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Chronology and Spatial Analysis of Figurines and Figurine Features in the 5th Millennium BC

ABSTRACT:

The aim of this thesis is to understand the relationship between the occurrence of various figurine features and their geographical location, focusing on southeastern Europe as well as touching on surrounding areas. The chronological focus is on the Middle Neolithic period of Austria (which coincides with the 5th Millennium BC, but can also be referred to as Late Neolithic, or Early/Middle/Late Chalcolithic, depending on the geographical region). This study will add to previous research performed by by Kotova, Stadler and Nikitin involving a typological analysis from the early Neolithic of Austria.

The relationship of figurines and figurine features is analyzed via the creation of a typology with Serion Suite software developed by Peter Stadler. This software involves the use of Image Database Montelius which, to date, includes about 1,190,000 images collected from archaeological texts of cultural image data ranging from all over Eurasia. A large number of the figurine images are input from texts by Svend Hansen. Of the collected artefact images, approx. 1000 images of figurines are taken which fit the study's geographical and temporal restrictions (i.e. between Austria and Asia Minor during the 5th Millennium BC). The figurine typology was created using the program MonteliusEditor and the feature distribution was analyzed by mapping and comparing geographical distribution of selected figurine features in the first half and second half of the 5th Millennium BC.

The results suggest some movement of figurine features, with a tendency to move northwards and spread outwards to nearby regions, in accordance to Neolithic expansion; however, this continues into the Chalcolithic for some regions. The Image Database Montelius still requires more data input to increase the accuracy of spatial distribution studies such as this one; however, there is great potential for future studies if this is achieved. Further investigation is required to confirm the results of this study, mainly by covering a much wider geographic range in order check the results that occur along the geographical edges of the area studied in this paper. The results suggest that the Chalcolithic period, often neglected, can offer very interesting results regarding cultural expansion and that the Neolithic and Chalcolithic periods possibly continued to experience movement throughout their course, either through cultural and/or demic diffusion (migration).

Chronologische und räumliche Analyse von Figurinen und Figurinen-Merkmale im 5. Jahrtausend v. Chr.

ZUSAMMENFASSUNG:

Ziel dieser Arbeit ist es, die Beziehungen zwischen den verschiedenen Figurenmerkmalen und ihrer geographischen Lage zu verstehen und sich auf Südosteuropa und die umliegenden Gebiete zu konzentrieren. Der chronologische Schwerpunkt liegt auf der mittelneolithischen Zeit in Österreich (die mit dem 5. Jahrtausend v. Chr. zusammenfällt, aber auch je nach geographischer Region als spätneolithisch oder früh-, mittel-, spätchalkolithisch bezeichnet werden kann). Diese Arbeit wird mit einer typologischen Analyse aus dem frühen Neolithikum von Österreich zur vorherigen Forschung von Kotova, Stadler und Nikitin hinzufügt.

Die Beziehung von Figuren und Figurenmerkmale wird durch die Erstellung einer Typologie mit der von Peter Stadler entwickelten Serion Suite Software analysiert. Diese Software beinhaltet die Verwendung von Image Database Montelius, die bis heute rund 1.190.000 Bilder aus archäologischen Texten von kulturellen Bilddaten aus ganz Eurasien enthält. Eine große Anzahl von Figurinenbildern wurden aus Werken von Svend Hansen übernommen. Im Rahmen der vorliegenden Arbeit wurden sämtliche Bilder (ca. 1000) von Idolen gesammelt, welche den oben genannten geographischen und zeitlichen Beschränkungen entsprechen (d.h. zwischen Österreich und Kleinasien während des 5. Jahrtausends v. Chr.). Es wurde eine Figurinen-Typologie mit dem Programm MonteliusEditor erstellt und die Merkmalsverteilung wurde analysiert, indem die geographische Verteilung ausgewählter Figurenmerkmale in der ersten und zweiten Hälfte des 5. Jahrtausends v. Chr. kartiert und verglichen wurde.

Die Ergebnisse deuten auf einige Bewegungen von Figurenmerkmalen hin, eine Tendenz sich nach Norden zu bewegen und nach außen zu den nahe gelegenen Gebieten zu verbreiten, in Übereinstimmung mit der neolithischen Expansion. Dies setzte sich jedoch für einige Regionen bis in das Chalkolithikum fort. Die Bilddatenbank Montelius benötigt noch mehr Dateneingaben, um die Genauigkeit von räumlichen Verteilungsstudien wie diese zu erhöhen, wodurch Montelius ein großes Potenzial für zukünftige Studien hat. Weitere Untersuchungen sind erforderlich, um die Ergebnisse dieser Studie zu bestätigen. Zukünftige Forschung sollte vor allem größere geografische Bereiche abdecken, besonders um die Ergebnisse entlang der geographischen Grenzen in dieser Arbeit zu überprüfen. Die Ergebnisse deuten darauf hin, dass das Chalkolithikum, welches in der Forschung oft vernachlässigt wird, sehr interessante Ergebnisse in Bezug auf die kulturelle Expansion bieten kann und dass die neolithischen und chalkolithischen Perioden möglicherweise

auch weiterhin Bewegung während ihrer gesamten Existenz erleben, entweder durch Kulturell- und/oder demische Diffusion (Migration).

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First off, I'd like to thank my supervisor from the University of Vienna, PD DDr. Peter Stadler, for his guidance and assistance during the course of my research, as well as the free provision of his software and training in its use.

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(All images created by the author with MonteliusEditor and GoogleMapper software)

Introduction:

The aim of this paper is to understand the relationship between the occurrence of various idol features and their geographical locations during the course of the 5th Millennium BC, with a focus on south-eastern Europe and including samples ranging from ancient Anatolia (modern day Turkey) to central Europe. This follows up on previous work carried out by Kotova, Stadler and Nikitin[1] involving a typological analysis from the early Neolithic of Austria. Their results suggested support for population migration through the Balkans toward Austria and of another group from SW Anatolia to Vienna. A comparison will be made to see if different or similar results occur. By looking at the occurrence of idol features and their geographic locations, one can make a statement concerning the migration (or lack thereof) of populations or style ideas from Turkey to Europe or vice versa during the 5th Millennium BC (which coincides with Chalcolithic Anatolia, the middle to late Neolithic and Chalcolithic Periods of southeastern Europe and the middle Neolithic of Austria). This will add further data to the understanding of how earlier Neolithisation of Europe occurred, specifically contributing more data to the aftermath of the initial introduction, with reference to the often under-studied Chalcolithic period.

The relationship of figurine features to their geographical location will be studied via spatial analysis and includes the creation of a typology with Serion Suite software developed by Peter Stadler. This software involves the use of the Image Database "Montelius" which, to date, includes about 1,190,000 images collected from archaeological texts of cultural image data ranging from all over Eurasia. A large number of the figurine images are input from texts by Svend Hansen, but also include examples from other works. Of these images, approx. 1000 images of figurines were taken which fit the study's geographical and temporal restrictions, i.e. figurine image data from between Austria and Ancient Anatolia (Turkey) during the course of the Austrian Middle Neolithic (which follows Stadler's and Kotova's work). The figurine typology will be created using the program MonteliusEditor and the feature distribution will be analyzed in a geographical context. An attempt will be made to determine if there is a pattern of migration or cultural diffusion from ancient Anatolia to Austria or vice versa.

The chapters of this paper are organized firstly by the discussion of the parameters of the study, specifically the geographical and temporal scope, going into detail on the various involved chronological phases, cultural groups and occurring problems. This will be followed by a look at the idol specifics, discussing their general description and going into depth on previous research into the various interpretations by scholars on their meaning, with a special discussion of Gimbutas' matriarchal mother-goddess cult. The method of this study will also be discussed, particularly as to

[1] (Kotova, Stadler, & Nikitin, publication forthcoming)

why spatial analysis as well as the chosen software tools were appropriate. The selected software tools and their use will be elaborated upon as well as how the selected Montelius software benefitted the study. Details will be given for the selection process of the idols collected in the database as well as the limitations that are present in the study. This will be followed by a thorough description of the typology categories with figures given in regards to the figurines that received the most focus. Then the results will be given in the form of spatial distribution maps created with the software and a description of the cultural and temporal comparisons in each map. Finally, a discussion of possible implications and suggestions for future research will occur.

Previous Research:

Geographical and Chronological Scope:

The geographic scope of this study mainly focuses on artefacts from south-eastern Europe, specifically the Balkans region. However, adjacent regions are also touched upon. Some examples extended into central Europe, even as far to the northwest as Austria and Germany, with further examples spreading to the east as far as southern Ukraine in the north and Turkey (sometimes referred in literature as ancient Anatolia or Asia Minor) in the south. The Aegean also has a strong presence in the sample collection. This study is a follow up to a previous investigation regarding a typological analysis from the early Neolithic of Austria that suggested support for population migration through the Balkans toward Austria.[2] The chronological focus of this study covers the 5th Millennium BC (5000 – 4000 BC), which coincides with the middle Neolithic of Austria and the Danube region,[3] and includes a variety of overlapping cultures, innovations and periods. While this period is generally the goal of this study, there were difficulties in remaining only within this range, due to such things as cultural period overlap and difficulties with obtaining absolute dates.

Dating Methods and Problems:

Accurately dating archaeological sites is one of the most important aspects in archaeological research and generally revolves around two kinds, absolute methods and relative methods. With absolute dating methods, one can obtain a numerical date or range of dates for specific sites, objects or stratigraphic levels. This is usually done through a variety of different methods of archaeological science (also known as archaeometry) and includes methods such as radiocarbon dating, thermoluminescence dating, dendrochronology etc. In regards to relative dating, prehistory is often divided into comparative technological developments, such as the Neolithic revolution or the Chalcolithic. Additionally, sets of characteristics are grouped together and named as part of a

[2] (Kotova, Stadler, & Nikitin, publication forthcoming)
[3] (Stadler & Ruttkay, 2007)

cultural group, such as the Varna or Cucuteni cultural groups. However, for a variety of reasons, which will be expounded upon below, these relative periods can be problematic when trying to coordinate with absolute methods, or when used in cross-cultural studies. Overlapping periods may be long or have uncertainty, which bleeds uncertainty into other sites that could be more assuredly dated.

More focus on absolute methods would significantly increase accuracy. However, such dating methods are often expensive and require specialist expertise. There also needs to be several absolute dates used to increase reliability and rule out error due to problems such as contamination or, in the case of radiocarbon dating, "old wood".[4] This can be even more expensive, and underfunded projects may resort to relying purely on relative dating to avoid such costs. Even when one has access to absolute dates, cross-cultural studies with other regions may cause problems with accuracy, where little or no absolute dates are available, or there is a focus on relative dating in general practice. For example, the Balkans region has lots of stratigraphy and absolute dates available; however, middle and southern Greece, as well as western Anatolia, has much more difficulty in this regard,[5] particularly concerning the period in question for this study.[6] Thus the comparison of sites between these regions will mainly have to rely on relative dating methods which lessons the accuracy of comparing these two regions. Additionally, research is also ongoing and new findings can change older theories. Relative time periods are constantly being reorganized to incorporate new data, resulting in constantly shifting boundaries. Düring suggests that modern archaeologists refrain from continuously reworking the dates for the traditional period dating systems and focus more on absolute dating instead.[7] This concept may also be applied to cultural group/complex dating or at least make it standard for culture name periods to always be used in conjunction with absolute dates. This would increase the overall general accuracy and ease with which cross-cultural comparisons of archaeological material are made.

Another problem regarding cross-regional studies in archaeology demonstrates one of the main flaws of the relative dating method, particularly involving the use of chronological time periods such as Neolithic, Chalcolithic, Bronze Age etc. These periods are mainly based upon cultural and technological revolutions, which did not instantaneously appear everywhere once it first occurred. Such developments needed time to migrate to other periods which occurred over thousands of years. Thus, there can be confusion when comparing time periods from different geographic regions, as they often have different absolute dates. The middle Neolithic of the Danube

[4] (Düring, 2011, S. 126)
[5] (Ivanova, 2008, S. 23)
[6] (Düring, 2011, S. 200) During the period of 5500-3000 BC, Asia Minor has a lack of data in comparison to other periods
[7] (Düring, 2011)

region ranges around 5000/4900 – 4000 BC,[8] while the middle Chalcolithic of Asia Minor occurs at about the same time, 5500-4000 BC.[9] The Neolithic occurred in Anatolia earlier on, spreading out and only reaching Austria by the 6th mil. BC, by which time Anatolia was already transitioning into its Chalcolithic period. Therefore, as previously mentioned, the 5th mil. BC coincides with various periods: Chalcolithic Anatolia, the middle to late Neolithic and Chalcolithic periods of southeastern Europe and the middle Neolithic of Austria.

Another problem in regards to studying cultural periods, or indeed archaeology as a whole, involves the tendency for scholars to mainly focus on "firsts", or as Düring states, "classical thresholds" (i.e. when technologies, behaviors etc. first occurred). This is particularly true in regards to the first arrival of the Neolithic period to different regions, which results in the lack of scholarly interest and excavation funding for non-"first" areas, such as later Neolithic period developments or the following Chalcolithic period.[10] It is understandable as to why these periods interest scholars; they have potential for funding opportunities on the forefront of the most current popular research areas, rather than taking a risk in an unknown time period. However, this lack of research into the finer details in the non-revolutionary parts causes a feedback loop, where many important and undiscovered elements remain undiscovered due to lack of interest and no new interest is generated due to lack of research.[11] Thus there are many missing areas that require further research and cause problems regarding cross-cultural and geographical studies, which for archaeology is a serious hindrance in any study involving trade or migration. And, if further studies are not performed to increase accuracy and interest in poorly studied regions and periods, such as the Chalcolithic and later phases of the Neolithic, then this trend will remain uncorrected.

Problems with the Neolithic and Chalcolithic:

To further confound the problem of relative period dating, there is also disagreement between researchers regarding what acts as evidence for relative chronological periods. The term "Neolithic" has had many attempts at definition. Brami has discussed the history of this term, where the Neolithic, as a cultural and technological revolution, was examined by several prominent archaeologists, shortly summarized here. Polished stone artefacts were used by Lubbock to differentiate the Neolithic from the Paleolithic, with a later emphasis by Childe on the presence of agriculture and megalithic monuments. Hodder meanwhile suggested a 'revolution of symbols' and focused on domestication as a sign of the Neolithic.[12] However, these ideas, while adding to the understanding of what exactly constituted the Neolithic could not quite fully describe it. Additional

[8] (Drasovean, 2008)
[9] (Düring, 2011, S. 203)
[10] (Düring, 2011, S. 123, 201)
[11] (Düring, 2011, S. 203)
[12] Thorough discussion of history of the term Neolithic in (Brami, 2014 June)

discussions by Renfrew and others, based on ideas from Clarke, put the Neolithic into a "polythetic" category, as described by Pluciennik, where the Neolithic could be defined by a wide range of criteria, with no defining central characteristic.[13] Thus, the content of this so-called Neolithic "package" varies as to its contents[14] and may obtain further variation as it makes contact with different cultural groups. New technologies and ideas may be picked up just as much as previously known ones are lost along the way. Thus, what constitutes as evidence for the Neolithic period can have multiple variations, as can other periods (such as the Chalcolithic).

The definition of the Chalcolithic period is also a complex one. Also referred to as the Eneolithic or the Copper Age dependant on the region (though the term "Chalcolithic" will mainly be used in this paper), this period is generally defined by the use of copper; however, there is disagreement between scholars in regards to the intensity of use.[15] Like the Neolithic, there has been difficulty in declaring when a culture has reached the Chalcolithic period. The Chalcolithic has especially suffered from the bias of classical thresholds. It is considered to be merely a transition period between the Neolithic and the Bronze Age, where nothing of particular importance occurred.[16] This follows along with the idea that "firsts" are the main focus of interest for scholars, rather than the understanding of how these technologies and cultural elements blended, developed and interacted with one another. The early Chalcolithic is often incorporated into the Neolithic and the late Chalcolithic into the early Bronze Age, with the middle Chalcolithic sometimes skipped over completely.[17] This in fact stresses the importance of studying the Chalcolithic and the rejection of regarding technical revolutions as one-off events. They appear instead to be "long, drawn-out gradual processes"[18] where a better understanding of how the Neolithic grew, developed and changed may help with understanding why and how the Neolithic occurred and subsequently how and why the following Bronze Age occurred.

Summary:

While absolute dating is becoming more prevalent in archaeology, the reliance on relative dating still prevails despite some problems. Using relative dating methods can be useful when making comparisons with older archaeological literature that had no access to modern absolute methods, but many problems can occur once attempts are made to cross-coordinate between different geographical regions and other absolutely dated sites. For this reason, the late 5^{th}-4^{th} mil. BC is difficult to date and correlate the many different cultural groups. Thus, a more thorough

[13] (Brami, 2014 June)
[14] (Brami, 2014 June)
[15] (Pernicka & Anthony, 2010, S. 169)
[16] (Düring, 2011, S. 200)
[17] (Düring, 2011, S. 200, 202)
[18] (Düring, 2011, S. 253)

description is required than "the Middle Neolithic of Austria." While one should keep in mind some of the possible problems regarding the accuracy of chronology and spatial studies, an attempt must be made to investigate any possible relationships.

Dating Estimations of Neolithic and Chalcolithic Periods:

Since it is within the time range of the Austrian middle Neolithic, both Neolithic and Chalcolithic are used in literature when referring to parts of southeastern Europe during the 5th mill. BC, with Anatolia being well into their Chalcolithic period by this time. This paper involves sorting through sources of literature both young and new from a variety of different excavators from different regions, and thus the terminology used is very mixed; however, the term 5th mil. BC is the most commonly used. The following is a general overview of the general technologically-based chronological periods and their geographical associations according to Ivanova.[19] The time range 5000/4800-4500 BC includes these periods: the late Neolithic of Romania and Serbia, the early and middle Chalcolithic of Bulgaria, the late Neolithic II of the Greek Mainland[20] and the Ageas, and the middle Chalcolithic of western Anatolia. The late 5th-4th mil. (4500-4000 BC) includes descriptions of end-Neolithic or Chalcolithic for Greece, and late and final Chalcolithic for the Balkans and western Anatolia.[21] This of course is in comparison with the middle Neolithic of the Danube region which ranges around 5000/4900 – 4000.[22]

Dating Estimations of Specific Cultures:

Additional relative dating occurs in the form of cultural periods. There is still some discussion involving the exact beginnings and ends of these cultures; however, more radiocarbon dating should assist in clearing up these difficulties. The following is a chart for the cultural periods discussed in this paper, amalgamated from various timeline charts (with calibrated radiocarbon dates) from Anthony, Stadler and Ruttkay, Clemens, and others.[23] (See Figure 1 for the timeline and Figure 2 for a map of discussed cultures and time periods).

[19] Ivanova gives a good selection of references for both radiocarbon dating and relative dating for the time range covered in this paper (Ivanova, 2008, S. 23-24)
[20] The Angelci-Zelenikovo culture of Macedonia is noted as being late Neolithic, thus placing it in the first half of the 5th mil.BC. (Fidanovski, 2009, S. 32)
[21] (Ivanova, 2008, S. 23)
[22] (Drasovean, 2008)
[23] (Anthony & Chi, 2010, S. 32), (Lichter, 2001, S. 30, 157, 159), (Gimbutas, 1991, S. 465), (Stadler & Ruttkay, 2007, S. 132), (Haak W, 2010 Nov 9), (Shaw, 2002, S. 588).

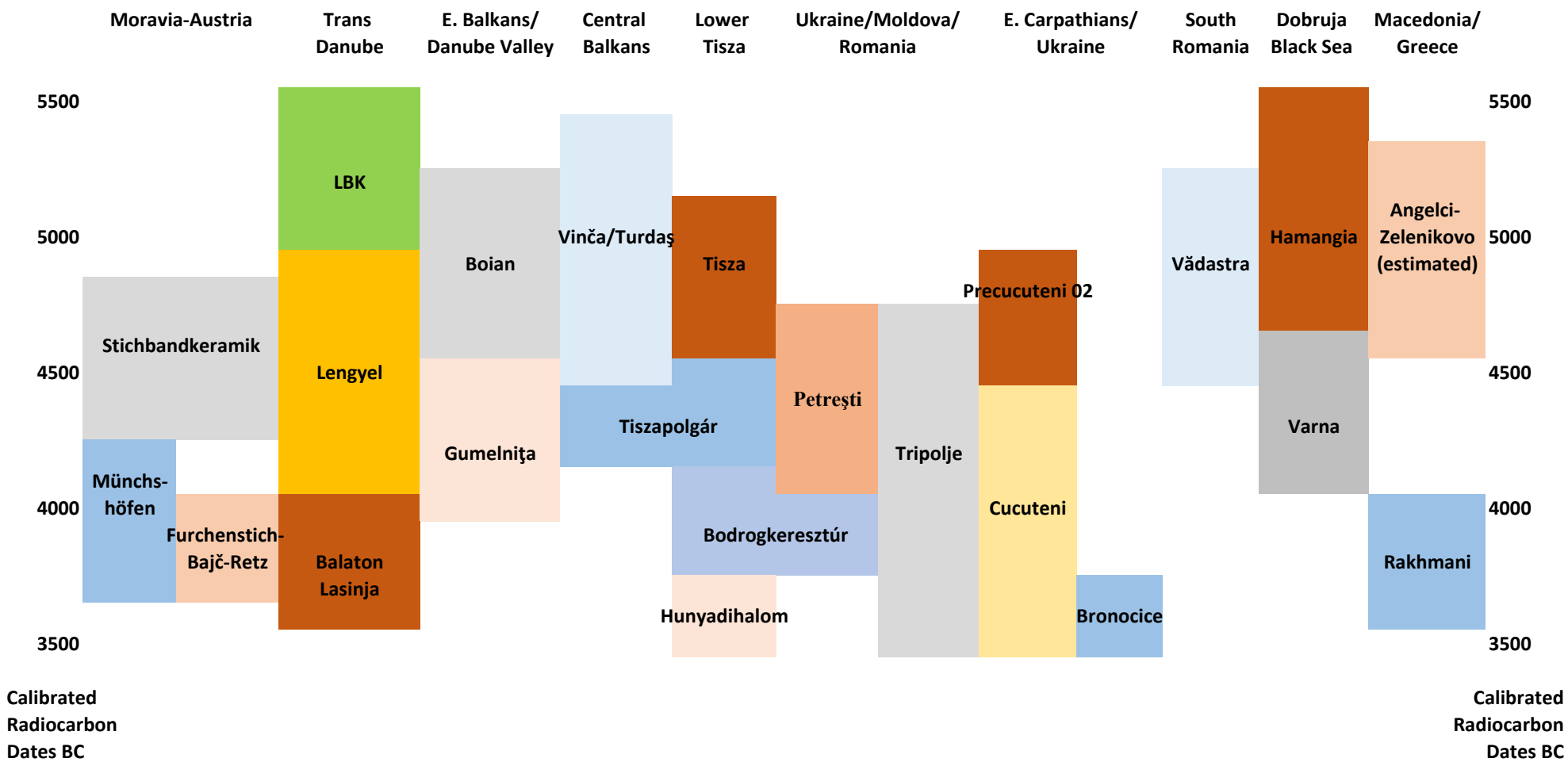

Figure 1: General Culture Chronology

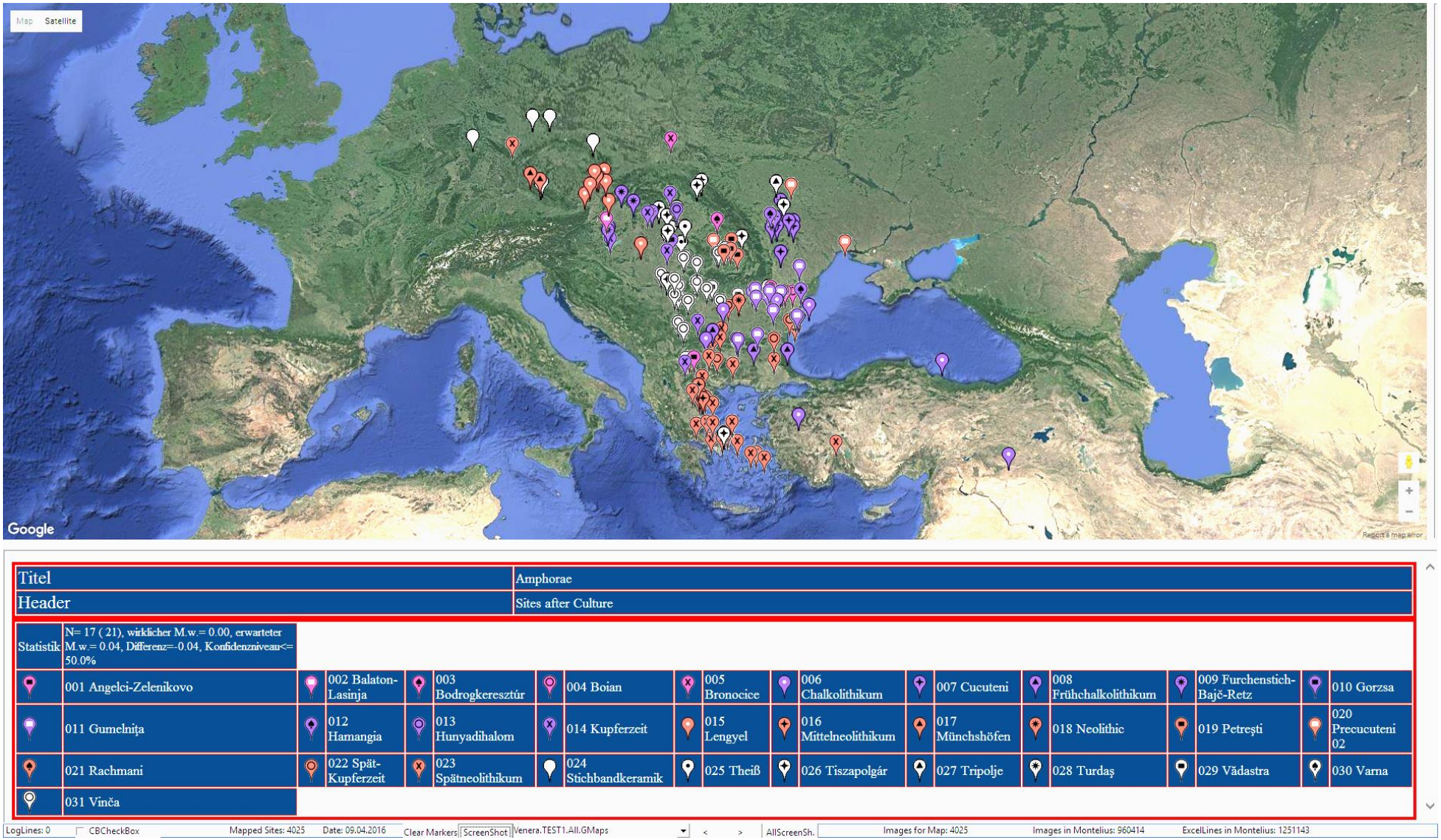

Figure 2: Map of Cultures

It should be noted in the chronology that Anthony (2010) and Lichter (2001) have different dates for the Petreşti culture (Anthony lists it in the second half of the 5th mil. BC and Lichter lists it in the first half. The author chose the second half in the chronology table as Anthony is the most recent publication.

Cultural and Demic Diffusion:

There has been much discussion among scholars in regards to how the Neolithic expanded, theories of which mainly concern demic diffusion or cultural diffusion, where the former involves the movement of whole populations through migration or colonization, and the latter with ideas moving via trade contacts or traded objects and adopted by local peoples. In general, there seems to be three main ideas as to how this would be represented in data: firstly, in colonization or population migration (demic), it is assumed that several cultural traits would travel together; secondly, in adoption (cultural), the adopted trait would appear in cultures that shared continuity with local pre-existing Epipaleolithic or Mesolithic cultures; or thirdly, where both demic and cultural diffusion occurred, both types would be present.[24]

For the concept of migration, there does seem to be evidence that supports this occurrence. There have been many studies tracking population movement via genetics. Comparisons of DNA have found links between the LBK culture from central Europe during the late sixth Millennium BC and modern Near Eastern and Anatolian populations.[25] There also seems to be a northward trend of travel, suggested by the genetic distinction between local hunter gatherers in northern Europe and new farming populations coming from the south of Europe.[26] Further DNA studies offer evidence of gene flow from Anatolia to Europe via Dodecanese, Crete, and the Southern European coast.[27] Ammerman and Cavalli-Sforza provide support for the movement of actual populations from the Middle east to Europe using genetic evidence, though there is also support for a high inclusion of Epipaleolithic and Mesolithic populations along the way.[28] Stontium isotope analysis of skeletons of the early Neolithic Linear Band Keramik culture in central Europe (the Rhine Valley) have also suggested support for residential movement of populations.[29] This sets a precedence for the possible continuation of this practice in later periods as well. Thus there is evidence for migration of people. The Neolithic transition into Europe from Anatolia is often discussed as 'fast-tracked' and "imported" with both the use of cultural and demic diffusion.[30] Studies by Zvelebil, Gronenborn and Price have

[24] (Düring, 2011, S. 198), referencing Zvelebil 2001.
[25] (Haak W, 2010 Nov 9)
[26] (Skoglund, 2012 Apr 27)
[27] (Paschou, 2014 Jun 24)
[28] (Brami, 2014 June)
[29] (Bentley, et al., 2002)
[30] (Brami, 2014 June)

suggested that southeastern Europe was colonized during the Neolithic with indigenous peoples adopting styles in central and northern Europe.[31] Other studies analysing the spread of the Neolithic via computer modelling have also suggested a mix of both demic and cultural diffusion, with cultural being prevalent in Northern Europe, the Alpine region and west of the Black Sea and demic in regions such as the Balkans and Central Europe.[32] Brami points out the possibility of styles flowing both from East to West as well as West to East, where the flow of cultural ideas need not be one-way.[33] This could hold true for some migrations as well.

It is generally accepted that the Neolithic followed a path from Turkey, through modern Greece, Macedonia and Serbia to the Pannonian plain, spreading afterwards to eastern and western Europe.[34] There are also many studies that suggest either movement of populations or cultural traits. However, physically tracking such traits can prove difficult from the archaeological level. The previously mentioned complexity of the "Neolithic package" created difficulty in this regard and tracking cultural groups can pose the same problem, particularly when tracking styles. A very unclear picture could occur, where a distorted version of a type or style may arrive to an area first via cultural diffusion which mixes and changes with local styles along the way, before imports or people who make the original styles migrate to the new region.[35] The final result could be very different from the original and even leave and come back to the original source, making comparisons difficult. This would also make the continuation of a style over a long period of time questionable, particularly if it was mobile, travelling through different regions and cultures. There would also be difficulty in differentiating between specific traits that have travelled versus local innovations that merely resemble that foreign element.

There is also worry of purely superficial comparisons being made between styles that only look like they are the same, when in fact they may have originated independently of one another. This has been suggested of some comparisons between Tisza examples and their parallels in the Balkans, where the comparisons made are only based on one trait.[36] However, there may be some value in focusing on a singular trait at a time. If one pulls away from trying to track the complete "package" of a cultural group, and focuses on each trait separately, it may be possible to mix and match traits to see if any patterns occur via spatial analysis. Obviously such a study is not meant to be used alone but instead used in comparisons with other similar studies to see if any patterns arise, which can be made easier with computer software. Then it may be possible to track such packages.

[31] (Bentley, et al., 2002, S. 802)
[32] (Fort, 2015 May 6)
[33] (Brami, 2014 June)
[34] (Brami, 2014 June)
[35] (Bartel, 1981 June)
[36] (Düring, 2011, S. 209)

Idol Specifics:

Description:

The objects discussed in this thesis have a tendency to be referred to as "idols" although the academic literature can also refer to them as figures or figurines (with additional descriptions of anthropomorphic or zoomorphic). The common use of "idol" likely denotes the tendency of academics to associate a ritual use for the objects; however, it is frequently used in literature as a descriptive term and thus all these terms are used interchangeably in this paper. Also, this subject is narrowed to anthropomorphic figurines only and does not include zoomorphic or other miniature objects, excluding discussions of figurines sitting on chairs or possibly having a four-legged animal appearance due to such chairs.

The figurines can be flat or more 3-dimensionally shaped and are often solid objects, although some have hollow holes in either the top where the head is, or all the way through the figurine. There are some examples of vessels that are decorated anthropomorphically, sharing some design characteristics with other idols, suggesting a connection between the hollow vessels and the figurines with a hollow center. This paper however tries to narrow its investigation to mainly the figurines, and although there may be a connection, the anthropomorphic vessels were generally left out of the spatial distribution study. The idea behind this omission is that vessels may use certain construction or style techniques that differ in regards to solid (or mostly solid) figurines.

There are a variety of materials used for these objects. The majority of idols from the selection were made out of clay, with several cases out of bone or stone (such as serpentinite and marble). There were also some made from shells, metal (such as gold and silver) as well as a few examples made out of animal teeth. Therefore, there seems to be no overall system for typical materials, though local customs may have specific rules regarding the use of such materials. But as the development history of idols beginning from Pre-pottery Neolithic teaches us, the idols are mostly made from clay, even in these early periods, where ceramics were not yet invented.

It is also often difficult to identify the gender of the idols, even where some characteristics are suggested to be a mainly female or male attribute as found in burials of women or men. Flemming cautions against assuming that all the figurines are female[37] and Marler gives examples of idols that use both male and female attributes.[38] Some such examples can be seen in the collection compiled in this thesis; a category for figurines with "breasts" include both figurines with male and female genitalia. The breasts are applied pellets of clay that, on the males, may only be referring to a bare male chest with nipples, but take on the appearance of pellet-shaped breasts on other female figurines (more detail of this case can be found in the Typology section). Therefore, even primary

[37] (Flemming, 1969 Oct)

[38] (Marler, 2003, September 5-7,)

sexual characteristics have a variety of ways of being presented and do not always represent one or another gender in every case. However, it is interesting to note that the anthropomorphic vessels, which were mainly avoided in this study but which also held some similar characteristics, are associated with females and female activities.[39]

Meaning:

There are a rather large range of possible uses for human figurines suggested by archaeologists over the years, though there is a tendency to focus on ritualized, magical or deity significance, though some more mundane examples, such as dolls, children's toys, training or puberty models, or sexual aids have also been offered.[40] Prehistory in general has a higher tendency towards cult objects or religious objects in interpretation.[41] This is possibly due to the unclear usage of these objects, particularly from the lack of written texts explaining usage, which in archaeology tends to be categorized as cult objects. Idols have received a great deal of attention, both from the public and archaeologists, and theories are varied as to their significance. Thus a quick overview of some of the most often discussed theories will be made.

One of the most popular theories for the inherent meaning and usage of the figurines is that they represent gods and goddesses. Gimbutas is a prominent supporter of the mother-goddess association for the idols, with varying chthonic-related types, focusing on its relation to religious beliefs in "Old Europe."[42] This idea has arisen due to suggestive evidence for female- and deity-related interpretations. They can often be found in an interesting variety of contexts, with some examples being found in graves, and others in domestic areas.[43] Graves could suggest some religious interpretations and domestic areas could suggest female ones. Several figurines were sitting on non-detachable chairs, (such as one such example from Sesklo, originally interpreted as a female centaur)[44] or are found in conjunction with miniature chairs. This, in conjunction with the large number of figurines found sitting or in a half-sitting position, suggests that there may be other lost miniature chairs or that the sitting position suggested some special significance. A "birthing chair" has been suggested in the case of the misidentified centaur,[45] which relates to female fertility. In later Egyptian periods, the use of shabtis as servants or concubines in the afterlife, as well as having other magical connotations, are well known.[46] A European example of ritual use can be seen in the early Neolithic of western Austria where figurines were found in association with food and

[39] (Naumov G. , 2008)
[40] (Bailey D. W., 2005, S. 12)
[41] (Zalai-Gaál, 2007)
[42] (Gimbutas, 1996 reprinted)
[43] (Biehl, 2008)
[44] (Zalai-Gaál, 2007, S. 244) referencing (Hamilton, 2000)
[45] (Zalai-Gaál, 2007, S. 244) referencing (Hamilton, 2000)
[46] (Shaw, 2000, S. 170)

musical instruments, possibly connecting it to ritual music and feasting, with the possibility that some flutes are misidentified as idols.[47]

The fact that some of these idols are made out of precious or rare materials suggest that, at least in some cases, idols had a special function or were of high importance/value, or denoted status due to being made out of such precious materials. Also, many of the figurines are found to be broken. Although Bailey points out that damage during deposition, preservation or excavation are possible,[48] Chapman discusses ideas by different authors concerning the ritualistic "killing" of objects, i.e. purposefully breaking them and leaving all the broken pieces at the find site, with possible reasons including fear of pollution, reuse, or avoiding association with the deceased.[49] It is ideas such as these that give rise to supporting the 'figurines-as-deities' concept. It should also be noted that ritual association may provide a rather large range of magical usage, such as concubines or servant figures for the dead, offering bearers, protective figures, amulets for protection and fertility or other sympathetic magic, etc.[50] Thus, even if they are not related to godhood, they are likely important in some manner. Bailey suggests turning away from reading figurines as gods and goddesses, saying that they should be seen as representations of actual existing prehistoric individuals, which he concludes in his study of a Chalcolithic settlement from north-eastern Bulgaria.[51] If they were important living individuals in the community then a ritualistic association could still be valid, especially if the individual was a performer of ritual community activities, and thus a deity association is not always necessary.

Cauvin's suggestion that objects can have "symbolic behaviors" attached to them has also contributed to the rise of a Neolithic religion centered on female figurines[52] that stretches over a large region and time period, with additional characteristics, such as burials, included in cross-cultural comparisons. However, Flemming cautions that having similar characteristics in burial do not automatically mean similar religious beliefs[53] and therefore even though some idols may have similar characteristics, their similarity may not necessarily reflect the same idea. Zalai-Gaál mentions the prominence of the word fertility in conjunction with prehistoric interpretations and discusses various sources arguing against this interpretation.[54] The voluptuous nature of these figurines, with evidence of very large breasts and fat formed on the hips and buttocks (often referred to as steatopygia) and sometimes accompanied by large, rounded or projecting, sometimes pointed, stomachs, which have been put forth as evidence of pregnancy, although there is great

[47] (Pomberger, 2016, S. 38)
[48] (Bailey D. W., 2005, S. 112)
[49] (Chapman, 2000)
[50] (Bartel, 1981 June, S. 74)
[51] (Bailey D. W., 1994 Feb)
[52] (Brami, 2014 June)
[53] (Flemming, 1969 Oct)
[54] (Zalai-Gaál, 2007)

difficulty in differentiating between pregnancy indicators and steatopygia.[55] There are many such examples in this collection which show the variety of these types (See Figures 6, 7, 10, 11). It has been suggested by Gimbutas that the hand position located folded against the torso over or on the stomach area may be a maternal protective gesture, in relation to her mother-goddess theory, though it may also be an indicator of prayer or worship.[56] Male figurines present in this collection are also portrayed with this hand position (See Figure 22), making it very unlikely to be purely a pregnancy indicator. Thus the figurines are not a definite association with motherhood as has been traditionally seen in literature.

These anthropomorphic figures are certainly a complex cultural item that have fascinated many in the search for their original meaning and use. However, that quest is incomplete and requires more information. While reaching too far chronologically and temporally regarding the meaning of the object may be unwise, there is a possibility that comparing spatial analyses in different time periods may provide additional information for decoding these perplexing objects.

Method:

Spatial Analysis:

The purpose of this research was to investigate the relationship between idol characteristics and their geographical locations during the Middle Neolithic period of Austria in order to build upon and compare to previous research by Stadler, Kotova, and Nikitin. The results may be used to determine if there is a relationship to any population movement. Thus the best way to present this study is via spatial analysis, involving the creation of a database of figurines fitting the temporal and geographical criteria, creating categories based on perceived differences and comparing their locations visually on a map. Thus a quantitative approach was taken for this project due to the focus on measurable data collection and the goal to observe possible patterns from a geographical standpoint and make possible generalizations of population migration. The creation of the typology was done by personal judgements of the writer based on perceived differences or patterns as is typical of any typology. The figurine characteristics were selected on a presence/absence basis (eg. presence of stub-shaped arms vs. no arms). Characteristic types were then plotted geographically based on their find locations.

[55] (Zalai-Gaál, 2007)
[56] (Zalai-Gaál, 2007)

Tools:

Image Database Montelius is a database housing cultural image data from archaeological literature ranging from all over Europe to the Middle East. Along with its associated software, Image Database Montelius allows the use of a comprehensive database with easy access to associated data and analysis tools. This database was chosen due to the easy-to-use drag and drop sorting style for typology creation, which allowed for a fast creation of typology. Image Database Montelius can be used in conjunction with other programs from the Serion Suite software package developed by Peter Stadler to add images (MonteliusEntry), visually search through images (MonteliusBrowser), create typologies (MonteliusEditor), map sites associated with the images (Google Mapper), as well as perform various analyses and evaluation of the archaeological data (WinSerion).[57] To date, about 1,190,000 images have been collected ranging from all over Europe to the Middle East.[58] This provided ample material from which to draw samples. All figures given in this paper were created using the screenshot function and show both the figurine image as well as its portrayal within the program interface. Images of figurines displayed in the screenshots are sourced underneath the figurine and can be found in the bibliography of the database.

Figure 2 shows a screenshot of MonteliusEditor where a typology is being created for the Limbs category. The Limbs category can be broken down into smaller categories, such as Arms, Feet, Hands and subdivided further as needed (e.g. Feet is subdivided into "With Toes" and "Without Toes"). Selecting a category on the left hand side brings up the images in the box on the right, which can be scrolled through and selected. Selected images can be dragged into previously existing categories. New categories can also be created as needed.

[57] (Stadler, Homepage of "Serion Suite", 2013)
[58] (Stadler, Homepage of "Serion Suite", 2013)

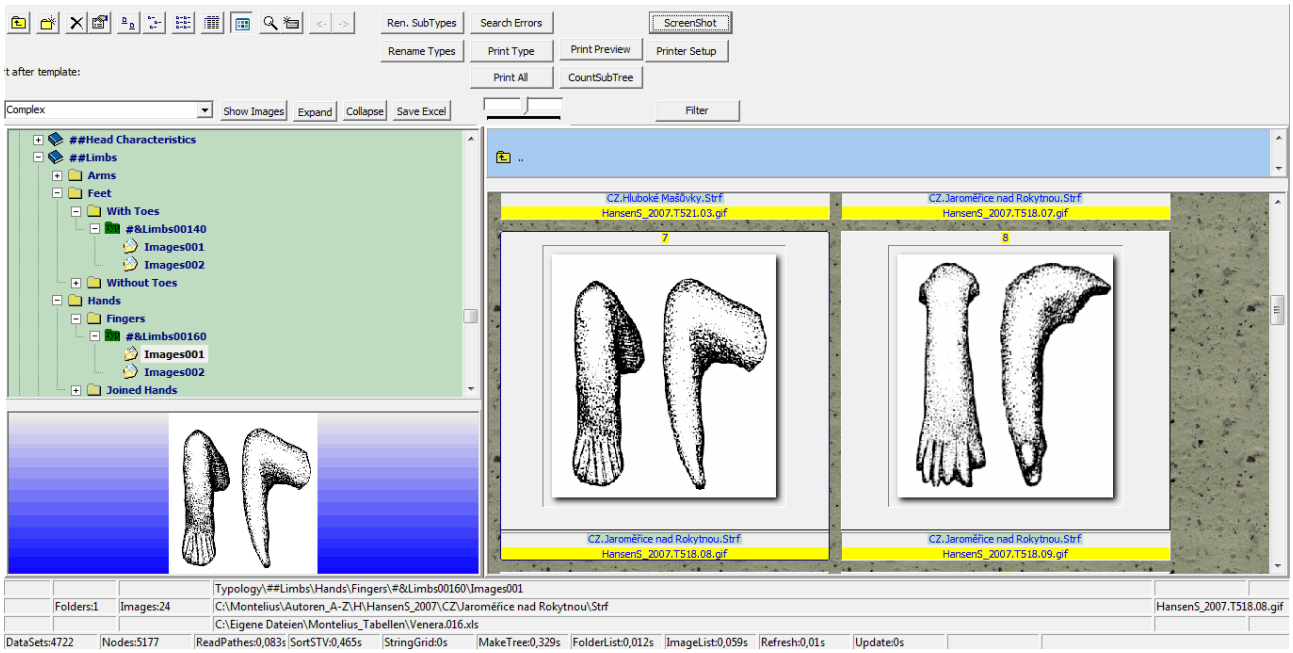

Figure 3: Drag and Drop sorting system in MonteliusEditor for Typology Creation

Selection Process:

The first step involved compiling a list of idols from the 5th Millennium BC from Image Database Montelius ranging geographically from central Europe to western Anatolia. This was done by selecting cultures known from this region and period, as well as geographically appropriate categories of the middle Neolithic to Chalcolithic. Search categories in the database are created by culture or time period which can sometimes be problematic, if your focus is on the middle Neolithic of Austria. Since the Neolithic period is defined by the arrival of farming and other technologies, different geographical regions often have Neolithic periods spanning different dates. The middle Neolithic period of Austria was the focus; however, searching "middle Neolithic" in the database would be insufficient; Southeastern Europe can range from middle to late Neolithic to Chalcolithic, with western Anatolia in full-blown Chalcolithic during the 5th Millennium. Also some cultures started well before the 5th mil. BC or continued on well after this period, meaning that some figurines may not precisely fall within the selected range. This stresses a serious advantage of using absolute dating methods over relative methods in archaeology. These factors had to be taken into consideration during the data collection process and, although attempts were made to focus the figurines as much as possible into the date range of 5000-4000 BC, some figurines may be from a bit earlier or later. See the Appendix for a list of the cultures and time periods used.

Over 1,000 idols from Image Database Montelius were used to create a typology which were sorted into categories and sub-categories based on style characteristics. The first step of the collection process involved searching through the database for relevant items. However, there is variation in archaeological literature regarding the naming of certain artefacts and thus while

searching “idol” brought up a large number of results, careful searching through other categories such as “Plastik”, “Anthropomorph”, “Diverse”, “Figur”, “Scherben” etc. and manually look through the images. This was quickly searched using MonteliusBrowser along with the corresponding Excel sheet data to make a selection of appropriate idols. The idol selection process is more thoroughly covered in the Typology section.

Limitations:

Due to the fact that creating categories based on personal judgements is subjective, there is always the possibility of incorrect interpretation of a characteristic. There is also the possibility that some similar characteristics from different regions may be related only on a superficial level. Also, many categories were created on a presence/absence basis for which certain elements, such as the presence of fingers or toes, may not necessarily represent a shared style but instead may simply be a decision on the part of the figurine creator of which common elements of the human body should be depicted in the figurines, particularly in the case of naturalistic figurines. Also, the ritualistic breaking of idols, in addition to preservation problems, may leave the figurines in an extremely fragmented state, sometimes to the point of being almost unrecognizable. This means that a statistical analysis might provide inconclusive results. Thus the spatial analysis focuses more on where idols were found and not the number of idols found at certain locations, though high concentrations were noted.

Typology:

This section discusses the parameters used to create the idol typology. It ranges from the general shape and design of certain parts of the idol to different types of decorations. The categories are: Body Characteristics, Decoration, Head Characteristics, Limbs, Position, Shape, and Special Features. All categories are divided into general sections, with smaller subsections within these groups. Images were categorized based on the perceived presence of characteristics from images in the image database. Some figures may possess certain characteristics but they were not clearly visible in the images studied. Thus there may be several examples of figures that possess specific characteristics that are missing from certain categories.

In order to minimize the variables that might affect style choices, the study was limited to purely anthropomorphic figurines, and did not include other items such as anthropomorphic vessels or zoomorphic figurines. This selection process focused only on anthropomorphic figurines that resembled the full body, the greater portion of the body/torso, or a clearly recognizable limb, leaving out severely fragmented ones that were not clearly recognizable as a figurine.

Body Characteristics:

This section deals with features specific to the main body, either specifically the torso or in cases of more abstract figures, the bulk of the figurine.

Breasts

This category refers to the presence of breasts, usually modelled to project outwards from the idol torso and are of varying sizes. They can be formed as a part of the main torso, i.e. having been shaped at the same time as the torso, or they can be applied onto the main torso in an appliqué fashion. Smaller breasts are often done with the appliqué technique through the addition of a small clay pellet attached to the body. There are examples of figurines that are clearly male (possessing visible male genitalia) that also have these appliqué pellets applied onto the chest (See Figure 3 in comparison with Figure 4). It is possible in these cases that they were meant to represent nipples on a bare male chest. Thus appliqué pellets on the chest are not an automatic guarantee of noting female gender. A large number of figurines were androgynous in appearance. Since gender was difficult to accurately differentiate, there is no male/female category in this typology.

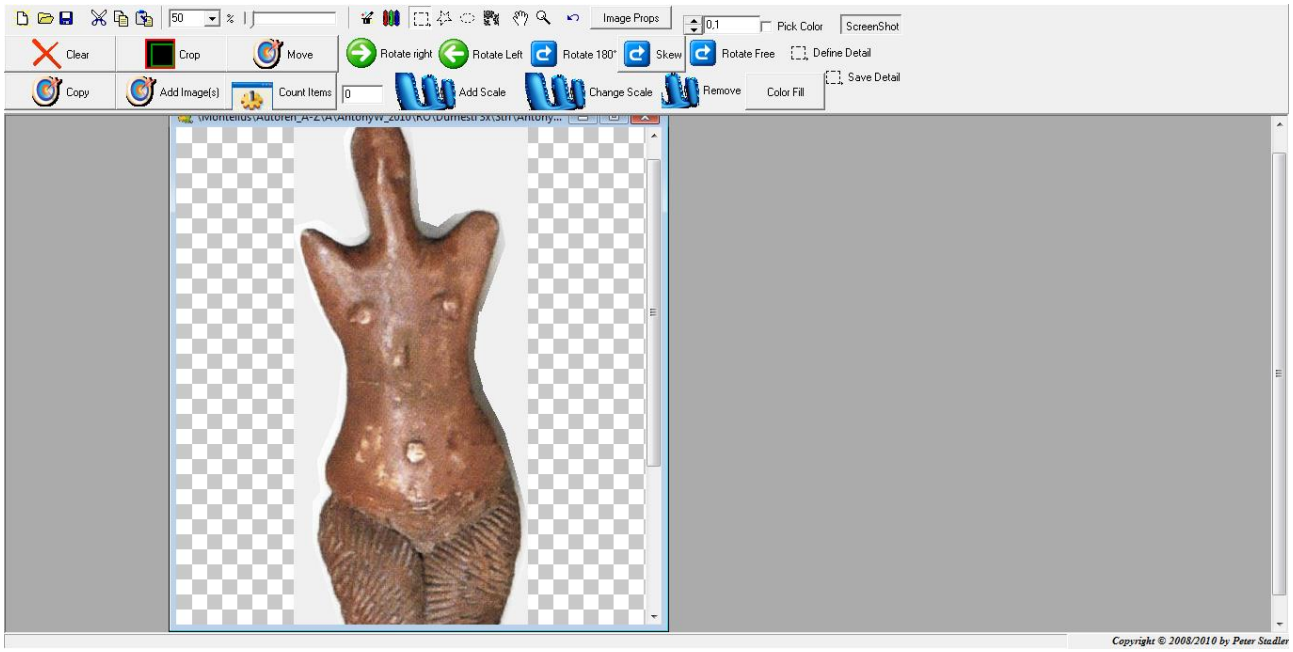

Figure 4: Female with pellet-shaped breasts

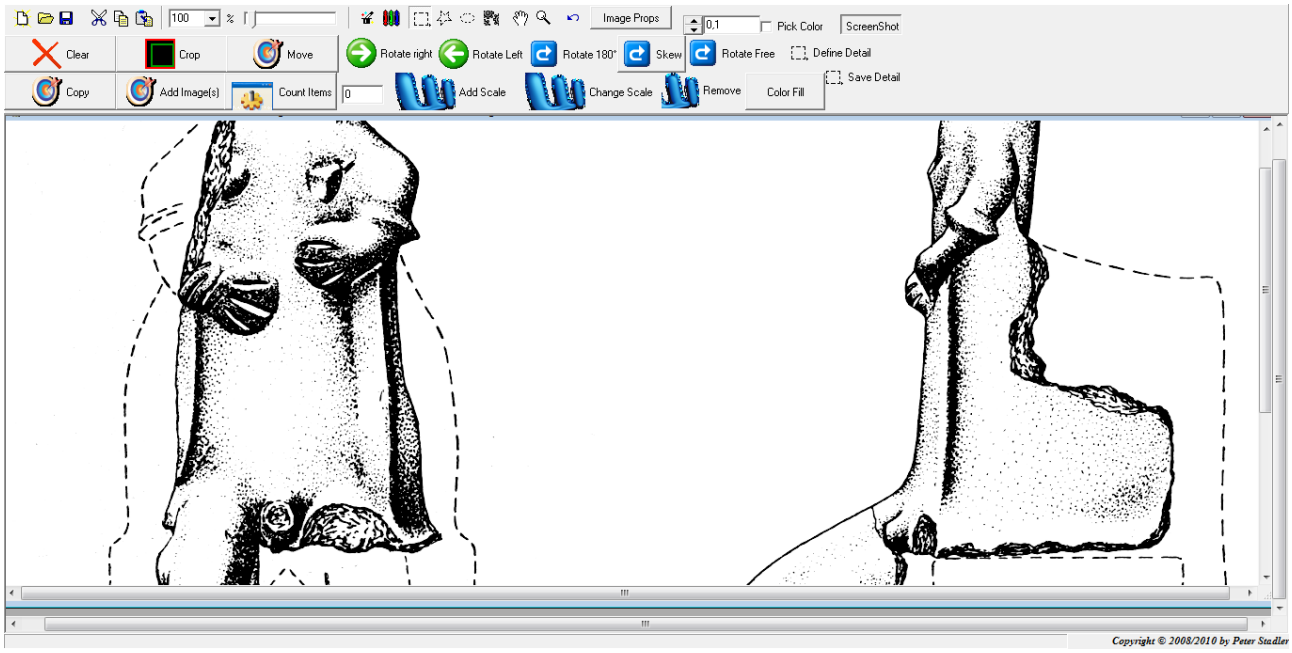

Figure 5: Male with pellet-shaped breasts

Buttocks

This section includes the general size range of the buttocks feature ranging from exaggerated to small.

Exaggerated Buttocks

This section is defined by the presence of very large buttocks that are exaggerated to either unrealistic or extreme proportions. It involves large globular cheeks representing an uncommonly obese individual. It was generally difficult to differentiate from general examples of steatopygia so only the most extreme versions were considered in this category.

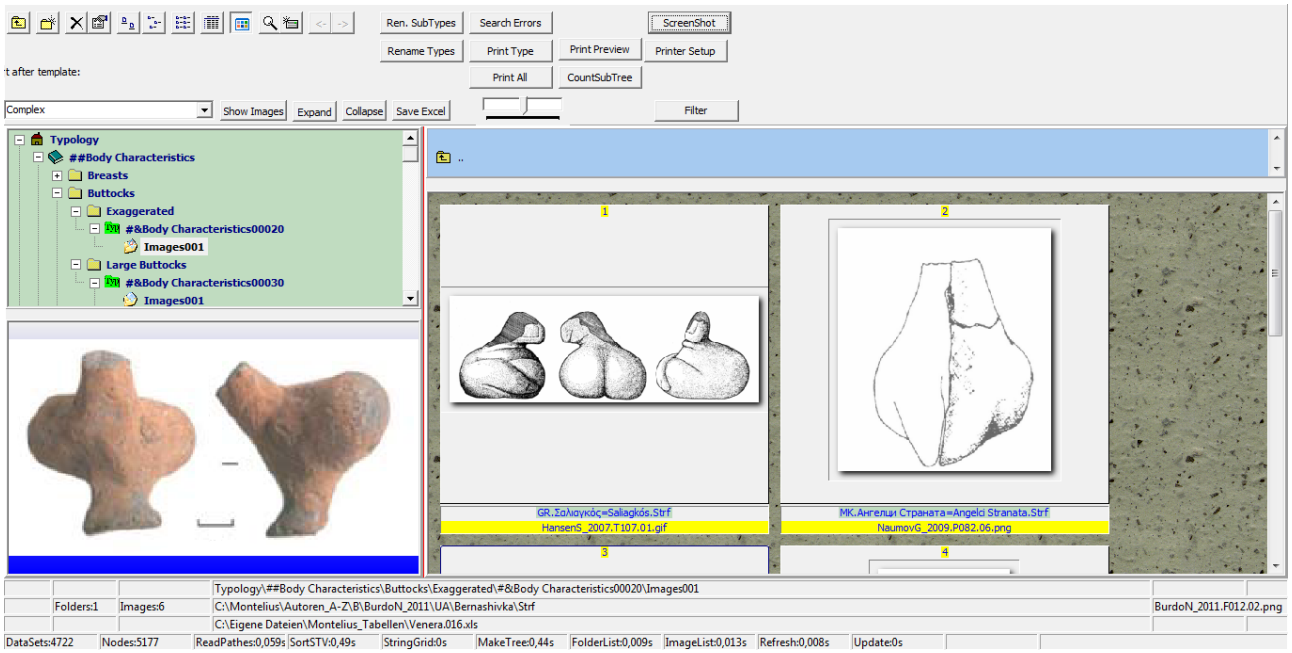

Figure 6: Examples of exaggerated buttocks.

Large Buttocks

This category also involves large buttocks, but of a more realistic variety, though still very large. It may or may not include large hips.

Projecting Buttocks

The buttocks projects out behind the figure, which can be more rounded or pointed, often giving the figure an angular and pointed shape. However, large hips are not a requirement for this category, though they can often be seen in the wide angle figurines, possibly representing seated figurines.

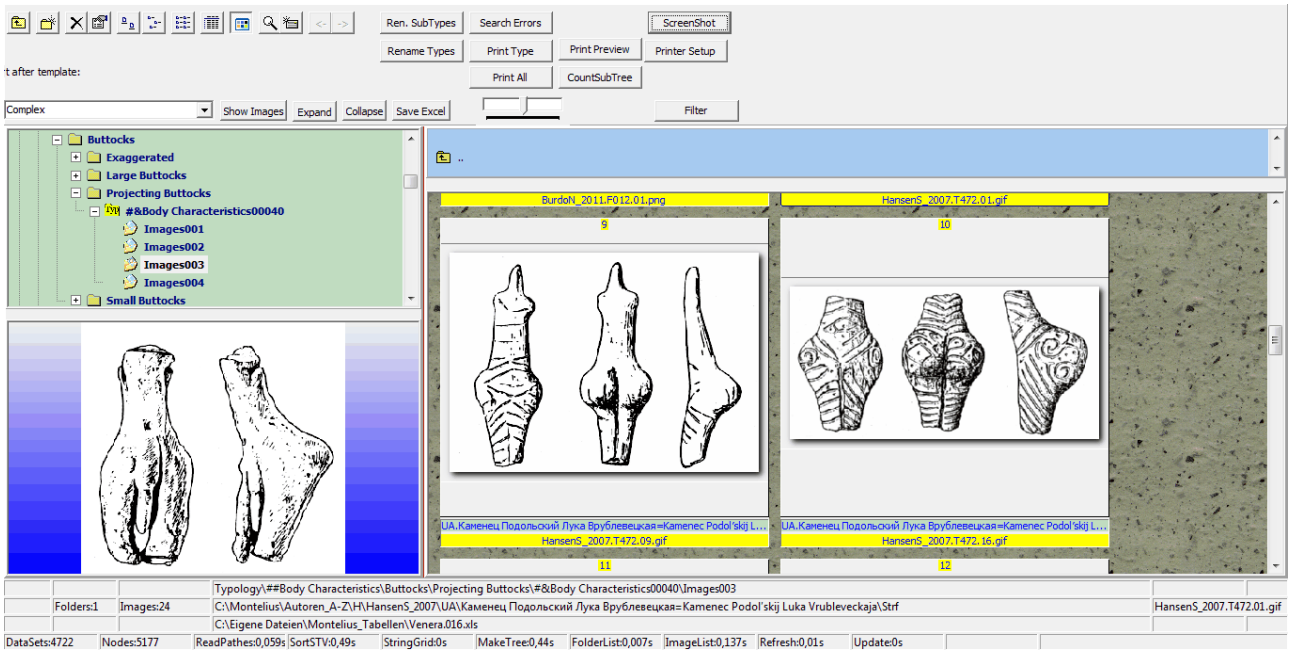

Figure 7: Projecting buttocks

Small Buttocks

The buttocks here is generally very small in comparison with less emphasis on the hips and thighs and is mainly found on slender figurines.

Fat Rolls

Idols in this category possess small rolls of fat on the hips visible from the front. This section usually includes more natural-looking figurines and these rolls may be indicative of underwear or another article of clothing around the waist pressing into the hip to create the fat roll. This is also often seen on figurines with very large pubic triangles, again suggesting the possibility of some form of underwear.

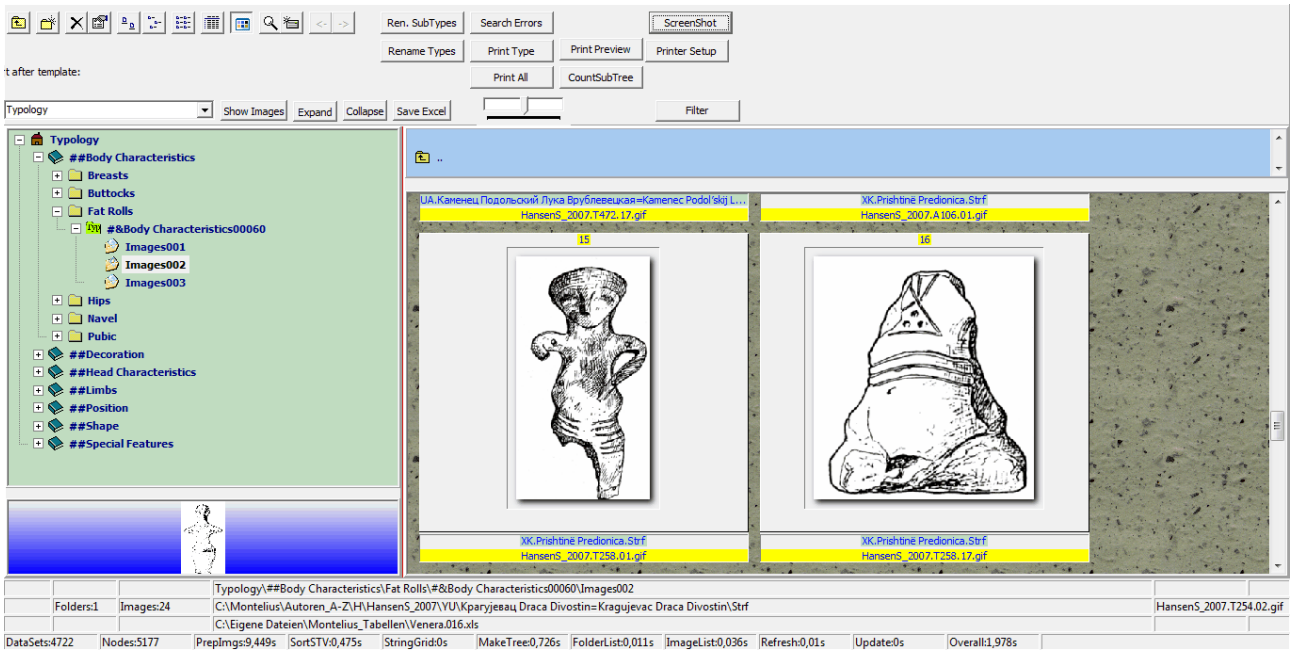

Figure 8: Fat Rolls

Hips

The hips are generally defined in this section, either by characteristic shape or size in comparison to the torso.

Slender Hips

The size of the hips in this category are generally as wide as or only slightly wider than the torso, and is mainly found on figurines that are generally slender overall.

Wide Hips

This category incorporates hips that are significantly wider than the main torso. The focus is on overly large or exaggerated hips which sometimes but not always includes large buttocks. The waist may or may not be narrow or wide.

Navel

This category is defined simply by the presence of a navel, either as an indent in the stomach area or as appliqué. It may suggest the nudity of the figure 7.

Projecting Navel

The stomach of the figurine possesses a navel that sticks outward, either in the form of applied plastic or in a slight projection around the middle of the stomach. However, it is difficult to tell

whether the second example is due to the portrayal of a fat stomach or some sort of clothing decoration.

Puncture Navel

The navel on these figurines are indented into the stomach or general torso area and are often circular. There are sometimes other puncture decorations on the torso and thus the navel is differentiated by being isolated and central to the stomach area.

Pubic

This section discusses the pubic region, located in the lower half of the torso.

Male Genitalia

Figurines with male genitalia were present in the image database. Though often damaged they are identified by projecting pieces in the pubic region and the lack of a pubic triangle when contrasted with other similar figurines in the same find group.

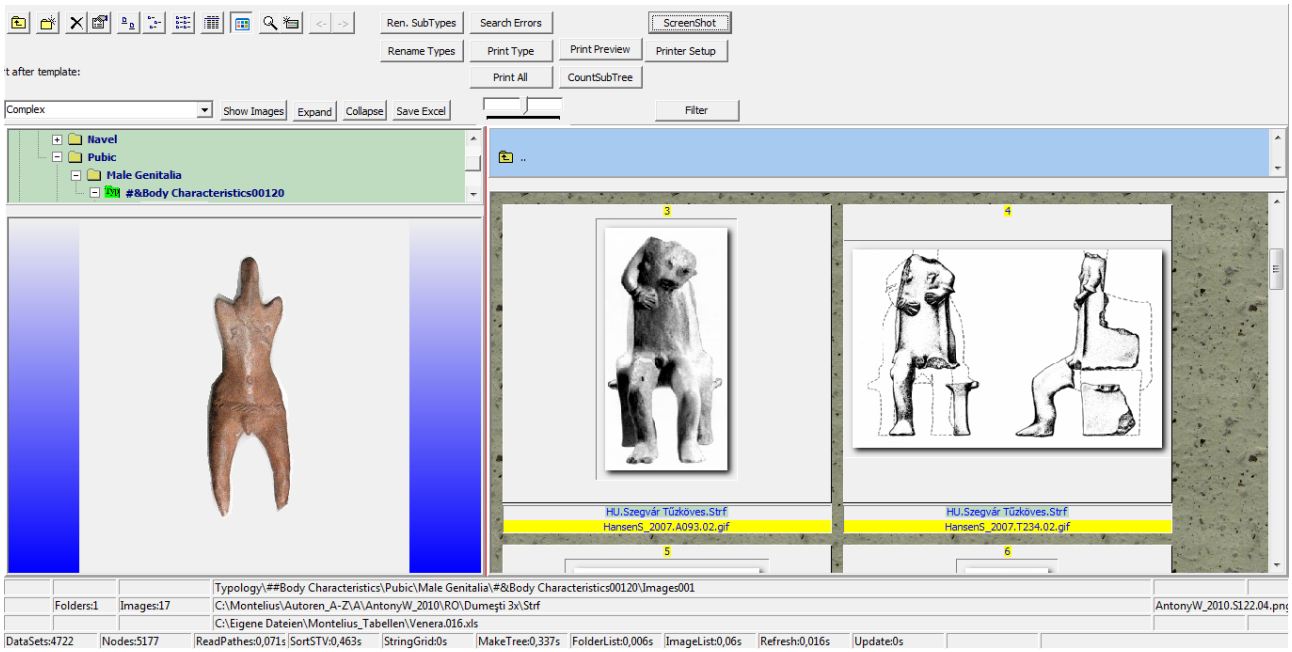

Figure 9: Male Genitalia

Pubic Region

In the pubic region, these figurines have an incised downwards-pointing triangle. In some cases, where fat rolls are also present above the top part of the triangle, this may be indicative of some sort of clothing or undergarment that causes the fat roll as was previously mentioned in the fat roll category.

Triangle with Line

Some pubic triangles had a vertical line going down the middle. This may indicate a detailed impression of the vulva and confirm the nudity of the figurine, however, it may also merely be an overlap with the incised line that was sometimes used to portrayed legs.

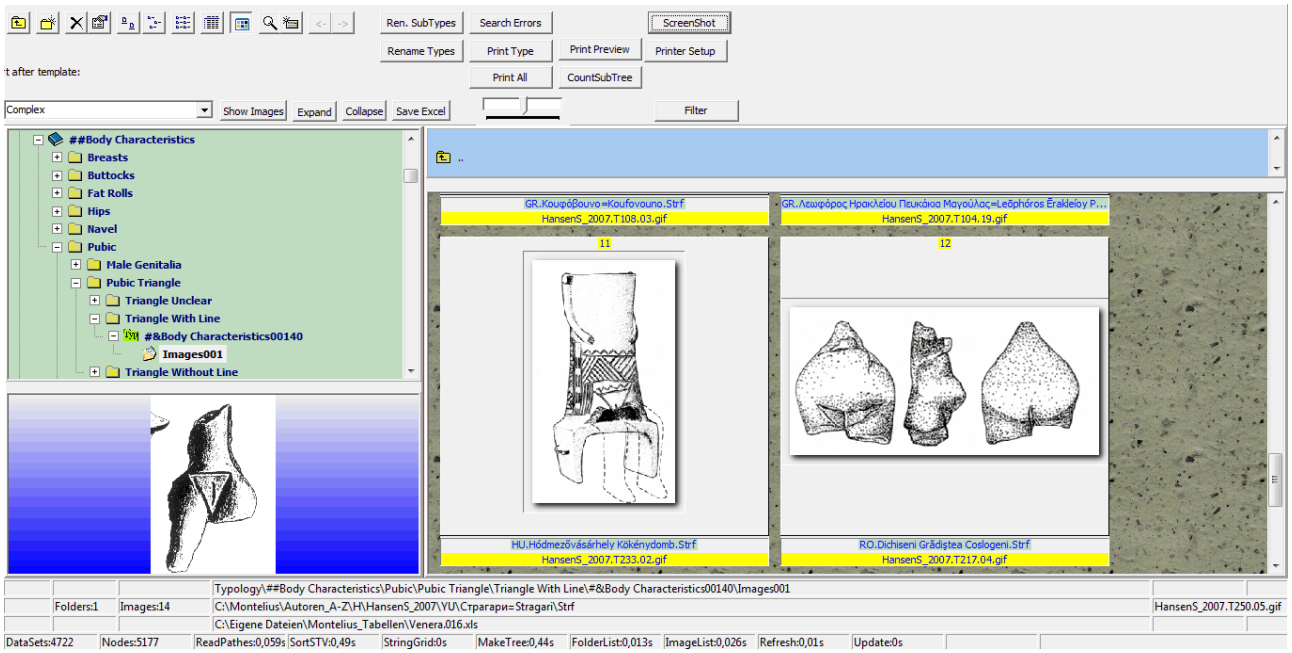

Figure 10: Pubic triangle with a vertical line down the centre

Triangle without Line

The line in this case is absent from the pubic triangle. However, some cases had other decoration on it (not in the single incised line form.) which may indicate the presence of clothes or body paint.

Pubic V

Here, the pubic area is defined by a downwards-pointing V-shape, either purely as a plain incised V or as natural outline marking the upper inner thigh area. It was difficult to differentiate between the two types. In either case, the top of the shape is not closed. It can be seen in figurines both with joined and spread legs.

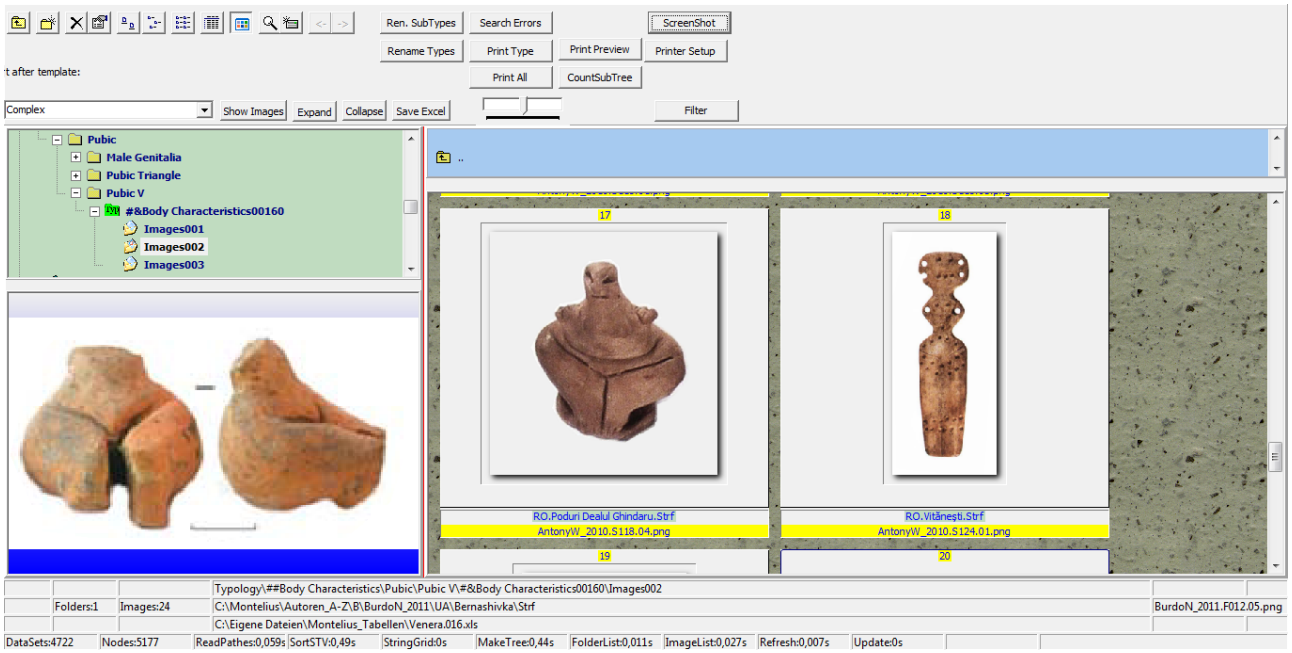

Figure 11: Pubic V

Triangle Unclear

In cases where the figurine was damaged, it is sometimes difficult to determine if it is a complete triangle or merely a V shape. In this case, the figurines were not categorized as either one.

Decoration:

This section mainly deals with all types of incised, punctured or painted decoration that may occur on the figurine, though mainly focusing on the body. Any decorative elements that occur on the head are more thoroughly dealt with in the Head Characteristics section with a general overview of decoration types being handled here. Decoration of the body may indicate either that the figure is meant to be clothed or is wearing body paint or jewellery, or it may even have another ritualistic aspect unrelated directly with the real physical characteristics of the figurine.

Lines

This particular type of decoration involves either the painting or incision of lines in various patterns on the idol. Differentiation between painting and incision can be difficult in a 2-D image and thus no differentiation was made between them.

Clothes

The outlines of this group show characteristics suspected as being “worn” by the idol as either clothing or accessories, i.e. not a physical attachment of the body. It's divided into different identified clothing elements that commonly occur.

Belt

This is the most common feature of the clothing section, which describes any horizontal line or group of lines at the waistline of the figurine. It is possible that this may in some cases refer to the waistline of pants or a skirt.

Chest Strap

This category of clothing has either one or two straps (Single strap or double strap) which go over the shoulder and cross over the chest. In the case of double straps, the straps cross over each other.

Cross Decoration

This decoration is defined by the presence of two incised lines making a cross shape. There is no specific orientation.

Cross Hatching

Some figurines possess multiple groupings of parallel stripes that meet one another at a generally perpendicular angle, though they do not intersect through one another.

Diamond Zigzag

This section discusses the presence of an overlapping of two zigzagging lines that give the appearance of a series of diamond shapes all in a row.

Geometric Shapes

The presence of various geometric shapes such as triangles (not including the pubic triangle) or other angular shapes are present on some of the figurines although they do not appear to be shown in a particular pattern.

Horizontal Stripes

There are single or parallel groupings of horizontal stripes located on the figure. In the cases of singular stripes, this may indicate the hems or edges of clothing.

Messy Lines

This decoration type includes incisions of what appear to be randomly placed lines that may or may not intersect and are generally not in any parallel or other clear orientation in relation to one another. The lines therefore appear messy and unrepresentative of a specific pattern.

Parallel Stripes

This decoration is defined by groupings of straight parallel incised lines that have a variety of orientations, though remain parallel within their own grouping.

Stitches

This decoration is a type of incised line that consists of very small incised zigzags that give more the appearance of thick lines with stitched edges.

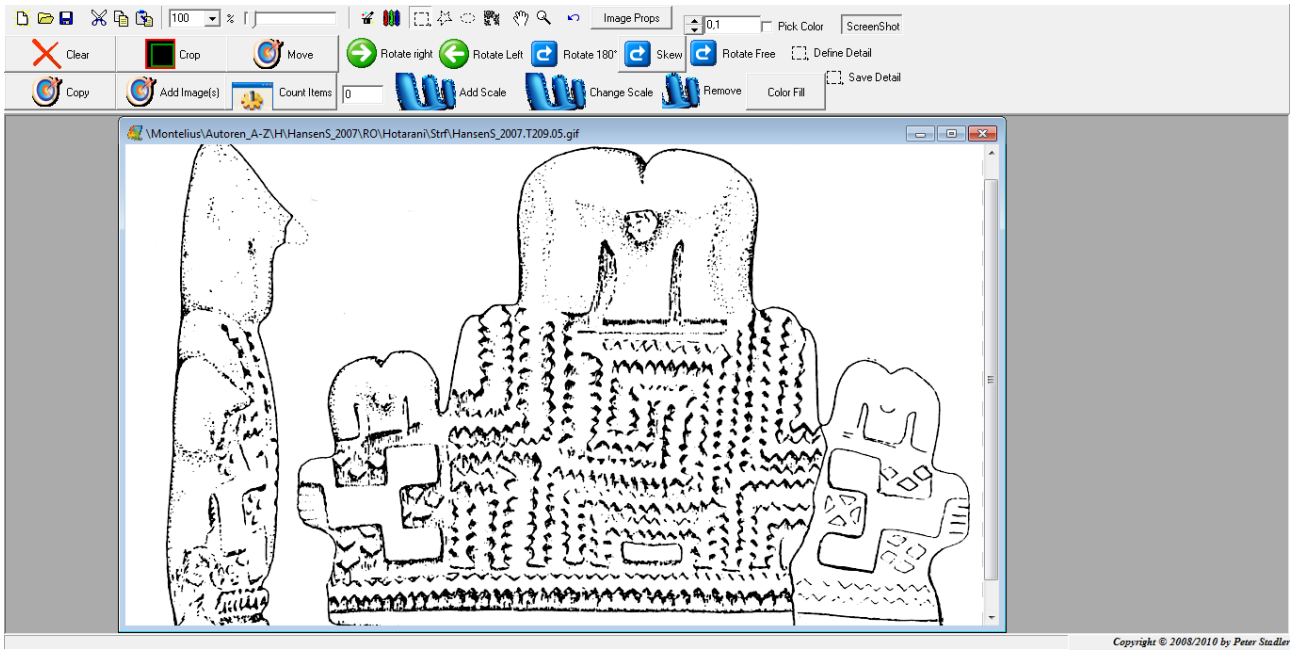

Figure 12: Stitches in Detail

Striped Neck

This group has figurines with single or multiple rings around the neck, creating a striped pattern that stops at the shoulder.

Stripes on Shoulders

Some figurines showed a series of parallel stripes located on the shoulders or upper arms which may denote sleeves from clothing or any other type of body decoration.

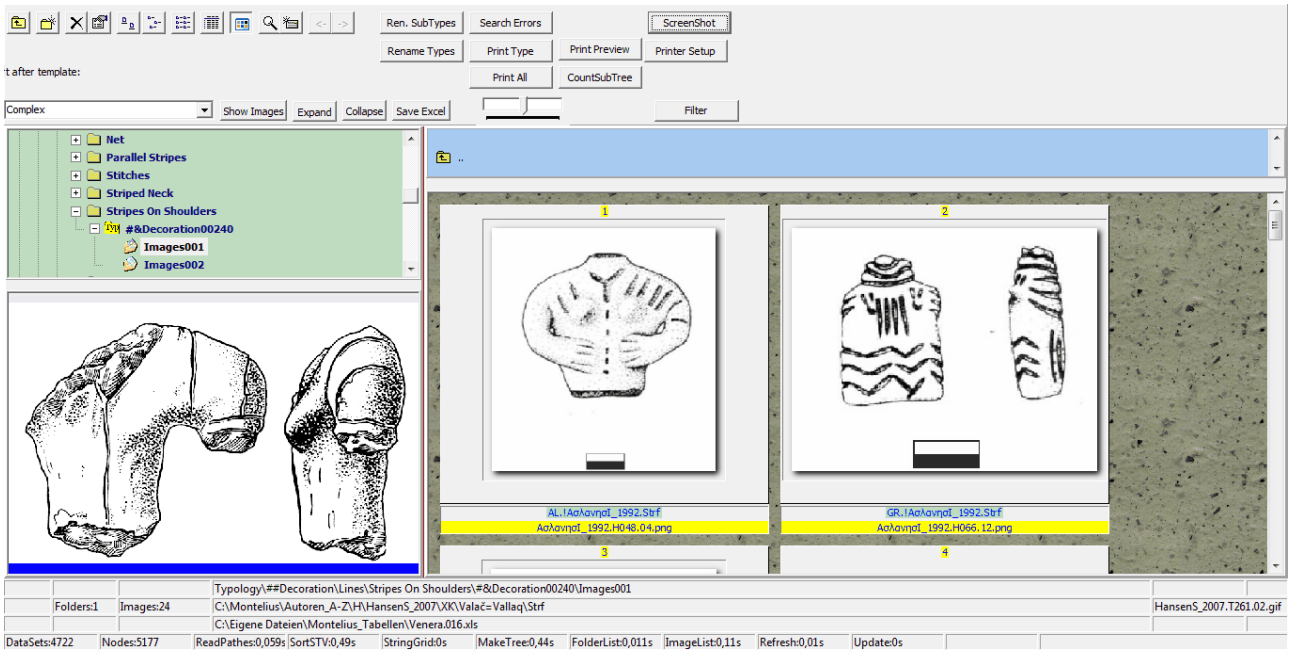

Figure 13: Stripes on Shoulders

Swirls on Shoulders

Circular swirl-like shapes are located on the shoulder region of these types of figurines, sometimes portrayed instead of arms.

Swirls on Lower Torso

Not including the shoulder swirls, several figurines had swirling patterns or rounded lines curling over the body, often located on the thighs or buttocks.

V-Shaped Neck

The neckline on certain figurines possessed a downward-pointing V-shaped neckline on the front of the figurine which may be indicative of a shirt neckline or necklace.

Vertical Line

The torso sometimes had a single vertical line going down the centre though this may in many cases represent the physical indentation of the legs.

Vertical Stripes on Chest or Back

Two to three vertical parallel stripes can be seen on the chest or back of several of the idol torsos. Sometimes these are also accompanied by similar stripes on the other side. Both stripes on the chest and stripes on the back were included in the same category because the 2-D image often made it difficult to determine if they were present on both sides, or whether the back or the front was being

represented in the image. However, sometimes the presence of certain features, such as breasts, could assist in this matter.

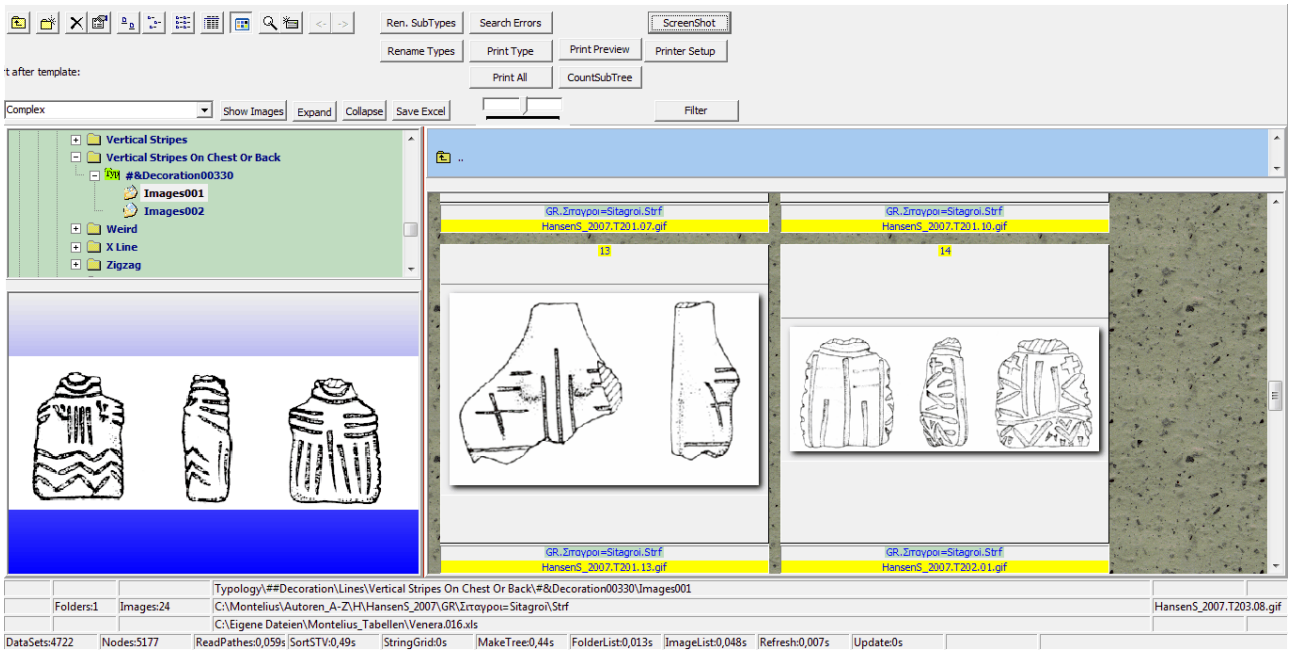

Figure 14: Lines on Chest or Back

Zigzag

This section includes figurines that have single or non-parallel zigzag lines.

Zigzag Parallel Lines

A series of parallel zigzag lines can be seen on some figurines, though with no specific orientation.

Puncture

This section involves figurines that have decoration in the form of circular puncture marks that go all the way through the figurine or shallower pits, the differentiation between which were sometimes difficult to determine in the 2-D images. Puncture or pit decoration in the head is also mentioned in this section; however, the Head Characteristics section goes into more detail. It is possible that the pierced decoration may be used to attach rings, especially in the head (reference).

Pierced Arm

Many of the figurines possessed arms outstretched to the sides that had piercings or pits as a form of decoration, usually the same in both arms.

Single Pierce

A single piercing or pit is often found in pointed arms or on schematic figurines (described in the Shape category) where the torso is diamond shaped and merely suggests the presence of projecting arms.

Double Pierce

The figurines in this section had more than one pit or piercing in the arm. This section also was more likely to have rectangular-shaped arms with a piercing in the top and bottom outermost corners.

Puncture Head

Many figurines had a puncture decoration in the head, often along the sides of the face, wither either a single pair or punctures or multiple ones framing the face.

Puncture Torso

Many figurines possessed puncture or pit decoration in the torso or limbs.

Single Puncture

Figurines sometimes possessed multiple punctures or pits, but on several occasions there were examples of figurines with a single puncture or larger hole in the centre of the figurine's torso. This is especially true with the ring-shaped idols (hence the name) and other stylized figurines.

Undecorated

This category is defined by a distinct lack of incised or painted lines, punctures, patterns, appliqué or anything that constitutes as patterned decoration. However, they figurines may possess elements that can be defined as natural contours of the body such as breasts, eyes or noses. The surface is generally smooth, although perhaps the decoration may have been removed due to poor preservation. Any identification of these artefacts as idols are due entirely to their general shape.

Head Characteristics:

This section mainly deals with anything involving the head of the figurine, ranging from the general shape of the head, specific characteristics of the face or any other decoration typical of the head.

Detail

This section describes in detail the characteristics of the face that are non-decorative, natural features of the face, such as eyes and mouth, though they may be done in a stylized manner.

Appliqué Face

The facial features in this category are applied directly onto the face with plastic additions and often involve the presence of raised eyebrows and a small projecting nose.

Eyes

The figurines in this section are defined by the presence of eyes and have a variety of different shapes. Circular eyes are indented into the head, often as a pit decoration. Slit eyes are also indented into the head but have more of a line shape or comprise a circle with a line drawing away from it. There is also a single example with triangular eyes.

Incised Eyes

These eyes are incised into the face and have a more natural shape with extra detail put into defining the irises and almond shape of the eyes.

Line Mouth

This category is mainly defined by the presence of a mouth which often takes the form of a straight line and there is not much variation.

Natural Face

The figurine faces here are more naturally sculpted with extra detail put into defining the shape of the cheeks, nose and chin, the presence of an eyebrow ridge, and natural lips.

Pointed Ears

These figurines possess what appear to be two large pointed animal-like ears that project upward on either side of the head. This inhuman feature may have a zoomorphic or headdress connection.

Head Decoration

This section includes figurines that possessed any type of decoration not directly related to the natural features of the face, particularly concerning hair or other headgear.

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Appliqué Swirl Head

This decoration of the head is defined by applied lines of plastic in a curling swirl shape on the head. It may be indicative of a headdress though the swirling lines very much suggest hair.

Chin Dots

These figurines have a decoration on the lower half of the face as a series of pits. They are often in a line and frame the bottom of the face. They may be indicative of natural facial features, such as facial hair or the representation of a mouth or jawline, or of decorative features such as facial paint or piercings.

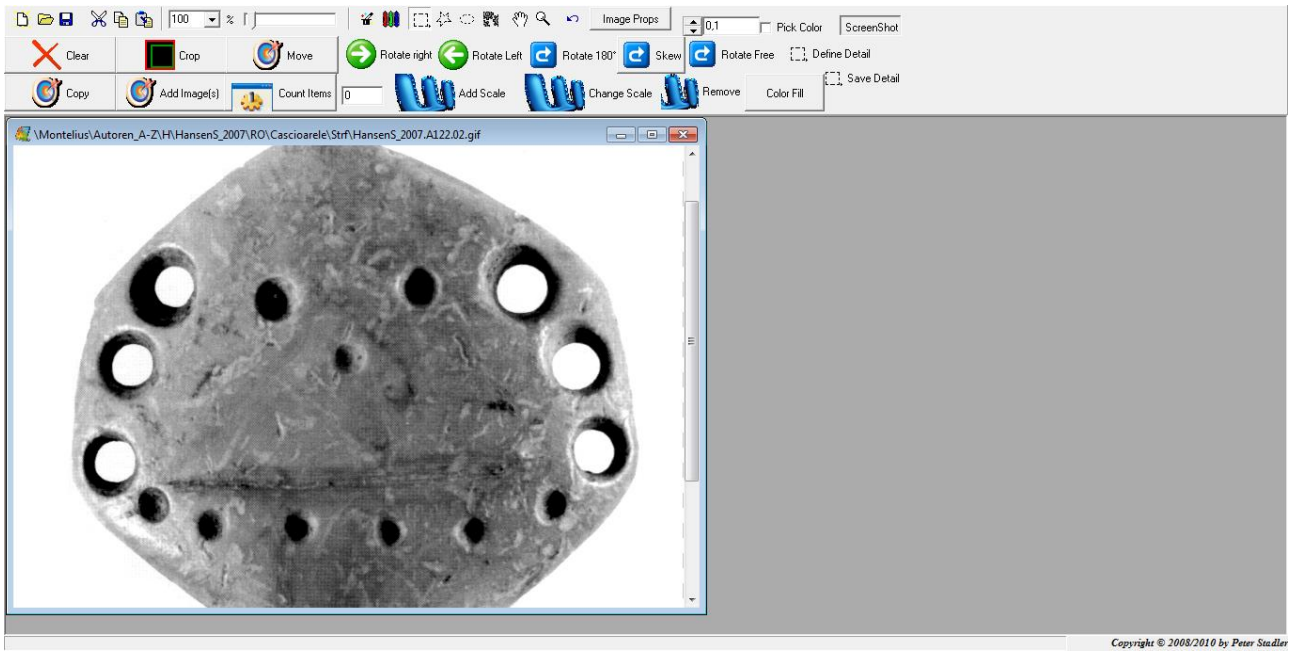

Figure 15: Chin dots and Face Frame

Face Frame

This facial decoration involves any decoration that frames the face, usually over or on either side of the face.

Face Frame Incised

This group involves a series of small horizontal parallel lines on either side of the face. It may be indicative of some sort of hair style.

Face Frame Puncture

This group involves multiple punctures on either side of the head, up to four per side in some cases. It may be intended for the attachment of rings representing pierced ears or a curled hair style. Face frame puncture can be seen in Figure 14 on either side of the head.

Geometric Shapes

The decoration of various geometric shapes on the face falls under this category, usually triangular in form.

Hat

The figurine possesses what appears to be some form of hat or headdress that is distinct from the head due to painting or incised lines.

Incised Hair

Straight, lines down the back and/or sides of the head suggest hair and may show an ancient hairstyle. The lines in this group are incised into the head in shallow grooves.

Line Hair

The head of the figurine is decorated with drawn lines along the back by what appears to be simulating drawn strands of hair.

Matte Hair

The hair of this group is painted on the back or sides of the head as a solid colour without defining singular strands.

Multiple Head

These figurines had more than one head and may be indicative of several humans represented as one figurine. They often have long necks. Some of these figurines appear more abstract and an assumption is made that they are meant to represent humans, as the heads of some are broken off.

Painted Hair

The hair in this group are painted on but show individual strands, unlike the matte hair.

Head Shape

This section describes the general shape of the head and its relation to the face.

Beak Face

This face is pointed to a greater extreme than the pinched face and has the appearance of a beak. There is no presence of a chin, making the face appear as one large nose.

Flat Face

This head has a very triangular shape with a flat face with very little in the way of features projecting outward. It is described by (person) as a “mask” face (reference).

Flat Head Top

This describes figurines with a flat, almost square-like top portion of the head. It is found on many of the angular jagged style figurines mentioned in the Shape section.

Long Head

These heads are long and rounded, taking on the appearance of a rounded nub at the top of the figurine. They often have very little evidence of a face although may have a slight pinch that represents a nose.

Long Neck

These figurines possess an exaggerated neck in proportion to the head, with lowered shoulders.

M-Shape Head

The head is seen to be a thick, rounded M-shape with the middle point of the M attached to the body.

Moon-Shape Head

This shape of head is a half circle shape with the round portion facing upwards, giving the appearance of a half-moon.

Pillar Head

These heads are long and angular, having a rectangular prism shape and making the figurine appear tall. They often have no facial features added.

Pinched Face

The heads of these figurines look like its clay face was pinched with fingers, giving it a generally triangular shaped head. This also gives the face the appearance of a nose and eyebrow ridge which

contrasts with the plastic face additions of the appliqué face style. This makes it difficult to differentiate between these styles.

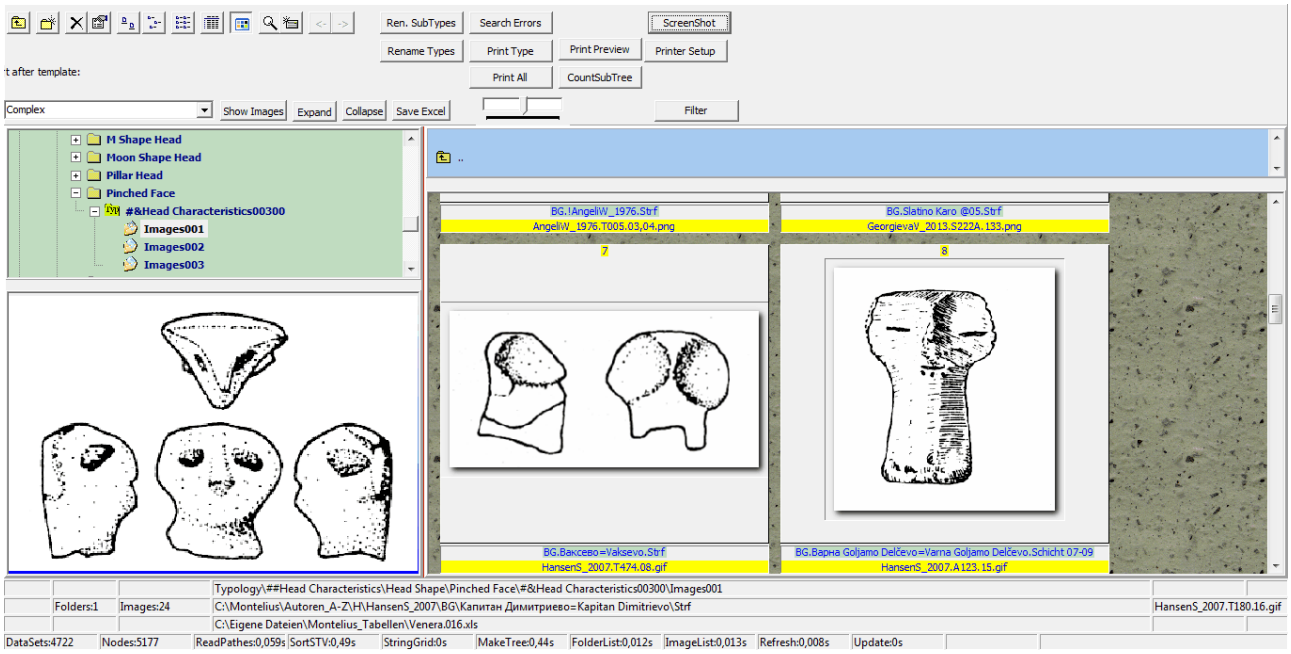

Figure 16: Pinched Face

Pointed Head

This type of head forms a point at the top or back of the skull and gives the face a somewhat elongated appearance. The face may also have a pointed appearance. There was some difficulty in differentiating from the pinched face figurines.

Limbs:

This section involves the discussion of figurine limbs and their particular characteristics.

Arms

A large number of the figurines were armless and received their own category; however, more details could be found by focusing on studying the position and shape of the arms.

Arm Folded

These arms involved being bent inward towards the body, with the hands or stubs on the end of the arms touching the chest or stomach.

Arms Touching Face

This category simply involved arms bent upwards with the hands touching the face, of which there were only a coupe of examples.

Rounded

The rounded arms are not necessarily distinguished from the torso, and are more like rounded knobs projecting from the shoulder area or extending the torso outward, giving the torso a rounded appearance.

One Arm Up

Very simply, this category had one arm bent upwards, with the other possibly bent downwards; these examples were severely damaged and were difficult to determine.

Sharp Shoulders

This category involved figurines with no arms, with sharply pointed shoulders instead to differentiate from the head and the torso, which often had a rectangular appearance.

Stub Arms

The stub arms category had a variety of interesting variations. In general, they are divided into Stub Point, Stub Rectangular, Stub Up and Stub Down. Stub Points had rounded or pointed stubs sticking horizontally outwards, perpendicular to the torso, while Stub Up and Stub Down had rounded or pointed stubs curving upwards or downwards respectively. The Stub Rectangular arms generally stuck out perpendictular from the torso as well, but were thicker and rectangular or polygonal shaped with a flat end.

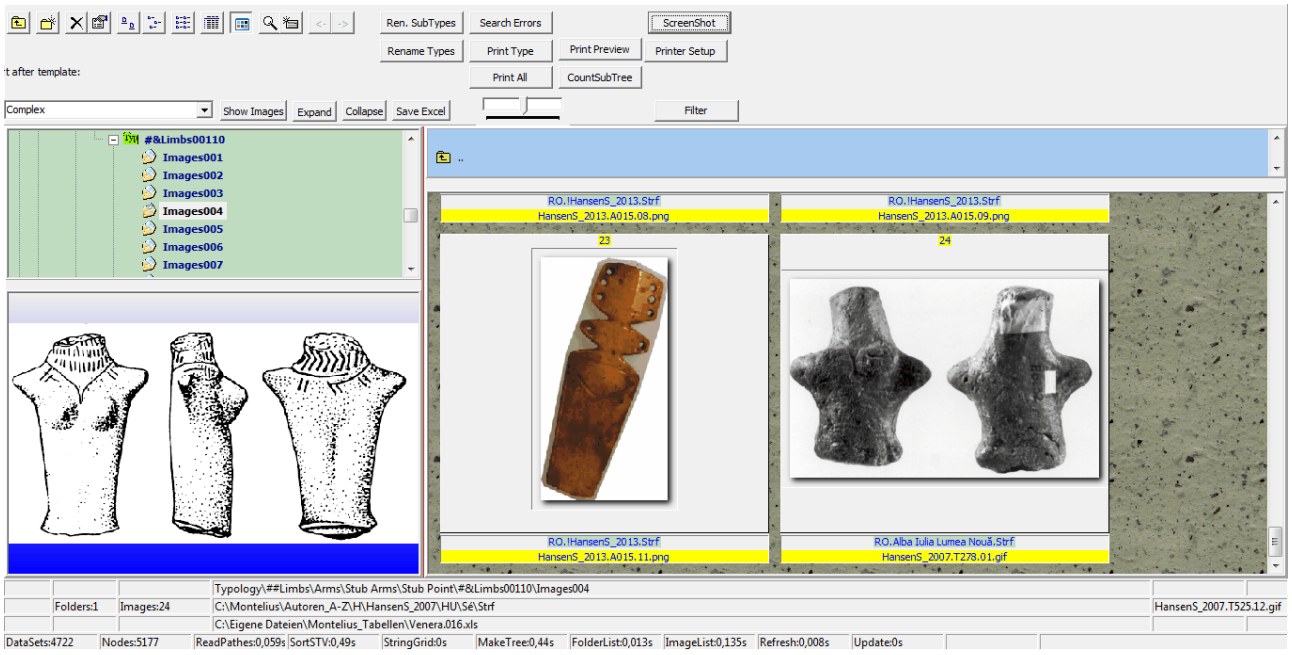

Figure 17: Stub Arms

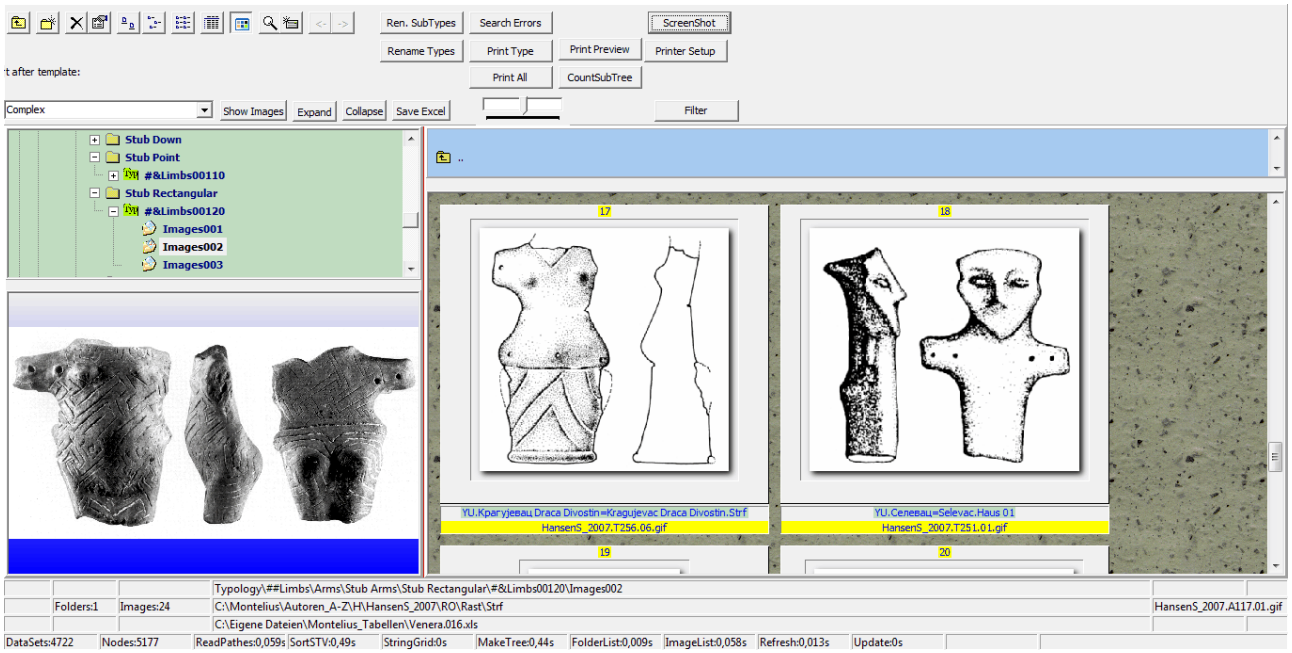

Figure 18: Rectangular stub arms with double puncture and single puncture

Feet

This category involved the presence of defined feet that were modelled as clearly projected from the body or incised into the legs. It is further categorized into feet with clearly incised separate toes (With Toes), and those without toes (Without Toes).

Hands

Often the arms ended in stubs without hands. However, there are some examples where hands are suggested.

Fingers

The hands in this category are clearly formed with defined fingers. There were no examples found in the collected figurine images that had clearly formed hands without fingers.

Joined Hands

The arms of these figurines are joined together at the hands, often not even defining the hands, and are differentiated from other arms ending in stubs.

Legs

The legs of the figurines were categorized based on their orientation and definition. Bent Knees involved all figurines with a bend in the knee and are present in a large number of Sharp Angle

sitting figurines or those in chairs. Folded Legs involve the figurine clearly sitting in a cross-legged style with the one leg folded horizontally under the other with bent knees.

Legs Together

This category includes figurines that had their legs joined together for at least two-thirds of the way down (only separating to form feet or stubs suggesting feet); however, two legs are often differentiated merely by an incised line. Figurines that don't have any line showing differentiated legs may be suggesting some sort of apron or dress.

Separated Legs

These figurines had two thirds the length of their legs completely separate from each other and are often seen in seated figurines

Position:

This category describes the overall positioning of the torso in regards to the figure's pose, specifically their relation to either a sitting or standing position. The angular body can have some problems in determining whether the figurine is truly sitting or standing and is therefore a differentiation is made between a sharp angle, where the figurine is highly likely to be sitting, or a wide angle, where the sitting position is more questionable.

Sitting

Sitting figurines are seen either with the presence of a chair, or without which is indicated by an angled body and legs.

Bent Knees

These figurines appear to be bent at the waist with an additional bend in the knees and are thus very likely to be sitting.

Crossed Leg

These figurines are clearly meant to be sitting on the floor and have their leg folded over one another, with one fully bent leg crossed on top of the other fully bent leg.

Sharp Angle

The body of the figurine is bent sharply at the waist with straight legs and clearly appears to be in a sitting position.

Sitting in Chair

The figurine is portrayed in a clear sitting position on a chair that is physically attached to the figurine, often with bent knees but not always.

Wide Angle

This figurine is sitting at a wider angle and has the appearance that it is leaning back. Some examples may therefore not actually be sitting and are merely leaning standing positions. This may be particularly true of figurines with projected buttocks, giving an angular appearance.

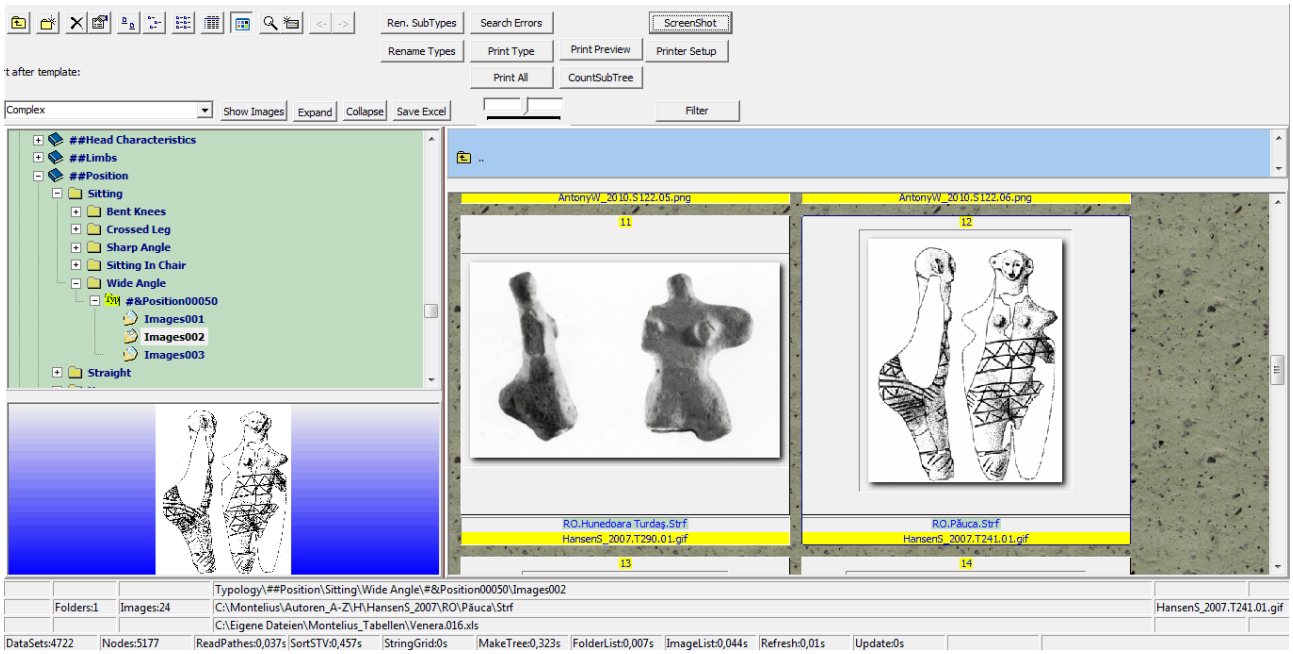

Figure 19: Wide angle figurine with projecting buttocks

Straight

A straight figure is defined by clearly straight legs with a straight torso. They often have a flat, sturdy base either with feet or without that may indicate it was able to stand on its own. Some figurines are clearly in an upright position even if they cannot stand on their own. As previously mentioned, projecting buttocks can give the appearance of a wide angular sitting position. However, if the figurines had projecting buttocks but the angle of the body was the same as the legs, then they were put into the standing category.

Defined Legs

This section refers to standing figurines that have clearly marked legs, either defined by merely an incised line, or fully formed as two separate legs.

Pillar Base

The body here is upright and straight, but the legs are not defined and appear as one solid pillar that supports the rest of the body.

Unsure

Problems arose when the figurine had a projecting buttocks, making the body appear angular, thus difficulty in determining whether they were sitting or standing. Wherever it is unclear, they were left out of either category.

Shape:

The shape of the figurine was taken into consideration for the typology. It is generally divided between abstract/stylized figurines with many variations and realistic ones.

Abstract/Stylized

This category has figurines that only represent an anthropomorphic figure in an abstract or severely stylized manner and include the categories of Circular, Jagged, Rectangular.

Circular

Circular idols had a ring shape with a projection on top suggesting a head with either punctures for eyes or two punctures/indents lower down the torso, possibly suggesting breasts.

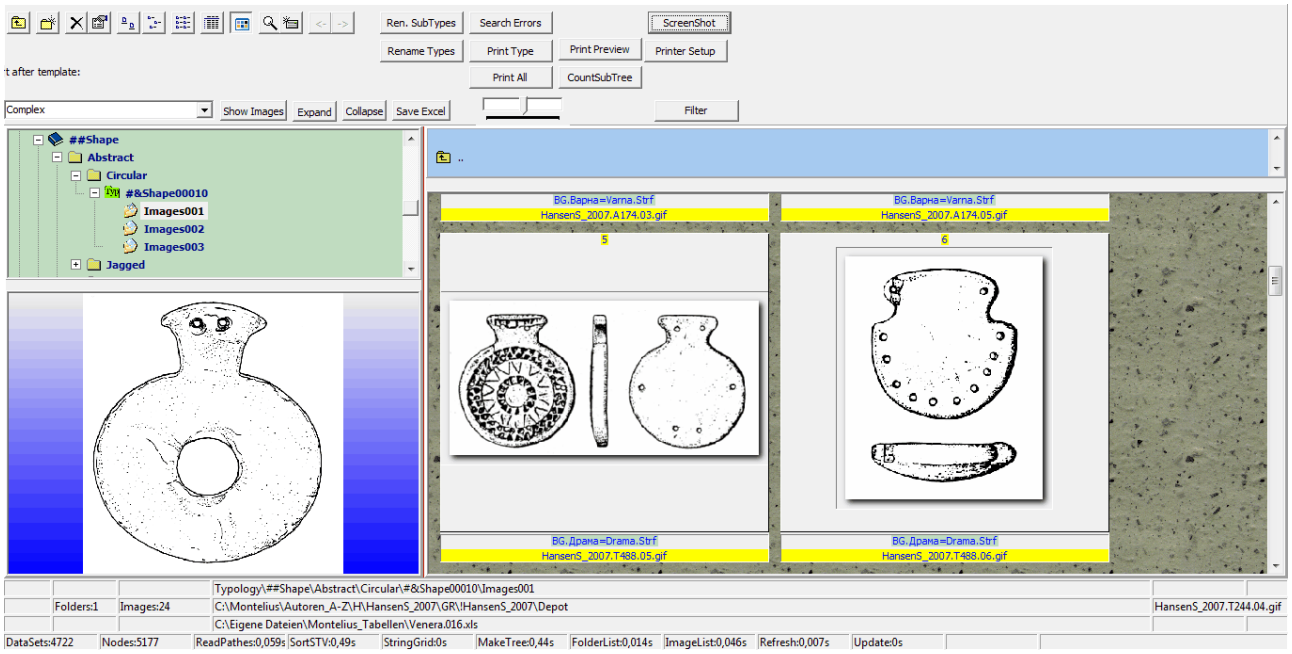

Figure 20: Circular

Jagged

Jagged idols had extremely angular hips, shoulders and arms, or additional points on the zigzag edge. This style is referred to as “schematic” in other literature.[59]

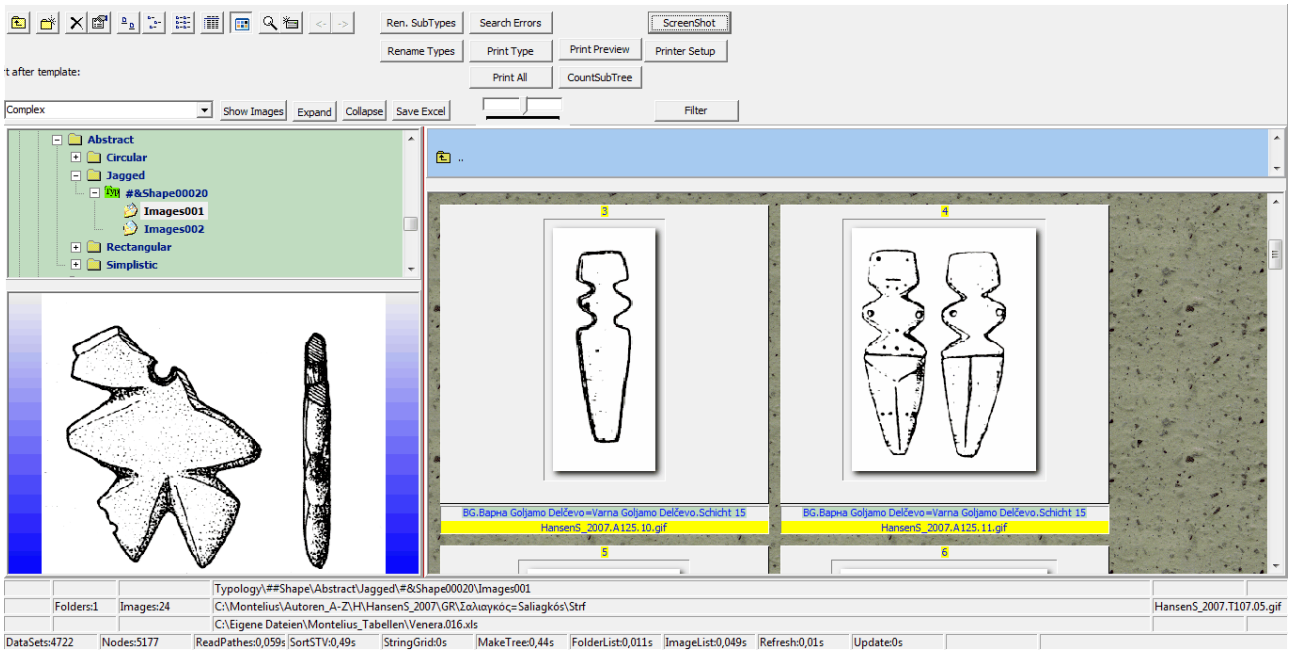

Figure 21: Jagged shape

Rectangular

These idols had long rectangle shape with very little suggestion of limbs, focusing mainly on representing the torso with a head attached.

Cross Shape

This figurine is a very abstract shape. It is in the form of an equal-sided cross, sometimes with punctures or other additional characteristics on it. It has similarities to other figurines with a straight body and stub arms projecting straight out to the side and is thus interpreted as anthropomorphic.

Realistic

This section refers to idols that have a clear anthropomorphic appearance with characteristics that represent natural elements of the human body. The figures in this category were divided into Fat and Slim. Fat idols showed clear rolls or other deposits of fat around the body with a large waist, stomach or buttocks, whereas the Slim idols had a slender and balanced appearance to their weight with narrow hips or waist smaller than their hips.

[59] (Gimbutas, 1996 reprinted)

Special Features:

This category discusses characteristics of the figurine that do not refer to decoration or shape of the various limbs or torso of the body.

Head Hole

This describes figurines that have a hole in the neck region where a head can be attached to the body. Some cases involve attachable heads with a peg.

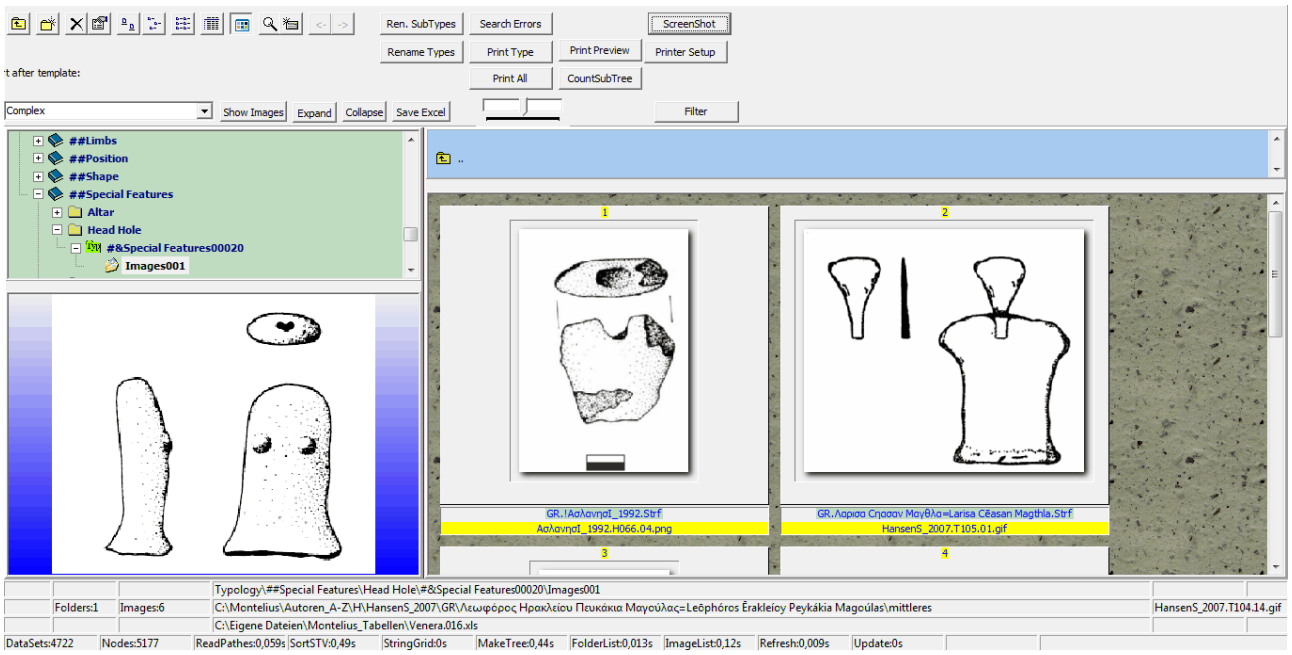

Figure 22: Head Hole. One should note that the head hole clearly does not extend far into the torso

Hollow

This refers to idols that are not solid all the way through and usually have an internal canal with an opening. This may have a relation to anthropomorphic vessels, possibly in the form of imitation or have a connection to idols that have attachments such as the previously-seen head holes or an attachment for hanging. Some of these were difficult to differentiate from full vessels. The internal hollow appears in most cases as a cylindrical, vertical shaft.

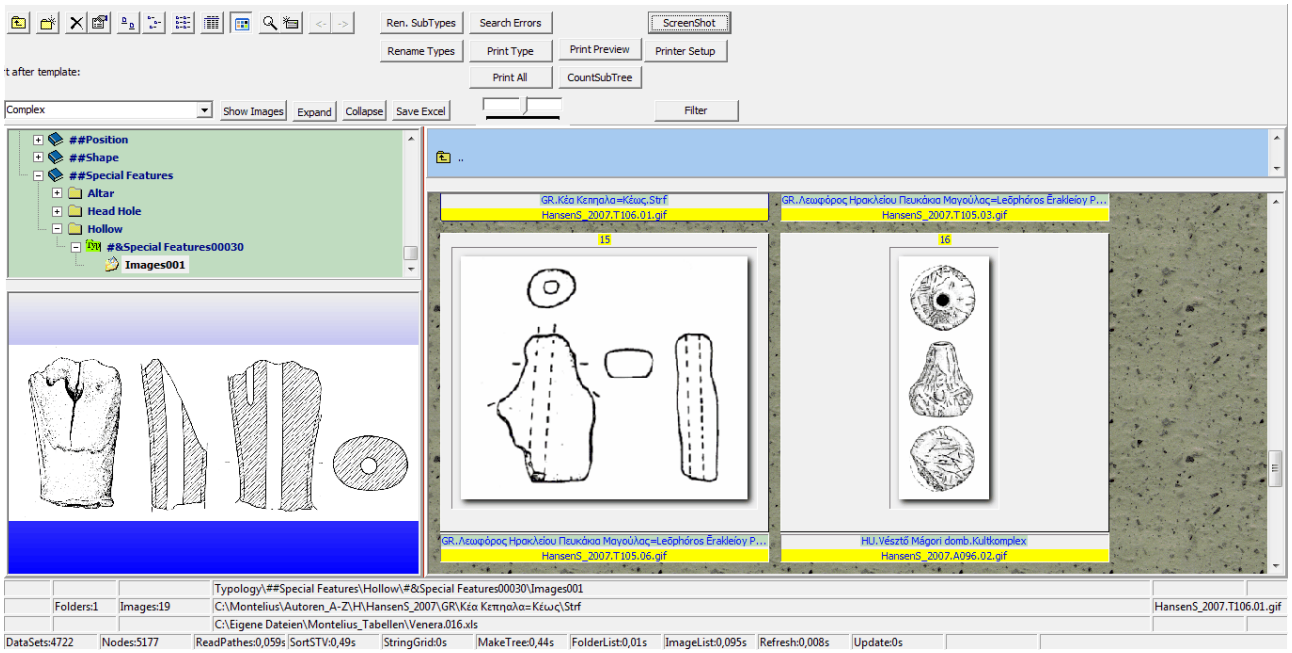

Figure 23: Hollow figurines. Here they are showed in cross-section and can be differentiated from the head hole by the fact that they extend all the way through the figurine

Mapped Results and Discussion:

After converting the typology data created with MonteliusEditor for use with GoogleMapper, a map was produced for each typological category showcasing the geographic range of each type. 30 maps were selected whose content differed in cultures but were as close in time period as possible and which showcased the greatest differences to one another. The maps are organized in the same manner as the typological categories, though only certain maps displaying a range of cultures were selected from the original full typology. Map descriptions go chronologically through cultures, from earliest to latest. Attempts were made to ensure accuracy of location data; however, some problems may arise in software if locations or sites have the same name.

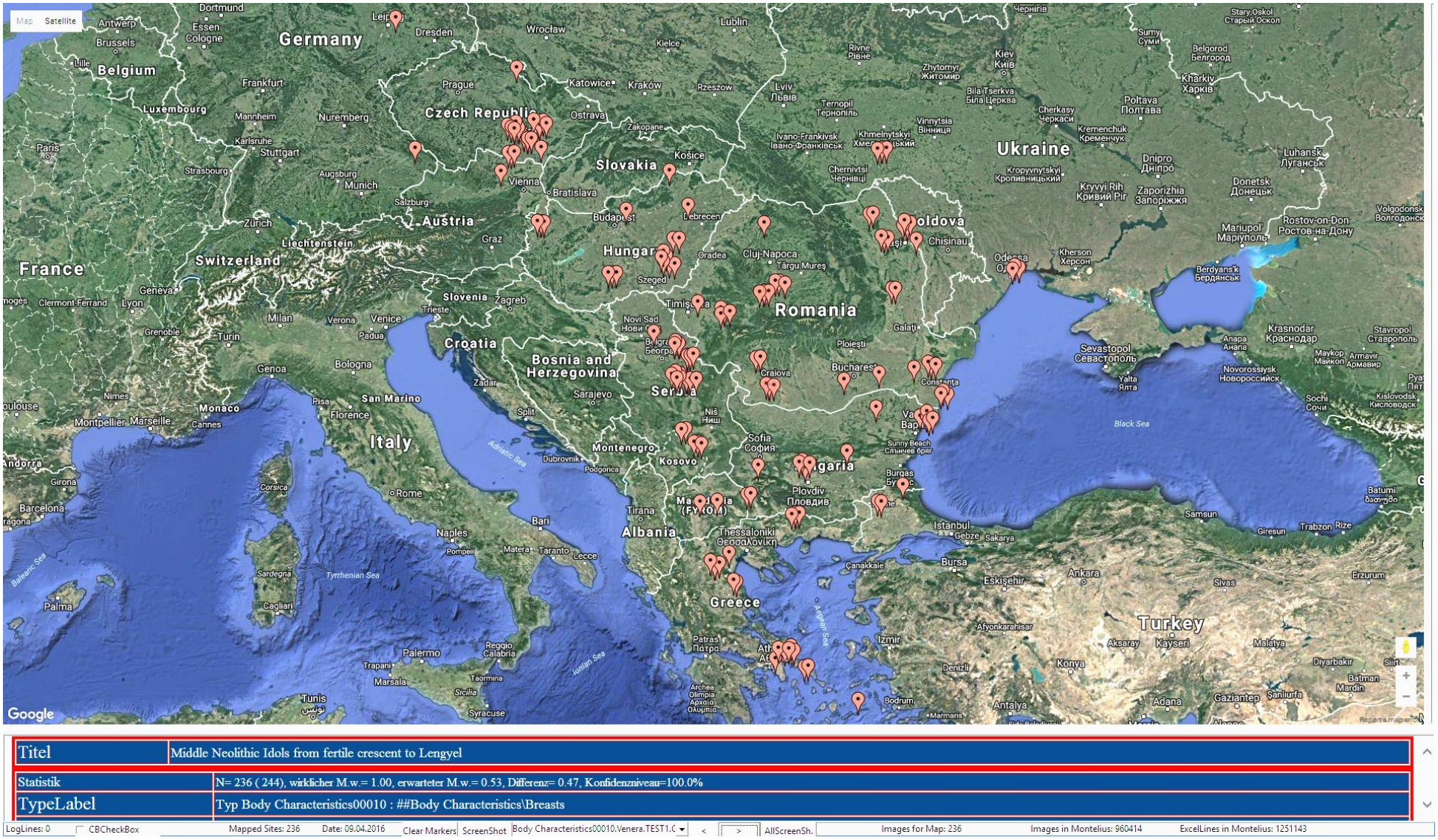

Figure 24: Map of Breasts Distribution

Body Characteristics/Breasts:

First Half of the 5th Millennium BC:

A Vădastra example occurs in Macedonia, and two in southern Romania. The Hamangia has 5 clustered in the Black Sea coastal region of Romania. Mainland Greece has a couple of general middle Neolithic. Angelci-Zelenikovo has two examples located in Macedonia. The late-Neolithic of Greece is well represented with 25 examples scattered throughout the country. Vinča is extremely well-represented, with 81 examples scattered throughout western and southern Romania (48), Kosovo (4), central and north Serbia (29). Boian has one in the south-east of Romania. Four Precucuteni 02 examples occurred in southern Ukraine. Tisza examples (9) are clustered in central Hungary. Early Chalcolithic appear in the north western point of Turkey, leading into SE Europe. One Chalcolithic appearance is in Pazardžik, center of Bulgaria. 18 examples of the general Chalcolithic are found in a cluster near the Black Sea coast of Bulgaria.

Second Half of the 5th Millennium B.C.

The Stichbandkeramik occurs in the very north in Germany (2) and in Czech Republic (1). Gumelnița has 5 examples widely spread over Bulgaria (3) and Romania (2). Four Varna samples are clustered on the Bulgarian east coast. Bodrogkeresztúr makes a singular appearance in north-western Romania. The Cucutani appear 12 times scattered all over Romania. One example of Petrești occurs in central Romania. Two general late-Chalcolithic are in western Bulgaria. There are two examples of general Chalcolithic in Hungary. Near the end of this period, there is one Rachmani in central Greece and a Hunyadihalom example shows up in central Hungary. Reaching into both the first and second half is the Lengyel, with 5 examples in western Austria, with a very large cluster in southern Czech Republic (38), and nine in western Hungary.

Comments:

Figurines with breasts occurred rather frequently and evenly over the whole studied region, ranging from Greece in the south and stretching all the way up into Ukraine already in the first half of the 5th mil. BC. The second half seems to show some examples extending a bit further north into Germany; however, the collection does not include many examples from Germany in the first half and might not represent a specific pattern.

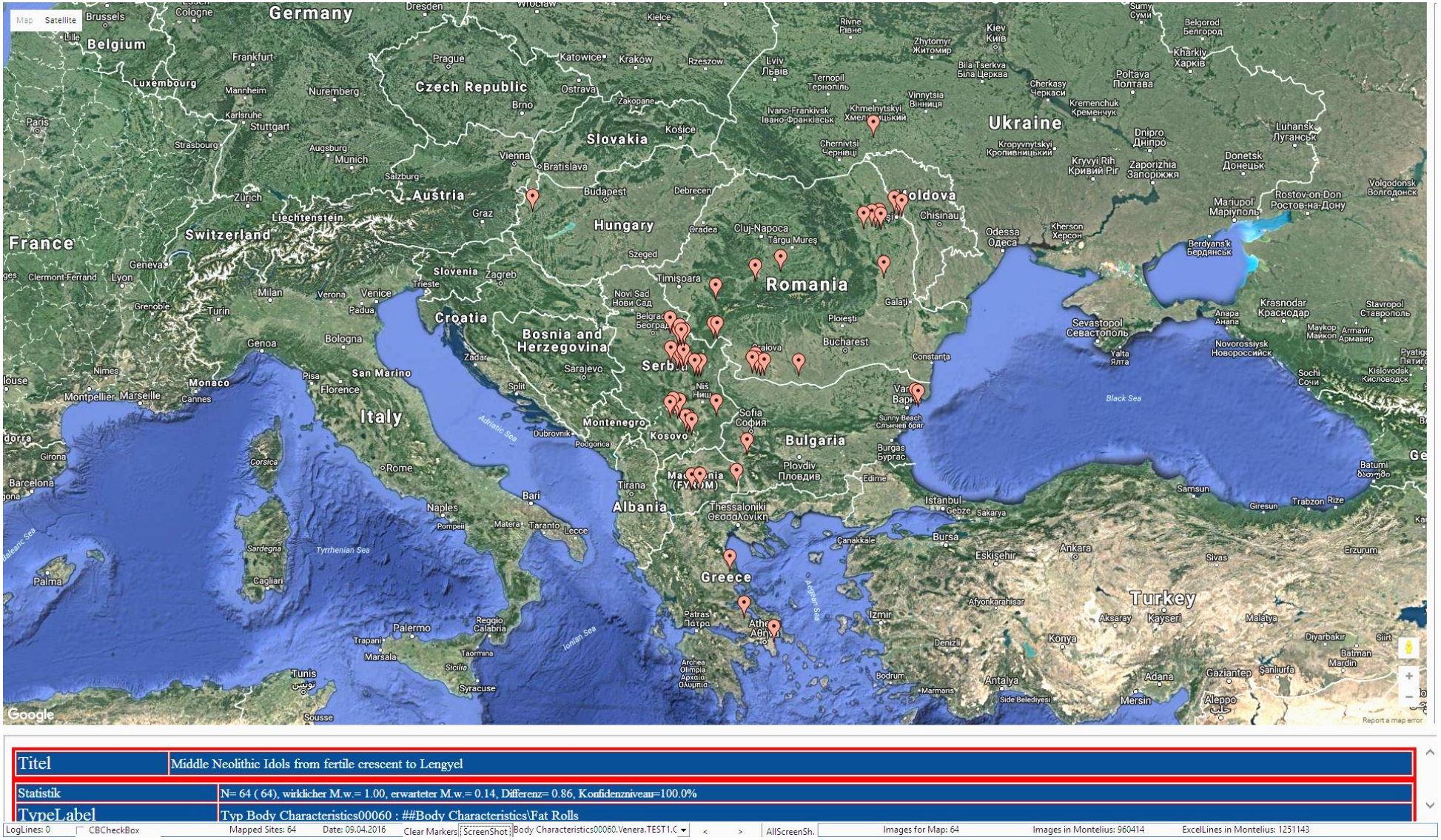

Figure 25: Map of Fat Rolls Distribution

Body Characteristics/Fat Rolls:

First Half of the 5th Millennium BC:

Before the turn of the 5th mil. BC, we find one Vădastra example in Macedonia and one in southern Romania, as well as one general middle Neolithic in southern Greece. Vinča is well represented, having a few examples in western Romania (4), a large cluster in southern Romania (10), four in Kosovo, and a large cluster of 18 in central Serbia. Then we have two general late-Neolithic of central Greece and two general late-Neolithic of Macedonia. Two examples of general Chalcolithic occur on the Black Sea coast of Bulgaria.

Second Half of the 5th Millennium BC:

In south-western Romania, we find a cluster (4) of Cucuteni. There is also one Cucuteni example in south Romania and a cluster in north-western Romania (5). One Tripolje example can be found in Ukraine, and one Petreşti example in central Romania. One general Chalcolithic example occurs in southern Serbia and there is also one general late-Chalcolithic in western Bulgaria. Reaching into both the first and second half, Lengyel has one example in Hungary.

Comments:

Figurines with fat rolls also appear to be in a similar situation to figurines with breasts where there is good general coverage over the whole region in the first and second half, while having a few further extensions north occurring in the second half.

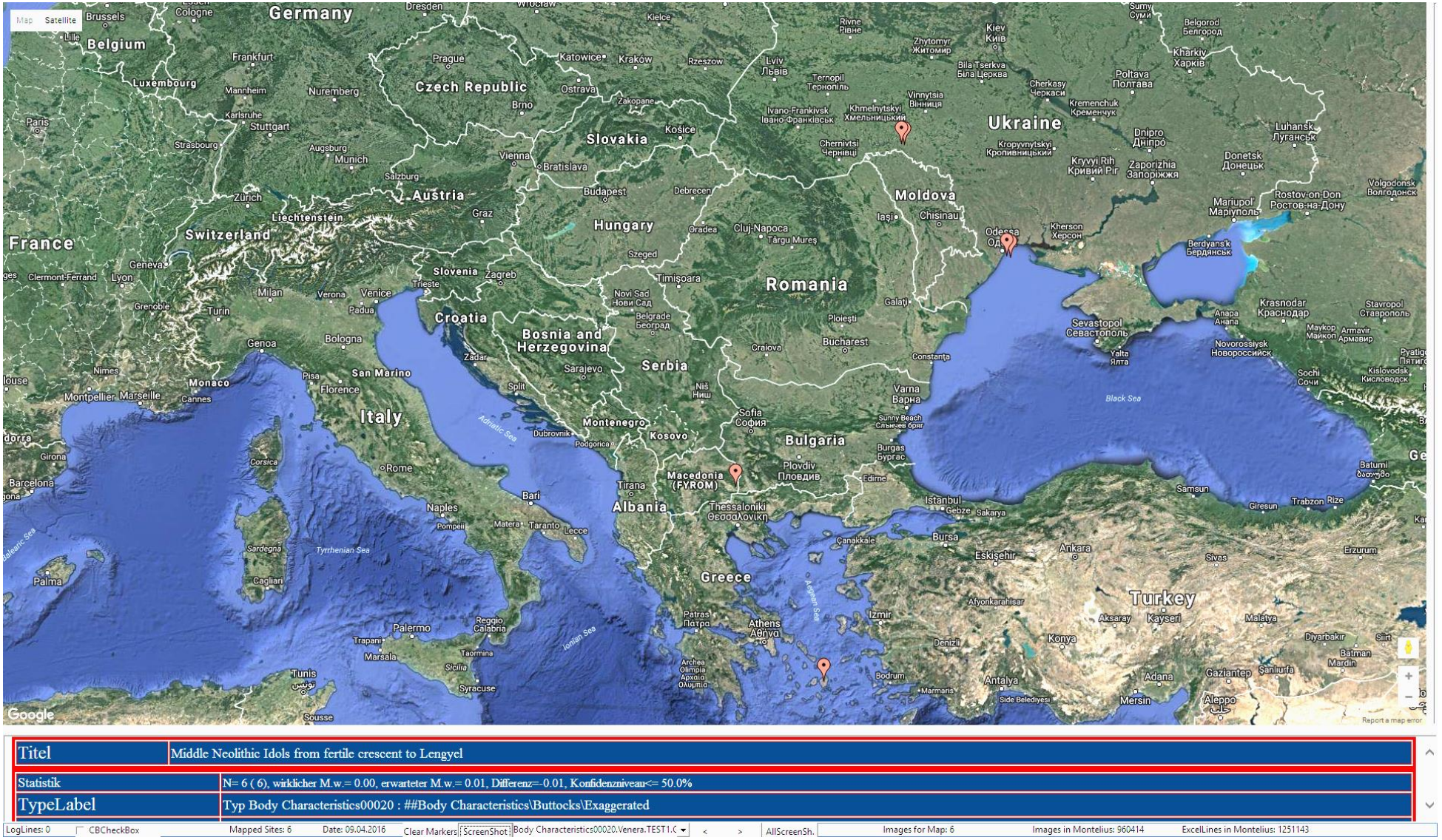

Figure 26: Map of Exaggerated Buttocks Distribution

Body Characteristics/Exaggerated Buttocks:

First Half of the 5th Millennium BC:

One general late Neolithic of Greece occurs along with one general late Neolithic of Macedonia. Four examples of Precucuteni 02 reach as far north as Ukraine.

Second Half of the 5th Millennium BC:

The second half does not have any clear examples of exaggerated buttocks.

Comments:

In general, it was difficult to differentiate between the varying types of buttocks noted in the dataset, specifically projecting, large, and small types, as the overall general shape of the figure affected the appearance. Exaggerated buttocks, being the clearest to differentiate, also ended up being the smallest group of the different types and seem to be entirely confined to the first half of the 5th mil. BC. This either means that there are a few scattered examples left over from an overall earlier popularity of the style, or, which is more likely, that female figurines represented with steatopygia had great variation in style and presentation, possibly affected by views of real-world examples.

Titel	Middle Neolithic Idols from fertile crescent to Lengyel
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Figure 27: Map of Male Genitalia Distribution

Body Characteristics/Pubic/Male Genitalia:

First Half of the 5th Millennium BC:

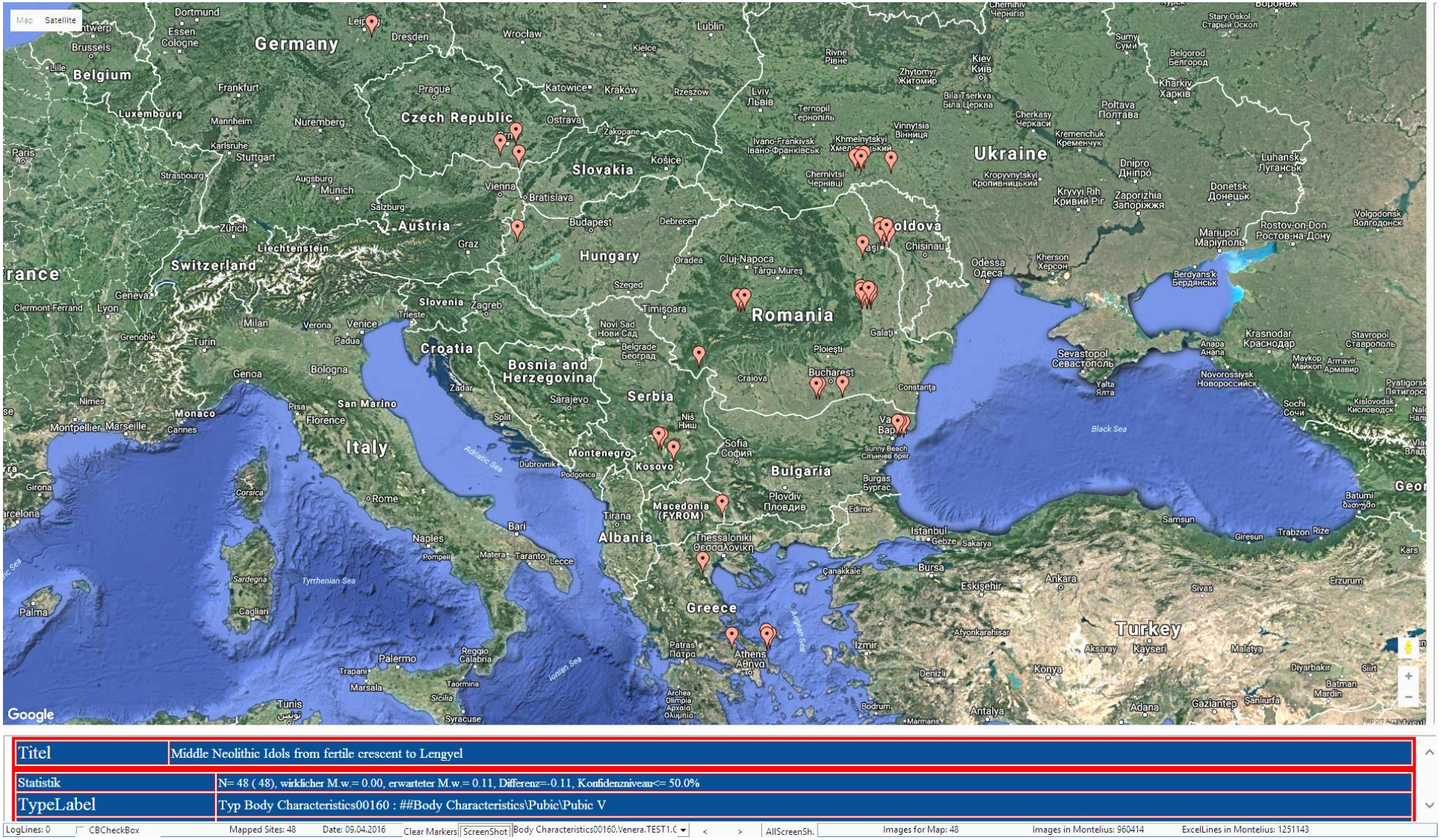
There are five Vinča spread between Kosovo (3) and Serbia (2). There are three examples of Tisza in Hungary. The Stichbandkeramik has one example in northern Czech Republic.

Second Half of the 5th Millennium BC:

One example of Gumelniţa is located close to the Black Sea coast in Romania. The Cucuteni culture has several examples (6) clustered in north-eastern Romania. There's one Tripolje in the Ukraine.

Comments:

Figurines with male genitalia do not appear to be as widespread as female genitalia, though of course as previously mentioned, this does not give a general statistic of the overall gender of the figurines due to the large number of androgynous ones, and only makes a statement regarding the portrayal of primary sexual characteristics rather than any actual statements on the presence of male or female figurines. Male genitalia figures are mainly located in Serbia and Kosovo earlier on and start to inch their way more northward to Czech Republic and the Ukraine as the millennium continues, suggesting some movement north.



Titel	Middle Neolithic Idols from fertile crescent to Lengyel
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Figure 28: Map of Pubic V Distribution

Body Characteristics/Pubic V:

First Half of the 5th Millennium BC:

We start off with a middle Neolithic example in southern Greece. There are four Vinča examples in western Romania and three Vinča in Kosovo. Then we have one late Neolithic in northern Greece and four late Neolithic in southern Greece. There is also a late Neolithic example in Macedonia. There is one Precucuteni 02 in Ukraine. Eastern Bulgaria has three examples of general Chalcolithic. Leading into the second half, there is one lone example of Stichbandkeramik that appears in Germany.

Second Half of the 5th Millennium BC:

We have three Gumelniţa figurines in southern Romania. There are several examples of Cucuteni in Romania, a cluster (11) in southern Romania, one in the north-east, and a cluster (7) on its western edge. There is also a cluster of four Tripolje in Ukraine. There are two general end-Neolithic examples in Macedonia. Covering the whole time range, we have two Lengyel in Czech Republic, with one in Austria and one in Hungary.

Comments:

The Pubic V figurine seems also to be distributed over the whole range, with one example reaching the Ukraine in the first half and an example reaching Germany in the middle of the 5th mil. BC. The second half seems to have an increase in the north eastern edge of Romania and into Ukraine, with Greece still maintaining a few examples. This style seems to occur over the whole time range with an increase in popularity in the second half.

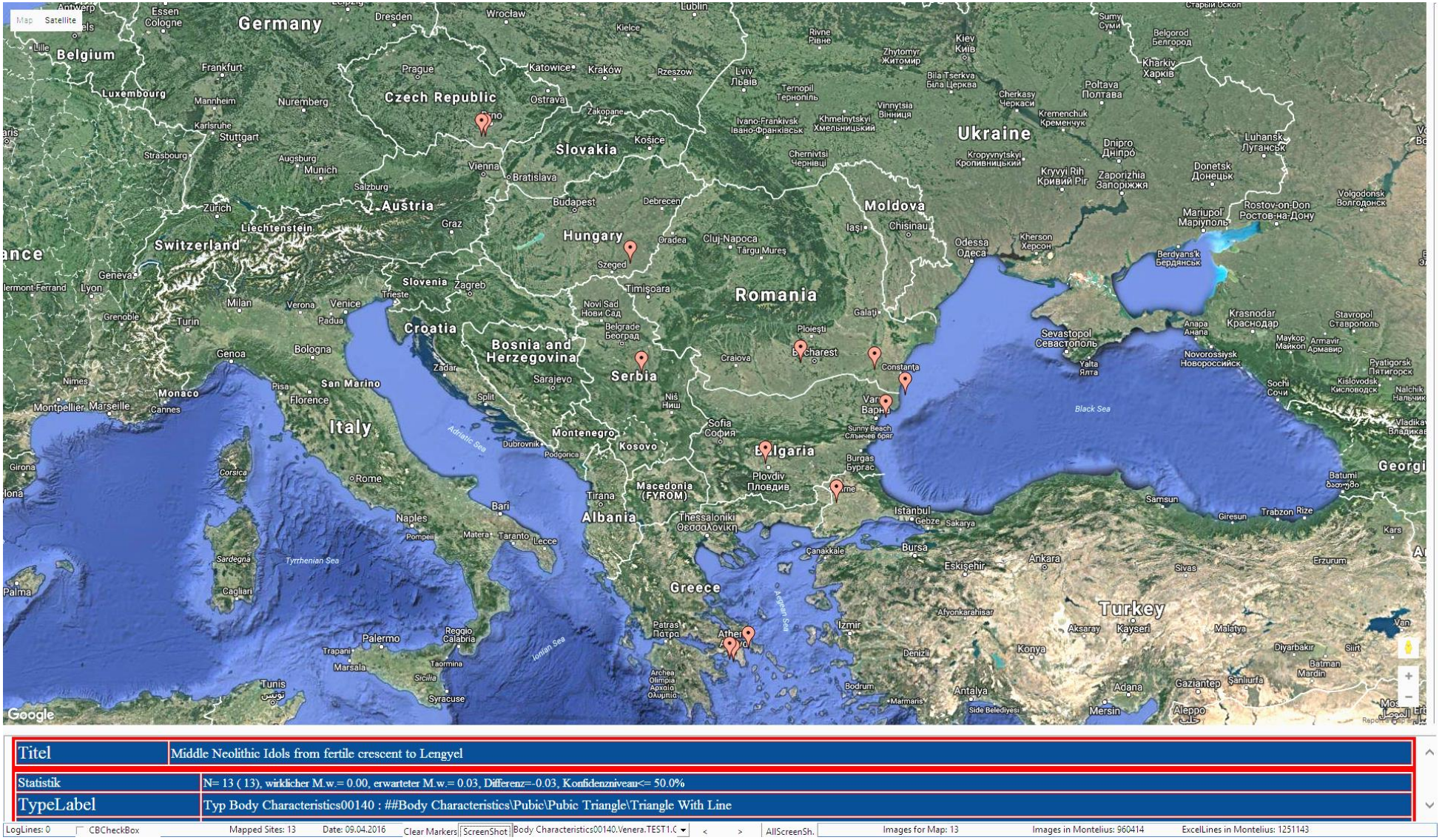


Figure 29: Map of Triangle with a Line Distribution

Body Characteristics/Triangle with a Line:

First Half of the 5th Millennium BC:

We start off with one example of Vinča in Serbia. We also have five general late Neolithic in Greece. One Boian occurs in Romania and there is also one Tisza in Hungary. One general Chalcolithic example appears in central Bulgaria with another example on its eastern coast.

Second Half of the 5th Millennium BC:

We have one Gumelnița in Romania. One Varna occurs in the north-east corner of Bulgaria. Then one end-Neolithic example occurs in Albania (not shown on map). We have two Lengyel in the Czech Republic covering the whole period.

Comments:

The pubic triangle with a line, of which there were fewer examples (only 13 in comparison to the 52 pubic triangles without a line), does not appear to have a specific region that it is confined to for the first half, with only a stray example occurring in the north east of Bulgaria and one in Albania in the second half. This is either due to a significant decrease in popularity of the style or insufficient samples/preservation.

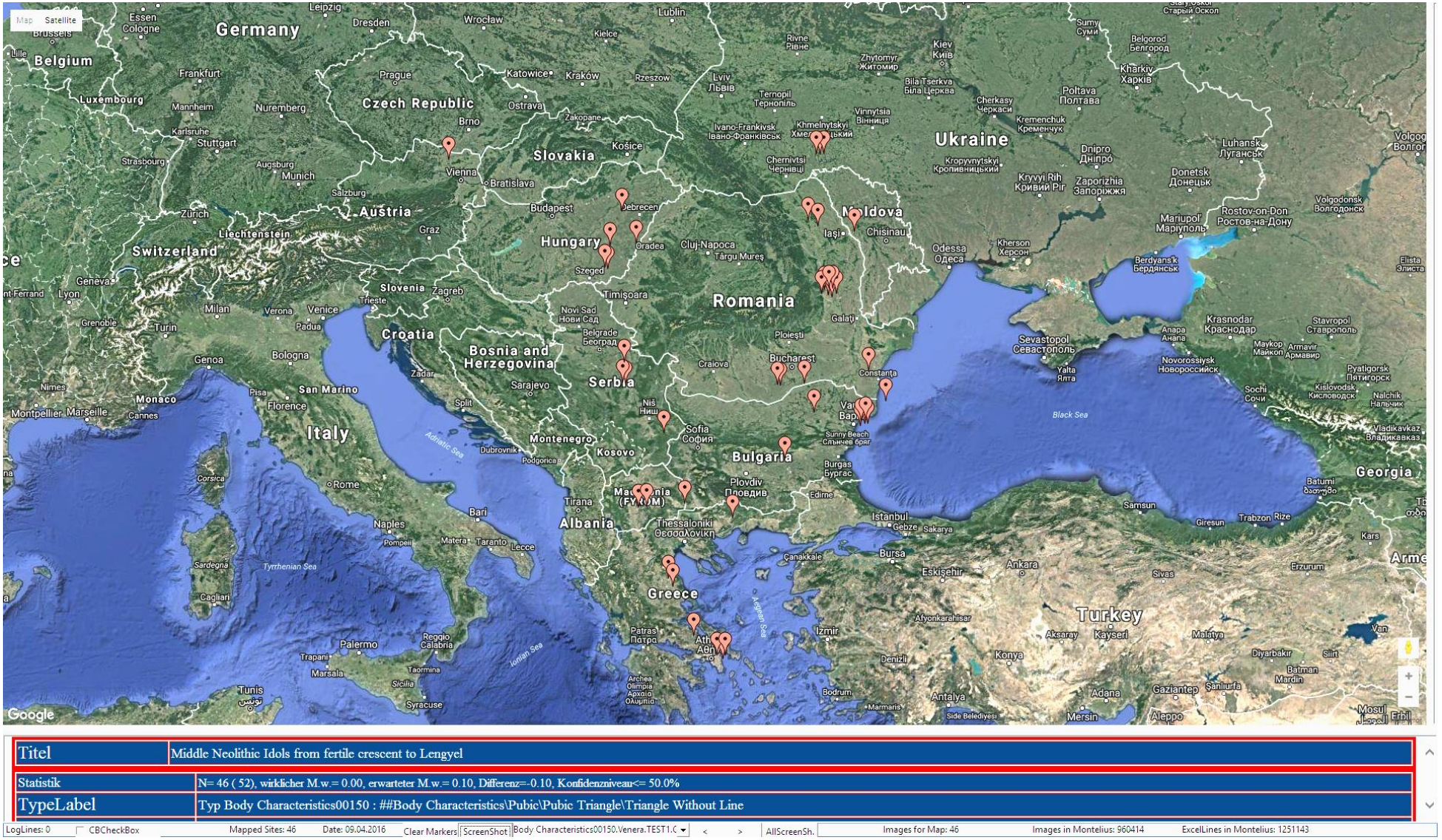


Figure 30: Map of Triangle without a Line Distribution

Body Characteristics/Triangle Without a Line:

First Half of the 5th Millennium BC:

Two middle Neolithic examples occur in Greece, one in its north and one further south. We have one Vădastra in Macedonia. Six general late Neolithic of Greece stretching from the north-eastern tip to the south of Greece. There are two Hamangia on the eastern coast of Romania. Three Vinča appear in Serbia. Four Tisza examples can be found in Hungary. Two Varna occur in north-eastern Bulgaria. There are ten general Chalcolithic clustered on the Bulgarian eastern coast of the Black Sea. One general Chalcolithic in Serbia.

Second Half of the 5th Millennium BC:

One Gumelniţa appears in southern Romania, two in the north-east corner of Romania, and five additional examples in Romania that are not on the map. Gumelniţa also appears with one example in the north-eastern corner of Bulgaria and one in the Bulgarian center. Ten Cucuteni occur clustered together in the north-eastern corner of Romania and three Tripolje are clustered in the Ukraine. A Rachmani example shows up in central Greece. At the end, we have one Hunyadihalom example in Hungary. Lengyel, which occurs throughout the whole time range, has one example in Austria.

Comments:

The pubic triangle without a line is very well distributed in the first half, being a clear continuation from earlier, as seen in Greece (middle Neolithic) and Romania (Hamangia) for example. The second half sees more examples reaching into north-eastern Romania and the Ukraine, as well as a continuation of the practice in Greece and Hungary.

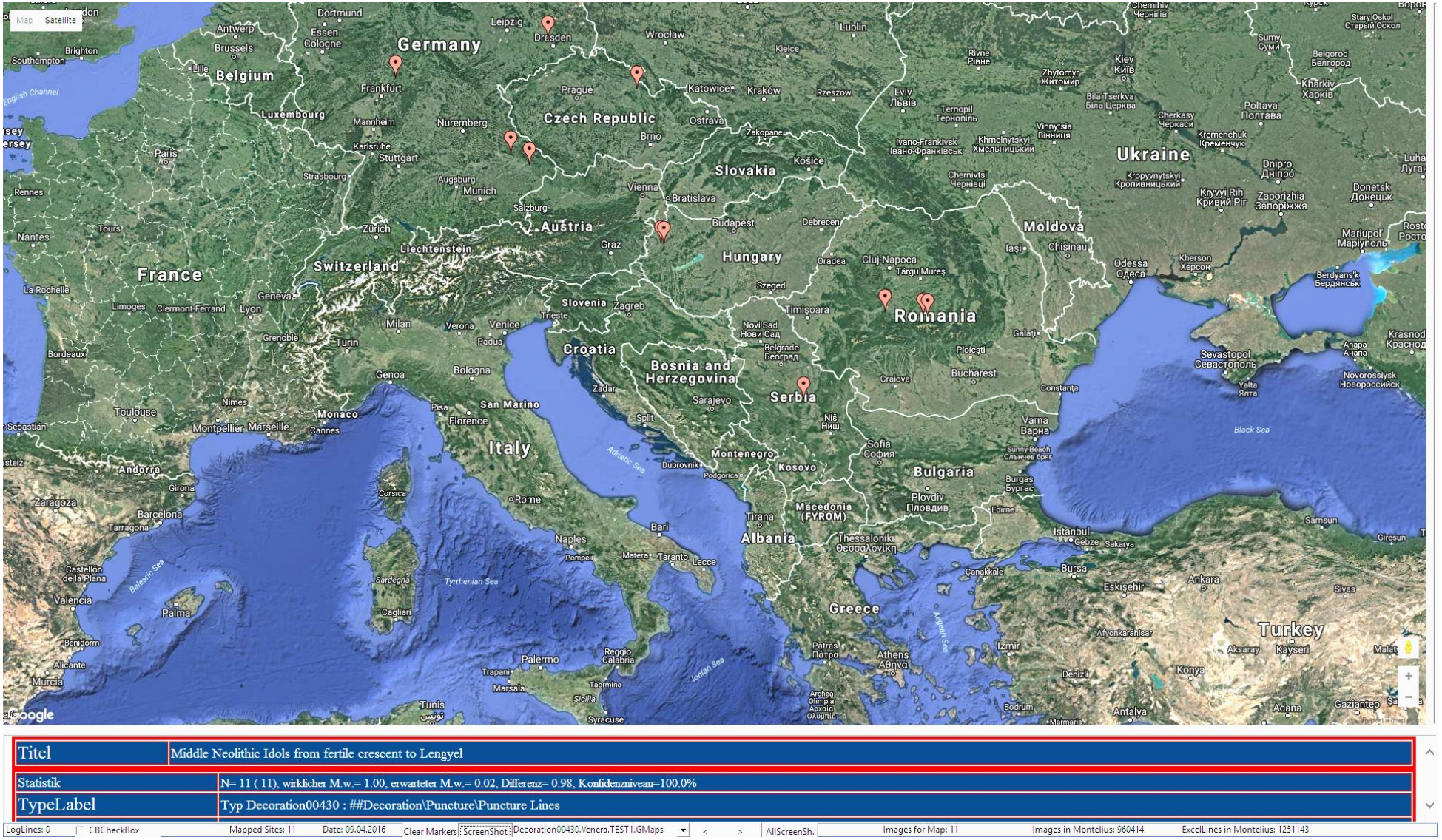


Figure 31: Map of Puncture Lines Distribution

Decoration/Puncture Lines:

First Half of the 5th Millennium BC:
One Vinča appears in Romania and one in Serbia.

Second Half of the 5th Millennium BC:
Stichbandkeramik made its way into Germany (two most northern points on map) and northern Czech Republic. There are two Petreşti in Romania and two examples of Münchshöfen in southern Germany. Two Lengyel examples of puncture lines appear in Hungary, which covers the whole time range.

Comments:
Puncture lines have only a couple of examples in Romania and Serbia in the first half but show a clear movement into the northwest towards Germany through Hungary and the Czech Republic in the second half of the 5th mil. BC, which may have been led by the Lengyel.

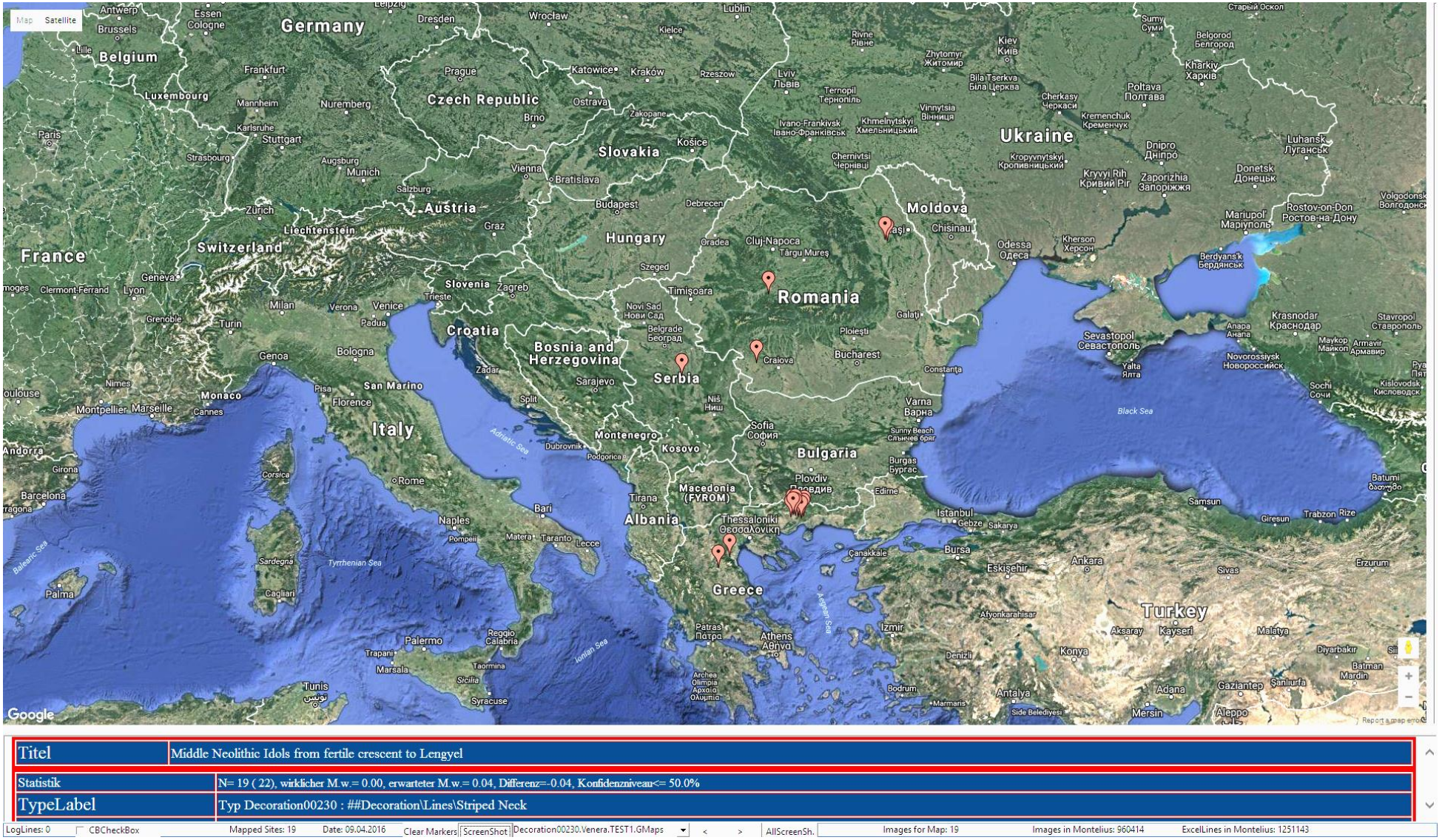


Figure 32: Map of Striped Neck Distribution

Decoration/Striped Neck:

First Half of the 5th Millennium BC:

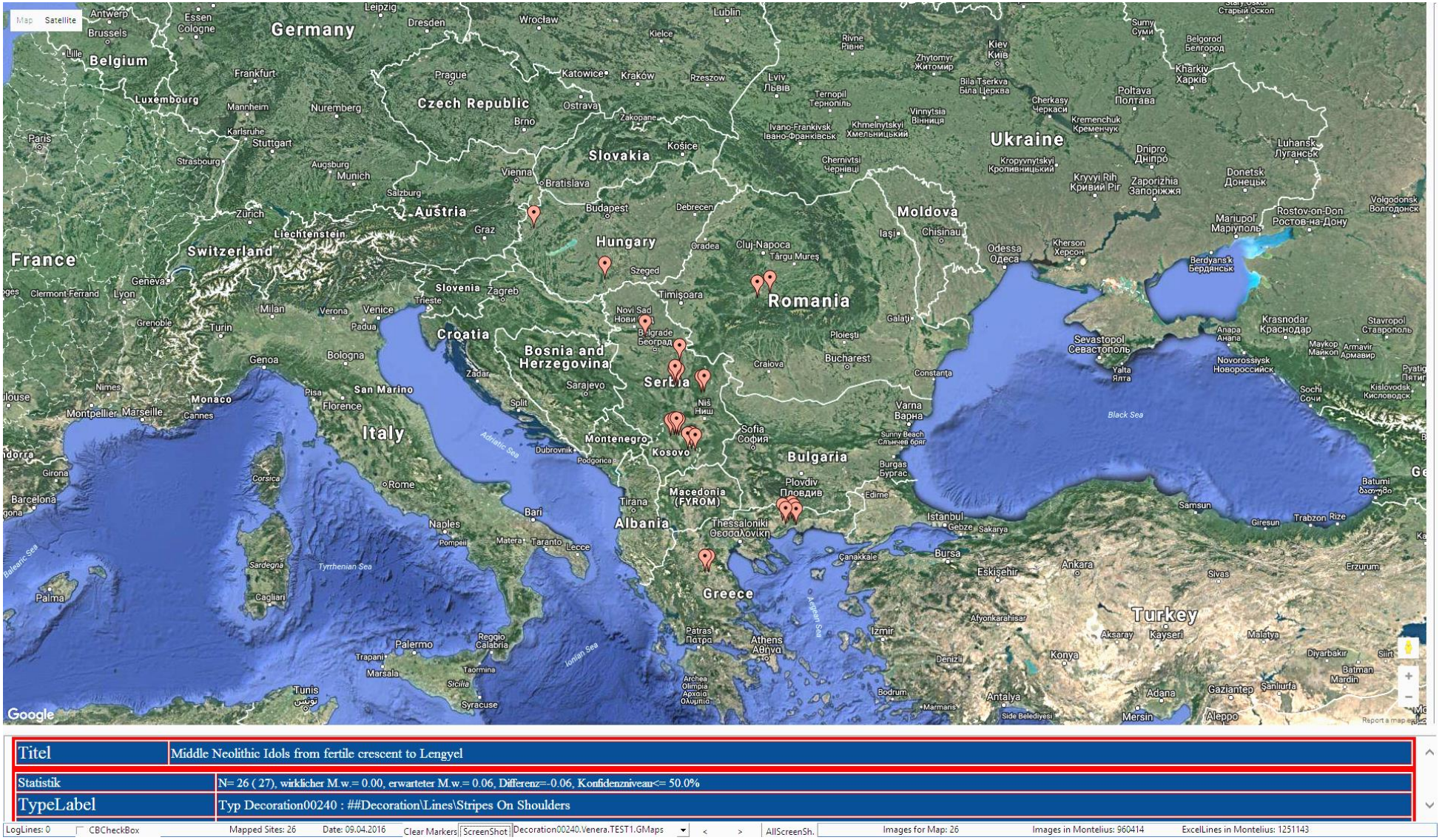
We start with one Vădastra example in southern Romania. One Vinča occurs in central Romania and one Vinča in Serbia. 15 examples of the general late-Neolithic appear in north-eastern Greece and two in northern Greece.

Second Half of the 5th Millennium BC:

Two Cucuteni occur in north-eastern Romania. Seven examples appear in the end-Neolithic of Macedonia (not shown on map).

Comments:

The striped neck, in the first half, has examples clustered in north-eastern Greece with one in Serbia and a couple reaching into central Romania. The second half shows an extension into north-eastern Romania with another cluster remaining in Macedonia (northern Greece), maintaining the popularity of this style while also spreading.



Titel	Middle Neolithic Idols from fertile crescent to Lengyel
Statistik	N= 26 (27), wirklicher M.w.= 0.00, erwarteter M.w.= 0.06, Differenz=-0.06, Konfidenzniveau<= 50.0%
TypeLabel	Typ Decoration00240 : ##Decoration\Lines\Stripes On Shoulders

LogLines: 0 | CBCheckBox | Mapped Sites: 26 | Date: 09.04.2016 | Clear Markers | ScreenShot | Decoration00240.Venera.TEST1.GMaps | < | > | AllScreenSh. | Images for Map: 26 | Images in Montelius: 960414 | ExcelLines in Montelius: 1251143

Figure 33: Map of Stripes on Shoulders Distribution

Decoration/Stripes on Shoulders:

First Half of the 5th Millennium BC:

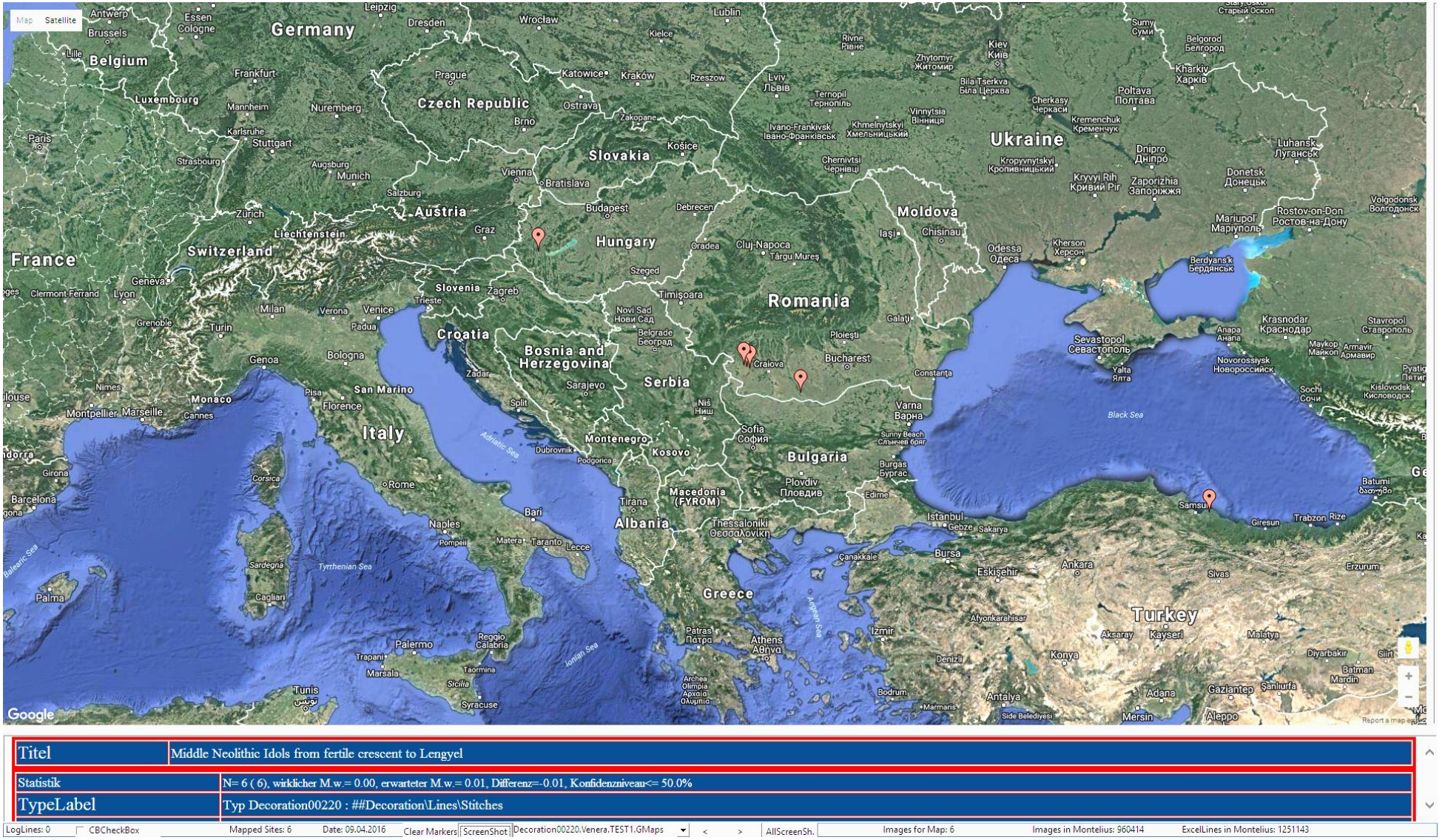
One Vinča occurs in Romania, with seven in Kosovo, and seven in Serbia. Seven general late-Neolithic appear in north-eastern Greece and two late-Neolithic in northern Greece.

Second Half of the 5th Millennium BC:

One Petreşti is in Romania. Two end-Neolithic appear in northern Greece (not shown on map), and one End-Neolithic in Albania (not shown on map). Covering the whole range, two Lengyel in Hungary.

Comments:

Stripes on shoulders appear clustered mainly in Greece, Serbia and Kosovo in the first half, with only one example reaching Romania. The second half only has a couple of examples continued, and only two that reach far enough north in Hungary, but there does appear to be slight movement northwards.



Titel	Middle Neolithic Idols from fertile crescent to Lengyel
Statistik	N= 6 (6), wirklicher M.w.= 0.00, erwarteter M.w.= 0.01, Differenz=-0.01, Konfidenzniveau<= 50.0%
TypeLabel	Typ Decoration00220 : ##Decoration\Lines\Stitches

LogLines: 0 | CBCheckBox | Mapped Sites: 6 | Date: 09.04.2016 | Clear Markers | ScreenShot | Decoration00220.Venera.TEST1.GMaps | < | > | AllScreenSh. | Images for Map: 6 | Images in Montelius: 960414 | ExcelLines in Montelius: 1251143

Figure 34: Map of Stitches Distribution

Decoration/Stitches:

First Half of the 5th Millennium BC:

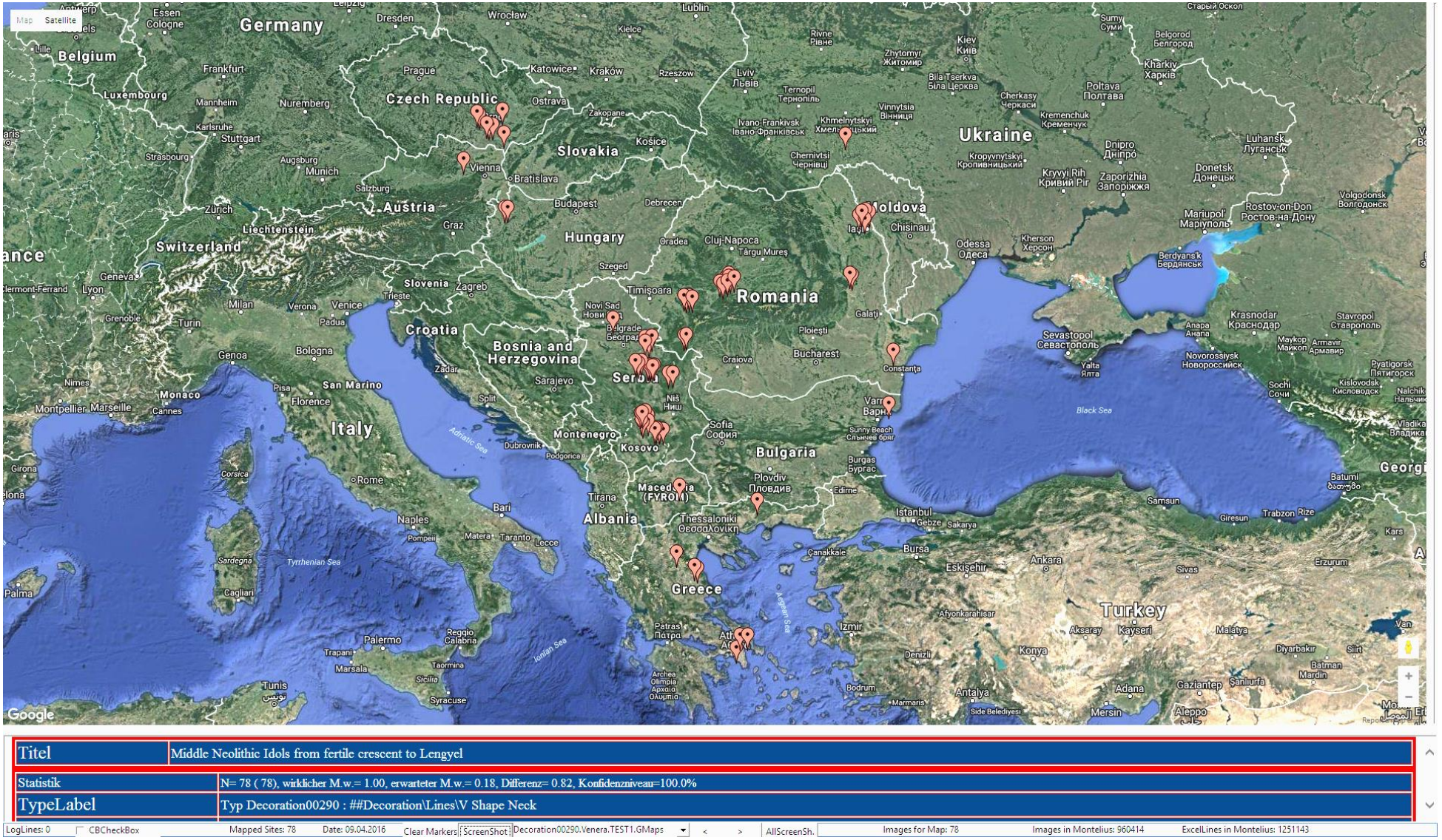
A small Vădastra cluster of four occurs in southern Romania. This map does note that the stitches decoration, or at least a similar form of it, does occur as far east as eastern Turkey, along the southern coast of the Black Sea, during its general Chalcolithic period.

Second Half of the 5th Millennium BC:

The northern range of this feature appears as a Furchenstich-Bajč-Retz example in Hungary at the very end of the millennium.

Comments:

Stitches only appear in a couple of places in the first half, the most eastern example being in Turkey and a small cluster in Romania. The second half has an example appear far to the north-west in Hungary. This suggests movement out of Turkey up into central Europe, though the sample is very small and requires additional research to confirm the results.



Titel	Middle Neolithic Idols from fertile crescent to Lengyel
Statistik	N= 78 (78), wirklicher M.w.= 1.00, erwarteter M.w.= 0.18, Differenz= 0.82, Konfidenzniveau=100.0%
TypeLabel	Typ Decoration00290 : ##Decoration\Lines\V Shape Neck

LogLines: 0 | CBCheckBox | Mapped Sites: 78 | Date: 09.04.2016 | Clear Markers | ScreenShot | Decoration00290.Venera.TEST1.GMaps | < | > | AllScreenSh. | Images for Map: 78 | Images in Montelius: 960414 | ExcelLines in Montelius: 1251143

Figure 35: Map of V-Shape Neck Distribution

Decoration/V-Shape Neck:

First Half of the 5th Millennium BC:

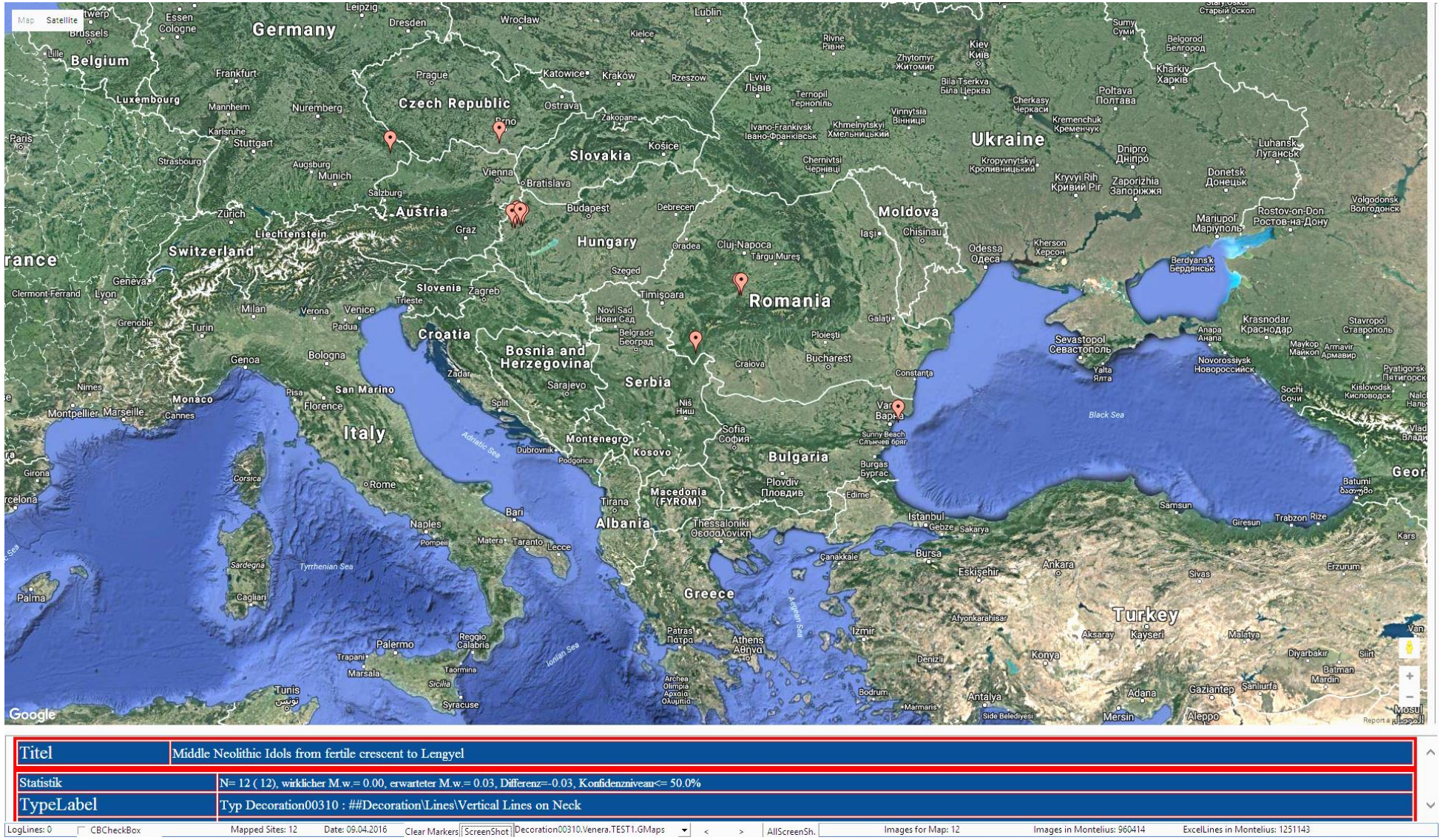
One general middle Neolithic appears in southern Greece followed by two late-Neolithic in southern Greece, three in the north and one to the north-east. One Angelci-Zelenikovo occurs in Macedonia. One general Chalcolithic is in eastern Bulgaria. One Hamangia is located on Romania's eastern coast and one Turdaş in central Romania. Vinča is clustered in central Romania (11) and southern Romania (6), with a large amount of 13 occurring in Kosovo and 18 in Serbia.

Second Half of the 5th Millennium BC:

One Tripolje example leads into the second half in Ukraine. Eight Cucuteni are scattered west and north-east in Romania. One general end-Neolithic occurs in northern Greece and one in Albania (not shown on map). Lengyel, covering the whole period, has six examples scattered in southern Czech Republic, two in Austria and two Hungary.

Comments:

The V-shape neck occurs earliest in south Greece with more examples appearing north in Greece during the first half of the 5th mil. BC. The first half reaches from southern Greece to Romania, and Ukraine is reached either in the later half of the first half or well into the second half. Depending on when the Lengyel examples occur, there could be either more support for reaching west in the second half, or show that examples occurred well into the north-west in the first half.



Titel	Middle Neolithic Idols from fertile crescent to Lengyel
Statistik	N= 12 (12), wirklicher M.w.= 0.00, erwarteter M.w.= 0.03, Differenz=-0.03, Konfidenzniveau<= 50.0%
TypeLabel	Typ Decoration00310 : ##Decoration\Lines\Vertical Lines on Neck

LogLines: 0 | CBCheckBox | Mapped Sites: 12 | Date: 09.04.2016 | Clear Markers | ScreenShot | Decoration00310.Venera.TEST1.GMaps | AllScreenSh. | Images for Map: 12 | Images in Montelius: 960414 | ExcelLines in Montelius: 1251143

Figure 36: Map of Vertical Lines on Neck Distribution

Decoration/Lines on Neck:

First Half of the 5th Millennium BC:

First we have three Vinča in Romania from the first half of the 5th mil.

The singular example of the Stichbandkeramik in Germany follows this period starting at the end of the first half and leading into the second half of the 5th mil.BC. There is one general Chalcolithic example in Bulgaria.

Second Half of the 5th Millennium BC:

There are no examples specific only to the second half of the 5th millenium in this dataset. The Lengyel culture covers the whole time range and has one example in the Czech Republic and a cluster of six Lengyel in Hungary.

Comments:

The vertical lines on the neck decoration appears in a couple of small clusters in a line from the Black Sea to the Czech Republic. They have a few examples in Romania and Hungary during the first half, though no examples are definitely confined purely to the second half (unless the Lengyel state otherwise). The Lengyel also appear more to the north, and if they are from the later range of Lengyel, then they may suggest movement to the north-west. If the Lengyel is from earlier, then a wide-spread style dies out in the second half.

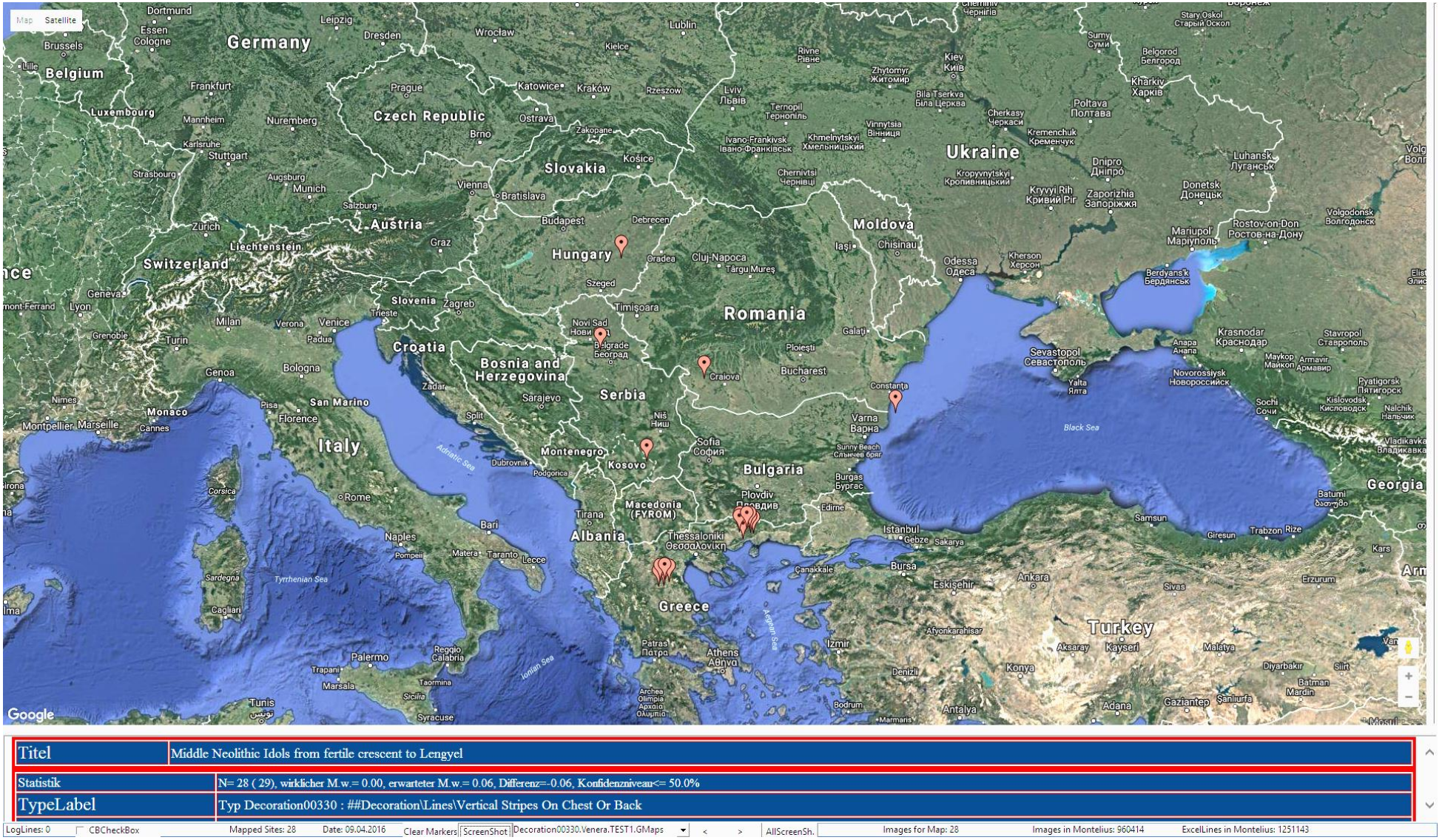


Figure 37: Map of Vertical Stripes on Chest or Back Distribution

Decoration/Vertical Stripes on Chest or Back:

First Half of the 5th Millennium BC:

We start with one Vădastra example occurring in Romania. Five general late-Neolithic are clustered in northern Greece with another larger cluster of 20 to the north-west. There are two examples of Vinča, one in Kosovo and one in Serbia. One Tisza appears in Hungary.

Second Half of the 5th Millennium BC:

Three end-Neolithic occur in northern Greece and one in Albania (not shown on map). One Varna appears in the north-eastern corner of Bulgaria.

Comments:

Vertical stripes on the chest or back are heavily grouped in the first half in the northern area of Greece, with only a few examples reaching north into Kosovo, Serbia and one example in Hungary. The second half shows a continuation of a couple examples in Greece and one example reaching north-eastern Bulgaria. Thus this style remained rather popular in Greece during the 5th in the first half while its popularity waned (but didn't disappear) in the second half. While a few examples appeared more northward in the first half and one example to east in the second half. There does not appear to be much movement for this style, with only a singular example suggesting any movement east.

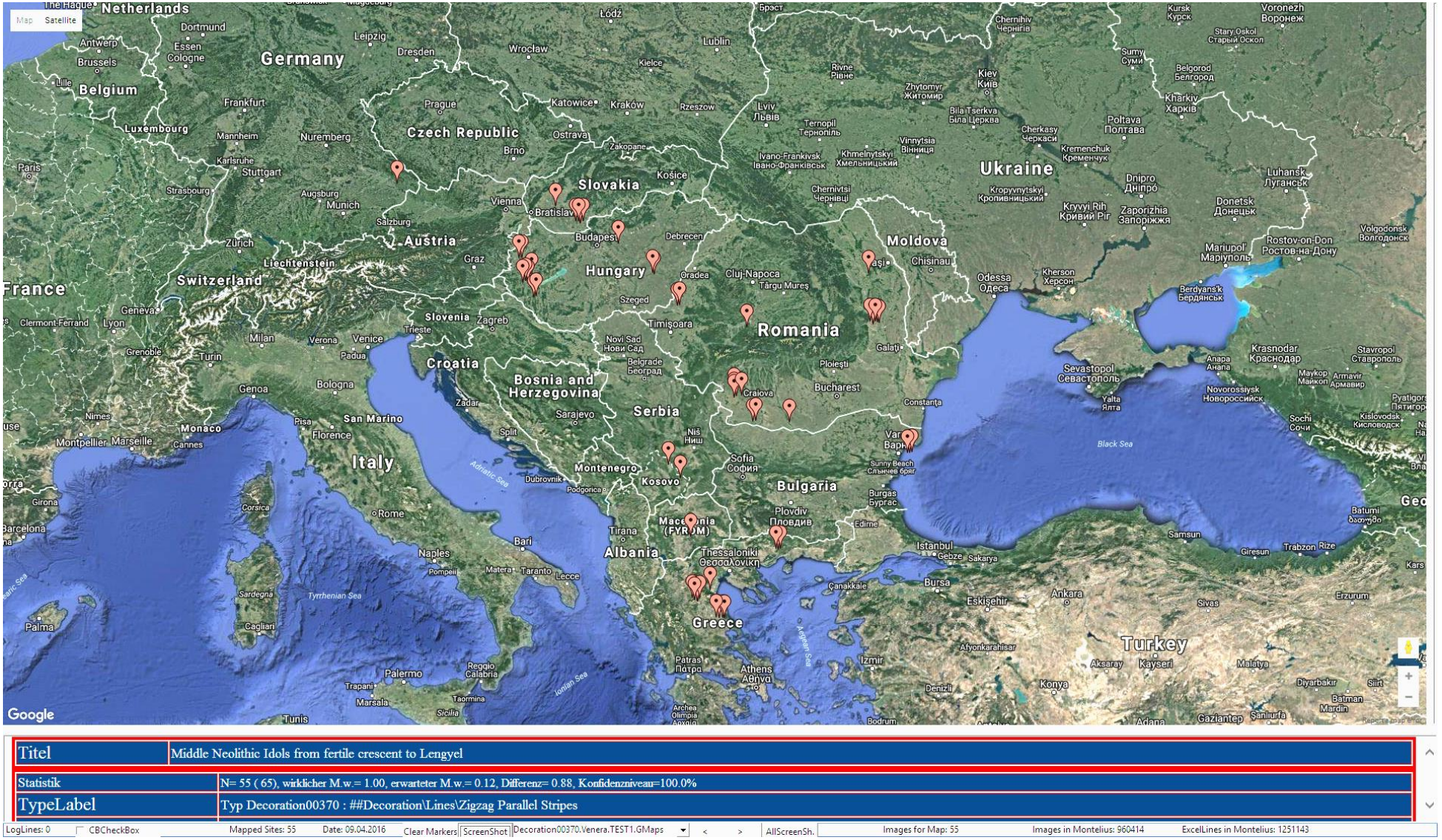


Figure 38: Map of Zigzag Parallel Stripes Distribution

Decoration/Zigzag Parallel Stripes:

First Half of the 5th Millennium BC:

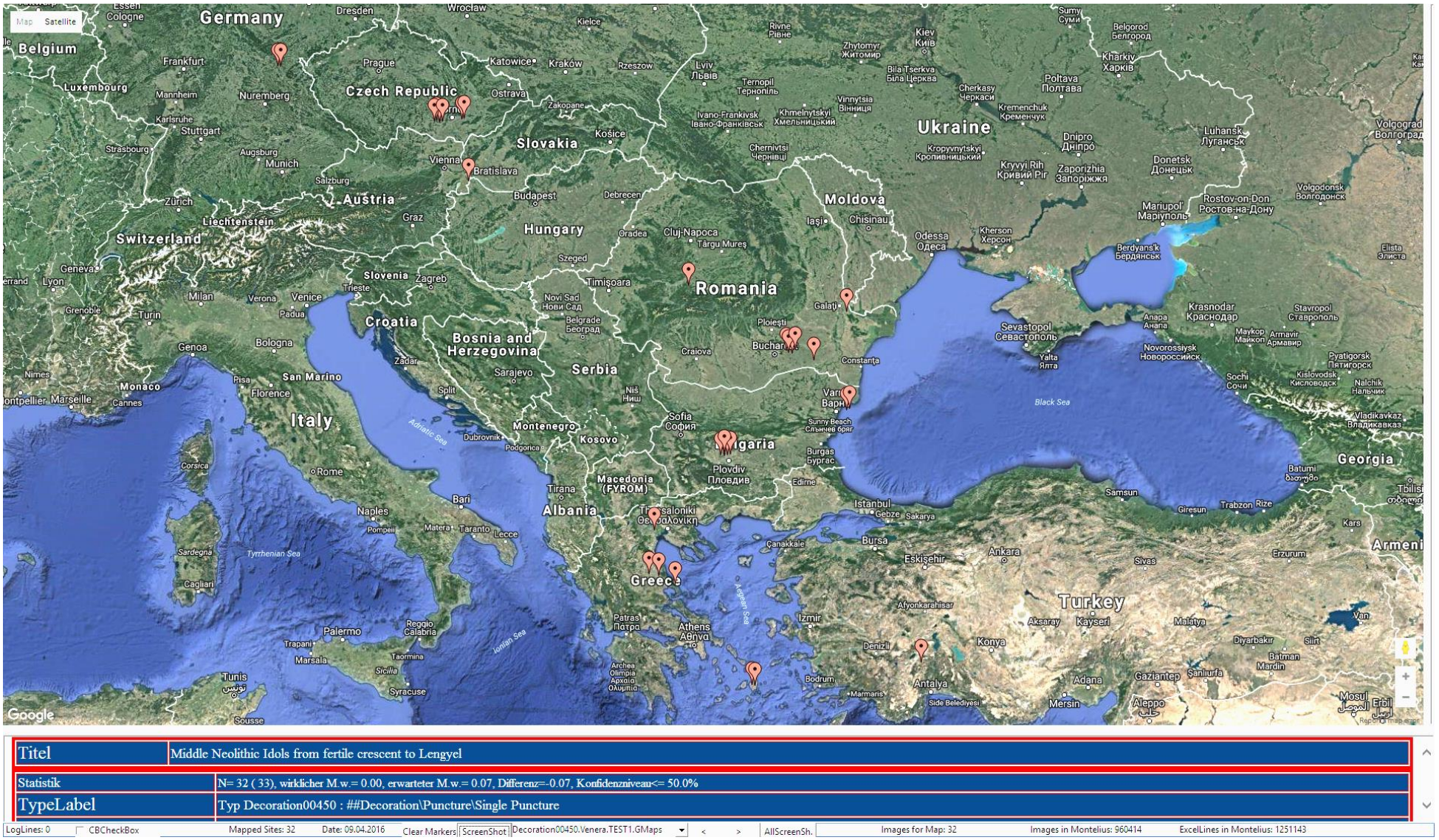
First, we have six Vădastra in southern Romania. There are four Tisza in eastern Hungary. Two Vinča in southern Romania and one in central Romania, as well as two in Kosovo. There are three general Chalcolithic in eastern Bulgaria. The general late-Neolithic has several clusters in Greece with one late-Neolithic in Macedonia. There is one Stichbandkeramik in Germany which leads into the second half.

Second Half of the 5th Millennium BC:

Seven Cucuteni occur in the north-eastern corner of Romania. Two End-Neolithic appear in northern Greece. There is a large cluster of Furchenstich-Bajč-Retz (18) in Slovakia, as well as one cluster in Hungary, with three in the north and seven in the western part of the country. There are two general Chalcolithic in western Hungary. Covering the whole time period, there are two Lengyel in Hungary.

Comments:

Zigzag parallel stripes are represented in several countries (from Greece to Romania, with a possible couple of examples in Hungary from the Lengyel and one from Germany) in the first half. The second half shows a definite increase in popularity in Romania, Slovakia and Hungary, with only a couple of examples remaining in Greece. The style appears to be very popular already in the first half, increasing in the second half, and covers a wide rage. There is a slight possibility of movement to the north west, shown in Serbia or Germany, dependant on whether the Germany example occurs more towards the first or second half, but otherwise little movement is detected.



Titel	Middle Neolithic Idols from fertile crescent to Lengyel
Statistik	N= 32 (33), wirklicher M.w.= 0.00, erwarteter M.w.= 0.07, Differenz=-0.07, Konfidenzniveau<= 50.0%
TypeLabel	Typ Decoration00450 : ##Decoration\Puncture\Single Puncture

LogLines: 0 | CBCheckBox | Mapped Sites: 32 | Date: 09.04.2016 | Clear Markers | ScreenShot | Decoration00450.Venera.TEST1.GMaps | < | > | AllScreenSh. | Images for Map: 32 | Images in Montelius: 960414 | ExcelLines in Montelius: 1251143

Figure 39: Map of Single Puncture Distribution

Decoration/Single Puncture:

First Half of the 5th Millennium BC:

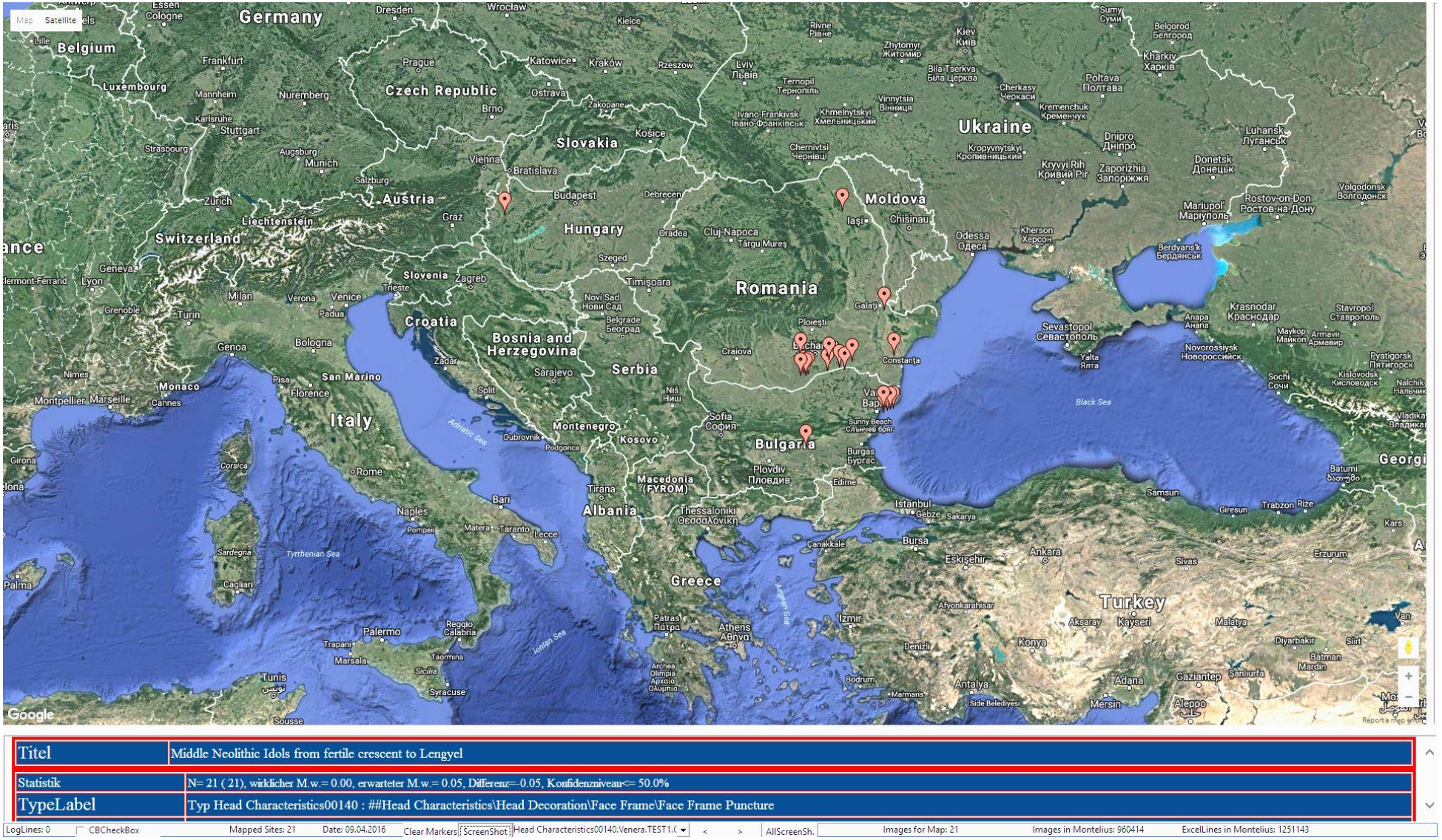
There is one late-Neolithic example in Turkey. There is one Vinča in central Romania. Five Boian occur in southern Romania. Three general Chalcolithic appear in eastern Bulgaria as well as a cluster (6) in its central region. There are six general late-Neolithic in Greece.

Second Half of the 5th Millennium BC:

There is one Gumelniţa in Romania located on the Ukraine border next to the Black Sea. There are two general late-Neolithic in Germany. Covering the whole time period, there is one Lengyel in Austria, and seven in the Czech Republic.

Comments:

In the first half, the single puncture style occurs curved around the Black Sea from Turkey, through Bulgaria to Romania, as well as stretching to Greece. The second half has continuation only in the form of a singular Romanian example. There are two German examples that appear in the second half, suggesting movement northwest. The northwest examples plus the lessoning of examples in the south and east, may suggest a movement of population taking their style with them, or an exported style that became unpopular at home. Movement is further supported if the Lengyel examples are from the second half. If the Lengyel is from the first half, then it represents a dying out of the style in the east and south.



Titel	Middle Neolithic Idols from fertile crescent to Lengyel
Statistik	N= 21 (21), wirklicher M.w.= 0.00, erwarteter M.w.= 0.05, Differenz=-0.05, Konfidenzniveau<= 50.0%
TypeLabel	Typ Head Characteristics00140 : ##Head Characteristics\Head Decoration\Face Frame\Face Frame Puncture

LogLines: 0 | CBCheckBox | Mapped Sites: 21 | Date: 09.04.2016 | Clear Markers | ScreenShot | Head Characteristics00140.Venera.TEST1.(| < | > | AllScreenSh. | Images for Map: 21 | Images in Montelius: 960414 | ExcelLines in Montelius: 1251143

Figure 40: Map of Face Frame Puncture Distribution

Head Characteristics/Face Frame Puncture:

First Half of the 5th Millennium BC:

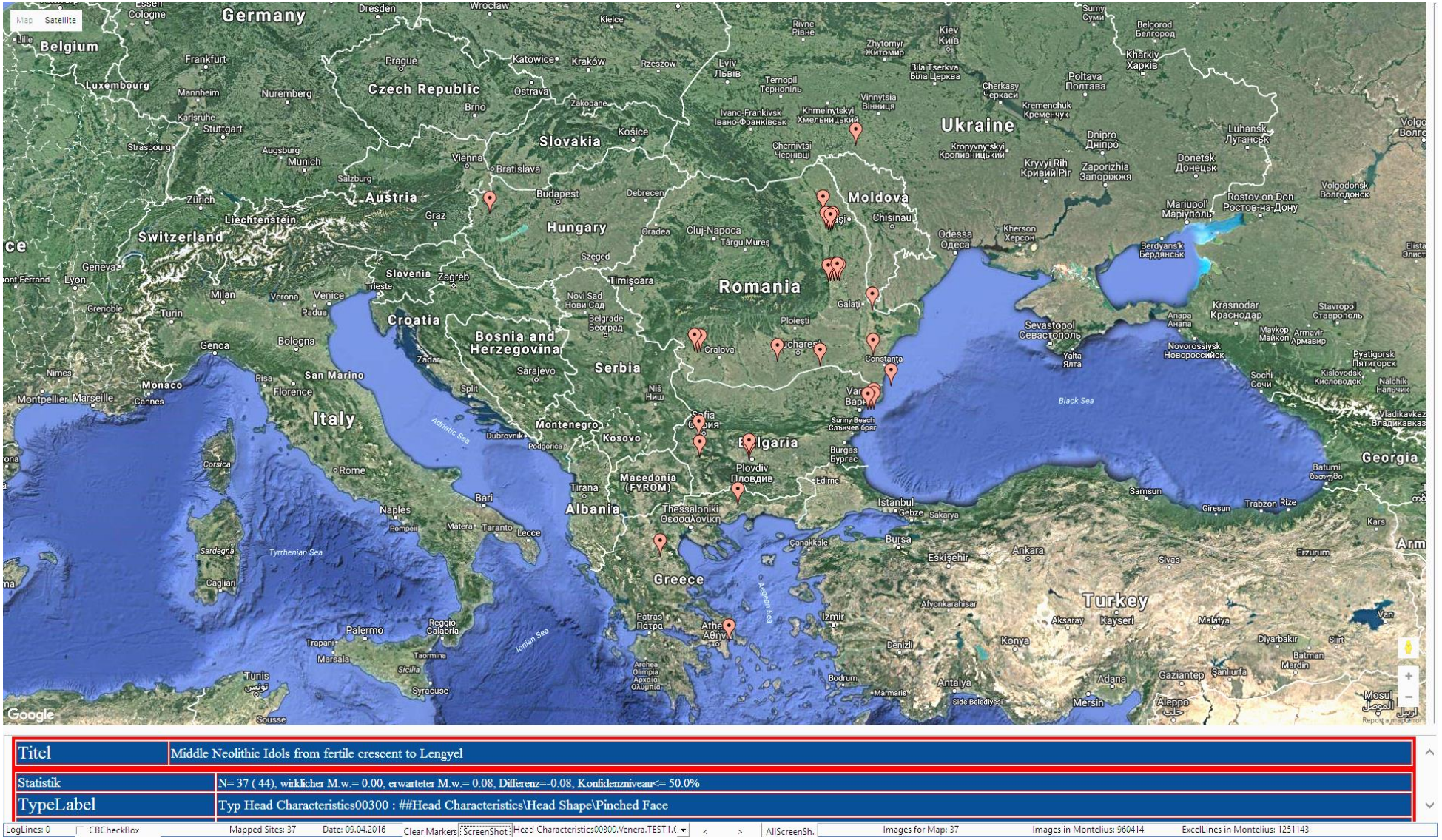
There are five general Chalcolithic in the north-eastern corner of Bulgaria and three general Chalcolithic in southern Romania.

Second Half of the 5th Millennium BC:

There are 15 Gumelniţa all clustered in southern Romania with one example occurring more south in central Bulgaria. One Cucuteni occurs in northern Romania. One End-Neolithic is located in northern Greece (not shown on map). There is one example of Balaton-Lasinja in Hungary.

Comments:

The face frame decoration appears generally clustered in Romania and Bulgaria in the first half, while the second half sees some continuation in these areas through the Gumelniţa culture. One example occurs in northern Romania, with one stretching to Hungary, and one example appearing in Greece. The style may have originated in Romania and Bulgaria and spread out north, north-west and south.



Titel	Middle Neolithic Idols from fertile crescent to Lengyel
Statistik	N= 37 (44), wirklicher M.w.= 0.00, erwarteter M.w.= 0.08, Differenz=-0.08, Konfidenzniveau<= 50.0%
TypeLabel	Typ Head Characteristics00300 : ##Head Characteristics\Head Shape\Pinched Face

LogLines: 0 | CBCheckBox | Mapped Sites: 37 | Date: 09.04.2016 | Clear Markers | ScreenShot | Head Characteristics00300.Venera.TEST1.(| < | > | AllScreenSh. | Images for Map: 37 | Images in Montelius: 960414 | ExcelLines in Montelius: 1251143

Figure 41: Map of Pinched Face Distribution

Head Characteristics/Pinched Face:

First Half of the 5th Millennium BC:

We have four Vădastra clustered together in southern Romania. A general early Chalcolithic occurs in western Bulgaria. There's a cluster of 12 general Chalcolithic in eastern Bulgaria, two in central Bulgaria, and another four Bulgarian examples that are not shown on the map. A Precucuteni 02 example shows up in Ukraine (most northern example). Three general late-Neolithic are spread throughout Greece.

Second Half of the 5th Millennium BC:

Four Gumelniţa examples are located in south-eastern Romania with an additional more northern example. One Varna appears in the north-eastern corner of Bulgaria and 15 Cucuteni examples in northern Romania. Two late Chalcolithic are located in western Bulgaria. One End-Neolithic occurs in northern Greece and one end-Neolithic in Albania (both not shown on map). One Balaton-Lasinja example occurs with a pinched face in Hungary.

Comments:

The pinched face is clustered in southern Romania and Bulgaria with one example reaching north in Ukraine and three in the south in Greece in the first half. In the second half, the mentioned countries have continued with a few more examples of the tradition, with a singular example reaching all the way to Hungary in the west well after the 5th mil. BC. There seems to be continuation of this style throughout the 5th mil.BC with possible movement west at the end of it, though it is only one example.

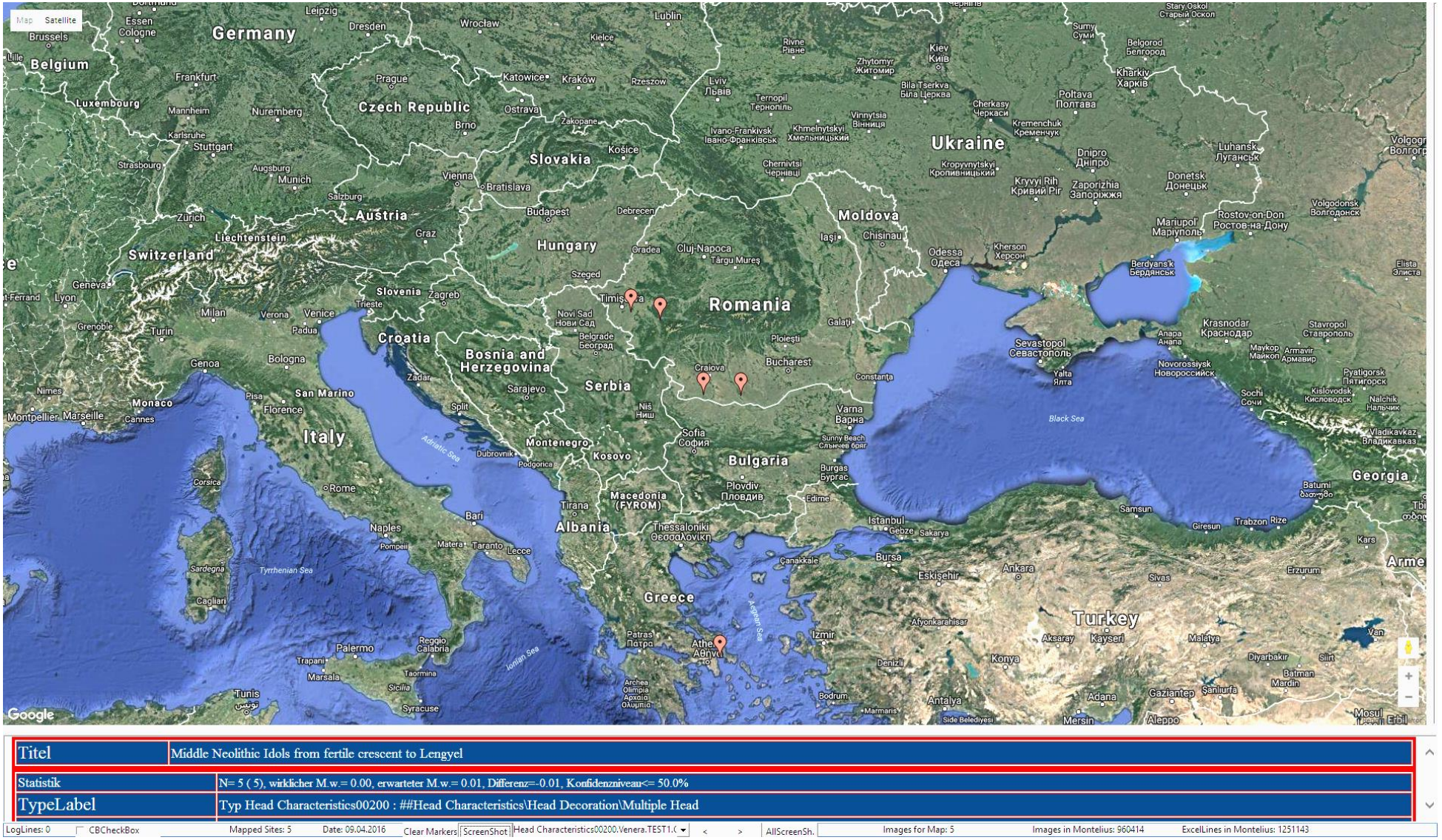


Figure 42: Map of Multiple Head Distribution

Head Characteristics/Multiple Head:

First Half of the 5th Millennium BC:

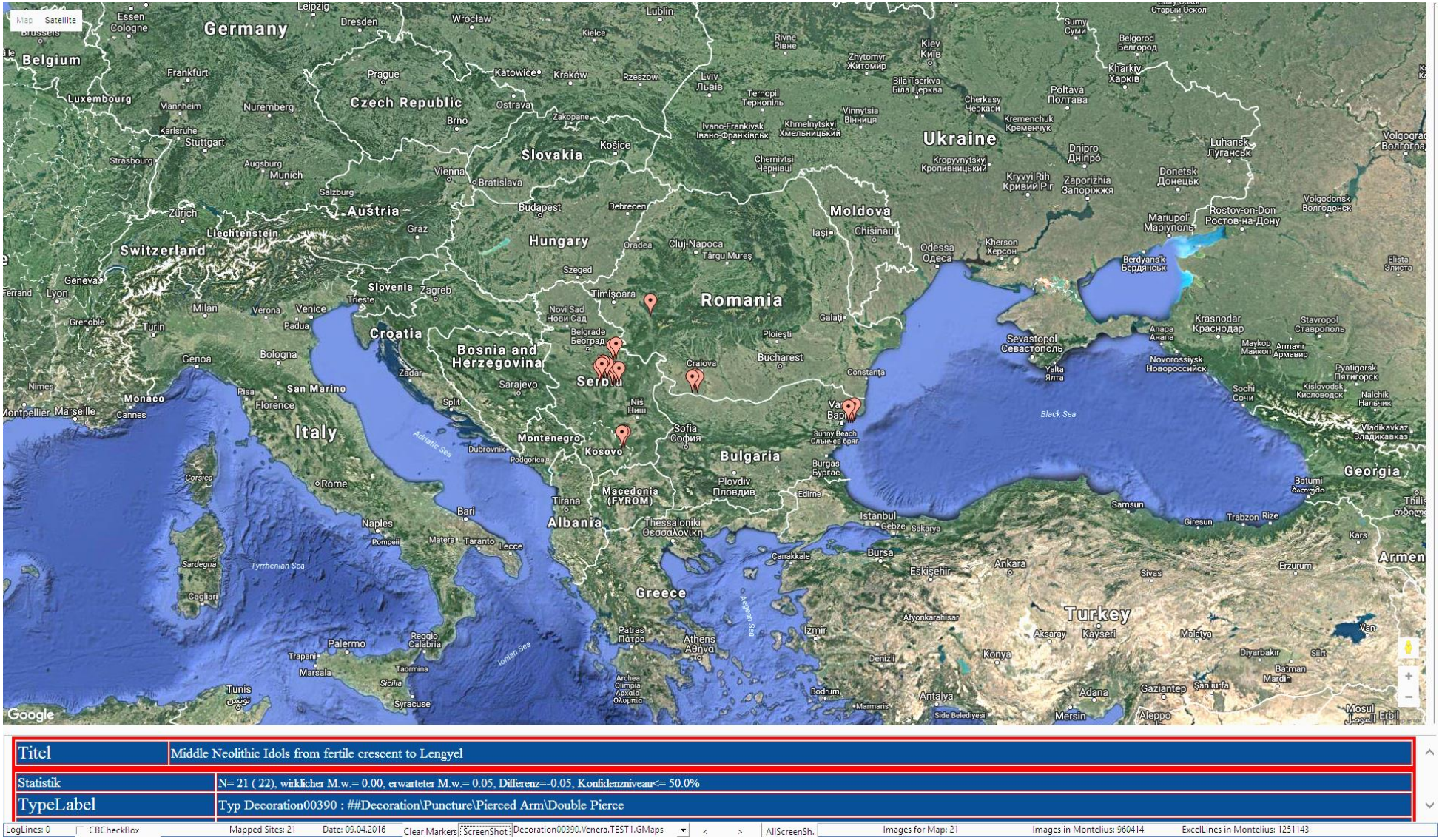
Four Vinča examples with multiple heads appear in Romania along with an additional general Neolithic Romanian example which may somewhat precede the 5th mil. BC. We find an example of a multiple head in the late Neolithic of Greece.

Second Half of the 5th Millennium BC:

One double head occurs in Greece attributed to the Rachmani culture (not appearing on the map).

Comments:

The multiple head only appears in a few scattered locations in Romania and Greece in the first half, with one example in Greece continuing with the tradition in the second half. Either this was an isolated style or merely a common choice by individual creators at the local level.



Titel	Middle Neolithic Idols from fertile crescent to Lengyel
Statistik	N= 21 (22), wirklicher M.w.= 0.00, erwarteter M.w.= 0.05, Differenz=-0.05, Konfidenzniveau<= 50.0%
TypeLabel	Typ Decoration00390 : ##Decoration\Puncture\Pierced Arm\Double Pierce

LogLines: 0 | CBCheckBox | Mapped Sites: 21 | Date: 09.04.2016 | Clear Markers | ScreenShot | Decoration00390.Venera.TEST1.GMaps | < | > | AllScreenSh. | Images for Map: 21 | Images in Montelius: 960414 | ExcelLines in Montelius: 1251143

Figure 43: Map of Double Pierce Distribution

Limbs/Double Pierce:

First Half of the 5th Millennium BC:

The double pierce feature appears mainly in small clustered groups of the Vinča culture. All examples in Romania (4) are Vinča, and are supplemented by a large cluster of 12 in Serbia and two examples in Kosovo. There are four general Chalcolithic appearing in eastern Bulgaria.

Second Half of the 5th Millennium BC:

There are no examples specifically attributed to the second half of the 5th mil. BC in the collected samples.

Comments:

The double pierce seems to be mainly in Serbia with a few southern Romanian, eastern Bulgarian and Kosovo examples that appear in small clusters during the first half, with no examples specifically attributed to the second half.

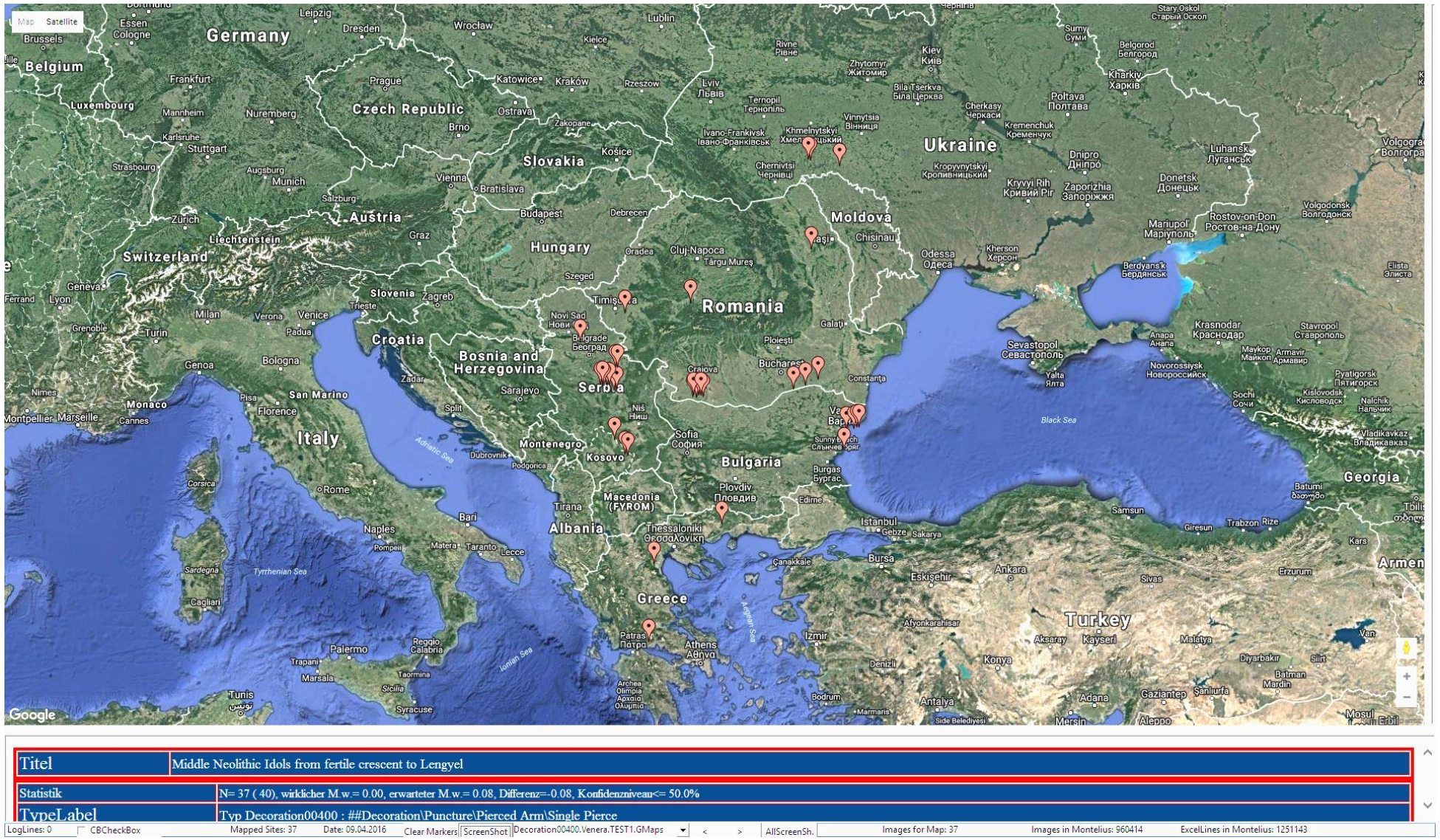


Figure 44: Map of Single Pierce Distribution

Limbs/Single Pierce:

First Half of the 5th Millennium BC:

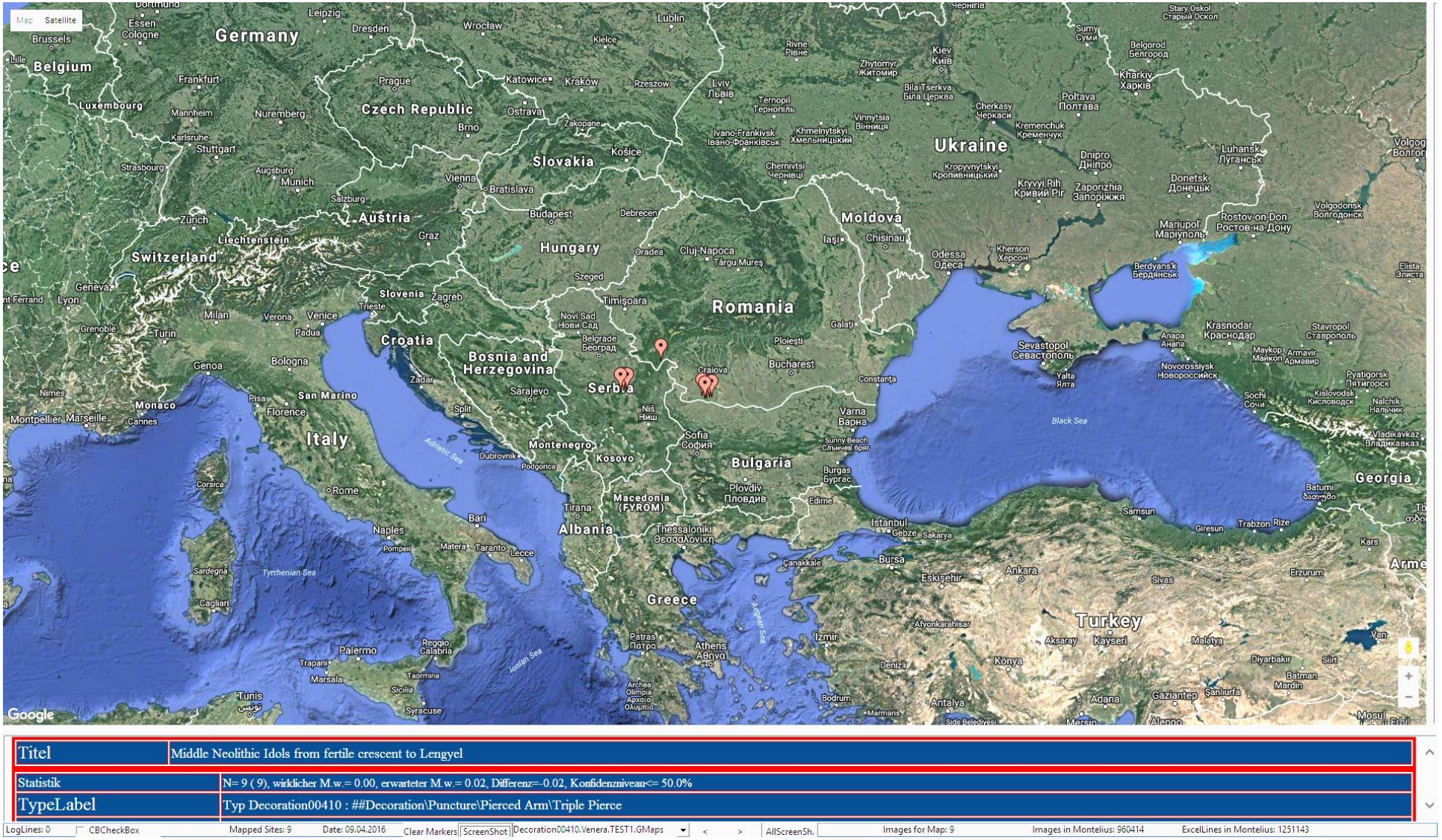
There are seven Vinča located in southern Romania, one in central Romania, one in western Romania, as well as 10 examples of Vinča in Serbia and three in Kosovo. Greece has three scattered examples of general late-Neolithic. One Precucuteni 02 occurs in Ukraine. Six general Chalcolithic appears in eastern Bulgaria.

Second Half of the 5th Millennium BC:

There is one Gumelniţa in southern Romania, with four more Romanian examples that do not appear on the map. There are two Tripolje examples clustered together in Ukraine. There is one Varna on the eastern coast of Bulgaria. One Cucuteni appears in northern Romania. One general late-Chalcolithic occurs in eastern Bulgaria. Two general Chalcolithic occur in south-eastern Romania though it could cover both the first and second half.

Comments:

The single pierce style occurs rather regularly over the map, with examples appearing from Greece to Ukraine in the first half. This continues into the second half, though no examples appear in Serbia, Kosovo or Greece, suggesting a dying out of the style in those regions.



Titel	Middle Neolithic Idols from fertile crescent to Lengyel
Statistik	N= 9 (9), wirklicher M.w.= 0.00, erwarteter M.w.= 0.02, Differenz=-0.02, Konfidenzniveau<= 50.0%
TypeLabel	Typ Decoration00410 : ##Decoration\Puncture\Pierced Arm\Triple Pierce

LogLines: 0 | CBCheckBox | Mapped Sites: 9 | Date: 09.04.2016 | Clear Markers | ScreenShot | Decoration00410.Venera.TEST1.GMaps | < | > | AllScreenSh. | Images for Map: 9 | Images in Montelius: 960414 | ExcelLines in Montelius: 1251143

Figure 45: Map of Triple Pierce Distribution

Limbs/Triple Pierce:

First Half of the 5th Millennium BC:

All of the triple pierce examples are from the Vinča culture which starts before the turn of the 5th mil. BC and extends into the second half. There are six examples located in Romania and three in Serbia.

Second Half of the 5th Millennium BC:

There are no examples in the database from the second half of the 5th mil. BC.

Comments:

The triple pierce category is more clustered than the other arm piercing categories, suggesting a localized offshoot of the piercing style found only in northern Serbia and southern Romania, and focused in the first half of the 5th mil.BC. Regarding the various arm piercing styles, it appears that, while the stub point style was popular, there seems to be different versions branching off from each other, focusing on different regions.

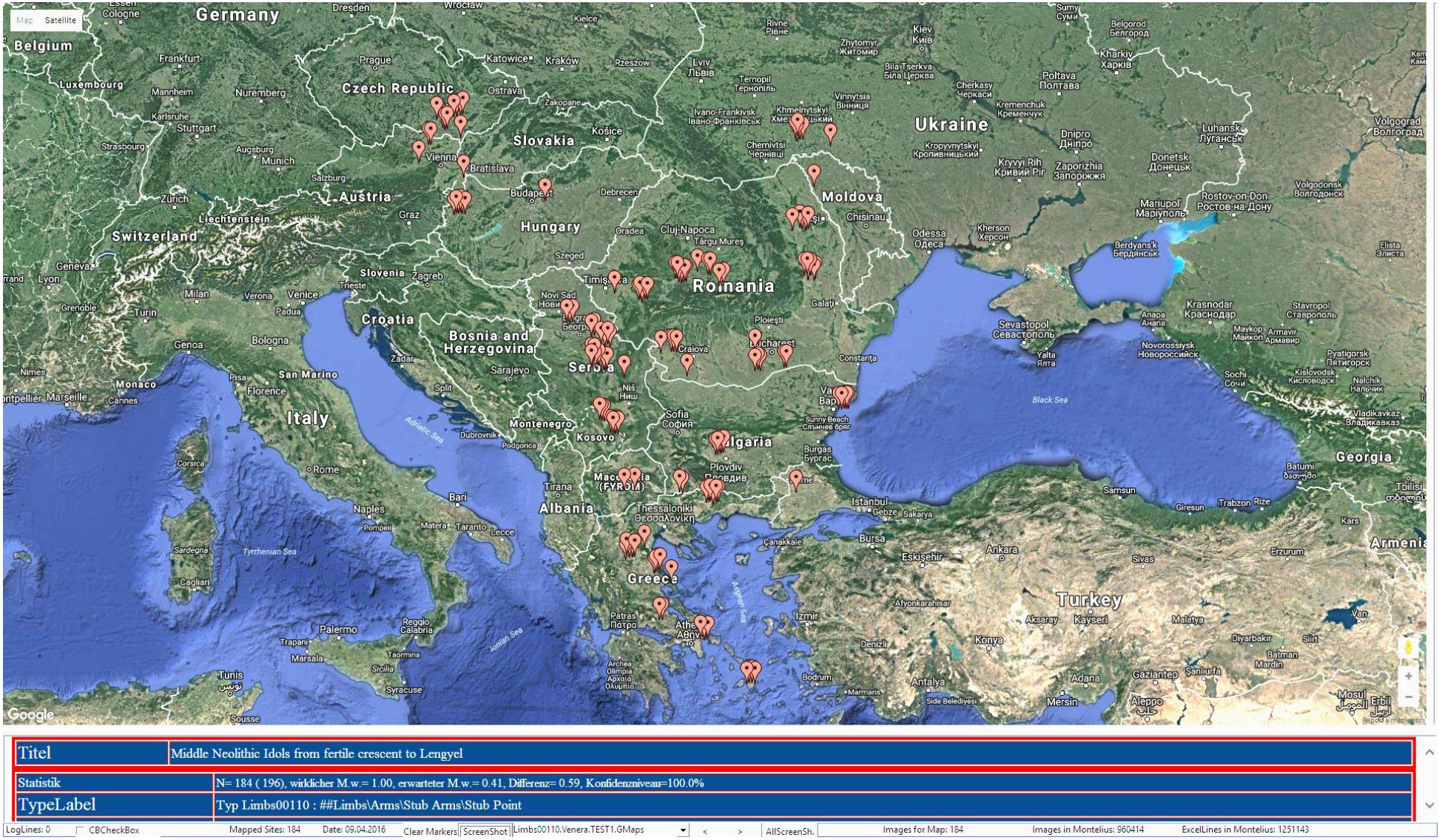


Figure 46: Map of Stub Point Distribution

Limbs/Stub Point:

First Half of the 5th Millennium BC:

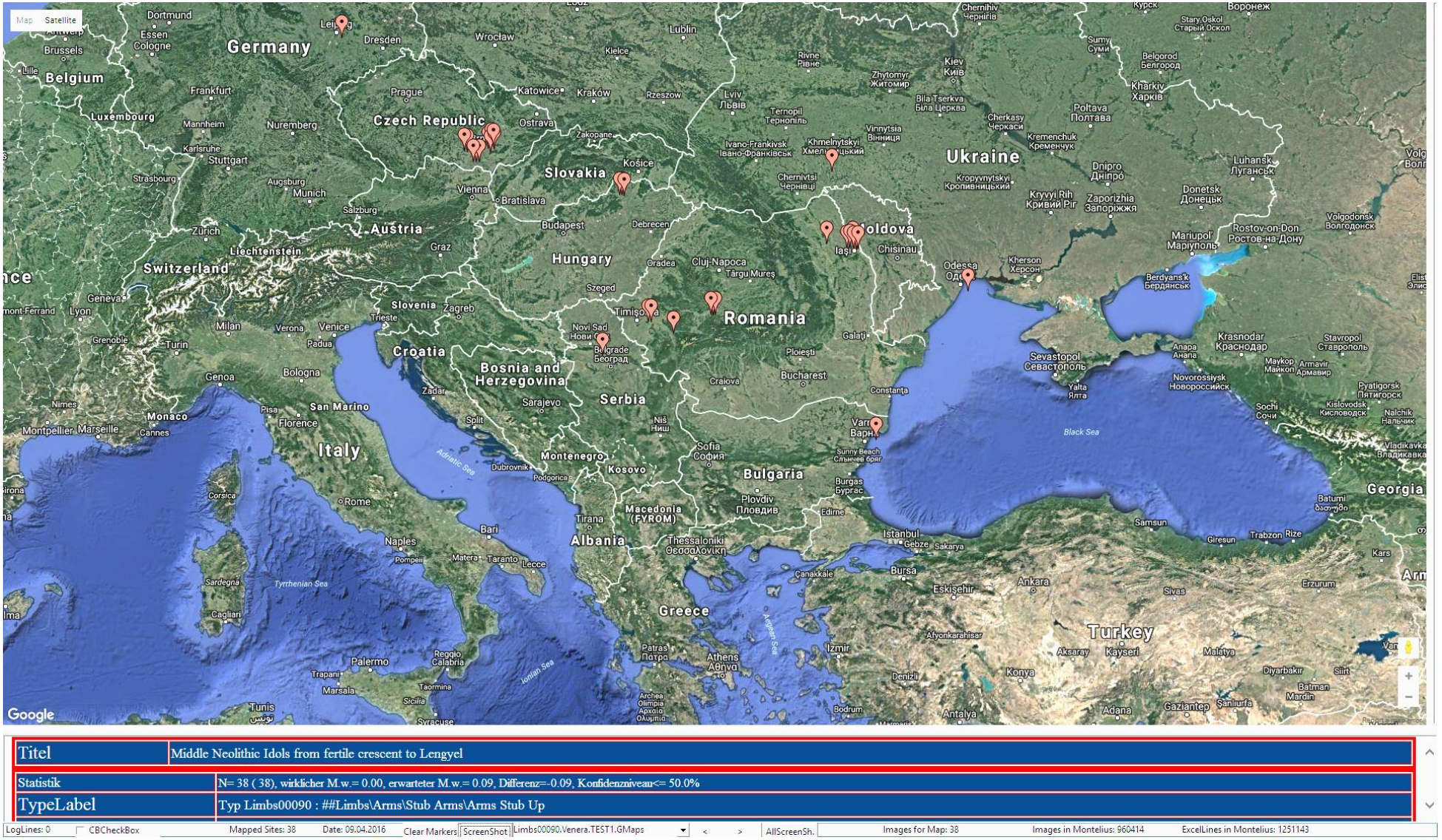
There are three Vădastra examples in southern Romania. 20 examples of Vinča occur in central and south-west Romania, two in western Romania, 17 throughout Serbia and nine in Kosovo. 22 general Chalcolithic are located in Bulgaria, split between its center and its eastern coast. 31 general late-Neolithic are scattered throughout Greece, with one example in Macedonia. One example of Angelci-Zelenikovo appears in Macedonia. One Precucuteni 02 appears in the Ukraine.

Second Half of the 5th Millennium BC:

Three Gumelniţa are in south-eastern Romania, three in the north eastern area, and five are generally located in Romania (not shown on map). 22 Cucuteni appear in the north-eastern corner of Romania and eight Tripolje are located in Ukraine. There are five examples of Petreşti clustered in central Romania. Four general late-Chalcolithic appear in south-western Bulgaria. There are four Rachmani in central Greece at the end of the millennium. One general Chalcolithic in central Hungary. The Lengyel, covering the whole time range, have five examples in Austria, 11 in the Czech Republic, and 13 in the north-western corner of Hungary.

Comments:

The arm styles were studied in regards to several different subsets of the stub point style. The stub point was a very popular arm style, covering most of the geographical range, likely due to its simplicity. It's also more likely to be preserved than other more complicated arm styles. A high concentration of this style occurred in Bulgaria, Romania, Serbia, Kosovo, and Greece, with one example reaching Ukraine in the north. The second half had continuation in Romania, Bulgaria and Greece (although Bulgaria and Greece have fewer examples) with a greater concentration in Ukraine. This may suggest some movement to the northeast, or merely an increase in popularity of the style in that region. Dependant on when the Lengyel sites occur, the style could be widespread to the northwest already, or a movement of this style to the northwest The high popularity may also be due to the simplicity in creating this style (easier than more complicated limbs, or the result of broken off limbs).



Titel	Middle Neolithic Idols from fertile crescent to Lengyel
Statistik	N= 38 (38), wirklicher M.w.= 0.00, erwarteter M.w.= 0.09, Differenz=-0.09, Konfidenzniveau<= 50.0%
TypeLabel	Typ Limbs00090 : ##Limbs\Arms\Stub Arms\Arms Stub Up

LogLines: 0 | CBCheckBox | Mapped Sites: 38 | Date: 09.04.2016 | Clear Markers | ScreenShot | Limbs00090.Venera.TEST1.GMaps | AllScreenSh. | Images for Map: 38 | Images in Montelius: 960414 | ExcelLines in Montelius: 1251143

Figure 47: Map of Stub Point Up Distribution

Limbs/Stub Point Up:

First Half of the 5th Millennium BC:

Six Vinča occur in western Romania and one example in Serbia. There is one Precucuteni 02 in the Ukraine (most southern example). One general Chalcolithic appears on the eastern coast of Bulgaria. There is also one Stichbandkeramik in Germany.

Second Half of the 5th Millennium BC:

There are 13 Cucuteni in western Romania and one in the north-eastern corner of Romania. One Tripolje occurs in the Ukraine (most northern example). Three general Chalcolithic occur in Hungary. Lengyel may cover the whole time period with ten examples in the Czech Republic.

Comments:

The stub point up style is a subset of the stub point, and is found mainly in the northern part of the geographical range, the most southern example occurring in northern Bulgaria. It reaches Ukraine in the east with a Germany example appearing in the west during the course of the first half and leading into the second half, with some Lengyel examples in Czech Republic and a few later in Hungary. There may be a push north in movement of this style, though the earlier German example may dissuade this suggestion.

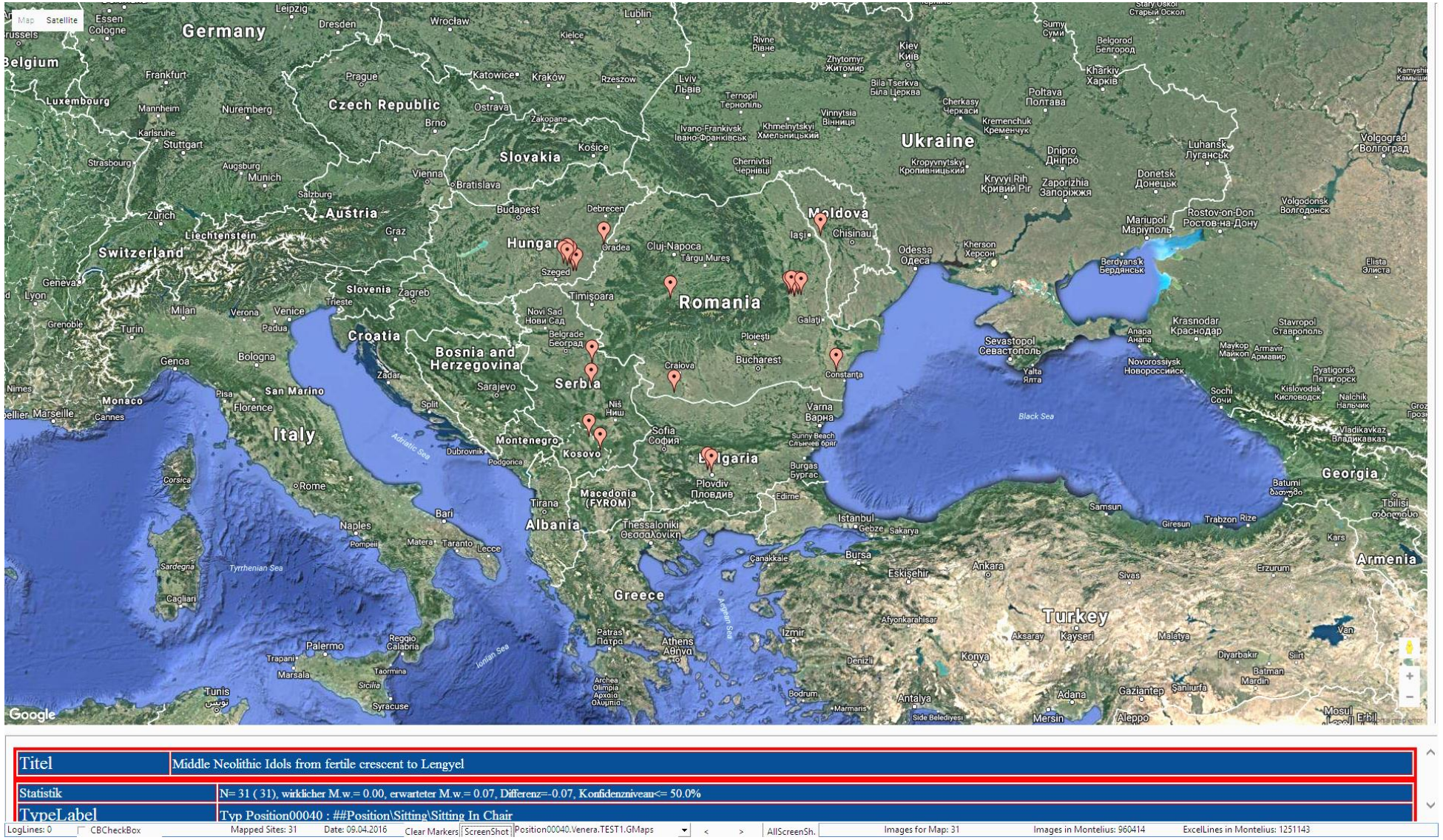


Figure 48: Map of Sitting in a Chair Distribution

Position/Sitting on a Chair:

First Half of the 5th Millennium BC:

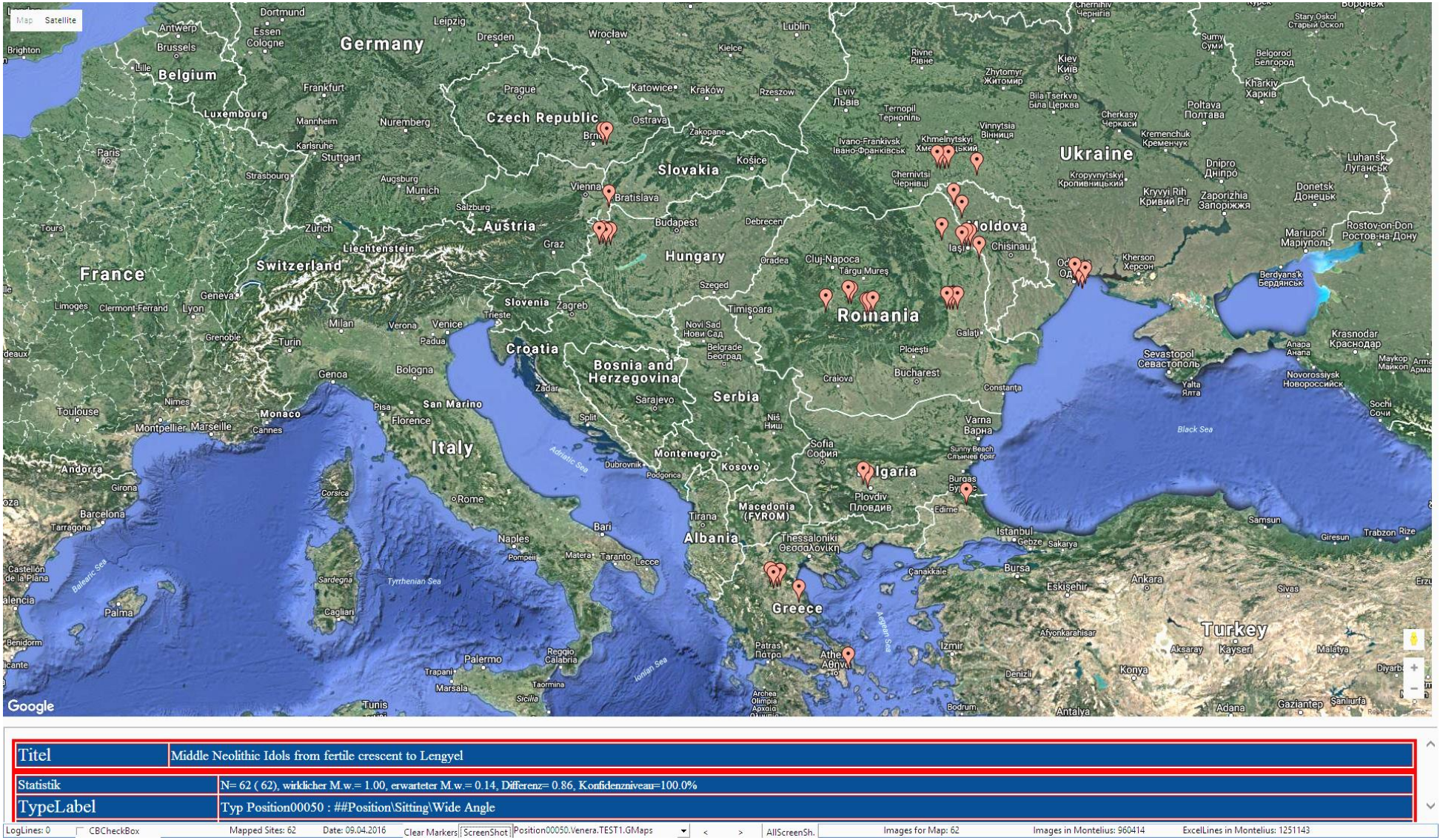
One Hamangia occurs on Romania's eastern coast. Five examples of the general Bulgarian Chalcolithic appear in central Bulgaria. Two examples of Vinča are located in Kosovo, two in Serbia and two in Romania, with one in the south and one in a central location. Ten examples of the Tisza culture are clustered in Hungary.

Second Half of the 5th Millennium BC:

11 examples of Cucuteni appear in eastern and north-eastern Romania.

Comments:

The figurine position and general shape have less chance of variation than limb or decoration styles, as the more natural figurines are limited by what the human body can do and the more abstract versions still require anthropomorphic recognisability. However, if focusing entirely on this style, then there appears to be general coverage over the region in the first half, with only Romania continuing on with any examples in the second half, suggesting a decrease in popularity everywhere but Romania.



Titel	Middle Neolithic Idols from fertile crescent to Lengyel
Statistik	N= 62 (62), wirklicher M.w.= 1.00, erwarteter M.w.= 0.14, Differenz= 0.86, Konfidenzniveau=100.0%
TypeLabel	Typ Position00050 : ##Position\Sitting\Wide Angle

LogLines: 0 | CBCheckBox | Mapped Sites: 62 | Date: 09.04.2016 | Clear Markers | ScreenShot | Position00050.Venera.TEST1.GMaps | < | > | AllScreenSh. | Images for Map: 62 | Images in Montelius: 960414 | ExcelLines in Montelius: 1251143

Figure 49: Map of Wide Angle Distribution

Position/Wide Angle:

First Half of the 5th Millennium BC:

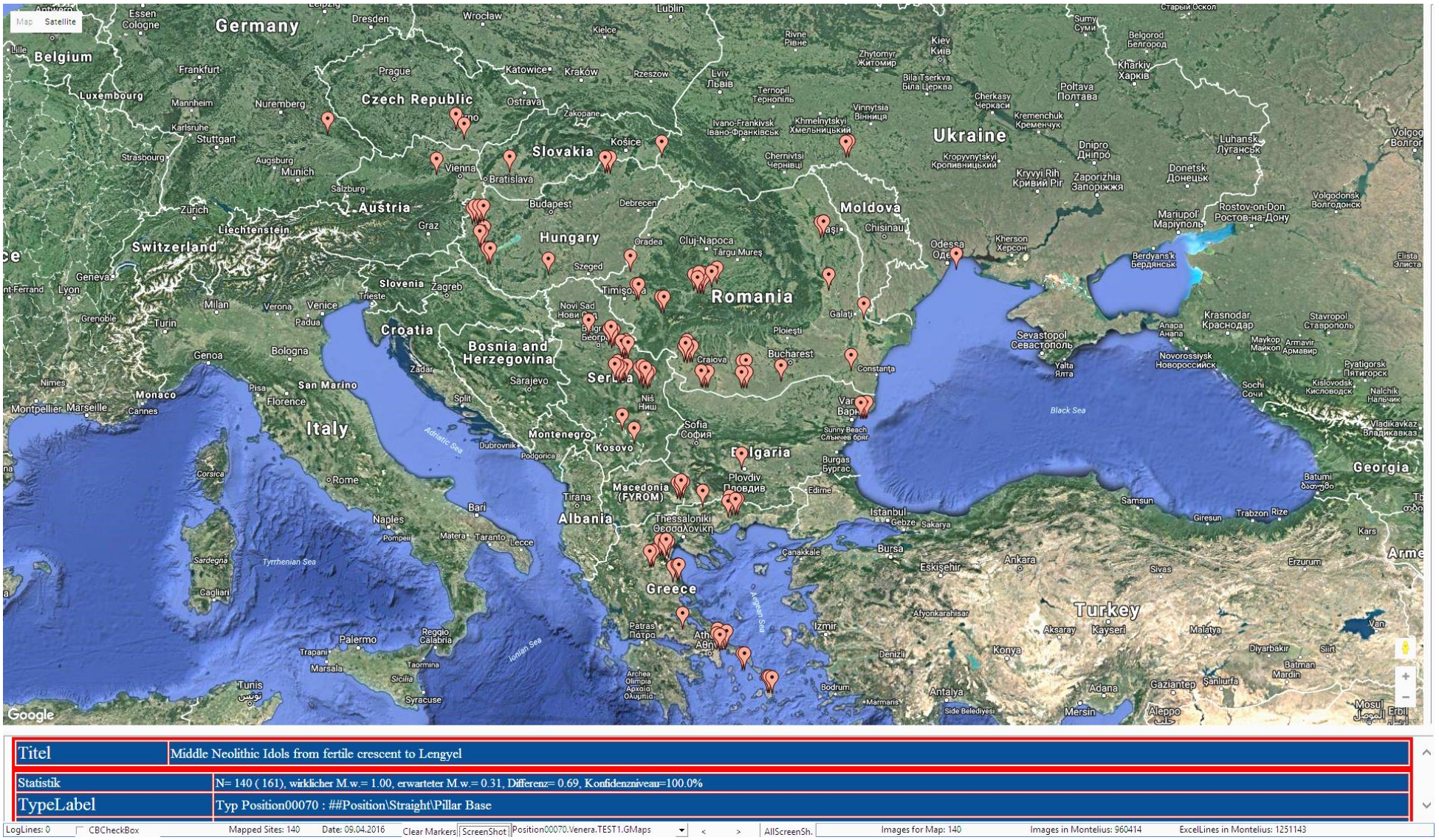
The 5th mil. BC is preceded with one example of early Chalcolithic in northern Turkey at the edge of Bulgaria and one middle Neolithic of southern Greece. There is one example of Vinča in central Romania and three general Chalcolithic in Bulgaria. Well into the first half, we have five late-Neolithic of northern Greece. There are five Precucuteni 02 in southern Ukraine and one in south-western Ukraine.

Second Half of the 5th Millennium BC:

Five Petrești occur in central Romania. For the Cucuteni culture, there are 20 examples in north eastern Romania. There is a cluster of eight Tripolje in western Ukraine. There is also one Rachmani in central Greece. Covering the whole time range, we have one Lengyel in Austria, two in Czech Republic and four in Hungary.

Comments:

The wide angle position appears before the 5th mil.BC already in southern Greece and the border between Turkey and Bulgaria, with Bulgarian and Romanian examples appearing in the first half, reaching all the way to Ukraine, where several examples occur. The second half sees a continuation of this pattern with a greater intensity in the northeast, suggesting some movement in that direction via more population movement or increased contact, or increased popularity of the style. The Lengyel culture occurs in Austria/Czech Republic/Hungary in a cluster and may suggest movement northwest or merely good general coverage over the whole geographical region. This suggests a general coverage of this style during the 5th, though very early examples do start closer to Turkey.



Titel	Middle Neolithic Idols from fertile crescent to Lengyel
Statistik	N= 140 (161), wirklicher M.w.= 1.00, erwarteter M.w.= 0.31, Differenz= 0.69, Konfidenzniveau=100.0%
TypeLabel	Typ Position00070 : ##Position\Straight\Pillar Base

LogLines: 0 | CBCheckBox | Mapped Sites: 140 | Date: 09.04.2016 | Clear Markers | ScreenShot | Position00070.Venera.TEST1.GMaps | < | > | AllScreenSh. | Images for Map: 140 | Images in Montelius: 960414 | ExcelLines in Montelius: 1251143

Figure 50: Map of Pillar Base Distribution

Position/Pillar Base:

First Half of the 5th Millennium BC:

We start with some very early examples; three general middle Neolithic of Greece appear in northern Greece. 11 Vădastra occur in southern Romania. One general Neolithic appears in southern Romania. 19 Vinča are located in western Romania, 31 scattered throughout Serbia, and two in Kosovo. One Boian example occurs in south-eastern Romania leading into the 5th mil. BC. Four examples of the general late-Neolithic appear in Macedonia, and 29 general late-Neolithic of Greece are scattered throughout Greece, from its north-eastern point all the way to its south. 23 general Chalcolithic are clustered on the eastern coast of Bulgaria and one in central Bulgaria. Three Precucuteni 02 examples show up in the Ukraine. One Tisza example appears in south-eastern Hungary.

Second Half of the 5th Millennium BC:

One Gumelniţa appears in the south-east and one in the north-east of Romania, as well as two unmapped examples generally located in Romania. Two Gumelniţa examples also appear on the eastern coast of Bulgaria. One Petreşti appears in central Romania and three Cucuteni examples occur in north-eastern Romania. One general late-Chalcolithic occurs in south-western Bulgaria. Two general end-Neolithic appear in northern Greece. One Tiszapolgár is in eastern Slovakia. One Münchshöfen example occurs in Germany and one Furchenstich-Bajč-Retz in Slovakia, with three in western Hungary. We also have four Rachmani in central Greece at the tail end of the 5th mil. BC. Three general Chalcolithic occur in northern Hungary and two in eastern Hungary. Two examples of Lengyel, which covers the whole time range, appear in the Czech Republic, with one in Austria, and eight in western Hungary.

Comments:

The pillar base is very popular and evenly distributed, likely due to the ease and simplicity of the style. The earliest styles appear in northern Greece, though the first half sees a wide range from Greece to Ukraine and to Hungary in the west. This continues into the second half with a few more examples appearing in the west, though there is not much suggestion for movement.

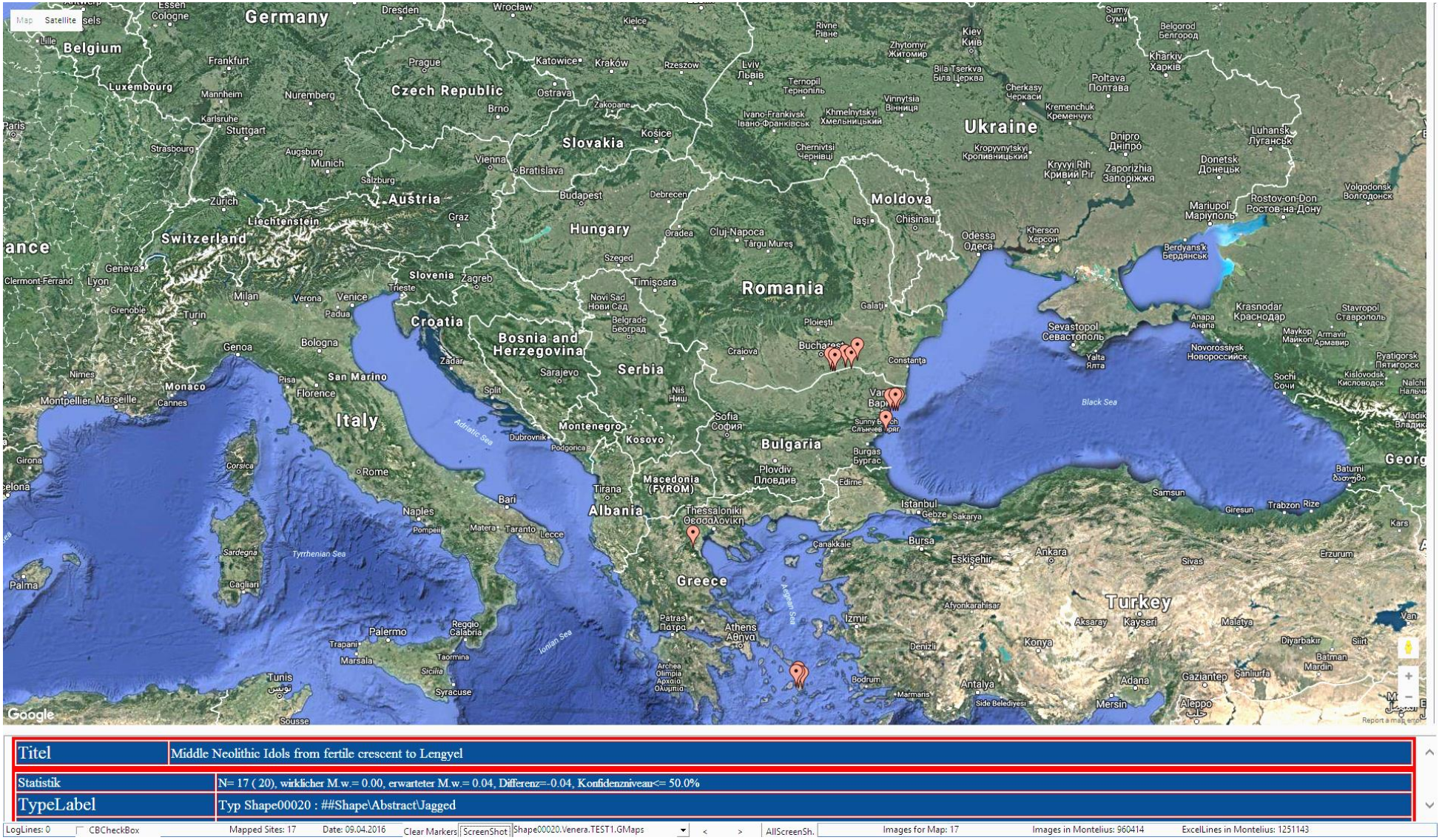


Figure 51: Map of Jagged Distribution

Shape/Jagged:

First Half of the 5th Millennium BC:

The examples located in Greece, including both the most southern cluster and singular more northern example, are listed as late Neolithic. There are several general Chalcolithic examples occurring in northern Bulgaria.

Second Half of the 5th Millennium BC:

The Gumelniţa culture occurs in a cluster (9) in south-eastern Romania. There are also a few examples from the late Chalcolithic of Bulgaria (2). There are a few examples listed as general Chalcolithic (3) occurring in south-eastern Romania, though it could cover both the first and second half.

Comments:

The jagged shape (or schematic) starts in the south of Greece and reaches Bulgaria and (possibly) Romania in the first half. The second half demonstrates a few more examples in Bulgaria and (possibly) Romania, but not Greece. The lack of examples in Greece during the second half suggest that it was popular there earlier and for longer before dying out in the second half, assuming there are no missing examples. There may be a slight push northwards into Romania if the general Chalcolithic examples are closer to the second half than the first half.

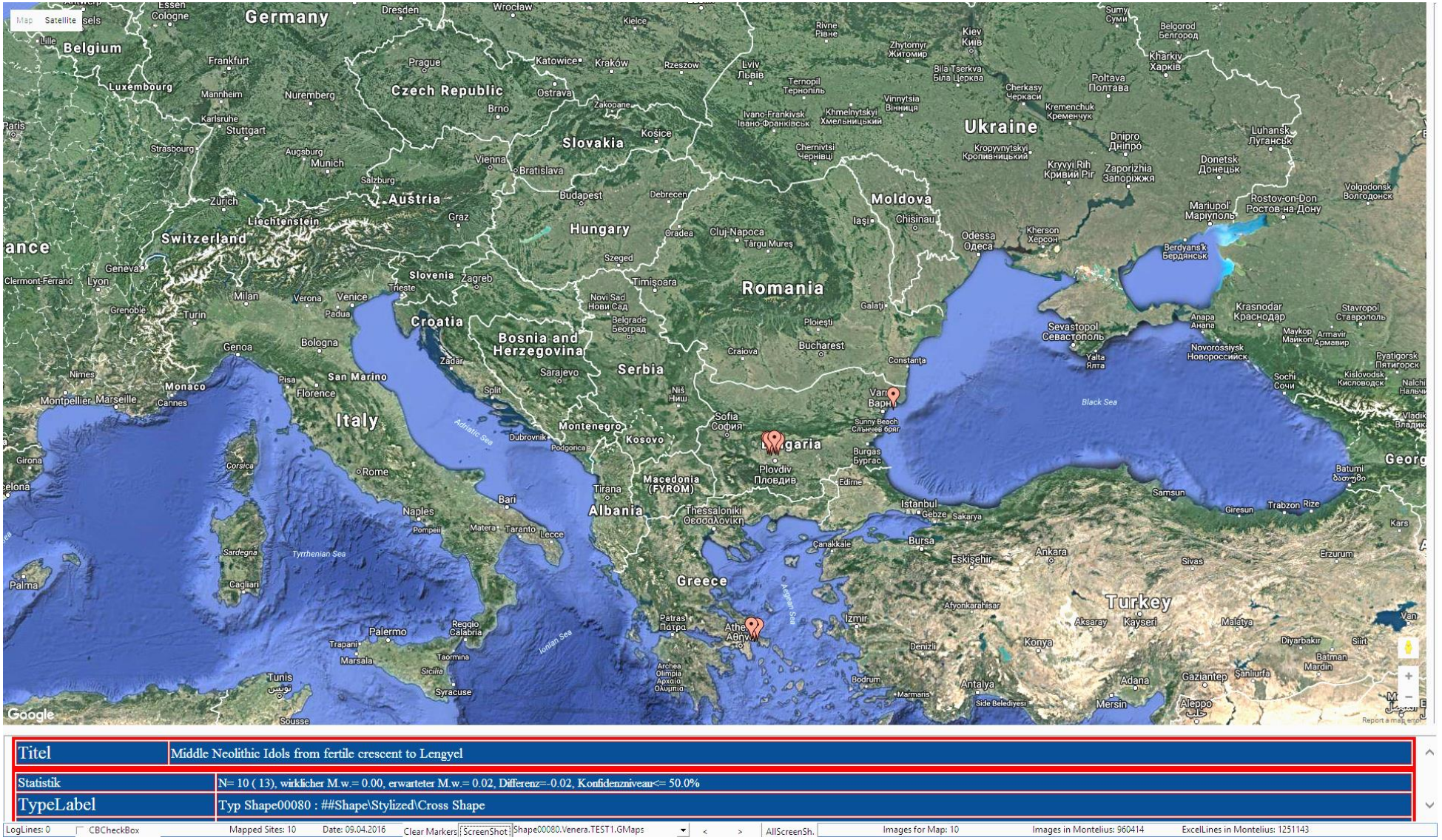


Figure 52: Map of Cross Shape Distribution

Shape/Cross Shape:

First Half of the 5th Millennium BC:

Three general late-Neolithic of Greece occur in a small cluster in Greece. Another cluster appears in central Bulgaria (6) during its general Chalcolithic period with an additional example on the Black Sea coast.

Second Half of the 5th Millennium BC:

The cluster in Greece also has three examples attributed to the Rachmani culture.

Comments:

The jagged shape is comparable to the cross shape, which clusters in Greece and Bulgaria in the first half. Only a few examples continue in Greece in the second half. This style seems to have died out in the north and is relatively contained to a small area during the 5th mil. BC.

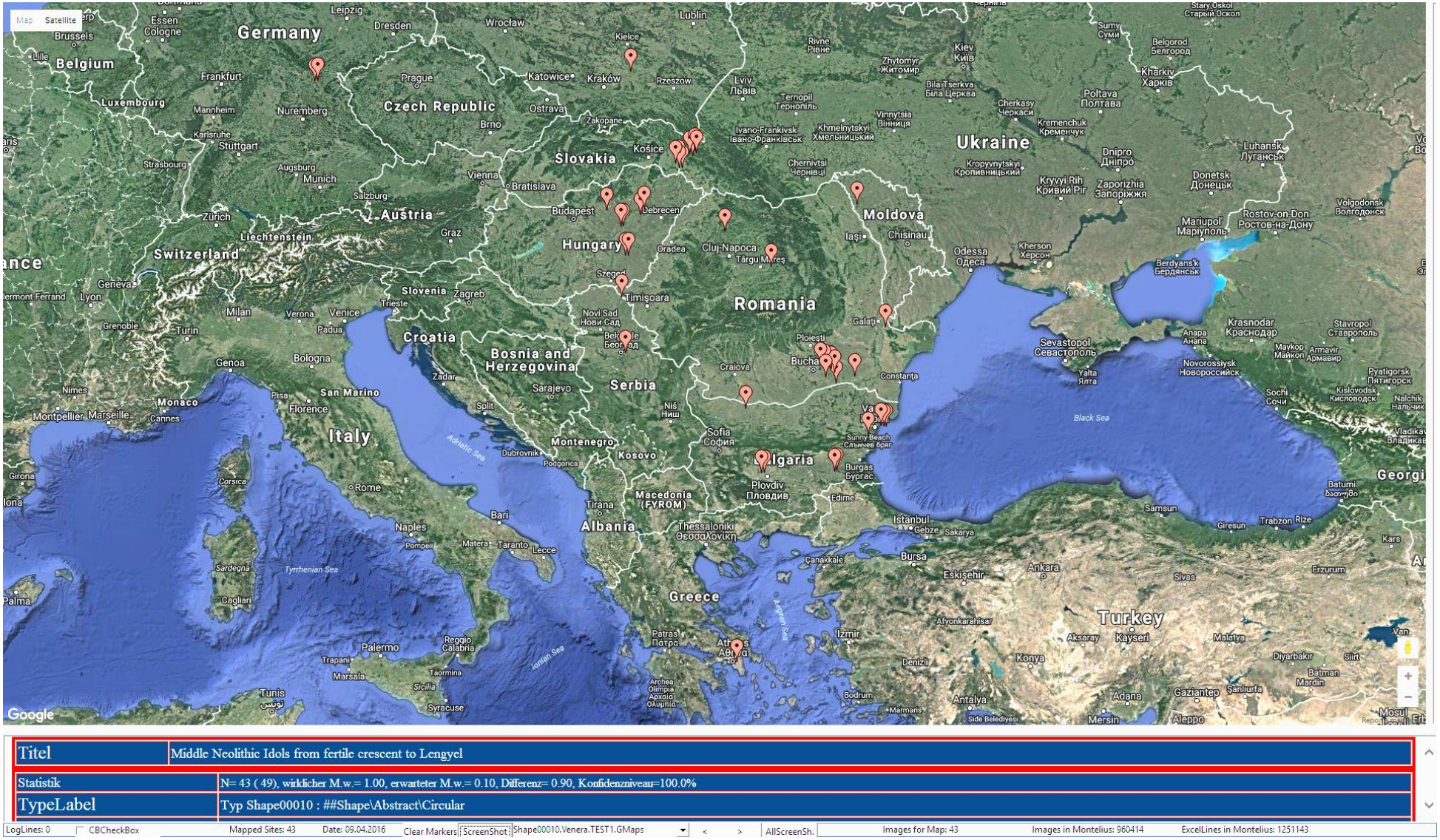


Figure 53: Map of Circular Distribution

Shape/Circular:

First Half of the 5th Millennium BC:
Five Boian occur in south-eastern Romania and one general Chalcolithic appears on the eastern coast of Bulgaria.

Second Half of the 5th Millennium BC:
Six general late-Chalcolithic appear on the eastern coast of Bulgaria, four in the eastern half, four in its center, and two generally located in Bulgaria (not on the map). One Gumelniţa example appears in south-eastern Romania. Tiszapolgár is well-represented with one example in northern Serbia, eight in eastern Hungary, several scattered throughout Romania, including the south-east (2), the north (3) and in the north-east (1) of Romania, nine clustered together in eastern Slovakia, and seven examples in Greece (six are not on the map). The period ends with two Bodrogkeresztúr clustered together in northern Romania. One Bronocice example well after our period reaches all the way up to Poland. Two general late-Neolithic occur in Germany. Two general Chalcolithic appear in northern Serbia, though they could fit into either the first or second half.

Comments:
A few examples of the circular shape appear in Romania and Bulgaria in the first half, and then explodes outward to Serbia, Germany and Hungary to the east, Greece to the south and Poland in the north. This style seems to clearly suggest movement, with an origin in Romania and Bulgaria during the 5th mil. BC.

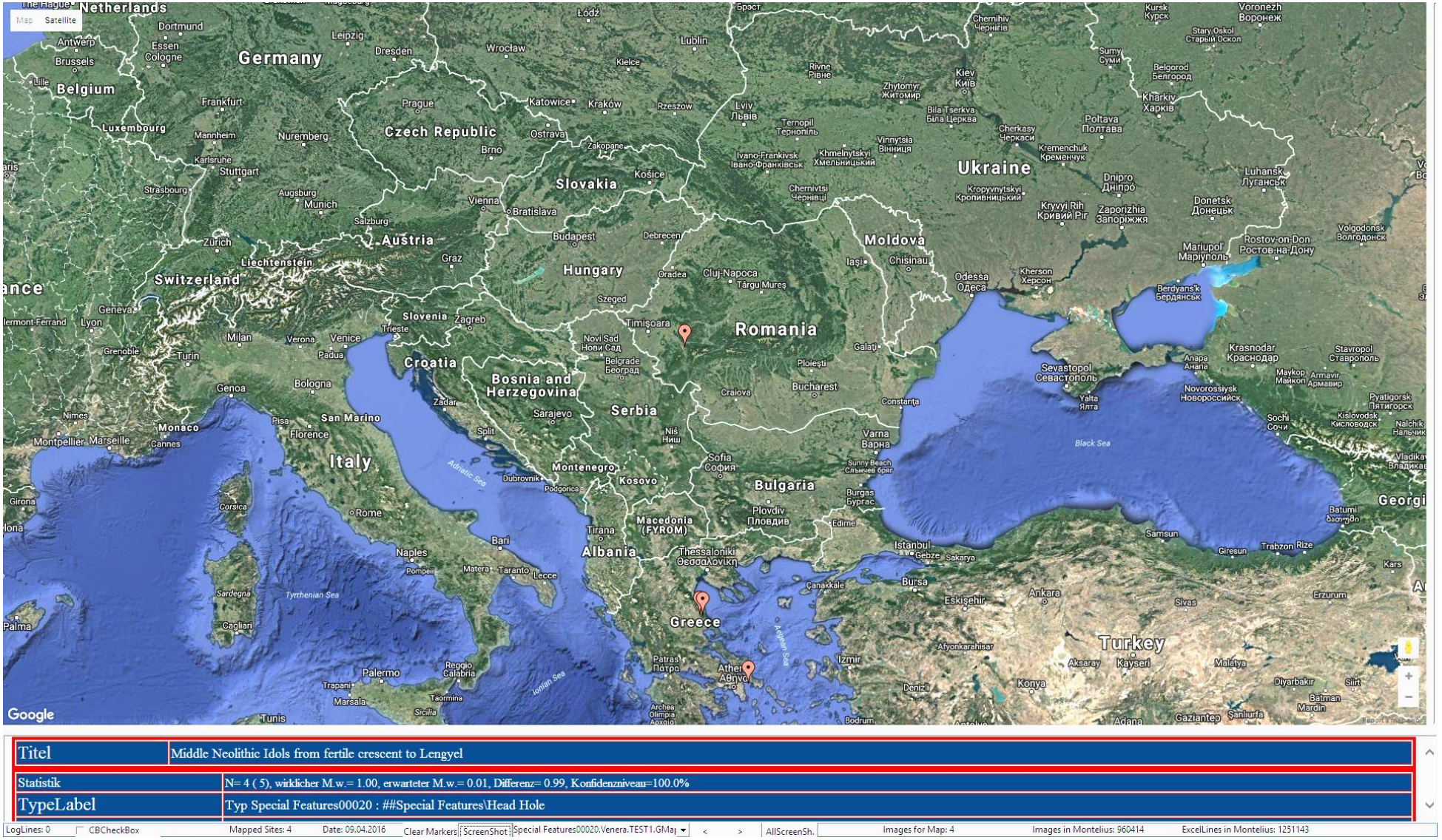


Figure 54: Map of Head Hole Distribution

Special Features/Head Hole:

First Half of the 5th Millennium BC:
One example appears in western Romania during the Vinča period. Three occur during the general late-Neolithic of Greece.

Second Half of the 5th Millennium BC:
One much later example occurs in Greece attributed to the Rachmani culture, which is leading out of our time range at the beginning of the 4th Millennium BC.

Comments:
The special features have much smaller distributions. The head hole appears mainly in Greece in the first half with one Romanian example, and continues with one example in the second half in Greece. This style did not seem to be popular in the 5th mil.BC and does not suggest any movement of this idea or a population bringing this style.

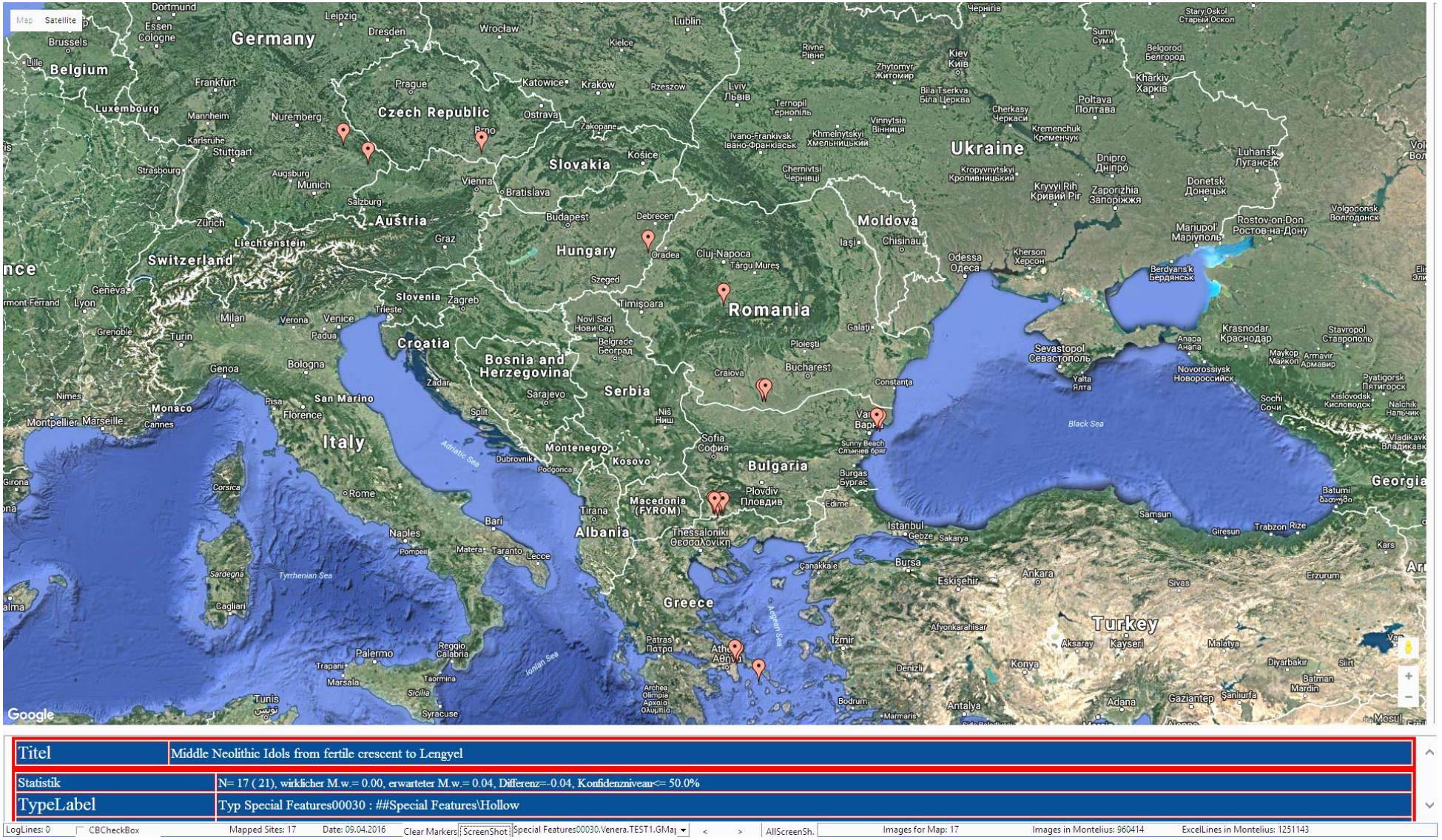


Figure 55: Map of Hollow Distribution

Special Features/Hollow:

First Half of the 5th Millennium BC:

Two Vădastra start off in southern Romania. Three general late-Neolithic occur in Greece. One Tisza appears in Hungary with one Turdaş in central Romania. Four general Chalcolithic are located in eastern Bulgaria. There is one Gumelniţa in central Bulgaria. One Stichbandkeramik in appears in Germany, reaching into the second half.

Second Half of the 5th Millennium BC:

There are nine general late-Chalcolithic in Bulgaria. One Münchshöfen appears in Germany in the more northern Germany point located on the map. A Lengyel example, covering the whole time period, makes its way to the Czech Republic.

Comments:

The hollow figurines appear in Greece, Bulgaria and Romania in the first half, stretching over to Germany in the west during the change over into the second half. An intensity of Bulgarian examples occurs in the second half with another German example stretching a bit further to the north west. There may be some movement to the north-west, although, depending on when the Lengyel example falls, this may just be a reflection of the increased intensity of the second half. However, due to the attempted exclusion of anthropomorphic vessels in order to focus entirely on the idols, there may be many examples of this category that was pulled out of the dataset, or some anthropomorphic vessels that remained. It may be that anthropomorphic vessels have strong connections to idols, or at least some interconnected meaning with female idols (previously mentioned in the Meaning chapter in Idol Specifics) in some regions and should be regularly included in idol studies.

Summary Comments on Results:

In general, the presence/absence of the mentioned body characteristics seem to be well distributed over the range, with only a few examples extending further to the northwest or northeast (eg. Steatopygia figures, presence/absence of male/female sexual characteristics etc.). This could mean that these characteristics are common and popular to include in figurine making, made either autonomously of each other or spreading very quickly and remaining popular over time. Thus these typological classifications may be less reliable than other more stylized characteristics, which are more likely to display movement.

The range of style movement that occurs most frequently is the movement of the style into the northeast and northwest, often occurring in the second half. Greece is a very popular location in the first half of the 5th mil.BC., with the second half often enjoying a continuation of style usage. Thus Greece seems to have a large amount of variety in regards to style characteristics. This may be related to its location, acting as a bottleneck of movement between Anatolia and the European continent, the suggested path for the original Neolithic expansion. Bulgaria and Romania often have large clusters of styles in the first half, that increase in intensity or experience more examples in a north-eastern direction during the second half. Ukraine sometimes has a few examples in the first half, depending on the intensity in Romania, though usually additional examples appear in the second half. This may perhaps suggest a movement along the Black Sea coast, not necessarily always originating in Anatolia, perhaps spreading out from Romania. The Czech Republic and Hungary often have examples clustered together, especially in regards to the Lengyel culture and either have examples in the first half already, or will have examples in the second half, suggesting that the latter case may be due to movement from the east to the west.

Recommendations:

In regards to the results of the study: the examples on the edge of the geographical range are more suspect to representing any sort of migration pattern (eg. Poland, Germany), as they have only a few examples included into the dataset. This was due to selection decisions by the author during the creation of the idol characteristics dataset for the 5th mil. BC in order to limit the scope of the study. Further spatial analysis focusing on these regions would support any conclusions made regarding movement of idol characteristics into these regions or perhaps a larger and more intense project with a larger range. There may also be examples from sites that have not yet been input into the database and were thus not available for selection. Further additions into Image Database Montelius would add significantly to the accuracy of the results.

Regarding spatial analysis studies themselves: these types of studies or any that include cross-comparisons between different regions would significantly benefit from a more standard use of absolute carbon dates as the primary dating source in the organization of cultural groups with references to specific objects and sites, rather than the reliance on relative methods. The relative methods are important but should be secondary regarding cross-cultural or larger geographic analyses, especially in consideration of the difficulty involved in the classification process (such as the complex Neolithic package). Greater effort should be made to include absolute dating methods to be standardized and more frequently obtained in excavation, which often requires more funding.

Conclusion:

During the 5th Millennium BC, there were complex relations regarding idol characteristic distribution from the geographical range of the Balkans and the surrounding countries; however, some patterns were detected. Some characteristics appeared earlier in the south (ancient Anatolia) and appeared to spread northwards, while some characteristics appeared evenly distributed or unmoving during the whole of the 5th mil. BC; this demonstrates some movement while at the same time suggests the presence of large groups of unmoving populations. This reflects the complexity of tracking population migrations or the cultural diffusion of ideas. Many of the examples showed some minor extension northward to the Ukraine or westward to Germany in the second half and there is even evidence of characteristics moving southward to Greece in the second half of the 5th mil. BC. This does suggest that there is some cultural diffusion or migration occurring, with a more common push into the northeast and northwest. This may be used as support for the continued movement of ideas or people following the wake of the Neolithic cultural revolution expanding out of ancient Anatolia. Such movement was not only bringing technological advancements, but also other ideas that may reflect political or ideological developments originating in or travelling through ancient Anatolia and the Balkan region. The fact that idols may have different meanings and uses according to different regions, in addition to the movement of idol characteristics, suggest a mixing of ideas and uses with no one singular interpretation of the idols being relevant for all groups, even ones remaining stationary in a single geographic location over time. It is apparent that the Neolithic-Chalcolithic periods involved complex processes that require further study. Such study would be benefitted by further chronological and spatial analysis and the use of absolute dating as a general practice in cultural group discussions and comparisons.

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Appendix:

Cultures Used:

Angelci-Zelenikovo
Balaton-Lasinja
Bodrogkeresztúr
Boian
Bronocice
Cucuteni
Furchenstich-Bajč-Retz
Gumelnița
Hamangia
Hunyadihalom
Lengyel
Münchshöfen
Petrești
Precucuteni 02
Rachmani/Rakhmani
Stichbandkeramik
Tisza
Tiszapolgár
Tripolje
Turdaş
Vădastra
Varna
Vinča

Cultural Periods Used:

Neolithic
Middle Neolithic
Late Neolithic
End-Neolithic
Chalcolithic
Early Chalcolithic
Late Chalcolithic