
*Est in agris: a spatial analysis of Roman *uillae* in the region of Monforte, Alto Alentejo, Portugal*¹

MAIA M. LANGLEY²

A B S T R A C T

This paper presents new sites located during the COMONPH project in the region of Monforte, Portugal and deals specifically with those sites believed to be *uillae* from the period of Roman occupation in this area of Lusitania. Using GIS applications, and references from Livy and Vitruvius, the settlement patterns and land distribution of the *latifundia* will be explored as well as some observations made regarding view shed and wind shed analyses and the divvying up of arable versus non arable lands during the Roman centuriation process.

R E S U M O

Este trabalho apresenta novos sítios identificados pelo projecto COMONPH, na região de Monforte, abordando apenas aqueles que se acredita corresponder a *uillae* existentes durante o período romano nesta área da Lusitânia. Para tal, utiliza-se aplicações de SIG e referências de Lívio e Vitrúvio, no intuito de compreender os padrões de povoamento e dispersão dos *latifundia*. Fazem-se ainda alguns comentários sobre a intervisibilidade das *uillae* e a sua posição face ao regime dos ventos, bem como acerca do processo de distribuição de terras aráveis e não aráveis na centurição romana.

Aim of study

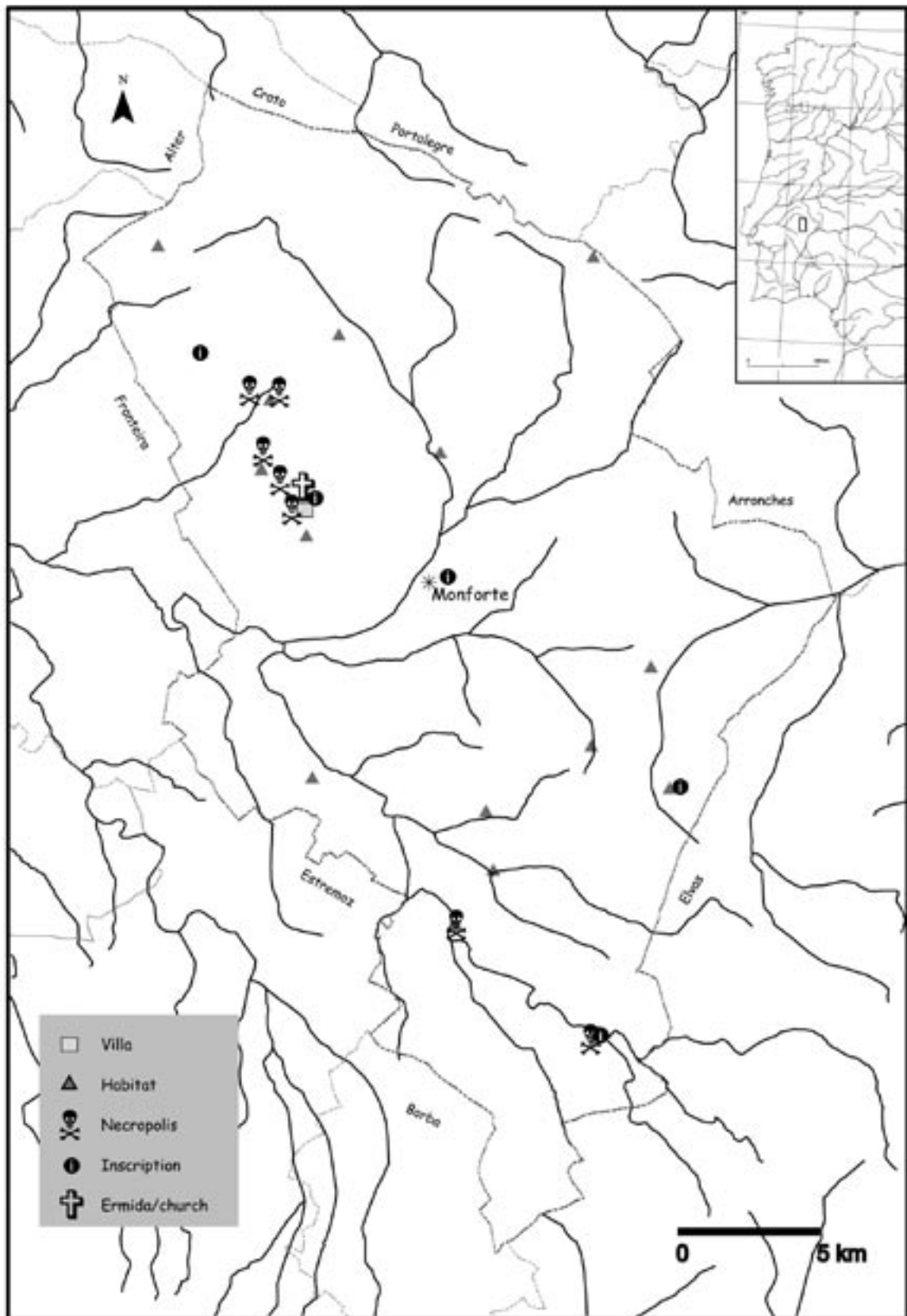
The aim of this study was to utilize GIS applications in order to assess the spatial analysis and location patterns of Roman sites represented in the catalogued material collected during field surveying in the area of Monforte, Alto Alentejo, Portugal. Various campaigns of field surveying were conducted by Rui Boaventura and Carla Lopes under the project heading “*As Comunidades Pré-Históricas dos 4.º-3.º Milénios na Região de Monforte*”, COMONPH (Lopes e Boaventura, 1997) and later by the author. In addition, the authoritative sources were consulted as well as the database of

Endovélico³ in evaluating previously published sites in this area⁴. The findings from these campaigns have revealed a dense area of sites in an area that had been, from a lack of physical evidence, believed to be sparsely inhabited during the Roman period. This paper will deal specifically with those new sites that are believed to be *uillae* and include a discussion of their spatial relationship with each other as well as their relationship with those areas where no *uillae* were detected. In general, this area was chosen as it is home to the Roman *uilla* of Torre de Palma, which is the subject of the forthcoming dissertation by the author⁵. The elucidation of sites in this area may serve further studies regarding the major and minor *uia*e, trade routes, chronological analysis and population density in this area.

Torre de Palma and its known archaeological environs

The site of Torre de Palma is situated between the town of Vaiamonte and the county seat of Monforte. The site itself was not always referred to as Palma, as its current name comes from the modern-day farm to which it belongs, Herdade de Palma. Before this name, the church ruins that existed here since the 12th century was called São Domingos, and the lands that covered the remaining ruins around were referred to as *Lameiras*⁶. It is likely that this designation was given to an area known to be muddy, which resulted from erosion that occurred somewhere between the Roman and Medieval period from the two major limestone hills, called Capela, located just above and east-northeast of the site (Clarke, 1992; Boaventura, 2001, p. 36-37). Rains added to the unusually high water table level in this area, and given that the ruins are embedded mid-slope and at the base of the mentioned hills, the architectural ruins that rested just centimeters under the surface probably pooled the waters. Mentioning this phenomenon is important because it explains the name and the level of preservation of the archaeological remains, namely the osteological remains.

Adding to the information above, recent access to the notes of M. Heleno and J. L. da Silva (AMH-MNA), allowed for the clarification of the whereabouts of *Lameiras* and has been presented in another article (Boaventura e Banha, in print). *Lameiras*, presumed to be a *uilla* because of the mention of discovered mosaics, was publicly referred to for the first time by J. Machado (1964, p. 103), citing the works of M. Heleno in Monforte, in the year of 1951, and declaring that besides Palma and Cabeça de Vaiamonte, “he made an inquiry about new mosaics in that region (*Lameiras*)”⁷. This reference was then repeated by other authors, such as J. Alarcão (1988, p. 6/145) e J. Lancha e P. André (2000, p. 32). In the notebook number 3 of M. Heleno, dated of 1947-1948 about Torre de Palma, this author refers to “S. Domingos de Torre de Palma (ou *Lameira* de S. Domingos)” (AMH-MNA), making note that the *uilla* was situated in the place “called *Lameira*”⁸. In fact, before the emergence of this undisputable register, the known toponymy seemed to match with numerous personal interviews obtained from locals (namely João Peixe, father) who had worked in the 1950’s and 60’s at the excavations of Torre de Palma and other sites in this vicinity. During these interviews, the mosaics from “*Lameira/s*” and “Torre de Palma” were used interchangeably. That is, they are the same site. Moreover, there was no knowledge of any other site, or existence of mosaics, in this vicinity. Possibly, the first designation that M. Heleno had for the site was *Lameira/s*, which J. Machado, a then apprentice at the *Museu Nacional de Arqueologia* under the directorship of M. Heleno, had learned about and divulged later on in his publication. But, considering the importance that the site gained, it was altered to a more suitable name, Torre de Palma, the name of the modern day estate. Unfortunately, J. Machado probably never understood the connection between the two references and reported them as separate sites with mosaics in this area.



Map 1 Sites and finds known to exist before COMONPH, 1995.

Finally, since extensive surveying has been conducted in this area with no other mosaics coming to light (much less vestiges of *uilla* ruins) and since the ruins of Lameiras are one and the same as Torre de Palma, this reference should be dismissed as a separate archaeological site.

Within the near vicinity of Torre de Palma, the Roman sites of Cabeça de Vaia Monte, Pombal, Manteigas, Pocilgais, Sampão, Reguengo 2, Boa Vista and Cabeça Gorda had been previously excavated or referred to by M. Heleno (1962, p. 314). These sites and an additional nine sites that had been previously published by researchers (Alarcão, 1988, p. 150-153) were considered in this spatial analysis of the area. Of these sites, only Torre de Palma was known to be a *uilla*. It must be noted that J.-G. Gorges (1979) refers to two additional *uillae* that exist in the “proximité” of Torre de Palma. Both the “Monte do Pombal” and “Herdade do Palmeiro” are enumerated as *uilla* citing a publication by J. Machado as the source (Gorges, 1979, PC26-27). However, after reading this text for clarification, it is apparent that J. Gorges was misled by the original text that refers to Pombal and Palmeiro as *uillae* (Machado, 1965, p. 117). Another work published more recently by J. Lancha and P. André (2000, p. 31-33) refers to the existence of five *uillae* within the proximity of Torre de Palma. Given that this work depended upon the publications of J.-G. Gorges (1979) and J. Alarcão (1988), whose works are sometimes misrepresented in J. Lancha and P. André’s discussion of Roman *uillae* around Palma, the classification of some sites as *uillae* needs to be scrutinized and dismissed. This problem will be dealt with in a forthcoming publication. That being stated, and given that within several kilometers radius of the modern day township of Monforte, only one *uilla* was clearly known to exist and the representation of *uillae* in this area presented a picture of low demographics or one *latifundium* that was controlling a massive tract of land (Map 1).

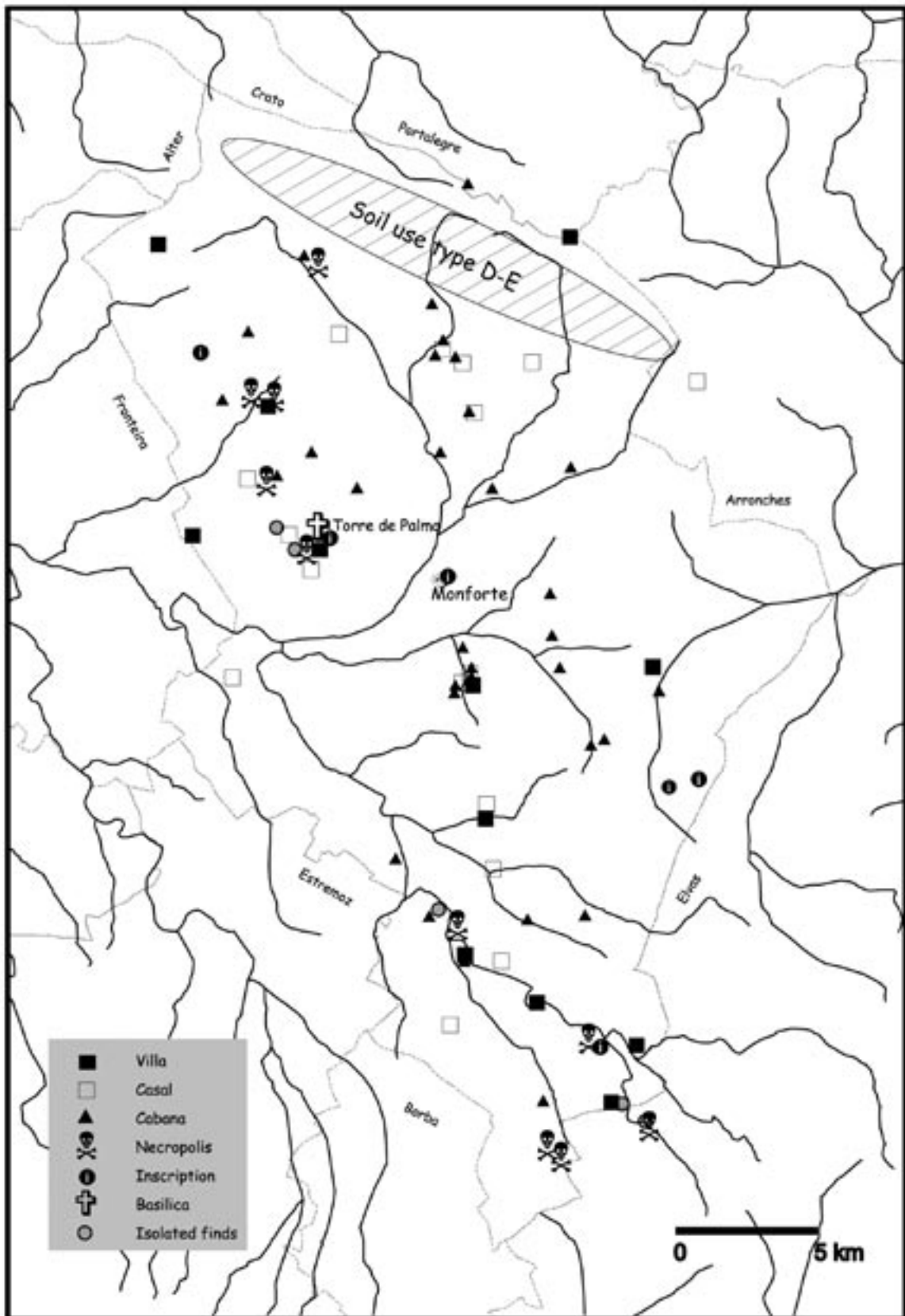
In the case of Torre de Palma, few sites exist in Portugal which are more shrouded in myth and have suffered through more years of excavations with fewer publications (Heleno, 1962; Maloney, 1999-2000a, 1999-2000b; Lancha and André, 2000). Nearly 55 years of intermittent campaigns at this archaeological site have left it over-exposed and possibly over-emphasized in the archaeological record. As no other sites in this area have been excavated to such an extent as Palma, there has been a tendency to accept that during centuries of habitation this *uilla* was relatively isolated only because it appears so today. This may have led to such suppositions that the site of Palma had been the unlocated site of “*Masussaria*” (Saa, 1956, p. 182-188).

The new data

From the material collected during the thorough and systematic survey of this area, there now exists a wealth of raw data of unmapped sites that had, prior to this work, not been considered in the evaluation of this area of Lusitania. These newly identified sites bring up a number of questions concerning population density, interrelationships between *uillae* and dependencies, as well as the issue of centuriation and land grants given in this area. In order to understand the role that the “isolation myth” of Torre de Palma has played in this area, it is necessary to reconsider the evidence that presented Palma as a relatively insulated *uilla* — one that endured for nearly six centuries.

Methodology of site classifications

From the 350 sites identified during the project of COMONPH, nearly a third of these were classified as Roman (Romanized, early, late, etc.) (Map 2). When determining the typology of these



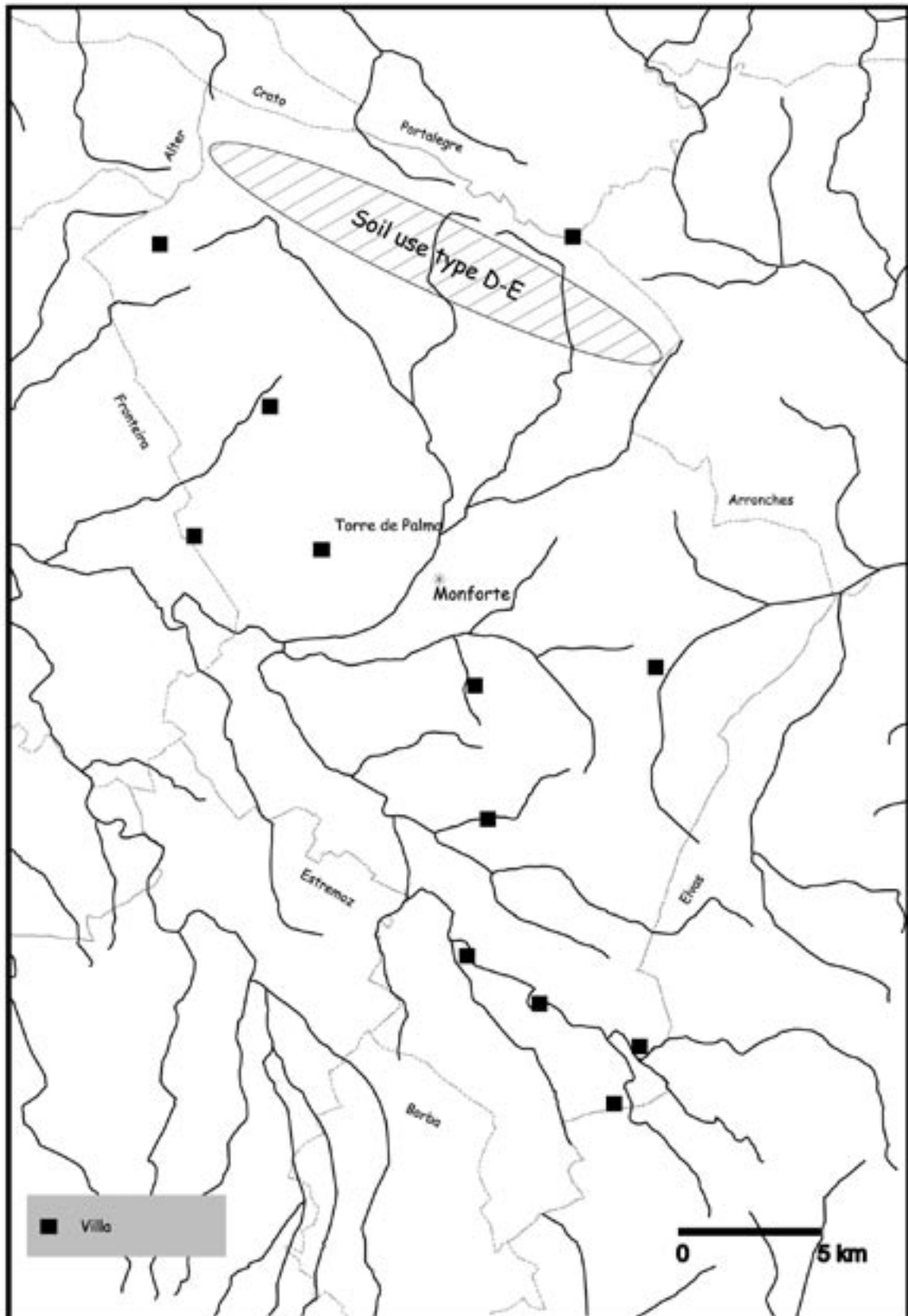
Map 2 Sites and finds located during and after COMONPH.

recently identified sites, and taking into consideration the methodologies used by other researchers (Alarcão, 1998; Almeida, 2000) in this geographical area, these classification categories were implemented: a site was considered a *uilla* based on its location and if the surface finds covered over 800 m². The existence of luxury goods, such as fine wares, and architectural materials, such as marble, mosaics and frescoes, were also considered. A site was designated as a *casal* based on a surface area of greater than 400 m² but less than 800 m² and quality of surface finds and evidence of opus flooring were taken into consideration. Sites with less than 400 m² were labeled as *cabanas* and usually consisted of surface finds of building materials and commonware ceramics. When the vestiges were not abundant or it was unclear if the site was a habitat, work area, or back-filled/secondary deposits, the site was labeled unknown. *Necropoleis*, *miliaria*, and inscriptions were also located during the survey and will be dealt with more thoroughly in a forthcoming publication. As mentioned before, these designations were assigned based on those expressed by other archaeologists, as well as the average size of *uillae*, *casais* and dependencies already known to exist in this area.

Distribution of *uillae* and various “shed” analyses

In addition to the site of Torre de Palma, and to those sites that had been located but never classified as a *uilla*, another eight *uillae* were identified during field surveying and analysis. Using Arc View to project the locations, the distances between the *uillae* appear fairly regular and triangulated (Map 3). Although many of the *uillae* appear near rivers or important watersheds (as at Torre de Palma), the location for the sites do not appear to have been chosen merely for their proximity to water resources. Many of the *uillae* in this area were imbedded mid-slope (eight of ten) in areas of type A/B soils, as is commonly found in other areas of Lusitania. What is curious about the locations is that when plotted on a map, the distances between them are fairly regular with a mean of 5,6 km (Chart 1). Interestingly, of the *uillae* that are situated mid-slope, all are exposed to the dominant north winds (that exist today). Taking into consideration what we know about windsheds in this area, it is clear that a breeze running from northwest to south would have been a strategic way of keeping the industrial areas of the *uilla* from polluting the domestic quarters by diverting foul smells and smoke. In the case of Torre de Palma, where an olive press and possible wine press were just meters away from the *pars urbana* and sheltered by other building complexes, this feature would have saved the inhabitants of the entire *uilla* from the overbearing smell that is associated with olive oil production centers today. For instance, in the Alto Alentejo, the olive oil factories of Santo Amaro and Crato can be smelled approximately 1 to 1,5 km away, sometimes more depending on the wind. In addition, and possibly more importantly, having a constant breeze would serve to keep the site cool during the hot summer months. Such a layout would have been agreeable to Vitruvius if we take into consideration his recommendation that “while a western exposure grows warm after sunrise, is hot at noon, and at evening all aglow” (Vitruvius, Book 1, Chapter 6).

On a final note concerning shed analyses, many of the *uillae* appear to be located on slopes that command a view of wide open plains areas (such as Torre de Palma). Although no proper viewshed analysis has been conducted to date, it can be safely stated that the majority of the *uilla* have up to 210° (in some cases more, some cases less) of visibility. This does not suggest that the lands that were visible necessarily belonged to each *uilla*, but rather that the commanding view itself was important. It should be noted that there appears to have been no intervisibility between *uillae* and that this does not seem to have been of great importance in choosing site locations.



Map 3 *Villa* sites in the township of Monforte, Portugal.

Chart 1. Mean distances of *uillae* in the area of Monforte.

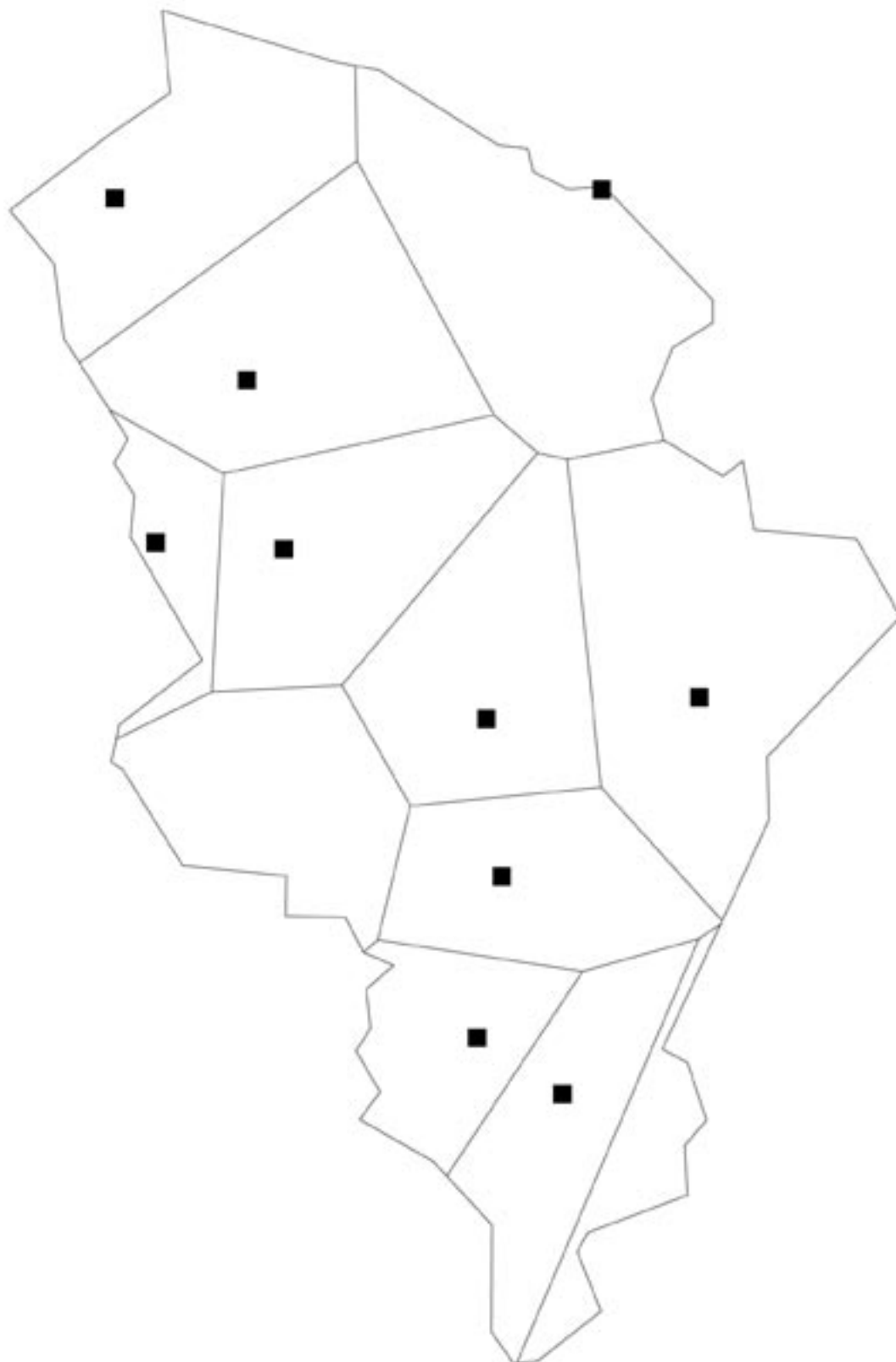
Site to Site		Meters
Sto. António das Paredes	Reguengo 2	5798.71
Reguengo 2	Torre de Palma	6760.60
Reguengo 2	Matança	5094.62
Matança	Torre de Palma	3751.92
Janelas 1	São Pedro de Almuro	5756.34
Freixo	Janelas 1	4618.52
São Pedro Algalé	Janelas 1	5569.32
São Pedro Algalé	Freixo	6811.07
Poço de Mesquita	Moinho 1	5899.62
Branças	Freixo	5982.67
Mean Distance		5603.80

Utilized land tracts versus unutilized lands and evidence for centuriation

If we turn back to Map 2, note the area in the north eastern quadrant of the county of Monforte where there appears a density of *casais* and loose spread of *cabanas* radiating from this cluster. Today this area is classified with Type D and E soils, comprised of mainly schist bedrock with some granite intrusions; yet, it is mainly dedicated to pastoral activity associated with cattle and sheep. What is important to stress is the complete absence of *uilla* sites in this area. Thus, in any attempt at estimating land tract sizes of *latifundia* in the region of Monforte, do we take into consideration an area that may have been designated as *subseciva*⁹ or non-arable lands? Moreover, if this area was considered inappropriate to be included in the centuriation of the land, who was allocated to utilize this area and on a larger scale; are we looking at evidence of *ager privatus* versus *ager publicus* in a rural area of the Empire?

Livy writes that during the legal/religious process of centuriation, *centuriae* were only allotted utilizing arable lands only (Livy, Book 4, v51, Book 5, v30). These lands are thought to be the *compascuus ager* of the *lex Thoria* because the nature of geological deposits was often irregular in size and shape (Smith, 1875, p. 30). In Italy, these tracts were known to have been sold by the State during the reigns of Vespasian and Titus but “restored” to their legal heirs during the reign of Domitian (Smith, 1875, p. 30). Regardless of their legal status during the various reigns of Emperors, non-arable lands were not included in the calculations of land divisions and were set apart as common property for pasture. Given this concept, any attempts to estimate the size of *latifundia* (*ager privatus*), that is to say not the actual *limites* of the lands belonging to each *uilla* but the approximate size of the tracts that they commanded, should exclude this area of schist bedrock with poor soils in the area in question.

If we apply an Arc View script, using Thiessen’s algorithm of polygons, which is written to equilaterally divide the distance between the *uillae* that appear to be from the 1st century, given the dates taken from the study of the ceramics retrieved from these sites¹⁰, we get a mean value of 9,832.87 acres (Chart 2). Taking into consideration values already published by J.-G. Gorges in his acreage calculations of large farming estates in the county of Elvas during the turn of the century, we find that the acreage estimate for our *uillae* fit into his range of “1500 to 8000 hectares or between 4000 to 20,000 acres” (Gorges, 1990). As mentioned before, the 1st century *uillae* from this



Map 4 *Villa* sites applying Thiessen's algorithm of polygons, which is written to equilaterally divide the distance between various given points.

area tend to be regularly triangulated; that is, some appear to align themselves along an X and Y axis. If we take into consideration that centuriation was conducted using *limes*, or a line drawn from east to west (*decumanus*) and north to south (*cardo*), this may account for some of the apparent alignment of the sites. The use of these lines did not, however, assure regularity in tract sizes nor were they infinite in length. The distances of the *limes* were adjusted according to the land being divided. This line of inquiry helps determine which areas were centuriated contemporaneously. That is, if the pattern of alignment extends past the modern day boundaries of Monforte, then the extent to which these *limes* were laid may give us a clue as to which areas were incorporated into the original centuriation of this area in Lusitania.

This study is not meant to determine the boundaries of the land tracts, the *finis* to the *fundus*, nor is it attempting to determine how the lands were delimited. Questions regarding types of land division based on tract boundaries, *ager arcifinius* (using natural or artificial boundaries such as roads, land features, man made walls, etc.) or *ager limitatus* (using *termini* or territorial markers) may be addressed if a proper survey of distinctive land features, rivers, or isolated finds are taken into consideration and incorporated into a map. It would be an interesting study to see if the land tract sizes remain somewhat similar to those estimated in this paper. However, at this time, there is not enough physical evidence to conduct a study and such a venture would be time consuming and laborious in the least. Unless *termini* or *miliaria* are found, such a study would be highly hypothetical and unless these markers are found *in situ*, knowing that they could have been moved at any given time (during the life of the *uilla* or at a later time), even the discovery of such artifacts are not necessarily reliable evidence of land tract boundaries. To complicate matters, there could be more than one owner of any *fundus* and inheritance and later sales of land tracts would make sure a line of investigation very difficult to unravel.

Chart 2. Mean acreage of assumed *latifundia* in the area of Monforte.

Site	Meters ²	Hectares	Acres
Branças	27764983.8	2776.5	6860.88
Matança	11925557.3	1192.56	2946.88
Reguengo 2	48063824.9	4806.38	11876.8
Poço do Mesquita	21153127.6	2115.31	5227.04
Moinho 1	12753297.5	1275.33	3151.41
Sto. António das Paredes	41290754.7	4129.08	10203.2
São Lourenço	49747673.9	4974.77	12292.9
Torre de Palma	37722459.8	3772.24	9321.41
Freixo	30624327.3	3062.43	7567.43
Janelas 1	39092016.5	3909.20	9659.84
São Pedro Algalé	61590656.0	6159.7	15221
Mean Acreage			9432.87

Future research

Currently, this research project is incorporating published and unpublished sites in the neighboring counties of Arronches, Elvas, Campo Maior and Fronteira in order to test any hypothesis about the equidistance of *uillae* in the defined area discussed in this paper. By removing the boundaries of modern day counties and adding more data to the map (either via collaboration

with other archaeologists in this area of the Alentejo or by more systematic field surveying), the goal should be to better elucidate the actual dispersal of sites and to investigate further any relationships between the *uillae*, *casais* and *cabanas*, making sure to take into consideration chronological indicators. Obviously, this study would greatly benefit any research regarding local secondary access roads and those primary vias/trade routes linking the *conuentus* capital of *Scallabis* to this area of Lusitania and the capital of *Augusta Emerita*.

NOTES

- ¹ Comunicação apresentada nas 3.^{as} Jornadas de Arqueologia do Norte Alentejano, 13-15 Abril, Fronteira 2005.
- ² Bolseira de doutoramento da Fundação para a Ciência e a Tecnologia maialangley@hotmail.com
- ³ Instituto Português de Arqueologia (IPA) - Portuguese Institute of Archaeology.
- ⁴ 1995 is the cut off date used for sites previously known to exist as that is base of data that the original investigators of COMONPH utilized.
- ⁵ *Trade and Consumption at the Roman Lusitanian villa of Torre de Palma: The Terra Sigillata evidence.*
- ⁶ Or *Lameira*: Portuguese for muddy place.
- ⁷ Free translation: “fez um inquérito sobre novos mosaicos daquela região (Lameiras)”
- ⁸ Free translation: “chamado Lameira”.
- ⁹ *subseciva* are those areas of land that are not cultivatable or arable and are never included in the centuriation of land tracts.
- ¹⁰ Forthcoming publication.

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