

DISCUSSIONS AND CRITICISM

Archaeology and Commerce: Olbia *Dolphins* on the Global Antiquities Market

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The original promise of the internet was that it could have served as a tool whereby the general public could access, a single mouse-click away, unlimited amounts of reliable open access archaeological information supplied by academia or the museum world. This vision is in practice frustrated by the current form of that resource. Since changes that started taking place from 2015, the internet has increasingly been developing primarily as a commercial tool of modern capitalist trade. The casual searcher for information on a large range of archaeological phenomena will therefore primarily be faced with page after page of adverts offering examples of archaeological artefacts for sale and texts about their private collection.

The first online sales of “portable antiquities” took place in 1995, and by about 2000–2010 this had caused a rapid and massive expansion not only of the antiquities market itself (Brodie 2017), all but replacing its other forms and venues, but also increasing its public visibility. This has had three main effects, firstly this directly affects the way that the general reader will perceive archaeology and the function of archaeological artefacts, not as potential evidence, but commercial goods and objects of desire. The second is that, due to the rate and extent this commerce has encouraged the emptying of accessible parts of sites, many of the places where archaeological material are detectable and within reach are being disturbed, damaged or even destroyed as a source of archaeological information. The third effect which is not without significance is that at the present time, there is a huge number of artefacts on the antiquities market (and through it reaching scattered ephemeral personal collections, with some of the latter material later entering museum collections). The quantity of this body of material is often far greater than the number of items of the same kind held in excavation archives or in the published literature generated by fieldwork.

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It may be posited that the bulk of the material on the market is potentially doubly-illicit, having been clandestinely and probably extra-legally excavated, and also moved from the source country to an external market with no documentation of adherence to the correct export procedures (therefore the legality of its subsequent transfer of ownership is questionable). When archaeologists take note of this body of material, it is usually only the latter elements that dominate the discussion. Despite this, the phenomenon of the passage of such a large body of archaeological material through the market and hands of collectors as consumer goods is also an archaeological process, affecting the information available about the past, and as such also warrants attention in its own right. Any attempt to study the wider body of material (i.e., including that from collections) requires understanding how finds flow through the market and how the market affects the available material.

This paper takes a closer look at some aspects of these processes by attempting a preliminary Commercial Flow Analysis (CFA) of the so-called dolphin coinage issued in and around the ancient Greek *polis* of Pontic Olbia (Olvia), on the NW coast of the Black Sea in Ukraine. It is a distinctive group of archaeological artefacts that derive from a particular and easily identifiable source, and are relatively commonly found in the antiquities market and popularly-collected (Sear 1978: 168, nr 1684). The study is based on a corpus of surviving records concerning past and current sales of these items gathered from the Internet, backed up by a literature search of the archaeological and numismatic literature (cf., Barford 2020).

OLBIA DOLPHINS AND THEIR FINDSPOTS

The artefacts that are the subject of this study have been variously-named by dealers, collectors and academic numismatists in a literature that goes back over 150 years; here it is proposed to refer to them by the conventional term “dolphins”, despite the awareness that it seems clear that some of these items probably had not been produced to represent the same species or genus of fish (Mezhzherin 2022). The typology of the objects sold under this heading is varied, but the bulk of them fall into a relatively restricted range of types (Fig. 1).

Among the illustrated items, three main groups occur, within which there are many variants of which only a selection are shown. The largest group is the first, Nrs 1 to 7 (cf., BMC 359–361, 363–368; Makandarov 2019: 16–18, Nrs 22–24, 27–30). The bulk seem to have been made in investment moulds of *cire perdue* type, though some may have been made in open moulds. The second group (Fig. 1, Nrs 8–15), is less common and slightly more homogeneous in form (BMC 369–373 and 374–376; Makandarov 2019: 15, Nrs 14–15 and 15–16, Nrs 16–21). These were made

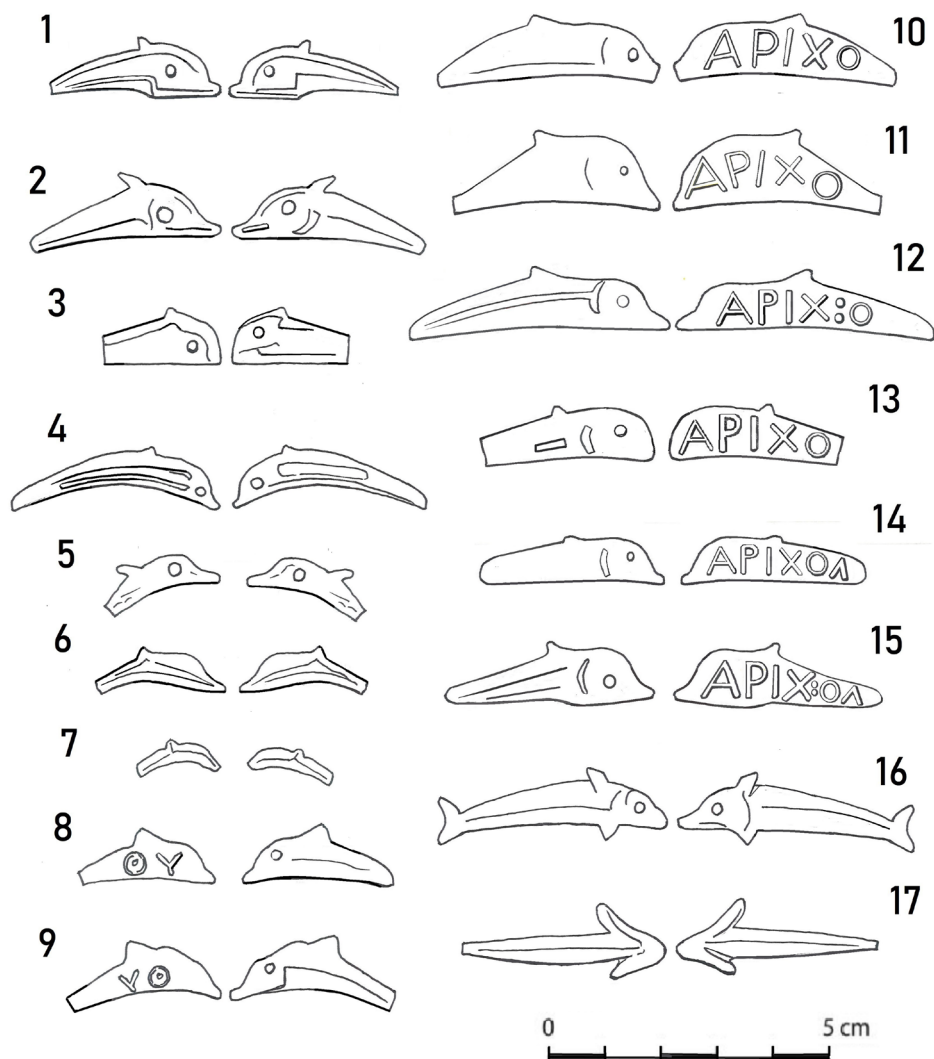


Fig. 1. Selected examples of obverse and reverses of Olbia dolphins, cast bronze (5 cm scale). After Makandarov 2019 with modifications by the Author (the sections of the items were not given, they tend to be only slightly profiled, flat sided, elongated ovoid or plano-convex).

in two-piece moulds, and the flat reverse has an inscription in shallow relief (“OY” in the middle, or those with variants of “APIXO” along the whole body). The third group with paired fins and tail (Fig. 1, Nrs 16–17: cf., BMC 362; Makandarov 2019: 17, nr 25), are rare.

Various attempts have been made to subdivide these objects into meaningful classes on stylistic grounds or seeing them as evolutionary series. Applying these schemes to stratified finds and especially group finds or hoards indicate that what were sometimes thought to have been successive stages in the development of these objects were in use at the same time. The stratified finds indicate that chronology of the series as a whole starts in the second half (most likely the last quarter) of the sixth century BC, and they were in use in the fifth century, going out of use at the beginning of the fourth century BC (some suggest that if the relevant stratified finds are not in a secondary deposit, that they lasted until the middle or even end of the fourth century). On present knowledge, the inscribed ones seem only to have come into use for a few decades towards the end of the series.

These objects are found in comparatively large numbers in the stratified deposits and on the surface of the site at Olbia and the suburban estates immediately adjacent (Kozlenko *et al.*, 2021; Papanova *et al.*, 2021). Another area where they have been found in large numbers was in excavations on the island of Berezan (Chistov 2019). They are also found either singly or in small groups (including hoards) on sites in and around the chora of Olbia. Karyshkovskiy (2003: 292–301, 437, tab. 1) lists 14 sites in the region of the Buh/Dnipro estuary, with a few on Crimea and in the Kerch Strait region; Orlyk and Kolesnichenko (2022: 145–150, Nrs 5–69) add another 32. Many of them are in adjacent regions (Odesa and Kherson regions, on Crimea) a number of them are from further afield (Poltava, Kharkiv, Dniepropetrovsk and Krasnodar regions). There is also currently known a discrete cluster of sites emerging in the Cherkasy region (especially the Tyasmin basin) with outliers in the Kyiv and Kirovohrad areas that seem to mark some kind of exchange networks functioning between the two regions (Orlyk 2021; Orlyk and Kolesnichenko 2022: 140). Obviously, if fresh discoveries by metal detectorists are simply disappearing unrecorded into private collections or onto the antiquities market, information like this is being lost.

ARTEFACT HUNTING IN UKRAINE

In the USA and many countries in Europe, the use of metal detectors to hunt for, and build up private collections of, dug up archaeological and historical artefacts has become a very popular pastime. The people who do it and their supporters cite

a number of justifications for this being the main way they choose to access the past but the activity is undeniably causing severe erosion of the archaeological record. Ukraine has not been immune to this trend. For over three decades, despite the legislation intended to discourage it, the buried archaeological heritage of the country has been heavily affected by artefact hunting (archaeological looting) on a relatively large scale. While in Ukraine the so-called “Black Archaeology” seems to have begun before the early 1990s, the use of metal detectors in searching for “minor antiquities” seems to have exploded in 2000–2010. Hardy (2018: 214) estimates that today there are just over 26,000 individuals that use metal detectors in Ukraine to search for archaeological and historical artefacts. It is no surprise therefore to find that there are relatively large numbers of metal artefacts and coins (including Olbian dolphins) on sale in various places in Ukraine (see Appendix).

The scale of the damage is quite shocking, by 2012, according to Ivakin (2013: 88 quoted by Hardy) some seventy per cent of excavations showed evidence of site looting and reportedly, some sites “do not reveal any metal objects any more” (Ivanik 2013). The damage can even be seen on satellite photos. Olbia is at the centre of a particularly egregious and extraordinarily public example.

The area of Mykolaiv oblast is well-covered by the satellite photos of Google Earth. Moreover in this region, and accessible through the application in the form of successive time slices, there is a very close coverage of satellite photos from different recent time periods from 2003/4 going through to the end of 2021/2. The definition of most of them is sufficient to provide a very good picture of looting in the region, its extent and its dynamics. Within a distance of a few kilometres around the site of the ancient city, there are several dozen flat sites, usually remote and under grassland in exposed positions on the cliff tops and valley sides at where there are visible extensive and dense clusters of deep and wide holes together with spoil heaps. While not all of those sites will have produced coins or dolphins, it is suggestive that almost every single site shown on the published maps of sites of antiquity in the chora of Olbia (for example Marchenko 2013: fig. 1), has already been looted on several occasions over a lengthy period of time.

On several of these sites, some of the earliest Google Earth photos show a number of relatively large looters’ holes, many are partially overgrown indicating they had been dug a few years earlier (possibly in the economic chaos and rural unemployment in the 1990s following the collapse of the Soviet Union). Following the sequences of photos of each site reveals that looting on a much larger scale occurred in the region around Olbia in 2009/10 to 2013 (occasionally continuing until mid-2016). On most sites however the old looting holes become overgrown in 2016 and 2017. Perhaps this pattern reflects the local effects of the 2008–2010 global recession followed by the severe temporary downturn in the Ukrainian economy in 2014 to 2015. A third

phase of looting broke out from the middle of 2019, picking up in intensity in 2020 and still ongoing until the end of 2021. The areas where the looting had been taking place were almost on the front line from mid-March to mid-November 2022.

THE CORPUS

In March 2022 and March 2024, the author carried out detailed Internet searches in an effort to recover as many and as representative accessible online records of current and past sales of Olbia dolphins as possible at that time. The search was quite time-consuming as the antiquities market is notoriously secretive, which results in accessing some details being deliberately hindered or treated as irrelevant in many portals (this includes any information on an object's origins, context of discovery, legal status and past collection history). The information was obtained using several search engines (primarily Google, Firefox and Yandex), visiting a wide range of sales outlets including dealers sites, those of various auction houses and auction aggregators in a variety of languages (using search terms also in Russian and Ukrainian Cyrillic). The main sales portals, and archived records of specialist auctions were searched. Although the trade in minor antiquities can be carried out through a variety of social media platforms (such as Facebook; Zraick 2019; Al-Azm *et al.*, 2019), such advertising tends to be highly scattered, ephemeral, hard to find or even hidden, making it very difficult to study meaningfully. For this reason, no attempt is made to incorporate any of these data here. Dealers can and do offer the same items on several different platforms at the same time, and often if an object fails to sell the first time, it is listed again and again until it does. Although care was taken to exclude duplicates as much as possible, a small number may have escaped scrutiny.

As a result, information was gathered on the sales of just over 5030 items all of which had been previously been removed individually from some form of archaeological context. Although the predominance today of marketing of antiquities being done online makes the gathering of information easier for the researcher, these data are ephemeral. A consideration of the search results show how random factors will lead to differential preservation of information about this process, but above all the rapidity with which online information about sales disappears. Information on online sales will vanish in a matter of months after the finalisation of the sale. If not captured and archived at the time of the sale or soon after, these data disappear irretrievably.

Although it likely that in the period 2000–2015, there were considerable numbers of these objects on sale, the survival of information up to 2014 is extremely scant and in the next few years there were only between 150–200 surviving records annually. For 2019, the total was 240, but from this year onward, there is better preservation

of data from Ukraine (chiefly from the archives of auction portal Viology, so its total includes 85 items from the Ukrainian market). In 2020 however, there were 1083 dolphins on offer, mostly by Ukrainian sellers (965 items). It will be recalled that this is about the time that looting of sites in the chora was increasing in general. In the Ukrainian listings of 2020 there is, however a clear indication that (in contrast to the apparent situation a year earlier), the dolphins were consistently failing to find a buyer, suggesting that the market was at that point saturated or some other economic factor was operating. For 2021, the overall number was down to 336 (295 in Ukraine).

For 2022 there were 618 records, but of these, only 59 were from Ukraine. Although sales in January continued there in the same pattern as before, they dropped off sharply in February on the outbreak of War. A few Ukrainian sellers continued their activities; there were some 20 items offered in May, and a few more sporadically later on in 2022 and early 2023. It is notable that there was a high quantity of atypical dolphins offered in this period. Perhaps no fresh material was available and the seller was offering “left over” material that had not been sold earlier and this was all the stock they had left. This would suggest that these sellers had not been stockpiling artefacts to any degree, but selling them more or less as they came out of the ground.

There is a dearth of artefacts for 2023, there were 418 records in the database, 158 of which were from Ukraine. Again much of the material at the beginning of the year was more suggestive of left-over stock than freshly metal detected items, but in August the sales became less sporadic. It is noteworthy that the two largest databases with results of European and US auction sales contained no records at all for 2023. Were there no objects reaching the market from war-torn Ukraine, or were dealers deliberately not offering them for sale to avoid criticism (or was information on those sales subsequently deliberately suppressed)?

The database has records of 1014 items for the period 1st January to 31st March 2024 (97 from Ukraine). Extrapolated to the whole year, this would be a much higher figure than for any of the previous years. It is unclear whether this is due to a sudden influx of material or is indicative of the normal rate of sales and the speed with which information on finished sales disappears from the Internet.

BULK LOTS

While most dolphins are sold individually, attention should be drawn to the bulk lots of various sizes offered by some of the sellers over the years (not just in 2022–2024). Their photos reveal that most of them consist of rather scrappy material, with a relatively high proportion of highly fragmented material, short segments, often lacking parts

of their snouts or fins. It would seem likely that they are portions of the leftovers from the selection of the better items from larger bulk lots acquired by a dealer by way of a business-to-business transaction between a dealer and a middleman. The purchaser may select out a relatively small number of individual more desirable items that would get a higher price, and then the residue sold on further. The process may be repeated until what is left is a residue of material of lesser quality. It can be seen that some of the items in the peripheral markets (Canada, Australia) in particular look like items that were previously passed over in several selection processes.

Bulk lots relatively rarely occur on open sale from Ukrainian sellers, most of whom offer items singly. In the external market, while they occur in various places as they go through the process of being split up and sold on, it seems likely that a number of them were surfacing at entry points to the external market. In 2022–2024, this concerns sellers in New Jersey and one based in a port town in UK, it is also notable that dealers in Prague, Estonia and Poland also appear among the main handlers of these bulk finds.

CULTURE-HISTORICAL INTERPRETATION OF COLLECTORS

The collectors of ancient coins cite many motivations for being involved in this activity. While there are opportunities at the “high end” of the market for using certain coins as a means of investment, most amateur numismatists will cite more altruistic aims for their interest and acquisitions, citing a love of history, and intellectual curiosity about diverse civilizations and cultures. Ancient coins have aesthetic appeal making them coveted items for collection, display and study alike. They serve as tangible links to bygone eras bearing the marks of their time, the images and inscriptions on them (encapsulating the cultural, historical and political milieu of their minting), offer invaluable insights into the historical narratives, artistic achievements, and societal values of their creators. The educational values of collecting these items is often stressed and some collectors claim to be engaging in some form of academic research concerning ancient coins. Many collectors and dealers react with hostility, indifference and sometimes disbelief to the issue being raised about these personal “benefits” all being at the cost of the damage done to the information content of the sites that were exploited to obtain these collectables.

The marketing narrativisation of the dolphin coins makes much of the mythological connections (Poseidon and Amphitrite, Apollo Delphinios), or stressing the presence of dolphins in the Mediterranean and Black Sea “and the native peoples would have seen these playful creatures almost daily” as “beloved companions” alongside their ships. This creates a preconception that the collector should be seeking the ones that most realistically resemble cute playfully leaping bottlenose dolphins, despite the fact

that they are in the minority within the body of material as a whole (see Mezhzherin 2022). It is interesting to note the wide range of dates that are assigned them in sales offers, ranging from those that are close to that indicated by their stratigraphic context in excavations to others that are far from it (for example, “3rd–1st cent. BC”, “437–410 v. Chr.”, “c. 480–425 BC”, “480–400 BC”, “250 BC”, “440–360 BC” etc.). This indicates that not all numismatists are using archaeological literature in their “research”.

Collecting has also affected perceptions of these items, in the beginnings of their study, it was the inscriptions (“APIXO” and “OY”) on some of them that attracted attention and defined the type. This has continued today. Reis (2002) notes “almost all of them are crude. Very rarely one shows up with a few letters on it, but most have no legend whatsoever”. In fact, in the Ukrainian part of the corpus for 2020–2024, in the sample of 1658 from Violity, there were three (possibly other inscribed ones were separated out for private treaty sale elsewhere and never offered on open sale in Ukraine). On the contrary, in some of the western auction aggregators, the inscribed ones constitute a very high proportion of those for which we have records of sales offered by some dealers.

FRAGMENT AND FORM

The collectors’ notion that some of the dolphins are in some way crude substitutes for more elegant forms of coins allows inclusion of other material among the items sold as dolphins. Both in Ukraine and on the external markets, fragments of copper alloy scrap metal coincidentally of the right size and a shape slightly resembling dolphins are found on sale with other more convincing items. Another more interesting group of these pseudodolphins seem in fact to be casting waste from the manufacture of dolphins. This latter category deserves closer study, though preferably from excavated assemblages.

In fact, the casting process of these objects as a whole is a problem that requires further elucidation. Collectors and dealers accept that many of them were cast on “trees” with the tail end attached to the channel by which molten bronze was poured into the mould, from which the complete object was then separated. This does, indeed, seem very likely in the case of some of them. It seems, however, that many dealers and collectors believe that the objects were originally cast with tails, and that the intention was to remove them from the casting sprue together with the fully formed tail, but in many cases, the objects were carelessly removed leaving the tail behind. Hence the search for the rare “complete” ones “with full tail” (Reis 2002). In reality, it is clear that where the object is broken off far enough back, what protrudes is not a tail or fragment of one, but a piece of the sprue itself. There were no tails

on the majority of dolphins of the first two groups noted above (Fig. 1:1–15). There are however a large number of dolphins that have rounded or squared-off rear ends (possibly made in open mounds). These require further study too.

CONDITION AND PATINA

In his discussion of dolphins, Reis (2002) mentions the “two types of surface available – untouched-as-they-came-out-of-the-ground, and nice black, smooth surface, the latter probably worked on by someone in Ukraine”. Indeed, about 20% of the dolphins on the market in Ukraine have an earth-and-crusty surface that one can imagine is how they came out of the ground. Colours and textures vary, indicating retrieval from a number of burial environments, some have corrosion, erosion and damage suggesting that they came from aerated ploughed soil. One Ukrainian seller has items with a thick brown corrosion layer that looks like what is found in wet clay and it seems their items are from a specific source. Some of the rest have photos suggesting they have apple-green shiny patinas, though this may be a trick of the light and the uses of photographic filters. Neither can it be excluded that some items with various types of green “patina” had been chemically stripped and artificially repatinated.

The rest of the items seem to have, as the dealer Reis noted, been “worked on by someone in Ukraine”. On several niche forums Ukrainian finders proudly share tips and show the results of their “improvements” to excavated items of various kinds to make them more desirable to buyers. This often goes far beyond the drastic cleaning methods described. Most of the dolphins sold online both in the source country and external markets seem to have a relatively uniform appearance, with a smooth steel-grey to almost black shiny surface. These objects have had the upper corrosion layers removed either chemically or – more likely – electrolytically. The black layer is a conversion of cuprite (cuprous oxide) into tenorite (cupric oxide). In some cases, the rounded form and smooth surface of the dolphins may be due to groups of freshly dug up items being placed in a tumbler to remove the loose corrosion. This is a method recommended as a preliminary cleaning stage on many European and US metal detecting forums for dealing with bulk finds.

PRICE DIFFERENTIALS

The antiquities trade has sometimes been regarded as being caused by a lack of economic opportunities in the source countries, leading to people taking up “subsistence digging” to feed their families. The situation is often more complicated.

Brodie (1998) discusses the price differential inherent in the transfer of ownership of antiquities, and shows that the economic opportunities are elsewhere and exposes the antiquities market as an exploitative mechanism. Information in the corpus of Olbia dolphins provides a graphic illustration of these processes if we examine it by comparing groups of items sold in the same time period with an attempt to compare like with like (for example the cost of individual average “low end” anepigraphic dolphins, in other words, what makes up the bulk of the market).

In the antiquities market, selling prices of antiquities are set by dealers consistent with the demand and their marketing skills and opportunities, but also the surrounding economic environment. In Ukraine, the prices are much lower, for example on Viology (Fig. 2A), single relatively featureless examples could be bought for 1–7 dollars each (with a few falling in the price range 7–16 dollars). While it is possible that items with low bids did not actually change hands due to the use of shill bidding (a common online auction ploy, illegal in some countries), it is still clear that most items that do not have anything especially remarkable about them fail to sell for much more than ten dollars. In the case of the few inscribed dolphins on this market (generally the more fragmented ones), prices generally range from 5 to 10 dollars, with some up to 22–25 dollars.

The situation is different if a Ukrainian seller decides to offer dolphins directly on an external market (Fig. 2B). On eBay for example, many such pieces sell for between 13 and 30 dollars apiece (mostly between 15–25 dollars). Here there is not much price differentiation between relatively featureless items and somewhat better ones. There is an interesting price discrepancy between Ukrainian sellers and US ones on eBay (Fig. 2C); finished sale prices in the former case tend to cluster closely in the 13–30 dollar range, while the US price range for relatively featureless dolphins has a wider spread, while many will sell for 20–23 dollars, a seemingly popular pricing, there is a spread of prices from 25–45 dollars, with many selling for 40–45\$. In this external market, the prices of more desirable pieces in both groups goes above those of the majority of pieces, and prices of over 50 dollars or around the 100 dollar mark are not uncommon, reaching some 400 dollars on occasion. In the case of inscribed dolphins in the external market, prices vary for “OY” ones between 30 and 90 dollars (average 64\$), “APIXO” prices range from 50–250 dollars for poor examples (average 193\$) while better, more complete ones can sell for between 50 and 400 dollars (average 208 dollars).

As noted above, bulk lots were relatively uncommonly sold in the Ukrainian market, and their prices varied, small groups of six or seven anepigraphic dolphins in reasonable state sold in 2021–2024 for about five dollars, sometimes a little more (from 7 to 13\$), sometimes a little less. Slightly bigger lots sold for similar prices (15 for 9\$, 16 for 32\$, 43 for 89\$, 150 for 88\$. The price of the individual item in such lots was thus

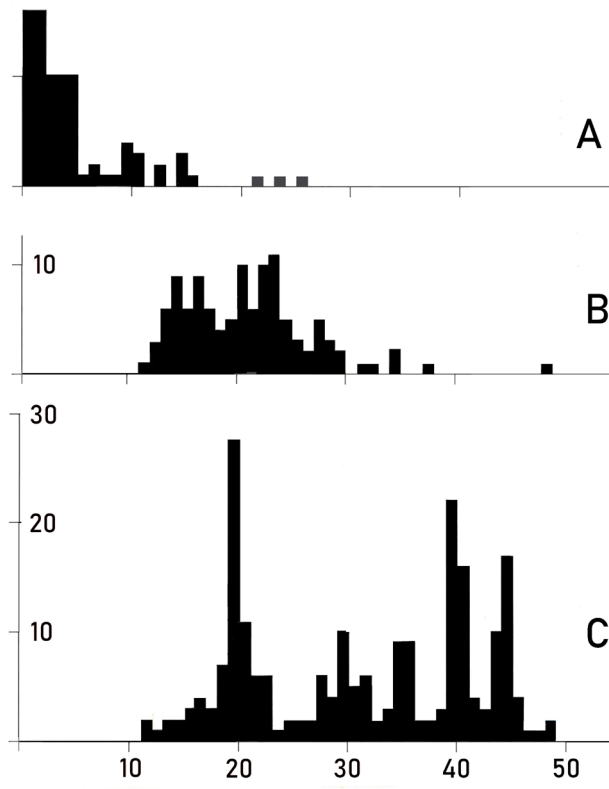


Fig. 2. The price differentials visible for single dolphins in a sample of online sales ($n=397$, sale prices of sold or buy-it-now prices, June 2024), A: Ukrainian sellers on Viology, B: Ukrainian sellers on eBay.com, C: USA and Western European sellers on eBay.com. Horizontal scale in USD, vertical scale number of items (1–27) in a particular price range. Author: P. M. Barford.

about 0.5–2 dollars). Overall prices were even lower in 2020, when there were more multiple lots on sale. When they reach the European and US market however, prices for single items sold at auction as parts of bulk lots are more variable. In external eastern European markets the items sold in group lots cost between 5 and 11 dollars each, while in the west and US it was more like 8–14 dollars.

The profit generation mechanisms of the antiquities trade are well seen here. As is the case with other types of antiquities, items that can be bought in Ukraine and shipped out by post can be sold in external markets for considerably more than the finder was paid for them.

COMMERCIAL FLOW

What is generally referred to as the global antiquities market (Brodie *et al.*, 2006) is in fact unevenly scattered across the globe (Fig. 3). The main areas are western Europe, where collection of Classical antiquities has a long tradition, going back to the Enlightenment and increasing in tendency in the mid nineteenth century. Russia and Central Europe had the same traditions, but this was to an extent broken by several factors in the period of Soviet domination (1945–1989) but collecting is again becoming popular in both areas in post-Soviet times (Rusina 2007). The other area where there is today a voracious appetite for Classical antiquities in general is the USA. This developed from the 1870s or 1880s but tended to be more socially restricted than in Europe. In both western Europe and the USA, the pastime became more “democratised” by the advent of metal detecting and the internet trading of portable antiquities (1970s–1990s), a situation that still exists today.

The distribution of dolphin sales in Western Europe tends to cluster in the countries north of the Alps with two concentrations, the southern part of the North Sea littoral (a distant echo of Grand Tour collection?) and the Munich-Vienna axis. Beyond that are two other zones in northern parts of East-Central Europe and areas adjacent to the western Mediterranean.

The corpus shows that there are a relatively large number of dolphins on the USA market. The US dealer Reis (2002) notes that they “were rare before the collapse of the Soviet Union. Now they are moderately easy to find; enough are on the market that people get picky about them”. The distribution of dolphins in the USA reflects not only the areas with higher population but also wealth. Possibly it is also a reflection of cultural history. While the relative absence from the entire central part of the USA is not particularly surprising, it is notable that these items are relatively scarce on the West Coast as a whole. Their distribution on the East Coast is also uneven, with few in the south. The bulk of the sales concentrate in the region of Connecticut, New York state, New Jersey and Pennsylvania, this seems to reflect an area where intellectual activity and reverence of the classical world goes back to the earliest days of the colonies. A more diffuse area is found in the region of the Great Lakes in Michigan, Wisconsin and Illinois. Little is known about the beginning of collecting of portable antiquities from the ancient world in Canada and Australia. The market is not very big in either country and the locations of sellers offering them is rather uneven within the area of denser population. It is notable that in the survey no trace was found of these ancient coins penetrating the collectors’ markets of Mexico, or any of the Central or Southern American countries.

The relatively low numbers of these dolphins on sale in Russia (261 documented examples) is notable as is their uneven distribution. Most of the dealers with them

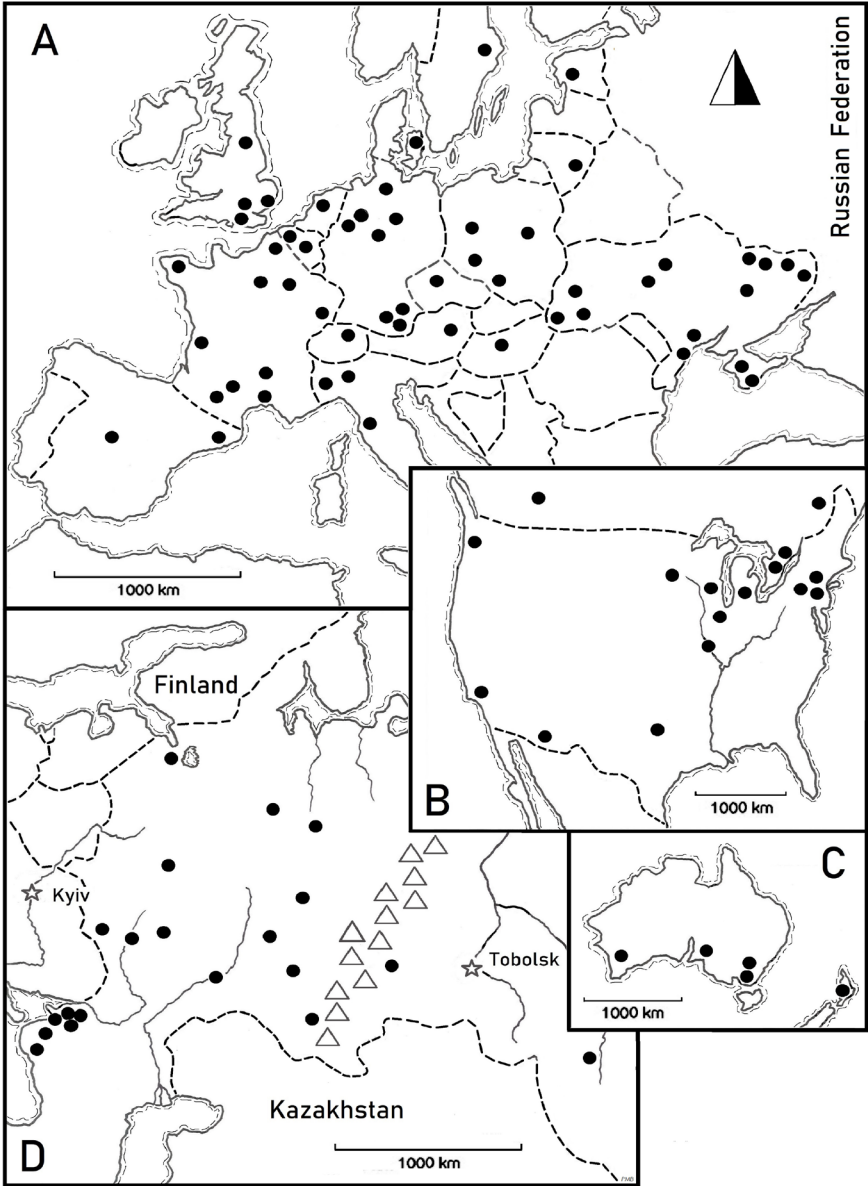


Fig. 3. Location of sellers offering dolphins mentioned in Appendix A: Western and central Europe (including Ukraine), B: North America (USA and Canada), C: Australia and New Zealand, D: Russian Federation (not to scale). Author: P. M. Barford.

were based in the largest cities (Moscow, Saint Petersburg, Novosibirsk, Yekaterinburg, Kazan), but the general concentration in Rostov, Krasnodar, Belgorod and Voronezh oblasts, near the Ukrainian border and in the southern, more populous (and wealthier) parts of European Russia is clear. Beyond that are only a few isolated items (Velsk, Kotlas and Novosibirsk). There were no records of such items in Belarus.

Since the 2014 occupation of Crimea and Russian attempts to subjugate Ukraine and their 2022 escalation, there has been a lot of attention paid to the issue of alleged looting of Ukrainian cultural property during Russian occupation of some territories. The appearance of ancient coins like these dolphins on the market in the Russian Federation is a potential source of information on this.

As noted above, the search criteria used to create the database would not have picked up examples of dolphins sold where the offer was written in a non-European script. There is known to be some market demand for classical antiquities in the Gulf states and Japan, though this mainly applies to “high end” antiquities and “ancient art”. There are also potential markets for various kinds of non-local antiquities in South and East Asia (as well as Africa), about which little is known. The closer examination of the relationship of the markets for antiquities of these regions with other parts of the global trade is a challenge for the future.

CONCLUSION

The increasing commodification of archaeological artefacts in the digital age, transitioning them from scholarly subjects to market commodities, not only inflicts tangible damage on archaeological sites, depleting them of their evidential values, but also erodes the foundations of academic investigation of the past. The antiquities trade is undermining the integrity of cultural heritage worldwide to an alarming extent. In Ukraine, metal detectorists scour productive sites for collectible traces of the past to monetize, leaving behind scars in the landscape that echo through time and alter the archaeological record irreversibly. What happens to the archaeological material they take away?

Part of the journey of Olbia Dolphins through collectors’ markets has been revealed by the preliminary analysis of commercial flow, it is a passage marked by clandestine excavation, illicit trade and silence on the ethical and moral issues. Above all, it demonstrates the ephemeral nature of the online data about them, as sales records vanish into the digital ether, the narrative of the Olbia Dolphins becomes fragmented, like a puzzle with missing pieces.

This narrative also intertwines with socio-economic trends, such as the recent surge in artefact hunting in Ukraine and the effects of economic upheaval, and now war, on this activity. As these artefacts traverse the global market, they become entangled in webs of speculation and exploitation. This study once again exposes the economic

disparities that the antiquities trade always embodies. Ukrainian finders receive meagre sums for their finds. Smugglers, intermediaries and dealers on the other hand reap substantial profits by selling them abroad, catering to the demands of the collectors that drive the entire market.

In response to these challenges, there is an urgent need for renewed emphasis on preservation and ethical stewardship. Scholars, policymakers, and society, including artefact collectors, must confront heritage commodification and together forge a path towards sustainable stewardship to safeguard our shared heritage for future generations.

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APPENDIX

This presentation of the information from the searches in 2022 and 2024 covers the geographical spread of the material in 2022–2024, and disregards the selectively-preserved information on earlier movements of material (although the latter does not seem to contradict the apparent general pattern that emerges, in fact many of the same sellers seem to have been selling this material over a period of years). The data are organised in four main groups. First, the presence of dolphins on the antiquities market in Ukraine (the source country) is discussed, this is followed by a presentation of the situation in two areas that may be considered as the core area of the global antiquities market (i.e., most of western Europe and the USA). The fourth group is what may be considered a periphery (Canada, Australasia, The Russian Federation).

It is worth stressing that (with one exception), none of the objects listed here have any indication of origin and collection histories, nor is there any indication of the circumstances of recovery (findspots, landowner permissions, excavation permits, assignment of ownership etc.). In no case is there any mention that any of them have any kind of documentation of legal export. None of them are even claimed to be “from an old collection”.

1. UKRAINE (FIG. 3A)

The complete Corpus contains records of nearly 2000 documented examples of these items from Ukraine. The main online sellers are based in Kharkiv, Kyiv, Uzhgorod, Lviv, Iwano-Frankivsk, Vinnitsya, Kamianske, Odesa, Mikolaiv. It seems that there are relatively few established dealers that

handle ancient coins in Ukraine; there is one coin shop in Lutsk, Volhynia district that deals in ancient Greek and Roman coins, but it seems to be in a class of its own. There are however a number of internet portals for collectors that sell in an auction format. The prime venue for the sale of these items is the Kyiv-based portal *Violity*, founded in 2005, where 250,000 collectable items of all sorts are put on sale every day. Its archives retain results of sales of dolphins going back to 2019 (it should also be noted that the totals from *Violity* are uncertain, searches at different times with various filters gave slightly different results, this instability may relate to case-sensitivity of the search engine). There are a number of other online auction portals, but their archives do not go back very far (New Auction: 47 items, UNC: 10, Monitex: 8).

In addition to these, a large part of the dolphins on eBay.com are being sold by sellers based in Ukraine. In 2022, there were 159 items offered (126 by a single seller based near Odesa, 15 by a seller from Kharkiv, 6 from a seller who seems to have moved to Germany at the beginning of the War and continued trading there) and a few other sellers with fewer items. In 2024, there were 123 items sold by eight different sellers (the same Odesa seller now had 92 (apparently) fresh items, there was another seller from Odesa, two from Kharkiv, one from Velyki – and the seller who had moved to Germany was still selling from there – 14 fresh items).

There were also five items being sold by sellers in Russian Occupied Ukraine (one each from Luhansk and Sevastopol, and three from Simferopol).

In Ukraine, there are also a large number of peer-to-peer general online sales venues some local, some parts of international portals operating in the country (e.g., Crafta, OLX, Etsy) where ancient coins, including issues from the Pontic region can be met sporadically, sold by coin collectors and “hobbyist dealers” among other collectables and other items. The archives of these are ephemeral, and they account only for a few dozen of the items in the corpus, but it is not known how many could be distributed by such means annually.

2. OTHER EUROPEAN COUNTRIES (FIG. 3A)

Austria: although there is in general quite an active antiquities market, there was only one seller of dolphins in 2022: Via in Vienna with nine examples. In 2023, Naumann in Vienna had one. In 2024 Artemide Vienna had six examples, plus one bulk lot of 12. Naumann now also had three bulk lots of 20 coins each.

Belgium: Dealer Elsen et fils, Etterbeek had a bulk lot of 26 in 2022, while seller NB-Numismatics in Aartijke/ Zedelgem had a single example in 2024.

Czechia: In 2024, the dealer Katz auctions based in Prague had three bulk lots of 10 coins plus another 45 selected individual items.

Denmark: Dealer Brunn Rasmussen in Koniges Lyngby (Nr Copenhagen) had three examples in 2024.

Estonia: The dealer Coins.ee, Parnu, Estonia had quite a few of these items in 2022, the total was 60, but this included three bulk lots (15/26/28 items). In 2024 there were 79 individual items, plus 12 bulk lots (=274). There were no examples noted in Finland or Latvia.

France: The corpus contains 51 entries for 2022, CGB Numismatics Paris had 26, Comptoir Des Monnaies Anciennes (CDMA) based in Lille had 11, ten were sold by the related NumisCollection, also situated in Lille, while four domestic sellers in Troyes, Montpellier, St Po le Leon and Massy (near Paris) each had one. For 2024, there were 41. CGB Numismatics Paris had 19, four from CDMA, four from NumisCollection. Then there were four from Artenummus and two from Fine-Art numis, both in Paris,

five from Benla in Villemur sur Tarn, and one each from: Abemas papam, Mulhouse; Annick43 Vals-près-le-Puy, Auvergne; Quincampoix-numismatique, La Rochelle.

Germany: In 2022, there were nine dolphins sold in Germany, one by Gorny and Mosch in Munich, another by Savoca, Munich. From Göttingen three were sold by dealer Fenzl, and one by private seller Kruemelmoonster. From Osnabrook were two sold by Kunker. One was sold on eBay by Amisius in Greven. In 2024, the number was nineteen: Savoca had five, and Solidus Numismatic in Munich had one. Emporium Hamburg had three. In Greven, Amisius still had one (the same one?), and ebay seller IrinaMarket (formerly selling from Ukraine, now based in Wolfsburg) had three and 'Suniriska also from Wolfsburg (the same seller?) had another three. In Rosemheim, Kec-Karol had one, and Variana in Unterföhring had two.

Hungary: The seller Monetarium, Budapest had one example in 2024.

Italy: There were just two non-business sellers in 2024 with single pieces (in Livorno and Milan).

Lithuania: Numisbalt in Vilnius had a bulk lot of nine in 2024.

Netherlands: Numistas, in Leiden had one example in 2023, while seller Van Zandwijk in Randstad (Nr Amsterdam) had one in 2024. The dealer RomanCoinShop in Amsterdam also had one.

Poland: In 2022, Wojcicki Salon Numizmatyczny Wrocław had two dolphins, the auctioneer Numismad in Warsaw had one, Marciniak Gabinet Numizmatyczny also in Warsaw was selling two, plus two non-business sellers (from Kazimierz, near Gdynia and Poznan) had single items on Ebay and Allegro. In March 2022, dealer Gliwickie Centrum Numizmatyczne acquired nine bulk lots of ten items. In 2024, Wojcicki had another three items, Poznanski Dom Aaukcyjny had one, and the dealer Kramarska20, also in Poznan, had one.

Spain: In 2022, there were just three examples on sale: Tauler and Fau, Madrid, two; Soler y Llase, Barcelona, one. In 2024 Numismatic Iberium in Madrid had one.

Sweden: Dealer Wallingmynt, Uppsala, had one in 2022. There were none in Norway.

Switzerland: The dealer Leu in Winterthur had 32 examples in 2022, in 2024 the same seller had a bulk lot of 20.

United Kingdom: Although the antiquities market there is among the biggest in the world, there were only three dolphins on sale in the UK in 2022, one by a member of a coin collectors' club in Dorchester and one by the London dealer Spinks, and a third by London Coins in the same city. For 2024, the corpus contained 51 coins, twelve (a bulk lot sold off singly) by Coincraft in Central London, four by Roma Numismatics in Central London, one sold by AH Balwin and Sons in central London, eight sold by Greendachet in Staines on Thames, and six (a small bulk lot) by Primes coins in York. In addition, the auctioneer TimeLine Auctions, based in Harwich had two bulk lots of 10 items each and in the past (2019–2021) has quite frequently had such lots. There were no records of these items from Ireland.

3. UNITED STATES OF AMERICA (FIG. 3B)

Like western Europe, the USA has a high density of dealers and collectors and in general there is a high demand for antiquities (and particularly ancient coins) from all over the world, Old and New. Although quite a number of dolphins were ending up on North American markets, the actual volume was for some reason lower than expected. For 2022, the Corpus contains 251 documented examples of these items being sold there. The bulk of these finds were being sold through eBay. There was a concentration of dolphins in the New York region, Alexandrel in Brooklyn had 19 items, Dmitry Markov in New Jersey had five, 20_Jazmine New Jersey had 98, and Metallica156 also from New Jersey had 69. These

two dealers had very similar-sounding object descriptions a lot of their objects are grouped in bulk lots from 7–10 items. Bodnari in Birdsboro Pennsylvania, had six. Lauren Certified Coins, Ann Arbor Michigan sold 13, GovMint.com in Eagan, Minnesota, had one with an interesting casting flaw. In Texas, Arlington Coins in the town of that name had four, Moneta Tucson in Arizona was selling two. Time Machine based in Kissimmee, Florida sold two, Treasures by Tim, based in Yelm, Washington had five. Cameleon Coins, Woodland Hills California had three. Vaughn Rare Coins in Alton Illinois had one and Roma Aeternae, Niles Illinois had two. There were also 15 other non-business sellers scattered over the country selling between 1 and 3 items (total 21).

In 2024, the total was 285, some of which were being sold by the same dealers that had them two years previously. The bulk of these finds (203 items) were being sold on eBay, and again it was the New York area in the lead: Dmitry Markov had four, Alexandervel had one, Agora Coins had two, Authentic Ancient Greek Roman Coins, Rego Park NY sold five. The same New Jersey sellers had many items, mostly now being sold singly, but some in small groups of 5–7 together: Cream 1904, 63 items, 20Jazmine had 39, Historycover with 21, Metallica156 had one. Westernwinds Terryville Connecticut had 19 dolphins, Langtons Rare Coin and Currency, Ridgefield, Connecticut had one. Bodnari in Birdsboro Pennsylvania, had four. Classical Numismatic Group Lancaster Pennsylvania had two, plus two bulk lots of 30 plus 30. In Skippack also in Pennsylvania, a non-business seller Soulreaper2 had a bulk lot of 18. Established dealer Harlan Berk in Chicago had three. Vaughn Rare Coins Alton Illinois sold one, Roma Aeternae, Niles Illinois had one. Pegasi Numismatics Ann Arbor, Michigan had three. Zeus Ancient Coins and Artefacts Eagle River, Wisconsin had one. Lost Dutchman Rare Coins (Indycoins) in Indianapolis, Indiana, had one packaged with an informational card. Worley Enterprises, Auburn Alabama sold six, In Texas, Arlington Coins had four, Moneta Tucson in Artizona was selling two. Coin and antiquities dealer AncientArtifactz, Richardson, Texas was selling a single “ancient Greek Dolphin Proto Money – 100% Original – With Display Case” (a Ryker box), the photo showing them picking it out shows a bulk lot of another twenty in the background. There were a number of other USA sellers offering dolphins picked out from bulk lots in similar “educational” packages as part of more general offers of a variety of other household goods etc., these were not mapped. Treasures by Tim, based in Yelm, Washington had two and Praefectus Coins, Blaine, Washington had one. Ken Dorney, Redding California had one, as did Cameleon Coins, Woodland Hills California, while Stacks Bowers in nearby Costa Mesa had two. There were also eleven other non-business sellers scattered over the country selling single (occasionally two) items on eBay (total 15).

4. PERIPHERAL AREAS OF THE GLOBAL ANTIQUITIES MARKET

Australia (Fig. 3C): There were relatively few of these coins in the hands of Australian dealers, in both 2022 and 2024 the total was just 11, most of these were relatively small broken pieces being sold for relatively modest prices. There were four items with Imperial Numismatics, a dealer in Perth, and the rest of them were being sold in the SE of the country, seven by Yeoldecoinco in Magil, near Adelaide, eight by The Swagman in Albury on the Murray river and two by Ancientcoinsa-18 a dealer in Blackburne next to Melbourne. In New Zealand, there was one dolphin being sold by Ccoins2015 in Auckland on the North Island.

Canada (Fig. 3B): In 2022, there were 8 items sold, but in 2024 the number was up to 56, being sold by shops that mostly traded through eBay, the biggest was based in Richmond Hill Ontario and had 19 small dolphins. Another shop in exactly the same address had eight. One dealer in Hamilton Ontario acquired 13 for sale in 2024, while a shop in Mississauga Ontario had two. One Toronto dealer had eight,

a second Toronto shop had four, A dealer 4 Sesterces in Calgary had one. Another seller, Rodsyuriy from Saint-Laurent, Quebec, had a series of small scrappy fragments of (18) dolphins, and Numismatique Louis Brousseau in Quebec had one item.

Russian Federation (Fig. 3D): The Corpus contains 261 documented examples of these items from the Russian Federation. While there are in Russia a number of dealers in world coins for investment or coins of the Russian Empire and its medieval beginnings, there are relatively few dealers with actual shops in the entire Russian Federation that specialise in ancient coins. There seem to be just two (and another two of unclear status), all of them are based in Moscow and the corpus contains no reference to any of them selling dolphins in the recent past. Other established numismatic dealers operate mainly through online sales, but again dolphins are rarely offered among the more conventional types of ancient coin. The main dealers having these coins in 2022–2024 are situated in Moscow (Numizmatik, Rashenkoin, Volmar, each just one for sale) and Saint Petersburg (Anumis, [54 items, some casting waste], Petersburg Numismatic Auctions [2]) and one with shops in both Moscow and StP (Konros [18]). Other major dealers are situated in Ekaterinburg (Bonuman [5], and Numizmat [1]), and one in Krasnodar (Duvanov Coins [2]).

Like Ukraine, there are a large number of peer-to-peer online sales venues with more general profile and rather ephemeral archives, where non-business sellers sometimes offer collectables and numismatics. Ancient coins from the Pontic region can be met sporadically (e.g., Meshok [56], Aukcja.Ru [54], Festima [13], but also Avito [3], Yandex Market [2] Abino [1], etc.). The Russian branch of eBay closed down several years ago. The sellers are mostly based in Moscow (24), Saint Petersburg (11), Yekaterinburg (8). Other sellers with smaller numbers of items were in Rostov (5), Yeisk (5), Taganrog (5), Bataysk (9) in Rostov oblast, Krasnodar (4), Temryuk (2), Timashevsk (2) in Krasnodar oblast, Gubkin (2) and Voronezh (4) in Belgorod and Voronezh oblasts, Tambov (1) in Tambov Oblast, Shikhany (2) in Saratov Oblast, Salavat (2) in the Republic of Bashkortostan, Kazan (6) and Al'mer'evsk (1) the Republic of Tatarstan, Russia. In the North were two sellers in Velsk (1) and Kotlas (6) in Arkhangelsk Oblast. To the east of the Urals, was only a seller in Novosibirsk (3).