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THE REASSESSMENT OF THE ROMAN MILITARY PRESENCE IN GALICIA AND NORTHERN PORTUGAL THROUGH DIGITAL TOOLS: ARCHAEOLOGICAL DIVERSITY AND HISTORICAL PROBLEMS

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ABSTRACT

Traditionally, the study of the Roman military presence in Galicia (Spain) and Northern Portugal has been based on the fragmentary documentation offered by Greek and Latin authors or epigraphy, with archaeology occupying a very secondary place in these historical narratives. In particular, the information is very scarce for the period between the 2nd century BCE and 1st century CE, when these territories were conquered and integrated into the Roman world. This work presents new Roman military sites discovered through an integrated methodology involving an intensive application of remote sensing techniques in order to provide information to foster a paradigm shift in this field of study. Distributed over a wide geographical area and displaying a wide morpho-typological and locational diversity, this new archaeological evidence not only reflects the ability of the Roman army to adapt to local natural and cultural environments, but also reveals a major operational and logistical assortment that may relate to the diachronic nature of the military presence in the region.

KEYWORDS: Roman military sites, NW Iberia, Remote sensing, Archaeological prospection, Historic narratives.

1. INTRODUCTION: A HISTORY OF (NON-) VIOLENCE

The Roman conquest of the present territories of Galicia and Northern Portugal was not the result of a single action at one particular moment in time (Flor. *Epit.* 1.33). It has to be seen in the context of a broad historical process that began in 218 BCE, with the landing of *Publius Cornelius Scipio* in Ampurias in the context of the Second Punic War. Roman troops began to enter the northernmost regions of the Peninsula only in the final moments of the military campaigns carried out in *Celtiberia* and *Lusitania*, by mid 2nd century BCE (Lorrio, 2009; Rodríguez Martín, 2009).

The first textual reference to the *Callaeci* in a war context dates from 139 BCE, during the campaigns of *Q. Servilius Caepio* against *Viriatus* (App. *Iber.* 70). However, there is no mention of Roman troops crossing the Douro River until 138-137 BCE, during the famous retaliation action commanded by *D. Iunius Brutus* [1]. Over the following decades, other Roman commanders embarked on expeditions to the West in order to gain fame and wealth to sustain their political careers in Rome, a common practice at the time (Keaveney, 2007; Rich and Shipley, 1995). The literary sources only provide us with two actual names: *Publius Crassus* in 97-96 BCE [2], and *C. Iulius Caesar* in 61 BCE [3]. From this moment on, there are no further direct allusions to the *Callaeci* in relation to the expansion of the late republic in *Hispania* [4].

[1] Following a straightforward military intervention in Lusitania, *Brutus* ordered his troops to cross the River Douro/Duero to fight the *Bracari*, and then the *Callaeci*, who had arrived to support the former (App. *Iber.* 71-74; Strab. *Geogr.* 3.3.1 & 4; Flor. *Epit.* 1.33.12; Liv. *Per.* 55-56; Oros. *Hist.* 5.5.12; Val. *Fact.* 6.4). If we are to believe the mythical episode of the River *Lethes* or of Oblivion (Balboa Salgado, 1996: 146-149), the general crossed the River Lima/Limia -not without some reservations on the part of his troops-, and then reached the River *Mínho/Miño*. *Brutus* was rewarded for his victory with the honorific title of *Callaicus* (Vel. *Hist.* 2.5.1, *Ov. Fast.* 6.460-461) and from that moment on, the term *Callaeci* was used to refer to all of the western peoples who lived to the north of the River Douro/Duero (Strab. *Geogr.* 3.3.2).

[2] After fighting the Lusitanians, *Crassus* set out on an expedition to discover the ancient route towards the mythical *Cassiterides*, or the islands of tin (Strab. *Geogr.* 3.5.11). Regardless of whether the Galician coast was simply a point on the route or his final destination, the Roman fleet had to sail past it.

[3] This expedition confirms that the "Atlantic Route" was already known by the Romans and considered as a source of wealth (Dio. *Hist.* 37.52-53; Suet. *Caes.* 18.1; App. *Iber.* 102; Plut. *Vit. Caes.* 12.1-2). Once again, after a brief disciplinary campaign in *Lusitania*, *Caesar* quickly set sail and began a series of raids along the Galician coast, culminating in *Brigantium* (traditionally located in the surroundings of the modern-day city of A Coruña).

[4] With regard to the wars between *Caesar* and *Pompey* (49-45 BCE), we know that the auxiliary troops of *Pompey's* legate *Afranius* included groups of *Celtiberians*, "Cantabrians", and from all of the other barbarian peoples that extend as far as the ocean" (Caes. *BC* 1.38.3). In the decades of the 30s and 20s BCE, the *Fasti*

The chronicles of the campaigns carried out by *Augustus* between 26 and 19 BCE, which put an end to the conquest of Iberia, only expressly mention the *Astures* and *Cantabri*. (Dio, *Hist.* 53.25-29, 54.11; Flor. *Epit.* 2.33; Vel. *Hist.* 2.90). Nevertheless, for decades a passage from *Orosius* (*Hist.* 6.21) has supported the idea of a possible 'Galician' scenario (Rodríguez Colmenero, 1977; Santos Yanguas, 2016: 54-76; Torres Rodríguez, 1982). Whatever the case, the north-west part of the Iberian peninsula was incorporated into the province of *Hispania Citerior* and divided into three *conuentus* according to the ethnographic criteria: the two most westerly (*Lucensis* and *Bracaraugustanus*) theoretically corresponded to the *Callaeci*, while the most easterly (*Asturum*) was assigned to the *Astures* (Ocáriz Gil, 2014: 60-95).

At archaeological level, the study of the Roman military presence in the territory of the *Callaeci* has traditionally revolved around military sites such as A Cidadela (Sobrado dos Monxes, A Coruña) (Caamaño Gesto and Fernández Rodríguez, 2002) and *Aquis Querquernis* (Bande, Ourense) (Rodríguez Colmenero and Ferrer Sierra, 2006), but these forts were established from late 1st century CE onwards. Another hypothesis which had a considerable support delves into the military origin of the three conventual capitals in NW Iberia (*Bracara*, *Lucus* and *Asturica*, all of them founded in the Augustan era) (Schulten, 1962). This theory has been proven archaeologically in Astorga (González Fernández, 1997), although the precise length of the military presence on the site is unknown. In Braga, some authors have ruled out this possibility (e.g. Martins, 2011; Martins and Fontes, 2010), but there are certain indicators of the existence of at least a "militarized context" in the Augustan era (Morais *et al.*, 2015). Some promising evidence has also been found in the city of Lugo (Ferrer Sierra, 1996; Rodríguez Colmenero, 2006; 2011: 31-47), but at present is insufficient to support decisively a military presence prior to the foundation of the city (Costa-García, 2013: 367-378). Lastly, archaeological research on Roman army in this region is limited to material culture studies (Centeno *et al.*, 2016; Fernández Ibáñez, 2006; Vega Avelaira, 2007).

The absence of archaeological and historical information on the Roman army presence in the Galician and Northern Portuguese areas has contributed to the construction of historical narratives where the

Triumphales obtained a series of triumphs *ex Hispania* although we do not know in the majority of cases to whom they were addressed (Amela Valverde, 2006); Cass. Dio 48.42; Vell. Pat. 2.78.3). The campaign of *Statilius Taurus* in 29 BCE referred to by *Cassius Dio* (*Hist.* 51.20) was aimed at the *Vaccei*, *Astures* and *Cantabri*, and can be formally considered as marking the start of the Cantabrian-Asturian wars.

role played by the Roman army was not properly considered (Le Roux, 1982; Roldán Hervás, 1974; Santos Yanguas, 1988; Tranoy, 1981). Roman military Archaeology is a recent discipline in the Iberian Peninsula, developed since the 1990s prompted by advances in the eastern Cantabrian area and the Spanish Northern Plateau (Camino Mayor et al., 2015; Morillo Cerdán, 1996; Peralta Labrador, 2002b). For this reason, even the most recent historiographic visions still consider the Galician and Northern Portuguese sphere -which would have been quickly pacified in the late Republican era- to be a marginal space in their discourses on Roman military archaeology (Centeno et al., 2016; Currás et al., 2016; Morillo Cerdán, 2014, 2016b; Palao Vicente, 2014). More recently, novel evidence came to light through the application of new methodologies possible due to the gradual digitization of archaeology (Blanco-Rotea et al., 2016; Costa-García, 2017b; Costa-García et al., 2017; Gago Mariño and Fernández Malde, 2015; Orejas et al., 2015), helping us reassess traditional narratives.

It is also important to highlight the clear disconnection between Roman military Archaeology and the Archaeology of the Late Iron Age. As the role played by indigenous communities in this historical process has not been properly considered, the structuring of two-way historical narratives has been also limited. Undoubtedly, a considerable part of this wide territory characterized by the predominance of *castros* (hillforts) shows symptoms of being a landscape that was undergoing a process of transformation throughout the 2nd-1st centuries BCE. The increase in the number and quality of imported products (González Ruibal, 2007: 523-534; Naveiro López, 1991: 23-73 and 175-176) follows a pattern started in previous centuries (González Ruibal, 2004). This not only reflects an intensification of exchanges with the Mediterranean world, but also highlights the structural internal transformations of these communities as a result of a continued contact with Rome. At this moment the so-called *oppida*, large fortified settlements that were designed to house large populations, emerge in Northern Portugal and Southern Galicia, possibly functioning as focal points for wide territories (Silva, 2007). Undoubtedly arisen prior to the Roman conquest (González Ruibal, 2007: 318-328; Prieto Martínez et al., 2017), these are the most visible embodiment of growing social inequalities and centralization of power among the local indigenous societies. This process of *synoecism* can be related to the emergence in the southern area of the *Callaeci* of a 'tribal zone' resulting from colonial contact with Rome (González-García, 2011; Mattingly, 1992), "an area continuously affected by the proximity of a state, but

not under state administration" (Ferguson and Whitehead, 1992: 3). However, what happened before, during and after the arrival of the Romans in large parts of the territory of the *Callaeci* remains vague, since a large number of archaeological interventions carried out in recent years are yet to be published. This limits our ability to understand how these areas were integrated into the Roman imperial structure.

Some authors supported the idea of a "pacifist" indigenous society, not prone to conflict, in many cases disregarding the warlike nature of the weapons and the defensive structures of the hillforts (for discussion see González García, 2006, 2007, 2009; Sastre, 2008). This non-violent character has been related to the segmentary and non-hierarchical peasant social organization (Sastre, 2008), with the notable exception of the societies of the large hillforts from the southern area of the *Callaeci* (Sastre, 2004). However, other researchers have highlighted the diversity and complexity of the social structures that existed in the Iron Age in NW Iberia, favouring a more diversified relationship with the Roman State (González-García, 2017; González-García et al., 2011; González Ruibal, 2012; Parceros-Oubiña and Criado-Boado, 2013).

This paper presents a series of archaeological sites which can be related to the Roman military presence in Galicia and Northern Portugal. The diversity shown by this evidence (in morphological, locational and operative terms) also opens the way to the formulation of new research questions whose answer will allow us to progress in the reconstruction of a historical process that until now has been practically unknown in these regions. As we will see throughout the text, the Roman military presence documented so far in the Galician and Northern Portuguese territories is quite multifaceted and heterogeneous, something that may be related to different historical processes but also with a differentiated interaction between the indigenous communities of NW Iberia and the Roman army.

2. DETECTING THE FOOTPRINT OF THE ROMAN ARMY ACROSS THE LANDSCAPE THROUGH DIGITAL TOOLS

Over the last few years, the research group Romanarmy.eu [5] has been developing a research methodology targeting the identification and analysis of Roman military sites in the north-west Iberian Peninsula (Costa-García and Fonte, 2017; González Álvarez et al., 2018; Menéndez Blanco et al., 2013; Menéndez Blanco et al., 2017). This is an approach

[5] <http://romanarmy.eu/>

with a modular design, which allows for the constant revision of the procedures used and the incorporation of new techniques and resources, in order to optimise the resources at our disposal and maximise the potential results. An important part of this methodology is related to the use of open access, geospatial data sets that are available for the Spanish territory [6]: collections of aerial photographs [7], airborne LiDAR (Light Detection and Ranging) data [8] and the cartographic products derived from them, especially digital terrain models (DTM). The use of these non-invasive technologies to investigate the Roman military presence has become a frequent aspect in both the Iberian Peninsula (e.g. Bellón Ruiz *et al.*, 2016; Berrocal-Rangel *et al.*, 2017; Cordero Ruiz *et al.*, 2017) and beyond (e.g. Bernardini *et al.*, 2015; Hanson *et al.*, 2019; Jones, 2012; Oltean and Hanson, 2017). In Spain, earlier examples of the application of remote sensing techniques, in particular airborne LiDAR, to study other types of archaeological landscapes have been successfully reported (e.g. Carrero-Pazos *et al.*, 2014; Monterroso-Checa, 2017; Cerrillo-Cuenca and Bueno-Ramírez 2019).

In Portugal, freely accessible aerial orthophotographs are available for the entire country [9]. There are also several series of historical aerial photographs [10] which need to be processed photogrammetrically in order to obtain cartographic products such as orthophotographs or digital surface models (DSM) (Blanco-Rotea *et al.*, 2016; Fonte and Costa-García, 2016; Redweik *et al.*, 2010). Unfortunately, there is still no comprehensive and open access LiDAR coverage, although the Alto Minho Intermunicipal Community (CIM Alto Minho) commissioned in January 2018 a LiDAR flight covering the territory of

the district of Viana do Castelo [11]. This allowed us to locate new evidence in the area of the Portuguese Upper Minho region, particularly in the Peneda-Gerês National Park uplands.

We are dealing with a territory where densely forested areas, meadows, hilly landscapes with predominant small holdings and diversified crops, and mountains of medium altitude are frequent. Hence, the systematic use of airborne LiDAR has allowed us to obtain the best results in quantitative terms. However, the integration of different remote sensing techniques in the same methodology has endorsed us to effectively tackle the heterogeneity of the Galician and Northern Portuguese landscapes, increasing our options and opportunities to identify new archaeological sites.

Following their detection and digital analysis using various basic tools (location, visibility and mobility) supported by geographic information systems (GIS) [12] (Kaimaris, 2018), all the sites and structures referred to in this article have been duly validated by observations made directly on the ground. This has allowed us to confirm their anthropic nature and archaeological interest. We believe it is important to emphasize that remote detection is not seen as an end in itself, but as a part of the research process that is integrated into a broader methodology. These techniques make it possible to identify and analyse archaeological sites that would otherwise be very difficult to locate, given the temporary and almost invisible nature of the structures that compose them. The joint analysis of the data derived from archaeological prospection and those obtained from the use of these tools has also been complemented by the *ad hoc* study of some of these sites. Thanks to that, we can offer the first overall analysis of the Roman military presence in the territory of the current Autonomous Community of Galicia and Northern Portugal (regions located to the north of the River Douro/Duero).

3. PATTERNS IN ARCHAEOLOGICAL EVIDENCE

To date, twenty-two fortifications which might be classified as Roman military sites have been documented within the study area (Figs. 1-3; Tables 1 & 2). A few have been published in more detail elsewhere (Blanco-Rotea *et al.*, 2016; Costa-García, 2017b; Costa-García *et al.*, 2017; Gago Mariño and Fernández Malde, 2015; Orejas *et al.*, 2015), but the

[6] Within the framework of the PNOA project (*Plan Nacional de Ortofotografía Aérea* - <http://pnoa.ign.es/>) supported by the IGN (*Instituto Geográfico Nacional* - <http://www.ign.es/>).

[7] Digital aerial orthophotographs with resolutions of 25 or 50 cm, and covering different areas between 2004 and 2017. In addition there are historic aerial photographs from the *Vuelo Americano* ("American Flight"), Series A (1945-1946) and B (1956-1957), the Inter-Ministerial Flight (1973-1986) and the National Flight (1980-1986): <http://pnoa.ign.es/pnoa-historico>.

[8] There are already two LiDAR coverages available for Galicia made in 2009-2010 and 2015-2016: <https://pnoa.ign.es/estado-del-proyecto-lidar>. These data have an average density of 0.5 points/m².

[9] "Regular Aerial Orthophotography Coverage of 50 cm from the years 2004-2006" with four bands (RGB+IV) distributed via a WMS (Web Map Service) by the *Direção-Geral do Território* (DGT): http://www.dgterritorio.pt/cartografia_e_geodesia/cartografia/detecao_remota/fotografia_aerea/fotografia_aerea_digital_com_resolucao_de_50cm/.

[10] SPLAL (*Sociedade Portuguesa de Levantamentos Aéreos Limitada*) flight from 1937 to 1952, RAF (British Royal Air Force) flight from 1947 and the USAF (United States Air Force) flight from 1958. The historic aerial photographs have to be acquired from the *Centro de Informação Geoespacial do Exército* (CIGeoE): <https://www.igeoe.pt/index.php?id=40>.

[11] We are grateful to the CIM Alto Minho (<http://www.cim-altominho.pt/>), and especially Bruno Caldas, for allowing us to use the airborne LiDAR data for research purposes. These data have an average density of 2 points/m².

[12] A series of spatial analysis tools were used for this purpose, included in the ©QGIS 2.18 and ©ArcGIS 10.5.1 software.

majority are new in the scientific literature. The sites are unevenly distributed throughout the territory and show a great diversity in terms of their morphology, materiality or settlement pattern. A representative assemblage in its own right, but also a set that can be framed within the general context of the Roman military presence in northern and north-western Iberia, thus helping us to achieve a deeper

understanding of this phenomenon as a whole (Costa-García, 2017a). Setting aside the existence of certain distinctive features, its uniqueness lies in the fact that these are the first sites of this type identified in a geographical area where the study of the Roman army has been largely based on indirect and/or contextual evidence.

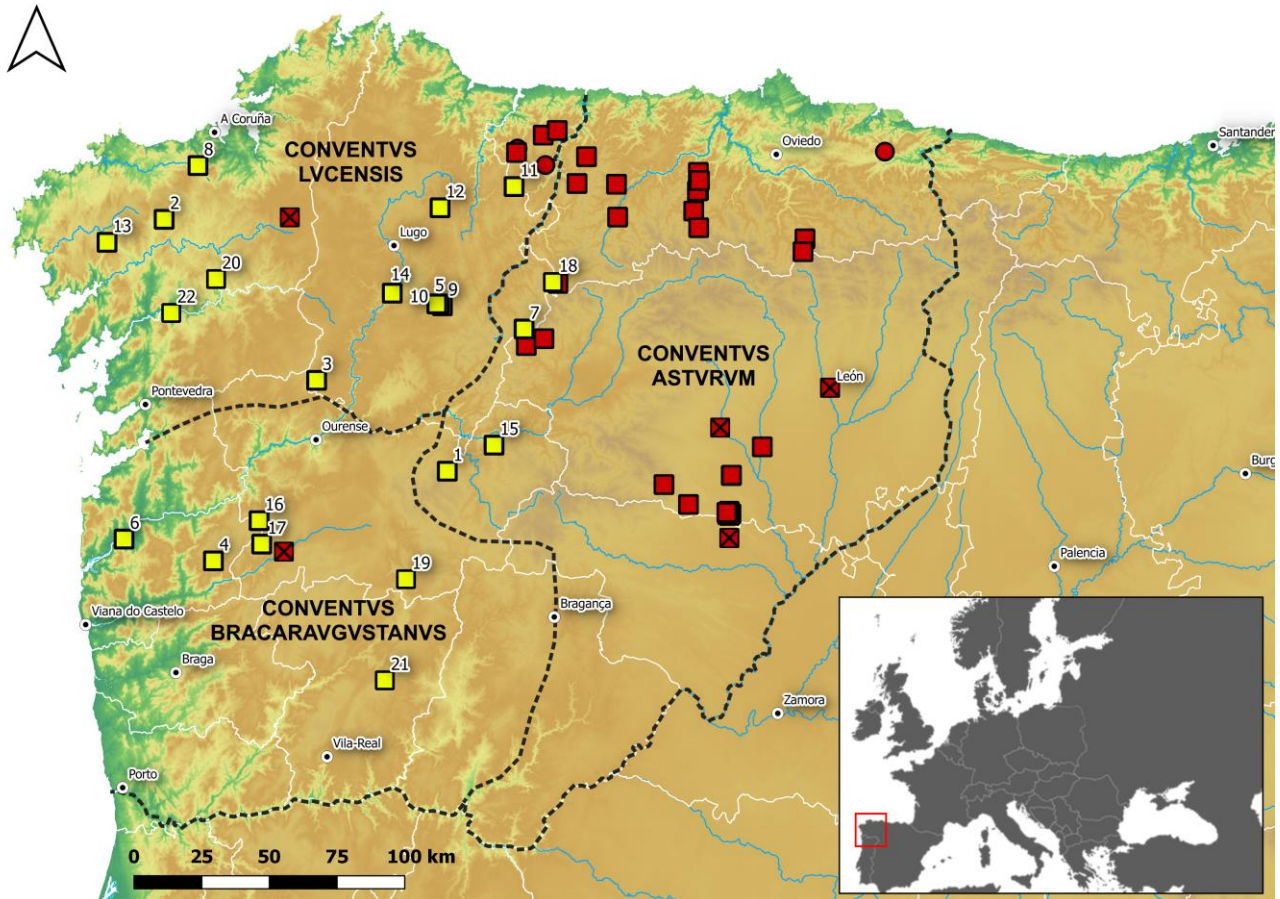


Figure 1. Distribution of Roman military sites in NW Iberia. In yellow and numbered (see tables 1 and 2), the sites studied in this work. In red, other sites (square=camp; circle=castellum/outpost; square with cross =fort/fortress).

In this context, there is naturally a temptation to immediately respond to major research questions. What was the real impact that the military presence had on this territory? To what extent does this new evidence make it possible to re-think the main topics on the conquest and occupation of the territory by

the Romans within the current historiographic paradigm? However, our first scientific objective must be more modest and tend towards systematization: to understand the rationale behind the establishment of these fortifications, to assess the nature of each site and its interaction with the surrounding landscape.

Table 1. Sites studied in this paper. Location and morphology (1/2).

Num.	Site	Location		Shape	Dimensions (m)
1	O Penedo dos Lobos	Manzaneda (Ourense)	Galicia	Rectangular	181 x 132
2	Cova do Mexadoiro	Trazo (A Coruña)	Galicia	Rectangular	167 x 139
3	O Coto do Rañadoiro	Carballedo (Lugo)	Galicia	Rectangular	202 x 133
4	Alto da Pedrada	Arcos de Valdevez (Viana do Castelo)	Portugal	Rectangular	167 x 99
5	Cabianca	Láncara (Lugo)	Galicia	Squared	228 x 218
6	Campos	Vila Nova de Cerveira (Viana do Castelo)	Portugal	Squared?	270 x 238 (min)
7	A Cortiña dos Mouros	Cervantes (Lugo)/ Balboa (León)	Galicia/ Cas- tile-León	Trapezoidal	244 x 215
8	Santa Baia	A Laracha (A Coruña)	Galicia	Rectangular, Irregular	271 x 213
9	O Monte dos Trollos	O Páramo (Lugo)	Galicia	Rectangular, Irregular	443 x 233
10	Cabeza do Pau	Petín (Ourense)	Galicia	Irregular	623 x 212
11	O Monte da Chá	Láncara (Lugo)	Galicia	Rectangular	400 x 313
12	O Monte da Medorra	Láncara/Sarria (Lugo)	Galicia	Rectangular, Irregular	381 x 369
13	A Penaparda	A Fonsagrada (Lugo)/ Santalla d'Ozcos, (Asturias)	Galicia/ Astu- rias	Rectangular	422 x 254
14	O Monte de Ventín	Pol (Lugo)	Galicia	Rectangular, Irregular	436 x 338
15	O Cornado	Negreira (A Coruña)	Galicia	Rectangular, Irregular	471 x 308
16	Lomba do Mouro	Melgaço (Viana do Castelo)/ Verea (Ourense)	Portugal/ Galicia	Squared, Irregu- lar	530 x 506
17	Chaira da Maza	Lobeira (Ourense)	Galicia	Trapezoidal	564 x 522
18	A Recacha	Navia de Suarna (Lugo)	Galicia	Oval, Irregular	139 x 97
19	Outeiro de Arnás	Verín (Ourense)	Galicia	Pentagonal	90 x 82
20	O Castrillón	Touro (A Coruña)	Galicia	Oval	60 x 27 (upper) 178 x 55 (ens.)
21	Alto da Cerca	Valpaços (Vila Real)	Portugal	Polygonal	180 x 163
22	O Castelo	A Estrada (Pontevedra)	Galicia	Triangular/ Irregular	180 x 106 (app.) 220 x 196 (ens.)

Evidence on nearly all of the sites points towards a seasonal occupation. A large majority of them can be defined as *castra aestiua* or camps: sites whose defining archaeological features have been repeatedly highlighted by several scholars (Peralta Labrador, 2002b; Reddé, 2008). For this reason, we will not explore them here in any greater detail. The classification system used in this work is based on the fundamental principles which guided the establishment of a Roman camp: to provide sufficient space for the troops to camp, without compromising the defence by excessively extending its defensive perimeter (Veg. *Mil.* 1.22-23, 3.8). As a result, there is a direct relationship between "extent" and "occupation", regardless of whether this ratio has been debated and may have varied over time (Davies and Jones, 2006; Matherat, 1943; Maxwell, 2004; Reddé, 2008; Richardson, 2004). Thus, site morphology results from the application of a regular theoretical model within

a specific geographical context, and therefore reflects to a certain extent the interaction of the military unit with that environment. In this sense, the archaeological discoveries produced in the eastern areas of the Cantabrian Mountains have highlighted the adaptive character of the Roman army time after time (Peralta Labrador, 2006, 2011; Serna Gancedo *et al.*, 2010). Therefore, although morphology is a variable of considerable importance when it comes to understanding the logic behind the planning of each of the military camps individually, this is a secondary factor when it comes to understanding the phenomenon of a military presence in a given geographical area. It is worth remembering here how the extent of the enclosures plus other complementary factors have made it possible to define series of sites in delimited areas that have subsequently been related to military actions or specific historical episodes (Jones, 2011: 99-107).

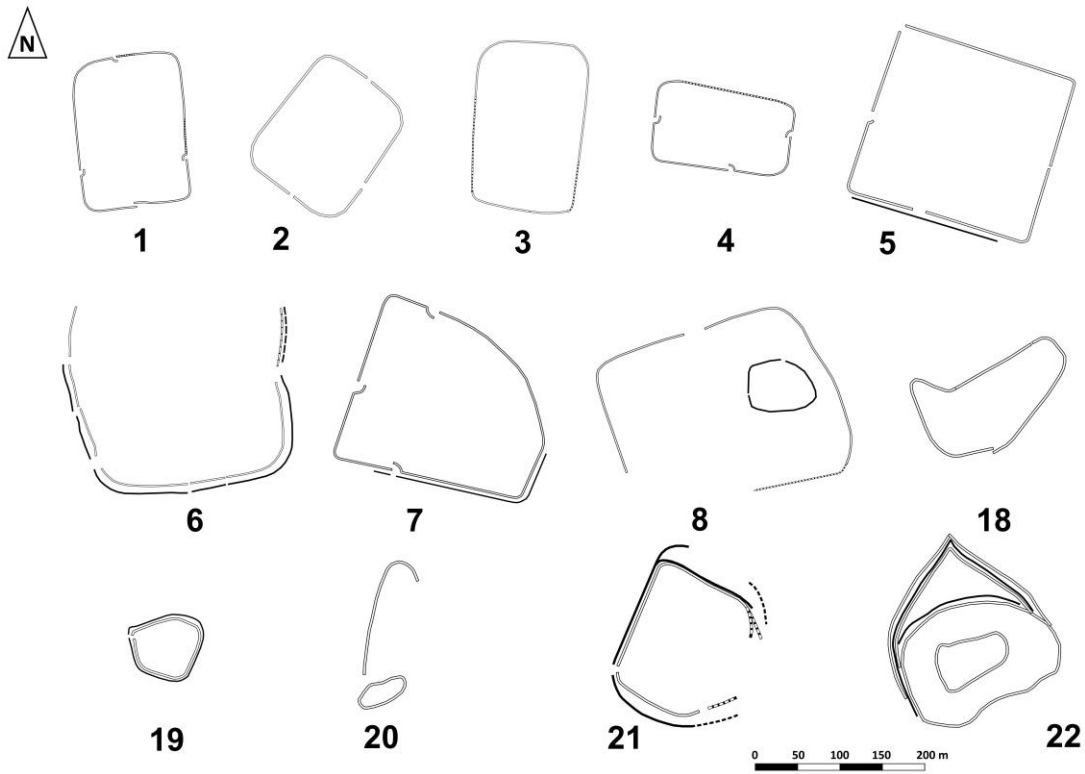


Figure 2. Ground plans of the sites studied in this work (1/2). Numbering corresponding to Tables 1 and 2.

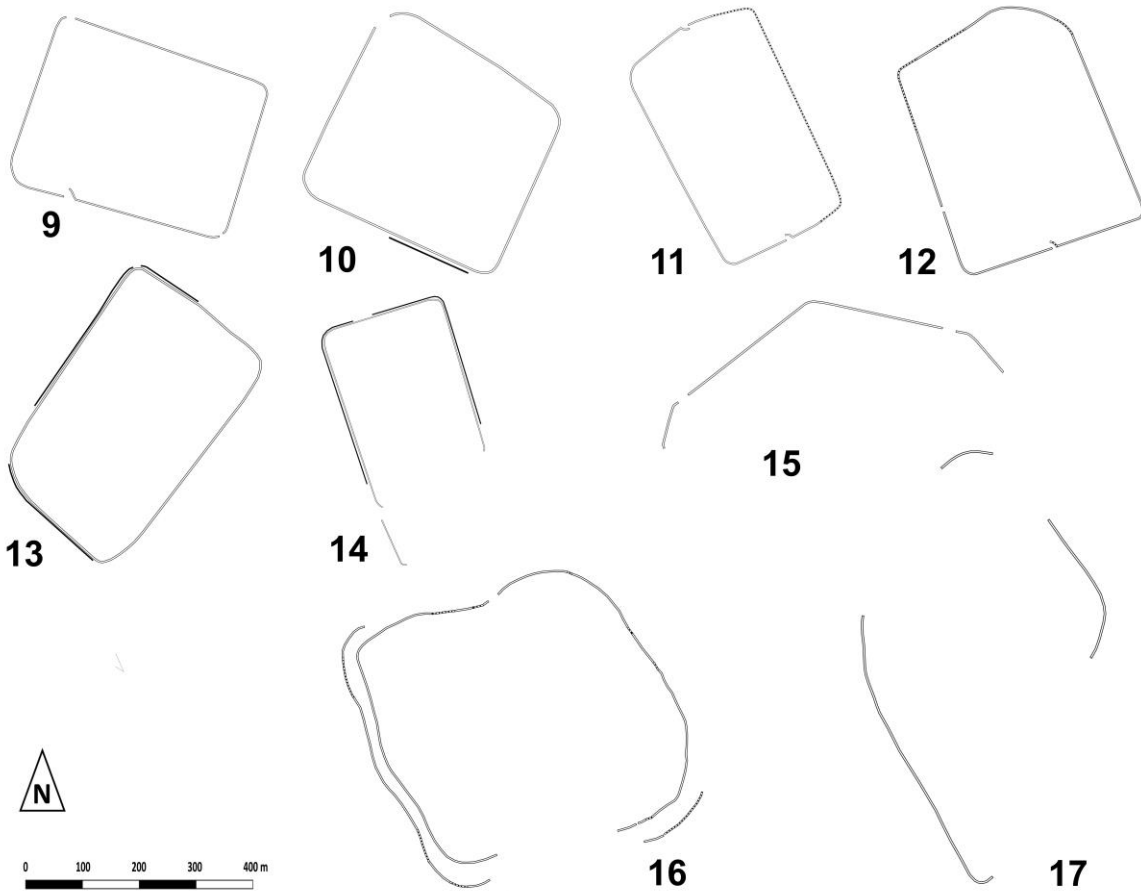


Figure 3. Ground plans of the sites studied in this work (2/2). Numbering corresponding to Tables 1 and 2.

By defining groups of enclosures based on the area they occupy and within a similar materiality or archaeological entity ranges, we evoke a reality that goes beyond simple quantification. For example, the operational and tactical principles and requirements to be observed for the deployment of a legion (typically 5000 men and ca. 700 pack animals), are incompatible to those of a cohort of infantry (some 480 foot soldiers and 60 pack animals). Similarly, the impact of each unit on the landscape inevitably differed. For this reason, we have defined four distinct groups of camps:

1) Small enclosures (1.5-2.5 ha) suitable for small units from several hundred to just over a thousand men (e.g. 2-3 cohorts) operating in the territory.

- 2) Medium-sized enclosures, twice or three times the size of the previous group (4-7 ha), housing several thousand men (ca. 2000-4000). In conjunction with the small enclosures, they reveal the enormous operative versatility of the Roman army when deploying *vexillationes* (detachments) with major tactical autonomy.
- 3) Large enclosures (10-15 ha in size), housing at least one unit numerically equivalent to a legion (around 6000 men). These would have great operational independence, similar to a modern-day brigade.
- 4) Enclosures that far exceed these dimensions (ca. 20 ha), which could have served entire army corps (ca. 10000-14000 men).

Table 2. Sites studied in this paper. Location and morphology (2/2).

Num.	Site	Surface (net, ha)	Defensive perimeter (m)	Average slope	Rampart	Ditch	Accesses	Estimated Garrison
1	O Penedo dos Lobos	2,30	574	11,3°	Stone	N/D	4 (Clav.)	1100-1450
2	Cova do Mexadoiro	2,15	544	4,8°	Earth	N/D	1 (Clav.)?	1050-1350
3	O Coto do Rañadoiro	2,50	602	4°	Earth	N/D	1 (Clav.)?	1200-1600
4	Alto da Pedrada	1,54	481	7,9°	Mixed	N/D	3 (Clav.)	750-1000
5	Cabianca	4,7	835	1,55°	Earth	1?	1?	2300-3000
6	Campos	5,4 (min)	600 (min)	2,7°	Earth?	1	N/D	2650-3650 (min)
7	A Cortiña dos Mouros	4,07	770	6,9°	Earth	1	3 (Clav.)	2000-2600
8	Santa Baia	5,11 (min) 5,45 (max)	683 (min)	14,4°	Earth	N/D	N/D	2500-3250 (min) 2650-3650 (max)
9	O Monte dos Trollos	7,09 (min) 9,56 (max)	1019 924 (min)	2,1° 2,1°	Earth	1	N/D	3450-4500 (min) 4650-6050 (max)
10	Cabeza do Pau	7,2 (min) 10,05 (max)	815 815	10,2° 10,8°	Stone	N/D	N/D	3500-4600 (min) 4900-6400 (max)
11	O Monte da Chá	11,85	1339	2,3°	Earth	1	1 (Clav.)	5800-7500
12	O Monte da Medorara	12,97	1368	1,8°	Earth	1?	N/D	6300-8200
13	A Penaparda	10,13 (est.)	1238	6,6°	Earth	1	2 (Clav.)	4950-6450
14	O Monte de Ventín	13,35	1402	4,3°	Earth	N/D	2?	6500-8500
15	O Cornado	12,78	1395	6,3°	Earth	1	N/D	6250-8100
16	Lomba do Mouro	21,24 (int) 24,35 (min ext)	1728 (int)	4,7° (int)	Earth-stone	N/D	N/D	10350-13500
17	Chaira da Maza	19,64	1806	5,5°	Earth	N/D	N/D	9600-12500
18	A Recacha	0,82	380	7,5°	Earth	1	1?	400-500
19	Outeiro de Arnás	0,44	238	8,1°	Earth	1	1	215-280
20	O Castrillón	0,13 (upper) 0,83 (ens.)	143 (int) 351 (ens.)	5,4° 6,6°	Earth	N/D	N/D	60-80 410-530
21	Alto da Cerca	2,15 (min)	457 (min)	11,9° *	Earth	1-2	1	1050-1365 (temp) 650-720 (perm)
22	O Castelo	0,43 (app.) 2,39 (ens.)	271 (app.) 797 (ens.)	20° 15°	Earth-stone	2	N/D	210-270 1150-1500

Outside this typology, three enclosures can be defined as *castella*, i.e. small temporary or seasonal fortifications (<1 ha). In general, they are framed within a context of static control of the territory rather than mobility through it. Due to their specific nature, the remaining two sites should be dealt with individually, even though we have grouped them under the same heading.

3.1. Group 1: Small temporary camps

Four camps in the study area are included in this group [13]. Though O Penedo dos Lobos was known prior to this study (Costa-García et al., 2017) [14], Cova do Mexadoiro, O Coto do Rañadoiro and Alto da Pedrada [15] were discovered in 2017-18. Morphologically, this is a very uniform group, with slightly irregular playing-card ground plans, as a result of their adaptation to the local topography (Fig. 2, num. 1-4, Fig. 4). Their defences were built using local materials, an aspect already mentioned in ancient documents (Veg. *Mil.* 3.8; Joseph, *BJ* 5.3.2; Ps.-Hyg. 48-53). Those to the north (Cova do Mexadoiro, O Coto do Rañadoiro) have earthen ramparts, while the southern counterparts (Alto da Pedrada, O Penedo dos Lobos) took advantage of rocky outcrops to build walls over which stone blocks were carefully fitted into place. The defensive perimeter of Alto da Pedrada is made of stone, with a section made of earth.

The different materiality of the enclosures has played a significant role in their degree of preservation (*see below*), meaning that only the southern sites have preserved their fortified entrances. These are of the *clauicula* type with the notable exception of the main gate of O Penedo dos Lobos, where the ramparts form a chicane. Ditches have not been found in any of the sites, or otherwise they were shallow and quickly filled in. Though this aspect is not uncommon in camps located in mountainous zones (Peralta Labrador, 2002b), their presence should be confirmed subsequently by excavation or geophysical surveys.

Their location shows many similarities. They are placed in mountainous areas, on easily defensible

high points with gentle slopes [16], and commanding sweeping views over the immediate surroundings (Figs. 5 & 6, num 5-8). Similarly, Cova do Mexadoiro (highlands between Bergantiños and the Val do Dubra), O Coto do Rañadoiro (foothills of the Faro Mountain) and Alto da Pedrada (Soajo Mountain) repeat a similar pattern, as they are located on peaks that overlook depressions in the mountain ranges, thus benefitting from ease of communication. Although O Penedo dos Lobos is located in a slightly different environment, its position is also related to the control of mobility through a mountainous landscape, since it dominates a pass halfway up the slope of the Manzaneda Mountain that runs to the west. Despite of the enviable defensive position as a result of an intelligent use of space, no permanent defensive structures were built in any case. Similarly, the relationship of these camps with Iron Age sites appears to be fairly irrelevant, since their siting does not seem to be conditioned by the latter. This is most evident at O Coto do Rañadoiro, where the relationship with the neighbouring hillfort of Freán could almost be defined as 'disdainful'.

3.2. Group 2: Medium-sized temporary camps

Four enclosures of this kind can be found in the study area [17]. Three have already been published, Cábanca (Costa-García et al., 2018; Orejas et al., 2015), Campos (Blanco-Rotea et al., 2016) and A Cortiña dos Mouros (Vidal Encinas, 2015; Vidal Encinas et al., 2018), and are now joined by the new enclosure of Santa Baia. As far as can be identified, due to their state of preservation, they all had earthen ramparts. At Campos and A Cortiña dos Mouros these were reinforced by outer ditches. The latter also had three *clauicula*-type entrances, which were possibly present also in the western ramparts of Cábanca. Like with the previous group, layouts are topographically-determined variations of the classic square and rectangular playing-card designs (Fig. 2, num 5-8). As it has been already stated (Costa-García, 2018), the irregularity of the defensive perimeter is directly related to the conditions of the local topography (Fig. 6, num 5-8).

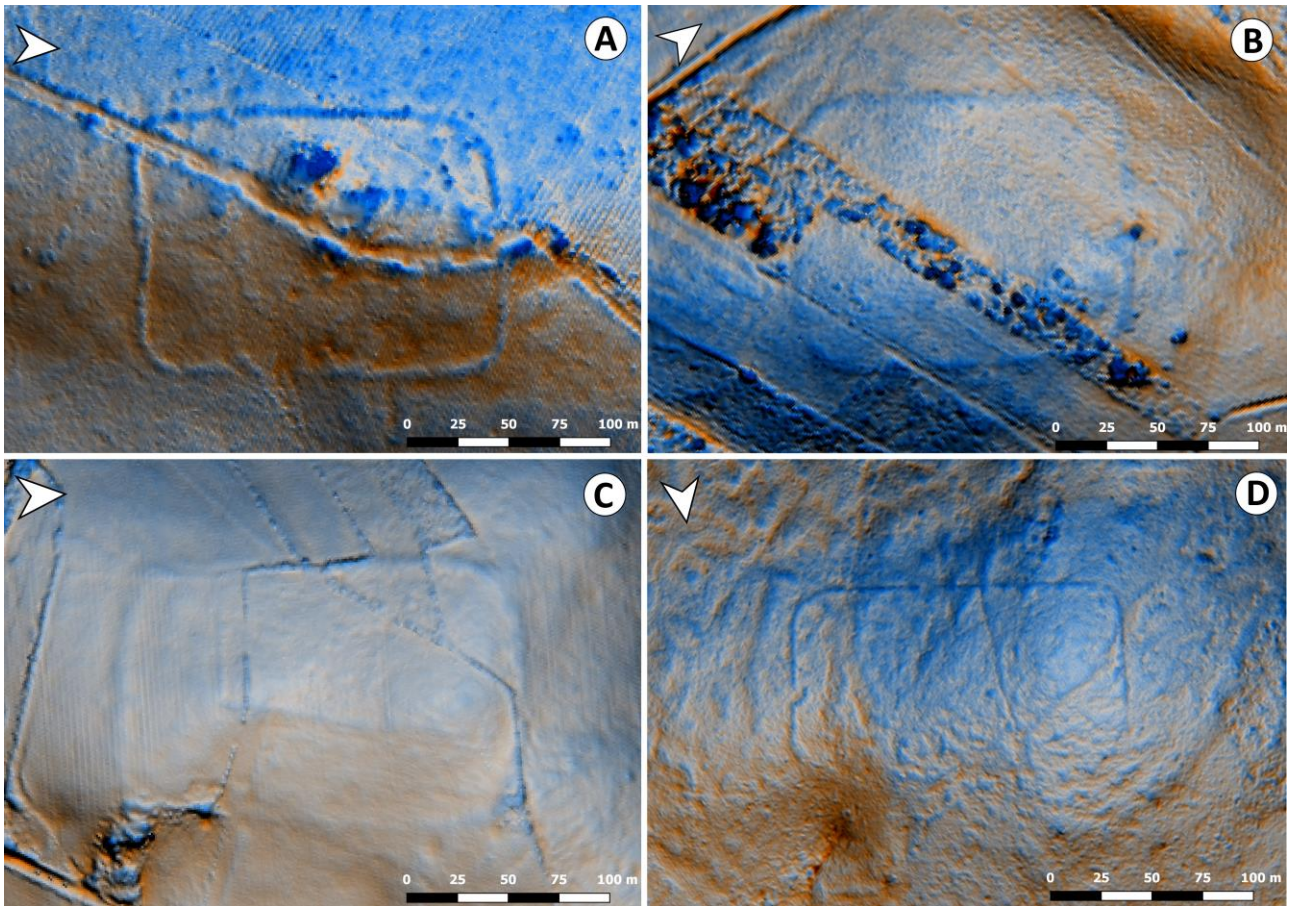
[13] There are other similar enclosures outside the study area, such as the camps of Vegahoz (El Burgo de Osma, Soria) (García Merino, 1996) or those from La Chana (Castroalbón, León) (Costa-García, 2016; Loewinsohn, 1965).

[14] The site was recently surveyed (Fonte and Costa García, 2018). Its defensive perimeter was documented in detail, and several elements of material culture were recovered, making it possible to date the camp from 25-22 BCE onwards.

[15] The camp of Alto da Pedrada was identified thanks to the LiDAR coverage provided by the CIM Alto Minho. We are also grateful to Jorge Canosa, who discovered the enclosure of Cova do Mexadoiro, for allowing us to include this site in this study.

[16] With average values of less than 5°, exception made of O Penedo dos Lobos (11°).

[17] Other sites located in NW Iberia could be also included here: Valdameda (Manzaneda, León) (Sánchez-Palencia, 1986; Sánchez-Palencia and Currás, 2015), El Chao de Carrubeiro (Bual, Asturias) (Menéndez Blanco et al., 2015b) or Villamontán I & II (Villamontán de Valduerna, León) (Celis Sánchez et al., 2015).



*Figure 4. Group 1 enclosures: O Penedo dos Lobos (A), Cova do Mexadoiro (B), O Coto do Rañadoiro (C), Alto da Pedrada (D). Overhead view from the self-developed 1m DTM-LiDAR. Visualization SAGA GIS Resampling filter (Conrad *et al.*, 2015).*

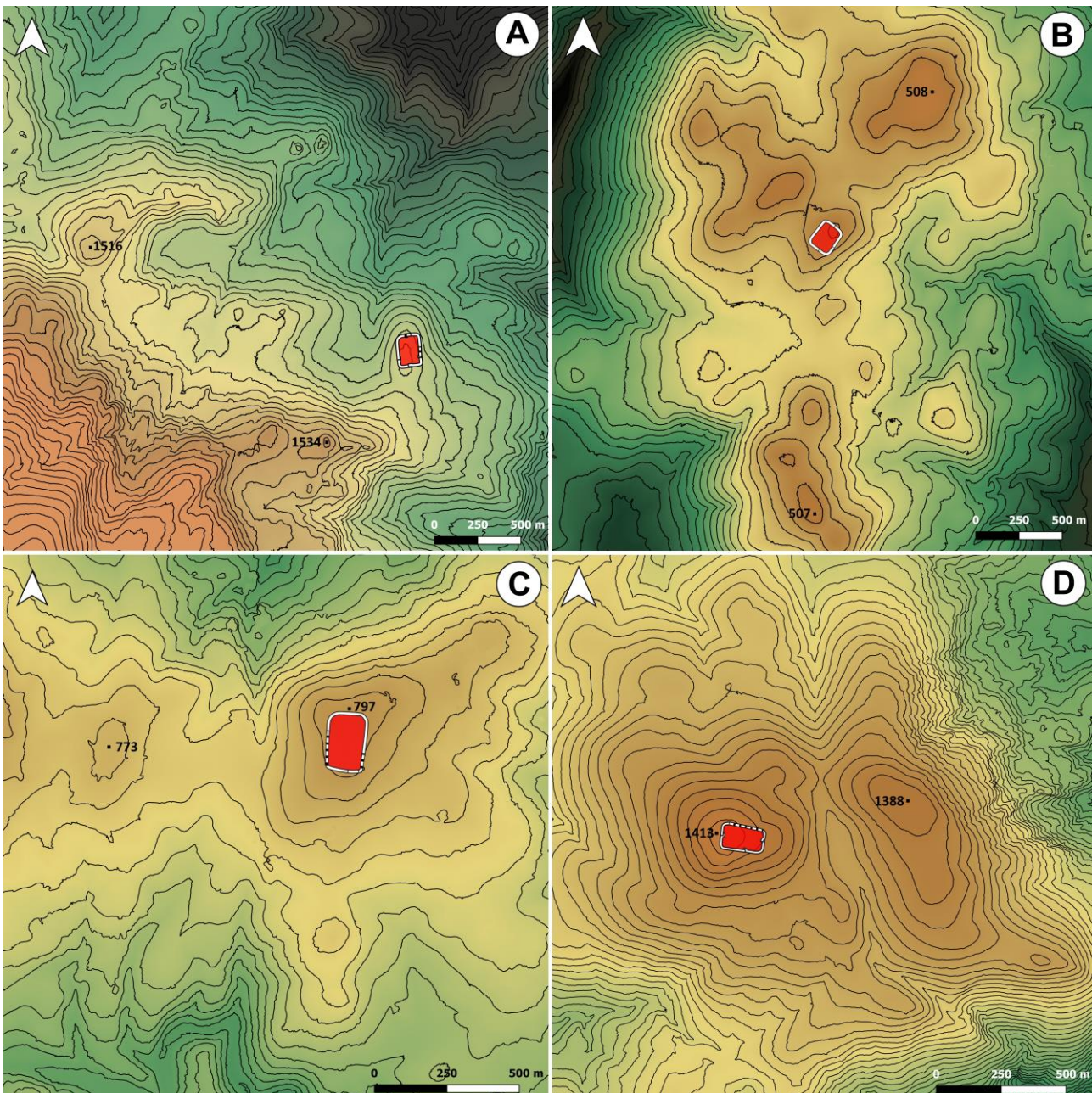


Figure 5. Location of the enclosures of group 1 (1m DTM-LiDAR model elaborated from CNIG-IGN raw data. Distance between contour lines: 10 m): O Penedo dos Lobos (A), Cova do Mexadoiro (B), O Coto do Rañadoiro (C), Alto da Pedrada (D).

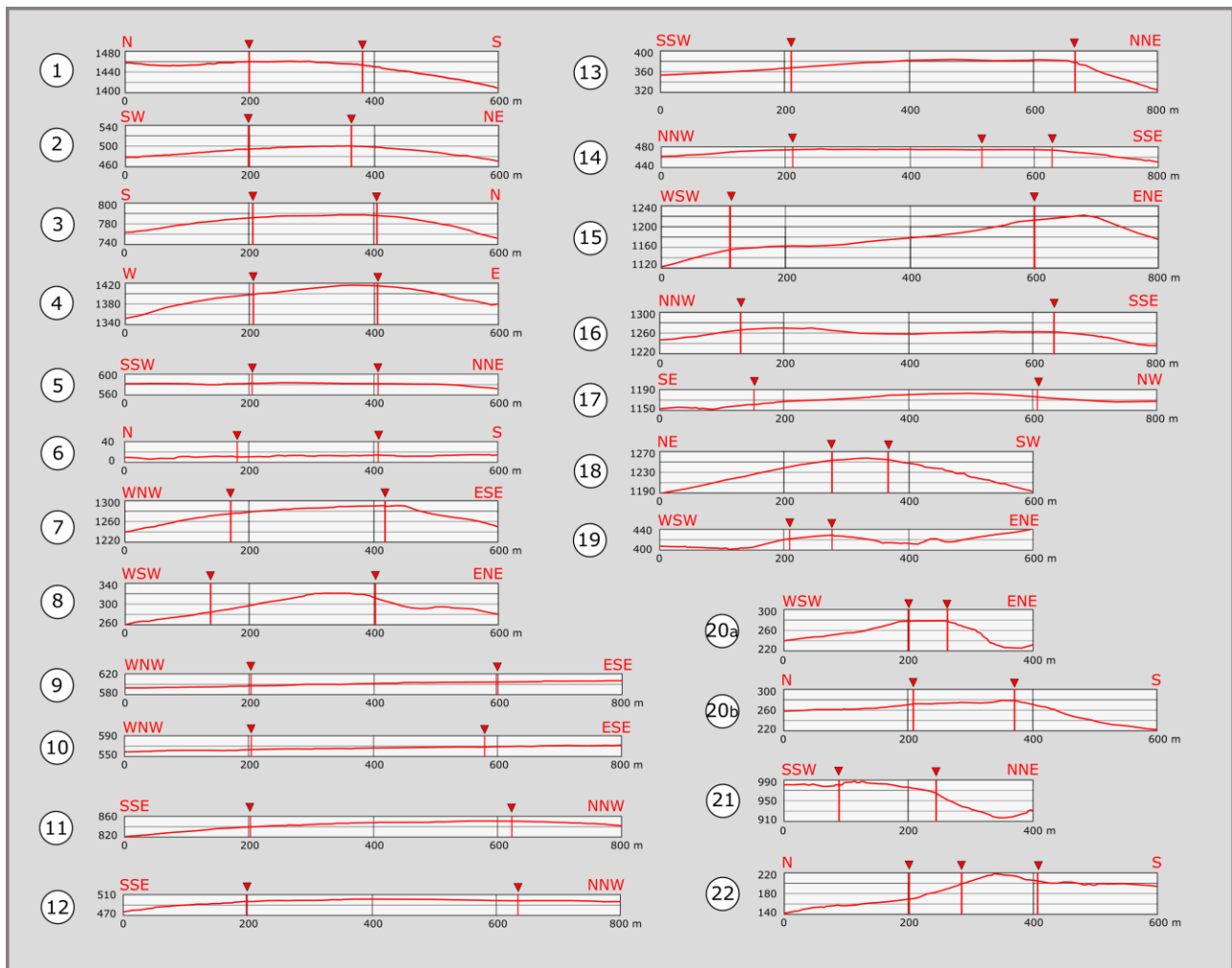


Figure 6. Longitudinal section of the enclosures studied in this work. Numbering according to Tables 1 and 2.

Each site in this group can be taken as representative of a different settlement pattern. A Cortiña dos Mouros is a perfect example of camp from the mountain ranges of NW Iberia: built on raised peaks with gentle slopes, providing comfortable areas for pitching tents, and letting them to strategically dominate the main transit across mountain ranges or wading points that allowed for connections between valleys. In the delicate balance between optimal camping conditions and the necessary control of the landscape, the regular camp models often underwent modifications, significantly altering their tradi-

tional layouts. In this case, the northeast sector of the camp does not retain the characteristic 90° rounded corner and instead has a wide, curved rampart. This alteration also means that the *porta decumana* was removed, a feature already seen in other mountainous enclosures, such as El Chao de Carrubeiro (Menéndez Blanco et al., 2015b) or El Xuegu la Bola (Menéndez Blanco et al., 2018). Interestingly, no hill-forts have been documented occupying other elevated points of this mountain range, since they are located at a much lower altitude, where it is easier to live.

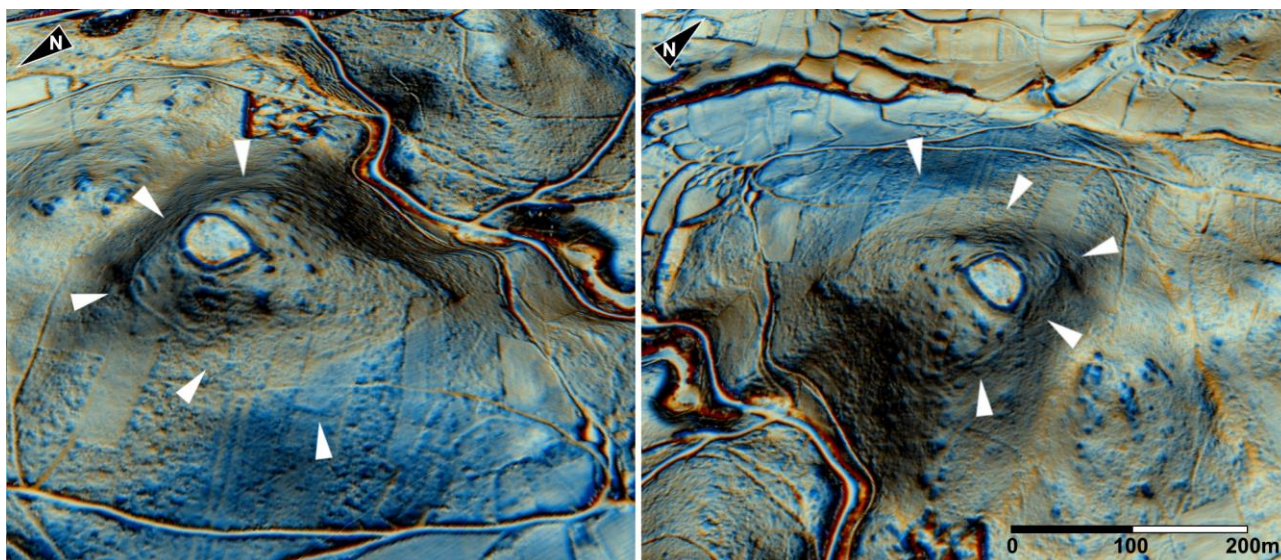


Figure 7. Santa Baia camp. Oblique views from the self-developed 1m MDT-LiDAR. Visualization SAGA GIS Resampling filter (Conrad et al., 2015).

In turn, Santa Baia (Fig. 7) is a good example of displacement or control of the elevated terrain (Montes do Xalo) that separates the pre-coastal valleys of Anllóns and Valiñas, giving the latter access to what is today the city of A Coruña. The camp fits perfectly within the landscape: it deliberately avoids the highest massifs to the north and south, taking advantage of the notable defensive advantages of a hill located at the point where the river Anllóns and one of its tributaries meet (Fig. 8). Following one of the general trends of Roman military sites in elevated positions, its rear-guard is located at the highest point. Quite exceptionally, an indigenous hillfort is also placed on the top of the mountain within its perimeter. Based on its morphological characteristics and location, it possibly dates from the Early Iron Age (Parcero-Oubiña, 2002), and was already abandoned by the time the camp was built. Other nearby sites could be dated in Late Iron Age, such as Codesuso, located to the north of the camp. However, it does not look like the troops stationed in Santa Baia paid any particular attention to any of them (Fig. 8).

Cabianca is an enclosure with a remarkably regular design thanks to its location on the plateau of A Chá de Santa Marta. This upland is located immediately to the west of the large mountainous massif of

the Ancares Mountain, where several Roman military enclosures of different kinds have been documented, including A Cortiña dos Mouros mentioned earlier (Vidal Encinas et al., 2018). Cabianca has visual control over the access points and the transit across the plateau and over the western foothills of the mountain range, but never became a permanent fortification. Within a range of only 5 km, two other military enclosures (see below) and up to 18 hillfort-type settlements (*castros*) have been documented. Though nine of the latter are within its visual catchment area, only one (Mourillón) can be seen from the camp if the range of vision is 2.5 km.

The last one, Campos is undoubtedly associated with the River Miño, on whose southern bank it is located. Although the heavy erosion of the site in late 20th century currently prevents us from locating its entrances, the gentle slope of the terrain allows us to assume that the main gate of the camp faced the river. Thus, control of or crossing over the river would have been the immediate task of its occupants. Another, less viable, option is that the camp was built over a bridgehead. It is noteworthy that the eastern flank of the camp is strengthened by the slightly sunken valley of a stream.

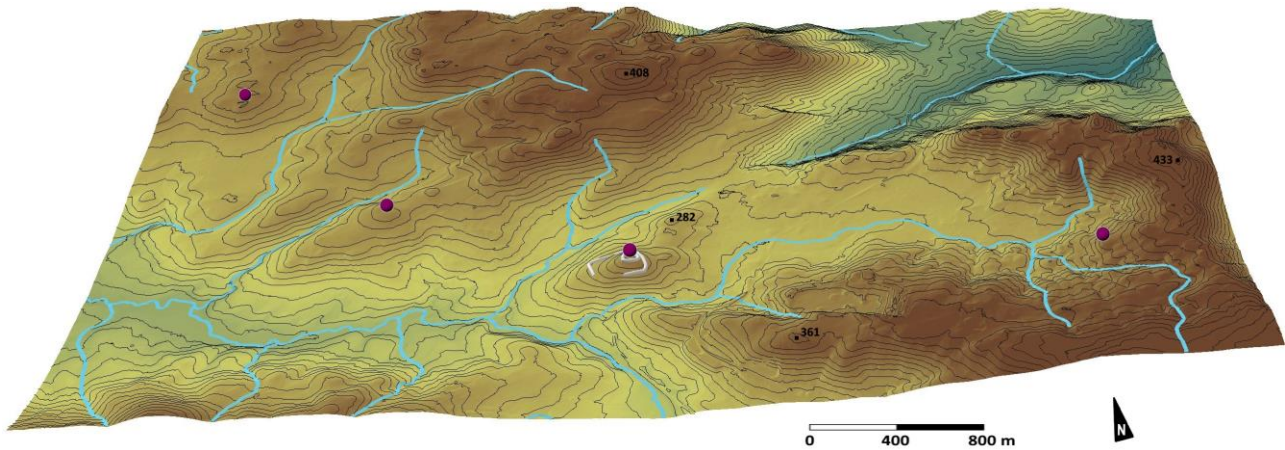


Figure 8. The Santa Baia camp in its context. Oblique view elaborated from DTM-LiDAR 5m of CNIG-IGN. In white, the enclosure; other hillforts in the area marked by purple dots.

3.3. Group 3: Large temporary camps

With the notable exception of O Cornado, all of the camps in this category are located in the Galician eastern zone (Fig. 1, num 9-13), and can be simultaneously related with other settlements located in the western area of the Cantabrian Mountains, in the territories of Asturias and León (Menéndez Blanco *et al.*, 2015b; Vidal Encinas *et al.*, 2018), all of them potentially linked with the Cantabrian-Asturian wars. They make the most of the local topography (Fig. 6, num 9-13) and show broadly rectangular layouts defined by earthwork ramparts, although some stone was also used to reinforce the parapets (Fig. 3, num 9-13).

Together with Cabianca (see above), the enclosures of Monte da Chá and Monte da Medorra form a complex of great interest for understanding the dynamics of the Roman army in a region dominated by the plateau of A Chá de Santa Marta (Costa-García *et al.*, 2018; Orejas *et al.*, 2015). If Cabianca occupied a central position here, the larger camps are located at either end of the plateau, to the point of being physically embedded in it. This led to a process of morphological adaptation to the terrain that is particularly evident at Monte da Medorra. The two major enclosures control visually their surroundings up to 5 km in a different way. Apart from the plateau itself, both enclosures dominate the surrounding mountainous areas to the north, east and south (Fig. 9). Unlike Cabianca, they display an interest in dominating the plains located to the north (Monte da Chá) and to the south (Monte da Medorra) and a greater ability to control hillfort-type set-

tlements, 12 of which are visible from Monte da Chá and 16 from Monte da Medorra.

It is difficult to disassociate the camp of A Penaparda (Costa-García *et al.*, 2017) from the enclosures located in the neighbouring mountain ranges of Penouta-Ouroso (Menéndez Blanco *et al.*, 2015b). Like the others, this camp is located on a gently sloping peak which offers remarkable visual control of the nearby mountain ranges. However, it runs down the slope towards the south, a possible sign of its general orientation. In this case, the remaining military settlements should be located in its theoretical rear-guard. However, hillfort-type settlements were detected further away from its immediate surroundings, usually at lower altitudes and preferably occupying elevated positions with better control over the valleys.

By contrast, the enclosure of O Monte de Ventín is situated on a hillock formed by the Azúmara-Pol river system, so that almost three-quarters of its defensive perimeter are surrounded by the presence of a watercourse. The camp is adapted to this high position in such a way that it conditions the orientation of its longitudinal axis, thus forcing a significant change to its layout in the northern sector, where the theoretical rear-guard would be located. From this position, a surrounding landscape hosting several hillfort-type settlements is controlled with comfort. Os Castros, 500 m to the north, is the nearest one while the large hillfort of Viladonga, one of the most remarkable Galician *castros* (Arias Vilas *et al.*, 2013), is just 5 km away. Numerous gold mines are also located in this area, although it is not possible to establish yet any direct relationship between them and the camp.

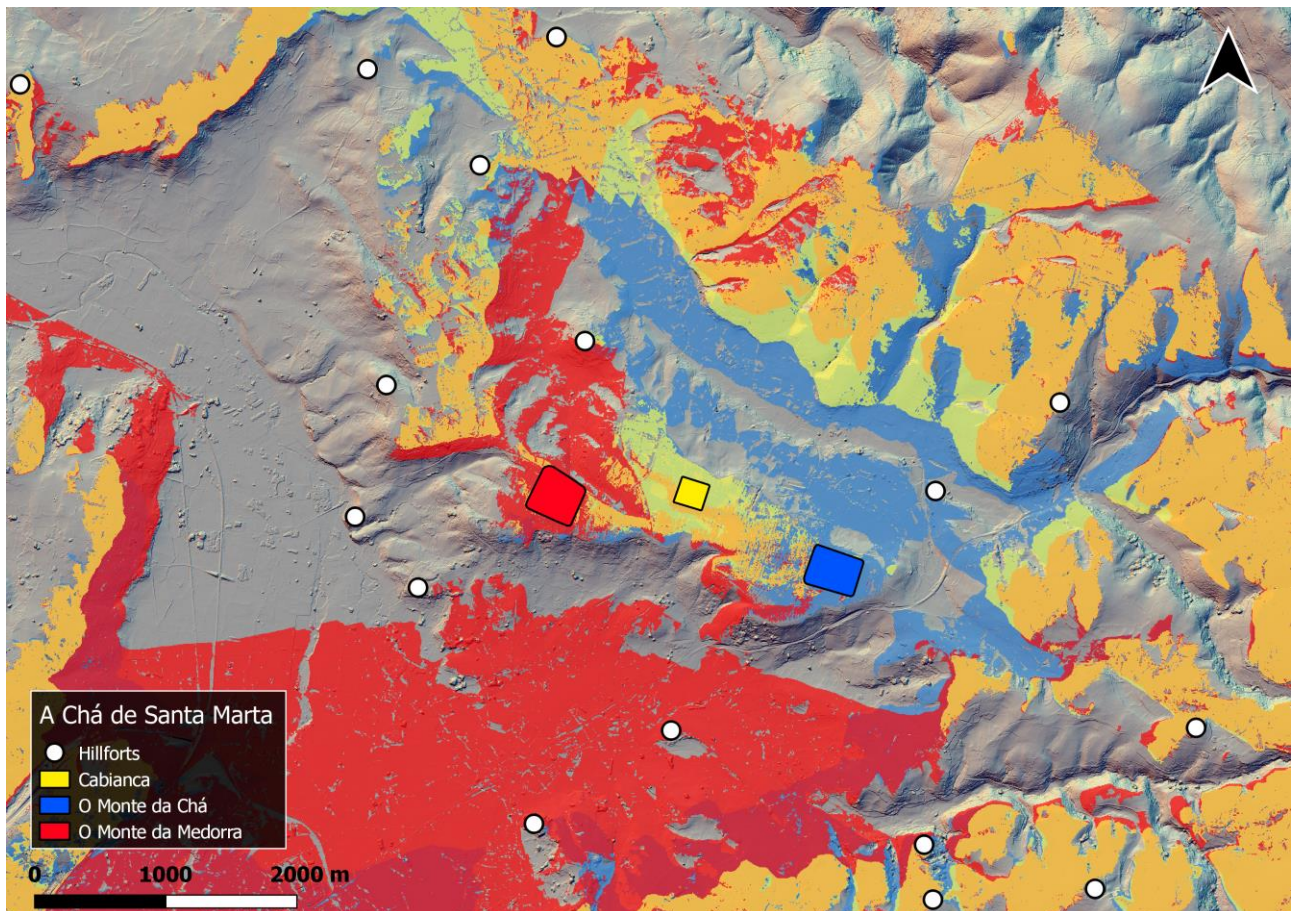


Figure 9. The complex of A Chá de Santa Marta. Visibility from the camps over self-developed 1m DTM-LiDAR. Visualization RVT Multi-hillshade (ZRC SAZU) (Štular et al., 2012; Zakšek et al., 2011).

To date, the enclosure of Cornado (Costa García et al., 2015; Gago Mariño and Fernández Malde, 2015) is the westernmost camp and the most isolated from other enclosures of its kind. The site makes use of a gentle slope delimited by the Rego do Vao, a tributary of the River Barcala, which slightly affects its rectangular shape. The camp has excellent visual control over its immediate surroundings: the plains and low hills to the west and the more rugged landscape along the Donas and Barcala Rivers to the south and east. It seems that the vanguard of the enclosure is located in its south-west sector, and just a short distance following this direction, three hillfort-type settlements have been documented (Barbeira, A Pallota and Castroverde). The camp makes the best use of the local topography to reinforce its position and is located not far from Brandomil, an important gold-mining area in Roman times (Pérez Losada, 2002: 291-302) a few kms to the northwest.

3.4. Temporary camps of undefined size

For two camps full extent cannot be established due to the difficulties in defining their defensive perimeter (Fig. 3, num 14-15). At O Monte dos Trollos (Costa-García, 2017b; Costa-García et al., 2018), the single rampart-and-ditch defences have disappeared

from its southern sector, but the historical aerial photographs support two hypotheses: either this camp had an irregular rectangular shape, and an annex in its southern area – a solution already seen in the camps of La Poza (Cantabria) (Cepeda Ocampo, 2006); or otherwise it had an elongated shape, which was adapted to the southern edge of the plateau. This would indicate a maximum extent of either 9.5 ha (if we consider either a big, single enclosure, or a small enclosure with an annex) or approx. 7.1 ha (for a small enclosure without an annex, or for the latter not being used to accommodate troops) similar to camps from group 2. Another similarity is that Monte dos Trollos perfectly adapts to the local conditions of the terrain (Fig. 10, A). The camp is located at the highest point of a plateau that delimited by the canyons of the river Miño and two small streams that flow into it. This makes the position accessible only via a small strip of land to the East. The camp visually controls the access points to this high ground, the areas immediately around the enclosure and the high ground on the other side of the Miño River. Just a few metres to the north is one of the few points where the river can be easily crossed for several km around. The area around the camp also contains a number of hillfort-type sites, but these do not appear

to have received any special attention from the troops stationed in the camp. Barely 700 m from the camp, the neighbouring hillfort of Castro de Ribeira does not reveal the adoption of any special protective measures. Roman troops seem content to be lo-

cated at a safe distance from where it is possible to have a fairly good visual control over the hillfort, seen not as a menace, but as another variable to be aware of in the landscape.

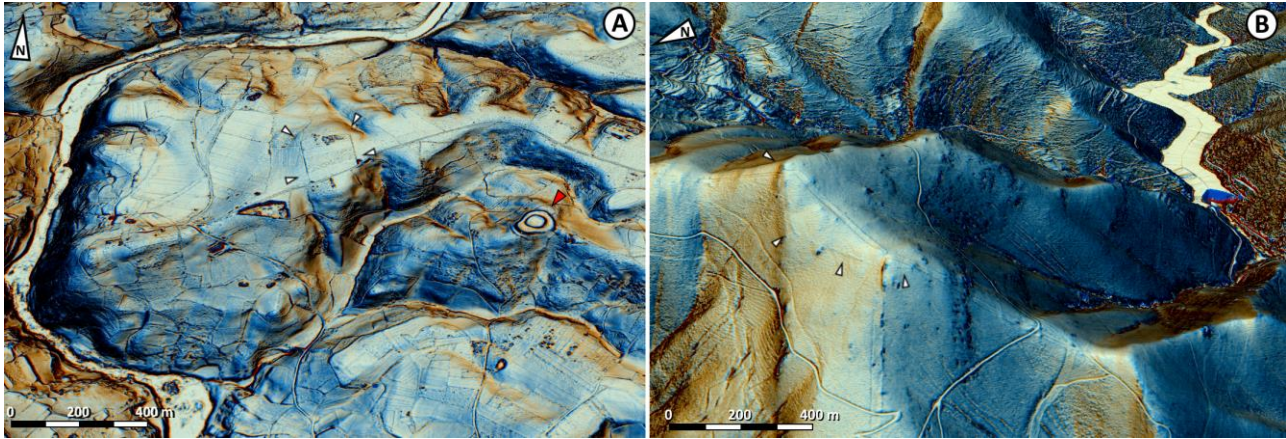


Figure 10. Two different settlement patterns. O Monte dos Trollos (A) and Cabeza do Pau (B). Oblique view from the self-developed 1m DTM-LiDAR. Visualisation SAGA GIS Resampling filter (Conrad *et al.*, 2015).

The case of Cabeza de Pau (Costa-García *et al.*, 2017) is more complicated, as we lack means of defining precisely the area originally occupied by the camp. The defensive perimeter is not complete, and it seems that the main concerns of its occupants were visual control over the surrounding area, and physically blocking transit through the mountain range that separates the rivers Sil and Xurés, which is not characterised by gently sloping peaks. Settlements dating from the Late Iron Age in this region are located at significantly lower altitudes, although this does not detract from the fact that, as in other highland areas in NW Iberia, the mountain ranges were used as ancient transit routes through the territory (González Alvarez, 2011). Two high points were appropriated by the camp at the time of its construction, with the limited, flatter space between them used as an area for tent pitching (Fig. 6, num 15; Fig. 10, B). The absence of artificial defences in the southern part of the site is understandable at such elevations. El Chao de Carrubeiro (Menéndez Blanco *et al.*, 2015b) or Cueiru (Menéndez Blanco *et al.*, 2018), in Asturias, did not fortify artificially the steeper sectors due to the limited possibility of an enemy attack

coming from here. Based on the maximum slope values provided by other mountainous sites in our study area (Table 2), we defined two thresholds of 10° and 15°, in order to estimate usable surface areas of 7 and 10 ha respectively.

3.5. Group 4: larger temporary camps

At the end of 2017 we documented two large enclosures in the Laboreiro/Leboreiro Mountain, thanks to the combined use of airborne LiDAR data and historical aerial photographs provided by the IGN (Fig. 3, num 16-17; Fig. 11). Located eight km apart from each other, they both occupy high points over 1100 m above sea level, emulating the pattern of settlement and distribution already documented in other mountainous areas in northern and north-western Iberian Peninsula (Camino Mayor and Martín Hernández, 2015; Martín Hernández, 2015; Menéndez Blanco *et al.*, 2018; Menéndez Blanco *et al.*, 2015b; Peralta Labrador, 2006, 2011) (Fig. 6, num 16-17; Fig. 12). In any event, both sites have unique features that demand a more detailed individual analysis.

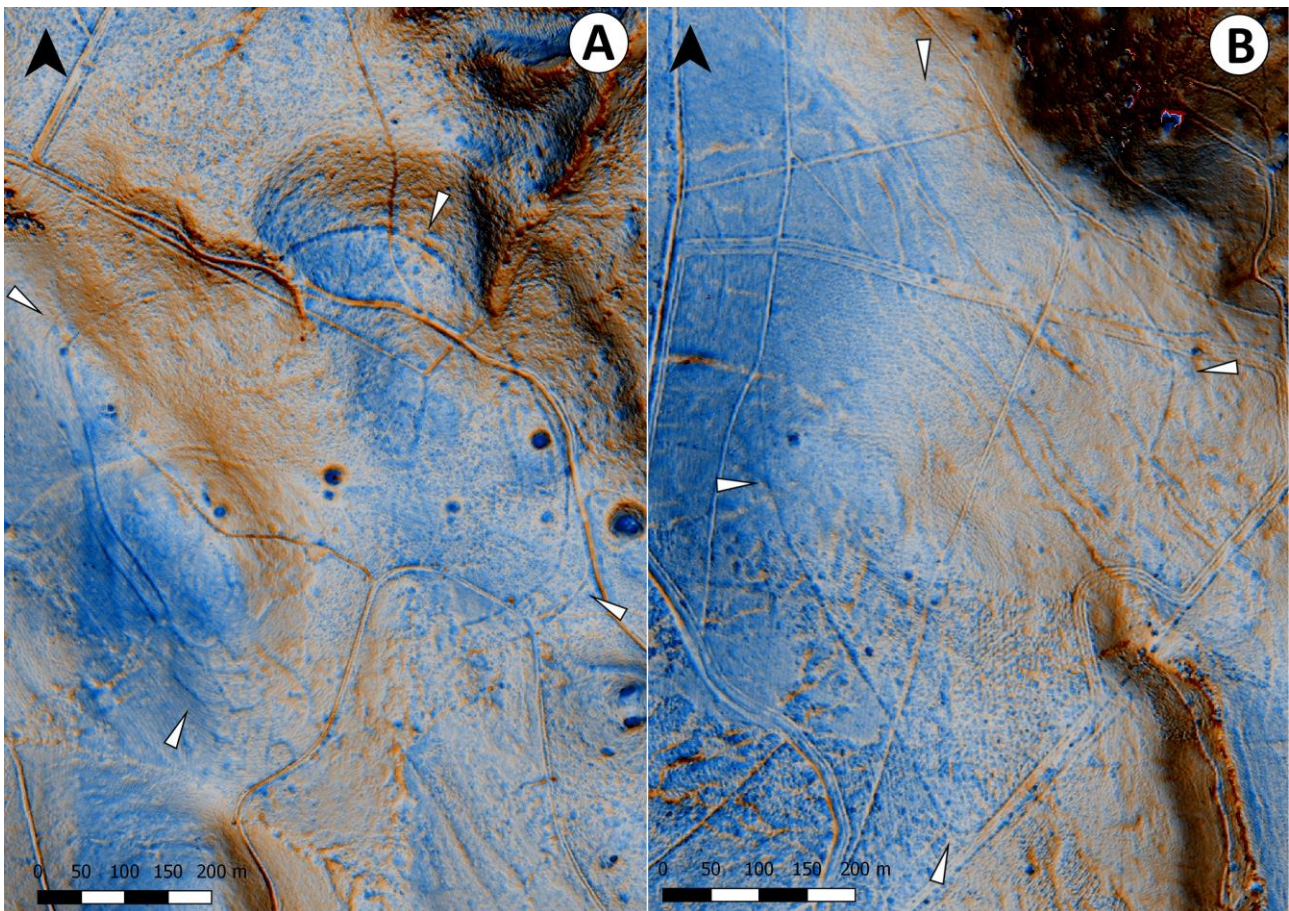


Figure 11. The enclosures of Lomba do Mouro (A) and Chaira da Maza (B). Overhead view from the self-developed 1m DTM-LiDAR. Visualization SAGA GIS Resampling filter (Conrad et al., 2015).

Lomba do Mouro is close to the Alto da Portela do Pau, between Galicia and Portugal. A major megalithic necropolis has already been documented in the area (Baptista, 1997; Eguileta Franco, 1999; Jorge et al., 1997), but the actual enclosure had gone unnoticed until now [18]. With the inner perimeter comprising of earthworks and large stone slabs, the general layout is quadrangular with rounded corners. The ramparts often curve in order to adapt to the local topography, which despite not being especially steep, does frequently rise and fall. On the outside, there is a second concentric perimeter, of which only a part still remains, especially in the southern and western part of the site. Although the mountain range has numerous locations that are ideal for locating a camp, the size of Lomba de Mouro, covering over 20 ha, is difficult to fit elsewhere within this landscape. This fortification follows some of the principles we have already seen in other camps in this region, such as adapting the eastern part of the enclosure to more steeply-sloping terrain to reinforce

its defences, or integrating a series of elevated areas within the enclosure, making it possible to simultaneously reinforce its defences and enhance its ability to control the surrounding area. Nevertheless, this solution has led to the inclusion of a wading point within the enclosure, which to some extent compromises the defence of the north and south ramparts, whose central sections are at a lower altitude. To compensate for this, the defences go around a gently sloping camping area sheltered from the wind. Within this strategic design, the establishment of a second defensive perimeter could reveal a real (or symbolic) need by the occupants to reinforce the position of the fortification. Similarly, some of the tumuli from the prehistoric necropolis were integrated into the perimeters and reused as watchtowers, particularly noticeable in the case of Mota Grande in the southeast corner of the enclosure which is the biggest tumulus in this plateau. Therefore, although the enclosure may seem unusual as a whole, it is still possible to identify Roman strategic thinking behind most of the solutions that were applied.

[18] We are grateful to Benito Vilas Estévez for informing us about the presence of an interesting enclosure found during his research work in the area (González-García et al., 2017; Vilas Estévez, 2016).

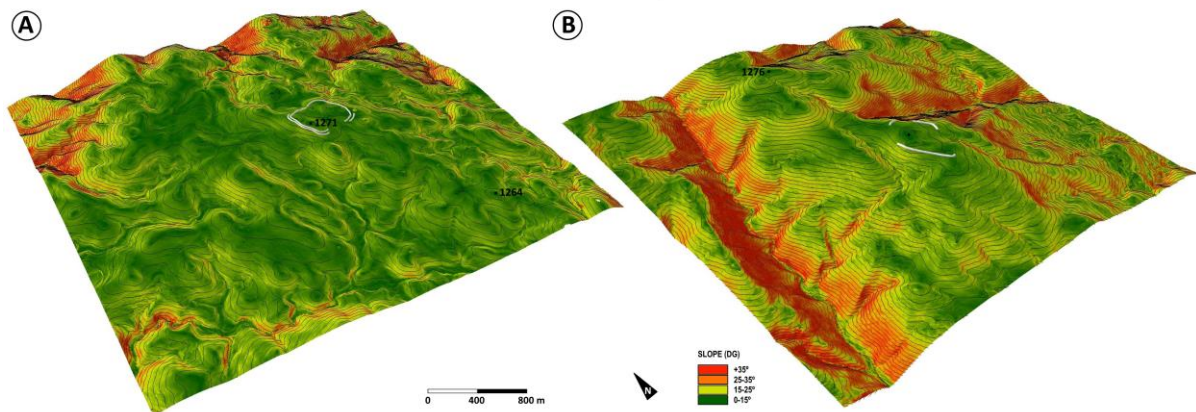


Figure 12. Topographic location of Lomba do Mouro (A) and Chaira da Maza (B). Oblique views of the slope map extracted from the self-developed 1m DTM-LiDAR.

By contrast, Chaira da Maza has a structure that is more in keeping with what has already been seen in the large camps in the study area. Although the more recent mechanization of forestry work has dramatically affected its conservation, it is still possible to recognize a rampart defining a large trapezoidal fortification with straight ramparts and rounded corners. The site is built on a raised area with gentle slopes and is well adapted to the local topography. In this case, the only strategic disadvantage is the central section of the southeast wall which crosses over a gully, an aspect already seen in many other camps in the north of the peninsula (Menéndez Blanco *et al.*, 2015b; Menéndez Blanco *et al.*, 2015c).

3.6. Group 5: castella or small, seasonal fortifications

Despite only representing a small sample out of the total number of Roman military sites, the discov-

ery of small fortifications of this type has been a constant aspect since the definitive launch of Roman military archaeology in Iberia in the late 1990s, from east (Bolado del Castillo *et al.*, 2010; Peralta Labrador, 2006, 2011; Serna Gancedo *et al.*, 2010) to west (Martín Hernández and Camino Mayor, 2018; Menéndez Blanco *et al.*, 2015b). These enclaves are located on high areas and often have oval or polygonal ground plans (Fig. 2 and 6, num 18-20). This prominence increases their defensive position and allows them to expand their visual control over their surroundings, which is why they tend to be in the highest spectrum in medium and long distance ranges (Costa-García, 2017a). This type of fortification would have contained small garrisons with very specific missions, closely linked to the surrounding landscape, and possibly forming part of a larger military deployment whose remains we have still not fully detected.

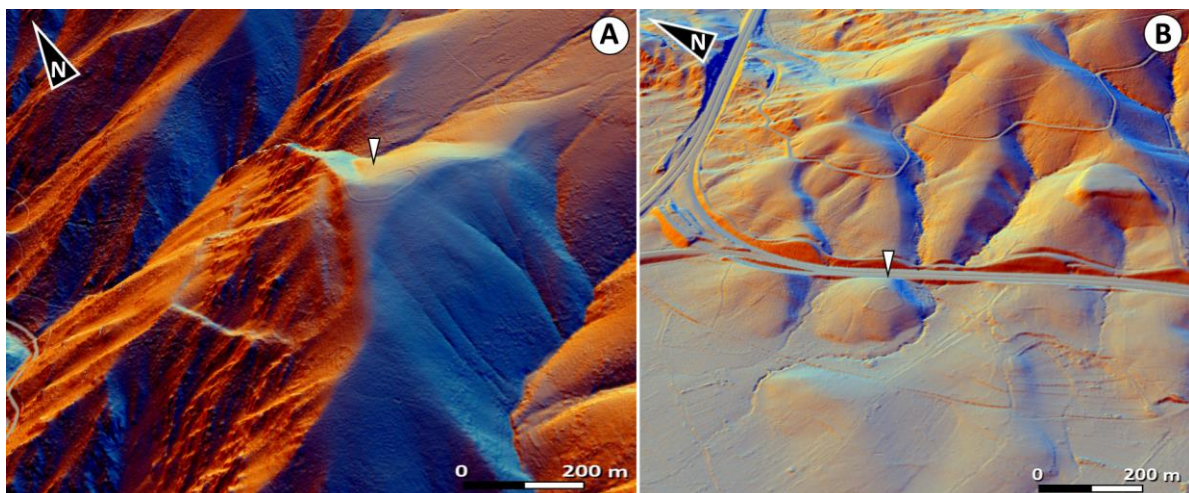


Figure 13. Two different settlement patterns in group 5 enclosures. A Recacha (A) and Outeiro de Arnás (B). Oblique view from the self-developed 1m DTM-LiDAR. Visualization RVT Multi-hillshade (ZRC SAZU) (Štular *et al.*, 2012; Zakšek *et al.*, 2011).

Without a doubt, the enclosure of A Recacha is the one that best fits this pattern (Fig. 13, A). Known for nearly a decade (Menéndez Blanco et al., 2011; Ron Tejedó, 2011), it was recently excavated, revealing its military origin (Orejas et al., 2015). With an irregular oval shape, this small fortification controlled the valley of the River Balouta, in an area where the Roman military presence is a recurring feature, due to the presence of the nearby enclosure of A Granda das Xarras (Ibias, Asturias-Candín, León).

The two remaining structures, Outeiro de Arnás and O Castrillón are still unpublished and present a different case. A recent archaeological excavation at the former (Costa García et al., 2017) revealed the

presence of an enclosure with an irregular pentagonal shape (Fig. 13, B). Its defences consisted of an interior slope, whose base was defined by a row of stones, with a wide external V-shaped ditch. The enclosure is located on a small rocky spur with a gentle slope, but in order to strengthen its defensive position it is set into a more steeply sloping rock face to the southeast, and takes advantage of a small gully to the east-northeast. From this point it is possible to control a large section of the Támeiga Valley, a traditional communication route between the interior of southern Galicia (around Verín), and the north of Portugal (around Chaves).

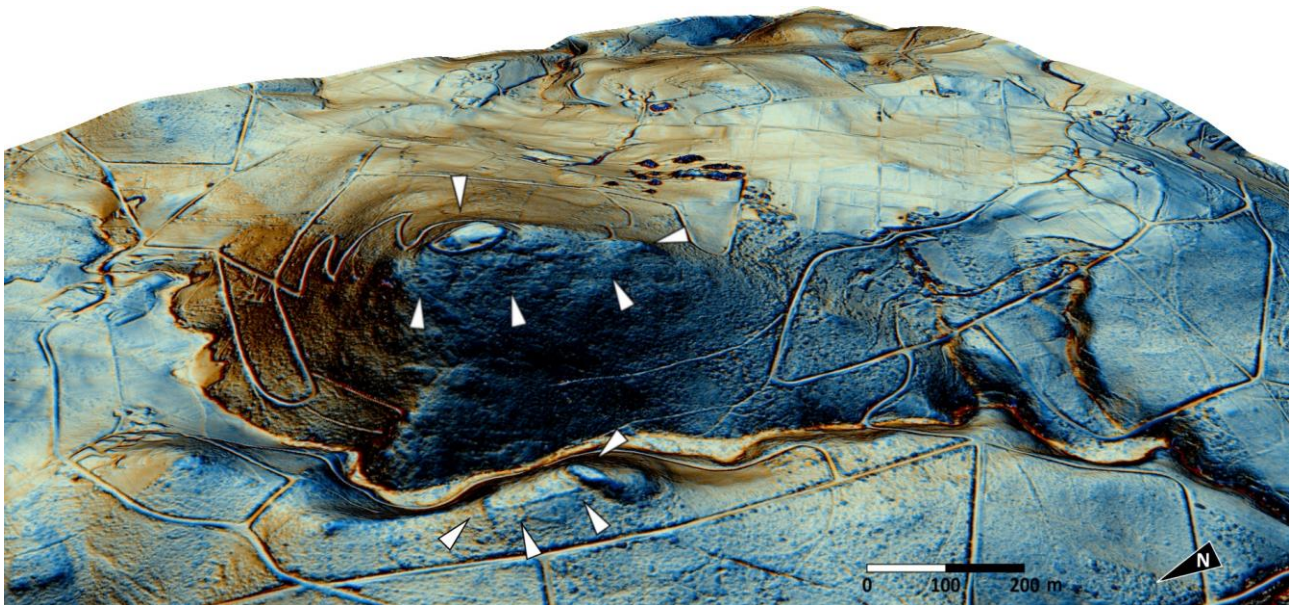


Figure 14. Location of O Castrillón. Oblique view from the self-developed 1m DTM-LiDAR. Visualisation SAGA GIS Resampling filter (Conrad et al., 2015).

The site at O Castrillón [19] is located to the north of the River Ulla. The oval enclosure occupies a small artificially levelled hill delimited by a rampart that reinforces the natural rocky outcrops. Next to it to the north a second, larger enclosure is delimited by an earthen rampart that sits directly on the native rock. This structure, a possible *brachium*, runs for a distance of some 180 m along the western slope of the hill. To the east the steep slope of the gorge cut by the stream of Pucheiros makes unnecessary any artificial defences (Fig. 14). The presence of *brachia* or defensive structures projecting outwards from a main fortified enclave is not uncommon in the Roman world (Labory, 2005), and in the case of the NW Iberia, they have already been discovered in connection with smaller enclosures, albeit in different contexts such as La Loma (Peralta Labrador, 2006) or

Santa Marina (Fernández Vega and Bolado del Castillo, 2011), amongst others.

The interest in this small settlement does not end here. East of the gorge is located the higher Mount San Sebastian with O Couto de San Sebastian, a hill-fort-type settlement, on its summit. Halfway up the hillside, a rampart has been documented on the slope facing O Castrillón, which does not appear to be part of the defences of the Iron Age site, an agricultural terrace or an enclosure from a more recent historical period. Although we are currently unable to establish a direct relationship between these different elements, the complex is unique in this region.

3.7. Other fortified settlements

As before, the grouping of the following sites has an expositive purpose rather than a morphotopological classification. Alto da Cerca has generally been considered as a fortified Iron Age settlement, although it has been repeatedly noted that its mor-

[19] We are grateful to Elixio Vieites, its discoverer, for having allowed us to include it in this article.

phological and locational characteristics differ from the usual pattern of the hillforts from this period in the area (Fonte, 2015; Freitas, 2001; Lemos, 1993; Teixeira, 1996). The site consists of a polygonal enclosure with straight walls and rounded corners. Its defences would have consisted of a deep moat partially cut into the rock, and possibly an earth rampart in its internal part. Moreover, Roman common ware was found on the site during its initial investi-

gations. We previously proposed already that this fortification may have been a Roman military site of a permanent or semi-permanent nature, perhaps associated with gold mining operations in the region of Tresminas (Fonte and Costa-García, 2016). Indeed, this hypothesis has been offered in the past for other sites similar to this in NW Iberia (Sánchez-Palencia and Currás, 2015; Villa Valdés, 2007: 45-46).

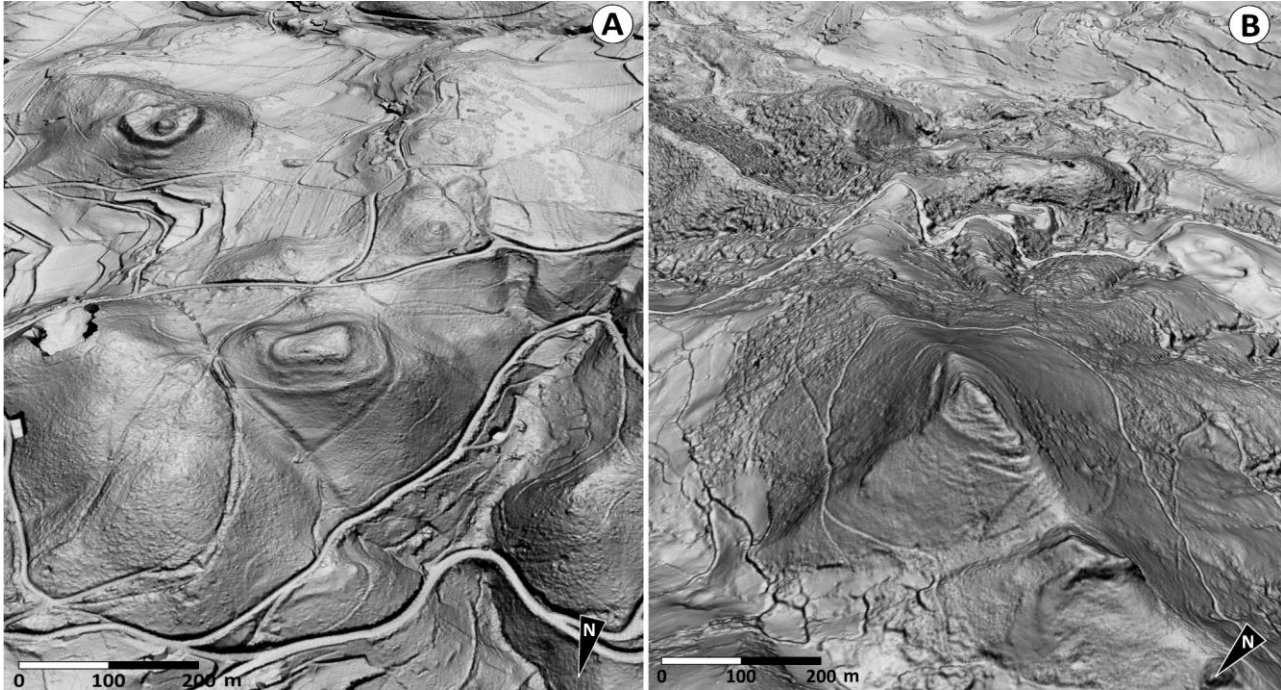


Figure 15. O Castelo (A) and El Picu Viyao (B), two sites with a similar morphology and settlement pattern. Oblique view from the self-developed 1m DTM-LiDAR. Visualisation RVT Slopeshade (ZRC SAZU) (Štular *et al.*, 2012; Zakšek *et al.*, 2011).

The site of O Castelo is located midway between the valleys of the rivers Ulla and Veia, near the *castro* de Outeiro [20]. It has a complex plan, with three different areas. Two concentric oval enclosures adapt to the morphology of the highest terrain. They show thick ramparts and external ditches, a fortified model that would seem to coincide with the defensive pattern of Iron Age hillforts. However, there are also two long arms that stretch towards the north from the outer enclosure, intersecting the slope in an inverted 'V' shape, with their vertex pointing towards the Ulla valley. Due to its layout and the nature of its structures, with earth ramparts, a V-shaped ditch, and a counterscarp, this element diverges from the typical defences of the pre-Roman fortified settlements, leading us to suggest that this is a *brachium*-type defensive system (Labory, 2005; Napoli, 2001) which in this case configures a more complex trian-

gular shape. A similar solution is used in the Roman camp of Monte Curriel.los (Asturias) (Camino Mayor *et al.*, 2007), and in the hillfort of El Picu Viyao (Asturias) (González Álvarez *et al.*, 2011), where it has been suggested that the indigenous Late Iron Age site was re-occupied by Roman troops (Fig. 15).

4. UNDERSTANDING THE LOGIC OF THE ROMAN MILITARY DEPLOYMENT

4.1. Problems and limitations

As previously noted, the sites discussed in this study are distributed unequally throughout the territory of Galicia and Northern Portugal. However, there are several factors that may distort our view of Roman military activity in the region. The concentration of sites in certain areas may be influenced by military decisions, specific missions, events or repeated interests over time that would have called for the widescale presence of troops. Nevertheless, we cannot overlook potential biases affecting the current site distribution. One is the effects of subsequent an-

[20] It is interesting to note that the two sites have a different name in the traditional toponymy, despite having a similar morphology.

thropogenic activity, with issues such as the use of land for agricultural purposes, changes in local topography, or the division of properties over time potentially causing sites to be better preserved in some areas than in others. Similarly, we must consider aspects such as the existence of different archaeological traditions, the differences in research pace and methodology between different areas, the availability of some of the tools and digital resources included in our methodology as well as the extent of datasets coverage.

The recent history of Roman military archaeology as a discipline in the northern Iberia is characterised by a rapid and successive methodological innovation, which in turn have determined a gradual extension of new findings from the east of the Cantabrian Range to the Atlantic coast in the west (see above). The exponential increase in the number of discoveries has also made it possible to identify variables and patterns rapidly transforming the study the Roman military presence in this region and the situation we present in this work may well change further in a few years time.

An important aspect that should be brought up when analysing these sites as a whole is the problem of their dating. Although in most cases there are more than enough morpho-typological or locational elements to indicate their Roman military nature, this alone does not help us establish a reliable chronological sequence for their construction, occupation and abandonment at the current stage of research. Most of these sites have been discovered quite recently and their characterisation, preliminary study and notification of the relevant authorities have been given priority so that the appropriate measures can be taken for their cataloguing and protection. Lack of funding and various logistical and operational reasons so far prevented us from undertaking more detailed archaeological investigations in all of the sites discussed here. A further problem lies in the methodological limitations normally employed to date this type of sites which relies on the recovery of material culture, mostly metallic items alongside a few ceramic fragments, and the limited stratigraphic study of the few preserved structures, mainly perimeter defences. The high acidity of the soils in the study area makes it even more difficult to recover organic matter and metal objects. For example, the volume and state of conservation of the material culture recovered in O Penedo dos Lobos (see below) is quite exceptional. Even there, the archaeological record varies significantly between the different sectors explored in 2018 reflecting geological variations across the site. The use of compost and other types of fertilisers, together with the mechanisation of agriculture and forestry works, may have affected both

the conservation of the material remains and altered the physical and chemical composition of the soil, making radiocarbon dating difficult. Considering that some sites are virtually 'silent' in archaeological terms, we face a genuine methodological challenge and only new data from specific interventions in more and more of these sites will allow us to overcome this problem.

4.2. *More than dots on a map*

The archaeological record related to the Roman military presence in Galicia and Northern Portugal is multifaceted and heterogeneous, but this does not prevent us from defining areas with their own dynamics. We have already pointed out the significant concentration of large enclosures in the eastern area of Lugo and their possible relationship with the evidence documented in the western areas of Asturias and El Bierzo, a macro-area where nearly twenty Roman military camps have been detected. To the north, it is very tempting to hypothesise that A Penaparda and the camps located in the mountain range of Penouta-Ouroso (Menéndez Blanco et al., 2015b; Menéndez Granda and Sánchez Hidalgo, 2018) form a group that reveals the Roman army's strategic use of this type of terrain, in the same way as in areas such as La Carisa (Camino Mayor and Martín Hernández, 2015; Martín Hernández and Camino Mayor, 2018) or La Mesa (Martín Hernández, 2015; Menéndez Blanco et al., 2018). We therefore find elements of different morphology and size - from large camps to a small *castellum*- that cling to gently sloping hillsides from where it is possible to control the line of peaks and therefore, mobility, through the territory. One of the largest camps, El Pico el Outeiro, has recently been dated to the change of era (Menéndez Granda and Sánchez Hidalgo, 2018), although the existence in the same place of a small *castellum* reinforces the idea of the continued -if not diachronic- use of this mountainous route.

In turn, the westernmost enclosure of the group, A Penaparda, seems to be facing south. This could indicate a movement of troops towards the plains of the interior of Lugo instead of an incursion into the mountainous system. In fact, less than 30 km to the west is located O Monte de Ventín, a large camp. One question that still needs to be answered is how the upper sections of the River Eo -which is situated between the two sites- were crossed. Perhaps what we are seeing here is a chain that has lost some of its links.

Another important focus of military activity appears to have had its epicentre in A Chá de Santa Marta. The existence here of at least three camps only allows for a diachronic interpretation, reflecting a

recurrent interest on the part of the Roman army for this space. The plateau is situated between the central valley of the Miño River and the western foothills of the Os Ancares mountain range, serving as a point from where it is possible to move comfortably in all directions. It is therefore highly likely that it acted as a logistical centre in a context in which the movement of large military units is documented. Towards the west, only 16 km away there is Monte dos Trollos, and some 30 km to the east an interesting series of enclosures have been documented that not only have similar dimensions to the Lánacara-Sarria camps, but also follow the settlement pattern usually documented in the mountains of the north of the Iberian Peninsula (Vidal Encinas et al., 2018). Although it is difficult to establish a direct connection between these elements and the enclosure of A Granda das Xarras (Menéndez Blanco et al., 2012; Orejas et al., 2015), also located in the nearby mountain ranges, there can be no doubt that this also fits with the same patterns of behaviour. In turn, A Recacha follows the model of the *castella* on a high point, controlling large swathes of the surrounding landscape, which has already been documented in other parts of the Cantabrian Range (Serna Gancedo et al., 2010).

Reference should also be made to the evidence recently documented in the east of the modern-day province of Ourense. O Penedo dos Lobos and Cabeza do Pau are representatives of very different types of enclosures and they are also located in different mountain ranges. However, they fit with the mobility patterns of the Roman army in this type of terrain. Although the morphology of the *porta praetoria* of O Penedo dos Lobos allowed us to associate this enclosure with that of El Llaurienzo, in the middle of the *Camín Real de la Mesa* (Asturias) (Costa-García et al., 2017; Martín Hernández, 2015), it was the results of the 2018 prospection campaign that provided us with first-rate evidence for their dating: two *ases* of Publius Carisius minted in *Augusta Emerita* between 25-22 BCE (*RIC* 20 and *RIC* 15b, 16 or 17) [21].

Although our current knowledge does not allow us to exclude other interpretative possibilities, the existence of sites that follow similar patterns of behaviour in the eastern part of our area of study, together with the previously indicated chronological details, allow us to hypothesise that we may be dealing with areas associated in some way with an episode or secondary scenario of the Cantabrian-Asturian conflict (29-19 BCE). During this conflict,

the Roman objective would have been to ensure control over mountainous areas that are still largely within the limits of the historical *Asturia*. This would explain the absence of explicit references to the *Cal-laeci* in the literary sources alluding to this conflict.

However, this hypothesis does not provide a reliable historical narrative for the rest of the documented military sites in other parts of Galicia and Northern Portugal. Territorial dispersion and formal variability are documented here, reflecting the great degree of operational autonomy and tactical versatility of the Roman army. Nevertheless, it is difficult to explore this heterogeneous body of evidence in order to define strict regional dynamics. In this sense, perhaps the most notable exception is that of the enclosures documented in the Laboreiro/Leboreiro Mountain. As previously mentioned, their settlement pattern resembles that seen in the western Cantabrian massifs, although their enormous size sets them far apart from the other sites analysed in this work. In this region, any indication of Roman military presence is immediately associated with war episodes of Republican times from the middle of the 2nd century BCE reported by the literary sources (see above). During this period, large armies were mobilised under the command of proconsuls and propraetors, and some military actions took place in remote and/or mountainous areas. Strictly speaking, the extension and morphology of the enclosures would not be incompatible with a hypothetical late-Republican horizon (Morillo Cerdán, 2016a; Reddé, 2008, 2018), although we still lack archaeological data to date these sites more precisely.

With regard to the remaining sites, it is not possible for the time being to associate their presence with specific historical episodes, or to know what kind of operations were carrying out the contingents that built them. The range of possibilities is wide, from exploratory and prospective missions through to combat operations, control over the territory, or occupation and organization after the conquest. However, the absence of precise chronological indicators greatly hinders the task of framing it within the process of absorption and territorial exploitation of NW Iberia by the Romans. In this scenario, the medium and large-sized enclosures stand out, since they may be suggesting the existence of more complex military operations. Curiously, all of them are located in the westernmost areas, and it is possible to reach the Atlantic coast from here in a short time.

In recent years, the priority of archaeological research has been to map the territory in order to locate new sites. But it is now necessary to review the criteria according to which we assess the real impact of the Roman military presence on the very same territory. This paradigm shift can be exemplified in

[21] <http://romanarmy.eu/en/2018/08/28/s-cantabro-astureso-campamento-romano-de-penedo-dos-lobos-revela-a-presenza-militar-romana-mais-antiga-documentada-en-galicia/>

Figs. 16 and 17, two simple ways of quantifying the Roman military presence: while the first one is based on the number, distribution and proximity of the enclosures identified to date, the second considers the estimated total volume of troops in each case, resulting in a more balanced distribution of the Roman army in NW Iberia as a whole. In conclusion, the evidence obtained through the application and development of innovative research methodologies allows us to ask historical questions that we were not even able to pose before. This information

should encourage the revision and updating of historical narratives referring to the expansion of the Roman state and the impact of its colonialism and imperialism in the Galician and Northern Portuguese areas. This allows for the structuring of holistic perspectives that make it possible to delve into the interaction between indigenous peoples and the Romans in NW Iberia during the 2nd century BCE- 1st century CE in the framework of different episodes of "war stress" (Noguera et al., 2014).

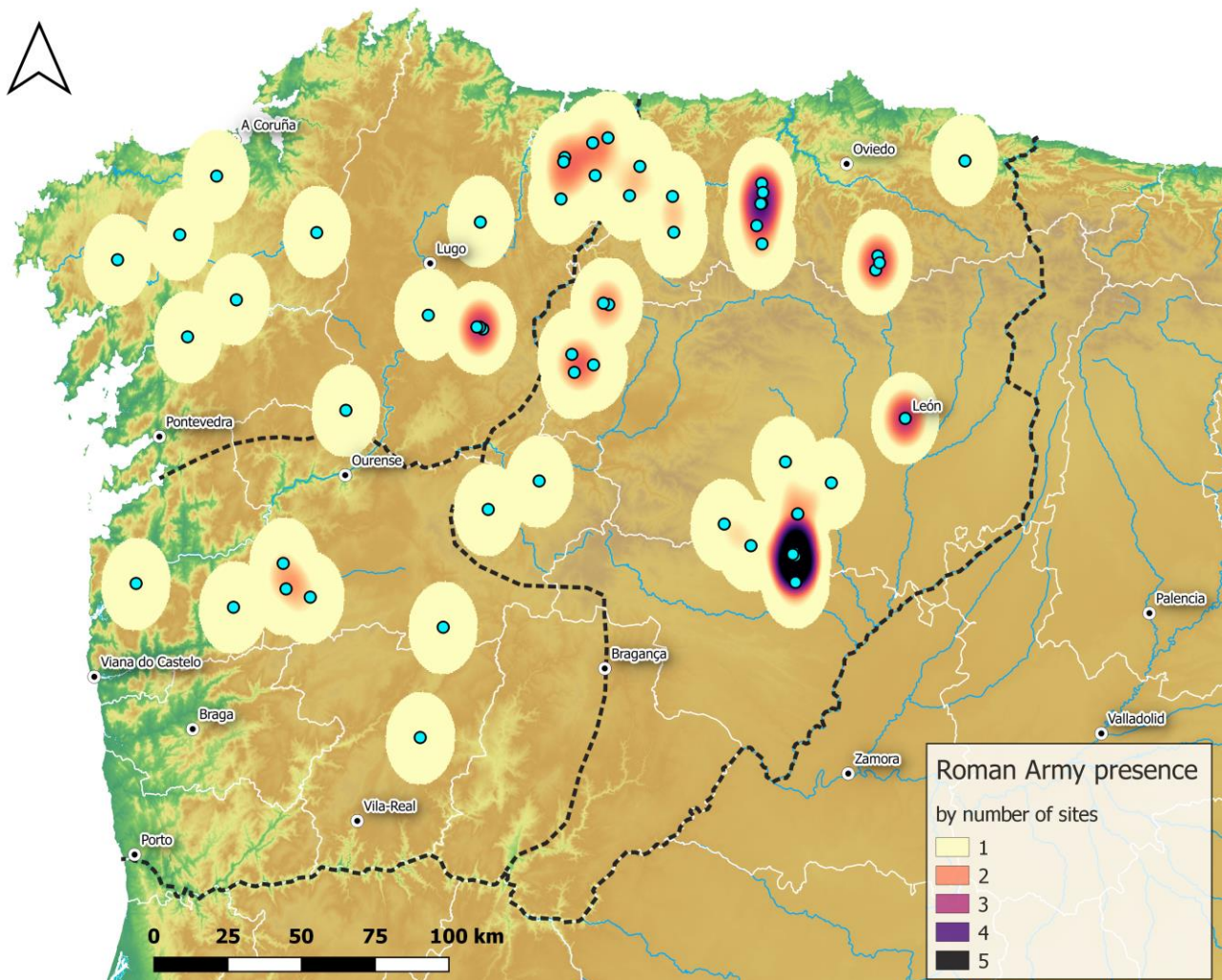


Figure 16. Heat map of the Roman military presence according to the number of sites in a 16-km range.

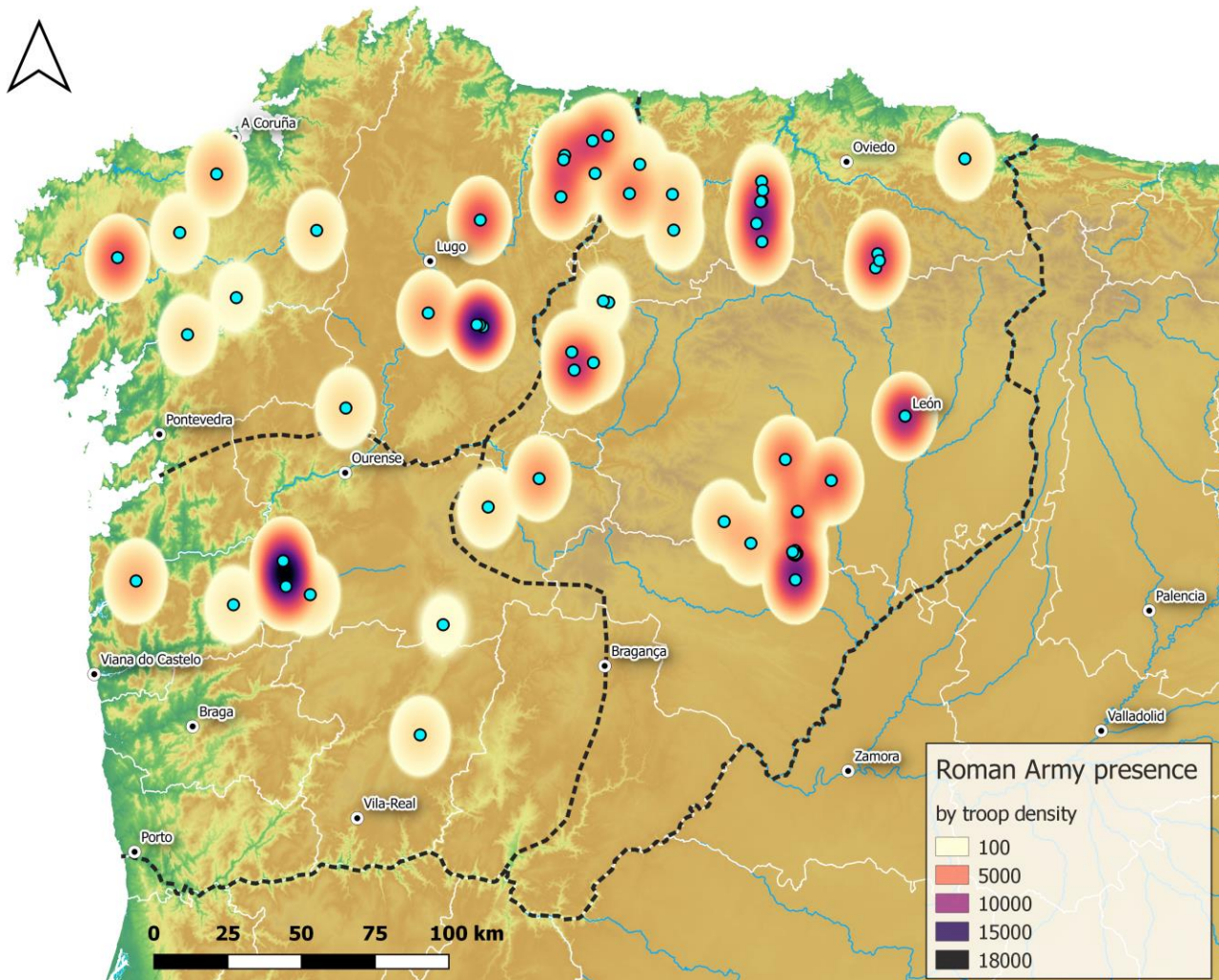


Figure 17. Heat map of the Roman military presence according to the estimated number of troops per enclosure in a 16-km range.

4.3. A still uncertain trace

Regardless of the nature of the actions that were carried out in NW Iberia by the Roman army, it did not travel through an empty, uninhabited space. However, the indigenous "other" is an elusive player whose role has often been blurred in the different accounts of the conquest and integration of these territories into the Roman sphere of influence. In the chronicles of the Greco-Latin authors there is a high degree of deformation and caricaturisation that serves clearly political interests (García Quintela, 2007; González García, 2007). However, it is no less true that in many of the contemporary historiographic narratives we can perceive a treatment that on the one hand simplifies and unifies these peoples as a whole, and on the other defines a markedly secondary -if not passive- role for these same agents (Wells, 1999). Fortunately, the enormous dynamism and diversity that would have characterised the societies of the Late Iron Age in NW Iberia at all levels has been repeatedly highlighted in recent decades

(González Ruibal, 2007; Marín Suárez, 2012). In this line, we can only accept the fact that indigenous communities played an active role in the process of interaction with the Roman world, and that the nature of this contact was directly conditioned by the different socio-political organizations of the native groups (González Ruibal, 2012), and not only by the different interests and types of action carried out by the colonial power. In this scenario, the relations established between the different local agents and the Roman state could range from negotiation to active opposition and physical violence (Marín Suárez and González Álvarez, 2011; Sánchez-Moreno, 2011; Sánchez Moreno and Aguilera Durán, 2013). In terms of asymmetric power relations, the colonial encounters varied, depending both on the socio-political complexity of the interacting societies and on the type and intensity of the interaction itself, and are interdependent dimensions that can lead to different responses and trajectories (e.g. Dietler, 2009).

In the eastern Cantabrian area, the emergence of Roman military archaeology in the late 1990s had

developed in conjunction with a systematic review of indigenous settlement from the Late Iron Age (Peralta Labrador, 1999, 2002a, 2006). Thanks to this fortunate encounter, in the following years archaeological research was able to document a series of scenarios characterised by the exercising of considerable physical violence by the Roman army against the indigenous population (Fernández-Götz et al., 2017; Fernández Vega and Bolado del Castillo, 2011; Serna Gancedo et al., 2010). These are in line with the dramatic episodes taking place in the Augustan period in *Cantabria* according to Greco-Latin authors (Dio, *Hist.* 53.29, 54.11; Flor. *Epit.* 2.33.48-52; *Hist.* 6.21.3-8) and confirm the virulence of the initial campaign of conquest and the recurrent indigenous revolts that succeeded it.

However, as we move westward, the archaeological record becomes increasingly fragmentary, preventing us from clearly defining the manner in which the conquest of these territories was structured. Written sources inform us that in the Asturian area the Romans proposed a military strategy similar to the one already seen in *Cantabria* (Dio, *Hist.* 53.25; Flor. *Epit.* 2.33.54-58; *Hist.* 6.21.9-10). In the Northern Plateau and the Cantabrian Mountains foothills, large-scale actions were carried out against an enemy that seems to have shown a great capacity for organisation and mobilisation of troops, as well as a considerable political autonomy. In the mountainous areas, archaeological evidence indicates that a strategic objective would have been the division of the army into strong columns that could advance at the same time through different mountain ranges, in order to control the entire territory and smother any focus of resistance (Camino Mayor and Martín Hernández, 2015; Martín Hernández and Camino Mayor, 2018; Menéndez Blanco et al., 2018). The Roman military presence documented so far in the eastern part of our study area seems to respond to a broadly similar dynamic, which may relate to the same historical phenomenon. However, it is striking that to date no evidence of physical violence similar to those registered in the eastern Cantabrian zone has been detected in this wide area covering Asturias, León, the east of Lugo and Ourense. It is therefore worth asking whether this gap in the archaeological record is due to the traditional divergence of the different historiographic trends and archaeological schools prevailing in the region, or whether we are dealing with a different historical reality resulting from Roman interaction with the multiple and heterogeneous local actors [22].

[22] In this sense, it is interesting to note the existence of a small but interesting and growing corpus of oral traditions collected among the communities close to several of the sites analysed. The

This issue becomes more dramatic when we analyse the still-fragmented evidence that has been gathered for the centre and west of Galicia or Northern Portugal, an extensive area with an enormous diversity of archaeological landscapes. This horizon is further aggravated by the absence of elements that allow for an adequate chronological seriation and historical framing of the recently documented evidence associated with the Roman military presence. In order to better understand these transition processes in the whole territory, we believe it is necessary to first carry out regional case studies. In this sense, the sites that we have analysed in this work should serve as authentic beacons for future research.

5. CONCLUSIONS

As has already been the case in other territories in the north of the Iberian Peninsula, Archaeology has been a decisive factor in increasing our knowledge of the Roman military presence in Galicia and the north of Portugal. Spurred on by the advances of the digital era, its contribution now offers to us the possibility of rethinking the traditional historical narratives regarding the conquest and integration of these territories into the Roman world. Although the exponential accumulation of archaeological data produced in recent years is encouraging, we are aware that there is still a long way to go in this field of study. Some of the limitations that the archaeological corpus currently presents should be overcome in the coming years with the natural development of research activity and the gradual incorporation of new tools, resources and methodologies. In Iberia, this should also contribute towards Roman military Archaeology overcoming its traditional constraint to establish a dialogue with other scientific disciplines.

This article provides an exhaustive study of the Roman military sites identified to date in Galicia and Northern Portugal using different remote sensing techniques and digital tools, not only from a morpho-typological point of view, but also discussing the relationships of the sites with each other and with their surroundings in order to assess the impact that the Roman military presence had on the indigenous social landscapes. In this way, we have laid the foundations for developing future analyses that will increase our understanding of the cultural, produc-

common denominator is the allochthonous identification of its builders or inhabitants and their clear differentiation with respect to the "*mouros*", the mythical beings from the traditional imaginary that inhabited the fortified settlements of the Iron Age or other archaeological sites, such as prehistoric tumuli. This aspect has already been addressed for the Asturian area (Menéndez Blanco et al., 2015a) and opens interesting new lines of research into questions of identity, memory, and tradition.

tive and socio-political change unleashed in NW Iberia as a consequence of this phenomenon.

As a final reflection, we would draw attention to two situations that may hinder the development of this field of study. On the one hand, there is a risk that the particular digitally-driven "discovery fever" we are currently experiencing may result in a superficial treatment of archaeological information. On the other hand, and given that archaeological studies in NW Iberia have shown a traditional tendency towards fragmentation (from a administrative or

chronological-cultural point of view and for theoretical-methodological reasons), in recent years there is a further danger from the economic crisis and the precariousness that affects archaeology as a discipline. For this reason, it is necessary that, on the basis of a more robust historical-archaeological knowledge about the Roman military presence in the region, our work should be focused towards formulating and answering clear research questions aimed at understanding this historical phenomenon in its context.

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