Naukratis: Greeks in Egypt

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http://www.britishmuseum.org/naukratis

Shell and bone artefacts and faunal remains

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1. Introduction

Many shell, horn, tooth and bone objects were revealed by the early excavations at Naukratis, but only 159 can be identified today. These probably represent only a small proportion of what was originally encountered by the early excavators at Naukratis who recorded finding numerous bones within burnt deposits across the site. Recent excavation at Naukratis by the British Museum, and the excavations directed by Leonard both revealed substantial numbers of faunal remains. The material below consists disproportionately of worked artefacts and ornaments, as the faunal remains from animals consumed as food are exceptionally rare. It seems that the excavators only kept faunal remains when they were worked artefacts, ornaments, or from specific contexts they found interesting, such as a small sample from burnt deposits within the Greek sanctuaries of Naukratis. For this reason most of what is discussed below concerns votives, sacrifices, ritual instruments, grave goods, and a few tools, with only a few rare instances of animal remains that represent the diet of Naukratites.

Most of the bone artefacts, with the exception of bone figurines, have been discussed in other chapters, which is why they are only briefly discussed in section 2 below. Jewellery (Fig. 1), Egyptian ritual equipment (Fig. 2) and tools (Figs 3–5) made of bone or ivory are covered in specialist chapters with objects in other materials. Noteworthy finds not discussed in other chapters comprise a range of carved and undecorated Tridacna shells, ostrich eggshell vessels and shell ornaments (section 3 below). The few faunal remains (along with a bone knife handle) from Naukratis come from a bone and charcoal ritual sacrifice deposit dated to c. 620–500 BC, excavated by Petrie from the Apollo sanctuary. These remains may be comparable with contemporary bone and charcoal deposits found near the Hellenion and Dioskouroi sanctuaries recently excavated at Naukratis.

2. Worked bone artefacts

Of the 54 bone objects, 20 are animal remains and 34 artefacts of worked bone or horn. These comprise fragments of jewellery such as the Archaic Greek bone hair pin with a poppy head (Fig. 1) dedicated in the sanctuary of Aphrodite, or the shell beads discussed below. There are also a range of tools, such as bone points, pins, drills, bodkins, or objects such as

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1 We would like to acknowledge the long list of contributors who assisted at different stages of this research. Alexandra Villing, Aurelia Masson-Berghoff and Nick Salmon on the artefacts; David Reese and Julian Reade on shell literature and Alexandra Fletcher on the ostrich eggshell; Sheila Hamilton-Dyer on shell species and Pernille Bangsgarde-Jensen on faunal remains. Louise Bertini has reviewed all the faunal remains from the old excavations, and also from the British Museum excavations at Naukratis (Bertini forthcoming). All images are photograph © Trustees of the British Museum, unless otherwise indicated.


3 Museum of Fine Arts, Boston, 88.1048. Later variants have been found in Alexandria (Rawska-Rodziewicz 2007, pl.46; Rawska-Rodziewicz 2016, 148, fig. 160).

4 Parallels from the Archaic Artemision at Ephesos (Hogarth 1908, 186–9, pl. XXXIII.1–14, XXXIV.2–26).

5 See chapter on Tools and Weapons.
Figure 4 Horn brail ring, dated c. 630 BC – AD 300. Ashmolean Museum, Oxford, AN1896-1908-E.3677A. Photograph © Ashmolean Museum, University of Oxford. AN1896 AD 30

Figure 5 Bone spoon called a cochlearium, dated AD 1–200. Boston, Museum of Fine Arts, 86.219. Photograph © Museum of Fine Arts, Boston

Figure 6 Hollow bone head, dated 630–500 BC. British Museum, 1888,0601.81

styli, handles, hinges, inlays, combs, hair pins, cylinders/spools, brail rings from ship sails (Fig. 4), buttons, gaming pieces, dice (Fig. 3), weights, spoons (Fig. 5), and Egyptian ritual equipment such as offering spoons, amulets (Fig. 2), and figurines. A particularly fine piece is an Archaic, 6th century BC polished bone figure head of an African (Fig. 6). The core of the bone has been removed upwards from the neck to be attached to a rod. It possibly served as a stopper for a bone vessel, without clear parallels, with the possible exception of some pieces from Kameiros on Rhodes.

8 Redpath Museum, Montreal, 2496.01-08; possibly Museum of Fine Arts, Boston, 86.218; RES.86.3; Bolton Museum 1886.31.55.a.
9 Museum of Fine Arts, Boston, 88.1049; see also Museum and Art Gallery, Bristol, H1374; British Museum, 1965,0930.961.
10 Museum of Fine Arts, Boston, 86.224. A narrow cylindrical bone hinge from a casket that can be dated, based on its form, to the 2nd or 1st century BC (Cool 2016, 172–8).
11 Bolton Museum, 1886.31.55.c.
12 Museum of Fine Arts, Boston, 88.1049. Dated to the Late Period.
13 Museum of Fine Arts, Boston, 88.1048; possibly 86.218; RES.86.3. See chapters on Jewellery and Mirrors and Tools and Weapons.
14 Boston, Museum of Fine Arts, 86.226; 86.223.
16 Museum of Fine Arts, Boston, 86.220.
18 Chicago, Oriental Institute, University of Chicago, E2593.
19 Museum of Fine Arts, Boston, 86.221. Roman bone or ivory spoon with parallels from Pompeii (Cool 2016, 169–72). Bone spoons called cochlearia (from the Latin, cochlea, for snail) were used for eating, and possibly also for cosmetics and in pharmacy. They were introduced in the first half of the 1st century AD, but only popular later in the third quarter of that century in Pompeii (Cool 2016, 169–172). This form continued to be made into the second century AD and early Byzantine examples are known from Alexandria (Rawlsa-Rodziewicz 2007, 160, fig. 178a; Rawlsa-Rodziewicz 2016, pl. 57, no. 460).
21 Museum of Fine Arts, Boston, 86.221.
22 They include three figurines that were not seen by us: Egyptian Museum, Cairo, JE33547; JE33546; JE33545 (transferred to the Coptic Museum).
23 ‘The temple of Aphrodite of the IVth (sic) cent. B.C. ... A very nice carved bone head of the Vth cent.[ury] B.C., was found there today.’ (Petrie Journal 1885–6,18, 23/12/1885).
24 Published by Hogarth (1908, pl. XXII.4) as an Archaic ivory, where he compares this with the ivories from Kameiros, arguing they are different from those found at Ephesus. No close parallels exist for the Naukratis piece, although this style of bone and ivory carving is known from 7th and early 6th century BC contexts in Italy (Rocco 1999, cat.151), Greece (Carter 1985, pls 36, 42, 79, 83, 89, 91; Schofield 1992, 182), the Levant (particularly northern Syria) and the Middle East (Barnett 1982, pl.41.d). The hair style is unusual for these ivories, but is found on a parallel from a (later?) Alexandrian context (Rawlsa-Rodziewicz 2016, pls 2, 85, no. 2a).
3. Shells and shell artefacts

Shell and shell artefacts can be broadly separated into three groups: *Tridacna* and other (mainly decorated) large Red Sea bivalves; ostrich eggshells; and a range of (mainly unworked) shells that were used for ornamentation (including, but not exclusively, their use as beads. It seems that Petrie took a greater interest in shells than subsequent excavators as most of the extant examples come from Petrie's 1884 to 1885 field season, although some shells are also preserved from later excavations.

3.1 Carved Red Sea bivalves

The incised Red Sea shells that were discovered in Naukratis comprise mainly the large marine bivalve clams of the *Tridacna* genus, but also from another unidentified clam and another unidentified large bivalve. These were found in the Dioskouroi, and Hera sanctuaries and in the 'town' area nearby. Four unmodified examples were found, mostly in the cemetery. Other Red Sea shells were cited as evidence of working (and so were presumably not found in sanctuaries or graves): 'Among the shells collected at Naukratis, is a small *Tridacna* not worked…and a long cone shell, smoothed but not yet engraved.' However, the evidence for engraving at Naukratis is weak, and we should instead consider that both carved and unmodified shells were used at Naukratis in a variety of contexts.

Other (non *Tridacna* genus) carved marine bivalve mollusks include a carved and decorated dish which probably comes from an Archaic Greek or Phoenician tradition (similar to the carved *Tridacna* sp. shells discussed below). One fragment from Naukratis has been identified as *Pinctada margaritifera* (Black-lipped pearl oyster, originally from the Red Sea, Fig.7). Archaic or Late Period parallels include decorated *Pinctada margaritifera*, from c. 750–200 BC Busayra, Cypro-Archaic graves in

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26 Petrie 1886a, 35–36, pl. XX, 10–12, 16; Möller 2000a, 163–6; James 1962, 461–516.
27 British Museum 1885,0401.1596; 1886,0401.1597; Ashmolean Museum, Oxford, AN1896-1908-G.451. Many were identified as *Tridacna squamosa*, but Hamilton-Dyer warned that many may be *Tridacna maxima*, and that from small fragments identification may be impossible. For this reason *Tridacna sp.* is used here.
28 British Museum, 1886,0401.1595, probably from a marine clam.
29 British Museum, 1886,0401.1598.
30 British Museum, 1888,0601.87. Clearly scratched 'Dios' by the excavators.
32 British Museum, 1886,0401.1594.
33 Gardner claimed that amongst the cemetery finds 'two or three of these were plain *Tridacna* shells' (Gardner 1888, 29; British Museum, 1888,0601.86; Petrie Museum, UC39196; he may be referring to 1888,0601.89 which is not a *Tridacna*) and does not mention any being found within sanctuaries. British Museum, 2012,5016.10 (found unregistered) was probably from the cemetery. However, Petrie states that unmodified examples were also found elsewhere in Naukratis during the first season, before the cemetery was explored (Petrie 1886a, 35–7). See also Fitzwilliam Museum, Cambridge, GR.47.1887 (which was marked ‘N9’). Unworked small *Tridacna* found at Naukratis are also mentioned by Hogarth et al. 1898–9, 49, n.2.
34 Petrie (1886, 35–7) is possibly referring to Red Sea gastropod British Museum, 2012,5016.13, which seems to have been smoothed.
Amathus, Kouklia, 37 Salamis and Paphos, 38 and in the Black sea region. 39 However, unlike the carved Tridacna shells, Pinctada had a long tradition of use that continued into the Roman and Byzantine periods (mainly as inlays). They have been found in Roman Pompeii and Jerusalem, Byzantine Aqaba, 40 Upper Zohar, Pella and Jerash. 41

The Tridacna shells come in both decorated (7 examples, see Fig. 8) and undecorated forms (4 examples, see Figs 10–12) and were of great interest to Petrie, who was aware of a growing interest in this artefacts group across the Middle East and Mediterranean. Petrie records in his journal 42 discovering them in the Hera 43 and Dioskouroi 44 sanctuaries as well as the town. 45

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37 British Museum, 1888,1115.12 dated c. 300 BC – AD 300.
38 Reese 1992, 125.
39 Spasić-Durić 2015, fig. 109.
41 Reese 1995c, 97.
42 ‘Another piece of large shell has been found, with lotus pattern incised.’ (Petrie Journal 1884–5, 180).
43 British Museum, 1886,0401.1597. ‘Perhaps the earliest of the miscellaneous objects are the pieces of engraved shell ([Petrie 1886a.] pl. xx. 10, 12, 10), which were found scattered in different places, the largest (no. 10) coming from the south side of the Palaistra (sic) [Hera sanctuary]. These belong to the class of engraved shells of the Tridacna squamosa, isolated examples of which have been found in places widely separated, Canino in Etruria, Bethlehem, and Assyria. Five specimens are known hitherto, and here at Naukratis are fragments of three more. It seems not improbable that this city may have been the home of such objects, and that they may perhaps have all had their origin here. Among the shells collected at Naukratis, is a small Tridacna not worked; this proves that these shells in an unwrought state were brought from the Red Sea to Naukratis. Next there are two other examples of wrought shells evidently belonging to Naukratis, the fragment of mother-of-pearl ([Petrie 1886a.] pl. xx. 11), and a piece of a long cone shell, smoothed but not yet engraved. Thus we see that shell-working was done here. And, thirdly, we have in six months found here more examples of engraved Tridacnas than have been found in any other place. The strongest reason for the attribution of these shells to Phoenician workmen is the Assyrian style of the patterns; but this is not conclusive, and we must now consider their origin undecided until further evidence may appear’ (Petrie 1886a, 35–6).
44 British Museum, 1888,0601.87.
45 British Museum, 1886,0401.1594. Four examples cannot be located, and were probably surface finds: British Museum, 1886,0401.1596; 1888,0601.87–88; Fitzwilliam Museum, Cambridge, GR.47.1887. The only example found by Hogarth is Ashmolean Museum, Oxford, AN1896-1908-G.451 (Edgar 1898–1899, 49).
Petrie suggests they may have been made in Naukratis (although not necessarily by Phoenicians), which was cited by Edgar as evidence of Phoenicians working at Naukratis, and by Hogarth as evidence of a Phoenician connection with Naukratis.

Tridacna shells are often identified specifically as *Tridacna squamosa*. However, as these often fragmentary pieces are often not well preserved enough to distinguish them from *Tridacna maxima*, a more general ‘*Tridacna species*’ identification avoids potential misidentification. *Tridacna* species are indigenous to the shallow reefs of the warm Indo-Pacific Sea. The Red Sea is the closest source and such (but

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46 Petrie 1886a, 35–7.
47 Edgar’s discussion of an example now in the Ashmolean Museum (Oxford, AN1896-1908-G.451): ‘That the Phoenicians had a footing in Naukratis at an early period is proved independently by the numerous *Tridacna* shells, both wrought and unwrought, that have been discovered there. See Naukr. i. p. 35. Besides several unwrought *Tridacna* shells we obtained this year two more incised fragments, the larger of which is shown above (Fig. 1). The design in the interior (b) recurs on the specimen from Canino in the Br. Mus.; with the exterior pattern (a) cf. Naukr. i. Pl. XX. 16a. I cannot agree with M. Perdrizet who would assign the incised shells to an Assyrian fabric (B.C.H. 1896, p. 605), “although it is admittedly true (as of many other Phoenician products) that most of the patterns and motives are derived from Assyrian art” (Edgar 1898–1899, 49, fig. 1).
48 The engraved *Tridacna* shells, which are found scattered along the routes of Phoenician trade and of which so many specimens come from Naukratis, indicate that the Phoenicians too had a direct or indirect connexion with the town: it may have been at one period a port of call for Phoenician ships (Hogarth 1903, 135).
49 Hamilton-Dyer pers.comm.
undecorated) shells were common in the Ptolemaic and Roman Egyptian Red Sea port of Myos Hormos.  

Carved Tridacna shells are well known from the Middle and Near East, at sites such as Sennacherib’s Palace in Nineveh, but also Nimrud and Susa,  

where they have historically been dated to the 8th or 7th centuries BC (a 7th century BC date is now generally accepted), and are known as far east as Susa in Mesopotamia. Despite their appearance in Assyrian and Mesopotamian contexts, they are particularly common in the Southern Levant, such as at Busayra, around c. 700–550 BC. Decorated Tridacna shells were elaborately carved, incised and painted in the Syro-Palestinian region of the Levant during the period of c. 650 or 630 BC to 600 or 580 BC. The Naukratis assemblage accounts for over 5% of all known examples, with over 125 now documented, including many that closely parallel the vegetal motifs inscribed on the Naukratis fragments.  

Carved Tridacna shells were widely distributed across the Mediterranean region, reaching as far west as Vulci in Etruria. They were relatively common in East Greece and the Greek islands, being found in Samos, Lindos, Miletos, Knidos, Ephesus, Rhodes and Kos. They are less frequently found in Greece, but are known from Aegina, Perachora, Delphi and Olympia. Examples from North Africa are known from the Extramural Sanctuary of Demeter and Persephone (Kore) at Cyrene, Libya, as well as Naukratis, Daphni, Memphis and Tell el-Maskhuta where they

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**Figure 10** Red Sea Tridacna sp. clam shell, with residue stain on the inside. From the cemetery, dated c. 630–300 BC. Petrie Museum, UC39186. Photograph © Petrie Museum of Egyptian Archaeology, UCL

**Figure 11** Red Sea Tridacna sp. clam shell, with residue stain on the inside, dated c. 630–300 BC. British Museum, 2012.5015.10

**Figure 12** Mediterranean Spondylus gaederopus. thorny oyster shell, water-worn lower valve, possibly used as a spoon, dated c. 630–300 BC. British Museum, 1888.0601.89
may have been associated with East Greek activity. Most examples of worked *Tridacna* shells found in East Greek contexts come from the sanctuaries of female deities, but examples are also known from female tombs on Rhodes. However, at Naukratis carved fragments were found within the Hera (British Museum 1886,0401.1597) and Dioskouroi sanctuaries (British Museum 1888,0601.87).

The umbo (the protruding bump by the hinge line) of an engraved *Tridacna* shell was often carved to depict a woman’s face, or rarely a hawk, or in one case a lion. They were clearly valuable and important objects, with rare examples inlaid with garnet and gold and occasionally entirely copied in gold sheet, as were other bivalve forms in Naukratis in the 1st century AD. However, the interpretation of these shells as simple cosmetics palettes or unguents holders should perhaps be questioned. Libation-bowls made in Egypt during the Hellenistic and Roman periods, were often made in the form of shells. Rather than being objects dedicated to the gods, these were possibly used in the rituals of these sanctuaries.

Unworked *Tridacna* shells (Figs 10–11) are also reported among finds from the town and the cemetery of Naukratis. Gardner lists the contents of Grave D1: ‘[pottery vases] ‘in rough (local?) red ware; Alabastra; Black vase with white lines; smoothed *Tridacna* shell’. He also mentions ‘several large shells which must have been used for some practical purpose, probably to hold food or other necessaries. Two or three of these were plain *Tridacna* shells.’ Unmodified and engraved *Tridacna* both have the same distribution across the Mediterranean and Middle East, so the presence of unworked *Tridacna* does not necessarily mean working took place there. However, unworked *Tridacna* shells were used over a longer period than the rather brief c. 650–580 BC range for the carved examples suggested by Stucky (1974; 2007 and Brandl (2001). Unworked examples are well attested in the Southern Levant, in c. 750–300/200 BC and contemporary Busayra/Buseirah, c. 700–500 BC Tawilan Umm el-

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69 Leclère and Spencer 2014, 42.
70 Filimonos-Tsapotou and Marketou 2014, 70.
71 Ertzner 2004, 93.
72 Reese 2009, 190.
73 Antonaccio 2011, 136.
74 Egyptian gold shell libation-bowl, probably from an Isis Temple, dated c. AD 70–100 (British Museum, 1886,0401.1764; See chapter on Jewellery and mirrors).
75 Ertzner 2004, 93. See also argument of Petrie (1886, 44).
76 Libation-bowls were known as *patera* in Latin and *phiale* in Greek. This terminology is used today to describe Hellenistic and Roman period libation-bowls made in Egypt, some of which have the form of a shell on one side (whilst otherwise copying features and decoration of standard *phiale* or *patera* designs). In classical archaeology these terms are used to describe specific forms that exclude those in the form of shells. We do not know whether these distinctions in form were significant enough for ancient populations to cause them to use different terms to describe these vessels.
77 See Roman period Egyptian steatite examples (British Museum, EA69183 and EA38511). See chapter on Jewellery and mirrors.
78 See also discussion by Reese 1988 and Theodoropoulou 2017, 86.
79 Petrie 1886a, 35–7.
80 Gardiner 1888, 26.
81 Gardiner 1888, 29.
82 For example see unworked example from Rhodes, British Museum, 1885,1213.66. See Stucky 2007 for a distribution map.
83 Stucky 2007, 222.
85 Reese 1995b, 93.
3.2 Ostrich eggshells

Ostrich eggshell fragments were found at Naukratis in Greek sanctuary contexts dating to c. 620–400 BC. 22 fragments come from undecorated cups or containers found in a c. 620–500 BC context within the Aphrodite sanctuary (Fig. 13). A single carved and painted cup was found in a c. 525–330 BC context within the Apollo sanctuary (Fig. 14), although it seems most likely that this is residual from the preceding (c. 620–500 BC) phase of the temple, as no other offerings were found in this layer. This layer also contained numerous drill cores from calcite alabastra and other industrial waste, which do not represent ritual activity, but instead redeposited material from outside the sanctuary.

The use of plain (undecorated) ostrich eggshell, in the production of vessels or beads, has a long tradition in the Levant, Middle East, Sudan, and Egypt. They were exported to the Greece during the Minoan and Mycenaean periods, where they were often reworked into rhyton forms. The distribution of ostrich eggs across the Mediterranean expanded during the Iron Age, from the 8th century onwards reaching various areas in contact with the Phoenicians, such as Spain, Ibiza, Sardinia, Sicily and North Africa. A variety of decorated shells (with incised and red ochre decoration) were found in 700–100 BC Carthage. In Archaic Greece

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86 Reese 1995a; 1995c.
88 British Museum 1888,0601.85a(1–2) and 1888,0601.85(1–19; EA68865) were originally registered together under one number as being found in the Aphrodite sanctuary, confirmed by an Aphrodite context number marked in pencil on one example. The vast majority of finds from the sanctuary come from a c. 500 BC re-deposition of the earliest phases of the sanctuary (or from the earliest phases of this sanctuary beneath this), which means these fragments were all dedicated over the period c. 620–500 BC. The fragments must come from different vessels as none join and recent analysis of the oxygen isotope values suggests they are from different shells (Fletcher pers.comm; Hodos et al.in progress).
89 Petrie 1886a, 14, pl. xx. 15.
90 For example the Philistine sanctuary at Tell Qasile (Mazar 1980) and the Hellenistic temple at Beerseba (Aharoni 1973, 16; 1975, 165).
91 c. 2000 BC example from Jericho (British Museum, ME138910), and c. 2500 BC example from Ur (British Museum,1928,1010.707).
92 c. 3100 BC example from Faras, Sudan (British Museum, EA51157). Mesolithic fragments have been found in South Africa (Gönster 2014, 1–19).
93 Predynastic example from Egypt (British Museum, EA36377).
94 Gönster 2014, 5.
95 Gönster 2014, 1–19.
96 Gönster 2014, 9.
97 Laufer 1926, 3, 35.
98 Temple Hill, Corinth (late 7th to early 6th century BC, Reese 2000), the Argive Heraeum (Waldstein 1905, 353), Delphi and the Artemision on Thasos (Poplin 1995, 130–1), the Sanctuary of Apollo at Mandra, Despotiko (late 7th to mid-6th century BC; Stavrakakis 2011, 41), Kommos temples, Crete (7th to 4th century BC, Reese 2000), Athena Temple and Harbour Sanctuary, Emporio, Chios (c. 690 BC and c. 600 BC, Boardman 1967, 243), Heraion, Samos (Boessneck and von den Driesch 1983, 21), Athena Lindia sanctuary, Lindos, Rhodes (Archaic period, Blinkenberg 1931, 175, 182), the Artemision, Ephesos (Forstenpointner 1993, 11), Temple of Apollo, Cyrene (Perrier 1935, 97), Sanctuary of Demeter and Persephone, Cyrene (Archaic period, Warden 1990, 60).
they appear within sanctuaries in Chios, Aegina and Halieis.\textsuperscript{99} They also reach the site of Salamis in c. 650–500 BC,\textsuperscript{100} and also Kourion and Marion in Cyprus.\textsuperscript{101} They are found in 7th and 6th century BC Etruscan tombs,\textsuperscript{102} and also in a 450–425BC infant’s grave in Ialysos, Rhodes.\textsuperscript{103} Ostrich eggshells have been found in religious contexts in Ptolemaic, Roman and Byzantine contexts and continued to have religious symbolism in the Christian and Islamic traditions.\textsuperscript{104}

Debate has raged about whether those decorated and undecorated ostrich eggshells found within the Mediterranean region belong to the African ostrich \textit{Struthio camelus camelus} or the smaller and now extinct Levantine (and northern Egyptian) ostrich \textit{Struthio camelus syriacus}. Some suggestions have been made on the basis of shell thickness,\textsuperscript{105} leading to the identification of undecorated \textit{Struthio camelus syriacus} shells within Roman and Byzantine contexts at Nessana.\textsuperscript{106} Recent isotope analysis of the Naukratis shells within the British Museum collection confirms that the Naukratis examples came from ostriches living in the Levantine region or the coastal region of north Africa, including the Nile Delta. There was one fragment which appears to have been laid by an ostrich living in a hotter drier environment such as found to the south in Upper (southern) Egypt and Sudan.\textsuperscript{107} It is thus likely that most of the shells came from the \textit{Struthio camelus syriacus} subspecies.

Petrie took great interest in the single ‘ostrich egg-shell, with a pattern of a wreath etched out of the inside, and with the upper part stained red’, leading him to speculate the shell was etched with vinegar or wine and not carved.\textsuperscript{108} Subsequently traces of Egyptian blue have also been identified.\textsuperscript{109} Engraved and painted Egyptian blue shell belong to a tradition parallel and contemporary with the carved \textit{Tridacna} shells discussed.

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**Figure 15** Mediterranean \textit{Conus ventricosus} gastropod shell probably drilled as found with other shells probably strung as beads. British Museum, 2012.5015.13

**Figure 16** Mediterranean \textit{Tritia gibbosula} gastropod shell drilled for use as bead. British Museum, 2012.5015.18
above. How these shells were carved is part of an on-going study.\textsuperscript{110} They have a similar distribution, with the westernmost examples found within the c. 625–550 BC Isis Tomb in Etruria.\textsuperscript{111} The Naukratis example has a carving of a myrtle wreath with Greek parallels of c. 535–500 BC;\textsuperscript{112} wreaths, including myrtle wreaths, were popular in Greek art from at least the mid-sixth century BC onwards.\textsuperscript{113} It is possible then that this example was produced towards the end of the main period of production (650–580 BC) of the \textit{Tridacna} sp. shells, as set out above.

### 3.3 Decorative seashells

Three groups of gastropod and bivalve mollusk shells from Naukratis are found in the British Museum collection (Table 1). These comprise marine shells from the Red Sea and the Mediterranean and also from land snails. Many were identified in 1885 by (or for) Petrie, and although the original 1885 identifications used old species and genus labels that have been updated here, the identifications were, on the whole, correct.\textsuperscript{114} The British Museum collection also houses a large collection of similar shells of the same period found within sanctuary deposits at the temple of Artemis at Ephesus.\textsuperscript{115} Demeter at Knidos,\textsuperscript{116} and the cemeteries (including Fikellura) and the acropolis of Kameiros on Rhodes,\textsuperscript{117} which serve as parallels.

The first group of shells\textsuperscript{118} come from Petrie’s 1884–5 season. They were kept in the British Museum within a box labelled ‘bone deposit &charcoal’ registered under the single number 1886,0401.1379,\textsuperscript{119} which also contained animal bone (discussed below) and a Late Period Egyptian terracotta horse.\textsuperscript{120} One of the bones within this group came from the Apollo sanctuary well 101.\textsuperscript{121} Box 1886,0401.1379 was associated with a second box registered under the number 1886,0401.1378 containing pottery dated 600–500 BC, including a piece with a dedication to Hera and probably from that sanctuary.\textsuperscript{122} This group probably comes from (undisturbed) 6th century BC burnt levels within the Apollo sanctuary, but was possibly mixed with disturbed material from the nearby Hera sanctuary

\textsuperscript{10} Hodos et al.in progress.
\textsuperscript{11} The eggs have been dated specifically to 625–600 BC, although other material from the tomb is later in date (British Museum, 1850,0227.5; 1850,0227.7–9; Swaddling 1986, 397; Bartoloni et al 2000, 132, cat.85; Torelli 1965, 336, no. 7).
\textsuperscript{12} For example on the rim of a Caeretan hydria (Boardman 1998, 253, fig. 496). See discussion by Villing (2015, 237–8).
\textsuperscript{13} Kunze-Gätte 2006.
\textsuperscript{14} The species names used by specialists have since changed. For example the Mediterranean gastropod identified by Petrie as Cassia sulcata (2012.5015.1) would now be identified as Semicassis undulata (Hamilton-Dyer pers. comm). Louise Bertini recognized that 2012,5015.2, identified by Petrie as Ampullaria Ovata (known today as Lanistes Ovatus), is in fact the fresh-water gastropod \textit{Pila ovata}.
\textsuperscript{15} British Museum, 1907,1201.604.
\textsuperscript{16} British Museum, 1859,1226.377;462–4.
\textsuperscript{17} British Museum, 1864,1007.1953–1976,2018.
\textsuperscript{18} British Museum, 1965,0930.960.
\textsuperscript{19} The box was subsequently subdivided into British Museum, 1965,0930.959–962.
\textsuperscript{20} British Museum, 1965,0930.962.
\textsuperscript{21} British Museum, 1965,0930.956a has pencil mark ‘101’. Well 101 ‘contained fragments of archaic statuettes’ (Petrie 1886a, 45). However there is no record of a bone and charcoal deposit from this well, which also yielded a number of pottery sherds dated 610–500 BC (British Museum , 1886,1005.20; 1886,0401.1291; 1965,0930.194;545;547;551;742;743,746).
\textsuperscript{22} The box was subsequently subdivided into 1965,0930.969–972.
as described by Petrie: ‘In the ground between the temenos of Apollo and the Dioskouroi not much has been left; and to the north of the wall of Apollo there are banks of rubbish, with ashes and bones. But rather on the west of this a piece of pottery, dedicated ΗΡΗΣ,123 was found, and one or two other pieces, with the name of Hera, have appeared. It seems therefore as if the temenos of Hera had existed in this neighborhood.’124 A less likely source is a layer of ‘burnt ash and bone’ in the north part of town recorded by Petrie and dated by him (erroneously) to c. 800 BC,125 but surely related to early (c. 630–550 BC) sanctuary deposits there. Petrie did not generally save faunal remains from Naukratis unless they came from sanctuary deposits (see discussion of Aphrodite context 5 below), suggesting a burnt deposit from the earliest phases of the Apollo sanctuary is the most likely source for all of these pieces.

A second group of shells126 were found with labels written by Petrie dated 1885 (Fig. 18). These probably come from Petrie’s first season (1884–5) or (less likely) Gardner’s second season (1885–6) when Petrie assisted for a period in 1885. The first season seems to be confirmed by the presence of an edible snail from this group,127 which has recorded the only contextual information on the note left by Petrie: ‘Ampullaria ovata Nile Nebireh Naucratis 1885 Roman strata’ (Fig. 21),128 which seems to refer to the following context described by Griffith who excavated the area ‘On the temple site [Apollo] the long trench …it is crowned with red potsherds mixed with bones and large snail-shells in a stratum 6–8 ft thick. The remains appear to be Roman at level down to 10 ft’.129 Other shells do not have contextual information, and may have come from the town or river-front, such as a fresh water oyster, also found in the first season,130 which may be referred to in Petrie’s statement: ‘We have found among the town rubbish many stones with marine incrustations: bits of brick with oysters stuck on, pieces of stone with serpula and small shells all showing that ships came up here from the sea, bringing such a ballast, as they would not come here otherwise.’131

A third group of similar shells132 were found in the box with the second group, but did not have Naukratis labels, and were not dated to 1885. Although these finds did not have slips recording the findspot, Naukratis is the most likely provenance for all the pieces, on the basis of some being marked with Naukratis context numbers, others being apparently referred to in notebooks and publications, and many carry concreted traces of Nile silt soil (as found on the examples certainly from Naukratis). One is apparently referred to by Petrie in his 1886 publication on the first season133 whilst another comes from stratum 2 within the Apollo sanctuary.

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123 Petrie 1886a, pl. xxxv. 689; British Museum, 1886.0401.947.
124 Petrie 1886a, 16.
125 Level 170 (Petrie 1886a, 88–9).
129 Griffith writing on 1/5/1885 in Petrie Journal 1884–5, 199.
130 British Museum, 2012.5015.11.
131 Petrie Journal 1884–5, 186.
133 ‘Smoothed’ (it is uncertain how the rough surface was smoothed and whether this was by human action or not) example British Museum, 2012.5016.13.
from the first season. However, the range of distinctive Red Sea *Monetaria* sp. cowrie shell beads from this group not discussed by Petrie in any documentation associated with the first season at Naukratis, were recorded by Gardner concerning the excavation of the cemetery during the second season, where he stated as an example that Grave C4 contained: ‘bottom of bowl, cowries, bone beads, shells, piece of lead, claw of lobster’. However, the presence of shells mixed in with the bone and charcoal deposits from the Apollo (and possibly Hera) sanctuaries suggests that some of the second season finds came from a Greek sanctuary deposit. The most likely candidate is the Aphrodite sanctuary, where abundant bone and ash deposits were found within the temenos, the temple and the steps to the altar.

*Mediterranean* gastropods found at Naukratis comprise: *Phorcos turbinatus*, *Tritia gibbosula*, *Murex* sp., *Bittium* sp., *Charonia lampas*, *Conus ventricosus* and *Semicassis undulata* (Table 1). These are mainly decorative shells, used as pendants, beads or otherwise affixed to textiles. Whilst *murex* is edible and used in the production of textile dye (a destructive process that would not have preserved the only example we have from Naukratis), our example was used as a pendant.

*Tritia gibbosula* (Fig. 16) were common ornamental shells (often used as beads) that were used as grave goods from the Iron Age to the Roman period, particularly during the period c. 600–350 BC within the Necropolis of Larnaka, Amathus and Salamis, and in the sanctuary at Kition in Cyprus. *Conus ventricosus* (Fig. 15) were found in Archaic to Hellenistic graves in Larnaka, Amathus, Hala Sultan Tekke and Toumba in Cyprus. They are also found the Levant at 7th to 6th century BC Tawilan, Buseirah and Umm el-Biyara. *Murex*, also found during the 2016 excavations at Naukratis, are common finds in Cypro-Archaic tombs in Amathus, Salamis and Palaepaphos in Cyprus, but also the Byzantine fort at Upper Zohar and in various contexts in Jerusalem.

134 British Museum, 2012.5016.10 is marked AP2, referring to Apollo stratum 2 dated c. 620–590 BC (see chapter on Cypriot figures).
135 British Museum, 2012.5016.31–4 and 38. See chapter on Jewellery and mirrors. The Cowrie shell beads were probably found in the cemetery. Most of the graves from that cemetery can be dated c. 330–250 BC, but there are also earlier tombs.
137 ‘On the section are marked the places where fragments of pottery, and charcoal, were found they were mingled with statuettes and parts of statuettes, ashes and bones, all in the utmost confusion…’ (Gardner 1888, 35, pl.III).
138 ‘...the great altar of burnt offering - a conjecture soon changed to a certainty by the discovery of ashes and fragments of bone within the structure, and of steps leading up to it from the temple’ (Gardner 1888, 12).
139 Formerly known as *Nassa gibbosula*.
140 *Bolina brandaris*, formerly known as *Murex brandaris* and *Hexaplex trunculus* formerly known as *Murex trunculus*.
141 Formerly known as *Triton nodifera*.
142 Formerly known as *Conus mediterraneus*.
143 Theodoropoulou 2017, 90–1.
144 Reese 1992, 123.
146 Reese 2014, 195; Reese 1992, 125.
147 Reese 1995b, 93.
148 Only one example to date (Bertini forthcoming).
149 Reese 1992, 126, who also mentions earlier examples from Rhodes, Lefkandi, Toumba and Asine.
150 Reese 1995c, 97.
Mediterranean bivalves from Naukratis comprise *Arca noae*, *Acanthocardia* cockles (Fig. 17) and *Glycymeris nummarea* dog cockles (Table 1). Although cockles are edible, the shells were often water worn (and so were collected dead) and were probably used as decorative shells (with holed examples), or as lamps or dishes (as some bore a dark stain). The *Acanthocardia* cockle is well known from Cypriot tombs of c. 600–350 BC date, where they were sometimes used as lamps at Larnaka, Amathus, Kourion, Palaeapaphos and Salamis (but see also Pala Perivolia, Lefkandi and Toumba). They have also been found with the cemetery at Kameiros, Rhodes, and in the Levant at the Byzantine fort of Upper Zohar. *Glycymeris* dog cockles were also found at the Byzantine fort at Upper Zohar, where they were also collected dead and probably used as personal ornaments. Earlier examples of *Glycymeris* dog cockles from the Levant comprise 7th to 6th century BC Tawilan, Buseirah, Ghrareh, Jerusalem, Samaria-Sebaste and Tell Seh Hamad. *Arca noae*, *Acanthocardia* cockles and *Glycymeris* dog cockles are also commonly found within the Greek sanctuaries of Miletos, Kalapodi, Ephesos, Lindos and Kythnos, as well as burials in Vroulia on Rhodes.

Figure 19 Cowrie shells. Note the five *Monetaria annulus* Cowrie gastropods (on the right) with opened backs for stringing as beads, probably from the cemetery grave C4, where many graves can be dated c. 330–250 BC. British Museum, 2012,5016.19,31–34,38

Mediterranean cowries were commonly used for beads in the eastern Mediterranean, where they are found in reasonable numbers in c. 600–350 BC Cypriot graves in Larnaka, Salamis and Amathus, yet they are

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151 Reese 1995a, 266; Reese 2008, 455.
152 Formerly known as *Pectunculus zonalis*.
154 Ibid.
155 Reese 1995c, 97.
156 Reese 1995c, 97.
157 Reese 1995a, 265; Reese 2008, 455.
158 Reese 1995b, 93.
159 Theodoropoulou 2017, 88–9.
160 See Theodoropoulou (2017, 87–8) on the range of sanctuary and grave deposits around the Aegean containing various cowrie species, usually modified into beads.
161 Reese 2014, 194.
not found at Naukratis. A small group of Red Sea cowries (*Monetaria annulus*) were found at Naukratis, and all five examples were turned into beads, and possibly come from a single grave (Table 1). Red Sea cowries were also common in c. 600–350 BC Cypriot cemeteries at Larnaka, Salamis, Amathus, Marion and the sanctuary at Kition. At Amathus they were predominantly associated with Phoenician material of the Cypro-Archaic period. Cowries have been found in graves in Ayia Marina on Cyprus; Kameiros on Rhodes, Asine and Lerna in Greece, Rome and Cavallino in Italy. In the Levant, they are known from c.800–1BC Jerusalem, c. 800–300 BC Amman, Tell Ta’annak, Kadesh-Barnea, Horvat Qitmit, Tall Seh Hamad, c. 750–200 BC Busayra and Tawilan. Along the Red Sea coast of the Eastern Desert of Egypt, Red Sea cowries were common finds in Roman contexts at Mons Claudianus and Myos Hormos, but were surprisingly not represented amongst the bead assemblage at Berenike. Other than the cowries, other Red Sea shells found at Naukratis comprise two *Oxymeris maculata* gastropods (Fig. 20) and one *Conomurex fasciatus* gastropod (Fig. 18). In general, both Mediterranean and Red Sea shells served as decorative elements, jewellery, lamps, as (modest) sanctuary dedications and funerary good for various different communities across the Greek world, North Africa and the Levant.

Shells native to Egypt probably represent food refuse and are found in very different context to the other shells from Naukratis discussed above. They comprise a single Nile mussel and three land snails of a type introduced to Egypt during the Roman period (Fig. 21). The single Nile (mussel) bivalve saved by Petrie is of the *Unio* sp. from the Nile and was probably found near the river front. *Unio* sp. and other freshwater mussels and clams were well represented in the faunal assemblage of the recent excavations at Naukratis, where shellfish accounts for c.10% of faunal remains. Other Nile mussels (such as *Chambardia rubens arcuata*) are known exports to Cyprus, found particularly in cemeteries and sanctuaries of the Archaic to Roman periods (Larnaka, Amathus, Aya Irini, Idalion, Hala-Sultan Tekke, Yeroskipou). Edible land snails were found in Roman

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162 With the possible exception of British Museum, 2012,5016.19.
163 Grave C4 (Gardner 1888, 26); it is impossible to date the grave from the description of the finds. British Museum, 2012,5016.31–34, 38.
166 Reese 1992, 123.
170 Hamilton-Dyer 2011, 279.
171 Francis 2007, 256.
172 Formerly known as *Terebra maculata* as listed on Petrie’s label.
173 Theodoropoulou 2017, 89.
174 Petrie identified this as *Unio[noida] teretrusculus*, a species name that is no-longer recognised.
175 Petrie Journal 1884–5, 186.
176 *Chambardia rubens arcuata* (formerly known as *Aspatharia* sp); *Coelatura aegyptiaca*; *Corbica sp.*; *Etheria elliptica* and *Mutela sp*.
177 Bertini forthcoming.
178 Reese 2014, 195; Reese et al. 1986.
179 *Helix pomatia* (British Museum 2012,5016.6) and *Pila ovata* (British Museum 2012,5015.2; 2012,5016.5).
contexts at Naukratis, near the Apollo temple. Edible snails (*Helix pomatia*) have also been found in Roman contexts at both the Red Sea port of Myos Hormos and the Eastern Desert quarry Mons Claudianus. They were introduced to the Nile basin from Europe, and certainly consumed during the Roman period as they were not native to Egypt, although the indigenous *Pila ovata* have been found in earlier Ptolemaic and possibly 30th Dynasty contexts.

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182 ibid. 272.
183 Louise Bertini personal observation.
<table>
<thead>
<tr>
<th>Species</th>
<th>Environment</th>
<th>Date</th>
<th>Context</th>
<th>Reg. no.</th>
<th>#</th>
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<td><em>Pila ovata</em> gastropod</td>
<td>fresh-water (Egypt)</td>
<td>620–200 BC+; 30 BC–AD 300?</td>
<td>Apollo; Greek sanctuary or cemetery?</td>
<td>2012.5015.1–2; 2012.5016.4–5;7</td>
<td>5</td>
</tr>
<tr>
<td><em>Unio[noida] sp.</em> fresh water mussel</td>
<td>River Nile</td>
<td>?</td>
<td>River Front</td>
<td>2012.5015.11</td>
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<td><em>Helix pomatia</em> gastropod</td>
<td>Land (Egypt)</td>
<td>30 BC–AD 300?</td>
<td>?</td>
<td>2012.5016.6</td>
<td>1</td>
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<tr>
<td><em>Phorcus turbinatus</em> gastropod</td>
<td>Mediterranean</td>
<td>620–500 BC</td>
<td>Apollo; Greek sanctuaries?</td>
<td>1965,0930.960; 2012.5015.6–8</td>
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</tr>
<tr>
<td><em>Tritia gibbosula</em> gastropod</td>
<td>Mediterranean</td>
<td>620–500 BC</td>
<td>Apollo; Greek sanctuaries?</td>
<td>1965,0930.960a; 2012.5015.15–20</td>
<td>7</td>
</tr>
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<td>Murex gastropod</td>
<td>Mediterranean</td>
<td>620–200 BC+</td>
<td>Greek sanctuary or cemetery?</td>
<td>2012.5016.12</td>
<td>1</td>
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<tr>
<td><em>Charonia lampas</em> gastropod</td>
<td>Mediterranean</td>
<td>620–500 BC+</td>
<td>Greek sanctuary?</td>
<td>2012.5015.4</td>
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<tr>
<td><em>Conus ventricosus</em> gastropod</td>
<td>Mediterranean</td>
<td>620–500 BC?</td>
<td>Apollo; Greek sanctuaries and cemetery?</td>
<td>1965,0930.960; 2012.5016.20–30; 35;37</td>
<td>14</td>
</tr>
<tr>
<td><em>Semicassis undulata</em> gastropod</td>
<td>Mediterranean</td>
<td>620–200 BC+</td>
<td>Apollo; Greek sanctuaries and cemetery?</td>
<td>1965,0930.960b–f; 2012.5015.3; 2012.5016.2;8;10</td>
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<tr>
<td><em>Arca noae</em> bivalve</td>
<td>Mediterranean</td>
<td>620–200 BC+</td>
<td>Apollo; Greek sanctuaries and cemetery?</td>
<td>1965,0930.960i–j; 2012.5016.1;3;9</td>
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<tr>
<td><em>Acanthocardia cockle</em> bivalve</td>
<td>Mediterranean</td>
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<td>Apollo; Greek sanctuaries and cemetery?</td>
<td>1888,0601.86</td>
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<td><em>Glycymeris nummaria</em> dog cockle bivalve</td>
<td>Mediterranean</td>
<td>620–200 BC+</td>
<td>Apollo; Greek sanctuaries and cemetery?</td>
<td>1888,0601.1598</td>
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<td><em>Spondylus gaederopus</em>, thorny oyster shell</td>
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<td>620–300 BC</td>
<td>Cemetery?</td>
<td>2012.5016.19</td>
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<tr>
<td>Bivalve, carved</td>
<td>Mediterranean?</td>
<td>620–500 BC</td>
<td>Apollo</td>
<td>1886,0401.1594;1596–7; 1888,0601.87–88; Fitzwilliam Museum, GR.47.1887; Ashmolean Museum, AN1896–1908-G.451</td>
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<td><em>Oxymeris maculata</em> gastropod</td>
<td>Red Sea</td>
<td>620–200 BC+</td>
<td>Greek sanctuaries and cemetery?</td>
<td>2012.5015.9; 2012.5016.13</td>
<td>3</td>
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<td><em>Conomurex fasciatus</em> gastropod</td>
<td>Red Sea</td>
<td>620–200 BC+</td>
<td>Greek sanctuaries?</td>
<td>2012.5015.12</td>
<td>3</td>
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<tr>
<td><em>Monetaria annulus</em>. Cowrie gastropod</td>
<td>Red Sea (or Indian Ocean)</td>
<td>620–200 BC+</td>
<td>Cemetery?</td>
<td>2012.5016.31–4;38</td>
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<td>Cowrie gastropod</td>
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<td>Greek sanctuary?</td>
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<td></td>
<td>Red Sea</td>
<td>620–580 BC</td>
<td>Hera; Dioskouroi; town</td>
<td>1886,0401.1594;1596–7; 1888,0601.87–88; Fitzwilliam Museum, GR.47.1887; Ashmolean Museum, AN1896–1908-G.451</td>
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</tr>
<tr>
<td><em>Tridacna sp.</em> clam carved</td>
<td>Red Sea</td>
<td>620–250 BC</td>
<td>Cemetery; town?</td>
<td>2012.5016.10; Petrie Museum, UC39186; 1886,0401.1595</td>
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<tr>
<td><em>Tridacna sp.</em> clam unmodified</td>
<td>Red Sea</td>
<td>620–200 BC?</td>
<td>Greek sanctuary?</td>
<td>1886,0601.86</td>
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<td>Marine bivalve mollusk</td>
<td>Red Sea</td>
<td>620–200 BC+</td>
<td>Greek sanctuary?</td>
<td>1888,0601.85a(1–2); 1888,0601.85(1–19)</td>
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<td>Pinctada margaritifera</td>
<td>Red Sea</td>
<td>620–200 BC+</td>
<td>Greek sanctuary?</td>
<td>1886,0401.1600</td>
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<td><em>Struthio camelus syriacus</em> shell</td>
<td>Land (Levant; Egypt)</td>
<td>620–500 BC</td>
<td>Aphrodite</td>
<td>2012.5016.4–5;7</td>
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<tr>
<td><em>Struthio camelus syriacus</em> shell cup</td>
<td>Land (Levant; Egypt)</td>
<td>620–400 BC</td>
<td>Apollo</td>
<td>1886,0601.85a(1–2); 1888,0601.85(1–19)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TOTAL</td>
<td>105</td>
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</table>

**Notes:**

184 Formerly *Nassa gibbosulus*.

185 Formerly *Conus mediterraneus*
4. Faunal remains

A small number of animal bones and teeth\(^{186}\) were discovered in a bone and charcoal deposit excavated by Flinders Petrie, during the first season in 1884–1885 at Naukratis (probably) in the area of the Apollo sanctuary (and associated with the first group of shells described above).\(^{187}\) They include one piece from Well 101 (Fig. 2)\(^ {188}\) in the Apollo sanctuary, which was found associated with c. 610–500 BC pottery and a Late Period Egyptian terracotta horse.\(^ {189}\) However, caution is required as Petrie also documents a disturbed charcoal deposit associated with the adjacent sanctuaries of Hera and Apollo that spilled into both areas.\(^ {190}\) To this two male pig tusks\(^ {191}\) and six small mammal bone fragments can be added, including further examples with butchering marks, and a sheep humerus fragment.\(^ {192}\) A small number of fragments with unclear contextual documentation (that could also have come from this Apollo sacrificial deposit) were sent to other collections.\(^ {193}\) A second c. 620–500 BC bone and charcoal sacrifice deposit collected by Petrie from the Aphrodite sanctuary, is unfortunately no longer available for study.\(^ {194}\) Faunal remains were rarely mentioned by Hogarth, with the exception of a male pig’s skull found at the bottom of a well A (Hogarth 1899, 35, site 36, west of the Hellenion within the Dioskouroi sanctuary) and goat and ibex horns found in well C (site 50, Hogarth 1899, 50, near the river front, north of the Aphrodite sanctuary). Late Period and early Hellenistic pottery were also found in both wells.

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\(^{186}\) The complete box (British Museum, 1886,0401.1379) was subsequently registered as 1965,0930.957–9. A bone knife handle (1965,0930.961) and later registered pieces (1911,0509.3–9) were probably originally part of this box registered as 1886,0401.1379. The bones and teeth discussed below comprise specifically: 1965,0930.956a–b; 957a–c; 958a–c.


\(^{188}\) The specific context of the whole box can be reconstructed from a context marking left on one of the bones (British Museum, 1965,0930.956a) by Petrie. The pencil mark reads ‘101’. We know from Petrie that ‘101’ refers to Well 101 within the Apollo sanctuary that Petrie describes as containing ‘contained fragments of archaic statuettes’ (Petrie 1886a, 45). Petrie does not otherwise publish any record of bone and charcoal deposits from this well. The date of this deposit can be constrained to 610–500 BC by the presence of pottery from this well (British Museum, 1886,1005.20; 1886,0401.1291; 1965,0930.194;545;547;551;742;743;746).

\(^{189}\) British Museum, 1965,0930.962.

\(^{190}\) Petrie 1886a, pl. xxxv. 689; British Museum, 1886,0401.947.

\(^{191}\) The term male pig is used here in preference to boar, as it is not possible to determine whether the pig was wild or domesticated.

\(^{192}\) British Museum, 2011,5009.1–2, 4–9. Found unregistered, but with an EES Naukratis label dated 1884–5. These were probably just missed during the final large registration campaign in 1965.

\(^{193}\) London, Petrie Museum, UC54639; Boston, Museum of Fine Arts, 86.936; Oxford, Ashmolean Museum, AN1896-1908-E.4576 is an unfused epiphysis from a sheep or goat (?).

\(^{194}\) Boston, RES.88.12. From Aphrodite Context Φ5. The Boston records mark this as deaccessioned.
The limited data available from the (putative) Apollo sanctuary sacrificial deposit shows a range of animals were sacrificed within this sanctuary. Goat, sheep and pig are identified. Remains comprise goat and sheep horn cores (Fig. 23), mandible (Fig. 22), radius, metacarpal and humerus bones. A pig mandible, pig teeth and canines (or ‘tusks’, Fig. 24) were also found. While a juvenile element was identified, mainly adult animals are represented within this assemblage. Some showed clear butcher’s marks. If indeed the remains of sacrifice, the bone knife handle (Fig. 25), as also the knife tip found in the Aphrodite sanctuary, could represent the blade used (and lost or broken) during one of the sacrifices.

The Apollo sanctuary assemblage seems broadly comparable with the finds from recently excavated contemporary contexts along the river front and within the Dioskouroi sanctuary (where pigs and ovi-caprines account for 93.3% of domesticates), and from Leonard’s excavations on Kom Helul (of a Ptolemaic and Roman building at the eastern part of Naukratis). The abundance of pig within the faunal remains across Naukratis is distinct from the result of Leonard’s South Mound excavations, where only a single putative (an uncertain and unconfirmed report) pig metatarsus was found. We now known that this area lay within the Egyptian sanctuary of Amun-Ra, presumably associated with the cult and its priests. The absence of any confirmed pig remains within the temenos of Amun-Ra is not surprising, because it was not allowed (taboo) for Egyptian priests to consume pig meat, a pattern also recognized in the contemporary priest’s quarters in Karnak.

5. Summary

The extant bone and shell from the early excavations at Naukratis comprises a small assemblage of 34 bone artefacts (tools, jewellery and ritual objects), 105 shells (mostly ornamental), and 20 unworked faunal remains (bone, horn core and teeth) from sacrificed animals. The majority of shell finds come from the Mediterranean (52), but with a significant number from the Red Sea (20). However, these Red Sea shells were probably worked in the Levant, which also is where most of the ostrich shells came from (21), with a single exception from Northern Egypt. Land snails (3) and a single Nile mussel shell are the only evidence for edible shellfish within this corpus, which recent excavations suggests were actually more common at Naukratis than the early excavators’ selection suggests. The presence of the (non-indigenous) land snails provides a small insight into the changing tastes concerning delicacies in Egypt during the Roman period.

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195 The sheep mandible indicates an animal of 3–4 years age. The pig mandible is missing the third molar, so cannot be aged, but is from a mature adult.
196 Iron knife tip from the floor context Φ5 within the temple of Aphrodite (Boston, Museum of Fine Arts Eg.Inv.1349), see chapter on Tools and Weapons.
197 Bertini forthcoming.
198 Leonard 2001, 11–25, where pig remains were frequently recorded, although not studied or published in full.
199 Leonard 1997, 59–83; Reese 1997, 347. Complete study and publication was not possible due to post–excavation access problems.
Many of the shells were ornamental and show signs of water wear; and so were collected dead. Many are holed, and so functioned as beads or pendants. Some bivalves (such as the cockles and dog cockles) may have functioned as lamps. The carved Tridacna, and other large bivalves from the Red Sea seem to have been ritual vessels, which like the knife fragments were used during rituals in the sanctuaries. Contrary to popular belief, the Tridacna shells were used in the worship of male deities (the Dioskouroi, Fig. 8), which seems to be supported by recent excavation results from 2015. Whilst worked Tridacna shells were found exclusively in sanctuaries (Dioskouroi, Hera, and the region around the Apollo sanctuary), unworked complete Tridacna were used exclusively in the cemetery. 201 This may be a chronological feature, rather than have any other meaning, as the use of undecorated Tridacna continued to be popular in the Hellenistic period in the eastern Mediterranean, long after the carved tradition had stopped in the Levant. The dedication (or use?) of vessels made from ostrich egg shell, mainly originally from the Levant, coincides with the carved Tridacna assemblage: it is early and exclusively confined to the Greek sanctuaries (Aphrodite and Apollo). Whilst the shell remains are rare evidence of the rich array of consumables that traders once brought to Naukratis from the Red Sea littoral, Arabia, Africa and the eastern Mediterranean, Tridacna represent a feature of the earliest period, during the 26th Dynasty, when we see a greater variety and quantity of Cypriot 202 and Phoenician objects, which is eclipsed over time by East Greek and then Central Greek and North Aegean imports.

201 Gardner 1888, 29.
202 See chapter on Cypriot figures.