be treated as central places in a given region – places whose development required the efforts of the entire local community (Bleile 2010, p. 287). However, these islands have failed to yield evidence of earth-and-timber defensive ramparts, though the possibility cannot be completely ruled out, as indicated by Hermann Hinz in his interpretation of the construction encircling the island in Parsęcko. Islands entirely occupied by stronghold buildings are also known from West Slavic areas west of the Oder, the best example being the castle at Behren-Lübchin in Mecklenburg, which is, however, much larger in relation to the size of the islands discussed here (Biermann 2016, p. 88). Therefore, it is worth recalling that the block-constructed wooden caissons exposed around the island in Parchim, which are analogous to the structures discovered in Parsęcko and Dobra Nowogardzka, are also treated as the remains of just such a rampart (Keiling 1994). Meanwhile, the palisade discovered encircling Żółte may have had defensive value, though its height has not yet been precisely defined.

A characteristic feature of the discussed Polish lake islands is their artificial, anthropogenic structure formed on a natural, low-lying or slightly submerged substrate. In this respect, they share one of the structural solutions evident on crannog settlements on the British Isles, especially in Scotland and Ireland (Morrisson 1985; O’Sullivan 2000; Fredengren 2002). The term is derived from Old Irish *crannoc*, which refers to a wooden structure or vessel, and derives from the word *crann*, meaning ‘tree’ (*Heritage dictionary* 2020). A strict definition of this category of island sites should therefore include the presence of wood as the basic criterion. In line with Ian Morrison’s opinion on classic crannogs, it was assumed that these places, unlike lakeside settlements, were intentionally used as islands and were entirely or partially artificial structures (Morrison 1985, pp. 16–20). Most were characterised by a *Packwerk* (Ger.) mound form in which organic material such as branches, humus, peat and stones were gathered into one place in a lake and surrounded with vertical piles. The size of such islands varied, but the largest were over 40 m wide. Only then did they constitute a proper foundation for the dwellings that would be built atop them (Menotti 2012, p. 143). The chronology of crannogs is quite diverse: the oldest are from the Neolithic and the youngest were used in the modern period, though they appear later in Ireland than in Scotland (i.e. only as of the 6th century AD).

In studies on Polish island sites of the early Middle Ages, the first comparison with British crannogs was made for the Żółte Island (*The Island* 2014). In the first phase of its exploitation, it showed clear similarities to the island in Llangorse Lake in Wales, interestingly it is the only confirmed site of the type in this region and

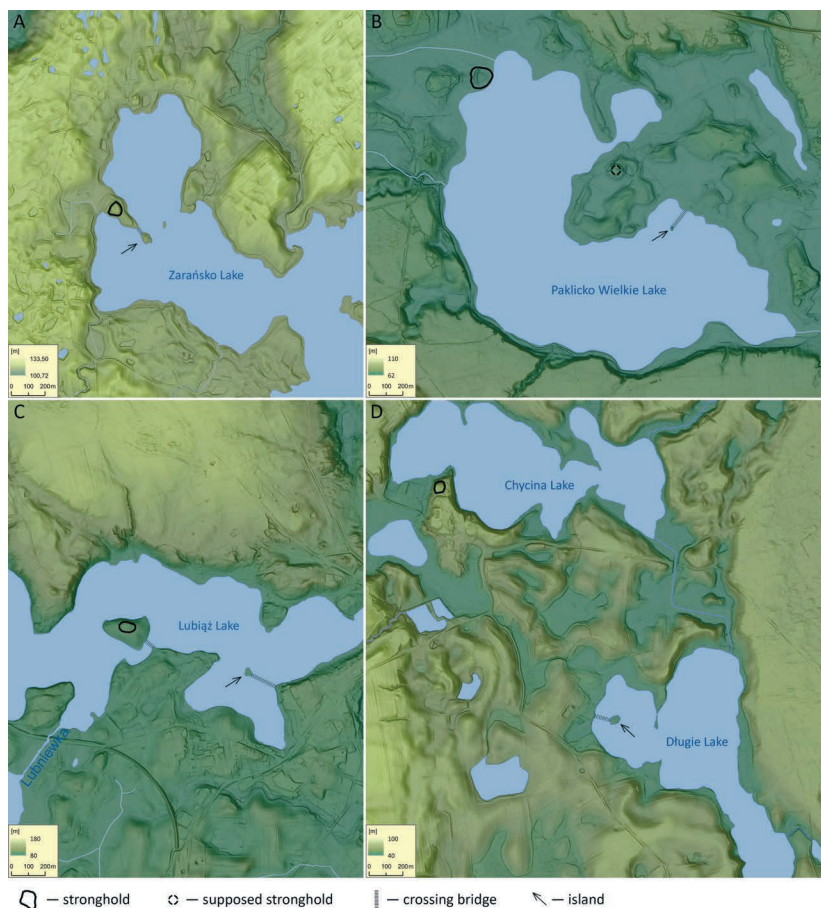


Fig. 12. Location of the islands discussed in the paper (arrow) and their neighbouring fortified settlements against the background of the topography of the area (continuous line): A – Żółte, B – Nowy Dworek, C – Lubniewice, D – Chycina (edited by M. Skrzatek, W. Ochotny)

suspected to have innate links with the Irish zone (Lane, Redknap 2020). These similarities mainly related to the size of the two islands, the spatial layout of the identified wooden structures (the presence of a brushwood raft, a rubble platform, a palisade and a wooden bridge) and similar dendrochronological dating (the final decades of the 9th century and the early 10th; Lane, Redknap 2020, p. 20). It is also notable that the two islands have similar physiographic locations in lakes in the upper parts of catchment areas of medium-sized watercourses – close to the main watersheds of the Wye and the Usk (Llangorse) and the Rega and the Drawa (Żółte) (Lane, Redknap 2020, p. 7–9). It is also interesting that in both cases their location is related to zones broadly understood to be settlement borderlands (Lane, Redknap

2020, pp. 415–422). The use of the term ‘crannog’ as a comparison for Żółte Island was thus justified by the relatively small, highly anthropogenic transformed nature of the island, by its surface not exceeding 0.2 ha and originally barely protruding from the water, and by the presence of remains of an encircling wooden structure in the form of a scaffold surrounded on the water side by a palisade and overlying stone structures. These remnants appeared along the entire circumference of the island, probably preventing it from being eroded and flooded by the rising water level. The layout and structure of the construction on the area in question have been better reconstructed for the next phase of the island’s use, when its outer perimeter was artificially raised by adding a layer of clay and building wooden wharves connected to encircling platforms supported on a pile structure⁴. Theoretically, the two islands might differ significantly in the type of any dwellings on them. However, in neither case was the dwelling type unambiguously determined and this is also typical of many island sites of this type. In the case of the oldest phase of operation of Żółte Island, it is even likely that no dwelling at all existed. The current interpretation of this place is that the site was focused on a large boulder of sacral value. We have more data for the younger phase of use of the island, because – as mentioned earlier – the remains of a square building on a stone foundation in the most exposed part of the island were discovered.

Even more than the remains documented on Żółte, the remnants of island settlements discovered in Chycina, Nowy Dworek and Lubniewice in Lubusz Land resemble the structure of crannog sites (Figs. 12, 13). They were all connected to the mainland by bridges and all were situated on islands whose structures were, to various degrees, artificial. The most primitive solution was recorded for the oldest phase of settlement of the small island in Nowy Dworek, when its marshy shore was probably reinforced with fascine (end of the 8th century). In the 9th to 10th centuries, various construction solutions were used in this area to give the shore areas of the islands a shape that resembled crannogs. This is evidenced by the remnants of wharves in the form of a half-hull structure made of beams lying on top of one another and reinforced with piles on the outer side (Lubniewice), or a stone-filled box structure, also faced with piles on the outer side (Chycina), and a platform of solid wood covering the entire island (Nowy Dworek). This last solution is unique not only locally but most probably for the entire Western Slavonic region, and was dictated by the need to raise the level of the flooded island surface due to a rise in the lake’s water level. For each of the islands, the remains of piers were also found, surrounding the entire settlement in the case of Nowy Dworek and Lubniewice,

⁴ In terms of construction, however, they deviated significantly from solutions being used at almost the same time in Parsęko, where regular rows of block-constructed caissons were uncovered. It cannot be ruled out, however, that they are younger (the latter 11th century), seeing that the dating of a nearby fortified settlement at Dobra Nowogardzka shows that similar constructions come from the same time.

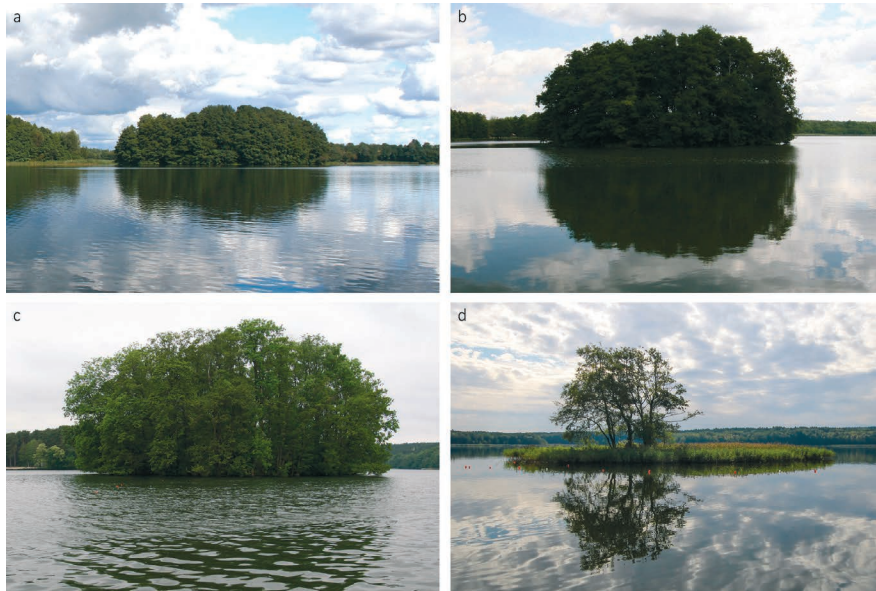


Fig. 13. View on the islands in Żółte (a), Chycina (b), Lubniewice (c) and Nowy Dworek (d) (present state) (photo by R. Kaźmierczak)

and covering one side of the island in Chycina. However, neither of these islands yielded evidence of stilt structures. The remains of wooden structures were located everywhere in the shore parts of the islands, and were probably integrally connected with them. As with Żółte and Parsęcko islands, the nature of the dwellings has also not been clearly confirmed for the islands in Lubusz Land. In the central part of the island in Nowy Dworek, a log building of indeterminate function was probably erected at the end of the 8th century. There are also remains of this type of structure from the younger phase of this place's use. The remains of the buildings uncovered on the other two islands were less substantial.

In Polish archaeology no term has yet been coined to accurately reflect the nature of this type of island site and distinguish it from the many other islands of the lake lands exploited in the early Middle Ages. They are not comparable with the many natural islands of the Polish Lowlands on which traces of casual use are found that are typical of so-called open settlements. In the form, size and spatial arrangement of the settlement infrastructure, too, they differ significantly from the lake islands of the Polish Lowlands, such as Ostrów Lednicki in Greater Poland or Nętno in Pomerania, as well as the towhead river islands – [Pol. *ostrów*] – often exploited in many regions during the Piast rule. In contrast to the small islands of the type exemplified by Żółte or Nowy Dworek, these large islands with strongholds were usually relatively large fragments of mostly natural land, sometimes quite exposed, a distinct part of which was occupied by gord-type fortifications. In

the case of the islands discussed in this article, it is of course completely wrong to use the concept of stilt-house settlements or other similar designations (*palafitta*; Pol. *nawodzisko*, etc.). However, they are physiognomically and structurally very similar to British crannogs, so there is no reason why this term – despite its ethno-cultural connotations derived from its Old Irish origins – should not be used in Polish archaeology. The appearance of this type of spatial and functional solutions in the Western Slavonic area does not, of course, mean that they are the result of assimilation as a result of interregional contacts with the British Isles. The idea of similar island development is known for the Baltic zone in the early Iron Age (Wilke 1988). However, in light of the similarities between Żółte Island and Llangorse Island, in Wales – each of which is unique in its own region – it is worth considering the possibility that certain cultural ideas from the British Isles were brought to Western Pomerania (*Pomorze Zachodnie*) by the Vikings. This is premised on the similarities in ornamentation of objects found in the Western Pomerania region that relate to the style of the Irish cultural circle (known as the Pomeranian school of Scandinavian-insular ornamentation; Duczko 2000). One of the largest known sets of wooden objects decorated in this way, though only from the 11th century, was discovered on Żółte Island (*The Island* 2014). It is also possible that the links between the two regions can be traced back to elements of the *Jómsvíkinga saga* concerning the chieftain Palnatoke, the legendary founder of Jomsborg (identified with Wolin), who is alleged to have settled in what is today's Wales (Redknap 2000, p. 12).

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There is no doubt that the crannog island sites in Poland require in-depth comparative studies. One of the main issues deserving priority in future research is the social functions of the islands, which were demonstrably in use from at least the end of the 8th century in Lubusz Land (Nowy Dworek, Chycina and maybe Lubniewice) and those still in existence in Pomerania in the 11th century (Żółte and Parsęcko). The functional and chronological analysis of the remains zones and their artefacts indicates not only that these places varied in these respects, but also that their role changed with the development of local and supra-local socio-cultural conditions. One instructive example is Żółte Island, which in the initial phase probably served a mainly mythical or sacral role, while it later functions as a place of interregional exchange (Chudziak *et al.* 2014; Chudziak, Siemianowska 2016). In order to determine the significance of the islands in question, it is above all necessary to examine the settlement context, especially their location compared to other settlement structures contemporary to them. It seems that an important feature of the islands in question is their characteristic location (right next to long-distance routes), in areas of very peripheral settlement – or even ethno-cultural borderlands – and close to the main watersheds of Lubusz Land and Pomerania. Furthermore, they were part of local settlement clusters that also featured defensive

settlements that were in many cases contemporary with them. Early on, R. Virchow suggested that the so-called Pomeranian stilt houses – as the islands in Parsęcko and Myślubórz were then described – were associated with the remains of nearby fortified settlements (Munro 1890). The chronological-spatial analysis of most of the islands included here has shown that such a co-existence may indeed have occurred. This was confirmed to be the case for the settlement microregion in Nowy Dworek, where not far from the island settlement discussed here, on the same lake, a contemporary settlement dating to the late 8th century and the 1st half of the 9th was identified. A similar arrangement was probably recorded in Lubniewice, where a bridge was documented dating to the AD 780s leading towards an island with the remains of a defensive settlement from that period. This was also confirmed to be the case for the late 9th century and the first half of the 10th for Żółte, where a fortified settlement was discovered in the immediate vicinity of the island in that period. The presence of two central points in close proximity to each other is an important factor to take into account when attempting to determine their functions. It is very likely that existing side by side and at the same time, they played fundamentally different roles in local settlement structures. This is one of the important directions in which further studies on ‘Polish crannogs’ should go, while considering the entire West Slavonic and broader European cultural context.

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