# The Greek-Swedish-Danish Excavations at Kastelli, Khania 2010: 

 a preliminary reportERIK HALLAGER, YANNIS TZEDAKIS<br>\& MARIA ANDREADAKI-VLAZAKI


#### Abstract

During six weeks from 19 July to 27 August the Greek-Swedish-Danish Excavations continued work in the Ag. Aikaterini Square on the Kastelli Hill. ${ }^{1}$ The area under investigation was situated within 524-536/722-731 of the site plan and included further investigations in previously excavated trenches from 1965, 1969, 2005, and 2008. The main aim of the excavation was to investigate Building 2 of the LM IIIA:2 and LM IIIB: 1 periods, which had proved extremely productive in previous excavations. Here Linear B tablets had been found in situ in 1990 (Room E, Fig. 1), ${ }^{2}$ and a complete inscribed stirrup jar was discovered in 2005 (Room B) which indicates that its contents were of royal property (Fig. 1). ${ }^{3}$


## 1. Post-antiquity deposits

In these deposits the wall foundations of the Venetian Cathedral and the Early Christian Basilica were dominant. Due to the slope of the Kastelli Hill no floors of the churches were found, while their existence is known fur-
ther up the hill from excavations in 1990 and 2005 , which revealed that the floor of the Early Christian church had been laid with multi-coloured mosaics while the floor of the Cathedral was laid with hexagonal tiles. ${ }^{4}$ The foundation of the Early Christian Basilica was very solid and well constructed, to a great extent with re-used stones from Minoan buildings. It had a width of one metre and the foundations went at least 2.4 m below the level of the floor. The foundations of the Venetian Cathedral reused several of the foundations of the Early Christian Basilica, especially the ones between the nave and the aisle, while the width of the Cathedral was extended with almost four metres compared to the Basilica. The foundations of the outer walls of the Cathedral was only $0.75-0.80 \mathrm{~m}$ wide and were preserved to a depth of 2.5 m below floor level. In the same deposits were found pottery sherds of the Venetian, Turkish, and modern periods, as well as Venetian glass, Turkish roof tiles, a kiln tripod from the Turkish period, and a few modern coins of the $20^{\text {th }}$ century.

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Fig. 1. The LM IIIB:1 settlement in the Agia Aikaterine Square. Crosses indicate 1 m squares.

## 2. Post-Minoan deposits

Only three constructions came to light dated to the Post-Minoan period (i.e. Geometric to Byzantine): two wells and possibly a wall. The wall, 38 -Wall 1 , consisted of one row of stones facing southeast. It was preserved to a length of 4.80 m , and a width of $0.30-0.35 \mathrm{~m}$, and a height ( 1 course) of 0.30-0.50 m, and partly situated upon the 1965 -Wall 1 from the Minoan Building 2 (see below, plan in Fig. 8). The structure was in part surrounded by thin deposits with Geometric pottery and may be of this period, although the pottery extracted from inside the structure only revealed LM III pottery as the latest.

Within Space H a Hellenistic well partly known from the 2005 excavations was excavated (see below, Fig. 8). It had a diameter of c .1 .05 m . The top of the well was found almost immediately below the surface level, where it was covered by a few larger stones. Otherwise the sides of the well consisted only of earth. It was excavated to a level of c. 10.40 , but the bottom was not reached. The contents consisted mostly of red and black painted Hellenistic roof tiles, while Classical/Hellenistic, as well as Geometric, and LM III pottery was also noted.

Within Space M around area 527.3/727.4 a Geometric well with a diameter of c. 0.75 m (see below Fig. 8) was noted. This well had no lining. The upper part was excavated in 1965, while the excavation (bottom not reached) stopped at the level of 10.09 - almost one meter below the original LM IIIA:2 floor of Space M. The pit contained several larger stones and the pottery in the undisturbed part was mainly Geometric (Fig. 2).

## 3. The LM IIIC and LM IIIB:2 deposits

From the LM IIIC period only one possible structure was identified, a pit, 38 -Pit C, situated around $531.5 / 729$, cut down into one of the walls, 38 -Wall 5 , of Building 2. The diagnostic pottery is dated LM IIIB:2/IIIC, indicating that the pit was created during the transition from the one period to the other. Furthermore a few sherds - mainly of bowls, kraters, and cups - were collected from contemporary and later levels.


Fig. 2. Fragments of Geometric lid, GSDE 10-P 0443.

The LM IIIB: 2 period revealed several structures in the shape of two walls, three floor fragments, and several pits. Most interesting was 37 -Wall 4 , that proved to be the north corner of an important room constructed upon the ruins of Building 2 (Fig. 3). Fragments of this room had been excavated over several years - mainly in 2005 and 2008. It measures $3.50 \mathrm{~m}(\mathrm{~N}-\mathrm{S})$ and at least 4.20 m (E-W). It was constructed in LM IIIB:2 and contained several floors, the latest of which belonged to the LM IIIC period. It was in this room that an almost complete cyl-inder-shaped stand was discovered in 2008.5 The wall in the north corner was preserved at a height of 1.10 m (from 12.11 to 11.01) and it is interesting in that it slopes much both on the W side (Fig. 4) and on the N side (Fig. 5). Whether this is due to pressure from the construction of the Venetian wall foundation or to an earthquake in the Minoan period must at present remain uncertain.

Outside the north corner of this room, in the area between the Venetian and Early Christian wall foundations, five floor levels were noted at a depth of 0.30 m , presumably representing an outside area. On these floors were found several bits of obsidian, small pieces of rock crystal and steatite, and a single carbonized olive stone. Below one of the upper floors (37-Floor 6) was a pit, which included a seal stone - a small lentoid in serpentine with some branch motifs.


Fig. 3. Part of the LM IIIB:2 settlement in the Agia Aikaterine Square, showing the north corner of the room with cylinder-shaped stand; scale 1:100.

One more fragment of a wall of the LM IIIB:2 period running below the Venetian wall foundation was noted in the area 530-531/722.2-723 (Fig. 3). It is an isolated wall fragment which cannot immediately be connected to any other LM IIIB:2 structures. Connected to it on its western


Fig. 4. 13-Wall 4, West face. WS 1009; scale 1:50.


Fig. 5. 13-Wall 4 at north corner, north face. The measuring rod is absolutely vertical. Facing south.
side, a fragment of a much burnt beaten earth floor with much ash and charcoal was noted. This construction did not belong to the earliest part of the LM IIIB period, since the wall was partly constructed over a pit, 37-Pit C, also of the LM IIIB:2 period. ${ }^{6}$

In the northern part of the excavated area two floors of the LM IIIB: 2 period, 38 -Floor 3 and 38-Floor 4, and four pits, 38 -Pit B, -Pit D, -Pit E, and -Pit F, were noted. 38-Floor 3 was situated south of the above mentioned Geometric wall. The floor was constructed in LM IIIB:2, but it might well have been re-used in the Geometric period as several sherds of this period were found in the deposit above the floor. Re-use of Minoan floors in the Geometric period is a well-known phenomenon in excavation. ${ }^{7}$ The other floor, 38 -Floor 4 , was situated in the triangle between 65 -Wall 1,38 -Wall 5 , and the Venetian wall foundation (see below, Fig. 8). The floor was a

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Fig. 6. Fragments from amphoroid krater, GSDE 10-P 0169.
well-beaten, possibly burnt, earth floor on which were found parts of a large amphoroid krater (Fig. 6). Of the four pits, 38-Pit B was contaminated with a few earlier sherds, while the remaining three were pure LM IIIB:2. The most spectacular finds from these pits were two figurines, one a Minoan figurine imitating the Mycenaean PSI type and the other an animal's head (Fig. 7).

## 4. Building 2

The architecture of Building 2 is by far the most impressive yet excavated in the Ag. Aikaterini Square, with walls preserved to a height of more than 1.5 m . The walls were of two types. One was the re-used walls of the LM I House III, shaded on the plan (Fig. 8), while the remaining walls were new constructions of the LM IIIA:2 and IIIB:1 periods. It is our impression that Spaces $\mathrm{M}, \mathrm{N}$, and O were open or half-covered areas while everything east of the re-used LM I wall, including Rooms H and L , belonged to the interior of the building. 1965-Wall 1 bordering both Space $M$ and Room L clearly shows that the exterior and interior part belong to the same architectural phase/ construction. There is, however, not yet seen any door or opening that shows how the exterior and the interior communicated.

## 5. The exterior part

Dominant in this part is Space $M$, measuring $5.70 \times 4.50$ m (Fig. 9). The well-preserved and impressive entrance


Fig. 7. Figurines from LM IIIB:2 pits: left GSDE 10-TC 016; right GSDE TC-oog.
to the room is situated in the northern part of 1965 -Wall 2. There were no indications that this opening had ever had a door. In the original floor, which was in large areas covered with ash of the LM IIIA:2 period, a block of limestone with a conical cavity 0.15 m in diameter and 0.09 m deep was set 0.90 m from the southern wall part of the entrance. The function of this stone remains unclear, although a pivot hole for holding the shaft of a potter's wheel is a possibility. On the floor up against 1965 -Wall 1 around 530.16/727.84/11.03, three small clay spools and a plain footed cup were noted. In the space there were six floor levels at a depth of c. 0.40 m . With the second floor from the bottom, was found a kouskouras construction with three "chambers" (Fig. 10). The function of this structure remains unclear, although some kind of oven is likely. On all floor levels were found large amounts of obsidian, and it is supposed that the space had been used for industrial activities. The latest floor at the end of the LM IIIB: 1 period was covered by up to 1.40 m of undisturbed destruction debris, that contained mainly fallen stones and smaller pieces of mud-brick set in a burnt red soil. In this destruction debris was found a small fragment of a Linear A tablet, 10-TC 011, with part of two signs preserved (Fig. 11). Spaces O and N were originally one area that was at some point, probably during the LM IIIB:1 period, divided into two by the construction of 1965-Wall 3. In this way 65 -Wall 4, which in its construction looks LM I, became part of the Building 2 structure. Most of Spaces O and M was excavated in 1965 and in Space N bedrock formed part of the surface of the original floor.


Fig. 8. Plan of the part of the LM IIIA:2/LM IIIB:1 Building 2 investigated in 2010; scale 1:100.

In the unexcavated part, i.e. the east corner of Space O , the stratigraphic situation was as in Space M , with an undisturbed destruction level from the top of the walls down to the latest floors. On the floors of Space O several more or less complete footed cups were collected.

## 6. The interior part

In the interior part excavation was conducted in several rooms. Up against the re-used LM I (1969-Wall 1) wall it seems now clear that there had been five small, narrow rooms (Fig. 8). Rooms J and I were excavated in 1964,
and in 2010 a very small part of Room P was investigated, without any exciting finds. Room Q within the excavated area could not be touched since it is situated below the unexcavated Venetian wall foundation. The last Room K in this series could be partly excavated. It measured c. $1.95 \times 1.50 \mathrm{~m}$ and the entrance to the room is over a high threshold leading into Room H. In this room was found an undisturbed destruction level c. 0.20 m thick that contained six more or less complete vases, three plain footed cups, one conical cup, one kylix, and a decorated medium-sized stirrup jar. Except for the conical cup they were all found up against 37 -Wall 5 and originally may well


Fig. 9. View over exterior part of the excavation at the end of the season. The LM IIIA:2 wall of Space $M$ is preserved to a height of 1.80 m , while the re-used LM I wall including its foundation stones is preserved to a height of 2.10 m . Facing north.
have been placed on a shelf or small table since they were not standing on the floor (Fig. 12). Probably placed on the same device was the most impressive find in the room, a 0.15 m long complete bronze knife with three rivets and a small part of the wooden handle preserved (Fig. 13).

Room $F$ is a large room measuring 4.80 m by at least 4.80 m . Parts of the floor had been excavated in 1990 and 2005, where the floor deposit revealed a small complete decorated juglet and a steatite bead incised with circles with a dot in the centre. ${ }^{8}$ This room also had a 0.20-30 $m$ thick undisturbed destruction deposit and the most spectacular find was noted in the western part: a large collection of animal bones, the majority of which seem to come from young sheep/goats, while fragments from
a young pig, deer, and perhaps a bird were also present. 9 On the floor there were also a large grinding stone, a plain kylix and two fragmentary spools/bobbins (Fig. 14).

Room H (Fig. 15) was in its original shape (provided that 38 -Wall 4 is correctly identified as the northern wall) an oblong square room measuring c. $4.3 \times 3.4 \mathrm{~m}$ with a bench running along its western wall. At some point, probably during LM IIIB:1, a small chamber measuring $1.0 \times 1.4 \mathrm{~m}$ (Room L) with an impressive threshold was constructed. Across from this threshold in the southern part of 36 -Wall 7 was another threshold indicating the entrance to Room H. In the room several floor levels were noted, the last of which was covered with a 1.50 to 1.20 m thick destruction level. This destruction deposit was dis-

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Fig. 10. Kouskouras construction with three chambers. The carved limestone set into the original floor is seen to the right of the large measuring rod. Facing south.

Fig. 11. Fragment of Linear A tablet. Two signs partly preserved. The first is $A$ and the second presumably MI; scale 1:1.

tinctly different in the areas north and south of 38 -Wall 6 respectively. In the northern part the situation was much like what was found in Space M, with lots of fallen stones and marks of a very severe fire which left some pieces of charcoal and which burnt the floor very hard and dark red. Apart from several pieces of obsidian and mud-brick, this deposit was without many finds and also in this part there were no finds on the floor except for a single fragmentary vase and a unique bronze hook. South of the line of 38 -Wall 6 the situation was quite different in that it contained a large number of finds in situ. Among the pottery were a few plain footed cups, a decorated and an undecorated cup, and, spread over most of the area, a unique Handmade Burnished round-bottomed jar without feet (Fig. 16). There were the following small finds: several pieces of obsidian, several fragments of bronze, mother of pearl, a net sinker, a fragment of a loom weight, a complete murex shell, and of most interest, a little above the floor up against 36 -Wall 7 at 534.45/726.58/10.93 were found stacked together five sealstones and an unique am-
ulet in rock crystal (Fig. 17). The sealstones were all rather large lentoids with diameters from 0.018 to 0.031 m . Two were in dark serpentinite, ${ }^{10}$ and one in a soft reddish stone


Fig. 12. Finds in situ close to the east wall of Room K, 37-Wall 5. Sherds from the medium-sized stirrup jar were spread over the floor and continued below the Byzantine wall foundation. Facing east.

[^3]which cracks, probably phyllite, and the last two were in either slate or schist. All the sealstones were worn to varying degrees, especially in the central part, where the motif could often not be seen. The motifs were all figural, one with two humans facing each other, one with a slender long-tailed animal with the head backwards, one with a more bulky quadruped, one - the most worn - which might have depicted lions attacking a bull (only a lion's head and part of the body along the edge are visible), while the last and least worn depicts a horned animal (a goat?) to the right with a branch in front. Two "monster" heads and a branch are seen above the back of the animal. There is also a two-legged stool(?) and a rod(?) below the belly of the animal (Fig. 18). The amulet was a circular lentoid-like disc with a perforated "neck" in one piece. It had no incisions. ${ }^{11}$

The small chamber, Room L, also revealed interesting finds (Fig. 19). Beside 1965-Wall 1 was a decorated bowl (Fig. 20), while against 38 -Wall 6 was an unusual fragmented decorated double or triple vase of conical cup size and
shape. In the north corner of the room were the jaw and a few vertebrae of a cow. ${ }^{12}$ On the floor were some large pieces of pumice and, most interesting of all, a sealstone in rock crystal. The sealstone is talismanic, with the wellknown motif in the form of a sepia between two vertical lines, each flanked by an S (Fig. 21). Also from the excavation of the floor down to the original floor came surprising finds. The area continued to reveal pieces of pumice, and a bone needle, while the most interesting discovery was an almost square block (c. $0.20 \times 0.02 \times 0.02 \mathrm{~m}$ ) of colour pigment - presumably Egyptian blue (Fig. 22). ${ }^{13}$

## 7. Earlier periods

The aim of the excavation was to investigate the LM IIIA:2/B:1 Building 2 and excavations below the floors of this building did not take place. In one small area, however, in the triangle between the Venetian wall foundation and walls 1965 -Wall 1 and 38 -Wall 5 , a floor was noted at approximately the same level as the floors inside. Above


Fig. 13. The bronze knife, GSDE 10-M 013, during cleaning.

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Fig. 14. Find of animal bones in north corner of Room F. On the floor in front of the small scale, a clay spool is visible and to the left up against the wall a large grinding stone. On the left hand side is a plain kylix (here without foot and stem). Facing west.


Fig. 15. View over rooms $G, H$, and $L$ at the end of the season. The find spot of the five sealstones and the rock crystal amulet is marked by the small white dot. Facing west.


Fig. 16. Round-bottomed Handmade Burnished jar, GSDE 10-P 0914.
this (well-constructed) floor were found several conical cups and fragments of pottery which could be dated to the LM IB(?) period. For the understanding of the LM I period, the most important achievement was the complete documentation of the impressive 11 m long west wall of LM I House III - a wall which also revealed new information on the building technique of the period.


Fig. 17. The five sealstones and the rock crystal amulet in situ after having been partially cleaned, from above.


Fig. 18. Preliminary drawing of the motif on the sealstone, GSDE 10-S 041. The motif is drawn from a cast and is thus the reverse of what is seen on the actual stone. Scale 3:1.

## 8. Conclusion

The project had hoped to find more Linear B inscriptions in Building 2 of the LM IIIB: 1 period, but even without them the excavation produced important results. First it


Fig. 19. Floor deposit in chamber, Room L. To the left is a decorated bowl of the Kydonian workshop (Fig. 20) and to the right is the preserved part of the double or triple vase. Above this is seen a fallen jaw and vertebrae of a cow. Facing west.


Fig. 20. LM IIIB:1 bowl of the Kydonian Workshop, GSDE 10-P 0919, found on the floor of Room L.
emphasised our earlier observation that Building 2 is a large, well-constructed complex and the finds likewise emphasised the importance of the person or persons living there. The five sealstones, which were all of a type used in the sealing administration, and previously the Linear B inscriptions, point to a person high up in the administrative hierarchy and the rich finds of fine pottery, carved ivory, the bronze knife, the exquisite amulet, the bronze hook, and the Egyptian blue point to inhabitants of some wealth. For the understanding of the activities in the building, it may also be worthy of note that textile tools which have been so abundant in other contemporary deposits are virtually missing here. The number of footed cups recorded from the rooms of the building is also spectacular. The very many finds of bones in rooms F , L , and H , from offerings and/or meals taken together with the remaining (and missing) finds need detailed


Fig. 21. Preliminary drawing of the sealstone GSDE $10-S$ 044, an amygdaloid in rock crystal. Drawn from cast (cf. Fig. 18); scale 3:1.


Fig. 22. Fragment of colour pigment, GSDE 10-MISC 028 - presumably Egyptian blue.
studies, but it feels safe to say already now that Building 2 is one of the most important in the settlement of Minoan Kydonia from the LM IIIA:2/IIIB:1 periods. Future excavations shall hopefully reveal many more details about this building.

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## Abbreviations

GSE I
Hallager E. \& B. P. Hallager (eds.) 1997
The Greek-Swedish Excavations at the Ag. Aikaterini Square Kastelli, Khania 1970-1987, Vol. I. From the Geometric to the Modern Greek period, 1-2 (ActaAth - $4^{\circ}$ XLVII:I:1-2), Stockholm.

GSE III
Hallager E. \& B. P. Hallager (eds.) 2003
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## Works cited

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Hallager E., M. Vlasakis \& B.P. Hallager 1992
'New Linear B Tablets from Khania', Kadmos 31, 61-87.


[^0]:    1 The excavation was under the general direction of Dr. Yannis Tzedakis, with Dr. Ann-Louise Schallin and Dr. Erik Hallager as co-directors. The fieldwork was conducted by Dr. Erik Hallager and Dr. Maria Andreadaki-Vlazaki. On the site they were assisted by Eftihia Protopapadaki, Naja Werther, Mette Arenfeldt, and Stella Petraki, while the museum work was conducted by Birgitta Hallager assisted by Sascha Olinsson. We are grateful to the sponsors of the excavation, the Institute for Aegean Prehistory, the Carlsberg Foundation, and Gunvor \& Josef Anérs Stiftelse. Likewise we wish to thank Professor Peter Warren for correcting the English text. All measurements in this report is given in metres. Photographs, plans, and drawings are by Erik Hallager.
    2 Hallager, Vlasaki \& Hallager, 1992.
    3 Andreadaki-Vlasaki \& Hallager 2007.
    4 See report for 2005-2008 in this volume, page 195-7 and figs. 3-4.

[^1]:    6 The LM IIIB:2 settlement had more than one building phase, cf. GSE III, 186 and figs. 45-6.
    7 For example GSE I, 213 with further references.

[^2]:    8 See 2005-2008 report in this volume, page 199, fig. 9.
    9 The bones have not yet been investigated in detail.

[^3]:    10 We are grateful to Dr. Jennifer Moody for identifying the stones of the seals.

[^4]:    11 For further impressive finds in this room, see 2005-2008 report in this volume, page 199-200 and figs. 10-11.
    12 We are grateful to Dr. David Reese for the identification of those bones.
    13 Identified on visual inspection by Professor Dr. Vassillis Perdikatsis from the Technical University of Crete. An analysis is however needed for certain confirmation.

