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THE EXPRESSION OF DEMAND FOR PARTICULAR FISH FOOD IMPLIED BY AQUATIC FACILITIES IN LIVING AREAS OF NOBLE HOUSEHOLDS

One approach to understanding ancient urban life is to assess the occupants' behaviour in relation to their nourishment. This study originated in analyses carried out on hand collected fish bones derived from various noble dwellings in Terrace House 2. The results of these scarcely proven remains were at first surprising. However, the results were confirmed by examinations of remains from a large pit underneath the floor of dwelling unit 5, obtained by intense wet sieving activities of its filling. The main part of the bone refuse dates to the 1st c. AD, while a smaller amount accumulated earlier or even later. Though the site is situated close to the sea and various kinds of maritime species were consumed, a high amount of freshwater fish remains reflects the demand for such food. In some of the dwellings larger aquatic facilities existed, supplied with flowing water. This may build a bridge to the culinary style of urban living. The basins provided the opportunity to keep freshwater fish for at least short periods of time. Therefore, they did not only serve for cooling and recreation, but also provided fresh and living fish for the occupants. The demand for fresh and live fish as well as the use of aesthetically structured water basins symbolises the extravagancy of these noble households of the upper social elites.

The eventful history of this specific settlement area originated in the Middle Bronze Age¹ and offered sights such as the Temple of Artemis, established by the Lydian King Croesus, which became famous as one of the ancient world wonders. The ancient *metropolis Asiae* Ephesos developed partially on alluvial sediments transported by the river Kaystros (Küçük Menderes) to the Ionian coast. Terrace House 2 was first established in the early 1st c. AD upon demolished Hellenistic structures on the northern slope of the Bülbüldağ. A substantial rebuilding phase of the residence dates to about 150 AD and its status remained until the Severan Period². The dwelling units of Terrace House 2 were extravagantly equipped with peristyle courtyards, sometimes in combination with aquatic facilities.

This paper originates in archaeoichthyological investigations on fish remains uncovered from deposits inside and underneath the dwellings. Recent excavation activities in various rooms inside Terrace House 2 applied modern scientific standards and revealed substantial insights into the dietary preferences of its occupants. The surprising results offered an interdisciplinary approach to understanding this kind of noble urban life. Hand collected samples obtained from sedimentary deposits from several rooms of the dwelling units 1, 2 and 3 produced an astonishingly high amount of freshwater fish remains in relation to maritime fish abundance³ (tab. 1). A shallow pit worked into the original rocky subsoil filled up with domestic refuse dating to the 1st c. AD was found underneath the floor of room 12a in dwelling unit 5⁴. The major part of

¹ P. SCHERRER, *Ephesos – der neue Führer* (Vienna 1995) fundamentally describes the development of Ephesos through the centuries.

² S. LADSTÄTTER, *Die Chronologie des Hanghauses 2*, in: F. KRINZINGER (Hrsg.), *Das Hanghaus 2 von Ephesos. Studien zu Baugeschichte und Chronologie*, *AForsch* 7 (Vienna 2002) 9–40 and *THÜR* 2005, 54–56 provide essential descriptions of the building history of Terrace House 2.

³ Cf. G. FORSTENPOINTNER – G. WEISSENGRUBER – A. GALIK, *Banquets at Ephesos. Archaeozoological Evidence of Well Stratified Greek and Roman Kitchen Waste*, in: H. BUITENHUIS – A. M. CHOYKE – M. MASHKOUR – A. H. AL-SHIYAB (eds.), *Archaeozoology of the Near East 5*, *ARC Publicaties* 62 (Groningen 2002) 282–304 for already published results concerning the dwelling units 1 and 2.

⁴ S. LADSTÄTTER in: S. LADSTÄTTER – A. GALIK – D. IRO – M. PFISTERER – E. RATHMAYR – V. SCHEIBELREITER – H. SCHWAIGER – M. TEICHMANN, *Die Grabungen des Jahres 2004 im Hanghaus 2 in Ephesos*, *ÖJh* 74, 2005, 247–276 esp. 254 describes preliminary

the fish remains dates to the 1st c. AD, while only a smaller amount of remains comes from the Hellenistic respectively the later periods (tab. 1).

The pit filling in dwelling unit 5 was extensively wet sieved in order to avoid the usual loss of small and tiny fish bones that occurs in even accurately hand collected excavations⁵. Nevertheless, in this case the ratio of freshwater and maritime species obtained from the sieve residues and from the hand collected samples remained rather balanced (tab. 1). Although there were less marine fish remains than freshwater species, they indicated a higher diversity of species (tab. 2). Some of the maritime fish were caught at open sea such as tunas, mackerels, jacks/pomanos, or in deeper waters closer to the shore like large groupers. Most of the species were available close to the shore, like sea breams, *mugilids*, wrasses, gurnards, parrot fish, scorpion fish, mullets or even moray eels. Besides fishes which can reach larger body sizes, the occupants obviously consumed small maritime fish like gobies, sardines and combers (tab. 2).

While there was a slightly higher number of freshwater fish remains, the diversity of species is restricted to cyprinids (carp, bream, kutum) and pikeperch (tab. 2). The European eel, a *catadromous* species, and the exotic catfish, *Clarias sp.*, were also among the finds (tab. 2). As the natural range of European eel reaches the Ionian coast, the finds do not necessarily indicate an import of *allochthonous* fish, although eel seems to be missing in comparable ancient Turkish sites⁶. However, the presence of exotic catfish, *Clarias sp.*, is seriously debated as an indicator of long distance trade goods, imported as preserved fishes⁷. Besides the economic meaning of such finds, table 2 illustrates the availability of many kinds of maritime fish in ancient Ephesos. In relation to an expected higher diversity derived from the natural freshwater fish population, the limited variety of a few species reflects culinary preferences.

The originally established dwellings of Terrace House 2 followed a specific ground plan involving a central peristyle courtyard equipped with various flowing water facilities such as draw wells, fountains and other types of basins⁸. However, several adaptations and the rebuilding of living areas and dwellings occurred during the decades of use and the well documented final architectural stages are usually younger than 100 AD. In building-phase II (late Flavian/Trajan), a water basin provided with fresh running water by a clay pipe system was built in the peristyle court of dwelling unit 4 and was also used in building phase III⁹ (fig. 1). The basis of the so-called Basilica (room 8) in dwelling unit 6 revealed remnants of a huge flowing water basin, which dates to building phase III in the mid-2nd c. AD¹⁰ (fig. 2). A large dimensioned channel to the north supplied the basin with running water and the large sewer to the east was blocked at the outlet with an artificially modified limestone slab (fig. 3). A well preserved differently shaped aquatic basin using flowing water is situated in a niche in room 36a in dwelling unit 6. Room 36a probably existed since building-phase I (late Augustan/Tiberian) and was in use until the destruction of the house in the third quarter of the 3rd c. AD¹¹. The fish motives of the wall paintings in the barrel vault covering the small basin possibly point to the use of such flowing water facilities (fig. 4. 5).

results and gives prospects concerning the pit under the floor of room 12a in dwelling unit 5.

⁵ L. BARTOSIEWICZ, Water sieving experiment at Örménykut site 54, in: M. JIRÓ – M. KÖLTÖ, Archaeometrical Research in Hungary (Budapest 1988) 267–274 and B. DE CUPERE – A. LENTACKER – M. WAELEKENS, Sieving Experiments in the Lower Agora and their Implications for the Interpretation of Archaeozoological Data from Sagalassos, in: M. WAELEKENS – J. POBLOME (eds.), Sagalassos 3 = ActaALovMono 7 (Leuven 1995) 367–377 discuss excavation methods and results of fine excavation techniques like the wet sieving of soil. Such methods prevent a bias towards large specimens and usually increase the variety of fish species.

⁶ VAN NEER – DE CUPERE – WAELEKENS 1997; VAN NEER – UERPMANN 1998; M. UERPMANN – W. VAN NEER, Fischreste aus den neuen Grabungen in Troia (1989–1999), StTroica 10, 2000, 145–179. The sudden appearance of eel remains in Roman contexts of the 1st c. BC in Switzerland is discussed as possible fish import (HÜSTER-PLOGMANN 2006, 187).

⁷ VAN NEER – DE CUPERE – WAELEKENS 1997; VAN NEER et al. 2000; VAN NEER et al. 2004; A. ARNDT – W. VAN NEER – B. HELLEMANN – J. ROBBEN – F. VOLCKAERT – M. WAELEKENS, Roman Trade Relationships at Sagalassos (Turkey) Elucidated by Ancient DNA of Fish Remains, JASc 30, 2003, 1095–1105.

⁸ THÜR 2002, 47–50, J. MICHALCZUK, Architektonisch gestaltete Brunnenanlagen in römischen Privathäusern am Beispiel des Hanghauses 2 in Ephesos (Dipl. University of Vienna 1999).

⁹ THÜR 2002, 52, THÜR 2005, 54 f.; J. MICHALCZUK, Brunnen, in: THÜR 2005, 170–175.

¹⁰ THÜR 2002, 61–65.

¹¹ THÜR 2002, 61–65.

Authors of Classical Antiquity such as Columella¹² or Varro¹³ already described the ability of keeping and farming fish in freshwater ponds as well as in fishponds supplied with brackish or even salt water in Roman times. Buildings of similar architectural structures including flowing water basins are proven at Classical sites like Pompeii or Herculaneum¹⁴. Such basins are called *vivaria* or *piscinae* as shown in the Casa del Centenario in Pompeii, where fish bones were excavated. They are usually explained to keep ornamental fish¹⁵. An impression such as from the painted scenario above the basin in room 36a in dwelling unit 6 (fig. 4. 5) may confirm the assumption that colourful fish were kept for the amusement of the occupants.

The high frequency of freshwater fish remains, which stands in contrast to the common opinion derived from various historical records that prosperous Romans regarded freshwater fish unfavourably¹⁶, could help us to broaden our knowledge about the use of these extraordinary flowing water facilities besides cooling, recreation and amusement. In the case of Ephesos, we believe that the function of these basins supplied with fresh running water was less the pleasure of watching fish rather than keeping them for short periods of time in freshwater ›tanks‹ in order to have fresh and live fish available. The availability of living fish for consumption and the opportunity to offer them to guests as a kind of special service, reflects the demand for luxury in an upper class society, even in their diet. Therefore, this category of tiny and often neglected ichthyoarchaeological remains can improve and complement the understanding of the prosperous urban lifestyle in Ephesos.

Table 1:
Table illustrating an overview of the dwellings (›Wohneinheiten‹ – WE) including chronology and data on the aquatic habitat of the fish.

WOHNEINHEIT	<i>pisces</i>	freshwater	maritime	<i>catadromous</i>	total
WE 1+2 Flavian	42	19	6		67
WE 1+2 Hellenistic		2	1		3
WE 1+2 Late Hell. – Severan	25	5	6		36
WE 3 2 nd –1 st c. BC	1	1			2
WE 3 Augustan	10	3	3		16
WE 3 Augustan/Tiberian	2	3	1		6
WE 5 1 st c. AD	2	3			5
WE 5 Late Hellenistic/1 st c. AD	1	5	2		8
WE 5 pit 1 st c. AD	1847	310	266	37	2460
total	1930	351	285	37	2603

¹² Colum. 8, 17, 1–6.

¹³ Varro rust. 3, 17, 1–2.

¹⁴ J. HIGGINBOTHAM, *Piscinae. Artificial Fishponds in Roman Italy* (Chapel Hill 1997) 284 gives an overview of strategies on how to construct various kinds of artificial ponds.

¹⁵ W. F. JASHEMSKI, *The Gardens of Pompeii, Herculaneum and the Villas Destroyed by Vesuvius* (New Rochelle 1979) 108–112.

¹⁶ B. BELELLI MARCHESINI – H. BLANCK, *Piscinari. Römische Villenbesitzer und ihre Fischliebhaberei*, AW 30/2, 1999, 157–168 and G. E. THÜRY, *Die Süßwasserfauna im Urteil der Römer Teil 2. Kulinarische Aspekte*, in: HÜSTER-PLOGMANN 2006, 179–186 summarise and provide an overview of ancient literary sources concerning preferences in fish consumption.

Table 2:
 Quantification of fish species from Terrace House 2¹⁷

		1	2	3	4	5	6	7	8	9
fishes	<i>pisces</i>	42		25	1	10	2	2	1	1896
European eel	<i>Anguilla anguilla</i>									37
white fish	<i>Cyprinidae</i>			2		1	1		1	154
bream	<i>Abramis brama</i>	8								28
carp	<i>Cyprinus carpio</i>	5	2				2			46
kutum	<i>Rutilus frisii</i>	1		1					1	10
pikeperch	<i>Sander lucioperca</i>	4		2		2		3		61
shark/ray	<i>Chondrichthyes</i>	1	1						1	
gudgeon	<i>Gobiidae</i>									5
sea breams	<i>Sparidae</i>	1		1		2				69
gilthead seabream	<i>Sparus aurata</i>					1				7
dentex	<i>Dentex sp.</i>									2
pandora	<i>Pagellus sp.</i>									1
grouper	<i>Epinephelidae</i>			1						3
comber	<i>Serranidae</i>			1						2
comber	<i>Seranus cabrilla</i>									1
seabass	<i>Dicentrarchus sp.</i>									2
mackerel	<i>Scomberidae</i>								1	12
jack/pomano	<i>Carangidae</i>									5
tuno	<i>Thynnus sp.</i>						1			5
mugilid	<i>Mugilidae</i>			1						52
wrasse	<i>Labridae</i>			2						3
gournard	<i>Triglidae</i>									4
sardina	<i>Clupeidae</i>									4
parrot fish	<i>Spariosoma cretense</i>									7
scorpionfish	<i>Scorpena</i>									3
mullet	<i>Mullidae</i>									30
morrey eel	<i>Murena sp.</i>	4								1
exotic catfish	<i>Clarias sp.</i>	1			1				3	10
	total	67	3	36	2	16	6	5	8	2460

¹⁷ 1: WE 1+2 Flavian; 2: WE 1+2 (Hellenistic); 3: WE 1+2 Late (Hellenistic–Severan); 4: WE 3 2nd/1st c. BC; 5: WE 3 (Augustan); 6: WE 3 (Augustan/Tiberian); 7: WE 5 (1st c. AD); 8: WE 5 (Late Hellenistic–1st c. AD); 9: WE 5 pit filling (1st c. AD).

List of Bibliographical Abbreviations

The citation follows guidelines of the German Archaeological Institute <www.dainst.org> (16.01.2009) and those of the Austrian Archaeological Institute <www.oeai.at/publik/autoren.html> (16.01.2009).

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Sources of Illustrations

Figs. 1–3: H. Thür.
Figs. 4, 5: A. Galik.

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Fig. 1: The water basin in dwelling-unit 4 was in use in construction phases II and III.



Fig. 2: Water basin in the Basilica 8 in WE 6, construction phase III

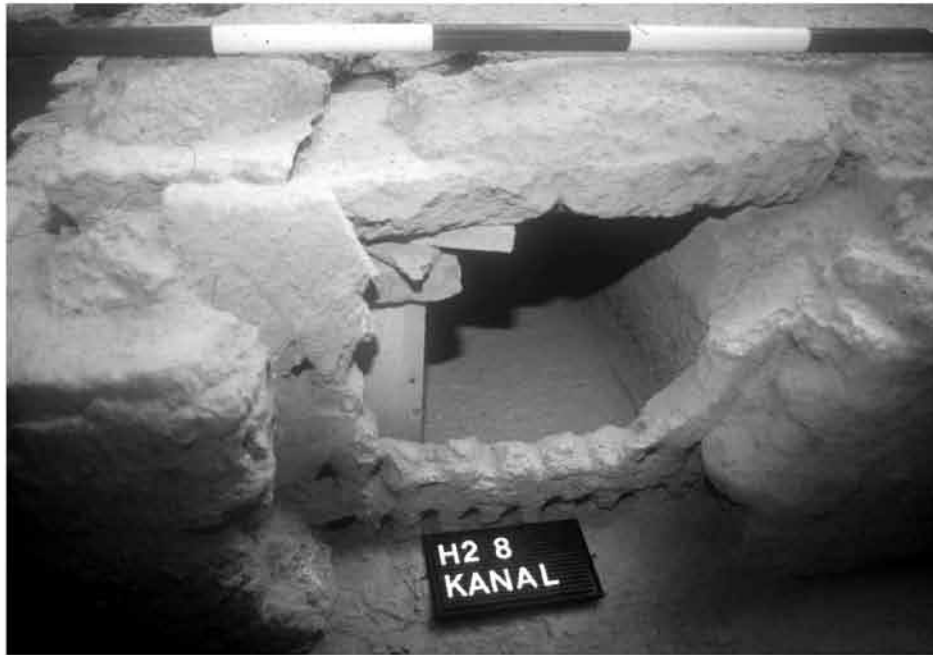


Fig. 3: The large sewer in the East of the basin was blocked at the outlet with an artificially modified slab.



Fig. 4: ›Fish tank‹– water basin in room 36a in a niche in WE 6



Fig. 5: View at the fish motives painted at the barrel vault above the basin in the niche in room 36a