A NABATAEAN ROCK-CUT SANCTUARY IN PETRA : SECOND PRELIMINARY REPORT ON THE "OBODAS CHAPEL" EXCAVATION PROJECT, JABAL NUMAYR (2005-2007)

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This paper provides a preliminary account on three excavation seasons carried out on the «Obodas Chapel» (Jabal Numayr - Petra area) in 2005, 2006 and 2007[1]. The first results of the previous campaigns were published in this journal in 2002 and 2005[2]. This project aims to improve our understanding of the spatial organization of a religious complex that developed between at least the end of the second century BC and the beginning of the second century AD in the southern suburbs of the Nabataean capital. The newly discovered structures will be discussed in addition to the ceramic material found in the complex's cistern that includes poorly documented Nabataean pottery types.

The Newly Excavated Structures

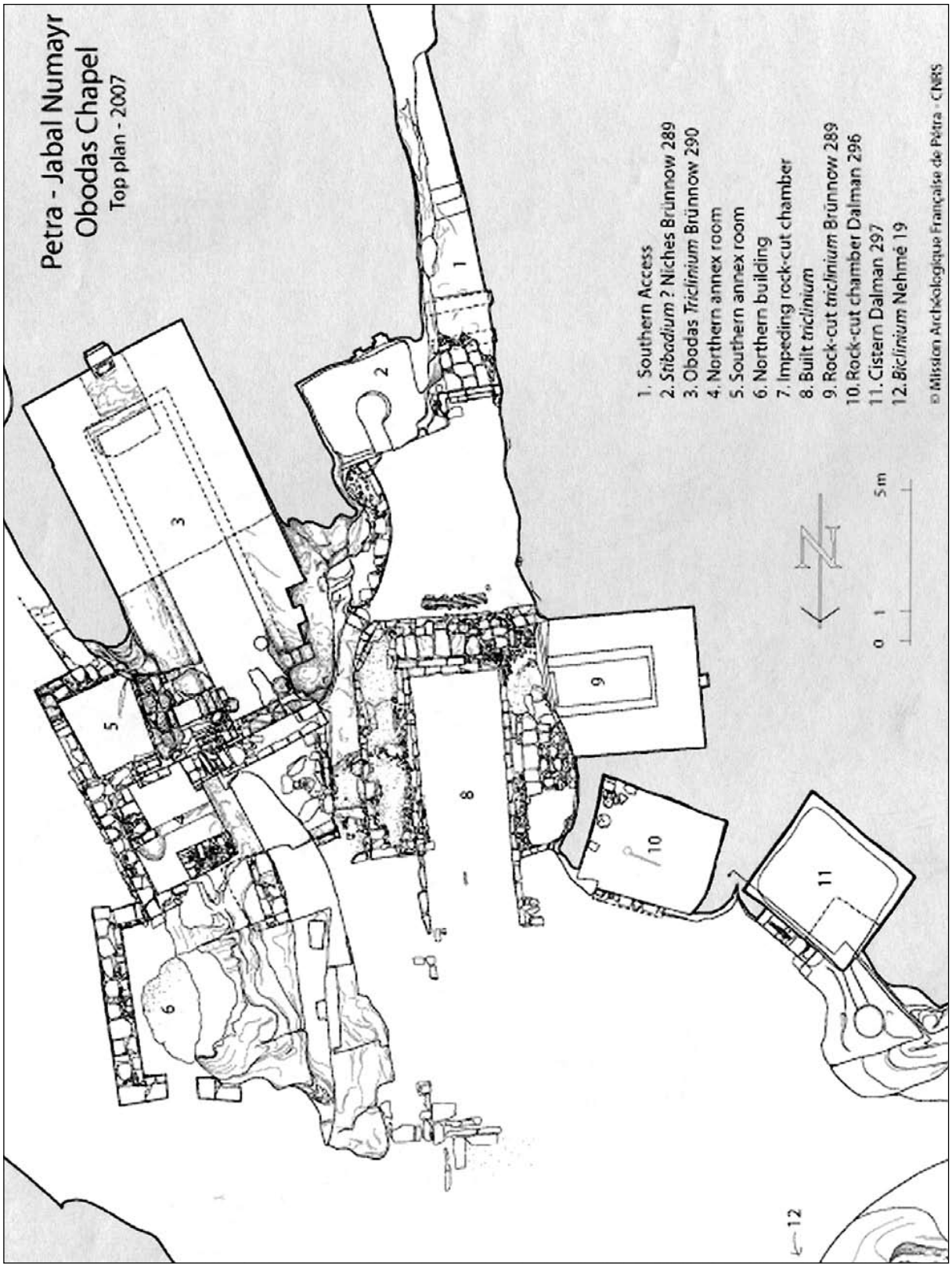
The Southern Entrance to the Complex

The «Obodas Chapel» complex of Jabal Numayr is accessible from the south through an 11.2m long N-S rock-cut passageway (PN2006.20000) (**Fig. 1.1 and Fig. 2**). This corridor was constructed through artificially enlarging a very narrow wadi up to 1.9m by carving its western side. This corridor is slightly sloped towards the north and is equipped with a few low steps carved into the bedrock. Main access to the religious complex is a 1.58m wide door at the passageway's northern end (PN2005.13000). This gate includes a ca. 3m long and ca. 1.8m wide paved porch that was originally covered by a roof supported by two arches. The arches start at a height of ca. 1.6m on both sides of the rock-cut hallway and rise up to ca. 1.75-1.80m. The roofing system somehow was bounded, on its eastern side, to a wall connected to a newly discovered *stibadium* (see *infra*). The northern half of the porch is paved with irregular flagstones (**Fig. 3**). In 2007, a 7.60m by 5.20m sector was opened immediately north of the main gate (PN 2007.21000). Part of the destruction levels of both the threshold and the eastern doorjamb were excavated. This gate clearly marks the limit of the sacred space since the majority of the cultic niches of the complex are concentrated immediately to its northern side. Nine of the ten cultic niches of the complex were identified in this area, at the entrance of the complex, some of which are remarkably preserved.

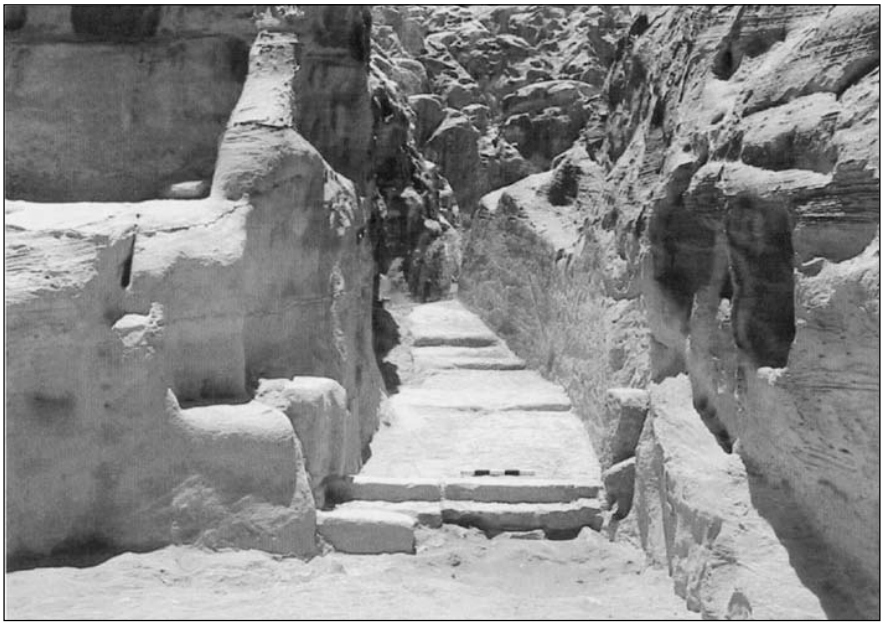
A Circular Structure - Stibadium ? - Connected to the Niches Brünnow and Domaszewski Inv. # 289

East of the entrance to the complex, a structure that is tentatively interpreted as a *stibadium* was unearthed (PN 2005.15000) (**Fig. 1.2**). It is

1. This project, funded by the French Ministry of Foreign Affairs, is part of the *French Archaeological Mission in Petra* directed by Christian Augé (CNRS-Centre National de la Recherche Scientifique). The 2005 campaign extended from June 16th to July 14th. The Department of Antiquities was represented that season by Mr S. Fayyad. A. Le Bihan (Paris I) and E. Cappelli (Tours), worked as trench supervisors. F. Bourguignon, (Strasbourg) initiated the architectural analysis. M. Perry (East Carolina University) and her team gave us a priceless help by offering their help in mapping the complex. The 2006 campaign was carried out from June 17th to July 20th. S. Martin (Paris I) and M.-J. Lanthier (Laval), worked as trench supervisors. The 2007 season lasted from June 29th to July 26th. M.-J. Lanthier (Laval), M. al-Hilahi (Lille) and B. Vergnaud (Bordeaux), worked as trench supervisors. E. Cappelli (Tours) helped with the drawings and the recording. Mr M. Salameen represented the Department of Antiquities in 2006 and 2007. Since 2006, S. Delcros (Architect, Paris) is in charge of the architectural recording and analysis. An average of twelve workers was hired during the three seasons.
2. Nehmé 2002a; Tholbecq and Durand 2005. See also the short reports published in *AJA*: Nehmé 2002b; Tholbecq 2003, 2006 and 2007.



1. The «Obodas Chapel» complex: general map of the rock-cut and excavated structures.



2. Southern closed hallway giving access to the complex.

3. Porch pavement.

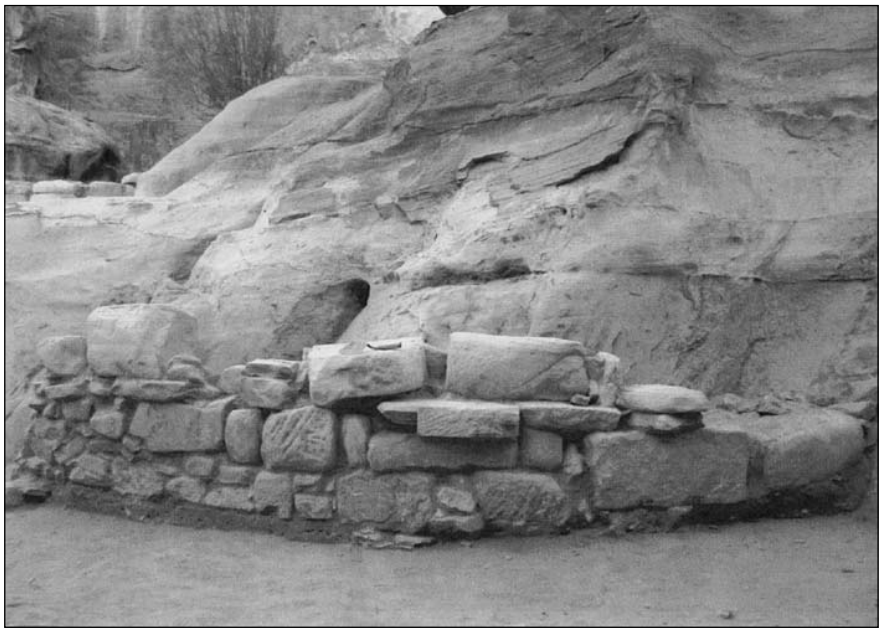
situated in the centre of a 3.4 x 3.2m open-air, rock-cut platform that rises ca. 1.8m above the first century AD occupation level. This structure was originally reached by several roughly carved step-like notches. The structure itself consisted of a 1m diameter circular aperture associated with a 0.6m wide narrow space to the north (**Fig. 4**). Its maximum depth is 0,48m. Two major decorated niches are sculpted on the back wall of the structure, 1.27m above the top of the platform (Brünnow and Domaszewski Inv. # 289). The back of the eastern niche was clearly cut to reveal a betyl and its associated base. The sector situated at the bottom of the structure (PN 2007.21000) revealed a 5.20m long and 0.80m high curved wall built against the bedrock that defined the eastern side of this area (**Fig. 5**). It is made of reused architectural fragments, has no proper foundation and must be related to the building phase of the «Obodas *Triclinium*». On the northern side of the square, an isolated segment of an east-west built canalization (2.27m by 0.27m), was found at the same level as the summit of the following described *triclinium*.

4. Possible Stibadium connected to the niches Brünnow and Domaszewski Inv. # 289.

The Open-Air Triclinium

Besides the «Obodas *Triclinium*» itself, the complex includes an exceptional open-air *triclinium* partially exposed in 2004 (**Fig. 1.8 and Fig. 6**)[3]. This is a U-shaped structure open to the north and has a maximum height of 0.87m (PN 2006.23000)[4]. The ca. 10.5 long by ca. 6.30m wide *triclinium* contains three ca. 1.2m wide couches and is not limited by any exterior wall. The *triclinium* is asymmetric since its eastern 8.54m long bench is smaller than the west one. On their inner faces, the couches were constructed of three courses of fine rectangular sandstone blocks. The southern and western couches are covered by flagstones while the surface of the eastern one is plastered. The three couches have on their inner edges the characteristic recess of the banqueting halls. The usual slope towards the inner side of the *triclinium* present on the summit of comparable structures is equally clear on the south and west benches, where the original covering flagstones remain.

In 2007, a 10.80m by 2.90m trench was opened in the central area of the *triclinium* (PN 2007.23000). It revealed occupational layers extending from the second century BC to the first century AD. At least two major occupation phases have been tentatively identified so far. A

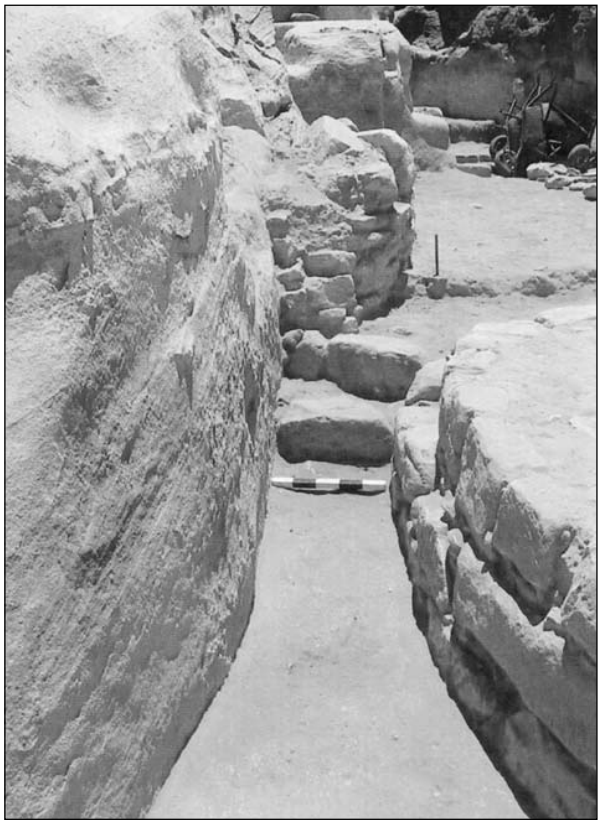


5. Curved wall PN 2007.21021.

3. Tholbecq and Durand 2005: 303.
4. To complete the excavation of the *triclinium*, the central north - south balk (PN 2006.21000) and the central east-west balk (PN 2006.22000) visible in Tholbecq 2006: 483, fig. 14, (with a wrong caption) were removed in 2006.

6. The open-air triclinium.

first structure must be associated with a major ash pit (PN2007.23017) containing late-Hellenistic material (post-150BC - pre-50BC) that is tentatively interpreted as the result of cooking that took place in an early phase of the sanctuary's use. Whether this wall was part of an early phase of the *triclinium* remains unclear. The *triclinium* structure seems to have been built during the first century BC, in use through the first century AD and was apparently destroyed at the end of the same century. If the preliminary ceramic readings are correct — and this needs to be confirmed by further examination of the finds, the built *triclinium* would have been in use in concert with the rock-cut «Obodas *Triclinium*» itself. The south-eastern limit of the built *triclinium* is slightly curved and provides some space for a narrow two-stepped stairway wedged between the built *triclinium* and the «Obodas *triclinium*» (**Fig. 7**). Similarly, a 1.10m wide by 7.5m long hall (PN2006.19000 – PN2007.22000) skirts the eastern side of the built *triclinium*. Its excavation revealed several successive floors dating from the first century BC to the year 20AD onwards. The floors all seem to predate the building of the Obodas complex associated with the eastern annex rooms[5]. All these elements tend to prove that the open-air *triclinium* might be somehow connected to



7. The two-stepped stairway between the open-air triclinium and the «ObodasTricilnium».

the early sanctuary referred to in the main dedication of the Obodas *triclinium* (*CIS* II 354) but

5. On this part of the complex, see Tholbecq and Durand 2005.

might also have remained in use contemporary with the new complex[6].

Similar open-air *triclinia* are exceptional in Near-Eastern contexts. The best published parallel that comes in mind is the «garden *triclinium*» (AL94) excavated on a court associated with the «Twin Palaces» in Jericho. According to its excavators, this structure «might be dated slightly before the Twin Palaces» which means, before the reign of Queen Alexandra (76 – 67BC)[7].

The Blocked Rock-Cut Chamber Discovered in 2004 on the Eastern Side of the Esplanade

The entrance of the rock-cut chamber discovered in 2004 on the eastern side of the esplanade (PN 2005.12000) was unfortunately vandalized during the winter 2004-2005 (**Fig. 1.7**). The excavation of the remaining layers revealed a destruction layer containing major architectural fragments dating to the early second century AD. The layer situated under this destruction level and associated to a wall blocking the entrance of the chamber contained ceramic material dating from the second quarter of the first century AD. Consequently, this blockage of the chamber must be connected to the construction of the main Obodas *triclinium* dedicated in 20AD. This means that this rock-cut chamber belongs to the earlier complex. The original limits of this chamber can be traced: this 1.53m high rock-cut room opening towards the west was 2.60m deep and 2.45m wide. Topographically, this rock-cut chamber is articulated with the eastern bench of the open-air *triclinium*, its presence might actually have justified its limited length. We can therefore reasonably assume that this chamber was somehow used in connection to the banquets held on the open-air *triclinium*.

The Rock-Cut Chamber Dalman Inv. # 1296

The excavation of the rock-cut chamber Dalman Inv. # 1296 (PN 2005.11000) revealed a rectangular chamber of 3.20m deep by 4.20m wide, opening towards the north-east (**Fig. 1.10**). Its maximum height is 1.71m. A pit situated near the entrance of the cave attests a limited Ayyubid - Mamluk occupation. Under this level, a ca. 0.50m high abandonment layer was found. The earliest occupation trace discovered in this rock-cut chamber consisted of a few architectural fragments including a column base and its connected column drum that was reused as a working place (grain mill?). We assume that the secondary wall (all its material consists of reused stones) blocking the entrance of the cave was connected to this early occupation. Traces of the first occupation of the room consisted of a few centimetres of ash layer predating the above mentioned reuse of the artificial cave. The area situated in front of the rock-cut chamber Dalman Inv. # 1296 (PN 2005.14000 and PN 2006.18000) mainly consisted of several dump layers associated to the use and successive cleaning operations of this chamber as a domestic area. The first reading of the ceramic material seems to indicate that this sector was used during the Roman period, *i.e.* after the destruction of the *triclinium* of Obodas. This limited occupation should, therefore, logically be associated with the continuous use of cistern Dalman Inv. # 1297.

The Biclinium Nehmé Inv. # N19

The ceiling of the rock-cut biclinium N19 partly excavated by L. Nehmé in 2001 collapsed during the winter 2004-2005 (PN 2005.16000) (**Fig. 1.12 and Fig. 8**). The earlier excavated occupation floor contained material dated to the very beginning of the first century AD (0-20AD painted plates). Residual ceramic fragments from the end of the first century BC were found in a basin-niche cut into the northern wall of the chamber.

The Northern Sector

On the northern sector of the complex, the excavation of a major destruction level has been initiated. It consists of major debris of architectural blocks and fragments, isolated from the collapse of the «Obodas *Triclinium*» itself. The upper fill contained column drums of several diameters, column bases, at least one upper part of a Nabataean capital, several ashlars, fragments of portable altars and flagstones. This debris is the result of the destruction of a major structure that was apparently closing the cultic terrace on its northern side. Part of this destruction seems to predate ash layers dating from the end of the first century BC. In other areas, a flagstone path

6. Nehmé 2002a, Nehmé forthcoming.

7. Netzer 2001: 189-193 and 196.

8. The biclinium Nehmé Inv. # N 19.

seems to have been arranged on its upper part, probably during the utilization period of the main «Obodas *Triclinium*». Its excavation will be the main objective of the 2008 season.

The Finds (C. Durand)

In 2005, the ceramic material from the earlier excavation seasons was studied in order to give a general overview of the successive occupations of the complex. The majority of these ceramics come from contexts corresponding to the destruction of the «Obodas *Triclinium*» and its associated structures, dating to the end of the first century AD - early second century AD. Several earlier contexts were also identified; the ash layer PN 2004.9003 connected to the northern limit of the complex provided the first clear evidence of the presence of the earlier complex referred to in the dedication of the statue of Obodas the god (*CIS* II 354). Later occupation in the area is also suggested by a few Late Roman cooking pots fragments (third - fourth century AD) in PN 2003.2004. Surface layers also revealed isolated fragments from a Late Roman pilgrim flask probably produced in Aqaba (PN 2004.8000) and the neck of a painted handmade Ayyubid-Mamluk jug (PN 2002.1011). All these later occupations seem to be associated with the cistern that apparently remained in use, despite the destruction of the complex in the early second century AD.

The Ceramics from the Cistern Dalman Inv. # 297

In 2003, the rock-cut cistern Dalman # 297 (**Fig. 1.11 and Fig. 9**) was partly excavated[8]. It measures 4.60m by 3.96m, and is approximately 4.1 to 4.4m deep. During construction, the sandstone material was extracted through an opening on the upper part of the eastern side of the cistern. Once construction of the cistern was completed, this hole was closed by a wall of which 5 courses are preserved (2.40m by 2.20m). The entire surface of the cistern is covered by several hydraulic mortar layers extending up to the ceiling. A 2.20m by 1.60m probe was opened in the northeastern corner of the cistern, right under the drain which supplied the cistern with rainwater. Water was collected via a channel running from a small retaining reservoir situated behind the rock ledge under which the cistern was carved. The cistern delivered an impressive quantity of ceramic material that includes some significant finds that will be discussed below.

Stratigraphy: The cistern was found half full of debris. The highest 0.40m deposit (PN 2003.4001) contained a few architectural blocks, and some

8. On the cistern, Tholbecq and Durand 2005: 303; Gabriel Humbert (IFPO ʻAmmān) was in charge of the restoration of this pottery assemblage; Marta Zambello drew the artefacts.

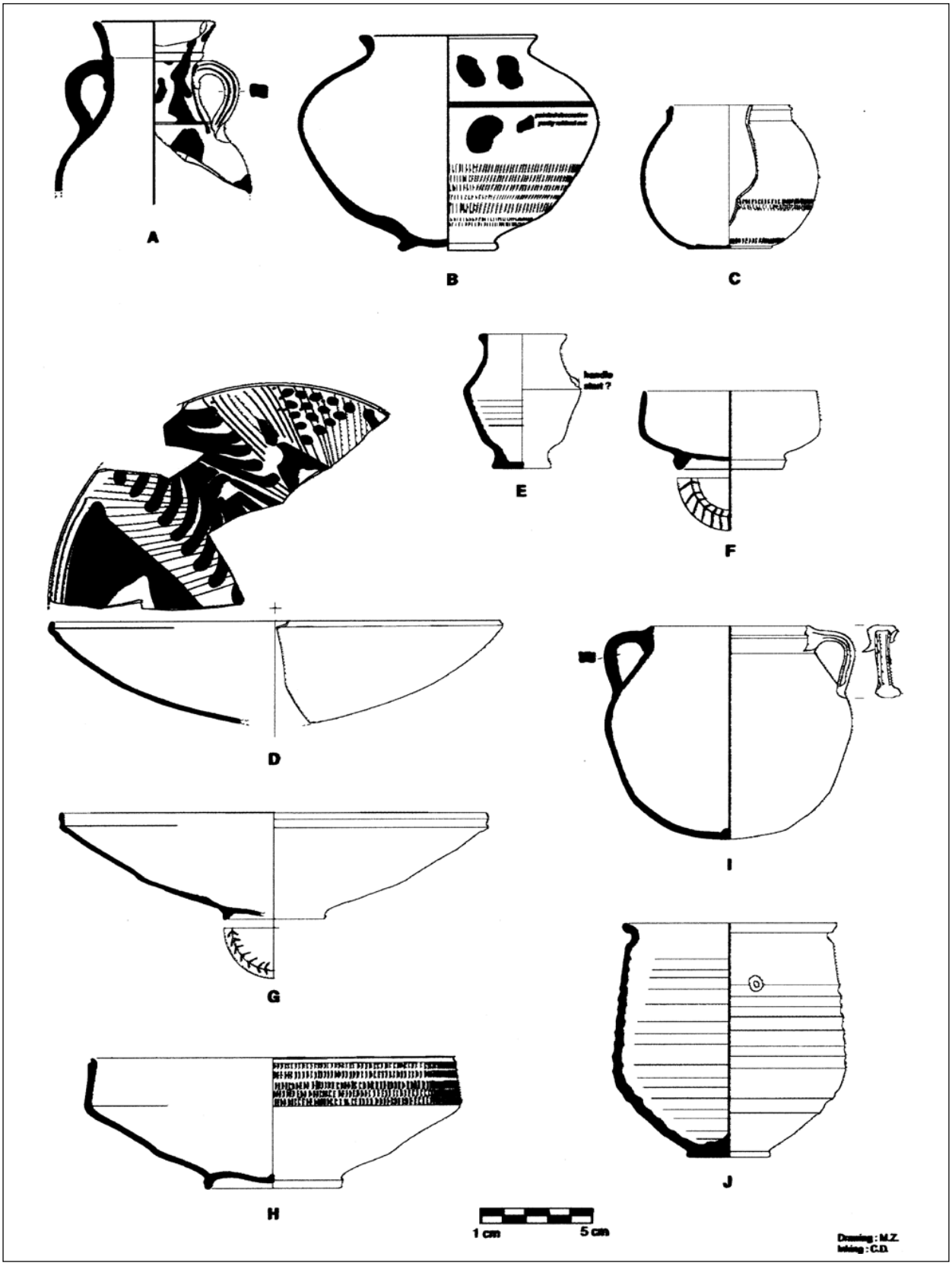
9. The cistern Dalman 297.

ceramic sherds from the second and third centuries AD. The rest of the cistern contained relatively homogeneous fill of mixed sand and clay, with an industrial quantity of pottery sherds (PN 2003.4002, depth: ca.0.5m and PN 2003.4003, depth ca.1.50m). No micro-stratigraphy could be established within this fill during careful excavation of this probe. The ceramic material was very homogeneous in term of chronology, suggesting that the cistern was filled with debris over only a few decades. Moreover, the ceramic sherds are extreme porous, obviously caused by a long stay in water, which suggests that the cistern was still filled with water when the ceramics were dumped.

Typo-chronology: Many of the ceramics from the cistern were extremely well preserved, and were either recovered whole or could be reconstructed. The ceramics include a large variety of forms, some almost unknown in the Nabataean repertoire. All the ceramic categories usually present at a Nabataean site are represented in the cistern material. Most of these were coarse ware pottery, although some Nabataean fine wares were found. The decoration of the few painted vessels (**Fig. 10A, B, D**) was generally very damaged because of their prolonged stay in water. All of these painted forms can be dated from the end of the first century AD or the beginning of the second century AD (Schmid 2000: phases 3b-3c). Nabataean unpainted fine ware is largely represented (**Fig. 10C, F, G, H; Fig. 11D**) by many small cups with a vertical rim (Schmid 1996: group[8]; **Fig. 10F**), plates, small globular pots, jugs and juglets. Here again, the form of this corpus dates to the end of first century or beginning of second century AD. The common-wares provide a similar picture. For instance, most of the ca. 50 identified cooking-pots date to the same period (**Fig. 10I**), except for a few slightly earlier rim sherds that date back to the end of the first century BC (Stucky 1994: 15-Q, 15-S)[9].

Beyond these chronological considerations, the ceramic material of the cistern Dalman # 297 is of undeniable typological interest, especially for the first century AD jugs and liquid containers. This category of material is especially well represented and the discovery of several complete jugs allows us to establish a typological profile of these first century AD forms. The first category of jugs, which seems to be the most common, contains a narrow neck with a slightly widened straight rim, without a spout, but with a flat handle attached to the edge, a ribbed pear-shaped body and a ring foot (**Fig. 11A, B**). These jugs are of variable size. A second type of jug similarly has a pear-shaped

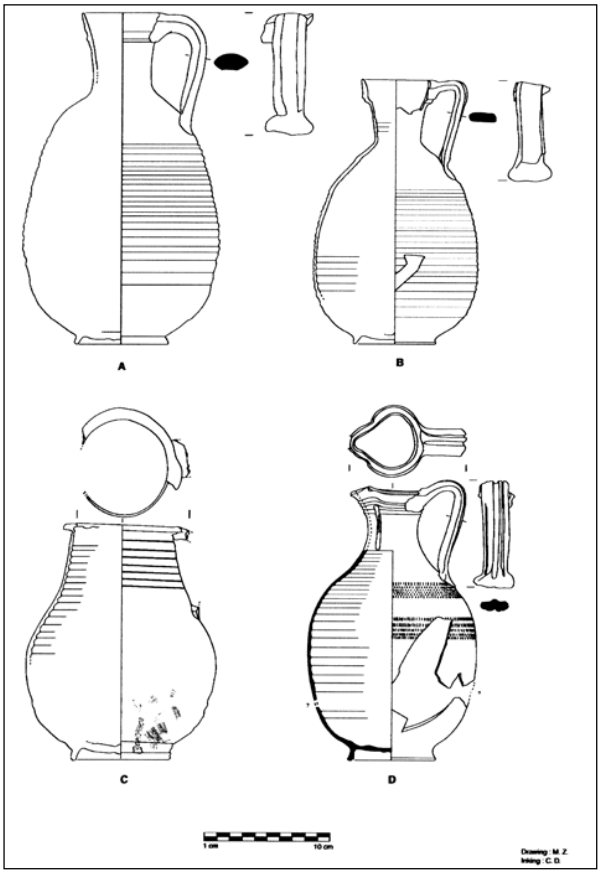
9. The number of individuals is inferred from the cooking-pot's bases.



10. Fine and Common Nabataean pottery from the cistern Dalman 297.

Fig.10	Inventory n°	Description	Fabric	Diam. (cm)	Parallels	Chronology
10-A	PN 2003.4003.31	Painted juglet, traces of dark painting, straight rim, slightly widened, underlined by a small draft	Fine ware, orange, a few small white and grey grits	5	Not indexed form NPW ph. 3c.	Beg. 2nd c. A.D.
10-B	PN 2003.4003.20	Globular pot, traces of painted decoration on the shoulder, rouletted pattern on the lower half of the body, ring foot	Fine and hard ware, pink to grey, small white and grey grits	8 4,5 (foot)	See Horsfield 1942: Pl. XXVIII-70. NPW ph. 3c	Beg. 2nd c. A.D.
10-C	PN 2003.4003.29	Small globular pot, small vertical rim with bevelled lip, two stripes of vertical rouletted lines on the lower part of the body, flat bottom	Fine ware, orange, a few small white and grey grits	5	Schmid 2000: 366 (handles ? ph. 3) Schmid 2003: 61-22 (handles ?) Khairy 1982: 63	End 1st c.-beg. 2nd c. A.D.
10-D	PN 2003.4003. 43-44	Painted plate, partly rubbed out decoration, small vertical rim	Fine ware, orange, a few small white and grey grits	20	Schmid 1996: 701 (ph. 3b)	End 1st c. A.D.
10-E	PN 2003.4003.08	Small open pot, widened lip, small bottleneck foot, possible broken handle	Fine ware, pinkish-orange, white slip outside and inside (?)	3.5	Not indexed form	End 1st c.-beg. 2nd c. A.D. ?
10-F	PN 2003.4003.12	Small cup with vertical rim, small decorated ring foot	Fine ware, orange, grey core, small white and grey grits	7.5	Schmid 1996: 661 Schmid 2000: 59 group 8 (ph. 3b-c)	End 1st c.-beg. 2nd c. A.D.
10-G	PN 2003.4003.24	Plate, small vertical rim, small decorated ring foot	Fine ware, pale orange, traces of white slip on the outside of the lip, small white and grey grits	19	Schmid 1996: 657 Schmid 2000: 55 group 7 (ph. 3b-c)	End 1st c.-beg. 2nd c. A.D.
10-H	PN 2003.4003.26	Plate with vertical rim and small bevelled lip, stripe of vertical rouletted lines on the lip, ring foot	Fine ware, orange, white slip on the outside of the lip, small white and grey grits, calcite	16	Schmid 1996: 666 Schmid 2000: 64 group 9 (ph. 3b-c)	End 1st c.-beg. 2nd c. A.D.
10-I	PN 2003.4003.01	Small cooking pot, unribbed body, bevelled rim	Fine ware, pinkish-orange, external white slip, small black and white grits	7	Stucky *et al.* 1994: 16-F	Beg. 2nd c. A.D.
10-J	PN 2003.4003.02	Pot with broad mouth, small widened rim, flat foot, slightly ribbed body, small intentionnal hole on the higher part of the body	Fine ware, orange, traces of external white slip, small black and white grits	9.5	Schmid 2000: 211 (ph. 3c) See also Tholbecq and Durand 2005: 13-D (painted)	Beg. 2nd c. A.D.

body, slightly ribbed on the neck, a broad opening underlined by a flat rim turned towards the exterior, and a flat handle attached to the rim (**Fig. 11C**). These two types of jugs present the characteristic Petra orange ware. According to the associated material, they should date to the end of the first century or beginning of the second century AD. The cistern material contains a third jug type whose form is particularly underrepresented in the Nabataean ceramic repertory (**Fig. 12A, B**). This jug is characterized by a high neck of variable diameter, and a carinated, broad and flattened body, with a single broad and grooved handle. Ten of these jugs were found, whose bodies have a diameter varying between 22 and 35cm. Fragments (necks and handles) of similar jugs from other Nabataean sites were previously published. In Petra, some examples have been found in az-Zanṭūr (Schmid 2000: n° 314), and in a cistern in theWādī Farasa (Schmid and Barnasse 2004: 333ff. and especially Schmid 2005: 77,



11. Nabataean jugs from the cistern Dalman 297.

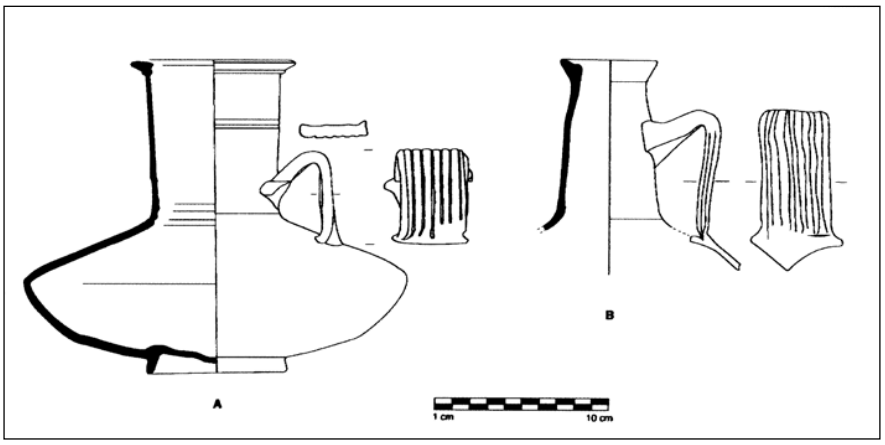
fig. 18)[10]. The Nabataean oil press from Khirbat adh-Dharīḥ delivered a similar jug neck[11].

This third category of jugs is similar to the category of the *lagynoi* characteristic of the Hellenistic repertoire that appears in the third century BC. Interestingly enough, one imported painted fragment of a similar Hellenistic *lagynos* was discovered in one of the earlier levels of Parr's excavation of downtown Petra (Parr 1965: 531, Pl. 132.2). These *lagynoi* are linked to quite particular uses in the Greek world, like that of the Dionysiac festival of the *lagynophoria* and its ritual banquets, which occurred in Alexandria in the third century BC, and during which each guest was supposed to bring his own *lagynos* (cf. Athenaeus, *Deipn*. 276a ; Bessi 2005: 242-243). This could suggest an Alexandrian origin to its appearance in the Nabataean ceramic repertory[12]. Therefore, the discovery of Nabataean *lagynoi* in a major first century AD dump from the «Obodas Chapel» banqueting hall complex is of a particular interest.

The corpus of liquid containers also includes the well-known spouted strainer-neck jar/jug characteristic of the Green or Cream Ware category (**Fig. 13**)[13]. They are characterized by their soft porous ware, greenish to pinkish-white in

Fig.11	Inventory n°	Description	Fabric	Diam. (cm)	Parallels	Chronology
11-A	PN 2003.4003.03	One-handled jug, no spout, straight rim, ribbed body, small ring foot, flat handle attached to the edge	Fine ware, orange, external white slip, grey and white grits	6	Not indexed form.	Beg. 2nd c. A.D. ?
11-B	PN 2003.4003.16	One-handled jug, no spout, straight rim, ribbed body, small ring foot, flat handle attached to the edge	Fine ware, orange, external white slip, grey and white grits	5	Not indexed form. Same type as n° 11-A but a little smaller.	Beg. 2nd c. A.D. ?
11-C	PN 2003.4003.32	Pear-shaped one-handled jug, slightly ribbed neck, ring foot, flat widened rim, traces of tool (or scratching ?) on the lower part of the body, flat handle	Fine ware, orange to grey, external white slip, small grey and white grits	8	Tholbecq and Durand 2005: 15-F (smaller) Schmid 2000: 343, 344 Murray and Ellis 1940: Pl. IX-8, XXXI-128.	End 1st c.-beg. 2nd c. A.D. (ph. 3b-c)
11-D	PN 2003.4003.04	Spouted one-handled jug, widened rim, underlined by a groove, five stripes incised under the lip, rouletted pattern on the body, bifid handle, possible ring foot (uncertain)	Fine ware, orange, a few small grey and white grits	5 6.5 (foot)	Close to Khairy 1982: 74 Murray and Ellis 1940: Pl. XXXII-137.	End 1st c. A.D. ?

10. We thank S. Schmid to have carried this information to our attention.
11. Unpublished. Information kindly provided by the Jordanian-French Mission of Khirbat adh-Dharīḥ (courtesy Zeidoun al-Muheisen, François Villeneuve).
12. For *lagynoi* in Gerasa: Kehrberg 2004: 195.
13. Cf. table, fig. 14.



12. Lagynoi type jugs from the cistern Dalman 297.

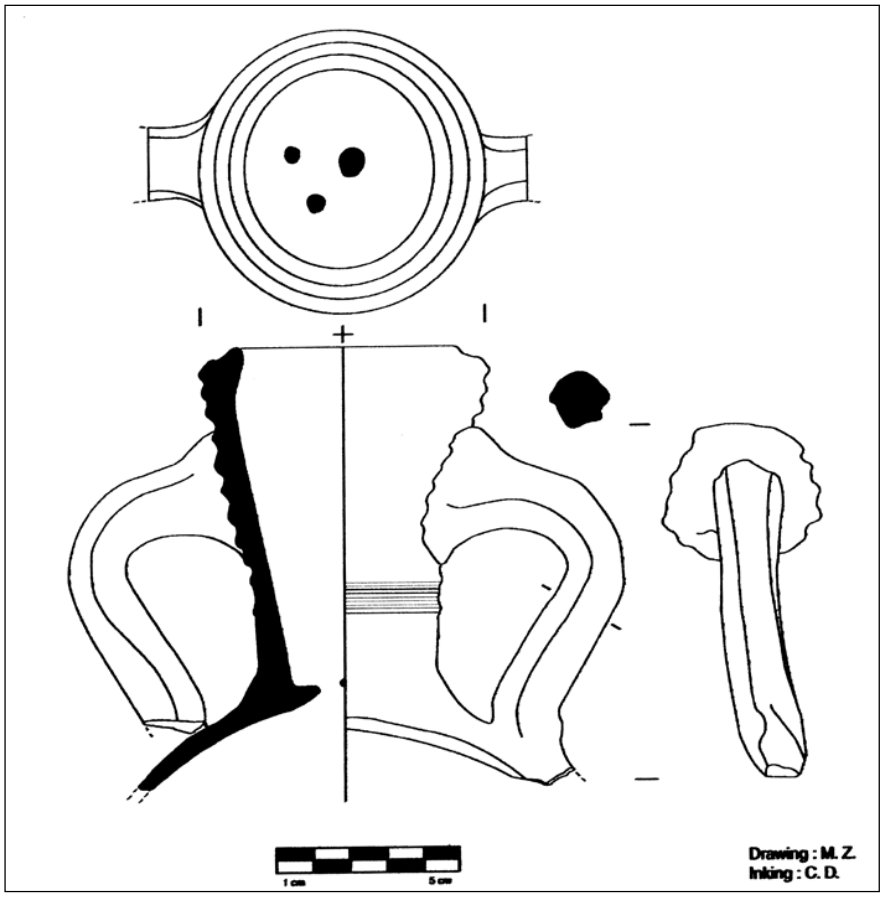
Fig.12	Inventory n°	Description	Fabric	Diam. (cm)	Parallels	Chronology
12-A	PN 2003.4003.48	Jug, *lagynos* type, high vertical collar with small stripe of incised horizontal lines, flat widened rim, one broad ribbed handle, very low and wide body, ring foot	Fine ware, orange, external white slip, small white and grey grits	7 (neck) 22 (body)	Close to Schmid 2000: 314 and 334 (necks, ph. 3b) Schmid 2005: 77, fig. 18 Dharih: inv. DH 87 V10 A24.14 (unpublished)	End 1st c.-beg. 2nd c. A.D.
12-B	PN 2003.4003.53	Jug, *lagynos* type, narrow neck with a widened rim, incised line on the base, small draft on top, ribbed handle, ring foot	Orange ware, white and grey grits, external white slip	5,5 (neck) 25 (body) 9 (foot)	Schmid 2000: 351 (neck, ph. 3b) Horsfield 1942: Pl. X-30	End 1st c.-beg. 2nd c. A.D.

colour. Several physicochemical analysis programs showed that the clay used was very different to that of the Petra productions (Schneider 1996: 138-139; Bedal 1998: 353), but the exact origin of this pottery production remains unclear[14]. The reason for its large distribution within the Nabataean territory is still a matter of discussion[15]. This jug neck is thus one of the rare ceramic fragments extracted from the cistern that were not produced in Petra or in its immediate surroundings. Other non-local forms include two tiny Eastern *sigillata* sherds that are too small for identifying any major characteristic.

A last category of ceramics that deserves our attention is that of the *ollae perforatae*, recently identified in Petra by Macaulay-Lewis. At least two specimens were discovered in the cistern Dalman # 297. They are small open containers that have a small intentionally bored hole in the bottom (**Fig. 14A, B**). The discovery of several containers of this type in the Petra Garden Pool Complex parallel very similar examples found in various Roman gardens that have been identified as planting pots (Macaulay-Lewis 2006; in Jericho, Yellin and Gunneweg 1989). Our artefact illustrated in **Fig. 14A** is particularly characteristic of these flowerpots (Macaulay-Lewis 2006: 160, fig. 1). Nevertheless, the presence of *ollae perforatae* in our context is surprising and might suggest secondary uses for these small containers, for instance as filters of funnels.

The ceramic material from the probe opened in 2003 in the cistern Dalman # 297 is interesting in several ways. The discovery of this partial

14. Several centers have been suggested among which Aqaba and Udruh are plausible candidates (Dolinka 2003: 63-64 and note 123).
15. It has been suggested that these jugs could have been appropriate containers for particular goods like *garum* or date wine (Dolinka 2003: 86) or were particularly adapted to the conservation of cool drinks (Murray-Ellis 1940: 20).

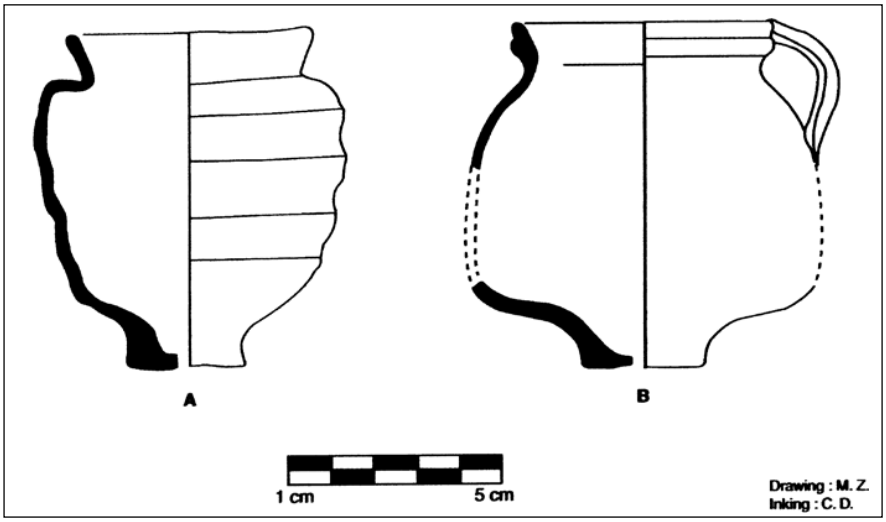


13. Cream/Green Ware jug with filter from the cistern Dalman 297.

Fig. 13	Inventory	Description	Fabric	Diam. (cm)	Parallels	Chronology
13	PN 2003.4003.07	Jug with filter, two handles, high ribbed neck, slightly curved rim, incised lines on the lower part of the neck	Fine ware, pale pink, greenish-white outside, sandy grits, mica ?	6	Murray and Ellis 1940: Pl. XXV, XXXIII Horsfield 1942: 222 Hammond 1965: 79, Pl. LII.2 Schneider, 1996: 138-139, fig. 579-591 Bedal 1998: 353, fig. 7.12.24, 7.12.26. Dolinka 2003: 67-69, fig. 39 (type J3)	End 1st c.-beg. 2nd c. A.D.

but coherent pottery assemblage raises several questions. Is our knowledge of the Nabataean pottery chronology precise enough to determine the duration of the deposit, since the material seems to constitute a tight chronology from the end of first century / beginning of second century AD? So far, one is tempted to consider that this material results from continuous use of the gathering complex by one or two generations of worshippers around the end of the Nabataean independent kingdom. Similarly, we hardly understand why intact containers would have been dumped in this cistern, especially if it remained in use[16]. Similar behavior is nevertheless evidenced in a cistern within Wādī Farasa, whose bottom was filled with complete Nabataean ceramics from the first century AD (Schmid and Barnasse 2004: 333-334; Schmid 2005: 76-77). The excavation of the Jabal Numayr cistern will continue in 2008.

16. Limited dumping areas have been identified on the eastern side of the kitchen complex.



14. Ollae perforatae from the cistern Dalman 297.

Fig. 14	Inventory	Description	Fabric	Diam. (cm)	Parallels	Chronology
14-A	PN 2003.4003.18	Small jar, string cut bottleneck foot, irregular, straight rim slightly widened, small hole in the bottom	Orange to grey ware inside, orange outside, white external slip, black and white grits	5.5	Macaulay-Lewis 2006: 160, fig. 1 Bestock 1999: 245, fig.5 (no hole) Horsfield 1942: Pl. XXI-156 (no hole)	End 1st c.-beg. 2nd c. A.D.
14-B	PN 2003.4003.19	Small globular pot, one handle, string cut bottleneck foot, small hole in the bottom	Orange ware, gritty, white and grey grits	6	Close to Horsfield 1942: Pl. XVIII-129 (no hole)	End 1st c.-beg. 2nd c. A.D.

Specialized Analyses

Lamps and oil: A sample of ten first century AD Nabataean lamp fragments was given to the *Laboratoire Nicolas Garnier* for analysis of their oil residues. The preliminary analysis confirms that the residue is extremely well preserved through favourable conservation conditions. The results indicate among other things the presence of pure sesame oil in almost a third of the sampled lamps[17].

Micro-rests and paleogeography: Archaeobotanical evidence was used to provide a glimpse on the natural and cultivated environment of the «Obodas Chapel» complex. The analysed archaeobotanical samples come from the second to the first century BC ash layer PN 2007.23017. Due to their interest, it was decided to publish the first preliminary results of Charlène Bouchaud's analysis below[18].

Analyse des Macro-Restes Végétaux de la «Chapelle d'Obodas» (Charlène Bouchaud)

L'échantillon de macro-restes végétaux PN23017 a été prélevé en juillet 2007. Le sédiment provient d'une couche cendreuse, antérieure ou contemporaine à un premier état du *triclinium* de plein air (voir discussion ci-dessus). La céramique associée date cette couche de l'époque hellénistique tardive. Cette couche cendreuse contenant des macro-restes végétaux et des ossements animaux pourrait correspondre à un rejet de foyer témoignant d'une activité de cuisson liée à la réalisation de banquets. L'étude s'attache ici à l'analyse d'un seul échantillon. La principale question est donc d'expliquer la présence des espèces identifiées en lien avec la

17. N. Garnier, Chr. Chambon, forthcoming. Let's add that C. Tomé (Bordeaux) started the analysis of the animal bones found in the first century AD kitchen associated with the «Obodas *triclinium*» (see Tholbecq and Durand 2005).
18. Charlène Bouchaud, Laboratoire d'archéobotanique de la MAE de Nanterre.

structure fouillée et de les replacer dans le contexte environnemental du site de Pétra à l'époque nabatéenne. Les données archéobotaniques de la région pour cette même période sont rares et disparates. Cette analyse et les études ponctuelles déjà menées[19] formulent les premières bases de réflexion scientifique concernant l'économie végétale et l'évolution paléoenvironnementale à Pétra.

Du fait de la préservation par carbonisation des graines et des charbons présents dans l'échantillon, les 25 litres de sédiment prélevés ont été traités par flottation. Les macro-restes végétaux récupérés ont été étudiés en France au laboratoire archéobotanique de la MAE de Nanterre. L'échantillon a été examiné à la loupe binoculaire une première fois pour séparer les restes carpologiques (graines et inflorescences végétales) et anthracologiques (charbons de bois). Les restes carpologiques ont ensuite été observés à la loupe binoculaire, de grossissement x 10 à x 60, et identifiés grâce à la collection de références actuelles. Les restes anthracologiques ont été observés au microscope à réflexion de grossissement x 100 à x 500 selon trois coupes – en transversale, radiale et tangentielle – et identifiés grâce aux atlas anthracologiques[20] et à la collection de références actuelles. Les graines et les charbons trouvés étaient en très mauvais état de conservation, sûrement à cause d'une forte carbonisation. Les plupart des graines étaient éclatées et les charbons étaient petits et vitrifiés, ce qui a parfois rendu l'identification difficile[21].

Analyse Anthracologique

L'analyse des charbons de bois peut fournir des informations sur l'histoire de la végétation ligneuse autour du site, en supposant que le bois retrouvé sur le site a été ramassé à proximité du site et que la sélection n'a pas été trop forte[22]. Ces charbons de bois ne reflètent pas directement la couverture végétale, mais indiquent seulement les espèces utilisées par l'homme. Pour cette étude, il est important de garder à l'esprit que la prise en compte d'un seul échantillon limite fortement l'interprétation environnementale.

Deux cents fragments de charbons de bois ont été observés et huit taxons ont été identifiés. Les résultats sont présentés dans le tableau 1.

Tableau 1. *Résultats de l'analyse anthracologique.*

Analyse Anthracologique		
Taxons		
Anacardiceae	*Pistacia* spp.	37
	cf. *Pistacia* spp.	98
Chenopodiaceae	type *Salsola* sp.	1
Euphorbia	Cf. *Euphorbia* sp.	1
Fagaceae	*Quercus* sp.	1
Cf. Leguminosaceae		5
	Acacia sp.	4
Oleaceae	Cf. *Olea europea* L.	1
Rosaceae	*Prunus dulcis/persica*	1
Cf. Rubiaceae		1
Monocotylédone		11
Indéterminé		39
	Total	200

L'échantillon est dominé par le pistachier, *Pistacia* spp. Il est difficile de pousser l'identification jusqu'à l'espèce mais il semble que plusieurs espèces de pistachiers soient présentes. Actuellement, on trouve sur le site de Pétra le pistachier atlantique, *Pistacia atlantica* L. et le pistachier thérébinthe, *Pistacia palaestina* L. Ce taxon, fréquemment trouvé dans les assemblages archéobotaniques du Proche-Orient est caractéristique d'une végétation de forêt-steppe. La découverte d'un fragment de chêne, *Quercus* sp., confirme cette hypothèse de l'existence d'espaces boisés ouverts dans les environs de Pétra.

Actuellement, à Pétra, la végétation ligneuse appartenant à l'ensemble phytogéographique de la forêt-steppe est très limitée. On trouve quelques pistachiers et amandiers sauvages, ainsi que des chênes verts subsistant en hauteur le long de la route entre Pétra et Beidha. La construction du chemin de fer du Hijaz au début du XXe siècle a fortement contribué à la diminution des espèces boisées[23] mais la pression anthropique exercée sur les plantes ligneuses n'est pas récente. Les études anthracologiques sur les sites préhistori-

19. Bouchaud 2007; Jacquat et Martinoli 1999.
20. Schweingruber 1990; Fahn 1986.
21. L'incertitude de l'identifcation est indiquée par le préfixe Cf. devant le taxon.
22. Willcox 2003.
23. Ruben 2006.

ques en Syrie et en Jordanie[24] indiquent que la végétation boisée était beaucoup plus répandue par rapport à sa distribution actuelle. Ce phénomène serait a priori le résultat de l'action humaine sur son milieu plutôt que la conséquence de changements climatiques. Il est fort probable que le couvert arboré de type forêt-steppe était plus important à Pétra à l'époque nabatéenne mais la dégradation végétale progressive est difficile à suivre car pour l'instant les données anthracologiques sont trop ponctuelles pour observer les variations du couvert forestier sur une longue échelle de temps.

La présence d'*Acacia* sp. et d'un type de Chenopodiaceae dans l'échantillon indique l'utilisation d'espèces caractéristiques d'un milieu steppique. Ces plantes poussent facilement le long des wadis à sec de basses altitudes et sont bien adaptées aux sols sableux. À proximité de la Chapelle d'Obodas, le Wadi Numayr peut être un endroit adéquat pour la croissance de l'acacia et de certains types de chenopodiacées.

L'unique fragment d'olivier, *Olea europea* L., provient sûrement d'olivier cultivé. Cet arbre est un des premiers taxons fruitiers domestiqués au Proche-Orient et il revêt un rôle économique important dès l'Âge du Bronze. Ses demandes en eau ne sont pas très importantes et les flancs rocheux des monts de Pétra se prêtent bien à sa culture. Sa présence peut souligner l'existence de pratiques horticoles et l'utilisation des déchets de taille comme bois de feu. L'identification du *Prunus amygdalus/persica* pose problème. À partir de simples critères anatomiques, il est difficile de faire la différence entre l'amandier, *Prunus amygdalus* L. et le pêcher, *Prunus persica* L. L'amandier pousse à l'état sauvage à Pétra et cet arbre, avec le pistachier et le chêne, est caractéristique d'une formation végétale de forêt-steppe poussant sur les hauteurs du site[25]. Le pêcher est une espèce venant de Chine introduite au Ier s. av. J.-C. au Proche-orient via la Perse[26]. Il peut croître dans les zones protégées et irriguées de Pétra et dans ce cas, sa présence sous forme de charbon de bois atteste de l'existence d'activité horticole sur ou à proximité du site de Pétra. Les taxons restants, Cf. *Euphorbia* sp., Cf. *Rubiaceae* et les monocotylédones regroupent une diversité spécifique trop large pour qu'ils puissent être reliés à un ensemble floristique précis (Tableau 2).

Analyse Carpologique

Soixante-quinze restes de graines ont été identifiés. Elles sont réparties en sept taxons différents et représentent des espèces céréalières, des légumineuses, des restes fruitiers et une adventice (Tableau 2).

Les Restes Céréaliers Cultivés

Les céréales représentent la majorité des restes carpologiques de cet échantillon. Malheureusement, l'état très fragmentaire des caryopses n'a pas permis de reconnaître ces céréales au-delà de la famille, mais la taille des grains permet de savoir qu'il s'agit de plantes cultivées. Seuls deux caryopses d'orge, *Hordeum* sp., ont été identifiés au genre. Dans la majorité des

Tableau 2. *Résultats de l'analyse carpologique*

ANALYSE CARPOLOGIQUE			
Taxons			
Graminae	Cerealia	Fgmt	55
	Hordeum sp.		2
Fabaceae	Pisum sativum L		1
Moraceae	Ficus carica L.		6
Papaveraceae	Cf. Fumaria sp.		1
Rhamnaceae	Ziziphus sp.	Fgmt	9
Vitaceae	Vitis vinifera subsp. vinifera L.		1
		Total	75

24. Willcox 2003.
25. Willcox 2002.
26. Crawford 2006.

analyses archéobotaniques du Proche-Orient, l'orge est numériquement la plus fréquente des céréales, suivie du blé. On la considère souvent comme une plante fourragère, bien qu'il est sûr qu'elle fasse aussi partie des produits alimentaires destinés à l'Homme.

Les Légumineuses Cultivées

Une seule attestation de pois cultivé, *Pisum sativum* L., représente le groupe des légumineuses. Comme l'orge, le pois est très bien représenté archéobotaniquement sur les sites du Proche-Orient. Il fait partie des premières légumineuses domestiquées, accompagné des lentilles, *Lens culinaris* L., de l'ers, *Vicia ervilia* (L.) Willd. et des fèves, *Vicia faba* L.

Les Restes Fruitiers

Il est généralement difficile de distinguer les fruits spontanés issus de la cueillette et les fruits cultivés à partir de critères morphologiques. La question est donc de savoir si la graine de *Ziziphus* sp., les akènes de figues et le pépin de raisin trouvés viennent de plants cultivés ou sauvages. La graine de *Ziziphus* sp. a une origine locale certaine. L'identification de l'espèce n'est pas possible mais *Ziziphus spina-christi* L., ou épine-du-christ, pousse actuellement à Pétra et peut être une proposition d'identification. Cet arbre, de la famille du jujubier, croît de façon spontanée à basses altitudes, le long des wadis, sur des terrains rocailleux, et donne des fruits comestibles. On peut penser que la découverte de cette graine est le résultat d'une activité de cueillette locale. D'un point de vue phytogéographique, la vigne sauvage est largement distribuée des côtes atlantiques françaises et espagnoles jusqu'au Tadjikistan, dans des milieux humides et frais, et elle est absente de la Jordanie actuellement[27]. Le figuier sauvage s'étend autour du bassin méditerranéen et pousse principalement aux basses altitudes le long des cours d'eau. Quelques formes ensauvagées de figuier poussent le long du Siq aujourd'hui. L'état actuel des recherches ne permet pas de savoir si la vigne et le figuier sauvages poussaient à Pétra à l'époque nabatéenne mais ces deux arbres fruitiers font partie du premier groupe des arbres fruitiers domestiqués au Proche-Orient, et ce dès le Néolithique et la présence de culture fruitière à l'époque nabatéenne à Pétra est tout à fait envisageable. Des travaux morphométriques menés par l'Université de Bâle (Suisse) sur des pépins de raisin trouvés sur le site d'az-Zanṭūr à Pétra montrent que ces pépins proviennent a priori de raisins cultivés. De plus, la découverte de pressoir à raisin d'origine nabatéenne dans la région de Baydha, près de Pétra, confirme indirectement l'existence de la viticulture[28] à Pétra. La présence d'akènes de figue carbonisés de l'époque nabatéo-romaine à Khirbat adh-Dharīḥ[29] semblant provenir de variétés sélectionnées donne un argument supplémentaire pour supposer une culture du figuier à ces époques dans la région.

Les Plantes Sauvages

L'échantillon étudié ne contient qu'une seule graine sauvage de la famille de la fumeterre, cf. *Fumaria* sp. Dix-huit espèces sont mentionnées dans la flore de Mouterde[30]. Elles sont liées à une activité humaine, plutôt dans des contextes de type rocheux ou sableux. Cette graine appartient probablement au cortège d'adventices accompagnant les cultures[31]. Elle a pu être récoltée en même temps que les plantes cultivées et se retrouver dans le même contexte de dépôt.

Discussion

L'échantillon prélevé lors de la fouille de la chapelle d'Obodas est issu d'un ensemble résultant d'activité(s) culinaire(s) sûrement liée(s) à la présence d'un *triclinium*. Le bois de feu nécessaire pour ces opérations semble avoir été ramassé dans les environs et témoigne de l'utilisation de plusieurs milieux : la forêt-steppe, les espaces steppiques et éventuellement des territoires horticoles. Les restes carpologiques offrent un panorama assez complet des plantes alimentaires consommées : des céréales et des légumineuses, quelques fruits... Ce dépôt ou ces dépôts de matières carbonisées semblent ainsi correspondre assez bien aux rejets liés à la consommation de nourriture, soit pendant la préparation, par accident ; soit suite aux repas,

27. Zohary 2000.
28. Al-Muheisen 1990.
29. Bouchaud 2007.
30. Mouterde 1966.
31. Willcox 1996.

afin d'éliminer les derniers restes. Il est difficile d'appréhender la façon dont les Hommes ont acquis ces biens alimentaires. Les plantes cultivées proviennent de culture locale ou d'importation ? Les espaces agraires et horticoles ne sont pas bien connus à Pétra. Il est cependant possible d'envisager des cultures locales sur le site, avec ou sans irrigation selon les espèces. Il est absolument nécessaire de poursuivre ces analyses archéobotaniques, en multipliant les prélèvements de différents contextes et de différentes périodes, afin d'enrichir le corpus de données et d'élargir les problématiques dans l'espace et le temps.

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