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## Errata to *AJN* 29

Between the proof stage of the paper and the printed volume, the image of coin 100 on Plate 8 of Lloyd Taylor, “The Damaskos Mint of Alexander the Great,” *AJN* 29 (2017), 47–99, was substituted inadvertently in the printing process with the image of a Babylon Group 1.2.8 tetradrachm, coin 100 from Plate 3 of Lloyd Taylor, “The Earliest Alexander III Tetradrachm Coinage of Babylon: Iconographic Development and Chronology,” *AJN* 30 (2018), 1–44. Both volumes were in coproduction at the printer.

Coin 100 in “The Damaskos Mint of Alexander the Great” defines the die link between the Damaskos Series 1 and 2 emissions. It establishes a relative chronological peg tying the two series, a critical component in the understanding of the development of the Damaskos mint.

To assist readers, a corrected version of *AJN* 29 (2017) Plate 8 appears as Plate 24 in the present volume and the correct coin is illustrated below.



100

In the article “The Bahmani ‘Currency Reform’ of the Early Fifteenth Century in Light of the Akola Hoard,” by Phillip B. Wagoner and Pankaj Tandon, *AJN* 29 (2017), 227–268, a production error caused the wrong chart to appear on p. 240. The correct chart is printed here.

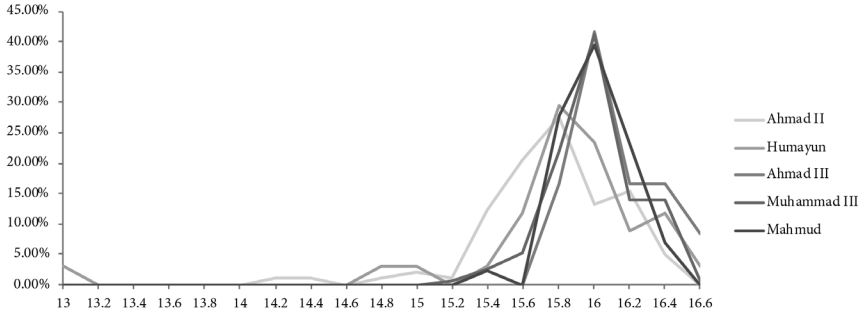


Figure 6. Weight loss in 18-*māṣa* denominations issued by five successive rulers over a period of 57 years: Ahmad II (1436–1458) to Mahmud (1482–1493).



## Birds of Feather, Brothers in Arms: The Coinage of Andragoras and Sophytes

PLATES 6–12

LLOYD W. H. TAYLOR\*

Analysis of the owl, eagle and cockerel coinage previously attributed to Sophytes indicates that it is most probably associated with that of Andragoras, the Seleucid satrap of Parthia who led the secession of the province from the Seleucid realm. The numismatic evidence suggests that following the death of Andragoras, the leadership of Parthia was assumed briefly by Sophytes before the province was completely overrun by the nomadic Parni around 238 BC. This coinage has a number of unusual characteristics. It was struck across eleven typological series in the period c. 250–238 BC. It is composed of a comprehensive range of silver denominations, including uniquely in the Hellenistic east, the didrachm. Nominally struck on a reduced Attic weight standard, defined by a tetradrachm of about 16.8 grams, each smaller denomination was weight adjusted to include a progressively increasing fiduciary component of value. These characteristics are indicative of a local coinage, motivated by political expediency in meeting a monetary necessity arising from Seleucid neglect.

### INTRODUCTION

In 1866 Alexander Cunningham described a drachm, struck on an “Indian” weight standard, depicting a helmeted male head on the obverse, with a cockerel and *kerykeion* on the reverse, bearing the Greek legend ΣΩΦΥΤΟΥ.<sup>1</sup> He attrib-

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1. A. Cunningham, “Coin of the Indian Prince Sophytes: A Contemporary of Alexander the Great,” *Numismatic Chronicle* 6 (1866), 220–231.

uted this coin to an Indian prince referred to variously as Sopeithes, or Sophites, in the ancient sources. This name he transcribed into English as Sophytes, noting that it was not a Greek name, despite the Greek genitive form of the legend. He inferred that this prince reigned in the northern Punjab in the region of the Salt Range between Indus and Jhelum rivers (modern day northwestern Pakistan) and suggested that the coin dated to the period 312–306 BC. Thus, began more than 150 years of scholarly research and debate on the subject of Sophytes and his coinage, a discussion that continues to the present.

By 1943 it was firmly established on morphological grounds that the Sophytes drachms bearing a cockerel on the reverse were the last of a succession of issues characterized by an image of Athena on the obverse, progressively bearing on the reverse the image of an owl in imitative Athenian style, followed by an eagle in Macedonian style.<sup>2</sup> This coinage was inferred to have been struck north of the Hindu Kush, in the Oxus river valley region of Bactria, no earlier than c. 320 BC. The style and rendering of the plumage on these successive ‘birds of a feather’ emphasised their association, also borne out by a progression of shared mint controls. Due to the rarity of this coinage and an absence of new finds, it was here that scholarship stalled for about 30 years.

In 1973 a small hoard of Bactrian owls and eagles acquired by the Bibliothèque Nationale de France Cabinet des Médailles was published.<sup>3</sup> In 1990 a larger hoard increased the corpus of material substantially.<sup>4</sup> This culminated in a re-evaluation,<sup>5</sup> which reaffirmed that the “issues in the name of Sophytes cannot be dissociated from the group of imitation Athenian ‘owls’ and the ‘eagle’ series.” It concluded that “the imitations of Athenian ‘owls’, coins of the ‘eagle’ series and Sophytes were struck towards the very end of the fourth century BC,” while noting that “we have no evidence whatsoever, at present, to define the political role played by Sophytes under the Seleucids.” This remained the accepted wisdom for the next twenty years. Recently however, it was proposed that the coinage of Sophytes commenced around 290 BC with the Athenian imitative “owls” and concluded in by 270 BC with the “cockerel” series in the name of Sophytes.<sup>6</sup> It was inferred that this coinage was the output of an unidentified mint in the Oxus

2. R. B. Whitehead, “The Eastern Satrap Sophytes.” *NC* 3 (1943), 60–72.

3. H. Nicolet-Pierre, “Monnaies grecques trouvées en Afghanistan.” *RN*<sup>6</sup>, 15 (1973), 35–42.

4. H. Nicolet-Pierre and M. Amandry, “Un nouveau trésor de monnaies d’argent pseudo-athéniennes venu d’Afghanistan (1990),” *RN*<sup>6</sup> 36 (1994), 34–54.

5. O. Bopearachchi, “Sophytes, the Enigmatic Ruler of Central Asia,” *Nomismatika Khronika* 15 (1996): 19–32.

6. B. Kritt, *The Seleucid Mint of Ai Khanoum* (Lancaster, PA: Classical Numismatic Group, 2017), 64–82.

region, reflecting trade relations between a region ruled by Sophytes and the Seleucid foundation of Ai Khanoum in Bactria.

Despite these studies, and differing interpretations, no comprehensive corpus, typology, die analysis, and metrology of the coinage currently associated with Sophytes is available, with the result that many of the conclusions appear to be built on weak foundations. This study presents a catalogue, typology, die analysis and metrology of the silver coinage previously associated with Sophytes as documented in the previously noted studies, supplemented by additional examples from commerce. The coinage under study consists of the imitative Athenian type owls, plus the coinage bearing successively the eagle, and cockerel reverse iconography; the “birds of a feather,” that are associated by style, including the distinctive rendering of plumage, plus mint controls. The obverse iconography of these coins consists of depictions of the heads of Athena, Zeus, Tyche and finally a helmeted male head, usually identified as Sophytes. Additionally, for reasons of typology, metrology and shared mint controls (as explained in the commentary below) the author associates the rare tetradrachm issues bearing the legend ΑΝΔΡΑΓΟΡΟΥ with the sequence.

Within the framework of the *American Journal of Numismatics*' guidelines for publication of unprovenanced material, the large volume of Andragoras and Sopyhtes coinage that entered the numismatic market in a succession of auctions commencing in the last quarter of 2017 and continuing into 2018, while this study was under consideration for publication, has been excluded from the analysis. Most of this material came to market in large numbers, in a succession of auctions hosted by a British auction house. A lesser amount appeared simultaneously at half a dozen European and American auction houses, or dealers. This has the characteristics of a substantial hoard in commerce, one that pending further investigation potentially derives from illicit excavation(s) in a conflict zone. The amount of this material exceeds that previously documented in prior studies. Its publication would require a rigorous investigation and clarification of provenance, combined with an analysis of the authenticity of some components of the material. This is well beyond the scope of this paper, more so in view of the fact that this unprovenanced material continued to enter the market at the time this paper was accepted for publication.<sup>7</sup>

7. Included in the catalogue below are 35 coins, the provenance of which cannot be traced to earlier than 2016. Potentially these have the same origin as the inferred unprovenanced hoard in commerce. However, as far as can be determined from coin images, the surface and wear characteristics of this material is variable, differing from that of the large volume of material entering the market commencing in the last quarter of 2017.

## CATALOGUE

The catalogue is divided into eleven series based on iconographic detail, or coin fabric. The first digit of the sequence type number identifies the series. Different types within each series are defined on defined on the basis of obverse and reverse mint controls. These are numbered sequentially, identified by the number behind the decimal point after the series number (e.g. 1.1, 1.2, 1.3 etc.). Within each series, each denomination is catalogued sequentially from largest to smallest. Dies are numbered sequentially within each series and denomination, the latter identified by a prefix; A/P for tetradrachms, a/p for didrachms, D/R for drachms and d/r for fractions. Coin weights (column 4) are in grams. The relative orientation of the obverse and reverse die axes is specified in column 5 with reference to the divisions of a clock face. Mint controls defining each type in a series are noted at the head of each type listing. Illustrated coins are indicated by an asterisk in column 1.

## Mint A

*Series 1*

*Obv.*: Helmeted head of Athena r.

*Rev.*: Owl standing r. with facing head, olive sprig and crescent behind, AΘE to r.

*Coin Fabric*: Incuse square reverse fabric. Die axes of tetradrachms and didrachms adjusted to 12 o'clock with few exceptions. Drachms and fractions unadjusted.

*Tetradrachms*

## 1.1. No controls.

1.*	A1	P1	16.71	9	London, BM 1880,0710.9.
2.*	A2	P2	16.39	12	Münz Zentrum Rheinland 179 (11 Jan. 2017), lot 165.
3.*	A3	P3	15.89	12	Hoover 2013, HGC 12, 1: Stack's (24 Apr. 2008), lot 2174; Stack's (14 Jan. 2008), lot 2260; CNG 66 (19 May 2004), lot 922.
4.	A4	P4	16.24	12	Nicolet-Pierre & Amandry 1994, 4.
5.	A5	P5	16.59	12	Nicolet-Pierre & Amandry 1994, 7.

6.	A6	P6	16.59	12	Paris, BNF 1991.1; Nicolet-Pierre & Amandry 1994, 6.
7.*	A6	P6	16.15	12	Nicolet-Pierre & Amandry 1994, 5; Münzen & Medaillen 38 (5 Jun. 2013), lot 115; Münzen und Medaillen AG, Basel stock list 606 (2001), 31.
8.	A7	P7	16.23	12	ANS 1944.100.74338; SNG ANS 9, 1.
1.2.	Obv. Grape bunch on Athena's helmet.				
9.	A8	P8	16.61	n.r.	Nicolet-Pierre & Amandry 1994, 9.
10.	A9	P9	16.50	n.r.	Nicolet-Pierre & Amandry 1994, 8.
11.*	A10	P10	16.17	12	CNG eAuction 403 (9 Aug. 2017), lot 355.
12.*	A11	P11	16.43	12	CNG 106 (13 Sep. 2017), lot 556.
1.3	Obv. Grape bunch on Athena's helmet.		Rev. Grape bunch.		
13.*	A12	P12	16.31	12	CNG eAuction 124 (12 Oct. 2005), lot 133.
1.4.	Rev. Grape bunch.				
14.	A13	P13	16.31	n.r.	CNG 41 (19 May 1997), lot 958.
1.6	Rev. Trident head, oriented vertically.				
15.	A14	P14	16.51	12	ANS 1944.100.74339; SNG ANS 9, 2; Naville 1 (4 Apr. 1921), lot 1583.
1.7.	Obv. ΣTA behind and MNA below Athena's neck. Rev. Grape bunch.				
16.*	A15	P15	17.06	12	Nicolet-Pierre & Amandry 1994, 2; Spink 3014 (8 Oct. 2003), lot 124; Giessner Münzhandlung 48 (Apr. 1990), lot 604.
17.	A15	P15	16.69	12	Paris, BNF 1991.2; Nicolet-Pierre & Amandry 1994, 1.
18.	A15	P16	16.17	12	CNG 106 (13 Sep. 2017), lot 555. Mint controls barely legible.

19. A15 P16 16.30 12 Nicolet-Pierre & Amandry 1994, 3.  
Very worn, mint controls illegible.

*Didrachms*

## 1.5. Obv. Grape bunch

- 20.\* a1 p1 7.87 n.r. Stacks (14 Jan. 2008), lot 2261; CNG 66 (19 May 2004), lot 923.
21. a2 p2 7.50 12 CNG eAuction 374 (11 May 2016), lot 317. Grape bunch barely visible.
22. a3 p3 7.79 12 CNG eAuction 316 (4 Dec. 2013), lot 254.
- 23.\* a3 p4 8.32 12 CNG 97 (17 Sep. 2014), lot 441. Grape bunch barely visible.
24. a3 p5 8.29 6 Nicolet-Pierre & Amandry 1994, 34; Münzen & Medaillen 9 (4 Oct. 2001), lot 61; Giessener Münzhandlung 48 (1990), lot 603; Münzzentrum, Köln 70 (1990), lot 682. Grape bunch off-flan.

*Drachms*

## 1.1. No controls.

- 25.\* D1 R1 3.90 2 CNG 103 (14 Sep. 2016), lot 460.
26. D1 R1 3.85 3 CNG eAuction 203 (28 Jan. 2009), lot 228.
27. D1 R1 n.r. 12 CNG eAuction 72 (3 Sep. 2003), lot 171(a).
28. D2 R2 3.89 6 (?) ANS1944.100.74341; Hoover 2013, HGC 12, 6; SNG ANS 9, 7.
- 29.\* D3 R3 3.57 n.r. CNG eAuction 133 (15 Feb. 2006), lot 107.
- 30.\* D4 R4 3.76 n.r. CNG eAuction 190 (25 Jun. 2008), lot 146.

31. D4? R5 3.41 1 ANS 1991.4.9; SNG ANS 9, 8. Very worn.

*Hemidrachms*

## 1.1. No controls.

32. d1 r1 1.88 9 CNG eAuction 83 (18 Feb. 2004), lot 72.  
 33.\* d2 r2 1.66 2 Hoover 2013, *HGC* 12, 9; CNG 72 (14 Jun. 2006), lot 1013; Triton VIII (11 Jan. 2005), lot 609.  
 34. d3 r3 1.77 3 ANS 1995.51.67; SNG ANS 9, 10.  
 35. d3? r4 1.88 6 CNG 402 (26 Jul. 2017), lot 379.  
 36. d4 r5 2.03 3 Paris, BNF; Nicolet-Pierre 1973,1.  
 37. d4 r6 1.44 12 CNG eAuction 357 (12 Aug. 2015), lot 198.

**Series 2**

*Obv.*: Helmeted head of Athena r.

*Rev.*: Owl standing r. with facing head, olive sprig and crescent (Types 2.1–2.10) behind, AΘE to r.

*Coin Fabric*: Flat non-incuse reverse fabric. The die axes are adjusted to 6 o'clock, with few exceptions (column 5). Hemidrachms are unadjusted but show a bias to 6 o'clock.

*Tetradrachms*

## 2.3. Obv. Grape bunch. Rev. Grape bunch.

38. A1 P1 16.32 6 CNG 46 (24 Jun. 1998), lot 607.  
 39. A1 P1 16.58 6 CNG 35 (20 Sep. 1995), lot 433.

## 2.4 Obv. MNA

- 40.\* A2 P2 16.88 6 Peus 392 (4 May 2007), lot 4306. MNA largely off flan. First tetradrachm with circular hinge on helmet visor design—a constant on Series 2 tetradrachm obverse dies hereafter.

## 2.5. Obv. MNA Rev. Grape bunch.

41.*	A3	P3	16.80	12	Leu Numismatik AG 83 (6 May 2002), lot 264. Die adjustment inferred from image—uncertain.
42.*	A4	P3	16.43	6	CNG 106 (13 Sep. 2017), lot 559.
43.	A4	P3	17.05	6	Bopearachchi 1996, pl. 1: 5.
44.	A4	P3	16.20	6	Nicolet-Pierre & Amandry 1994, 19.
45.	A4	P3	16.42	6	Nicolet-Pierre & Amandry 1994, 18; Münzen & Medaillen 9 (4 Oct. 2001), lot 60.
46.	A4	P4	16.52	5	CNG 106 (13 Sep. 2017), lot 558. Grape bunch almost completely off flan.

2.6. Obv. 


47.	A5	P5	16.61	n.r.	Athens, Alpha Bank Coll. 3914; Bopearachchi 1996, pl. 1: 9.
48.	A6	P6	16.76	6	Nicolet-Pierre & Amandry 1994, 11.
49.	A6	P6	16.61	6	Nicolet-Pierre & Amandry 1994, 12.
50.	A6	P7	16.95	6	Coin India Virtual Museum of Indian Coins.

2.7. Obv. . Rev. Grape bunch.

51.	A5	P8	16.83	6	LWHT Coll.; Coin India VCoins store SKU:Ho5 (Jun. 2007); ex Hakim Hamidi.
52.*	A6	P9	16.80	6	Leu Numismatik AG 83 (6 May 2002), lot 263.
53.	A7	P9	15.49	6	CNG eAuction 405 (6 Sep. 2017), lot 263.
54.	A7	P10	16.65	n.r.	Bopearachchi 1996, pl. 1: 7.
55.	A7	P11	16.43	6	CNG eAuction 403 (9 Aug 2017), lot 356.
56.*	A7	P11	15.89	6	CNG 106 (13 Sep. 2017), lot 557.



57.	A7	P12	16.48	6	CNG eAuction 403 (9 Aug. 2017), lot 357.
58.	A8	P13	16.75	n.r.	Bopearachchi 1996, pl. 1: 6. Grapes off-flan.
59.	A8	P14	16.61	6	Nicolet-Pierre & Amandry 1994, 13.
60.*	A8	P15	16.73	12	London, BM 1949,0411.513; Head 1906, pl. I: 7.
61.	A9	P16	16.82	6	Nicolet-Pierre & Amandry 1994, 14.
62.	A10	P17	16.76	6	Paris, BNF 1991.5; Nicolet-Pierre & Amandry 1994, 15.
63.*	A10	P18	16.07	6	London, BM 1879,1201.5.
64.	A11	P19	16.31	7	Paris, BNF 1991.4; Nicolet-Pierre & Amandry 1994, 10. Rev. control off-flan.
2.8.	Obv. ♀A resting on prow left. Rev. Grape bunch.				
65.	A12	P20	16.80	6	Paris, BNF 1991.6; Nicolet-Pierre & Amandry 1994, 20.
66.	A12	P20	16.79	7	Nicolet-Pierre & Amandry 1994, 21; Triton VIII (11 Jan. 2005), lot 607.
67.	A12	P21	16.75	6	Nicolet-Pierre & Amandry 1994, 22.
2.10.	Obv. ♂ Rev. Grape bunch.				
68.	A13	P22	16.42	12	Nicolet-Pierre & Amandry 1994, 17.
69.	A13	P23	15.91	6	Nicolet-Pierre & Amandry 1994, 16. Obv. mint control mostly off-flan.
2.12.	Obv. ♂ Rev. Prow right.				
70.	A14	P24	16.63	6	Nicolet-Pierre & Amandry 1994, 38.
71.	A14	P25	16.82	6	Paris, BNF 1991.3; Nicolet-Pierre & Amandry 1994, 36.
72.	A14	P25	16.79	6	Nicolet-Pierre & Amandry 1994, 37. Obv. mint control partially off-flan, barely legible.

73.*	A14	P25	16.52	6	London, BM 1920,1016.5.
74.	A14	P26	15.88	6	CNG eAuction 403 (9 Aug. 2017), lot 358.
75.*	A14	P27	16.43	6	Triton XIV (4 Jan. 2011), lot 410; CNG 57 (4 Apr. 2001), lot 704.
76.	A14	P28	16.77	6	Nicolet-Pierre & Amandry 1994, 39; Triton XX (10 Jan. 2017), lot 429; Hess Divo 328 (22 May 2015), lot 93; Peus 382 (26 Apr. 2005), lot 278; Peus 368 (25 Apr. 2001), lot 405; Giessener 48 (2 April 1990), lot 609.
2.14.	Obv.  . Rev. Prow right, vine branch with grapes and leaf.				
77.	A15	P29	16.70	6	Nicolet-Pierre & Amandry 1994, 40.
78.	A15	P29	16.82	6	Nicolet-Pierre & Amandry 1994, 41.
79.	A15	P29	n.r.	n.r.	Bopearachchi 1996, pl. 1: 8.
80.	A15	P29	16.82	4	Kabul Museum; Nicolet-Pierre 1973, fig. 2.
81.	A15	P30	16.88	6	Nicolet-Pierre & Amandry 1994, 42.
82.*	A15	P31	16.88	6	CNG 63 (21 May 2003), lot 918. Obv. mint control off-flan.
83.	A15	P32	16.61	6	ANS 1995.51.285; Hoover 2013, <i>HGC</i> 12, 2; <i>SNG ANS</i> 9, 3.


*Didrachms*




## 2.1. No controls.


84.	a1	p1	5.75 (?)	6	Nicolet-Pierre & Amandry 1994, 35. Recorded weight in error?
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## 2.2. Obv. Grape bunch.

85.*	a2	p2	8.01	7	Hoover 2013, <i>HGC</i> 12, 4; Heritage 3061 (8 Jan. 2018), lot 29277; Triton VIII (10 Jan. 2005), lot 608; Sotheby's Zurich (27 Oct. 1993), lot 903.
86.	a2	p3	7.84	n.r.	CNG 35 (20 Sep. 1995), lot 434.

87.	a2	p3	7.88	6	Nicolet-Pierre & Amandry 1994, 24.
88.	a2	p4	7.68	6	Nicolet-Pierre & Amandry 1994, 25.
89.*	a3	p5	8.07	6	Numismatica Ars Classica 77 (26 May 2014), lot 102.
90.	a4	p6	7.84	6	ANS 1995.61.66; <i>SNG ANS</i> 9, 5.
91.	a4	p7	8.11	6	Nicolet-Pierre & Amandry 1994, 28.
92.*	a4	p8	7.87	1	London, BM 1888,1208.11. Grape bunch largely off flan.
93.	a4	p9	8.19	6	Paris, BNF 1991.7; Nicolet-Pierre & Amandry 1994, 27.
94.	a5	p10	8.08	9	Nicolet-Pierre & Amandry 1994, 26.
95.	a6	p11	6.98	8	London, BM 1879,0401.11; Mitchiner 1975, 24a; Whitehead, 1943, pl. III, 1. First didrachm with circular hinge on helmet visor design.
2.3. Obv. Grape bunch. Rev. Grape bunch.					
96.*	a7	p12	7.93	6	Peus 380 (3 Nov. 2004), lot 645.
2.4. Obv. MNA					
97.*	a8	p13	7.75	6	Calgary Coin; CNG eAuction 115 (25 May 2005) Lot 180.
98.	a9	p14	7.96	6	Nicolet-Pierre & Amandry 1994, 23. Circular hinge on visor design - the norm on all didrachm dies from this point.
2.12. Obv.  . Rev. Prow right.					
99.*	a10	p15	6.75	5	CNG eAuction 133 (15 Feb. 2008), lot 106.
2.13. Rev. Prow right, vine branch with grapes and leaf.					
100.	a11	p16	7.94	n.r.	CNG 38 (6-7 Jun. 1996), lot 481.

- 2.14. Obv. . Rev. Prow right, vine branch with grapes and leaf.
- |       |     |     |      |      |   |
|-------|-----|-----|------|------|---|
| 101.  | a12 | p17 | 7.39 | 6    | Nicolet-Pierre & Amandry 1994, 43.  |
| 102.  | a13 | p18 | 7.59 | 6    | Paris, BNF; Nicolet-Pierre 1973, 3.   |
| 103.  | a13 | p19 | 7.94 | 6    | Peus 374 (23 Apr. 2003), lot 192.   |
| 104.* | a13 | p20 | 7.71 | 6    | Bru Sale 1 (21 Nov. 2012), lot 79; Elsen 95 (15 Mar. 2008), lot 75; Elsen 94 (15 Dec. 2007), lot 651; Vinchon (23 Apr. 1990), lot 35. |
| 105.  | a13 | p21 | 7.92 | 6    | Nicolet-Pierre & Amandry 1994, 44.  |
| 106.  | a13 | p22 | 7.94 | 6    | Nicolet-Pierre & Amandry 1994, 45.  |
| 107.* | a13 | p23 | 7.87 | 6    | Hoover 2013, <i>HGC</i> 12, 3; CNG 72 (14 Jun. 2006), lot 1012.   |
| 108.  | a14 | p24 | 8.01 | 6    | Nicolet-Pierre & Amandry 1994, 47.  |
| 109.  | a14 | p24 | 7.94 | 6    | Nicolet-Pierre & Amandry 1994, 50; <i>Numismatica Ars Classica</i> 84 (20 May 2015), lot 727.   |
| 110.* | a14 | p25 | 7.60 | n.r. | CNG eAuction 107 (2 Feb. 2005), lot 121.  |
| 111.  | a14 | p26 | 7.76 | 6    | Nicolet-Pierre & Amandry 1994, 48.  |
- 2.15. Obv. . Rev. Prow right, vine branch with grapes and leaf.
- |       |     |     |      |   |  |
|-------|-----|-----|------|---|--|
| 112.* | a15 | p27 | 8.05 | 6 | Gorny & Mosch 121 (10 Mar. 2003), lot 228. |
| 113.  | a15 | p28 | 7.84 | 6 | Nicolet-Pierre & Amandry 1994, 49.         |
- 2.16. Obv. . Rev. Prow right, vine branch with grapes and leaf.
- |      |     |     |      |   |                                    |
|------|-----|-----|------|---|------------------------------------|
| 114. | a16 | p29 | 7.86 | 6 | Nicolet-Pierre & Amandry 1994, 46. |
|------|-----|-----|------|---|------------------------------------|

115.*	a16	p30	7.89	6	Triton XIV, CNG 86 (3 Jan. 2011), lot 411; CNG 51 (15 September 1999), lot 685.
116.	a17	p31	6.12	7	ANS 1944.100.74340; Hoover 2013, <i>HGC</i> 12, 5; <i>SNG ANS</i> 9, 6. Worn
117.	a18	p32	6.12	7	London, BM 1921,0601.1.
2.17.	Obv. 	Rev. Prow right, vine branch with grapes below.			
118.	a19	p33	9.41 (?)	12 (?)	ANS 1995.51.254; <i>SNG ANS</i> 9, 4. Die axis recorded as 12 o'clock, but appears to be 7 o'clock from <i>SNG</i> image. Recorded weight in error?
119 *	a19	p33	7.13	5	Nicolet-Pierre & Amandry 1994, 51; Heritage 3061 (8 Jan. 2018), lot 29278.

*Drachms*

## 2.2. Obv. Grape bunch.

120.*	D1	R1	3.71	12	CNG eAuction 357 (12 Aug. 2015), lot 197.
121.	D2	R2	3.38	2	London, BM 1922,0424.8.
122.*	D3	R3	3.67	6	CNG eAuction 398 (31 May 2017), lot 361. Very worn.

2.9. Obv. Grape Bunch. Rev. 

123.*	D4	R4	3.47	8	London, BM 1880,0710.11. First drachm die with circular hinge on helmet visor—present on all drachm dies from this point.
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2.11. Rev. Prow right, , 

124.*	D5	R5	n.r	6	CNG eAuction 72 (3 Sep. 2003), lot 171(ii).
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*Hemidrachms*

## 2.1. No controls.

125.*	d1	r1	1.68	6	Nicolet-Pierre & Amandry 1994, 32; Elsen 94 (15 Dec. 2007), lot 428. The only Series 2 hemidrachm obverse die with the circular hinge design on the visor.
126.	d1	r1	1.86	6	CNG eAuction 136 (29 Mar. 2006), lot 88.
127.	d2	r2	1.61	n.r.	CNG 41 (19 May 1997), lot 959.
128.	d3	r3	1.46	n.r.	CNG eAuction 83 (18 Feb. 2004), lot 70.
129.	d4	r4	1.54	n.r.	Triskeles 20 (30 Jun. 2017), lot 282.

## 2.2. Obv. Grape bunch.

130.*	d5	r5	1.70	n.r.	CNG eAuction 97 (8 Sep. 2004), lot 75.
131.	d5	r6	1.75	n.r.	Nicolet-Pierre & Amandry 1994, 30; Fritz Rudolf Künker 97 (7 Mar. 2005), lot 994. Grape bunch off-flan.
132.	d5	r6	1.85	6	ANS 1980.149.3; SNG ANS 9, 9.
133.	d6	r7	1.59	6	CNG eAuction 402 (26 Jul. 2017), lot 378.
134.	d6	r8	1.68	3	Paris, BNF; Nicolet-Pierre 1973, 2
135.	d7	r9	1.78	6	Nicolet-Pierre & Amandry 1994, 31.
136.*	d7	r9	1.79	n.r.	CNG eAuction 176 (14 Nov. 2007), lot 87.
137.	d7	r10	1.56	12	Heritage (12 Jan. 2010), lot 25059.
138.	d8	r11	1.67	n.r.	CNG 66 (19 May 2004), lot 924.

## 2.3. Obv. Grape bunch. Rev. Grape bunch.

139.	d9	r12	1.82	6	Paris, BNF 1991.9; Nicolet-Pierre & Amandry 1994, 33.
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140.	d10	r13	1.78	n.r	CNG eAuction 83 (18 Feb. 2004), lot 71.
141.*	d11	r14	1.71	9	CNG eAuction 400 (28 Jun. 2017), lot 483.
2.7. Obv. $\text{Ϝ}$ . Rev. Grape bunch.					
142.*	d12	r15	1.81	6	CNG 105 (10 May 2017), lot 521.

### Series 3

*Obv.*: Helmeted head of Athena r.

*Rev.*: Eagle standing l., head reverted (exception: Type 3.6 on which eagle stands r.).

### *Drachms*

3.1. No controls.

143.*	D1	R1	3.50	7	London, BM 1881,1205.15; Mitchiner 1975, 26(a); Whitehead 1943, pl. III: 3; Head 1906, pl. II: 3.
144.	D2	R2	3.4	6	ANS 1944.100.74342; Hoover 2013, <i>HGC</i> 12, 7; <i>SNG ANS</i> 9, 12; Bopearachchi 1996, pl. 1: 11.
145.	D3	R3	2.95	6	ANS 1995.51.65; <i>SNG ANS</i> 9, 13; Bopearachchi 1996, pl. 1: 12.
146.*	D4	R4	3.39	6	CNG eAuction 165 (30 May 2007), lot 85.

3.2. Rev.  $\text{Ϝ}$ , vine branch with grapes and leaf.

147.*	D5	R5	3.17	6	CNG eAuction 176 (14 Nov. 2007), lot 88.
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3.3. Rev. Vine branch with grapes and leaf.

148.*	D6	R6	2.91	n.r.	CNG eAuction 78 (26 Nov. 2003), lot 60.
149.	D7	R7	3.44	6	Nicolet-Pierre & Amandry 1994, 53.
150.*	D8	R8	3.36	6	CNG eAuction 109 (2 Mar. 2005), lot 69.

151.*	D9	R9	3.35	6	CNG 57 (4 Apr. 2001), lot 705.
152.	D9	R10	3.44	6	ANS 1995.51.63; SNG ANS 9, 14.
153.	D10	R11	2.88	6	Münzen & Medaillen 42 (3 Jun. 2015), lot 112.
154.	D11	R12	3.45	n.r.	CNG 38 (6–7 Jun. 1996), lot 482.
155.	D11	R13	2.97	6	CNG eAuction 367. (27 Jan. 2016), lot 279. Coin worn and corroded.
156.	D12?	R14?	3.4	6	ANS 1995.51.295; SNG ANS 9, 15.
157.*	D13	R15	3.43	6	Nicolet-Pierre & Amandry 1994, 54; Künker 295 (25 Sep. 2017), lot 419; Gorny & Mosch 190 (11 Oct 2010), lot 374; CNG 18 (1991) Lot 240; Gies-sener 48 (1990) Lot 61.
158.*	D14	R16	2.99	6	Heritage 3054 (7–10 April 2017), lot 30167; Goldberg 91 (7 Jun. 2016), lot 1925.
159.*	D15	R17	3.30	8	CNG 69 (8 Jun 2005), lot 776.
160.	D16	R18	3.34	5	Paris, BNF; Nicolet-Pierre 1973, 4.
161.	D17	R19	3.32	6	Paris, BNF; Nicolet-Pierre 1973, 5.
162.*	D18	R20	3.61	6	Nicolet-Pierre & Amandry 1994, 52.
3.4.	Obv. $\wp$	Rev.	Vine branch with grapes and leaf.		
163.*	D19	R21	3.41	6	CNG 78 (14 May 2008), lot 1016.
164.*	D20	R22	3.60	6	CNG eAuction 97 (8 Sep. 2004), lot 76.
3.5.	Obv. $\wp$	Rev.	Vine branch with grapes and leaf.		
165.	D21	R23	3.30	6	London, BM 1879,1201.6; Mitchiner 1975, 26(c); Whitehead 1943 pl. III: 4; Head 1906, pl. II: 4.
166.	D21	R23	3.31	6	CNG eAuction 107 (2 Feb. 2005), lot 122.
167.*	D21	R24	3.46	6	CNG 67 (22 Sep. 2004), lot 1003.



168.*	D22	R24	3.43	6	Hoover 2013, <i>HGC</i> 12, 8; CNG eAuction 164 (9 May 2007), lot 102; CNG eAuction 129 (21 Dec. 2005), lot 175; CNG 66 (19 May 2004), lot 92.
169.*	D23	R25	3.02	6	CNG 81 (20 May 2009), lot 676; CNG eAuction 91 (9 Jun. 2004), lot 86.
170.	D24	R26	3.37	6	Nicolet-Pierre & Amandry 1994, 56.
171.	D25	R27	2.49	6	ANS 1944.100.774343; <i>SNG ANS</i> 9, 16.
3.6. Rev. <i>Kerykeion</i> above vine branch with grapes and leaf. Eagle stands r.					
172.*	D26	R28	3.30	6	CNG eAuction 184 (19 Mar. 2008), lot 74. <i>Kerykeion</i> barely visible above the vine branch on the worn flan edge.
3.7. Rev. <i>Kerykeion</i> above vine branch with grapes and leaf.					
173.*	D27	R29	3.39	6	Goldberg 42 (23 Sep. 2007), lot 116; CNG 72 (14 Jun. 2006), lot 1014.
174.	D27	R29	3.30	6	CNG eAuction 101 (10 Nov. 2004), lot 61.
175.	D28	R30	3.21	6	CNG 70 (21 Sep. 2005), lot 447.
176.*	D28	R31	3.48	6	LWHT Coll.; CNG 75 (23 May 2007), lot 613.
177.	D29	R32	3.48	6	Paris, BNF 1991.8; Nicolet-Pierre & Amandry 1994, 63.
178.	D30	R33	3.51	6	Nicolet-Pierre & Amandry 1994, 64.
179.	D31	R34	3.56	7	London, BM 1882,0703.2; Mitchiner 1975, 26(d); Head 1906, pl. II: 6.

*Hemidrachms*

3.1. No controls.

180.*	d1	r1	1.61	5	CNG eAuction 304 (12 Jun. 2013), lot 185.
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## 3.3. Rev. Vine branch with grapes and leaf.

181.*	d2	r2	1.60	6	Nicolet-Pierre & Amandry 1994, 62; LWHT Coll.; Elsen 94 (15 Dec. 2007), lot 429.
182.	d3	r3	1.74	6	Nicolet-Pierre & Amandry 58.
183.	d4	r4	1.68	n.r.	CNG eAuction 134 (1 Mar. 2006), lot 130.
184.	d5	r5	1.72	6	Nicolet-Pierre & Amandry 1994, 59.
185.	d5?	r6	1.62	n.r.	Gorny & Mosch Giessener Münzhandlung 237 (7 Mar. 2016), lot 1592. Tooled obv.
186.	d6	r7	1.29	6	CNG eAuction 400 (28 Jun. 2017), lot 484.
187.	d7	r8	1.52	7	CNG eAuction 262 (17 Aug. 2011), lot 178.
188.	d7?	r9	1.57	7	Paris, BNF; Nicolet-Pierre 1973, 6.
189.	d8	r9	1.72	6	CNG eAuction 101 (10 Nov. 2004), lot 62.
190.	d8	r9	1.69	6	Nicolet-Pierre & Amandry 60.
191.	d9	r10	1.65	6	Nicolet-Pierre & Amandry 1994, 61; Stack's 148 (9 Jan. 2009), lot 396.
192.	d9	r11	1.74	6	Coin India Virtual Museum of Indian Coins.
193.	d9	r12	1.74	6	CNG eAuction 245 (1 Dec. 2010), lot 229; CNG 61 (25 Sep. 2002), lot 941.
194.*	d10	r13	1.75	9	CNG eAuction 165 (30 May 2007), lot 86.
195.	d10	r14	1.55	n.r.	Gorny & Mosch 142 (10 Oct. 2005), lot 1708. Worn and corroded.
196.	d10?	r14?	1.74	n.r.	CNG 54 (14 Jun. 2000), lot 904. Image inadequate for confident die identification.

197. d11 r15 1.81 n.r. Heritage 3063 (17 Jan. 2017), lot 33280.  
 198.\* d12 r16 1.68 6 Heritage 3024 (18 Apr. 2013), lot 24710.

*Diobols*

3.3. Rev. Vine branch with grapes and leaf.

199. d13 r17 1.27 6 ANS 1944.1000.74344; Hoover 2013, *HGC* 12, 11; *SNG ANS* 9, 19.  
 200.\* d14 r18 1.17 9 London, BM 1881,1207.2; Mitchiner 1975, 27; Head 1906, pl. II: 5.

**Series 4**

*Obv.*: Laureate head of Zeus r.

*Rev.*: Eagle standing l., head reverted.

*Hemidrachms*

4.2. Rev. Vine branch with grapes and leaf.

- 201.\* d1 r1 1.49 6 CNG 61 (25 Sep. 2002), lot 942.

*Diobols*

4.1. No controls.

- 202.\* d2 r2 1.11 6 CNG eAuction 217 (26 Aug. 2009), lot 196.

4.2. Rev. Vine branch with grapes and leaf.

203. d1 r1 0.99 6 Nicolet-Pierre & Amandry 1994, 65.  
 204.\* d3 r3 1.06 6 Hoover 2013, *HGC* 12, 12; CNG 245 (1 Dec. 2010), lot 230; CNG 66 (9 May 2004), lot 926.  
 205. d4 r4 1.13 6 ANS 1955.21.244; *SNG ANS* 9, 20; Boparachchi 1996, pl. 1: 13.  
 206.\* d4 r4 1.07 6 CNG 184 (19 Mar. 2008), lot 75.

One other example noted in literature: Mitchiner 1975, 28 (Tashkent 1.17g).

*Trihemiobols*

## 4.1. No controls.

207.\* d5 r5 0.72 6 CNG eAuction 246 (15 Dec. 2010), lot 179.

## 4.2 Rev. Vine branch with grapes and leaf.

208.\* d4 r6 0.78 6 CNG eAuction 58 (12 Feb. 2003), lot 64.

209.\* d6 r7 0.71 6 CNG eAuction 344 (12 Feb. 2015), lot 206.

210. d7 r8 0.81 8 CNG 357 (12 Aug. 2015), lot 199.

211. d8 r9 0.71 8 London, BM 1971,0702.14; Mitchiner 1975, 28 (BM ex Kabul).

**Series 5**

*Obv.*: Head of Tyche wearing mural crown r.

*Rev.*: Eagle standing l., head reverted, wings displayed.

*Obols*

## 5.1. No controls.

212. d1 r1 0.41 4 CNG 61 (25 Sep. 2002), lot 789.

213. d2 r2 0.51 5 CNG 69 (8 Jun 2005), lot 780.

214.\* d3 r3 0.61 6 CNG 103 (14 Sep. 2016), lot 462.

215.\* d4 r4 0.43 6 CNG eAuction 399 (14 Jun. 2017), lot 311.

216. d5 r5 0.48 5 CNG eAuction 400 (28 Jun. 2017), lot 485.

## 5.2 Rev. Vine branch with grapes and leaf.

217.\* d6 r6 0.62 6 Triton XIV (4 Jan. 2011), lot 409; CNG 66. (19 May 2004), lot 928. Topmost part of vine branch visible on flan edge between 4h and 5h.

218.\* d7 r7 0.51 6 Gorny & Mosch 142 (10 Oct. 2005), lot 1709.

### Series 6

*Obv.*: Head of Tyche wearing mural crown r. within dotted border.

*Rev.*: ΑΝΔΡΑΓΟΡΟΥ vertically to r. (l. on Type 6.5), Athena standing l. (r. on Type 6.5) holding owl in r. hand (l. hand on Type 6.5), the other hand by her side resting on a vertical shield decorated with a Medusa head, grounded spear, point downward crossing diagonally behind, all within dotted border.

### *Tetradrachms*

#### 6.1. No controls.

219.\* A1 P1 16.36 6 London, BM 1888,1208.60; Mitchiner 1975, 20a (second specimen illustrated).

220.\* A2 P2 15.85 7 CNG 75 (23 May 2007), lot 549; Gorny & Mosch 130 (8 March 2004), lot 1341; Peus 338 (27 April 1994), lot 65.

221.\* A3 P3 15.77 6 Baldwin's 90 (24 Sep. 2014), lot 1089. Very worn.

222. A3? P3? 15.32 5 ANS 1978.201.1. Very worn.

#### 6.2 Obv. $\Lambda^P$

223.\* A4 P4 16.56 6 London, BM 1881,0405.1; Morkholm 1991, pl XXV, 379; Mitchiner 1975, 20a (first specimen illustrated); Whitehead pl. III: 6.

#### 6.3. Obv. $\Lambda^P$

224. A5 P5 16.32 n.r. Mitchiner 1975, 20a (third specimen illustrated).

#### 6.4 Obv. $\Lambda^P$ . Rev. Dot or pellet in left field.

225.\* A5 P6 17.11 n.r. Künker 295 (25 Sep. 2017), lot 388.

226.\* A6 P7 16.75 n.r. Gemini I (11 Jan. 2005), lot 223; Spink 3014 (8 Oct. 2003), lot 123.

6.5. Obv.  $\text{ΑΡ}$ . Athena stands right on the reverse.

227.\* A7 P8 16.86 6 Paris, BNF 41758700.

### Series 7

Obv.: Helmeted head of Athena r.

Rev.: Cockerel standing r.,  $\Sigma\Omega\Phi\Upsilon\text{ΤΟΥ}$  to r., all within dotted border (tetradrachms only).

#### *Tetradrachms*

7.1. Rev. *Kerykeion*.

228.\* A1 P1 15.75 6 Numismatica Ars Classica 59 (4 Apr. 2011), lot 655. Coin appears porous and crystalline—low weight.

#### *Diobols*

7.1. Rev. *Kerykeion*.

229.\* d1 r1 1.14 6 CNG 97 (17 Sep. 2014), lot 442.  
 230.\* d2 r2 1.13 n.r. CNG 61 (25 Sep. 2002), lot 945.  
 231.\* d3 r3 1.11 6 CNG 66 (19 May 2004), lot 927.  
 232. d4 r4 1.07 n.r. CNG 70 (21 Sep. 2005), lot 448.  
 233. d5 r5 1.10 6 CNG eAuction 388 (14 Dec. 2016), lot 211.  
 234. d5 r6 1.07 6 CNG 79 (17 Sep. 2008), lot 491.  
 235.\* d6 r7 1.15 7 CNG 69 (8 Jun. 2005), lot 779.  
 236. d6 r7 0.95 6 Coin India Virtual Museum of Indian Coins; CNG 54 (14 Jun. 2000), lot 906.  
 237. d6 r7 1.01 6 ANS 1995.51.59; SNG ANS 9, 27; Boparachchi 1996, pl. 1: 4.  
 238.\* d7 r8 1.08 6 CNG eAuction 357 (12 Aug. 2015), lot 200.  
 239. d8 r9 0.97 6 CNG eAuction 124 (12 Oct. 2005), lot 137  
 240. d9 r10 1.18 4 CNG eAuction 83 (18 Feb. 2004), lot 73.

*Trihemiobols*7.1 Rev. *Kerykeion*.241. d10 r11 0.87 n.r. London, BM; Mitchiner 1975, 31a;  
Whitehead 1943: 6, 2.*Obols*7.1. Rev. *Kerykeion*.

242.\* d11 r12 0.60 n.r. Paris, BNF 41758681.

**Series 8**

Obv. Helmeted male head r., all within dotted border.

Rev. Cockerel standing r., ΣΩΦΥΤΟΥ to r., all within dotted border.

*Tetradrachms*8.1. Obv. MNA on neck truncation Rev. *Kerykeion*.

243. A1 P1 17.20 6 Bopearachchi, 1996, pl. 1: 1.

*Didrachms*8.1. Obv. MNA on neck truncation. Rev. *Kerykeion*.

244.\* a1 p1 7.40 6 Athens, Alpha Bank 7461; Bopearachchi 1996, pl. 1: 2.

*Drachms*8.1. Obv. MNA on neck truncation. Rev. *Kerykeion*.245.\* D1 R1 3.52 6 Hoover 2013, *HGC* 12, 14; Gorny & Mosch 169 (12 Oct. 2008), lot 149; Gemini IV (8 Jan. 2008), lot 242; Freeman & Sear 13 (25 Aug. 2006), lot 272; Freeman & Sear FPL 10 (Spring 2005) Lot 60.

246.\* D2 R2 3.41 6 Spink Auction 325 (21 Jun. 2016), lot 126; CNG 72 (14 Jun. 2006), lot 1015. Low quality image suggests possibility of MNA on neck truncation.

8.2. Obv. M on neck truncation. Rev. *Kerykeion*.

247.	D3	R3	3.79	6	Coin India Virtual Museum of Indian Coins.
248.*	D4	R4	3.65	6	Heritage 3044 (3 Jan. 2016), lot 30037.
249.*	D5	R5	3.81	6	Triton XV (3 Jan. 2012) Lot 1343.
250.*	D6	R6	3.65	6	Numismatica Ars Classica 88 (8 Oct. 2015), lot 499.
251.	D7	R7	3.89	6	ANS 1955.51.61; <i>SNG ANS</i> 9, 21.
252.	D7	R7	3.78	n.r.	BM 1879,0401.9; Morkholm 1991, pl. VIII: 148; Mitchiner 1975, 29(a); Cunningham 1866 (this coin).
253.*	D7	R7	3.87	n.r.	Numismatica Ars Classica 82 (20 May 2015), lot 218.
254.	D8	R8	3.64	6	ANS 1944.100.734345; <i>SNG ANS</i> 9, 22.
255.	D9	R9	3.58	6	ANS 1995.51.283; <i>SNG ANS</i> 9, 23.
256.*	D9	R9	3.57	n.r.	Spink Sale 3014 (8 Oct. 2003), lot 125.
257.*	D10	R10	3.96	6	Münzen & Medaillen 44 (25 Nov. 2016), lot 72; Hess Divo (22 May 2015), lot 94; Triton IV (5 Dec 2000), lot 338.
258.*	D11	R11	3.54	7	CNG eAuction 140 (24 May 2006), lot 94.
259.	D12	R12	3.60	6	CNG 61 (25 Sep. 2002), lot 943.
260.	D13	R13	3.68	6	CNG 88 (14 Sep. 2011), lot 588.
261.	D14	R14	3.30	7	Leu Numismatik AG 83 (6 May 2002), lot 428.
262.*	D14	R15	3.61	6	LWHT Coll.; H. J. Berk 164 (20 May 2009), lot 255; Triton IX (10 Jan. 2006), lot 1109.



263.*	D15	R16	3.66	7	Gorny & Mosch 203 (5 Mar. 2012), lot 263; Triton XIV (3 Jan. 2011), lot 412; CNG 57 (4 Apr. 2001), lot 706.
264.*	D16	R17	3.63	6	CNG 60 (22 May 2002), lot 1098.
265.	D17	R18	3.03	6	Pegasi XXII (20 Apr. 2010), lot 228.
266.*	D18	R19	3.11	6	CNG eAuction 58 (12 Feb. 2003), lot 65.
267.	D19?	R20	3.48	n.r.	CNG 54 (14 Jun. 2000), lot 905.
268.	D20?	R21	3.23	6	Triton III (30 Nov. 1999), lot 683.
269.	D21?	R22	3.41	n.r.	Coin India Virtual Museum of Indian Coins.
270.	D?	R?	3.23	6	ANS 1944.100.74346; SNG ANS 9, 24.
8.3	Rev. <i>Kerykeion</i> .				
271.*	D22	R23	3.69	6	Paris, BNF41758678.
272.	D22?	R24	3.80	n.r.	London, BM 1888,1208.35; Mitchiner 1975, 29(b)i; Whitehead 1943, pl. III: 7.
273.*	D23	R25	3.46	6	CNG e Auction 134 (1 Mar. 2006) Lot 131; CNG 69 (8 Jun. 2005) Lot 778.
274.*	D24	R26	3.44	6	CNG eAuction 129 (21 Dec. 2005) Lot 176.
275.*	D25	R27	3.40	6	CNG 69 (8 Jun. 2005), lot 777.
276.	D26	R28	3.67	n.r.	London, BM 1888,1206.62; Mitchiner 1975, 29(b)ii; Whitehead 1943, pl. III: 8; Head 1906 pl. II: 10.
277.*	D27	R29	3.64	7	Triton VIII (10 Jan. 2005), lot 610.

*Hemidrachms*8.1. Obv. MNA on neck truncation. Rev. *Kerykeion*.

278.	d1	r1	1.61	6	ANS 1995.51.60; Hoover 2013, <i>HGC</i> 12, 15; <i>SNG ANS</i> 9, 25; Boparachchi 1996, pl. 1: 3.
279.	d1?	r2	1.55	6	CNG eAuction 124 (12 Oct. 2005), lot 136. Worn and corroded.
280.*	d1?	r3	1.75	n.r.	CNG eAuction 101 (10 Nov. 2004), lot 63. Worn and corroded

8.3 Rev. *Kerykeion*.

281.*	d2	r4	1.61	6	Paris, BNF41758679.
282.	d2	r5	1.61	n.r.	Mitchiner 1975, 30(a)i.
283.	d2	r5	1.55	n.r.	Mitchiner 1975, 30(a)ii.
284.*	d3	r6	1.21	6	Paris, BNF41758680.

*Obols*8.3. Rev. *Kerykeion*.

285.	d4	r7	0.49	6	CNG 103 (14 Sep. 2016), lot 463.
286.	d5	r8	0.56	6	CNG 72 (14 Jun. 2006), lot 1016.
287.	d5	r8	0.58	6	Mitchiner 1975, 32.
288.	d6	r9	0.66	n.r.	CNG 61 (29 Sep. 2002), lot 944.
289.*	d7	r10	0.54	n.r.	CNG eAuction 101 (10 Nov. 2004), lot 64.
290.	d8	r11	0.51	6	ANS 1974.145.1; <i>SNG ANS</i> 9, 26. Worn.
291.	d9	r12	0.37	6	CNG eAuction 399 (14 Jun. 2017), lot 312.
292.	d9	r12	0.51	n.r.	CNG eAuction 102 (21 Nov. 2004), lot 145.1.
293.	d10	r13	0.51	6	CNG eAuction 102 (21 Nov. 2004), lot 145.2.

## MINT B

## Series 9

*Obv.*: *Kalathos* decorated with geometric design.

*Rev.*: Double bodied owl with facing head.

*Coin fabric*: Strongly incuse square reverse, struck from non-adjusted dies.

*Trihemiobols*

9.1. No mint controls.

294.*	d1	r1	0.83	3	CNG 104 (14 Sep. 2016), lot 461.
295.*	d2	r2	0.72	10	CNG eAuction 394 (29 Mar. 2017), lot 325.
296.	d2	r2	0.72	3	ANS 1995.51.332; Hoover 2013, <i>HGC</i> 12, 13; <i>SNG ANS</i> 9, 11 corr.; Bopearachchi, 1996, pl. 1: 10 corr. ( <i>obv./rev.</i> switched).
297.*	d3	r3	0.74	6	CNG 100 (7 Oct. 2015), lot 1630.
298.	d3	r3	0.85	4	Paris, BNF; Nicolet-Pierre 1973, 8.
299.	d4	r4	0.67	6	CNG 54 (14 Jun. 2000), lot 903.

## Series 10

*Obv.*: Helmeted head of Athena r.

*Rev.*: Eagle standing l, head reverted.

*Drachms*

10.1. Rev.  $\Xi$

300.	D1	R1	3.34	12	London, BM 1879,1201.7; Mitchiner 1975, 26(b); Head 1906, 7, second specimen.
301.*	D1	R1	3.51	4	London, BM 1882,0703.1; Mitchiner 1975, 26(b); Head 1906, 7, pl. II: 7.

**Series 11**

*Obv.*: Helmeted male head r. within dotted border.

*Rev.*: Cockerel standing r.

*Trihemiobols*

11.2. Rev. Eight rayed star, each side of cockerel

302.\* d1 r1 0.74 6 Elsen 94 (15 Dec. 2007), lot 43.

*Obols*

11.3. Rev. X each side of cockerel

303. d2 r2 0.58 n.r. Mitchiner 1975, 33.

**COMMENTARY**

The primary sequence (Mint A) consists of Series 1–8, while a minor secondary mint (Mint B) is represented by Series 9–11. Each series is defined by coin fabric and/or iconography, accompanied by a progression of mint controls on the obverse and/or reverse of the coins. Table 1(a) summarizes the 44 types recognized in the primary sequence, plus the distribution of observed denominations and die counts for each type. Table 1(b) completes the summary for the associated types from Mint B. Table 2 summarizes the mint controls common to more than one series, while Table 3 summarizes the relative chronology of the different series, the basis for which is detailed in the commentary below. Obverse die links in the sequence involve Types 2.6 to 2.7 (Nos. 47–52) and Types 6.3 to 6.4 (Nos. 224–225). Among the fractional denominations, die links are observed between denominations of Type 4.2; a hemidrachm to diobol link involving both obverse and reverse dies (Nos. 201 and 203), and an obverse die link between a diobol a trihemiobol (Nos. 206 and 208).

Table 1(a). Mint A sequence summary and number of dies.

Type	Iconography & Mint Controls	4Drachm A/P	2Drachm a/p	Drachm D/R	Fractions* d/r
<i>Series 1 Athena/Owl</i>					
1.1	No mint controls	7/7	-	4/5	H 4/6
1.2	Obv. Grape bunch on helmet	4/4	-	-	-
1.3	Obv. Grape bunch on helmet Rev. Grape bunch	1/1	-	-	-
1.4	Rev. Grape bunch	1/1	-	-	-
1.5	Obv. Grape bunch	-	3/5	-	-
1.6	Rev. Trident head	1/1	-	-	-
1.7	Obv. ΣTA, MNA Rev. Grape bunch	1/2	-	-	-
<i>Series 2 Athena/Owl</i>					
<i>Change from square incuse to flat reverse</i>					
2.1	No mint controls	-	1/1	-	H 4/4
2.2	Obv. Grape bunch	-	5/10	3/3	H 4/7
2.3	Obv. Grape bunch Rev. Grape bunch	1/1	1/1	-	H 3/3
2.4	Obv. MNA	1/1	2/2	-	-
2.5	Obv. MNA Rev. grape bunch	2/2	-	-	-
2.6	Obv. ☩	2/3	-	-	-
2.7	Obv. ☩ Rev. Grape bunch	7/12	-	-	H 1/1
2.8	Obv. ♀A resting on prow left Rev. Grape bunch	1/2	-	-	-
2.9	Obv. Grape bunch Rev. ♂	-	-	1/1	-
2.10	Obv. ♂ Rev. Grape bunch	1/2	-	-	-
<i>Olive spray and crescent dropped from reverse iconography</i>					
2.11	Rev. Prow r., ♂, ⊕	-	-	1/1	-
2.12	Obv. ♂ Rev. Prow r.	1/5	1/1	-	-

Type	Iconography & Mint Controls	4Drachm A/P	2Drachm a/p	Drachm D/R	Fractions* d/r
2.13	Rev. Prow r., vine branch	-	1/1	-	-
2.14	Obv. $\text{P}^{\text{P}}$ Rev. Prow r., vine branch	1/4	3/10	-	-
2.15	Obv. $\text{P}^{\text{P}}$ Rev. Prow r., vine branch	-	1/2	-	-
2.16	Obv. $\text{P}^{\text{P}}$ Rev. prow r., vine branch	-	3/4	-	-
2.17	Obv. $\text{V}$ Rev. Prow r., vine branch	-	1/1	-	-
<i>Series 3 Athena/Eagle</i>					
3.1	No mint controls	-	-	4/4	H 1/1
3.2	Rev. $\text{A}$ , vine branch	-	-	1/1	-
3.3	Rev. Vine branch	-	-	13/15	H 11/15 D 2/2
3.4	Obv. $\text{P}^{\text{P}}$ Rev. Vine branch	-	-	2/2	-
3.5	Obv. $\text{P}^{\text{P}}$ Rev. Vine branch	-	-	5/5	-
3.6	Rev. <i>Kerykeion</i> , vine branch (eagle standing right)	-	-	1/1	-
3.7	Rev. <i>Kerykeion</i> , vine branch	-	-	5/6	-
<i>Series 4 Zeus/Eagle</i>					
4.1	No mint controls	-	-	-	D 1/1 T 1/1
4.2	Rev. Vine branch	-	-	-	H 1/1 D 3/3 T 4/4
<i>Series 5 Tyche/Eagle</i>					
5.1	No mint controls	-	-	-	O 5/5
5.2	Rev. Vine branch	-	-	-	O 2/2

Type	Iconography & Mint Controls	4Drachm A/P	2Drachm a/p	Drachm D/R	Fractions* d/r
<i>Series 6 Tyche/Athena (Andragoras)</i>					
6.1	No Mint controls	3/3	-	-	-
6.2	Obv. $\omega$ P	1/1	-	-	-
6.3	Obv. $\omega$ P	1/1	-	-	-
6.4	Obv. $\omega$ P Rev. Dot/pellet/globule	2/2	-	-	-
6.5	Obv. $\omega$ P Athena stands right on reverse	1/1	-	-	-
<i>Series 7 Athena /Cockerel (Sophytes)</i>					
7.1	Rev. <i>Kerykeion</i>	1/1	-	-	D 9/10 T 1/1 O 1/1
<i>Series 8 Male Head/Cockerel (Sophytes)</i>					
8.1	Obv. MNA on neck truncation Rev. <i>Kerykeion</i>	1/1	1/1	2/2	H 1/3
8.2	Obv. M on neck truncation Rev. <i>Kerykeion</i>	-	-	19/20	-
8.3	Rev. <i>Kerykeion</i>	-	-	6/7	H 2/3 O 7/7

\* AR fractions: H = Hemidrachm, D = Diobol, T = Trihemiobol and O = Obol

Table 1(b). Mint B sequence summary.

Type	Iconography & Mint Controls	Drachm D/R	Fractions* d/r
<i>Series 9 Altar/Owls (incuse reverse)</i>			
9.1	No mint controls. Incuse reverse.	-	T 4/4
<i>Series 10 Athena/Eagle (flat reverse)</i>			
10.1	Rev. $\Xi$	1/1	-
<i>Series 11 Male Head/Cockerel</i>			
11.1	Rev. Eight rayed star, before and behind cockerel.	-	T 1/1
11.2	Rev. X before and behind cockerel.	-	O 1/1

\* AR fractions: T = Trihemiobol and O = Obol

Table 2. Shared mint controls.

Mint Control	Series							
	1	2	3	4	5	6	7	8
No mint controls	x	x	x	x	x	x		
Grape bunch	x	x						
MNA	x	x						x
⌘		x	x					
Vine branch		x	x	x	x			
⌘		x	x				x	
⌘			x				x	
<i>Kerykeion</i>			x				x	x

Table 3. Relative Chronology and distribution of denominations.

	4Drachm	2Drachm	Drachm	½Drachm	2Obol	1.5Obol	Obol
↓	Series 1						
T	Series 2						
I			Series 3				
M	Series 6		Series 3		Series 4		Series 5
E	Series 7				Series 7		
↓	Series 8						Series 8

### Series 1

Series 1, with a strongly developed incuse reverse fabric consists of tetradrachms, didrachms, drachms and hemidrachms. Tetradrachms and didrachms were struck with dies adjusted to 12 o'clock. The dies of the drachms and hemidrachms were unadjusted. Series 1 is imitative of Athenian fourth century coinage, including the legend ΑΘΕ (Pl. 6, 1–16). The helmeted head of Athena on the obverse is a close replica of Athenian issues. In the earliest issues of Series 1, the portrayal of the owl evolves rapidly to a distinctive style, with a semicircular lower body outline and a characteristic plumage depicted by large dots and linear elements. The development of mint controls on both the obverse and reverse of the coins distinguishes Series 1 from the Athenian coinage that it imitates.<sup>8</sup>

8. The ΑΘΕ, olive sprig and crescent on the reverse are components of the imitative iconography, rather than mint controls.



After the earliest issue without mint controls (Type 1.1), a symbol mint control, a small grape bunch, appears initially on the helmet of Athena (Type 1.2), before its placement behind the neck of Athena and in the reverse left field, behind the owl (Types 1.3, 1.4 and 1.5). This is followed by the appearance of a new symbol, the trident head (Type 1.6), before two Greek letter mint controls ΣΤΑ and ΜΝΑ appear on the obverse, behind and below the neck of Athena, accompanied by the grape bunch symbol on the reverse (Type 1.7).

### Series 2

Series 2 maintains the general Athenian imitative iconography of Series 1, while initially sharing the grape bunch (Types 2.1–2.3) and ΜΝΑ (Types 2.4–2.5) mint controls found in the latter part of Series 1 (Pls. 6–7, 40–82). This indicates continuity with Series 1. However, three developments, two of fabric and one of iconography, define the transition to Series 2. Firstly, the strongly developed incuse reverse of Series 1 is abandoned with the start of Series 2. A flat, non-incuse reverse characterizes Series 2 and all subsequent series. Secondly, within the first few die pairs, the 12 o'clock die axis adjustment is replaced by a 6 o'clock die adjustment for all but the hemidrachms, which are variably adjusted, albeit with a bias towards 6 o'clock. Thirdly, an element of the iconography of Athena's helmet changes on the larger denominations. Series 1 depicts the decorative visor on the helmet by two lines that converge weakly, but do not meet, above Athena's ear. In the course of Series 2 this depiction develops into a closed circular hinge point above Athena's ear. This change is evident in tetradrachm Type 2.4. Its earliest occurrence is to be found on one of the didrachm dies of Type 2.2 (No. 95), although this depiction of the visor only becomes the norm on didrachm dies from Type 2.12. On drachm dies this change begins with Type 2.9 (No. 123). On the fractional denominations, the depiction of the decorative visor found on Series 1 coinage remains, although one hemidrachm obverse die (Nos. 125–126) does show a clumsily engraved circular hinge point above Athena's ear, after which the simpler open convergent line depiction prevails. Once established in Series 2, the depiction of a circular hinge on the visor is found on the larger denomination dies of later series that depict an Attic style helmeted head on the obverse (Series 3, 7, and 8).

Tetradrachms, didrachms, drachms, and hemidrachms are present in Series 2, in which 17 different control combination types are identified. After the grape bunch symbol and ΜΝΑ mint controls that were carried over from Series 1, a progression of Greek letter-monogram controls occurs on the obverse dies (Types 2.6–2.17), while with few exceptions, symbol mint controls are restricted

to the reverse dies for the balance of the coinage. A galley prow mint control follows the grape bunch control (Types 2.11–2.12). This is then joined by a segment of a grape vine branch mint control (Types 2.13–2.17). With the adoption of the large prow symbol mint control on reverse dies, the olive sprig and crescent iconographic elements of the imitative Athenian type were dropped from the reverse iconography, presumably to provide space to accommodate this large mint control.

### Series 3

Series 3 consists of drachms, hemidrachms, and diobols, the latter marking the first appearance of this denomination in the coinage. An eagle standing left with head reverted replaces the owl imagery of Series 2, although the depiction of the plumage of both birds is rendered in the same style (Pl. 10, 143–176). The obverse portrayal of Athena is consistent with that of Series 2, including on the drachms the circular hinge detail at the termination of the decorative helmet visor. With two exceptions (Nos. 186 and 200), the hemidrachms and diobols maintain the depiction of the helmet visor with open, weakly convergent lines above the ear, a characteristic of Series 1 and the fractional denominations of Series 2. With few and minor exceptions, the dies of Series 3 are adjusted to 6 o'clock continuing the convention adopted in Series 2.

The mint controls on Series 3 are a subset of those found in the latter part of Series 2 (Table 2) with the addition of two new controls  $\text{IAP}$  (Type 3.5) and a *kerykeion* on the closing issues of the series (Types 3.6 and 3.7). The mintage of Series 2 drachms and hemidrachms ceased after Type 2.11, coincident with the implementation of the mint controls shared with Series 3. The shared mint controls and style, plus a common die adjustment convention, indicate that the Athena/Owl drachms and hemidrachms of Series 2 were replaced half way through Series 2 by the Athena/Eagle iconography of Series 3 (Table 3). This started a pattern of iconographic differentiation of the smaller denomination coinage that flowed into Series 4 and 5.

### Series 4

The laureate head of Zeus on the obverse defines Series 4 (Pl. 12, 201–209). It replaces that of Athena found on the fractions of Series 3. The reverse iconography remains that of Series 3, while the mint controls of Series 4 are common to Series 3 (Table 2). However, the denominations of Series 4 are solely those of small fractions; primarily diobols and trihemiobols, although two examples of hemidrachms are identified. Series 4 marks the first appearance of the trihemiobol

denomination. The die axes of all Series 4 coins are adjusted to 6 o'clock, extending the convention established early in in Series 2 to fractional denominations. Sharing the same reverse iconography and bearing a mint control common to Series 3, it is contemporaneous with the latter (Table 3).

Series 4 appears to have been part of the mint's effort to expand the coinage to ever smaller fractional denominations, which by virtue of small diameter and small weight become increasingly difficult to distinguish one from the other in the absence of a clear iconographic separation of the denominations. This attempted iconographic distinction among the fractions is confused by the fact that one of the obverse dies in Series 4 was used to strike hemidrachms (No. 201), as well as diobols (No. 203), while one of the diobol dies (No. 206) was used concurrently to strike trihemiobols (No. 208). These die links across denominations suggest the possibility that Series 4 may have been a trial coinage in the development of smaller denominations.

### Series 5

Series 5 consists solely of obols, the first occurrence of this denomination in the coinage. The obverse depicts the head of Tyche wearing a mural crown, while the reverse employs an eagle, but this time standing left with wings spread (Pl. 12, 214–218). The morphology of the plumage of the eagle, plus the presence of the vine branch mint control beneath the eagle on some examples (Type 5.2), and the 6 o'clock die axis adjustment of the coins serve to associate Series 5 with the fractional emissions of Series 3 and 4, in turn contemporaries of the last half of Series 2 (Table 3). Series 5 represents but another component of the mint's effort to expand the range of denominations issued. The emergence of Tyche, the tutelary deity that governed the fortune and destiny of cities, on Series 5 is profoundly significant. This iconographic development leads immediately to Series 6, which from the numismatic perspective is the most chronologically and geographically significant component of the coinage.

### Series 6

Consisting solely of tetradrachms, Series 6 adopts the head of Tyche wearing a mural crown, as found on the obols of Series 5, while standing Athena, armed for war, adorns the reverse, accompanied for the first time on the coinage by a legend,  $\text{AN}\Delta\text{P}\text{A}\Gamma\text{O}\text{P}\text{O}\text{Y}$  (of Andragoras) (Pl. 8, 219–227). This emission carries on the obverse the  $\text{W}^{\text{P}}$  or  $\text{W}^{\text{P}}$  mint controls (Types 6.2–6.5) characteristic of the latter part of Series 2 (Type 2.16) and Series 3 (Types 3.4–3.5). Series 6 was struck with dies adjusted to 6 o'clock, maintaining the convention established early in

Series 2. It is bound to Series 2 by a shared mint control, while its obverse iconography replicates that of Series 5. Series 6 marks a further development in the practice of the mint; the first appearance of dotted borders on obverse and reverse. The dotted circumference is carried onto to the reverse of Series 7, albeit variably on the fractional dies, and then to both obverse and reverse of Series 8. This development, plus the presence of a legend identifying the issuing authority, associates Series 6 with Series 7–8, which in turn are connected to the last of Series 3 by the *kerykeion* mint control (Table 2), plus the distinctive style of portrayal of plumage on the birds of the reverse.

In Series 2, the mintage of Athena/owl tetradrachms ceased with Type 2.14. This closely followed the expansion of the mint's output to smaller denominations accompanied by iconographic differentiation of denominations (Series 3–5). By virtue of identical obverse mint controls, Series 6 tetradrachms must be contemporaneous with the Series 2 didrachms of Type 2.16 and the Series 3 drachms of Types 3.4–3.5. This indicates that the Series 2 tetradrachm issues were superseded by the Series 6 issues after Type 2.15. Thus, Series 6 is contemporaneous with the last of Series 2 and Series 3–5 (Table 3). The Tyche / armed Athena iconography of Series 6 signals a dramatic change of context around the mint; that of cities under threat. This is consistent with the turbulent times of the issuing authority, the Seleucid governor of Parthia and later secessionist, Andragoras, who was overwhelmed by an invasion of the nomadic Parni during the reign of Seleucus II. Thus, Series 6 provides a significant chronological and geographic peg for the entire sequence of emissions represented by Series 1–8. Andragoras was appointed to govern Parthia by Antiochus II around 250 BC, while his leadership of the secession of the province and its subsequent overrun by the nomadic Parni occurred during the reign of Seleucus II, in the period 245–238 BC.<sup>9</sup> Thus it is into interval c. 250–238 BC that the coinage represented by Series 1–8 must be dated, with Series 6 and subsequent emissions most probably falling into the period 245–238 BC.

The unusual characteristics of Type 6.5 (No. 227; Pl. 8, 227) warrant comment. Represented by a single coin, this type has a number of atypical iconographic details that set it apart from the balance of Series 6. Unlike the other coins of Series 6, the obverse is particularly ornate. Tyche wears a highly stylized triple drop earring, rather than the simple single drop found on other dies. Her necklace is a composite, composed of two rows of beads of differing dimen-

9. J. D. Lerner, *The Impact of Seleucid Decline on the Eastern Iranian Plateau. The Foundations of Arsacid Parthia and Graeco-Bactria* (Stuttgart: Franz Steiner Verlag, 1999), 13–32.

sions, rather than the single row of other dies. The mural helmet is bejewelled on the turrets in same position as the portals of other dies. Most startling is the reverse with its right standing Athena, both her shield and spear apparently free floating while her tunic is depicted in the plainest of forms, totally unlike the complex drapery found on other dies. The crest and plume of Athena's helmet sit close atop the helmet, rather than standing proud on the helmet as depicted on the other dies. This presents a conundrum in that the obverse appears to be of more advanced and stylized form than its counterparts in Series 6, while the reverse appears more like a primitive precursor to that of the rest of the series. Yet based on the progression of controls established from Series 2 and 3, the control monogram of the obverse places the coin in the latter part of Series 6. Perhaps the dies from which it was struck were an experiment in refining the iconographic elements and design, or alternatively the obverse and reverse dies from which it was struck came from the hands of two engravers of very different skill levels making for an unhappy juxtaposition of obverse and reverse. The right-facing Athena may reflect the inexperience and relatively low skill level of the engraver of the reverse, in effect failing to engrave the image on the die in mirror image form, although the correctly oriented outward facing reading of the legend argues against this possibility. Rather it appears that the right-facing Athena was engraved with deliberate intent. Notable in this regard is the penultimate issue of Series 3 (Type 3.6) that bears an anomalously right-standing eagle reverse. This reversal of the iconography of two reverse dies on separate series may be a relative chronological peg, tying the timing of the mintage of Type 6.5 to that of Type 3.6; another confirmation of that inferred from the progression of mint controls in the sequence.

It is notable that there are some parallels in the detail of the standing Athena iconography of the reverse of Series 6 with that of the seated Athena iconography found on the tetradrachms (SC 309) of another secessionist, Philetaerus of Pergamon, dating to c. 269/8 BC.<sup>10</sup> The iconography of the latter depicts the head of deified Seleucus I within a dotted border on the obverse, accompanied on the reverse with an image of Athena enthroned, her hand resting on a grounded shield, with a transverse or diagonal spear, point downward, bisecting the design.<sup>11</sup> Behind Athena is displayed the legend ΦΙΛΕΤΑΙΡΟΥ, in effect announcing the secession of Pergamon under Philetaerus from the Seleucid realm. Athena's

10. A. Houghton and C. Lorber, *Seleucid Coins a Comprehensive Catalogue*, Part 1: *Seleucus I to Antiochus III* (New York/Lancaster, PA: American Numismatic Society/Classical Numismatic Group, 2002), 119–120.

11. E. T. Newell, "The Pergamene Mint under Philetaerus," *ANSMN* 76 (1936): 23–34.

shield with its pronounced rim, the center prominently displaying the head of Medusa, is identical to that resting against Athena's leg on the Series 6 issues. The complex drapery of Athena's robes on Series 6 (with the exception of Type 6.5 which displays a simple tunic) parallels that observed on the seated Athena of Philetaerus' coinage. The same applies to Athena's Corinthian helmet with its prominent, trailing plumes. Most tellingly, the diagonally disposed spear, point downward, behind the standing Athena, seemingly unsupported on Series 6, appears to be a direct copy of that on the earliest examples of the Philetaerus issue where "Athena's spear remains in the background, with no visible means of support" before it is brought to the foreground to rest against her left shoulder.<sup>12</sup> These parallels are unlikely to be coincidence. Philetaerus, the satrap of Pergamon who had faced Galatian invaders invoked Athena armed but resting victorious after the latter had been defeated. In so doing, he placed his name on the coinage, a clear declaration of independence, notwithstanding the honour displayed to the deceased Seleucus I on the obverse of his coinage. A little over two decades later, Andragoras faced the invading nomadic Parni. Perhaps inspired by the example and coinage of Philetaerus, he invoked a similarly armed Athena, standing preparatory for battle.

### Series 7

Series 7 consists of a single tetradrachm issue (Pl. 8, 228), accompanied primarily by diobols, with a far smaller issuance of triobols and obols (Pl. 12, 229–242). The obverse iconography reverts to a helmeted head of Athena, although on the fractional denominations Athena wears a Corinthian helmet rather than an Attic helmet. A new bird is depicted on the reverse; a cockerel standing right, behind which is the *kerykeion* mint control. This new reverse iconography and mint control is carried into Series 8 (Table 2). The *kerykeion* mint control is identical to that found on Types 3.6–3.7 where it is accompanied by another control, a grape vine branch. This establishes that the *kerykeion* mint control was introduced while the mint operated using dual symbol mint controls, a characteristic of the last third of Series 2 and 3. This firmly places the introduction of the *kerykeion* mint control before the initiation of Series 7 and 8.

A new reverse legend, ΣΝΦΥΤΟΥ (of Sophytes) is placed to the right of the cockerel, reflecting the legend convention established with Series 6. The style of depiction of the plumage of the cockerel is in identical style to that of the preceding eagles and owls. The 6 o'clock die axis adjustment prevails on all denominations, in common with the convention of Series 2–6. The detail of Athena on the

12. Newell, "Pergamene Mint," 27 with pl. VII; SC 309.1; SC 309.1.

obverse tetradrachm die is notable for two iconographic developments. The head of Athena is portrayed with some distinctly masculine characteristics. The Attic helmet no longer bears the short horsehair crest of earlier series but is characterized by an ornamented metal crest. These changes presage the details of the helmeted male head imagery of Series 8.

The reversion to an obverse imagery that echoes that of Series 2 accompanied by a new bird on the reverse with the legend ΣΩΦΥΤΟΥ is an abrupt punctuation in the evolution of the coinage. It must signal a change in the fortunes of Andragoras and Parthia. Historical sources record that in the protracted struggle for control of Parthia, the Parni under Arsaces slew Andragoras.<sup>13</sup> The conclusion to be drawn from the sequence of the coinage is that leadership of the resistance to the Parni in Parthia fell to Sophytes, who must have succeeded Andragoras for a brief period, before Parthia was completely overrun by the Parni.

### Series 8

Series 8 corresponds to the coinage first identified by Cunningham in 1866. A helmeted male head adorns the obverse, while the cockerel, *kerykeion*, and legend ΣΩΦΥΤΟΥ of Series 7 are found on the reverse (Pls. 9, 244 and 11, 248–277). Series 8 includes tetradrachms, didrachms, drachms, hemidrachms and obols of undifferentiated iconography. In the absence of a full range of fractional denominations a differentiated iconography was not required to distinguish between the small fractions. With respect to denominations, it is notable that the presence of the didrachm, which is nonexistent in contemporaneous eastern coinages, either of Bactria or the Seleucid realm, serves to emphasise the coherency of the emission of Series 8 with that of the earlier Series 1 and 2; all being components of the same continuum of coinage.

The change from the obverse iconography of Series 7 to that of Series 8 is accompanied by two new details on the Attic type helmet now worn by a male head. The helmet ornamentation of the classic Athenian type is dropped for that of a laurel wreath design around the helmet bowl, while the ornamented metal crest of the helmet depicted the Series 7 tetradrachm is retained. A cheek guard with bird wing ornamentation is added to the helmet. It is most likely that the male head depicted on the coinage is that of Sophytes, the last leader of secessionist Parthia to succumb to Arsaces and the Parni. The portrait is variable. Some ex-

13. Justin xli, 4: “He (Arsaces) was used to a life of pillage and theft when he heard about the defeat of Seleucus against the Gauls. Relieved from his fear of the king, he attacked the Parthians with a band of thieves, vanquished their prefect Andragoras, and, after having killed him took the power over the nation.”

amples depict an idealized youthful portrait, others a more realistic older head. This has been interpreted to suggest a long span of rule for Sophytes. However, there is nothing in the data to support the proposition. Idealized youthful portraits are an often-observed characteristic of Hellenistic portraiture, particularly when an older leader is under threat. The portraiture of Series 8 is unlikely to be indicative of a long duration rule for Sophytes because the *kerykeion* mint control is the last of the mint controls observed in the progression from Series 1 to Series 8. Moreover, some of the obverse dies of Series 8 bear the letters MNA, or M, on the neck truncation of the male head (Types 8.1 and 8.2).<sup>14</sup> This echoes the MNA mint control on some of the last Series 1 (Type 1.7) and early Series 2 (Type 2.4–2.5) issues. It serves to link the last of the coinage with the earliest issues and suggests that the duration of the total Series 1–8 coinage was relatively short, notwithstanding the developments in iconography and mint practice expressed in the catalogue and sequence of issues.

In previous numismatic discourse, much has been made of the resemblance of the Series 8 obverse to that found on Susa trophy series of Seleucus I. However, in the progression of iconographic detail from the Athena head of Series 2 to that of the androgynous Athena of Series 7 and then to the male head of Series 8 we see a series of details develop that argue more strongly for convergent evolution of the helmeted male head design, rather than a direct assimilation of the Susa types. The laurel wreath decoration of the helmet bowl, plus the bird wing adornment of the cheek guard, the latter thematically carrying through into the design an iconographic element associated with the dominant “birds of a feather” iconography of the reverse of the coinage, argue strongly for a degree of convergent evolution of the helmeted head design, rather than assimilation. The helmet depicted on the coinage of Sophytes probably reflected reality. Supporting this idea, is a remarkable sculpted helmeted male head, dating to the second century BC, recovered in the excavations of the Parthian royal palace at Nisa, in eastern Parthia.<sup>15</sup> Although it bears a *fulmen* on the cheek guards, the helmet is of near identical form to that depicted on the Sophytes coins, including the detail of the metal crest. The sculpted head is inferred to be that of a Parthian

14. The small letters MNA and M are not clear on many of the low-resolution images of the coins. The catalogue classification of Series 8 types therefore relies heavily on dealer descriptions, which are not always accurate on this detail. These letter controls on the base of the neck may be more extensive than indicated in the catalogue. Moreover, the die sequence for these coins is the most subjective and least certain of Series 1–8, due to the poor quality of much of the sample and the published images from which the analysis was undertaken.

15. See [https://commons.wikimedia.org/wiki/File:Sarbaz\\_Nysa.jpg](https://commons.wikimedia.org/wiki/File:Sarbaz_Nysa.jpg) and [http://www.cais-soas.com/CAIS/Archaeology/Ashkanian/excavation\\_starai\\_nisa.htm](http://www.cais-soas.com/CAIS/Archaeology/Ashkanian/excavation_starai_nisa.htm).



soldier wearing a Hellenistic style helmet; the style of helmet influenced by the former enemy from whom control of Parthia was wrested.

### Series 9–11

Series 9–11 involve small denomination issues closely related to the primary sequence of the catalogue, which because of either cruder style, or divergent iconography and unadjusted dies, accompanied by unusual mint controls, cannot be directly associated with the main body of Series 1–8. Closely related, but not directly linked to Series 1–8, they may be the product of a minor mint. The first of these, Series 9, consists of trihemioobols bearing a *kalathos* on the obverse, paired to a square incuse reverse depicting a double bodied, facing-head owl (Pl. 12, 294–297). The incuse square reverse fabric of the coins conforms to that of Series 1 in which no fractional denominations smaller than a hemidrachm are identified. It is possible that the differentiated iconography of Series 9 was adopted in Series 1 for the striking of small fractions, much as occurred with Series 3–5, struck in association with Series 2. The iconography of the *kalathos* and the double-bodied owl is to be found on some of the small denomination coinage of Athens in the fourth century BC, further serving to indirectly associate Series 9 with the imitative owls of Series 1. However, in the absence of shared mint controls, such a direct association cannot be firmly established.

Series 10 consists of two drachms in the British Museum collection that share the same general iconography as Series 3. However, the portrayal of Athena's head is markedly cruder (Pl. 11, 301), bearing little resemblance to that of Series 3. Similarly, the eagle standing left with head reverted is of a totally different style and portrayal, completely lacking the characteristic rendering of the plumage of the primary sequence birds. The monogram control of these coins has no counterpart in the primary sequence and the die axes do not appear to have been adjusted during the striking of the coins. These coins appear to be the counterpart and chronological equivalent of Series 3 but struck in a different mint.

The last of these unusual types, Series 11, consists of a trihemioobol and an obol of shared iconography; a helmeted male head on the obverse and a cockerel right on the reverse (Pl. 12, 302). The larger denomination bears a mint control consisting of two stars placed on either side of the cockerel. Each star is reduced to an X on the obol. The male wears a helmet with cheek guards and a prominent crest, while the plumage of the cockerel includes two prominently ostentatious tail feathers. Notably the coins carry a dotted border, as found in Series 6–8. Both obverse and reverse are of a distinctly different style and detail to the Series 8 issues of Sophytes, although they share the same general iconography as the latter.

Although lacking the legend ΣΝΦΥΤΟΥ these must be counterparts of Series 8. Because of the noted divergence in detail and style from Series 8, they are maintained as associated issues from a secondary mint, although it cannot be excluded that they represent an attempt at iconographic differentiation of small fractions in Series 8.

### Summary of sequencing rationale

The discussion and interpretation thus far, has relied primarily on the contemporaneity of a progression of shared mint controls, the progression of development of iconography, epigraphy and fabric, accompanied by a consistent iconographic style in the depiction of the sequence of birds (owl, eagle, and cockerel) on the reverse of the coinage to tie Series 1–8 together as an associated sequence of issues. There is nothing in the die study and analysis to challenge the association of Series 1–5 based on the style of depiction of the plumage of each of the birds, as presented by earlier workers.<sup>16</sup> The parallel progression of mint controls implemented across Series 2–5 reinforces the association.

The association of Series 6 with the preceding series is via the iconography of Series 5 (Tyche obverse) and a progression of obverse mint controls shared with Series 2 and 3. Series 5 bearing the vine branch mint control is interpreted to have preceded Series 6 by virtue of the fact that the vine branch control was introduced prior to the Greek monogram controls shared by later parts of Series 2 and 3 and Series 6. The introduction of the vine branch mint control coincided with the expansion of the mint's output to include the iconographically differentiated small fractional denominations of Series 3, 4 and 5 (Tables 1, 2, and 3). This expansion of the mint's output to small fractions was initiated around the time of emission of Type 2.11. This is indicated by the monogram control of Type 3.2 that is shared with 2.11. Based on the progression of mint controls, Series 6 commenced after the Type 2.15 emission. On this basis, it is inferred that Series 5 introduced the Tyche iconography to the sequence, shortly after which it was adopted for the obverse of Series 6. The link of the cockerel issues (Series 7 and 8) to the preceding issues relies on the epigraphic and fabric (dotted border) developments evident on Series 6, plus most significantly the presence of the *kerykeion* mint control introduced on the last of Series 3 (Types 3.6–3.7). As noted previously, the style of and manner of depiction of the plumage of the cockerel on the reverse of Series 7 and 8 is identical to that of the preceding owl and eagle types, reinforcing the association inferred from the *kerykeion* mint

16. O. Boppearachchi, "Sophytes," 19–32.

control. This association is further strengthened by the presence of the didrachm denomination in Series 1, 2, and 8. Nowhere else is the didrachm denomination to be found in the contemporaneous Hellenistic coinage of the East. Its presence in Series 1, 2, and 8 indicates that all are components of the same continuum of coinage.

On this basis it is most probable that the owl and eagle coinage is associated with the satrapy of Andragoras in Parthia, while the link with the subsequent cockerel coinage indicates strongly that the coinage of Sophytes must follow immediately that of Andragoras. To attempt to separate the former from the latter ignores the many links of mint control, style, epigraphy, coin fabric and denominational composition. As will be shown below, the metrological analysis of the coins in the catalogue strengthens the association further, both in terms of chronology and geography.

#### MINT CONTROLS

The sequence in the catalogue shows a progression in the development of the mint's internal control system, which appears to have been quite dynamic. The earliest issue of Series 1 bore no mint controls (Type 1.1), after which an obverse symbol form mint control was implemented, initially on the bowl of Athena's helmet (Type 1.2), subsequently behind her neck (Type 1.3) at which point a complimentary reverse symbol form mint control was enacted (Type 1.4). Towards the end of Series 1, Greek letter mint controls appeared on the obverse (Type 1.7), coexisting with the symbol mint controls (Type 1.8). Together with the issuance of coins with no controls (Type 2.1), this approach was carried into Series 2 (Type 2.2–2.5) at which point Greek monograms appeared on the obverse (Type 2.6). With the exception of one issue (Type 2.11), Greek monograms are restricted to obverse placement, while from this point on, symbol mint controls are exclusively reverse located. The latter part of Series 2 sees an expansion from a single symbol control to dual symbol controls on the reverse (Type 2.11–2.17). With this development, the olive sprig and crescent iconography of the imitative Athenian owl reverse is discarded, so as to provide sufficient room in the left field reverse for two mint controls. This control complexity is reduced to a single symbol reverse control on Series 7–8. An obverse mint control was not used on the small fractional denominations of Series 4–5, although it persisted on the larger denominations of Series 6 and Series 8, in the latter case located on the neck truncation of the portrait head.

In addition to those coins bearing mint controls, coins without a mint control were produced throughout the emission of Series 1–6. The absence of controls

in itself must have served a purpose in the mint's control system, identifying a specific output, differentiated from that bearing assorted mint controls. At the peak of the large denomination mintage the placement of letters or monograms on the obverse together with symbols on the reverse suggests a hierarchy in the control system. It appears that the obverse control was the primary control, perhaps representing the most senior mint official. The subordinate reverse control(s) may reflect those lower in the hierarchy of the mint's production and control process. The implementation of multiple reverse controls in the latter part of Series 2 possibly represents additional layers of process control in the mint; a short-lived complexity that was overturned in later series. It is chronologically significant that the location of a mint control on the obverse of coin was not a usual Greek or Macedonian practice in the fourth century BC.<sup>17</sup> The implementation of mint controls on both the obverse and reverse of the coinage is further evidence that it post-dates the fourth century BC. This practice distinguishes the control approach of the originating mint from that of contemporary Seleucid, or Bactrian mints.

#### STATISTICS AND IMPLICATIONS

Among the 293 coins ( $n$ ) of Series 1–8, there are 195 obverse dies ( $d$ ) identified, of which 71% are represented by a single coin (Table 4a). The characteristic index ( $n/d$ ) of this sample of the coinage is 1.50 indicating that the survival rate of the coinage under study is low. Only the tetradrachms and didrachms of Series 2 have a sample rate sufficient to make a moderately confident estimate of the original number of dies commissioned at the mint for the striking of these coins (Table 4b) using the geometric method of Esty.<sup>18</sup> Combined with an assumed average obverse die productivity of 20,000 coin per die,<sup>19</sup> it is possible to make an estimate of the approximate volume of this component of the coinage (Table 4b); in total c. 527 Attic talents of silver.<sup>20</sup> This estimate of a small component of the coinage suggests that the total emission of Series 1–8 was of a substantial volume. Its low survival rate most probably reflects the unusual circumstances

17. Other than on Alexandrine darics where the rough incuse punch reverse precluded a reverse mint control.

18. W. W. Esty, "The Geometric Model for Estimating the Number of Dies," in *Quantifying Monetary Supplies in Greco-Roman Times*, ed. F. de Callataÿ (Bari: Edipuglia, 2011), 43–58.

19. F. de Callataÿ, "Quantifying Monetary Production in Greco-Roman Times: A General Frame," in *Quantifying Monetary Supplies in Greco-Roman Times*, ed. F. de Callataÿ (Bari: Edipuglia, 2011), 7–28.

20. The tetradrachm (16.8 grams) and didrachm (7.9 grams) weights derived from the metrology study have been used in this estimation.

associated with its origin and circulation. It also implies that our sample of mint controls and associated links is potentially incomplete, a fact to bear in mind in the interpretation of the sequence typology, summarized in Table 1a.

Table 4(a). Sample coverage (Mint A).

	4Drachm	2Drachm	Drachm	½Drachm	Diobol	1.5Obol	Obol
No. of coins (n)	76	42	82	60	19	6	8
Obv. dies (d)*	39	23	67	39	15	6	8
Singletons (d <sub>1</sub> )	23	15	55	23	9	5	8
Characteristic Index (n/d)	1.95	1.83	1.22	1.53	1.27	1.00	1.00

\*Two dies shared across Series 4 fractional denominations are counted in each denomination, inflating the cumulative die count in this table by two over the actual number of dies observed in the total coinage.

Table 4(b). Statistics: Series 2—tetradrachms and didrachms.

	Series 2	
	<i>Tetradrachms</i>	<i>Didrachms</i>
Sample size (n)	46	36
Number obv. dies (d)	15	19
Singletons (d <sub>1</sub> )	4	12
Characteristic index (n/d)	3.07	1.89
Sample coverage (Cest)	0.91	0.67
Est. original dies (Dest)	22.3	40.2
95% Confidence range	16.7–29.7	25.2–65.3
Est. coins struck	440,000	800,000
Talents of silver	284	243

From the estimate of the number of original obverse dies commissioned to strike Series 2 tetradrachms and didrachms it appears that the mintage of both denominations was of comparable value. Yet in the fourth and third century BC coinage of the East, the didrachm is a rarely encountered denomination. It is not found in the coinage of Bactria. In the Seleucid realm the didrachm denomination was only struck in very small issues from Babylon (SC 83) and Ecbatana (SC 206–207) during the reign of Seleucus I. His successors completely ignored the didrachm in their coinage. Therefore, in the coinage under study, the di-

drachm has a prominence that is entirely atypical of contemporaneous eastern Hellenistic coinages. It most certainly originated and circulated outside of the Seleucid monetary system and was not a component of inter-regional trade flows. The most plausible interpretation is that the coinage was struck for local use in an essentially closed economy.

### METROLOGY

In his original description of the Sophytes drachm, Cunningham<sup>21</sup> concluded that it was most probably struck on an "Indian" weight standard. The subsequent association of the Sophytes cockerel coins with the imitative Athenian owl and eagle series saw this metrological consideration expanded to that of a dual weight system with tetradrachms and perhaps some didrachms and drachms struck on the Attic weight standard, while the majority of didrachms and smaller denominations were considered to have been struck on a local weight standard.<sup>22</sup> As will be shown below, the metrological data does not support this concept. Figures 1–5 illustrate the weight distribution of each denomination of the coinage after removal of any weight departing by more than 3 standard deviations from the mean of each distribution. The latter saw the removal of five extremely low weights and one anomalously high recorded weight in the sample.<sup>23</sup> The first point of note from the analysis of the weight distributions of each denomination and series is that weights of the various denominations in Series 9–11 (Mint B) conform to those of their counterparts in Series 1–8 (Mint A) supporting the contention that they form part of the same monetary system, although originating from different mints.

The weight distribution of the tetradrachms (Fig. 1) shows a broad dispersion of weights with a weakly developed mode centred on 16.8 grams and mean weight of 16.52 grams (Table 5a). There is no statistically significant difference between the weight distributions of the tetradrachms of Series 1, 2, and 6 (Table 5b). However, Series 7 and 8 tetradrachms, limited to a single coin each, fall two standard deviations either side of the mean of the tetradrachm weight distribution (Table 5b). The Series 7 tetradrachm (No. 228) appears to be porous and crystalline and this may account for the inordinately low weight. The weight of the Series 8 tetradrachm (No. 243) is two standard deviations higher than the

21. A. Cunningham, "Coin," 220–231.

22. Bopearachchi, "Sophytes," 19–32.

23. Two of the recorded weights, one high (No. 118) and one low (No. 84), removed from consideration in this in this process appear to be original recording errors, questioned in the publication from which they were sourced. The other four are associated with crystalline and/or very worn coins.

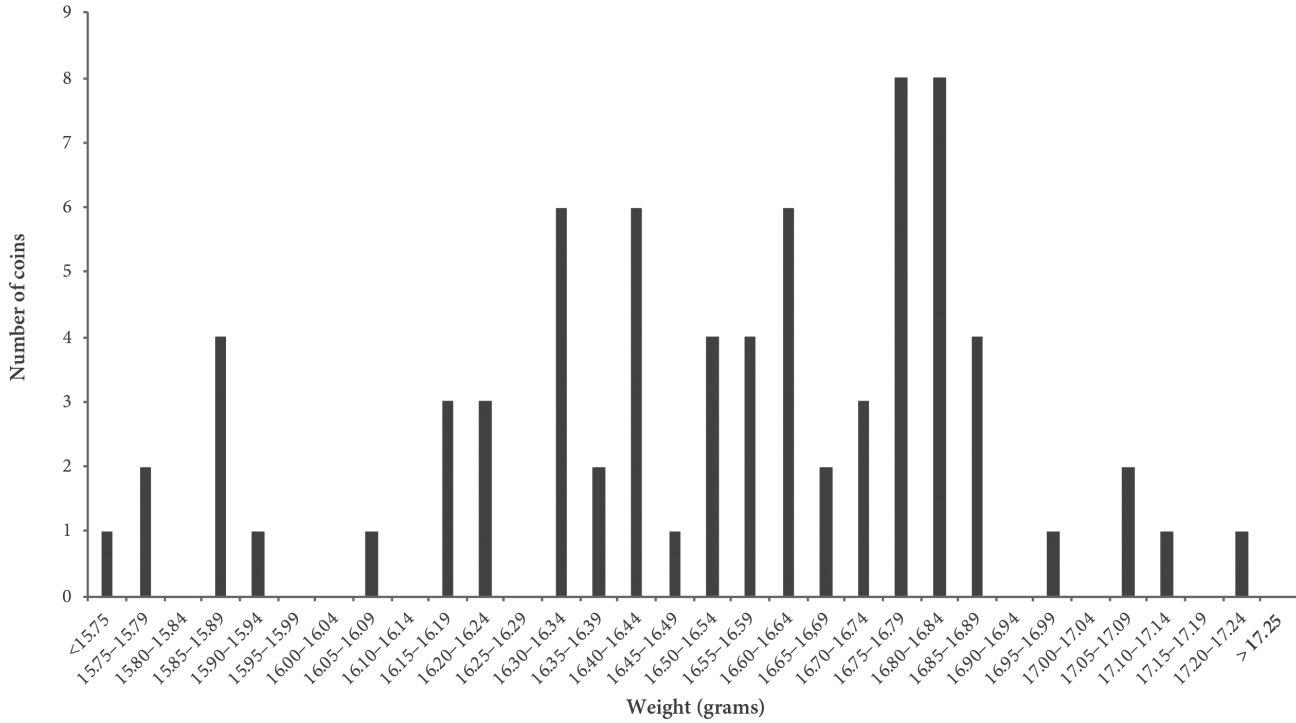


Figure 1. Weight distribution: Tetrachms.

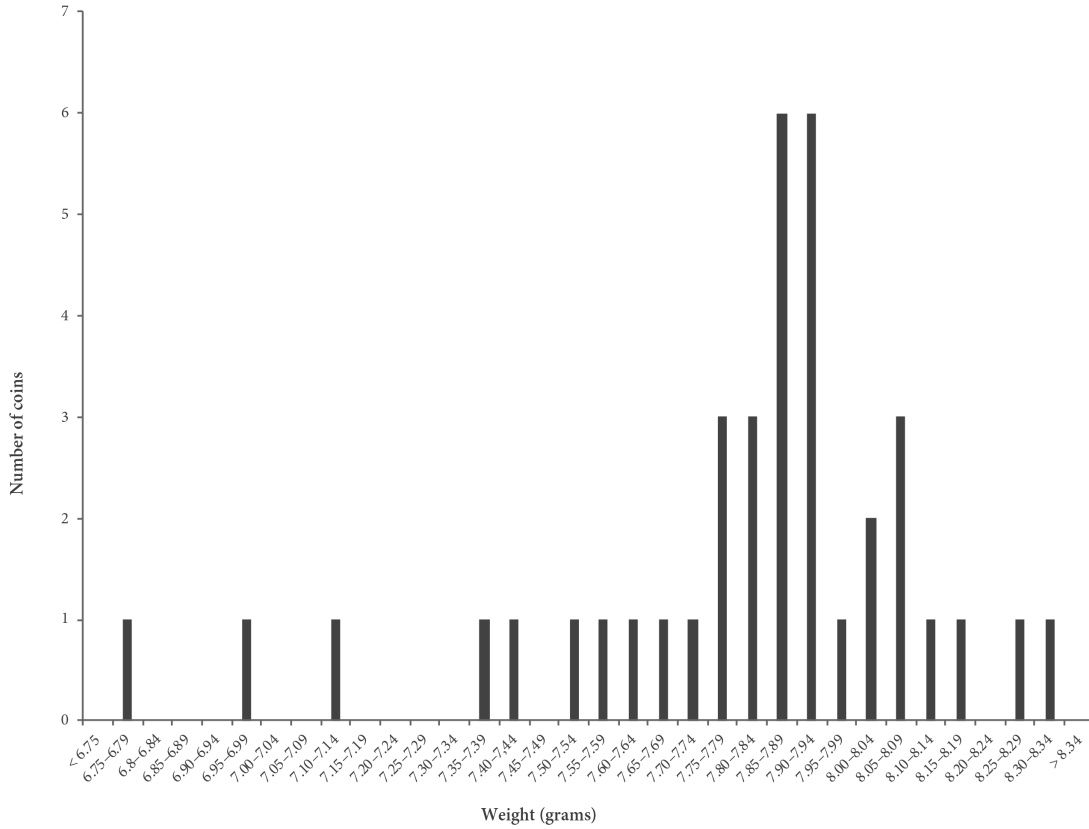


Figure 2. Weight distribution: Didrachms.



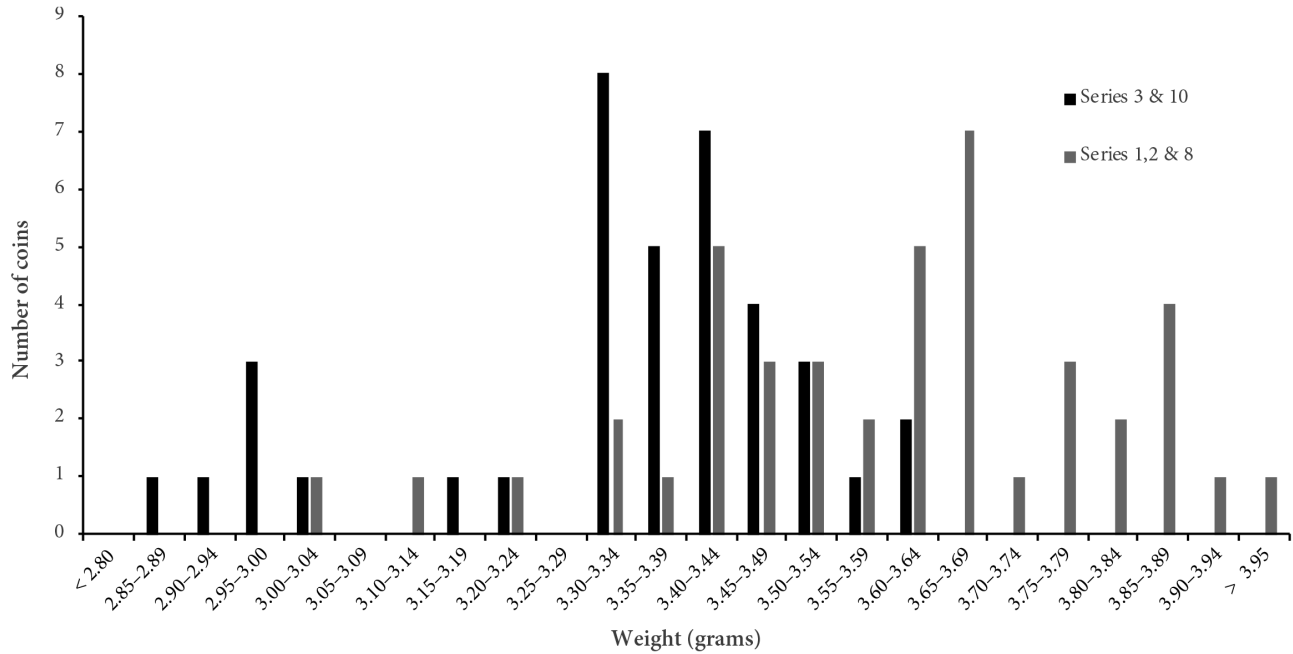


Figure 3. Weight distribution: Drachms.

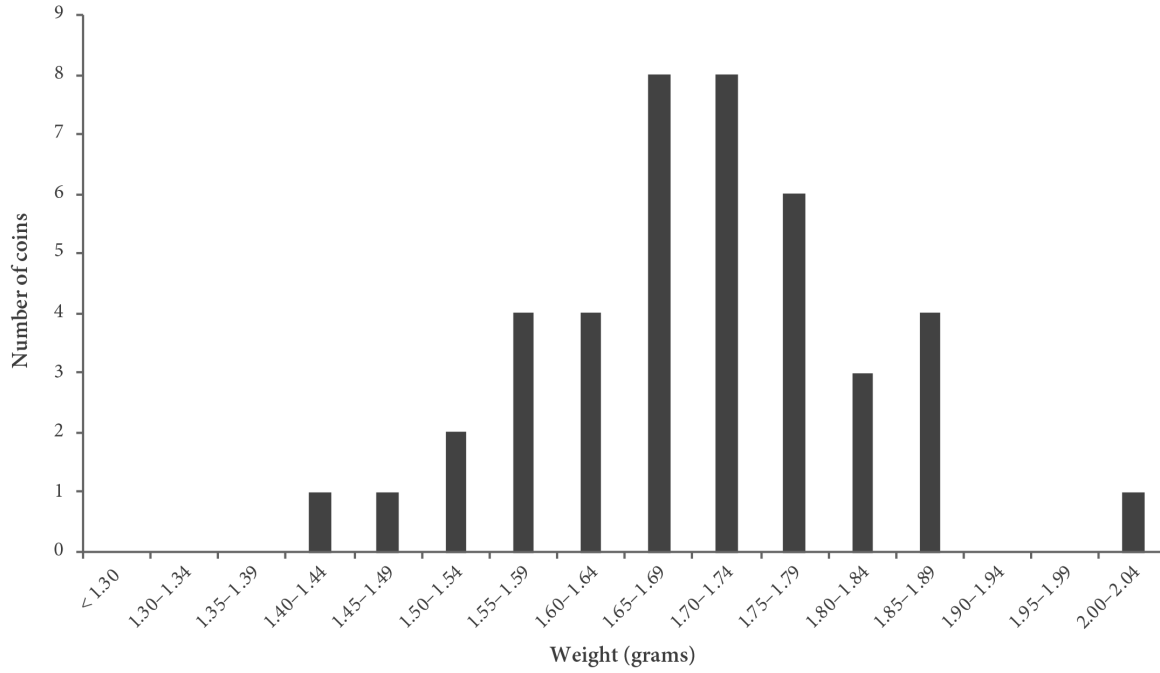


Figure 4. Weight distribution: Hemidrachms.

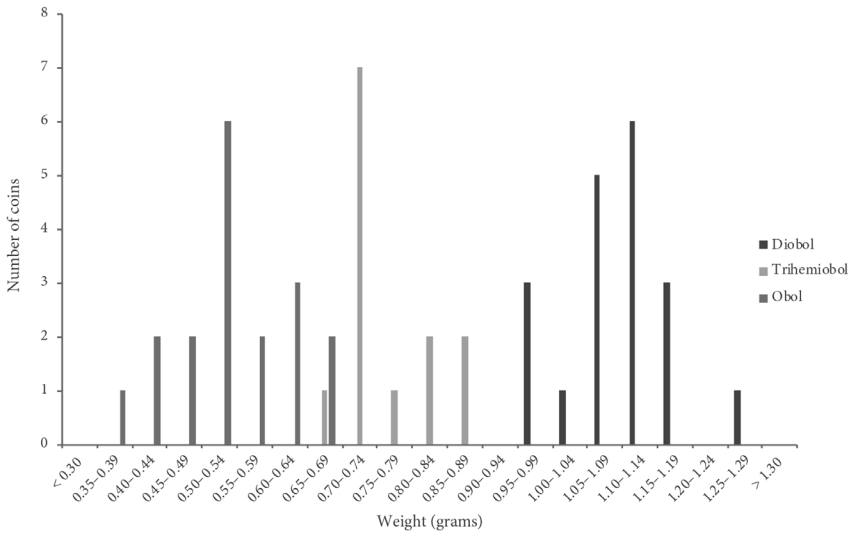


Figure 5. Weight distribution: Small fractions.

mean of the weight distribution, a statistically possible though less than likely outcome that is of uncertain significance given the reliance on a single example.

The mean weight of the tetradrachms in the catalogue is two standard deviations lower than the 17.2 grams of the original Attic standard that characterized the Hellenistic coinage of the fourth century BC. This disparity in weight exceeds that which might be accounted for by wear. It suggests that the tetradrachms were weight adjusted to a reduced Attic weight standard. The latter only came to prevail in the third century BC. This runs counter to the interpretations of some earlier scholars that the imitative owls of Series 1 and 2 must be dated to the fourth century BC. Additionally, the broad dispersion of tetradrachm weights indicated in Figure 1 is consistent with the weight adjustment of the coinage on an *al marco* basis, which was not a feature of Hellenistic mint operations in the fourth century BC. The broad dispersion of tetradrachm weights makes for an imprecise determination of the weight standard, or target, to which the denomination was struck. The modal weight is generally accepted to reflect the weight standard of a coinage weight adjusted *al pezzo*, while the mean weight more closely characterizes the standard of a coinage adjusted *al marco*. All aspects considered, it is likely that the target weight for adjustment of the coinage was in the range 16.5 grams to 16.8 grams with the latter assumed for comparison with lesser denominations (Table 6).

Table 5(a). Metrology: weights of each denomination.

	No. of coins	Mean (g)	Median (g)	Mode (g)	Standard Deviation (g)
Tetradrachms	74	16.52	16.59	16.80	0.35
Didrachms	38	7.80	7.87	7.90	0.33
Drachms	81	3.47	3.46	3.33/3.68	0.24
Hemidrachms	42	1.70	1.71	1.70	0.12
Diobols	19	1.09	1.10	1.13	0.08
Trihemioobols	13	0.76	0.74	0.72	0.06
Obols	18	0.53	0.51	0.53	0.08

Table 5(b). Metrology: Tetradrachm weight distribution by series.

Series	No. of coins	Mean (g)	Median (g)	Mode (g)	Standard Deviation (g)
1	19	16.41	16.39	-	0.26
2	45	16.58	16.65	16.82	0.32
6	8	16.45	16.46	-	0.47
7	1	15.75	-	-	-
8	1	17.20	-	-	-
1-8	74	16.52	16.59	16.80	0.35

The weight distribution of didrachms (Fig. 2) is characterized by a broad dispersion with a mean weight of 7.8 g (Table 5a) accompanied by a pronounced modal weight centred around 7.90 g. The standard deviation of the didrachm weight distribution is as large as that of the tetradrachms, even though the nominal weight of the former was half that of the latter. Despite the large standard deviation, the didrachm weight distribution is strongly unimodal indicating that the didrachms were weight adjusted to a single weight standard. There is nothing in the data to support the hypothesis of some earlier workers that the didrachms were struck on two weight standards. However, the didrachm weight standard cannot be directly scaled from the tetradrachm standard. To do so would yield an expected didrachm weight in the range 8.3–8.4 g, appreciably higher than the observed modal weight of 7.9 g, or the mean weight of 7.8 g (Table 6). The latter falls 1.5 standard deviations, or 6% below that inferred from the tetradrachm weight standard. This absence of direct scalability of weights between the two denominations is a feature that occurs throughout the balance of the coinage.

Table 5(c). Metrology: Drachm weight distribution by series.

Series	No. of coins	Mean (g)	Median (g)	Mode (g)	Standard Deviation (g)
1	6	3.73	3.81	-	0.20
2	4	3.56	3.57	-	0.16
3	36	3.33	3.38	3.33	0.19
8	33	3.57	3.61	3.68	0.22
10	2	3.43	3.42	-	0.12
1-10	81	3.47	3.46	3.33/3.68	0.24

Table 6. Modal weight versus indicated weight standard.

	Modal weight (g)	Reduced Attic standard (g)	Difference %	'Local' weight standard? (g)	Difference %
	(g)	(g)	%	(g)	%
Tetradrachm	16.80	16.80	0	13.60	21
Didrachm	7.90	8.40	-6	6.80	15
Drachm	3.68	4.20	-12	3.60	2
Hemidrachm	1.70	2.10	-19	1.80	-6
Diobol	1.13	1.40	-19	1.20	-9
Trihemiobol	0.72	1.05	-31	0.90	-16
Obol	0.53	0.70	-24	0.60	-12

The weight distribution of the drachms (Fig. 3 and Table 5c) is unusually broad, reflecting in part the high level of wear of some examples in the catalogue. Most notable in the distribution is a weakly bimodal character with modal peaks centred on 3.33 g and 3.68 g. These appear to result from two overlapping weight distributions, the lighter consisting of the drachms of Series 3 (including the two counterpart Series 10 drachms of Mint B), while the slightly heavier consists of the drachms of Series 1, 2, and 8. Within the limitations of the data set, with its small sample of Series 1 and 2, it appears that there was a progressive mean weight reduction in the drachms from Series 1 to Series 3, which was reversed with the striking of Series 8. The reduction in mean weight of approximately 0.3 g between Series 1 and Series 3, coincided with the progressive expansion of the mint's output to smaller fractional denominations. Perhaps it was linked in to this effort, with an increasing fiduciary component of value ascribed to successively smaller denominations as outlined below. The reversal of the weight

reduction of the drachm denomination in Series 8 may have resulted from dissatisfaction with the significantly increased fiduciary component of value attached to the denomination. The variability of drachm weights through time makes the determination of the nominal target weight for the weight adjustment of the drachms very imprecise, but the 3.6 g suggested by earlier workers falls within the range of possibilities (3.3–3.7 g) suggested by the data presented in Table 5(c). Notable is the fact that this cannot be scaled from the larger denominations, which based the tetradrachms would imply a drachm weight of 4.2 g (Table 6), or 3.9 g if scaled from the didrachms.

The distribution of hemidrachm weights (Fig. 4 and Table 5(a)) is almost that of a normal distribution, with a well-developed mode centred on 1.7 g, and an identical mean weight. Yet this weight falls 19%, or 3.3 standard deviations, below that expected from a reduced Attic weight standard based on the tetradrachm. It is 12%, or 0.8 standard deviations, less than that derived from the drachm population, if it is assumed as previous workers have done, that the drachms and smaller denominations were struck on a 'local' standard defined by a drachm of 3.6 g (Table 6). This lack of scalability from one denomination to the next carries through to the smaller fractional denominations for which the weight distributions (Fig. 5 and Table 5(a)) define successively a diobol weight standard of 1.09 g, a trihemiobol of 0.76 g and an obol of 0.53 g. Each of these departs progressively from that derived from the previously inferred 'local' weight standard (Table 6).

From the preceding analysis it is apparent that each coin denomination was adjusted with only modest precision to a defined weight target. It is probable that *al marco* weight adjustment was the norm for much of the coinage. The target weight of each denomination, whether defined by the modal or mean weight, is not directly scalable from the preceding larger denomination. Rather, the statistics indicate that each denomination was weight adjusted to its own specific weight target. In the case of the drachms this appears to have varied slightly through time. The departure of each denomination from the reduced Attic weight standard on which the tetradrachms were struck, increases with each successively smaller denomination (Table 6). This progressive deficit in weight of each denomination is not resolved by the invocation of a separate 'local' weight standard for the drachms and fractions, and to this extent there is no support in the data for a "local" weight standard. This carries one implication; an increasing fiduciary component of value was attached progressively to each smaller denomination. Taken together with the previously noted significance of the didrachm denomination in the coinage, this is indicative of a local coinage

that served a closed monetary system, rather than being directed towards inter-regional trade. This indicates that the coinage originated outside of the influence of the Seleucid mints of the east. It must have served a recipient base that accepted the imprecision with which each denomination was weight adjusted, plus the poor scalability of weights between denominations. This implies an acceptance of a component of fiduciary value in all denominations of the coinage. It has the hallmarks of a local coinage, one of political expediency in meeting a monetary necessity.

### HOARDS

Only four documented hoards contain components of the coinage (Table 7). All are reconstructed from coins in commerce accompanied by the inherent uncertainty and problems attached to such, not least including find location and content. Three hoards contain datable coinage from western mints, ranging from the fifth century BC to the second century BC. Within the uncertainty as to accurate identification of hoard content, two of these, the Oxus Hoard and the 1973/4 Aï Khanoum Commerce Hoard are assessed to have closed in the early and mid-second century BC respectively, providing a *terminus ante quem* for Series 1–11. Five of the eleven series in the catalogue are represented in these hoards, although Series 1–3 dominate. Recorded finds of Series 4, 5, 7, and 8 are absent. There is nothing in the hoard data to conclusively establish the date of the coinage, or the location of the mint of origin, although as far as can be determined the hoards appear to have originated in the Oxus Valley region.

Table 7. Hoards.

Hoard	Closure date	Content	Documentation
1877 Oxus Hoard (IGCH 1822)	c. 180–170 BC	1,500+ AV, AR & AE 7 Series 1 2 Series 6	Whitehead 1943; Bellinger 1962
1972 Commerce “Afghanistan” Hoard		8 AR 3 Series 2 3 Series 3 1 Series 9	Nicolet-Pierre 1973
1973/4 Aï Khanoum Hoard	c. 145 BC	137 (?) AR 1 Series 3	Holt 1981
1990 Commerce “Afghanistan” Hoard		65+ AR 9 Series 1 42 Series 2 14 Series 3	Nicolet-Pierre & Amandry 1994

### CHRONOLOGY

The relative chronology of the series has been established from the typology and progression of mint controls which provide chronological pegs tying the core of the emission (Series 2–6) together in a contemporaneous number of issues of various denominations, preceded by Series 1 and succeeded by Series 7 and 8. Series 6 provides the absolute chronological peg for the entire emission for it is documented that Andragoras was the satrap of Parthia, initially appointed during the reign of Antiochus II, who led the province into secession during the reign of Seleucus II, only to be defeated and killed by the nomadic Parni led by Arsaces. These events straddle the period c. 250–238 BC<sup>24</sup> and it is into this period that the emission of Series 1–8 must fall. This can be refined further based on current historical interpretation that the secession of Parthia from the Seleucid realm during the reign Seleucus II and the subsequent conquest of the province by the nomadic Parni all fell within the period c. 245–238 BC. The last of Series 2, plus Series 6–8 most likely date to this period. Series 7–8 most probably fall into the last year or so of this interval (c. 239–238 BC).

### MINT LOCATION

The association of the coinage with Andragoras, the Seleucid governor then secessionist leader of Parthia, places the mintage of the coinage somewhere in Parthia. The progression of iconography, mint controls and style indicates that Series 1–8 originated from a single mint, while a small parallel emission of stylistically divergent types (Series 9–11) most probably originated from a smaller secondary mint, perhaps even a military mint responsible for small denomination coinage in the military campaign environment. There being no precursor mint in the Seleucid province of Parthia, the locations of these mints are conjectural. However, Hecatompylos in western Parthia is inferred to have been the capital of the province and therefore must be a leading candidate for the location of the primary mint (Mint A).

The unofficial local nature of the coinage, with its unique metrological and denominational characteristics, implies that the coinage could not and did not circulate widely beyond the borders of the Parthia. In any event, as the Parni invasion of Parthia progressed, the land link to the west, into the heartland of the Seleucid realm was severed. With this physical connection broken the only direction for movement of the coinage was east into the Oxus Valley region. By this means, perhaps accompanying refugees fleeing the invading Parni, the

24. Lerner, *Seleucid Decline*, 13–32.



coinage would have been introduced into the Oxus region (the border area of modern day northern Afghanistan with Uzbekistan and Tajikistan) from where it appears most probable that the documented hoard occurrences originated. Limited circulation, entirely within the failed secessionist march state of Parthia that was overrun within years of the emission would contribute to the low survival rate of the coinage.

### SYNTHESIS

The conclusions reached from the typological analysis and the metrological evaluation of the coinage converge to indicate that it is best associated with the period of Andragoras' governorship in Parthia leading to the secession of the province from Seleucid control in the mid-third century, after which it fell to the onslaught of the nomadic Parni led by Arsaces. Under Seleucid control the province of Parthia appears to have been much-neglected. The province had no official mints. The nearest Seleucid mints were Ecbatana over 600 km to the west, or the mint of Bactra, an even greater distance to the east. Under the circumstances and with the attention of Antiochus II and then Seleucus II turned to dynastic struggles in the west, it is conceivable that the province of Parthia fell into a monetary void that necessitated the unofficial production of coinage to sustain both the economy and an army in what was one of the most exposed frontiers of the Seleucid empire. As governor of Parthia, Andragoras initiated this unofficial coinage in the period c. 250–245 BC using the politically neutral, anachronistic Athenian imitative owls, carrying a legend naming the Athenians (Series 1 and 2). This was a coinage of political expediency that could hardly be perceived as challenging to Seleucid suzerainty. The subsequent expansion of the coinage to full range of silver denominations indicates that the coinage was required for a range of purposes in an economy that was not served by any official Seleucid mint. This expansion to smaller fractional denominations, saw a progressively diverse iconographic repertoire introduced (Series 3–5), motivated by the need to clearly differentiate the small fractional denominations. The metrological data suggests that the coinage carried an appreciable fiduciary component of value in the smaller denomination issues, only sustainable in a relatively closed monetary system and economy.

The evolving iconography reflected both the move to formal secession accompanying the rising tide of an existential threat posed by nomadic invasion. To address the latter required strong leadership, something that was not forthcoming from Seleucus II. The adoption of the iconography of Tyche, the tutelary protector goddess of cities, accompanied by the portrayal of Athena armed

for war, displaced the politically neutral iconography of the imitative Athenian coinage, simultaneously proclaiming Andragoras' leadership in defence of the province (Series 6). This occurred in the period c. 245–238 BC. It amounted to a formal declaration of secession. Andragoras' ascendancy was short-lived. History records that in defence of his nascent realm he succumbed to the Parni, led by Arsaces. The subsequent sequence of coinage suggests that his demise did not mark the immediate and final victory of the Parni. Sophytes, one of Andragoras' "brothers in arms" in resisting the Parni, replaced him, if ever so briefly, triggering the small mintages of Series 7 and 8. After this, no later than 238 BC, the numismatic record of this distinctively Greek coinage falls silent.

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Tetradrachms



1



2



3



7



11



12



13



16



40





41



42



52



56



60



63



73



75



82





Plate 8



219



220



221



223



225



226



227



228



Birds of a Feather

Didrachms



20



23



85



89



92



96



97



99



104



107



110



112



115



119



244





Drachms





176



245



246



248



249



250



253



256



257



258



262



263



264



266



271



273



274



275



277



301



Fractions (Enlarged)

