

### CHAPTER THREE

## THE COINS

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Of the 150 coins discovered during the excavations, 85 belong to the metalwork hoard (see discussion below) and 65 are isolated coins retrieved during the excavation.\*

Of the isolated coins (Pl. 3.1), almost half predate the main occupation strata excavated at the site (of the Umayyad–Abbasid and Fatimid periods). Worthy of mention is an autonomous Seleucid coin from Tyre (No. 1). The rest (Nos. 2–27) constitute a wide and continuous range of Roman–Byzantine bronze coins from the first to sixth centuries CE. They include a coin of the procurator Ambibulus (No. 2), Roman Provincial issues minted in Caesarea (Nos. 3, 5) and an *antoninianus* of Salonina (No. 6). The coins dated to the fourth–fifth centuries are conventional issues that merit no further discussion. Among the Byzantine material is a small *folles* of Anastasius I (No. 23), dated to the first phase of his monetary reform (498–512 CE). This whole assemblage is related to fills and collapse layers that reach a depth of ca. four meters below the surface. Under this layer remains from the Roman–Byzantine periods were revealed.

The Islamic material is divided into two main groups that correlate to the two main occupation strata: Umayyad and Abbasid coins of the eighth–ninth centuries (Nos. 28–56) and Carmathian and Fatimid coins of the tenth–eleventh centuries (Nos. 57–64). Some of the Umayyad coins originate

from a thick layer of destruction related by the excavators to the earthquake that struck Tiberias in 749. Among the Umayyad material we include four Arab–Byzantine transitional coins (Nos. 28–31) and two pre-reform anonymous *fulūs* minted in Tiberias (Nos. 32–33). The group of post-reform Umayyad *fulūs* is quite diverse (Nos. 34–45). Worthy of mention is a *fals* minted at Ḥimṣ and dated to 734/735 (No. 34). Eleven Abbasid coins were discovered, most of them anonymous types made by casting (Nos. 46–56).

The Carmathian and Fatimid coins are related to the latest and most relevant layer excavated in the site. The four Carmathian coins are silver or billon *dirhams* (Nos. 57–60). Coin No. 57, minted by Al-Ḥasan ibn Aḥmad citing the caliph Al-Muṭṭiʿ, is dated to 970–974 CE. About the same time, ca. 975, the Carmathians (who were allies of the Byzantines), led by Al-Fatajin and Shibal haUqaili, took the city of Tiberias from the Fatimids (Gil 1983: 286). It seems likely that the coin was brought to the city during this event.

Four Fatimid coins (Nos. 61–64) were discovered in the excavation, two of which belong to Al-Mustansir billāh (AH 427–487/1036–1094 CE; Nos. 63–64). Coins of this ruler were also found in the hoard of bronze vessels.

Finally, a sole late Byzantine anonymous *folles* of class B, dated to 1030–1035/1042(?), was discovered in the excavation. Thirty copper coins of the same class were discovered in the hoard of bronze vessels. The character of this coinage will be discussed below. It is, however, difficult to establish whether this coin was originally associated with the assemblage from the hoard.

\* The coins were cleaned by M. Lavi and photographed by G. Laron, both of the Institute of Archaeology of the Hebrew University of Jerusalem. The Islamic coins were identified by A. Berman. The non-Islamic coins were identified, and the discussion of the coins from the hoard was prepared, by G. Bijovsky.



Pl. 3.1. Isolated coins.

## THE HOARD

Gabriela Bijovsky

The hoard found in the metal workshop in Tiberias included 85 coins (Pls. 3.2–3.8). The coins were found in two of the three large pottery vessels that contained the hoard: that buried below the floor of the central room (Hoard C) and that hidden in the small storeroom (Hoard A). The coin finds in both containers, like the bronze objects, are homogeneous and are therefore considered together for the purposes of this study.

The numismatic evidence coming from these containers is of extreme importance. Based on the dates of the coins, the deposition of the whole hoard can be dated to the second half of the eleventh century, during the Fatimid period in Palestine. The latest coins in the hoard are a bronze *folles* of emperor Michael VII (1071–1078) (No. 83) and two undated billon coins of the Fatimid ruler Al-Mustansir billāh (1036–1094) (Nos. 84–85). Therefore, the hoard could not have been deposited before the seventies of the eleventh century. As will be explained below, this period was characterized by turbulent events associated with the Seljuq conquest (1070–1078), almost three decades before the arrival of the First Crusade in 1099.

The analysis of the coins complements the chronological conclusions from the study of the vessels and objects in the hoard, which are based primarily on stylistic considerations. Even while this chapter is dedicated to the numismatic study, the coins should always be regarded as part of the whole context of the hoard.

### GENERAL DESCRIPTION

The coins in the hoard are classified into three groups: 1) Coins predating the tenth century (Nos. 1–8); 2) late Byzantine “signed” and anonymous *folles* from the eleventh century (Nos. 9–83), and 3) Islamic coins (Nos. 84–85). The breakdown of the hoard is illustrated in Fig. 3.1.

The first group consists of eight coins: two Roman Provincial bronzes (Nos. 1–2), a *folles* of Justin I (No. 3), two coins of Justin II (Nos. 5–6), a *folles* of

Heraclius (No. 7) and another sixth-century coin (No. 4). The last in this group is an Arab-Byzantine coin from the second half of the seventh century (No. 8). All of them are completely worn.

Most of the coins belong to the second group, dated from the end of the tenth century to the second half of the eleventh century CE. The bulk of the group consists of 59 well-preserved anonymous *folles* (Nos. 9–67). In addition, there are 15 *folles* dated to emperor Constantine X (1059–1067) (Nos. 68–82) and a single *folles* of Michael VII (1071–1078) (No. 83), the latest Byzantine coin in the hoard.

The third group consists of two badly preserved billon coins of the Fatimid ruler Al-Mustansir billāh (Nos. 84–85). These coins bear no dates, making it impossible to determine whether they were minted early or late in his long rule (1036–1094).

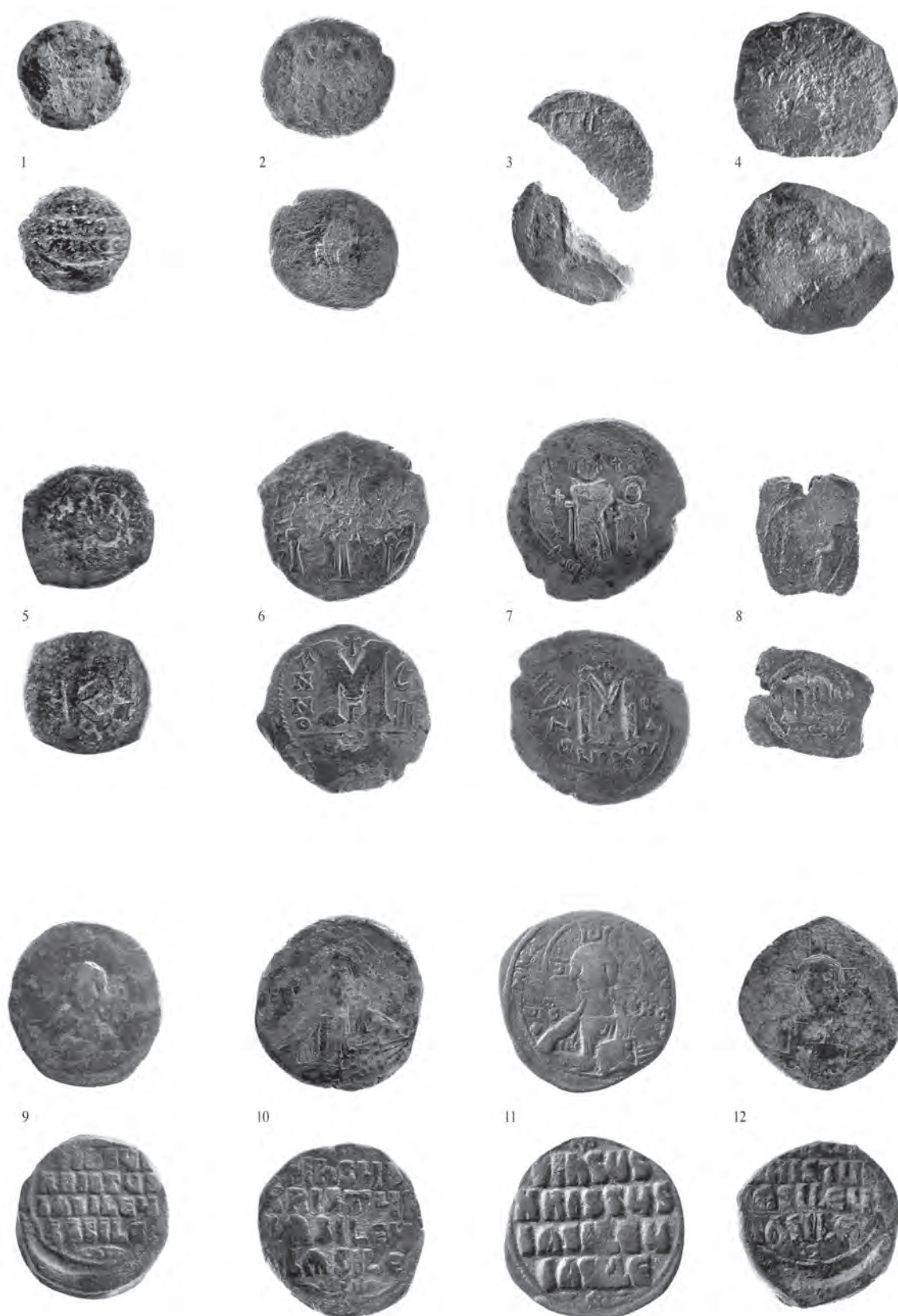
This discussion concentrates on the study of the second group. Only the four earliest classes of anonymous *folles*, classified according to Grierson (*DOC* 3/2), are present in the hoard (Table 3.1).

Although the minting of the anonymous *folles* has been discussed extensively in the past (Bellinger 1928; Thompson 1954; Whitting 1955; *DOC* 3/2), it is worth reviewing here some of their main features:

- They are defined as “anonymous” since they bear no names or dates of the emperors who issued them. Given that no “signed” *folles* are known from a sequence of eleven rulers, from John I Zimisces to Isaac I (969–1059), the whole series is attributed to this period.

Table 3.1. Anonymous *folles* in the hoard.

Class	Date	No. of coins
A2	976(?)–ca.1030/1035 CE	7
B	1030/1035–1042(?) CE	30
C	1042(?)–1050 CE	20
D	ca. 1050–1060 CE	2
<b>Total</b>		<b>59</b>



Pl. 3.2. Coins from the hoard.





Pl. 3.3. Coins from the hoard.



Pl. 3.4. Coins from the hoard.



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Pl. 3.5. Coins from the hoard.



Pl. 3.6. Coins from the hoard.



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Pl. 3.7. Coins from the hoard.



Pl. 3.8. Coins from the hoard.

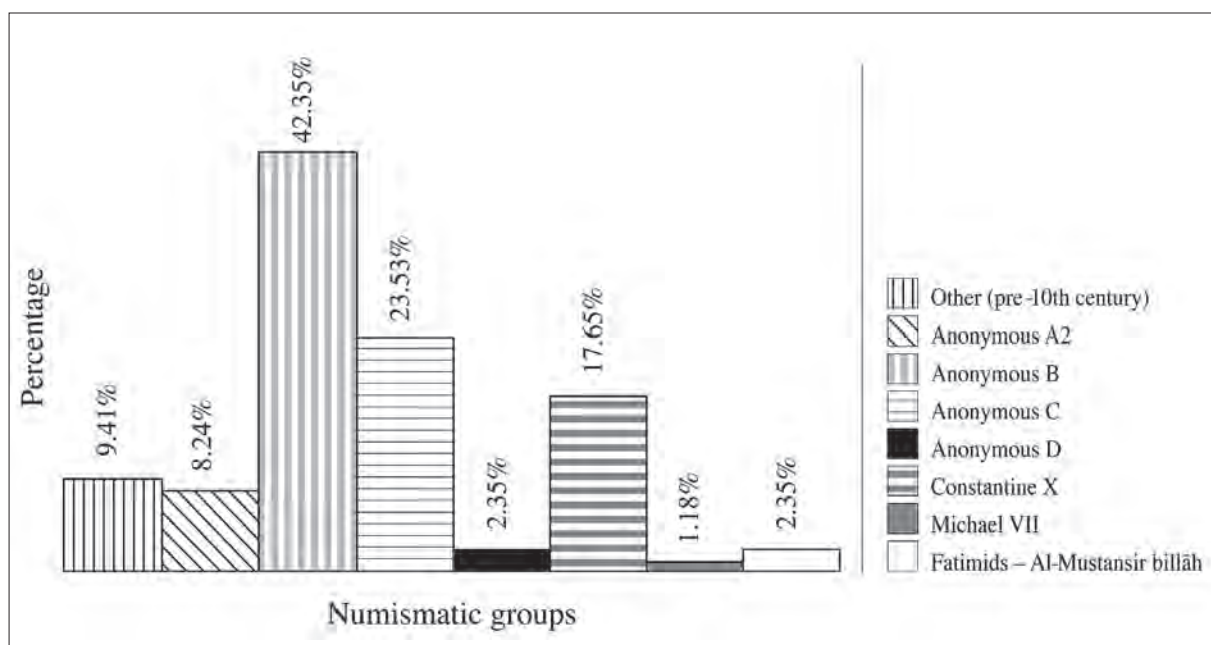


Fig. 3.1. Breakdown of the hoard according to numismatic groups.

- According to literary sources, the series of anonymous *folles* was initiated by the usurper John I Zimisce, ca. 970 CE.<sup>1</sup>
- A sequence of fifteen different classes or subtypes of anonymous *folles* was defined by Grierson (*DOC 3/2*: 635 ff.).
- Both sides of the anonymous *folles* are dedicated to religious subjects. On the obverse all the coins bear the effigy of Christ, while the reverse of classes A–F depicts variations of the formula “Jesus Christ, King of Kings” and the later classes have either a bust of the Virgin or a variation of the cross.
- Interestingly, the coins show a complete absence of personal imperial propaganda throughout the series. It is generally agreed that the main motives for the issue of this series were the need for Christian propaganda in a time characterized by war against the Saracens and a high level of religious fervor (*DOC 3/2*: 635).<sup>2</sup>
- The assumption that the mint of this series was exclusively Constantinople is unproven; on the contrary, it seems likely that a number of mints were involved (*DOC 3/2*: 640–643).
- Anonymous *folles* are made of copper rather than bronze.

### CHRONOLOGY AND RESTRIKING

The assignment of each class of anonymous *folles* to a particular emperor has been determined by the analysis of overstriking and style. As is also evidenced by most of the coins in our hoard, anonymous *folles* were overstruck on earlier issues, in many cases more than once. In her comprehensive study of the coins from the Athenian Agora, M. Thompson assigned a separate anonymous class (or classes, as corrected by Grierson; see below) to every emperor from John I to Constantine IX. She concluded (Thompson 1954: 114) that anonymous *folles* were introduced first as a substitute for and later as a supplement to the “signed” bronze coinage. From the reign of Constantine X onward, “signed” coinage was reintroduced. Yet the minting of anonymous *folles* did not stop: “signed” bronzes of this emperor and his successors (Romanus IV, Michael VII, Nicephorus III and Alexis I) are found overstruck by new anonymous types, indicating that these later emperors struck both types contemporaneously (Hendy 1969: 78). Thompson’s chronology also took into consideration the proportions of coins found in the Agora, where a reasonable correlation between the quantities of the coins and the length of each individual reign was found. Grierson, however,



Table 3.2. Restriking of anonymous *folles* from the hoard at Tiberias.

Class	Restriking
A2	No overstriking
B	7 coins overstruck on Class A2
C	9 coins overstruck on Class B
D	2 coins overstruck on Class C
Constantine X “signed” <i>folles</i>	1 coin overstruck on Class A2 1 coin overstruck on Class B 1 coin overstruck on Class C 7 coins overstruck on unclear class
Michael VII “signed” <i>follis</i>	1 coin overstruck on unclear class

considered the attribution of each class to specific emperors to be only approximate (*DOC* 3/2: 637).

Another important conclusion drawn by Thompson was that the patterns of overstriking in both anonymous and “signed” *folles* were highly consistent. She noticed that the majority of restruck pieces used flans of the issue directly preceding them (1954: 115). This pattern is also found in the hoard from Tiberias (Table 3.2).

The “signed” coins of Constantine X prove that in his reign there was a wide diversity of overstriking. The issue of a new class did not automatically bring about systematic official withdrawal of the preceding type. Basing himself on earlier hoard evidence, Grierson concluded that overstriking was not the instrument of government policy (*DOC* 3/2: 637–639).

### TYPOLGY AND METALLURGY

In the next paragraphs, the different classes of late Byzantine *folles*, both anonymous and “signed,” in the hoard will be presented in short. As shown in Table 3.1, only the first four classes of anonymous *folles* are represented: A2, B, C and D. All these types predate the “signed” issues by Constantine X (1059–1067). It is likewise interesting to note the contemporaneous classes that are lacking from the hoard in Tiberias: anonymous *folles* of classes E and F, also assigned to Constantine X (1059–1067); class G, associated with Romanus IV (1068–1071); and class H, related to Michael VII (1071–1078). As stated before, a “signed” coin of this last emperor

closes the chronological sequence of the hoard. The totals of coins of each class found in the hoard reflect the volume of production of each type, with the exception of class A2, of which only seven coins were found at Tiberias, although they usually appear in coin hoards in large numbers (see below). There is still no consensus on the chronology of each class, and here we will follow Grierson’s scheme without noting alternative datings suggested by others. For the sake of comparison, Tables 3.3 and 3.4 below present the finds in Israel and abroad respectively for each class.

### Class A2

Only seven coins of this class (Nos. 9–15) were found in Tiberias, although this is generally the commonest of all the classes. Class A2 is the only group that lacks traces of restriking; it is found in a wide variety of issues, styles and weights struck on good new flans (51 varieties according to Bellinger 1928: 11–12; W. Metcalf 1976: 110–111, Table I).<sup>3</sup> This phenomenon might suggest a number of different provincial mints (D.M. Metcalf 1965), chronological issues (Morrisson 1970: 585; *DOC* 3/2: 644–646) or, more specifically, minor monetary reforms under Basil II and his brother Constantine VIII that affected the issues of copper coins (Ivanišević 1989: 20). The varieties were then classified into nine groups, according to style and frequency as site finds (D.M. Metcalf 1970: 202–204; W. Metcalf 1976: 120, Table II).<sup>4</sup> All seven coins of class A2 discovered at Tiberias are related to those groups that appear with greater frequency in eastern Anatolia and Syria (W. Metcalf 1976: 122–123): the “metropolitan” group ii (coin No. 9), group iv (coin No. 10) and group vi (Nos. 11–15), as opposed to groups more prevalent on the Greek mainland. These appear to be the most popular varieties, as attested from finds at other sites, such as the Mardin hoard.<sup>5</sup> Thus, the finds at Tiberias are in accordance with the traditional geographic distribution of the groups.

### Class B

This class is the largest in the hoard with 30 coins (Nos. 16–45). Evidence of overstriking

places it immediately after class A2. The weight standard diminishes from this class onwards and is approximately 13 gr. (*DOC* 3/1: 71). Nevertheless, all the specimens found in the Tiberias hoard are much lighter (range 11.74–5.28 gr.), probably due to their worn condition and prolonged use. Although the variations in type are very few, the number of dies in use is enormous. There are significant differences between the sizes of the flans and of the lettering. As also evidenced by the exemplars from our hoard, many coins are made from large irregularly shaped flans with clumsy letters (Nos. 24, 28, 39), or in contrast small flans for the types (Nos. 30, 40, 45). In some cases the die itself is of poor quality; in No. 17 the cross-bar is asymmetric (an imitation?), while other coins present a confusion of letters in the reverse inscription, with the use of “T” instead of “L” being quite common (Nos. 17, 19, 29, 41). Massive quantities of coins from this type are attested from other coin finds, such as the Mardin hoard (1050 coins; see also Tables 3.3 and 3.4), reflecting the popularity of this common series (Lowick et al. 1977: 21).

### **Class C**

On the basis of the striking pattern, this class follows class B. Twenty class C coins were discovered in the Tiberias hoard, making the class the second most numerous after class B (Nos. 46–65). As seen in Tables 3.3 and 3.4, this class is still very common. However, a general trend of decrease in the number of issues in comparison to the two previous classes is discernible. This class is quite uniform, except for the variations in the number of jewels used to decorate the reverse cross (4, 5, 6 or 7 jewel stones). The fabric of most specimens in the hoard is poor, primarily because of repeated overstriking (No. 65) and irregular flans (Nos. 46, 52, 59).

### **Class D**

The two class D coins found in the hoard from Tiberias (Nos. 66–67) were both restruck on issues of class C, reinforcing the sequence link between both classes. As shown in Tables 3.3 and 3.4, a large drop in numbers is discernible. The data from coin

finds suggest that class D was officially a much smaller issue, as also evidenced at Tiberias (see also Lowick et al. 1977: 24).

### **The “signed” issues**

#### *Constantine X (1059–1067)*

As stated above, this emperor reintroduced the use of “signed” bronze coinage. His mint was indeed productive (Whitting 1955: 99, Appendix A). Constantine X minted two types in his name; only one of them appears at Tiberias, of which 15 pieces are registered (class 1, Nos. 68–82). This is the type depicting the figures of Constantine and Empress Eudocia standing. It appears to be the earlier type, since many of the coins of the second type, which bear an inscription as reverse, have been overstruck on coins of the “imperial couple” type. Besides these series, two anonymous classes are attributed to Constantine X based on examples of overstriking: anonymous class F (Thompson 1954: 114) and anonymous class E (*DOC* 3/2: 637; Lowick et al. 1977: 24–25). None of the three latter series appears in the hoard from Tiberias. The issue of four different series by the same emperor is quite exceptional, since other emperors issued only one class each. The question of why this emperor should strike two “signed” and two anonymous series in a reign of less than ten years remains unanswered. Even though class D was minted in relative small numbers, it is likely that the previous series (A1, A2, B and C) were still in wide circulation. As attested by the coin finds (see Tables 3.3 and 3.4), an overall increase in minting takes place under Constantine X. This is expressed by the number of classes and the increase in the number of coins. The wide range of weights of Constantine X *folles*, even within our hoard (No. 68: 16.38 gr.; No. 82: 4.69 gr.) is another sign of massive production. The reason for such a massive monetary issue is probably related to economic instability in the empire. The considerable number of 15 pieces in the hoard from Tiberias reflects this general picture.

After “signed” issues were re-introduced, Thompson observed a new pattern of striking, by which a new emperor withdrew his predecessor’s

“signed” issues from circulation by overstriking them with his own anonymous type. In her opinion, there was “less compulsion to withdraw anonymous pieces which carried no indication of authority” (1954: 115). In contrast, Grierson believed that the wide diversity of overstriking and the mixed character of hoards prove that coins remained in circulation for years and even decades (*DOC* 3/2: 637–639).

#### *Michael VII (1071–1078)*

Only one coin of this emperor (No. 83) was found in the hoard. It belongs to the “signed” type representing a bust of the emperor on the obverse and the bust of Christ on the reverse. The coin is an overstrike, but the under-type is not clear. No anonymous *folles* of class H, attributed to Michael VII, were included in the hoard. “Signed” coins of this emperor are quite uncommon (Whitting 1955: 99, Appendix A). Moreover, a glance at Tables 3.3 and 3.4 confirms the rarity of these issues among coin finds. This coin, together with the two billons of Al-Mustansir billāh, gives the *terminus post quem* for the deposition of the hoard.

Five coins from the hoard were chosen at random for metallurgical examination within the framework of the analysis of the metal objects by M. Ponting. In comparison to the artifacts from Tiberias, the copper of the coins is exceptionally pure, much more than was usual for copper destined for other purposes. For details, see the Appendix at the end of this chapter.

### COMPARATIVE MATERIAL

When studying the distribution of anonymous and “signed” *folles*, a distinction should be made between coin finds in Israel and abroad.

#### **Finds in Israel**

Late Byzantine coins of the eleventh century are rarely discovered in excavations in Israel, hence the importance of our hoard. Moreover, the overall number of individual coin finds in Israel is small in comparison to the number of coins in the Tiberias hoard. Forty-six coins of the types found in the

hoard are registered in the National Treasures of the Israel Antiquities Authority. Most are from archaeological excavations, while a few are stray finds. No other hoards have been discovered. Provenances of the coins are given in Table 3.3.<sup>6</sup>

Besides the material cited in Table 3.3, a *folles* of Romanus IV (1068–1071) is registered in the Kibbutz Palmachim collection (IAA 78862) and a *folles* of Nicephorus III Botaneiates (1078–1081) was discovered in excavations at Har Hotzevim, Jerusalem (IAA 48894). Two other coins of unknown origin are registered at the IAA: an anonymous *folles* of class I (ca.1075–1080, IAA 56868) and a *folles* of Isaac I (1057–1059, IAA 52806). Gold and silver Byzantine coins from this period are extremely rare.<sup>7</sup>

Most of the finds cited in Table 3.3 are single coins discovered in later contexts of the twelfth–thirteenth centuries. They appear with Crusader and European coins and Zengid, Seljuq and Ayyubid material. Most of these anonymous *folles* should be regarded as coins brought sporadically from distant areas by pilgrims, travelers, or even the Crusaders themselves. Consequently, the 75 late Byzantine coins of the second half of the eleventh century from Tiberias, found in a clear and undisturbed archaeological context, are quite exceptional (see below). Six additional anonymous (classes A and C) and Michael VII *folles* were recently discovered by Hirschfeld during the 2004–2005 season of excavations in Tiberias. Similarly to our hoard, these *folles* were found together with Fatimid coins from the reign of Al-Mustansir billāh.<sup>8</sup>

Also worth of mention is the complete lack of coins in the Fatimid metal hoard discovered in Caesarea in 1995. This assemblage, consisting of 120 brass and copper utensils, is very similar to the Tiberias hoard and was dated on stylistic and epigraphic grounds to the mid-eleventh century. According to Lester, the hoard probably belonged to a merchant who hid his property because of an imminent peril. However, in contrast to what one might have expected, no coins, whether Islamic or late Byzantine, were revealed among the metalware (Lester 1999: 36\*–41\*).



Table 3.3. Other coin finds within Israel of late Byzantine types present in the Tiberias hoard.\*

Type	Site/Provenance	IAA No.
<b>Class A2</b>	Khorazin	8073
	Shiqmona	73395
	Yad laGiborim (Petach Tikva)	74444
	Yaffa	83215
	Kibbutz Palmachim coll.	46855, 78801
	Nahariya Museum coll.	95906, 95908, 95911, 551818 (system no.)
	Unknown	52793, 52794, 52796, 52797, 52798
		<b>Total: 15 coins</b>
<b>Class B</b>	Banias	33408, 47026
	Caesarea	5224/9
	Beit Alfa Coll.	75126, 91891
	Yaffa	83231
	Jerusalem, Robinson Arch	81407
	Kibbutz Palmachim coll.	78860, 78861
	Kfar Menahem coll.	60361
	Tel Tanim	100449
	Unknown	52800, 74581, 74583
		<b>Total: 14 coins</b>
<b>Class C</b>	Banias	61596
	Bethsaida	545348 (system no.)
	Tiberias	26977
	Caesarea	62273
	Kibbutz Palmachim coll.	78802
	Nahariya Museum coll.	95907, 95909
	Unknown	52801
		<b>Total: 8 coins</b>
<b>Class D</b>	Akko	49334
	Tiberias	23908
	Kh. es-Sawamir (NE of Atlit)	88553
	Tiv'on (stray find)	88554
		<b>Total: 4 coins</b>
<b>Constantine X</b>	Khorazin	8065
	Unknown	52802, 52803
		<b>Total: 3 coins</b>
<b>Michael VII</b>	Kibbutz Palmachim coll.	78797
		<b>Total: 1 coin</b>

\* Two coins found in excavations in the Cardo of Nablus (see n. 6 below) should be added to this list: K14652 (class B) and K14646 (class C).

### Finds outside Israel

Most coin reports of late Byzantine material in the Levant were published many years ago and refer primarily to sites in the central areas of the empire (Greece and Turkey). The relative lack of publications during the last twenty years, especially from excavations in Jordan and Lebanon, is lamentable, in view of the fact

that they could provide more information about the circulation of anonymous and “signed” *folles* in the region. Fortunately, a recent study by Vorderstrasse presents an updated picture of Byzantine sites in the Antiochene region in Syria that is of great value to our research.<sup>9</sup>

Table 3.4 shows coin finds from several excavations and hoards of the late Byzantine

Table 3.4. Coin finds outside Israel of late Byzantine types present in the Tiberias hoard.

CLASS	Athenian Agora (Greece) <sup>1</sup>	Corinth (Greece) <sup>2</sup>	Sardis (Turkey) <sup>3</sup>	Yumuk Tepe (Turkey) <sup>4</sup>	Mardin Hoard (Turkey) <sup>5</sup>	Alalakh Hoard (Syria) <sup>6</sup>	Antioch <sup>7</sup>	Çatal Hüyük (Syria) <sup>8</sup>	Hama (Syria) <sup>9</sup>	Al-Mina (North Syria) <sup>10</sup>	Balis (Syria) <sup>11</sup>	Idalion (Cyprus) <sup>12</sup>
A2	519	825	40 (12+28)	3	1773	–	162	27	35	3	7	–
B	218	154	11 (6+5)	4	1050	12	125	41	50	4	16	1
C	154	96	7 (1+6)	–	1586	21	80	36	48	4	5	1
D	104	148	1	–	460	9	10	15	10	2	3	–
Constantine X	17 (28)	15 (20)	9 (4 +5)	4	1591 (2097)	24 (34)	49 (57)	32 (37)	44 (49)	7	6	–
Michael VII	7	4 (69)	2 (1+1)	1	164	2	1 (4)	4	–	4	3	–
<b>TOTALS</b>	<b>1030</b>	<b>1312</b>	<b>70</b>	<b>12</b>	<b>7130</b>	<b>78</b>	<b>438</b>	<b>160</b>	<b>192</b>	<b>24</b>	<b>40</b>	<b>2</b>

<sup>1</sup> Thompson 1954: 73, 109–115.<sup>2</sup> Edwards 1933: 138–141.<sup>3</sup> The totals include results of both the excavations held in 1910–1914 (Bell 1916: viii, 97–100) and those held in 1958–1968 (Bates 1971: Nos. 1131–1181).<sup>4</sup> Tekin 1998: 275–277.<sup>5</sup> Lowick et al. 1977: 15.<sup>6</sup> Mattingly 1939: 179–180.<sup>7</sup> Waagé 1952: 166–168.<sup>8</sup> Vorderstrasse 2005.<sup>9</sup> Hammershaimb 1969: 169.<sup>10</sup> Robinson 1937: 182–196; Vorderstrasse 2005.<sup>11</sup> Hennequin and al-'Ush 1978.<sup>12</sup> Nicolaou 1989: 456.

types that appear in our hoard. For the issues of Constantine X and Michael VII, in addition to the number of coins of the same type found at Tiberias, the total number of coins of each emperor (including their other *folles* types) is given in parentheses.

In addition to the evidence cited above, we should refer particularly to a number of anonymous *folles* discovered in excavations at Ein Dara (Area B), situated 98 km northwest of Aleppo in Syria (Alsirafi 1960: 88–102).<sup>10</sup> Neither the exact number of coins nor their description is given in the report, and for this reason they are not included in Table 3.4. However, photo No. 20 in the report depicts several anonymous *folles* of classes B and C from the excavation. No Islamic coins were found with them. Most interesting is the fact that the coins were discovered together with a group of metal utensils, similar to those found in the hoard from Tiberias: a lampstand, a mortar, scissors, bracelets and bowls. Besides, a number of bronze crosses were found, which probably suggest a Christian context. The ceramics and oil lamps found at the site are dated to the Abbasid and Fatimid periods. Also worthy of mention is a large jar, reminiscent of the containers of the Tiberias hoard. Both assemblages, Tiberias and Ein Dara, are quite similar in their components, though Ein Dara is

definitely not a hoard. Despite this, these Syrian finds provide us with other evidence for the fascinating and rare combination of Islamic-style metal utensils and late Byzantine coins.

### CIRCULATION OF THE ANONYMOUS FOLLES

The evidence collected in Tables 3.3 and 3.4 regarding coin finds in Israel and abroad should now be analyzed within the general framework of political and geographic boundaries of the Byzantine Empire during the eleventh century. Another issue to be considered is the currency of other coinages circulating contemporaneously with late Byzantine coinage.

Examination of Table 3.4 clearly shows that the highest concentration of single finds of anonymous and “signed” late Byzantine *folles* is found in sites close to the center of the empire (the Athenian Agora and Corinth). With the exception of eastern Anatolia, where several hoards of anonymous *folles* have been discovered, the numbers of specimens diminish in the distant frontier territories, such as northern Syria. In this respect, the few coin finds registered in Israel demonstrate as well the difficulty with which the late Byzantine currency reached

distant areas such as Palestine, which during the eleventh century were outside Byzantine control.

In addition to the coin finds mentioned above, the findings from other frontier areas of the Byzantine Empire are brought here for comparison. During recent years, a comprehensive survey of findings of anonymous *folles* in Italy has been compiled by a number of scholars.<sup>11</sup> In Italy, the existence of several possibly competing sources of currency resulted in a situation in which a number of coinages were accepted as currency. Callegher found a sporadic diffusion of anonymous *folles* in septentrional Italy, in an area in which the normal currency was the Carolingian *denar*. He also surveyed the finds in a wide area, including Austria, Germany, Switzerland, Hungary and Luxemburg. The circulation in these remote areas can be explained by the territorial Byzantine expansion beyond the Danube and the oriental Adriatic coast, and by merchant transactions with northern Europe (Callegher 1994: 293–296). However, in the Venetian territory and Verona, anonymous *folles* were used intensively. It seems likely that these regions, due to their close commercial contacts with the Orient and Byzantium, were the center of arrival and diffusion of anonymous *folles* (Callegher 1994: 300–301). A similar picture arises from finds in meridional Italy, primarily Calabria and the Adriatic coast, where the influence of the Byzantine monetary system is strongly felt. Callegher stated that there was apparently a kind of exchange and that the anonymous *folles* was used in the eleventh century as equivalent to the Venetian half-*denar* (Callegher 1994: 306–307).<sup>12</sup> Late Byzantine currency was normal in southern Italy until the mid-eleventh century, when the Norman conquerors introduced their own emissions (Guzzeta 1984: 219; 1998: 25–30). Sicily was under Arab domain during the reign of Basil II (976–1025). The gold Byzantine *nomisma* was used there side by side with the Arab *dinar* (Colucci 1988: 584–585). It seems also likely that *rubāʿīs* or Sicilian quarter-*dinars* were widely used even during the time of the Byzantine invasion of the island, between 1038 and 1042.

Large concentrations of late Byzantine *folles*,

both “signed” and anonymous, are also registered from Bulgaria and Albania (Mosser 1935<sup>13</sup>; Callegher 1994: 296–297; Stoljarik 1993: 92, 112–113). These territories were annexed to the Byzantine empire by the Macedonian emperors in the second half of the tenth century, increasing the use of Byzantine coins (*SCMH* 1: 267–268). This great influx was related, according to Penčev, to the maintenance of the Byzantine military garrisons (1999: 87). In addition to the findings just mentioned, a number of studies by Ivanišević should be cited here; these deal with the distribution of Byzantine coins from this period in the Central Balkans and shed light on new hoard findings of anonymous *folles* in the area (Ivanišević 1989; 1993; 1997).<sup>14</sup> Most predominant are the class A2 issues in hoards such as those of Braničevo, Mačvanska Mitrovica and Morava (Ivanišević 1993: 91; 1997: 146), and one of the largest, the Trayanovo hoard, which included 765 *folles* of class A2 and a single *folles* of class B (Penčev 1999).<sup>15</sup> The hoard evidence reflects the turbulent events connected with the consolidation of the Byzantine power and the breakthrough of new tribes (Ivanišević 1997: 146).

A similar influx of Byzantine currency is felt as well in the western part of the Black Sea steppe, where several hoards and single coin finds have been registered. More than half of all Byzantine coins dated to the tenth–twelfth centuries have been found in the western border of the region (the Danube area), while the rest are concentrated along the northwest coast of the Black Sea (Stoljarik 1993: 93–96, 98–102, 112–113).<sup>16</sup>

Despite the important role of Anatolia in the history of the Byzantine Empire, the coin evidence from the mid-seventh to eleventh centuries is sparse. As Lightfoot stated, the lack of interest in and loss of Byzantine coin material is a result of the desire of archaeologists to reach the earlier and more “significant” layers. In his opinion, few sites have been specifically excavated in order to investigate the Byzantine levels.<sup>17</sup> Sites like Sardis, Yumuk Tepe (see Table 3.4) or Amorium, where 309 coins of this period were found, are exceptions to this rule.<sup>18</sup>

However, the picture that arises from Eastern



Anatolian sites must be regarded from a quite different perspective. By the time of John I Zimisces (969–976) and Basil II (976–1025), the empire had been expanded eastwards. The frontier reached the Euphrates and the Tigris and penetrated as far as Nisibis (*SCMH* 1:263). As evidenced by coin hoards, huge quantities of late Byzantine *folles* circulated beyond the eastern frontier of the empire. Many of these assemblages are characterized by the use of countermarks with Arabic letters stamped on thousands of anonymous and “signed” *folles*. It seems that by the mid-twelfth century, Byzantine coins were marked with stamps of validation in order to enable them to circulate in the areas taken by the Turkish tribes. They were probably used for the payment in copper of the poll tax or *jizyah*. After confiscation, the coins were either retained for reminting or put back into circulation to supply local currency needs (Lowick et al. 1977: 53–54). In addition to the Mardin hoard cited in Table 3.4, a number of other hoards from these areas bearing countermarks have been published (Hebert 1974; Weller 1975).<sup>19</sup> This phenomenon is peculiar to the Eastern Anatolian region during the twelfth and thirteenth centuries. In fact, no countermarked pieces are recorded from Iraq or Syria, and only one from Lebanon (Lowick et al. 1977: 8–11). The fact that no countermarks were found on the coins from Tiberias suggests that this fashion was introduced later than the deposition of the hoard, in the mid-twelfth century.

Syria (together with Crete, Cilicia, Tarsos and Cyprus) was annexed to the Byzantine Empire by the Macedonian emperors. From the reign of Constans II until 969, when the region was reconquered by Nicephorus Phocas, Byzantine coins are almost completely absent. From this date to the beginning of the reign of Alexis I (1081–1118), there is an influx of Byzantine currency into the area (Morrisson 1995: 83), blocked in 1084 with the fall of Antioch into Muslim hands (Thomsen 1969: 169–170). Later, a change of currency occurred at the beginning of the twelfth century as a consequence of the First Crusade, when European issues began to circulate into the East (Thomsen 1969: 171). The most consistent numismatic evidence of late Byzantine *folles* in

Syria is still provided by the excavations in Antioch and Hama, as attested in Table 3.4. Apart from these two major sites, appearances of late Byzantine *folles* in northern Syria are quite sporadic, despite the significant Byzantine presence in the region. Vorderstrasse’s study provides new evidence on a number of villages in the Amuq Plain in the Antiochene region, such as al-Mina and Çatal Hüyük, as presented in Table 3.4. Interestingly, when one compares the Tiberias hoard with the coin finds from these villages, a similar pattern emerges. The numismatic evidence from the capital Antioch shows a predominance of anonymous *folles* of class A2 in similarity to other large centers throughout the empire, such as Athens and Corinth, as seen in Table 3.4, and Bulgaria and Albania, as stated above. In contrast, it is only with classes B and C that the more peripheral settlements such as Hama, Çatal Hüyük, al-Mina and Balis begin to show an increase in numbers of coins; some of these were not even part of the empire. Vorderstrasse states that this pattern indicates that the smaller sites took longer to be integrated into the Byzantine economy, and that only after 1030 were the anonymous *folles* introduced into the region in larger amounts.<sup>20</sup> Another characteristic held in common by the Tiberias hoard and coin finds from northern Syria is the prevalence of class 1 “signed” *folles* of Constantine X (and total lack of class 2) in contrast to anonymous *folles* of classes E–G minted by the same emperor. This pattern is the opposite to that of Athens and Corinth, where the anonymous *folles* of both these classes outnumbered the contemporary “signed” *folles*. Vorderstrasse points out that the absence of certain types in the east may reflect the involvement of several mints in the production of both anonymous and “signed” series. The hoard found at Alalakh in the Amuq Plain, which resembles the Tiberias hoard as shown in Table 3.4, is also consistent with these distribution patterns.

Palestine, although influenced by the events that took place in Syria, remained beyond the borders of the Byzantine Empire. The region, under Fatimid control, suffered from anarchy and incessant struggles. There was conflict first with the Abbasids and Carmathians, then with the Byzantines, and

later, by the end of the eleventh century, with the Turkomenid tribes (the Seljuqs), to whom the Fatimids finally lost control of the whole region.<sup>21</sup> In fact, despite the intention of the Byzantine emperors to recapture the Holy Land, the area remained under Muslim control until the Crusades.<sup>22</sup>

In a way, the coin circulation in Palestine resembles the pattern of septentrional Italy presented above. Both were border regions under the constant influence of other currencies. While there were sporadic appearances of late Byzantine *folles*, they had no real place in the overall monetary system.

The Fatimid monetary system was based only on gold and silver coins (*dinars* and *dirhams*). The term *dirham* was used in the general sense of a low-value silver coin. It designated both the regular fine *dirhams* and local emissions, which must have consisted almost exclusively of billon (Nos. 84–85), more often cut into small pieces or fractions (Goitein 1965: 38–39).<sup>23</sup> Large sections of the population had dealings only with regular silver *dirhams* and had no need to change them into gold. Yet gold fulfilled an important role in daily life, as attested by sources from the Cairo Genizah (Goitein 1965: 43–44). Byzantine coppers, which had no place within this monetary framework, probably reached the area via the Byzantines themselves during the short periods of peace between the two sides. Despite the political situation, more Christian pilgrims from the East than from the Latin West visited the Holy Land in the eleventh century (Gil 1983: 399, par. 720). However, official Byzantine presence and visitors are also well attested. For example, in ca. 1036–1038 Christian churches were rebuilt in Jerusalem with imperial financial support, in return for the liberation of 5000 (or 50,000?) Muslim prisoners. On this occasion, Michael IV sent Byzantine builders to reconstruct the Church of the Resurrection, together with official emissaries who brought large sums of gold and silver for this purpose. The financial aid continued during the reign of Constantine IX, when the reconstruction was completed (Gil 1983: 332, par. 597 and 397, par. 716).

Nevertheless, coin currency including copper, irrespective of denomination and official validation,

had intrinsic value. The foreign Byzantine *folles* could have been put aside for their metal value (bullion), as we believe was the case of the coins in the hoard from Tiberias, or, if considered token currency, could have circulated locally and exclusively for local needs.

In terms of the Byzantine monetary system of the eleventh century, the purchasing value of the 75 late Byzantine *folles* found in the hoard from Tiberias was very low. The whole bulk would be worth about 3.125 silver *miliaresia*, or nearly a quarter gold *nomisma* (*histamenon*).<sup>24</sup> In illustration of the value of such a sum of money, the price of a slave in Ephesos in 1059 CE was 24 *nomisma* (Cheynet et al. 1992: 351, Table 7).

### CIRCUMSTANCES OF DEPOSITION

As described by the excavators, the three large jars with their precious contents were concealed with care. Their owner apparently had ample time to plan the deposition and take all necessary precautions; indeed, the hoard was not plundered or disturbed until it was discovered during the excavations. On the other hand, it was never recovered by its owner. Thus, the circumstances of its deposition must be related to some sort of instability that threatened at least the security of the owners, or more likely the entire population of the city.

Tiberias, as capital of *Jund al-Urdunn*, was a strategic point by the Sea of Galilee in the way to Damascus; cities such as Acco and Tyre, and probably Sidon and Tripolis, were administratively subordinate to it. Tiberias was described by Arab geographers such as Nāsir Khusraw, who passed through the town in AH 438/1047 CE: the city was surrounded by walls except on the lake side, and had a central mosque and another one on the western side called *al-Yasamin* (EI 1998: “Tabariyya”, 18–19; Gil 1983: 146, par. 284). There was a prosperous Jewish community and a Christian minority (Gil 1983: 145–153, pars. 284–297). Sites in the city and its surroundings were associated with the life of Jesus, and nearby holy places for Christians, such as the church on Mount Berenice, were visited by pilgrims (Hirschfeld 2004: 220).

Under Fatimid rule, Tiberias was attacked and

plundered several times.<sup>25</sup> Plundering of the city could very likely be the reason for the concealment of valuables. In fact, three other small Fatimid hoards, all dating as well from the second half of the eleventh century, were discovered in previous excavations in Tiberias. This picture may suggest common historical circumstances that led to their concealment, especially when these historical upheavals were spread over decades. During excavations in 1973–1974, a hoard was uncovered in one of the rooms of a large building uncovered in Area D, about 200 m north of the southern gate (Foerster 1977: 92; Lester 1987: 21–29). A broken juglet containing 16 *dinars* and seven pieces of gold jewelry was found. The date of deposition, as suggested by Lester (1987: 27), was 1021–1040.<sup>26</sup> Two other hoards (gold and silver) containing Fatimid jewelry and coins were discovered during a salvage excavation carried out in the center of Tiberias in 1989.<sup>27</sup> They were probably deposited shortly after 1063 CE, the date of the latest coin in the gold hoard (Wasserstein 1998: 10, 15–22). Like our hoard, all three of these deposits were carefully buried, as if anticipating imminent danger. Interestingly, they included Fatimid coins but no late Byzantine ones, reinforcing the rarity of the latter coins in the area.

The latest coins in the hoard from Tiberias—the *folles* of Michael VII (1071–1078) and the two billons of Al-Mustansir billāh (1036–1094)—suggest a deposition date related to the Seljuq invasion. As stated above (see also n. 25), this period was characterized by acts of devastation, pillaging and hostility against the local population. Tiberias played an important role as a base of operations in

the north for the Turkomenids. Therefore, it seems most appropriate that such a treasure was hidden from looters in these circumstances.

The question of how the foreign late Byzantine *folles* got into the containers, together with the utensils, remains unanswered. We can only speculate that they were brought to the workshop as a bullion bulk rather than by different individuals, because of their typological homogeneity and narrow range. They could have been brought by a merchant or even a Christian pilgrim from somewhere in the Byzantine Empire. It is probable that these pure copper coins, which had no certain monetary value in the area, were intended to be melted down as raw material. The worn Roman and early Byzantine coins, which were certainly out of circulation in the eleventh century, were accumulated for the same purpose. The two Fatimid coins, representing the actual currency in circulation, could have slipped by chance into one of the jars. Another element to be taken into consideration is the many pieces of metal scrap that were found with the utensils and coins. In many cases it was difficult for the excavators to differentiate between them and the real coins that slipped to the bottom of the containers. Every single piece of metal seems to have been valuable to the coppersmith, especially in difficult times. In sum, the coin finds from the hoard from Tiberias should be viewed as bullion.<sup>28</sup> In such a hoard one particularly expects to find worn and out-of-circulation coins, which possibly accumulated over a period of time and were used periodically for repairs at the workshop. At some time during the Seljuq invasion, the hoard was concealed and never recovered.<sup>29</sup>

## REFERENCES

- AJC: Meshorer, Y. 1982. *Ancient Jewish Coinage*. Dix Hills, NY.
- Alsirafi, Ph. 1960. Tel 'Ein Dara. *Annales Archéologiques de Syrie* 10: 88–102 (Arabic).
- Bates, G.E. 1971. *Archaeological Exploration of Sardis: Byzantine Coins*. Cambridge, Mass.
- Bell, H.W. 1916. *Sardis, Volume XI: Coins, Part I, 1910–1914*. Leiden.
- Bellinger, A.R. 1928. *The Anonymous Byzantine Bronze Coinage* (Numismatic Notes and Monographs 35). American Numismatic Society, New York.
- Brosh, N. 1998. Two Jewelry Hoards from Tiberias. *'Atiqot* 36: 1–9.
- Callegher, B. 1994. Presenza di “folles anonimi” in Italia settentrionale: un'ipotesi interpretativa. *Quaderni Ticinesi di Numismatica e Antichità Classiche* 23: 293–312.
- Cheyne, J.C., Malamut, E. and Morrisson, C. 1992. Prix et salaires à Byzance (X<sup>e</sup>–XI<sup>e</sup> siècle). In: C. Morrisson (ed.). *Hommes et richesse dans l'empire byzantine VIII<sup>e</sup>–XV<sup>e</sup> siècle*, II. Paris: 339–374.



- Colucci, G. 1988. La circolazione monetale. In: G. Andreassi and F. Radina. *Archeologia di una città: Bari dalle origini al X secolo*. Bari: 581–585.
- DOC 1: Bellinger, A.R. 1966. *Catalogue of the Byzantine Coins in the Dumbarton Oaks Collection and in the Whittemore Collection 1. Anastasius I to Maurice*. 491–602. Washington, D.C.
- DOC 3: Grierson, P. 1973. *Catalogue of the Byzantine Coins in the Dumbarton Oaks Collection and the Whittemore Collection 3. Leo III to Nicephorus III (717–1081)*. Washington, D.C.
- Edwards, K.M. 1933. *Corinth, Volume VI. Coins: 1896–1929*. Cambridge, Mass.
- Foerster, G. 1977. The Excavations at Tiberias. *Qadmoniot* 10/2–3 (38–39): 87–92 (Hebrew).
- Gil, M. 1983. *Palestine during the First Muslim Period (634–1099)*. Tel Aviv.
- Goitein, S.D. 1965. The Exchange Rate of Gold and Silver Money in Fatimid and Ayyubid Times. *Journal of the Economic and Social History of the Orient*. 8/1:1–46.
- Goodwin, T. 2005. A Hoard of Tenth and Eleventh Century Byzantine Folles with Arabic Countermarks. *Numismatic Chronicle* 165: 323–339.
- Guzzeta, G. 1984. Lineamenti di circolazione monetaria nella Puglia Settentrionale. In: *La Ricerca Archeologica nel Territorio Garganico. Atti del convegno di studi. 22 e 23 maggio '82*. Foggia: 209–219.
- Guzzeta, G. 1998. Da Locri a Stilo: le testimonianze monetarie. *Calabria bizantina – Civiltà bizantina nei territori di Gerace e Stilo*. Soveria Mannelli: 25–30.
- Hammershaimb, E. 1969. Les monnaies: monnaies islamiques. In: G. Ploug, E. Oldenburg, E. Hammershaimb, R. Thomsen and F. L  kkegaard. *Hama, fouilles et recherches 1931–1938*, IV 3: *Les petits objets m  di  vaux sauf les verreries et poteries*. Copenhagen: 142–171.
- Hebert, R.J. 1974. Concerning Tenth to Twelfth Century Byzantine Folles with Islamic and other Countermarks. *Numismatic Circular*, March 1974: 94–96; April 1974: 140–141; May 1974: 189–190.
- Hendy, M.F. 1969. *Coinage and Money in the Byzantine Empire 1081–1261*. Washington, D.C.
- Hendy, M.F. 1975. *Studies in the Byzantine Monetary Economy c. 300–1450*. Cambridge.
- Hennequin, G. and Al-‘Ush, A. 1978. *Les Monnaies de B  lis*. Damascus.
- Hirschfeld, Y. 2004. *Excavations at Tiberias, 1989–1994* (IAA Reports 22). Jerusalem.
- Ilisch, L. 1993. *Sylloge Numorum Arabicorum T  bingen – Pal  stina*. T  bingen.
- Ivani  evi  , V. 1989. Interpretation and Dating of the Folles of Basil II and Constantine VIII – the Class A2. In: *Recueil des travaux de l’Institut d’  tudes Byzantines* 27–28: 19–41.
- Ivani  evi  , V. 1993. La circulation des folles du XI e si  cle sur le territoire central des Balkans. *Numizmat  car* 16: 79–92.
- Ivani  evi  , V. and Radi  , V. 1997. Four Hoards of Byzantine Coins from the National Museum Collection in Belgrade. *Numizmat  car* 20: 131–146.
- Kadman, L. 1957. *The Coins of Caesarea Maritima* (Corpus Nummorum Palestinensium II). Jerusalem.
- Lester, A. 1987. A Fatimid Hoard from Tiberias. In: N. Brosch (ed.). *Jewellery and Goldsmithing in the Islamic World. International Symposium, The Israel Museum*. Jerusalem: 21–29.
- Lester, A. 1999. The Metal Hoard of Caesarea. In: *The Richness of Islamic Caesarea* (Catalogue of the Exhibition). Reuben and Edith Hecht Museum, University of Haifa.
- Lightfoot, C. Byzantine Anatolia: Reassessing the Numismatic Evidence. *Revue Numismatique* 158 (2002): 229–239.
- Lowick, N.M., Bendall, S. and Whitting, P.D. 1977. *The “Mardin” Hoard: Islamic Countermarks on Byzantine Folles*. Ringwood, Hampshire.
- LRBC 1: Hill, P.V. and Kent, J.P.C. 1965. The Bronze Coinage of the House of Constantine, A.D. 324–46. In: *Late Roman Bronze Coinage (A.D. 324–498)*, Part 1. London: 4–40.
- LRBC 2: Carson, R.A.G. and Kent, J.P.C. 1965. Bronze Roman Imperial Coinage of the Later Empire, A.D. 346–498. In: *Late Roman Bronze Coinage (A.D. 324–498)*, Part 2. London: 41–114.
- Mattingly, H. 1939. A Byzantine Hoard from Tel Atchana, North Syria. *Numismatic Chronicle* 19: 179–180.
- Metcalf, D.M. 1965. Bronze Coinage and City Life in Central Greece circa A.D. 1000. *Annual of the British School at Athens* 60: 1–40.
- Metcalf, W.E. 1976. Early Anonymous Folles from Antioch and the Chronology of Class A. *Museum Notes* 21: 109–128.
- Morrisson, C. 1970. *Catalogue des monnaies byzantines de la Biblioth  que Nationale, tome II (711–1204)*. Paris.
- Morrisson, C. 1980. Les monnaies: D  h  s (Syrie du Nord) campagnes I–III (1976–1978). *Syria* 57: 267–287.
- Morrisson, C. 1995. La diffusion de la monnaie de Constantinople: routes commerciales ou routes politiques? In C. Mango and G. Dragon (eds.).

- Constantinople and its Hinterland (Acts of the 27th Spring Symposium of Byzantine Studies, Oxford, April 1993)*. Aldershot: 77–89.
- Mosser, S. 1935. *A Bibliography of Byzantine Coin Hoards* (Numismatic Notes and Monographs 67). New York.
- Nicolaou, I. 1989. VI. Numismatics Catalogue, Idalion 1970–1977. In: L. Stager and A.M. Walker (eds.). *American Expedition to Idalion Cyprus (1973–1980)* (Oriental Institute Communications 24). Chicago: 447–456.
- Penčev, V. 1999. A Hoard of 11th Century Byzantine Copper Coins Discovered near the Village of Trayanovo, Burgas. *Macedonian Numismatic Journal* 3: 83–95.
- RIC* 5/1: Webb, P.H. 1927. *The Roman Imperial Coinage* V, Part I. London.
- RIC* 6: Sutherland, C.H.V. 1967. *The Roman Imperial Coinage*, VI: *From Diocletian's Reform (A.D. 294) to the Death of Maximinus (A.D. 313)*. London.
- Robinson, E.S.G. 1937. Coins from the Excavations at Al-Mina (1936). *Numismatic Chronicle* (5<sup>th</sup> series) 17: 182–196.
- Schulze, W. 2005. A Further Hoard of Tenth and Eleventh Century Byzantine Folles with Arabic Countermarks. *Numismatic Chronicle* 165: 339–346.
- SCMH*: Previt -Orton, C.W. 1952. *The Shorter Cambridge Medieval History*, Vol. 1: *The Later Roman Empire to the Twelfth Century*. Cambridge.
- Stoljarik, E. 1993. *Essays on Monetary Circulation in the North-Western Black Sea Region. In the Late Roman and Byzantine Periods. Late 3<sup>rd</sup> Century – Early 13<sup>th</sup> Century AD*. Odessa.
- Tekin, O. 1998. Byzantine Coins from Yumuk Tepe including a Lead Seal. *Anatolia Antiqua* 6: 273–278.
- Thompson, M. 1954. *The Athenian Agora, Vol. II: Coins from the Roman through the Venetian Period*. Princeton.
- Thomsen, R. 1969. Les monnaies: monnaies non islamiques provenant de trouvailles isol es. In: G. Ploug, E. Oldenburg, E. Hammersh im, R. Thomsen and F. L ykkegaard. *Hama, fouilles et recherches 1931–1938*, IV 3: *Les petits objets m di evaux sauf les verreries et poteries*. Copenhagen: 165–171.
- Travaglini, A. 1992. Le monete. In: F. D'Andria and D. Whitehouse. *Excavations at Otranto, Vol. II: The Finds*. Lecce: 243–278.
- Vorderstrasse, T. 2005. Coin Circulation in Some Syrian Villages (5th–11th Centuries). In: J. Lefort, C. Morrisson and J.-P. Sodini (eds.). *Les Villages dans l'Empire byzantin – IVe–XVe si cle* (R alit s Byzantines 11). Paris: 495–510.
- Waag , D. 1952. *Antioch on-the-Orontes, IV, Part 2: Greek, Roman, Byzantine and Crusader's Coins*. Princeton.
- Walker, J. 1956. *A Catalogue of the Arab-Byzantine and Post-Reform Umayyad Coins* (Catalogue of the Muhammadan Coins in the British Museum II). London.
- Wasserstein, D.J. 1998. The Coins in the Golden Hoard from Tiberias. *Atiqot* 36: 10–14.
- Wasserstein, D.J. 1998. The Silver Coins in the Mixed Hoard from Tiberias. *Atiqot* 36: 15–22.
- Weller, H. 1975. Turkic Countermarks. *Numismatic Circular* (December 1975): 475–477.
- Whitting, P.D. 1955. The Anonymous Byzantine Bronze. *The Numismatic Chronicle*, Sixth series, Vol. XV, No. XLV: 89–99.

## NOTES

- <sup>1</sup> According to the testimony of John Scylites, as quoted by George Cedrenus: “And he commanded the likeness of the Saviour to be engraved on the nomisma and the obol [i.e., *folles*], which was not done before this. And Greek letters were engraved on the other side to about this purpose, ‘Jesus Christ, King of Kings’. And the kings who succeeded him did the same” (Bellinger 1928: 2, after Cedrenus, *Historiarum Compendium*, Bonn ed., 1839, II, pp. 413–414). In fact, the passage refers only to the bronze *obol* and not to the gold *nomisma*. The latter already depicted the bust of Christ and bore the inscription “IHS/XIS/REX/REGNANTIHM”. See also *DOC* 3/2: 634–635; Hendy 1975: 511.
- <sup>2</sup> A connection between the issue of the anonymous *folles* and the Crusades was first rejected by

Whitting (1955: 95), who relates the series to a general movement of Christian fervor, also expressed by a growth in the number of monasteries during this period. Grierson emphasized this opinion: “In view of the common belief that some types of the *Anonymous Folles* were connected with the first crusade, it should be emphasized that they had nothing to do with each other. The latest issues had ceased to be regular currency in the empire before the crusaders crossed its frontiers” (*DOC* 3/2: 635, n. 7).

- <sup>3</sup> The different combinations of marks appear on both sides of the coins: on the obverse, the ornaments of the arms on the nimbus-cross and on the cover of the Gospel book; on the reverse, those above and below the inscription.

- <sup>4</sup> Ivanišević, however, classified class A2 into four main issues, based on style, metrology and ornament marks. He dates each group to a different period and even attributes them to specific historic events (1989: 27–39).
- <sup>5</sup> The varieties appearing in the largest quantities in the Mardin hoard are: Bellinger's varieties 39/40, with 263 coins, and varieties 44/47, with 269 coins. These types also appear at Tiberias (see catalogue).
- <sup>6</sup> My thanks to all the excavators who gave their permission to mention the coins noted in Table 4: A. Negev, G. Edelstein, V. Tsferis, M. Peilstocker, D. Syon, Y. Hirschfeld, S. Gudovich, N. May and R. Reich. The two additional coins from excavations at the Cardo in Nablus were identified by A. Berman and are cited with permission of Y. Magen, Staff Officer of Archaeology, Civil Administration of Judea and Samaria.
- <sup>7</sup> In the IAA coin department, Mandatory collection (unknown provenance): a gold *histamenon* of Basil II (1005–1025, IAA 52795) and a *histamenon* of Constantine VIII (1025–1028, IAA 52799).
- <sup>8</sup> My thanks to A. Berman who identified the coins and kindly provided me with the information.
- <sup>9</sup> Vorderstrasse 2005: 495–510.
- <sup>10</sup> I am most grateful to E. Khamis, who brought this important find to my attention. I am also indebted to R. Abu-Raia for the translation from Arabic.
- <sup>11</sup> I am indebted to B. Callegher, who provided me with updated numismatic data related to the finds in Italy.
- <sup>12</sup> At the beginning of the eleventh century the rate of exchange was: one gold *nomisma* = 120 *denars* = 288 *folles*. One *folles* = ½ *denar*.
- <sup>13</sup> The following hoards are cited from Bulgaria: Mosser 1935: 5 (Ani, Kars, Transcaucasia – 608 coins), 13 (Botevo – 738 coins), 16 (Cartal – 100 coins), 20 (Coïno – ca. 2000 coins), 24 (Debnevo – 600 coins), 39 (Hissar), 72 (Rilo – 128 coins).
- <sup>14</sup> I am most grateful to Vujadin Ivanišević, who kindly provided me with the material relating to the Central Balkans.
- <sup>15</sup> Penčev (1999: 87) also mentions the following hoards of *Anonymous Folles*: L'dzane, Lovech (100 coins); Bezhanovo, Lukovit; Dobrotitsa, Omurtag (18 coins); Silistra (41 coins) and Devnya, Varna (888 coins).
- <sup>16</sup> See especially Stoljarik 1993: Appendix 3, Tables 6–7 with a summary of the single finds of Byzantine coins and anonymous *folles* in the northwest Black Sea region.
- <sup>17</sup> Lightfoot 2002: 229–239.
- <sup>18</sup> Ibid.
- <sup>19</sup> The Mardin hoard consists of 13,500 copper pieces in far from good condition; 2,200 of them were countermarked (19%). Neither the provenance nor the date of finding is known for certain. The last coin in the hoard is dated to the reign of Rukn al-din Jahan Shah b. Tughril, Seljuqs of Erzurum (AH 625/1227–1228 CE). In 1997 two lots of late Byzantine *folles*, consisting of 2131 coins (331 countermarked) and 153 coins (33 countermarked), were offered for sale on the European market (Goodwin 2005; Schulze 2005). Both seem to belong to the same hoard, probably from eastern Turkey.
- <sup>20</sup> Vorderstrasse 2005: 507. I am grateful to Tasha Vorderstrasse of the University of Chicago, who kindly provided me the information about unpublished numismatic finds in northern Syria, and contributed to this discussion with helpful comments.
- <sup>21</sup> Gil (1983: 346) classifies the whole period as follows: two generations of wars, in which the dominant factors were the Fatimids from 970 to 1030; 41 years of Fatimid rule, from 1030 to 1071; Seljuq control from 1071 to 1099; and ten months of Fatimid rule just before the first Crusade.
- <sup>22</sup> In 975, after the reconquest of Antioch, the Byzantines (helped by the Carmathians) intended to invade Palestine and reach Jerusalem, but they succeeded in advancing only as far as Tripoli (Gil 1983: 285–286, par. 550). In 999 emperor Basil II himself came to Antioch in order to take the city of Aleppo from Fatimid hands, but he failed. Nevertheless, agreement was reached between the Byzantines and Fatimids for ten years (Gil 1983: 307, par. 566).
- <sup>23</sup> From 1056 to 1232 the rate of exchange was 1 *dinar* = 40 *dirhams* (Goitein 1965:41).
- <sup>24</sup> According to Hendy, the rate of exchange remained constant from the seventh to the eleventh century (only the denominations changed): 1 gold *nomisma*/*histamenon* = 12 silver *miliaresia* = 288 *folles* (Hendy 1969: 5–6).
- <sup>25</sup> The most remarkable events were:
- 969 – Tiberias was conquered by the Fatimid governor Ja'far ibn-Faraj (Gil 1983: 279, par. 545).
  - ca. 975 – The Byzantines attempted to invade Palestine and conquer Jerusalem. They reached only as far as Tripoli. But their allies the Carmathians, led by Al-Fatajin and Shibal Al-'Uqayli, took the city of Tiberias from the Fatimids (Gil 1983: 286).
  - 1024 – Bedouin troops led by al-Hasan ibn al-



Mufaraj attacked and plundered the city (Gil 1983: 321).

- 1029 – A battle near Tiberias ended in a Fatimid victory (Gil 1983: 327).
- 1033 – An earthquake that destroyed many cities in Palestine, including Tiberias (Gil 1983: 329).
- 1062 – A new Fatimid governor in Tiberias and Akko: Aldullāh Al-Ḥasan ibn Ali. Period of distress and poverty for the local population as a result of the devastation caused by Turkomenid raids.
- 1071 – End of Fatimid control with the Seljuq invasion of Palestine. They established their base of operations in northern Palestine at Tiberias (Gil 1983: 338). This period was characterized by vandalism, destruction, and terror against the local population (Gil 1983: 342–344, pars. 608–609).

<sup>26</sup> The latest coin belongs to al-Zāhir (AH 411–427/1021–1036 CE), dated to AH 416/1024 CE, minted in Misr (?). Personal communication by A. Berman.

<sup>27</sup> The gold hoard: 9 gold *dinars* that range from AH

367/977–978 CE to AH 455/1063 CE and 11 items of jewelry. The silver hoard: 2 gold rings, bits and pieces of gold and silver objects, and 18 Fatimid half-*dirhams* in the range of AH 401–424/1010–1032/1033 CE. One illegible coin could be of al-Zāhir, dated up to AH 427/1035–1036 CE. All the coins are pierced at least twice, suggesting their use as jewelry rather than currency. Thus, the deposition of the hoard can be placed at a later date, most likely ca. 1063, together with the gold hoard.

<sup>28</sup> This was also one of the options suggested for the Mardin hoard. The authors attest: “In a bullion hoard one would expect to find Greek, Seleucid, Roman, Crusader and heavy Artuqid and Zengid pieces as well as smaller Byzantine half folles and fractions. This kind of collection could be found in coppersmiths’ shops until quite recently” (Lowick et al. 1977: 16–17).

<sup>29</sup> A similar dating was given to the Alalakh hoard, where the lack of any Byzantine coins postdating 1080, or Seljuq or Crusader coins, makes it likely that the hoard was deposited in response to the Seljuq invasion (Vorderstrasse 2005: 505, Table 5).

## CATALOGUE OF COINS\*

## I. ISOLATED COINS

No.	Diam. (mm)	Weight (gr)	Axis	Area	Locus	Basket	Mint	Date	Obverse	Reverse	References and notes
<b>Seleucid?</b>											
1	15	2.49	12	A2	561	5487	Tyre	End 3rd–beg. 2nd cent. BCE	Head r.?	Palm tree.	Completely worn.
<b>Augustus – Ambibulus</b>											
2*	16	2.39	11	A1	144	1395	Jerusalem	39	KAICAPOC Ear of wheat.	Palm tree with two bunches of dates. In l. field: [L] In r. field: ΛΘ	AJC: 281, No. 3.
<b>Roman Provincial – Alexander Severus (222–235)</b>											
3	18	5.21	9	A1	105	54	Caesarea		[---] Laureate head r.	Eagle stg, facing, holding in spread wings a wreath: [SPQR]	Kadman 1957: 116, No. 110.
<b>Roman Provincial – uncertain ruler</b>											
4	23x27	10.20		A2	505	5060		1st–2nd cent.	Laureate head r. Oval countermark: head r.	Obliterated.	
5	20	6.38	7	A2	526	5448	Caesarea	Second half 3rd cent.	[---] Laureate head r.	Head of Tyche r.	Cf. Kadman 1957: 134–135, No. 190.
<b>Salonina – antoninianus</b>											
6*	20	3.54	6	A1	114	208	Antioch	255–258	CORN SALONINA AVG Bust r., diademed and draped, on crescent.	CONCORDIA AVGG Emperor and empress stg. clasping hands.	RIC 5/1: 114, No. 63.

\* The Roman and Byzantine coins were identified by G. Bijovsky. The Islamic material was identified by A. Berman. The coins are arranged chronologically. All the coins are bronze and all dates are CE unless otherwise indicated. Coins marked with an asterisk are illustrated. The following abbreviations are used: adv. = advancing; beg. = beginning of; ca. = circa; cent. = century/ies; Constant. = Constantinople; gr = grams; l. = left; mm = millimeters; r. = right; stg. = standing.

No.	Diam. (mm)	Weight (gr)	Axis	Area	Locus	Basket	Mint	Date	Obverse	Reverse	References and notes
<b>Maximian – radiate fraction</b>											
7	21	2.89	12	A2	520	5363	Alexandria	305/306	IMP C MAXIMIANVS PF AVG Bust r., radiate, draped and cuirassed.	CONCORDIA M-ILITVM Emperor receiving Victoriola from Jupiter. Below, between them: Δ In exergue: ALE	<i>RIC</i> 6: 670, No. 59b.
<b>Roman Imperial – uncertain ruler – folles</b>											
8	26	3.73	12	A2	526	5457		Beg. 4th cent.	[---] Laureate head r.	[GENIO POPVLI ROMANI]? Figure (Genius?) stg. l.?	Cf. <i>RIC</i> 6: 618, Nos. 44–45. Pierced.
9	20	1.73	12	A1	150	1451		4th cent.	IMP C[ Bust r.	CONCORDIA [MILITVM] Emperor receiving Victoriola from Jupiter. Between them: Δ	Cf. <i>RIC</i> 6: 670, Nos. 59–60. Pierced.
<b>330–335</b>											
10	12	1.91	12	A1	129	236			[---] Head r., pearl-diademed.	[GLORIA E-XERC-]ITVS Two soldiers stg. facing, holding spears and shields. Between them two standards. Mintmark illegible.	Cf. <i>LRBC</i> 1: 30, Nos. 1356–1358.
<b>Constantius II</b>											
11	14	1.89	6	A2	528	5198		351–361	[DN CONSTANTIVS PF AVG] Bust r., pearl-diademed, cuirassed and draped.	[FEL TEMP REP]ARA[TIO] Virtus spearing fallen horseman. Mintmark illegible.	Cf. <i>LRBC</i> 2: 100, Nos. 2632–2633.
12	16x18	2.60	5	A2	513	5053		As above.	As above.	FEL TEMP [REPARATIO] As above.	As above.
<b>364–375</b>											
13	14	1.09	6	A2	553	5445			[---] Bust r., pearl-diademed, cuirassed and draped.	[GLORIA ROMANORVM] Emperor adv. r., dragging captive and holding labarum. Mintmark illegible.	Cf. <i>LRBC</i> 2: 100, Nos. 2653–2655.



No.	Diam. (mm)	Weight (gr)	Axis	Area	Locus	Basket	Mint	Date	Obverse	Reverse	References and notes
<b>383–395</b>											
14	10	1.51	12	A1	113	179	Antioch		[---] Bust r., pearl-diademed, cuirassed and draped.	SA[LV]S REI–PVBLICAE] Victory adv. r., dragging captive and holding trophy. In l. field: + In exergue: ANTA	Cf. <i>LRBC</i> 2: 102, Nos. 2763–2766.
15	12	1.30		A2	505	5059			As above, but barbarous style.	As above, but in l. field: † Mintmark illegible.	Cf. <i>LRBC</i> 2: 102, Nos. 2768–2771.
16	11	1.19	12	A2	527	5255			As above.	As above.	As above.
17	13	1.13	12	A1	114	210			As above.	As above.	As above.
18	13	0.95	4	A2	514	5080	Antioch		As above.	As above. In exergue: ANTA	As above.
<b>395–408</b>											
19	12	1.05	6	A1	114	211			[---] Bust r., pearl-diademed, cuirassed and draped.	GLORIA ROMANORVM Three emperors stg. facing, the one in the center lower. Mintmark illegible.	Cf. <i>LRBC</i> 2: 102, Nos. 2801–2804.
<b>Late Roman – uncertain ruler</b>											
20	13	1.25		A1	101	59		4th cent.	Head r., pearl-diademed.	Obliterated.	
21	9	0.81		A1	129	138		As above.	Bust r.	As above.	
<b>408–421</b>											
22	12	1.94	6	A1	142	1358			[---] Bust r., pearl-diademed, cuirassed and draped. In l. field: *	[GLORIA ROMANORVM] Two emperors stg. facing, holding a globe between them. Mintmark illegible.	Cf. <i>LRBC</i> 2: 105, Nos. 2930–2931.
<b>Byzantine Anastasius I (491–518) – small follis</b>											
23	26	7.46	7	A2	559	5480	Constant.	498–512	DN ANASTA–SIVS PP AVG Bust r., diademed, cuirassed and draped.	<b>M</b> Above cross.	Cf. <i>DOC</i> 1: 12, No. 16.

No.	Diam. (mm)	Weight (gr)	Axis	Area	Locus	Basket	Mint	Date	Obverse	Reverse	References and notes
<b>Uncertain ruler, 6th cent. – <i>foliis</i></b>											
24	27x30	6.96		A1	131	174			Obliterated.	M	Very worn.
<b>Half-folliis</b>											
25	23x27	4.42		A2	559	5443			Obliterated.	K To l.: ANNO To r.: q?	Completely worn.
26	19x22	3.23		A2	528	5203			As above.	K	As above.
<b>Pentanummiatium</b>											
27	12	1.41		A2	526	5367			As above.	€	As above.
<b>Arab-Byzantine – transition period</b>											
<b>Anonymous – <i>foliis</i></b>											
28	18	3.55		A2	505	5056	Dimashq	ca. 650–680	Imperial figure stg. facing, In field l. bird on top.	M Legend to r.: جانر ضرب دمشق	Cf. Walker 1956: 6–7, Nos. 14–18.
29*	20	3.46		A2	544	5280	Baalbek	As above.	Two Imperial figures stg. facing.	M On either side legend: HAI O ΠOAE In exergue: يعلىك	Cf. Walker 1956: 13, Nos. 37–39.
30*	18–24	2.87		A2	530	5197	Missing.	As above.	Imperial figure stg. facing.	m Round countermark (illegible).	
31	15	1.55		A2	535	5337	As above.	As above.	As above.	As above.	
<b>Umayyad (pre-reform)</b>											
<b>Anonymous</b>											
32*	24	3.70		A2	528	5199	Tabariya	ca. 680–700	Three Imperial figures stg. facing.	M To l. anti-clockwise legend: THBEPIAΔO To r. downwards: طبرية	Ilisch 1993: 30, Nos. 281–282. Walker 1956: 15, No. 43.
33	24	3.00		A2	535	5336	As above.	As above.	As above.	Obliterated.	As above.

No.	Diam. (mm)	Weight (gr)	Axis	Area	Locus	Basket	Mint	Date	Obverse	Reverse	References and notes
<b>Umayyad (post-reform)</b>											
<b>Anonymous – fals</b>											
34	20	4.34		A2	558	5514	Hims	AH 116 (=734/5)	Within circle: لااله الا الله / وحده Margin: ضرب [---]	Within circle: محمد / رسول الله Margin: [بسم الله ضرب القس بحمص]	Cf. Walker 1956: 247, Nos. 807–811.
35	19	3.92		A1	108	1337	No mint.	Mid-8th cent.	Within circle: لااله الا الله / وحده / لا شريك له Margin: رسول الله محمد ارسله بالهدى ودين الحق	Center: الله احد الله الصمد لم ياد وام يولد Margin: بسم الله ضرب هدا القلس سنة [---]	Cf. Walker 1956: 293, Nos. 954–959.
36*	18	3.00		A1	148	1522	Dimashq	As above.	Center: لااله الا الله / وحده	In field: ضرب / بدمشق	Walker 1956: 249, No. 819.
37*	16	1.45		A1	137	262	No mint.	As above.	As above.	Within double beaded circles hawk to l., around: رسول الله محمد	Ilisch 1993: 44, No. 531. Walker 1956: 202, No. 590.
38	17	3.06		A2	538	5286	No mint.	As above.	In field: amphora, around: لااله الا الله / وحده	In field: محمد / رسول الله	Walker 1956: 206, No. P.114.
39	17	4.13		A2	556	5483	As above.	As above.	In field: لااله الا الله / وحده	In field: a flower bud, around: محمد رسول الله	Walker 1956: 203, No. 593.
40	16	2.89		A2	530	5196	As above.	As above.	In field: لااله الا الله / وحده / لا شريك له	In field: crescent and star, around: محمد رسول الله	Ilisch 1993: 46, Nos. 571–572.
41	15	1.60		A1	157	1525	As above.	As above.	In field: لااله الا الله / وحده	In field: محمد / رسول الله	Cf. Walker 1956: 209, No. 628.
42*	15–16	3.17		A2	534	5333	As above.	As above.	In field: لااله الا الله / وحده	In field: محمد / رسول الله	Walker 1956: 209, No. 628.
43	16	4.30		A2	533	5252	As above.	As above.	As above.	As above.	Cf. Walker 1956: 212, No. 661.
44	15	1.05		A1	101	65	As above.	As above.	As above.	As above.	Cf. Walker 1956: 212, No. 661.
45	15	1.24		A1	Dump	–	As above.	As above.	As above.	As above.	As above.



No.	Diam. (mm)	Weight (gr)	Axis	Area	Locus	Basket	Mint	Date	Obverse	Reverse	References and notes
<b>'Abbasids</b>											
<b>Hārūn ar-Rashīd (AH 170–193/786–809)</b>											
<b>Uncertain governor – <i>fals</i></b>											
46	18	3.13		A1	125	140	Missing.	AH [1]76 (=792)	Center: لااله الا الله وحده / لاشرىك له Margin: [---] بنت وسبعين [---]	Center: محمد / رسول الله Crescent	Cast.
<b>Unknown 'Abbasid governor Sa'id – <i>fals</i></b>											
47*	18	3.04		A2	506	5054	No mint.	9th cent.	Center: لااله الا الله / وحده Four annulets in margin.	Center: محمد / رسول الله	
<b>Anonymous – <i>fals</i></b>											
48	18	3.03		A2	510	5047	As above.	As above.	Center: لااله الا الله / وحده	Center: محمد / رسول الله	Cast.
49	14	1.66		A1	125	138	As above.	As above.	As above.	As above.	As above.
50	16	1.59		A2			As above.	As above.	Center: لااله الا الله وحده لاشرىك له	Center: محمد / رسول الله / ص	Cast.
51	17	2.63		A1	159	1528	As above.	As above.	As above.	Center: محمد / رسول الله	Cast.
52	15	1.33		A2	557	5627	As above.	As above.	As above.	As above.	As above.
53	15	0.91		A2	534	5214	As above.	As above.	As above.	Obliterated.	
54	18	3.18		A1	125	207	As above.	As above.	Obliterated.	As above.	Cast.
55	18	2.43		A2	528	5204	As above.	As above.	As above.	As above.	As above.
56	13	0.78		A2	545	5335	As above.	As above.	As above.	As above.	As above.
<b>Carmathians</b>											
<b>Al-Hasan b. Ahmad (ca. AH 360–365/970–975) with the Caliph Al-Muṭṭ' (AH 334–363/946–974) – silver <i>dirham</i></b>											
57*	25–26	4.45		A2	515	5230	Missing.	Missing.	Obliterated.	[---] المطيع بالله	Cf. Ilisch 1993: 36, No. 395.

No.	Diam. (mm)	Weight (gr)	Axis	Area	Locus	Basket	Mint	Date	Obverse	Reverse	References and notes
<b>Uncertain</b>											
<b>Silver fraction of dirham</b>											
58*	10	0.80		A1	101	62	Missing.	10th–11th cent.	Obliterated.	Obliterated.	
59	15–24	0.78		A2	514	521	Missing.	End 10th cent.	Obliterated.	Obliterated.	
<b>Uncertain – billon dirham</b>											
60	18–20	1.35		A1	103	105	Missing.	End 10th cent.	Center: لاله الا / الله وحده / لا شريك له Marginal legend obliterated.	Center: الله / محمد / رسول الله	
<b>Fatimids</b>											
<b>Al-Mustansir Billah (AH 427–487/1036–1094) – silver dirham</b>											
61*	20	1.77		A1	107	115	Missing.	Missing.	Within circle: المستنصر بالله / امير المؤمنين Illegible marginal legend.	Within circle: لاله الا / الله / محمد / رسول الله / Illegible marginal legend.	
<b>Billon – fraction of dirham</b>											
62	14	0.58		A1	139	1557	Missing.	Missing.	Within circle: المستنصر بالله / امير المؤمنين	Within circle: محمد / رسول الله / عاى ولى الله Illegible marginal legend.	
<b>Unidentified</b>											
<b>Billon – fraction of dirham</b>											
63	17	1.34		A1	117	1437	Missing.	11th cent.	Obliterated.	Obliterated.	
64	11	0.21		A2	5		Missing.	11th cent.	Obliterated.	Obliterated.	Broken.
<b>Byzantine</b>											
<b>Anonymous follis – class B – copper</b>											
*65	30	10.48	6	A1	125	172		1030–1035/ 1042(?)	[+ EmmA] N[OVHA] Bust of Christ, bearded, facing, wearing nimbus cruciger, tunic and mantle. R. hand raised in benediction, l. hand holds book of Gospels. Nimbus decorated with beads and dots. In field [IC] - XC	IS - XS / bAS - ILE / bAS - ILE Inscription between the angles of a Latin cross on three steps. On each extremity of the cross-bar, a pellet.	DOC 3/2: 677, No. 24.

## II. THE HOARD\*

No.	Diam. (mm)	Axis	Weight (gr)	Mint	Date	Obverse	Reverse	References	Notes
<b>Roman Provincial</b> <b>Autonomous – bronze</b>									
1	19	12	4.81	Tyre	1st–2nd cent.	Head of Tyche r., turreted and veiled.	War-galley to l. Above inscription: IEPΑΣ/ΜΕΤΡΟΠΟΛΙΣ/ΑΕΩΣ	Cf. <i>BMC</i> Phoen.: 263, Nos. 322–326.	
<b>Uncertain – bronze</b>									
2	23	12	7.53		1st–3rd cent.	Head r.	Nude figure stg. l.		
<b>Byzantine</b> <b>Justin I (518–527) – bronze, <i>folles</i></b>									
3	13x25	12	6.98			[DN IV/STIN[VS PP AVC] Obliterated.	<b>M</b> on l. side, star.	Cf. <i>DOC</i> I: 13, No. 16A.	Half a coin.
<b>6th cent. – bronze, <i>folles</i></b>									
4	28		6.38			Obliterated.	Obliterated.		
<b>Justin II (565–578) – bronze, half-<i>folles</i></b>									
5	22	6	7.62	Nicomedia	572/573	[DN IV/STI]–NVS PP [AVC] Justin and Sophia seated facing on double throne.	<b>K</b> to l.: ANNO; to r. date: $\Psi$ II; above cross; below N[I]	<i>DOC</i> I: 233, No. 110.1.	
<b>Bronze, <i>folles</i></b>									
6	29	6	9.73	Constant.	573/574	As above.	<b>M</b> to l.: ANNO; to r. date: $\Psi$ III; above cross; below $\Gamma$ ; in ex.: [CON]	<i>DOC</i> I: 210–211, Nos. 36c.1–2.	
<b>Heraclius (610–640) – bronze, <i>folles</i></b>									
7	29x32	7	10.99	Nicomedia	612/613	Two figures stg. facing, Heraclius and son Heraclius Constantine, holding globus cruciger. Between them above, cross. Part of the original die is visible: the[	<b>M</b> to l.: [AN]NO; to r.: III; above cross; below B; in ex.: NIKO	<i>DOC</i> 2/1:318, No. 158.	Overstruck on earlier type of Heraclius.

\* All the coins of the hoard are illustrated.



No.	Diam. (mm)	Axis	Weight (gr)	Mint	Date	Obverse	Reverse	References	Notes
<b>Arab-Byzantine</b> <b>Anonymous – bronze</b>									
8	18x20		3.14		ca. 650–680	Imperial figure stg. facing, holding scepter and globus cruciger. In l. field, Arabic legend: محمد	m within circle. Above cross, to r. serpentine. Below illegible Arabic inscription.	Walker 1956: 52, Nos. 139–141.	Cut in rectangular shape. Broken.
<b>Byzantine</b> <b>Anonymous follis (class A2) – copper</b>									
9	28	6	11.56		976(?)–ca. 1030/1035	[+EmmΑ NOVHA] Bust of Christ, bearded, facing, wearing nimbus cruciger, tunic and mantle. R. hand raised in benediction, l. hand holds book of Gospels. In field: [IC – XC] Nimbus and book ornamentation obscure.	+ lhSϘS/XRISTϘS/ bASILEϘ/bASILE Above and below, floral motifs.	DOC 3/2: 656, No. 14b.	Nimbus cross and book in obverse, and reverse inscription bear variable ornaments through all the classes.
10	28	6	12.33		As above.	As above. Nimbus cross with central square and four dots. Book with two bands of dots.	+ lhSϘS/XRISTϘS/ bASILEϘ/bASILE Above and below, floral motifs.	DOC 3/2: 667, No. 40a.	
11	31	6	8.88		As above.	+ EmmΑ NOVHA As above. Nimbus cross with crescent. Book ornamented with five dots.	+ lhSϘS/XRISTϘS/ bASILEϘ/bASILE Above and below, small floral motifs.	DOC 3/2: 671, No. 45.	
12	27	6	13.14		As above.	As above. Nimbus cross with square, book with five dots.	+ lhSϘS/XRISTϘS/ bASILEϘ/bASILE Above and below, square motifs.	DOC 3/2: 671, No. 47.	
13	30x32	6	8.34		As above.	[+ EmmΑ NOV]HA As above.	[+lhSϘS/XRISTϘS/ bASILEϘ/bASILE Above and below, square motifs.	DOC 3/2: 671, No. 47.	
14	24x26	6	7.53		As above.	[+ EmmΑ NOVHA] Book ornamentation obscure.	[+ lhSϘS/XRISTϘS/ bASILEϘ/bASILE Above and below, small rectangular motifs.	DOC 3/2: 671, No. 47.23.	

No.	Diam. (mm)	Axis	Weight (gr)	Mint	Date	Obverse	Reverse	References	Notes
15	24	6	8.01		As above.	[+ EmmA NOVHA] As above. Nimbus and book ornamentation obscure. Misstruck.	[+ IhS4S]/X[RIS4S]/ [b]ASILE4/bASILE Above (worn) and below, floral motifs.	DOC 3/2: 661, No. 24a?, 661, Nos. 39–40b?	Small flan. Unclear variety.
<b>Anonymous <i>foliis</i> (class B) – copper</b>									
16	30x33	6	11.74		1030/1035 –1042(?)	[+ EmmA] N[OVHA] Bust of Christ, bearded, facing, wearing nimbus cruciger, tunic and mantle. R. hand raised in benediction, l. hand holds book of Gospels. Nimbus with beads and dots decoration. In field: [IC] - XC	IS - XS/bAS - ILE/ bAS - ILE Inscription between the angles of a Latin cross on three steps. On each extremity of the cross-bar, a pellet.	DOC 3/2: 677, No. 24.	Misstruck.
17	28x31	6	11.66		As above.	+ [EmmA] N[OVHA] As above. Very worn.	IS - XS/bAS - ILE/ bAS - ILE As above.	As above.	The left arm of the cross is longer than the right one.
18	30x33	6	11.13		As above.	[+ Em]mA [NOVHA] As above.	IS - XS/[b]AS - IL[E]/ [b]AS - IL[E] As above.	DOC 3/2: 678, No. 29.	Overstruck on class A2.
19	29	6	11.12		As above.	[+ EmmA NOVHA] As above. Very worn.	IS - X[S]/[b]AS - ILE/ bAS - ILE As above.	As above.	
20	30	6	11.08		As above.	+ [EmmA] NOVHA As above.	IS - XS/bAS - ILE/ bAS - ILE As above.	DOC 3/2: 678, No. 30.	
21	25	6	10.71		As above.	[+ EmmA NOVHA] As above.	[I]S - XS/[b]AS - IL[E]/ [b]AS - IL[E] As above.	DOC 3/2: 678, No. 36.	
22	30	6	10.69		As above.	[+ EmmA NOVHA] As above.	[I]S - X[S]/[bA]S - ILE/ bAS - IL[E] As above.	As above.	Overstruck on class A2.
23	25x30	6	10.69		As above.	[+ EmmA NOVHA] As above.	[I]S - XS/bAS - IL[E]/ [b]AS - IL[E]	As above.	

No.	Diam. (mm)	Axis	Weight (gr)	Mint	Date	Obverse	Reverse	References	Notes
							As above.		
24	29x33	6	10.55		As above.	+ EmmA NOVHA As above.	IS - XS/[b]AS - IL[E]/ [b]AS - IL[E] As above.	DOC 3/2: 678, No. 37.	Irregular flan.
25	26	6	9.99		As above.	[+ EmmA NOVHA] As above.	IS - XS/bAS - ILE/ bAS - ILE As above.	DOC 3/2: 678, No. 46.	
26	27	6	9.85		As above.	[+ EmmA] N[OVHA] As above. Very worn.	[IS] - [XS]/[b]AS - ILE/ [b]AS - ILE As above.	DOC 3/2: 678, No. 47.	Overstruck on class A2.
27	28	6	9.78		As above.	[+ EmmA] N[OVHA] As above.	IS - XS/bAS - ILE/ bAS - ILE As above.	DOC 3/2: 678, No. 48.	
28	25x30	6	9.58		As above.	[+ EmmA NOVHA] As above. Very worn.	IS - X[S]/bAS - IL[E]/ bAS - IL[E] As above.	DOC 3/2: 679, No. 50.	Irregular flan.
29	28x30	6	9.55		As above.	[+ EmmA] NOV[HA] As above.	IS - XS/bAS - ILE/ bAS - ILE As above.	DOC 3/2: 679, No. 53.	Missstruck.
30	27	6	9.42		As above.	+ EmmA NOVHA As above. Very worn.	[IS] - [XS]/bAS - IL[E]/ bAS - IL[E] As above (off flan).	DOC 3/2: 679, Nos. 50-51.	Overstruck on class A2.
31	25x29	6	9.35		As above.	+ [EmmA] NO[VH]A As above.	[I]S - X[S]/bAS - ILE/ bAS - ILE As above.	DOC 3/2: 679, No. 53.	Irregular flan.
32	25x28	6	9.23		As above.	[+ EmmA N]OVHA As above.	IS - XS/bAS - ILE/ bAS - ILE As above.	DOC 3/2: 679, No. 54.	
33	25	6	9.12		As above.	[+ EmmA NOVHA] As above.	IS - XS/[b]AS - ILE/ [b]AS - ILE As above.	DOC 3/2: 679, No. 54.	



No.	Diam. (mm)	Axis	Weight (gr)	Mint	Date	Obverse	Reverse	References	Notes
34	26	6	8.90		As above.	[+ Emma NOVHA] As above.	[IS - XS]/[b]AS - IL[E]/ bAS - ILE As above.	DOC 3/2: 679, No. 55.	Bar of cross not visible.
35	26x29	6	8.77		As above.	[+ Emma NOVHA] As above.	IS - XS/bAS - ILE/ bAS - ILE As above.	DOC 3/2: 679, No. 56.	
36	29	6	8.45		As above.	[+ Emma NOVHA] As above.	[IS] - XS]/[b]AS - IL[E]/ [b]AS - IL[E] As above.	DOC 3/2: 679, No. 57.	Overstruck on class A2. Misstruck.
37	30	6	8.36		As above.	[+ Emma NOVHA] As above.	[IS - XS]/[b]AS - ILE/ [b]AS - ILE As above.	As above.	Overstruck on class A2, variant 32. Very worn.
38	27	6	8.21		As above.	[+ Emma] NOVHA VHA As above.	[IS - XS]/[b]AS - ILE/ [b]AS - ILE As above.	As above.	Misstruck.
39	35	6	8.11		As above.	[+ Emma NOVHA] As above. Very worn.	IS - [XS]/bAS - ILE/ bAS - ILE Inscription between the angles of a Latin cross on three steps. Misstruck.	DOC 3/2: 679, No. 56.	Irregular flan. Misstruck.
40	26	6	8.05		As above.	[+ Emma NOVHA] As above. Very worn.	[IS - XS]/bAS - ILE/ bAS - ILE As above.	DOC 3/2: 679, No. 58.	Square flan.
41	30	6	7.98		As above.	[+ Emma NOVHA] As above. Very worn.	IS - [XS]/bAS - ILE/ [b]AS - ILE As above.	As above.	
42	22x28	6	7.72		As above.	+ [Em]mA [NOVHA] As above. Very worn.	IS - XS/[b]AS - ILE/ bAS - ILE As above. Original striking visible diagonally.	DOC 3/2: 679, No. 59.	Overstruck on class A2.
43	28	6	7.71		As above.	[+ Emma NOVHA] As above.	IS - [XS]/bAS - ILE/ bAS - ILE As above.	As above.	

No.	Diam. (mm)	Axis	Weight (gr)	Mint	Date	Obverse	Reverse	References	Notes
44	23x28	6	7.14		As above.	[+ Emma NOVHA] As above.	IS - XS/[b]AS - IL[E]/ [b]AS - IL[E] As above.	DOC 3/2: 679, No. 62.	Irregular flan.
45	24	6	5.28		As above.	[+ E]mm[A NOVHA] As above.	[IS - XS]/bAS - ILE/ bAS - ILE (blundered) As above.	DOC 3/2: 679, No. 59.	
<b>Anonymous <i>foliis</i> (class C) – copper</b>									
46	29	6	10.18		1042(?)– 1050	+ Emma [NOVHA] Half-length figure of Christ, bearded, standing facing, draped, with nimbus cruciger with one pellet in each limb of the cross. R. hand raised in benediction, l. hand holds book of Gospels. In field: [IC-XC]	IC - XC/Ni – KA Jeweled cross with a large pellet in center, and pellets in corners.	DOC 3/2: 684, No. 44.	Overstruck on class B. Irregular shape.
47	27	6	9.57		As above.	+ Em[mA N]OVHA As above. Very worn.	IC - XC/Ni – KA As above. Double-struck.	DOC 3/2: 682, No. 19.	Irregular shape.
48	29	6	9.20		As above.	+ Em[mA N]OVHA As above. Very worn.	IC - XC/Ni – KA As above.	DOC 3/2: 683, No. 20.	
49	28	6	9.16		As above.	+ Em[mA N]OVHA As above. Very worn.	IC - XC/Ni – KA As above. The steps of the cross from the original striking are visible underneath.	DOC 3/2: 683, No. 22.	Overstruck on class B.
50	27x29	6	9.00		As above.	+ E[mmA] NO[VHA] As above. Very worn.	IC - XC/Ni – KA As above.	DOC 3/2: 683, No. 33.	
51	28	6	8.69		As above.	[+ E]mmA [NOVHA] As above.	IC - XC/Ni – KA As above.	DOC 3/2: 683, No. 28.	Overstruck on class B.
52	27x33	6	8.58		As above.	[+ E]mmA NOVHA As above.	IC - XC/Ni – KA As above.	DOC 3/2: 683, No. 30.	Irregular flan.
53	28	6	8.39		As above.	+ Emma NOVHA As above.	IC - XC/Ni – KA As above.	DOC 3/2: 683, No. 33.	
54	30	6	8.28		As above.	+ Emm[A NOVHA] As above. Very worn.	IC - XC/Ni – KA As above. Misstruck.	DOC 3/2: 683, Nos. 31–32.	
55	27	6	8.13		As above.	[+ Emma] NO[VHA] As above.	IC - XC/Ni – KA As above.	DOC 3/2: 683, No. 32.	

No.	Diam. (mm)	Axis	Weight (gr)	Mint	Date	Obverse	Reverse	References	Notes
56	27x30	6	8.10		As above.	+ Em[mA NOV]HΛ As above.	IC - XC/NΙ – KA As above.	DOC 3/2: 683, No. 33.	
57	26	6	8.08		As above.	+ EmmA NOVH[Λ] As above.	IC - XC/NΙ – KA As above.	DOC 3/2: 683, No. 33.	Overstruck on class B.
58	28	6	8.03		As above.	+ EmmA [NOV]HΛ As above.	IC - XC/NΙ – KA As above.	DOC 3/2: 683, No. 33.	Worn.
59	28	6	7.95		As above.	+ Em[mA NOV]HΛ As above.	IC - XC/NΙ – KA As above.	DOC 3/2: 683, No. 33.	Overstruck on class B. Irregular shape.
60	27	6	7.92		As above.	+ EmmA NOVHΛ As above.	IC - XC/NΙ – KA As above.	DOC 3/2: 683, No. 32.	Overstruck on class B.
61	26	6	7.62		As above.	+ E[mmA] NOVHΛ As above. Worn.	IC - XC/NΙ – KA As above. Worn.	DOC 3/2: 683, No. 36.	
62	27	6	7.44		As above.	+ EmmA NOVHΛ As above. Worn.	IC - XC/NΙ – KA As above.	DOC 3/2: 683, No. 37.	
63	29	6	6.33		As above.	+ EmmA NOVHΛ As above. Worn.	IC - XC/NΙ – KA As above.	DOC 3/2: 684, No. 43.	Overstruck on class B.
64	25x28	6	6.15		As above.	+ EmmA NOVHΛ As above.	IC - XC/NΙ – KA As above.	DOC 3/2: 684, No. 44.	Overstruck on class B.
65	27	6	6.11		As above.	[+ EmmA NOVHΛ] The bust of Christ from the original die is visible.	IC - XC/NΙ – KA As above. Double-struck.	No specific reference in DOC.	Overstruck on class B.
<b>Anonymous follis (class D) – copper</b>									
66	30x33	6	9.32		ca. 1050–1060	Christ seated facing on throne, bearded, draped, bearing nimbus cruciger with one pellet in each limb of the cross. R. hand raised in benediction, l. hand holds book of Gospels. In field: IC-XC	Inscription in three lines: IS XS/bASILE/bASIL Above: – + – Below: – ∪ –	DOC 3/2: 686, No. 15.	Overstruck on class C.
67	27	6	7.54		As above.	As above.	As above.	DOC 3/2: 687, No. 27.	Overstruck on class C.



No.	Diam. (mm)	Axis	Weight (gr)	Mint	Date	Obverse	Reverse	References	Notes
<b>Constantine X Bronze, <i>foliis</i> ("Class 1") – Constantinople</b>									
68	30	6	16.38	Constant.	1059–1067	[+ Emm]A [NO]VHA Christ standing facing on base, bearded, draped, bearing nimbus cruciger with one pellet in each limb of the cross. R. hand raised in benediction, l. hand holds book of Gospels. In field: IC-XC.	+ K[ωNTΔK]/EVA[KAVTO] Constantine and Eudocia standing facing, both holding with inner hands a central standard with cross, standing on three steps.	DOC 3/2: 774, No. 8.1.	Overstruck. Very heavy, irregular shape.
69	30	6	12.17	As above.	As above.	+ EmmA NOVHA As above. Double-struck.	[+ KωNTAK]/EVΔKA]VΓ[O] As above. Misstruck.	DOC 3/2: 775, No. 8.3.	Overstruck.
70	29	6	10.20	As above.	As above.	As above, the figure of Christ almost invisible. First die: cross and inscription of class B: IS-XC/bAS- ILE/bAS-ILE	[+ KωNTAK]/EVΔKAVTO As above.	DOC 3/2: 775, No. 8.5.	Overstruck on class B.
71	24	6	9.61	As above.	As above.	+ [Emm]A NOV]HA As above. Worn.	+ KωNTAK]/EVΔKAVTO] As above.	DOC 3/2: 775, No. 8.7.	Overstruck.
72	24	6	9.41	As above.	As above.	[+ E]m]m]A NOVHA] As above.	[+ KωNTAK]/EVA[KAVTO] As above.	DOC 3/2: 775, No. 8.10.	Worn.
73	26	6	8.92	As above.	As above.	+ E[m]m]A N[O]V]HA] As above. Worn.	+ K[ωNTAK]/EVΔKA]VΓ[O] As above.	DOC 3/2: 775, Nos. 8.11– 12.	
74	25	6	8.83	As above.	As above.	+ [Emm]A NOVHA] As above.	[+ KωNTAK]/[EVΔKAVTO] As above.	DOC 3/2: 775, No. 8.11.	Worn.
75	29	6	7.81	As above.	As above.	[+ Emm]A NOVHA As above. Worn.	[+ KωNTAK]/[EVΔKAVTO] As above.	DOC 3/2: 776, No. 8.20.	Overstruck.
76	27	6	7.52	As above.	As above.	[+ Em]m]A [NO]VHA As above.	+ [KωNTAK]/EVA[KAVTO] As above.	DOC 3/2: 776, No. 8.21.	Overstruck on class A2.
77	28	6	7.19	As above.	As above.	[+ Emm]A NO]VHA As above.	+ [KωNTAK]/EVA[KAVTO] As above.	DOC 3/2: 776, No. 8.23.	Overstruck on class C.
78	27	6	6.45	As above.	As above.	+ E[mm]A NO]VHA] As above.	[+ Kω]NTAK]/[EVΔK]AVΓ[O] As above.	DOC 3/2: 776, No. 8.26.	Misstruck.

No.	Diam. (mm)	Axis	Weight (gr)	Mint	Date	Obverse	Reverse	References	Notes
79	27	6	6.09	As above.	As above.	+ Emm[A] N[OVHA] As above.	+ KωNTΔK/EVΔKAVTO As above.	DOC 3/2:776, Nos. 8.28–29.	
80	26	6	5.81	As above.	As above.	[+] E[m]mA [NOV]HA As above.	+ [KωNTΔK]/EV[ΔKAVTO] As above.	DOC 3/2:776, No. 8.30.	Overstruck. Broken.
81	30	6	5.15	As above.	As above.	+ Em[mA] NOVHA As above.	+ [Kω]NTΔK/[EV]ΔKAVTO As above.	DOC 3/2:776, No. 8.32.	Overstruck on anonymous <i>foliis</i>
82	28	7	4.69	As above.	As above.	[+ E]m[mA NOV]HA As above.	[+ KωNTΔK]/EV[ΔKAVTO] As above.	DOC 3/2: 776, No. 8.32.	Overstruck. Very light weight.
<b>Michael VII</b>									
<b>Bronze, <i>foliis</i> – Constantinople</b>									
83	23	6	8.38	Constant.	1071–1078	Bust of Christ facing, bearing nimbus cruciger with dot in each arm, draped. R. hand raised in benediction, l. hand holds book of Gospels. In field IC – XC. Below IC small star.	+ mIX AHΛ RACIOA Bust of emperor facing, crown and cuirassed, holding standard in r. hand and globus cruciger in l. hand.	DOC 3/2: 818, No. 14.	Cut. Subtype unclear.
<b>Fatimid</b>									
<b>Al-Mustansir Billāh (AH 427–487/1036–1094) – billon, fraction of <i>dirham</i></b>									
84	11		0.73			Within circle: المستنصر بالله / أمير المؤمنين [المومنين] Illegible marginal legend.	Within circle: لا اله الا الله / محمد رسول الله / عادل Marginal legend missing.		Identified by A. Berman.
85	18		1.62			Within circle: معد/الامام / ابو تميم المستنصر بالله Illegible marginal legend	Obliterated.		Identified by A. Berman.

## APPENDIX: CHEMICAL ANALYSIS OF THE ANONYMOUS-TYPE *FOLLES* IN THE TIBERIAS HOARD

*Matthew J. Ponting*

### INTRODUCTION

Five of the 58 anonymous-type *folles* were selected for analysis (Table 3.5). The coins were analyzed by the methods discussed elsewhere (Chapter 2) and the data are included in the main data table there (Table 2.1).

Very little scientific work has been conducted on any aspect of Byzantine coinage. This is reflected in the way that these coins are interchangeably described as copper and bronze in the literature. Probably the most useful survey published is that of Padfield (1972), which consists of over eighty qualitative and semi-quantitative analyses of coins spanning the reformed issues of Anastasius up to the anonymous *folles*. However, the scale of the project, the small number of samples for any one group and the limitations of the analytical equipment available in the early 1970s mean that we are given merely a tantalizing glimpse of the information inherent in the analyses of these series.

### RESULTS

All five coins analyzed are made of unalloyed copper. The most apparent feature of the composition of these coins is the purity of the copper. This is especially apparent when compared with the analyses of the unalloyed copper artifacts (vessels, turnings and a gilded decoration) in the hoard. Fig. 3.2 shows the concentrations of the main contaminants (tin and zinc) in the unalloyed copper

items analyzed. It is very clear that the *folles* contain almost no detectable tin or zinc, whilst the unalloyed copper artifacts all contain small but significant amounts of contamination by both tin and zinc. Traces (up to 1%) of lead are, however, common to both the coins and the artifacts. Other elements continue to mark out the coins as being compositionally quite different from the artifacts in the hoard. Fig. 3.3 shows a scatter-plot of arsenic and cobalt that clearly characterizes the coins as having markedly lower levels of both elements. There is a single exception: coin TC57 (Cat. No. 68, Constantine X) contains 0.45% of arsenic (scaled to copper), which gives it an arsenic content more consistent with that of the artifacts. However, this coin remains exceptional in the levels of cobalt, nickel and iron present, as do the rest of the coins analyzed, and so has a composition that is quite different from that of the copper artifacts in the hoard. The marked difference between the trace element concentrations of the anonymous *folles* analyzed and the artifacts from the hoard can clearly be seen in Fig. 2.6 in the discussion of the scientific analyses (Chapter 2).

### DISCUSSION AND CONCLUSIONS

The anonymous *folles* analyzed are all made of a very pure copper. This copper is not only considerably purer than that used to make copper vessels and other artifacts in the hoard, but is quite

Table 3.5. Coins selected for analysis.

Cat. No.	Sample No.	Description	Class
9	TC31	Bust of Christ/Legend in four lines (ca. 976–1035)	A2
12	TC7	Bust of Christ/Legend in four lines (ca. 976–1035)	A2
21	TC21	Bust of Christ/Cross on steps and legend in three lines (ca. 1035–1042)	B
47	TC40	Christ std. facing/Cross and legend (ca. 1042–1050)	C
68	TC57	Christ std. facing/Constantine and Eudoxia std. facing (1059–1067)	Constantine X, class 1



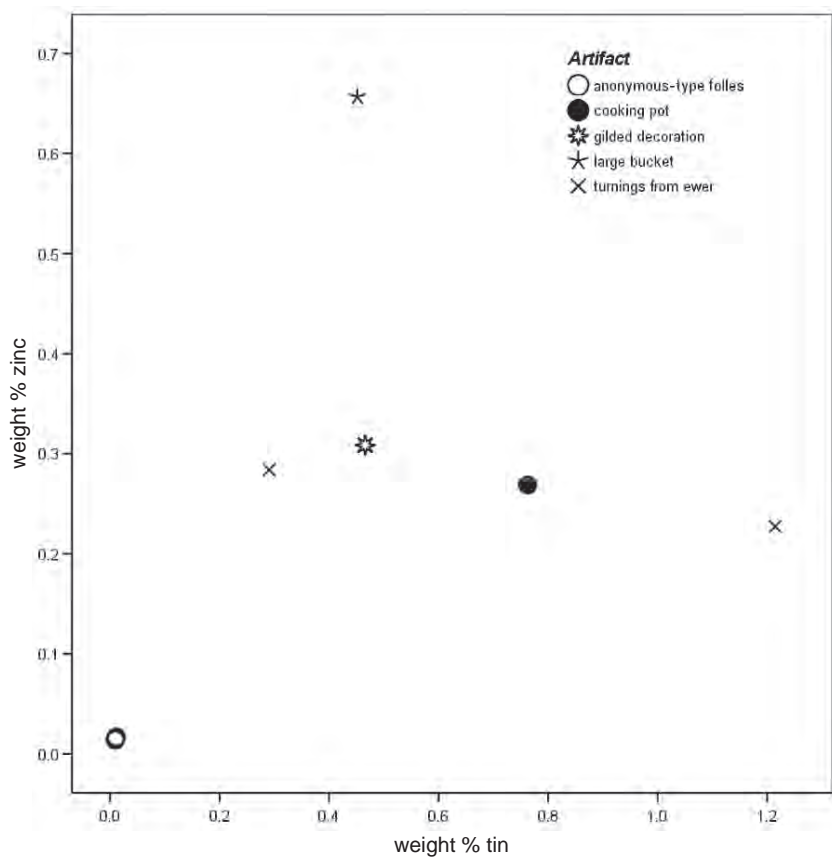


Fig. 3.2. Scatter-plot of zinc against tin.

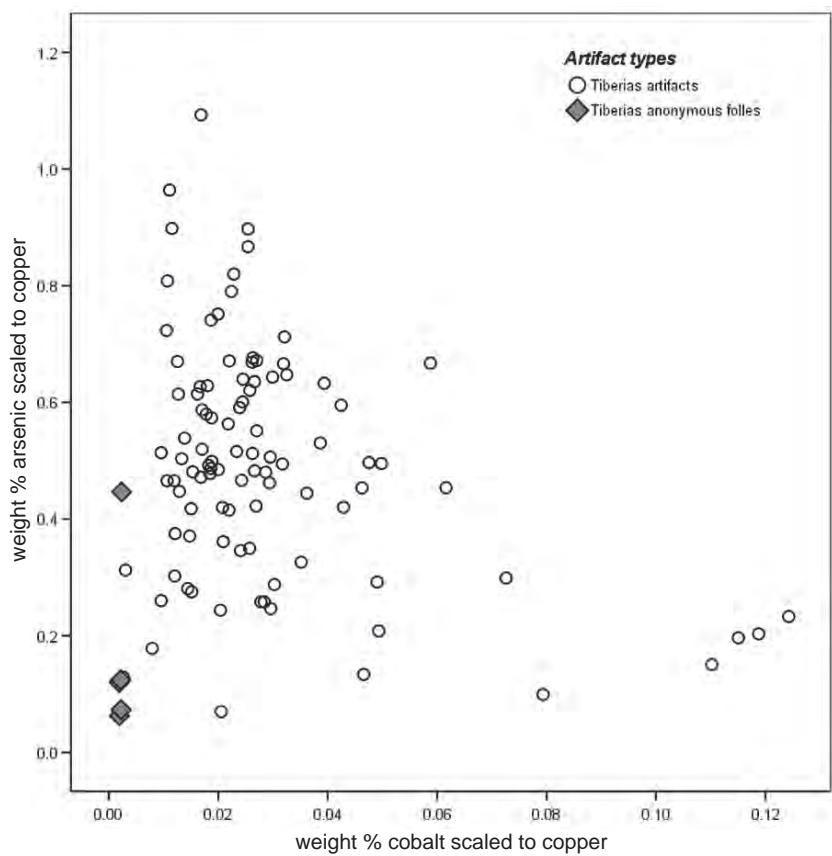


Fig. 3.3. Scatter-plot of arsenic against cobalt.

different in its trace element concentrations. Whilst it seems most likely that these coins found their way into the hoard as scrap metal rather than hidden cash, the different composition would suggest that the use of such coins as a source of copper was uncommon. The trace elements are, however, quite consistent between the coins themselves, suggesting that four out of the five are the product of the same mint. The single exception to this is the signed *folles* of Constantine X and Eudoxia (TC57) with a markedly higher arsenic concentration. Interestingly enough, the single example of an anonymous *folles* (Class A) analyzed by Padfield also has a similarly high level of arsenic. Furthermore, Padfield states that elevated arsenic concentrations are a feature of “later” coins from Constantinople (Padfield 1972: 230). Clearly, it is impossible to draw meaningful conclusions from only one analysis, but it is interesting that TC57, a coin numismatically

attributed to the mint of Constantinople, should share such a characteristic with Padfield’s analyses of Constantinopolitan issues back to the reign of Leo VI. Of course, it is generally assumed that all the anonymous *folles* (and their signed relations) were the product of the mint of Constantinople, although the possibility of other mints has not been entirely ruled out (Grierson 1982: 207). If we assume that TC57 was indeed issued in Constantinople, and that Padfield’s tentative conclusions regarding a Constantinople “fingerprint” are valid, then it would seem possible, on the basis of their trace element concentrations, that the other coins might be the products of mints other than Constantinople. This is, of course, currently a model built on the shakiest of foundations, but these data do indicate that a comprehensive program of analyses could well resolve the question of the mints that struck the anonymous *folles* series.

## REFERENCES

Grierson, P. 1982. *Byzantine Coins*. London.  
Padfield, T. 1972. Analysis of Byzantine Copper Coins  
by X-ray Methods. In: E. Hall and D. Metcalf

(eds.). *Methods of Chemical and Metallurgical  
Investigation of Ancient Coinage* (RNS Special  
Publication No. 8). London: 219–235.