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(HERAUSGEBER)

SZÓLÁD I

DAS LANGOBARDENZEITLICHE GRÄBERFELD: MENSCH UND UMWELT

RGK

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Szólád I

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HERAUSGEGEBEN VON

TIVADAR VIDA UND DANIEL WINGER

MIT BEITRÄGEN VON

KURT W. ALT, LÁSZLÓ BARTOSIEWICZ, UTA VON FREEDEN, ERIKA GÁL,
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Fish Remains from the Langobard Period Cemetery of Szólád

By László Bartosiewicz

INTRODUCTION

Szólád is to be found approximately five kilometres south of the present-day shoreline of Lake Balaton, Central Europe's largest lake. The village is located in central Transdanubia, in the western third of Hungary. Transdanubia occupies the right bank of the Danube River that largely corresponds to the 4th century AD Roman provinces of *Pannonia Prima* and *Pannonia Valeria*. This report is devoted to the fish remains recovered from the small Langobard period cemetery excavated in the outskirts of the modern village. The taxonomic identification and archaeological interpretation of ichthyoarchaeological finds contribute yet another detail to reconstructing the history of the enigmatic Langobard period population who inhabited this region during the 6th century AD.

GEOGRAPHICAL SETTING

The palaeohydrological situation is of special importance here. A unique feature of this cemetery is that four of its burials contained fish bones, something which is seldom recovered from graves in the Carpathian Basin. While the plains along the Balaton southwest of Szólád were covered by the lake during prehistory, the village is located among gently rolling hills at an altitude of *c.* 250 m above the Adriatic Sea level on a southwardly sloping loess plateau overlooking a 30 km long valley. The shoreline of the lake is known to have receded greatly since prehistoric times, as evaporation from the lake tends to be greater than the inflow from small rivers and streams[1]. At the time of Langobard occupation, the area must have thus been significantly marshier than today, and southern reaches of the lake were probably connected to backwaters near the cemetery. The unregulated lakeshore seems to have reached deeper inland even during the early 18th century *(fig. 1)*. Following the topography of the hilly landscape, a web of streams, some of them seasonal, covered the low-lying areas. Floods occurred in the past due to high sedimentation and poor runoff. Although human settlement was not threatened, alternating streambeds resulting in stagnant waters lead to the development of swamps in low grounds. The capricious distribution of annual precipitation made the hydrological situation even more complex. During late summer draughts, many of the streams dried up completely. However, considerable amounts of water rushed down to the lake during the early spring snowmelt and the rainy weeks of May and early June. The regulation of the water flow took place only during the first half of the 20th century. Even today, several canalised streams criss-cross in the area of Szólád, of which Büdösgáti víz links the village with Lake Balaton.

Chronology

In an effort to provide a tighter temporal framework to current biomolecular investigations on humans interred at the site, the typo-chronological dating of grave goods could be narrowed down to between the second half and second third of the 6th century AD[2] within the historically documented presence of Langobards in the Carpathian Basin[3]. While, however, Langobard occupation in Transdanubia lasted for barely over forty years (i. e. less than two human generations), grave goods might be dated to broader periods of time and thus their mere presence is unsuitable for further precise dating of the burials[4]. However, the rare

1 Cholnoky 1936, fig. 14.
2 Alt et al. 2014.
3 Vida 2008.
4 Vaday 2015, 230.

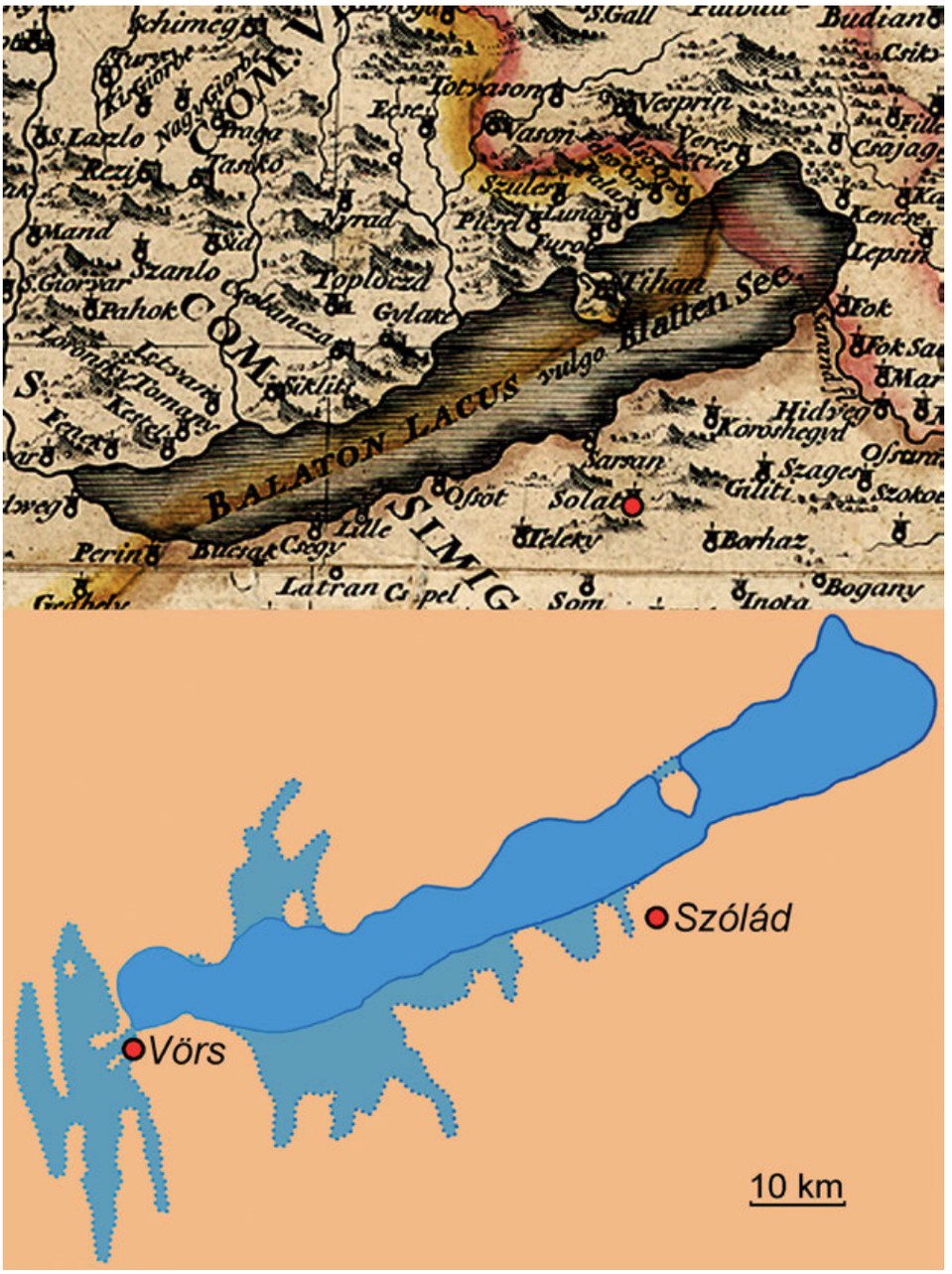


Fig. 1. Top: Szólád (Solat, red dot added) on the 1709 map by Johann Christoph Müller. Bottom: The greatest ever extent of Lake Balaton during Prehistory.

occurrence of shared mtDNA haplotypes in this cemetery is indicative of only a few deaths among members of the same family (discounting spouses who are usually not genetically related to each other)[5]. This confirms the hypothesis that the people interred here represent only an approximately two-decades-long-period, since the shorter the time interval of cemetery use, the smaller the likelihood that genetically related individuals would have been buried together in it.

5 Alt et al. 2014, 11, none of the burials thus identified contained fish remains.

FIND MATERIAL

Four of the 45 burials recovered at the site contained fish remains. All of them represent relatively small individuals of the carp family (*Cyprinidae* Rafinesque 1815). While 4/45 may seem like a modest ratio between graves, it must be emphasised that until now this is the largest ever fish bone assemblage brought to light from a cemetery of any archaeological period in Hungary, even if – as will be discussed later – fish are not entirely unknown among the grave goods in Langobard cemeteries.

Taphonomic concerns

Fish remains tend to be very sensitive from a taphonomic point of view. While alkaline soil conditions prevailing in loess deposits such as those in this cemetery are highly favourable from the viewpoint of chemical preservation, the lack of water-sieving often impedes the recovery of small animal remains invisible to the naked eye[6]. In the case of the Szólád fish remains under discussion, this dilemma is quite visible here, as the fish remains in most graves seem to represent single individuals. However, the skeletons usually recovered in a disarticulated state are far from complete. In the meantime, the possibility of pre-depositional butchering as a possible source of bone loss needs to be approached with extreme caution, as the absence of evidence for small bones cannot be taken as evidence for absence in all cases.

Morphological background

Cyprinid fish species are characterised by great similarities in skeletal morphology. With a few exceptions of skeletal bone, it is only the diverse and resistant, enamel coated pharyngeal teeth of the ceratobranchial arch (lower pharyngeal bone) that can be safely identified to species[7]. Unfortunately, none of these small, but highly diagnostic, elements have been found in the material.

Although no complete skeletons could be fully recovered, fish remains from each of the four burials seem to represent distinct individuals. Vertebrae were found in the greatest numbers, but in no cases do they exceed the numbers characteristic of single individuals.

The total number of vertebrae in cyprinid fish varies around 35–37, divided between the precaudal (abdominal) section to which ribs are attached and the caudal section. The latter is usually a few vertebrae longer than the precaudal section.

Since the degrees of neither skeletal integrity, nor indubitable disarticulation of these fish could be established for the first sight, the sets of bones found in the same grave are referred to as associated bone groups (ABG) in the preliminary characterisation of the deposits. Although terminology may look insignificant, the language used in describing ritual deposits may have a bearing on its subsequent interpretation[8].

Description by graves

Three of the burials containing fish remains were concentrated in the central portion of the cemetery while one was found somewhat further north. In addition to the fish bone, two of these graves also contained eggs of domestic hen (*Gallus domesticus*, Linné 1758) which will be important in the seasonal evaluation of interment *(fig. 2)*. Fish remains were recovered from the following contexts:

Grave 5 (Feature 98/5, underneath logs, east)

The bones of a small cyprinid fish found among the grave goods included a total of 37 vertebrae (15 precaudal and 22 caudal), representing the axial skeleton most probably of the same individual. Although the precise length of the fish could not be calculated from these dispersed bones, it may be estimated as 160–180 mm judged by the general size of vertebrae. This length corresponds well to the lower size range of several small cyprinid species including tench, silver bream, and roach[9]. Among the vertebrae, no diagnostic element allowing taxonomic identification beyond the family level was recovered *(fig. 3)*.

The person interred in this grave was a 30–40-year-old adult male.

Grave 6 (Feature 101/6)

Another small cyprinid fish recovered from this burial was represented by a total of 17 vertebrae (7 precaudal and 10 caudal) as well as two proximal rib fragments and two dorsal fin rays. In addition to the vertebral column of this individual, however, the right praemaxillare from the animal's viscerocranium was also found. Other head elements included a praeoperculare fragment from the same side, part of an urohyale and a non-identifiable neurocranium fragment. Although species identification based on

6 Bartosiewicz 1988.
7 Bartosiewicz et al. in print.
8 Morris 2008.
9 Bartosiewicz / Bonsall 2004, 261, tab. 3.

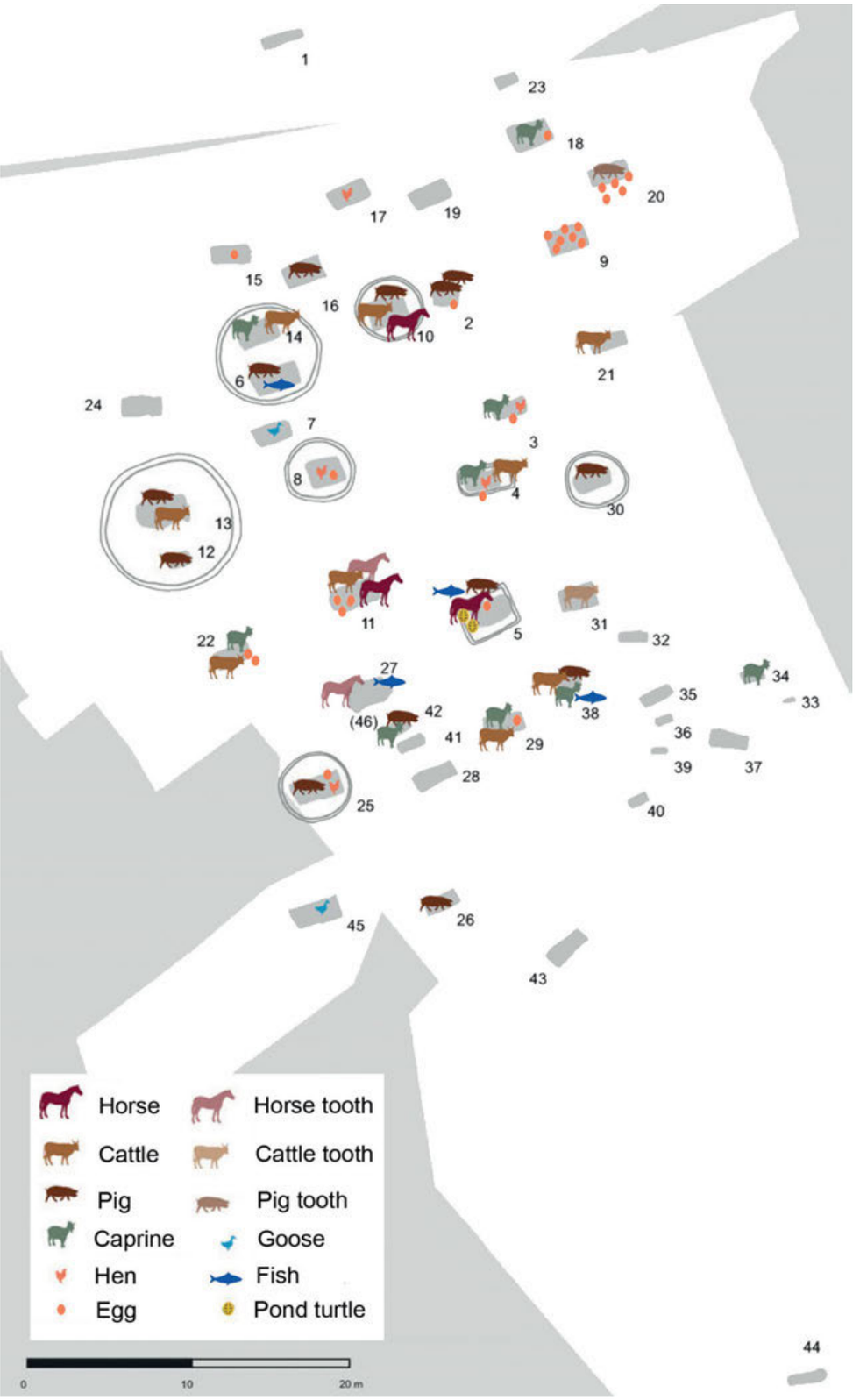


Fig. 2. Plan of the Langobard period cemetery at Szólád–Kertek alatt showing the location of burials with with animal remains, fish, and associated domestic hen finds.

Fig. 3. Fish ABG from Grave 5: an admixture of small cyprinid precaudal and caudal vertebrae.

Fig. 4. Fish ABG from Grave 6: an admixture of small cyprinid precaudal, caudal vertebrae, and head elements. The identifiable praeoperculare fragment and praemaxillare of barbel are marked by framing in the upper right corner.

Fig. 5. *In situ* photograph showing a segment of caudal vertebrae of a small cyprinid fish from Grave 27.

these parts of the cyprinid skeleton are not entirely reliable, the praemaxillare and praeoperculare are especially reminiscent of barbel (*Barbus barbus*, Linné 1758)[10]. While fully grown individuals of this species may attain lengths between 50–100 cm, based on the 20.7 mm length of the premaxilla[11], the specimen in Grave 6 was far smaller, representing a size range barely exceeding 20–25 cm *(fig. 4)*.

This grave contained the remains of an 8–12-year-old male child.

Grave 27

The segment of the vertebral column from a small Cyprinid fish was lifted up *in situ* from this grave and taken to the Archaeological Institute (then Research Centre for the Humanities of the Hungarian Academy of Sciences) for further investigation. It contained 7 precaudal and

10 Radu 2005.
11 Morales / Rosenlund 1979.

4 caudal vertebrae. The bones were quite firmly cemented into the loessy soil. Water-sieving this sample revealed no other skeletal parts. It may be presumed therefore that only a part of the fish was put into the grave without the head. The length of the segment was measured *in situ* to be 68 mm. Considering the body proportions of small species in the cyprinid family and the sizes of individual vertebrae, this specimen represented the same 15–20 cm size range as the previously discussed smaller fish *(fig. 5)*.

The deceased buried in this grave was a 40–55-year-old man.

Grave 38 (Feature 209, Planum 2–3)

Only a single dorsal fin ray was available for study from this burial. However, it could also be assigned to a cyprinid fish based on morphology and size. This falls in line with taxonomic observations made on the material from the previously analysed three graves. This skeletal element, however, does not lend itself to species identification and its size is also non-diagnostic as it is only one of several similar bones forming a series within the animal's fin.

The remains of a 5–6-year-old girl were recovered from this burial.

DISCUSSION

As pointed out in the introduction, fish remains tend to be rare among grave goods, even in carefully excavated burials. In the absence of direct archaeozoological parallels, the cultural interpretation of fish remains from Szólád is a potentially complex task. The material presented in this paper may be evaluated from at least three points of view, including both the utilitarian and cognitive aspects of fish exploitation by the small community whose members were interred in the Langobard cemetery of Szólád.

The availability of fish

As much as taxonomic identification could be carried out on the material, all four graves contained bones from small species of the carp family. The bones of all four individuals found in the Szólád burials originated from relatively small specimens from approximately 15–20 cm in length. The remains of small cyprinid fish are among the most commonly encountered ichthyoarchaeological finds in the Carpathian Basin[12]. One of the fish ABGs in the Szólád cemetery contained two somewhat diagnostic elements indicative of barbel, a commonly occurring omnivorous fish in freshwater bodies across Central Europe.

Spatial availability

Although various species in the carp family show slightly different habitat preferences, many of them do not require high concentrations of dissolved oxygen. Therefore, they commonly occur in slow-flowing rivers, oxbows, and various marshland habitats as well as frequently flooded areas. Barbel, however, usually prefer gravel and rocky-bottomed slow-flowing waters with relatively high dissolved oxygen content. It is important to mention that in spite of the proximity of the Balaton, these fish probably did not originate from the lake. Given the hydrological characteristics of the area, they must also have been available, at least seasonally, in the cemetery's immediate proximity.

This also means that procuring the individuals placed in the four graves probably did not take special efforts that would have *per se* increased the value attached to these animals. When the modest body size of the four interred fish is considered, it is also unlikely that they represented major food value.

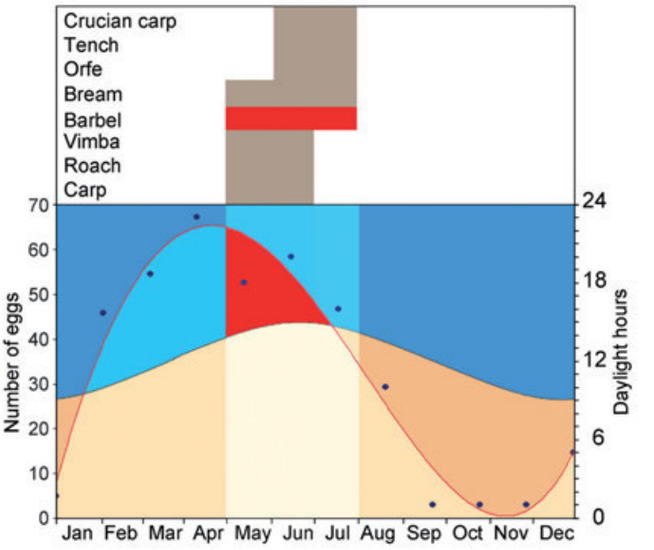
Temporal availability

Given the aforementioned dynamics of water supplies around the site, it may be hypothesised that at this inland location fish were not constantly available throughout the year. Seasonal interpretations of animal remains recovered from archaeological sites are based on the known reproductive cycles of animals, including fish[13]. Thus at least probabilistic estimates can be made regarding the time of the year various fish were caught. Fish stocks are not stationary. Barbel spawns usually in shallow, fast-flowing riffles, typically in May and June in Hungary at water temperatures of 17–18 °C. At this point it migrates upstream in small streams or shallow waters near riverbanks where it may be more easily targeted. According to a calendar developed for birds and fish[14], cyprinid fish fall into an early and a late spawning group. Early spawning takes place in lower water temperatures and is thus typical of species that require a higher concentration of dissolved oxygen. Barbel (and bream, *Abramis brama*, Linné 1758) are relatively flexible

12 Bartosiewicz et al. in print.
13 Bartosiewicz et al. 1994.
14 Pike-Tay et al. 2004, 236, tab. 3.

in this regard spanning the spawning season of both cyprinid groups between May and July *(diagr. 1)*. It is at this point that the recovery of egg remains from Graves 5 and 38 becomes very important. As is shown in combination with the spawning regimes of cyprinid fish in *diagram 1*, domestic hens lay far more eggs in the spring and summer because their offspring will have a greater chance of survival. As is known from Easter tradition, annual egg laying peaks in March–April, and the offspring begin their lives in the lightest months of the year. This time period corresponds to the reproductive season of early spawning cyprinids, including barbel. This temporal overlap is marked by red fields in *diagram 1*. It must be noted, that although egg production data were recorded under the circumstances of traditional keeping at the organic farm of *El Patio Ecologico* (Valladolid, northern Spain), they still concern modern domestic hen. One and a half millennium ago the production peak was even more pronounced in unimproved domestic hen, possibly limited mostly to Mid-April–June, as is the case with two closely related present-day wild galliform birds in Hungary, partridge (*Perdix perdix*, Linné 1758), and pheasant (*Phasianus colchicus*, Linné 1758)[15].

The question of seasonality is also worth considering as three of the four burials containing fish remains (Graves 5, 27, and 38) were found in close proximity to each other in the central section of the cemetery (cf. *fig. 2*). While there is no way to prove that all three of these people were interred during the spring/early summer in the same year, the spatial coincidence is remarkable.



Diagr. 1. The May–mid-July time overlap (red) between the peak reproduction seasons of small cyprinids including barbel (top section) and domestic hen (red curve, left vertical axis) in light of the annual cycle of daily insolation (black curve, right vertical axis). Blue dots indicate egg production in each month. Explanation in the text.

Technical aspects

The meagre skeletal evidence of four small fish from the Szólád graves does not permit far-reaching conclusions to be drawn concerning the methods of fishing. It should suffice to say here, that such small specimens can be gathered, even by hand, in residual pools and small streams without any special equipment. As size ranges increased, large individuals would be more likely to have been targeted by methods of active fishing (angling, harpooning)[16], but this is certainly not the case with the small cyprinids found among the grave goods in the Szólád cemetery.

The dietary role of fish

Animal remains deposited as grave goods by definition reflect ritual activity. Even if they formed part of the grave goods as food, special considerations may have regulated what food was considered important by the community for the eternal journey of the deceased. In this sense, the taxonomic composition of animal bone assemblages recovered from cemeteries may not be considered representative of the mundane diets of any community[17].

Osteological evidence

In spite of taphonomic problems such as poor preservation and partial recovery due to hand-collection, it seems that with the emergence of animal keeping, fishing lost significance as a dominant form of subsistence and became a complementary source of animal protein in most mobile pastoral communities, regardless of chronological / cultural affiliation[18]. Fish consumption is virtually unknown during the Migration Period of the Carpathian Basin. Szólád is a clear example that thanks to the careful hand-collection of finds from graves, burials do have a potential to furnish osteological proof of fish exploitation.

15 Faragó 2002, 145; 161.
16 Kovács et al. 2010.
17 Bartosiewicz 1986.
18 Bartosiewicz et al. 2001.

Stable isotope evidence

During the analysis of dietary stable isotopes at the site, freshwater fish was reckoned as a potential source of animal protein with elevated $\delta^{15}N$ values. Although collagen extraction from the excavated fish remains failed[19], analyses carried out on present-day cyprinids from wetland areas near Lake Balaton have been cited as producing $\delta^{13}C$ values ranging between -31 and -28 ‰, the $\delta^{13}C$ enrichment factor in the food chain from benthos through omnivorous cyprinid prey fish, to predatory pike (*Esox Lucius*, Linné 1758) exceeding 2 ‰[20]. Although barbel (the only identifiable small cyprinid species from Szólád) was not discussed in that study, it produced marginally higher $\delta^{13}C$ values ranging between -27.3 and -25.0 ‰ in modern alluvial environments in Britain[21]. According to the aforementioned dietary stable isotope studies carried out on the human remains from Szólád[22], the relatively high $\delta^{13}C$ values rather argue against the consumption of considerable amounts of freshwater fish.

$\delta^{15}N$ levels of the barbels measured in English rivers, ranged between 11.34 and 18.16 ‰, comparable to nursing signals in young, suckling humans, illustrating the broad range of isotopic signatures of omnivorous fish inhabiting diverse habitats.

Ritual considerations

Fish have attained special symbolic value in many cultures, as has been expressed in iconography as well as personal ornaments made from fish bones[23]. In the case of structured deposits, such as burials, four categories of "sacrificial" animals can be distinguished: animal grave, animal sacrifice, animals as grave goods, and animals as part of food included in the grave goods[24]. In the case of the fish remains from the Langobard cemetery at Szólád the latter two categories may be considered relevant; fish are unlikely to have been companion animals or protagonists in spectacular animal sacrifices. They may have carried, however, subtle symbolic meaning, as well as having been considered a delicacy.

Parallels to the fish remains found in the Szólád cemetery

Parallels to the four Szólád fish deposits are few and far between. A small cyprinid fish accompanied an adult man in Grave 30 of the Langobard cemetery in Vörs, 55 km west/southwest of Szólád near Lake Balaton (cf. *fig. 1*, bottom). Its bones came to light outside the coffin, left of the feet of the deceased. The head of the fish was apparently missing[25]. This find is by all means the closest parallel to the Szólád fish deposits.

Another relevant discovery is represented by the reasonably large (55–60 cm long[26]) pike recovered from Feature 272, the inhumation grave of an adult female (30–40 years old) in the Langobard cemetery of Ménfőcsanak–Bevásárlóközpont in the Danube floodplain, some 150 km north of Szólád. Remains of this possibly complete individual were found left of the woman's feet[27]. This burial, however, stands apart from those in the Balaton region: it is the only known example of an adult woman being interred with fish. Moreover, in contrast to the humble small cyprinids discussed so far, pike is an aggressive predatory fish known from symbolic contexts ranging from structured deposits in a Tumulus culture sacrificial pit at Ménfőcsanak[28], to an unrecorded pre-Christian custom of selected animals being covered by pots in early medieval Hungary[29]. Ferocious pikes have also attained a special role in late medieval heraldic art[30].

Further northwest, fish remains were also found in the southern/south-eastern corner of the burial of a 50–70 years old man at Pottenbrunn near Sankt Pölten in Austria, some 350 km northwest of Szólád[31]. Last but not least, rare recorded fish remains have also been reported from Migration Period Grave 19 at Großörner, 100 km northwest of Leipzig in Saxony, Germany[32].

The age and gender of deceased

Diagram 2 shows the occurrence of fish remains in the grave furniture in regard to the distribution of the age and sex of humans identified in the Langobard Period burials at Szólád. While no statistically reliable patterning can be established on the basis of such few specimens, certain

19 Alt et al. 2014, 7.
20 Tátrai et al. 1999.
21 Bašič et al. 2015, 155, tab. 1.
22 Alt et al. 2014.
23 Takács / Bartosiewicz 1989.
24 Augstein 2014, 77.
25 Sági 1964; the grave goods also included two subadult pig mandibles and, notably, an egg.
26 Bartosiewicz 1990.
27 Bartosiewicz 2015.
28 Bartosiewicz et al. in print.
29 Daróczi-Szabó 2010.
30 Khin 1957.
31 Neugebauer 2001, 286, fig. 83.
32 Müller 1980, 103–104.

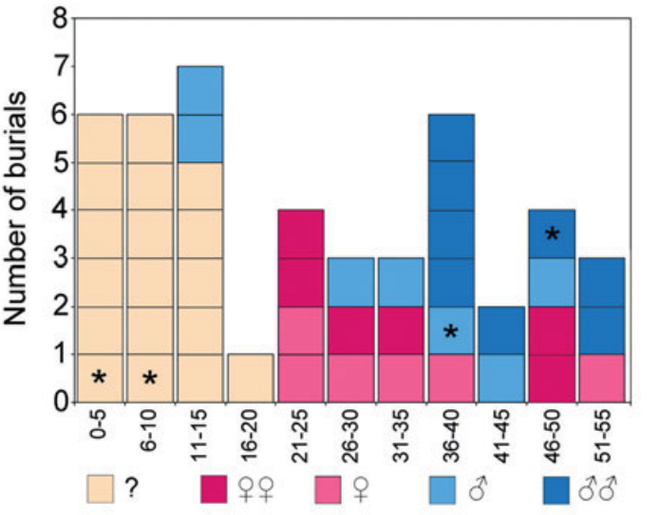
trends can be visually appraised. Considering the aforementioned evidence from burials at Vörs and Pottenburg, it would seem that known Langobard Period fish remains predominate in male burials.

The sex of juvenile human skeletons should be reconfirmed through molecular sexing, as the osteometric characteristics of children show little secondary sexual dimorphism before sexual hormones (and especially the synergy between testosterone and growth hormones) start impacting bone growth during adolescence.

Ménfőcsanak, the only known case of an adult female having been buried with a fish in a Langobard cemetery, stands apart due to the choice of the interred species: pike. There is a strong possibility that the perception of this carnivorous fish was different from those of the small cyprinids encountered in the four Szólád burials. While these latter fish fall into a size range whose individuals may even be collected by hand, this would certainly not have been the case with a pike exceeding half a meter in length. Therefore, the Ménfőcsanak "fish burial" may be considered atypical from numerous points of view when compared to the Szólád graves.

Anatomical representation

Small cyprinids in four of the graves of the Szólád cemetery were consistently represented by bones from the axial skeleton, predominantly vertebrae. In a single case, head elements were also recovered from Grave 6 of a child allowing for a tentative species identification for barbel. In the description of the fish recovered from Grave 30 at the Langobard cemetery of Vörs, the excavator Károly Sági raised the possibility that the animal had been placed in the grave without its head[33]. This observation, however, needs to be treated with extreme caution. Given the degree of taphonomic loss, it is difficult to tell whether the lack of delicate cranial elements is indeed the result of decapitation (hence the use of the term ABGs, rather than skeletons in this paper). In spite of the few surviving vertebrae (4 precaudal and 2 caudal), several parts of the pike's head (*supraoccipital*, *vomer*, two fragments of a right *dentale*, *angulare*, *quadratum* fragment) survived in Feature 272 at Ménfőcsanak, which is yet another reminder that partial preservation and recovery may impact our conclusions[34].



Diagr. 2. The distribution of burials by the median of age estimates of the deceased and results of sexing by osteological criteria. Asterisks indicate the occurrence of fish remains in the respective graves. Legend: * = fish remains, ? = sex unknown, ♀♀ = female, ♀ = female character, ♂♂ = male, ♂ = male character.

The absence of head elements in the Szólád fish deposits cannot be unambiguously attributed to human behaviour, i. e. decapitation.

Placement in the grave

The location of fish finds relative to the body of the deceased may help in recognising patterning attributable to ritual behaviour. Apart from Grave 5, where there is no precise information regarding the location of the bones, in the three other cases the fish remains were recovered outside the coffins associated with other animal bones and wooden vessels. The fish remains were then recovered by the feet, just as they were recovered to the left foot of the interred persons at both Vörs and Ménfőcsanak.

Last but not least the depth of graves relative to the Migration Period surface would be of key importance in reconstructing the role of fish in the ritual. It must be stated that Graves 5 (nearly 3 m), 6 (nearly 4 m) and 27 (nearly 3.5 m) belong to the deepest graves of the cemetery, whereas the well-equipped Child Grave 38 was nearly 1.5 m deep – one of the deepest child burials[35].

33 Sági 1964.
34 Bartosiewicz 2015, fig. 4.
35 von Freeden / Vida 2007, 409, fig. 20.

CONCLUSIONS

As far as the sparse evidence of fish remains from Migration Period settlements shows – even when taphonomic loss / recovery bias is reckoned with – fishing must have been an opportunistic activity of possibly seasonal importance in a fundamentally pastoral form of subsistence economy, firmly based on the exploitation of domestic animals. As such, fish are not expected to have left a marked dietary isotopic signal in human bone samples.

The presence of four fish in various burials at Szólád showed no consistent association with the age and gender of the humans interred. This lack of patterning is in itself of interest as it seems to indicate that age and gender are not key dimensions along which we may hope to understand the actual meaning of these modest-looking fish as grave goods.

There is no way of accurately estimating the intensity by which the small Langobard cemetery of Szólád expanded. It is remarkable, however, that archaeozoological evidence is indicative of late spring–early summer burials in the central section of the cemetery.

The fine-grained ritual interpretation of fish remains will become possible on the basis of an active dialogue between archaeologists and animal bone experts in light of all archaeozoological data.

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Fig. 1: Map J. Ch. Müller (http://www.oszk.hu/en/maps), Redrawn after Cholnoky 1936. – *Fig. 2*: von Freeden / Winger, translated by the author. – *Figs 3–5*: Photographs by the author. – *Diagr. 1*: Pike-Tay et al. 2004 (http://elpatioecologico.blogspot.se/, updated by the author). – *Diagr. 2*: Anthropological information after Alt et al. 2014: File S1 Data tables.

ABSTRACT

Szólád is located five kilometres south of the present-day shoreline of Lake Balaton in western Hungary. This is the analysis of fish remains from the small Langobard period cemetery excavated in the outskirts of the village. The identification and archaeological interpretation of these bones contributes to reconstructing the history of the enigmatic Langobard people who inhabited this region in the 6th century AD. Although fish were found in only four burials (Graves 5, 6, 27, 38), good preservation and careful recovery of these finds supports the impression that even when taphonomic loss is considered, not many other graves in the cemetery may have been furnished with fish. Parallels to the interment of fish in Langobard period cemeteries are few and far between, as such bones were found only in single graves in other cemeteries. It seems that opportunistic fishing played only a complementary, possibly seasonal role in meat provisioning in a pastoral economy, firmly based on the exploitation of domesticates. All four fish interred at Szólád were cyprinids, a family of osteologically similar species. Species-level identification was possible in Grave 6, where bones of a 20–25 cm long barbel (*Barbus barbus* Linné, 1758) were identified. The Szólád fish remains showed no consistent association with the age and gender of the deceased humans. The co-occurrence of fish and eggshell (Graves 5 and 38) is indicative of spring burials.

ZUSAMMENFASSUNG

Szólád liegt etwa 5 km vom heutigen Südufer des Plattensees entfernt. Diese Studie ist eine tierkundliche und archäologische Analyse der in den Gräbern des in der Gemarkung des Dorfes freigelegten kleinen langobardenzeitlichen Gräberfeldes gefundenen Fischreste. Die Ergebnisse bereichern mit neuen Details die Kenntnis der Bestattungsbräuche der langobardenzeitlichen Bevölkerung im 6. Jahrhundert n. Chr. Die in ziemlich wenigen, in nur vier Gräbern (5, 6, 27, 38) gefundenen Fischreste sind selbst dann beachtenswert, wenn das gut erhaltene, sorgfältig freigelegte Tierknochenmaterial suggeriert, dass tatsächlich nur in diese Szóláder Bestattungen Fische gelegt worden waren. In den einheimischen Langobardengräberfeldern haben die Fischgrätenfunde kaum Parallelen, Fische kommen im Allgemeinen nur in je einem Grab vor. Der Fischfang wird höchstens eine ergänzende, eventuell jahreszeitliche Rolle in der damaligen Fleischversorgung gespielt haben, die entscheidend auf der Viehhaltung im Freien beruhte. In allen vier Bestattungen fanden sich die Reste eines kleineren Karpfens, dessen genauere, artenmäßige Bestimmung nur in einem Fall möglich war: in Grab 6 Barbe (*Barbus barbus* Linné, 1758). Dieser Fund stammte ebenso wie die übrigen von einem nur 20–25 cm langen Fisch. Das Alter und Geschlecht der Verstorbenen in den vier Gräbern wiesen keinen Zusammenhang mit dem Vorhandensein der Fischgräten auf. Das gemeinsame Vorkommen von Fischresten und Eierschalen in den Gräbern in der Gräberfeldmitte (5, 38) verweist auf Bestattungen im Spätfrühling−Sommer hin.

ÖSSZEFOGLALÁS

Szólád a mai Balaton déli partjától mintegy 5 km távolságra fekszik. Ez a tanulmány a falu határában feltárt kis langobard kori temető sírjaiban talált halmaradványok állattani és régészeti elemzése. Az eredmények újabb részletekkel járulnak a Kr. u. 6. századi langobard kori lakosság temetkezési szokásainak megismeréséhez. A meglehetősen kevés, mindössze négy sírban talált halmaradvány (5., 6., 27., 38.), akkor is figyelemre méltó, ha a jó megtartású, gondosan feltárt állatcsontanyag azt sugallja, hogy valóban csak ezekbe a szóládi temetkezésbe helyeztek halakat. A hazai langobard temetőkben a halcsont leleteknek alig vannak párhuzamai, halak általában csak egy-egy sírban fordulnak elő. A halászat legfeljebb kiegészítő, esetleg évszakos szerepet játszhatott a korabeli húsellátásban, amely döntő mértékben a pásztorkodó állattartáson alapult. Mind a négy temetkezésben egy-egy kistermetű pontyféle maradványai kerültek napvilágra, amelyek pontosabb, faji meghatározása csak egyetlen esetben volt lehetséges: a 6. sírban márna (*Barbus barbus* Linné, 1758). Ez az egyed a többihez hasonlóan is mindössze 20–25 cm hosszú halból származott. A négy sírba temetett elhunytak kora és neme nem mutatott összefüggést a halcsontok jelenlétével. A halmaradványok és tojáshéjak együttes megjelenése a temető közepén fekvő sírokban (5., 38.) késő tavaszi-nyári temetésre utal.