Mifsas Baḥri, Fourth Preliminary Internal Field Report, 2016 Season[1]

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Introduction

The archaeological site Mifsas Baḥri, lies in a valley 200 m south-west and c. 20 m above of the present-day shore of Lake Ḥashinge (locally Ḥashänge). It cuts in 2 m deep into the southern piedmont of a mountain. The site name refers to the south-western drainage of the lake, which occurred as recently as a century ago when the water level was higher. The drainage gully lies some 200 m south of our site. The latter has been the subject of documented archaeological excavation since 2013[6]. The site consists of a stone-built rectangular ruin characterised by numerous red scoria sculpted piers. In the 19th century the 29 x 15 m superstructure was still partly extant[7].

locator map

After the test excavation of Tekla Hagos in 2001 (Kirs, sene EC1994, pp. 9–11 in Amharic), the TCTB fenced in the site with barbed wire. In 2015 we built a c. 80 cm high stone fence around the perimeter.

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[1] We thank the Authority for Research and Conservation of Cultural Heritage (ARCCH) and the Tigray Cultural Tourism Bureau (TCTB) for permission to conduct fieldwork. Our thanks go to the German Research Council (grant YU 20/8-1) and to Mekelle University Institute of Palaeo-Environment and Heritage Conservation for facilitating this year's campaign.

Participants included Dejen Gebreyohannes (admin. technician), Shegalem Fekedu (instructor), Yoko Furusaki (administrator), Michela Gaudiello (co-field director), Curt Hilbrig (excavation engineer), Gidey Gebreegziabher (archaeologist, TCTB rep.), Tesfay Girmay (institute director), Leta Mekonnen (instructor), Svenja Partheil (phys. anthropologist), Musse Yatene (instructor), Paul A. Yule (co-field director), Kassaye Zewdie (administrator). Student participants from Mekelle University: Abreha Ataklti, Abrham Tsedaw, Alemitu Ketema, Anchinalu Kerebin, Bogale Belayneh, Dagim Gizaw, Dame Yosuf, Dinkinesh Madalamd, Enkahun Kassa, Feven Wubishet, Gesitew Asifere, Hailay Hagos, Lakech Worku, Mekdes Amare, Melkam Mengstie, Mola Yohannes, Mulugojjam Fekadu, Musie Hayelom, Selesh Tadel, Tigist Mulatu, Tiruye Molla, Tsega Gher, Woudie Worku, Yalemwork Dessie, Yimer Abate, Desta Haileyesus, Gidey Tewelde, Kibrom Kebede. 8–14 labourers.

At the end of the season we submitted the present preliminary report on 8.03. to Dr Kindeya Gebrehwot, president of Mekelle University. The resulting archaeological finds are lodged at the TCTB office in Maychew.

We enjoyed again the support this season of Afwerki Reda (Offla *wareda* administrator).

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[6] In 2013, 2014 and 2015 internal reports submitted to the president of Mekelle University. These are available in academia.edu. See also the website of the Seminar for the Languages and Cultures of the Near East, Semitic Studies (http://www.uni-heidelberg.de/fakultaeten/philosophie/ori/semitistik/mifsas.html : 17 images) and in Wikipedia, "Mifsas Bahri". In press regarding the 2013 season: P. Yule–S. Wenig. To date 1700 images from this project have been published in the internet image-bank HeidICON: http://heidicon.ub.uni-heidelberg.de/pool/mifsas_bahri_project

[7] T. Lefebvre 1845–51, t. 3, 51–2.

Goals of our four field seasons:

2013: Eight 2 x 5 m trenches (without the aid of previous documentation) in order to get an impression of the site character and dimensions.
2014: Horizontal excavation with a sounding. To determine the site plan. Survey the surrounding area.
2015: Trench excavation to examine site chronology. Intensive site area survey.
2016: Study season with the purpose of finding the site entrance.

This season:

After arrival, we began excavation from 08.02 to 26.02.2016, 5 days/week (201 labourer-days including back-filling, with two guards, in addition to daily two archaeologists). We excavated about half as much is in the seasons of 2014 and 2015. We concentrated on two trenches, 20 and 21. With as many as 28 BA and MA student trainees, teaching duties strongly influenced our goals and objectives. Unfortunately our tachymeter remained in customs custody until 19.02. which seriously limited our documentation and instruction. On the 29th of February we began back-filling our trenches. For lack of funds, our two trenches were filled but the terrain remained hilly. On 8.03. we left our station in Alamata and thereby ended the campaign.

Our two large trenches focussed on the W and E ends of the building complex. Graves manifest in trench 20 particularly destroyed the W end of the building, which indicates that relatively early it was no longer standing. Moreover, the burials lay in and outside the wall here. Trench 21 was free of burials.

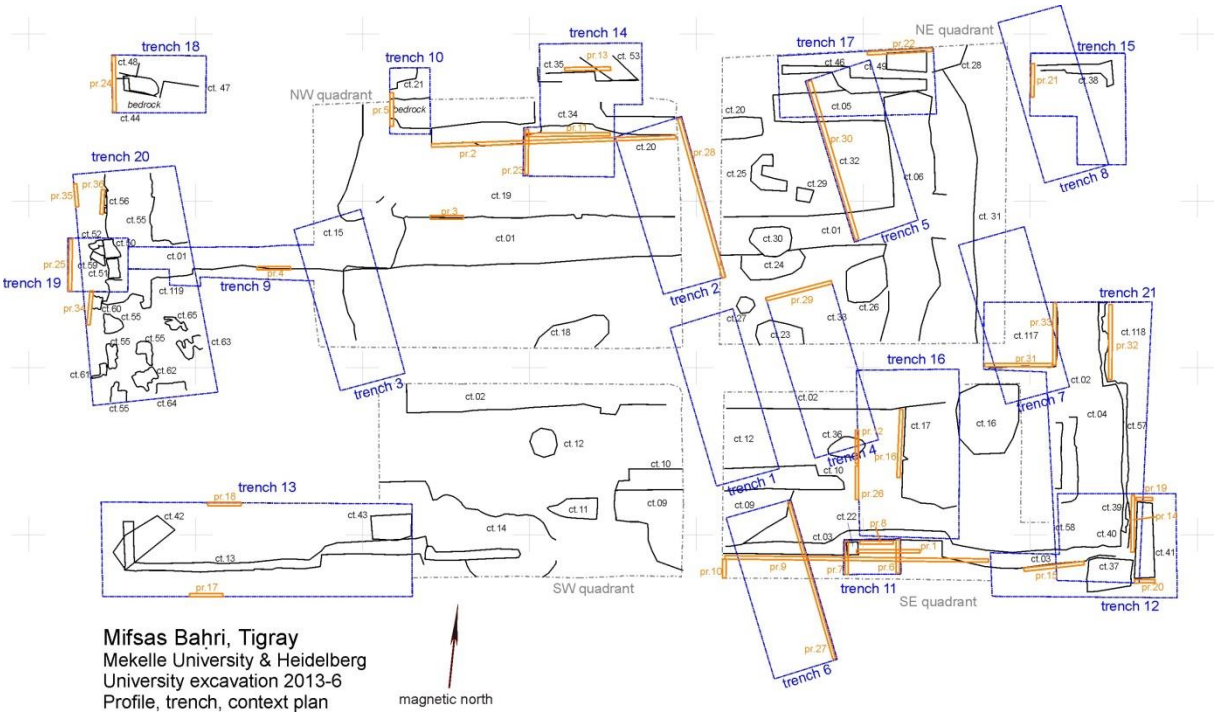

Fig. 1. This plan shows the position of the contexts (black), profile drawings (orange) and all trenches (blue). We worked this season in trenches 20 and 21.

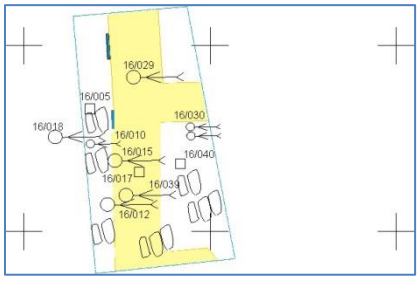

Fig. 2 left. Detail plan of trench 20. Cyan shows wall fragments of facies 1. Pale yellow shows those of facies 2. 5 m grid marks.

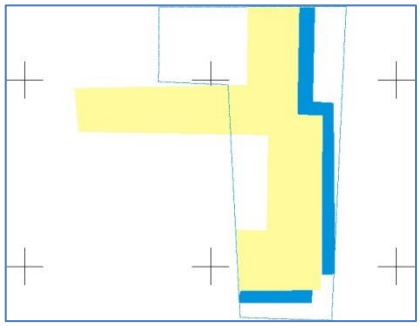

Fig. 2 right. Detail plan of trench 21. In both figures north is above. No graves occurred in this trench.

In our stratigraphic system of documentation soil layers also count as contexts. We excavated 22 contexts in addition to 23 soil layers.

Until now we assumed intuitively three chronological phases, the earliest of which we designated "phase 1". Then followed the heavy walls of "phase 2". Lastly followed a squatter site use. However, this could not be proven stratigraphically: Our phases 1 and 2 might as easily be contemporary or partly contemporary. This compelled us to take a less committal stance. We changed the term "phase" to "facies".

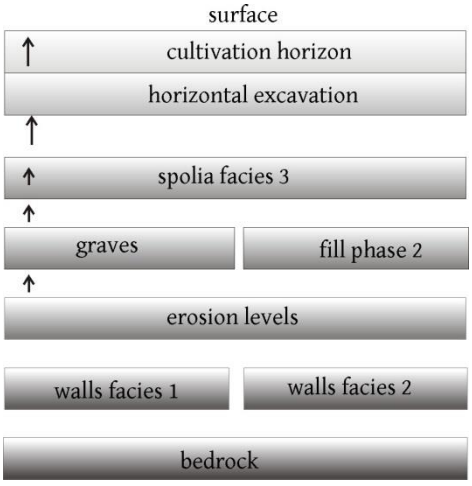

Fig. 3. Schematic view of the stratigraphy.

Fig. 2 left shows the 6 x 4 m trench 20 which revealed heavy facies 2 walls and a few remains of facies 1. At least six rock covered graves came to light and other earth burials. The cemetery is partly contemporary with facies 3 and obviously later than facies 2. Grave digging destroyed much of the foundations in the west. Trench 21 shows no graves, but rather the walls of facies 1 and 2.

Our stratigraphic interpretation rests a few contexts, such as in trench 14. Fig. 3 shows the facies 1 and 2 to be contemporary. With this year's study results regarding soil layers, the presence of erosional and fill levels became plausible. Graves cut into the facies 2 walls. Facies 3 remains lie stratigraphically directly on facies 1 walls (HeidICON 063 – 066).

trench	quadrant	m2	top elev.	bottom elev.	context nos.	year	photo nos.	comments
0	SE/NE?	7	-	-	2?	2001	-	sounding
1	SE	10	c. 2472 m	2471.5 m	2	2013	tr 01	-
2	NW	10	c. 2472 m	c. 2469.5 m	1	2013	tr 02, tr 02a	sounding
3	NW	10	c. 2471.5 m	2471.0 m	1	2013	tr 03, tr 03a	-
4	SE	10	c. 2471.5 m	2470.9 m	2	2013	tr 04	-
5	NE	10	c. 2472 m	2471.0 m	1, 5, 6, 46	2013	tr 05d	-
6	SE	10	c. 2471 m	2470.0 m	3	2013	tr 06, tr 06n, tr 06n5, tr 06s4	-
7	SE	10	c. 2471.5 m	2471.1 m	2, 4	2013	tr 07, tr 07a	-
8	NE	10	c. 2472 m	2471.5 m	38	2013	tr 08f	-
9	NW	6	2471.8 m	2471.0 m	1	2014	MB-2014-083	sounding
10	NW	1.5	2472.0m	2471.0 m	21	2014	MB-2014-082	sounding
11	SE	2	2471 m	2469 m	3, 22	2014-5	MB-2014-086	sounding
12	SE	14	2471 m	2470 m	3, 37, 39–41	2014-5	MB-2014-102	-
13	SW	26	2471.5m	2470 m	13, 42, 43	2014-5	MB-2014-113	-
14	NW	11	2472 m	2470.5 m	20, 34, 35, 53	2015	063–066	facies 3 auf 1 & 2
15	NE	8	2472 m	2469.9m	38	2015	076	-
16	SE	12	2472 m	2470.5 m	2, 3, 17, 36	2015	039–042	-
17	NE	9	2472 m	2470.5 m	5, 28, 46, 49	2015	089–091	-
18	NW	5	2471.5 m	2470.2 m	44, 47, 48	2015	016	outside of quad
19	NW	3	2471.2 m	2470.0 m	1, 50-52	2015	071–072	bldg entrance?
20	NW/SW	24	2471.80 m	2469.90 m	1, 50-52, 54-56, 59-65	2016	16.69	W outside wall
21	NE/SE	28	2471.80 m	2471.4 m	2-4, 37, 39, 40, 57, 58	2016	16.70	E outside wall

Table 1. This table shows all of the 21 trenches opened up at the Mifsas Baḥri site since 2013. It shows the amount of excavation and the type of documentation which we undertook. The photos can be called up in HeidICON. Since many of our trenches overlap and we back-filled each season, the amount of excavation is far higher than the 395 m^2 excavation surface suggests.

The 2016 season provided opportunity to write and check much of the documentation. We converted all aspects into simple tables for quick reference such as Table 1.

The Pottery by M. Gaudiello

The main goals of ceramic analysis for the last archaeological season in Mifsas Baḥri were: 1) to complete the analysis of the potsherds collected during the 2015 survey; 2) to check the potential of our preliminary typology in order to better understand which shapes and wares are most common in the Mifsas Baḥri site; and 3) to analyse the potsherds deriving from this year's excavation.

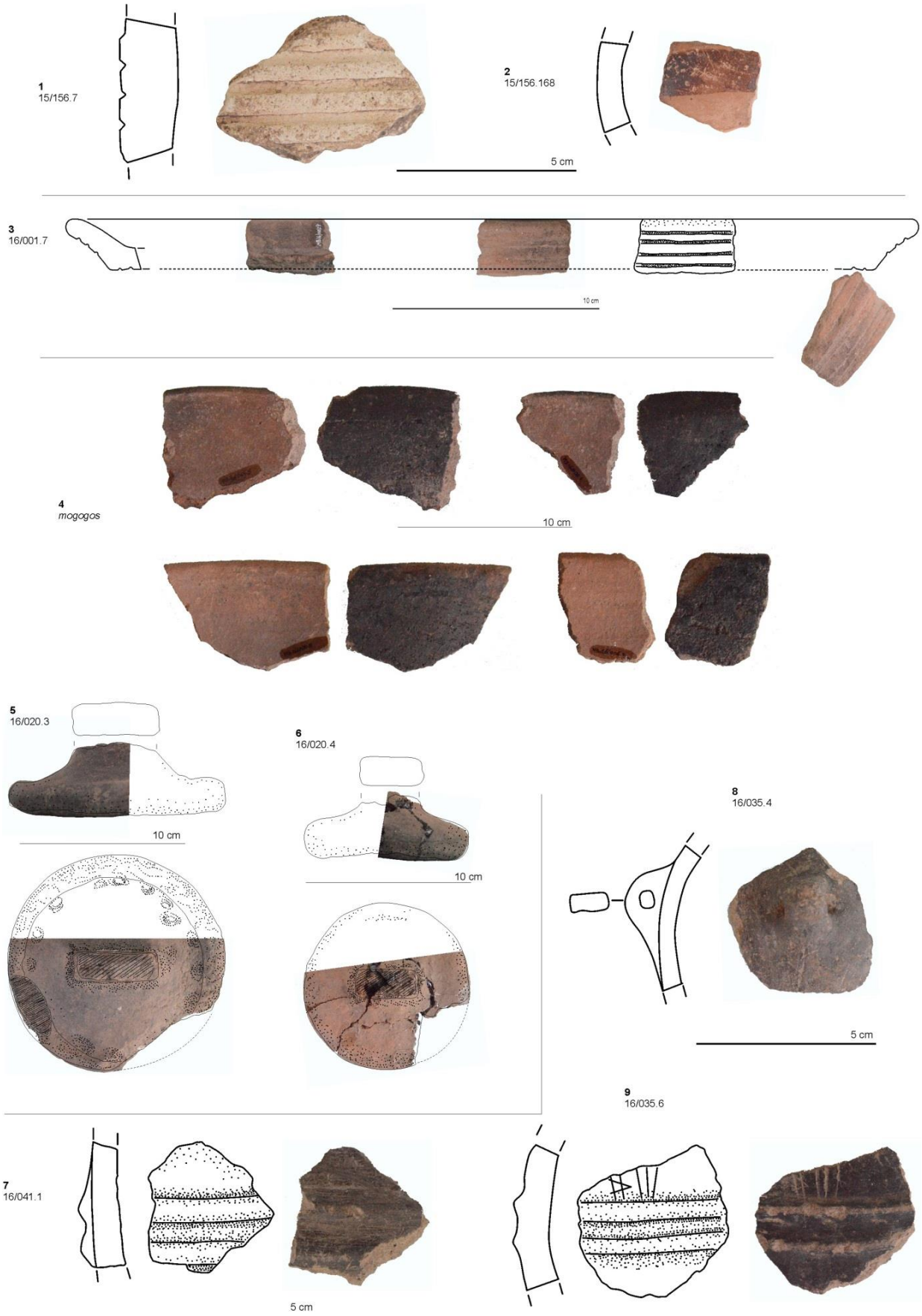

Fig. 4. Selected sherds in 2016 (M. Gaudiello).

My activity this season was to complete analysis of the 2015 sherds gathering during the

survey from the sites no. 15.003, 15.004, 15.005, 15.007, 15.008, 15.011, 15.018, 15.019, 15.020, 15.025, 15.026, 15.028, 15.031 and, I analysed half of the sherds from site no. 15.024. All together this analysed material comprises 6306 sherds, 958 of which were diagnostic, with a total weight of 96.38 kg. I will describe in detail those materials for the oncoming monograph, but is important to notice that the most interesting site is no. 15.028, due the presence of an Aqaba amphora sherd (Fig. 4.1, cf. Raith et al. 2013) and one of Purple Painted Aksumite ware (Fig. 4.2, Wilding 1989: 311; Phillipson 2000: 330). These two sherds help us to date the site 15.028 to the Late Aksumite Period (c. 6th cent. AD, Fattovich 2010), and therefore at the same age of the facies 1 and 2 of the Mifsas Baḥri excavated building.

Excavated pottery

The excavation of this last season focused on two trenches no. 20 and no. 21, on the west and east ends of the building respectively. Trench 21 contained no sherds. Trench 20 yielded 169 sherds, 63 of which diagnostic, with a total weight of 10.76 kg. Few sherds derive from the uppermost ploughing zone (to 50 cm depth), mostly from the so-called soil context 100 and very few sherds from its lower depths. The ceramic assemblage is characterised mainly by Reddish Brown and Brown wares while very few are the well-burnished black Late Aksumite type. The common shapes which occurred in trench 20 are cooking bowls, storage jars, and *mogogos* (traditional plate to cook the local bread).

The pottery collected from the ploughing zone (find nos. 16/001 and 16/008) consist mainly of Reddish Brown (RBr) wares, and few samples of Brown (Br) and Grey/Black (GB) wares. The RBr sherds belong to cooking bowls with a burned unpolished external surface, low polished cylindrical jars, and one *mogogo* fragment. The Br ware amounts to one polished bottle with an everted rim, one open cooking bowl and one vertical handle of jar with burnished external surface. The GB sherds belong to low polished handles, one ring base with a burnished external surface and one lid with a smoothed surfaces. The only interesting sherd from this layer is a dish fragment with parallel incisions on the external surfaces and on the base (Fig. 4.3). We have no comparisons for this type of dish in the ancient and present-day productions. I suppose this sherd could be a typical pot of the Post-Aksumite time in the Mifsas Baḥri area. The pot sherds collected during the excavation of context 100 (find nos. 16/003, 16/006, 16/020, 16/027) consist mainly of RBr, Br and GB wares. The sherds belong to storage jars, cooking bowls, globular pots with a burned external surface, few sherds of bottles with polished to burnished surfaces, one black burnished ring base, several handles and many *mogogo* fragments (Fig. 4.4). The most interesting sherds from context 100 are two nearly complete lids with a flat base and rectangular missing lug-handle (Fig. 4.5–6). Both the context 100 and its extension share the same ceramic material (find no. 16/024): RBr, Br, GB wares, *mogogos*, cooking bowls and storage jars.

Some burials intruded into context 100. The potsherds (find nos. 16/016, 16/041) associated with human bones are only six in number, of which one is diagnostic. This small ceramic assemblage includes GB well-burnished sherds, two smoothed RBr sherds of bottles, cooking bowls and one sherd with a black burnished external surface and two parallel applications (Fig. 4.7). The potsherds from the burials and the deepest part of context 100

appear to be older in type than the materials from its uppermost layer. From the lower depth of context 100 (find nos. 16/035, 16/043) RBr and Br wares occurred but, at the same time, we notice a considerable increase of GB sherds with burnished surfaces. There are storage jars, fewer cooking pots, very few *mogogos* sherds, globular pots with a closed body, dishes with burnished surfaces, one small coil strap handle (Fig. 4.8) and one black burnished sherd with two parallel applications as well as incisions above the uppermost application (Fig. 4.9).

Conclusions regarding the pottery
The scantiness of the ceramic assemblage of context 100 in trench 20 at the western end of the building may be a result of its proximity to the ancient entrance. The pottery recovered here in 2016 was mostly storage and cooking sherds. We do not have clear evidence of Late Aksumite wares except a few well-burnished black sherds which came to light from the deepest layers of context 100. The present-day *mogogos* and lids have different shapes than those from the Mifsas Baḥri excavation. I am convinced that those pots, in association with well-burnished black sherds, are not modern, but are rather Post-Aksumite ceramics. Only a stratified ^{14}C date from trench 20, will show if *mogogo* production started in the Late or Post-Aksumite Period.

Human Skeletal Remains by S. Partheil

In what follows, I outline my analyses during the 2016 field season. The skeletal remains from Misfas Baḥri consist of 27 processed find numbers. These derive from four proven graves or single burials, each associated with an adult individual. Other find numbers document further assemblages of human bone often found in bundles representing more than one individual, so that it can be assumed that they represent disturbed or secondary burials. A total of 35 individual adulthood individuals (adult – 29%, mature – 14%, senile – 6%, > 20 years – 51%) and 18 parts of subadults (infans I – 40%, infans II – 6%, juvenile – 6%) are recorded in this excavation group.

Analysis of the human remains determined the sex of 65% of the adult sample. 34% of the skeletal elements showed diagnostic markers or forms of the male characteristics and 11% showed typical female sex-linked characteristics. The remaining 65% are not determinable. A high proportion of subadults were impossible to sex as a result of the absence of representative bones such as the pelvis, skull and mandible.

find number	age	gender
MB 15/084	>20 years, 5–6 years	n.d.
MB 15/088	> 20 years	n.d.
MB 15/095	>20 years 6 years	n.d. n.d.
MB 15/096	> 20 years > 20 years	♀ ??? n.d.
MB 15/103	9 month	n.d
MB 15/107	9 years	n.d
MB 15/109	65–74 years	♂ ?
MB 15/110	> 20 years 6 month	n.d n.d.
MB 15/114	28–47 years 17–25 years 6 years 5 years 3–4 years	♂?? ♀ ? n.d. n.d. n.d.
MB 15/116	>20 years	n.d.
MB 15/119	45–70 years infans I	n.d n.d.
MB 15.129	> 20years 16–20 years 4–5 years	n.d n.d. n.d.
MB 16/005	> 20 years > 20 years	♂?? n.d.
MB 16.010	5 years	n.d.
MB 16/013	17–25 years 25–35 years 5 years	n.d. n.d. n.d.
MB 16/017	25–35 years 25–35 years	♂?? ♂??
MB 16/018	> 20 years	n.d.
MB 16/023	17-25 years 3–7 years	n.d. n.d.
MB 16/028	> 20 years	n.d.
MB 16/030	17–25 years > 20 years 7 years	♂?? ♀??? n.d.
MB 16/033	> 20 years	n.d.
MB 16/037	> 20 years	n.d.
MB 16/039	> 20 years	n.d.
MB 16/040	17–25 years 20–35 years > 20 years infans I	♂?? n.d. n.d. n.d.
MB 16/042	> 20 years	n.d.

	infans I	n.d.
MB 15/118	25–34 years 38–47 years	♂?? ♂???
MB 16/012	55–64 years	♂?
MB 16/015	44–53 years 38–47 years	♀? ♂???
MB 16/029	18–21 years 7 years ± 24 month	♂? n.d.

Table 2. Processed find numbers in 2015–6.

♂??	slight tendency male
♂?	tendency male
♂	male
♀??	slight tendency female
♀?	tendency female
♀	female
n.d.	not determinable

Table 3. Key.

We could estimate the stature of four individuals (four males):

find number	gender	stature
15/118	♂	174.56 cm
16/005	♂	174.05 cm
16/012	♂	174.56 cm
16/015	n.d.	163.57 cm

Table 4. Stature estimates of four individuals.

Skeletal evidence for disease in the Misfas Baḥri assemblage is represented by skeletons which also shows signs of malnutrition, as illustrated by the teeth enamel of 10 individuals which showed signs of hypoplasia (ridges in the teeth); Cribra Orbitalia (a sponge like degeneration of the bone around the eye sockets) was manifest in three individuals.

A number of degenerative changes were observed; these were apparent in a greater frequency in the hip and knee areas as noted in three individuals; in one case the shoulder joint was affected, but to a lesser extent. Degenerative changes in the foot joints were observed in one case. In addition, ossification in the area of the attachment of the Achilles tendon to the calcaneus was manifest for two individuals and the quadriceps tendon attachment at the patella in four individuals can be taken to be an indicator of stress through manual labour/physical exertion.

Fig. 5. Spondylarthrosis (CW) find no. 15/188.

Pathological changes of the spine are evident for 18 individuals. The most common form is Spondylarthrosis (deformity of the rib and small spinal joints) as in Fig. 5 occurred in five individuals; two individuals exhibited signs of Spondylarthrosis deformans (deformity of the spinal column) – Fig. 6; Osteochondrosis (changes in the vertebral discs) was evident in three individuals.


Fig. 6. Spondylosis deformans of the spine, find no. 15/118.

Our population sample provided evidence of caries. Fig. 7 (dental decay) shows periodontal disease evident in two individuals. We also detected a high level of dental abrasion in the population.

Fig.7: Caries and tartar from find no. 15/118.

Conclusion

At the end of our first season in addition to the three-year DFG funded project, the specialists involved in the network of studies on the Lake Ḥashinge area (excavation, survey, pottery analysis, anthropology, art history and linguistics) acted to contextualize the Mifsas Baḥri structure and that of its population in the larger area. The site is by no means isolated, but exists in a network of smaller sites. After three seasons of field work, we are now honing our documentation in order to publish as soon as possible the final report, "Mifsas Baḥri, an Early Christian Frontier Community in the Mountains of Tigray, Excavation and Survey, 2013–6".

The ponderous stone piers of facies 3, scattered mainly in the central area of our site 1, and the short campaigns hindered the excavation of the entire building in the final consequence. With more time, we would have investigated more the west side. Nor could we excavate all of the burials in trench 20, some of which remain embedded in the balk.

However, we used our time to advantage and accented the documentation of the entire project. We identified numerous sites around the lake, and after carefully analysis described the use of the land close to the archaeological site, all of this 100 km south of the next closest Aksumite site at Maryam Nazret (Anfray 1970, 36–7 fig. 18, pl. 7–9). The systematic excavation of the site shed light on the Late Aksumite building (facies 1–2), its later history (facies 3 and the associated cemetery) and on the change over the centuries. Pottery from contexts form a benchmark for the later periods in our area. We reached our main objectives.

Since last year we proposed and with Mekelle University attempted to implement a conservation project to highlight the results of our joint project. Fragile antique remains weather quickly and their exposure will have immediate consequences. It would be futile to expose them to the elements. In the same sense, we renewed the trilingual antiquities sign which we erected in 2014. We return the site now back to the mountain.

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