NOTAE NUMISMATICAE ZAPISKI NUMIZMATYCZNE



Tom XIX

MUZEUM NARODOWE W KRAKOWIE SEKCJA NUMIZMATYCZNA KOMISJI ARCHEOLOGICZNEJ PAN ODDZIAŁ W KRAKOWIE

Kraków 2024

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Lech Kokociński. Photo by Piotr Idem Lech Kokociński. Fot. Piotr Idem

Szanowni Państwo,

oddajemy w Państwa ręce tom XIX *Notae Numismaticae – Zapisków Numizmatycznych*. Zgodnie z przyjętymi przez nas zasadami wszystkie teksty publikujemy w językach kongresowych, z angielskimi i polskimi abstraktami. Zawartość obecnego tomu oraz tomy archiwalne są zamieszczone w formie plików PDF na stronie internetowej Muzeum Narodowego w Krakowie (https://mnk.pl/notae-numismaticae-zapiski-numizmatyczne-1). Na stronie dostępne są ponadto wszelkie informacje ogólne o czasopiśmie oraz instrukcje dla autorów i recenzentów.

Bieżacy Tom naszego czasopisma chcielibyśmy zadedykować Panu Mecenasowi Lechowi Kokocińskiemu, obchodzącemu w 2024 roku swoje 80-te urodziny. Lech Kokociński (ur. 1944), prawnik, sędzia i wieloletni pracownik Ministerstwa Kultury i Sztuki, z numizmatyka związany jest w zasadzie od zawsze. Przede wszystkim należy do grona najwybitniejszych kolekcjonerów numizmatów drugiej połowy XX i pierwszych dziesięcioleci XXI wieku. Jego zainteresowania kolekcjonerskie nie ograniczały się przy tym do waskiego zakresu, lecz obejmowały szerokie spektrum obiektów: od monet antycznych poczawszy, poprzez pieniadz papierowy, medale, aż po fałszerstwa monet i banknotów. Ważna cześć jego zbiorów stanowia starodruki i rekopisy numizmatyczne oraz inne obiekty o charakterze bibliofilskim, szczególnie Lwowiana. Mecenas Kokociński przez całe życie aktywnie właczał się w animowanie ruchu numizmatycznego. Od 1962 roku był członkiem Polskiego Towarzystwa Archeologicznego, od 1984 roku przewodniczył Sekcji Numizmatycznej Polskiego Towarzystwa Archeologicznego i Numizmatycznego, a w 1987 roku został Prezesem tej organizacji. W 1991 roku należał do założycieli Polskiego Towarzystwa Numizmatycznego i był jego pierwszym Prezesem, a następnie Prezesem Honorowym. Bliskie zwiazki mecenasa Kokocińskiego z Gabinetem Numizmatycznym Muzeum Narodowego w Krakowie siegaja XX wieku. Jest członkiem Towarzystwa Przyjaciół Muzeum im. Emeryka Hutten-Czapskiego (od 1996 r.), a w latach 2011–2015 pełnił funkcję członka Rady Muzeum Narodowego w Krakowie. Wszedł też w skład Komitetu Honorowego projektu Europejskie Centrum Numizmatyki Polskiej, w ramach realizacji którego udało się otworzyć Muzeum im. Emeryka Hutten-Czapskiego w obecnym kształcie. Przede wszystkim jednak jest jednym z najważniejszych i najbardziej hojnych darczyńców na rzecz Muzeum. Wzbogacił zbiory Gabinetu Numizmatycznego o niemal 11 000 obiektów, w tym monety antyczne, bezprecedensową kolekcję pieniądza fałszywego, pieniądz papierowy i medale. Dodatkowo ofiarował do biblioteki Muzeum ponad 1000 pozycji różnych publikacji, starodruków i znakomite archiwalia związane z życiem i działalnością wybitnych numizmatyków czy towarzystw numizmatycznych, jak np. Związku Numizmatyków Lwowskich czy Towarzystwa Numizmatycznego w Krakowie. Z okazji Jubileuszu życzymy Lechowi Kokocińskiemu, naszemu Drogiemu Przyjacielowi, co najmniej 100 lat!

Dear Readers,

We are delighted to present you with volume 19 of *Notae Numismaticae – Zapiski Numizmatyczne*. As is our policy, we publish all texts in the congress languages, with English and Polish abstracts. The contents of current volume and archive numbers are available as PDF files on the website of the National Museum in Krakow (https://mnk.pl/notae-numismaticae-zapiski-numizmatyczne-1). The website also provides all general information about the journal, along with guidelines for authors and reviewers.

We would like to dedicate the current volume of our journal to Mr Lech Kokociński, who celebrated his 80th birthday in 2024. Lech Kokociński (born in 1944), lawyer, judge and long-time employee of the Ministry of Culture and Art, has been involved in numismatics for practically all his life. Above all, he is one of the most outstanding numismatic collectors of the second half of the 20th century and the first decades of the 21st century. His collecting interests were not limited to a narrow range, but covered a wide spectrum of objects, starting with the ancient coins, through paper money and medals, to counterfeits of coins and banknotes. An important part of his collection consists of antique prints and numismatic manuscripts as well as other bibliophile objects, especially Lyoviana. Throughout his life, Kokociński has actively participated in promoting the numismatic movement. He was a member of the Polish Archaeological Society from 1962, chaired the Numismatic Section of the Polish Archaeological and Numismatic Society from 1984 and became its president in 1987. In 1991, he was one of the founders and first president of the Polish Numismatic Society, later becoming Honorary President. The close relationship between Mr Kokociński and the Numismatic Department of the National Museum in Krakow dates back to the 20th century. He is a member of the Emeryk Hutten-Czapski Museum Friends Society (since 1996), and in the years between 2011–2015 he was a member of the Council of the National Museum in Krakow. He also became a member of the Honorary European Center of Polish Numismatics project, which led to the opening of the Emeryk Hutten-Czapski Museum its present form. Above all, however, he is one of the most important and generous donors to the Museum. He enriched the collection of the Numismatic Cabinet with almost 11,000 objects, including ancient coins, an unprecedented collection of counterfeit money, paper money and medals. In addition, he donated more than 1,000 items to the museum library, including various publications, antique books, and valuable archive material related to the life and work of prominent numismatists or numismatic societies, such as the Union of Lviv Numismatists and the Numismatic Society in Krakow. On the occasion of this milestone birthday, we wish Lech Kokociński, our dear friend, at least 100 years!

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CATHARINE C. LORBER

Independent Researcher

Die Study of the Middle Facing Head Drachms of Thessalian Larissa¹

ABSTRACT: The paper presents an updated and expanded die study of the middle facing head drachms of Thessalian Larissa. The commentary considers relative and absolute chronology, patterns of production (which indicate discontinuous mint activity), and the quantitative aspects of the die study.

KEY WORDS: Larissa, middle facing heads

ABSTRAKT: Studium stempli środkowej grupy drachm tesalskiej Larisy z wizerunkiem głowy w trzech-czwartych

Artykuł przedstawia zaktualizowane i rozszerzone studium stempli drachm tesalskiej Larisy z wizerunkiem głowy w trzech czwartych. Komentarz dotyczy względnej i absolutnej chronologii, schematów produkcji (które wskazują na nieciągłą aktywność menniczą) i ilościowych aspektów studium stempli.

SŁOWA KLUCZOWE: Larissa, głowy w trzech czwartych

The following discussion is meant to clarify the die study of the middle facing head drachms of Larissa. It describes their types and characteristics, the uncertainties of their sequence of emission, and the hoard evidence that defines their relative chronology with respect to the early and late facing head drachms. It also revisits the evidence for an absolute chronology, provides an overview of the quantitative aspects of the die study, and draws attention to variations in the patterns of die use

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¹ This die study updates and expands an earlier die study that appeared on the website "The Facing Head Coinage of Thessalian Larissa", developed by Charles Shahar and the present author. Due to changes in web technology, the site is no longer operational and cannot be rehabilitated. In the current study the sequence of varieties has been revised. Thus citations of the Lorber-Shahar die study in older commercial literature will not conform to the current identifications of series, dies, or specimens.

which suggest discontinuous mint activity. A final section attempts to place the middle facing head drachms in their historical context.

VARIETIES AND CHARACTERISTICS OF THE MIDDLE FACING HEAD DRACHMS

The middle facing head drachms of Larissa were defined essentially from overlapping hoards. They comprise 10 varieties, most of which are distinctive iconographically.

Series I: Head of nymph three quarters l./hero restraining mount (Herrmann Series D)

Series II: Head of nymph three quarters l., crowned with grain/warrior on horseback cantering r. (Herrmann Series G)

Series III: Head of nymph three quarters l., crowned with grain/warrior on horseback cantering l. (Herrmann Series H)

Series IV, Type A: Head of nymph three quarters l., crowned with grain/mare and foal (Herrmann Series E)

Series IV, Type B: Head of nymph three quarters l., wearing ampyx, small grain ears above/mare and foal (Herrmann Series E)

Series IV, Type C: Head of nymph three quarters l., wearing ampyx/mare and foal (Herrmann Series C)

Series V, Type A: Head of nymph three quarters l./mare grazing r., bucranium below (Herrmann Series B)

Series V, Type B: Head of nymph three quarters l./mare grazing r. (Herrmann Series B)

Series VI, Type A: Head of nymph three quarters r./mare grazing r. (Herrmann Series L)

Series VI, Type B: Head of nymph three quarters r./mare crouching l., about to roll (Herrmann Series L)

The middle facing head drachms reflect several stages in the transition to the standardized iconography and legend configuration that characterize the late facing head drachms. Middle facing head drachms are the last to pair the head of Larissa with elaborate reverse types, a hero on foot restraining his steed (Series I), mounted warriors (Series II and III), and a mare and foal (Series IV). One die of Series I (O1) displays a very unusual feature: the nymph glances to her extreme right. In Series II her usual attribute, an ampyx worn above the forehead, is replaced by a pair of grain ears. The crown of grain continues with Series III, supplemented by ribbons (?) floating in the field beside the locks of hair. The crown of grain is repeated yet again

with Series IVA. It is combined with an ampyx in Series IVB, while Series IVC finally reverts to the ampyx which is the usual attribute of all subsequent depictions of Larissa. Series VI is the last coinage of Larissa to depict the facing head of the nymph inclined slightly to the right. Late facing head drachms invariably show the head inclined slightly to the left.

Besides offering iconographic variety, Larissa's middle facing head drachms are the last drachms to offer epigraphic diversity. The legend is usually the ethnic plural $\Lambda API\Sigma AI\Omega N$, but we encounter the variant inscriptions $\Lambda API\Sigma A$ and $\Lambda API\Sigma AION$ in Series I, accounting for all the reverse dies, and $\Lambda API\Sigma AI$ occurs on a single reverse die of Series II. Whereas the ethnic $\Lambda API\Sigma AI\Omega N$ is consistently divided above and below the types on late facing head drachms, on middle facing head drachms it can appear distributed around the field in different configurations (in Series II and III and on one die of Series IV, Type B), or it can appear entirely in the exergue (on a few dies of Series IV, Type A, and in Series V). Seemingly, the trend to standardization of the legend began to take hold with Series IV, Type C, whose twelve reverse dies all display the same configuration, $\Sigma AI\Omega N$ in the upper field and ΛAPI in the exergue. This is the most common legend configuration for the late facing head drachms of Phase L-1, which however still display several other two-part divisions of the full ethnic.²

SEQUENCE OF THE VARIOUS SERIES OF MIDDLE FACING HEAD DRACHMS

Die linkage contributes little to establishing the sequence of middle facing head issues. Only the association of Series VIA and VIB is assured by an obverse die link. The association of Series II and Series III is supported by iconographic criteria, the crown of grain in the nymph's hair and the shared mounted warrior reverse, though there is no basis for determining which variety was earlier. Series IV displays an apparently logical iconographic development of the ornament in the nymph's hair, from a crown of grain (Series IVA) to an ampyx with two small grain ears above (Series IVB) to the simple ampyx (Series IVC).

In contrast, considerable uncertainties attach to the other three series (I, V, and VI). The reverse type of Series I, a hero in kausia standing beside his horse, is a revival from the earlier bull wrestler coinage and does not justify an association with the mounted, helmeted warriors of Series II and III. The placement of Series I at the head of the middle facing drachms is only a guess, based on the lack of any compelling affinities either to the other middle facing head drachms, or to late facing head drachms.

² LORBER 2015: 118.

Series VA and VB both exhibit two iconographic variants in the treatment of Larissa's hair: some dies show the hair combed smooth above the ampyx, as on the dies of Series VIA and VIB and many dies of Phase L-1 of the late facing head drachms, whereas other dies show small hornlike locks in this position. This tends to validate the association of Series VA and VB and also argues in favor of their relatively late position in the sequence of issues, not too long before the introduction of the late facing head drachms. Incidentally, Series VB is quite scarce, with only eight specimens in the die study. This may explain why no examples were recorded from the hoards cited below.

Series VIA and VIB are considered the latest of the middle facing head drachm varieties because of their representation in hoards. As we shall see in Section below, they are not represented in CH IX, 67, a hoard that closed with middle facing head drachms, though they were present in CH IX, 78 and 79, two additional hoards that may have closed with middle facing head drachms. They are well represented in CH IX, 87, a hoard that included many late facing head drachms and also Larissa staters. A single example occurred in CH VIII, 193, another hoard that included mainly late facing head drachms. A plausible conclusion is that Series VIA and VIB were the latest of the middle facing head drachms, struck after the closure of CH IX, 67. An additional argument, though not a compelling one, is that Series VIB features a crouching mare oriented to the left, a type that last appears at the beginning of Phase L-I of the late facing head drachms,³ after which the reverse type was invariably a mare crouching right.

RELATIVE CHRONOLOGY OF EARLY, MIDDLE, AND LATE FACING HEAD DRACHMS

The middle facing head drachms of Larissa were defined as a chronological phase of the city's expansive facing head drachm coinage through the study of Thessalian hoards that came to light in the late 1980s and 1990s, with confirming evidence added by one later hoard.⁴

Two to three hoards included early facing head drachms, but apparently closed before the production of middle facing head drachms.

³ See LORBER 2013, Series 1, transitional issue between Series 1 and 2; Series 2, and ΠΛΕΙ issue.

⁴ LORBER 2000: 8: EADEM 2008: 125, 127.

Larissa type	US commerce, 2007	Commerce, 1993 (CH IX, 64)	Commerce, 1989 (CH IX, 65)
Bull wrestler triobols			88
Bull wrestler drachms	147	2	255
Early profile head drachms	8	3	26
Early facing head drachms	7	28	308
Late facing head drachms			44 (intrusive?)

Table 1. Hoards with early but not middle facing head drachms

Middle facing head drachms were not represented in a mixed hoard that appeared on the U.S. market in 2007. Its Larissa component comprised closed with seven early facing head drachms sampling the earliest varieties.⁵ Middle facing head drachms are also absent from a small hoard recorded in 1993 (CH IX, 64) consisting almost exclusively of coins of Larissa.⁶ A somewhat doubtful case is the very large 1989 hoard (CH IX, 65), which possibly closed with 308 early facing head drachms which became the basis for the first classification and die study of this phase of Larissaean coinage.⁷ The hoard included no middle facing head drachms, but 44 late facing head drachms which were suspected to be intrusive.

At least one hoard, and perhaps as many as three, closed during or just after production of the middle facing head drachms.

Larissa types	US commerce, 1988 (CH IX, 67)	US commerce, 1989 (CH IX, 78)	US commerce, 1994 (CH IX, 79)
Bull wrestler triobols	20		
Bull wrestler drachms	146		
Early profile head drachms	28		
Early facing head drachms	39	52	124
Aleuas head drachms	3		
Middle facing head drachms	48	14	13–14
Late facing head drachms		147 (intrusive?)	16 (intrusive?)

Table 2. Hoards closing with middle facing head drachms

⁵ The profile head drachms are listed by die in LORBER 2014.

⁶ Published in full in EADEM 2009.

⁷ EADEM 1992.

⁸ EADEM 2008: 125, reported only three middle facing head drachms in this hoard, but the die study identifies four.

The Larissa component of a large mixed hoard recorded from American commerce in 1988 (CH IX, 67) closed with four middle facing head drachms (one of Series I, one each of Series IVB and IVC, and one of Series VA). Two other hoards may also close with middle facing head drachms, but the evidence is not straightforward. A much smaller hoard recorded in 1989 (CH IX, 78) opened with 52 early facing head drachms and included 14 middle facing head drachms (eight of Series IV, six of Series VIA). All these coins were harshly cleaned, but this was not the case for 147 late facing head drachms, suggesting that the hoard was a composite of two separate finds. A modest hoard recorded from commerce in summer 1994 (CH IX, 79) opened with 124 early facing head drachms and included 14 drachms identified at the time as belonging to the middle facing head phase. I do not have a photographic record of CH IX, 79 and can identify only 13 middle facing head drachms from my notes (six of Series IV, two of Series VA, four of Series VIA, and one of Series VIB). The 14th coin originally identified as a middle facing head drachm now appears likely to have been a very early late facing head drachm, an example of Phase L-I Series 3. This hoard also included 16 late facing head drachms in very poor condition, essentially one sided and thus unsaleable. Most likely these coins were added to the hoard to ensure their sale at the wholesale level, but we cannot exclude the possibility that they were the remnants after better coins were sold.

Three additional hoards include middle facing head drachms along with later coinage of Larissa.

Larissa types	Thessaly, ca. 1996 (CH IX, 77)	Thessaly, ca. 1996 (CH IX, 87)	Thessaly, 1988/9 (CH VIII, 193)
Bull wrestler triobols	8		
Bull wrestler drachms	83		
Early profile head drachms	11		
Early facing head drachms	121		4
Middle facing head drachms	3	16	2
Bull/horseman drachms	7		
"Euainetos" profile head drachms	10		
Late facing head drachms	7	40+	15
Staters		5	

Table 3. Later hoards containing middle facing head drachms

A large mixed hoard recorded in Greece around 1996 (CH IX, 77) closed with seven late facing head drachms, struck from the first two obverse dies of Phase L-I,

and mainly from the first of the two dies. 9 This hoard contained good samples of earlier Larissa types, except for the middle facing head drachms which were represented by just three examples (one each of Series I, Series II, and Series V). A more modest hoard also recorded in Greece around 1996 (CH IX, 87) comprised coinage of Larissa only. 10 It opened with 16 middle facing head drachms (one of Series I, ten of Series IV, three of Series VIA, and two of Series VIB). The remainder of the hoard consisted of more than 40 late facing head drachms and five stylistically related staters with trotting stallion reverse. The very final phase of the drachm coinage (Phase L-IV), with a trident head beneath the hoard, was not represented, assuring that this hoard closed in the early Macedonian period. A sixth hoard containing middle facing head drachms - the only one cited here which I did not record personally or for which I do not hold the original photographic records – was noted in the hoard literature as seen in trade: Thessaly, 1988/9 (CH VIII, 193). Its reported contents included 21 coins of Larissa and 29 tetradrachms of Alexander the Great, apparently ensuring a date of deposit during the reign of Alexander (assuming the two lots were really a hoard). All of the Larissa drachms were illustrated, but none of the Alexanders. The Larissa component included four early facing head drachms, two middle facing head drachms (one each of Series II and VIA), with the remainder belonging to Phase L-III.¹¹

Although hoards are useful primarily for establishing the relative chronology of early, middle, and late facing head drachms, they also provide evidence suggesting that Series VIA and VIB were the latest varieties of the middle facing head drachms.

ABSOLUTE CHRONOLOGY

An absolute chronology for the middle facing head drachms has already been proposed, based on their association in Thessalian hoards with the first appearance of Theban staters with abbreviated personal names. ¹² The only hoard that undoubtedly closed with middle facing head drachms, the large mixed hoard of 1988 (CH IX, 67), included a single Theban stater signed PT–OI but no coinage of Philip II. In 2008 I suggested that the middle facing head drachms should be dated to the 360s, after 369 when the first intervention of Pelopidas in Thessaly probably introduced the Theban "magistrate" staters into the region, but before the first Macedonian intervention. ¹³ The argument now requires refinement.

⁹ See LORBER 2015: 126, O1/R4 b-d, O1/R6 a, O1/R8 a-b, and p. 127, O2/R4 a.

¹⁰ Published in full in LORBER 2000.

¹¹ The early facing head drachms are illustrated on Pl. xxvi.17, 24, 26, and Pl. xxvii.4. The middle facing head drachms are illustrated on Pl. xxvi.13, and Pl. xxvii.5.

¹² LORBER 2008: 129-130.

¹³ *Ibidem*: 13.

The middle facing head drachms in CH IX, 67 included examples of Series I, Series IVB and IVC, and Series VA. This seems to imply that a portion of the middle facing head coinage had already been struck by the time Theban "magistrate" staters began to appear in Thessalian hoards. If the occasion is correctly dated to 369, it follows that the end of the early facing head coinage should be pushed back a few years before 370. The contents of CH IX, 67 could further suggest that Series VB, VIA, and VIB had not yet been minted by the time of the hoard's closure, assumed to be in or shortly after 369.

We can accept as a probable *terminus ante quem* the Macedonian intervention in Thessaly. The first Macedonian intervention in Thessaly may be dated as early as 358 or 357, when Philip II apparently sent troops in response to a request from the Aleuads. ¹⁴ Philip personally led his army into Thessaly in 354 or 353. ¹⁵ Introduction of the late facing head drachms is perhaps to be associated with the Macedonian intervention, since two Phase L-I drachms were represented in the Kalamaria hoard of 1963 (IGCH 385). ¹⁶ If all these assumptions are correct, the last middle facing head drachms – Series VB, Series VIA, and Series VIB – were struck after ca. 369 but before 354 or 353, or perhaps before 358 or 357.

QUANTITATIVE OBSERVATIONS

Most often seen of the middle facing head drachm varieties is Series IV (mare and foal). The series of the six hoards cited above, totaling 27 specimens. Second most prominent is Series VI Type A, with the nymph's head facing three quarters right and a grazing mare reverse. It is represented in four of the six hoards cited, for a total of 14 examples. The other series are truly rare in hoards. Series I is represented by three examples in three hoards; Series II is represented by two examples in two hoards; Series III is absent; Series V, Type A is represented by three examples in two hoards; Series V, Type B is absent; and Series VI Type B is represented by three examples in two hoards.

These observations are largely consistent with the die counts and specimens recorded in the die study.

¹⁴ GRIFFITH 1970: 67-69; ELLIS 1976: 61, 74.

¹⁵ Diod. 16.35.1; ELLIS 1976: 77–78; BUCKLER 1989: 61.

¹⁶ LE RIDER 1977: 286–289; LORBER 2000: 9. The closing coins of the Kalamaria hoard were 84 tetradrachms of Philip II with the controls horizontal thunderbolt–N, representing more than half of the 136 tetradrachms of Philip II in the hoard. Le Rider (1977) included this large issue under Pella Group II A 2, which he dated ca. 342/1–ca. 337/6. However Price (1979: 236–237), made a strong case for a different arrangement of Philip's coinage implying an earlier closure for the Kalamaria hoard, ca. 248. Le Rider (1996: 33–47) acknowledged Price's classification without either accepting or rejecting it, merely observing that the rival classifications create problems for Macedonian historians attempting to interpret the numismatic evidence.

¹⁷ Noted in LORBER 2000: 8, and EADEM 2008: 127.

Series and type	Obverse dies	Reverse dies	Specimens	Die combinations
Series I	4	6	43	9
Series II	1	3	20	3
Series III	1	1	11	1
Series IV, Type A	5	6	52	7
Series IV, Type B	7	16	82	19
Series IV, Type C	4	12	47	13
Series V, Type A	3	1	17	3
Series V, Type B	2	5	8	5
Series VI, Type A	2	10	29	10
Series VI, Type B	118	6	20	6
Totals	29	66	329	76

Table 4. Quantitative overview of the die study

The one anomaly is that Series I, with the reverse type hero restraining mount, is very well represented in the die study, whereas it proves quite rare in hoards. The discrepancy could perhaps reflect a preference of dealers, collectors, and museum curators for interesting or rare types, except that it is impossible to explain why such preferences would not extend to Series II and III, with a mounted warrior.

The die study itself offers a robust sample of the middle facing head drachm coinage, with a characteristic ratio of 11.3448 and only one singleton (O4 of Series I) and two doubletons (O9 of Series IV and O26 of Series VB).

1	1	04	1
2	2	O9, O26	4
3	2	O11, O24	6
4	1	017	4
5			
6	3	O14, O23, O27	18
7	1	O20	7
8	1	O25	8
9			
10	1	O21	10
11	3	O3, O6, O8	33

¹⁸ Die retained from Series I, Type A.

12	2	02, 012	24
13	3	O13, O16, O22	39
14			
15			
16	1	O10	16
17	3	O15, O18, O19	51
18	1	O28	18
19	1	01	19
20	2	O5, O7	40
31	1	O29	31
	29		329

Table 5. Frequencies of obverse dies19

Consistent with the high characteristic ratio of the die study, the standard statistical methods for estimating the original number of obverse dies yield results usually identical to the observed dies reported in Table 4.²⁰

Series	n/d	Carter D	Esty 2006 D	Esty 2006 max	Esty 2006 min	Esty 2011 D	Esty 2011 max	Esty 2011 min
All	11.3448	29	30	32	29	32	34	30
I	10.75	4	4	5	4	4	6	4
II	20.00	1	1	2	1	1	2	1
III	11.00	1	1	2	1	1	2	1
IVA	10.4	5	5	6	5	6	7	5
IVB	11.7142	7	7	8	7	8	9	7
IVC	11.75	4	4	5	4	4	5	4
IVA-C	10.0555	18	19	20	18	20	22	18
VA	5.6666	3	3	5	3	4	5	3
VB	4.00	2	2	4	2	3	5	2
VIA-B	24.5	2	2	3	2	2	3	2

Table 6. Statistical estimates of the original number of dies

¹⁹ The frequency table excludes examples whose reverse dies could not be identified. The excluded examples all belong to Series IV: five of die O13, which would bring its total to 18; two of die O14, which would bring its total to eight; and one of die O17, which would bring its total to five.

²⁰ The calculations were made using the Die Count software developed by Daniel Wolf.

The discrepancies arise mainly from Warren Esty's 2011 geometrical method which, like his 2006 method, calculates a maximum and minimum number of original dies at the 95% confidence interval. It comes as no surprise that discrepancies arise with Series VA and VB, the most poorly documented groups of the die study, with characteristic ratios far lower than those of the other series. Other discrepancies involve the die study as a whole, Series IVA, IVB, and Series IV in its entirety, all of which have similar characteristic ratios.

PATTERNS OF DIE USE

Each series is characterized by its own combination of obverse and reverse types and, as a rule, each series has its own set of dies. The only exception is the sharing of one obverse die (O29) by Series VIA and VIB. Series VI is further remarkable for the large number of reverse dies paired with each obverse die. O28 was paired with seven reverse dies, O29 with nine. For the remainder of the middle facing head drachms, the average is 1.74 reverse dies per obverse, with the highest ratios – four or five to one – occurring with some frequency in Series IVB and IVC.²¹

Series I, notable for its unusual reverse type, evinces a different pattern of die use that has no parallel in the middle facing head drachm coinage. Initially the series was struck on two anvils, with obverse dies O1 and O2 each paired with the same three reverse dies, R1, R2, and R3. Such a resort to multiple anvils reflects more than usual urgency in the production of coinage and probably corresponds to a moment of unanticipated military crisis. Subsequently the mint appears to have reverted to a single anvil for the remainder of Series I, as there are no reverse die links between O3 and O4.

Series VA, distinguished by the presence of a bucranium beneath the mare's belly, is also distinguished by a pattern of die use that is unique for the middle facing head drachms. This series was struck from a single reverse die (R45), paired with three different obverse dies (O23–O25).

The extreme variation in patterns of die use argues that production of the middle facing head drachms was not continuous. Instead, we should probably envision an episodic production, with the possibility that the mint was sometimes closed and had to reorganize its practices when a new issue of coinage was needed.

Obverse die O7 of Series VIB is paired with five reverse dies; O12 of Series VIB with four reverse dies, and O13 of Series VIC with four reverse dies.

THE MIDDLE FACING HEAD DRACHMS IN THEIR HISTORICAL CONTEXT

The tentative dating of the middle facing head drachms proposed above – ca. 370 to 358/7 or 354/3 – implies that they belong a time when the rivalry between the aristocracies of different Thessalian cities was especially acute. In the late 370s Jason of Pherae was elected leader of the Thessalian confederacy.²² In short order he was succeeded by one or two of his brothers, and in 369 by his nephew Alexander, who poisoned his predecessor.²³ Alexander of Pherae proved tyrannical, and in 369 the Aleuads of Larissa requested aid from Alexander II of Macedon.²⁴ But Alexander II treacherously seized control of Larissa and garrisoned it as well as the allied city of Crannon before withdrawing with his main forces.²⁵ The Aleuads then turned to Thebes for help and an army was dispatched under the command of Pelopidas.²⁶ Further Theban interventions were required between 368 and 364.²⁷ In the latter year Pelopidas died in battle, a hero to the Thessalians as well as to the Boeotians.²⁸ Alexander of Pherae was restricted to his own city as an ally of the Boeotians.²⁹ A few years later, in 357/6 according to Diodorus, Alexander was assassinated by members of his family, but they too proved dangerous and this triggered the Aleuad request for intervention from Philip II.³⁰

Series II and III of the middle facing head drachms have an explicitly military reverse type, but it would be pure speculation to associate them with any particular event, for example the enrollment of Thessalians in the army of Pelopidas.³¹ The other middle facing head drachms make no allusion to warfare. Series I, which is not certainly the earliest in the sequence of emissions, revives a reverse type from the earlier bull wrestler coinage and thus seems to allude to the Thessalian confederacy. The other reverse types all advertise Thessalian horse breeding, as do the reverses of nearly all facing head drachms from the earliest to the latest.

²² Diod. 15.60.5.

²³ Diod. 15.60.5, 61.2.

²⁴ Diod. 15.61.2-3.

²⁵ Diod. 15.61.4-5.

²⁶ Diod. 15.71.2.

²⁷ Diod. 15.71.3-7, 75.2, 80.1-4.

²⁸ Diod. 15.80.5.

²⁹ Diod. 15.80.6.

³⁰ Diod. 16.14.1-2.

³¹ Diod. 15.80.4.

CATALOGUE OF MIDDLE FACING HEAD DRACHMS OF THESSALIAN LARISSA

SERIES I

Head three quarters L/hero restraining stallion (Herrmann Series D, Pl. vi.7–8)

Obv.: small female head three quarters l., wearing wire necklace, pendant earring, and ampyx; dotted border

Rev.: $\Lambda API\Sigma A$ or $\Lambda API\Sigma AION$ (variously disposed, as noted), stallion standing r., legs spread, on far side hero in kausia and himation standing r., restraining steed

- O1. Small female head three quarters l., wearing wire necklace, pendant earring, and ampyx; eyes glancing to proper r.; dotted border
 - R1. ΛA reading upward in upper l. field, P before hero's head, IΣA reading downward on r., stallion standing r., legs spread, on far side hero in kausia and himation standing r., restraining steed. Same reverse die used with O2

a. 5.95 g Hamburger sale, 12 June 1930, lot 117
b. 6.05 g Rauch 43, 5–7 June 1989, lot 264. Giessener Münzhandlung 40, 7 April 1988, lot 165
c. Hoard in U.S. commerce, 1988, inv. 177
*d 5.99 g Githud & Naumann 20, 3 August 2014, lot 14

*d. 5.99 g Gitbud & Naumann 20, 3 August 2014, lot 141

R2. ΛA slanting upward in upper l. field, P before hero's head, IΣA reading downward on r., stallion standing r., legs spread, on far side hero in kausia and himation standing r., restraining steed. Hero resting on one leg, the other kicking forward at pronounced angle, with flaw extending obliquely downward from calf. Same reverse die used with O2

a.	5.64 g		Boston, BMFA 903. Perkins 221
b.	6.02 g	10	British Museum, inv. 1933, 2-14-427
			(Rev. E. Rogers)
c.	5.60 g	6	American Numismatic Society,
			inv. 1944.100.16986
d.	5.77 g	11	American Numismatic Society, inv. 1967.46.18.
			SNG Berry 543. Berry, Numismatic
			Biography 453
e.	5.71 g	12	Hess-Leu sale, 24 March 1959, lot 180
f.			Hoard in commerce, 1988 (CH IX, 67)
g.	5.64 g	12	Thessaly hoard, ca. 1996 (CH IX, 77), inv. E-2-30
h.	5.99 g		Tkalec, 19 February 2001, lot 86
i.	5.90 g		Peus 378, 28 April 2004, lot 103. Peus 374,
			23 April 2003, lot 59. Peus 371, 24 April 2002,

lot 106

R3. AA slanting upward in upper l. field, P high before hero's head, IΣA reading downward on r., stallion r., legs spread, on far side hero in kausia and himation standing r., restraining steed; hero's forward foot is raised above ex. line. Filling between tail and rump develops into large flaw. Same reverse die used with O2.

a.	5.88 g	12	Oxford, SNG Ashmolean 3375
b.	6.08 g		Berlin, Herrmann, Pl. vi.8. Formerly Lockett
			coll. Lockett sale VI, lot 1435. SNG Lockett
			1572. Naville XVII, 1934, lot 437. Hirsch XXVI,
			24 May 1910, lot 493
c.	5.91 g		MMAG 66, 22–23 October 1984, lot 82
d.	5.95 g		Gorny & Mosch Stuttgart 1, 22 November 2010,
			lot 190
*e.	6.06 g	11	Nomos 4, 10 May 2011, lot 1151. Ex BCD
			collection

O2. Small female head three quarters l., wearing wire necklace, pendant earring, and ampyx; dotted border. Very similar to O1, except glance is directed upward. Flaw on l. side of neck above necklace

R1. ΛA reading upward in upper l. field, P before hero's head, IΣA reading downward on r., stallion standing r., legs spread, on far side hero in kausia and himation standing r., restraining steed. Wide diagonal flaw extending from thigh of r. hind leg to tail. Same reverse die used with O1

a. 6.09 g 6 Hess-Leu 31, 6–7 December 1971, lot 283 *b. 6.00 g CNG 58, 19 September 2001, lot 384 c. 5.82 g Hirsch 261, 7 May 2009, lot 251

R2. ΛA in upper l. field, P before hero's head, IΣA reading downward on r., stallion standing r., legs spread, on far side hero in kausia and himation standing r., restraining steed. Hero resting on one leg, the other kicking forward at pronounced angle, with flaw extending obliquely downward from calf. Same reverse die used with O1

a.	5.74 g	12	British Museum, inv. 1933, 2-14-425
			(Rev. E. Rogers)
b.	5.99 g	10	Stockholm, SNG Sweden 1220
c.	5.99 g		Boutin, Pozzi Collection 2773. Naville I (Pozzi),
			lot 1221
d.	6.10 g		Ancient Imports (online store), item #11917
*e.	6.02 g		CNG Electronic Auction 134, 1 March 2006, lot 43
f.	6.13 g		OldRomanCoins.com, EBay, 23 August 2001,
			item #1264763865

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R3. AA slanting upward in upper l. field, P before hero's head, IΣA reading downward on r., stallion standing r., legs spread, on far side hero in kausia and himation standing r., restraining steed; hero's forward foot is raised above ex. line. Filling between tail and rump develops into large flaw. Same reverse die used with O1

a.	6.10 g	10	British Museum, inv. 1894, 6-2-2 (Ready)
b.	5.97 g		Gorny & Mosch 204, 5 March 2012, lot 1345.
			Künker 94, 27 September 2004, lot 758
*c.	5.93 g		Gorny & Mosch 190, 11 October 2010, lot 194

- O3. Small female head three quarters l., wearing wire necklace, pendant earring, and ampyx; dotted border
 - R4. ΛA in upper 1. field, P before hero's head, IΣA reading downward on r., stallion standing r., legs spread, on far side hero in kausia and himation standing r., restraining steed. Similar to R1, but with smaller lettering

a.			In commerce (Superior Stamp & Coin), June 1993
b.	6.06 g		Tkalec, 24 October 2003, lot 85. MMAG
			XXVIII, 19-20 June 1964, lot 126
c.	6.02 g		MMAG Deutschland 13, 9 October 2003, lot 568.
			Vinchon, Paris, 21 May 1959, lot 475. Hirsch
			XXIX (Lambros), 9 November 1910, lot 337
*d.	6.04 g	12	Triton XV, 3 January 2012, lot 291. Ex BCD
			collection

R5. ΛΑΡΙΣΑ in ex., ION (N retrograde) reading upward on r., stallion standing r., legs spread, on far side hero in kausia and himation standing r., restraining steed

a.			Berlin, Herrmann, Pl. vi.7
b.	5.96 g		Weber 2853
c.	6.03 g		Headlam sale, Sotheby's, 8 May 1916, lot 400
d.	5.98 g		CNG 58, 19 September 2001, lot 38
*e.	6.21 g	5	Triton XV, 3 January 2012, lot 290. Ex BCD collection
f.	5.57 g		Peus 318, 7 May 1987, lot 1177 (cited as die mate in Triton XV). Chip at upper edge, affecting hero's head
g.	6.04 g	4	SNR 79 (2000), 6. Thessaly hoard, ca. 1996 (CH IX, 87). Large chip at top edge, affecting heads of hero and stallion

- O4. Large head with different patterns of hair by face and neck
 - R6. ΛΑΡΙΣΑ in ex., ION (N retrograde) reading upward on r., stallion standing r., legs spread, on far side hero in kausia and himation standing r., restraining steed
 - a. 5.50 g Rauch 41, 6–8 June 1988, lot 171. Rauch 40, 18–20 January 1988, lot 118

SERIES II

Head three quarters l., crowned with grain/mounted horseman r. (Herrmann Series G, Pl. vi.14)

Obv.: large female head three quarters l., wearing wire necklace and pendant earring, two grain ears in hair, crossing and knotted above forehead; dotted border

Rev.: $\Lambda API\Sigma AI$ or $\Lambda API\Sigma AI\Omega N$ (distributed around field as noted), rider in cuirass and Boeotian helmet, holding goad, on back of stallion rearing or leaping r.

- O5. Large female head three quarters l., wearing wire necklace and pendant earring, two grain ears in hair, crossing and knotted above forehead; dotted border. Possible filling in nymph's proper r. eye, visible on O5/R8, specimen c. No flaws visible in other die pairings
 - R7. ΛA in upper l. field, P (reading downward) before stallion's neck, IΣΑΙΩΝ curving down from forelegs to ex., rider in cuirass and Boeotian helmet, holding goad, on back of stallion rearing or leaping r.

a.			Berlin, Herrmann, p. 44, G, Pl. vi.14
b.	5.99 g	10	British Museum, inv. 1933, 2-14-447
			(Rev. E. Rogers)
c.	5.91 g	4	NAC Auction D, 2-3 March 1994, lot 1399.
			NAC Auction A, lot 1389. Hess-Leu sale,
			2 April 1958, lot 157
d.	5.86 g	5	Hess-Leu sale, 24 March 1959, lot 182
e.	5.91 g		NFA I, 20-21 March 1975, lot 113
f.	6.08 g	12	Leu 81, 16 May 2001, lot 190. Leu 42, 12 May
			1987, lot 210
g.	6.11 g	10	Lanz 30, 26 November 1984, lot 183
h.	5.85 g		CNG 58, 19 September 2001, lot 385
i.	5.76 g		Sayles and Lavender on VCoins, recorded by
			Charles Shahar ca. 2008
*j.	5.99 g	10	Nomos 4, 10 May 2011, lot 1152. Ex BCD

collection

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k. 5.98 g NAC 114, 6 May 2019, lot 1149. Triton XV, 2013, lot 338

1. 5.99 g Gorny & Mosch 219, 10 March 2014, lot 161

R8. ΛA in upper l. field, P before stallion's neck, IΣAI curving down from forelegs to end before hoof of l. hind leg, rider in cuirass and Boeotian helmet, holding goad, on back of stallion rearing or leaping r.

a.	5.96 g	11	American Numismatic Society, inv. 1960.19.4
b.	6.30 g	10:30	CNG 90, 23 May 2012, lot 80. Ex BCD
			collection. Leu 22, 8-9 May 1979, lot 85
c.	6.08 g	10	Giessener Münzhandlung 52, 6 November 1990,
			lot 215
d.			Thessaly hoard, 1988/89 (CH VIII, 193,
			Pl. xxvi.13)
e.	6.06 g	1	Thessaly hoard, ca. 1996 (CH IX, 77), inv. E-2-29
*f.	6.07 g	11	Triton XV, 3 January 2012, lot 292. Ex BCD
			collection

R9. Legend configuration cannot be determined, but angle of rider's elbow allows identification of a third die

a.	5.61 g	Cambridge, McClean 4624, Pl. 173.19.
		Rev. die identity not certain
b.	5.61 g	Classical Numismatic Auctions Mail Bid IV,
		21 September 1988, lot 64

An ancient counterfeit (*subaeratum*) was inspired by these types. It features a somewhat coarse head of Larissa and a horseman in kausia cantering r., with a probably blundered legend of which PA is visible behind the rider, Z before the stallion's chest, and N below the rider's foot. See Rasmussen Online 1905, 3 February 2019, lot 5006 (5.92 g)

SERIES III

Head three quarters l., crowned with grain/mounted horseman l. (Herrmann Series H, Pl. vi.15)

Obv.: small female head three quarters l., wearing wire necklace and pendant earring, crowned with two grain ears knotted with elaborate double twist above forehead, ribbons (?) floating forward from back of head and framing neck; dotted border Rev: ΛA beneath stallion's forelegs, P before rider's face, I ΣA I behind rider, ΩN reading downward behind stallion's hind legs, horseman in Boeotian helmet and cuirass, holding goad, astride stallion cantering l.

- 06. Small female head three quarters l., wearing wire necklace and pendant earring, crowned with two grain ears knotted with elaborate double twist above forehead, ribbons (?) floating forward from back of head and framing neck; dotted border
 - R10. ΛA beneath stallion's forelegs, P before rider's face, IΣAI behind rider, ΩN reading downward behind stallion's hind legs, horseman in Boeotian helmet and cuirass, holding goad, astride stallion cantering 1.

a.			Berlin, Herrmann, p. 44, H, Pl. vi.15
b.	6.14 g	8	Winterthur 1699. Moustaka 193, Pl. 5.
			Ex Kricheldorf 14, 7 July 1964, lot 77
c.	5.98 g	8	Hess-Leu sale, 24 March 1959, lot 183
d.	6.15 g		Münzen und Medaillen A.G. XXV, 17 November
			1962, lot 447
e.	6.03 g		Giessener Münzhandlung 44, 3 April 1989,
			lot 274
f.	5.96 g		CNG 58, 19 September 2001, lot 386
g.	5.86 g		Peus 371, 24 April 2002, lot 107. Triton V,
			15 January 2002, lot 1344
h.	6.06 g		CNG 73, 16 September 2006, lot 183
i.	5.94 g		Sayles and Lavender on VCoins, recorded by
			Charles Shahar ca. 2008
j.	6.06 g		Barry P. Murphy on VCoins, recorded by Charles
			Shahar ca. 2008
*k.	5.99 g	7	Triton XV, 3 January 2012, lot 293. Ex BCD
			collection. Several vertical flaws on obverse

SERIES IV

a.

Type A. Head three quarters l., crowned with grain/mare and foal r. (Herrmann Series F, Pl. vi.11–13)

Oby: female head three quarters l., wearing wire necklace and pendant earring, two grain ears in hair, knotted above forehead; dotted border

Rev.: $\Lambda API\Sigma AI\Omega N$ (variously distributed, as noted), mare and foal standing r.

- O7. Female head three quarters 1., wearing wire necklace and pendant earring, two grain ears in hair knotted above forehead; dotted border. Broad ornament at front of necklace, or the necklace meets a fold of clothing
 - R11. ΛΑΡΙΣΑΙΩΝ in ex., mare and foal standing r. Horizontal flaw in field above mare's back; long oblique flaw rising from her rump. Both flaws fully developed on specimens c, e, and h. Same reverse die used with O8 Berlin, Herrmann, Pl. vi.12

b.	6.03 g		Copenhagen, SNG Copenhagen 125
c.	5.86 g	4	British Museum, inv. 1933, 2-14-446
			(Rev. E. Rogers). Both reverse flaws fully
			developed
d.			Glendining, 21 June 1972, lot 162
e.	6.07 g	3	Gorny & Mosch 195, 7 March 2011, lot 158.
	_		Gorny & Mosch 190, 11 October 2010, lot 196.
			Lanz 48, 22 May 1989, lot 212. Both reverse
			flaws fully developed
f.	6.09 g		Giessener Münzhandlung 52, 6 November 1990,
			lot 220
g.	6.04 g		CNG 58, 19 September 2001, lot 388
h.	5.95 g		CNG 61, 25 September 2002, lot 560. Both flaws
			fully developed, also flaws on foal's neck
i.	6.06 g		LHS Numismatik 95, 25 October 2005, lot 595.
			Both reverse flaws visible, in early state
*j.	6.09 g	4	Triton XV, 3 January 2012, lot 294. Ex BCD
-			collection
R12. ΛΑΡ	I above,	ΣΑΙΩN in	ex., mare and foal standing r.
a.	6.09 g	12	American Numismatic Society,
			inv. 1944.100.16967
b.			Berlin, Herrmann, Pl. vi.13. Reverse die identity
			not entirely certain
c.			Sotheby's, 1 December 1924, lot 82
d.			Hirsch 48, 22 June 1966, lot 166
e.	6.10 g		Sternberg XVII, 9-10 May 1986, lot 109
f.	6.15 g		Tkalec & Rauch sale, 25 April 1989, lot 91
g.	5.98 g	11	SNR 79 (2000), 7. Thessaly hoard, ca. 1996
			(CH IX, 87)
h.			Berk 92, 11 September 1996, lot 141. Berk 90,
			17 April 1996, lot 129
i.	5.89 g		CNG Online Auction 30, lot 62799, archived on
			Wildwinds
*j.	6.01 g	12	Triton XV, 3 December 2012, lot 296. Ex BCD
			collection

O8. Female head three quarters l., wearing wire necklace and pendant earring, two grain ears in hair, knotted above forehead; dotted border. Lock to l. of neck waves downward

R11. $\Lambda API\Sigma AI\Omega N$ in ex., mare and foal standing r. Both flaws visible. Same die used with O7

a. 5.98 g Giessener Münzhandlung 33, 3 June 1986, lot 119. Auctiones 8, 27–28 June 1978, lot 186

R13. ΣΑΙΩΝ above, ΛΑΡΙ in ex., mare and foal standing r. ΣΑΙΩΝ slants slightly upward, and foal's hind legs and tail extend back at sharp angle beneath mare's belly

Bement 1), · XXXIX
· XXXIX
l), lot 925.
1912,
•
1912,
34
6. NFA V,
,
8, 6 June
, lot 1406
,
1

- O9. Female head three quarters l., wearing wire necklace and pendant earring, two grain ears in hair, knotted above forehead; dotted border. Lock to l. of neck waves downward with more sinuous motion than on O8
 - R14. $\Lambda API\Sigma AI\Omega N$ in ex., mare and foal standing r. Lettering larger and mare's neck less erect than on R11

*a.	5.83 g	CNG Online Auction 30, lot 62798, archived on
		Wildwinds
b.	6.20 g	Spink Online Store. Item Number: PKA6290 – 1

O10. Female head three quarters 1., wearing wire necklace and pendant earring, two grain ears in hair, knotted above forehead; dotted border. Round curl to 1. of face more solid and prominent, and extra nearly horizontal lock above it. Lock to 1. of neck similar to that on O8, but end curls in opposite direction

R15. $\Sigma AI\Omega N$ above, ΛAPI in ex., mare and foal standing r. $\Sigma AI\Omega N$ horizontal, and foal's legs more nearly vertical

			<i>J</i>
a.	5.82 g	12	Cambridge, McClean 4625, Pl. 173.20
b.	5.97 g	12	American Numismatic Society, inv. 1967.46.16.
			SNG Berry 544. Berry, Numismatic
			Biography 450
c.			Hirsch XVI, 16 December 1906, lot 395 (cited in
			Triton XV as die match)
d.	5.92 g	10	Lanz 30, 26 November 1964, lot 184
e.	6.21 g		Hess 249, 13 November 1979, lot 160
f.	$6.08~\mathrm{g}$		New York Sale XVII, 4 January 2012, lot 386.
			Giessener Münzhandlung 32, 12–13 November
			1985, lot 66
g.	5.88 g		Rauch 43, 5–7 June 1989, lot 262
h.	5.86 g	11	SNR 79 (2000), 8. Thessaly hoard, ca. 1996
			(CH IX, 87)
i.	6.06 g	1	Triton IX, 10-11 January 2006, lot 864
j.	$6.00~\mathrm{g}$		Ebay item 8390629216, 9 March 2006
k.	6.06 g		CNG Coin Shop, item 760505
1.	5.86 g		Gorny & Mosch Stuttgart 1, 22 November 2010,
			lot 191
*m.	5.97 g	12	Triton XV, 3 January 2012, lot 295. Ex BCD col-
			lection and possibly ex Atrax hoard (IGCH 58)
n.	5.96 g		Gorny & Mosch 225, 14 October 2014, lot 1399
ο.	6.17 g		Tradart, 18 December 2014, lot 106
p.	5.86 g		Gorny & Mosch Online 255, 10 March 2018,
			lot 3124

O11. Female head three quarters l., wearing wire necklace and pendant earring, two grain ears in hair, knotted above forehead; dotted border. Similar to O10, but horizontal locks above forehead both curl downward at ends

R16. $\Lambda API\Sigma$ above, $AI\Omega N$ in ex., mare and foal standing r.

a.	5.98 g	Giessener Münzhandlung 32, 12–13 November
		1985, lot 67
*b.	6.01 g	CNG 58, 19 September 2001, lot 387
c.	5.89 g	Künker 133, 11 October 2007, lot 8047

Type B is not always easily distinguished from Type C, wearing ampyx only. On some dies, assumed to be late in the sequence, the grain ears are only vaguely indicated and can easily be mistaken for (or may in fact be) disorderly locks of hair. Furthermore, the legend of the reverse dies usually follows a single convention (Σ AI Ω N above, Λ API in ex.) and due to missing elements and/or poor strikes it is often impossible to identify reverse dies with confidence.

Obv: female head three quarters l., wearing wire necklace, pendant earring, and ampyx above which a pair of tiny grain ears; dotted border

Rev: Σ AI Ω N above, Λ API in ex. (or rarely other distribution of the legend, as noted), mare and foal standing r.

O12. Female head three quarters l., wearing wire necklace, pendant earring, and ampyx above which a pair of grain ears attached to a central lozenge; dotted border

R17. Λ API Σ AI above, Ω N reading downward on r. under foal's neck, mare and foal standing r.

a.	5.92 g	3	Leu 7, 9 May 1973, lot 157. Hess-Leu sale, 24
			March 1959, lot 181
b.			Hoard in commerce, 1988 (CH IX, 67)
c.	6.12 g		Rauch 42, 16-18 January 1989, lot 2975
d.	6.01 g	11	Lanz 52, 14 May 1990, lot 155
e.	5.69 g		CNG Online Auction 30, lot 62806, archived on
			Wildwinds
f.	6.03 g		CNG 58, 19 September 2001, lot 389
g.	$6.00 \mathrm{g}$		Lanz 151, 30 June 2011, lot 376. Long vertical
			flaw descends from letter Λ across mare's rump
*h.	5.96 g	11	Triton XV, 3 January 2012, lot 297. Ex BCD
			collection
i.	6.02 g		Gorny & Mosch 216, 15 October 2013, lot 2359
j.	5.93 g		Lanz 159, 8 December 2014, lot 155

R18. $\Sigma AI\Omega N$ above, ΛAPI in ex., mare and foal standing r.

a. 6.04 g 10:30 Dewing 1394 *b. 5.87 g CNG Online Auction 30, lot 62794, archived on Wildwinds

O13. Female head three quarters l., wearing wire necklace, pendant earring, and ampyx above which a pair of tiny grain ears; dotted border

56

- R19. Σ AI Ω N above, Λ API in ex., mare and foal standing r.; dotted ex. line American Numismatic Society, inv. 1955.54.86 6.11 g 11 *a. b. 6.06 g12 American Numismatic Society, inv. 957.172.742 Cederlind FPL 95, 1992, lot 44 c. 6.13 g 11 SNR 79 (2000), 9. Thessaly hoard, ca. 1996 (CH IX, 87) Berk 122, 6 September 2001, lot 193 6.12 gR20. ΣΑΙΩΝ above, ΛΑΡΙ in ex., mare and foal standing r. ΣΑΙΩΝ relatively high above mare's back
- - 6.00 gHirsch 153, 18 February 1987, lot 95. Flaw in field under mare's belly, behind foal's tail Lanz 60, 11 June 1992, lot 146. Flaw in field $5.80 \, \mathrm{g} - 3$ b. under mare's belly, behind foal's tail
- R21. ΣΑΙΩΝ above, ΛΑΡΙ in ex., mare and foal standing r. Oblique flaw connecting mare's hind legs
 - a. 5.95 g 12 British Museum, inv. 1933, 2-14-444 (Rev. E. Rogers) *b. 6.02 g Gorny & Mosch 199, 10 October 2011, lot 241 Gorny & Mosch 225, 14 October 2014, lot 1402 c. 6.05 g
- R22. Σ AI Ω N above, Λ API in ex., mare and foal standing r.
 - 5.99 g Gorny & Mosch 269, 9 March 2020, lot 299 *a.
- R23. AI Ω N above, Λ API Σ in ex., mare and foal standing r.
 - Giessener Münzhandlung 21, 22 March 1982, Giessener Münzhandlung 40, 7 April 1988, 6.08 g
- R?. Σ AI Ω N above, Λ API in ex., mare and foal standing r. Specific dies unidentifiable

lot 164

- Lockett sale VI, lot 1438. SNG Lockett 3529. 5.80 g Ex Lord Grantley. Weber 2852 Ratto sale, Lugano, 4 April 1927, lot 1012. 6.09 gOblique flaw crossing mare's rump Münzhandlung Basel 8, 22 March 1937, lot 266 6.07 gc. Hirsch 159, 21 September 1988, lot 231. Flaw 6.05 gprojecting from bottom of mare's neck 6.07 g 1 Thessaly hoard, ca. 1996 (CH IX, 77), inv. E-2-33
- O14. Female head three quarters l., wearing wire necklace, pendant earring, and ampyx above which a pair of tiny grain ears attached to a central pellet; dotted border. Flaw develops on proper r. cheek

R24. Σ AI Ω N above, Λ API in ex., mare and foal standing r. Die break rising back obliquely from mare's withers

*a. 6.17 g Hirsch 272, 4 May 2011, lot 236

R25. ΣΑΙΩΝ above, ΛΑΡΙ in ex., mare and foal standing r. N almost touches mare's neck. Long oblique flaw from left edge of die through tip of mare's tail, passing into ex. just behind fetlock of r. hind leg. Smaller oblique flaw beneath letter I

a.	6.05 g	10	SNR 79 (2000), 10. Thessaly hoard, ca. 1996
			(CH IX, 87)
b.	6.05 g		Auction Tigurina, 27–28 October 1988, lot 54
c.	5.87 g		Rauch 43, 5–7 June 1989, lot 263
d.	6.01 g	5	Lanz 64, 7 June 1993, lot 171. Both reverse
			flaws visible
*e.	6.00 g		CNG Electronic Auction 169, 25 July 2007,
			lot 28 CNG Online Auction 30, lot 63379.
			Double struck on reverse

R?. $\Sigma AI\Omega N$ above, ΛAPI in ex., mare and foal standing r. Specific dies unidentifiable

a. 5.90 g 12 Cambridge, McClean 4626, Pl. 173.21. Ex Carfrae sale, Sotheby 1894, lot 189. Ex Paravey. Die break rising back obliquely from mare's withers

 b. 6.00 g Giessener Münzhandlung 31, 24–26 April 1985, lot 98. Giessener Münzhandlung 29, 28–30 June 1984, lot 2533. Rauch 32, 16–19 January 1984, lot 172

O15. Female head three quarters l., wearing wire necklace, pendant earring, and ampyx with small grain ears above; dotted border

g. 5.93 g

R26. AIQN above, Λ API Σ in ex., mare and foal standing r. Large flaw between mare's rump and tail. Pelletlike flaw in space between foal's tail and hind legs and mare's l. hind leg

1055	legs and mare s i. inite leg			
a.	6.09 g	12	American Numismatic Society,	
			inv. 1944.100.16977	
b.	5.92 g	11	American Numismatic Society, inv. 957.172.743	
c.	5.98 g	11	British Museum, BMC 63	
d.	5.77 g		Hirsch XIII (Rhousopoulos), 15 May 1905,	
			lot 1322	
e.	5.96 g	12	Hess-Leu 31, 6–7 December 1971, lot 284	
f.	$6.08~\mathrm{g}$	12	Hess-Leu 45, 12–13 May 1970, lot 163	

NFA I, 1975, 20–21 March 1975, lot 112

h.	5.82 g	CNG Online Auction 30, lot 62795, archived on
		Wildwinds
i.	6.08 g	Peus 414, 23 April 2015, lot 57. Gorny & Mosch
		220, 4 March 2014, lot 1264
*j.	6.13 g	Jacquier 41, 16 September 2016, lot 59. Ex BCD
		collection

R27. ΣΑΙΩΝ above, ΛΑΡΙ in ex., mare and foal standing r. ΣΑΙΩΝ relatively high above mare's back. Both necks extended horizontally. Foal's hind legs parallel and very close to mare's right foreleg. Reverse die also used with O16 and O17

a.	5.94 g	9	Oxford, SNG Ashmolean 3880
b.	5.87 g		Warren 701
c.			Sartiges 112
d.	6.10 g		Giessener Münzhandlung 44, 3 April 1989, lot 281
e.	5.96 g		Giessener Münzhandling 50, 24 September 1990,
			lot 275
*f.	6.05 g		CNG 58, 19 September 2001, lot 390. Flaw
			below crossbar of A in exergue gives appearance
			of broken-bar alpha; larger flaw below loop of P
g.	6.04 g		Gorny & Mosch 156, 6 March 2007, lot 1345.
			Gorny & Mosch 121, 10 March 2003, lot 113

- O16 Female head three quarters l., wearing wire necklace, pendant earring, and ampyx, with tiny grain ears above; dotted border
 - R27. ΣΑΙΩΝ above, ΛΑΡΙ in ex., mare and foal standing r. ΣΑΙΩΝ relatively high above mare's back. Both necks extended horizontally. Foal's hind legs parallel and very close to mare's right foreleg. Reverse die also used with O15 and O17

a.	5.95 g		Naville X, 15–18 June 1925, lot 522
b.	6.09 g	10	Hess-Leu sale, 12–13 April 1962, lot 200.
			Lockett Sale VI, lot 1436. SNG Lockett 1573.
			Ex Sangorski
c.	5.93 g		NFA IV, 27–28 February 1979, lot 163
d.	6.02 g	10	SNR 79 (2000), 11. Thessaly hoard, ca. 1996
			(CH IX, 87)
e.	5.92 g		Peus 386, 26 April 2006, lot 133. UBS 59, 27
	_		January 2004, lot 4132
f.	5.98 g		Künker 97, 7 March 2005, lot 528. Künker 94,
			27 September 2004, lot 757
g.	6.21 g		Pars Coins, VCoins. PCW-G789. Glenn
			W. Woods, VCoins

h.	6.21 g	NAC 52, 7 October 2009, lot 125
i.	6.08 g	Peus 399, 4 November 2009, lot 112
*j.	6.10 g	Jacquier 37, 7 September 2012, lot 85.
		CNG 90, 23 May 2012, lot 81. Ex BCD
		collection
k.	6.05 g	Gorny & Mosch 225, 14 October 2014, lot 1406
1.	5.87 g	NAC 114, 6 May 2019, lot 1151
m.	5.98 g	Berk 214, 18 February 2021, lot 58

- O17. Female head three quarters l., wearing wire necklace, pendant earring, and ampyx with small grain ears vaguely indicated above; dotted border
 - R27. ΣΑΙΩΝ above, ΛΑΡΙ in ex., mare and foal standing r. ΣΑΙΩΝ relatively high above mare's back. Both necks extended horizontally. Foal's hind legs parallel and very close to mare's right foreleg. Same die also used with O15 and O16

*a. 5.30 g Hess-Divo 314, 4 May 2009, lot 1104. NFA VI (1979), lot 162. Bourgey, 4 May 1987, lot 39

R28. $\Sigma AI\Omega N$ above, ΛAPI in ex., mare and foal standing r. on thick exergual line. Die also used with O18

a. 6.00 g 11 CNG 73, 13 September 2006, lot 182. Lanz 20, 13 April 1981, lot 181
 b. 5.92 g 11 British Museum, inv. 1933, 2-14-443

(Rev. E. Rogers)

*c. 5.94 g Gorny & Mosch 244, 6 March 2017, lot 288 R?. ΣΑΙΩΝ above, ΛΑΡΙ in ex., mare and foal standing r. Specific die uniden-

tifiable

a. 6.11 g NFA IX (1980), lot 190. NFA VII (1979), lot 116

- O18. Female head three quarters l., wearing wire necklace, pendant earring, and ampyx with small grain ears vaguely indicated above; dotted border
 - R28. $\Sigma AI\Omega N$ above, ΛAPI in ex., mare and foal standing r. on thick exergual line. Die also used with O17

a. 6.00 g
b. 6.05 g
b. 6.05 g
b. 6.10 g
b. 6.78 g
b. 6.78 g
Noble Numismatics 68, November 2001, lot 1849

R29. $\Sigma AI\Omega$ above, N (sideways) in r. field, ΛAPI in ex., mare and foal standing r. Horizontal flaws across ΣAI . Additional crack develops across entire flan, passing through mare's body and curving downward in outer r.

field, visible on specimens c and e through g, where area under mare's belly is also damaged. Third crack visible on specimen e, passing through damaged area under mare's belly and passing obliquely across hind legs

		_		, , , , , ,
	a.	6.01 g		Naville V, 1923, lot 1750
	b.	6.17 g	12	Dewing 1395. Glendining sale (Nordheim),
				3 December 1929, lot 751
	c.	6.18 g	12	American Numismatic Society, inv. 1978.64.136
	d.	6.01 g		CNG Online Auction 30, lot 62797
	e.	6.05 g		CNG Online Auction 41, 29 October 2001,
				lot 64754, archived on Wildwinds
	f.	6.07 g		Peus 378, 28 April 2004, lot 102
	*g.	6.08 g		Rauch 73, 17 May 2004, lot 227. CNG 58,
				19 September 2001, lot 391
R30.	ΣΑΙΩ	2N above	, ΛΑΡΙ in	ex., mare and foal standing r.
	a.	6.12 g	12	Princeton University 1996.112. Gift of Mark
				and Lottie Salton, 1996. Lockett sale VI, lot
				1437. SNG Lockett 1574. Ex Headlam 401
	b.	6.22 g		Noble Numismatics 69, March 2002, lot 1773
	*c.	5.96 g		Hirsch 319, 2 May 2016, lot 126. Hirsch 313,
				23 September 2015, lot 2030
R31.	ΣΑΙΩ	2N above	, ΛΑΡΙ in	ex., mare and foal standing r.
	*a.	6.10 g	10	SNR 79 (2000), 15. Thessaly hoard, ca. 1996
				(CH IX, 87)
	b.	5.95 g	11	American Numismatic Society, inv. 1967.152.238
R32.	ΣΑΙΩ	2N above	, ΛΑΡΙ in	ex., mare and foal standing r.
	*a.		10	John Haer on VCoins. Recorded by Charles
				Shahar c. 2008

Type C. Head three quarters l., wearing ampyx/mare and foal r.

(Herrmann Series C, Pl. vi.4–6)

Obv.: female head three quarters l., wearing wire necklace, pendant earring, and ampyx; dotted border

Rev.: Σ AI Ω N above, Λ API in ex. (with occasional retrograde *rho*, as noted), mare and foal standing r.

- O19. Female head three quarters l., wearing wire necklace, pendant earring, and ampyx; dotted border
 - R33. ΣΑΙΩΝ above, ΛΑΡΙ in ex., mare and foal standing r.

 *a. 6.09 g 8 SNR 79 (2000), 13. Thessaly hoard, ca. 1996 (CH IX, 87)

- b. 6.12 g
 c. 6.04 g
 double struck
 d. 5.97 g
 double struck
 Gorny & Mosch 241, 10 October 2016, lot 1407.
 Gorny & Mosch 138, 7 March 2005, lot 1278
- R34. Σ AI Ω N above, Λ API in ex., mare and foal standing r. Significant vertical flaws develop through letter Σ and above mare's head, visible on specimen d
 - a. 5.97 g 1 SNR 79 (2000), 14. Thessaly hoard, ca. 1996 (CH IX, 87)
 - b. 6.14 g Triton VIII, 11 January 2005, lot 280. CNG 63, 21 May 2003, lot 304
 - *c. 5.78 g Gorny & Mosch 196, 7 March 2011, lot 1456
- R35. Σ AI Ω N above, Λ API (P retrograde) in ex., mare and foal r. Σ AI Ω N reads upward on a slant. Mare's belly pointed at bottom, foal's forelegs slanting forward and hind legs slanting backward, as if leaping. Die also used with O20
 - *a. 6.05 g 10 SNR 79 (2000), 12. Thessaly hoard, ca. 1996 (CH IX, 87)
 - b. 5.99 g Boston, BMFA 902. Perkins 220. Holed
 - c. 5.97 g 11 Oxford, SNG Ashmolean 3879. Nanteuil 847
 - d. 5.95 g Egger XL (Prowe), 1912, lot 797
 - e. 5.08 g 9 Hess-Leu sale, 2 April 1958, lot 156
 - f. 6.11 g NFA 1982 Mail Bid Sale, lot 151
 - g. 5.86 g Pegasi Numismatics on VCoins
 - h. 5.58 g Eukratides Ancient Numismatics, on VCoins
- R36. $\Sigma AI\Omega N$ above, ΛAPI in ex., mare and foal standing r. Large flaw above mare's rump
 - *a. 5.80 g CNG Online Auction 31, lot 62983, archived on Wildwinds
- O20. Female head three quarters l., wearing wire necklace, pendant earring, and ampyx; dotted border. Round flaw develops in hair near border by l. temple
 - R37. ΣΑΙΩΝ above, ΛΑΡΙ in ex., mare and foal standing r. ΣΑΙΩΝ placed low above mare's back
 - a. 5.70 g Lanz 80, 26 May 1997, lot 113. Flaw not yet visible

 *b. 6.05 g Hirsch 284, 26 September 2012, lot 2334. Hirsch 279–280, 8 February 20122, lot 4241. Nomos 4, 10 May 2011, lot 1153. Ex BCD collection. No flaw visible

c.		Berk 50, 18 November 1987, lot 180. Flaw visible
d.	5.82 g	Gorny & Mosch Online 267, 17 October 2019,
		lot 3141. Obverse flaw visible. Large pit on
		r. cheek
e.	6.13 g	Hess-Divo 211, 22 October 2008, lot 359. Ob-
		verse flaw visible, and flat strike or further die
		deterioration affecting hair above r. side of face

R35. ΣΑΙΩΝ above, reading upward on a slant, ΛΑΡΙ (P retrograde) in ex., mare and foal r. Mare's belly pointed at bottom, foal's forelegs slanting forward and hind legs slanting backward, as if leaping. Die also used with O19

a.	5.94 g	Künker 94, 27 September 2004, lot 756. Obverse
		flaw visible
٠b.	5.87 g	Gorny & Mosch 225, 14 October 2014, lot 1400.
		Obverse flaw visible

- O21. Female head three quarters l., wearing wire necklace, pendant earring, and ampyx; dotted border. Hair combed smooth on crown of head above ampyx
 - R38. $\Sigma AI\Omega N$ above, ΛAPI in ex., mare and foal standing r. Oblique flaw extending from hoof of mare's left hind leg into ex., to left of Λ (usually off flan but visible on specimen g). Fine linear flaw develops in upper field, crossing letters $AI\Omega$ and descending to mare's neck, visible on specimens f and g

a.			Hoard in commerce, 1988 (CH IX, 67)
b.	6.06 g		Peus 368, 25 April 2001, lot 130
*c.	6.05 g	10	American Numismatic Society,
			inv. 1944.100.16976
d.	5.96 g		Kirk Davis Catalogue 41, Spring 2003, lot 33.
			MMAG 72, 6 October 1987, lot 585.
			Jameson I 1093
e.	5.97 g		Berk 94, 16 January 1997, lot 158. Berk 91, 25
			June 1996, lot 149. Berk 89, 14 February 1996,
			lot 124. NFA VIII, 6 June 1980, lot 131
f.	6.10 g		Spink Auction 5014, lot 93. Leu 22, 8–9 May
	0		1979, lot 86
g.	5.95 g		Noble Numismatics 78b, April 2005, lot 3435

R39. $\Sigma AI\Omega N$ above, ΛAPI in ex., mare and foal standing r. I and Ω spaced close together. Large squarish flaw covering lower part of mare's l. hind leg. Filling at base of her tail

*a. 5.90 g Classical Coins, item G2111-2483

R40. $\Sigma AI\Omega N$ above, ΛAPI in ex., mare and foal standing r.

a. 6.18 g Montagu 305

R41. Σ AI Ω N above, Λ API in ex., mare and foal standing r.

a. 5.99 g

Tom Cederlind 2001 Buy or Bid Sale, lot 122

- O22. Female head three quarters l., wearing wire necklace, pendant earring, and ampyx; dotted border. Locks to l. of face erode
 - R42. $\Sigma AI\Omega N$ above, ΛAPI (P retrograde) in ex., mare and foal standing r. Wavy die break develops, rising from mare's withers and crossing letter Ω of $\Sigma AI\Omega N$

*a.	6.14 g	1	SNR 79 (2000), 16. Thessaly hoard, ca. 1996
			(CH IX, 87)
b.	6.02 g		Naville XVII, 3 October 1934, lot 432
c.	6.21 g	6	Lanz 38, 24 November 1986, lot 248
d.			Early American Auctions on Ebay Live
			Auctions, 11 February 2006, lot 962 (Ebay item
			6600245030)
e.	6.01 g		cgb.fr numismatique VSO Mail Bid Sale 20,
			lot 45
*f.	5.89 g		Hirsch 364, 11 February 2021, lot 1091. Hirsch
	_		279–280, 8 February 2012, lot 4242

R43. $\Sigma AI\Omega N$ above, ΛAPI in ex., mare and foal standing r. Foal with head raised, one foreleg far advanced. Filling under mare's tail

a.	6.04g	Hirsch XXV (Philipsen), 29 November 1909,
		lot 632
b.	6.05 g	Hirsch XXXI, 6 May 1912, lot 284
c.		Lanz 48, 22 May 1989, lot 213
d.		Berk 76, 21 April 1993, lot 174
*e.	6.17 g	Hess-Divo 311, 22 October 2008, lot 358
f.	5.70 g	Dix Noonan Webb 188, 9 February 2021, lot 513

R44. $\Sigma AI\Omega N$ above, ΛAPI in ex., mare and foal standing r. Foal with head lowered, both forelegs far advanced. Early state of O22, or new die

a. 6.06 g

NFA IV, 24-25 March 1977, lot 180

SERIES V

Type A. Head three quarters l./mare grazing r., bucranium beneath belly (Herrmann Series B, Pl. vi.3)

Obv: small female head three quarters l., wearing ampyx, pendant earring, and wire necklace, with long neck, prominent round curl to l. of face, on r. hair massed high around face with thin locks falling below ear level; dotted border

Rev.: Λ API Σ AI Ω N in ex., mare grazing r., bucranium beneath belly Herrmann recorded only one example, in Berlin

- O23. Small female head three quarters l., wearing ampyx, pendant earring, and wire necklace; dotted border. Pretty head with hair combed smooth on top. Filling in nymph's proper r. eye
 - R45. $\Lambda API\Sigma AI\Omega N$ in ex., mare grazing r., bucranium beneath belly. Reverse die also used with O24 and O25

a.			Berlin, Herrmann, p. 12, B, Pl. vi.3
b.	6.05 g		Giessener Münzhandlung 42, 11 October 1988,
			lot 219
c.			Gorny & Mosch 142, 10 October 2005, lot 3401
			(multiple lot of ten Larissa drachms)
d.	5.94 g	11	American Numismatic Society,
			inv. 1944.100.16987
e.	6.01 g	4	British Museum, inv. 1937, 6-6-23
			(E.S.G. Robinson)
*f.	5.92 g	4	Triton XV, 3 January 2012, lot 298. Ex BCD
			collection

- O24. Small female head three quarters l., wearing ampyx, pendant earring, and wire necklace; dotted border. Hornlike locks on top of head above ampyx. Stringy locks fall nearly straight to r. of neck
 - R45. $\Lambda API\Sigma AI\Omega N$ in ex., mare grazing r., bucranium beneath belly. Reverse die also used with O23 and O25

a.	6.11 g	12	Oxford, SNG Ashmolean 3878. Ex Hesperia Ar
			Bulletin XXVIII, 63
b.	6.03 g		Giessener Münzhandlung 40, 7 April 1988,
			lot 167
c.			Antiquities Ltd., EBay, 30 January 2006, item
			8379218360

- O25. Small female head three quarters l., wearing ampyx, pendant earring, and wire necklace; dotted border. Broader, asymmetrical face with very thin locks to r. of neck
 - R45. $\Lambda API\Sigma AI\Omega N$ in ex., mare grazing r., bucranium beneath belly. Reverse die also used with O23 and O24

*a.	6.10 g	6	Nomos 4, 10 May 2011, lot 1150. Ex BCD
			collection. Leu 22, 8-9 May 1979, lot 88
b.	6.06 g		Victor England I, 1 May 1987, lot 48
c.	6.02 g		Victor England V, 9 December 1988, lot 102.
			From Thessalv hoard, 1988 (CH IX, 67)

d.		Berk 91, 25 June 1996, lot 105. Berk 87, 13 September 1995, lot 109. Berk 84,
		19 January 1995, lot 238. Berk 82, 13 July
		1994, lot 259. Berk 77, 16 June 1993, lot 114
e.	$6.00 \mathrm{g}$	CNG 58, 19 September 2001, lot 393
f.	5.70 g	Hirsch 255, 14 February 2008, lot 1459
g.	5.95 g	Gorny & Mosch 220, 11 March 2011, lot 1260
h.	5.81 g	Pecunem-Gitbud & Naumann 29, 1 May 2015,
		lot 126

Type B. Head three quarters L/mare grazing r. (Herrmann Series B)

Obv: female head three quarters l., wearing ampyx, pendant earring, and wire necklace, hair combed smooth on crown, prominent round curl to l. of face, on r. hair massed high around face with thin locks falling below ear level; dotted border

Rev.: $\Lambda API\Sigma AI\Omega N$ (variously disposed, as noted), mare grazing r.

O26. Female head three quarters l., wearing ampyx, pendant earring, and wire neck-lace, hair combed smooth on crown; dotted border. Die filling at inner corner of proper r. eye, visible when O26 is paired with R47

R46. ΛΑΡΙΣΑΙΩΝ in ex., mare grazing r. Break develops at edge of die by mare's head, visible on specimen b

a. Herrmann, Pl. vi.2. Hirsch XXIX (Lambros), 9 November 1910, lot 329 *b. 5.95 g CNG 58, 19 September 2001, lot 392. Die chip to r. of mare's head

R47. $\Lambda API\Sigma AI\Omega N$ in ex., mare grazing r.

c. 6.19 g

a. 6.07 g Gorny & Mosch 261, 4 March 2019, lot 240.

CNG Electronic Auction 255, 4 May 2011, lot 77

*b. 6.05 g 9 Triton XV, 3 January 2012, lot 284. Ex BCD collection

NAC 78, 26 May 2014, lot 259

R48. Λ API Σ AI Ω N in ex., mare grazing r. Serious flaw(s) affecting letter Ω , hoof and lower part of r. foreleg, area between forelegs, crossing upper part of l. foreleg

*a. 6.12 g Peus 393, 21 October 2007, lot 179

O27. Female head three quarters l., wearing ampyx, pendant earring, and wire neck-lace, hair combed smooth on crown; dotted border

R49. Σ AI Ω N (curving) above, Λ API in ex., mare grazing r.

*a. 6.00 g CNG 58, 19 September 2001, lot 394 R50. \triangle API above, \triangle AI Ω N in ex., mare grazing r. *a. 6.05 g 10 Triton XV, 3 January 2012, lot 285. Ex BCD collection

SERIES VI

Type A. Long-haired head three quarters r./mare grazing r. (Herrmann Series L, Pl. vii.5)

Oby: large female head three quarters r., wearing ampyx and pendant earring, with low forehead, long nose, long upper lip, shallow chin, and prominent round curl to r. of face amid stringy locks; dotted border

Rev.: $\Lambda API\Sigma$ above, $AI\Omega N$ in ex. (occasionally ΛAPI above, $\Sigma AI\Omega N$ in ex., as noted), mare grazing r. The dies paired with O28 are difficult to distinguish, as the pose of the mare shows little variation and the legends are rarely fully visible on the flans

O28. Large female head three quarters r., wearing ampyx and pendant earring; dotted border. Two tiny, delicate locks on forehead below ampyx. It is impossible to give a detailed account of flaws and gradual die deterioration; the die may have been retouched in antiquity, and some specimens in commerce have almost certainly been tooled. Flaws developed early along the hairline on the left side of the face. New flaws appear on the upper lid and below the iris of the proper r. eye, and above the upper lip. The die in its latest state shows filling between nose and inner corner of proper r. eye

R51. $\triangle API\Sigma$ above, AI ΩN in ex., mare grazing r. Letter Ω quite large

a.	5.92 g	9	Lanz 30, 26 November 1984, lot 186. Flaws on
			letter Σ place this later in the strike than the
			examples listed below
b.			Private collection, featured on Aeqvitas.com
c.	5.82 g		CNG Electronic Auction 252, 23 March 2011,
			lot 52
*d.	6.17 g	3	Triton XV, 3 January 2012, lot 281. Ex BCD
			collection
e.	5.87 g		Gorny & Mosch Online 259, 20 October 2018,
			lot 3233

R52. ΛΑΡΙ above, ΣΑΙΩΝ in ex., bridled mare grazing r. Lettering small and neat, with ΛΑΡΙ close to mare's back

*a. 5.92 g 3 British Museum, BMC 71 R53. \triangle API above, \triangle AI Ω N in ex., mare grazing r.

*a. 6.12 g Peus 378, 28 April 2004, lot 104

R54. $\Lambda API\Sigma$ above, $AI\Omega N$ in ex., mare grazing r.

*a. 5.94 g CNG Electronic Auction 222, 11 November 2009, lot 104

b. 6.01g Naumann 58, 1 October 2017, lot 92. Naumann 47, 9 October 2016, lot 94

c. 6.10 g Dix Noonan Webb 148, 18 September 2018, lot 1269

R55. Λ API above, Σ AI Ω N in ex., mare grazing r. Letters AI close together. Mare's forelegs relatively close together, r. leg advanced, hoof above ground line

a. Hirsch 19, 25 November 1958, lot 111 (cited as die mate in Triton XV)

 6.07 g Gorny & Mosch Online 255, 10 March 2018, lot 3123. Gorny & Mosch 134, 11 October 2004, lot 1306

*c. 6.02 g 12 Triton XV, 3 January 2012, lot 282. Ex BCD collection

d. 5.95 g Gorny & Mosch 225, 14 October 2014, lot 1398

R56. Λ API Σ above, AI Ω N in ex., mare grazing r. Small flaw rising from mare's hindquarters; another longer, oblique flaw rising from right foreleg; flaw on left side of letter Ω

a. 6.05 g 1 SNR 79 (2000), 4. Thessaly hoard, ca. 1996 (CH IX, 87). Late state of obverse die, with filling between nose inner corner of proper r. eye
b. 6.02 g Herakles Numismatics on eBay, 12 August 2002, item #1372008885, archived on Wildwinds
*c. 6.00 g Helios 8, 13 October 2012, lot 221. Gorny

g Helios 8, 13 October 2012, lot 221. Gorny & Mosch 204, 3 March 2012, lot 1346

R57. \triangle API above, \triangle AI Ω N in ex., mare grazing r. Lettering small and neat, with \triangle API close to mare's back

*a. 5.83 g 1 SNR 79 (2000), 5. Thessaly hoard, ca. 1996 (CH IX, 87). Late state of obverse die, with filling between nose and inner corner of proper r. eye

O29. Large female head three quarters r., wearing ampyx and pendant earring; dotted border. Head with low forehead and long nose, relatively limp hair except for round curl on r., by cheek. Very similar to O28, but delicate locks on forehead lacking, eye sockets not as large, and minor differences in locks of hair to l. and r. of face. Same die employed with reverses of Type B

R58. Λ API Σ above, AI Ω N in ex., mare grazing r. Filling around base of mare's tail. Upper legend spaced unevenly, with larger spaces between Λ and A, and between P and I. Horizontal flaw between letters Ω and N

a.			Giessener Münzhandlung 28, 2–3 February
			1984, lot 3272
b.			Thessaly hoard, 1988/89 (CH VIII, 193,
			Pl. xxvii.5)
c.	5.96 g		CNG 58, 19 September 2001, lot 382
d.	6.01 g		Gorny & Mosch 134, 11 October 2004, lot 1305
*e.	5.94 g		CNG Electronic Auction 129, 21 December
			2005, lot 90
*f.	5.96 g		Hirsch 284, 26 September 2012, lot 2047
g.	6.03 g	3	Paris, SNG Delepierre 1127. Ex Hamburger sale,
			12 June 1930, lot 114. Reverse die identity not
			entirely certain

R59. Λ API Σ above, AI Ω N in ex., mare grazing r. Wide gap between I and Ω , and Ω placed lower than other letters. Ex line curves up under forelegs. Flaw on mare's rump visible on specimen c

a.	6.01 g	3	SNR 79 (2000), 3. Thessaly hoard, ca. 1996
			(CH IX, 87)
*b.	6.01 g		CNG 90, 23 May 2012, lot 78. Ex BCD
			collection
c.	6.07 g		Lanz 151, 30 June 2011, lot 375

R60. $\Lambda API\Sigma$ above, $AI\Omega N$ in ex., mare grazing r. Gap between I and Ω , but ex. line straight

*a.	5.98 g	Gorny & Mosch 249, 11 October 2017, lot 227.
		Gorny & Mosch 229, 10 March 2015, lot 2012.
		Reverse double struck, leaving die identity
		somewhat uncertain

Type B. Long-haired head three quarters r./mare crouching l. (Herrmann Series L, Pl. vii.4)

Obv.: large female head three quarters r., wearing ampyx, pendant earring, and wire necklace, with long upper lip and prominent round curl to r. of face mid stringy locks; dotted border. As die wears, breaks appear above head and hin lock parallel to prominent round lock to r. of face is obscured

Rev.: Λ API above, Σ AI Ω N in ex., with final letter curving up under tail, mare rouching l., about to roll. Most dies have retrograde letters in the legend, as noted

Herrmann recorded only one example, in Berlin

- O29. Large female head three quarters r., wearing ampyx, pendant earring, and wire necklace; dotted border. Small flaw develops, connecting hair on crown of head to dotted border at 1:00, first visible when O29 is paired with R62. Subsequently two additional flaws develop, also connecting top of head to dotted border, visible when O29 is paired with R65
 - R61. ΛΑΡΙ above (P retrograde), ΣΑΙΩΝ in ex., with final letter curving up under tail, mare crouching l., about to roll. Diagonal flaw rises forward from cannon of rear leg

a.	6.06 g		Münzhandlung Basel 8, 22 March 1937, lot 267
b.	6.07 g		Giessener Münzhandlung 40, 7 April 1988,
			lot 169
*c.	5.85 g	3	Triton XV, 3 January 2012, lot 384.2 (second
			of lot of three coins). Ex BCD collection

R62. ΛΑΡΙ above (P retrograde), ΣΑΙΩΝ in ex. (N retrograde), with final letter curving up under tail, mare crouching l., about to roll. Large lettering; mare's raised foreleg nearly touches hoof of rear leg

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*a. 5.94 g 3 SNR 79 (2000), 1. Thessaly hoard, ca. 1996 (CH IX, 87)
b. 6.00 g Schlessinger 13 (Hermitage), 4 February 1935, lot 816.
c. Berk 81, 31 March 1994, lot 137
d. 6.06 g Hess 249, 13 November 1979, lot 161
e. 5.94 g Christie's, London, 20 June 1989, lot 38.
Ex Thessaly hoard, 1988 (CH IX, 87)
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R63. Λ API above, Σ AI Ω N in ex. (N retrograde), with final letter curving up under tail, mare crouching l., about to roll. Similar to R62, but with mane nearly touching Λ , thicker ex. line, thinner tail. Lettering closer to mare's back with P actually touching it; flaws connecting letters Λ and A to back, another flaw between mare's neck and raised foreleg, and a third flaw obliterating much of l. hind leg

a.	6.01 g		Giessener Münzhandlung 40, 7 April 1988,
			lot 168
b.	5.89 g		CNG Online Auction 30, lot 62802, archived on
			Wildwinds
*c.	5.83 g		Gitbud & Naumann 16, 4 May 2014, lot 178
d.	5.72 g	3	Cambridge, McClean 4623, Pl. 173.18. Reverse
			die identity not entirely certain

R64. Λ API above, Σ AI Ω N in ex. (N retrograde), with final letter curving up under tail, mare crouching l., about to roll. Short ex. line, slightly curving. Many flaws develop, most visible only on specimen e: vertical die break from left edge through mare's head into ex., obliterating letter Σ ; a finer

vertical flaw between letters Λ and A to back, turning r. to cross hindquarters; oblique flaw from letter I to hindquarters, where it crosses second flaw; shorter flaw crossing hocks of hind legs; roughness in field under mare's belly

		Berlin, Herrmann, p. 45, L I, Pl. vii.4
5.91 g	3	American Numismatic Society,
		inv. 1944.100.16991
6.08 g		New York Sale XI, 11 January 2006, lot 129.
		MMAG Basel 94, 16 December 2003, lot 418.
		Giessener Münzhandlung 44, 3 April 1989, lot
		283. M&M Numismatics Ltd., Auction I,
		7 December 1977, lot 83
6.00 g		CNG 58, 19 September 2001, lot 381
6.07 g		CNG 75, 23 May 2007, lot 156
	6.08 g	6.00 g

R65. Λ API above, Σ AI Ω N in ex., with final letter curving up under tail, mare crouching l., about to roll. Lettering higher above mare's back, but P nearly touching; ex. lettering uneven, with I and Ω nearly touching. Mare's nose touches ex. line

*a. 5.97 g 3 SNR 79 (2000), 2. Thessaly hoard, ca. 1996 (CH IX, 87)

R66. Λ API above, Σ AI Ω N in ex., mare crouching l., about to roll. Λ API high above mare's back as on R65, but final N of Σ AI Ω N in line with other letters, mare's nose does not touch ex. line, and tail farther from hocks

*a. 6.00 g 3 Heritage 3037, 4 January 2018, lot 30914.

Nomos 4, 10 May 2011, lot 1149. Ex BCD collection

b. 5.97 g 3 Triton XV, 3 January 2012, lot 283. Ex BCD collection

ABBREVIATIONS

Berry, Numismatic Biography = B.Y. BERRY, A Numismatic Biography, Lucern 1971.

BMC = P. GARDNER, A Catalogue of the Greek Coins in the British Museum, vol. VI: Catalogue of the Greek Coins of Thessaly to Aetolia, London 1883.

BMFA = A.B. BRETT, Museum of Fine Arts, Boston, Catalogue of Greek Coins, Boston, MA 1955.

CH = M.J. PRICE, D. NASH, U. WARTENBERG, K.A. MCGREGOR, A. MEADOWS and O. HOOVER (eds.), *Coin Hoards*, vols. I–X, London–New York 1975–2010.

Dewing = L. MILDENBERG and S. HURTER (eds.), The Arthur S. Dewing Collection of Greek Coins. Ancient Coins in North American Collections, New York 1985.

IGCH = M. THOMPSON, O. MØRKHOLM and C.M. KRAAY, *An Inventory of Greek Coin Hoards*, New York 1973.

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Jameson I = R. JAMESON, Collection R. Jameson, vol. I: Monnaies grecques antiques, Paris 1913.

McClean = S.W. GROSE, Catalogue of the McClean Collection of Greek Coins, vol. II: The Greek Mainland, the Aegean Islands, Crete, Cambridge 1923.

Montagu = The Montagu Collection of Coins, Catalogue of the Greek Series, London 1896.

Moustaka = A. MOUSTAKA, Kulte und Mythen auf thessalischen Münzen, Würzburg 1983.

Nanteuil = H. DE NANTEUIL, Collection des monnaies grecques, Paris 1925.

Pozzi = Monnaies grecques antiques provenant de la collection de feu le Prof. S. Pozzi, Zurich-Amsterdam 1966.

Sartiges = L.E.P. de SARTIGES, *Collection du vicomte de Sartiges: séries grecque et romaine*, Paris 1910.

SNG Ashmolean = C.M. KRAAY, C.E. KING and P.R. FRANKE, *Sylloge Nummorum Graecorum*, vol. V: *Ashmolean Museum, Oxford*, part IV: *Paeonia–Thessaly*, London 1981.

SNG Berry = M. THOMPSON and H.R. HOLLOWAY, *Sylloge Nummorum Graecorum, United States, Burton Y. Berry Collection*, part I: *Macedonia to Attica*, New York 1961.

SNG Copenhagen = W. SCHWABACHER, Sylloge Nummorum Graecorum, Royal Collection of Coins and Medals, Danish National Museum, vol. 11: Thessaly—Illyricum, Copenhagen.

SNG Delepierre = H. NICOLET-PIERRE and G. LE RIDER, Sylloge Nummorum Graecorum, France, Bibliothèque National, Cabinet des Médailles, Collection Jean et Marie Delepierre, Paris 1983.

SNG Lockett = E.S.G. ROBINSON, *Sylloge Nummorum Graecorum, Great Britain*, vol. III: *The Lockett Collection*, part IV: *Peloponnese–Aeolis*, London 1945.

SNG Sweden = U. WESTERMARK, Sylloge Nummorum Graecorum, Sweden II: The Collection of the Royal Coin Cabinet National Museum of Monetary History Stockholm, part 2: Thrace—Euboia, Stockholm 1980.

Warren = K. REGLING, Die griechischen Münzen der Sammlung Warren, Berlin 1906.

Weber = L. FORRER, The Weber Collection of Greek Coins, vol. II: North Western, Central and Southern Greece, London 1924.

Winterthur = H. BLOESCH, Griechische Münzen in Winterthur, vol. 1, Winterthur 1987.

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LORBER, C.C. 2014. "The early profile-head drachms of Larissa", *Schweizerische Numismatische Rundschau* 93: 21–40, Pls. 1–5. DOI: 10.5169/seals-515032

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PLATE 1 Fig. 1, O1/R1d: Gitbud & Naumann 20, 3 August 2014, lot 141, by permission of Numismatik Naumann GmbH Fig. 2. O1/R2j; CNG 90, 23 May 2012, lot 79, by permission of CNG Fig. 3. O1/R3e; Nomos 4, 10 May 2011, lot 1151, by permission of Nomos A.G. Fig. 4. O2/R1b; CNG 58, 19 September 2001, lot 384, by permission of CNG Fig. 5. O2/R2e; CNG E-134, 1 March 2006, lot 43, by permission of CNG Fig. 6. O2/R3c; Gorny & Mosch 190, 11 October 2010, lot 194, by permission of Gorny & Mosch Giessener Münzhandlung, and B. Seifert/Lübke-Wiedemann, Leonberg Fig. 7. O3/R4d; Triton XV, 3 January 2012, lot 291, by permission of CNG Fig. 8. O3/R5e; Triton XV, 3 January 2012, lot 290, by permission of CNG Fig. 9. O5/R7j; Nomos 4, 10 May 2011, lot 1152, by permission of Nomos A.G. Fig. 10. O5/R8f; Triton XV, 3 January 2012, lot 292, by permission of CNG Fig. 11. O6/R10k; Triton XV, 3 January 2012, lot 293, by permission of CNG Fig. 12. O7/R11j; Triton XV, 3 January 2012, lot 294, by permission of CNG Fig. 13. O7/R12j; Triton XV, 3 January 2012, lot 296, by permission of CNG Fig. 14. O8/R13i; Gorny & Mosch 241, 10 October 2010, lot 1406, by permission of

PLATE 2

Fig. 15. O9/R14a; CNG Online Auction 30, lot 62798, by permission of CNG Fig. 16. O10/R15m; Triton XV, 3 January 2012, lot 295, by permission of CNG Fig. 17. O11/R16b; CNG 58, 19 September 2001, lot 387, by permission of CNG Fig. 18. O12/R17h; Triton XV, 3 January 2012, lot 297, by permission of CNG Fig. 19. O12/R18b; CNG Online Auction 30, lot 62794, by permission of CNG Fig. 20. O13/R19a; ANS, inv. 1955.54.86, photo by Panagiotis Iossif, used by permission Fig. 21. O13/R21b; Gorny & Mosch 199, 10 October 2011, lot 243, by permission of Gorny & Mosch Giessener Münzhandlung, and B. Seifert/Lübke-Wiedemann, Leonberg Fig. 22. O13/R22a; Gorny & Mosch 269, 9 March 2020, lot 299, by permission of Gorny & Mosch Giessener Münzhandlung, and B. Seifert/Lübke-Wiedemann, Leonberg Fig. 23. O14/R24a; Hirsch 272, 4 May 2011, lot 238, by permission of J. Hirsch Nachfolger Fig. 24. O14/R25e; CNG E-169, 25 July 2007, lot 28, by permission of CNG Fig. 25. O15/R26j; Jacquier 41, 16 September 2016, lot 59, by permission of Paul-Francis Jacquier Numismatique Antique Fig. 26. O15/R27f; CNG 58, 19 September 2001, lot 390, by permission of CNG Fig. 27. O16/R27j; CNG 90, 23 May 2012, lot 81, by permission of CNG Fig. 28. O17/R27a; Hess-Divo 314, 4 May 2009, lot 1104, by permission of Hess-Divo A.G.

Gorny & Mosch Giessener Münzhandlung, and B. Seifert/Lübke-Wiedemann, Leonberg

PLATE 3

Fig. 29. O17/R28c; Gorny & Mosch 244, 6 March 2017, lot 228, by permission of Gorny & Mosch Giessener Münzhandlung, and B. Seifert/Lübke-Wiedemann, Leonberg Fig. 30. O18/R28c; CNG 63, 21 May 2009, lot 305, by permission of CNG Fig. 31. O18/R29g; Rauch 73, 17 May 2004, lot 227, by permission of H.D. Rauch GmbH Fig. 32. O18/R30c; Hirsch 319, 2 May 2016, lot 126, by permission of J. Hirsch Nachfolger Fig. 33. O18/R31a; SNR 79 (2000), 15, author's photo Fig. 34. O18/R32a; John Haer on VCoins, by permission of VCoins

Fig. 35. O19/R33a; SNR 79 (2000), 13, author's photo

Fig. 36. O19/R34c; Gorny & Mosch 196, 7 March 2011, lot 1456, by permission of Gorny & Mosch Giessener Münzhandlung, and B. Seifert/Lübke-Wiedemann, Leonberg

Fig. 37. O19/R35a; SNR 79 (2000), 12, author's photo

Fig. 38. O19/R36a; CNG Online Auction 31, lot 62983, by permission of CNG

Fig. 39. O20/R37b; Nomos 4, 10 May 2011, lot 1153, by permission of Nomos A.G.

Fig. 40. O20/R35b; Gorny & Mosch 225, 14 October 2014, lot 1400, by permission of Gorny

& Mosch Giessener Münzhandlung, and B. Seifert/Lübke-Wiedemann, Leonberg

Fig. 41. O21/R38c; ANS, inv. 1944.100.16976, photo by Panagiotis Iossif, used by permission

Fig. 42. O21/R39a; Classical Coins item G2111-2483, by permission of Classical Coins

PLATE 4 Fig. 43. O22/R42a; SNR 79 (2000), 16, author's photo

Fig. 44. O22/R42f; Hirsch 364, 11 February 2021, lot 1091, by permission of J. Hirsch Nachfolger

Fig. 45. O22/R43e; Hess-Divo 311, 22 October 2007, lot 358, by permission of Hess-Divo A.G.

Fig. 46. O22(?)/R44a; NFA IV, 24-25 March 1977, lot 180, from NFA catalogue

Fig. 47. O23/R45f; Triton XV, 3 January 2012, lot 298, by permission of CNG

Fig. 48. O25/R45a; Nomos 4, 10 May 2011, lot 1150, by permission of Nomos A.G.

Fig. 49. O26/R46b; CNG 58, 19 September 2001, lot 392, by permission of CNG

Fig. 50. O26/R47b; Triton XV, 3 January 2012, lot 284, by permission of CNG

Fig. 51. O26/R48a; Peus 393, 31 October 2007, lot 179, by permission of Busso Peus Nachfolger

Fig. 52. O27/R49a; CNG 58, 19 September 2001, lot 394, by permission of CNG

Fig. 53. O27/R50a; Triton XV, 3 January 2012, lot 285, by permission of CNG

Fig. 54. O28/R51d; Triton XV, 3 January 2012, lot 281, by permission of CNG

Fig. 55. O28/R52a; BMC 71, photo by Panagiotis Iossif, used by permission

Fig. 56. O28/R53a; Peus 378, 28 April 2004, lot 104, by permission of Busso Peus Nachfolger

PLATE 5 Fig. 57. O28/R54a; CNG E-222, 11 November 2009, lot 104, by permission of CNG

Fig. 58. O28/R55c; Triton XV, 3 January 2012, lot 282, by permission of CNG

Fig. 59. O28/R56c; Helios 8, 13 October 2012, lot 221, used by permission of Helios Numismatik

Fig. 60. O28/R57a; SNR 79 (2000), 5, author's photo

Fig. 61. O29/R58c; CNG E-129, 21 December 2005, lot 90, by permission of CNG

Fig. 62. O29/R58f; Hirsch 284, 26 September 2012, lot 2047, by permission of J. Hirsch Nachfolger

Fig. 63. O29/R59b; CNG 90, 23 May 2012, lot 78, by permission of CNG

Fig. 64. O29/R60a; Gorny & Mosch 249, 11 October 2017, lot 227, by permission of Gorny & Mosch Giessener Münzhandlung, and B. Seifert/Lübke-Wiedemann, Leonberg

Fig. 65. O29/R61c; Triton XV, 3 January 2012, lot 384.2, by permission of CNG

Fig. 66. O29/R62a; SNR 79 (2000), 1, author's photo

Fig. 67. O29/R63c; Gitbud & Naumann 16, 4 May 2014, lot 178, by permission of Numismatik Naumann GmbH

Fig. 68. O29/R64e; CNG 75, 23 May 2007, lot 156, by permission of CNG

Fig. 69. O29/R65a; SNR 79 (2000), 2, author's photo

Fig. 70. O29/R66a; Heritage 3037, 4 January 2015, lot 30914, by permission of Heritage World Coin Auctions NYINC Signature Sale









