ditional material of early excavation date was derived from the processing of older material, in total this comprised only 550 fragments. These cannot be analysed by the on-site faunal specialists as the range of species present requires a substantial reference collection and specialist archaeological knowledge to fully obtain the ecological information and exploitation of each species. Additionally the use of biomolecular methods may need to be employed to assist the identification of closely related species (e.g. using proteins). Cardiff University, UK, has fish specialists available and access to excellent reference collections. The biomolecular identification techniques are only available within two universities within the UK, and by exporting the material detailed; rapid and accurate analysis can be completed.

Report on faunal remains from the TPC Area, 2015

Julie Daujat

Introduction

Different tasks were carried out during this season on the material of TPC Area studied as a part of the project sponsored by the Polish National Science Centre (decision DEC-2012/06/M/H3/00286).

First of all, the analysis of faunal remains from secure Neolithic contexts of TPC Area (excavated in 2012-2013) was still the focus of this season, in the continuation of last year's work (for a detailed account of the objectives of the study of TPC Area faunal analysis see Archive Report 2014). In addition, when Neolithic layers were reached and excavated this year, several units were assessed as "priority" units to the excavators' request. This work was not necessary in 2014, since excavated units were dated to post-Neolithic contexts. These contexts are not the primary focus of Team Poznan's research objectives. However, this year an exceptional(?) deposit – including animal bones – dated to the Hellenistic period was excavated and therefore this unit was also assessed. The special bone deposit (see below) was recorded and sampled to be dated, as part of a starting PhD research project on post-Neolithic contexts of TPC area (A. Hordecki, University of Poznan). Finally, a lot of time was spent (i) pulling out suitable bone samples from several units excavated in 2013 for additional ^{14}C dating (Dr. A. Bayliss, University of Stirling), (ii) screening many of the Neolithic units excavated this year for suitable bone samples for both ^{14}C dating and isotopic – oxygen, carbon and nitrogen – analyses (Dr. Jessica Pearson, University of Liverpool; Dr. Elisabeth Henton, UCL).

The TPC Neolithic fauna

So far, a total of 5403 mammal bones (Table 6.4) were recorded from secure Neolithic contexts (B.110, Sp.485: (20124), (30232); B.110, Sp.486: (20215), (30216), (30221), (30241), (30269), (30716); in between two walls, Sp.494: (20255)) in TCP Area excavated to date. All of these contexts are infills. For the sake of clarity, human, bird and rodent bones were not included in the total NISP in this report. For information the total NISP so far is 5582.

TPC Area	NISP	%
N indeterminate species	4511	83.5
N determined species	892	16.5
NISP mammal TOTAL	5403	-

Table 6.4. *TPC faunal material recorded to date.*

Of this total NISP, only 16.5% were identified to the species; 83.5% are either of indeterminate size or identified into different size category, though still not identified to the species. This poor level of identification shows that the material from TPC Area is highly fragmented. The material presents both intentional fracturation – for bone marrow extraction, as well as post-depositional breakage due to redeposition. Indeed, most of the contexts in TPC Area are secondary, or also possibly tertiary, deposits from different sources (high post-depositional fragmentation, different surface condition of the bones, little or no anatomical connections), characteristic of room

infill. However, bones show little post-depositional taphonomic damages (gnawing, root etching, weathering, being trampled; this needs to be exactly quantified for the units recorded prior to 2014), which suggest a fast burying during their first deposition.

The mammal faunal spectrum is relatively diversified (Table 6.5). It is clear, however, that caprines are the dominant animals composing 77% of total identified mammal NISP, with as seen before (i.e. see Archive Report 2013, 2014), more sheep (21.6%) identified compared to goats (3.4%). *Bos* – most likely domestic cattle, is relatively well represented (11%). Again, this seems to indicate that the economy is mainly based on sheep and goat husbandry, yet it is still too early in the study to characterise the system(s) of exploitation. Dog is not very abundant amongst animal remains. However, its presence is more noticeable by the proportion of gnawed bones – again this still needs to be exactly quantified for the units recorded prior to 2014.

TPC AREA	% NISP	% DZ
Ovis/Capra	52	38.7
Ovis	21.6	36.7
Capra	3.4	9
Bos sp. (cf. *taurus*)	10.2	9.4
Large bovid	0.2	0
Equus sp.	0.3	0.5
Large equid	0.1	0.5
Small-medium equid	0.3	0.9
Cervus elaphus	8.3	0.2
Large cervid	0.3	0
Capreolus capreolus	0.1	0
Sus scrofa	0.6	0
Canis sp. (*familiaris*)	0.3	0.7
Vulpes vulpes	1.2	2.9
Lepus europaeus	0.3	0.6

Table 6.5. *Relative proportion of taxa in TPC Area to date. NB: the high proportion of* Cervus elaphus *is due to the relative abundance of antler fragments (*n*=64) in (20255). The real proportion of red deer is most likely to be below 2%.*

Wild animals represent 11.7%. However, as noted in the legend of Table 6.2, the relative proportion of red deer (*Cervus elaphus*) is exaggerated due to the high quantity of antler fragments in (20255). The real proportion of wild animals should be more around 5%, if the proportion of red deer is adjusted – i.e. the *n*=64 antler fragments recorded counted as *n*=1.

The majority of cervid bones are from red deer (*Cervus elaphus*), which represent almost 75% of the wild animals (*n*=104). However, if the proportion of red deer is adjusted (see above), then red deer only represents 36.6% of wild animals. Only one bone of roe deer (*Capreolus capreolus*) was identified in the recorded units. Fox (*Vulpes vulpes*) is relatively well represented amongst wild animals (10.6%, closer to 27% with an adjusted proportion of red deer). It is noteworthy that one of the fox elements (a tibia, 20215.F273) bear cut marks on the distal diaphysis. These cut marks refer more to a process of disarticulation rather than defleshing. In any case, this action could suggest that the inhabitants of Çatalhöyük could have hunted fox for meat as much as for fur. If it is still too early to assert such practice, all the more since it is no that frequent, a few other examples in the Neolithic period attest that small carnivores were indeed consumed by people (Vigne and Guilaine 2004; Matín *et al*. 2014).

Special deposits

This year, three special deposits have been excavated in TPC Area: one from (21084) dated to the Hellenistic period; two from Neolithic contexts, one from (31825) and one from F.8292.

At the beginning of the excavation season, the last post-Neolithic contexts were removed. Among these contexts was the second part of an infill (20184) of a pit (F.7371), located in the north part of Trench 4, which was excavated the previous year. In this infill (21084), two large fragments of late pots (21084.x1 and 21084.x2) were found within the infill and in association with them, two lower limbs of a young horse (Fig. 6.2 top).

The two lower limbs are both right side and almost complete. One is a lower right forelimb (Fig. 6.2 bottom left), this other one is a right lower hindlimb (Fig. 6.2 bottom right). Considering the epiphyseal stage (distal metacarpal and metatarsal unfused, proximal first and second phalanges unfused), these two lower limbs are likely to be from the same individual. In addition, both lower limbs show similar signs of localised trauma: on the first and second phalanges of the forelimb (Fig. 6.3 top) and the distal metatarsal of the hindlimb (Fig. 6.3 bottom, left). This pathology could be the result of infected wounds where a rope was tie, more than due a disease. Indeed, diseases tend to affect bones at the same spots on both side of the skeleton (C. Knusel pers. comm.). It is not known if the animal died naturally of its wounds, which would have developed into a severe infection, or it the young horse was purposely killed.

Figure 6.2. *Top: the two pots and horse lower limbs deposit* in situ *(Photo: Patrycia Filipowicz); Bottom: the two horse lower limbs in articulation.*

Figure 6.3. *Top, left: anterior first phalanx (21084.F6) with sign of trauma; Top, right: anterior second phalanx (21084.F7) with sign of trauma; Bottom, left: distal metatarsal (21084.F12) with sign of trauma; Bottom, right: proximal metatarsal (21084.F12) with cut mark.*

However, it is clear that the skeleton was processed as shown by the presence of a horizontal light cut mark (skinning or dismemberment) on the diaphysis of the proximal metatarsal just below the articular surface (Fig. 6.3, bottom right).

In addition, an almost complete piglet skeleton was found in this infill (21084). This deposit could be a special deposit of which the nature still remains to be determined.

The second deposit was a cluster (31825) in Sp.585, containing stones and two distal part of bird wings (Fig. 6.4 top). Articulated bird wings have already been found at Çatalhöyük. For example a single bird wing was found in the backfill of Sp.292 of B.67 in the 4040 (North) Area (Archive Report 2006) and another single wing of a large bird (20255.x43, 20255.F3, 20255.F4, 20255.F5) found in the midden (20255) of Sp.494 in TPC Area, among clusters of animal bones (Archive Report 2012). The deposit of this year is, however, a

bit more unusual in the sense that it contains two complete wings, a left (Fig. 6.4 bottom left) and a right (Fig. 6.4 bottom right), and most likely from the same individual. They probably belong to a wild goose (*Anser anser*, identification from photo by Teresa Tomek), and they are certainly part of a special deposit associated to a ritual of some sort.

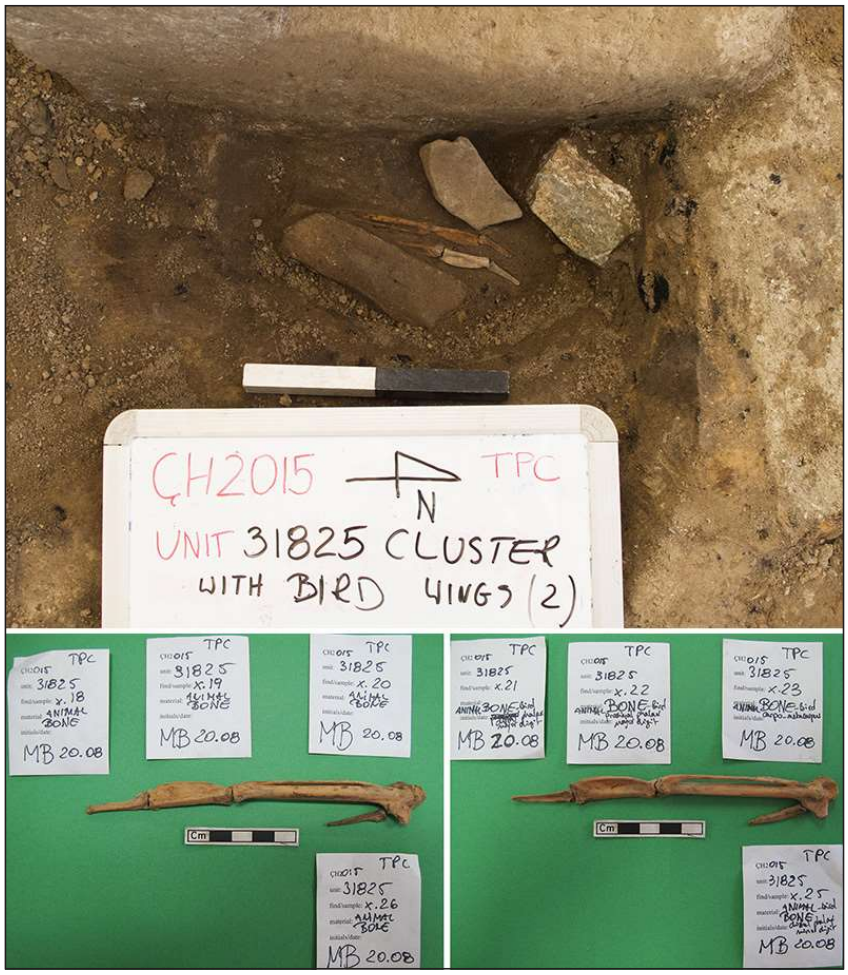

Figure 6.4. *Top: cluster (31825) with bird wings; Bottom, left: left wing (x20, x19, x18, x26); Bottom, right (x23, x22, x21, x25).*

Figure 6.5. *Bucranium/horncores in bench (F.8292) in Sp.562.*

The last animal bone special deposit of this season in TPC Area, is one of the most "popular", but also most remarkable, find at Çatalhöyük…a cattle bucranium! Many examples can be seen in previous Archive Reports, and from this year. It was not possible to see if a complete bucranium was included in the bench or if it is just horncores. This deposit (F.8292) was found less than a metre south from the painted wall in Sp.562 (Fig. 6.5). A couple of field measurements were taken, but the conservation state of the horncores is such that the whole length and thickness cannot be assessed, as well as the status of this animal, i.e. wild (*Bos primigenius*) or domestic (*Bos primigenius* f. *taurus*).

Account of assessed units and units sampled for ^{14}C dating and isotopic analyses units

This year, 17 "priority" units (on which excavators required feedbacks about the material to help in the determination of the unit) were assessed.

Also, 60 units from 2015 have been screened for suitable samples for ^{14}C dating (Dr. A. Bayliss, University of Stirling) and oxygen, carbon and nitrogen isotopic analyses (Dr. J. Pearson, University of Liverpool; Dr. Elisabeth Henton, UCL). In addition, 27 units from 2012-2013 excavations have been screened for additional suitable samples to increase the corpus of reliable Neolithic dates. In total, 55 articulated bones have been recorded (all the bones from articulation are recorded), photographed, sampled and exported for ^{14}C dating.