

## Food and Drink in the Eastern Desert of Egypt during the Roman Period: Readings in the Greek Ostraca from Krokodilo<sup>1</sup>

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**Abstract:** The large number of documents that have been found in the Eastern Desert provide us with a great deal of information about foodstuffs in that area during the Roman period, whereas available botanical and archaeo-zoological evidence from the Eastern Desert, and in particular from the *praesidium* of Krokodilo, is scarce. Since this written evidence about foodstuffs and drinks has not been extensively studied previously, this article will investigate it in Krokodilo along with the available botanical and archaeo-zoological data during the Roman period.

**Keywords:** Exchange of Foodstuffs, Drinks, Liquids, Roman period, Krokodilo, Eastern Desert, Letters, Botanical and Archaeo-zoological Data.

الطعام والشراب في صحراء مصر الشرقية خلال العصر الروماني:

قراءات في الأوستراكا اليونانية من كروكوديلو

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**المخلص:** إن العدد الكبير من الوثائق التي تم العثور عليها في الصحراء الشرقية يزودنا بقدر كبير من المعلومات حول المواد الغذائية في تلك المنطقة خلال العصر الروماني، في حين أن الأدلة الأثرية الحيوانية والنباتية المتاحة من الصحراء الشرقية، وخاصة من معسكر كروكوديلو نادرة. ونظرًا لأن هذه الأدلة المكتوبة عن المواد الغذائية والمشروبات لم تتم دراستها بشكل مكثف من قبل، فإن هذه المقالة سوف تحقق في هذه الأدلة جنبًا إلى جنب مع البيانات الأثرية الحيوانية والنباتية المتاحة من كروكوديلو خلال الفترة الرومانية.

**الكلمات الدالة:** تبادل المواد الغذائية، المشروبات، السوائل، العصر الروماني، كروكوديلو، الصحراء الشرقية، الخطابات، البيانات الأثرية الحيوانية والنباتية.

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## Introduction

Krokodilo is one of the stations that has preserved a large number of letters from the Roman period. The inhabitants of the station used potsherds to write letters in order to send and receive various foodstuffs.<sup>1</sup> Thus, local trade among the stations was recorded in letters to the point that, in certain cases, it might be assumed that writing these letters is a type of receipt written in the form of epistolaries.<sup>2</sup> Besides the official provisions for the stations, the inhabitants of the stations exchanged extra items with friends and family members from neighbouring stations.

The following letter represents an example of the content of the bulk of the letters that were excavated in some of the stations in the Eastern Desert. It helps to understand how the foodstuff exchange was conducted and what my survey of the foodstuffs in Krokodilo is based on. It is a letter (*O.Krok.* II 158) dated to the reign of Trajan (98 – 117 CE).

Φιλοκλῆς καὶ Σκῆψ κ[αὶ Ἡγεμ]ονίς Καππαρίω<sup>3</sup> καὶ Διδύμῃ πλῖστα (l. πλεῖστα) χαίριν (l. χαίρειν). κόμισε (l. κόμισαι) δ[ιὰ] Ἐπαγάθω (l. Ἐπαγάθου) κρομύων ἀρτάβην καὶ μάτια τρία. πώλησον αὐτά. ἂν παρέγῃθι (l. παρέλθῃ) ἢ πορεία πένψω (l. πέμψω) σὺ (l. σοι) [.?]. (concave side) [ . γρ]άψον μοι πόσα ἔχει[ς] (l. ἔχει[ς]) [κερ]άμια οἴνω (l. οἴνου) καὶ τί σὺ (l. σοι) [χρεί]α ἐστίν. ἔπεχε τὰ ὑκικά (l. οἰκικά), τὰ ὀρνίθια καὶ τὸ δελφάκιον (l. δελφάκιον). ἀσπάζετε (l. ἀσπάζεται) ὑμᾶς Ἡγεμονίς. ἀσπάζ[ . ],

“Philokles and Sknips and Hegemonis to Kapparis and Didyme, many greetings. Receive through Epagathos one *artaba* and three *matia* of onions. Sell them. When the caravan comes, I shall send ... .. write to me how many amphoras of wine you have and what you need. Mind the household, the chickens, and the pig. Hegemonis greets you. Greet ...”<sup>4</sup>

Let us examine documents found at Krokodilo. The excavations in Krokodilo were conducted in 1996 and 1997 by the French mission in the Eastern Desert, led by Hélène Cuvigny.<sup>5</sup> The station of Krokodilo (or the modern Wadi Muwayh) was a central *praesidium* located on the road linking Koptos on the Nile to Myos Hormos on the Red Sea (Fig. 1). It was founded at the end of the first century CE.<sup>6</sup> The *praesidium* measures

<sup>1</sup> Hélène Cuvigny, “Les noms du chou dans les ostraca grecs du désert Oriental d’Égypte (κράμβη, κραμβίον, καυλίον),” *Le Bulletin de l’Institut français d’archéologie orientale*, 107 (2007): 89; Roger S. Bagnall and Rafaella Criboire, with contributions by Evie Ahtaridis, *Women’s Letters from Ancient Egypt, 300 BC – AD 800* (Ann Arbor: University of Michigan Press, 2006), 164; Intro. to *O.Florida*, 30-31.

<sup>2</sup> Fatma. E. Hamouda, *Communication and the Circulation of Letters in the Eastern Desert of Egypt during the Roman Period* (Heidelberg: Heidelberg University, 2020), 22.

<sup>3</sup> Bülow-Jacobsen mentions that “The declension of Κάππαρις seems to have varied. The accusative is regularly Κάππαριν, but in the dative we find both the expected Κάππαρι and also Καππαρίω - the latter is the preferred form of Philokles. In 187 there is even Καμπαράτι. The genitive is never found except in 315 where it is Κάππαρις”, see *O.Krok.* II 229, note to l.3.

<sup>4</sup> Trans. Bülow-Jacobsen.

<sup>5</sup> Intro. Introduction to *O.Krok.* II, 8.

<sup>6</sup> Hélène Cuvigny, “A Survey of Place-Names in the Egyptian Eastern Desert during the Principate according to the Ostraca and the Inscriptions,” in *The Eastern desert of Egypt during the Greco-Roman Period: Archaeological Reports*, ed. J.-P. Brun, et al. (Paris: Collège de France, 2018), 12, <https://books.openedition.org/cdf/5231>

*circa* 1160m.<sup>1</sup> Reddé states that the external dimensions of Krokodilo without towers are 53x52m.<sup>2</sup> We do not know exactly the number of inhabitants who lived in this area; however, the estimate of military men during the second century CE was approximately as follows: 3-5 horsemen, 8-10 infantry (i.e., 11-15 soldiers), and the curator of the *praesidium*. The inhabitants were military men and civilians; men, women, and also children.<sup>3</sup> The station of Phoinikon was located to the west of Krokodilo, and to the east was the station of Persou. Persou was known during the Roman period as a *praesidium* with gardens that supplied various foodstuffs to the neighbouring stations, as well as the station of Phoinikon.<sup>4</sup>

Up to date, there are approximately 259 official and private letters from Krokodilo, besides about 19 postal registers and circulations of official correspondence and commodities.<sup>5</sup> More than 80 official or unofficial letters preserve information about procuring and providing foodstuffs.<sup>6</sup> Most of these documents were written on ostraca, and mainly in Greek. Most date to the second century CE. The earlier precise dating of the text is 102/103 CE (e.g., *O.Krok.* I 61), while the latest dating is 118 CE (e.g., *O.Krok.* I 88-92, 94).<sup>7</sup>

### The main individuals who supplied Krokodilo with provisions

In those letters, some individuals, such as Ithalas (*O.Krok.* I 77; ca. 98–138 CE) provide foodstuffs only once, ll. 1-4 Εἰθαλάς (l. Ἴθαλάς) Κανπανῶ (l. Καμπανῶ) χέριν (l. χάρειν). καλῶς ποιήσις (l. ποιήσεις) δοῦς Κέλερι τὸ εἰμιαρτάβιν (l. ἡμιαρτάβιον) τῆς κριθῆς, “Ithalas to Kampanus, greetings. You would do well to give Keler half *artaba* of barely”.

Other individuals like the prominent trader Philokles, wrote several letters to send and exchange food and drink, as a part of local trade in the area. Documents show that the network of his local trade extended not only to Krokodilo, but also to Didymoi, which is a station on the road between Koptos and Berenike on the Red Sea. His correspondence, which comprises more than 100 letters, dates to the first-second centuries CE. They are addressed from or to him, or even mention him. Philokles stayed likely in Phoinikon, a *praesidium* in the Eastern Desert near the Nile Valley. He moved

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<sup>1</sup> Hélène Cuvigny, “Le fonctionnement du réseau,” in *La route de Myos Hormos, L’armée romaine dans le désert Oriental d’Egypte (Praesidia du désert de Béréenice I)*, ed. H. Cuvigny, et al. (Cairo: Institut Français d’Archeologie Orientale, Fouilles de l’Ifao 48/2, 2003) 309.

<sup>2</sup> Michel Reddé, “The Fortlets of the Eastern Desert of Egypt,” in *The Eastern desert of Egypt during the Greco-Roman Period: Archaeological Reports*, ed. J.-P. Brun, et al. (Paris: Collège de France, 2018), 6, <https://books.openedition.org/cdf/5231>

<sup>3</sup> Intro. to *O.Krok.* I, 3.

<sup>4</sup> Cuvigny, “A Survey of Place-Names”, 116; Adam Bülow-Jacobsen, “Toponyms and proskynemata,” in *La route de Myos Hormos, L’armée romaine dans le désert Oriental d’Egypte (Praesidia du désert de Béréenice I)*, ed. by H. Cuvigny, et al. (Cairo: Institut Français d’Archeologie Orientale, Fouilles de l’Ifao 48/1, 2003) 55-56.

<sup>5</sup> Hamouda, *Communication and the Circulation of Letters*, 15.

<sup>6</sup> Further information about the station of Krokodilo is in Bülow-Jacobsen, “Toponyms”, 55; Cuvigny, “A Survey of Place-Names”, 111-112.

<sup>7</sup> Intro. to *O.Krok.* II, 8.

between the stations of Krokodilo, and Persou to manage his local trade in the area.<sup>1</sup> Some other individuals supported Philokles's trade, such as Kapparis, his close friend, main correspondent, and agent, whom Philokles relied on to manage and distribute his victuals in the area, as appears from some letters, e.g., *O.Krok.* II 152; 158 (98 – 117 CE) in which Philokles asks Kapparis to distribute and sell foodstuffs. Also *O.Did.* 377; 397 (before ca.110 – 115 CE); *O.Krok.* II 204; 215 (98 – 117 CE); *O.Krok.* II 239; 241; 259; 261 (first half of the reign of Hadrian); 306 (98 – 117 CE); *CPL* 303= *O.Faw.* 1 (first/second cent. CE).<sup>2</sup>

Another person is Ischyrras, a contemporary of Philokles, and mentioned as a member of his network (*O.Krok.* II 281; 98– 117 CE). Ischyrras was likely in Persou where he wrote his letters. He penned about 50 letters; 39 from them are on his behalf.<sup>3</sup> Some other individuals such as Antoninus sent foodstuffs few times. He is attested exchanging foodstuffs in three letters. The letters of the previous two individuals date to the reign of Trajan, while the correspondence of the following individuals dates to the reign of Hadrian (117 – 138 CE).

Apollos, who also appears in the network's circle of Philokles, was stationed in Persou. He was perhaps a soldier and penned about 39 letters. From them, about 11 letters were sent on his behalf, e.g., *O.Krok.* II, 243-248; 117 – 130 CE.<sup>4</sup> Iulius Apollinaris is another soldier. He wrote around three letters (*O.Krok.* II 258; 259; 260 and perhaps 261; first half of the reign of Hadrian) about the exchange of foodstuffs as well. He likely lived in Persou. Longinus Apollinaris, who belonged to the network of Apollos, wrote a few letters about the exchange of items. He was a horseman and was in contact with the network's circle of Philokles.<sup>5</sup> Lastly, Priscus, likely a soldier stationed at Persou, penned about six letters, in addition to a letter (*O.Krok.* II 275; 117–130 CE) written by Apollos on his behalf. The other five letters (*O.Krok.* II 276-280; 117–130 CE) are addressed to the soldier Maximus.

Comparison of items exchanged among these individuals indicates that (Table 1): Philokles sent various kinds of vegetables and some fruits to Krokodilo. They are the same kinds he sent to Didymoi, except beet, which his correspondence to Didymoi does not mention. Wine, and the amphoras of wine,<sup>6</sup> are mainly exchanged through his letters. Camel meat is only mentioned in his correspondence. When Philokles went to Krokodilo and stayed there for a while, he rarely received provisions. Ischyrras sent various vegetables and wanted to send a suckling pig, but received only bread from Krokodilo. No drinks or liquids were among his provisions. Antoninus sent four *matia* of barley and perhaps two slices of fish to Krokodilo, but he wanted to receive half *artaba* of bread from there.

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<sup>1</sup> Intro. to *O.Krok.* II, 29; Intro. to *O.Did.* 376-399, 295-296 and 298; Hamouda, *Communication and the Circulation of Letters*, 152.

<sup>2</sup> Hamouda, *Communication and the Circulation of Letters*, 104 and note 47.

<sup>3</sup> Hélène Cuvigny, "Les ostraca sont-ils solubles dans l'histoire?," *Chiron*, 48 (2018a): 212; *O.Krok.* II: 224.

<sup>4</sup> *O.Krok.* II, 145-146.

<sup>5</sup> *O.Krok.* II, 193.

<sup>6</sup> E.g., *O.Krok.* II 158, 9-11 (A letter from Philokles, Sknips, and Hegemonis to Kapparis and Didyme; 98– 117 CE); *O.Krok.* II 226, 12-13 (N.N. to N.N.; 98 – 117 CE).

Unlike the other individuals, Apollos and Priscus sent and also received various kinds of provisions from Krokodilo. While Iulius Apollinaris was the only one who sent salt to Krokodilo. *O.Krok.* II 233, 10-11 (Trajan/Hadrian) mentions half a *matia* of salt, but the line is not complete to understand the purpose of it, . [. . . ἥμ]ιμάτιν (l. [ἥμ]ιμάτιον) ἄλα. Like Antoninus, Longinus Apollinaris wanted to send slices of fish to Krokodilo. Sending lettuce to Krokodilois was only mentioned in his correspondence. As for Priscus, new kinds of vegetables were among his provisions for Krokodilo, such as chicory and basil.

<b>Food to Krok.</b>	<b>Food from Krok.</b>	<b>Drink/Liquids to Krok.</b>	<b>Liquids from Krok.</b>
<b><u>Philokles</u></b> (Food in Krok.) <sup>1</sup>			
Grapes?	Dates	Amphoras of wine	
Fallen fruits	Cabbage	Oil	
Cabbage			
Onion			
Beet			
Camel meat			
Barley			
<b><u>Ischyras</u></b>			
Vegetables	Loaves of bread		
Leeks			
Cabbage			
Suckling pig?			
Wheat			
<b><u>Antoninus</u></b>			
four <i>matia</i> of barley	1/2 <i>artaba</i> of bread		
two slices of fish			
<b><u>Apollos</u></b>			
Vegetables	Ammi		Oil
Cabbages	Bread		
Purge-plant	Dates		

<sup>1</sup> Philokles received these foodstuffs at Krokodilo when he was there.

Beet	Cakes		
Barley	A piece of meat		
Rue			
<b><u>Julius Apollinaris</u></b>			
Beet	in the lacuna	Oil	
Salt?			
Cabbages			
Radishes			
Leeks			
Rue			
<b><u>Longinus Apollinaris</u></b>			
Beet	Cakes		
Cabbages	Loaves of bread		
Lettuce	Vegetables		
Vegetables			
Wheat			
Slices of fish			
<b><u>Priscus</u></b>			
Chicory	Dates		
Radishes	Bread		
Basil	Broken grains		
Cabbage	Condiments		
Vegetables	Radishes		
Beets	Coriander		
	Fenugreek		
	Lupin		
	Garlic		

Table 1. Food, drink, and liquids received from Krokodilo or sent to it.

### Some females

Females (Table 2) also participated in food exchanges, but not often. Most of these females belonged to the network of Philokles. For example, we know that Sknips, the wife of Philokles (*O.Krok.* II 192; 98 – 117 CE), sent cabbage and presumably would

bring lentils and oil to Krokodilo when she visited. Nemesas (*O.Krok.* II 200; 98 – 117 CE) wrote a letter to Philotera, likely the daughter of Kapparis, and informed her to perhaps receive onions. Philotera (*O.Krok.* II 199; 98 – 117 CE) also sent cheese, onion, and oil to Krokodilo. In this letter, she informed Moukakinthos, the receiver, that she sent him an ox-head as well; however, it is not clear whether it is sent as meat or a kind of medical plant.<sup>1</sup> Possibly it refers to meat since the letters of Philokles, discussed below, primarily note different kinds of meat. Lastly, Zosime (*O.Krok.* II 282; 98 – 117 CE), who was likely the wife of Ischyras, sent lentils to Parabolos at Krokodilo.

<b>Food to Krok.</b>	<b>Food from Krok.</b>	<b>Liquids to Krok.</b>	<b>Liquids from Krok.</b>
<b><u>Sknips</u></b>			
Cabbage		Oil	
Lentils			
<b><u>Nemesas</u></b>			
Onions?			
<b><u>Philotera</u></b>			
Cheeses		Oil	
Onion			
<b><u>Tiberia<sup>2</sup></u></b>			
Dates	Wheat?		
	Cakes		
<b><u>Tiberia or Iulia?</u></b>			
Vegetables			
<b><u>Zosime</u></b>			
Lentil	?		

Table 2. Food and drink received from Krokodilo or sent to Krokodilo by females

### **What did the inhabitants of Krokodilo use to eat?**

As mentioned before, there is a lack of information about the botanical remains in Krokodilo and less archaeo-zoological data as well.<sup>3</sup> The following lists (Tables 3, 4, 5) show food, drinks, and liquids that were mentioned in the documents from Krokodilo, either in official or unofficial documents, so far. They are divided according to the attestations of foodstuffs in letters, sent to or received from the station of Krokodilo, or mentioned in letters and other documents. They contain various kinds of vegetables and some kinds of fruits. Some of these were common and frequently requested, as appears

<sup>1</sup> *O.Krok.* II 199, n.7.

<sup>2</sup> She is the daughter of Philokles and Sknips, see *O.Krok.* II, 154.

<sup>3</sup> Leguilloux mentions that “despite extensive exploration of this region, there are few available archaeozoological data, published or to be published”, see Martine Leguilloux, “The Exploitation of Animals in the Roman *Praesidia* on the Routes to Myos Hormos and to Berenike: on Food, Transport and Craftsmanship,” in *The Eastern Desert of Egypt during the Greco-Roman Period: Archaeological Reports*, ed. J.-P. Brun, et al. (Paris: Collège de France, 2018), 5, <https://books.openedition.org/cdf/5231>. Information about botanical remains from the Eastern Desert can be found in the study of Marijke Van der Veen, et al., “Roman Life in the Eastern Desert of Egypt: Food, Imperial Power and Geopolitics,” in *The Eastern Desert of Egypt during the Greco-Roman Period: Archaeological Reports*, ed. J.-P. Brun, et al. (Paris: Collège de France, 2018) <https://books.openedition.org/cdf/5231>

from the several calls in letters, such as cabbage, bread, lentils, and various leafy vegetables. Some were less requested and perhaps once attested in letters, such as asparagus (*O.Krok.* II 215), lupine, fenugreek (*O.Krok.* II 276), chicory/endive (*O.Krok.* II 275), lettuce (*O.Krok.* II 271), grapes, (*O.Krok.* II 162) and cheese (*O.Krok.* II 199). Pumpkin (*O.Krok.* II 162; 235; 274), *sebesten* (*O.Krok.* II 320), thyme (*O.Krok.* II 319; 320; 332), and pigeon (*O.Krok.* II 310) are mentioned in documents without reference to sending or receiving them.

	<b>Food to Krok.</b>	<b>Liquids &amp; Drinks to Krok.</b>
<b>Veg. &amp; Fruits</b>	Leek	Oil
	Beet	Wine
	Cabbage	
	Onion	
	Vegetables	
	Asparagus	
	Pennyroyal	
	Purge-plant	
	Rue	
	Lentils	
	Lettuce	
	Chicory	
	Basil	
	Dates	
	Fallen fruits	
	Grapes	
<b>Meat &amp; Fish</b>	Camel-meat	
	Suckling/young pigs	
	Ox-head?	
	Slices of fish/fish	
<b>Others</b>	Bread	
	Cake	
	Cheese	
	Salt?	
	Wheat	
	Barley	

Table 3: Food, drink, and liquids sent to Krokodilo.



Herbs, Veg. & Fruits	Food from Krok.	Liquids from Krok.
	Ammi	Oil
	Condiment	
	Coriander	
	Dill	
	Broken grains	
	Garlic	
	Lupin	
	Fenugreek	
	Dates	
	Meat & Fish	Piece of meat
Piglet?		
Others	Bread	
	Cake	
	Salt	
	Wheat	
	Malt?	

Table 4: Foodstuffs and liquids requested from Krokodilo

Food	Drink
Pumpkin	Wine
<i>Sebesten</i>	
Thyme	
Wheat	
Barely	
Strew	
Pigeon	
Fish	

Table 5: Food and drink mentioned in the documents from Krokodilo

Archaeo-zoological data indicate that the animal remains recovered from Krokodilo are as follows: domestic mammals: pig, camel, goat, sheep, and horse. For birds: goose, hens, cocks, and ducks, in addition to fish. Both faunal remains and documents support the good availability of pigs in Krokodilo (Fig. 2). The remains of swine bones take the first position on faunal remains, from the first century CE to the beginning of the third century CE. Pigsties were also found in the external dump of Krokodilo (Fig. 3).<sup>1</sup> It is also known from letters that Philokles has a house and pigs in Krokodilo.<sup>2</sup>

Although faunal remains do not support the frequency of very young pigs,<sup>3</sup> letters refer to the presence of young or suckling pigs in Krokodilo. δελφακίς,<sup>4</sup> δελφάκιον,<sup>5</sup> and χοιρίδιον<sup>6</sup> are the terminologies that refer to pigs in the documents.<sup>7</sup> Most of these appear in documents belonging to Philokles. As I mentioned before, camel meat was once attested in a letter sent from Philokles when he was in Phoinikon to Kapparis in Krokodilo, *O.Krok.* II 152, 9-10 (98 – 117 CE) Κόμισε (l. κόμισαι) κρ<ή>α (l. κρέα) καμήλη (l. καμήλεια), “I am sending you some camel-meat”.<sup>8</sup>

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<sup>1</sup> Leguilloux, “The Exploitation of Animals”, 33, 68 discusses that pigsties were used as shelters to protect the pigs from the climate of the desert. They also were small in size, isolated, and may have troughs in some cases.

<sup>2</sup> E.g., *O.Krok.* II 152, 5-8 (A letter from Philokles to Kapparis; 98 – 117 CE) [ἐρ]ω τῷ ὑμᾶς καὶ π[α]ρακαλῶ ἐπέχειν (l. ἐπέχειν) τὰ χοιρίδια καὶ τὴν οἰκίαν·, “I ask and encourage you to keep an eye on my little pigs and on my house”. (Trans. Bülow-Jacobsen); *O.Krok.* II 158, 11-13 (A letter from Philokles to Kapparis; 98 – 117 CE) ἔπεχε τὰ οἰκικά (l. οἰκικά), τὰ ὀρνίθια καὶ τὸ δελφάκιον (l. δελφάκιον), “Mind the household, the chickens and the suckling pig.” (Trans. Bülow-Jacobsen with modification).

<sup>3</sup> Leguilloux, “The Exploitation of Animals”, 68 mentions that “Indeed raising pigs was sporadic because it required a regular supply of grain. The number of animals fattened in this way was limited: at Krokodilo and Dios three sites were successively built. These sites, whose surfaces vary from 1 to 2m<sup>2</sup>, have walls of at most one metre high; they could accommodate a single animal; a maximum of two or three pigs could be fed simultaneously. It was not breeder farming, but rather fattening animals born elsewhere; we did not find very young animals. This intermittent practice is consistent with the climatic conditions and with supply difficulties that would have prevented permanent pig raising”.

<sup>4</sup> *O.Krok.* II 206, 2-3 (Antoninus to Clemens; 98 – 117 CE); *O.Krok.* II 208, 8 (Antoninus to Secunda; 98 – 117 CE); *O.Krok.* II 331, 18 (Parabolos to Ischyra; 98 – 117 CE).

<sup>5</sup> *O.Krok.* II 158, 13 (Philokles to Kapparis; 98 – 117 CE); *O.Krok.* II 235, 3 (Account; 98 – 117 CE); *O.Krok.* II 316, 6-7 (Ischyra to Parabolos; 98 – 117 CE); *O.Krok.* II 317, 4 (Ischyra to Parabolos; 98 – 117 CE).

<sup>6</sup> *O.Krok.* II 152, 7 (Philokles to Kapparis; 98 – 117 CE); *O.Krok.* II 153, 9 (Philokles to Kapparis; 98 – 117 CE); *O.Krok.* II 156, 10 (Philokles to Kapparis; 98 – 117 CE); *O.Krok.* II 159, 43 (Philokles to Sknips; 98 – 117 CE); *O.Krok.* II 162, 17 (Philokles to Sknips; 98 – 117 CE); *O.Krok.* II 189, 9 (Montanus to Kapparis and Didyme; 98 – 117 CE); *O.Krok.* II 277, 18 (Priscus II to Maximus; 117 – 130 CE).

<sup>7</sup> More details and explanations of terminologies used to refer to pigs in documents are in Hélène Cuvigny, “Annexe: Les Protéines Animales Dans Les Ostraca,” in *La route de Myos Hormos, L'armée romaine dans le désert Oriental d'Egypte (Praesidia du désert de Bérénice I)*, ed. by H. Cuvigny, et al. (Cairo: Institut Français d'Archéologie Orientale, Fouilles de l'Ifao 48/2, 2003) 569-570.

<sup>8</sup> Trans. Bülow-Jacobsen.

There are two other attestations of meat, or κρέας in letters<sup>1</sup>, but it is not clear what kind it is. Mixed meat is twice mentioned in an account dating to the reign of Trajan and perhaps belongs to Philokles in *O.Krok.* II 235, 4-5 κζ ις (l. εἰς) μεσκελλανειν (l. μισκελλάνιον) κρέας κθ ις (l. εἰς) μισκιλλανειν (l. μισκελλάνιον) κρέας, “27<sup>th</sup> to a mixture of meat, 29<sup>th</sup> to a mixture of meat”.<sup>2</sup> So far, there is no reference to sheep or goat in documents, but the cheese that was once sent from Philotera to Kapparis in a letter dated to the reign of Trajan must be produced from goat’s or sheep’s milk, either in the desert or on the Nile valley, *O.Krok.* II 199, 8-10 (Philotera to Moukakinthos; 98 – 117 CE) καὶ παρὰ Αὐλυζά[νου] μαρσίππιν (l. μαρσίππιον) ὄπο[υ εἰ]σὶ τοιροῖ (l. τυροῖ), “and from Aulyzanos a basket in which there are cheeses”.<sup>3</sup>

The archaeo-zoological data also supports the presence of hens and cocks in Krokodilo. From *O.Krok.* II 158 (98 – 117 CE) mentioned above, we know that Philokles has chickens in Krokodilo. All of this assures that meat was mainly provided by Philokles to Krokodilo. It also shows the variety of foodstuffs that Philokles provided and his wide local trade in comparison to other individuals. Faunal remains do not confirm that pigeons were in Krokodilo; however, περιστεραί are once attested in a fragmentary letter (*O. Krok.* II 310, 11; reign of Trajan) addressed from Ischyras to Parabolos, ll. 10-12 ἰμηματ[ι . . .] με . . . ἰμμάτιν (l. ἡμμάτιον) [10?] ἰ . . . . περιστεραὶ [10?] ἔσκατον (l. ἔσχατον) καλῶς (l. καλῶς) [10?]. Unfortunately, the letter is not clear and no more information can be derived about these pigeons. Neither geese nor ducks are attested in the documents, whereas the remains of bones confirm that they were consumed in Krokodilo. It is notable that poultry traces are of low proportion in comparison to mammals remains.<sup>4</sup>

Fish are well attested in documents from Krokodilo. We know from the known postal registration of Krokodilo that different kinds of fish were supplied officially to the station. Such as: κεστρεύς or mullets (*O.Krok.* I 1, 22; after (?) 28. March 108 CE)<sup>5</sup>, σκάρος or parrotfish (*O.Krok.* I 1, 24, 28-29; after (?) 28. March 108 CE)<sup>6</sup>, and also the ὀψάριον is mentioned in the document (*O.Krok.* I 1, 39).<sup>7</sup> In unofficial letters only τεμάχια, the slices of dried or salted fish are attested.<sup>8</sup> It seems that the privileged individuals ate different kinds of fish in Krokodilo. Generally, the proportion of seafood represents 6.5% of the faunal remains in Krokodilo (Fig. 4). This is a small proportion

<sup>1</sup> *O.Krok.* II 211, 10 (Steios to Iulia; 98 – 138 CE); *O.Krok.* II 245, 5 (Apollos (?) to Priscus; 117 – 130 CE).

<sup>2</sup> Trans. Bülow-Jacobsen.

<sup>3</sup> Trans. Bülow-Jacobsen.

<sup>4</sup> Leguilloux, “The Exploitation of Animals”, 37.

<sup>5</sup> 1.22 “ἀπὸ Π[έρ]σου ἠνέκθ(ησαν) (l. ἠνέχθ(ησαν) κεστρεῖς ι δι{α} Σαβεῖνο(υ) ὄραν (l. ὄραν)”.

<sup>6</sup> 1.24 ἠνέκθ(ησαν) (l. ἠνέχθ(ησαν) ἀπὸ Π[έρ]σου σκάροι δ διὰ Πετρωνίου ὄραν ε ἡμέρα{ι}ς; ll. 28-29: [ἠ]λθε (l. [ἠ]λθον) ἀπὸ Πέρσου Οὐαλέρις καὶ Δομίτις μετὰ [ὀ]ψαρίων γ σκάρων

<sup>7</sup> 1.39 ὀψάρια ἀπὸ Πέρσου διὰ Πετρωνίου ἠνέ[χθ]η ὄραν [ . . .?].

<sup>8</sup> E.g., *O.Krok.* II 207, 16-18 (A letter from Antoninus to Clemens; 98– 117 CE) ἔπεμψά σοι τε μάχια β διὰ Πάκοιβις ἐχθές.

in comparison to stations like Persou or Myos Hormos, since Krokodilo is farther from the sea. It is around 111km from the coast of the Red Sea.<sup>1</sup>

Wheat, barley, and straw would arrive in large quantities from the Nile valley to the stations. Unofficially, evidence of wheat exchange appears in a letter (*O.Krok.* II 215; 98 – 117 CE) addressed from Maximus to Papirius asking him to send  $\frac{1}{2}$  *artaba* of wheat, as he sold his own wheat, ll. 29-32 Πένψις (l. πέμψεις) μοι τὸ εἴμαρτάβιν (l. ἡμαρτάβιον) τοῦ σίτου· ἐπώλησον (l. ἐπώλησα) τὸν σίτον τὸν ἦχον (l. εἶχον). Wheat is mentioned frequently in unofficial documents (*O.Krok.* II 193, 21; *O.Krok.* II 330, 10 (Trajan/Hadrian), while barley, which is the food of the pigs, is rarely attested. *O.Krok.* II 162 (Philokles to Sknips; 98 – 117 CE) mentions barely as a food for pigs, ll. 16-19 [-ca.?-]ρισιν εἶνα (l. l. ἴνα) [τὰ χ]οιρίδια τρώ[γωσ]ιν τὴν κρι[θίν].

Several requests for bread in large quantities are mentioned in the letters from Krokodilo. These calls are mainly from the station in Persou, where the oven was broken down sometime. Each station is supposed to have a mill and an oven for official use.<sup>2</sup> From the letters, it seems that bread is locally made by individuals as well. For example, in *O.Krok.* II 193 (Reign of Trajan/Hadrian), Menandros, the sender, asks Gallonia, the receiver, to buy half an *artaba* of wheat in Krokodilo and turn it into bread, ll. 19-24 ἐὰν δύνῃ, τέκνον, ἐκεῖ εἴμαρτάβιν (l. ἡμαρτάβιον) σείτου (l. σίτου) ἀγοράσαι καὶ ἀρτίδια ἡμεῖν (l. ἡμῖν) ποιῆσαι ἐκεῖ, καλῶς ποιήσεις (l. ποιήσεις), τέκνον, “If you can, my child, buy half an *artaba* of wheat there, and turn it into bread for us, that would be nice, my child”.<sup>3</sup> The bread was not always made for free. In another letter (*O.Krok.* II 188; Reign of Trajan) the same Menandros and Gallonia, the senders, ask Kapparis and Didyme, the receivers, to write to him if he made bread so that he could send the money, ll. 7-12 ἢ (l. εἰ) πεποίηκός (l. πεποίηκας) μοι ἄρτους, γράψον μοι εἶνα (l. ἴνα) σὺ (l. σοῖ) πέμψω τὸν χαλκόν. εἰ μὴ πεποιηκός, ποιήσεις (l. ποιήσεις)· ἀναγκαίως ἐρῖ<ς> (l. ἐρεῖ<ς>) Σκίφι, “If you have made bread for me, write so that I can send you the money. If you have not made it, do so. You must tell Sknips”.<sup>4</sup> Money was not paid only for bread. For instance, in a letter from Maximus (*O.Krok.* II 215; 98 – 117 CE), he informs Papirius, the receiver, that he will find a stater’s worth of vegetables, which he probably ate from him, ll. 12-14 εὐρίσις (l. εὐρήσεις) στατήρος λάχανα ἔφαγον παράσου.

However, these were not the only kinds of foodstuffs used to be eaten in Krokodilo. In the account of food and wine mentioned above (*O.Krok.* II 235; 98 – 117 CE). The following foodstuffs were listed: suckling pig meat, mixture of meat, sausage, beets, broken grain, cabbage, beets, and pumpkin, ll. 2-11 κς ἰς (l. εἰς) δελφάκην (l. δελφάκειον) κρέας κς ἰς (l. εἰς) μεσκελλανειν (l. μισκελλάνιον) κρέας κθ ἰς (l. εἰς) μισκιλλανειν (l. μισκελλάνιον) κρέας — ἀλλαντίων ἀνήλωμα μετὰ σεύτλου δ μετ’ ἐρεγμοῦ δ μετὰ κράμβης δ μετὰ σεύτλου δ α μετὰ κολοκυνθίου δ. The mixture of meat and sausage is not mentioned anywhere else in the ostraca from Krokodilo. Notable,

<sup>1</sup> Leguilloux assures that fish was available in the stations, which are far from the Red Sea, but it is hard to tell from the remains of the fish in these stations whether they were dried, salted, or fresh fish from the Red Sea, Leguilloux, “The Exploitation of Animals”, 59, 62.

<sup>2</sup> The mill in Krokodilo was also broken down sometime, as appears from *O.Krok.* I 14 (22. Jan. 109 CE).

<sup>3</sup> Trans. Bülow-Jacobsen.

<sup>4</sup> Trans. Bülow-Jacobsen.

sausage is mentioned in two documents dated during the Roman period from unknown places (*P. Oslo* III 152, 9, letter from Dionysius to his father Philonicus; first/second cent. CE, καὶ ἀ[λ]λάντια [ἐ]ξ; *SB* XVIII 13766, 30, account; second/third cent. CE, κρέως καὶ ἀλλαντ(ίων) (δραγμαὶ) ιβ). This is likely the first and only attestation of it in the Eastern Desert. The account (*O.Krok.* II 235) also includes expenditures for vegetables and wine jars, ll.12-20 ἀνήλωμα κεραμίων κε οἱ ἵππεῖς ἡ Φιλοκλῆς ε αὐτῷ β πρὶν ἐξέλθῃ αὐτὸς Μαξιμιαν(οῦ) κεράμια δ ὁ ἐπιθέτης β οἱ ἐπιμεληταὶ β αὐτὸς ἀνεκάλυψε α, “expenditure of 25 amphoras: the horsemen (took) eight, Philokles (took) six, for himself two, before he himself left Maximianon (he took) four amphoras, the epithetes (took) two, the overseers (took) two, he himself opened one”.<sup>1</sup> As I mentioned before, it has the name of Philokles, and perhaps it belongs to him. If this suggestion is correct, perhaps, Philokles owns a place where he offers special food to his clients in Krokodilo.

### Drinks and liquids

As for drinks and liquids, oil and wine were provided to the soldiers by the curators of the *praesidia* as part of monthly rations.<sup>2</sup> In Mons Claudianus, the quartermaster, or *kibariates* administrated the monthly provisions and salaries of the soldiers. A large number of receipts for wheat, oil, and lentils were issued in advance to the *familia*.<sup>3</sup> Wine rarely appears either in official or unofficial letters from Krokodilo. However, there were several calls for sending and receiving jars of wine, or κεράμια in letters.<sup>4</sup> They mainly appear in letters belonging to Philokles. Moreover, in the account, which perhaps belongs to Philokles, 25 jars of wine were listed. This is perhaps another piece of evidence of the variety in the local trade of Philokles. The attestations of oil are also frequent in letters.<sup>5</sup>

### The stations and sources which supplied Krokodilo

As appears from documents, Krokodilo was supplied with foodstuffs from the stations of Persou and Phoinikon, the Red Sea, and the Nile Valley. Many kinds of foodstuffs are sent from Persou to Krokodilo, such as cabbage, purge-plant, rue, pennyroyal, leeks, beet, lettuce, chicory, vegetables, and basil. Persou was near Krokodilo, about 27km apart. Therefore, food would not wither. The victuals that are sent from Phoinikon in letters are beet, onion, vegetable, cabbage, lentil, asparagus, pennyroyal, purge-plant, date, grape, cheese, and oil. Some of these must come from the Nile valley, such as onions, lentils, garlic, fenugreek, and perhaps cheese. Definitely, the amounts of oil mentioned in letters from Phoinikon also arrived from the Nile Valley. The caravan, which comes monthly from the Nile Valley to the Eastern Desert,

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<sup>1</sup> Trans. Bülow-Jacobsen.

<sup>2</sup> Leguilloux, “The Exploitation of Animals”, 23.

<sup>3</sup> Intro. to *O.Claud.* III, 59; Hélène Cuvigny, “The Amount of Wages Paid to the Quarry-Workers at Mons Claudianus,” *The Bulletin of the American Society of Papyrology*, 86 (1996): 140.

<sup>4</sup> E.g., *O.Krok.* II 152, 31-32 (Philokles to Kapparis; 98– 117 CE); *O.Krok.* II 192, 4-5 (Sknips to Domittius; 98– 117 CE); *O.Krok.* II 298, 6 (Ischyra to Philokles; 98– 117 CE).

<sup>5</sup> E.g., *O.Krok.* II 166, 5-6 (Philokles to Antonius; 98– 117 CE); *O.Krok.* II 192, 9 (Sknips to Domittius; 98– 117 CE); *O.Krok.* II 199 (Philoteria to Moukakinthos; 98– 117 CE); *O.Krok.* II 215, 21-22 (Maximus to Papirius; 98– 117 CE); *O.Krok.* II 216, 7-8 (Petronas to Apolinarios; 98– 117 CE).

brought different things to the stations in the desert.<sup>1</sup> We know from letters that it was used to transfer items unofficially, as in *O.Krok.* II 158, 6-8, Philokles, Sknips, and Hegemones to Kapparis and Didyme; 98 – 117 CE, ἄν παρένθη (l. παρέλθη) ἢ πορεία πένψω σὺ (l. πέμψω σοι) [...], “when the caravan comes, I shall send ... ..”;<sup>2</sup> *O.Krok.* II 272, 7-8, N.N to Iulius Maximus; first half of the reign of Hadrian, ἔπ]εμψε ἔλεν (l. ἐλαίον) διὰ τὴν [πορείαν ·], “he sent oil through the caravan”. This happens in other stations such as Mons Claudianus, as in e.g., *O.Claud.* II 245, 1-13 (Petenephotos to Valerius; mid-second cent. CE).<sup>3</sup> Fish mainly come from the Red Sea. However, salted or dried fish may come from the Nile Valley. Officially, the caravan coming from the Nile valley supplied Krokodilo with various victuals. Military men received provisions of rations of wheat, oil, and wine. The provisions for Krokodilo seem to be available either officially or unofficially from different sources.<sup>4</sup>

### How were foodstuffs, drinks, and liquids transported?

Documents show that foodstuffs were transported officially by horsemen. As appears from the postal register of Krokodilo (*O.Krok.* I 1; after (?) 28. March 108 CE) in which fish was transferred by horsemen. It was transferred separately or together with *diplomata* or the circulation of letters.<sup>5</sup> As discussed earlier, the caravan supplied the station officially, perhaps with camels and donkeys.

Unofficially, either privately or for business, foodstuffs were transported by various carriers and means of transportation. Evidence shows that donkeys (e.g., *O.Krok.* II 272; 117– 130), waggons (e.g., *O.Krok.* II 216; 98– 117 CE), and also the caravan carried foodstuffs (e.g., *O.Krok.* II 158; 98– 117 CE; *O.Krok.* II 272; 117– 130 CE; *O.Krok.* II 282; 316; 98– 117 CE). The horseman (e.g., *O.Krok.* II 265; 266; 117– 130 CE; *O.Krok.* II 267; 98– 117 CE; *O.Krok.* II 269; 110– 117 CE), the wagoner (e.g., *O.Krok.* II 200; 108– 109 CE; *O.Krok.* II 276; *O.Krok.* II 277; 117– 130 CE; *O.Krok.* II 315; 98– 117 CE), the donkey driver (e.g., *O.Krok.* II 189; 98– 117 CE), the conductor (e.g., *O.Krok.*

<sup>1</sup> Marijke Van der Veen and Sheila Hamilton-Dye, “A Life of Luxury in the Desert? The Food and Fodder Supply to Mons Claudianus,” *Journal of Roman Archaeology*, 11 (1998): 109. Also Colin Adams, *Land Transport in Roman Egypt: A Study of Economics and Administration in a Roman Province* (Oxford: Oxford University Press, 2007) 210.

<sup>2</sup> Trans. Bülow-Jacobsen.

<sup>3</sup> Πετενεφ[ώτης Οὐαλερίω] τῷ ἀδελφῷ πο[λλὰ χ(αίρειν). καλῶς] πηήσις (l. ποιήσεις), ἀδελφε, ἐὰ[ν ἔλθη] ἢ πορήα (l. πορεία) τῇ νυκτὶ ταύτῃ ἴπέμψας μοι/ τρία ζεύγη ἄρτων ἐπὶ οὐκ ἔχο (l. ἔχω) ἄρτους καὶ ὅταν ἔλθη ἢ πορήα (l. πορεία) πέμψω σὺ (l. σοι) αὐτά. ἀσπάζομε Κολοφονήν. καλῶς πηης (l. ποιήσεις), ἀδελφε, ὅταν ἔλθη ἢ πορήα (l. πορεία) ἔτησον (l. αἴτησον) τὸν (l. τὸν) χαλκὸν τον (l. τῶν) τασκου καὶ πέμψης (l. πέμψεις) με (l. μοι) τὰς ἄλλα(ς) (δραχμάς) θ ἵνα πληρωθῆς ὦν μοι ἔδωκας. ἔρρωσ(ο), “Petenephotos to Valerius, his brother, many greetings. Please, brother, if the caravan arrives tonight, send me three pairs of bread, as I do not have any bread and when the caravan arrives, I shall send them to you. I greet Kolophonos. Please, brother, when the caravan arrives demand the money for the taskou and send me the remaining 9 drachmas so that you are paid in full for what you gave me. Farewell.” Trans. Bülow-Jacobsen.

<sup>4</sup> Leguilloux, “The Exploitation of Animals”, 23, 64.

<sup>5</sup> Il. 22 ἀπὸ Π[έρ]σου ἠνέκθ(ησαν) (l. ἠνέχθ(ησαν) κεςτρεις ι δι{α}ὰ Σαβεῖνο(υ) ὄραν (l. ὄραν); I. 24 ἠνέκθ(ησαν) (l. ἠνέχθ(ησαν) ἀπὸ Π[έρ]σου σκάρου δ διὰ Πετρωνίου ὄραν ε ἡμέρα{ι}ς; Il. 28-29 [ἡ]λθε (l. [ἡ]λθον) ἀπὸ Πέρσου Οὐαλέρις καὶ Δομίτις μετὰ [δ]ψαρίων γ σκάρων·; I. 39 ὀψάρια ἀπὸ Πέρσου διὰ Πετρωνίου ἠνέ[χθη] ὄραν [ ...?].

II 239; 117– 130 CE), individuals, and the carries of letters transferred foodstuffs (e.g., *O.Krok.* II 278; 117– 130 CE; *O.Krok.* II 322; 98– 117 CE).

In a letter dated to the reign of Trajan, it is very interesting that the curator is the person from whom Ischyras, the sender of the letter (*O.Krok.* II 320) received a bag of *sebesten* and dates. He acknowledges this to Parabolos, the receiver, ll. 4-7 ἔλαβα παρὰ τοῦ κουράτορος μαρσίππιν (l. μαρσίππιον) μυζαρίον (l. μυζαρίων) κα[ὶ] φοινικίων.

### Conclusion

To conclude, while there is diversity in the food supplied to Krokodilo, the variety of beverages is limited. In general, cereals, legumes, various vegetables, some fruits, wine, and oil, in addition to some meat and fish, were the elements of the diet of the people in Krokodilo. The females who have taken part in the unofficial process of the food supply are almost all from the Philokles network. Sausage and a mixture of meat are mentioned in the account, which likely belongs to Philokles. It also seems that Philokles has a place in Krokodilo to offer special food to his clients in the desert. He may have chosen Krokodilo because it is an important and central station on the road of Koptos-Myos Hormos.

Besides the official provisions of the station, it is obvious that both civilians, such as Philokles, and military men, such as Apollos, supplied victuals to the individuals in the station as part of the local trade. This variety of foodstuffs and the ways of supplying them can be attributed to the intermediate position of Krokodilo on the road of Koptos-Myos Hormos. This also confirms the good quality of the inner economic system of one of the important stations in the Eastern Desert.

Figures and Maps

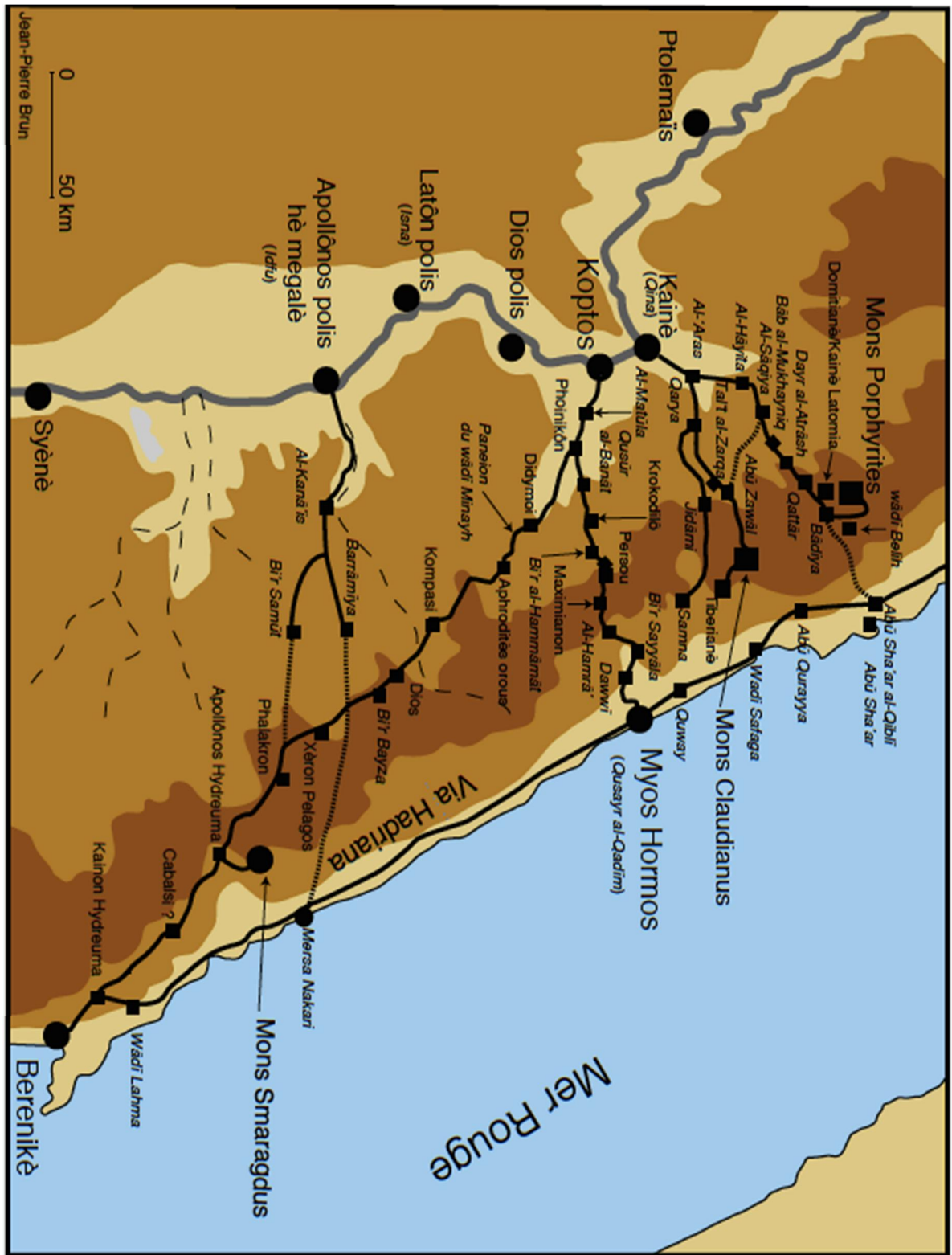


Figure 1: Map of the sites and the main roads of the Eastern Desert. (© J.-P. Brun).



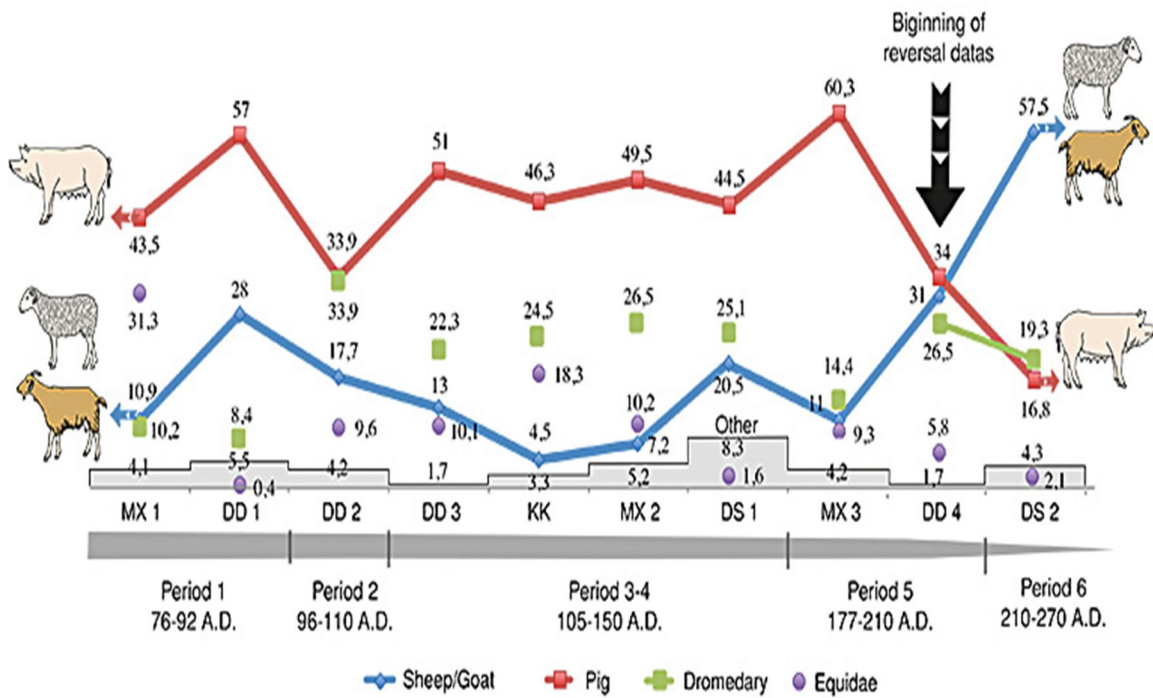


Figure 2: Faunal remains in Krokodilo and other stations (© M. Leguilloux). Taken from Leguilloux (2018).



Figure 3: The aligned shape of pigsties from the external dump of Krokodilo (© J.-P. Brun). Taken from Leguilloux (2018).

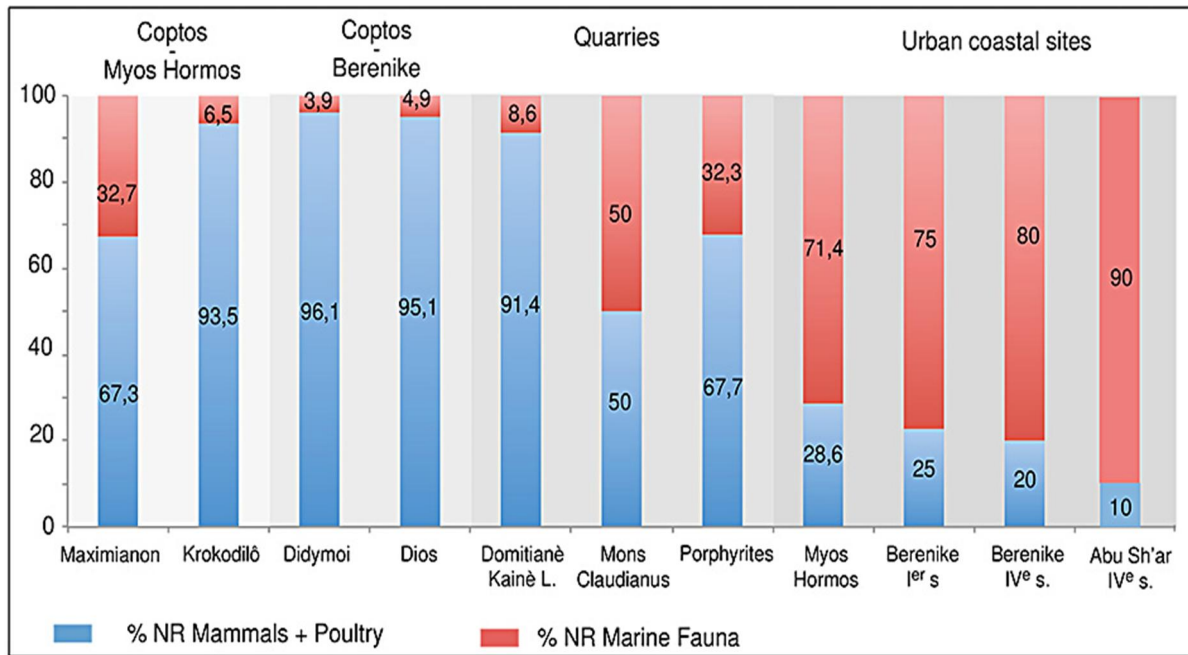


Figure. 4: Marine faunal remains in Krokodilo and other stations in comparison to poultry and mammals remains (© M. Leguilloux). Taken from M. Leguilloux (2018).

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