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Civitates Hispaniae : urbanisation on the Iberian peninsula during the High Empire

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CHAPTER IV

SECONDARY AGGLOMERATIONS AND URBAN FUNCTIONS

To these are to be added the islands, which will be described on another occasion, the province has 293 civitates besides those dependent on others; 179 towns, of these, twelve are colonies, thirteen, towns with the rights of Roman citizens, eighteen with the old Latin rights, one confederate, and 135 tributary.¹

Plin. *NH* III 18

4.1 Introduction

In his account of the province *Citerior*, Pliny refers to *civitates* that depend on other communities. While Pliny alludes to the administrative subordination of settlements, the principal aim of this chapter is to study the secondary settlements of the Iberian Peninsula from a functional point of view. As we will see in the second part of this chapter, some secondary settlements were port settlements, while others were mining districts, spas and bath complexes and finally *mansiones* and *mutationes*. The secondary settlement pattern will be treated within this chapter, starting with the forms as described in the ancient sources: the *contributae* and, extending into the other secondary agglomerations as given by Isidorus of Seville as attributed settlements, the *castella*, *vici* and even *pagi*.²

Needless to say, no attempt will be made to collect all these settlements. Due to the sheer number of possible secondary agglomerations, this would be a Herculean task. Moreover, the archaeological evidence for these settlements is often very limited. A few case studies will therefore be presented to shed some light on the nature of these settlements.

¹ Own reading largely based on Loeb translation, amended for the section on the contributed *civitates* to follow the reading by Detlefsen (1873) 106.

nunc universa provincia dividitur in conventus VII, Carthaginiensem, Tarraconensem, Caesaraugustanum, Cluniensem, Asturum, Lucensem, Bracarum. accedunt insulae, quarum mentione seposita civitates provincia ipsa praeter contributas aliis CCXCIII continet, oppida CLXXVIII, in iis colonias XII, oppida civium Romanorum XIII, Latinorum veterum XVIII, foederatorum unum, stipendiaria CXXXV. (Loeb translation).

² Isidore Etym. XV 2.11-12

4.2 Secondary Agglomerations

Oller Guzmán has equated the centres of the dispersed *civitas* with the concept of the 'small town' in the Anglo-Saxon debate.³ However, this concept can also be applied to secondary agglomerations, which were situated in the territory of other *civitates*.

Despite Pliny's reference to the *civitates contributae*, the secondary agglomerations of the Iberian Peninsula have received little attention. There have been some publications concerning local phenomena, but so far no comprehensive study of secondary agglomerations on the Iberian Peninsula has been carried out. A good starting point for an examination of this topic is the French or Anglo-Saxon debate on secondary agglomerations.

First, the problems of terminology have to be addressed, as there is no agreement on how to refer to 'town-like' places that were not official cities. A multitude of terms have been used to refer to such settlements: *Strassensiedlungen*⁴ by Oelmann, *small towns*⁵ was introduced by Todd, *agglomérations secondaires*⁶ as used in the French debate and finally *aglomerados secundarios* and *aglomeraciones secundarios* in the publications dealing with the Iberian Peninsula.⁷ In an attempt to unify the different debates, several scholars have proposed using Latin terminology: Oelmann stated that the term *vicus* fits the settlements he treats in his work, whereas Mangin and Tassaux point out that the Latin terminology used is problematic, because the term *vicus* appears as an official term in inscriptions.⁸ As a solution, they propose following Picard and using the term *conciliabulum*, which refers to a place for meetings or a fairground in republican times. However, since this fell into disuse in the imperial period, its use for the imperial period is a modern construct.⁹

The Anglophone terminology has its own problems. The use of 'small towns' implies that we know what a town was. As a proper definition of town in the Roman period is very problematic, the definition of 'small town' varies per scholar.¹⁰ The term secondary agglomeration is more useful because it accurately describes an agglomeration that was secondary to the *civitas* 'capital'. In addition, the use of the term

³ Oller Guzmán (2014): 90 footnote 1.

⁴ Oelmann (1922) 'Gallo-römische Strassensiedlungen und Kleinhausbauten.' *Bonner Jahrbücher* Vol. 128, 77-97.

⁵ Todd (1970) 'The Small Towns of Roman Britain.' *Britannia* Vol. 1, 114-30.

⁶ Maurin (ed.) (1992) *Villes et agglomérations urbaines antiques du sud-ouest de La Gaule 2e colloque Aquitania*. Bordeaux, 1990.

⁷ Alarcão (1996); Pérez Losada (2002); Fernández Ochoa and Morillo Cerdán (2003).

⁸ Mangin and Tassaux (1992): 462. Cf. Tarpin (2002) *Vici et pagi dans l'occident romain*.

The problem of the terminology is pointed out quite often: Todd (1970): 115; "The first problem to be encountered is one of terminology, for the minor settlements are by no means a homogenous group." He brings up the problem of the term 'small towns'.

⁹ Mangin and Tassaux (1992): 462.

¹⁰ Rust (2006): 12.

secondary agglomerations can link the various debates on the problem of the lower order settlements. Hence I will avoid the term 'small towns', and refer to the settlements in this chapter as secondary agglomerations.

Having addressed this terminological digression, the main problem still has to be tackled; the issue of defining the secondary agglomeration. In spite of the interest in secondary agglomerations since the 1970s in Britain and the 1990s in France, no consensus has been reached on a definition. In order to avoid repeating a historiography already given in other scholarly works, I have summarised the most relevant definitions for the Anglo-Saxon debate in table IV.1.¹¹

Todd (1970), 114-30.	Burnham and Wachter (1990)	Millett (1991)	Hanley (2000)
I. Civic planning II. Public Buildings III. Public Amenities IV. Urban Characteristics V. Government VI. Corporate Life	I. Internal street network II. Central core or focus III. Diversity of building types IV. Urban core or strong point defence V. Level of specialisation VI. Importance of officially inspired functions	I. Concentration of settlement II. Probable nodes for marketing or production III. Lack clear evidence of town planning IV. Some major public buildings possible V. Absence of structures indicative of communal display VI. Strip buildings VII. Economic centres	I. Specialised industrial activity II. Suggested administrative significance III. Position on important roadway IV. Market or fair function V. Extensive settlement size VI. Internal organisation VII. Organic growth pattern VIII. Essentially rural character

Table IV.1 *Anglo-Saxon debate on criteria*

As the table shows, after almost 50 years of debate and research no consensus has been reached. In 2006, Rust pointed out that out of 127 sites considered by one or more scholars as a secondary agglomeration, only approximately 14 per cent are considered as such by all scholars.¹² Even though the Anglo-Saxon debate has focused its attention on the criteria that a settlement has to meet in order to qualify as a secondary agglomeration, the criteria differ widely between publications and scholars:

¹¹ For an overview of the Anglo-Saxon historiography see *ibid.* For an overview of the French historiography see Baret (2013).

¹² Rust (2006): 12.

whereas Todd, Burnham and Hanley see internal organisation as a defining feature of 'small towns', Millett argues that only 'real cities' displayed signs of town planning and that 'small towns' lacked this feature. In an attempt to bring some order to the debate, Burnham has proposed a threefold categorisation.¹³

The categorisation by Burnham into three distinct orders is useful, because it recognises the existence of secondary agglomerations that approach the idea of a full-fledged city. Several aspects show a high degree of organisation: an internal street network, an urban core defence and large organised cemeteries. In addition, we see a specialisation of functions: distinctive zones, range of building types, range of workshop and craft industry. From a purely functional point of view, these agglomerations could be considered urban. The middle order seems to be less diverse and implies a more specialised settlement. Burnham's third type must be considered rural.

Upper Order	Middle Order	Lower Order
• Internal Street network • Urban Core defence • Distinctive zones • Range of building types • Range of workshop and craft industry • Large organised cemeteries	• Specialised functions such as: ○ Spas/religious centres ○ Specialist extractive/manufacturing ○ Roadside settlements with imposed military/official functions • Strong point defences • Large scale industrial activities • Often with street networks • Increased agricultural emphasis • Absence of zonation	• Absence of defences • Absence of specialised function • Buildings lack sophistication • Ribbon development only • Focus on agriculture with only limited non-agricultural elements

Table IV.2 Burnham's three categories with criteria

In contrast to the Anglo-Saxon debate, the French debate has found some agreement based on the categorisation by Mangin and Tassaux.¹⁴ The categorisation divides the settlements in five different categories based on socio-economic functions. Because of its importance for the French debate, I will give my own translation of the five categories and a short explanation as it is given by Mangin and Tassaux.

¹³ Burnham (1993); Burnham (1995) 'Small Towns: The British perspective.' In: Brown (ed.), *Roman Small Towns in Eastern England and Beyond*, 7-18.

¹⁴ Mangin and Tassaux (1992). See : Baret (2013); Trément (2010) "Romanisation' et dynamiques territoriales en Gaule centrale. Le cas de la cité des Arvernes (IIe s. Av. J.-C.-IIe Ap. J.-C.).' In: Corsi and Vermeulen (eds.), *Changing Landscapes: The impact of Roman towns in the Western Mediterranean*, 85-104; Raynaud (2002) 'Les agglomérations gallo-romaines en Languedoc-Roussillon de la conquête romaine au Moyen Âge.' In: Fiches (ed.), *Les agglomérations gallo-romaines en Languedoc-Roussillon*, 39-54; Massy (1997) *Les agglomérations secondaires de la Loraine romaine*; Bénard et al. (1994) *Les agglomérations antiques de Côte d'Or*; Leveau (1993); Petit and Mangin (eds.) (1994).

I Les villes

The first category entails settlements with secondary and tertiary economic activities. Moreover, they have a considerable size and monumentality, containing public buildings.

- Les vraies villes, moyennes ou petites

This subcategory contains the settlements with special functions such as regional centres to control the territory, as the nearby capital is located at a large distance, and settlements with ports. These settlements have a well-defined public area with public buildings and monuments.

- Les agglomérations semi-urbaines

In this subcategory, Mangin and Tassaix group the settlements with the secondary or tertiary activities but with a less dense occupation but some monumentality.

II Les bourgs et bourgades

This category is different from the former as they have no monumental buildings, but they still have the secondary and tertiary activities. This can be very specialised to one mode of production, such as mining, or diversified where the settlement combines primary activities with others.¹⁵

III Les agglomérations aux fonctions religieuses prédominantes

- Les agglomérations-sanctuaires

These are sanctuaries with attested residential areas.

- Complexes religieux apparemment sans habitat

Solely the religious building with possibly some other public buildings but no residential area.

- Les stations thermales

Thermal sources with a complex to facilitate people, but no residential area.

IV Les stations routières

These are sites whose function is linked to the road, and apparently does not have productive activities or extended habitats. They may be pure road stations, limited to a relay station and a few houses, and even spas, but also potential villages, where archaeology has remained silent so far.

V L'agglomération rurale ou village

This category includes the rural villages with a local function within a territory.

Looking closely at the categorisation applied by Mangin and Tassaix we immediately see the focus on the socio-economic aspect of the city in order to organise the settlement. The three economic sectors play an important role in their definition:

¹⁵ In Leveau (1993) the mining towns are added as type VI.

“sites aux fonctions éventuellement primaires (villages des paysans) mais surtout secondaires et tertiaires: fonctions diverses, politiques subordonnées, religieuses etcetera.”¹⁶ In addition to the economic profiles of settlements, some non-economic aspects are also considered, for instance in the classification of settlements with a religious function in the third category. Alongside those settlements that have the appearance of proper cities, those having public buildings or very specialised production are included.

The categorisation by Mangin and Tassaux and the one by Burnham can be seen as complementing each other. While Mangin and Tassaux pay little attention to various archaeological features, such as walls, cemeteries and street grids, Burnham could have given a less abstract categorisation than upper, middle and lower. In table IV.3 both categorisations are combined. In this table Burnham's three categorisations correspond to the tripartite distinction between city, secondary agglomerations and rural.

Town-like settlements	Specialised settlements	Agricultural settlements
I. Les villes ○ les vraies villes, moyennes ou petites ○ les agglomérations semi-urbaines	II. Les bourgs et bourgades III. Les agglomérations aux fonctions religieuses prédominantes ○ les agglomérations-sanctuaires ○ complexes religieux apparemment sans habitat ○ les stations thermales IV. Les stations routières	V. L'agglomération rurale ou village
• Internal Street network • Urban Core defence • Distinctive zones • Range of building types • Range of workshop and craft industry • Large organised cemeteries	• Specialised functions such as: ○ Spas/religious centres ○ Specialist extractive/ manufacturing ○ Roadside settlements with imposed military/official functions • Strong point defences • Large scale industrial activities • Often with street networks • Increased agricultural emphasis • Absence of zonation	• Absence of defences • Absence of specialised function • Buildings lack sophistication • Ribbon development only • Focus on agriculture with only limited non-agriculture elements

Table IV.3 Based on Mangin & Tassaux (1992) and Burnham (1993 & 1995)

¹⁶ Mangin and Tassaux (1992): 461.

The modest Iberian debate on secondary agglomerations leans strongly towards the French. Only a few works have been written on the subject of secondary agglomerations¹⁷, the most extensive of these being the book by Pérez Losada focusing on the north-west of the peninsula. He gives a description of the broad characteristics he found after researching the secondary agglomerations.¹⁸ His first category comprises the self-governing cities that were very small. This classification arises from the confusing terminology of ‘small town’, which Pérez also includes in his work. Whilst the dispersed *civitas* has no *urbs* as a clear *civitas* capital, they tend to have smaller town-like settlements. Both Oller and Pérez include these in their categories of secondary agglomerations/‘small towns’. For the purposes of this study, however, such settlements will be regarded as ‘primary’.

I	II	III
• 20-25 ha. • Internal organisation • Clear roadsystem • Different building types, certainly public and private • Various artisanal production • Administrative role • De iure or de facto centre of a <i>civitas</i>.	• 10-20 ha. • Irregular roadsystem • Along major road • Multifunctional buildings, strip-houses • Public buildings possible, mostly religious or <i>thermae</i> • Specialised functions such as mining • Never administrative centre	• Smaller than 10 ha. • Roadside ribbon development • Limited public buildings, small religious, possibly small bathhouse • Only domestic production • Small economic centre • Mostly agricultural • roadstations

Table IV.4 Categorisation as given by Pérez Losada (2002), 58.

Pérez’s first category comprises rather large settlements for the Iberian Peninsula, and all of the settlements he discussed under this heading are self-governing cities. The aspects, besides size, are useful to differentiate between the different forms of secondary agglomerations. Some of the settlements belonging to Pérez’s second group have a range of different buildings. We observe that similar to the Anglo-Saxon and French debate the last category is completely rural and can be left out of this study.

Pérez notes that settlements located at crossroads often develop in a more nucleated way, with the road junction as their focus. Those situated along rivers or at the crossing of a road and a river have two foci, one on each side of the river. Lastly, he points out that ribbon development is observed solely for secondary agglomerations

¹⁷ Fernández Ochoa and Morillo Cerdán (2003); Fernández Ochoa *et al.* (2014); Alarcão (1996); Pérez Losada (2002); Oller Guzmán (2011); Oller Guzmán (2014). The works by Oller Guzmán on *civitates sine urbe* should be taken in as works on secondary agglomerations as Oller links it to the debate of ‘small towns’. It is interesting to look at the possible similarities between the central places recognised in the dispersed *civitates* and the secondary agglomerations.

¹⁸ Pérez Losada (2002): 40.

that developed at road stations not located at crossings. He considers these as the lowest category.

A general overview of rural occupation by Fernández Ochoa, Salido Dominguez and Zarzalejos Prieto is a useful start to understand the different types of settlements referred to in the ancient sources.¹⁹ The most relevant settlements in this publication are the *vici* and *castella*. These are regarded as secondary administrative centres.²⁰

Redrawing the table, we obtain a new combined categorisation of secondary agglomerations.

Town-like settlements	Specialised settlements	Agricultural settlements
• Internal Street network • Urban Core defence • Distinctive zones • Range of building types; private and public • Range of workshop and craft industry • Large organised cemeteries • Various types of epigraphy • Elite housing • Forms of monumentality • <i>Contributae</i>, <i>vici</i> and <i>castella</i>	• Specialised functions such as: ○ Spas/religious centres ○ Specialist extractive/manufacturing ○ Roadside settlements with imposed military/official functions ○ Ports ○ Large road stations • Strong point defences • Industrial activities • Often with street networks • Increased agricultural emphasis • Absence of zonation • No administrative function	• Absence of defences • Absence of specialised function • Buildings lack sophistication • Public buildings only of the religious type or small bath-houses • Ribbon development only • Focus on agriculture with only limited non-agriculture elements • Small road stations

Table IV.5 Categorisation of secondary agglomerations

The town-like category comprises those secondary agglomerations that function as central places beside the *civitates*. These are recognisable as diversified and organised settlements. They yield an epigraphic record including different types of epigraphy.²¹ Within this category we expect to find the central places of the *civitates contributae*. Some of the *vici* and *castella* may also have fallen within this category.

The specialised settlements are secondary agglomerations that arose due to their specific function, such as the *aquae*, mining centres, ports settlements and roadside settlements. The epigraphic record will be limited, mostly related to the function of the settlement. For example, we would expect religious epigraphy in the *aquae* due

¹⁹ Fernández Ochoa *et al.* (2014): 119.

²⁰ *Ibid.* 112.

²¹ Alarcão (1996): 170.

to their relation to healing cults. The specialised function allowed these settlements to become central places of regional importance.

The rural settlements are conglomerations where we do not expect to find differentiation, apart from some very small-scale production of, for instance, pottery. These settlements are not taken into consideration in this study.

4.3 Subordinate settlements in ancient sources

In the ancient sources we find several settlement types that are to be considered secondary to the so-called *civitas* 'capital'. Although these are secondary, there is evidence that these settlement types had their own territory within the territory of the *civitas*, and in some cases we even find magistrates. First, I will treat the contributed *civitates*, thereafter the *vici* and lastly the *castella*. The *pagi* will be disregarded as there is too little evidence within the provinces of the Hispaniae to treat these separately.

4.3.1 Central places of *civitates contributae*²²

In Pliny's account we find the contributed *civitas*, a subordinate community depending on another *civitas*.²³ The phenomenon of *contributio* has been seen as an equivalent of the Greek συνοικισμός.²⁴ Laffi argues that the *civitates contributae* were formerly autonomous communities, which have been combined into one juridical and administrative unit for the Roman state.²⁵

The people in the contributed communities had a special status within the *civitas*, as can be read in the *Lex Ursonensis*, where the *contributi* are mentioned separately from the *coloni* and *incolae*.²⁶ Sáez argues that the status of the *civitas contributa* must

²² In this case, only the *civitates contributae* are treated. The discussion on whether *adtributio* and *contributio* are the same is irrelevant for this specific case as we only treat those mentioned as *contributio*. For a detailed discussion on the difference, see Laffi (1966) *Adtributio e Contributio: Problemi del sistema politico-amministrativo dello stato romano*. His general conclusion is that the *adtributii* are the settlements within the subdivision of the territory of a *civitas*, the *pagi* and *vici* et cetera. Therefore they have their own territory within the *civitas* territory, see: Laffi (1966) 87ff.

²³ Plin. NH III 18: "civitates provincia ipsa praeter contributas aliis CCXCIII continet, oppida CLXXVIII"; III 14 "Contibuta Iulia Ugultuniae (cum qua et Curiga nunc est)"; IV 117 "Norbensis Caesarina cognomine (contributa sunt in eam Castra Servilia, Castra Caecilia)".

²⁴ Bendala Galán (1987): 31; Rodríguez Neila (1977) 'Notas sobre la "contributio" en la administración municipal de la Bética Romana.' *Archivo Hispalense* Vol. LX, N° 185, 55-61: 55; Laffi (1966): 159; Mommsen (1887) *Römische Staatsrecht*: 765; Bendala Galán (1987): 33ff.

²⁵ Laffi (1966): 159. See also Abad Casal and Bendala Galán 'Urbanismo y Ciudad: de las formaciones ibéricas a la consolidación del modelo romano.' In: Abad Casal, Hernández Pérez and Ramos Fernández (eds.), *XXIII Congreso Nacional de Arqueología (Elche, 1995)*, 11-20: 17ff.

²⁶ *Lex Ursonensis* Ch 103: "Quicumque in colonia Genetiva Ilvir praefectusve iure dicundo praerit, eum colonos incolasque contributos quocumque tempore coloniae finium defendendorum causa armatos educere decuriones censuerint, quot maior pars qui tum aderunt decreverint, id ei sine fraude sua facere liceto." Whoever as Ilvir or prefect shall be in charge of jurisdiction in the colonia Genetiva, he, whenever the decurions shall have decided that he is to lead out the colonists and *incolae*, and *contributi*, under arms for the purpose of defending the territories of the colony, insofar as the majority of those who shall then be

have been inferior to that of the place it was contributed to.²⁷ This is based on Mommsen's thesis that some of the Latin communities created by the grant of *ius Latii* may have been *civitates contributae*.²⁸ Sáez argues that a *civitas contributa* would benefit from the Latin grant only if it had a lower status than the administrative centre on which it depended. As an example he gives possible *civitates contributae* to the *colonia immunis Astigi*: only if the 'citizens' of the contributed community did not share the Roman citizenship and *immunitas* of *Astigi*, would the granting of *ius Latii* be beneficial.²⁹

Only about five *civitates contributae* are known: *Icosium* was contributed to *Ilici*³⁰; *Contributa Ipsca* must have been or had a *civitas contributa*³¹; Caesar mentions a *Calagurris* contributed to *Osca*³²; in Pliny we find *Norba Caesarina* and the contributed *castra Servilia/castra Caecilia*³³; and finally *Contributa Iulia Ugultunia* to which *Curiga* belonged³⁴. Unfortunately, none of these *civitates contributae* is known to have minted coins in the Republican period, proving their previous autonomous nature.³⁵

Pliny refers to the *Icositani* as a community depending on *Ilici*.³⁶ *Icosium*, as the settlement of the *Icositani* must have been called, could well be an unlocated settlement on the Iberian Peninsula as it is referred to as an *origo* in epigraphy.³⁷ However, it is more likely that the contributed settlement was the Mauretanian *Icosium*. In this

present shall have decreed (it), it is to be lawful for him to do that without personal liability. (Translation: Crawford (ed.) (1996) *Roman Statutes: Volume I*: 428. Cf. 45.).

²⁷ Mommsen (1887): 767; Rodríguez Neila (1977): 55.

²⁸ Mommsen (1887): 767; Sáez Fernández (2008): 161; Rodríguez Neila (1977): 55.

²⁹ Sáez Fernández (2008): 165. His example is fictitious; there is no proof that the neighbouring communities to *Astigi* were contributed to *Astigi*. This idea of *civitates contributae* in the *pertica* of *Astigi* and other *coloniae* is based on the presumption that the *coloniae* were created to control the region.

³⁰ Plin. *NH* III 19; Laffi (1966): 119.

³¹ CIL II2/5, 387; CIL II2/5, 389; Laffi (1966): 127.

³² Caes. *Bell. Civ.* I 60.1: "Interim Oscenses et Calagurritani, qui erant cum Oscensibus contributi"; Laffi (1966): 117.

³³ Plin. *NH* IV 117; Laffi (1966): 133.

³⁴ Plin. *NH* III 24; Laffi (1966): 122.

³⁵ Only *Calagurris Iulia* is known for its own "Iberian coins"; however, it is doubted and I deem it unlikely that this *Calagurris* was the contributed one.

³⁶ Plin. *NH* III 19: "Contibuta Iulia Ugultuniae (cum qua et Curiga nunc est)".

³⁷ Díaz Ariño (2008) *Epigrafía Latina Republicana de Hispania (ELRH)*: 88.

HEp 9, 1999, 27 = AE 1999, 960 = AE 2001, +01251; HEp 14, 2005, 1

Sicci iug(era) CXXX et traiect(a) / ex I(imite) V |(cardine) III iug(era) VI s(emissem) et ex / I(imite) IIII |(cardine) III iug(era) VI s(emissem) h(ominibus) X / super est iug(era) XL in sin(gulos) iug(era) XIII / C(aius) Annius C(ai) f(ilius) Gal(eria) Seneca **Icos(i)** / C(aius) Aufustius C(ai) f(ilius) Gal(eria) **Icosi** / C(aius) Tettius C(ai) f(ilius) Sca(ptia) Praeneste / M(arcus) Marius M(arci) f(ilius) Gal(eria) Vibone / L(ucius) Aemilius L(uci) f(ilius) Hor(atia) Ulia / P(ublius) Horatius P(ubli) f(ilius) Quir(ina) Malaca / C(aius) Marius C(ai) f(ilius) Vet(uria) Corduba / L(ucius) Valerius L(uci) f(ilius) Fal(lerna) / Aurelia Carriss(a) / L(ucius) Fabius L(uci) f(ilius) Gal(eria) / **Icosi** / Q(uintus) Fufius Q(uinti) f(ilius) Mae(cia) / Balaricus.

case, it would, like *Zilil*, be a North African veteran colony that was part of the province of *Baetica*.³⁸ These settlements on the African coast were contributed to self-governing communities on the Iberian Peninsula prior to the creation of the province of *Mauretania Caesariensis*, so they would belong to a Roman province. Laffi proposes that *Icosium* was located farther to the east than *Zilil* and that this explains why it was contributed to *Ilici*, which was located in the south-eastern part of *Citerior*. With the creation of the province, *Mauretania Caesarina Icosium* was promoted and became a self-governing city.³⁹

Another example of a *civitas contributa* being promoted is that of *Curiga*. Pliny is quite clear that *Curiga* was part of *Contributa Iulia Ugultunia*.⁴⁰ *Curiga* has been located in Monasterio, an identification that is based on an inscription also showing it was promoted to a *res publica* in 196 CE.⁴¹ Another inscription found in Monasterio refers to the 'mutation' of this *oppidum*; this probably alludes to the subordination to *Contributa Iulia*.⁴² In addition, it shows two *pagi* that were clearly a part of the same *civitas*. The *civitas* of *Contributa Iulia Ugultunia* can therefore be reconstructed as comprising the *oppidum* of *Ugultunia* as the 'capital' with the contributed subordinate *oppidum* of *Curiga*, and at least two subordinate *pagi*: the *pagus Tran[s]iuganus* and the *pagus Suburbanus*.

A very different case is that of the contributed *castra*: *Norbensis Caesarina cognimine* (*contributa sunt in eam Castra Servilia, Castra Caecilia*).⁴³ It is clear that older Roman encampments have been added to *Norba Caesarina*, a Roman *colonia*. Unfortunately, the location of *castra Servilia* is not certain⁴⁴; nonetheless, its situation will be similar to that of *castra Caecilia*. These *castra* were founded during the wars of the second and first century BCE: *Castra Servilia* was erected by *Q. Servilius Caepio* during the Lusitanian Wars (141-138 BCE) in 141 BCE.⁴⁵ The second, *Castra Caecilia*, was founded later by *Q. Caecilius Metellus Pius* as part of fortifications for the Sertorian War (83-78 BCE).⁴⁶ With the foundation of *Norba Caesarina* as a veteran *colonia*, most probably under Caesar or Augustus⁴⁷, the two *castra* were contributed to the

³⁸ Plin. *NH* V 2.

³⁹ Plin. *NH* 20; CIL VIII 20853; Laffi (1966): 121.

⁴⁰ Plin. *NH* III 14; HÉp 7, 1997, 138.

⁴¹ CIL II 1040: ex decr/eto · decurion/um · res · p(ublica) Curi/gensium · d(onum) · d(at) · p(ublice) / [-] ex · arg(enti) · p(ondo) · c(entum).

⁴² CIL II 1041: - - - - - / Iul[ienses] / mutatione / oppidi · muni/cipes · et · inco/lae pagi · Tran[s]/iugani · et · pagi / Suburbani · ; Hép 1997 vol. 7 (2004) 138.

⁴³ Plin. *NH* IV 117.

⁴⁴ Rodríguez Gutiérrez (2011): 204 Casar de Cáceres.

⁴⁵ Plin. *NH*. IV 117; Álvarez Rojas (1999) *Tres estudios de historia de Cáceres: la colonia Norba y los campamentos de Servilio y Metelo; la calzada romana del puente de Alcántara; el término municipal de Cáceres en el siglo XIII*; Alarcão et al. (1995) *TIR J-29: Lisboa, Emerita, Sacallabis*: 58; Sayas Abengochea (1985): 62.

⁴⁶ Alarcão et al. (1995): 58; Fabião (2001): 239.

⁴⁷ Sayas Abengochea (1985): 66; Abascal Palazón and Espinosa (1989): 61; Rodríguez Gutiérrez (2011): 205.

juridically superior *colonia civium Romanorum*. Under normal circumstances, military settlements were self-governing and did not belong to a civil community.⁴⁸ The solution must be found in the military abandonment of the two *castra* by the military units that had been stationed there and the reoccupation of the site by civilians, possibly including veterans.

The cases of *Contributa Ipscense* and the reference to contributed people in the *Lex Ursonensis* are difficult as the evidence for these is very limited. The case of *Oscacalagurris* is similar. There is no certainty to which *Calagurris* Caesar refers. We will therefore abstain from treating this case. Nonetheless, it is clear that *Calagurris Iulia* was a self-governing city under Augustus⁴⁹ and that *Calagurris Fibularia* acquired the same status before the time of Vespasian⁵⁰.

Ptolemy also seems to allude to *civitates contributae*. Where Ptolemy links multiple *poleis* to one ethnonym, there is a possibility that one of these was contributed to the 'capital' of the tribe. For example, the *Copori* are listed with two settlements: *Lucus Augusti* and *Iria Flavia*. Clearly, *Lucus Augusti* is the major urban settlement in the territory of the *Copori*. *Iria Flavia* may therefore have been the central place of a contributed *civitas*, with the possibility that *Iria Flavia* was promoted to a Latin *municipium* by the Flavian grant.⁵¹

Another possible example of a contributed *civitas* in Ptolemy could be that of the *Seurri* with the two settlements of Ταλαμίνη and Ὑδατα Κουντινα (*Aquae Quintinae*).⁵² However, in this case both settlements are obscure. Ταλαμίνη has been linked to *Timalinum* of the Antonine Itinerary.⁵³ *Aquae Quintinae* does not appear in any other source.⁵⁴ It is impossible to provide any further analysis of the relationship between these two settlements within the tribal organisation of the *Seurri*.

The *civitates contributae* must be regarded as subordinate communities. Some of them, however, are known to have developed into self-governing communities, as is the case for *Curiga*, *Calagurris* and the *colonia Icosium*.

4.3.2 Vici

The word *vicus* has been proposed as a general term for secondary agglomerations, but as has already been stated, this is very problematic. The term is also used to refer to civilian settlements related to a military camp.⁵⁵ In antiquity, Festus and Isidore give three different definitions of the word *vicus*: the rural *vicus*, the urban *vicus* and

⁴⁸ Laffi (1966): 134.

⁴⁹ VM 56:57 and 157:8.

⁵⁰ Laffi (1966): 118.

⁵¹ Andreu Pintado (2004c): 143.

⁵² Ptol. II 6.27; Plin. IV 112.

⁵³ García Alonso (2003): 208.

⁵⁴ *Ibid.* 210.

⁵⁵ The military *vicus* is treated below in the section on garrison settlements.

an urban building.⁵⁶ Isidore adds that the rural *vicus* is similar to the *pagi* and *castella* but they are not regarded as highly as a *civitas*. Varro gives a very simple interpretation of the meaning of *vicus*: it is a division within the city.⁵⁷ At first sight, the rural *vicus* and the city district might be very different cases, but in both cases we are dealing with divisions of the *civitas*.

The use of the term *vicus* in modern literature is also confusing. On the one hand, there are the purists who only use the term *vicus* if there is explicit epigraphic evidence.⁵⁸ On the other, *vicus* is used by many scholars as a modern term for any rural agglomeration dependent on a city.⁵⁹ This section will only treat the *vici* recorded in epigraphy.

The idea of the *vicus* as an agglomeration secondary to the *urbs* of a *civitas* is widely accepted.⁶⁰ The economic basis of the *vicus* is primarily agricultural, although such settlements may perform some secondary or tertiary functions.⁶¹ Within the territory belonging to the *urbs*, the *vicus* was a lesser administrative centre, as reflected in the *magistratus vici* such *aediles*, *quaestores*, *curatores*, *actores* and *decemlecti*.⁶² The semi-autonomous nature of this settlement type makes it highly relevant for the understanding of the settlement system.

On the Iberian Peninsula, Curchin and Tarpin have identified 19 certain and 11 possible *vici* in Hispania.⁶³ The questionable *vici* are those for which the epigraphic evidence is problematic. As has already been said, *vici* can be rural or urban districts. Rural *vici* are the most common type in the Roman Hispaniae. Within the dataset, only a few *vici* have been recognised as urban districts.⁶⁴ The exact locations of most rural *vici* are unknown as the epigraphic evidence for them consists of references to the places of origin (*origo*) of various individuals. As a general rule, people would only refer to their *origo* when outside their own settlement. Consequently, the role of these *vici* as secondary agglomerations in the settlement system cannot be studied further.

⁵⁶ Festus, 502 and 508 L; Isidore *Etym.* XV 2.11-12.

⁵⁷ Varro 145.

⁵⁸ Curchin (1985); Tarpin (2002).

⁵⁹ Fernández Ochoa *et al.* (2014): 120. See also: Alarcão (1988): 45; Vega Aveleira (1998); Macías (2008) 'Vici y articulación del territorium: Segobriga, Ercavica y Valeria.' In: Mangas Manjarrés and Ángel Novillo (eds.), *El territorio de las ciudades romanas*, 617-32: 617.

⁶⁰ Curchin (1985); Moreno Martín (1997): 296; Tarpin (2002); Pérez Losada (2002): 26; Alarcão (1996): 169; Fernández Ochoa *et al.* (2014): 112.

⁶¹ Moreno Martín (1997): 301.

⁶² Fernández Ochoa *et al.* (2014): 120.

⁶³ Tarpin (2002); Curchin (1985).

⁶⁴ AE 1981, 495a: *Vicus Hispanus* (Cordoba); AE 1981, 495b: *Vicus Forensis* (Cordoba); CIL II 2248a *Vicus Capitis Canteri* (Cordoba).

4.3.3 Castella

Another type of secondary settlement is the *castellum*, which can be defined as a settlement (clustered or dispersed) located at a high vantage point with a natural defence augmented by fortifications.⁶⁵ The *castellum* appears both in ancient literature and in the epigraphic record. The old idea that the term *castellum* matches the archaeological reality of the *castro* has been disproved by Orejas and Ruíz Árbol.⁶⁶ The *castellum* is clearly a Roman concept.⁶⁷

Unambiguous examples of the word *castellum* are found in the *Edicto del Bierzo* and in the *Tabula del Caurel*.⁶⁸ In addition to these clear references there are the inscriptions with the abbreviation $\mathcal{O}$, all these inscriptions are found in the north-western region of the Iberian Peninsula.⁶⁹ In older publications this has been interpreted as *gentilitate*, *curia* and *centuria*.⁷⁰ After a systematic analysis in 1975 by Albertos, it was demonstrated that the $\mathcal{O}$ should be read as *castellum*.⁷¹ Unfortunately, it took some time for this theory to be accepted widely.⁷²

The *Bronce del Bierzo* is dated to 14 and 15 February 15 BCE.⁷³ In this inscription we read that Augustus gave the *castellum* of *Paemeiobriga* the privilege of *immunitas perpetua*, whereas the *castellum Aiiobrigiaecum* had to take the place of the *castellum*

⁶⁵ Mommsen states the *castellum* is a walled settlement, smaller than an *urbs* and without a status, therefore a secondary agglomeration, (1887): 766; Le Roux (ed.) (2014f): 175 & 342.

It must be noted that the use of the word *castellum* changed in Late Antiquity: Arce (2006) 'Villae en el paisaje rural de Hispania romana.' In: Chavarría and Brogiolo (eds.), *Villas tardoantiguas en el mediterráneo occidental*, 9-16: 10.

⁶⁶ Orejas and Ruíz del Árbol (2010) 'Los *castella* y la articulación del poblamiento rural de las "civitates" del Noroeste peninsular.' In: Fornis, Gállego and López Barja de Quiroga (eds.), *Dialéctica histórica y compromiso social*, 1091-128: 1113.

⁶⁷ Alarcão (1996): 169. Fernández Ochoa *et al.* (2014): 112; Pérez Losada (2002): 58.

⁶⁸ *Edicto del Bierzo*: HÉp 7, 1997, 378 = HÉp 8, 1998, 325 = HÉp 11, 2001, 286 = AE 1999, 915.

Tabula del Caurel: HAE 1965; AE 1961, 96; AE 1973, 289; HÉp 8, 1998, 334.

⁶⁹ Santos (2009): 172.

⁷⁰ Curchin (1985): 335; Le Roux and Tranoy (1983b) ' $\mathcal{O}$ le mot et la chose: contribution au debat historiographique.' *AEspA* Vol. 56, 109-21; Alarcão (1988).

⁷¹ Albertos (1975) 'Organizaciones suprafamiliares en la Hispania Antigua.' *Boletín del Seminario de Estudios de Arte y Arqueología* Vol. 40-41, 5-66.

⁷² Santos (2009) 'De nuevo sobre los CASTELLA: naturaleza, territorio e integración en la CIUITAS.' *Onomástica galega II. Onimia e onomástica prerromana e a situación lingüística do noroeste peninsular*, 196-83; Luján (2011): 226.

⁷³ HÉp 11, 2001, 286.

The inscription is also known as "El bronce de Bembibre" or "tessera de Pameiobriga".

Imp(erator) Caesar divi fil(ius) Aug(ustus) trib(unicia) pot(estate) / VIII{I} et proco(n)s(ule) dicit / castellanos Paemeiobrigenses ex / gente Susarrorum descendentibus / ceteris permansisse in officio cog(novi) ex omnibus legatis meis qui / Transdurianae provinciae prae/fuerunt itaque eos universos im/munitate perpetua dono quosq(ue) agros et quibus finibus possede/runt Lucio Sestio Quirinale leg(ato) / meo eam provinciam optinente{m} / eos agros sine controversia possi/dere iubeo / castellanis **Paemeiobrigensibus** ex / gente Susarrorum quibus ante ea(m) / immunitatem omnium rerum dede/ram eorum loco restituo castellanos / **Aiiobrigiacinos** ex gente Gigurro/rum volente ipsa civitate eosque / castellanos **Aiiobrigiacinos** om(ni) munere fungi iubeo cum / Susarris / actum Narbone Martio / XVI et XV K(alendas) Martias / M(arco) Druso Li(bone) Lucio Calpurnio Pisone co(n)s(ulibus).

Paemeiobriga within the *civitas* of the *Susarri*. Both of these *castella* were clearly subordinate places.

The *Aiiobrigiaeci* seem to reappear in the *Tabula del Caurel*, a *hospitium* agreement between the *Castellum Toletenses*⁷⁴ of the *Lougei* and the *Castellum Aiobaigiaecum* of the *Susarri* dated to 26 CE.⁷⁵ The relationship between the *Aiiobrigiaeci* and the *Aiobaigiaeci* is partly based on the similarity between the names. In addition, the *Bronce del Bierzo* indicates that the *Aiiobrigiaeci* are to be attributed to the *Susarri*.⁷⁶ We indeed observe this situation in the *hospitium* agreement. The *Lougei* to which the *castellum Toletenses* belongs also appear in another bronze inscription, the *Tabula Lougeiorum*, a *hospitium* agreement that mentions the *civitas Lougeiorum*.⁷⁷ It is most likely that the *gentes* and tribes to which the *castella* were attributed were self-governing *civitates*.

In total, 34 *castella* are known for the Iberian Peninsula and for 17 the *populus* they belong to is also known, mostly thanks to funerary inscriptions referring to *castella* as places of origin.⁷⁸ One illustration is the inscription of Fusca that mentions the *Castellum Blaniobrensis* belonging to the *Celtici Supertamarci*.⁷⁹ Obviously, only a small proportion of the *castella* that once existed has left traces in the epigraphy or literary sources. González García calculates that there might have been in total 89 *castella*.⁸⁰ Their role as secondary settlements is undisputed, but the 'urban' nature of some of these remains.

The best example of an 'urban' *castellum* is that of the *Grovii*: *Castellum Tyde*.⁸¹ This *castellum* must have been the central place of the tribe, as is shown by the reference in Ptolemy where the *Γροῦιοι* are mentioned as the people centred on *Τούδα*.⁸² Based on archaeological evidence, Pérez Losada posits a 28-hectare settlement composed of three *castros* and the settlement in the valley between them.⁸³ The archaeology has yielded an altar and a few column shafts, indicating a monumental structure, possibly a temple or even a *forum*-complex.⁸⁴ This *castellum* clearly developed into

⁷⁴ The *castellum Toletum* is another settlement than the *Toletum* nowadays well-known as Toledo.

⁷⁵ HAE 1965; AE 1961, 96; AE 1973, 289; HEp 8, 1998, 334; IRPLu 55; AE 2000, 748.

⁷⁶ Alföldy (2000) 'Das neue Edikt des Augustus aus El Bierzo in Hispanien.' *Zeitschrift für Papyrologie und Epigraphik* Vol. 133, 177-205; ln. 20ff.

⁷⁷ HEp 1, 1989, 458; HEp 3, 1993, 247; HEp 7, 1997, 402; HEp 4, 1994, 505; AE 1984, 553; AE 1987, 561; AE 1989, 431; AE 1997, 862.

⁷⁸ González García (2007): 371.

⁷⁹ CIL II 2902 = CIL II 5667 Fusca Co/edi f(ilia) Celti/ca Superta(marica) / |(C invertida) (castello) Blaniobr/ensi Seco/ilia Coedi f(ilia) / soror sua / posuit.

⁸⁰ González García (2007): 371. This number is based on the percentage of *populi* known by name; there are 14 known *populi* whereas Pliny refers to a total of 39 *populi*. This leads to a 36% 'survival' rate. Supposing the *castella* have a similar survival rate we can calculate from the 34 known *castella* (accepting them as 36%), there must have been 89 *castella* in total.

⁸¹ Plin. NH IV 112.

⁸² Ptol. II 6, 44.

⁸³ Pérez Losada (2002): 69.

⁸⁴ Pérez Losada (2002): 82.

the *urbs* of the *Grovii*. Whilst this is a very specific case, it shows that some *castella* functioned as ‘town-like’ settlements.

4.4 Functions of secondary agglomerations

So far we have been looking at the juridical and administrative statutes of secondary settlements. However, if we want to achieve a better understanding of the economic, social and religious functions of secondary settlements on the Iberian Peninsula, we must turn to archaeology. Obviously, I do not argue that settlements with one or more of these functions should automatically be considered urban. Nonetheless, settlements with these functions could have played a central role in the settlement system.

4.3.1 Port settlements and harbours

The idea of a central place applies clearly to ports and harbours. Such maritime hubs connect the landlocked places across the Mediterranean and the Atlantic with each other. Due to the location of the Hispanian provinces at the fringes of the Empire, the ports were located at the route for the connection between the Atlantic and the centre, as is confirmed by sources as Pliny and Aelius Aristides.⁸⁵

Several small ports are mentioned in the ancient sources. Mela mentions: *Portus Veneris* (Port Vendres)⁸⁶, *Portus Hannibalis* (Portimão)⁸⁷, *Portus Eborae* (in the region of the *Tamarici*).⁸⁸ In addition to these ports, Mela refers to settlements along the coast, indiscriminately combining self-governing communities, such as *Barcino* and *Ilici*, and subordinate port settlements.⁸⁹ Pliny mentions: *Portus (S)Amanum – Flaviobriga* (Castro Urdiales)⁹⁰; *Portus Blendium* (Suances)⁹¹; *Portus Victoriae Iuliobrigensium* (Santander)⁹²; *Portus Vereasuaca* (San Vicente de la Barquera)⁹³ and *Illicitanus sinus* (Santa Pola)⁹⁴. In Ptolemy we find Ἰλλικιτανὸς λιμὴν (Santa Pola)⁹⁵;

⁸⁵ Plin. *NH* II 167; Aristides *Or. Rom.* XXXVI, 91.

⁸⁶ Mela II 84. This port is on the border between Gallia and Hispania, it might be the same port as *Portus Pyrenaei* (Str. IV 1) as Pliny mentions the *Pyrenaea Venus* (Plin. *NH* III 22) cf. Schulten (1952) *Estrabón Geografía de Iberia*: 303.

⁸⁷ Mela III 7.

⁸⁸ Mela III 11.

⁸⁹ *Ilici* is one of the inland cities mentioned by Mela (II 93), however we can observe from Pliny (*NH* III 19) that this city had a port.

⁹⁰ Plin. *NH* IV 111; Fatás Cabeza *et al.* (1993): 116.

⁹¹ Plin. *NH* IV 111; *ibid.* 183.

⁹² Plin. *NH* IV 111; *ibid.* 183.

⁹³ Plin. *NH* IV 111; *ibid.* 182.

⁹⁴ Plin. *NH* III 19; Álvarez Martínez *et al.* (2001): 200.

⁹⁵ Ptol. II 6, 14; García Alonso (2003): 168.

Μενεσθέως Λιμὴν (Puerto de Santa María)⁹⁶; Πόρτος Μάγνος (unlocated, Almería?)⁹⁷; 'Αρτάβρων λιμὴν (El Ferrol?)⁹⁸; Πόρτα Αὐγούστα (Portillo?) and Τενέβριος λιμὴν (unlocated, Denia?)⁹⁹. Strabo gives us: Μενεσθέως Λιμὴν (Puerto de Santa María).¹⁰⁰ Finally, the Itineraries mention: *Portus Albus* (in the region of Algeciras)¹⁰¹ and *Portus Gaditanus* (Puerto Real)¹⁰².

Source	Vitr. <i>De Arch.</i> V, XII	Ulp. <i>Dig.</i> L 16, 59	Serv. <i>A.</i> II 23	St. Isid. <i>Etym.</i> XIV 8
Place	• a natural harbour with favourable condition • if it is not a good place, it can be improved with dikes and docks	• enclosed space, although not completely enclosed • portus		• a place sheltered from winds
Activity		• place for import and export of goods		• unloading goods
Time			• <i>portus</i>: place to stay in winter • <i>statio</i>: place where ships can stay for a short while	• installations to keep the ships during winter

Table IV.6 Definitions of ports in ancient sources (after Solana Sáinz, 1998: 68)

Solana Sáinz has given a good overview of the definition of *portus* found in four ancient sources dealing with the west (see table IV.6). Here we find two different forms of ports: *portus* and *statio*. A *portus* is a place where ships can anchor or dock to load and unload that has wharfs and/or warehouses; a *statio* is a place with an administrative function where ships are moored and goods are exchanged.¹⁰³ In general,

⁹⁶ Ptol. II 4, 5; García Alonso (2003): 35.

⁹⁷ Ptol. II 4, 7; *ibid.* 43.

⁹⁸ Ptol. II 6, 2; *ibid.* 142.

⁹⁹ Ptol. II 6, 16; *ibid.* 172.

¹⁰⁰ Str. III 1,9.

¹⁰¹ Ant.It. 407.1; Roldán Hervás and Caballero Casado (2014): 4.

¹⁰² Ant.It. 409.3.

¹⁰³ Sarabia Rogina (2005) 'Algunos aspectos de la formación del paisaje marítimo de Cantabria: de la Antigüedad a la afirmación de las villas costeras medievales.' In: Solórzano Telechea and González Morales

we can state that a port is a place sheltered from winds where ships may dock for transfer of goods as well as stay during the winter when sailing conditions are unfavourable.

The focus of this section will obviously be on the cities having a harbour or port rather than on the archaeology of the harbours themselves. As Blackman points out, it is generally difficult to create a clear picture of the specifics of the harbours as in many cases only some foundations have been found.¹⁰⁴ It can therefore be very difficult to establish the presence of a port. For the purposes of my inquiries I have used the database of de Graauw, which is part of the DARMC geographical series. These data have been supplemented using regionally focused publications on ports on the Iberian Peninsula.¹⁰⁵ De Graauw's very inclusive database poses some problems if we do not filter the results. First, his decision to include possible harbours based on natural harbours has led to the inclusion of a multitude of inlets and bays without any clear relation to the Roman settlement system. Such 'ports' are not displayed on fig. IV.1. Secondly, De Graauw's database includes all sea-related archaeological remains, including every jetty and dock. These will be shown as smaller dots, in order not to fill the whole coast with references to ports.

Obviously, not all harbours and ports were linked to a city. As Blackman points out, "The refuge harbours and some of the sanctuary harbours provide one main exception to the general rule that ancient harbours were closely linked to city sites."¹⁰⁶ Moreover, some *villae* also had harbours or ports. Even though ports of *villae* are highly relevant for cities and the operations of the rural economy, such harbour installations cannot realistically be described as secondary settlements. Those ports that belonged to 'town-like' agglomerations will be taken into account.

(eds.), *II Encuentro de Historia de Cantabria: actas del II encuentro celebrado en Santander los días 25 a 29 de noviembre del año 2002* 163-90: 171.

L 16, 59: "Portus" appellatus est conclusus locus, quo importantur merces et inde exportantur: eaque nihilo minus statio est conclusa atque munita. Inde "angiportum" dictum est.

¹⁰⁴ Blackman (1982a) 'Ancient harbours in the Mediterranean. Part 1.' *The International Journal of Nautical Archaeology and Underwater Exploration* Vol. 11, N° 2, 79-104: 80.

¹⁰⁵ Graauw (2016) *Ancient Ports and Harbours, The Catalogue*. In addition the ports mentioned in specific sources have been used: Mantas (1990) 'Cidades Marítimas da Lusitânia.' In: Gorges (ed.), *Les Villes de Lusitanie Romaine. Hiérarchies et territoires*, 149-205; Pinheiro Blot (2003) *Os portos na origem dos centros urbanos*; Mantas (2010) 'Atlântico e Mediterrâneo nos portos romanos do Sado.' *Revista Portuguesa de História* Vol. XLI, 195-221; Mantas (2004) 'Vias e Portos na Lusitânia Romana.' In: Gorges, Cerrillo and Nogales Basarrate (eds.), *V Mesa Redonda Internacional sobre Lusitania Romana: Las Comunicaciones*, 427-54; Morillo Cerdán et al. (2016) 'Hispania and the Atlantic route in Roman times: new approaches to ports and trade.' *Oxford Journal of Archaeology* Vol. 35, N° 3, 267-84.

¹⁰⁶ Blackman (1982b) 'Ancient harbours in the Mediterranean. Part 2.' *The International Journal of Nautical Archaeology and Underwater Exploration* Vol. 11, N° 3, 185-211: 188.



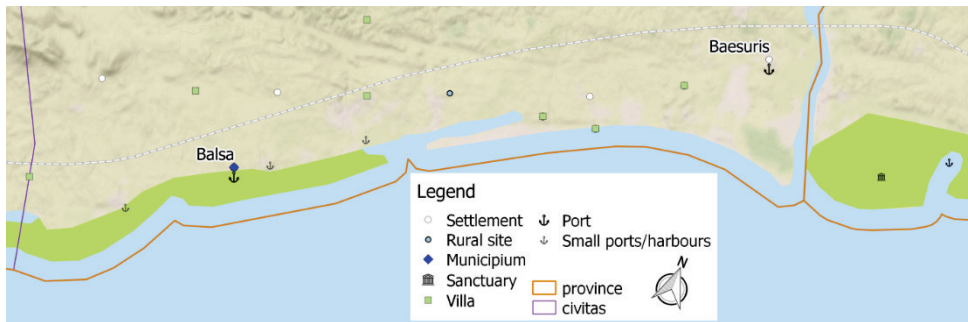
Fig. IV.1: Ports and harbours after de Graauw (2016)

That a port settlement might become an important self-governing city is shown by the promotion of the *Portus Amanum*. This port belonged to the *Samani*, which had their tribal centre at the Peña de Sámano.¹⁰⁷ Under Vespasian the port was promoted to the only Flavian *colonia* on the Iberian Peninsula and renamed *Flavio-briga*.¹⁰⁸ Clearly, the port city was favoured above the central place of the *civitas Samani*, most probably because it functioned as the main port for the *Legio IIII Macedonica*.¹⁰⁹ Many other port settlements are known mainly through archaeology.

Bearing in mind the limitations of this research, two cases studies will be used to obtain a better understanding of ports that have become relevant secondary or maybe even primary centres: *Portus Ilicitanus* and the ports in the territory of *Balsa*.

Balsa

In the case of *Balsa*, we at least find two ports working together: *Balsa* itself and the secondary settlement of *Baesuris*.¹¹⁰ *Baesuris* was located near the mouth of the Guadiana, which connected *Myrtilis* and *Pax Iulia* to the sea. This waterway must have been used intensively to transport material from the mines of S. Domingos.¹¹¹ In the Republican period *Baesuris* minted its own coins with the legend BAE or BAESURIS, some of which refer to magistrates.¹¹² This indicates that the settlement was originally a self-governing settlement. It must have been contributed to *Balsa* in the Imperial period as there is no evidence for it continuing as a self-governing settlement. The archaeological evidence shows that in the Imperial period the site declined to an agglomeration with three nuclei: a *villa* with a temple; a salt production installation;



¹⁰⁷ Solana Sáinz (1998): 68.

¹⁰⁸ Plin. *NHIV* 110.

¹⁰⁹ Solana Sáinz (1998): 69.

¹¹⁰ Obviously there may have been smaller ports or docks at villa sites along the coast. As has already been stated, these have not been taken into account.

Interestingly, the ORBIS database includes the port of *Aesuris*, and, strangely enough, the port of *Balsa* is omitted. Scheidel and Meeks (2012) *ORBIS: The Stanford geospatial network model of the Roman world*.

¹¹¹ Mantas (1990): 159.

¹¹² Vives y Escudero (1924a): 80. The reading according Hübner should be M-ANnius ANThius ET CON-Lega. Villaronga (2004): 232. reads MAN ANET / CON. Nonetheless, the coin shows that the emission was supervised or paid for by magistrates, supporting the status of Baesuris as a possible self-governing settlement before the imperial period. Cf. CUR90 317 & CUR90 318.

and a public port (with a necropolis and a bath complex). All in all, this conglomeration is no bigger than 14 hectares, with an occupied area of only 6.43 hectares.¹¹³ The question arises of how this settlement, located at such an important location, became a secondary settlement. In order to answer this question we must turn to the neighbouring city of *Balsa*.

The evidence for the special position of *Balsa* in the late republic may be found on its coinage. Whilst cities in its vicinity have dolphins or a tuna on the reverse, the coins of *Balsa* show the prow of a warship.¹¹⁴ This seems to support the idea that *Balsa* was an important harbour for Pompey's war against the pirates.¹¹⁵ On this basis we might accept *Balsa* as an important port for naval operations.

Fraga da Silva recognises a period of growth from 35/40 CE to 70 CE that may have resulted in a doubling of the urban built up area.¹¹⁶ In the neighbouring port city of *Ossonoba* a similar growth is found, and Bernardes argues that this expansion is related to the conquest and consolidation of Britannia during the first century CE. In this period, both these port cities played an important role as Atlantic harbours, where ships had to pass in order to go north.¹¹⁷ This could be an explanation for the choice of *Balsa* as the 'civitas capital'.¹¹⁸

Portus Ilicitanus

The port settlement of *Portus Ilicitanus* (Santa Pola) worked in tandem with the *colonia inermis Ilici*, which was located in the interior. The relation between these two settlements predates the Roman period. As early as the fifth century BCE a fortified settlement was located at the littoral of the *sinus Ilicitanus*.¹¹⁹ The port settlement at Santa Pola appeared in a period of enhanced trade with the Phoenicians, the port being located on the coastal route to *Ebusus* and the Balearic Islands.¹²⁰ In this period, the Iberian settlement of *Ilici*, possibly to be identified with *Helike*¹²¹, must have been of great importance as can be observed from the impressive Iberian art found here,

¹¹³ Fraga da Silva (2009): 8.

¹¹⁴ Fraga da Silva (2007) *Balsa, cidade Perdida*: 52.

¹¹⁵ *Ibid.* 23; Fraga da Silva (2010) 'Da classificação de materiais arqueológicos à conjuntura Socioeconómica do passado romano.' *Xelb* Vol. 10, 191-214.

¹¹⁶ Fraga da Silva (2010): 62.

¹¹⁷ Bernardes (2012) 'A cidade de Ossónoba e o seu Território.' *Anais do Município de Faro* Vol. XXXVII, 11-26: 13.

¹¹⁸ Plin. NH IV 116.

¹¹⁹ Molina Vidal (2005) 'La cetaria de Picola y la evolución del Portus Ilicitanus (Santa Pola, Alicante).' In: Molina Vidal and Sánchez Fernández (eds.), *III Congreso Internacional de Estudios Históricos: El Mediterráneo: la cultura del mar y la sal*, 95-112: 97; Márquez Villora (1999) *El Comercio Romano en el Portus Ilicitanus: El abastecimiento exterior de productos alimentarios (siglos I a. C. - V d. C.)*: 197.

¹²⁰ Molina Vidal (2005): 97; Molina Vidal (2004) 'Comercio y relaciones portuarias en el territorio de Ilici.' In: Abad Casal and Hernández Pérez (eds.), *Iberia, Hispania, Spain: Una mirada desde Ilici*, 189-96: 190.

¹²¹ Abad Casal (1984) *Los orígenes de la ciudad de Alicante*: 183.

including the Dama de Elche. The connection between *Ilici* and the Mediterranean is evident from the artwork.¹²²

The area of Santa Pola seems to have been abandoned, or at least activity there seems to have shrunk, in the fourth century BCE, only to be reoccupied in the Roman period.¹²³ The natural harbour and the Vinalopó river created a favourable location for a port settlement. Molina suggests that the advantages prompted the Romans to reuse this place to construct a port settlement for the new *colonia* of *Ilici*.¹²⁴

The famous *Bronce de Alcudia* gives 43 BCE as the foundation date.¹²⁵ This early date of foundation is supported by coins from the city dating to the second triumvirate.¹²⁶ However, an inscription referring to the *patronus* T. Statilius Taurus points to a foundation date of around 27 BCE.¹²⁷ The possibility of a double *deductio* would explain this inscription. It is possible that *Ilici* was founded during the second triumvirate and that veterans from the Cantabrian Wars were sent to *Ilici* in 27 BCE.¹²⁸ It is generally accepted that *Ilici* was a self-governing community at least from 43 BCE. Unfortunately, the archaeological record of both *Ilici* as *Portus Ilicitanus* is rather limited due to modern occupation of the region.¹²⁹ Still, the connection between the two settlements can be asserted. The new *colonia* needed a connection to the Mediterranean, and the port settlement only 12 kilometres from the *colonia* is the most logical site.¹³⁰ Archaeologically the reoccupation of the site at Santa Pola can be linked with the foundation of the *colonia*.¹³¹ Finally, there are indications in the epigraphic record that these two settlements were connected.¹³² That *Ilici* was an important Roman *colonia* is certain. We find the evidence in its coins, in its special status as a *colonia immunis*, in the large centuriated territory and in the monumentalisation of the city.¹³³

¹²² Ramos Fernández and Ramos Molina (2004) 'La escultura ibérica de La Alcudia.' In: Abad Casal and Hernández Pérez (eds.), *Iberia, Hispania, Spania: Una mirada desde Ilici*, 133-44: 133.

¹²³ Molina Vidal (2005): 100.

¹²⁴ *Ibid.* 97 & 100; Fumanal and Ferrer (2007) 'El yacimiento arqueológico de La Picola (litoral de Santa Pola, España): estudio geomorfológico y sedimentológico.' *Cuaternalario y Geomorfología* Vol. 12, Nº 1-2, 77-93: 91.

¹²⁵ Chao *et al.* (1999) 'Un nuevo bronce hallado en la Alcudia.' In: González Fernández (ed.), *Ciudades Privilegiadas en el Occidente Romano*, 417-24: 423.

¹²⁶ Llorens Forcada (1994) *La ciudad romana de Carthago Nova: las emisiones romanas*: 170.

¹²⁷ CIL II 3556: T(itio) Statilio / Tauro imp(eratori) / III co(n)s(uli) II / patrono Syme (1989) *The Augustan aristocracy* 211; Molina Vidal (2005): 100.

¹²⁸ Márquez Villora (1999): 188.

¹²⁹ *Ibid.* 350; Tendero Porros (2004) 'Urbanismo.' In: Abad Casal and Hernández Pérez (eds.), *Iberia, Hispania, Spania: Una mirada desde Ilici*, 125-32: 125.

¹³⁰ Fumanal and Ferrer (2007): 91; Márquez Villora (1999): 189; Grau Mira and Moratalla Jávega (2004) 'El paisaje antiguo.' In: Abad Casal and Hernández Pérez (eds.), *Iberia, Hispania, Spania: Una mirada desde Ilici*, 111-8: 118.

¹³¹ Molina Vidal (2005): 100; Márquez Villora (1999): 187.

¹³² Abascal Palazón (1989): 14.

¹³³ With the legend C(olonia) I(ulia) I(ilici) A(ugusta); Plin. *NH* III 19; At least 11340 hectares Chao *et al.* (1999): 423; Márquez Villora (1999): 189.

An interesting feature of the settlement of *Portus Ilicitanus* is that it outgrew the city on which it depended. Carreras gives us 2.4 hectares as the size of *Portus Ilicitanus* (Santa Pola)¹³⁴ whereas *Ilici* (Elche) only measured 9.8 hectares.¹³⁵ Admittedly, the port and the warehouses of the port settlement took up quite some space. Nonetheless, we can be certain that the settlement of Santa Pola was much larger than the area used by the port. Clearly, the port settlement became a centre for economic and demographic growth.

Situated near the boundary between *Citerior* and *Baetica*, *Portus Ilicitanus* was a good stopping point for ships travelling from Spain to the Balearic Islands or North Africa (fig. IV.3).¹³⁶ Molina points to the predominance of non-locally produced Hispanic amphorae, which accounts for about 94% of the amphora studied in *Portus Ilicitanus* and in the city itself.¹³⁷ During the High Empire, the imports from *Baetica* and the Atlantic coast make up 50-70% of the total of imports in the record of *Portus Ilicitanus*.¹³⁸ The large number of these products shows that the port of *Ilici* was a

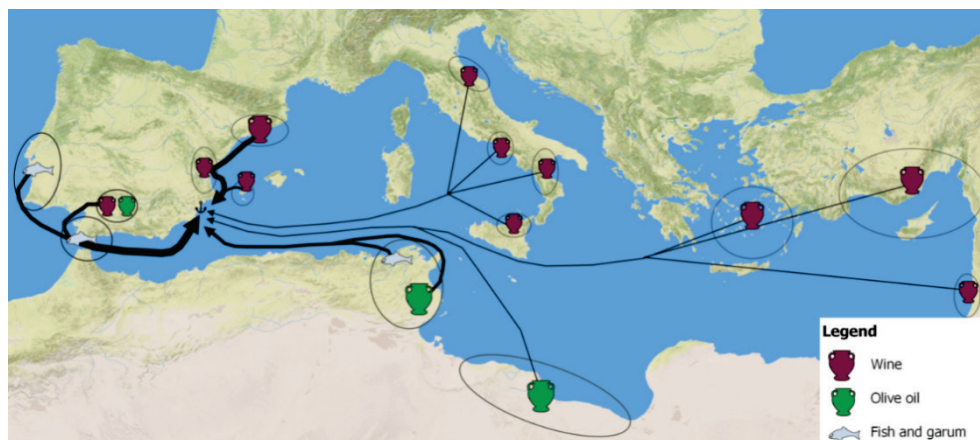


Fig. IV.3 *Portus Ilicitanus* and the commercial connections in the centuries I-IV (after Márquez Villora (1999), 531).

¹³⁴ Carreras Monfort (2014): 76. Unfortunately, I have not been able to find the source for this size. We have to assume that this is at least within the range of the actual size and thus the settlement would have outgrown the city of *Ilici*.

¹³⁵ *Ibid.* 74.

¹³⁶ Márquez Villora (1999): 301.

Origin of products: **Lusitania and Baetica:** Guadalquivir valley (olive oil and wine); Southern Atlantic coast of Lusitania (fish and garum); Coast of Baetica and Strait of Gibraltar (fish and garum, wine?)

Citerior: Valentian gulf (wine), Tarraco region (wine); Ebusus (wine)

North Africa: Carthaginian area (wine, fish and garum); Tripolitana (olive oil)

Italian Peninsula: Campania, Latium; Adriatic coast; Calabria, Sicilia.

Eastern Mediterranean: Syria (wine); Asia Minor, Cyprus (wine, olive oil?); Palestina (wine); Aegean Islands, Asia Minor coastal area (wine, ointments?, resin?).

¹³⁷ Molina Vidal (2004): 193.

¹³⁸ *Ibid.* 194; Márquez Villora (1999): 206.

transshipment port for produce leaving the Iberian Peninsula.¹³⁹ In the first and second century, imports from outside the Iberian Peninsula mainly came from the Italic Peninsula.¹⁴⁰ Products from North Africa started to arrive in the first century and took over the position of Hispanic produce in the late third century, reaching 44.64% of the containers.¹⁴¹ Products from Eastern Mediterranean do not seem to have arrived before the late third century; most probably these products were carried by ships sailing via Sicilia, Sardinia and the Balearic Islands.¹⁴²

In the second half of the fourth century, *Portus Ilicitanus* also became a production settlement for garum and salted products.¹⁴³ The port settlement declined in the late fifth or early sixth century.¹⁴⁴ During this period, *Ilici* continued to develop and in the seventh century even became an episcopal seat.¹⁴⁵

4.3.2 Mining settlements

Many of the mining districts and mining settlements of the Iberian Peninsula show evidence of a military presence. The role of army units in mining regions is often seen as one of surveillance, administration and control over the mining operations.¹⁴⁶ The importance of mining for the Iberian Peninsula can be observed in figure IV.4.¹⁴⁷ Various self-governing cities, such as *Carthago Nova*, *Segobriga* and *Munigua*, cannot be understood without examining their role as administrative centres for mining operations. Moreover, to understand the urbanism of the whole north-western region, we must consider the role of these regions as one of the main gold-mining areas for the Roman Empire.

Orejas *et al.* in their work on the organisation and regulation of mines recognise two different ways of organising the mining operations.¹⁴⁸ Some mines were *metalla publica*, mining districts under direct rule of the *procuratores metallorum*. All gold mines belonged to this category.¹⁴⁹ The mining districts of the *metalla publica* were not *civitates* but separate territories. In the case of *Lusitania*, the most important example of this form of territorial organisation is *Vispasca*. Unfortunately, this site has

¹³⁹ Márquez Villora (1999): 215; Molina Vidal (2004): 195.

¹⁴⁰ Márquez Villora (1999): 191.

¹⁴¹ *Ibid.* 261.

¹⁴² *Ibid.* 289.

¹⁴³ Molina Vidal (2005): 101.

¹⁴⁴ Molina Vidal (2004): 195; Molina Vidal (2005): 110.

¹⁴⁵ Gutiérrez Lloret (2004) 'Ilici en la antigüedad tardía.' In: Abad Casal and Hernández Pérez (eds.), *Iberia, Hispania, Spania: Una mirada desde Ilici*, 95-110: 100.

¹⁴⁶ García-Bellido (2002) 'Labores mineras militares en Hispania. Explotación y control.' In: Morillo Cerdán (ed.), *Arqueología militar romana en Hispania*, 19-46: 19.

¹⁴⁷ Orejas *et al.* (2012): 32 fig. 1. Cf. Plin. *NH* III 30: *Metallis plumbi ferri aeris argenti auri tota ferme Hispania scatet, ceterior et specularis lapidis, Baetica et minio.*

¹⁴⁸ *Ibid.* 34.

¹⁴⁹ *Ibid.* 35.

been continuously used as a mine, and as a result the Roman remains have been disturbed. The main evidence comes from the fragments of the *Lex Metalli Vipascensis*, which were found in 1876.¹⁵⁰

In his book *Imperial Mines and Quarries in the Roman World: Organizational Aspects 27 BC-AD 235*, Hirt argues convincingly that the district of the *metallum Vipascense* comprised three different territorial entities.¹⁵¹ First, the *metallum* or the district to which the *lex* applies. In the *Lex Metalli Vipascensis* the 'territoria metallorum' or the 'fines metallorum' are described as territories confined by boundaries.

The fact the *metallum* has its own territories puts question marks on the territorial organisation as proposed by Alarcão.¹⁵² The latter's reconstruction focuses on the territories of self-governing *civitates* and does not take the *metallum Vipascense* into account. Hirt points out that the titles of the *procurator* and *restitutor* are accompanied by the plural *metalla*. This indicates that they were not only responsible for the *metallum Vipascense*, but for other mining districts as well.¹⁵³ Within the inscription of *LMV*, we find a reference to the *vicus metalli Vipascensis*.¹⁵⁴ Within this *vicus* we find different services that point to a certain level of specialisation: baths, school and a barber, and probably a public square where the *lex* was posted.¹⁵⁵

Another – less well-known – *metallum* is that of *Metallum Alboc(...)* which appears in CIL II 2598. We know the name of an Augustan Procurator for this mining region: Ulpius Eutyches. Unfortunately, the location of the inscription can no longer be determined; we only know it was located in *Callaecia*. This inscription has been linked with the Plinian reference to the *Metallum Albucrarensis*.¹⁵⁶

Among the state-owned *metalla* there were small-scale mining activities organised locally and taxed by the *fiscus*.¹⁵⁷ Such mines might be operated by *societates*,

¹⁵⁰ Cauuet (2004) 'Apport de l'archéologie minière à l'étude de la mise en concessions des mines romaines aux I^{er} et III^e siècles. L'exemple de Vipasca (Aljustrel, Portugal) et d'Alburnus Maior (Rosia Montana, Roumaine).' In: Gorges, Cerrillo and Nogales Basarrate (eds.) *V Mesa Redonda Internacional sobre Lusitania Romana: Las Comunicaciones*, Madrid: Ministerio de Cultura, 33-60: 38.; Alarcão (1988): 46.

LMV: CIL II 5181 = IRCP 142 = ILS 6891 = AE 2001, +01128.

LMD: AE 1906, 151 = AE 1907, 90 = AE 1907, 139 = AE 1907, 140 = AE 1907, 180 = AE 1907, 228 = AE 1907, 248 = AE 1909, 33 = AE 1909, 68 = AE 1912, 132 = AE 1912, 288 = AE 1952, 81 = AE 1979, 337 = HÉp 11, 2001, 649 = HÉp 11, 2001, 650 = EJER 6 = IRCP 143.

¹⁵¹ Hirt (2010) *Imperial Mines and Quarries in the Roman World: Organizational Aspects 27 BC-AD 235*: 49.

¹⁵² Alarcão (1990) 'Identificação das Cidades da Lusitânia Portuguesa e dos seus Territórios.' *Les Villes de Lusitanie Romaine: hierarchies et territoires. Table ronde internationale du CNRS*, Éditions du Centre National de la Recherche Scientifique, 21-34: 31 Fig. 1.

¹⁵³ Hirt (2010): 49.

¹⁵⁴ *Ibid.* 49.

¹⁵⁵ CIL II 5181 refers to *balnea*. Cauuet (2004) 38 argues that there must have been a *forum* for the *lex* to be displayed.

¹⁵⁶ CIL II 2598: I(ovi) O(ptimo) M(aximo) / Anderon(i) / sac(rum) / M(arcus) Ulpius / Aug(usti) lib(ertus) / Eutyches proc(urator) / metall(orum) Alboc(olensium); Plin. *NH* XXXIV 80. Cf: Le Roux (2014b): 49; Orejas *et al.* (2012): 36.

¹⁵⁷ Orejas *et al.* (2012): 33.

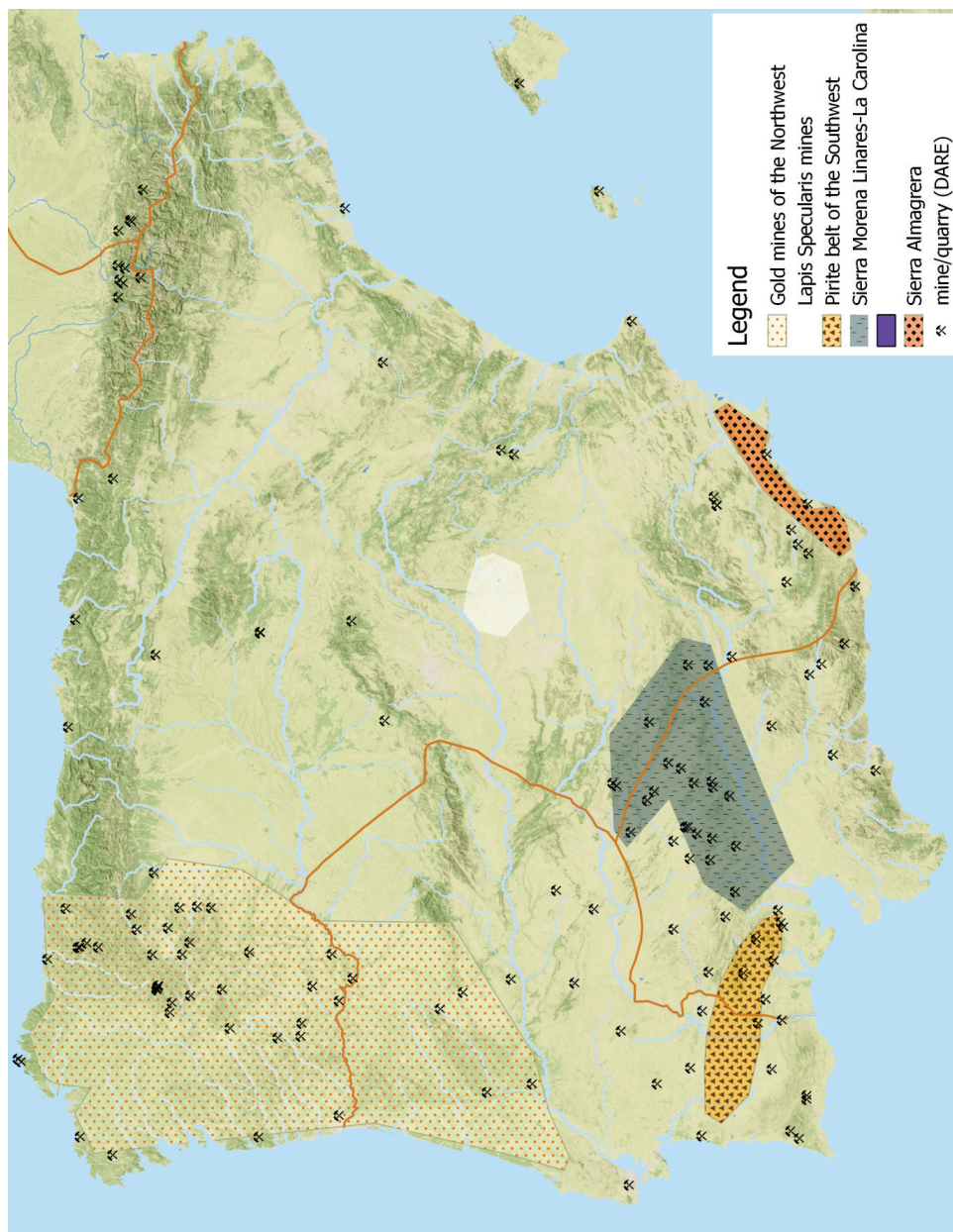


Fig. IV.4: Mining areas as given by Orejas et al. (2012), 32 fig. 1. complemented with mining centres given by DARE.

privati or *civitates*.¹⁵⁸ A *societas* in a *civitas* is that of *Sisapo*.¹⁵⁹ Similarly, stamps on lead ingots refer to a *societas argentifodinarum* in the *civitas Ilurco*.¹⁶⁰

The presence of large gold-mining operations in the north-western provinces must have had a huge impact on the settlement system. Spanish researchers argue for an early organisation of this region into *civitates*, as can be observed from the Edict del Bierzo, which refers to the *civitates Susarri* and *Gigurri* and their subordinate *castella*.¹⁶¹ In addition, we find evidence of settlements near mines functioning as important secondary centres within a *civitas*. Examples include *Forum Limici*, where the honorary inscriptions for emperors are found at the settlement of A Cida next to the mining area (cf. above). Another example is that of *Aquae Querquernae*, a garrison settlement with a Roman auxiliary encampment.¹⁶² In this case, the nearby old *castro* of Rubiás remained an important settlement, as can be observed from an inscription dedicated to Trajan.¹⁶³ In general, we can observe that in the mining districts secondary agglomerations close to the mines played an important role in the settlement system.

The *societas*, an operation directed from Rome, seems to have played a more important role in mining operations in the south of the peninsula, as can be observed particularly in the case of *Castulo*.¹⁶⁴ The contrast between the use of a *societas* in *Castulo* and the creation of *civitates* in the mining districts in the north-west can be explained by looking at the origin of the mining operations. *Castulo* was already incorporated into the Roman sphere during the Roman Republic. In this period, mining operations were organised through *societates*. The *societas* of *Castulo* is referred to on coins, objects and seals with the legend *S(societas) C(astulonensis)* that were found near the mines.¹⁶⁵

The existence of the southern mines helps to explain the vast 'urban' void to the north of *Castulo* and *Baesucci*. The first cities to the north are *Oretum* and *Sisapo*, which were located 80 and 103 kilometres respectively from *Castulo*. Given the vastness of the area, we expect to find a secondary agglomeration in the mining districts. What we observe is that the El Centenillo mines have a high concentration of processing sites and two agglomerated settlements, one of which is located close to the fork in the road leading to *Oretum* and *Sisapo* (fig. IV.5).¹⁶⁶ The El Centenillo mines

¹⁵⁸ Orejas *et al.* (2012) 33-4.

¹⁵⁹ Cic. *Phil.* 2.20.49.

¹⁶⁰ Díaz Ariño and Antolinos Marín (2013) 'Los *argentarii* y las *societates* mineras de la zona de *Carthago Nova*.' In: López Vilar (ed.) *1^{er} Congr s Internacional d' Arqueologia i M n Antig*, Tarragona: Fundaci n Privada M tua Catalana, 115-20: 119.

¹⁶¹ Orejas *et al.* (2012): 39.

¹⁶² See above.

¹⁶³ Orejas *et al.* (2012): 40. HEp 2, 517

¹⁶⁴ Arboledas Mart nez (2008) 'Aspectos sociales y fiscales en las minas romanas del Alto Guadalquivir.' *PYRENAE* Vol. 29, N  2, 71-99: 78.

¹⁶⁵ Domergue (1990) *Les mines de la p ninsule ib rique dans l'antiquit  romaine*: 262; Arboledas Mart nez (2008): 79.

¹⁶⁶ Bekker-Nielsen (1989): 66.

are located 35 kilometres from *Castulo*. This concentration of processing sites and specialised settlements, in combination with the absence of rural sites in the direct vicinity, confirms the existence of secondary central places in lightly urbanised areas.

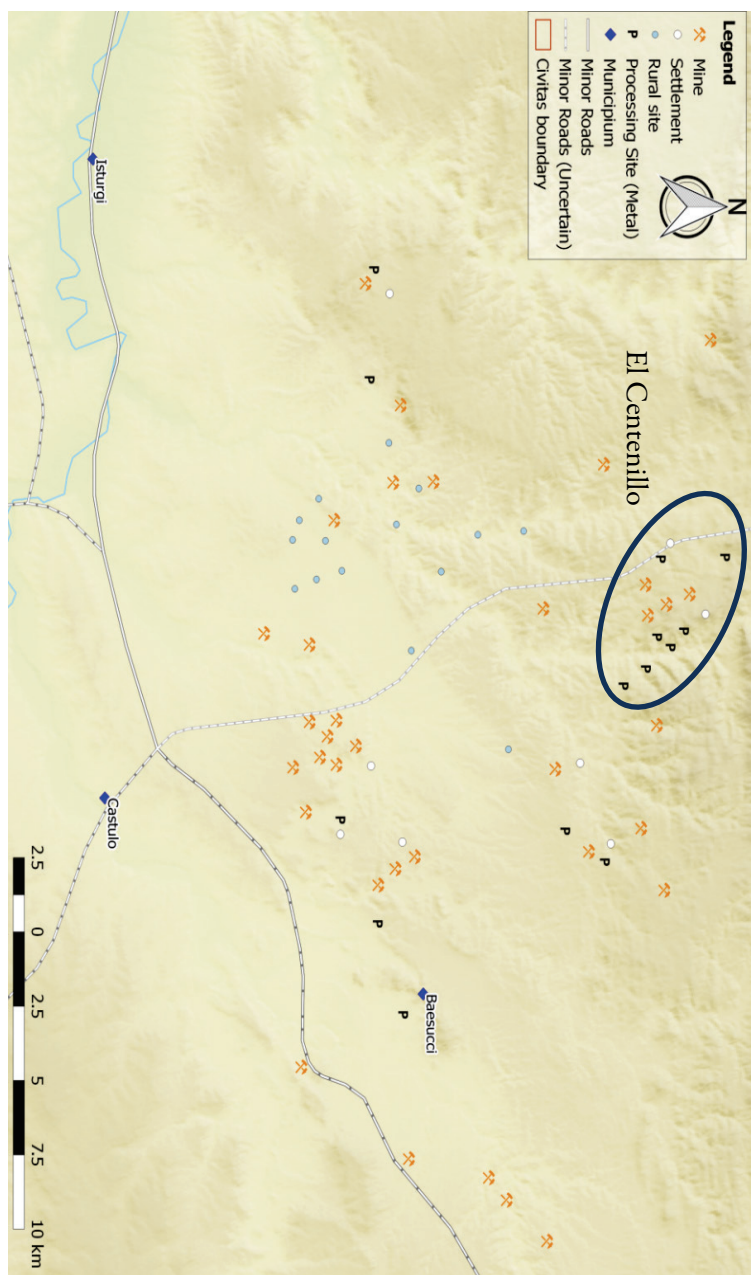


Fig. IV.5: The mining area close to Baesuci with the agglomerated production sites at

4.3.3 Spas and bath complexes

Several *Aquae* have already been mentioned in the chapter on the self-governing communities. Instances include *Aquae Flaviae* as an important *municipium* in the Galician regio, *Aquae Querquernae* as a military settlement, and *Aquae Calidae* (Egara) as a central place of a dispersed *civitas*. In addition to these *Aquae*, several other places have been identified as certain or possible Roman spas.¹⁶⁷ As the hot water springs were taken to be sacred, religious dedications can be found relating to these springs.¹⁶⁸ At least the agglomerations that developed near these natural thermal springs may have functioned as secondary central places.

Morphologically, the complexes built over the thermal springs are rather similar. In all of them a central room with a *piscina* fed by the thermal spring is the focal point of the building.¹⁶⁹ While many existing publications consider such morphological features or the medical properties of the water, none of the meta-studies looks into the role of the spas in the settlement pattern.¹⁷⁰

Hot water springs and spas only appear in certain geological areas. Three regions with marked concentrations can be identified: Galicia, Catalonia and Murcia.¹⁷¹

Baños de Fortuna (Murcia)

The complex of Fortuna is composed of two different structures at different sites. One of them is Baños de Fortuna, which is located at the site of the thermal springs. The site has been occupied from prehistoric times¹⁷², and it is highly likely that the thermal springs already had a religious context before the Roman occupation. In the Imperial period, a sanctuary was constructed at the site.¹⁷³ The first Roman structure

¹⁶⁷ González Soutelo recognises as certain: Alange, Archena, Carballo, Cueva Negra, Fitero, Fortuna, Ourense, S. Pedro do Sùl and Lugo, see: González Soutelo (2012): 79.

Peréx and Miró add a multitude of places to this list, with certainty the places: Alange, Alhama de Murcia, Archena, Baños de Montemayor, Caldas de Malavella, Caldas de Montbui, Caldas de Taipas, Carballo, Fitero, Fortuna, Lugo, S. Pedro do Sul, Burgas de Orense and Chaves, see Peréx Agorreta and Miró i Alaix (2011) 'VBI AQUAE IBI SALVS. Atlas de aguas minerolas aguas en la Hispania antigua.' In: Costa Solé, Palahí Grimal and Vivó i Codina (eds.), *Aquae Sacrae. Agua y sacralidad en la Antigüedad*, 59-67: 62.

See Moltó for a list of 52 archaeological identified thermal springs, Moltó (1992) 'Tipos de aguas minero-medicinales en yacimientos arqueológicos de la península Ibérica.' *Espacio, Tiempo y Forma. Serie II, Historia Antigua* Vol., 221-8.

¹⁶⁸ Andreu Pintado (2012b): 71; González Soutelo (2012): 79; Peréx Agorreta and Miró i Alaix (2011): 60; Costa Solé (2011) 'Els espais de culte a les aigües al Territorium de Gerunda.' In: Costa Solé, Palahí Grimal and Vivó i Codina (eds.), *Aquae Sacrae. Agua y sacralidad en la Antigüedad*, 29-58: 29; López Muñoz (2015) 'Revalorización del patrimonio termal en la Región de Murcia. El Balneario de Archena: historia y arquitectura.' *IMAFRONTA* Vol. 24, 9-42: 14.

¹⁶⁹ González Soutelo (2012): 84; Peréx Agorreta and Miró i Alaix (2011): 61.

¹⁷⁰ Moltó (1992); González Soutelo (2012); González Soutelo (2013) '¿De qué hablamos cuando hablamos de balnearios romanos? La arquitectura romana en los edificios de baños con aguas mineromedicinales en Hispania.' *CuPAUAM* Vol. 39, 123-50; Peréx Agorreta and Miró i Alaix (2011).

¹⁷¹ Matilla Séiquer *et al.* (2012): 253; González Blanco (1992) 'El balneario de Fortuna y la Cueva Negra (Fortuna, Murcia).' *Espacio, Tiempo y Forma. Serie II, Historia Antigua* Vol., 421-54: 421.

¹⁷² González Blanco (1992): 428.

¹⁷³ *Ibid.* 430; Matilla Séiquer *et al.* (2012): 253.

was a *nymphaeum*, already constructed in the late Republican period.¹⁷⁴ In the Julio-Claudian period, the thermal springs were transformed into a monumental complex, carved partly into the natural bedrock; at least 100 m³ had to be extracted to create the complex.¹⁷⁵ The part carved in the bedrock is still preserved and on one side has a tripartite headboard, consisting of an apsis flanked by two square *aediculae*. The centre of the building held a *piscina*, as is common in the Roman spas of the Iberian Peninsula.¹⁷⁶ In addition to the building covering the spring, a group of buildings have been found that have been interpreted as a hostelry.¹⁷⁷

Only two kilometres from the thermal springs we find the religious site of Cueva Negra (Black Cave).¹⁷⁸ The black walls of this cave seem to have been painted in the Roman period. In addition, we find *tituli picti* in red paint dedicated to different deities and verses from the *Aeneid*.¹⁷⁹ Several of the *tituli* reveal the connection between the cave sanctuary and the nearby thermal springs.¹⁸⁰ One of these *tituli* mentions *Annius Crescens*, who was *sacerdos Asculepi Ebusitani*, thereby highlighting the regional importance of the complex.¹⁸¹

This sanctuary is located in a rather low urbanised region, the distance to *Ilici* being 38 kilometres and that to *Carthago Nova* being 69 km as the crow flies. If we follow the roads, these distances measure 51 km and 78 km respectively. The sanctuary is even located 20 kilometres from the major roads between *Carthago Nova* and *Complutum* and a similar distance from the *Via Augusta*.¹⁸² Nonetheless, Matilla argues that the presence of *tituli picti* with verses from the *Aeneid*, and the size of the *piscina* indicate that the bath complex was more than a rural site. The presence of a priest of Aesculapius of *Ebusus* connects the sanctuary to *Carthago Nova*, whereas the numismatic evidence suggest close connections with *Ilici*.¹⁸³ It is clear that this spa must be considered a secondary agglomeration with functions covering a large region.

¹⁷⁴ Álvarez Martínez, Nogales Basarrate and Rodà de Llanza (eds.) (2014) *El balneario suburbano romano de Fortuna: impacto, tipificación y problemas*. Mérida, 2013: 883.

¹⁷⁵ Matilla Séiquer *et al.* (2012): 254; Álvarez Martínez, Nogales Basarrate and Rodà de Llanza (eds.) (2013): 884.

¹⁷⁶ González Soutelo (2012): 84.

¹⁷⁷ Matilla Séiquer *et al.* (2002) 'El santuario romano de las aguas de Fortuna (el balneario de Carthago Nova)' *Mastia* Vol., 179-90: 180.

¹⁷⁸ González Blanco (1992): 450; Matilla Séiquer *et al.* (2012): 255.

¹⁷⁹ González Blanco (1987) *La cueva Negra de Fortuna (Murcia) y sus tituli picti. ¿Un santuario de época romana?*; Matilla Séiquer *et al.* (2002); Matilla Séiquer *et al.* (2012): 255.

¹⁸⁰ González Blanco (1992): 450; Álvarez Martínez, Nogales Basarrate and Rodà de Llanza (eds.) (2013): 883.

¹⁸¹ Álvarez Martínez, Nogales Basarrate and Rodà de Llanza (eds.) (2013): 883. HEP 2, 1990, 489 = AE 1987, 655f = AE 1992, 107.

Matilla Séiquer *et al.* (2003) 'El balneario romano de Fortuna estado de la cuestión y perspectivas de futuro.' In: González Blanco and Matilla Séiquer (eds.), *La cultura latina en la Cueva Negra: En agradecimiento y homenaje a los Profs. A. Stylow, M. Mayer e I. Velázquez*, 79-182: 169.

¹⁸² Álvarez Martínez, Nogales Basarrate and Rodà de Llanza (eds.) (2013): 885.

¹⁸³ Matilla argues that the Asculapius of *Ebusus* may find his origin in Eshmun, a Punic god and as such relates the sanctuary to *Carthago Nova*. Matilla Séiquer *et al.* (2003): 169.

Archena (Murcia)

The second spa that will be examined is Archena, located just 17 kilometres from Baños de Fortuna. This site was located along the route from *Segobriga* to *Carthago Nova*, in fertile lands, and, obviously at the site of a natural spring. Three different sources for three different kinds of water can be found at Archena: a thermal spring with sulphurous water, the river Segura, and a spring of drinkable water.¹⁸⁴ Unsurprisingly this location has been inhabited from prehistoric times until the present day.¹⁸⁵ Because this site is still a spa, its archaeology is limited. Nonetheless, some excavations have been carried out. These confirmed the Roman date of the bath-house.¹⁸⁶ Among the archaeological remains, a *mansio* or hostelry dating to the first century CE has been located.¹⁸⁷ The building has a patio of 169 m² and a service area that can be entered from the patio. The interior of the building has multiple rooms, which are painted with vegetal and figural patterns. A necropolis has been identified close the *mansio*, which has yielded some interesting funerary inscriptions. Alarcão argues that the presence of multiple inscriptions of various types (funerary, honorific and other) in one site might be an indication of a secondary agglomeration.¹⁸⁸

The inscriptions from Archena illuminate the role of this spa for a larger region.¹⁸⁹ One of these inscriptions relates to the construction of the *thermae*.¹⁹⁰ Another refers to a *duumvir* who reconstructed the complex after its destruction in the first half of the first century CE.¹⁹¹ As noted above, it is unclear whether this *duumvir* belonged to Archena itself or came from a nearby *civitas* 'capital'. There are no known self-governing cities in the direct vicinity.¹⁹² Mantilla and Adrados have carried out a detailed analysis of this inscription.¹⁹³ As they point out, a *municipium* decided to reconstruct the *aqua* using public money.¹⁹⁴ The decision to use public money to reconstruct a

¹⁸⁴ Matilla Séiquer and Adrados Bustos (2008) 'Obras hidráulicas antiguas en Murcia, tipos y reiteraciones: la huella de Carthago Nova en el balneario de Archena.' *Revista Murciana de Antropología* Vol. 15, 53-77: 54.

¹⁸⁵ González Fernández and Matilla Séiquer (2007): 22; López Muñoz (2015): 14; Matilla Séiquer and Adrados Bustos (2008): 55.

¹⁸⁶ Matilla Séiquer *et al.* (2012): 255.

¹⁸⁷ González Fernández and Matilla Séiquer (2007): 26.

¹⁸⁸ Alarcão (1996): 170.

¹⁸⁹ López Muñoz (2015): 14; González Fernández and Matilla Séiquer (2007): 22.

¹⁹⁰ CIL II 3542: L(ucius) Turcilius P(ubli) f(ilius) / Rufus / [The]rmas [f]ec(it). Unfortunately lost.

¹⁹¹ CIL II 3541 (p 955); ILER 2043: C(aius) Cornelius Capito L(ucius) Heius Labeo / Ilvir(i) aquas ex d(ecreto) d(ecurionum) reficiendas / curarunt i(dem)q(ue) p(robarunt).

Mantilla and Adrados argue that although *aquas* traditionally refers to an aqueduct, it could well have referred to the bath complex or the settlement itself if it was known as a *Aquae* (2008): 60. Archaeology proves the destruction of the building in the first century CE, see: Mantilla and Adrados: 59; González Fernández and Matilla Séiquer (2007): 23.

¹⁹² *Ilorca* has been located at Lorquí, only 6 kilometres away, however the location at Lorca and thus connection to *Eliocroca* seems more logical as it is near the spring of the Guadalquivir as Pliny indicates for *Ilorca*. Other places in the vicinity are *Begastri* (41 km), *Ilorca-Eliocroca* (61 km), *Carthago Nova* (65 km), *Ilici* (55 km) and *Ilunum* (47 km).

¹⁹³ Matilla Séiquer and Adrados Bustos (2008): 59-60.

¹⁹⁴ *Ibid.* 60.

building that had been erected by a private person indicates the importance of the bath complex. Mantilla and Abrados also observe that the *nomen* of the *duumvir*, *L. Heius Labeo*, is well known from the region of *Olisipo* (Lisbon). They suggest that the *duumvir* may have originated from this region, and that Archena was somehow connected to *Olisipo*.

Two other sepulchral inscriptions connect the site to other parts of the Peninsula. An inscription from the early first century CE mentions an individual with the *origo* *Consaburensis*.¹⁹⁵ *Consabura* is a city located a lengthy 250 kilometres from Archena. Another funerary inscription with an *origo* is dated to the late first century CE and refers to *Valentia* a city located 170 kilometres from Archena. González and Matilla point out that the cognomen on this inscription, *Daphnus*, is of eastern origin and is often found in port settlements.¹⁹⁶

The archaeology of Archena does not support the idea of a classical urban centre. It may be that the settlement belonged to a dispersed *civitas*. The region does not have many urban centres, but Archena was related to a community with the status of *municipium*. The fact a necropolis is located in the direct vicinity indicates there was habitation and the funerary inscriptions position the site within the wider settlement network. Since Archena is located on the road from *Carthago Nova* to *Complutum*, it may also have functioned as a *mansio*.

Aquae Querquernae (Galicia)

The military settlement of *Aquae Querquernae* has already been mentioned in my discussion of the dispersed *civitates* as it had at least a military camp and a *castro* that seem to have functioned in tandem as central places.¹⁹⁷ In addition to these two settlements, several other settlements were located in this *civitas*.

In the direct vicinity, to the south-east of the camp, we find a military *vicus* (A Cidade) which only measured half a hectare. A second *vicus* (Baños), measuring 4.4 hectares, must have been an important secondary agglomeration, as it is the settlement where the *mansio* is located.¹⁹⁸ Moreover, it was the location of the thermal springs and had a thermal complex, from which *Aquae Querquernae* took its name.¹⁹⁹ Unfortunately, it is now partially submerged because of the construction of a hydro-electric dam. In addition to these *vici*, we find another settlement, Buraca da Moura, a gold mining settlement, which was clearly related to the fort located to the north.²⁰⁰

¹⁹⁵ González Fernández and Matilla Séiquer (2007): 30.

¹⁹⁶ *Ibid.* 36.

¹⁹⁷ Plin. *NH* III 28; Rodríguez Colmenero (2002): 228.

¹⁹⁸ Itin. Ant. 428.2; Ravenn. 320.3; Rodríguez Colmenero *et al.* (1998): 905; Rodríguez Colmenero (1991): 127.

¹⁹⁹ Palao Vicente (2009): 529.

²⁰⁰ *Ibid.* 528; Soares Fortes (2008) *A xestión da auga na paisaxe romana do occidente peninsular*: Anexo III p. 47.

4.3.4 Mansiones and mutationes

Mansiones and *mutationes* were stopping places along the roads. A *mansio* is a place where one could stay the night. The central building generally took the form of a quadrangular patio with several rooms opening onto it. In many cases, we also find a thermal complex.²⁰¹ *Mansiones* were situated on average 20 kilometres or one day's travel apart.²⁰² Due to their focal position along the roads and their distribution over the landscape, it is not hard to imagine that they often developed into central points for the surrounding area, providing not only the opportunity for travellers to rest but also trading opportunities for the local population.²⁰³ Some of the *mansiones* and *mutationes* may therefore have developed into 'town-like' settlements, with urban features such as a bath-complex, permanent or temporary market place and administrative functions similar to those of the *vici*. This explains why they appear in most works dealing with the secondary agglomerations of the Roman Empire.²⁰⁴

The *mansiones* of the Iberian Peninsula can be traced through the Antonine Itinerary, the Ravenna Cosmography and the Vicarello goblets. These sources cover the most important routes on the peninsula, but they do not provide us with a chronological perspective as they are either difficult to date, as in the case of the Vicarello goblets²⁰⁵, or contain information relating to multiple periods.²⁰⁶ Despite these problems, the itineraries provide a good overview of the routes and the *mansiones*.

It appears from the itineraries that the *mansiones* were to be found in various types of settlements, ranging from provincial capitals to *vici*. We find them in all kinds of secondary agglomerations, such as ports²⁰⁷, *fora*²⁰⁸, *aquae*²⁰⁹ and *vici*²¹⁰. Unfortunately, many of these places remain unlocated and therefore cannot be included in

²⁰¹ Caballero Casado (2016) 'Roman Roads: the Backbone of the Empire.' In: Cámara Muñoz and Revuelta Pol (eds.), *Roman Engineering*, 69-86: 82; Salway (2001): 34.

²⁰² Roldán Hervás (2013) 'Augusto y la administración provincial.' In: Blázquez Martínez and Ozcáriz Gil (eds.), *La Administración de las Provincias en el Imperio Romano*, 49-74: 66; Bintliff (2002) 'Going to Market in Antiquity.' *Zu Wasser und zu Land* Vol. 7, 209-50: 2016.

²⁰³ Roldán Hervás (2013): 67; Salway (2001): 34.

²⁰⁴ Oelmann (1922); Mangin *et al.* (1986) *Les agglomérations secondaires en Franche-Comté romaine*; Hingley (1989) *Rural settlement in Roman Britain*; Mangin and Tassaux (1992); Burnham (1993); Bénard *et al.* (1994); Burnham (1995); Hanley (2000) *Villages in Roman Britain*; Kolb (2001) 'Transport and communication in the Roman state: the *cursus publicus*.' In: Adams and Laurence (eds.), *Travel and Geography in the Roman Empire*, 95-105: 97; Salway (2001): 34.

²⁰⁵ Schmidt (2011): 82.

²⁰⁶ Salway (2001): 58; Roldán Hervás (1975): 111.

²⁰⁷ Ant.It. 407.1: *Porto Albo*; 409.3: *Portu Gaditano*; Ravenn. 304.7: *Portum Sucrone*; Ravenn. 306.4 *Portum* (*Gaditanum*); Vicar: *Ad Portum*.

²⁰⁸ Ant.It. 428.7 *Foro* (*Gigurro*) 452.7: *Foro Gallorum*; 452.10: *Foro Ligneo*; Ravenn. 309.6: *Foro Gallorum*; 320.8: *Foro Gigurnion*.

²⁰⁹ Ant.It. 416.5 *Aquabona*; 422.6 *Ad Aquas*; 428.1 *Aquis Originis*; 428.2 *Aquis Querquennis*; 430.3 *Aquis Celenis*; 423.8 *Aquis Celenis*; 437.2 *Aquae Bilbitanorum*; Rav. 303.5 *Aquis Voconis*; 320.2 *Aquis Ocerensis*; 320.3 *Aquis Cercenis*; 321.8 *Aquis Celenis*; 341.14 *Aquis Bocconis*; Vicarello cups: *Aquis Voconis*.

²¹⁰ Ant.It. 424.1 *Vico Spacorum*; 439.9 *Vico Aquario*; 445.6 *Vico Cuminario*; Rav. 319.3 *Vico Aquarum*.

this research. One well-studied example has already been mentioned in my discussion of the garrison settlements and *aquae*: *Aquae Querquernae*.²¹¹

Ildum

One *mansio* that may have developed into an important secondary settlement with central place functions is *Ildum*. This *mansio* is located along the *Via Augusta* between *Dertosa* and *Saguntum*, the distance between the *mansio* and either of these cities being approximately 70 kilometres. On this 140-kilometre stretch, we find three *mansiones*: obviously, *Ildum*, along with *Intibilis* between *Dertosa* and *Ildum*, and *Sebelaci* between *Ildum* and *Saguntum*. Of these three *mansiones*, only *Ildum* has been investigated. The settlement has yielded evidence for a *stabulum* and a *hospitium*, proving it to be a *mansio*. In addition, a *horreum* was found, showing its importance for the collection of the *annona*.²¹² Due to this function as a place for storing goods and its location between two major cities, Arasa argues that it must have at least functioned as the location for the weekly markets (*nundinae*).²¹³

Iturissa

Another *mansio* of interest is *Iturissa*, which was situated in about 30 kilometres from *Pompelo* along the route connecting *Asturica Augusta* with *Burdigala*.²¹⁴ The name of the settlement is mentioned not only in the itineraries, but also in Ptolemy, indicating that we may be dealing with a settlement of some importance.²¹⁵ The settlement was partially surveyed and excavated in the late twentieth century.²¹⁶

In recent years, various areas have been surveyed using a magnetometer.²¹⁷ In the Zaldúa area a densely inhabited area of at least 4.5 hectares been found along a road. This settlement might have continued to the east.²¹⁸ The street pattern of the settlement cannot be considered orthogonal (fig. IV.6: n° 3), but it is more or less perpendicular to the main road, as is common in roadside settlements.²¹⁹ García-García *et al.* point out that the buildings do not cling closely to the main road. He argues that the houses were not built directly bordering the street, but had porticoes. Porticoed

²¹¹ See chapter III section on the dispersed *civitas*.

²¹² Arasa i Gil (2013) 'L'Hostalot (Vilanova d'Alcolea, el Baix Maestrat). Excavacions a la *mansio Ildum* de la via Augusta. El complex arquitectònic de l'*horreum*.' *Quaderns de Prehistòria i Arqueologia de Castelló* Vol. 31, 163-202; Arasa i Gil (2008) 'La Mansio Ildum de la via Augusta (Vilanova d'Alcolez, Castellón).' *El Nuevo Miliario* Vol. 5, 6-10: 7.

²¹³ Arasa i Gil (2013): 197.

²¹⁴ Ant. It. 455.6; Ravenn. 311.14.

²¹⁵ Ptol. II 6.66.

²¹⁶ Peréx Agorreta and Unzu Urmeneta (1990) 'Emplazamiento de Iturissa, mansio en la vía de Astorga a Burdeos.' *La red viaria en la Hispania romana*, 373-84.

²¹⁷ García-García *et al.* (2016) 'Magnetometer survey at the newly discovered Roman city of Auritz/Burguete (Navarre). Results and preliminary archaeological interpretation.' *Archaeological Prospection* Vol. 23, 243-56: 245.

²¹⁸ *Ibid.* 246.

²¹⁹ *Ibid.* 247; Burnham and Wachter (1990) *The 'small towns' of Roman Britain*: 26; Bénard *et al.* (1994): 46.

streets are common for terraced houses in roadside settlements.²²⁰ The settlement has at least one area (fig. IV.6: n° 5) that can be interpreted as industrial. To the south-east, we find a zone with limited magnetic activity that is delimited by linear structures (fig. IV.6: n° 14) and to the east there is a rather large building complex.²²¹ This area has been interpreted as a possible public area.

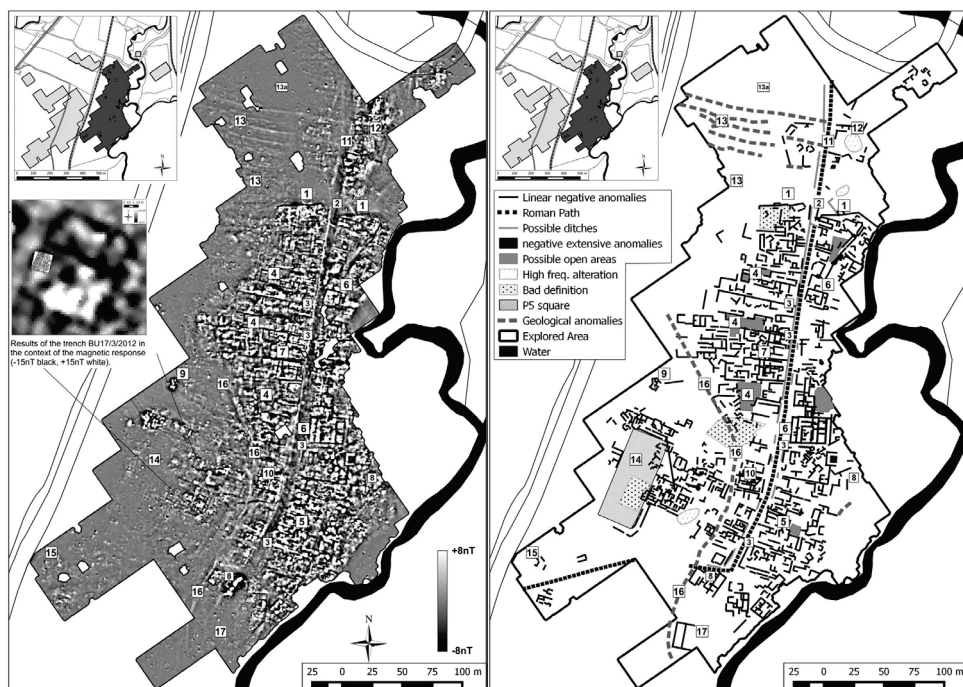


Fig. IV.6: Zaldúa (Iturissa) magnetic survey results (left) and interpretation (right) Garcia-Garcia *et al.* Fig. 4 p. 249

²²⁰ Garcia-Garcia *et al.* (2016): 247; Pérez Losada (2002): 49.

²²¹ Garcia-Garcia *et al.* (2016): 250.

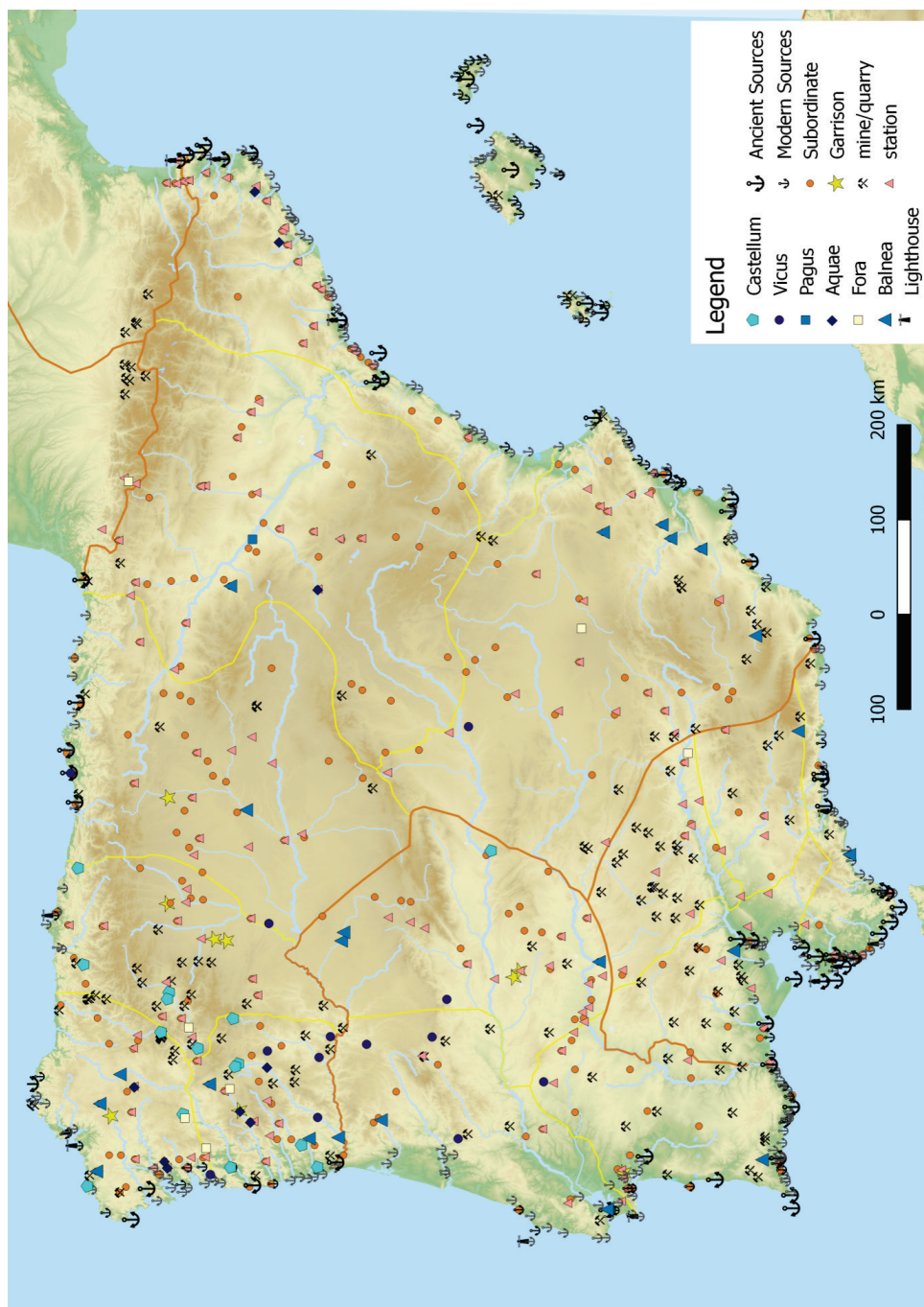


Fig. IV.7 All functions of possible secondary agglomerations found in various databases. The map is only to give an idea of the multitude of sites that need further research. The majority have yet to be located and are only roughly located on this map.

4.5 Network analysis of the settlement system of the Hispaniae

According to Braudel, the Mediterranean unity arises from 'the sum of its routes'.²²² He stresses the importance of the city for this Mediterranean network. For the Roman period, Morley argues that levels of interaction between different settlements were sufficiently high to justify the term 'urban network'.²²³ Instead of exploring these economic interactions, this section will use network analysis to highlight the importance of certain settlements that had no monumental archaeology or juridical status. I will start by analysing the information provided by the Antonine Itinerary, the Ravenna Cosmography and the Vicarello Gobelets. As a second step, a network of self-governing communities will be created based on the assumption that all places would be connected to their direct neighbours.

Networks can be analysed further for different properties, such as Weighted Degree (WD), Closeness Centrality (CC), Betweenness Centrality (BC) and Eigenvector Centrality (EC).²²⁴ The Weighted Degree is the number of connections (edges) leading to or out of a settlement (node), weighted by the value allotted to each edge. For the purposes of my inquiries a connection based on a secondary road will be assigned a weight of 1 point; a major road a weight of 2; an upriver connection a weight of 1; a downriver connection a weight of 3 and a coastal connection a weight of 4.²²⁵ Once the network has been created, the analysis can be started.

The Closeness Centrality represents the mean length of all shortest routes from a node to all other nodes, in other words the accessibility of all other nodes in the network.²²⁶ When normalised, the score for this property is between 0 (inaccessible) and 1 (directly connected to all nodes).

The score for Betweenness Centrality is based on the number of shortest paths that run through the node divided by all the shortest paths in the network. In other words, it gives the probability that a particular node is part of the shortest route. The higher the BC, the greater the importance of the node in the network in avoiding fragmentation.²²⁷

* Unfortunately this study was done before the project Mercator-e (<http://fabricadesites.fcsh.unl.pt/mercator-e/home-2/>) was announced.

²²² Braudel (1995) *The Mediterranean and the Mediterranean World in the Age of Philip II*: 276.

²²³ Morley (1997) 'Cities in context: urban systems in Roman Italy.' In: Parkins (ed.), *Roman Urbanism: beyond the consumer city*, 41-56: 45.

²²⁴ Gephi is a free open source programme available at <http://www.gephi.org>.

²²⁵ My approach is a variant of that used by De Soto and Carreras Monfort (2009) 'La Movilidad en época Romana en Hispania: Aplicaciones de análisis de redes (SIG) para el estudio diacrónico de las infraestructuras de transporte.' *Habis* Vol. 40, 303-24: 310.

²²⁶ Isaksen (2007) 'Network Analysis of Transport Vectors in Roman Baetica.' In: Clark and Hagemeister (eds.) *CAA: Digital discovery: exploring new frontiers in human heritage*, Budapest: Archaeolingua, 75-87: 78.

²²⁷ *Ibid.*

Finally, we will look at the Eigenvector Centrality (EC), this is a measure of the influence of a node within the network. In other words, it values the degree and the importance of the connections. A node with a high EC is not necessarily highly linked, but it links to well-connected nodes. Losing these nodes could lead to fragmentation of the network.

One major aspect of using network analysis is the fact it is a topological rather than a topographical approach. What is relevant is the position of the places relative to each other, rather than in the geographical plane. This has one great advantage: places do not have to be located precisely but only in respect to their neighbours. In the case of the itineraries this is a great advantage, since many of the places that appear in them have not been located precisely.²²⁸ A considerable disadvantage of this approach is the loss of distance in the network. For example, the route from *Caesaraugusta* to *Osca* is one step in route I of the Antonine Itinerary, whereas the same route consists of three steps in route XXII.²²⁹ The places mentioned along this section of route 32 have not been located. In a network analysis, the most advantageous route was route I, but in a geographical analysis the difference would depend on the position of the road while the number of stopping places would not be of importance.

4.5.1 Networks based on the itineraries

In an article that appeared in 2006, Graham analyses the whole Roman Empire as one network based on the Antonine Itineraries. His analysis is aimed at understanding the structure of the network rather than the specific nodes.²³⁰ Another investigation focusing on nodes was conducted by Isakson, who used the Vicarello Goblets, the Antonine Itinerary and the Ravenna Cosmography to understand the network of Roman Baetica as well as the role played by particular nodes in this network.²³¹

For the purposes of my own analysis I have used the works by Roldán Hervás on the Roman itineraries to chart the road network. In total we find 396 nodes connected via 499 edges. Only 145 of these nodes correspond to self-governing communities as defined in chapter 3.

The easiest and first step is to calculate the (unweighted) degree of a node, in other words, the number of roads leading into the settlement. In contrast to the Weighted Degree, for the (unweighted) degree we consider repetitively mentioned connections only once. The city with the highest degree is *Caesaraugusta* with 13 edges connecting

²²⁸ The major problems here are the copying errors, which make the distances unreliable. Here and there one can find in the edition the variations of distances. One of the frequently made mistakes is the wrong order of the Roman numerals, with such variations as fourteen XIV and sixteen XVI being made relatively often. Interestingly, mistakes such as fourteen (Quattuordecim, XIV) and forty (Quadráginta XL) are also rather common. See Roldán Hervás (1975) for the variations on distances.

²²⁹ Route 1: Itin. Ant. 391.5-392.1 *Osca* – *Caesaraugusta*.

Route 32 (in reverse order): Itin. Ant. 451.2 – 451.5 *Caesaraugusta* – *Gallicum* – *Bortinae* – *Osca*.

²³⁰ Graham (2006) 'Networks, Agent-Based Models and the Antonine Itineraries: Implications for Roman Archaeology.' *Journal of Mediterranean Archaeology* Vol. 19, N° 1, 45-64.

²³¹ Isakson (2007).

to it, followed by *Augusta Emerita* (8) and *Corduba* (7). The latter two cities are the provincial capitals of *Baetica* and *Lusitania*. The absence of the capital *Tarraco* may seem surprising, but can easily be explained: since the itineraries are all based on the road network, the degree does not take into account maritime connections. The prominent position of *Caesaraugusta*, as the place with the highest degree, must be related to the focus of the Antonine Itinerary on the north-western part of the peninsula. Moving to the next highest scores, we find eight places with a degree of 6. Here we find *Tarraco*, the provincial capital of *Citerior*, and *Hispalis*, the large port at the mouth of the Guadalquivir in the *Lacus Ligustinus*. The other places with a score of six are, *Bracara Augusta*, *Asturica Augusta*, *Brigaecium*, *Aquae Celenae*, *Segisamo* and *Virovesca*. These cities are all located along the northern east-west axis, indicating the focus of the itineraries, especially the Antonine Itinerary, on this region.

The prominence of *Caesaraugusta* becomes even more pronounced when considering the Weighted Degree (WD). This is based on the number of times a route mentions the place, and it should be borne in mind that the itineraries are repetitive and tend to mention variations of routes. *Caesaraugusta* functions as *caput viae* in eight routes and ten other routes pass it.²³² Among these ten routes we find routes 25, 26 and 29, which are partially duplicates of route 24. Since all these routes are taken into account for the Weighted Degree, we end up with a Weighted Degree of 18. Other places with a high Weighted Degree are either *caput viae*, *Augusta Emerita*, *Hispalis*, *Corduba*, or are located along route 24/25 of the Antonine Itinerary, which overlaps with routes 26 and 29.²³³

Status	All 396	First 100	First 11
Colonia	6.06%	17	5
Municipium	24.74%	44	4
Other	69.20%	39	1

Table IV.7 Status Itineraries in %

As noted above, the itineraries focus on the north-western region, which was less urbanised. Hence, the network is composed mostly of secondary agglomerations, such as *mutationes* and *mansiones*, without other urban functions. Still, in most of the higher order nodes are self-governing communities. No secondary agglomerations are found among the seventeen nodes with the highest degrees.

4.5.2 Networks of self-governing communities

²³² As *caput viae* in: Itin. Ant. XXIV to XXIX, XXI and XXXIII.

²³³ Itin. Ant. XXIV, XXV, and as simple repetition "...*mansionibus supra scriptis*..." in Itin. Ant. XXVI and XXIX.

The places: *Caesaraugusta* (18), *Emerita Augusta* (16), *Hispalis* (11), *Complutum* (11), *Corduba* (10), *Tarraco* (10), *Bilbilis* (10), *Arcobriga* (10), *Asturica Augusta* (10), *Segontia* (10), *Titulcia* (10), *Caesada* (10), *Nertobriga* (10).

Since the itineraries focused mostly on secondary agglomerations, we cannot use them to analyse the role of the self-governing communities. Another approach therefore has to be applied to overcome this problem. An article by De Soto & Carreras Monfort proves a very useful starting point for a network analysis of Roman Hispania.²³⁴ Their approach entails granting cities a weight based on the following score: 1 point for a secondary road, 2 points for major road, 3 for a river connection and 4 for a connection over sea. The resulting weights can be visualised in a heat map (fig. IV.8).²³⁵

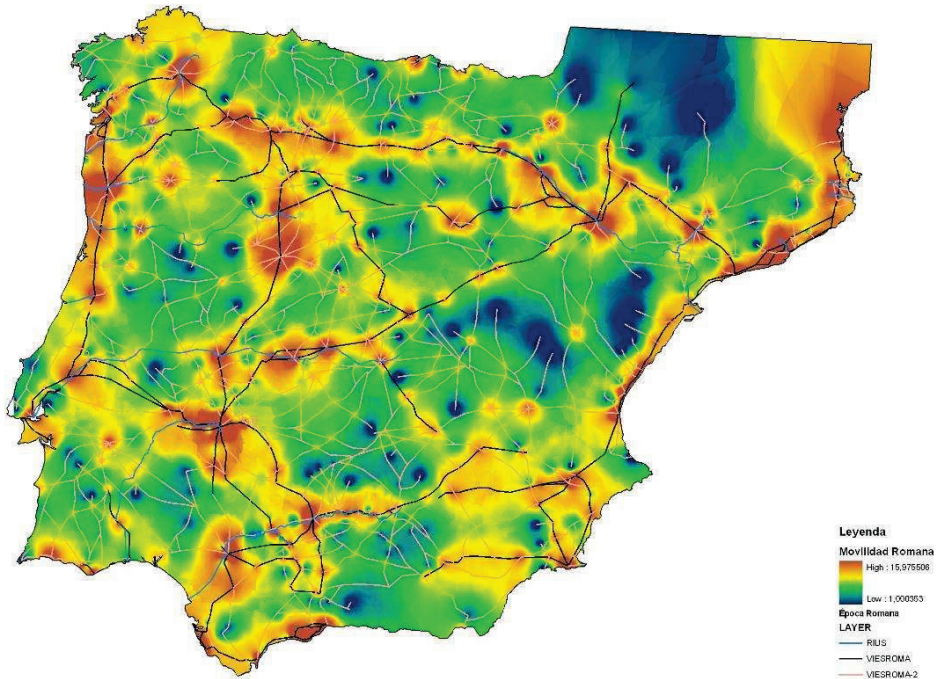


Fig. IV.8: Heat map by De Soto and Carreras Monfort (2009), 310 fig. 3.

For the purposes of my own analysis I created a new network based on the road network found in various publications and used this network to analyse the connect-edness of the self-governing communities.²³⁶ The network contains 407 nodes²³⁷ comprising all located self-governing communities, and 750 edges between the nodes.

²³⁴ De Soto and Carreras Monfort (2009).

²³⁵ *Ibid.* 310.

²³⁶ Talbert (2000); Alarcão *et al.* (1995); Álvarez Martínez *et al.* (2001); Balil Illana *et al.* (1991); Cepas Palanca *et al.* (1997) *TIR K/J-31: Pirénées Orientales, Baléares, Tarraco*; Fatás Cabeza *et al.* (1993).

²³⁷ Out of 430 self-governing communities, 23 could not be located at all and some have been located approximately using secondary sources. As has already been stated, the social network analysis is topological not topographical, so the exact location is not relevant, only the position in relation to other places.

In calculating weights for each of the edges, we have to distinguish among the different types of transportation. Carreras and De Soto give the average speeds of five modes of transport: 4.26 km/h maritime; 2.51 km/h fluvial (downriver); 0.62 km/h fluvial (upriver); 6.5 km/h land (foot/mule); 1.6 km/h land (cart).²³⁸ If we were to weight the links according to this principle, we would implicitly assume that transport by land (foot/mule) is the best method of transport. In reality, the modes of transport not only differ in speed but also in the amount of goods that are conveyed. Therefore, Carreras and De Soto not only included the carrying capacity of various transport modes, but also the cost per hour based on the edict of Diocletian.²³⁹ If all these factors are taken into account, we end up with the following scores for the cost of transport: 1 maritime; 3.4 fluvial (downriver); 6.8 fluvial (upriver); 43.4 land (foot/mule); 50.72 land (cart).

The advantages of travelling by sea are confirmed by literary evidence. In the ancient sources we find the estimates of the time needed to get from Rome to *Baetica*. Pliny states that a journey from *Ostia* to *Gades* would take seven days.²⁴⁰ In contrast to this, Caesar needed at least 27 days to travel from Rome to *Obulco*, near *Corduba*.²⁴¹ According to the ORBIS geospatial network, the journey from *Ostia* to *Gades* would have taken 15 days²⁴², while that from *Rome* to *Corduba* would take 20 days. The longer duration of the latter journey reflects the slowness of the overland route between *Gades* and *Corduba*.

In weighing the edges, De Soto & Carreras assign 1 point for a secondary road, 2 for a major road, 3 for a river connection and 4 for a coastal location. I have adapted their riverine score by distinguishing between transportation upriver (weight 1) and downriver (weight 3). In the approach taken by De Soto and Carreras, each edge counts, hence a settlement along the Guadalquivir has at least a weight of 5 (2 for the major road and 3 for the river). In reality, one cannot take the road and the river, and most people would have taken the fastest route. Therefore, it seems better to consider only the edge with the highest weight instead of the sum. This approach gives a slightly different picture from the heat map in De Soto and Carreras. This new network has been used for network analysis.

²³⁸ Carreras Monfort and De Soto (2010) *Historia de la movilidad en la Península Ibérica: redes de transporte en SIG*: 83ss.

²³⁹ *Ibid.* 90.

²⁴⁰ Plin. *NH* XIX 4.

²⁴¹ Str. III 4.9; App. *Civ.* II 103.

²⁴² ORBIS: The Stanford Geospatial Network Model of the Roman World (<http://orbis.stanford.edu/>). For this analysis fastest route in summer is chosen.

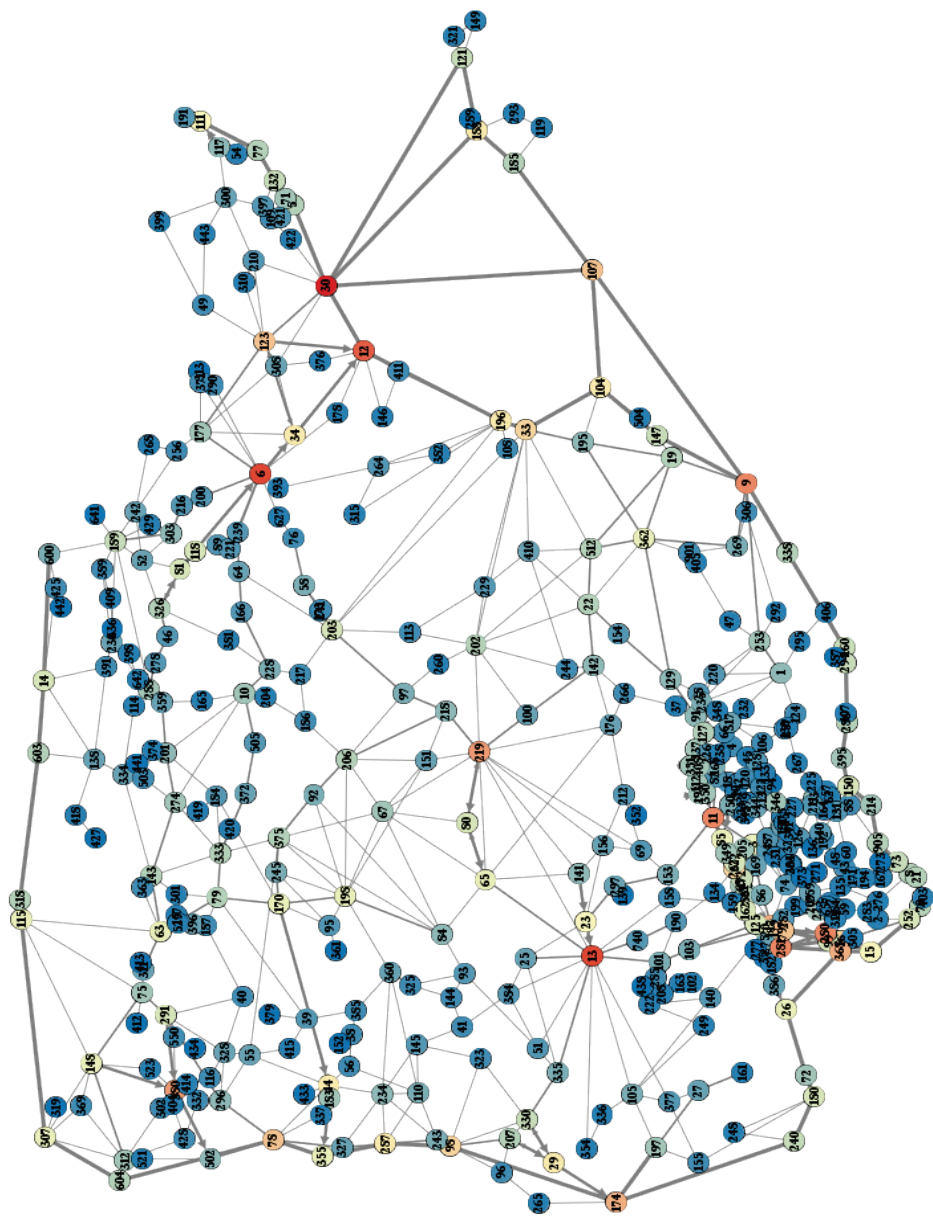


Fig. IV.9: Weighted degree centrality (numbers refer to ID numbers found in the appendices)

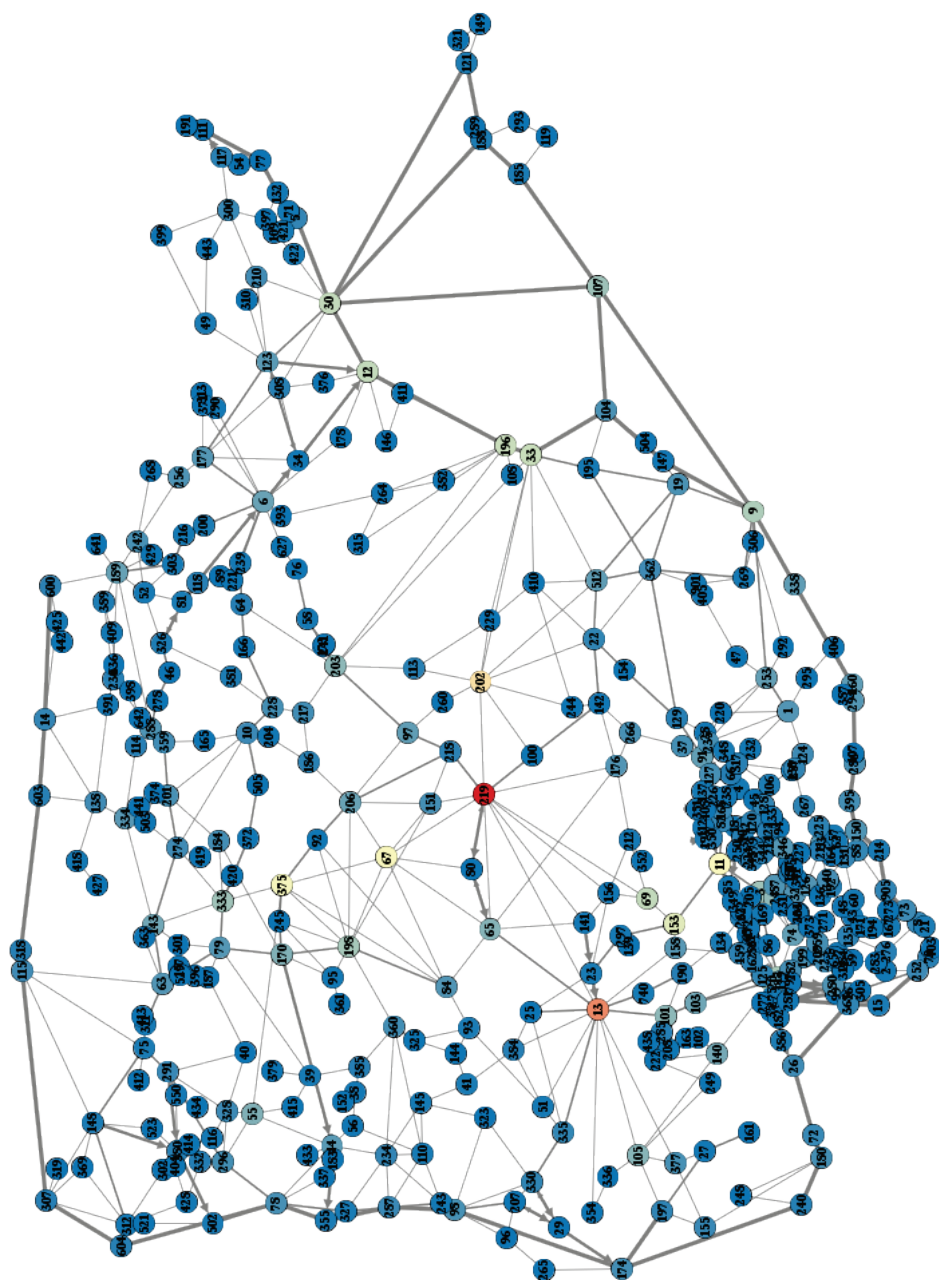


Fig. IV.10: Betweenness Centrality

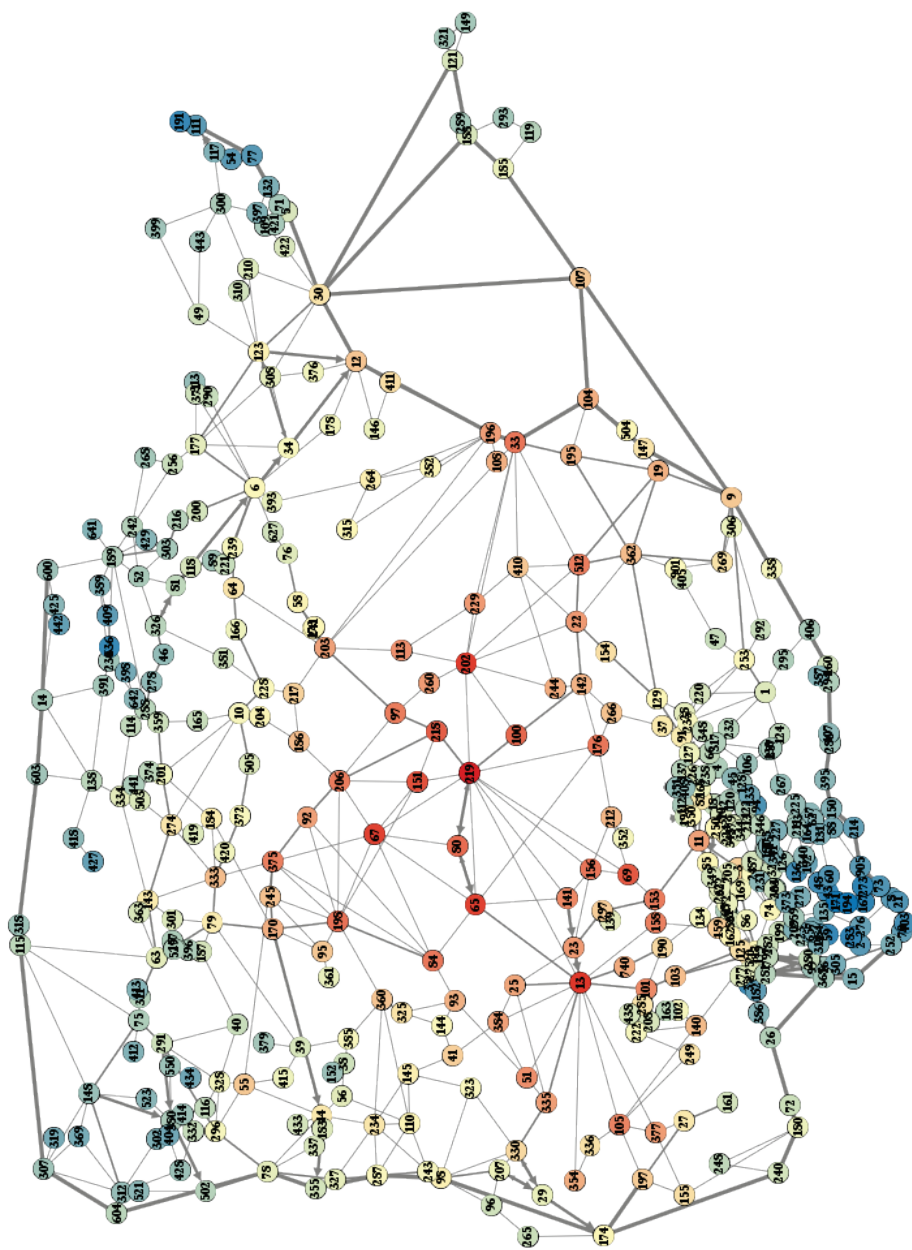


Fig. IV.11: Closeness centrality

As in my analysis of the itineraries, for each self-governing city I have calculated the degrees and centralities. Among the 10 places with the highest Weighted Degree, *Augusta Emerita* and *Tarraco* occupy the first and second positions. *Tarraco* has its location on the coast, leading to a multitude of edges with a weight of 4. *Augusta Emerita*, was located along various major routes, among which the Via de Plata, which connected the mines of the north-west to the port of *Hispalis*. It is more surprising to find *Caesaraugusta*, an inland centre, occupying the third position and coming before the maritime city of *Carthago Nova*, and also before important inland settlements, such as *Corduba*. Its high rank is the result of its position along the Ebro and the multitude of roads running from *Tarraco*, via *Caesaraugusta*, to the inland regions. The relatively high rank of *Toletum* is the result of its location at the centre of the Iberian Peninsula and its connections via the Tagus. Another surprise is the rather small settlement of *Caetobriga*, which owes its high position to its maritime and fluvial connections.

id	Name	WD	Normalised WD
13	Emerita Augusta	26	1
30	Tarraco	25	0.961538
6	Caesaraugusta	23	0.884615
11	Corduba	20	0.769231
174	Olisipo	20	0.769231
9	Carthago Nova	19	0.730769
219	Toletum	19	0.730769
12	Dertosa	19	0.730769
17	Hispalis	17	0.653846
367	Caetobriga	17	0.653846

Table IV.8: Top 10 places with highest degree

The other centralities calculated for the network are Closeness Centrality, Betweenness Centrality and Eigenvector Centrality. These measures can be used to explore the connections between various forms of centrality and specific juridical statuses. For the purpose of this analysis I have distinguished among four juridical statuses: *colonia*, *municipium c.R.*, *municipium* and 'other' statuses. The 'other' statuses include Old Latin rights, *oppidum stipendiarium*, *oppidum foederatum*, places considered self-governing based on indirect evidence and garrison settlements.

The next parameter is Betweenness Centrality, for which the values range from 0 (no shortest paths going through a node) to 0.33 (33% chance a short route passes this node). The BC is the likelihood that a given settlement would be passed when travelling from a node towards another, for example, 33% of all shortest routes on the Iberian Peninsula run past *Toletum*.

The values for Closeness Centrality have also been calculated for each juridical category. Since the values for CC represent the number of nodes that have to be passed to reach other nodes, nodes located at the centre of the map would score rather highly, since they are located in the centre. This follows from the fact that due to their central position fewer nodes have to be passed to reach other nodes. The normalised values range between 0.0776 and 0.1934. Lastly, the Eigenvector Centrality is calculated, where we find *Toletum* with 1 and *Vergi* as with the lowest value, namely 0.0017. The EC gives the importance of a node to avoid fragmentation. In this network this centrality has only little influence as there are no clear clusters that depend on a few nodes.

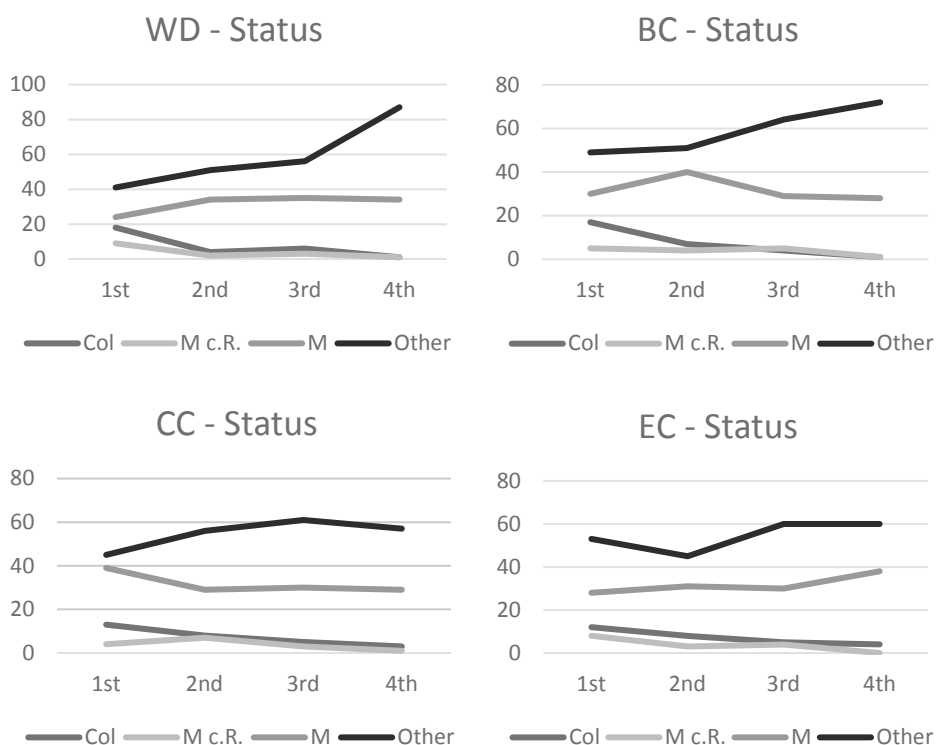


Fig. IV.12 Status of self-governing communities compared with centralities (per quartile)

The quartiles have been calculated for each of the different centralities, resulting in four groups from the highest (1st) to the lowest (4th). The number of cities is given along the x-axis. The results are shown in figure IV.12.

The relationship between status and position in the network is not very strong, but the *coloniae* seem to be mostly located in the higher categories. In graphs for WD and the BC *coloniae* are not found in the lowest range, indicating that they have more

edges with other self-governing cities and they are positioned mostly along the shortest routes, placing them on key points in the network. Similarly, we find the *municipia c.R.* in key positions. Unlike the *coloniae*, they are more evenly spread across the higher BC categories, but they are found mostly in the highest CC and EC, indicating they are well-connected (CC) and that their connections matter for the network (EC). On this basis it may be concluded that the *coloniae* and *municipia c.R.* of the Iberian Peninsula tended to be situated at important nodes in the network.

